

CONTRACT AND SPECIFICATIONS

RIVERHEAD WATER DISTRICT
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

INSTALLATION OF WATER MAIN & APPURTEANCES

205 OSBORN AVENUE

Project No: RDWD2153

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TOWN COUNCIL
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SUPERINTENDENT
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MAY 2023

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The Town Board of the Town of Riverhead on behalf of the Riverhead Water District will receive bids for:

Installation of Water Main & Appurtenances - 205 Osborn Avenue

PROJECT NO. RDWD2153

Bids will be received at the office of the Town Clerk, Riverhead Town Hall, 200 Howell Avenue, Riverhead, New York 11901, until **11:00 AM, on Thursday, June 8, 2023** at which time and place all bids will be publicly opened and read aloud.

Plans and specifications may be examined on or after **Thursday, May 25, 2023** by visiting the Town of Riverhead website: <http://townofriverheadny.gov> and click on "Online Services -> Bids". Plans and specifications are available in electronic format only and can be downloaded from the aforementioned website. Plans can only be obtained from this website and vendors submitting bids without registration on said site, shall be disqualified.

Each proposal must be accompanied by a bid bond in the amount of five percent (5%) of the total bid, or a certified check made payable to the TOWN OF RIVERHEAD as assurance that the bid is made in good faith.

The right is reserved to reject any or all bids, to waive any informality, and to accept the lowest responsible bid.

BY ORDER OF THE TOWN BOARD
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

ACTING AS THE GOVERNING BODY
OF THE RIVERHEAD WATER DISTRICT

TOWN CLERK, TOWN OF RIVERHEAD

DATED: May 25, 2023

END OF SECTION

BIDS FOR PROJECT

The Town of Riverhead, at the Town Clerk's office, will receive SEALED PROPOSALS for:

RIVERHEAD WATER DISTRICT
Installation of Water Main & Appurtenances - 205 Osborn Avenue
PROJECT NO.: RDWD2153

TIME AND PLACE OF BID

Bids are to be submitted in sealed opaque envelopes, and will be received by the Town of Riverhead, at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York, not later than 11:00 A.M. prevailing time, on Thursday, June 8, 2023 at which time and place they will be publicly opened and read aloud. Use of the mails shall be at the Bidder's own risk, and the Bidder shall be responsible for physical delivery of the bid at the time and place set for opening of bids

BID ENVELOPE

All proposals and either the certified check or bid bond must be placed in a sealed opaque envelope bearing the Bidder's firm name and address and marked, "PROJECT NO.: RDWD2153, INSTALLATION OF WATER MAIN & APPURTENANCES - 205 OSBORN AVENUE, FOR THE RIVERHEAD WATER DISTRICT, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK", but otherwise unmarked.

Bid package shall include TWO (2) COPIES each of Cover Page; Sections 004105 - Bidders Declaration, 004116 - Proposal; 004313 - Bid Security; 004519 - Non-Collusive Bidding Certificate; 004546 - NYS Vendor Responsibility Questionnaire; 004547 - Iran Divestment Act Certification; 004548 - Statement on Sexual Harassment Prevention and 004550 - Qualifications of Bidders.

PLANS AND SPECIFICATIONS

Plans and specifications may be examined on or after Thursday, May 25, 2023 by visiting the Town of Riverhead website: <http://townofriverheadny.gov> and click on "Online Services -> Bids".

Plans and specifications are available from the aforementioned Town of Riverhead website only. All contractors who intend to submit a bid package are required to register on the web site.

VERBAL ANSWERS

The Town Board, its agents, servants or employees, or the Engineer, will not be responsible in any manner for verbal answers to any inquiries regarding the meaning of the contract drawings or Specifications given prior to the awarding of the contract.

EXAMINATION OF SITE

Bidders must satisfy themselves by personal examination of the location of the proposed work and of the actual conditions and requirements of the work and shall not, at any time after the submission of a proposal, dispute or complain of such estimate or assert that there was any misunderstanding in regard to the depth or character of excavation to be made or the nature of the work to be done.

PROPOSAL

The Proposal contained herein shall be used in making out bids. Any proposal not in accordance with these instructions or containing bids not asked for may be rejected. While separate prices are required for various items under this contract, it is understood that the contract will be awarded as a whole.

As the estimates of quantities of items stated in the Proposal are approximate only, bidders are required to submit their proposal upon and in the following express conditions, which shall apply and become part of every proposal received.

Bids will be compared by total amounts, said total amount being the sum of the products of the quantities multiplied by the unit price bid for the various items, with due consideration being given to the lump sum prices bid for any contingent or optional items. Unbalanced bids will not be accepted.

Each bidder shall fill out in ink, in both words and figures, in the spaces provided, its unit or lump sum bid, as the case may be, for each item in said Proposal for which it is submitting a bid. If there is any discrepancy between the prices in words and figures, the prices in words shall govern as unit and lump sum prices.

A bid which does not include bids for all items in the Proposal may not be considered valid unless otherwise noted in the proposal.

If the contract is not awarded by the Town Board within ninety (90) days after the receipt of bids, the obligation of the bidder under this Proposal may terminate at its option and it shall thereupon be entitled to a refund of its certified check or release of its bid bond furnished by it as security with its proposal.

BID BOND OR CERTIFIED CHECK

Each proposal from a Contractor shall be accompanied by a bid bond or certified check on a solvent bank of the STATE OF NEW YORK, in the amount of five percent (5%) of the total bid. Such check shall be made payable to TOWN OF RIVERHEAD, RIVERHEAD, NEW YORK, and the amount thereof shall be the measure of liquidated damages which the Town may sustain by failure, neglect or refusal of the bidder to execute and deliver the contract, should the contract be awarded to it. The checks of all unsuccessful bidders will be returned upon the rejection of bids and the awarding of the contract; also, the check of the successful bidder will be returned upon the execution of the contract and the furnishing of the required bond.

NAME OF BIDDER

Each bidder must state, in its proposal, its full name and business address, and the full name of every person, firm or corporation, interested in same, and the address of every person or firm, or president and secretary of every corporation, interested with it.

QUALIFICATIONS OF BIDDERS

- (1) The Town Board reserves the right to waive any informalities in, or reject any and all bids. The Board reserves the right to reject any and all bids which do not conform to the Proposal.
- (2) All bidders must prove to the satisfaction of the Town Board that they are reputable, reliable and responsible, and that they possess the necessary qualifications (financial, labor, equipment and otherwise) to complete successfully the proposed work.

- (3) In determining the qualifications of a bidder, the Town Board will consider its record in the performance of any contracts entered into by it for the work contemplated or of similar nature, may make such investigation as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Board all such information and data for this purpose as the Town Board may request.
- (4) The Town Board shall be the sole judge of the qualifications of the bidders and of the merits thereof and reserves the right to reject any bid if the record of the bidder in the performance of contracts, payment of bills and meeting of obligations to subcontractors, material men or employees is not satisfactory to the Town Board, or if the evidence submitted by, or the investigation of, such bidders fails to satisfy the Town Board that it is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

PERFORMANCE AND MAINTENANCE BOND

The Contractor shall furnish a Performance Bond, Labor and Materials Bond, and a one (1) year Maintenance Bond each in an amount equal to one hundred (100%) percent of the total contract price as security for its faithful performance of this contract, for the payment of all persons performing labor or furnishing materials in connection with this contract. Such bonds shall also cover any penalties, interest charges and assessments levied by any governmental unit for failure to comply with laws and/or regulations governing public work. The Maintenance Bond shall be an assurance that all work and materials provided under this contract shall be maintained for a minimum period of one (1) year. The Maintenance Bond shall be furnished following final completion, and payment under the contract. The contractor shall be required to furnish all guarantees and warranties of manufacturers of products in connection with this contract, but no manufacturer's limitation of time shall act to limit the responsibility of the contractor or its surety hereunder.

The surety must be licensed in the State of New York and have a BEST A rating, or the surety shall present information satisfactory to the TOWN/DISTRICT to permit the TOWN/DISTRICT to accept the bond.

At the time of submission of bonds or at any time thereafter, the TOWN/DISTRICT may evaluate the surety or sureties proposed, and demand a change of surety if it determines that the financial position of such surety does not provide for a proper protection of the interests of the TOWN/DISTRICT. The TOWN/DISTRICT shall be guided by its legal counsel, and insurance industry consultants in determining proper sureties for TOWN/DISTRICT public works contracts. If the TOWN/DISTRICT notifies the contractor in writing that a surety is unacceptable for any reason, then the contractor shall replace the surety and the bond in question within five (5) business days with a surety and bond deemed suitable by the said TOWN/DISTRICT. The premiums charged for all such bonds shall be a cost of the contractor and not the TOWN/DISTRICT. Upon notice to change surety being forwarded to a contractor, no further payments shall be made until a new bond in proper form naming an acceptable surety is provided.

SIGNATURE OF CONTRACTOR

The bidder to whom a contract may be awarded shall attend at the office of the Town Board, with the sureties offered by it, within seven (7) days, Saturdays and Sundays excepted, after date of notification of the acceptance of its proposal, and there sign the contract in quadripartite for the work and furnish approved security for its performance.

In case of failure to do so, the bidder shall be considered as having abandoned the same, and the check accompanying its proposal shall be forfeited to the Town Board, or the penalty of the bid bond shall be invoked.

CONTRACTOR'S INSURANCE

The Contractor shall not commence any work until it has obtained and had approved by the Town all of the insurance specified and required by the Contract.

The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of the above required insurance has been posted with, and approved by, the Town Board.

RESPONSIBILITY OF BIDDER

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the progress of the work or within twelve (12) months after date of the Engineer's approval of the final payment request.

LABOR RATES

The Contractor shall pay not less than the minimum hourly wage rates on this contract as established in accordance with Section 220 of the Labor Law. This project has been registered with the New York State Department of Labor. Bidders interested in this project are required to visit www.labor.ny.gov to access the prevailing wage schedule (PRC #2023005696). Employees must be paid the minimum rate indicated on the schedule for the appropriate title or in accordance with current prevailing schedule at the time of construction.

APPRENTICESHIP PROGRAM

Pursuant to Section 816-(b) of the New York Labor Law, the Riverhead Water District has adopted a Resolution relating to approved apprenticeship programs. If the successful bidder's bid hereunder exceeds the sum of \$250,000.00, such bidder shall, prior to entering into a contract with the District, be required to have an appropriate apprenticeship agreement that has been registered with and approved by the Commissioner of the New York State Department of Labor pursuant to the requirements found in Article 23 of the New York Labor Law. Any subcontractors under this contract shall also, in all respects, comply with these provisions.

COMPLETION OF WORK

Work is required to be completed to the satisfaction of the Engineer, and in substantial accordance with the Specifications hereunto annexed and the Plans therein referred to and the Change Orders amended to the Contract.

RESPONSIBILITY OF CONTRACTOR

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the progress of the work or within twelve (12) months after its completion and acceptance. Any progress payments made by the Town during the completion of this contract by the Contractor shall not be a waiver of the foregoing provision.

TOWN BOARD
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

END OF SECTION

BIDDER'S DECLARATION:

The undersigned, as Bidder, declares that the only person or persons interested in this bid or proposal as principal or principals is or are named herein; and that no other person than herein named has any interest in this proposal or in the contract proposed to be taken; that this bid or proposal is made without any connections with any other person or persons making a bid or proposal for the same purpose; that the bid or proposal is in all respects fair and without collusion or fraud; that it has examined the site of the work and the Contract Documents; and fully understands all the same; and it proposes and agrees, if this proposal is accepted, it will contract with the Riverhead Water District in the Contract accompanying this bid to furnish all the material, implements, etc., and perform all the work required in accordance with the Contract Documents; and it will accept in full payment therefore the following sums to wit:

Acknowledgement that the foregoing Bidder's Declaration is true and factual.

SIGNATURE	PRINT NAME	TITLE	DATE
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END OF SECTION

Board:

The undersigned hereby offers to furnish all labor, equipment, materials and appurtenances for **Installation of Water Main & Appurtenances - 205 Osborn Avenue**, all in accordance with the plans and specifications prepared by H2M architects + engineers for the following unit and lump sum prices:

ITEM 1A

Furnish & Install 6" Cement-Lined Ductile Iron Water Main

Push-on Joint, Special Class 52

Approximately 120 linear feet.

Price per LF _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 1C

Furnish & Install 10" Cement-Lined Ductile Iron Water Main

Push-on Joint, Special Class 52

Approximately 1,100 linear feet.

Price per LF _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 2

Furnish & Install Mechanical Joint C.L.D.I Fittings.

Approximately 4,000 pounds.

* Min. Unit Bid \$1.00 *

Price per LB _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 3A

Furnish & Install 6" M.J. Gate Valve including Valve Box and Restraining Glands.

Approximately 8 units.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 3C

Furnish & Install 10" M.J. Gate Valve including Valve Box and Restraining Glands..
Approximately 8 units.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 4A

Furnish & Install Hydrant (M.J. Inlet) including Rods and Restraining Glands.
Approximately 3 units.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 4D

Remove Existing Hydrants and Deliver to Water Supplier.
Approximately 3 units.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 5

Disinfection, De-Chlorination, Flushing & Testing of Water Mains.
Approximately 1,220 linear feet.
* Min. Unit Bid \$1.00 *

Price per LF _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 6U

Remove and Dispose of Unsuitable Material.
Approximately 100 cubic yards.

Price per CY _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 8A

Cut-in to Existing 6" Water Main.
Approximately 1 unit.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 8C

Cut-in to Existing 10" Water Main.
Approximately 4 units.

Price per UNIT _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 9

Backfilling & Trench Compaction.
Approximately 1,110 linear feet.
* Min. Unit Bid \$1.00 *

Price per LF _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 9CF

Furnish & Install Clean Fill.
Approximately 100 cubic yards.

Price per CY _____ (\$_____)
DOLLARS

TOTAL _____ (\$_____)
DOLLARS

ITEM 10A

Repaving Roadways (Town & Village Roadways) incl. permitting, saw-cutting, removals, disposals, installation of base, binder, and wearing course, sealing and re-striping.

Approximately 600 square yards.

* Min. Unit Bid \$20.00 *

Price per SY _____ (\$ _____)
DOLLARS

TOTAL _____ (\$ _____)
DOLLARS

ITEM 10M

Repaving Roadways (Milling & Resurfacing), including sealing and re-striping.

Approximately 1,600 square yards.

Price per SY _____ (\$ _____)
DOLLARS

TOTAL _____ (\$ _____)
DOLLARS

ITEM 13

Furnish and Jack 18"Ø x 110' x 3/8" thick steel casing pipe beneath the Long Island Rail Road tracks at Osborn Avenue and Railroad Avenue, including carrier pipe supports, locking rubber gaskets, restraining rods and all items described and not described but necessary to complete the jacking in accordance with the contract and LIRR requirements.

LUMP SUM _____ (\$ _____)
DOLLARS

ITEM 13R

Cash Allowance for LIRR Fees as specified in 012100.

* Fixed Price *

LUMP SUM _____ Fifty Thousand and 00/100 (\$ 50,000.00)
DOLLARS

ITEM 15C

Remove & Replace Concrete Curb.

Approximately 30 linear feet.

* Min. Unit Bid \$5.00 *

Price per LF _____ (\$ _____)
DOLLARS

TOTAL _____ (\$ _____)
DOLLARS

ITEM 26A

Moving/Re-mobilization Fee

*** Fixed Price ***

LUMP SUM Two Thousand Five Hundred and 00/100 (\$ 2,500.00)
DOLLARS

ITEM 29

Furnish & Install 2" hot-mix asphalt including maintenance and removal.

Approximately 1,110 linear feet.

* Min. Unit Bid \$2.00 *

Price per LF _____ (\$_____)
DOLLARS

TOTAL _____ **(\$** _____ **)**
DOLLARS

ITEM 30A

Furnish & Install new 1" water service including new corporation stop, copper piping, curb stop with box and connection to existing water service.

Approximately 4 units.

Price per UNIT _____ (\$ _____)
DOLLARS

TOTAL _____ **(\$** _____ **)**
DOLLARS

ITEM 30X

Abandon Existing Water Service Line

Approximately 1 unit.

Price per UNIT _____ (\$ _____)
DOLLARS

TOTAL _____ **(\$** _____ **)**
DOLLARS

TOTAL BASE BID (Sum of Items 1A - 30X)	
<hr/>	
DOLLARS	(\$ _____)

** Bidders continue below. **

ALTERNATE BID

**Bidders are not required to provide pricing for the following alternate bid items and may elect to omit. Strike through alternate bid items if not providing a price. The Riverhead Water District has the right to award this contract on any combination of base bid and alternate bid items as deemed in the best interest of the District.

ALT. ITEM 13DD (IN LIEU OF BASE BID ITEM 13)

For all work shown, specified and described in the Contract Documents for the installation of 12" HDPE carrier pipe (DR-11) within 18" HDPE casing pipe (DR-17) beneath the Long Island Rail Road tracks via horizontal directional drill, including 12" HDPE MJ adapter via butt fusion on both sides.

LUMP SUM _____ (\$ _____)
DOLLARS

ALT. ITEM 1C (IN LIEU OF BASE BID ITEM 1C)

Furnish & Install 10" Cement-Lined Ductile Iron Water Main
Push-on Joint, Special Class 52
Approximately 960 linear feet.

Price per LF _____ (\$ _____)
DOLLARS

TOTAL _____ (\$ _____)
DOLLARS

TOTAL ALTERNATE BID (Sum of Items 1A, 2 through 10M, 13R through 30X, ALT. 13DD and ALT. 1C)	
<hr/>	
DOLLARS	(\$ _____)

The Board of the Riverhead Water District reserves the right to award this contract based on either the total bid or any combination of bid items, as may be in the best interest of the Riverhead Water District. The award shall be made to the lowest responsible bidder based upon the bid items awarded. The Board reserves the right to reject any or all bids. The Board reserves the right to award this contract within ninety (90) days of the bid opening. Award is contingent on the receipt of the balance of required funds from the Developer as well as receipt of Approval of Plans from the Suffolk County Department of Health Services.

Within ten (10) consecutive calendar days after the date of the Notice of Award, the bidder shall execute the contract and furnish the required bonds and insurances. The Notice to Proceed will be issued after the contract has been executed by the Owner.

All work shown and specified in the contract documents and included in this bid shall be completed within ninety (90) consecutive calendar days from the date of the Notice to Proceed.

Failure of the contractor to complete all work within the specified time will subject him to liquidated damages as set forth in the contract, in the sum of one thousand dollars (\$1,000.00) per day, commencing with the forty-sixth day from the date of the Notice to Proceed.

In addition to liquidated damages, specific damages will be assessed and deducted from amounts otherwise due the contractor for additional inspection and contract management time required to be expended by the Engineer should the project be completed beyond the contract completion date. Such deduction shall be in accordance with the billing rates and fees established between H2M and the Riverhead Water District.

The contractor shall coordinate all work with the Owner to minimize disturbances to Owner operations.

The bidder represents herewith that he is aware of the working conditions, has carefully reviewed the proposal and specifications, has checked and certifies the accuracy of the bid.

The undersigned hereby acknowledges receipt of the following addenda (if any):

ADDENDUM NO.

DATED

Each proposal shall be accompanied by either a certified check drawn on a solvent bank with an office in the State of New York, or a bid bond equal to five percent (5%) of the total amount of the bid and payable to the Riverhead Water District. The certified check or bid bond shall specify which contract it accompanies.

**SECURITY ENCLOSED FOR THIS SECTION
(TOTAL BASE BID)**

**YES / NO
(Circle One)**

PROPOSAL CERTIFICATION

This Bid is hereby submitted by:

BIDDER: _____

BIDDER'S ADDRESS: _____

SIGNED BY: _____ TITLE: _____

PRINT NAME: _____ DATE: _____

FEDERAL I.D. NO. OR
SOCIAL SECURITY NO.: _____

Telephone number where the contractor or a competent representative can accept a telephone message and provide a reasonable reply as soon as possible, but within 24 hours of being contacted.

DAY: _____ NIGHT: _____

EMERGENCY: _____ FAX: _____

EMAIL: _____

Acknowledgement that the Qualification of Bidders section has been fully completed/executed.

SIGNATURE PRINT NAME TITLE DATE

END OF SECTION

Enclosed is a certified check or bid bond for five percent (5%) of the total amount of the bid as required in the foregoing "Information for Bidders".

The Bidder hereby agrees to appear with its sureties at the office of the Riverhead Water District within ten (10) calendar days after due notice from the Board of the Riverhead Water District that the Contract has been awarded to it and is ready for signature; such notice to be given in writing within ninety (90) days of opening of the bids; and, on the signing of such Contract by the Bidder, to furnish the indemnifying bonds as provided in the Contract.

The Bidder hereby further agrees that in the event of its failure or refusal to enter into a contract in accordance with this bid within ten (10) days after due notice from the Board that the Contract has been awarded to it and is ready for signature, as given in accordance with the Contract Documents and/or its failure to execute and deliver the bond for the full amount of the Contract price, as provided in said Contract Documents, the Bidder's check or bid bond which is herewith deposited with the Board (at the option of said Board) become due and payable as ascertained and liquidated damages for such default; otherwise, said check or bid bond will be returned to the undersigned.

The full names and residences of all persons and parties interested in the foregoing bid as principals are as follows:

NAME

ADDRESS

NAME OF BIDDER: _____

BUSINESS ADDRESS OF BIDDER: _____

Telephone number where the bidder or a competent representative can accept a telephone message and provide a reasonable reply as soon as possible, but no later than twenty four (24) hours:

DAY: _____

EVENING: _____

DATED AT: _____

THE _____

DAY OF _____, 20_____

END OF SECTION

Riverhead Water District**Suffolk County, New York**

Bidders shall submit to the Riverhead Water District the names of the Subcontractors which the Bidder proposes to use on the project. The Riverhead Water District reserves the right to disapprove the use of any proposed subcontractor and in such event the Bidder shall submit the name of another Subcontractor in the like manner and in the time specified by the Riverhead Water District. Such disapproval shall not result in additional costs to the Riverhead Water District. The Riverhead Water District reserves the right to reject any bid if the name of the proposed Subcontractors, or additional subcontractor information, is not submitted as required.

BIDDER:

FIRM NAME: _____

ADDRESS: _____

PREPARED BY: _____

SIGNED BY: _____

TITLE: _____

END OF SECTION

1.0 - INDEMNITY

The Contractor and all subcontractors performing work in connection with this Contract shall HOLD HARMLESS, INDEMNIFY and DEFEND the Owner and Engineer, their consultants and each of their officers, agents and employees from any liability, claims, losses or damage including reasonable costs of defense arising out of or alleged to arise from the Contractor's or subcontractor's negligence in the performance of the work described in the Contract Documents, but not including liability that may be due to the sole negligence of the Owner, the Engineer or their officers, agents and employees.

2.0 - LIMITATION OF LIABILITY

The Contractor and all subcontractors agree to limit the liability of the Owner and the Engineer due to the Engineer's professional negligent errors or omissions such that the total aggregate liability of the Engineer to those named shall not exceed Fifty Thousand Dollars (\$50,000) or five percent (5%) of the Contract award amount, whichever is greater.

3.0 - NO CLAIM FOR DELAY

The Contractor and all subcontractors agree to HOLD HARMLESS from any and all claims for loss or damages of any nature against the Owner or Engineer for delays in commencement, performance or completion of the Contract, regardless of whether said delays are, or may be, caused by the Owner, Engineer or any governmental agency.

END OF SECTION

NON-COLLUSIVE BIDDING CERTIFICATE

Pursuant to Section 103-D of the General Municipal Law, the Contractor makes the following statement under penalty of perjury, and by submission of this bid or proposal, the Bidder certifies that:

(a) this bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor; (b) this bid or proposal has not been knowingly disclosed and will not be knowingly disclosed prior to the opening of the bids or proposals for this project to any other bidder, competitor or potential competitor; (c) no attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal; (d) the person signing this bid or proposal certified that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder as well as to the person signing in its behalf; (e) attached hereto (if a corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signatory of the bid or proposal on behalf of the corporate bidder.

Resolved that _____
(Name of Corporation)
be authorized to sign and submit the bid or proposal of this corporation for the following project:

Installation of Water Main & Appurtenances - 205 Osborn Avenue
(Name of Project)

and to include in such bid or proposal the certificate as to non-collusion required by Section 103-D of the General Municipal Law as the act and deed of said corporation; and for any inaccuracies or misstatements in such certificate, this corporate bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by _____
at a meeting of its Board of Directors held on the _____ day of _____, 20____

(Seal of the Corporation) Secretary: _____

Respectfully submitted,

FIRM NAME: _____

FIRM ADDRESS: _____

SIGNED BY: _____

TITLE: _____

END OF SECTION

Vendor Responsibility Questionnaire begins on the following page.

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

You have selected the For-Profit Construction questionnaire, commonly known as the "CCA-2," which may be printed and completed in this format or, **for your convenience, may be completed online using the [New York State VendRep System](#).**

COMPLETION & CERTIFICATION

The person(s) completing the questionnaire must be knowledgeable about the vendor's business and operations. An owner or owner's official representative authorized to legally bind the Reporting Entity, must certify the truth of the questionnaire answers.

NEW YORK STATE VENDOR IDENTIFICATION NUMBER (VENDOR ID)

The Vendor ID is a ten-digit identifier issued by New York State when the vendor is registered on the Statewide Vendor File. This number must now be included on the questionnaire. If the business entity has not obtained a Vendor ID, contact the IT Service Desk at ITServiceDesk@osc.state.ny.us or call 866-370-4672.

DEFINITIONS

All underlined terms are defined in the "New York State Vendor Responsibility Definitions List," found at <http://www.osc.state.ny.us/vendrep/documents/questionnaire/definitions.pdf>. These terms may not have their ordinary, common, or traditional meanings. Each vendor must read the respective definitions for any and all underlined terms. By submitting this questionnaire, the vendor agrees to be bound by the terms as defined in the "New York State Vendor Responsibility Definitions List" existing at the time of certification.

RESPONSES

Every question must be answered fully. Each response must provide all relevant information to appropriately explain the answer. If you have concerns as to the legal requirements behind your answers, please seek clarification from your counsel. However, information regarding a determination or finding made in error which was subsequently corrected or overturned, and/or was withdrawn by the issuing government entity, is not required to be identified. Individuals and Sole Proprietors may use a Social Security Number but are encouraged to obtain and use a federal Employer Identification Number (EIN).

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)

BUSINESS ENTITY INFORMATION				
<u>Legal Business Name</u>		<u>EIN</u> _____		
Address of the <u>Principal Place of Business</u> (street, city, state, zip code) NO P.O. Boxes		<u>New York State Vendor Identification Number</u>		
		Telephone ext.	Fax	
		Website (include all)		
Authorized Contact for this Questionnaire				
Name		Telephone ext.	Fax	
Title		Email		
Additional <u>Business Entity</u> Identities: If applicable, list any other <u>DBA</u> , <u>Trade Name</u> , <u>Former Name</u> , Other Identity, or <u>EIN</u> used in the last five (5) years, the state or county where filed and the status (active or inactive).				
Type	Name	EIN	State or County where filed	
I. BUSINESS CHARACTERISTICS				
1.0 <u>Business Entity Type</u> – Check appropriate box and provide additional information:				
a) <input type="checkbox"/> <u>Corporation</u> (including <u>PC</u>)	Date of Incorporation			
b) <input type="checkbox"/> <u>Limited Liability Company</u> (<u>LLC</u> or <u>PLLC</u>)	Date Organized			
c) <input type="checkbox"/> <u>Limited Liability Partnership</u>	Date of Registration			
d) <input type="checkbox"/> <u>Limited Partnership</u>	Date Established			
e) <input type="checkbox"/> <u>General Partnership</u>	Date Established County (if formed in NYS)			
f) <input type="checkbox"/> <u>Sole Proprietor</u>	How many years in business?			
g) <input type="checkbox"/> <u>Other</u>	Date Established			
If Other, explain:				
1.0 Was the <u>Business Entity</u> formed in New York State?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
If "No," indicate jurisdiction where the <u>Business Entity</u> was formed:				

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

I. BUSINESS CHARACTERISTICS				
<input type="checkbox"/> United States	<input type="checkbox"/> State			
<input type="checkbox"/> Other	<input type="checkbox"/> Country			
1.2 Is the <u>Legal Business Entity</u> publicly traded?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
If "Yes," provide the <u>CIK</u> code or Ticker Symbol:				
1.3 Is the <u>Business Entity</u> currently <u>registered to do business in New York State</u> ? <i>Note: Select "Not Required" if the Business Entity is a Sole Proprietor or General Partnership</i>			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	
If "No," explain why the <u>Business Entity</u> is not required to be <u>registered to do business in New York State</u> :				
1.4 Is the responding <u>Business Entity</u> a <u>Joint Venture</u> ? Note: If the submitting <u>Business Entity</u> is a <u>Joint Venture</u> , also submit a separate questionnaire for each <u>Business Entity</u> comprising the <u>Joint Venture</u> .			<input type="checkbox"/> Yes <input type="checkbox"/> No	
1.5 If the <u>Business Entity's Principal Place of Business</u> is not in New York State, does the <u>Business Entity</u> <u>maintain</u> an office in New York State? <i>(Select "N/A" if Principal Place of Business is in New York State.)</i>			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
If "Yes," provide the address and telephone number for one office located in New York State.				
1.6 Is the Business Entity a New York State certified <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> , <u>Service-Disabled Veteran-Owned Business</u> , <u>New York State Small Business</u> , or federally certified <u>Disadvantaged Business Enterprise</u> ?			<input type="checkbox"/> Yes <input type="checkbox"/> No	
If "Yes," check all that apply:				
<input type="checkbox"/> New York State certified <u>Minority-Owned Business Enterprise</u> (MBE) <input type="checkbox"/> New York State certified <u>Women-Owned Business Enterprise</u> (WBE) <input type="checkbox"/> New York State certified <u>Service-Disabled Veteran-Owned Business</u> (SDVOB) <input type="checkbox"/> <u>New York State Small Business</u> <input type="checkbox"/> Federally certified <u>Disadvantaged Business Enterprise</u> (DBE)				
1.7 Identify each person or Business Entity that is or has been within the past five (5) years, a Business Entity Official, or a <u>Principal Owner</u> of 5.0% or more of the Reporting Entity's shares; or one of the five largest shareholders, if applicable. <i>(Attach additional pages if necessary.)</i>				
<u>Joint Ventures:</u> Provide information for all firms involved. Each Business Entity identified as a Principal Owner must also submit a Vendor Responsibility Questionnaire. (Add additional sheets if necessary.) For each person, include name, title, date of birth, percentage of ownership, and employment status. For each Business Entity that is a Principal Owner, include name, address, EIN, and percentage of ownership.				
If there is no person or <u>Business Entity</u> that owns 5% or more of the Reporting Entity, check here: <input type="checkbox"/>				
Name <i>(For each person, include a middle initial)</i>	Title	Date of Birth	Percentage of ownership <i>(Enter 0%, if not applicable)</i>	Employment status with the firm

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)

I. BUSINESS CHARACTERISTICS				
				<input type="checkbox"/> Current <input type="checkbox"/> Former <input type="checkbox"/> N/A
				<input type="checkbox"/> Current <input type="checkbox"/> Former <input type="checkbox"/> N/A
				<input type="checkbox"/> Current <input type="checkbox"/> Former <input type="checkbox"/> N/A
				<input type="checkbox"/> Current <input type="checkbox"/> Former <input type="checkbox"/> N/A
Name of <u>Each Business Entity</u> owning 5% or more of <u>Reporting Entity</u>	Address	EIN	Percentage Ownership	

II. AFFILIATE and JOINT VENTURE RELATIONSHIPS		
2.0 Are there any other <u>construction</u> -related firms in which, now or in the past five years, the submitting <u>Business Entity</u> or any of the individuals or business entities listed in question 1.7 either owned or owns 5.0% or more of the shares of, or was or is one of the five largest shareholders or a director, officer, partner, or proprietor of said other firm?		<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, identify below and if there is more than one, <i>attach additional pages with required information.</i>		
Firm/Company Name	Firm/Company EIN (If available)	Firm/Company's Primary Business Activity
Firm/Company Address		
Explain relationship with the firm and indicate percent of ownership, if applicable (enter N/A, if not applicable):		
Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting <u>Business Entity</u> has in common with the disclosed firm(s)?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Individual's Name (<i>Include middle initial</i>)	Position/Title with Firm/Company	

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

II. AFFILIATE and JOINT VENTURE RELATIONSHIPS

2.1 Does the Business Entity have any construction-related affiliates not identified in the response to question 2.0 above?

If yes, identify below and if there is more than one, *attach additional pages with the required information.*

Affiliate Name	Affiliate EIN (If available)	Affiliate's Primary Business Activity
Affiliate Address		
Explain relationship with the affiliate and indicate percent of ownership, if applicable (<i>enter N/A, if not applicable</i>):		
Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting Business Entity has in common with the disclosed affiliate(s)?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Individual's Name (<i>Include middle initial</i>)	Position/Title with Firm/Company	
2.2 Has the <u>Business Entity</u> participated in any <u>construction-related Joint Ventures</u> within the past three (3) years?		<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, identify below and if there is more than one, <i>attach additional pages with the required information.</i>		
Joint Venture Name	Joint Venture EIN (If available)	Identify parties to the Joint Venture

III. CONTRACT HISTORY

3.0 Has the Business Entity completed any construction contracts?

Yes No

If "Yes," list the ten most recent construction contracts the Business Entity has completed for government clients using Attachment A – Completed Construction Contracts, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3294s.doc.

At the Business Entity's option, it may include construction contracts completed for private clients. If less than ten, include most recent subcontracts on projects up to that number.

3.1 Does the Business Entity currently have uncompleted construction contracts?

Yes No

If "Yes," list all current uncompleted construction contracts for government clients by using Attachment B – Uncompleted Construction Contracts, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3295s.doc.

Note: Ongoing projects must be included. At the Business Entity's option, it may include construction contracts uncompleted for private clients.

IV. INTEGRITY – CONTRACT BIDDING

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

4.0 Been <u>suspended or debarred</u> from any <u>government contracting process</u> or been <u>disqualified</u> on any <u>government procurement</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.1 Been subject to a denial or revocation of a government prequalification?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.2 Had any bid rejected by a <u>government entity</u> for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.3 Had a proposed subcontract rejected by a <u>government entity</u> for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid?	<input type="checkbox"/> Yes <input type="checkbox"/> No

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

IV. INTEGRITY – CONTRACT BIDDING

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

4.4 Had a bid rejected on a <u>government contract</u> for failure to make <u>good faith efforts</u> on any <u>Minority-Owned Business Enterprise, Women-Owned Business Enterprise, Service-Disabled Veteran-Owned Business or Disadvantaged Business Enterprise</u> goal or <u>statutory affirmative action requirements</u> on a previously held contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.5 Agreed to a voluntary exclusion from bidding/contracting with a <u>government entity</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.6 Requested or been permitted to withdraw a bid submitted to a <u>government entity</u> or made any claim of an error on a bid submitted to a <u>government entity</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

For each “Yes,” provide an explanation of the issue(s), the Business Entity, affiliate, predecessor company or entity involved, the relationship to the submitting Business Entity, the government entity involved, project(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses to explain each “YES” response.

V. INTEGRITY – CONTRACT AWARD

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

5.0 Defaulted on or been <u>suspended</u> , cancelled or <u>terminated for cause</u> on any contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.1 Been subject to an <u>administrative proceeding</u> or civil action, including arbitration, seeking specific performance or restitution (except any disputed work proceeding) in connection with any <u>government contract</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.2 Entered into a formal monitoring agreement, integrity agreement, consent decree, or stipulation, settlement as specified by, or agreed to with, any <u>government entity</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.3 Had its surety called upon to complete any contract whether government or private sector?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.4 Forfeited all or part of a standby letter of credit in connection with any <u>government contract</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No

For each “Yes,” provide an explanation of the issue(s), the Business Entity, affiliate, predecessor company or entity involved, the relationship to the submitting Business Entity, the government entity/owners involved, project(s), contract number(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses to explain each “YES” response.

VI. CERTIFICATIONS/LICENSES

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

6.0 Had a revocation or <u>suspension</u> of any business or professional permit and/or license?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.1 Had a denial, decertification, revocation or forfeiture of New York State certification of <u>Minority-Owned Business Enterprise, Women-Owned Business Enterprise, Service-Disabled Veteran-Owned Business</u> or a federal certification of <u>Disadvantaged Business Enterprise</u> status, for other than a change of ownership?	<input type="checkbox"/> Yes <input type="checkbox"/> No

For each “Yes,” provide an explanation of the issue(s), the Business Entity affiliate, predecessor company or entity involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses to explain each “YES” response.

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)

VII. LEGAL PROCEEDINGS/GOVERNMENT INVESTIGATIONS

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

7.0 Been the subject of a criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.1 Been the subject of: <ul style="list-style-type: none"> (i.) An indictment, grant of immunity, <u>judgment</u> or conviction (including entering into a plea bargain) for conduct constituting a crime; or (ii.) Any criminal <u>investigation</u>, felony indictment or conviction concerning the formation of, or any business association with, an allegedly false or fraudulent <u>Minority-Owned Business Enterprise</u>, <u>Women-Owned Business Enterprise</u>, Service-Disabled Veteran-Owned Business, or a <u>Disadvantaged Business Enterprise</u>? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.2 Received any <u>OSHA</u> citation, which resulted in a final determination classified as <u>serious</u> or <u>willful</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.3 Had a <u>government entity</u> find a willful prevailing wage or supplemental payment violation?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.4 Had a New York State Labor Law violation deemed willful?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.5 Entered into a consent order, monitoring agreement or other type of oversight with the New York State Department of Environmental Conservation, or a <u>federal</u> , state or local government enforcement entity involving a violation of <u>federal</u> , state or local environmental laws?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.6 Other than previously disclosed, been the subject of any <u>citations</u> , notices or violation orders; a pending administrative hearing, proceeding or determination of a violation of: <ul style="list-style-type: none"> • <u>Federal</u>, state or local health laws, rules or regulations; • <u>Federal</u>, state or local environmental laws, rules or regulations; • Unemployment insurance or workers compensation coverage or <u>claim</u> requirements; • Any labor law or regulation, which was deemed willful; • Employee Retirement Income Security Act (ERISA); • <u>Federal</u>, state or local human rights laws; • <u>Federal</u>, state or local security laws; • <u>Federal</u>, state, or local tax laws? 	<input type="checkbox"/> Yes <input type="checkbox"/> No

For each "Yes," provide an explanation of the issue(s), the Business Entity, affiliate, predecessor company or entity involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses to explain each "YES" response.

Note: Information regarding a determination or finding made in error, which was subsequently corrected or overturned, and/or was withdrawn by the issuing government entity, is not required.

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)

VIII. LEADERSHIP INTEGRITY

If the Business Entity is a Joint Venture Entity, answer “N/A - Not Applicable” to questions in this section.

Within the past five (5) years has any individual previously identified or any individual currently or formerly having the authority to sign, execute or approve bids, proposals, contracts or supporting documentation on behalf of the Business Entity with any government entity been:

8.0 <u>Sanctioned</u> relative to any business or professional permit and/or license?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.1 <u>Suspended, debarred or disqualified</u> from any <u>government contracting process</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.2 The subject of a criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.3 Charged with a misdemeanor or felony, indicted, granted immunity, convicted of a crime or subject to a judgment for: <ul style="list-style-type: none"> (i.) Any business-related activity, including but not limited to theft, fraud, coercion, extortion, bribe or bribe-receiving, giving or accepting unlawful gratuities, immigration or tax fraud, racketeering, mail fraud, wire fraud, price-fixing or collusive bidding; or (ii.) Any crime, whether or not business-related, the underlying conduct of which related to truthfulness, including but not limited to the filing of false documents or false sworn statements, perjury or larceny 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

For each “Yes,” provide an explanation of the issue(s), the individual involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses to explain each “YES” response.

IX. FINANCIAL AND ORGANIZATIONAL CAPACITY

9.0 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> received any <u>formal unsatisfactory performance assessment(s)</u> from any <u>government entity</u> on any contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No
---	--

If “Yes,” provide an explanation of the issue(s), the Business Entity or affiliate involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses to explain the “Yes” response.

9.1 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liquidated damages</u> assessed over \$25,000 for any reason, including failure to meet <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> , <u>Service-Disabled Veteran-Owned Business</u> , or <u>Disadvantaged Business Enterprise</u> goals?	<input type="checkbox"/> Yes <input type="checkbox"/> No
--	--

If “Yes,” provide an explanation of the issue(s), the name of the Business Entity or affiliate involved, the relationship to the submitting Business Entity, relevant dates, the contracting party involved, the amount assessed and the current status of the issue(s), and the balance of the assessment not yet paid. Provide answer below or attach additional sheets with numbered responses.

9.2 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liens, claims or judgments</u> over \$25,000 filed against the <u>Business Entity</u> which remain undischarged or were unsatisfied for more than 90 days? (Note: Including but not limited to tax warrants or liens. Do not include UCC filings.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
--	--

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

IX. FINANCIAL AND ORGANIZATIONAL CAPACITY

If "Yes," provide an explanation of the issue(s), the name of the Business Entity or affiliate involved, the relationship to the submitting Business Entity, relevant dates, the Lien holder or Claimants' name(s), the amount of the lien(s), the current status of the issue(s), and the balance of the lien, claim or judgment not yet paid. Provide answer below or attach additional sheets with numbered responses.

9.3 In the last seven (7) years, has the Business Entity or any affiliate, or official initiated or been the subject of any bankruptcy proceedings, whether or not closed, or is any bankruptcy proceeding pending? Yes No

If "Yes," provide the name of the Business Entity, affiliate or official involved, the relationship to the submitting Business Entity, the bankruptcy chapter number, the court name and the docket number. Indicate the current status of the proceedings as "Initiated," "Pending" or "Closed." Provide answer below or attach additional sheets with numbered responses to explain the YES response.

9.4 What is the Business Entity's Bonding Capacity?

a. Single Project	b. Aggregate (All Projects)
-------------------	-----------------------------

9.5 List Business Entity's Gross Sales for the previous three (3) Fiscal Years:

1st Year (Indicate year) Gross Sales	2nd Year (Indicate year) Gross Sales	3rd Year (Indicate year) Gross Sales
--	--	--

9.6 List Business Entity's Average Backlog for the previous three (3) fiscal years:

(Estimated total value of uncompleted work on outstanding contracts)

1st Year (Indicate year) Amount	2nd Year (Indicate year) Amount	3rd Year (Indicate year) Amount
-------------------------------------	-------------------------------------	-------------------------------------

9.7 Attach Business Entity's most recent annual financial statement and accompanying notes or complete Attachment C – Financial Information, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3296s.xls.

(This information must be attached.)

X. FREEDOM OF INFORMATION LAW (FOIL)

10.0 Indicate whether any information provided herein is believed to be exempt from disclosure under the Freedom of Information Law (FOIL). Yes No

Note: A determination of whether such information is exempt from FOIL will be made at the time of any request for disclosure under FOIL. Attach additional pages if necessary.

If "Yes," indicate the question number(s) and explain the basis for the claim.

Authorized

XI. AUTHORIZED CONTACT FOR THIS QUESTIONNAIRE

Name	Telephone ext.	Fax
Title	Email	

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)****Certification**

The undersigned: (1) recognizes that this questionnaire is submitted for the express purpose of assisting New York State government entities (including the Office of the State Comptroller (OSC)) in making responsibility determinations regarding award or approval of a contract or subcontract and that such government entities will rely on information disclosed in the questionnaire in making responsibility determinations; (2) acknowledges that the New York State government entities and OSC may, in their discretion, by means which they may choose, verify the truth and accuracy of all statements made herein; and (3) acknowledges that intentional submission of false or misleading information may result in criminal penalties under State and/or federal law, as well as a finding of non-responsibility, contract suspension or contract termination.

It being acknowledged and agreed that all responses included in this questionnaire are to the knowledge, information and belief of the Business Entity, the undersigned certifies under penalties of perjury that they:

The undersigned certifies that he/she:

- are knowledgeable about the submitting Business Entity's business and operations;
- have legal authority to bind the Business Entity;
- have read and understand all of the questions contained in the questionnaire, including all definitions;
- have not altered the content of the questionnaire in any manner;
- have reviewed and/or supplied full and complete responses to each question;
- have provided true, accurate and complete responses, including all attachments, if applicable;
- understand that New York State government entities will rely on the information disclosed in the questionnaire when entering into a contract with the Business Entity; and
- are under an obligation to update the information provided herein to include any material changes to the Business Entity's responses at the time of bid/proposal submission through the contract award notification, and may be required to update the information at the request of the New York State government entities or OSC prior to the award and/or approval of a contract, or during the term of the contract.

Signature of Owner/Official _____

Printed Name of Signatory _____

Title _____

Name of Business _____

Address _____

City, State, Zip _____

Date _____

NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT A – COMPLETED CONSTRUCTION CONTRACTS

Vendor Name:

NYS Vendor ID:

Question 3.0: List the ten most recent construction contracts the Business Entity has completed. If less than ten, include most recent subcontracts on projects up to that number:						
1.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
2.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
3.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
4.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
5.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable

NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT A – COMPLETED CONSTRUCTION CONTRACTS

Vendor Name:

NYS Vendor ID:

Question 3.0: List the ten most recent construction contracts the Business Entity has completed. If less than ten, include most recent subcontracts on projects up to that number:						
6.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
7.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
8.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
9.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
10.	Agency/Owner			Award Date	Amount	Date Completed
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable

NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT B – UNCOMPLETED CONSTRUCTION CONTRACTS

Vendor Name:

NYS Vendor ID:

Question 3.1: List all current uncompleted construction contracts:						
1.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
2.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
3.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
4.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount

NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT B – UNCOMPLETED CONSTRUCTION CONTRACTS

Vendor Name:

NYS Vendor ID:

Question 3.1: List all current uncompleted construction contracts:						
5.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
6.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
7.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount
8.	Agency/Owner				Award Date	
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others		Uncompleted Amount

NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT B – UNCOMPLETED CONSTRUCTION CONTRACTS

Vendor Name:

NYS Vendor ID:

Question 3.1: List all current uncompleted construction contracts:						
9.	Agency/Owner				Award Date	Completion Date
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others	Uncompleted Amount	
10.	Agency/Owner				Award Date	Completion Date
	Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Prime or Sub	Joint Venture (JV) Name, if applicable			EIN of JV, if applicable
			Total Contract Amount	Amount Sublet to others	Uncompleted Amount	

Grand Total All Uncompleted Contracts	\$0.00
--	---------------

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT C - FINANCIAL INFORMATION

NYS Vendor ID: _____

As of Date: _____

ASSETS

Current Assets

1. Cash	\$ _____ -
2. Accounts receivable - less allowance for doubtful accounts	\$ _____ -
Retainers included in accounts receivable	\$ _____ -
Claims included in accounts receivable not yet approved or in litigation	\$ _____ -
Total Accounts Receivable	\$ _____ -
3. Notes receivable - due within one year	\$ _____ -
4. Inventory - materials	\$ _____ -
5. Contract costs in excess of billings on uncompleted contracts	\$ _____ -
6. Accrued income receivable	
Interest	\$ _____ -
Other (list) _____	\$ _____ -
Total Accrued Income Receivable	\$ _____ -
7. Deposits	
Bid and Plan	\$ _____ -
Other (list) _____	\$ _____ -
Total Deposits	\$ _____ -
8. Prepaid Expenses	
Income Taxes	\$ _____ -
Insurance	\$ _____ -
Other (list) _____	\$ _____ -
Total Prepaid Expenses	\$ _____ -
9. Other Current Assets	
Other (list) _____	\$ _____ -
Total Other Current Assets	\$ _____ -
10. Total Current Assets	\$ _____ -
11. Investments	
Listed securities-present market value	\$ _____ -
Unlisted securities-present value	\$ _____ -
Total Investments	\$ _____ -

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT C - FINANCIAL INFORMATION

NYS Vendor ID: _____

12. Fixed Assets

Land	\$ _____	-
Building and improvements	\$ _____	-
Leasehold improvements	\$ _____	-
Machinery and equipment	\$ _____	-
Automotive equipment	\$ _____	-
Office furniture and fixtures	\$ _____	-
Other (list)	\$ _____	-
 Total	 \$ _____	 -
Less: Accumulated depreciation	\$ _____	-
 Total Fixed Assets - Net	 \$ _____	 -

13. Other Assets

Loans receivable		
Officers	\$ _____	-
Employees	\$ _____	-
Shareholders	\$ _____	-
Cash surrender value of officers' life insurance	\$ _____	-
Organization expense – net of amortization	\$ _____	-
Notes receivable - due after one year	\$ _____	-
Other (list)	\$ _____	-
 Total Other Assets	 \$ _____	 -

14. TOTAL ASSETS

	\$ _____	-
	\$ _____	-
	 \$ _____	 -

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT C - FINANCIAL INFORMATION

NYS Vendor ID: _____

LIABILITIES

Current Liabilities

15. Accounts payable	\$ _____ -
16 a. Loans from shareholders - due within one year	\$ _____ -
16 b. Other Loans - due within one year	\$ _____ -
17. Notes payable - due within one year	\$ _____ -
18. Mortgage payable - due within one year	\$ _____ -
19. Other payables - due within one year	\$ _____ -
Other (list) _____	\$ _____ -
Total Other Payables - due within one year	\$ _____ -
20. Billings in excess of costs and estimated earnings	\$ _____ -
21. Accrued expenses payable	
Salaries and wages	\$ _____ -
Payroll taxes	\$ _____ -
Employees' benefits	\$ _____ -
Insurance	\$ _____ -
Other	\$ _____ -
Total Accrued Expenses Payable	\$ _____ -
22. Dividends payable	\$ _____ -
23. Income taxes payable	
State	\$ _____ -
Federal	\$ _____ -
Other	\$ _____ -
Total Income Taxes Payable	\$ _____ -
24. Total current liabilities	\$ _____ -
25. Deferred income taxes payable	
State	\$ _____ -
Federal	\$ _____ -
Other	\$ _____ -
Total Deferred Income Taxes	\$ _____ -
26. Long Term Liabilities	
Loans from shareholders - due after one year	\$ _____ -
Other Loans - due within one year	
Principle	\$ _____ -
Interest	\$ _____ -
Notes payable - due after one year	\$ _____ -
Mortgage - due after one year	\$ _____ -
Other payables - due after one year	\$ _____ -
Other (list) _____	\$ _____ -
Total Long Term Liabilities	\$ _____ -

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
ATTACHMENT C - FINANCIAL INFORMATION

NYS Vendor ID: _____

27. Other Liabilities

Other (list) _____

\$ _____ -
\$ _____ -

Total Other Liabilities _____

\$ _____ -
\$ _____ -

28. TOTAL LIABILITIES

NET WORTH

29. Net Worth (if proprietorship or partnership)

\$ _____ -

30. Stockholders' Equity

Common stock issued and outstanding

\$ _____ -

Preferred stock issued and outstanding

\$ _____ -

Retained earnings

\$ _____ -

Total

\$ _____ -

Less: Treasury stock

\$ _____ -

31. TOTAL STOCKHOLDERS' EQUITY

\$ _____ -

32. TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY

\$ _____ -

END OF SECTION

IRAN DIVESTMENT ACT CERTIFICATION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the state finance law.

Dated: _____

(Name of corporation or partnership)

(Signature of Individual)

(Officer stating title) (Partner)

(Print Name of Individual)

END OF SECTION

I have been advised that the Board of the Riverhead Water District requires that vendors and contractors submitting a competitive bid on a purchase or public works contract or a proposal on a purchase or public works contract that does not require competitive bidding file with the Owner at the time of bid or proposal submission a statement in the form required for contractors by the State of New York under State Finance Law § 139-l relative to compliance with requirements for employer sexual harassment prevention programs.

On behalf of myself and my firm or corporation I make the following statement.

By submission of this bid or proposal, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law.

I recognize that my failure to submit this statement may result in the rejection of my bid.

If I need to qualify this statement under State Finance Law § 139-l, subparagraph (3) I hereby state the reasons why I must qualify this statement:

I have been advised that pursuant to State Finance Law § 139-l this statement and my signature below shall be deemed to have been authorized by the board of directors of my firm or corporation, and such authorization shall be deemed to include the signing and submission of such bid or proposal and the inclusion of such statement as the act and deed of the corporation.

I, hereby affirm under the penalties of perjury that the foregoing statement is true.

Signature

Print Name

State of New York)
) ss.:
County of)

On the _____ day of _____ in the year 20____ before me personally came _____ to me known, who, being by me duly sworn, did depose and say that he/she/they reside(s) in _____ (place of residence); that he/she/they is (are) the _____ (office held) of the _____ (name of corporation), the corporation described in and which executed the above instrument; that he/she/they know(s) the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation, and that he/she/they signed his/her/their name(s) thereto by like authority.

NOTARY PUBLIC

END OF SECTION

**Riverhead Water District
Suffolk County, New York**

The Riverhead Water District may make such investigation as the Riverhead Water District deems necessary to determine the responsibility of any Bidder or to determine the ability of any Bidder to perform the Work. Bidders shall furnish to the Riverhead Water District all information and data required by the Riverhead Water District, including complete financial data, within the time and in the form and manner required by the Riverhead Water District. The Riverhead Water District reserves the right to reject any bid if the evidence required by the Riverhead Water District is not submitted as required or if the evidence submitted by or the investigation of any Bidder fails to satisfy the Riverhead Water District that the Bidder is responsible, or is able or qualified to carry out the obligations of the Contract or to complete the Work as contemplated. At the discretion of the Riverhead Water District, any bidder may be required to complete and submit the enclosed New York State Vendor Responsibility Questionnaire to assist in determining the bidder's qualifications.

The following is a list showing the name of the Owner, Location, Date of Construction, General Description of Work, Amount of the Contract and Contract Period for projects of similar nature in size, construction method and construction procedure, which have been completed by the undersigned as the prime contractor, and which have been in operation for a period of not less than one year, (minimum of five such projects).

PROJECT NO. 1

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 2

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 3

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 4

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 5

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

The following is a list of the major areas of construction work under this contract to be performed by subcontractors to the bidder, showing the Type of Work and the name of the Owner, Location and Date of Construction for work of similar nature in size, construction method and construction procedure, which have been completed by the undersigned, and which have been in operation for a period of not less than one year, (minimum of five such projects).

Subcontractor Name: _____

Type of Work: _____

<u>Owner</u>	<u>Contact Name</u>	<u>Phone Number</u>	<u>Location</u>	<u>Contract Amount</u>

Subcontractor Name: _____

Type of Work: _____

<u>Owner</u>	<u>Contact Name</u>	<u>Phone Number</u>	<u>Location</u>	<u>Contract Amount</u>

Subcontractor Name: _____

Type of Work: _____

<u>Owner</u>	<u>Contact Name</u>	<u>Phone Number</u>	<u>Location</u>	<u>Contract Amount</u>

Subcontractor Name: _____

Type of Work: _____

<u>Owner</u>	<u>Contact Name</u>	<u>Phone Number</u>	<u>Location</u>	<u>Contract Amount</u>

The Riverhead Water District reserves the right to reject any and all bids which do not include a completed qualifications section and/or do not meet the necessary qualifications criteria, for both prime contractor and subcontractors, as described within this qualifications section, for construction work to be performed and completed as required by the contract documents.

BIDDER

FIRM NAME: _____

ADDRESS: _____

PREPARED BY: _____

SIGNED BY: _____

TITLE: _____

END OF SECTION

It is the Contractor's responsibility to inform the Engineer in advance when a situation arises that forces the Contractor to cancel work for a given day. For example, if the Contractor informs the Engineer that he will be on the job on a certain day and then has to cancel the appointment because he cannot obtain certain materials or equipment, it is the Contractor's responsibility to inform the Engineer of these latest developments and to let him know that construction observation services will not be needed for that day.

In the event that the Engineer is not given ample warning of such a cancellation and, as a result, unnecessary time is spent sending field personnel out to the project site to observe the previously scheduled construction, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for his wasted time.

By the same token, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for any services rendered in the field or in the office regarding work that had to be performed a second time due to substandard work on the part of the Contractor on the original work.

END OF SECTION

SECTION 005209 – CONTRACT

CONTRACT IN QUADRUPLETCATE FOR _____
_____; FOR THE TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, dated
_____, BY AND BETWEEN THE TOWN BOARD OF THE TOWN OF RIVERHEAD,
SUFFOLK COUNTY, NEW YORK, acting for and in behalf of the RIVERHEAD WATER DISTRICT
(herein called the TOWN DISTRICT), and _____
_____ (herein called the CONTRACTOR).

WITNESSETH, that the TOWN DISTRICT and the CONTRACTOR, in consideration of the premises and of the mutual covenants, considerations and agreements herein contained, agree as follows:

This Contract is hereby awarded to the CONTRACTOR, as per Town Board Resolution No. _____ dated _____, for the work and material called for under his bid in the Proposal section of the Contract and designated as Items: _____

and if required by the District, Items: _____

for the sum of: _____
_____ (\$)

for the unit and/or lump sum price(s) as listed in the Proposal herein.

SECTION 005209 – CONTRACT

1. CONTRACT DOCUMENTS AND DEFINITIONS

The Notice to Bidders, Information for Bidders, Proposal, General Conditions, Contract, Specifications and Plans, together with any Addenda, shall form part of this Contract, and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The titles, headings, headlines and marginal notes contained herein are solely to facilitate reference to the various provisions of the contract documents and in no way affect, limit or cast light upon the interpretation of the provisions to which they refer. Whenever the term "contract documents" is used, it shall mean and include this Contract, the Plans, Specifications, any Addenda, and the Notice to Bidders, Information for Bidders, General Conditions and Proposal. In case of any conflict or inconsistency between the provisions of the Contract and those of the Specifications, the provisions of the Contract shall govern.

TOWN DISTRICT: The term TOWN DISTRICT shall refer to the Town of Riverhead acting in its capacity as administrators of the Riverhead Water District. Where used independently, the terms shall refer to the Town of Riverhead (Town) and Riverhead Water District (District).

WORK: The term WORK, as used herein, refers to all of the work proposed to be accomplished at the site of the project and all such other work as is in any manner required to accomplish the completed project, and includes all plant, labor, materials, supplies, equipment and other facilities and acts necessary or proper for or incidental to the carrying out and completion of the terms of this Contract. The term WORK PERFORMED shall be construed to include material delivered to and suitably stored at the site of the project.

EXTRA WORK: The term EXTRA WORK, as used herein, refers to and includes all work required by the TOWN DISTRICT which, in the judgment of the Engineer, with the Town's approval, involves changes in or additions to work required by the Plans, Specifications and any Addenda in their present form.

SUBCONTRACTOR: The term SUBCONTRACTOR, as used herein, shall mean any person, firm or corporation applying labor and material for work at the site of the project, but not including the parties to this Contract.

ENGINEER: In the performance of the work, the TOWN DISTRICT shall be represented by its Consulting Engineer H2M architects + engineers (herein called the ENGINEER).

NOTICE: The term NOTICE, as used herein, shall mean and include written notice. Written notice shall be deemed to have been duly served when delivered to, or at the last known business address of, the person, firm or corporation for whom intended or to his, their, or its duly authorized agents, representatives or officers, or when enclosed in a postage prepaid wrapper or envelope addressed to such person, firm, or corporation at his, their, or its last known business address and deposited in a United States Mail Box.

DIRECTED, REQUIRED, APPROVED, ACCEPTABLE: Whenever they refer to the work, or its performance, "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import shall imply the direction, requirement, permission, order, designation or prescription of the Engineer, and "approved", "satisfied", or "satisfactory", "in the judgment of", and words of like import, shall mean approved or acceptable to, or satisfactory to, in the judgment of the Engineer.

2. SCOPE OF THE WORK

The Contractor will furnish all plant, labor, material, supplies, equipment and other facilities and things necessary or proper for or incidental to, the work contemplated by this Contract as required by, and in strict accordance with, the applicable Plans, Specifications and Addenda prepared by the Engineer

SECTION 005209 – CONTRACT

and/or required by and in strict accordance with, such changes as are ordered and approved pursuant to this Contract, and will perform all other obligations imposed on him by the Contract.

3. COMPENSATION TO BE PAID TO THE CONTRACTOR

- A. Agreed Prices: It is understood and agreed that the Contractor will accept as payment in full the summation of products, of the actual quantities in place upon the completion of the work, as determined by the Engineer's measurements by the unit prices bid, no allowance being made for anticipated profit or for reason of variations from the estimated quantities set forth in the Proposal.
- B. Extra Work and/or Changes: The TOWN DISTRICT may, at any time, by a written order, and without notice to the sureties, require the performance of such extra work or changes in the work as it may find necessary or desirable. The amount of compensation to be paid to the Contractor for any extra work, as so ordered, shall be determined as follows:
 - (1) By such applicable unit prices, if any, as set forth in the contract; or
 - (2) If no such unit prices are set forth, then by unit prices or by a lump sum mutually agreed upon by the TOWN DISTRICT and the Contractor; or
 - (3) If no such unit prices are set forth, and if the parties cannot agree upon unit prices or a lump sum, then by actual net cost in money to the Contractor of the materials, permits, wages, or applied labor, premium for Workers' Compensation Insurance, payroll taxes required by law, rental for plant and equipment used (excluding small tools) to which total cost will be added 20% as full compensation for all other items of profit, costs and expenses, including administration, overhead, superintendence, insurance, insurance other than Workers' Compensation Insurance, material used in temporary structures, allowances made by the Contractor to subcontractors, additional premiums upon the Performance Bond of the Contractor and the use of small tools.

4. TIME OF ESSENCE

Inasmuch as the provisions of this Contract relating to the time for performance and completion of the work are for the purpose of enabling the TOWN DISTRICT to proceed with the construction of a public improvement, in accordance with a predetermined program, such provisions are of the essence of this Contract.

5. COMMENCEMENT OF WORK

The Contractor agrees that he will commence work within ten (10) consecutive calendar days after signing this Contract, and that the day he commences work shall constitute the first of the consecutive calendar days allowed for completion of the work.

6. TIME FOR COMPLETION

The time for completion of this Contract shall be within the number of calendar days stated in the Bid Proposal and the date of such completion shall be the date of the certificate of completion hereinafter specified. The TOWN DISTRICT reserves the right to order the Contractor to suspend operations when, in the opinion of the Engineer, improper weather conditions make such action advisable, and to order the Contractor to resume operations when weather and ground conditions permit. The days during which such suspension of work is in force are not chargeable against the specified completion time.

SECTION 005209 – CONTRACT

7. LIQUIDATED DAMAGES FOR DELAY

The time limit being essential to and of the essence of this Contract, the Contractor hereby agrees that the TOWN DISTRICT shall be, and is hereby authorized to deduct and retain out of the money which may be due or may become due to said Contractor under this agreement, the sum of ONE THOUSAND DOLLARS (\$1,000.00) per day, which amount is hereby agreed upon, fixed and determined by the parties hereto as the LIQUIDATED DAMAGES, including overhead charges, services, inspector's wages, and interest on the money invested, that the TOWN DISTRICT will suffer by reason of such default, for each and every day during which the aforesaid work may be incomplete over and beyond the time herein stipulated for its completion. The TOWN DISTRICT shall have the right to extend the time for the completion of said work.

8. EXTENSIONS OF TIME - NO WAIVER

If the Contractor shall be delayed in the completion of his work by reason of unforeseeable causes beyond his control and without his fault or negligence, including but not restricted to Acts of God or of any public enemy, acts or neglect of the TOWN DISTRICT, acts or neglect of any other Contractor, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotion or freight embargoes, the period herein above specified for completion of his work shall be extended by such time as shall be fixed by the TOWN DISTRICT.

No such extension of time shall be considered a waiver by the TOWN DISTRICT of its right to terminate the Contract for abandonment or delay by the Contractor as hereinafter provided or relieve the Contractor from full responsibility for performance of his obligations hereunder.

9. CONTRACT SECURITY

- A. The Contractor shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the total contract price as security for the faithful performance of this Contract, and for the payment of all persons performing labor or furnishing materials in connection with this Contract.
- B. Additional or Substitute Bond - If, at any time, the TOWN DISTRICT shall be or become dissatisfied with any surety or sureties, then upon the Performance Bond, or if, for any other reason, such bond shall cease to be adequate security to the TOWN DISTRICT, the Contractor shall, within five (5) days after notice from the TOWN DISTRICT, substitute an acceptable bond in such form and sum, and signed by such other surety as may be satisfactory to the TOWN DISTRICT. The premiums on such bonds shall be paid by the Contractor. No further payments shall be deemed due, nor shall be made until the new surety shall have been qualified.
- C. Prior to release of the Performance Bond, the Contractor shall deliver to the TOWN DISTRICT a Maintenance Bond equal to one hundred percent (100%) of the total Contract price. This Maintenance Bond shall remain in full force and effect for a period of one (1) year after the date of the Engineer's approval of the final payment request and such bond, which shall be executed by the Contractor and issued by a reliable, solvent surety company authorized to do business in the State of New York shall guarantee to the TOWN DISTRICT that the Contractor shall promptly remedy any defects or faults that may occur within twelve (12) months after completion and acceptance of the work performed by the Contractor pursuant to this Contract. The date of the Maintenance Bond shall be the date of final payment or other agreed upon date of acceptance by the Engineer and District. All extra work performed under the terms of this Contract shall be covered under the Maintenance Bond and as such the bond shall represent the value of these items.

SECTION 005209 – CONTRACT

10. CONTRACTOR'S INSURANCE:

The Contractor shall not commence work under this Contract until he has obtained and had approved by the TOWN DISTRICT the insurance required under this contract. Contractor shall maintain at a minimum the following insurance giving evidence of same, on the Acord form Certificates of Insurance, Acord Form 855 – New York Construction Certificate of Liability Insurance Addendum; copy of the Additional Insured Endorsements; provide 30 days' notice of cancellation, non-renewal or material change; C105.1 form or State Insurance Fund Certificate or Self-Insured SI-12 for Workers Compensation and DB120.1 Certificate for NYS Disability.

The insurance coverage limits set forth in Schedule below are minimum coverage requirements, not limitations of liability. New York State licensed admitted carrier is preferred; any non-licensed/non-admitted carriers will be accepted at TOWN DISTRICT's discretion. The insurance carrier must have an A.M. Best Rating of at least A- IX. All subcontractors must adhere to the same insurance and indemnification requirements.

The certificate holder for all policies shall be the Riverhead Water District. The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of required insurance has been posted with and approved by the TOWN DISTRICT.

Certificate Holder for all policies: Riverhead Water District
1035 Pulaski Street
Riverhead, NY 11901

Additional Insured to read: Town of Riverhead, Riverhead Water District, all elected and appointed officials, employees and volunteers of the Town District, and H2M architects + engineers using ISO Form CG2026 or equivalent including products and completed operations coverage ISO Form CG2037 or equivalent. .

Additionally insured shall be listed and covered under the Commercial General Liability including Contractual Liability and Products and Completed Operations, Automobile Liability and Excess Liability. Insurance Coverage is to be primary and non-contributory to any insurance carried by any additional insured. Waiver of Subrogation is included on the Workers Compensation and General Liability in favor of the Additional Insureds.

- A. Workers Compensation & Employers Liability - The Contractor shall take out and maintain during the life of this Contract, Workers' Compensation Insurance for all of his employees employed at the site of the project, and in any case of any of the work being sublet, the Contractor shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees, unless such employees are covered by the protection afforded by the Contractor. Minimum limits for each accident, employee and disease of \$1,000,000.
- B. Commercial General Liability and Insurance - The Contractor shall take out and maintain during the life of this Contract such insurance as shall protect him and any subcontractor performing work covered by this Contract for claims for damages for personal injury, including accidental death, as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:

Occurrence – ISO Form CG2001 10-01 or equivalent

General Aggregate \$2,000,000

Products & Completed Operations \$2,000,000

Personal & Advertising Injury

SECTION 005209 – CONTRACT

Per Occurrence Limit	\$1,000,000
Damage to Rented Premises	\$1,000,000
Medical Expense (any one person)	\$ 10,000

The above policies for commercial general liability and umbrella liability insurance must be so written as to include Contractor's Protective Liability Insurance to protect the contractor against claims arising from the operations of any subcontractor.

Extensions - Mandatory:

- Aggregate Limits to apply per project.
- Full Contractual Liability extending to Hold Harmless Agreement.
- Contractual Liability Insurance is afforded per the definition of "insured contract" as defined in Form CG0001 with no endorsements that amend or restrict the definition of "insured contract".
- The general liability is to be primary and non-contributory to any insurance carried by any additional insured.
- The general liability must not include any exclusion, limitation or restriction pertaining to interior or exterior work height; "action over" type claims; or "injury to employee or subcontractor" exclusions, nor any exclusions for Claims that fall within the Purview of New York Labor Law Sections 200, 240 &241.
- Waiver of Subrogation in favor of all additional insureds.

C. **Umbrella Liability:** The Contractor shall maintain for the life of the contract excess coverage for bodily injury and property damage in an amount not less than FIVE MILLION DOLLARS (\$5,000,000.).

D. **Commercial Automobile Liability** - The Contractor shall take out and maintain during the life of the Contract such automobile public liability insurance as shall protect him and any subcontractor performing work covered by this Contract from claims for damages for personal injury, including accidental death as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them and the amounts of such insurance shall be in an amount not less than ONE MILLION DOLLARS (\$1,000,000.) for bodily injuries, including wrongful death per occurrence.

D. **Blanket Waiver of Subrogation** – The above policies for workers' compensation insurance as well as comprehensive general liability insurance, automobile insurance, and excess umbrella liability insurance shall include waiver of transfer of rights of recovery against the Town of Riverhead, The Riverhead Water District, and H2M architects + engineers. Such waiver of subrogation shall be evidenced by certificate of insurance or copy of endorsement to the appropriate policy.

E. **Owner's Protective Liability Insurance** – (TOWN DISTRICT, and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and H2M architects + engineers as engineer) – If the Town of Riverhead, Riverhead Water District deem necessary, the Contractor shall furnish to the TOWN DISTRICT with respect to the operations he or any of his subcontractors perform, a regular Owner's Protective Liability Insurance Policy for and in behalf of the TOWN DISTRICT and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER, providing for a limit of not less than ONE MILLION DOLLARS (\$1,000,000.) each occurrence, a total limit of TWO MILLION DOLLARS (\$2,000,000.) general aggregate for all damages arising out of bodily injuries to, or death of, two or more persons in any one accident; and regular Protective Property Damage Insurance

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providing for a limit of not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for all damages. The insurance must fully cover the legal liability of the TOWN DISTRICT, TOWN BOARD, TOWN OF RIVERHEAD as OWNER and H2M architects + engineers as ENGINEER. The coverage provided under this policy must not be affected if the TOWN DISTRICT performs work in connection with the project either for, or in cooperation with, the Contractor or as an aid thereto, whether the same be a part of the Contract or separate therefrom, by means of its own employees or agents, or if the TOWN DISTRICT directs or supervises the work to be performed by the Contractor.

F. Pollution Liability (where applicable) - If contract involves environmentally regulated substances or Hazardous material exposure(s) and/or the disposal of waste or other hazardous substance from the worksite, the contractor shall maintain Contractor's Pollution Liability including Pollution Legal Liability insurance in the amount of at least \$5,000,000. per occurrence for 3rd party liability and clean-up. This coverage is to remain in effect for a minimum of (5) five years following the completion of work. If written on a claim made basis, the retroactive date must pre-date the inception of the contract or agreement.

11. PROOF OF CARRIAGE OF INSURANCE

The Contractor shall furnish the TOWN DISTRICT with certificates of each insurer insuring the Contractor or any subcontractor under this Contract, except with respect to subdivision D. of paragraph 10. In respect to this paragraph, the Contractor shall furnish the TOWN DISTRICT with the original insurance policy and a copy to the Engineer.

Both certificates, as furnished, and the insurance policy, as required, shall bear the policy numbers, the expiration date of the policy and the limit or limits of liability thereunder. Both the certificates and the policy shall be further endorsed to provide the TOWN DISTRICT and Engineer with any notice of cancellation at least ten (10) days prior to the actual date of such cancellation.

12. COMPLIANCE WITH LABOR AND PENAL LAWS

The Contractor hereby expressly agrees to comply with all the provisions of the Labor Law and any and all amendments thereto, insofar as the same are applicable to this Contract. The Labor Laws, as amended, provide that no laborer, worker or mechanic in the employ of the Contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be permitted or required to work more than eight (8) hours in any one calendar day, except in cases of extraordinary emergency caused by fire, flood, or danger to life or property; that no such person shall be employed more than eight (8) hours in any day or more than five (5) days in any week, except in such emergency; that the wages to be paid for a legal day's work as hereinbefore defined, to laborers, workers, or mechanics upon the work called for under this Contract, or for any materials used upon or in connection therewith shall not be less than the prevailing rate for a day's work in the same trade or occupation in the locality within the State where such work is to be done and each laborer, worker, or mechanic employed by the Contractor, subcontractor, or other person about or upon the work shall be paid the wages herein provided; that employees engaged in the construction outside the limits of cities and villages are no longer exempt from the provisions of the Labor Laws which required the payment of the prevailing rate of wages and the eight (8) hour day.

Section 220A of the Labor Law, as amended by Chapter 472 of the Laws of 1932, provides that before payment is made by or on behalf of the State or any City, County, Town or Village or other civil division of the State, of any sums due on account of a contract for a public improvement, it is the duty of the Comptroller or the financial officer of the Municipal Corporation to require the Contractor and each and every subcontractor to file a certified statement in writing, in satisfactory form, certifying to the amounts then due and owing to any and all laborers for daily or weekly wages on account of labor

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performed upon the work of the Contract, setting forth therein the names of the persons whose wages are unpaid and the amount due each, respectively.

Section 220B of the Labor Law, as amended, provides that any interested person who shall have previously filed a protest in writing objecting to the payment to any Contractor or subcontractor to the extent of the amount or amounts due or to become due to him for daily or weekly wages for labor performed on the public improvement for which the Contract was entered into, or if, for any other reason, it may be deemed advisable, the Comptroller of the State or other financial officer of the Municipal Corporation may deduct from the whole amount of any payment on account thereof the sum or sums admitted by any Contractor or subcontractor in such statement or statements so filed to be due and owing by him on account of labor performed and may withhold the amount so deducted for the benefit of the laborers for daily or weekly wages, whose wages are unpaid as shown by the verified statements filed by any Contractor or subcontractor and may pay directly to any person the amount or amounts so shown to be due for such wages.

Section 220C of the Labor Law, as amended, provides the penalty for making a false oath or verification.

Section 220D of the Labor Law provides that the advertised specifications for every Contract for the construction, reconstruction, maintenance and/or repair of highways to which the State, County, Town and/or Village is a party shall contain the provision stating the minimum rate of hourly wage that can be paid, as shall be designated by the Industrial Commissioner, to the laborers employed in the performance of the Contract, either by the Contractor, subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract, and the Contract shall contain a stipulation that such laborers shall be paid not less than such hourly minimum rate of wage. Any person or corporation that willfully pays after entering into such Contract less than such stipulated minimum hourly wage scale shall be guilty of a misdemeanor and, upon conviction, shall be punished for a first offense by a fine of Five Hundred Dollars (\$1,000.00) or by imprisonment for not more than thirty (30) days, or by both fine and imprisonment for a second offense by a fine of One Thousand Dollars (\$1,000.) and, in addition thereto, the Contract on which the violation has occurred shall be forfeited; and no such person or corporation shall be entitled to receive any sum or nor shall any officer, agent or employee of the State pay the same or authorize its payment from the funds under his charge or control to any person or corporation for work done upon any contract, on which the Contractor has been convicted of second offense in violation of the provisions of this Section.

The minimum wage rates established by the Industrial Commissioner, State of New York, for this Contract, are as set forth in the INFORMATION FOR BIDDERS.

All excavation shall be done in compliance with Article 36 of the General Business Law and notices given as provided by GBL Section 761.

13. PAYMENT OF EMPLOYEES

The Contractor and each of his subcontractors shall pay each of his employees engaged in work on this project under this Contract in full (less deductions made mandatory by law) in cash and not less often than once each week.

14. ESTIMATES AND PAYMENTS

Progress Payments: During the progress of the work the Contractor shall submit a payment requisition to the Engineer. The Engineer will review the requisition and prepare a payment request based on the estimated amount of work performed and the quantity of materials furnished, based on the prices set forth in the Proposal. In consideration of the work done and the materials furnished, the TOWN DISTRICT will pay or cause to be paid to the Contractor the amount estimated by the Engineer as due him less a sum equal to five percent (5%) of such amount and less such additional amount as may be

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necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitable discharged. The making of any such estimate or payment made thereon shall not be taken or construed as an acceptance by the Engineer or the TOWN DISTRICT of any work so estimated and paid for. The amount of the monthly estimate remaining unpaid will be retained by the TOWN DISTRICT as a guarantee that the Contractor will faithfully and completely fulfill all obligations imposed by the Contract and Specifications, and against any damages incurred by the TOWN DISTRICT by reason of any failure on the part of the Contractor to fulfill all conditions and obligations herein contained. All partial payments are subject to correction in any subsequent payment. The retained amounts shall be paid as set forth in the following subsection B.

Final Payment: Thirty (30) days after the Contractor shall have substantially completed the work required of it under the Contract the Engineer will prepare an approval of Final Payment Request. Thereafter the TOWN DISTRICT will pay to the Contractor the remaining amount of the Contract balance less a sum equal to two (2) times the value of any remaining items to be completed and less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the TOWN DISTRICT shall promptly pay, upon receipt of a requisition for these items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. Any claims, liens and judgments referred to in this section shall pertain to the project and shall be filed in accordance with the terms of the applicable Contract and/or applicable laws. Final Payment will not be issued without the required Maintenance Bond as described in Section 9C of this contract.

The Engineer shall make due measurement of the work done during the progress of the work and his estimate shall be final and conclusive evidence of the amounts of work performed by the Contractor under, and by virtue of, this agreement, and shall be taken as the full measure of compensation to be received by the Contractor. When requested by the Contractor, the Engineer shall measure, re-measure or re-estimate any portion of the work; but the expense of such re-measurement or re-estimating shall, unless material error be proved, be paid for by the Contractor.

Should all work not be completed and final payment request not submitted within one (1) year after the punch list has been issued, the TOWN DISTRICT will be under no obligation to make final payment.

15. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the Contractor of the final payment shall be, and shall operate as a release to the TOWN DISTRICT from all claims and all liabilities to the Contractor for all things done or furnished in connection with this work, and for every act and neglect of the TOWN DISTRICT and other relating to, or arising out of, this work, excepting the Contractor's claims for interest upon the final payment, if these payments be improperly delayed. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract or the Performance Bond.

16. CONSTRUCTION REPORTS

The Contractor shall submit to the Engineer prior to the commencing of any work under this Contract a detailed schedule and plan of operation, indicating the manner in which the Contractor proposes to prosecute the work, and a time schedule therefore. Such schedules are not intended to bind the Contractor to a predetermined plan or procedure, but rather to enable the Engineer to coordinate the work of the Contractor with work required of and to be performed by others.

The Contractor shall furnish the Engineer with periodic estimates for partial payments as required elsewhere in the contract documents and, in addition thereto, will furnish the Engineer with a detailed estimate for final payment. Prior to being eligible to receive final payment under this Contract, the Contractor shall furnish the Engineer with substantial proof that all bills for services rendered and materials supplied have been paid. The enumeration of the above reports in no way relieves the

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Contractor of his responsibility under existing Federal or State laws of filing such other reports with agencies other than the TOWN DISTRICT as may be required by such existing laws or regulations.

17. INSPECTION AND TESTS

All material and workmanship shall be subject to inspection, examination and test by the Engineer and other representatives of the TOWN DISTRICT at any time during the construction and at any and all places where manufacturing of materials used and/or construction is carried on.

Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests so required safe and convenient.

If, at any time, before final acceptance of the entire work, the Engineer, with the TOWN DISTRICT's approval, considers necessary or advisable an examination of any portion of the work already completed, by removing or tearing out the same, the Contractor shall, upon request, furnish promptly all necessary facilities, labor and materials for such examination. If such work is found to be defective in any material respect, due to the fault of the Contractor or any subcontractor, or if any work shall be covered over without the approval or consent of the Engineer, with the TOWN DISTRICT's approval, whether or not the same shall be defective, the Contractor shall be liable for the expenses of such examination and of satisfactory reconstruction.

If, however, such approval and consent shall have been given, and such work is found to meet the requirements of this Contract, the Contractor shall be recompensed for the expense of such examination and reconstruction in the manner herein provided for the payment of costs of extra work pursuant to a Change Order signed by the TOWN DISTRICT and the Contractor.

The selection of laboratories and/or agencies for the inspection and tests of supplies, materials or equipment shall be subject to the approval of the Engineer. Satisfactory documentary evidence that the material has passed the required inspection and test must be furnished the Engineer prior to the incorporation of the material in the work.

Any rejected work shall be removed from the site of the project completely at the expense of the Contractor.

18. PLANS AND SPECIFICATIONS - INTERPRETATIONS

The Contractor shall keep at the site of the work a clean and neat copy of the Plans and Specifications signed and identified by the Engineer. Anything shown on the Plans and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Plans shall have the same effect as if shown or mentioned respectively in both. In case of any conflict or inconsistency between the Plans and Specifications, the Plans shall govern. Any discrepancy between the figures and drawings shall be submitted to the Engineer, whose decision therein shall be conclusive.

19. SUBSURFACE CONDITIONS FOUND DIFFERENT

Should the Contractor encounter subsurface conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed; the Engineer shall thereupon promptly investigate the conditions and if he finds that they materially differ from those shown on the Plans or indicated in the Specifications, he shall at once make such changes in the Plans and/or Specifications as he may find necessary.

Any increase or decrease of cost resulting from such changes will be adjusted in the manner provided herein for adjustment as to extra and/or additional work and changes shall be by Change Order executed by the TOWN DISTRICT and Contractor.

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20. CONTRACTOR'S TITLE TO MATERIALS

No material or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work.

21. SUPERINTENDENCE BY CONTRACTOR

At the site of the work the Contractor shall employ a Construction Superintendent or Foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

22. PROTECTION OF WORK, PERSONS AND PROPERTY

Precaution shall be exercised at all times for the proper protection of all persons, property and work. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery equipment and all hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law. The Contractor shall furnish entirely at his own expense any and all additional safety measures deemed necessary by the TOWN DISTRICT or its Engineer to adequately safeguard the traveling public. The Contractor shall give notice to the owners of all utilities which may serve the area and request their assistance in predetermining the location and depth of the various pipes, conduits, manholes and other underground facilities.

The Contractor shall, at all hours of the day, safely guard and protect his own work and adjacent property from any damage and shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract documents, or by the TOWN DISTRICT or its duly authorized representatives.

The Contractor shall provide and maintain such watchers, barriers, lights, flares and other signals, at his own expense, as will effectively prevent any accident in consequence of his work for which the TOWN DISTRICT might be liable. The Contractor shall be liable for all injury or damage caused by his act or neglect, or that of his employees.

23. PATENT RIGHTS

As part of his obligation hereunder and without any additional compensation, the Contractor will pay for any patent fees or royalties required in respect to the work or any part thereof and will fully indemnify the TOWN DISTRICT for any loss on account of any infringement of any patent rights, unless prior to his use in the work of a particular process or a product of a particular manufacturer, he notifies the TOWN DISTRICT in writing that such process or product is an infringement of a patent.

24. REPRESENTATIONS OF CONTRACTOR

The Contractor represents and warrants:

- A. That he is financially solvent and that he is experienced in and competent to perform the type of work involved under this Contract and able to furnish the plan, materials, supplies and/or equipment to be furnished for the work; and

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- B. That he is familiar with all Federal, State and Municipal Laws, ordinances and regulations which may in any way affect the work of those employed hereunder, including but not limited to any special acts relating to the work; and
- C. That such work required by these contract documents as is to be done by him can be satisfactorily constructed and used for the purpose for which it is intended and that such construction will not injure any person or damage any property; and
- D. That he has carefully examined the Plans, Specifications, and the site of the work, and that from his own investigation he has satisfied himself as to the nature and location of the work, the character, location, quality and quantity of surface and subsurface materials, structures and utilities likely to be encountered, the character of equipment, and other facilities needed for the performance of the work, the general local conditions which may in any way affect the work or its performance.

25. AUTHORITY OF THE ENGINEER

In the performance of the work, the Contractor shall abide by all orders and directions and requirements of the Engineer and shall perform all work to the satisfaction of the Engineer, at such time and places, by such methods, and in such manner and sequence as he may require. The Engineer shall determine the amount, quality, acceptability and fitness of all parts of the work, shall interpret the plans, specifications, contract documents and any extra work orders and shall decide all other questions in connection with the work. Upon request, the Engineer shall confirm in writing any oral orders, directions, requirements or determinations. The enumeration herein or else-where in the contract documents of particular instances in which the opinion, judgment, discretion or determination of the Engineer shall control, or in which work shall be performed to his satisfaction or subject to his approval, or inspection, shall not imply that only matters similar to those enumerated shall be so governed and so performed, but without exception all the work shall be governed and so performed. Nothing herein shall be construed to give the Contractor a claim for extra work unless prior thereto an appropriate Change Order has been executed by the TOWN DISTRICT and Contractor for such work.

26. SURVEYS

The Contractor shall provide all layouts, measurements, lines, and grades necessary for the execution of the work, and will furnish the necessary stakes and spikes for laying out such lines and grades and the unskilled labor necessary to place same and/or assist in measuring.

27. CHANGES AND ALTERATIONS

The TOWN DISTRICT reserves the right to make alterations in the location, line, grade, plans, form or dimensions of the work, or any part thereof, either before or after the commencement of the construction. If such alterations diminish the amount of work to be done, no claim for damages or anticipated profits will be warranted on the work which may be dispensed with. If such alterations increase the amount of work, such increases shall be paid for according to the quantity of work actually done and at the unit prices for such work as contained in the schedule of prices.

If such alterations decrease the amount of work, such decreases shall be a credit to the TOWN DISTRICT based on the quantity of work not performed as agreed to by the TOWN DISTRICT and the Contractor and at the unit prices for such work as contained in the Schedule of Prices.

28. CORRECTION OF WORK

All work and all materials, whether incorporated into the work or not, all processes of manufacture and all methods of construction shall be, at all times and places, subject to the inspection of the Engineer who shall be the final judge of quality, materials, processes of manufacture and methods of construction suitable for the purpose for which they are used. Should they fail to meet his approval they shall be

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forthwith reconstructed, made good and replaced and/or corrected as the case may be, by the Contractor at his own expense. Rejected materials shall immediately be removed from the site.

If, in the opinion of the Engineer, it is not desirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the contract documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as, in the judgment of the Engineer, shall be equitable.

The Contractor expressly warrants that his work shall be free from any defects in materials or workmanship, and agrees to correct any defects, settlements, or shrinkages which may appear within one (1) year following the date of the final payment request. Neither the acceptance of the completed work nor payment therefor shall operate to release the Contractor or his sureties from any obligations under or upon this Contract or the Performance Bond.

29. WEATHER CONDITIONS

The Contractor will and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If any work or materials shall have been damaged or injured by reason of the failure on the part of the Contractor or any of his subcontractors to protect his, or their work, such work and materials shall be removed and replaced at the expense of the Contractor.

30. THE TOWN DISTRICT'S RIGHT TO WITHHOLD PAYMENTS

The TOWN DISTRICT may withhold from the Contractor so much of any approved payments due him as may, in the judgment of the TOWN DISTRICT, be necessary:

- A. To assure the payment of just claims then due and unpaid of any persons supplying labor or materials for the work.
- B. To protect the TOWN DISTRICT from loss due to defective work not remedied; or
- C. To protect the TOWN DISTRICT from loss due to injury to persons or damage to the work or property of other contractors or subcontractors or others, caused by the act or neglect of the Contractor or any of his subcontractors. The TOWN DISTRICT shall have the right, as agent for the Contractor, to apply any such amount so withheld in such manner as the TOWN DISTRICT may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

31. THE TOWN DISTRICT'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

The TOWN DISTRICT may terminate the contract, If:

- A. The Contractor shall file for any form of bankruptcy relief or make an assignment for the benefit of creditors; or
- B. A receiver or liquidator shall be appointed for the Contractor for any of his property and shall not be dismissed within twenty (20) days after such appointment, or the proceedings in connection therewith shall not be stayed on appeal within the said twenty (20) days; or
- C. The Contractor shall violate any provision of this Contract; or
- D. The Contractor shall fail or refuse to regard laws, ordinances, regulations, or the instructions of the Engineer and/or the TOWN DISTRICT.

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Then, and in any such event, the TOWN DISTRICT without prejudice to any other rights or remedy it may have, and after seven (7) days written notice to the Contractor and Contractor's Surety may terminate the employment of the Contractor and take possession of the premises and all material, tools and appliances therein, and complete the work by contract or otherwise, as the TOWN DISTRICT solely may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

If the unpaid balance of the compensation to be paid the Contractor hereunder shall exceed the expense of so completing the work (including compensation for additional managerial, engineering, administration, legal, testing and observation services and any damages for delay), such excess shall be paid to Contractor.

If the expense shall exceed the unpaid balance, the Contractor and his sureties shall be liable to the TOWN DISTRICT for such excess.

32. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work shall be stopped by order of the Court or any public authority, Federal or State agency, for a period of three (3) months through no act or fault of the Contractor or any of his agents, servants, employees, materialmen, or subcontractors, the Contractor may, upon ten (10) days notice to the TOWN DISTRICT, discontinue his performance of the work and/or terminate the Contract.

Upon termination by the Contractor the TOWN DISTRICT may take possession of the work and complete the work by Contract or otherwise, as the TOWN DISTRICT solely may deem expedient.

If the Contract is terminated by the Contractor, the liability of the TOWN DISTRICT to the Contractor shall be for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment, including reasonable profit and damages.

33. RESPONSIBILITY OF WORK

The Contractor agrees to be responsible for the entire work embraced in this Contract until its completion and final acceptance, and that any unfaithful or imperfect work that may become damaged from any cause, either by act or commission or omission to properly guard and protect the work that may be discovered at any time before the completion and acceptance shall be removed and replaced by good and satisfactory work without any charge to the TOWN DISTRICT and that such removal and replacement will be performed immediately on the requirement of the Engineer, notwithstanding the fact that it may have been overlooked by the proper inspector, and partial payment made thereon. It is fully understood by the Contractor that the inspection of the work shall not relieve him of any obligation to do sound and reliable work as herein prescribed, and that any omission to disapprove of any work by the Engineer at or before the time of a partial payment or other estimate shall not be construed to be an acceptance of any defective work.

34. USES OF PREMISES AND REMOVAL OF DEBRIS

The Contractor expressly undertakes at his own expense:

- A. To take every precaution against injury to persons or damages to property.
- B. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any of his subcontractors, or other contractors.
- C. To place upon any of the completed work only such superimposed loads as are consistent with the safety of that portion of the work.

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- D. To frequently clean up all refuse, rubbish, scrap materials and debris caused by the operations to the end that at all times the site of the work shall present a neat and orderly and workmanlike appearance.
- E. Before the Engineer's approval of the Final Payment Request, to remove all surplus material, temporary structures, plants of any description and debris of any and every nature resulting from his operations and to put the site in a neat and orderly condition.

35. POWER OF THE CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury to property and/or safety to life, the Contractor will be permitted to act as he sees fit without previous instructions from the TOWN DISTRICT. He shall notify the TOWN DISTRICT thereof immediately thereafter and any compensation claimed by the Contractor due to extra work made necessary because of his acts in such emergency shall be submitted to the TOWN DISTRICT for approval and Change Order executed by the TOWN DISTRICT and the Contractor.

Where the Contractor has not taken action but has notified the Engineer of an emergency indicating injury to persons or damage to adjoining property or to the work being accomplished under this Contract, then upon authorization from the Engineer to prevent such threatened injury or damage, he shall act as instructed by the Engineer. The amount of reimbursement claimed by the Contractor on account of any such action shall be determined in the manner provided herein for the payment of extra work and shall be incorporated into a Change Order executed by the TOWN DISTRICT and Contractor.

36. SUITS AT LAW

The Contractor shall indemnify and save harmless the TOWN DISTRICT from and against all suits, claims, demands or actions for any injury sustained or alleged to be sustained by any party or parties in connection with the construction of the work or any part thereof, or any commission or omission of the Contractor, his employees or agents or any subcontractors and in case any such action shall be brought against the TOWN DISTRICT, the Contractor shall immediately take care of and defend the same at his own cost and expense.

37. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and, if through mistake or otherwise, any such provision is not inserted or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

38. SUBLetting, SUCCESSOR AND ASSIGNS

The Contractor shall not sublet any part of the work under this Contract, nor assign any money due him hereunder without first obtaining the written consent of the TOWN DISTRICT. This Contract shall inure to the benefit of and shall be binding upon the parties hereunder and upon their respective successors and assigns, but neither party shall assign or transfer his interest herein in whole or in part without consent of the other.

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IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

RIVERHEAD WATER DISTRICT:

BY: _____
YVETTE AGUIAR, SUPERVISOR

(TOWN SEAL)

CONTRACTOR:

BY: _____

TITLE: _____

(SEAL)

STATE OF NEW YORK)
) ss:
COUNTY OF SUFFOLK)

On the _____ day of _____, 20____, before me personally came YVETTE AGUIAR, to me known, who being by me duly sworn, did depose and say that he is the duly elected SUPERVISOR of the TOWN OF RIVERHEAD, COUNTY OF SUFFOLK, NEW YORK, and that at a meeting of the Town Board of the Town of Riverhead, duly held on the _____ day of _____, 20____, the said Board, also acting in its capacity as the Governing Body of the Riverhead Water District, authorized the said SUPERVISOR to execute all and any contracts on behalf of the Board; that he knows the seal of said Town, and that the said Water District seal is also the seal of the Town of Riverhead; that the seal affixed to the foregoing instrument is its corporate seal; that it was affixed thereto by order of the said Board, and that he signed his name thereto and executed the said instrument on behalf of the said Water District by like order and authority.

NOTARY PUBLIC

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ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION

STATE OF NEW YORK)
) ss:
COUNTY OF)

On this _____ day of _____, 20____, before me personally came and appeared
_____, to me known, who by me being duly sworn, did depose and say
that he resides at _____ that he is the _____ of
_____, the Corporation described in and
which executed the foregoing instrument, that he knows the seal of said corporation, that one of the seals
affixed to said instrument is such seal, that it was so affixed by order of the Directors of said Corporation,
and that he signed his name thereto by like order.

NOTARY PUBLIC

ACKNOWLEDGMENT OF CONTRACTOR, IF A PARTNERSHIP

STATE OF NEW YORK)
) ss:
COUNTY OF)

On this _____ day of _____, 20____, before me personally came and appeared
_____, to me known, and known to me to be one of the members of the firm of
_____, described in and who executed
the foregoing instrument, and he acknowledged to me that he executed the same as and for the act and
deed of said form.

NOTARY PUBLIC

END OF SECTION

1. GENERAL CONDITIONS

The "General Conditions" are hereby made a part of these specifications and are attached herein.

Where any article of the General Conditions is supplemented hereby, the provisions of such article shall remain in effect. All the supplemental provisions shall be considered as added thereto. Where any such article is amended, voided or superseded thereby, the provisions of such article not so specifically amended, voided or superseded shall remain in effect.

Work, materials, plant, labor and other requirements of the General Conditions shall be furnished by the contractor. No direct payment shall be made for these General Conditions, and payment shall be deemed to be included in the Contract price or various items of the entire Contract.

2. CONTRACT DOCUMENTS

The Contract Documents include, but are not limited to, the General Conditions, General Specifications, Detailed Specifications, Plans, Proposal Form, Contract and other sections as either cited on the Index page(s) or actually included in the bound documents.

Each section of the Contract Documents is intended to be complementary to the other sections. It is intended that they include all items of labor and materials and everything required and necessary to complete the work, even though some items of work or materials may not be particularly mentioned in every section or may have been inadvertently omitted from the Drawings or Specifications or both.

3. APPROVAL OF SUBCONTRACTORS AND MATERIALS

Prior to commencing any work under this Contract, the contractor shall submit to the Engineer for approval a list of all the subcontractors and material suppliers it proposes to use for this Contract. No subcontractor or material supplier will be permitted to deliver materials or perform any work on this Contract until it has been approved by the Engineer.

4. INTERPRETATION OF DRAWINGS, ETC.

In the event of discrepancies between the Drawings and the Specifications, the following order shall be given preference when making interpretations:

- a. Addenda (later dates to take precedence over earlier dates).
- b. Drawings (schedules or notes to take precedence over other data shown on Drawings).
- c. Technical Specifications
- d. General Specifications
- e. General Conditions

On all Plans, Drawings, etc., the figure dimensions shall govern in the case of discrepancy between the scales and figures.

The contractor shall take no advantage of any error or omission in the Plans, or of any discrepancy between the Plans and Specifications, and the Engineer shall make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the Specifications and of the Plans as construed by him, and his decision shall be final.

All work that may be called for in the Specifications and not shown on the Plans, or shown on the Plans and not called for in the Specifications, shall be furnished and executed by the contractor as if designated

in both. Should any work or material be required which is not denoted in the Plans and Specifications, either directly or indirectly, but which is, nevertheless, necessary for the proper carrying out of the intent thereof, it is understood and agreed that the same is implied and required, and that the contractor shall perform such work and furnish such materials as if they were completely delineated and described.

5. ADDITIONAL WORK

Additional work, if required to be performed under this Contract, will be in accordance with the applicable paragraphs of the Contract. The Engineer shall be the sole judge as to whether such work was intended as part of the Contract or is in addition thereto.

6. SAFETY PROVISIONS

The contractor shall take every precaution and shall provide such equipment and facilities as are necessary or required for the safety of its employees. In case of an accident, first aid shall be administered to any who may be injured in the progress of the work. In addition, the contractor shall also be prepared for the removal to the hospital for treatment of any employee either seriously injured or ill.

7. SANITARY REGULATIONS

In addition to compliance with the Occupational Safety and Health Act, the contractor shall erect and maintain necessary sanitary conveniences for the use of employees on the work. Such conveniences shall be properly secluded from observation, and their use shall be strictly enforced. Such sanitary conveniences shall be constructed in compliance with all laws, ordinances or regulations governing these facilities. The contents of same shall be removed with sufficient frequency to prevent nuisance, and disposed of to the satisfaction of the Engineer.

The contractor shall obey and enforce such other sanitary regulations and orders and shall take such precautions against infectious diseases as may be deemed necessary. In case any infectious diseases occur among its employees, it shall arrange for the immediate removal of the patient from the work and his isolation from all persons connected with the work.

8. RESPONSIBILITY OF ENGINEER AND CONTRACTOR DURING CONSTRUCTION

By means of the on-site observations of the work in progress, the Engineer will endeavor to provide protection for the Owner against defects and deficiencies in the contractor's work, but the furnishing of such services shall not include construction review of the contractor's construction means, methods, techniques, sequences or procedures, or of any safety precautions and programs in connection with the work.

The contractor is responsible for complete conformance to the Plans and Specifications, proper construction procedures, coordination with subcontractors, other contractors and utilities, and safe working conditions for its employees.

9. LABOR

All contractors and subcontractors employed upon the work shall and will be required to conform to the Labor Laws of the State of New York and the various acts amendatory and supplementary thereto; and to all other laws, ordinances and legal requirements applicable thereto. All contractors and subcontractors shall submit original copies of certified payroll records for each period worked at the site. In addition all contractors and subcontractors shall provide a completed Affidavit of Labor Form 220 and Riverhead Town Wage Disclaimer Form for each payroll week prior to issuance of any partial or final payment.

All labor shall be performed in the best and most workmanlike manner by mechanics skilled in their respective trades. The standards of the work required throughout shall be of such grade as will bring results of the first class only.

Pursuant to Section 816-(b) of the New York Labor Law, the Riverhead Water District has adopted a Resolution relating to approved apprenticeship programs. If the successful bidder's bid hereunder exceeds the sum of \$250,000.00, such bidder shall, prior to entering into a contract with the District, be required to have an appropriate apprenticeship agreement that has been registered with and approved by the Commissioner of the New York State Department of Labor pursuant to the requirements found in Article 23 of the New York Labor Law. Any subcontractors under this contract shall also, in all respects, comply with these provisions.

10. CLAIMS OR PROTESTS

If the contractor considers any work required of him to be outside the requirements of the Contract, or considers any record or ruling of the Engineers or Inspectors as unfair, he shall ask for written instructions or decisions immediately, and then file a written protest with the Owner against the same within five days thereafter, or be considered as having accepted the record or ruling.

11. NOTIFICATION, INTERFERENCE AND INJURY TO UTILITIES

The contractor shall cooperate in every way with the utility companies. All excavation shall be done in compliance with Article 36 of the General Business Law and notices given as provided by GBL, Section 761.

All conduits, water mains and gas mains encountered in the construction shall be properly and safely taken care of by the contractor, who shall, upon encountering same, notify the public corporation to whom they belong, in order that they may be changed in such a manner as not to interfere with the final construction.

In case any damage shall result to any service pipe for water or gas, or any private or public sewer or conduit by reason of negligence on the part of the contractor, he shall, without delay and at his own expense, repair same to the satisfaction of the Engineer, and in case such repairs are not made promptly or satisfactorily, the Owner may have the repairs made by another contractor or otherwise, and deduct the cost of same from any monies due or to become due the contractor.

12. INFRINGEMENT OF PATENTS

The contractor further agrees to hold himself responsible for any claims made against the Owner for any infringement of patents by the use of patented articles in any one phase of construction of the work and the completion of same, or any process connected with the work agreed to be performed under this Contract, or of any materials used upon said work and to save harmless and indemnify the Owner from all costs, expenses and damages which the Owner shall be obliged to pay by reason of any infringement or patents used in the construction and completion of the work.

13. DAMAGES

All damage, direct or indirect, of whatever nature resulting from either the performance of, or resulting to the work under, this Contract during its progress from whatever cause, shall be borne and sustained by the contractor, and all work shall be solely at his risk until the date of the final payment request.

14. GUARANTEE/WARRANTY

This contractor shall guarantee and warrant his work and that of his subcontractors against defects in workmanship and/or materials for a period of one (1) year from the date of final payment request by the Engineer, except as otherwise specified. Upon written notification from the Engineer, the contractor shall repair, replace or reconstruct such defects to the satisfaction of the Engineer at no cost to the Owner.

15. STANDARDIZATION

The general items specified with the Technical Specifications indicate specific manufacturers and/or catalog numbers etc., for the purpose of standardization within the District in order to minimize the stockpiling of replacement parts.

END OF SECTION

The **Wage Rates** schedule can be accessed and downloaded through the NYSDOL website: <https://dol.ny.gov/public-work-and-prevailing-wage> using the job-specific PRC# 2023005696.

END OF SECTION

PART 1 - GENERAL

1.01 BRIEF PURPOSE OF PROJECT / GENERAL

- A. The purpose of this project is to replace approximately 1,100 LF of existing 6" cast iron water main along Osborn Avenue from Court Street to Lincoln Street with new 10" cement-lined ductile iron water main and appurtenances including new valves, fire hydrants, and water service reconnections.
- B. All work shown and specified in the Contract Documents shall be the work of this Construction Contract. The Owner does not anticipate awarding other prime contracts for the project as shown.
- C. This Section provides an abbreviated summary of the work for the Construction Contract associated with the Owner's program to construct the project.

1.02 NOMENCLATURE

- A. Where the terms "Engineer/Architect", "Architect/Engineer", "Engineer", or "Architect" are used throughout these Contract Documents, they shall mean the firm of H2M architects + engineers as may be abbreviated by H2M or H2M Group.
- B. The terms "Contractor" and/or "Prime Contractor" where used shall refer to the individual or company who has entered into an agreement with the Owner to perform the work contained within these Contract Documents. The lack of word capitalization shall be incidental.

1.03 ABBREVIATED SUMMARY OF WORK

- A. Furnish all labor, equipment, materials, tools, means, methods, and incidentals necessary to complete the Work as required by the Contract Documents for this Construction Contract. The contractor shall coordinate, through the Owner/Engineer, the work of their contract with any work by others.
- B. This following abbreviated summary is provided in order to briefly describe the work covered by the Contract Documents for this Construction Contract. It is not all inclusive of the work under the Contract.
- C. The work includes, but is not limited to, the following:
 1. Installation of new 6" and 10" C.L.D.I. pipe, valves, hydrants and fittings.
 2. Installation of new steel or HDPE casing pipe beneath Long Island Railroad Tracks via jacking or directional drill, respectively.
 3. Disinfection, pressure testing, and bacteriological testing.
 4. Connection of new main to existing water system.
 5. Reconnection of existing water services.
 6. Abandonment of existing main.
 7. Road Restoration.
 8. Site cleanup.
 9. Project closeout submittals.
- D. All other work shown and specified in the Contract Documents.

1.04 PARTIAL LISTING OF SPECIFIC CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but are not limited to, the following:
 1. Securing of road opening permits from the Town of Riverhead.

2. Guidelines and requirements of the New York State Department of Environmental Conservation (NYSDEC).
3. Guidelines and requirements of the Suffolk County Department of Health Services (SCDHS).
4. Guidelines and requirements of the Long Island Rail Road (LIRR).
5. Guidelines and requirements of the Occupational Safety & Health Administration (OSHA).
6. Local laws and ordinances of the County of Suffolk, Town of Riverhead and the Riverhead Water District.

1.05 PARTIAL LISTING OF OVERALL CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but is not limited to, the following:
 1. Debris removal and daily and final cleaning up.
 2. Coordination with the Water District and local consumers regarding the interruption of water service and subsequent shut-downs of existing water mains.
 3. Coordination with utility companies necessary to schedule utility mark-out services and in the event of damage to existing facilities; their repair.
 4. Coordination with utility companies necessary to schedule connection of services, and management of the installation.
 5. Coordination with LIRR necessary to schedule work related to the installation of water main crossing the railroad tracks.
 6. Coordination with the Water District and Engineer during flushing and testing operations.
 7. Maintain the Owner's ability to operate the facility at all times during the construction period.
 8. Product and equipment storage and handling requirements.
 9. Site safety in accordance with all applicable federal, state, and local regulations.
 10. Project submittals, meetings, testing services, schedules, shop drawings, closeout procedures and documents, manuals, as-built drawings, and final commissioning of the work shall be provided as required by the Contract.
 11. To not hinder the Owner's ability to deliver a safe and potable water supply.

1.06 OWNER SUPPLIED PRODUCTS AND UTILITIES

- A. The Owner will not be supplying equipment, labor, or tools for the project.

1.07 EXISTING CONDITIONS

- A. The Drawings show certain information that has been obtained by the Owner regarding various pipelines, structures, and utilities that exist at the location of the project both below and at grade.
- B. The Owner and the Engineer expressly disclaims all responsibility for the accuracy or completeness of the information given on the Drawings with regard to existing facilities.
- C. In the case where the Contractor discovers an obstruction not indicated on the Drawings or not described via specification reference, then the Contractor shall immediately notify the Engineer of the obstructions' existence.
- D. The Engineer will determine if the obstruction is to be relocated or removed.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Site access and control of areas outside of site.
- B. Work hours, employee conduct and miscellaneous employee requirements.
- C. Contract requirements related to maintaining Owner's current operations and excess inspection required.

1.02 SITE ACCESS AND CONTROL

- A. The Contractor is responsible to employ methods to prevent construction materials and/or debris from leaving the site. The Contractor is responsible to routinely monitor the areas surrounding the site during the day as well as at the end of the work-day and to immediately clean up any area to its previous condition.
- B. The Contractor shall employ methods to prevent the transmission of dirt from vehicles driving on exposed areas of the site from reaching the surrounding roadways. The Contractor will be responsible to immediately clean the roadway, should the measures being taken by the Contractor not satisfactorily control the transmission of any dirt to the roadway.
- C. Any damages to areas outside the site, spills of soil, liquid, or any other material shall immediately be repaired, cleaned and restored to its previous condition.
- D. The Contractor shall comply with all state and local requirements for allowable weight limits of vehicles on all roads.
- E. The Owner reserves the right to back charge the Contractor for all costs associated with maintaining the grounds as well as maintaining areas outside the site, which may be disturbed by the Contractor should the Contractor fail to maintain or repair the aforementioned in a condition acceptable to the Owner.
- F. The Contractor shall not close any road for any period in time unless approved ahead of time by appropriate road agency. The Contractor shall take whatever measures are necessary to not cause any inconvenience to the area's residents.
- G. The Contractor shall maintain the premises in a safe condition throughout the construction period. Compliance with OSHA regulations and site safety shall be the responsibility of the Contractor as it relates to work of the Contract. The posting of all applicable OSHA safety signs shall be the responsibility of the Contractor.
- H. Contractor shall be responsible for protecting private property. All existing buildings, structures, shrubs, trees, lawn fixtures, sculptures and misc. equipment shall be protected at all times. Any removals or relocation of said objects, if allowed shall be as directed by the Engineer or District. Contractor shall protect all of the physical structures, property and improvements from damage by their Work and shall immediately repair or replace damage caused by construction operations, employees or equipment employed by the Contractor. All labor, materials and equipment and outside contractors that are employed by the Owner to repair damage caused by the Contractor shall be billed to the Contractor directly or withheld from money due the Contractor for work already completed.
- I. Keep all existing driveways, roads, and parking areas free and clear of materials and equipment. Do not unreasonably encumber the work area with materials and equipment.

- J. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material.
- K. The Contractor is responsible for cleaning up the work area. Failure to maintain a clean work site daily, will result in others performing the work and the Contractor being back charged for the cleaning cost plus construction administration fees.
- L. Do not discard or dispose of any waste on-site.
- M. The Contractor shall be responsible for managing dust.

1.03 WORK HOURS, EMPLOYEE CONDUCT AND MISCELLANEOUS EMPLOYEE REQUIREMENTS

- A. The Contractor will be permitted to schedule working days and hours as specified in the General Terms and Conditions and on the project plans, if no times are specified therein then the work hours shall be Monday - Friday 8:00 am - 4:30 pm.
- B. Employees are to act in a professional manner. Any employee using inappropriate language or who is disruptive to the work environment will be banned from the site.
- C. Proper work attire is required. Shirts are to be worn at all times and no short pants are permitted.
- D. Any employee found under the influence of any drug or alcohol will be banned from the site.

1.04 CONTRACT REQUIREMENTS RELATED TO MAINTAINING OWNER'S CURRENT OPERATIONS AND EXCESS INSPECTION REQUIRED

- A. The Contractor shall schedule working days and hours as specified. The Contractor shall pay all excess costs for inspection services provided by the Owner/Engineer for working beyond the times specified.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Allowance pricing for the following items:
 - 1. Long Island Railroad (LIRR) Permit, License Agreement, inspection, flag protection and mark-out at railroad crossing.
- B. This Section covers the requirements for use of the cash allowances listed above contained in the proposal (Bid Forms, Price Schedule)
- C. The Contractor shall include the cash allowances stipulated in this Section in the amount bid.
- D. Eligible costs described in this Section, and Sections referenced herein, will be the only costs paid for out of the stipulated allowances.
- E. All other costs associated with the project as specified and/or shown, including but not limited to the delivery, installation and all Contractor overhead and/or collateral expenses are to be distributed among the other portions of the work and shall be included in other bid items.

1.02 SUBMITTALS

- A. Make all submissions under the provisions of Section 013300.
- B. Submit additional backup information to substantiate the invoiced amount(s) as the Engineer may require for review and approval, prior to order or payment of item.
- C. Provide written breakdowns for extra work as the Owner may require.

1.03 CHANGES TO STIPULATED (CASH) ALLOWANCE

- A. If the actual cost of services differs from the cash allowance, then the Contract Price will be adjusted accordingly.

1.04 PAYMENTS TO BE MADE OUT OF CASH ALLOWANCE

- A. Eligible costs described in this Section will be the only costs paid for out of the stipulated allowance. All other costs associated with the project shall be included in the proposal bid items.
- B. Include the cash allowance amount indicated in the proposal for actual invoiced LIRR charges for permit and inspection fees associated with the railroad crossing. Included in the allowance is the cost for construction oversight and flag protection, and LIRR mark-out if required. Payment for permit and inspection fees will not be made unless a certified invoice is submitted. Include allowance in total bid amount of the proposal statement. Costs for support of excavation design and drawings shall be included in the bid price and will not be paid for from this allowance.
- C. One (1) week prior to each partial payment, submit a certified invoice from each company listing and detailing the total costs incurred since the last invoice.
 - 1. The invoice shall be on company letterhead signed by an authorized representative of the company and shall include man-hours, tests conducted, date of tests and associated costs and fees.
 - 2. Payment for costs will not be made unless the information is provided and certified. Payment for costs will not be made unless the typed test data reports have been received by the Engineer.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section specifies the requirements for measurements and records made for payment purposes and describes the item(s) under which payment will be made for the Work performed under this Contract.
- B. All work shown or specified in the Contract Documents shall be performed.
- C. Items not specified to be measured or paid for (for which no specific pay item exists in the Price Schedule) shall be included in an appropriate unit price item or in a lump-sum item, if possible.
- D. Comply with the requirements pertaining to the restoration of all surfaces, which may or may not be paid for under a separate unit price item, and which shall be restored to a condition equal to or better than that existed prior to work starting under this contract.

1.02 MEASUREMENT REQUIREMENTS

- A. All required measurements shall be made by the Contractor with the Engineer.
- B. Any measurements not witnessed by Engineer and which cannot be verified or substantiated by Engineer will not be approved and payment under the item(s) requiring such measurements will not be made.
- C. Coordinate measurements daily, for the preparation of periodic pay estimates.
- D. Where payments will be made for removing rock and existing materials, notify Engineer so that he may witness the measurements.
 1. All materials removed without conforming to the above procedures, which Engineer cannot verify or substantiate, will not be paid for.
 2. Maintain complete, neat, clean, and legible field notes for all measured items.
 3. Notes shall contain spaces for Contractor's and Engineer's signatures plus additional space for comments.
 4. An original and a copy shall be made for all notes and one copy shall be turned over to Engineer daily.
 5. The Engineer's signature shall not be constituted as an acceptance of the work, or the measurements made, but shall mean that he was present when the measurements were made.

1.03 SUBMITTALS

- A. See Section 013300.
- B. Field notes of all measurements for payment purposes delivered to Engineer daily.
- C. Copies of all invoices required for payments out of cash allowance(s).
- D. Monthly Applications for Payment.
- E. Record Drawings showing the locations and quantities of all items measured for payment purposes.

1.04 SCHEDULING

- A. Notify Engineer, as far in advance as possible, of the recording of measurements so that Engineer may observe existing conditions, work being performed, and measurements being made.
- B. Allow for and afford Engineer ample time, space, and equipment to observe measurements and to verify measurements and elevations.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide all labor, materials, facilities, levels, measuring devices and all other equipment and items necessary to properly and accurately perform all measurements for payment purposes.
- B. Payment for certain items not specifically listed in the bid forms but otherwise required by the technical specifications shall be deemed included as part of the General Conditions and the individual unit price and lump sum bid items provided for in the proposal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Perform all measuring required under this Section.
- B. Record all measurements and calculated quantities on the Record Drawings.
- C. No measurement shall be made for work performed within the limits of Lump Sum Items.
- D. The following summary lists pay items which are commonly used for projects involving the installation of water mains and appurtenances and may or may not apply to this project. Required pay items are as listed within the proposal documents and no payment will be made under any item that is not included within the proposal pages unless specifically approved by the Water Supplier and Engineer in the form of a Change Order.

ITEM NO.	ITEM DESCRIPTION AND MEASUREMENTS
1A	4" & 6" Cement-Lined Ductile Iron Water Main - Measure the actual length of 4" & 6" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
1B	8" Cement-Lined Ductile Iron Water Main - Measure the actual length of 8" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
1C	10" Cement-Lined Ductile Iron Water Main - Measure the actual length of 10" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.

ITEM NO.	ITEM DESCRIPTION AND MEASUREMENTS
1D	12" Cement-Lined Ductile Iron Water Main - Measure the actual length of 12" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
1E	16" Cement-Lined Ductile Iron Water Main - Measure the actual length of 16" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
1F	20" Cement-Lined Ductile Iron Water Main - Measure the actual length of 20" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting, or hydrant) with no deductions made for fittings or valves.
1G	24" Cement-Lined Ductile Iron Water Main - Measure the actual length of 24" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
1H	30" Cement-Lined Ductile Iron Water Main - Measure the actual length of 30" pipe installed as indicated on the Contract Documents. Measurement shall be made along the centerline of the pipe (from center of valve, fitting or hydrant) with no deductions made for fittings or valves.
2	Cement-Lined Ductile Iron Fittings (Special Castings) - Record the actual size and number of tees, crosses, bends, sleeves, plugs, caps, reducers and offsets fittings installed. Payment shall be based on the actual weight of the fitting used whether it be compact (C153) or Full-Bodied (C110). Gasket, hardware and gland are incidental and shall not be included in the fitting weight total.
3A	6" Mechanical Joint Gate Valve w/ Box - Count the actual number of 6" gate valves with valve boxes installed.
3B	8" Mechanical Joint Gate Valve w/ Box - Count the actual number of 8" gate valves with valve boxes installed
3C	10" Mechanical Joint Gate Valve w/ Box - Count the actual number of 10" gate valves with valve boxes installed.
3D	12" Mechanical Joint Gate Valve w/ Box - Count the actual number of 12" gate valves with valve boxes installed.
4A	New Fire Hydrant Assemblies - Count the actual number of hydrant assemblies installed.
4B	Relocate Existing Fire Hydrant Assemblies - Count the actual number of hydrant assemblies relocated.
4C	Hydrant Protector Post - Count the actual number of hydrant protector posts installed.
4D	Remove Existing Fire Hydrant Assemblies - Count the actual number of hydrant assemblies removed.
5	Chlorination & Testing of Mains - Measure the actual length of new water main installed. Measurement shall be made along the centerline of the pipe with no deductions made for fittings or valves.
6	Additional Excavation - Measure the length, width and depth of excavation where additional material is removed. Dump tickets will be required.
6U	Removal of Unsuitable Material - Measure the length, width and depth of excavation where unsuitable material is encountered and removed. Limits of material removed shall be as directed by Engineer. Dump tickets will be required.
7	Blow-Off Assemblies - Count the actual number of blow-off assemblies installed.

ITEM NO.	ITEM DESCRIPTION AND MEASUREMENTS
8A	Connection to Existing 4" or 6" Water Main - Count the number of connections to existing 4" or 6" water mains made.
8B	Connection to Existing 8" Water Main - Count the number of connections to existing 8" water mains made.
8C	Connection to Existing 10" Water Main - Count the number of connections to existing 10" water mains made.
8D	Connection to Existing 12" Water Main - Count the number of connections to existing 12" water mains made.
8E	Connection to Existing 16" Water Main - Count the number of connections to existing 16" water mains made.
8F	Connection to Existing 20" Water Main - Count the number of connections to existing 20" water mains made.
8G	Connection to Existing 24" Water Main - Count the number of connections to existing 24" water mains made.
8H	Connection to Existing 30" Water Main - Count the number of connections to existing 30" water mains made.
9	Backfill & Trench Compaction - Measure the actual length of new water main installed excluding areas of jacking, pushing, tunneling or drilling. Measurement shall be made along the centerline of the pipe with no deductions made for fittings or valves.
9B	Trench Stabilization - Measure the length of trench receiving stabilization. Measurement shall be made along the centerline of the trench.
9CB	Furnish & Install Cementitious Backfill - Measure the length, width and depth of excavations requiring the placement of cementitious backfill. Delivery tickets will be required.
9CF	Furnish & Install Clean Fill - Measure the length, width and depth of excavations requiring the placement of clean-fill. Delivery tickets will be required
10A	Repaving Roadways (Town & Village Roadways) - Measure the square yards of bituminous pavement placed.
10B	Repaving Roadways (Base Coarse) (Town, Village or Private Roadways) - Measure the square yards of bituminous pavement placed.
10M	Repaving Roadways (Milling and Resurfacing) - Measure the square yards of bituminous pavement milled and placed.
10T	Repaving Roadways (Wearing Coarse) (Town, Village or Private Roadways) - Measure the square yards of bituminous pavement placed.
11A	Reconstructing Composite Pavement (State Roadways) - Measure the square yards of composite or concrete pavement placed, including all incidentals.
11B	Repaving Roadways (State Travel Lanes) - Measure the square yards of bituminous pavement placed within the travel lanes of New York State roadways.
11C	Repaving Roadways (State Shoulder Areas) - Measure the square yards of bituminous pavement placed within the shoulder areas of New York State roadways.
12	Repaving Roadways (County Roadways) - Measure the square yards of bituminous pavement placed.
13	Jacking of Steel Casing - Lump Sum - No measurement required.
13DD	Directional Drilling of PE Piping - Lump Sum - No measurement required.
14A	Topsoil & Seeding - Measure the linear footage of areas disturbed during pipe installation and restored with topsoil and seeds.

ITEM NO.	ITEM DESCRIPTION AND MEASUREMENTS
14B	Topsoil & Sodding - Measure the linear footage of areas disturbed during pipe installation and restored with topsoil and sod.

15	Cement Concrete Traffic Island - Measure the square footage of cement concrete panel constructed.
15A	Cement Concrete Sidewalk - Measure the square footage of cement concrete sidewalk constructed.
15B	Cement Concrete Driveway Aprons - Measure the square footage of cement concrete driveway aprons constructed.
15C	Cement Concrete Curb - Measure the linear footage of cement concrete curb constructed.
15D	Cement Concrete Valley Gutter - Measure the linear footage of cement concrete curb constructed.
16	Additional Work in Easement Area - Lump Sum
18A	Control Valve, Meter or Backflow Preventer - Count the actual number of control valves, meters or backflow prevention devices installed.
18B	Concrete Vault with Access Hatch - Count the actual number of vaults with access hatches installed.
20	Service Vaults - Count the actual number of service vaults installed.
22	Furnish & Install Polyethylene Pipe Wrap - Measure the linear feet of water main installed with a polyethylene pipe wrap.
23	Rock & Masonry Excavation - Measure the cubic yards of material removed. Dump tickets will be required.
26A	Moving/Re-mobilization Fee - Lump Sum - No measurement required.
27A	Check Valve - Count the actual number of check valves installed.
27B	Concrete Vault for Check Valve - Count the actual number of concrete vaults installed.
29	Temporary Pavement - Measure the linear footage of temporary bituminous pavement installed.
30A-S	1" Copper Water Service - Count the number of 1" copper water services installed, short side.
30A-L	1" Copper Water Service Lines - Count the number of 1" copper water services installed, long side.
30B-S	1-1/2" Copper Water Service - Count the number of 1-1/2" copper water services installed, short side.
30B-L	1-1/2" Copper Water Service - Count the number of 1-1/2" copper water services installed, long side.
30C-S	2" Copper Water Service - Count the number of 2" copper water services installed, short side.
30C-L	2" Copper Water Service - Count the number of 2" copper water services installed, long side.
30R-1	Reconnection of Existing 3/4" or 1" Copper Water Service - Count the number of copper water services reconnected to new mains.
30R-2	Reconnection of Existing 1-1/2" or 2" Copper Water Service - Count the number of copper water services reconnected to new mains.
30X	Abandonment of existing water service line - Count the number of service lines abandoned.

ITEM NO.	ITEM DESCRIPTION AND MEASUREMENTS
31	Belgium Block Curb - Measure the linear footage of belgium block curb constructed.
35	Maintenance & Protection of Traffic- Lump Sum - No measurement required.
38E	16" Buried Mechanical Joint Butterfly Valve w/ Box - Count the actual number of 16" butterfly valves with valve boxes installed.
38F	20" Buried Mechanical Joint Butterfly Valve w/ Box - Count the actual number of 20" butterfly valves with valve boxes installed.
38G	24" Buried Mechanical Joint Butterfly Valve w/ Box - Count the actual number of 24" butterfly valves with valve boxes installed.
38H	30" Buried Mechanical Joint Butterfly Valve w/ Box - Count the actual number of 30" butterfly valves with valve boxes installed.
50	Sanitary Sewer House Connection - Count the actual number of sanitary sewer house connections installed.
422L	Traffic Detector Loops- Lump Sum - No measurement required.
TH-1	Digging Test Holes - Count the actual number of test holes performed.

PART 4 - PAYMENTS

4.01 GENERAL REQUIREMENTS AND STIPULATIONS

- A. No separate payments will be made for the Work under this Contract except for the pay items stipulated in this Part 4.
- B. All costs in connection with the Work shall be included in one or more of the pay items, as appropriated, or as stipulated in a change order.
- C. Each pay item shall be full compensation for all costs in connection with the item including, but not limited to:
 - 1. the furnishing of all materials, labor, equipment, tools, and all incidentals,
 - 2. the installation of all materials, equipment, facilities, accessories and appurtenant items,
 - 3. proper share of overhead and profit,
 - 4. mobilization/demobilization,
 - 5. submittals,
 - 6. General and Supplemental Conditions,
 - 7. all temporary facilities and controls
 - 8. restoration of surfaces not scheduled to be paid for by bid items
 - 9. all related and incidental work and items necessary or required to complete the Work and to provide completely connected, operational and approved systems capable of performing as required.
- D. In addition to those items described above, Paragraph 4.02 lists specific items of work under each pay item to assist Contractor in appropriating the costs to the proper pay item.

4.02 PAY ITEMS

- A. The name of the following pay item is the abbreviated form of the Bid Item as contained on the Price Schedule/ Proposal in the Bid Booklet. The name, as shown below or on the Proposal,

shall not be construed to represent a complete description of all or the Work included under such time as is provided only as a means of identification and for ease of conversation.

<u>ITEM NO.</u>	<u>PAYMENT</u>
1	4" - 30" Cement-Lined Ductile Iron Water Main - Payment shall be made at the unit price bid per linear foot of water main installed completed and accepted. Include costs for pipe, pipe materials, gaskets, bronze wedges, pipe installation, excavation and backfill, pipe leakage testing, sheeting and bracing and as indicated on plans and in specifications and all work incidental thereto and necessary therefore.
2	Cement-Lined Ductile Iron Fittings (Special Castings) - Payment shall be made at the unit price bid per pound of special castings installed, blocked and accepted complete. Include costs for transporting, setting, leveling and all labor, materials, tools and equipment and all else necessary therefore and incidental thereto. Payment weights shall be as listed on the appropriate submittals or as listed in the manufacturer's catalog. Payment will not be made for temporary caps or plugs.
3	6" - 12" Buried Mechanical Joint Gate Valve w/ Box - Payment shall be made at the unit price for each gate valve and box installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.
4	Hydrant Assemblies - Payment shall be made at the unit price for each hydrant installed, removed or relocated and accepted. Include costs for all labor, equipment, materials including blocking, steel tie rods and gravel, excavation and backfill and all work incidental thereto and necessary therefore.
5	Chlorination & Testing of Mains - Payment shall be made at the unit price for each linear foot of new piping installed. Include costs for all labor, equipment, materials, testing, sampling and all work incidental thereto and necessary therefore.
6	Additional Excavation/Removal of Unsuitable Materials - Payment will be made for the actual amount of cubic yards of excess fill or unsuitable materials removed. Under this contract new mains shall be installed to provide depth of cover between 4'-6" and 5'-0" for the entire contract and, if ordered by the Engineer, a cover up to 6'-6" for short intervals not exceeding 40 feet in length at each location where additional depth is required to pass under drainage, utilities, etc. When the length exceeds 40 feet at each location where additional depth is required to pass under drainage, utilities, etc., the first 20 feet on each end of the run with additional depth shall be excluded from payment under Item 6.
7	Permanent Blow-off Assemblies - Payment shall be made at the unit price for each blow-off assembly installed and accepted. Include costs for all labor, equipment, materials including blocking, gravel, excavation and backfill and all work incidental thereto and necessary therefore.
8	Connection to Existing Water Mains - Payment will be made for the actual number of cut-ins/wet-cuts to existing water mains made. Payment shall include the cost of spool piping used at the connection, on the run of existing water main. For wet-cuts, payment shall include the cost of the specified tapping sleeve. Payment will not be made where a plug or cap is removed to facilitate connection.
9	Backfill & Trench Compaction - Payment will be made for the actual linear footage of new water mains installed, excluding areas of pipe jacking, drilling or other means of trenchless construction are utilized.

ITEM NO.	PAYMENT
9B	Trench Stabilization - Payment will be made for the actual linear footage of trench that required stabilization, as deemed necessary by the Engineer and/or District.
9CB	Furnish & Install Cementitious Fill - Payment will be made for the actual cubic yards of cementitious backfill delivered and installed.
9CF	Furnish & Install Clean Fill - Payment will be made for the actual cubic yards of clean fill delivered and installed.
10	Repaving Roadways (Town & Village Roadways) - Payment will be made for the actual number of square yards of new asphalt pavement placed in order to restore Town roadways. Includes costs for saw cutting, hauling, dumping, placing, grading and leveling, compacting, sealing and all material, tools and labor necessary therefore and incidental thereto.
11	New York State Pavement Restoration - Payment will be made for the actual number of square yards of new pavement placed in order to restore State roadways (composite, travel lane or shoulder area). Includes costs for saw cutting, hauling, dumping, placing, grading and leveling, compacting, sealing and all material, tools and labor necessary therefore and incidental thereto
12	Repaving Roadways (County Roadways) - Payment will be made for the actual number of square yards of new asphalt pavement placed in order to restore County roadways. Includes costs for saw cutting, hauling, dumping, placing, grading and leveling, compacting, sealing and all material, tools and labor necessary therefore and incidental thereto.
13	Jacking of Steel Casing - Payment shall be made at the lump sum price bid for jacking of specified steel casing and shall include costs of labor, equipment and material, construction and dismantling of launching and receiving pits, test holes, traffic control, and all related, incidental and appurtenance work.
13DD	Directional Drilling of PE Pipe - Payment shall be made at the lump sum price bid for the directional drilling of specified polyethylene pipe and shall include costs of labor, equipment and material, construction and dismantling of launching and receiving pits, test holes, traffic control, and all related, incidental and appurtenance work
14	Topsoil, Seeding & Sod - Payment shall be made at the unit price per linear foot of topsoil and seeding/sod installed, completed and accepted. Include costs for stockpiling and replacing topsoil, importing additional topsoil, transporting, grading and leveling, seeding, Sodding and all material, tools, labor, equipment, maintenance, watering, moving and all other work incidental thereto and necessary therefore.
15	Cement Concrete Traffic Island, Sidewalk, Driveway Aprons & Curb - Payment will be made for the actual square footage of concrete sidewalk or driveway aprons and linear feet of concrete curb removed and replaced. Include costs for new materials including formwork and concrete, transporting, placing, grading, leveling, curing and all other work incidental thereto and necessary therefore.
16	Additional Work in Easement - Payment shall be made at the lump sum price for all costs associated with work in the easement area.
18A	Control Valves, Meter, or Backflow Prevention - Payment shall be made for the actual number of control valves, meters or backflow devices installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.

<u>ITEM NO.</u>	<u>PAYMENT</u>
18B	Concrete Vault with Access Hatch - Payment shall be made for the actual number of concrete vaults with access hatches installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.
20	Service Vaults - Payment shall be made at the lump sum price for all costs associated with the installation of the service vaults.
22	Furnish & Install Polyethylene Pipe Wrap - Payment will be made for the actual linear feet of water main installed with a polyethylene wrap. Payment will not be made where pipe wrap is overlapped.
23	Rock & Masonry Excavation - Payment will be made for the actual volume in cubic feet of rock or masonry excavation removed and disposed of.
26A	Moving/Re-mobilization Fee - Payment shall be made at the lump sum price bid for the number of times that the Architect/Engineer orders the Contractor to temporarily move out of the project for any time period. Payment will not be made for the initial mobilization to site or for the return to the site after testing to abandon existing mains or install water services.
27A	Check Valve - Payment shall be made for the actual number of check valves installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.

27B	Concrete Vault for Check Valve - Payment shall be made for the actual number of concrete vaults installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.
29	Temporary Bituminous Pavement - Payment shall be made at the unit price per linear foot of temporary pavement installed and removed. Include costs for materials, transporting, placing, grading and leveling, rolling, removal and disposal as and when required, and all related incidental and appurtenant work. The Architect/Engineer shall order temporary pavement installed as conditions warrant.
30	Copper Water Service Lines - Payment will be made for the actual number of copper water services installed, reconnected and abandoned and accepted. Includes costs for pipe, pipe materials as indicated in plans and specifications, pipe installation, excavation, compaction, backfill, pipe leakage testing, restoration and all work incidental thereto and necessary therefore.
31	Belgium Block Curb - Payment will be made for the linear feet of belgium block curb removed and replaced. Include costs for new materials including formwork and concrete, transporting, placing, grading, leveling, curing and all other work incidental thereto and necessary therefore.
35	Maintenance & Protection of Traffic - Payment shall be made at the lump sum price for all costs associated with the maintenance & protection of traffic as described in the contract documents and necessary to complete the contract work.
38	Buried Mechanical Joint Butterfly Valves w/ Boxes - Payment shall be made at the unit price for each butterfly valve and box installed and accepted. Include costs for all labor, equipment, materials, excavation and backfill and all work incidental thereto and necessary therefore.

50	Sanitary Sewer House Connection - Payment will be made for the actual number of sanitary sewer house connections installed and accepted. Includes costs for pipe, pipe materials as indicated in plans and specifications, pipe installation, excavation, compaction, backfill, testing, restoration and all work incidental thereto and necessary therefore.
422L	Traffic Detector Loops - Payment shall be made at the lump sum price for all costs to install and repair traffic detector loops, including road saw-cut as described in the contract documents and necessary to complete the contract work.
TH-1	Test Holes - Payment shall be made for the actual number of test holes performed.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this Section specifies the procedures used to process partial payments and the Final Payment Request.

1.02 TIME FOR COMPLETION

- A. Inasmuch as the provisions of the Contract relating to the time for performance and completion of the Work are for the purposes of enabling the Owner to proceed with the construction of a public improvement in accordance with a predetermined program, and inasmuch as failure to complete the Work within the period herein specified may result in damage or loss to the Owner, time is of the essence of the Contract.
- B. Time for completion of the Work shall be in accordance with that stipulated in the Contract Documents.
- C. The date for completion will be calculated from the date shown on the Notice to Proceed. The Contractor shall execute the Work with diligence from day to day, and complete it within the time fixed.
- D. For the purpose of defining the date of substantial completion, the Project will be considered complete when all Work covered by the Contract has been performed and all installations and equipment have been tested and are ready for permanent use. Removal of the Contractor's equipment and other minor adjustments which do not prevent use of the Project will not be a factor in establishing the date of substantial completion.
- E. Notwithstanding the foregoing, the Engineer will establish the date of substantial completion when the project is accepted and ready for operation, and no large or major items of work are as yet outstanding. At such time, the Engineer will issue a punch list, itemizing the items of work remaining. The punch list will include "minor" items only, as defined solely by the Engineer. Any prior punch lists, which include "major" or significant items, as defined by the Engineer, shall not be a criterion in establishing the date of substantial completion.

1.03 PARTIAL COMPENSATION

- A. At the Owner's discretion, the Contractor may receive compensation for materials and products delivered to the site yet not installed providing:
 1. A canceled check or paid bill from the supplier is submitted to the Engineer indicating that the Contractor has paid the supplier for the material or equipment.
 2. The material or piece of equipment is properly stored and protected from the elements and/or vandalism in accordance with the manufacturer's written requirements for long term storage.
 3. A certificate of insurance is provided for the material or piece of equipment in the event of a fire, vandalism, theft, etc.
 4. A bill of material is delivered to the Engineer at the time of delivery itemizing the subject material or equipment. Payment will be made for on-site material and/or equipment in the amount of 80% of the gross amount of the paid invoice. This payment will be subject to the normal retainage of the partial estimate.
 5. The Engineer has agreed to the pre-purchasing of the materials.
- B. The Contractor may not receive compensation for materials and products stored in the Contractor's yard or shop unless permitted by the Owner.

1.04 APPLICATIONS FOR PAYMENT

- A. The Contractor shall review the percentage of work completed during the payment period with the Engineer, based on the bid items in the proposal. The Engineer shall make the final decision on the percentage of work completed.
- B. The form of application for payment shall be as provided by the Owner.
- C. Submit one (1) copy of each payment application, completed, signed and notarized.
- D. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- E. The payment application shall include a Contractor Invoice and an Owner Claim Voucher.
- F. Provide completed Labor Affidavit Form for each pay period included in the certified payroll reports for each payment application for both the contractor and any subcontractor(s).
- G. Submit payment application to Engineer no later than the first day of each month. Payments received after the first day of each month shall be reviewed and processed after the first day of the following month. Only one application for payment will be reviewed and processed each month.
- H. Submit certified payroll receipts for all workers and subcontractors. Payroll receipts shall be submitted with every application for payment. All payroll receipts shall be certified correct and notarized by a Notary in the State of New York. Application for Payment will not be processed unless all payroll receipts are received.
- I. Contractor shall pay all workers and have all subcontractors pay all workers the prevailing New York State Wage Rates.
- J. The District may conduct on-site interviews with all workers to verify payments of prevailing wage rates are enforced.
- K. The Engineer shall submit the documentation along with an Engineer's Payment Report to the Owner for payment.
- L. Retainage in the amount of 5% will be held from each partial payment. Retainage will only be released upon full completion of the project and will be included in the final payment.

1.05 ACCEPTANCE OF FINAL PAYMENT REQUEST

- A. The Contractor shall be conclusively deemed to have accepted the Final Payment Request as a correct statement of the total liability of the Owner and of the compensation paid and to be paid to the Contractor by the Owner unless within seven (7) days after delivery of his copy of the Final Payment Request to him, the Contractor shall return such copy to the Owner together with a statement of his objections to such request and of any claim for damages or compensation in excess of the amounts shown on the Request. The acceptance by the Contractor of the Final Payment Request approved by the Owner shall constitute a release and shall discharge the Owner from all further claims by the Contractor arising out of or relating to the Contract, including but not limited to, a release from all impact costs.

1.06 SCOPE OF PAYMENTS

- A. The Contractor shall receive and accept the compensation as herein provided, in full payment for furnishing all materials, labor, tools, and equipment and for performing all work contemplated and embraced under the Contract, also for all loss or damage arising out of the nature of the

Work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the Work, and for all risks of every description connected with the prosecution of the Work, until its final acceptance by the Owner, also for all expenses incurred by, or in consequence of, the suspension or discontinuance of the said prosecution of the Work as herein specified, and for all actual or alleged infringements of patent, trademark, or copyright, and for completing the Work and the whole hereof, in an acceptable manner, according to the Plans, Specifications, and other Contract Documents. The payment of any partial or final estimate shall in no way or in no degree prejudice or affect the obligation of the Contractor, at his own cost and expense, to renew or replace all defects and imperfections, or damages. The Engineer shall be the judge, and the said Contractor shall be liable to the Owner for failure so to do.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work of this Section includes:
 - 1. Requests for Interpretation or for information
 - 2. Administration of subcontracts
 - 3. Coordination of work with utility companies and the Owner/Engineer
 - 4. Communication and coordination requirements
 - 5. Qualifications of Contractor's job site superintendent
- B. Site staffing requirements for the Contractor's superintendent are also specified herein, the costs for which shall be included in the Contract price.

1.02 REQUEST FOR INTERPRETATION OR INFORMATION

- A. The Contractor shall use the Request for Interpretation/Information Form included within this Section when the Contractor feels that additional information is needed to perform the work of the Contract.
- B. The Engineer will not respond to any requests unless the form is used.
- C. The Engineer's verbal response(s) to the Contractor's formal requests, if provided, shall not constitute an official response and if acted upon by the Contractor are done so at the Contractor's own risk and liability and shall not be subject to claims for additional compensation.
- D. A signed facsimile or emailed image of the form will be accepted.
- E. The Engineer will respond in writing to the request as soon as possible.

1.03 SUBCONTRACTOR ADMINISTRATION AND COORDINATION

- A. Terms and conditions of the Contract shall be binding upon each subcontractor.
- B. Furnish each subcontractor and major equipment vendor at least one (1) copy of the Plans and Technical Specifications.
- C. Provide at least one (1) copy of each approved shop drawing to each subcontractor whose work may depend upon the contents of the shop drawing submittal. The Owner reserves the right to stop all work, without claims for delay, until such time as appropriate subcontractors are furnished with appropriate shop drawings.
- D. The Contractor shall sequence and schedule the work of subcontractors. Coordinate construction and administration activities of subcontractors. The Engineer and Owner will not accept telephone calls, facsimiles or office visits from any subcontractors on the project. Subcontractor and vendor questions and clarifications shall be directed to the Engineer by the Contractor.
- E. The Contractor's on-site project superintendent shall inspect all the work of all of his/her subcontractors, as it is being constructed. The Contractor's subcontractor shall not be permitted to do any work on the site without the Contractor's job site superintendent also being there to inspect the work as it is being performed.

1.04 UTILITY COORDINATION

- A. Comply with the requirements of 16 NYCRR Part 753 - Protection of Underground Facilities. Submit a letter stating the case number.
- B. Comply with the utility coordination requirements contained in the General Conditions.

1.05 PUBLIC/PRIVATE UTILITIES

- A. Notify all public and private utilities in accordance with Article 20, Section 322-a of the New York State General Business Law for location and markout of existing utilities in the vicinity of the work.
- B. Repair all utilities damaged during the Work to the standards and approval of the respective utility at no cost to the Owner.

1.06 SPECIFIC COORDINATION REQUIREMENTS

- A. Sequence and schedule work so as not to interfere with the work by others. Coordinate the work of this Contract with the work by others. In case of conflicts due to improper coordination by the Contractor, the Owner/Engineer's resolution will be final. No compensation will be awarded for extra work required to resolve conflicts.
- B. Project Coordination Meetings: Participate in and attend the Project Coordination Meetings as specified below:
 1. The meetings will be held when so called for by the Engineer.
- C. The Contractor shall also coordinate the work by complying with the following:
 1. Construction Schedule: The Contractor shall provide a construction schedule as specified in Section 013216 - Construction Schedules.
 2. Weekly Schedule: By 3:00 PM of each Friday during the construction period, the Contractor shall fax or email a typed memo addressed to the Engineer/Owner's resident field engineer/inspector and designated office project manager summarizing the work for the following week. The memo shall also be faxed or emailed to the Owner. The memo shall briefly itemize the planned activities for the coming week. The memo shall also include a summary of expected material/equipment deliveries, concrete pours, utility tie-ins, excavated material removals and other heavy construction traffic that may impact the work activities for the coming week.
 3. Email Account: The Contractor shall maintain an email account that shall be used to improve communication. An email shall not constitute a formal advisement regarding the terms and conditions of the contract. Email shall only be considered an informal way of notifying relevant parties of project related activities.
 4. Email List: The Contractor, within five (5) calendar days from the Notice To Proceed, shall provide a list of email addresses for each major equipment supplier and local representative, if such exists. A contact person shall be provided for each email address.

1.07 CONTRACTOR'S JOB SITE SUPERINTENDENT

- A. The Contractor shall employ an on-site superintendent as specified herein below. He/She shall be a full-time employee of the Contractor.
- B. The Contractor shall name the job site superintendent within five (5) days of the Notice To Proceed. A letter to the Engineer shall be provided.

- C. He/She shall have the authority to sequence and schedule the work, and to staff the project, so as not to interfere with the work by others and to complete the work daily within the time so required.
- D. The Superintendent shall have a minimum of five (5) years of experience as a job site superintendent for projects of equal size and complexity.
- E. The superintendent may be a foreman or crew supervisor.
- F. The superintendent shall be qualified to perform the duties so required to successfully complete the work in accordance with the Contract Documents.
- G. The superintendent shall speak English. If required by the Engineer, provide a resume for the proposed superintendent that shall be typed and shall list the qualifications of the superintendent. Prior to the Contractor assigning a superintendent to the project, he may wish to arrange an interview with the Engineer to determine the proposed superintendent's ability to properly coordinate the work through the Owner/Engineer. The Contractor shall employ a superintendent acceptable to the Owner.

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REQUEST FOR INTERPRETATION/INFORMATION (RFI)

OWNER'S NAME: Riverhead Water District

PROJECT NAME & CONTRACT DESIGNATION: Installation of Water Main & Appurtenances -
205 Osborn Avenue

CONSTRUCTION CONTRACT NO.: RDWD2153

Product, Item, or System:	
Request Date:	RFI No.:
Specification Section:	Paragraph Ref:
Contract Drawing Reference(s):	
Describe Request:	
Signed: (Printed):	See Contractor's Attachments for Additional Description for Information
Owner/Engineer Response:	
Engineer (Printed):	See Engineer's Attachments for Additional Information
Engineer's Signature & Date	<i>Response Accepted By Contractor</i> <i>Contractor's Signature & Date</i>
The Work shall be carried out in accordance with these supplemental instructions without change in Contract amount or Contract time for completion. Prior to proceeding with these instructions, indicate your acceptance of these instructions by signing where indicated and returning this form to the Engineer.	

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for preparing construction schedules and for keeping them up to date.
- B. All schedules shall be submitted in accordance with the requirements contained herein in Section 013300.
- C. Refer to Section 013100 regarding the requirements for attendance at Project Coordination Meetings and additional requirements concerning the submission of other project coordination and sequencing information.

1.02 CONSTRUCTION SCHEDULE - GENERAL

- A. Coordinate the work and maintain the construction schedule. In the event actual progress begins to lag the schedule, promptly employ additional means and methods of construction to make up the lost time.
- B. Keep the construction schedule current and revise and resubmit as often as necessary to accurately reflect the conditions of the work, past progress and anticipated future progress.
- C. The construction schedule shall be completed, submitted, and deemed received by the Engineer prior to the first payment application.
- D. The schedule, when approved by the Engineer and the Owner, shall establish the dates for starting and completing work for the various portions of the Contract. It shall be the duty of the Contractor to conform to his/her own schedule and to perform the work within the time limits indicated. Failure to adhere to the approved schedule shall expose the Contractor to disputes, claims and additional costs incurred by others.
- E. Coordinate letting of subcontracts, material purchases, shop drawing submissions, delivery of materials, and sequence of operations, to conform to the schedule.
- F. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- G. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.
- H. The schedule shall use the following convention:
 1. Tasks for the General Contractor in blue ink.
 2. Task links/task dependency in blue ink.
 3. The end date for each task and subtask at the end of a bar.
 4. The description of all major tasks within the bar. The bar shall be red.
 5. Critical path.

1.03 REVISION OF PROJECT PROGRESS SCHEDULE

- A. The Contractor shall evaluate and provide updated construction schedules monthly in accordance with job requirements. Each update shall be submitted to the Engineer for information purposes and be provided by the last Friday of every month

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for making submissions for the project. Electronic submissions will be required unless expressly noted otherwise.
- B. Refer to Section 013216 - Construction Schedule for the requirements concerning the submission of construction schedules and for making updates thereto.

1.02 IDENTIFICATION OF SUBMITTALS

- A. Each and every submission shall be provided by the Contractor and shall be accompanied by a SUBMISSION TRANSMITTAL FORM. The Contractor shall use the specimen form made a part of this Section. *Submittals not containing the form will be returned to the Contractor un-reviewed.* The Engineer will not review project submissions until such time as the form is completed in its entirety. Identify each submittal and resubmittal using the form.
- B. Each individual submittal shall be identified with a 'submission log number' as specified here in this example: 033000.01-1
 1. The Section number for which the submittal applies, followed by a period, shall be indicated, "033000".
 2. The submittal within the Section shall be indicated by the next grouping "01". For instance and in this example, the concrete design mix may be submission "01", the waterstop catalog cut may be "02", and so on. Submittals shall be sequentially numbered within the Specification Section, i.e. 01, 02, etc.
 3. The number of times the submission was made shall be preceded by a dash and a numerical suffix as follows: "-1". In this example, the concrete design mix is being submitted for the first time. Use the number "1" for the first time it is being submitted.
 4. Subsequent submissions of the concrete design mix shall utilize the original number and a sequential numeric suffix, i.e. "2" for a resubmission, "3" for the second resubmission, and so on. Substitute the new number for the original "1".
- C. Where a layout drawing, containing different elements of the project, is being submitted and there is a question as to what the log number might be, then the Contractor shall contact the Engineer so that an agreed upon log number can be assigned.
- D. It is incumbent on the Contractor to initially assign the submission log number designation to each submission. Submissions not containing a log number, as specified above, will be returned to the Contractor un-reviewed by the Engineer.
- E. Every submittal shall also be accompanied by a Transmittal Letter (or "Speed Form") addressed to the Engineer's Project Manager as hereinafter defined.

1.03 COORDINATION OF SUBMITTALS

- A. Prior to submitting to the Engineer, fully coordinate all interrelated work. As a minimum, do the following:
 1. Determine and verify all field dimensions and conditions by field measuring existing conditions and the installed work of this Contract and work by others.
 2. Coordinate with all trades, subcontractors, vendors, system and equipment suppliers and manufacturers, public agencies, and utility companies and secure all necessary approvals, in writing.
- B. Make submittals in groups containing all associated items that in some way depend upon each other.

1. This also applies to color charts, as one color may not be able to be selected without the selection of other colors so as to form a color-coordinated group.
2. The Engineer may elect not to review partial or incomplete submissions, whereupon he will notify the Contractor of the additional submissions that are required before a review can be made.

1.04 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates of installation to provide time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery. The Engineer will review submittals in a manner as expedient as possible, and will generally send a written response to the Contractor within seven (7) calendar days of receipt of submittals.
- B. Submissions may be returned reviewed, unreviewed, rejected, returned conditioned upon submission of related items, or for other reasons set forth in the Contract Documents.
- C. Make submissions well in advance as the returning, rejecting or disapproval of submissions or other similar circumstances are possible and are deemed "avoidable delays". Costs for these delays or those attributed to Contractor's tardiness in making submittals shall be borne by the Contractor.
- D. **All** submittals requiring Engineer's review (except operations manuals) as required under the technical specifications of these documents shall be submitted within **TEN (10)** consecutive calendar days after the date of the Notice to Proceed. An amount of **\$250** per calendar day shall be deducted from payment due the Contractor for **each** day that an outstanding submittal exists, said amount being the cost associated with the Engineer's review.
- E. If material or equipment is installed before it has been deemed to be in general compliance with the Contract Documents, as determined by the Engineer, the Contractor shall be liable for its removal and replacement at no extra charge and without an increase in contract time.

1.05 DESTINATION OF SUBMITTALS

- A. Each submission of documents shall be accompanied by a transmittal form containing the name of the project, the contract name, the Engineer's project manager, a submittal ID number, and a description of content for the submitted items.
- B. A copy of the TRANSMITTAL FORM shall also be provided to the Engineer's inspector at the job site.
- C. Electronic submittals shall be transmitted through the Newforma® Project Center website or by email, pending instruction by the Engineer. H2M architects + engineers is using a project information application called Newforma® Project Center. One of its components is Newforma Info Exchange, a web application that facilitates sending and sharing transmittals, and file sharing.
- D. As an external team member on this project the Contractor will be required to access the H2M architects + engineers/Newforma Info Exchange website for information related to the project, including file transfers, RFI, Submittals, Action Items, and project Calendar information. The Contractor will have access to this website using any internet-capable computer running Internet Explorer or Firefox. All data transmitted through the H2M architects + engineers/Newforma Info Exchange website is encrypted and logged. Further instructions will be provided to the Contractor after the contract is awarded.

E. Other submissions, such as material samples or other items as instructed by the Engineer, shall be sent to the Engineer's office as follows:

H2M architects + engineers

538 Broad Hollow Road - 4th Floor East

Melville, New York 11747

Attention: H2M Project Manager (Named at Pre-Construction Conference or in the Notice to Proceed)

1.06 CLARITY OF SUBMITTALS

- A. All printed materials shall be neat, clean, professionally drafted by hand or by computer, clear, legible, and of such quality that they can be easily reproduced by normal photocopying.
- B. All electronic submittals shall be produced with a minimum resolution of 300 dpi.
- C. Binders of information shall be separated into groups, subsystems, or similar equipment/function. Copies not conforming to this paragraph will be returned to the Contractor without the Engineer's review.

1.07 CONTRACTOR'S REPRESENTATION

- A. By making a submission, the Contractor represents that he has determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving equipment into an enclosed space, materials, catalog and model numbers and similar data and that he has checked and coordinated each submission with other work at or adjacent to the project site in accordance with the requirements contained in Section 013100 - Project Management and Coordination and the Contract Documents.
- B. Every SUBMISSION TRANSMITTAL FORM shall contain the Contractor's approval stamp and date showing that the submittal has been approved by the Contractor. The Engineer will not review submittals that have not yet been reviewed and approved by the Contractor.

1.08 ENGINEER/ARCHITECT'S REVIEW

- A. Engineer will review and comment on each submission conforming to the requirements of this Section.
 1. Engineer's review will be for conformance with the design concept of the project and will be confined to general arrangement and compliance with the Contract Documents only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, laying lengths, tolerances, interference's, for coordinating the work by others or subcontractors.
 2. The Engineer's review of a separate item, or portion of a system, does not represent a review of an assembly or system in which the item functions.
- B. The Engineer will mark submittals as follows:
 1. **NO EXCEPTION TAKEN (A)** - No corrections, no marks. The content of this submittal has been reviewed by the Engineer and been found to be in general compliance with the Contract Documents. No further submission of this submittal is required and the information contained in the submittal may be built into the work in accordance with the Contract Documents.
 2. **MAKE CORRECTIONS NOTED (B)** - Minor amount of corrections. The content of this submittal has been reviewed by the Engineer and has been found in general to be in compliance with the Contract Documents. The notations made on the submittal by the Engineer shall be incorporated into the work in accordance with the terms and conditions of the Contract Documents. No further submission of this submittal is required.

3. **AMEND AND RESUBMIT (C)** - The content of this submittal has been reviewed by the Engineer and this review has determined that additional data and/or modification to the submitted data or other changes are required to bring the work represented in this submittal into compliance with the Contract Documents. This submittal shall be reviewed and revised in accordance with the Engineer's comments and resubmitted to the Engineer for review. The information contained on the resubmittal shall not be incorporated into the work until the submittal is returned to the Contractor marked "NO EXCEPTION TAKEN" or "MAKE CORRECTIONS NOTED".
4. **REJECTED (D)** - The content of this submittal has been reviewed by the Engineer and has been determined not to be in accordance with the requirements contained in the Contract Document and requires too many corrections or other justifiable reason. The submittal shall be corrected and resubmitted or a submittal of an alternate shall be provided. No items are to be fabricated under this mark.
5. **SUBMIT SPECIFIED ITEM (E)** - The content of this submittal has been reviewed by the Engineer and this review has indicated that the work displayed in the submittal is not in compliance with the Contract Documents. The Contractor shall submit another submittal for this portion of the work, which complies with the Contract Documents.
6. **RECEIVED (R)** - This submittal is accepted on the project and filed for record purposes only, in accordance with the terms and conditions of the Contract Documents. Documents marked "RECEIVED" will not be returned.

C. No payment will be made on any item for which a submission is required if such submission:

1. has not been made,
2. has been made but was not stamped "No Exceptions Taken" by Engineer,
3. has been made and stamped "Make Corrections Noted", but contractor has not complied with Engineer's notes marked on the submittal,
4. has been made and stamped "No Exceptions Taken", but item provided does not conform to the shop drawing nor to the Contract Documents.

D. Submittals not required by these specifications will not be recognized or processed.

E. Provide an 8-inch by 10-inch space for the Engineer's review stamp.

1.09 RESUBMISSIONS

- A. Prepare new and additional submissions, make required corrections, and resubmit corrected copies until found in compliance with the Contract Documents.
- B. On, or with, re-submittals, clearly describe revisions and changes made, other than the corrections requested by Engineer, which did not appear on the previous submissions.

1.10 CONTRACTOR'S RESPONSIBILITIES

- A. Engineer's review of submittals shall not relieve the Contractor of his/her responsibility for any deviation from the requirements of the Contract Documents nor relieve the Contractor from responsibility for errors or omissions in the submittals.
- B. No portion of the work requiring a submission shall be commenced until the Engineer has found the submission in general compliance with the Contract Documents.
- C. The Contractor shall provide written notification of any specification or drawing deviation.

1.11 EXCESS COSTS FOR ENGINEERING/ARCHITECTURAL SERVICES

- A. The Owner will charge to the Contractor, and will deduct from the partial and final payments due the Contractor, all excess engineering and architectural expenses incurred by the Owner for extra services (work) conducted or undertaken by the Engineer as stipulated below:
 1. Services and other similar charges because of the Contractor's errors, omissions, or failures to conform to the requirements of the Contract Documents as related to administrative charges associated with non-compliance with the requirements for making project submissions.
 2. Services and other similar charges required to examine and evaluate any changes or alternates proposed by the Contractor and which may vary from the Contract Documents.
 3. Services and other similar charges as a result of the Contractor's proposed substitution of materials, equipment or products which require a redesign of any portion of the project, as contained in the Contract Documents at the time of bid.
 4. Services and other similar charges as a result of the Contractor's proposed substitution of products which require an engineering and/or architectural evaluation to determine if the substituted product is equal to that specified.
 5. Services and other similar charges as a result of changes by the Contractor to dimensions, weights, sizes, voltages, phase, horsepower, materials of construction, and similar physical or operating characteristics of the product furnished which require redesign of the project in any way.
 6. Services and other similar charges for the review of resubmissions of shop drawings that have been marked as "No Exceptions Taken" or "Make Corrections Noted".
 7. Services and other similar charges for the review of shop drawings submitted more than two (2) times for the same product or portion of the work.

1.12 MISCELLANEOUS SUBMITTALS

- A. Provide a Submittal Schedule within seven (7) calendar days from the date of the Notice to Proceed. The Submittal Schedule shall list all submittals for the project referenced by draft log number. Provide the estimated date that the submittal will be transmitted to the Engineer for review.
- B. Within seven (7) calendar days from the date of the Pre-Construction Meeting, submit a Proposed Products List. This list shall be a complete listing of all products proposed for use, with name of manufacturer, service headquarters, trade name and model number of each product. Partial listings will not be accepted.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.13 SUBCONTRACTOR LIST

- A. The Contractor shall submit, on AIA Form G705, within THIRTY (30) calendar days after the date of the Notice to Proceed, a list of all subcontractors, including the names of the major subcontractors that were submitted at the time of the bid.

1.14 MATERIAL SAFETY DATA SHEETS (MSDS)

- A. Comply with "Right to Know" requirements of Chapter 551 of Laws of New York, 1980, concerning notification of the use of toxic substances.
- B. Any product or substance used by the Contractor or its subcontractors which is listed in Subpart Z of OSHA Part 1910 Title 29 of the Code of Federal Regulations entitled "Toxic and Hazardous

"Substances" shall be identified to the Owner/Engineer by the Contractor's submission of a standard Material Safety Data Sheet (MSDS) in accordance with "Right To Know" requirements.

- C. Products will not be permitted to be kept on site without a MSDS.

1.15 SHOP DRAWINGS

- A. Submit shop drawings for all fabricated work, for all manufactured items and for items specifically required by the specifications.
- B. Submit one (1) electronic copy of each standard drawing, catalog cut, or other material. All shop drawings or submittals that are not in the standard 8-1/2" x 11" format shall be submitted both electronically and in paper. Samples shall be delivered directly to the office of the Engineer. The Engineer will return an electronic copy of each submittal once reviewed.
- C. Subcontractors shall submit shop drawings directly to the Contractor for checking. Thoroughly check subcontractors' shop drawings for measurements, sizes of members, details, materials, and conformance with the Contract Documents.
 - 1. Return submittals which are found to be inaccurate or in error.
 - 2. Do not submit to the Engineer until all corrections have been made.
- D. Clearly show the relationship of the various parts of the project and where the information provided on the submission depends upon field measurements and existing conditions.
- E. The Contractor shall make all measurements, confirm existing conditions, and include them on the shop drawings before making a submission to the Engineer.
- F. Submissions for a single item, or group of related items shall be complete.
- G. When submitting manufacturers' catalogs, pamphlets or other data sheets, in lieu of prepared shop drawings, clearly mark the items being submitted for review.
- H. If the shop drawings contain any departures from the contract requirements, specifically describe them in the letter of transmittal.

1.16 SAMPLES

- A. Where required, or where requested by the Engineer, submit sample or test specimens of materials to be used or offered for use.
 - 1. Samples shall be representative, in all respects, of the material offered or intended, shall be supplied in such quantities and sizes as may be required for proper examination and tests, and shall be delivered to Engineer, prepaid, along with identification as to their sources and types of grades.
 - 2. Submit samples well in advance of anticipated use to permit the making of tests or examinations.
- B. Samples will be checked for conformance with the design and for compliance with the Contract Documents.
- C. Work shall be in accordance with the approved sample. The use of materials or equipment for which samples are requested or required to be submitted is not permitted until such time that the Engineer has completed his review.

1.17 MANUFACTURER'S INSTRUCTIONS

- A. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation. Provide manufacturer's instructions with shop drawings.

1.18 CERTIFICATIONS

- A. Submit certifications of compliance indicated in the Contract Documents.
- B. Certifications shall be complete and exact, they shall be properly authenticated by the written signature, in ink, of an owner, officer or duly authorized representative of the person, firm or organization issuing such certification and they shall guarantee that the materials or equipment are in complete conformance with the requirements of these specifications.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

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CONTRACTOR'S COMPANY NAME
ADDRESS

SUBMISSION TRANSMITTAL FORM

CLIENT NAME: Riverhead Water District

PROJECT TITLE: Installation of Water Main & Appurtenances - 205 Osborn Avenue

H2M PROJECT NO.: RDWD2153

Product, Item, or System Submitted:			
Submission Date:		Submission Log No.:	
Specification Section:		Paragraph Reference:	
Contract Drawing Reference(s):			
Manufacturer's Name:			
Manufacturer's Mailing Address:			
Manufacturer's Contact Information:	Name	() Tel. no.	Email
Supplier's Name:			
Supplier's Mailing Address:			
Supplier's Contact Information:	Name	() Tel. no.	Email
This item is a substitution for the specified item:	<input type="checkbox"/> No		<input type="checkbox"/> Yes
		<u>Contractor's Brief Comments or Remarks</u> (attach separate letter as needed):	
Contractor's Approval Stamp with Signature & Date		By making this submission, we represent that we have determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving the item into the enclosed space, materials, catalog and model numbers and similar data and that we have checked and coordinated this submission with other work at or adjacent to the installed location in accordance with the requirements contained in the Contract Documents.	

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Codes
- B. Governing agencies
- C. Permits

1.02 CODES

- A. Comply with the requirements of the various codes referred to in these Specifications. Such codes shall be the date of the latest revision in effect at the time of receiving bids.
- B. If there is a conflict between local, state, and/or Federal regulatory requirements, seek a consultation with the State Department of Labor. Resolve conflicts to the satisfaction of the State Department of Labor prior to commencing work.

1.03 GOVERNING AGENCIES

- A. All work shall conform to and be performed in strict accordance with all governing agencies such as, but not limited to:
 - 1. Occupational Safety and Health Act - OSHA
 - 2. State Department of Environmental Conservation
 - 3. National Fire Protection Association - NFPA
 - 4. State Plumbing Code
 - 5. County Department of Health
 - 6. Town Codes, Rules, Laws and Ordinances
 - 7. Sewer District Sewer Use Code
 - 8. Local Water District
 - 9. Electric Utility
 - 10. Gas Utility

1.04 PERMITS AND INSPECTIONS

- A. Representatives of the Owner shall have access to the work for inspection purposes. The Contractor shall provide facilities suitable to the Owner to facilitate inspections of the installed work.
- B. Obtain and pay for all permits, fees, licenses, certificates, inspections and other use charges required in connection with the work.
- C. Such permits include, but are not limited to:
 - 1. Road opening permit

1.05 COORDINATION WITH WATER UTILITY

- A. Comply with the water utility requirements for water and fire service connections. Obtain and pay for all necessary permits from the water utility. Obtain authority to connect to the existing water mains.
 - 1. Make necessary connections to existing public water mains under supervision of the water utility representative.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Requirements for monitoring the quality of the constructed project.
- B. Work of this Section also includes services of an independent testing laboratory for quality assurance testing.

1.02 REFERENCES

- A. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- B. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM D4561 - Practice for Quality Control Systems for an Inspection and Testing Agency for Bituminous Paving Materials.
- D. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

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 with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or workmanship that is more precise.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- E. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

1.04 QUALITY ASSURANCE - TESTING LABORATORY

- A. In order to establish compliance with the Contract Documents, materials shall be tested, examined and evaluated before they are incorporated into the work. During and after installations, additional tests, examinations, and evaluations shall be made to determine continued compliance throughout the course of the work.
- B. Testing laboratory shall be a reputable, experienced firm that is capable of performing all of the required testing and authorized to operate in the state in which the project is located.
- C. Perform all sampling and testing in accordance with specified procedures and use the materials, instruments, apparatus, and equipment required by the codes, regulations and standards. Where specific testing requirements or procedures are not described, perform the testing in accordance with all pertinent codes and regulations and with recognized standards for testing.

- D. In the event that samples and test specimens are not properly taken, handled, stored or delivered or if other requirements of this Section are not complied with, Engineer reserves the right to delegate any or all of this work to others, or to take whatever action deemed necessary to ensure that sampling and testing are properly accomplished, for which all costs shall be borne by Contractor.
- E. Engineer reserves the right to disapprove the use of a specific testing laboratory, even after prior approval, if the laboratory fails to meet or comply with the requirements of this Section. If this should occur, immediately discharge the testing laboratory and retain the services of a different laboratory acceptable to Engineer.
- F. The testing laboratory shall meet the following criteria:
 - 1. Be capable of performing all of the required tests.
 - 2. Be regularly engaged in performing the types of services required.
 - 3. Have adequate facilities, materials, equipment, and personnel to perform the services.
 - 4. Have an adequately trained, experienced and qualified staff.
 - 5. Have at least one registered professional engineer licensed in the state in which the project is located who shall be capable of performing field tests, supervising laboratory testing and interpreting test results. The professional engineer shall be thoroughly knowledgeable in materials, soils, asphalt paving and concrete.
 - 6. Shall be able to be on the Project site within two hours after being notified.
 - 7. Comply with the requirements of ASTM C1077, ASTM D3740, ASTM D4561, ASTM E548 and ASTM E699.
 - 8. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.05 REFERENCE STANDARDS

- A. Conform to reference standards by date that the project was last bid.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. 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.

1.06 SUBMITTALS

- A. Within fifteen (15) calendar days from the date of the Notice to Proceed, submit documentation from three (3) testing laboratories that clearly indicates experience, location, qualifications of staff, and descriptions of any limitations or restrictions of the firm.
 - 1. Include a price schedule for standard tests and a billing rate schedule for technician classifications.
 - 2. Based upon this information, the Engineer will select one firm to be the primary testing laboratory and one firm to act as a standby.
- B. Certified copies of each test report shall be mailed directly to the Engineer. The Contractor shall arrange with the laboratory to secure copies.
- C. Each report shall be in writing and shall include the testing method used, the test results, the specified results, the exact location of where the test specimens were taken, the date taken,

Project identification, Contractor's name and other pertinent information required for a complete and meaningful test report.

- D. Each report shall be signed and certified by a responsible officer of the testing laboratory.
- E. E-mail reports directly to Engineer within 24 hours after the sample is taken, except in those instances when tests cannot be immediately performed because of required curing, incubation periods, or lengthy testing procedures.
- F. The laboratory shall verbally communicate test results when requested by the Engineer. This does not eliminate nor replace the requirements for a written report.

1.07 SCHEDULING - LABORATORY SERVICES

- A. Except where otherwise specified, the Engineer will determine the number of samples to be taken, the date and time samples will be taken and tests made, the number and type of tests to be performed, who will collect the samples, how they will be handled and stored and when laboratory personnel are required on site.
- B. Engineer will notify Contractor of his decision to take samples and/or have tests made and provide him with the pertinent information. Contractor is responsible for notifying the testing laboratory and for having the testing performed, on schedule.
- C. In addition to the above, Contractor shall make his own arrangements for the sampling and testing of materials he proposes to incorporate into the work. This shall not be paid for out of the cash allowance.
- D. Notify Engineer at least 72 hours in advance of the times at which scheduled samples or tests will be conducted.
- E. If samples and/or tests cannot be taken or performed when required, delay the work until such time that they can be accomplished. Where possible, any work that has been installed but has not been sampled or tested as required, shall be tested by other means. Upon Engineer's request, uncover any work, which has been buried or covered, and perform special tests designated by Engineer. If the work cannot be tested by other means, Engineer may declare the work unacceptable. All costs associated with noncompliance and for special testing shall be borne by the Contractor and not be paid for out of the cash allowance.
- F. Should the testing laboratory be scheduled to take or collect samples or to perform tests, and finds that it is unable to do so as a result of delays in construction, inclement weather, or any other reason, reschedule the tasks for a date acceptable to Engineer. Costs associated with times testing laboratory is unable to perform scheduled services shall be borne by the Contractor and will not be paid for under the allowance.
- G. Plan all work and operations to allow for the taking and collection of samples and allow adequate time for the performance of tests. Delay the progress of questionable work until the receipt of the certified test reports.

1.08 TESTING REQUIREMENTS

- A. Compaction Testing - Soil:
 - 1. Perform compaction testing in accordance with ASTM D2922, Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth) or ASTM D1556 Density and Unit Weight of Soil In Place by the Sand Cone Method.

2. Perform tests and analysis of fill material in accordance with ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb. Rammer and 12-inch Drop.
- B. Compaction Testing - Asphaltic Concrete Pavement:
 1. Perform asphaltic concrete compaction testing in accordance with ASTM D2950 - Standard Test Method of Density of Bituminous Concrete in Place by Nuclear Methods.
 2. Calibrate nuclear density measurement equipment based on theoretical maximum specific gravity of asphaltic concrete pavement material.
 3. Perform test to determine theoretical maximum specific gravity in accordance with ASTM D2041 Theoretical Maximum Specific Gravity of Bituminous Pavement Mixtures. Perform test on mix at plant prior to delivery. Collect sample at plant in accordance with ASTM D979 - Sampling Bituminous Paving Mixtures and perform test in approved laboratory if plant does not have necessary equipment.
- C. Concrete Testing:
 1. Collect samples in accordance with ASTM C172, Practice for Sampling Freshly Mixed Concrete.
 2. Make test cylinders in accordance with ASTM C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 3. Test concrete cylinders in accordance with ASTM C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 4. Test slump and air entrainment.
- D. Asphalt Testing:
 1. Collect samples at point of delivery in accordance with ASTM D979, Standard Practice for Sampling Bituminous Paving Mixtures.
 2. Perform extraction test in accordance with ASTM D2172, Standard Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.
 3. Perform gradation test in accordance with ASTM C136, Method for Sieve Analysis of Fine and Coarse Aggregates.

1.09 TESTING SCHEDULE

- A. Compaction Testing of Soil:
 1. Pipe Installation: As directed by the Engineer.
 2. Concrete flatwork: As directed by the Engineer.
 3. Pavement subgrade: As directed by the Engineer.
- B. Concrete Testing: As directed by the Engineer.
- C. Asphalt Testing: As directed by the Engineer.
- D. Compaction Testing of Pavement: As directed by the Engineer.

1.10 FIELD OBSERVATION OF CONTRACTOR'S WORK

- A. The Engineer will provide periodic observation of the Contractor's work.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION**3.01 EXAMINATION**

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions. Verify that the existing substrate is capable of structural support or attachment of new Work being applied or attached. Examine and verify specific conditions described in individual specification sections. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance. Seal cracks or openings of substrate prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 FIELD QUALITY CONTROL

- A. Allow representatives of the testing laboratory access to the work at all time. Provide all equipment, labor, materials, and facilities required by the laboratory to properly perform its functions. Cooperate with and assist laboratory personnel during the performance of their work.
- B. Test specimens and samples shall be taken by the person(s) designated in other Sections, or as directed by Engineer. Conduct field sampling and testing in the presence of Engineer. Provide all materials, equipment, facilities and labor for securing samples and test specimens and for performing all field-testing.

END OF SECTION

GENERAL

1.01 SCOPE

- A. Work under this section includes furnishing all labor, materials, equipment and appliances necessary to maintain both vehicular and pedestrian traffic, to protect the public from all damage to person and property, and to minimize inconveniences to the residences and businesses adjacent to the contract area for the duration of the contract. All work shall be done in accordance with the specifications, and the appropriate State, County or local agency, and in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).

1.02 GENERAL

- A. The Contractor shall maintain traffic over a reasonably smooth travel way which shall be so marked by signs, delineations and/or other methods so that a person who has no knowledge of conditions can safely, and with a minimum of discomfort and inconvenience, ride, drive or walk over all or any portion of the roadway under construction. This shall include the maintenance of temporary pavement in accordance with the appropriate temporary pavement specifications.
- B. The Contractor will be required to prepare and submit a detailed maintenance and protection of traffic plan to the appropriate road agency in order to obtain the road opening permit. The plan shall outline a schedule of operations for the maintenance, protection and detouring of traffic, showing in complete detail the methods, sequences, procedures and facilities he proposes to install. The contractor shall secure written approval from that agency prior to beginning work. In addition, the contractor shall submit the approved plan to the Engineer for record prior to beginning work.
- C. All detour schemes and maintenance details shall conform to the requirements of the latest edition of the MUTCD and Section 619 of the New York State Standard Specifications.
- D. The Contractor is placed on notice that the maintenance and protection of traffic over this highway during construction is considered as important and necessary an item of work as is the actual construction itself. The Contractor shall at all times conduct his operation in a manner to ensure the safety of motorists, pedestrians and his own employees.
- E. The Contractor shall protect the user from damage to person and property by reason of any construction operation (i.e., painting, paving, blasting, tree work, demolition, etc.) by such protective screens, devices or methods as are approved by the appropriate governing agency.
- F. The Contractor shall be responsible for the maintenance within the limits of the contract of the entire pavement, drainage facilities and other highway elements, both old and new, beginning on the date construction commences and ending on the date the contract is officially accepted.
- G. The Contractor shall schedule his work so as to minimize the amount of the old travel way that is destroyed or substantially damaged at any one time.
- H. Throughout the course of the work, the health and welfare of the people shall be provided for. The Contractor shall ascertain, at least one week in advance of proposed work, the specific needs of individuals whose homes or places of business may be inaccessible for periods of time while required construction work is in progress. In all such cases, the Contractor shall make all arrangements with health, safety and protective agencies to ensure that any and all emergency or accidental needs of seriously hampered people will be cared for. Roads which must be closed to traffic completely shall be completed during the normal work week. One week's advance notification of construction shall be given to affected area residents.

1.03 MATERIALS

- A. All materials used shall comply with the requirements for the various items or materials as established in the specifications or the contract plans.
- B. All temporary signs, delineators, barricades, lighting and other warning and guiding devices shall be as approved by the Engineer, and will remain the property of the Contractor.
- C. All materials, equipment and workmanship for electrical installations shall be in strict compliance with the Standard Code Requirements and the work shall be performed by licensed electricians. The Contractor shall obtain, supply and pay for all required electrical energy, and shall make all necessary arrangements with the utility company for service points. All electrical services, permits and certificates shall be obtained and paid for by the Contractor.

1.04 CONSTRUCTION DETAILS

- A. The Contractor shall generally provide a travel way suitable for maintaining a minimum of two lanes of traffic. This travel- way shall be kept well-drained and reasonably smooth and hard at all times, and free of potholes, bumps, irregularities and depressions that hold or retain water.
- B. Warning Signs & Delineators
 1. The Contractor shall erect barricades, detour signs, warning lights and other facilities approved by the State or appropriate agency at the beginning, end and for the entire length of any detours to adequately warn the traveling public that the road is closed and indicate the direction and route of the detour. He shall conduct his operations to ensure a minimum of delay to traffic.
 2. The Contractor shall furnish, erect and maintain proper reflectorized signs, indicating to motorists the status of the highway under construction.
 3. All signs shall be kept clean, mounted at the indicated height and so placed as to be effective both day and night. Signs, warnings, delineators and barricades shall be used to adequately inform the motorist of any unusual or unsafe condition and to safely and clearly guide him through the contract area. Such signs, barricades, warnings or devices shall be so placed and lighted as to give timely warning and permit the motorist to take the necessary action to traverse the area safely. Barricades and signs shall be lighted when and as required.
 4. The Contractor shall delineate areas where there is a drop-off near the edge of the travel lanes and areas on which it is unsafe to travel. Where the drop-off is less than six inches and where soft or unsafe areas occur, an approved delineator shall be placed along the edge of the travel way at intervals of not more than 200 feet. Where the drop-off is greater than 18 inches, a continuous delineation consisting of a white board or band shall be used in addition to individual delineators.
 5. Thirty to fifty-gallon drums or containers set on end may be used as delineators, provided they are painted orange and white and kept clean at all times. Other markers or delineators may be circular or rectangular in shape, and shall be constructed of reflective sheeting having a minimum area of 20 square inches or reflective buttons having a minimum diameter of three (3) inches.
 6. All reflective delineators or markers shall be yellow or amber in color, except those at entrances to commercial establishments, where the Contractor shall place a green reflective marker on each side of the designated safe entrance to the establishment. The entire entrance area between adjacent green markers shall be kept safe and smooth for convenient ingress and egress. Delineators shall be substantially mounted so that the bottom of the reflective unit is four feet above the elevation of the travel way. Any area judged to be particularly hazardous shall be marked by the use of oil-burning flares or signal flashers with a large reflectorized orange lens in addition to the reflective markers.

7. All signs, markers and other facilities shall indicate actual conditions existing and shall be moved, removed or changed immediately as conditions require. Details and types of signs, temporary barricades, timber curb and other devices are shown on Standard Structure Sheets, Manual of Uniform Traffic Control Devices, of the New York State Traffic Commission. These are minimum requirements, and the Contractor shall have an adequate quantity of each available for use as required. If conditions warrant additional signs may be required. In that event, they shall be consistent with the arrangements, material requirements and details of those shown on the Standard Structure Sheets.
8. Lighted barricades shall be fully equipped with complete electrical facilities including fixtures, lamps, conduits, switches, cut-outs, boxes, cable and all other required equipment, appurtenances and connections to the service points designated by the utility company as necessary to install and light the barricades. The Contractor shall set and adjust time switches and other equipment as required to put the lighting system in satisfactory operation.

C. Maintenance

1. The Contractor shall furnish materials, labor and equipment at any time, day or night, to immediately repair, remedy and prevent washouts, formation of holes, ruts and depressions, sunken trenches and the destruction or sinking of temporary pavements. This applies when the work is underway and when the work is temporarily suspended for any period of time. Special attention shall be given to maintenance of a satisfactory travel way over weekends, holidays and during the winter season.
2. Any damage to any portion of the work occasioned by lack of adequate maintenance shall be repaired by the Contractor at his own expense.

D. Whenever it is necessary to maintain traffic, the Contractor shall employ a sufficient number of competent flagmen during the time traffic is to be maintained. The Contractor shall also provide a sufficient number of competent flagmen in areas where traffic is congested, particularly where construction equipment is operating.

E. Under this Item, the Contractor shall construct and maintain at all times, where required temporary bridges or bridging across pipe trenches, excavations, obstructions and newly laid pavements to provide adequate ingress and egress for pedestrian and vehicular traffic to and from private driveways, business and commercial establishments or for main street intersections and heavily traveled crossings.

F. The Contractor will be required, after the installation of all pipes and necessary appurtenances thereto, to immediately backfill all trenches; compact same with the surface of the fill graded off; and install temporary pavement to permit the resumption of traffic without delay. The surfaces of all trenches shall be maintained continually by the Contractor to carry traffic smoothly, safely and without interruptions or slowdowns until the permanent pavement has been restored.

G. Signs

1. All highway signs and supports within the contract limits are to remain under the control and jurisdiction of the governing road authority and are to be properly maintained for the duration of the contract by the Contractor.
2. The Contractor shall not remove signs until directed to by the governing road agency or the Owner.
3. Existing signs or markers lost or damaged because of negligence on the part of the Contractor shall be replaced at the Contractor's expense.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Control of environmental pollution and damage that the Contractor must consider for air, water, and land resources in preparing a bid and while constructing the project. This Section includes management of site aesthetics, noise, solid and liquid waste and wastewater, and other pollutants that may be generated by the Contractor.
- B. Include all costs associated with environmental protection as specified herein and as specified in other Sections of these specifications in the total price bid.

1.02 DEFINITIONS

- A. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
 1. Adversely effect human health or welfare,
 2. Unfavorably alter ecological balances of importance to human life,
 3. Impact wetlands,
 4. Effect other species of importance to man, or;
 5. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.
- B. Definitions of Pollutants:
 1. Sediment: Soil and other debris that has been eroded and transported by runoff water.
 2. Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
 3. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.
 4. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.
 5. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalies, herbicides, pesticides, organic chemicals, and inorganic wastes.
- C. Sanitary Wastes:
 1. Sewage: Domestic sanitary sewage and human and animal waste.
 2. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 PROTECTION OF ENVIRONMENTAL RESOURCES

- A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this Contract. Confine activities to areas defined by the Contract Documents.
- B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Engineer. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

- C. **Work Area Limits:** Prior to any construction, mark the areas that require work to be performed under this Contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
- D. **Protection of Landscape:** Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
 1. Box and protect from damage existing trees and shrubs to remain on the construction site.
 2. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
 3. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
- E. **Reduction of Exposure of Unprotected Erodible Soils:** Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.
 1. **Temporary Protection of Disturbed Areas:** Construct diversion ditches and berms to retard and divert runoff from the construction site to protected wetlands areas as defined in the Clean Water Act and federal, state and local regulations.
 2. **Erosion and Sedimentation Control Devices:**
 - a. Construct or install all temporary and permanent erosion and sedimentation control features as shown or specified in the Contract Documents and as required by the Owner pursuant to direction of the regulatory authority.
 - b. Maintain temporary erosion and sediment control measures such as berms, dikes, drains, hay bales, erosion control fencing, sedimentation basins, grassing, and mulching, until permanent drainage and erosion control facilities are completed and operative.
 3. Manage borrow areas on and off Owner property to minimize erosion and to prevent sediment from entering nearby property, watercourses and local streets.
 4. Manage and control spoil areas on and off Owner property to limit spoil to areas shown on the Environmental Protection Plan and prevent erosion of soil or sediment from entering nearby property, watercourses or streets.
 5. Protect adjacent areas from degradation by temporary excavations and embankments.
- F. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment.
 1. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule.
 2. Transport all solid waste off Owners' property and dispose of waste in compliance with Federal, State, and local requirements.
 3. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
 4. Handle discarded materials other than those included in the solid waste category as directed by the Engineer.
- G. **Protection of Water Resources:** Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this Contract.

- H. Washing and Curing Water: Do not allow wastewater directly derived from construction activities to enter water areas. Collect and place wastewater in retention ponds allowing the suspended material to settle, the pollutants to separate, or the water to evaporate.
- I. Control movement of materials and equipment during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
- J. Monitor water areas affected by construction.
- K. Protection of Fish and Wildlife Resources:
 - 1. Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife.
- L. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources.
 - 1. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State and Federal emission and performance laws and standards.
 - 2. Maintain ambient air quality standards set by the Environmental Protection Agency and State, for those construction operations and activities specified.
- M. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.
- N. Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinkle, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.
- O. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.
- P. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.
- Q. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Engineer. Maintain noise-produced work at or below the decibel levels and within the time periods specified in accordance with OSHA and local ordinances, whichever is more restrictive.
 - 1. Perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 5:00 p.m unless otherwise permitted by local ordinance or by the Engineer.
 - 2. Repetitive impact noise on the property shall not exceed the following dB limitations:
 - 3. Provide sound-deadening devices on equipment and take noise abatement measures that are necessary to comply with the requirements of this Contract, consisting of, but not limited to, the following:
 - a. Use shields or other physical barriers to restrict noise transmission.
 - b. Provide soundproof housings or enclosures for noise-producing machinery.
 - c. Use efficient silencers on equipment air intakes.
 - d. Use and maintain efficient intake and exhaust mufflers on internal combustion engines.
 - e. Line hoppers and storage bins with sound deadening material.

- f. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section includes the general requirements for products that are to be furnished, installed, or otherwise incorporated into the project.

1.02 QUALITY ASSURANCE APPLIES TO ALL PRODUCTS

- A. In addition to the Contractor's warranties and guarantees on materials and equipment required under the General Conditions of the Contract and the Technical Specifications contained hereinafter, the Contractor shall also be responsible for all materials, equipment, and products that have or is planned to be incorporated into the work.
 - 1. The Contractor shall be responsible for the finished work and that it accurately and completely complies with these Contract Documents.
 - 2. The Contractor shall be responsible for work performed by subcontractors, equipment suppliers, and material vendors.
 - 3. The Contractor shall be satisfied as to the product's performance before it is ordered for installation. At the Contractor's option, he/she shall have tested each product to determine compliance with these specifications.
- B. The Engineer may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Engineer in carrying out such checks.
 - 1. Such checking by the Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of the work.
 - 2. Such checking is a courtesy service being provided by the Owner and does not relieve the Contractor of his/her responsibilities under this Construction Contract.
- C. Should a dispute arise as to the quality of workmanship, equipment or material performance, then the final decision regarding acceptability with these Contract Documents shall be that of the Owner.
- D. At the request of the Engineer, the Contractor shall promptly provide the services of a competent representative of the manufacturer at the project site, fully equipped and prepared to answer questions, perform tests, make adjustments and to prove compliance with the Contract Documents free of all additional charges. Proof of compliance shall be the responsibility of the Contractor, and such special visits to the project site by the manufacturer shall not be eligible under any cash allowances or stipulated man-hours necessary to startup the system and/or train the Owner as may be specified in the Technical Specifications.

1.03 QUALITY ASSURANCE - EQUIPMENT

- A. Erect and install products under the supervision of a competent and experienced superintendent. The method of installation, including anchorage, clearances, and tolerances for rotating assemblies, methods of support for equipment and adjacent piping, shall be as recommended by the equipment manufacturer unless detailed on the Drawings or specified.
- B. All material furnished shall be new, and guaranteed free from defects in workmanship, installation, and design.
- C. Design and fabricate equipment in conformance with ANSI, ASTM, ASME, ASHRAE, IEEE, NEC and NEMA Standards.
 - 1. Equipment shall withstand the stresses that may occur during fabrication, testing, transportation, installation and conditions of operation.
 - 2. Pumps shall conform to the requirements of the Hydraulic Institute.
 - 3. Equipment shall comply with the latest OSHA regulations and the ANSI Safety Standards.

- D. Equipment shall be products of manufacturers who produce evidence of their ability to promptly furnish any and all interchangeable replacement parts as may be needed at any time within the expected life of the equipment.
- E. Manufacturers shall also have readily available access to suitable and accurate testing facilities for performing the required shop tests.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Equipment shall have been in successful regular operation under comparable conditions for a period of at least five (5) years.
 - 1. This time requirement does not apply when the manufacturer posts an Owner/Engineer acceptable Performance Bond or Letter of Credit for the duration of the time period that will guarantee replacement of the equipment in the event of failure.
 - 2. The bond shall be in a form that is acceptable to the Owner's legal council.
- B. The Owner reserves the right to reject any material or equipment manufacturer who, although he appears to be qualified and meets the technical requirements, does not provide satisfactory evidence indicating adequate and prompt post-installation repair and maintenance service, as required to suit the operational requirements of the Owner.
- C. Whenever it is required that the Contractor furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable on the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required.
- D. Perform work in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.
- E. Items of any one type of material or equipment shall be the product of a single manufacturer.
 - 1. For ease of the Owner in maintaining and obtaining service for equipment and for obtaining spare parts from as few places as possible, to the maximum extent possible, use equipment of a single manufacturer.
 - 2. The Engineer reserves the right to reject any equipment from various manufacturers if suitable equipment can be secured from fewer manufacturers and to require that source of materials be unified to the maximum extent possible.
- F. Substitute equipment shall not be fabricated nor installed until after written decision to accept request is received from the Engineer.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Prior to work under any Section, carefully inspect the existing work and verify that it is complete to the point where the work under that Section may properly commence.
- B. Avoid the need to remove and replace work and to avoid unnecessary cutting and patching.
- C. Inspect all surfaces to be sure that they have been properly prepared before applying new work to such surfaces.

- D. Verify that all work can be installed in strict accordance with the drawings and the approved shop drawings. Immediately report discrepancies to Engineer.
- E. Do not proceed with the work under any Section until these conditions are obtained.

3.02 INSTALLATION

- A. Furnish and install materials and equipment in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.
- B. All work shall be done in a workmanlike manner and set to proper lines and grades. The work shall be square, plumb and/or level as the case may be.
- C. Where performance criteria are specified, do all work necessary to attain the required end results.

3.03 FIELD QUALITY CONTROL

- A. Neither observations by Engineer nor inspections, tests or approvals by other persons shall relieve the Contractor from his obligations to perform the work in accordance with the requirements of the Contract Documents.
- B. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested or approved by some public body, the Contractor shall assume full responsibility therefore, pay all costs in connection therewith, and furnish the Engineer with the required certificates of inspection, testing or approval.
- C. The Owner reserves the right to independently perform laboratory tests on random samples of material or performance tests on equipment delivered to the site.
 - 1. These tests, if made, will be conducted in accordance with the appropriate referenced standards or specification requirements.
 - 2. The entire shipment represented by a given sample, samples or piece of equipment may be rejected on the basis of the failure of samples or pieces of equipment to meet specified test requirements.
 - 3. All rejected materials or equipment shall be removed from the site, whether stored or installed in the work, and the required replacements shall be made, all at no additional cost to Owner.

3.04 UNCOVERING WORK

- A. Unless otherwise specified or directed by Engineer, no work shall be covered until it has been observed, tested, photographed, measured, and authorized to be covered by Engineer.
- B. Tie distances to above ground physical structures as reference points to all underground utilities, conduits, pits, manholes, valves, and pipelines shall be obtained by the Contractor prior to covering the work. Immediately comply with the Engineer's direction to uncover the work if tie distances were not obtained.
- C. If any work has been covered with Engineer's consent and Engineer considers it necessary or advisable that covered work be observed or tested, the Contractor, at Engineer's request, shall uncover, expose or otherwise make available for observation, or testing as Engineer may require, that portion of the work in question, furnishing all necessary labor, material and equipment.

1. If it is found that such work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, and testing of satisfactory reconstruction, including compensation for additional engineering services and an appropriate deductive change order shall be issued.
2. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, testing and reconstruction if he makes a claim therefore as provided in the General Conditions.

3.05 DEFECTIVE WORK

- A. The repair, removal, replacement and correction of defective work is a part of this Contract and shall be promptly performed in accordance with the requirements set forth in the General Conditions or other portions of the Contract Documents. All costs in connection with the correction of defective work shall be borne by the Contractor.
- B. Products that fail to maintain the performance or other salient requirements of the Contract Documents, shows undue wear, or other deleterious effects during the maintenance period, shall be considered defective.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Section includes the transportation, handling, storage and protection of products that are to be incorporated into the work.

1.02 GENERAL

- A. Items shall be delivered as complete assemblies direct from the manufacturer with all internal wiring, piping, valving, and control devices intact except where partial disassembly is required by transportation regulations, protection of components, or where physical constraints may exist or be created for the setting of the item.
- B. Coordinate the disassembly and reassembly requirements with the manufacturer. Determine the need and extent of reassembly prior to bid.
 1. All labor, material and equipment costs associated with the disassembly and reassembly of the product shall be included in the Contract Price.
 2. Where reassembly of equipment is necessary, then the manufacturer shall provide reassembly instruction at the project site.
 3. A technician shall be present during the entire reassembly procedure and the manufacturer shall certify, in writing, that the unit was reassembled properly in accordance with instructions provided by the manufacturer and that all as-specified warranties remain in effect.
 4. The manufacturer's reassembly inspection time shall be in addition to the field service time specified and shall be included in the Contract Price. This time shall not be eligible for payment under any cash allowance item.
- C. In the case where equipment is to be installed by others, then the supplying contractor shall be responsible for its reassembly. If reassembly is necessary and the unit(s) are to be set inside an enclosure or building, reassemble the equipment inside said enclosure. The equipment once reassembled shall be turned over to the installing contractor as specified below.

1.03 PACKING

- A. Transport products in containers, crates, boxes or similar means such that the products are protected against damage that may occur during transportation.
- B. All parts shall be packaged separately or in container where parts of similar systems are grouped.
- C. Part numbers shall be indicated on the individual part. Use indelible ink to mark part numbers.
- D. All equipment shipments shall be included with a parts list showing a description (name) of the part and the manufacturer's part number.
 1. The parts list shall be shipped in a plastic zippered envelope with the words "Parts List" lettered on it in indelible ink.
 2. The parts list shall be placed inside the shipping container so that it is on the top of the contents.
- E. Equipment shall be shipped with storage, handling and installation instructions.
 1. The Engineer reserves the right to withhold payment for equipment delivered to the site until such time as the storage, handling and installation instructions are supplied by the manufacturer.

2. In the case where operation and maintenance manuals have been provided by the manufacturer, which includes the installation instructions, then the installation instructions shall also be included with the equipment shipment.
- F. Delicate instruments and devices, reagents, chemicals, and glassware shall be shipped in packaging normally provided by the manufacturer.
- G. The Contractor shall require the manufacturer to be responsible for the proper packing of all products.

1.04 SHIPPING AND DELIVERY

- A. Product deliveries shall be accompanied with a bill of lading indicating the place of origination and the Contractor's purchase order number.
- B. Inspect shipments immediately upon delivery, to assure compliance with requirements of the Contract Documents and those products are undamaged.
- C. Promptly remove damaged material and unsuitable items from the job site.
- D. Provide equipment and personnel to handle products by methods to prevent soiling; disfigurement or damage.

1.05 STORAGE

- A. Store sensitive products and all spare parts in weather tight, climate controlled enclosures in an environment favorable to product.
- B. Store and protect products in accordance with the manufacturer's instructions.
- C. All other products that are to be installed underground or products such as pipe, valves, and fittings shall be stored outdoors but shall be blocked off the ground and covered with impervious sheet coverings.
- D. Store fabricated products above the ground on blocking or skids.
- E. Store loose granular materials in well-drained areas on solid surfaces to prevent mixing with foreign matter.
- F. Provide adequate ventilation to avoid condensation.
- G. In accordance with manufacturer's instructions protect bearings, couplings, shafts, rotating components, and assemblies. Protection of said equipment shall be continuous until the time the equipment is placed into permanent service.
- H. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- I. Storage of products shall be the responsibility of the supplying contractor. The installing contractor shall take all necessary precautions to protect the equipment being furnished by others.

1.06 PROTECTION OF WORK

- A. The Contractor shall protect the installed work. All costs for protection shall be borne by the Contractor. Provide coverings as necessary to protect installed products from damage, from traffic and subsequent construction operations. Remove when no longer needed.
- B. Cover and protect equipment from dust, moisture or physical damage. Protect finished floor surfaces prior to allowing equipment or materials to be moved over such surfaces. Maintain finished surfaces clean, unmarred and suitably protected until accepted by the Owner.
- C. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify any extension in the Contract Time of Completion. In the event of the damage, promptly make replacement and repairs to the approval of the Engineer at no additional costs.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL**1.01 SUBMITTALS**

- A. Submit the following items to the Engineer with the final application for payment:
 1. Final Application for Payment prepared by the Engineer for Contractor's execution showing final amount of Contract including change orders.
 2. Approved change orders.
 3. Maintenance Bond prepared in accordance with the Contract or General Conditions.
 4. Utility company signoffs and inspection approvals, if applicable.
 5. Federal, state, county, town and local signoffs and inspection approvals, where applicable.
 6. Certified payroll records with affidavits of labor.
- B. All documents shall be complete, signed, dated, and notarized (where applicable) and be subject to the Engineer's acknowledgment of receipt or approval.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Site piping backfilling to sub-grade elevations.
- B. Site filling and backfilling.
- C. Consolidation and compaction.

1.02 RELATED SECTIONS

- A. Section 315000 - Excavation Support & Protection.

1.03 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 kg) Rammer and 18-inch (457-mm) Drop.

1.04 QUALITY ASSURANCE

- A. Do not backfill wet or frozen materials.

PART 2 - PRODUCTS

2.01 FILL MATERIALS

- A. Type C - Sand: Natural river or bank sand; washed, free of silt, clay, loam, friable or soluble materials, or organic matter; graded in accordance with ANSI/ASTM C136, within the following limits:

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 16 (1.18 mm)	10 - 100
No. 50 (0.30 mm)	5 - 90
No. 100 (0.15 mm)	4 - 30
No. 200 (0.075 mm)	0 - 1

- B. Type D - Subsoil: Reused, excavated material, graded, free of lumps, rocks and gravel larger than 3 inches (75 mm) in size, debris and contaminants.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify fill materials to be reused are acceptable.
- C. Verify items to be buried during backfilling process have been inspected prior to backfilling.
- D. Verify subgrade has been properly compacted and is ready to receive work of this section.

3.02 PREPARATION

- A. Compact subgrade to 95 percent maximum dry density in accordance with ANSI/ASTM D1557.
- B. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type C fill and compact to density equal to or greater than requirements for subsequent backfill material.

3.03 COMPACTION - METHODS

- A. Trench compaction on all water main trenches shall be by mechanical tamping methods. Jetting of trenches will not be permitted, unless specifically authorized by the Engineer and/or Owner.

3.04 BACKFILLING - GUIDELINES

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy materials.
- C. Place and compact materials in continuous layers not exceeding 6 inches (150 mm) compacted density.
- D. All backfilled materials shall be compacted to 95 percent maximum dry density in accordance with ANSI/ASTM D1557. Maintain optimum moisture content to attain required density.
- E. Employ a placement method that does not disturb or damage structures or other items against which material is backfilled.
- F. Backfill against supported structures. Do not backfill against unsupported structures. Backfill simultaneously on each side of structure.
- G. Make grade changes gradual. Blend slope into level areas.
- H. Remove surplus backfill materials from site.
- I. Remove temporary sheeting, as backfilling progresses, under provisions of Section 315000.

3.05 FIELD QUALITY CONTROL

- A. Perform field tests and analysis of fill material in accordance with ANSI/ASTM D1557. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

3.06 TOLERANCES

- A. Maximum variation from top surface of backfilling: 1-inch.
- B. Maximum variation from top surface of backfilling under paved areas: 1/4-inch from required elevations.

3.07 PROTECTION

- A. Recompat fills subjected to vehicular traffic.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Trench excavation for piping and utilities.
- B. Bedding for piping and utilities.
- C. Backfilling and compaction.

1.02 RELATED SECTIONS

- A. Section 312323 - Backfilling
- B. Section 315000 - Excavation Support & Protection.

1.03 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 kg) Rammer and 18-inch (457 mm) Drop.

1.04 QUALITY ASSURANCE

- A. Do not excavate wet or frozen materials without written approval from the Engineer.
- B. Do not backfill over or with wet or frozen materials.
- C. Provide safety barricades around open excavations.

1.05 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate trenching with installation of pipe or conduit.
- C. Coordinate trenching with installation and removal of sheeting.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bedding: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, or organic matter; graded in accordance with ANSI/ASTM C136; within the following limits:

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 16 (1.18 mm)	10-100
No. 50 (0.30 mm)	5-90
No. 100 (0.15 mm)	4-30
No. 200 (0.075 mm)	0-1

- B. Subsoil: Reused, excavated material, graded, free of lumps, rocks and gravel larger than 3 inches (75 mm) in size, debris and contaminants.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing site conditions and substrate.
- B. Verify fill materials to be reused are acceptable.
- C. Verify items to be buried during backfilling process have been inspected prior to backfilling.

3.02 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Maintain and protect existing utilities remaining which pass through work area.
- C. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.
- D. Protect benchmarks, existing structures, fences, sidewalks, paving and curbs from excavation equipment and vehicular traffic. Any item damaged by the contractor shall be promptly repaired at the contractor's expense.
- E. Protect above and below grade utilities which are to remain.
- F. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with subsoil fill and compact to density equal to or greater than requirements for subsequent backfill material.
- G. Pavement cutting and milling to be in accordance with the limits shown on the plans.

3.03 EXCAVATION

- A. Excavate subsoil required for piping.
- B. Cut trenches to the dimensions shown on the plans.
- C. Excavation shall not interfere with normal 45 degree bearing splay of foundations.
- D. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- E. Maintain sides and slopes of excavations and trenches in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29-Labor, Part 1926-OSHA Standards.
- F. Remove lumped subsoil, boulders, and rock.
- G. For trenches made in solid rock, excavate to a depth of 1 foot (300 mm) below the proposed pipe invert.
- H. Correct unauthorized excavation at no cost to Owner in accordance with Section 312333.
- I. Stockpile excavated material in area designated on site and remove excess material not being used from site. Remove excavated material from site.
- J. All trenches deeper than 5 feet (1.5 m) shall require sheeting. Sheet is to be installed under provisions of Section 315000.

3.04 BACKFILLING

- A. Support pipe and conduit during placement and compaction of fill material.
- B. For trenches made in solid rock, place an additional 1 foot (300 mm) of fill material under pipe or conduit.
- C. Place fill material to the dimensions and limits as shown on the plans.
- D. Compact fill material to 95 percent maximum dry density in accordance with ANSI/ASTM D1557. Maintain optimum moisture content to attain required density.
- E. Place fill material simultaneously on both sides of the pipe or conduit. Backfill to the dimensions and limits shown on the plans with reused subsoil.
- F. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- G. Place and compact material in continuous layers not exceeding 6 inches (150 mm) compacted depth.
- H. Employ a placement method that does not disturb or damage conduit or pipe.

3.05 FIELD QUALITY CONTROL

- A. Perform field tests and analysis of fill material in accordance with ANSI/ASTM D1557.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

3.06 CLEANING

- A. Remove surplus backfill materials from site.

3.07 PROTECTION

- A. Recompact fills subjected to vehicular traffic.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Wood and steel sheeting.
- B. Sheetng box.

1.02 RELATED SECTIONS

- A. Section 312323 - Backfilling.
- B. Section 312333 - Trenching.

1.03 REFERENCES

- A. Occupational Safety and Health Standards - Excavations; Final Rule (29 CFR Part 1926) - OSHA Standards.

1.04 QUALITY ASSURANCE

- A. Perform all work of this section in accordance with OSHA Standards and approved shop drawings.

1.05 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate work with all other sections requiring temporary sheeting and bracing.

PART 2 - PRODUCTS**2.01 MATERIALS**

- A. Wood Sheetng: Hardwood species of size and dimensions capable of being driven to the required depths and capable of supporting excavation sides and soil pressures when braced; free from wormholes, wind shakes, loose knots, decayed or unsound portions or defects which would impair its strength or tightness; 2 inches (50 mm) thick minimum.
- B. Steel Sheetng: Corrugated "Z" shape cross-section; of size and dimensions capable of being driven to the required depths and capable of supporting excavation sides and soil pressures when braced; structurally sound; special shapes for corner construction and transition points.
- C. Sheetng Boxes: Steel, of size and dimensions capable of supporting excavation sides and soil pressures; structurally sound.

PART 3 - EXECUTION**3.01 EXAMINATION**

- A. Verify existing substrate and site conditions.
- B. Verify elevations and grades are as indicated on the plans.
- C. Verify proposed locations of excavations are as indicated on the plans.

3.02 PREPARATION

- A. Excavate to a depth no greater than 4 feet (1.2 m) from existing grade.
- B. Assemble and drive the sheeting in accordance with approved shop drawings.

3.03 INSTALLATION - SHEETING

- A. Drive sheeting in place to thoroughly support both sides of the excavation using a sheeting hammer. Use a steam or pneumatic hammer for steel sheeting.
- B. Water jetting of sheeting will not be permitted. Do not loosen adjacent ground which might result in collapse.
- C. Install walls and braces or shores tight and in accordance with approved shop drawings.

3.04 INSTALLATION - SHEETING BOX

- A. Place box in trench utilizing a means which will not damage structural integrity of the box.
- B. Excavate ahead of the sheeting box only enough to advance the sheeting box and only immediately prior to moving the sheeting box.
- C. Backfill on both sides of the sheeting box as it is moved.

3.05 REMOVAL OF SHEETING

- A. Remove sheeting only as backfilling progresses.
- B. Carefully remove sheeting such that compacted backfill is not displaced. Add additional backfill to the areas vacated by the sheeting.
- C. All sheeting is to be removed from the site once its use is no longer required.

3.06 CLEANING

- A. Clean site of any debris from work of this section

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Recycled concrete aggregate base course.

1.02 REFERENCES

- A. ANSI/ASTM C88 - Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
- B. ANSI/ASTM C136 - Sieve Analysis of Fine and Coarse Aggregates.
- C. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 kg) Rammer and 18-inch (457mm) Drop.
- D. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Do not handle aggregate in any manner which will cause segregation of large or fine particles.

PART 2 - PRODUCTS

2.01 2.01 - MATERIALS

- A. Aggregate Base Course: Angular, crushed, recycled concrete; free of shale, clay, friable materials and debris; graded in accordance with ANSI/ASTM C136 within the following limits:

Sieve Size		Percent Passing
1½ inches	(38 mm)	100
1 inch	(25 mm)	90-100
½ inch	(13 mm)	65-85
3/8 inch	(9 mm)	55-75
No. 4	(4.75 mm)	40-55
No. 8	(2.36 mm)	30-45
No. 16	(1.18 mm)	22-36
No. 30	(0.60 mm)	16-27
No. 40	(0.30 mm)	12-19
No. 100	(0.15 mm)	7-13
No. 200	(75 micro m)	3-7

- B. Material retained on the 1/2 inch (13 mm) sieve is coarse aggregate.
- C. Coarse aggregate shall not have more than 10 percent by weight of flat or elongated pieces. A flat or elongated piece is defined as being three times greater in the largest dimension as compared to its least dimension.
- D. The portion of the aggregate base course which passes the No. 40 (0.30 mm) screen shall have a plasticity index of one as tested in accordance with ASTM D4318.

PART 3 - EXECUTION**3.01 EXAMINATION**

- A. Verify elevations of subgrade are as indicated on the plans.
- B. Verify that subgrade is properly compacted and ready to receive work of this section.

3.02 PREPARATION

- A. Fine grade and compact subgrade to 95 percent maximum dry density in accordance with ANSI/ASTM D1557.

3.03 AGGREGATE PLACEMENT

- A. Spread course aggregate over prepared subgrade to a total compacted thickness as indicated on the plans.
- B. Place aggregate in 3 inch (75 mm) layers and compact by roller.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- E. Compact placed aggregate materials to achieve 95% maximum dry density in accordance with ANSI/ASTM D1557. Maintain optimum moisture content to attain required density.
- F. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- G. Use mechanical vibrating tamping in areas inaccessible to compaction equipment.
- H. New pavement must be placed on the properly compacted aggregate base course within 24 hours of final compaction. If aggregate base course is left open for more than 24 hours, recompact and retest in accordance with ANSI/ASTM D1557.

3.04 TOLERANCES

- A. Maximum Variation from Flatness: 1/4 inch measured with 10 foot straight edge.
- B. Maximum Variation from Scheduled Compacted Thickness: 1/4 inch
- C. Maximum Variation from True Elevation: 1/4 inch

3.05 FIELD QUALITY CONTROL

- A. Perform compaction testing in accordance with ANSI/ASTM D1557.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Asphalt paving; wearing, binder, or base course within the Town of Riverhead roadways.

1.02 RELATED SECTIONS

- A. Section 321123 - Aggregate Base Course.

1.03 REFERENCES

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot Mix Types.
- B. AI MS-8 - Asphalt Paving Manual.
- C. ASTM D242 - Mineral Filler for Bituminous Paving Mixtures.
- D. ASTM D546 - Test Method for Sieve Analysis of Mineral Filler for Road and Paving Materials.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Supplier: Submit name of asphalt supplier to be used on the project prior to placement of any asphalt on the project.
- C. Design Data: Submit asphalt mix design for each asphalt type to be used.
- D. Testing Firm: Submit name of testing firm.

1.05 QUALITY ASSURANCE

- A. Obtain materials from the same supplier throughout the duration of the project.
- B. Do not alter from mix design requirements.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products to the site under provisions of Section 016500.
- B. Deliver asphalt in sealed, tight, metal containers covered with suitable material to protect the asphalt from the elements
- C. Lightly lubricate the inside surface of the container with a thin oil or soap solution before loading asphalt.
- D. All containers must be cleaned of all foreign materials prior to loading.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt when base surface temperature is less than 40 degrees F (4 degrees C), or if surface is wet or frozen.
- B. Do not place asphalt when precipitation is occurring.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Asphalt Cement: AC-20; homogeneous, and shall not foam when heated to 347 degrees F (175 degrees C).
- B. Fine Aggregate: Material passing the 1/8 inch sieve; natural sand of hard, strong, durable particles which are free from coatings or injurious amounts of clay, loam or other deleterious substances.
- C. Coarse Aggregate: Material retained on the 1/8 inch sieve; crushed stone or gravel; clean, durable, sharp angled fragments of rock of uniform quality.
- D. Mineral Filler: ASTM D242, finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter; 100 percent shall pass the No. 30 (0.60 mm) sieve; a minimum of 85 percent shall pass the No. 80 (0.18 mm) sieve; and a minimum of 65 percent shall pass the No. 200 (0.075 mm) sieve as measured in accordance with ASTM D546.

2.02 EQUIPMENT

- A. Rollers: Minimum weight of 10 tons (89kN) equipped with lubricating devices for the roller wheels.
- B. Pavers: Equipped with a vibratory device.

2.03 ACCESSORIES

- A. Tack Coat: Homogeneous, medium curing, liquid asphalt.
- B. Wheel Lubricant: Oil-water mixture containing maximum 10 percent lubricating oil.

2.04 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Binder Course: NYSDOT Type 3; 4.5 to 6.5 percent of asphalt cement by weight in mixture in accordance with the following gradation:

SIEVE SIZE	PERCENT PASSING
1-1/2 INCHES	100
1 INCH	95-100
1/2 INCH	70-90
1/4 INCH	48-74
1/8 INCH	32-62
NO. 20	15-39
NO. 40	8-27
NO. 80	4-16
NO. 200	2-6

A. Wearing Course: NYSDOT Type 6F; 5.8 to 7.0 percent of asphalt cement by weight in mixture in accordance with the following gradation:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
1/2 INCH	95-100
1/4 INCH	65-85
1/8 INCH	36-65
NO. 20	15-39
NO. 40	8-17
NO. 80	4-16
NO. 200	2-6

2.05 SOURCE QUALITY CONTROL

- A. Obtain asphalt materials from same source throughout the project.
- B. Provide asphalt in accordance with the approved mix design for each type of asphalt.
- C. Test samples in accordance with AI MS-2.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify that compacted subbase is dry and ready to receive work of this section.
- C. Verify gradients and elevations of base are correct.
- D. Verify that all castings are properly installed and are at the correct elevations.
- E. Beginning of installation means installer accepts existing conditions.

3.02 PREPARATION

- A. Pavement removal shall be kept to a minimum and not to exceed the authorized trench width plus the minimum required cut-backs as outlined in this section. Saw cutting shall be performed to ensure the breakage of pavement along straight lines.
- B. Apply tack coat at uniform rate of 0.03 to 0.07 gal/sq yd (0.14 to 0.32 L/sq m) to contact vertical surfaces of curbs, gutters and any asphalt or concrete material
- C. Do not apply tack coat to wet or frozen surfaces.
- D. Coat surfaces of manhole and catch basin frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

3.03 INSTALLATION

- A. Install work in accordance with AI MS-8.

- B. Maintain asphalt temperature between 250 and 325 degrees F (121 and 163 degrees C) during placement.
- C. Place asphalt within 24 hours of applying tack coat.
- D. Place asphalt to compacted thicknesses as identified on plans. If a multiple course pavement is to be used, place top course within 24 hours of placing bottom course. If more than 24 hours elapse, a tack coat will be required to be placed over the entire surface of the bottom course prior to any additional paving.
- E. Utilize the vibratory device on the paver at all times.
- F. Compact pavement by rolling. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- G. Compact pavement to a minimum of 94% maximum density.
- H. Develop rolling with consecutive passes to achieve even and smooth finish, without roller marks.
- I. A minimum cut back of 12-inches is required on all water main trenches. All pavement restoration areas shall be rectangular or square in shape with the edges perpendicular to the centerline of the roadway.
- J. All trenches made in asphalt road areas shall receive temporary asphalt paving at the end of each work day. Temporary asphalt must be maintained in good condition throughout the contract work. No additional payment will be made for multiple (repeat) placements of temporary asphalt on deteriorated and spalling areas of asphalt.

3.04 TOLERANCES

- A. Maximum Variation from Flatness: 1/8 inch measured with 10 foot straight edge.
- B. Maximum Variation from Scheduled Compacted Thickness: 1/8 inch
- C. Maximum Variation from True Elevation: 1/4 inch

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Take samples and perform tests in accordance with AI MS-2.
- C. Testing to include percent compaction, gradation and asphalt content.
- D. Cost of testing are to be borne by the contractor.
- E. Provide an asphalt thermometer for determining the asphalt temperature during paving operations.

3.06 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury until project is accepted by the Owner.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Concrete sidewalks, handicap ramps, driveway aprons.
- B. Formwork.

1.02 REFERENCES

- A. ACI 301 - Structural Concrete for Buildings.
- B. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- C. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- D. ASTM C33 - Concrete Aggregates.
- E. ASTM C94 - Ready Mix Concrete.
- F. ASTM C150 - Portland Cement
- G. ASTM C260 - Air-Entraining Admixtures for Concrete.
- H. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- I. ASTM C494 - Chemical Admixtures for Concrete.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on joint filler, admixtures and curing compounds.
- C. Supplier: Submit name of concrete supplier prior to the placement of any concrete on the project.
- D. Design Data: Provide a design mix for each type of concrete to be used on the project.
- E. Certificates: Submit receipts of all concrete deliveries, indicating source, date, contractor, amount of concrete, concrete strength, truck number and time load was batched.
- F. Testing Firm: Submit name of testing firm to be performing tests on concrete.

1.04 PROJECT RECORD DOCUMENTS

- A. Accurately record locations of each day's concrete pour.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Obtain concrete only from approved suppliers and maintain the same source throughout the project.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver concrete in accordance with ASTM C94, Alternative No. 2.
- B. Place all concrete within 90 minutes of time load was batched.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or if surface is wet or frozen.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: ASTM C150, air entraining, Type 1A Portland, gray color.
- B. Aggregates: ASTM C33.
- C. Water: Potable and not detrimental to concrete.
- D. Reinforcement: ANSI/ASTM A185 plain welded steel wire fabric; in flat sheets; uncoated finish.

2.02 ACCESSORIES

- A. Forms: Douglas Fir plywood type; solid, sound, undamaged sheets.
- B. Joint Filler: ANSI/ASTM D1751; 1/2 inch thick.
- C. Air Entraining Admixture: ASTM C260.
- D. Chemical Admixture: ASTM C494, type as required.
- E. Curing Compound: ASTM C309, Type 1, Class A.
- F. Form Release Agent: Colorless material which will not stain concrete or absorb moisture.
- G. Detectable Warning Surface: SAFTI-TRAX Mats or equal.
- H. Joint Sealant: ASTM C920,,Type M, Grade P; SL-2 by Sonneborn or equal.

2.03 MIXES

- A. Concrete shall be mixed and prepared in accordance with the approved mix design and ASTM C94, Alternative No. 2.
- B. The mix shall be such that the concrete shall attain the following characteristics:
 1. Compressive Strength (28 days): 4,000 psi.
 2. Slump: 2½ to 3½ inches.
 3. Air Entrainment: 6% ±1%.
- C. Use chemical admixtures only when approved by the Engineer. Use of admixtures will not relax placement requirements.

PART 3 - EXECUTION**3.01 EXAMINATION**

- A. Verify existing conditions and substrate.
- B. Verify datum and all elevations are as indicated on the plans.
- C. Verify compacted granular subbase has been properly prepared and is ready to receive work of this section.
- D. Beginning of installation means installer accepts existing conditions.

3.02 PREPARATION

- A. Compact base to minimum 95 percent maximum dry density in accordance with ANSI/ASTM D1557.
- B. Moisten base to a minimum depth of 1/2 inch to minimize absorption of water from fresh concrete.
- C. Coat surfaces of manhole and catch basin frames with oil to prevent bond with concrete pavement.
- D. Place and secure forms to correct location, dimension and profile.
- E. Assemble formwork to permit easy stripping and dismantling without damaging concrete. Coat forms with form release agent.

3.03 INSTALLATION

- A. Place joint filler vertical in position in straight lines. Secure to formwork during concrete placement.
- B. Place reinforcement as indicated on the plans. Interrupt reinforcement at expansion joints.
- C. Place concrete in accordance with ACI 301.
- D. Ensure reinforcement and formed joints are not disturbed during concrete placement.
- E. Place concrete continuously between predetermined construction joints. Do not break or interrupt successive pours such that joints occur.
- F. Vibrate concrete adjacent to forms.
- G. Place concrete to pattern indicated.
- H. Place expansion joints with joint filler at 20 foot intervals.
- I. Place scored contraction joints at 4 foot intervals.
- J. Place joint filler between paving components and building or other appurtenances and in expansion joints.
- K. Apply a light broom finish perpendicular to traffic.

- L. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

- A. Field inspection and testing shall be performed under provisions of Section 014500.
- B. Take four concrete test cylinders for every 50 cu. yds. or fraction thereof of each class of concrete placed each day.
- C. Cure test cylinders on site under same conditions as concrete sidewalk.
- D. Take one slump test for each set of test cylinders taken.
- E. Concrete not meeting slump requirements will be rejected.
- F. Concrete represented by cylinders which do not meet required strength will be removed and replaced at no additional cost to the Owner.

3.05 PROTECTION

- A. Immediately after placement, protect sidewalk from premature drying, excessive temperatures and mechanical injury.
- B. Protect sidewalk from damage until project is accepted by the Owner.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Reinforced concrete curb.
- B. Formwork.

1.02 REFERENCES

- A. ACI 301 - Structural Concrete for Buildings.
- B. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- C. ASTM A615 - Deformed and Plain Billet Steel for Concrete Reinforcement.
- D. ASTM C33 - Concrete Aggregates.
- E. ASTM C94 - Ready Mix Concrete.
- F. ASTM C150 - Portland Cement
- G. ASTM C260 - Air-Entraining Admixtures for Concrete.
- H. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- I. ASTM C494 - Chemical Admixtures for Concrete.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on joint filler, admixtures and curing compounds.
- C. Supplier: Submit name of concrete supplier prior to the placement of any concrete on the project.
- D. Design Data: Provide a design mix for concrete to be used on the project.
- E. Certificates: Submit receipts of all concrete deliveries, indicating source, date, contractor, amount of concrete, concrete strength, truck number and time truck load was batched.
- F. Testing Firm: Submit name of testing firm to be performing tests on concrete.

1.04 PROJECT RECORD DOCUMENTS

- A. Accurately record locations of each day's concrete pours.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Obtain concrete only from approved suppliers and maintain the same source throughout the project.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver concrete in accordance with ASTM C94, Alternative No. 2.
- B. Place all concrete within 90 minutes of time load was batched.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when base surface temperature is less than 40 degrees, or if surface is wet or frozen.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: ASTM C150, Type 1 Portland, gray color.
- B. Aggregates: ASTM C33.
- C. Water: Potable and not detrimental to concrete.
- D. Reinforcement: ANSI A615 steel; 60 ksi yield grade; deformed billet steel bars; uncoated finish.
- E. Dowels: ASTM A615 steel; 60 ksi yield grade; plain steel, uncoated finish.

2.02 ACCESSORIES

- A. Steel Forms: Minimum 16 gauge thick, stiffened to support weight of concrete with a minimum deflection.
- B. Wood Forms: Douglas Fir species; solid, sound, undamaged sheets; minimum 2 inches (50 mm) thick.
- C. Joint Filler: ANSI/ASTM D1751; 1/2 inch thick.
- D. Air Entraining Admixture: ASTM C260.
- E. Chemical Admixture: ASTM C494, type as required.
- F. Curing Compound: ASTM C309, Type 1, Class A.
- G. Form Release Agent: Colorless material which will not stain concrete or absorb moisture.
- H. Joint Sealant: ASTM C920, Type S, Grade NS; NP-1 by Sonneborn or equal.

2.03 MIXES

- A. Concrete shall be mixed and prepared in accordance with the approved mix design and ASTM C94, Alternative No. 2.
- B. The mix shall be such that the concrete shall attain the following characteristics:
 1. Compressive Strength (28 days): 4,000 psi.
 2. Slump: 2½ to 3½ inches.
 3. Air Entrainment: 6% ±1%.

- C. Use chemical admixtures only when approved by the Engineer. Use of admixtures will not relax placement requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions and substrate.
- B. Verify datum and all elevations are as indicated on the plans.
- C. Verify compacted granular subbase has been properly prepared and is ready to receive work of this section.
- D. Beginning of installation means installer accepts existing conditions.

3.02 PREPARATION

- A. Excavate to the required depth and compact surface.
- B. Place and secure forms to correct location, dimension and profile.
- C. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- D. Moisten base to a minimum depth of 1/2 inch to minimize absorption of water from fresh concrete.
- E. Coat forms with form release agent.

3.03 INSTALLATION

- A. Place joint filler vertical in position and at equal spaces not exceeding 20 feet. Secure to formwork during concrete placement.
- B. Place dowels through joint filler as indicated on the plans. One end of dowel is to be greased or set in a capped sleeve to allow longitudinal movement.
- C. Place reinforcement as indicated on the plans. Interrupt at expansion joints.
- D. Place concrete in accordance with ACI 301.
- E. Ensure reinforcement, dowels, joint filler or forms are not disturbed during concrete placement.
- F. Place concrete continuously between construction joints. Do not break or interrupt successive pours such that cold joints occur.
- G. Vibrate concrete adjacent to forms.
- H. After concrete sets, but prior to curing, remove front forms without damaging concrete and apply a light broom finish to the top and face of the curb.
- I. Place curing compound on exposed surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.04 FIELD QUALITY CONTROL

- A. Field inspection and testing shall be performed under provisions of Section 014500.
- B. Take four concrete test cylinders for every 50 cu. yds. or fraction thereof of concrete placed each day.
- C. Cure test cylinders on site under same conditions as curb.
- D. Take one slump test for each set of cylinders taken.
- E. Concrete not meeting slump requirements will be rejected.
- F. Concrete represented by cylinders which do not meet required strength will be removed and replaced at no additional cost to the Owner.

3.05 PROTECTION

- A. Immediately after placement, protect curb from premature drying, excessive temperatures, rain and mechanical injury.
- B. Protect curb from damage until project is accepted by the Owner.

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Installation of new steel casing pipe by the jacking method below the Long Island Rail Road tracks.
- B. Construction of jacking and receiving pits, jacking steel casing and installation of utility piping in casing.
- C. Permits, general conditions, dewatering, pumping, construction of pits, sheeting, jacking, materials, pipe installation within casing, testing, grading, backfilling and compaction.

1.02 RELATED SECTIONS

- A. Section 315000 - Excavation Support & Protection.
- B. Section 331411 - Water Utility Distribution Piping

1.03 REFERENCES

- A. ASTM A139 – Standard Specifications for Electric-Fusion (Arc) – Welded Steel Pipe (NPS 4-in and over).
- B. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar.
- C. ASTM C150 – Standard Specifications for Portland Cement.
- D. AWS – American Welding Society.
- E. AWWA C203 – Coal-Tar Protective Coatings and Linings for Steel Water Pipelines – Enamel and Tape – Hot Applied.
- F. AWWA C206 – Filed Welding of Steel Water Pipe.
- G. New York State Department of Transportation Standard Specifications.

1.04 SUBMITTALS

- A. Submit product data sheet.
- B. Submit description of jacking method, capacity of jack, and steering and tracking equipment.
- C. Submit equipment list and catalog cuts of all major equipment proposed for use.
- D. Submit description of pipe installation method within casing.
- E. Submit drawing of proposed work zone configuration at the jacking and receiving ends, storage areas, location of slurry for pipe lubrication, cuttings and pit spoil handling areas, and final placement areas.
- F. Submit details and calculations of the jacking and receiving pits sheeting and bracing. Details and calculations shall be prepared by a Professional Engineer licensed in the State of New York. The contractor is responsible for providing excavation support system details and calculations to the Engineer and Long Island Rail Road.

- G. Submit data on at least two prior completed projects by the pipe jacking firm that indicates details on the type of installation, owner contact name and phone number.
- H. Apply for and bear all costs to obtaining the proper road opening permit, including bond or surety. Secure the permit, with a copy located at the site, before commencement of work.
- I. Submit current AWS welder certificates.
- J. Submit SDS for materials used in the pipe installation.

1.05 QUALITY ASSURANCE

- A. Jacking shall be conducted by a firm that has successfully installed casings on two projects in the past five (5) years of similar size and type shown on the plans.
- B. Steering and tracking equipment shall be capable of producing the required alignment within an allowable accuracy of +/- 1% of the casing length.
- C. Maintain grade within 2-inches of casing length.
- D. Jacking operations shall not result in measureable settlement, movement or cracking of roadway or adjacent structures.
- E. The completed installation shall be suitable for conveying wastewater without affecting the ability and integrity of the overlying roadway.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Steel Pipe:
 - 1. ASTM A139, Grade B, 0.375-inch nominal thickness
 - 2. Minimum Yield Strength: 35,000 psi.
 - 3. Casing:
 - a. 18-inch inside diameter and 3/8-inch wall thickness
 - 4. Interior and exterior shall be uncoated.
 - 5. Ends prepared for field welding.
 - 6. Steel casing pipe shall be the product of a single domestic manufacturer.
- B. Casing Spacers:
 - 1. Circular stainless steel bands which bolt together to form a shell around the carrier pipe. The casing spacer shall be lined with ribbed PVC with a retaining section to prevent slippage. The casing spacer shall be designed with runners to support the carrier pipe and provide specified clearance from the interior of casing. Risers shall be welded to the shell.
 - 2. Acceptable Manufacturers:
 - a. CCI Pipeline Systems (Model CSS8)
 - b. Pipeline Seal & Insulator, Inc.
 - 3. Materials:
 - a. Shell: 14-gauge stainless steel
 - b. Risers: 10-gauge stainless steel
 - c. Liner: PVC, Thickness: 0.09"
 - d. Runners: glass reinforced polymer (Width: 2", Length: 7")
 - e. Hardware: Stainless steel
 - f. Finish: 2B

4. The casing spacer shall be centered style. Spacers shall be installed 6' O.C. for a total of three spacers per length of push-on joint pipe. One spacer shall be placed 1-2 feet on either side of the bell joint.

2.02 DESIGN CRITERIA

- A. Design of pits shall be done in accordance with the NYSDOT publication Geotechnical Design Procedure for Flexible Wall Systems (GDP-11).

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Do not start work prior to receiving Town of Riverhead and LIRR/MTA written approval.
- B. Protect utilities located within the thrust block zone of influence.
- C. Furnish maintenance of traffic.
- D. Verify location and depth of all underground utilities prior to commencement of jacking operation. Clear drill hole and path locations in accordance with 16 NYCRR Protection of Underground Facilities.
- E. Keep jacking pit subgrades continuously free from groundwater and surface water during jacking operations.
- F. Pits shall be backfilled, barricaded, and warning lights installed before leaving work at night for safety.
- G. Do not drop pipe. Inspect pipe prior to installation. Remove and replace pipe that does not meet specified requirements.
- H. Provide a level concrete slab at the bottom of the jacking pit.
- I. Jack the steel casing true to line and grade. Make frequent checks during the jacking operation so that any departure from the required line and grade shall be detected at the outset and corrective measures used to prevent further deviation. Provide to the extent required thrust blocks or such other provisions as may be required to drive the casing and carrier pipes forward. Remove such blocks or provisions following pipe and casing installation.
- J. The contractor shall maintain a minimum 7 feet of cover to the top of the casing. Top of casing pipe shall have a minimum 7"-0" separation from the base of the railroad tie.
- K. Fill voids between the casing and excavated boring with grout meeting the requirements of NYSDOT Standard Specification 650-2.02B, as required by the engineer and LIRR.
- L. Field conditions may require that the jacking operation be continued on an around-the-clock basis to avoid interruptions that may cause the casing to "freeze" in place. The Long Island Rail Road requires the jacking procedure to be continuous within their Right-of-Way. Costs associated with such uninterrupted operation shall be included in the price bid.
- M. Excavate exit pit up to the casing pipe. Provide sufficient room for installation of carrier pipe, fittings and connections.
- N. Construct casing pipe to prevent leakage of any substance for the casing throughout its length, except at ends. Joints shall be full penetration butt welded on the outside of the casing to form

one continuous piece in accordance with applicable portions of AWWA C206 and AWS D7.0 for field welded water pipe joints.

- O. Wire brush and paint welded joints with bitumastic enamel coating in accordance with AWWA C203.
- P. Perform jacking in a manner to prevent voids from developing outside the jacking sleeve.
- Q. Extend steel casing 5-feet beyond the edge of the travel way or as shown on the Contract Drawings.
- R. Abandonment of Jacking Operation and Steel Casing: In the event obstructions are encountered during the jacking operation and it is deemed impossible to advance the steel casing, the jacking operation shall cease and the steel casing shall be filled with grout, bulkheaded and abandoned in place. The Engineer shall then indicate an alternate location for the work in order that the jacking operation may be completed.
- S. Clean interior of the casing pipe after installation.
- T. Observe confined space entry procedures if personnel need to enter casing.
- U. Furnish and install water main within the steel casing pipes. Install casing spacers on carrier pipes prior to installation within the casing. The method of installation of the carrier pipes within the casing by means of pulling by cable, jacking or other means shall be approved by the Engineer prior to commencing this portion of the work.
- V. Carrier pipe joints within the casing shall be restrained. Field lock gaskets shall be utilized at all bell joints located within the casing. A one-inch steel tie-rod shall be welded or cut (two at each end of casing) into each side of the steel casing and connected with pipe clamps or retainer glands to the nearest mechanical joint fitting to the end of the casing. Check each joint prior to insertion into the casing.
- W. Install carrier pipe so that it is not in tension.
- X. Close ends of casing with neoprene rubber wrap-around end seals after installation of pipe and accepted hydrostatic test of carrier pipe. Verify line and grade prior to closing ends of casing.
- Y. The Owner shall not be liable for any claims for payment for abandoned steel casing, or for jacking and receiving pits for the same.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. High Density Polyethylene casing and carrier pipes.
- B. Drilling Slurry
- C. Construction of receiving pits and installation of sleeve and carrier pipe.

1.02 - RELATED SECTIONS

- A. Section 015719 - Temporary Environmental Controls
- B. Section 315000 - Excavation Support and Protection
- C. Section 312323 - Backfilling

1.03 - REFERENCES

- A. AWWA C906 - Standard for Polyethylene Pressure Pipe and Fittings, 4" through 63" for Distribution and Transmission.
- B. ASTM D1248 - Standard Specification for Polyethylene Plastic Extrusion Materials for Wire and Cable.
- C. ASTM D2774 - Standard Practice for Underground Installation of Thermoplastic Pressure Piping.
- D. ASTM D3350 - Standard Specification for Polyethylene Plastic Pipe and Fittings Materials.
- E. ASTM F714 - Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.
- F. PPI TR-4/2004 - PPI Listing of Hydrostatic Design Basis (HDB), Strength Design Basis (SDB), Pressure Design Basis (PDB) and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe.
- G. PPI Handbook of Polyethylene Pipe.

1.04 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on pipe materials, pipe fittings, and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements
- D. Include detailed procedure of method of drilling operation including; size, type, manufacturer and model number of drilling rig, maximum rated pullback and thrust capacity of the machine, maximum and minimum rate of pumping drilling mud, spindle, torque capacity and proposed profile of drilled pipeline crossing. Indicate the entry and exit angles of the directional drill and pipe.
- E. The drill profiles shown on the contract drawings are provided for information only. The contractor shall be responsible for providing the drill path in profile which he intends for the

installation of the HDPE sleeve and/or carrier pipe (water main). This shall be subject to approval by the engineer.

1.05 - PROJECT RECORD DOCUMENTS

- A. After completion of the project, the contractor shall furnish a drilling log documenting drill pipe joint lengths, inclination angle, azimuth, right (deviation from design path reference line), elevation, station number and measured distance for every joint of drill pipe installed. In addition, the radius of curvature for each joint of drill path installed shall be calculated by the contractor and supplied to the Owner. The bit to probe distance, rig setback and bottom hole assembly length shall also be documented on the drill log, and provided to by the Owner.
- B. The accuracy of the horizontal directional drilling (HDD) path shall be within two (2) pipe diameters in any dimension and within 18" of the location and depth of the end point on the receiving pit side as indicated in the contract documents.
- C. Identify and describe discovery of uncharted utilities.

1.06 - QUALITY ASSURANCE

- A. HDPE Pipe: Manufacturer's name, manufacturer's production code including day, month, year extruded, and manufacturer's plant and extrusion line shall be stamped on pipe
- B. The manufacturer shall have manufacturing and quality control facilities capable of producing and assuring the quality of the pipes and fittings required by these specifications. Given reasonable notice, the manufacturer's production facilities shall be open for inspection by the owner or his authorized representative. Qualified manufacturers shall be approved by the engineer and the Owner.
- C. The Owner reserves the right to have any material furnished tested by an independent testing laboratory for specification compliance at the contractor's expense.
- D. The contractor must have performed a minimum of three (3) directional drilling projects with 12" or larger pipe, 300 feet or longer within the last five years to be eligible for award of the contract. Documentation of the successful completion of past projects shall be provided to be considered for acceptance.
- E. The contractor shall warrant that all material and workmanship furnished by him and entering into the work as provided for in this contract shall be the best in every respect and agrees to correct at his own expense any defects traceable to defects in materials and/or workmanship which may show themselves within one (1) year after the final in service date of the project. This shall be in addition to pressure testing of the system once installed.
- F. The manufacturer of the HDPE pipe and fittings shall have an established quality control program responsible for inspecting incoming and outgoing materials. Incoming polyethylene materials shall be inspected for density, melt flow rate and contamination. The cell classification properties of the material shall be certified by the supplier and be provided at request, to the Owner. Incoming materials shall be approved by Quality Control before processing into finished goods. Outgoing products shall be tested as required by AWWA C-906.
- G. The manufacturer shall maintain permanent Quality Control (QC) and Quality Assurance (QA) records. Certification of test results shall be made available to the Owner or its designated purchaser on request.
- H. The contractor shall be responsible for the determination of soil characteristics in the project area prior to commencing the drilling operation.

- I. The material used in the production of potable water pipe shall be approved by the National Sanitation Foundation (NSF).
- J. Polyethylene pipe shall be manufactured in accordance with AWWA C-901 for sizes $\frac{1}{2}$ " through 3" and in accordance with AWWA C-906 for sizes 4" through 63".
- K. All piping systems shall comply with the latest AWWA Specification for Water Transmission and Distribution Piping Systems.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. HDPE Pipe:
 - 1. Materials used for the manufacturing of polyethylene pipe and fittings shall be PE 4710 High Density Polyethylene (HDPE) meeting the ASTM D3350 cell classification of 445574C.
 - 2. The material shall have a minimum Hydrostatic Design Basis (HDB) of 1000 psi at 73 degrees Fahrenheit when tested in accordance with PPI TR-3 and shall be listed in the name of the pipe and fitting manufacturer in PPI TR-4.
 - 3. Permanent identification of piping service shall be provided by co-extruding a marking, such as a stripe, etc., into the pipe's outside surface. The marking material shall be the same material as the pipe material except for color. Markings printed or painted on the pipe exterior surface shall not be acceptable.
 - 4. Manufacturer of HDPE carrier piping shall be Performance Pip; Driscoplex 4000 DIPS Series for Ductile Iron Pipe or specifically approved equal. Manufacturer of HDPE sleeve piping shall be Performance Pipe; Driscoplex 4000 DIPS or 4100 IPS Series for Ductile Iron Pipe or specifically approved equal. In a sleeve and carrier pipe configuration, the sleeve pipe shall have a maximum dimension ratio of 17; the carrier pipe shall have a minimum dimension ratio of 11. For an installation configuration with a carrier pipe only (no sleeve), the carrier pipe shall have a minimum dimension ratio of 9.
 - 5. The carrier pipe shall be manufactured from non-recycled materials.
 - 6. The contractor shall supply all piping materials. This shall include butt-fused M.J. adapter on each side of the directionally drilled carrier HDPE.
- B. Equipment: The directional drilling system used shall incorporate the following features:
 - 1. The system shall be remotely steerable with electronic monitoring of the depth and location. The electronic monitoring system shall be accurate to within ± 2 " of the cutting head. The system shall be able to control the depth and direction of the drill pipe within a window equal to two pipe diameters.
 - 2. The system shall utilize a fluid cutting process, or a fluid assisted mechanical cutting process using a liquid clay, such as bentonite. This clay shall be totally inert and contain no risk to the environment.
 - 3. Drilling equipment shall be fitted with a permanent alarm system capable of detecting electric current. The system shall have an audible alarm to warn the operator when the drill head nears electrified cables.
 - 4. The contractor shall supply a vacuum truck to empty or recover drilling mud from the sending and receiving pits.
 - 5. The contractor shall also be responsible for supplying any special tools and equipment necessary to perform the work associated with directional drilling. This shall include all required excavation equipment, loaders or backhoes to handle pipe, fusion equipment, as well as all associated personnel or labor to operate same.
 - 6. If the machinery and equipment used during the drilling process could damage the plastic pipe or tubing, then padding of the machinery and equipment, or other suitable protective section shall be taken, at no cost to the Owner.

- C. Slurry Mixture:
 - 1. The contractor shall use an inert substance such as Bentonite for the drilling slurry. The contractor shall supply information on the type of slurry material to be used.
 - 2. The contractor shall arrange and be responsible for providing the fresh water supply for mixing the drilling mud. Sea water shall not be acceptable for use. There shall be no exceptions.
- D. Tracer Wire:
 - 1. Copper clad hard drawn high carbon steel wire, #12 AWG solid, 45 mil high molecular weight HDPE jacket complying with ASTM D1248, 30 volt rating, 1,150 pound average break load, blue jacket.

PART 3 - EXECUTION

3.01 GENERAL

- A. Verify location and depth of all underground utilities prior to commencement of drilling operation.
- B. It shall be the contractor's responsibility to notify all the appropriate local authorities prior to commencing work, as required in the construction permit and/or the Owner's engineer. Agencies to be notified shall include, but are not limited to, the Long Island Rail Road (LIRR), the issuer of the permit (State, County, City, Town, Villages, NYSDOT, NYSDEC, USCG, USACE, etc.), the police departments, fire departments and local schools.
- C. The contractor shall be responsible to fulfill all traffic control criteria.
- D. Make frequent checks during the drilling operation so that any departure from the required line and grade shall be detected at the outset and corrective measures used to prevent further deviation.
- E. Field conditions may require that the drilling operation be continued on an around-the-clock basis. In the event the Engineer and/or the Owner orders such uninterrupted operation, any additional costs incurred shall be incurred in the price bid.
- F. Pits shall be backfilled, barricaded and restored with temporary asphalt before leaving work at night for safety. The contractor may elect to install steel road plates in lieu of the placement of temporary asphalt.
- G. The carrier pipe shall be assembled and pulled through the sleeve following completion of the drill and sleeve installation. The method of installation of the carrier pipe within the casing by means of pulling by cable or other means shall be approved by the Engineer prior to commencing this portion of the work.
- H. Install carrier pipe so that it is not in tension.
- I. Abandonment of Drilling Operation: In the event obstructions are encountered during the drilling operation and it is deemed impossible to advance the casing, the drilling operation shall cease and the casing pipe removed. The contractor may need to employ a secondary auger head capable of boring through rock or other debris. The Engineer shall then indicate an alternate location for the work in order that the drilling operation may be completed.
- J. Should pipe pull-back be unsuccessful, the contractor shall abandon the drilling operation at his own cost, and complete another directional drill, at no additional expense to the Owner.

- K. All damaged sections of pipe and tubing shall be removed and replaced by the contractor at his expense. Sections of pipe having been discovered with cuts or gouges in excess of 10% of the pipe wall thickness shall be cut out and removed. The undamaged portions of the pipe shall be rejoined by butt fusing.
- L. Close ends of casing with non-toxic, non-shrink grout after installation of carrier pipe. Verify grade prior to closing ends of casing.

3.02 INSTALLATION OF DIRECTIONAL DRILL PIPE

- A. Research has documented that certain pipe materials (such as polyethylene, polybutylene, polyvinyl chloride, and asbestos cement) and elastomers, such as used in jointing gaskets and packing glands, may be subject to permeation by lower molecular weight organic solvents or petroleum products. Products supplied under this Specification Section assume that petroleum products or organic solvents will not be encountered. If during the course of pipeline installation the Contractor identifies, or suspects the presence of petroleum products or any unknown chemical substance, **notify the Engineer immediately**. Stop installing piping in the area of suspected contamination until direction is provided by the Engineer.
- B. Mechanical pneumatic or water-jetting drilling methods shall not be acceptable due to the risk of surface subsidence and damage.
- C. A pilot shall be drilled first. Back reaming may be done in a single or multiple stages at the discretion of the contractor. The casing or sleeve shall then be installed within the back reamed hole. The pull-back of the HDPE pipe shall immediately follow the back reamer. The drilling fluids shall be collected within the drive pit, reception pit or a specially constructed spoils collection pit.
- D. The sleeve pipe shall be connected to the back reamer for pull-back with a substantial mechanical connection.
- E. The contractor shall provide for a remote navigation system capable of accurately tracking the position of the drill, reamer and pipe at all times during the drilling and pull-back operation, in both the vertical and horizontal planes.
- F. The starter or launching ditch used to begin the directional boring operation shall be large enough to allow the installation of the water main to begin and progress without buckling or bending of the plastic pipe and tubing in excess of the established bending radius allowable in standard practice.
- G. The contractor shall be required to maintain the depth as defined in this project specification and as shown on the drawings.
- H. The contractor shall report the drill stem locations when requested as well as document the location of the drilled pipe on as-built project drawings. The contractor shall also be responsible for locating and identifying each fusion on the drilled pipe and relating it via permanent landmarks on the as-built project drawing.
- I. The contractor shall conduct his directional drilling operation in such a manner that the drilling slurry is not forced through a soil fracture, or any area along the path of the drilling operation. Should a "blow out" occur and drilling mud comes to the surface, the contractor shall immediately cease and desist drilling operations and take necessary containment and mitigation measures. Such measures shall include, but not be limited to, excavating collection pools, setting up barriers of hay bales and silt screens to prevent the mud from spreading into surrounding areas and cleaning up any spill on the job site. The contractor shall be responsible

for all environmental clean-up operations required as a result of his drilling operation at no expense to the Owner.

- J. The appropriate high density polyethylene HDPE pipe may have to be strung out along the work area. Pipes shall be set on rollers to prevent damage to the pipe during pull-back. The rollers shall be spaced such that the point loading on the pipe is distributed over enough rollers to prevent damage to the pipe.
- K. The contractor shall allow for contingency plans for collection of slurry that might rise through the ground during drilling operations and outside the containment area of slurry pits as described above.
- L. The leading six (6) feet of pipe shall be pulled through the receiving pit and inspected. If any abrasions, gouges or lacerations are present which violate the minimum allowable wall thickness of the pipe as defined below, the bore shall be abandoned at no expense to the Owner.
- M. Should the leading six feet of water main evidence damage as described above, the contractor, at his option, may pull a sleeve through the bore and insert a new water main through the sleeve at no cost to the Owner. The sleeve shall have an inner diameter no less than 1" greater than the outer diameter of the water main, and shall have the same DR rating. All required labor and material shall be included and be at the contractor's expense.
- N. The Owner shall reserve the right to have the contractor excavate a test hole to examine the condition of the pipe. If the pipe fails the criteria detailed above, the installation shall be abandoned as described herein.
- O. Sufficient overlap of plastic pipe and tubing shall be provided at tie-in and connection locations to allow for shrinkage of the plastic pipe. The plastic pipe and tubing will shrink or expand depending on the temperature difference between the installation temperature of the polyethylene pipe and steady temperature of the surrounding existing soil.
- P. Install two (2) tracer wires along with the pipe. Protect wire against damage or breakage during the drilling installation. The tracer wire shall be continuous through the bore. Upon testing, if both tracer wires are found not to be continuous, the contractor shall furnish and install new tracer wire at no expense to the Owner.
- Q. In lieu of two (2) tracer wires, a single tracer wire may be installed inside a $\frac{1}{2}$ " plastic conduit and pulled in conjunction with the carrier pipe. The contractor shall provide a detail on how the $\frac{1}{2}$ " conduit shall be connected to the pulling head.

3.03 FUSIONS

- A. Joints between plain ends of polyethylene pipe shall be made by butt fusion. Electrofusion couplings will not be permitted. The pipe manufacturer's fusion procedures shall be followed at all times as well as the recommendations of the Fusion Machine manufacturer. The wall thickness of the adjoining pipes and fittings shall have the same DR at the point of fusion.
- B. The butt fusion equipment used in the joining procedures shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400 degrees Fahrenheit, alignment, and an interfacial fusion pressure of 75 psi. The butt fusion joining shall produce a joint weld strength equal to or greater than the tensile strength of the pipe itself. Butt fusion equipment shall be equipped with a Data logger. Records of each weld (including, as a minimum, heater temperature, fusion pressure, and a graph of the fusion cycle) shall be appropriately identified and provided to the Engineer. Submit project Data Logger data as part of the Quality Control records.

- C. Maintain a log for each butt fusion. Log shall consist of stationing for each main line fuse. Provide Engineer with a copy of this log on a daily basis.
- D. Saddle fusion connections shall not be permitted.
- E. On each day butt fusions are to be made, the first fusion of the day shall be a trial fusion. The trial fusion shall be allowed to cool completely, then fusion test straps shall be cut out. The test strap shall be 12" or 30 times the wall thickness in length (minimum) and 1" or 1½ times the wall thickness in width (minimum). Bend the test strap until the ends of the strap touch. If the fusion fails at the joint, a new trial fusion shall be made, cooled completely and tested. Butt fusion of pipe to be installed shall not commence until a trial fusion has passed the bent strap test. There shall be no exceptions.
- F. If mechanical fittings (which are designed for, or tested and found acceptable for use with polyethylene pipe) are utilized for transitions between pipe materials, repairs, joining pipe sections, saddle connections or at other locations; the recommendation of the Mechanical Fitting manufacturer shall be followed. These procedures may differ from other pipe material.
- G. Socket fusions shall be tested by a bent strap test as described by the pipe manufacturer. The pipe manufacturer shall provide visual guidelines for inspecting the butt and socket fusion joints.
- H. All fusions that are contained in the pipe or tubing to be pulled shall be allowed to cool down for a minimum of 20 minutes in accordance with the cool-down times in the fusion procedures or as specified in manufacturer's literature, of the pulling operation.

3.04 SLURRY

- A. During the drilling operation, all drilling mud shall be contained within the sending and receiving pits and/or specific mud pits excavated for this purpose. All excess flows of mud shall be pumped into a vacuum truck provided for this purpose. If excess mud flows out of the containment pits, the drilling operation shall be shut down, at no expense to the Owner, until the flow of mud is contained within the pits and all excess mud has been cleaned from and removed from the site.
- B. During the drilling operations at the launching and receiving slurry collection pits, the contractor shall make all necessary arrangements for the safe and clean collection and removal of slurry. Prior to the slurry reaching within 2-feet to the top of grade, the contractor shall take all necessary precautions to empty the slurry pot and remove the slurry from the construction area. The slurry shall be properly transported and disposed of in accordance with all State and/or Federal requirements.
- C. Silt screening and hay bales shall be placed in a line surrounding all construction activity at the launching and receiving areas as shown on the drawings. These items shall be provided to contain any spills within the launching and receiving areas shown on the construction drawings, at no expense to the Owner. Hay bales and silt screens shall be installed 2-feet away and around the slurry pits.
- D. All slurry shall be collected in the excavated slurry pits. Slurry pits shall be excavated only in the launching and receiving areas with a 500 cubic foot minimum capacity or as specified by the Owner's engineer.
- E. Upon completion of boring and pipe installation, the contractor shall remove all spoils from the starting and termination pits and dispose of same in a lawful manner at no expense to the Owner. The pits shall then be restored to their original condition.

F. Once directional drilling has been completed, the slurry pits shall be backfilled in accordance with Section 312323.

3.05 TESTING

- A. The pipe shall be inspected for, and protected from cuts, voids, cracks, inclusions, scratches and other defects or damage prior to, during and after installation.
- B. Disinfection of new HDPE carrier pipe shall be in accordance with Section 331300. At no time shall the chlorine residual within the carrier pipe exceed 250 ppm. Chlorine shall be allowed to sit in HDPE piping for a period not exceeding forty-eight (48) hours in length.
- C. Pressure testing shall be conducted in accordance with the manufacturer's recommendations as provided in Bulletin PP802 - Leak Testing of Polyethylene Pipe for Municipal & Industrial Applications. Pressure testing shall use water as the test media. Pneumatic (air) testing is prohibited. The new HDPE water main shall be pressure tested separately from the ductile iron portion.
- D. New piping shall be sampled in accordance with Section 331300.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Disinfection of water piping and valves.

1.02 REFERENCES

- A. ANSI/AWWA B300 - Standard for Hypochlorites.
- B. ANSI/AWWA B301 - Standard for Liquid Chlorine.
- C. ANSI/AWWA C651 - Disinfecting Water Mains.
- D. ANSI/AWWA C655 - Field Dechlorination.

1.03 SUBMITTALS

- A. Submit proposed method for introducing disinfectant into water piping.
- B. Test Reports: Indicate results comparative to specified requirements.

1.04 PROJECT RECORD DOCUMENTS

- A. Disinfection Report: Record:
 - 1. Type and form of disinfectant used.
 - 2. Date and time of disinfectant injection start and time of completion.
 - 3. Test and injection locations.
 - 4. Initial and 24-hour disinfectant residuals (quantity in treated water) in ppm for each outlet tested.
 - 5. Date and time of flushing start and completion.
 - 6. Disinfectant residual after flushing in ppm for each outlet tested.
- B. Bacteriological, Chemical and Organic Chemical Report: Record:
 - 1. Date issued, project name and testing laboratory name, address and telephone number.
 - 2. Time and date of water sample collection.
 - 3. Name of person collecting samples.
 - 4. Test locations.
 - 5. 24-hour and 48-hour disinfectant residuals in ppm.
 - 6. Coliform bacteria and chemical test results.
 - 7. Certification that water conforms or fails to conform to New York State drinking water standards.
 - 8. Laboratory Director's signature and authority.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with ANSI/AWWA C651, latest edition.

1.06 QUALIFICATIONS

- A. Water Treatment Firm: Company specializing in disinfecting potable water systems specified in this Section with minimum three (3) years experience.
- B. Testing Firm: Laboratory specializing in testing potable water systems, approved by the New York State Department of Health.

1.07 REGULATORY REQUIREMENTS

- A. Conform to Recommended Standards for Water Works and applicable codes or regulations for performing the work of this Section.
- B. Water quality to conform to New York State drinking water standards after completion of disinfection.

PART 2 - MATERIALS

2.01 DISINFECTION CHEMICALS

- A. ANSI/AWWA B300, Hypochlorites.
- B. ANSI/AWWA B301, Liquid Chlorine.

PART 3 - DISINFECTION & TESTING

3.01 EXAMINATION

- A. Verify that all piping systems have been cleaned, inspected and pressure tested.

3.02 EXECUTION

- A. Provide required equipment to perform the work of this Section. The Owner will provide the water required for the initial disinfection and filling of the piping, and valves, etc. The Contractor shall pay for the water required for any subsequent filling of these systems based on the Owner's retail water rate.
- B. The preferred method of chlorinating the new water mains is the continuous feed method using calcium hypochlorite granules in accordance with Section 4.4.3 of AWWA C651, latest edition. Granules shall be placed at a minimum in accordance with Table 1 of the applicable Section. The slug method of chlorination is also acceptable and shall be performed in accordance with Section 4.5 of AWWA C651, latest edition. The use of tablets for disinfection is prohibited.
- C. The use of calcium hypochlorite granules specifically intended for swimming pool use is prohibited. The contractor shall utilize only those chemicals which are NSF 60/AWWA approved for disinfection.
- D. The newly laid main shall be properly chlorinated to at least 200 ppm (mg/l) for a minimum of 24 hours, to ensure the chlorine residual at the pipe extremities and at other representative points after the retention period, is at least 200 ppm (mg/l). Treated water shall be retained in the pipe long enough to destroy all non-spore-forming bacteria.
- E. After completion of retention period, new mains shall be flushed in order to neutralize residual chlorine with a suitable quantity of one of the following neutralizing agents: sodium bisulfite, sodium sulfide or sodium thiosulfate, prior to disposal to prevent damage to the environment, in accordance with ANSI/AWWA C655. Bacteria samples may not be collected until a chlorine residual representative of the existing distribution system is achieved. New mains shall be flushed at a velocity of no less than 3.0 ft/sec.
- F. Collect samples 24 & 48-hours after flushing disinfectant and refilling with potable water. Samples shall not be collected if a chlorine residual inconsistent with that of the existing distribution system is present. Any portion of the sample set which tests positive for total coliform and/or e-coli bacteria constitutes failure of the entire set with no exceptions.

- G. Field chlorine residual checks shall be performed for each sample and shall be recorded on the laboratory sampling form for inclusion in the sampling results report.
- H. Two (2) consecutive sets of bacteriological samples, taken 24 hours apart, must be collected from every 1,000 ft of new main, the end of the line and from each branch. Samples should be collected after final flushing and when the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the distribution system (ANSI/AWWA C651 Standard, latest edition).
- I. Sample tap locations shall be as directed by the Engineer. Taps shall be installed to sample at a frequency as described above.
- J. If water quality in system does not meet the requirements of the Department of Health for potable water, the Contractor shall re-chlorinate or take other steps necessary to provide acceptable water quality. Samples shall be collected and analyzed after each attempt.

3.03 QUALITY CONTROL

- A. Test samples in accordance with the latest edition of ANSI/AWWA C651 and Department of Health requirements.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Water Utility Pipe
- B. Special Castings; Mechanical Joint Fittings
- C. Buried Valves & Valve Boxes

1.02 RELATED SECTIONS

- A. Section 312333 - Trenching
- B. Section 312323 - Backfilling
- C. Section 331300 - Disinfection of Water Utility Distribution

1.03 REFERENCES

- A. ANSI/AWWA C104 - Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water.
- B. ANSI/AWWA C110 - Ductile Iron and Grey Iron Fittings.
- C. ANSI/AWWA C111- Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
- D. ANSI/AWWA C150 - Thickness Design of Ductile Iron Pipes
- E. ANSI/AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast for Water Service.
- F. ANSI/AWWA C153 - Ductile-Iron Compact Fittings for Water Service.
- G. ANSI/AWWA C509 - Resilient Seated Gate Valves for Water Supply Service.
- H. ANSI/AWWA C515 - Reduced-Wall Resilient-Seated Gate Valves for Water Supply Service.
- I. ANSI/AWWA C600 - Installation of Ductile Iron Water Mains and Their Appurtenances.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of water mains, valves, fittings, connections, and invert elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with the local water utility company requirements.

- B. The tone-out, mark-out, locating and verification of existing utilities on private property and within public Right-of-Ways are the responsibility of the contractor. All known utilities and facilities shall be verified by test holes or other means prior to commencing water main installation. No compensation will be paid to the contractor for lost time due to improper or inadequate utility investigation.
- C. The contractor shall conform to the standard traffic requirements of the New York State Manual of Uniform Traffic Control Devices for work in Public Roadways.
- D. Valves: Manufacturer's name and pressure rating marked on valve body.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to ensure they are kept free from damage.
- B. Store piping and valves to ensure that their interiors are kept free of debris, organics or animals.
- C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.01 WATER UTILITY PIPING

- A. Cement-Lined Ductile Iron Pipe
 - 1. Approved Manufacturers:
 - a. US PIPE
 - b. McWANE DUCTILE
 - 2. Cement-Lined Ductile Iron Pipe meeting AWWA C150/C151 :
 - a. Special Class 52 for all pipe 14 inches and smaller.
 - 3. Interior lining shall be double-thick cement with a minimum thickness of 1/8" (125 mils) in accordance with AWWA C104.
 - 4. Exterior of pipe shall have an exterior bituminous coating measuring 1 mil in thickness and be marked with the manufacturer name, date of casting and pressure class.
- B. Pipe Accessories:
 - 1. Joints: ANSI/AWWA C111, vulcanized rubber gaskets for push-on pipe; mechanical joint with rods and wedge-type restraining glands for fittings.
 - 2. Field lock gaskets by US Pipe Model 350 or approved equal shall be utilized on the last push-on joint of all dead-end mains, where a bell falls within 10 feet of a mechanical joint connection or as indicated on the plans or as directed by the Engineer.
 - 3. Gaskets shall be free from porous areas, foreign materials and visible defects. No reclaimed rubber shall be used
 - 4. Lubricant for Joints: Nontoxic, NSF-61 certified, shall not support the growth of bacteria, and shall have no deteriorating effects on the gasket or pipe material.
 - 5. Wedges: Bronze, installed at each push-on joint.

2.02 SPECIAL CASTINGS

- A. Manufacturers:
 - 1. US PIPE
 - 2. SIGMA CORP.
 - 3. TYLER UNION
 - 4. APPROVED EQUAL
- B. Material:

1. Fittings shall be in accordance with ANSI/AWWA C153 (compact). The use of full body fittings (AWWA C110) requires approval from the Water District and Engineer prior to installation.
2. Fittings shall be ductile iron.
3. Ductile iron fittings shall have a pressure rating of 350 psi.
4. Fittings shall be cement lined.

C. Mechanical Joint fittings shall be used with "push-on" joint pipe with the joint conforming to AWWA Specifications.

D. Rubber gaskets shall be used at each pipe connection. Rubber gaskets shall be vulcanized rubber that is free of porous areas, foreign materials and visible defects. No reclaimed rubber shall be used. The size, mold number, gasket manufacturer's mark, the letters "MJ" and the year of manufacture shall be molded in the rubber.

E. Wedge type restraining glands shall be required at all mechanical joints.

1. Manufacturer:
 - a. EBAA IRON WORKS
 - b. FORD METER BOX CO.
 - c. SIGMA CORPORATION
 - d. TYLER UNION
 - e. US PIPE
 - f. Approved equal
2. Wedge type restraining glands shall be secured to fittings using alloy steel T-head bolts and hex-head nuts.

2.03 BURIED VALVES

A. Resilient Wedge Gate Valves (up to 12")

1. Acceptable Manufacturers:
 - a. MUELLER COMPANY; A-2361/2362 (M.J. x M.J. Connections)
 - b. CLOW VALVE COMPANY; Model 2639
 - c. KENNEDY VALVE CO.; Model KS-FW(8571)/KS-RW(7571)
2. All vertical gate valves up to and including 12-inch diameter shall conform to latest revision of AWWA Specification C509 or C515, and shall be specified as follows:
 - a. Material: Ductile Iron body, bronze mounted.
 - b. Pressure: 250 psi minimum working pressure.
 - c. Wedge: Cast iron wedge with urethane rubber coating (encapsulated). The rubber/metal bond shall be tested to meet ASTM D429.
 - d. Stem: Forged bronze, non-rising stem with two "O" ring seals.
 - e. Wrench Nut: Two-inch square (at base) wrench nut opening to the left or counterclockwise.
 - f. Mechanical Joint Ends: Mechanical joint ends complete with all joint accessories including rubber gaskets.
 - g. Painting: The body and bonnet shall be coated with a fusion coating both interior and exterior to meet AWWA Standard C550.
 - h. Markings: Markings shall be cast on the bonnet or body of each valve, and shall show the manufacturer's name or mark, the year the valve casting was made, the size of the valve, and the designation of working water pressure for 4 to 12-inch valves.
 - i. Affidavit of Compliance: The Contractor shall have the manufacturer provide an affidavit directly to the Engineer that all valves supplied on this project comply with all applicable provisions of AWWA Specification C509, and that each valve was subjected to and passed the 500 psi hydrostatic test without leakage. No final payment for valves will be made until this Affidavit of Compliance is received by the Engineer.

B. Valve Boxes

1. Manufacturer:
 - a. BINGHAM & TAYLOR
 - b. SIGMA CORPORATION
 - c. TYLER UNION
2. Valve boxes shall be two piece, sliding type with 8" x 4-7/8" cast iron flanged bottom section, 9" x 6-1/8" ductile iron top section and 7" ductile iron drop lid with "WATER" cast on cover.

PART 3 - EXECUTION**3.01 INSTALLATION - PIPE**

- A. Remove scale and dirt, on inside and outside, before assembly.
- B. Bevel plain ends of cut pipe at push-on joints.
- C. Excavate pipe trench in accordance with Section 312333 for work of this section. Hand trim excavation for accurate placement of pipe to elevations indicated.
- D. Place bedding material at trench bottom; level fill materials in one continuous layer not less than 6 inches compacted depth; compact to 95 percent maximum dry density.
- E. Maintain optimum moisture content of bedding material to attain required compaction density.
- F. The Contractor shall be responsible for verifying the location of the existing water mains and other utilities along the entire route of the project.
- G. The Contractor must have experienced personnel in his employ to perform the cut-ins and connections to the existing water mains and have available equipment necessary for cutting ductile iron, cast iron, asbestos cement and miscellaneous piping in the existing distribution system.
- H. Suitable facilities shall be available for proper dewatering, drainage and disposal of water removed from dewatered lines and excavations, without damage to adjacent properties. Exposed ends of the water main shall never be submerged either partially or fully.
- I. Maintain a 10 foot horizontal and 18 inch vertical separation of water main from all storm and sanitary sewer facilities. The Contractor shall install the water main with the minimum cover indicated in the Contract Documents. The Contractor shall verify the depth of any existing service laterals to the structures prior to crossing of same.
- J. Pipe trenches shall be of minimum width and allow six (6) inches on each side of the bell with sufficient width to allow straight alignment of pipe and provide sufficient room for jointing as required and to allow the backfill to be placed as specified.
- K. Only new full-lengths of pipe shall be delivered to and utilized on this project. Field cut pieces with bell ends shall be a minimum of 5 feet in length. Smaller pieces shall not be permitted for use and shall be removed from site.
- L. Pipe shall be laid with the bell end facing in the direction of laying. Where pipe is laid on a grade of 10% or greater, the laying shall start at the bottom and shall proceed upward with the bell ends of the pipe up gradient.
- M. Install pipe to indicated elevation to within tolerance of 1/2 inch.

- N. Clean bell end of pipe prior to placing gasket. Apply lubricant to both gasket and plain end of pipe.
- O. Do not field cut pipe within 24 inches of bell or 8 inches of spigot end. Verify the pipe diameter of cut end.
- P. Route pipe in straight line where possible. Joint deflections are permitted as outlined in ANSI/AWWA C600.
- Q. Install and test ductile iron piping and fittings to ANSI/AWWA C600.
- R. For installation of CLDIP, at each joint, two serrated silicon bronze wedges shall be driven into the rubber gasket after the pipe is pushed into place. The wedges shall be installed on opposite sides of the joint on a horizontal plane. Both wedges shall be started in together and driven with a hammer with blows on alternate sides so as not to displace the spigot end to one side of the pipe.
- S. Establish elevations of buried piping to ensure not less than 4 feet of cover unless otherwise indicated on plans or specifically approved by Engineer or Owner in field.
- T. Trench widths shall not exceed the following authorized widths prior to cut-back:
 - 1. Less than 12-inches diameter mains: 30 inches
 - 2. 12-inch & 16-inch diameter mains: 36 inches
- U. Pavement removal shall be kept to a minimum and not exceed the preceding authorized widths. Sawing, drilling or chipping shall be used to ensure the breakage of pavement along straight lines. Final restoration limits shall include a 12-inch cut-back on all sides of the trench.
- V. Backfill trench in accordance with Section 312323. Backfill around sides and to top of pipe with fill, tamped in place and compacted to 95 percent maximum dry density.
- W. The contractor shall restore, replace and/or reposition all decorative lawn ornaments, and miscellaneous items disturbed during water main installation including but not limited to the following: stones, brick driveway pavers, fences, signs, sprinklers, shrubs and trees.

3.02 DISINFECTION AND BACTERIA SAMPLING OF WATER UTILITIES

- A. Flush and disinfect system in accordance with Section 331300.

3.03 PRESSURE TESTING

- A. Perform hydrostatic pressure testing after disinfection, but prior to bacteria sampling.
- B. Expel all air from piping system, including pipe, valves and appurtenances. All new water mains shall be pressure tested to a minimum of 150 psi or 1.5 times line pressure, whichever is greater. The pressure test shall be held for a minimum of two hours with no leakage.
- C. Remove and replace any defective pipe, fittings, valves, and appurtenances. Repeat pressure test until satisfactory to Engineer.

3.04 INSTALLATION - SPECIAL CASTINGS

- A. Tighten glands in accordance with manufacturers direction.
- B. Ensure that fittings are free of dirt and debris prior to installation.

- C. Support fitting with solid blocking in areas of over excavation. Wood wedges, blocking and supports are prohibited.
- D. The contractor shall install a minimum of two $\frac{3}{4}$ -inch steel tie rods on mechanical joint fittings. Additional tie-rods may be requested on vertical pipe or by Engineer in areas of high pressure.
- E. Steel tie rods shall be secured to fittings using $\frac{3}{4}$ " steel eye-bolts, washers and nuts. The use of ductile iron "Duc-Lugs" is prohibited. Steel tie rods shall be secured to pipe using half-moon pipe clamps, restraints, washers and nuts.
- F. Bell ends of pipe shall not be installed within 5 feet of a mechanical joint assembly without being further restrained by locking gaskets or tie rods.
- G. Concrete blocking shall be applied on all pipe lines 4-inch in diameter and larger at all hydrants, tees, plugs, caps, and at bends deflecting 22-1/2 degrees or more. Blocking shall be placed between solid ground and the fitting to be anchored. The blocking shall be so placed that the pipe and fitting joints will be accessible for repair. Size of blocking and minimum bearing area shall be in accordance with the Bearing Area Table within this specification section.
- H. Form and place concrete for thrust blocks at each elbow or change of direction of pipe.

BEARING AREA TABLE

Pipe Size	Dead End of Tee	90 Degree Bend	45 Degree Bend	22 $\frac{1}{2}$ Degree Bend
4 in	1 ft ²	1 ft ²	3/4 ft ²	$\frac{1}{2}$ ft ²
6 in	2 ft ²	3 ft ²	2 ft ²	1 ft ²
8 in	4 ft ²	5 $\frac{1}{2}$ ft ²	3 ft ²	1 $\frac{1}{2}$ ft ²
10 in	6 ft ²	8 $\frac{1}{2}$ ft ²	4 $\frac{1}{2}$ ft ²	2 $\frac{1}{2}$ ft ²
12 in	9 ft ²	12 ft ²	6 $\frac{1}{2}$ ft ²	3 $\frac{1}{2}$ ft ²
>16 in	15 ft ²	22 ft ²	12 ft ²	6 ft ²

- I. Concrete for Thrust Blocks: Portland Cement Concrete; 2,000 psi minimum strength at 28 days. Solid precast concrete blocking meeting the compressive strength requirement shall also be acceptable for use. When solid blocking is utilized, the contractor shall fill all annular spaces with cement or mortar. The use of wood wedges or blocking is not permitted.

3.05 INSTALLATION - VALVES

- A. Set valves on solid bearing.
- B. Contractor is responsible for ensuring that all valve boxes are plumb and centered over the operating nut until after final asphalt restoration is complete.
- C. Contractor shall adjust boxes prior to final restoration. The use of "Rite-Hite" type adapters is not permitted on new construction.

3.06 NOTIFICATIONS

- A. The Engineer and local water utility shall be notified at least 24 hours in advance and immediately prior to any of the following:
 - 1. Commencing work or starting again after more than a 72-hour shutdown.
 - 2. Admitting water to a new section.
 - 3. Flushing or blowing off water mains.
 - 4. Chlorination of water mains.

5. Shutting down water mains or service to consumers. Consumers should also be informed at least 24 hours in advance and immediately prior to shutting down service.
6. Disinfection and reconnection of house services.
7. The permanent shutting down of existing water mains or house services.

3.07 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with Owner requirements.
- B. Leakage testing shall be in accordance with ANSI/AWWA C600.
- C. Compaction testing shall be in accordance with ANSI/ASTM D1557.
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

END OF SECTION

PART 1 - GENERAL

1.01 RELATED SECTIONS

- A. Section 312333 - Trenching.
- B. Section 331411 - Water Utility Distribution Piping.
- C. Section 331300 - Disinfection of Water Utility Distribution.

1.02 REFERENCES

- A. ASTM B88 - Seamless Copper Tube.
- B. AWWA C800 - Underground Service Line Valves and Fittings.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013300
- B. Product Data: Provide data on pipe materials, pipe fitting and accessories.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.04 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of piping mains, valves, connections, and invert elevations.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with the local water utility company requirements.

PART 2 - PRODUCTS

2.01 COPPER PIPING AND ACCESSORIES

- A. All underground copper piping, for potable water shall be soft annealed Type "K" with fittings per ANSI/AWWA C800.
- B. Copper Tubing: ASTM B88, Type "K" annealed and AWWA C800, with the following accessories:
 1. Fittings: ANSI/ASME B62, cast bronze
 2. Joints: AWWA, Compression Gasket
- C. Couplings for 1" shall be copper to copper (compression-type) by FORD METER BOX COMPANY Model No. C44-44 QNL, or MUELLER COMPANY, Model Nos. P-15403N or H-15403N.
- D. Insulated adaptor shall be installed on the outlet side of the meter yoke on 1 inch water services only. Insulated adaptor shall be as manufactured by MUELLER COMPANY No. H-35428 or specifically approved equal.

2.02 CORPORATION STOP

- A. Corporation stops to be FORD METER BOX COMPANY, Model No. F1000-4-G QNL, or MUELLER COMPANY, Model No. P-15008N for 1-inch, or specifically approved equal.
- B. Water service bronze body with AWWA standard thread inlet and copper AWWA outlet, complete with straight coupling nuts. Ball valve type corporation stops may also be utilized.

2.03 CURB STOPS

- A. All curb stops shall be by FORD METER BOX COMPANY, Model No. B44-444 QNL, or MUELLER COMPANY, Model No. P-25209N, or specifically approved.
- B. All metal parts shall be constructed of water service bronze. The curb stop shall have a combined tee and cap and an inverted tapered key with 1/4-inch hole drilled in cap for attaching a stationary rod. The valve shall open to the left (counterclockwise).

2.04 EXTENSION SERVICE BOXES

- A. Extension service boxes shall be constructed of extra grade gray iron cover and base, steel extension pipe; with a small arch pattern base for 1/2-inch through 1-1/2-inch curb stops; adjustment between 4 and 5 feet; complete with stationary inside stop rod; one-piece lid with two holes for removal with spanner wrench.
- B. Curb valve shall be located within a No. 6 round, three-piece cast iron, 5-1/4 inch shaft, sliding type valve box with "WATER" cast on the cover.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Before tapping, the pipe to be tapped shall be thoroughly cleaned by removing all dirt and scale. The main shall be tapped on the side facing the house. All copper service pipes shall be installed at 4'-6" minimum cover with slack left at the corporation stop.
- B. The Contractor shall furnish and install all materials and incidentals as outlined herein including the copper tubing, complete from the new corporation stop to within 5 feet of the existing building face and/or as indicated on the plans. The new installation shall include all costs to furnish and install the corporation stop, saddle, 'K'-copper, and union.
- C. The curb box shall be centered over the curb stop and shall be plumb with the cover slightly above grade.
- D. In making cuts in copper service pipe, the most modern equipment shall be used to produce a square cut. The tubing, after cutting, shall be cut square, burrs removed and reamed. Fittings, sockets and tube ends shall be thoroughly cleaned to a bright finish. All solder joints shall be fluxed using either 95/5 tin/antimony or silver solder. NO LEAD SOLDER WILL BE PERMITTED.
- E. On completion of the service connection, the corporation stop shall be left on.
- F. All new copper service piping crossing existing drainage piping, etc. shall be installed at a 4'-6" minimum cover wherever possible. In areas where 4'-6" cover cannot be maintained, the Contractor will be allowed to cross the drainage piping with an absolute minimum cover of 3'-6", otherwise the new service shall be installed under the drainage piping, etc. All new services installed with cover between 3'-6" and 4'-6" due to drain interference, etc., shall be wrapped with

felt wrapping and tar paper or other approved frost wrap protection. A minimum of ten-foot horizontal separation shall be maintained between the new water service and any sanitary sewer facilities including; pipes, tanks and pools.

G. The Contractor shall take all necessary precautions to minimize damage to any underground utility. Damage to any utility shall be immediately repaired and the cost of such repair shall be the responsibility of the Contractor. No water service shall be accepted which has been installed through any storm drain, etc.

3.02 FIELD QUALITY CONTROL

- A. Flush new service line prior to installing meter, backflow device and connecting to existing service.
- B. Before piping is concealed, recheck it for leaks.

END OF SECTION

PART 1 - GENERAL**1.01 SECTION INCLUDES**

- A. Fire Hydrant Assemblies

1.02 RELATED SECTIONS

- A. Section 312333 - Trenching
- B. Section 312323 - Backfilling
- C. Section 331300 - Disinfection of Water Utility Distribution
- D. Section 331411 - Water Utility Distribution Piping

1.03 REFERENCES

- A. ANSI/AWWA C502 - Dry Barrel Fire Hydrants.

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide data on hydrant assemblies.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with the local water utility company requirements.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to ensure they are kept free from damage.

PART 2 - PRODUCTS**2.01 FIRE HYDRANT ASSEMBLIES**

- A. Acceptable Manufacturers:
 - 1. CLOW VALVE COMPANY, Medallion
 - 2. MUELLER, Supercenturion 250 No. A-421
- B. Hydrant: ANSI/AWWA C502, dry barrel type, inside dimension of 6 inches minimum, with minimum 4.50 inch diameter valve seat opening; minimum net water area of barrel not less than 190 percent of valve opening; 6 inches mechanical joint inlet connection with accessories, gland bolts and rubber gaskets.
- C. Hose Connection: Two 2-1/2 inch (64 mm) diameter hose nozzles conforming to NATIONAL STANDARD dimensions (7-1/2 threads per inch).
- D. Hydrants shall be equipped with non-kinking chains.
- E. Steamer Connection: One 4-1/2 inch (114 mm) pumper nozzle conforming to NATIONAL STANDARD dimensions (4 threads per inch)

- F. Hydrant Extensions: Fabricate in multiples of 6 inches (150 mm) with rod and coupling to increase barrel length. Extensions shall be of the same manufacturer as the hydrant.
- G. Operating nut and outlet nozzle caps shall be square (4 sided) in shape, 1-1/2 inches point to flat at the base and open to the left or counterclockwise. A clearly visible arrow and the word "OPEN" shall be cast in relief on the top of the hydrant.
- H. Where indicated on the plans or by the Engineer, hydrant protector posts shall be 4-inch diameter cast iron, ductile iron or steel, filled with concrete and measure a minimum of 6-1/2 feet long. Post to be exposed a minimum of 36" feet above grade and be painted with two coats of reflective yellow exterior paint.
- I. All hydrants designated to be removed shall be delivered to the Owner. The Contractor shall use extreme care so as not to crack the hydrant or hydrant shoe.
- J. A poured concrete hydrant bracing pad shall be installed around the base of each hydrant from 3" to 6" below finished grade. Pad shall be a minimum of 4" thick.
- K. Each hydrant shall be equipped with a reflective orange mini flag measuring 4 inches by 5 inches. Flag shall be mounted on a 64-inch x 3/8 inch diameter reflective fiberglass shaft. Shaft shall be mounted to the back of the hydrant bonnet with a spring loaded L-bracket and plate.
- L. Finish: Primer and two coats of enamel to barrel and top section.
 - 1. Color:
 - a. Barrel color shall be orange.
 - b. Bonnet color shall be aluminum.
 - c. Cap color shall be aluminum.
- M. The Contractor shall provide the District two (2) safety flange repair kits. Manufacturer of repair kits and hydrant shall be the same.

PART 3 - EXECUTION

3.01 INSTALLATION - HYDRANTS

- A. Set hydrants plumb and locate steamer connection perpendicular to roadway.
- B. Set hydrants to grade, with center of steamer connection at least 18 inches aboveground.
- C. Attach hydrant control valve to anchoring tee unless otherwise directed by Owner or Engineer. Attach hydrant to valve with a minimum of two 3/4" steel tie rods in all cases.
- D. Provide a drainage pit surrounding the hydrant 36 inches square by 24 inches deep filled with 1 inch diameter washed gravel. The stone shall be placed to a point 1 foot above the bottom flange.
- E. Brace behind elbow of hydrant with 4,000 psi minimum concrete having a minimum bearing area of 3 sq ft against unexcavated earth. A precast concrete block shall be installed beneath the elbow.

3.02 FIELD QUALITY CONTROL

- A. After activation of water main and hydrant, each hydrant shall be operated with the main valve fully opened and closed to ensure proper drainage and operation.

B. Field inspection and testing will be performed in accordance with District requirements.

END OF SECTION

Please complete and affix to your sealed bid envelope.



DELIVER TO: TOWN CLERKS OFFICE, 200 HOWELL AVE, RIVERHEAD, NY 11901

BIDDER: _____

ADDRESS: _____

**BID NAME: INSTALLATION OF WATER MAIN &
APPURTEANCES - 205 OSBORN AVENUE**

**BID OPENING DATE: June 8, 2023
TIME: 11:00AM**

BIDS MUST BE DELIVERED TO:

**TOWN OF RIVERHEAD
TOWN CLERKS OFFICE
200 HOWELL AVENUE
RIVERHEAD, NY 11901**

PRIOR TO 11AM ON JUNE 8, 2023

LATE BIDS WILL NOT BE ACCEPTED FOR ANY REASON