



A&J CONSTRUCTION COMPANY

CONTRACT NO. B044

PASSAIC VALLEY SEWERAGE COMMISSION
600 WILSON AVENUE
NEWARK, NEW JERSEY 07105

CONTRACT AND SPECIFICATIONS

FOR

PLANT INFRASTRUCTURE REPAIRS ON AN AS NEEDED BASIS
FOR A TWO (2) YEAR PERIOD

MAY 2016

00500

CONTRACT AGREEMENT
CONTRACT NO. B044
PASSAIC VALLEY SEWERAGE COMMISSION
600 WILSON AVENUE
NEWARK, NEW JERSEY 07105

CONTRACT AND SPECIFICATIONS
FOR

PLANT INFRASTRUCTURE REPAIRS ON AN AS NEEDED BASIS
FOR A TWO (2) YEAR PERIOD

THIS AGREEMENT, made and executed this 13th day of October, 2016, by and between the Passaic Valley Sewerage Commission, a public body of the County of Essex, State of New Jersey, hereinafter called the "Commission," acting through its Chairman, and
A&J Construction Company
5026 Industrial Road, Farmingdale, NJ 07727

a corporation chartered under the laws of the State of New Jersey partnership,
individual with principals offices at 5026 Industrial Road Farmingdale, NJ 07727

hereinafter called the "Contractor."

WITNESSETH: That the said Contractor has agreed and by these presents does agree with the Commission, for the Prices bid and stipulated in the Proposal herein contained or hereunto annexed and under the terms and conditions expressed in Bonds bearing even date with these presents, and herein contained or hereunto annexed, to furnish at his own cost and expense all the necessary materials, labor, superintendence, tools, and appliances and shall execute, construct, and finish and test in an expeditious and workmanlike manner all the work as described in the contract specifications commencing the work within ten (10) days from the date of Notice to Proceed and executing the same within the time and proceed in the manner specified and in conformity with the requirements set forth in the Contract Documents herein contained or hereunto attached and in accordance with the Contract Specifications of said Work.

In the event that the contract documents, exclusive of the Contractor's Bid Form, are in conflict with the Contractor's Bid or Bid Form, the provisions, terms and conditions of the Commission Contract Documents and specifications shall bind the parties.

The Contractor shall proceed with the said Work in a prompt and diligent manner and shall do all parts thereof at such times in such order as the Commission may approve.

The Commission shall not be liable to the Contractor for any neglect, default, delay or interference of or by another other contractor, nor shall any such neglect, default, delay or interference of any other contractor, or alteration which may be required in said Work, release the Contractor from the obligation to finish the said Work within the time aforesaid or from the damages to be paid in default thereof.

Name and addresses of each person or company interested in the Contract:

It is hereby mutually agreed that the Commission are to pay and the Contractor is to receive the amount bid (less retainage, if any) as stipulated in the proposal herein contained or hereto annexed, as full compensation for furnishing all material and labor and in all respects completing the herein described work in the manner and under the conditions herein specified, and for fully complying with the terms and conditions of this Contract.

Subject to the applicable provisions of law, the Contract shall be in full force and effect from and after the date when a fully executed and approved counterpart hereof is delivered to the Contractor at the address set forth above and shall remain and continue in full force and effect until after the expiration of the warranty period and the Contractor and the sureties are finally released by the Commission.

IN WITNESS WHEREOF: The parties hereto have executed this agreement the day and year first above mentioned.

PASSAIC VALLEY SEWERAGE COMMISSION

(SEAL)

BY: 
THOMAS TUCCI, JR., CHAIRMAN

ATTEST BY: 
PASSAIC VALLEY SEWERAGE COMMISSION
JOSEPH F. KELLY, CLERK

A&J CONSTRUCTION COMPANY
CONTRACTOR NAME

BY: 
CONTRACTOR

(SEAL)

ATTEST BY: 
CONTRACTOR

AWARD SHEET

Contract No. B044
PLANT INFRASTRUCTURE REPAIRS ON AN AS NEEDED BASIS
FOR A TWO (2) YEAR PERIOD

Name of Contractor:

Business Name: A&J Construction Company

Mailing Address: 5026 Industrial Road
(Mailing Address must include Street Address)
Farmingdale, NJ 07727

Telephone No. (732)919-3850 Fax No. [REDACTED]

Contact Person: Allen Montefusco

- A. The contractor shall provide, safety, supervision, labor, equipment, materials and supplies necessary to perform miscellaneous repairs to PVSC plant infrastructure on an as needed basis for a two (2) year period.

It is the intent of this contract to provide for supplementary repair work and related services which are provided on an as needed "Time and Material" basis for various tasks including but not limited to emergency services, unscheduled repairs and system modification tasks.

All work shall be performed on a time and material (T&M) basis. Labor cost shall be in accordance with the Contractor's labor rates provided in the T&M Schedule (Section 00400) which shall be submitted with the bid and will become part of this contract.

The work required under this contract is indeterminate; consequently there is no fixed contract amount. When a specific task is required, a "not to exceed" price and a time frame will be established.

Costs for supervision and labor shall include all cost factors, such as wages, benefits, travel time, fuel, insurance, overhead and profit, general and administrative (G&A) and all other additional expenses. **Billing time for all services performed is to begin at the start of work at PVSC and end at the time leaving PVSC.** The minimum billable time for a call in will be four (4) hours. Wage Rates shall comply with the New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.)

The contractor hourly rate submitted for straight time will cover PVSC's normal working hours of 7:45AM to 4:15PM Monday through Friday in accordance with Division 1, Section 01046 - Working Hours. The overtime hourly rate will be used during weekdays after 40 hours per week or for services provided on weekends, Holidays or when being requested to work during PVSC non-normal working hours. Overtime hourly work (if approved) will be billed at a cost of 1.5 times the T&M schedule rate.

The contractor shall be available 7 days a week for 24 hour notice on-call and emergency service work during the life of this contract and will be compensated at the respective hourly rates.

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

The contractor shall insure that all requested repairs, concrete restoration work, welding, electrical, pipefitting and fabrication etc. shall be performed by personnel who are trained to provide the type of service specified, and as outlined in Section 01710 Qualifications of Contractor.

The contractor shall be reimbursed for materials based on invoice price plus a fixed fee in accordance with the fixed fee schedule provided in Section 01025.

Costs for the Contractor to supply rental equipment that is not included within this contract shall be based on documented invoices. Plus a fixed fee in accordance with a fee schedule provided in Section 01025

For purposes of evaluating and comparing bids only, the contractor shall provide Labor Rates for the identified labor categories on the T&M Schedule (**see Section 00400**) to maintain a hypothetical work crew at a PVSC facility, for a period of one forty (40) hour work week per year. The Contractor hourly rates for labor shall commence from the actual time the Contractor reports at the PVSC Facility requiring service until the time leaving PVSC. PVSC will maintain appropriated records showing the actual time the contractor spent on the job. The contractor will **not be** compensated for any traveling time between place of business and the PVSC Facility where work is to be performed.

All hourly labor rate(s) listed in the T&M Schedule (see Section 00400) shall be filled out. Failure to do so may be considered a non-responsive bid and may be cause for the bid to be rejected. The hypothetical work crew described is for bid evaluation purposes only. Actual crews, equipment and duration will vary, depending on the specific task to be done.

The work required under this contract is indeterminate. There shall be no fixed contract amount. Work will be performed on a "Time and Material" basis. Individual Task Orders will be issued to the contractor based on an agreed upon detailed scope of work and cost. Each Task Order shall establish a "not to exceed" cost limit. Contractor's time required to develop a cost proposal for any given task or project and the time spent in pre-construction meeting(s) shall not be compensable.

The term of this contract is for a two (2) year period, beginning from the Notice to Proceed date. All prices shall hold firm and not be subject to increase during the term of the contract.

The work shall proceed in the manner specified and in conformity with the requirements set forth in the Contract Documents herein contained or hereunto attached and in accordance with the Contract Specifications.

In the event of a conflict between the bid specifications (request for proposal, invitation to bid, etc.) and the contractors bid submission (proposal, response, etc.) the terms of the specifications (or otherwise as referenced) shall govern the agreement between PVSC and the contractor.

- B. All prices are exclusive of N. J. State and Federal Taxes. The Passaic Valley Sewerage Commission is an agency of the State of New Jersey and is exempt from the New Jersey Sales and Use Taxes, pursuant to Section 9(a)(1) of the New Jersey Sales and Use Tax Act (N.J.S.A. 54:32B-1 et seq.).
- C. The cost of all Warrantees shall be included.
- D. The bidder's price shall be inclusive, including all labor, equipment, consumables, inspection and transportation. Bidder shall not include the cost of any services provided by PVSC.
- E. Prices shall also include all transportation charges on materials removed from site and charges pertaining to disposal and other costs pertaining to the execution of the work.
- F. The Commission reserves the right to make no award and reject all bids should, in their judgment it be in the public interest to do so.
- G. **Contract Period and Extension Option:** If in the opinion of the Commission it is in the best interest of PVSC to extend this contract, the Contractor will be so notified of the Commission's intent at least thirty (30) days prior to the expiration date of the existing contract. The Contractor shall have fifteen (15) calendar days to respond to the Commission's request to extend the contract. If the Contractor agrees to the extension, all terms and conditions of the original contract, including all prices, will be applicable.
- H. The successful Bidder shall maintain for the duration of the work to be done under this contract, Liability Insurance in the amounts specified in the General Conditions, Section 00727. Upon

execution of the contract, the contractor shall furnish the PVSC with all certificates of insurance as required and set forth herein.

- I. It is the bidder's responsibility to visit the PVSC facilities to inspect and to verify all locations, dimensions, conditions and access as needed to perform the contract work. Arrangements for the site visit can be made by contacting Mr. Michael Donne, Mechanical Engineer at (973) 817-5801.
- J. No variations will be permitted to the terms and conditions of the contract. Terms and conditions are in accordance with N.J. Laws for Public Bidding and the policies of the Passaic Valley Sewerage Commission. Any bids that include variations to the terms and conditions will be considered non-responsive and will be rejected.
- K. If the Bidder intends to offer alternatives to the materials, equipment and/or services specified, then it is mandatory that the Bidders list and explain in detail any and all such exceptions to the specifications on the attached "Bidders Exception" sheet, and shall submit the sheet with his bid. If the exception involves material or equipment, the Bidder shall also include technical data to show that the exception is equal to or better than those specified. It is understood that if no exception is listed on the "Bidders Exceptions" sheet, the Bidder shall supply all the materials, equipment and/or services exactly as prescribed and shall return the "Bidders Exception" sheet marked "**NONE**".
- L. Only Bidders with experience with a similar type of work will be considered. Certification of this experience, and the names and addresses of at least three (3) customers from whom similar work was performed within the last two (2) years, shall be supplied with the bid. A certification questionnaire form is included for the Contractor's convenience.
- M. Notice of Executive Order 125 Requirement for Posting of Winning Proposal and Contract Documents

Pursuant to Executive Order No. 125, signed by Governor Christie on February 8, 2013, the Office of the State Comptroller ("OSC") is required to make all approved State contracts for the allocation and expenditure of federal reconstruction resources available to the public by posting such contracts on an appropriate State website. Such contracts are posted on the New Jersey Sandy Transparency website located at:

<http://nj.gov/comptroller/sandytransparency/contracts/sandy/>.

The contract resulting from this bid is subject to the requirements of Executive Order No. 125. Accordingly, the OSC will post a copy of the contract, including the bid document, the winning bidder's proposal and other related contract documents for the above contract on the Sandy Transparency website.

In submitting its proposal, a bidder may designate specific information as not subject to disclosure. However, such bidder must have a good faith legal and/ or factual basis to assert that such designated portions of its proposal (i) are proprietary and confidential financial or commercial information or trade secrets or (ii) must not be disclosed to protect the personal privacy of an identified individual. The location in the proposal of any such designation should be clearly stated in a cover letter, and a redacted copy of the proposal should be provided.

The State reserves the right to make the determination as to what is proprietary or confidential, and will advise the winning bidder accordingly. The State will not honor any attempt by a winning bidder to designate its entire proposal as proprietary, confidential and/or to claim copyright protection for its entire proposal. In the event of any challenge to the winning bidder's assertion of confidentiality with which the State does not concur, the bidder shall be solely responsible for defending its designation.

- N. Unless prevented by strike or strikers which prevent construction or delivery of equipment or supplies from the manufacturer, failure to complete the work within the specified time shall be considered an abandonment of the contract and the Commission may seek redress for damages.
- P. The work must be completed without interrupting the operation of the PVSC Treatment Plant. The contractor must schedule his operations in detail with PVSC as noted in Div. 1, Section 01310 of Contract Specifications.

- Q. Payment will be made in accordance with the Schedule as specified in Division 1, Section 01025.
- R. Proposals shall be enclosed in opaque sealed envelopes, addressed to Passaic Valley Sewerage Commission, 600 Wilson Avenue, Newark, New Jersey 07105, with the name and address of the bidder plainly marked upon the outside thereof. (If forwarded by preferably registered mail, the sealed envelope containing the proposal, marked as directed above must be enclosed in another envelope addressed as specified in the Proposal.) The outside envelope containing the bids must clearly identify the bid number, contract name and bid opening date. Failure to properly identify the contents may result in the bid being rejected.

To the extent that N.J.S.A. 2A:30A-2 et seq. applies to the project and its related work and/or any agreement between PVSC and the Contractor, all exceptions contained in N.J.S.A. 2A:30A-2(a) et seq. shall apply solely for the benefit of PVSC.

T&M SCHEDULE

For purposes of evaluating and comparing bids, the Bidder shall provide the following cost to maintain a hypothetical work crew at PVSC Facility, for a period of two (2) forty (40) hour work weeks, including a hypothetical material cost.			
Hourly Rate per Person shall include all wages, labor, travel, taxes, insurance (including Liability Insurance), overhead, licenses, qualifications, equipment, profit and all other mark-ups and costs.			
YEAR 1		YEAR 2	
Hourly Rate		Hourly Rate	
A. General Crew Services (Laborer/Demolition)		L. General Crew Services (Laborer/Demolition)	
1. Foreman		1. Foreman	
\$ <u>115.00</u> /Hr. x 80 Hrs.	= \$ <u>9200.00</u> (A1)	\$ <u>115.00</u> /Hr. x 80 Hrs.	= \$ <u>9200.00</u> (L1)
2. Journeyman		2. Journeyman	
\$ <u>114.00</u> /Hr. x 80 Hrs.	= \$ <u>9120.00</u> (A2)	\$ <u>114.00</u> /Hr. x 80 Hrs.	= \$ <u>9120.00</u> (L2)
3. Apprentice*		3. Apprentice*	
\$ <u>92.00</u> /Hr.		\$ <u>92.00</u> /Hr.	
B. Site Welding Services		M. Site Welding Services	
1. Foreman		1. Foreman	
\$ <u>130.00</u> /Hr. x 80 Hrs.	= \$ <u>10400.00</u> (B1)	\$ <u>130.00</u> /Hr. x 80 Hrs.	= \$ <u>10400.00</u> (M1)
2. Journeyman		2. Journeyman	
\$ <u>115.00</u> /Hr. x 80 Hrs.	= \$ <u>9200.00</u> (B2)	\$ <u>115.00</u> /Hr. x 80 Hrs.	= \$ <u>9200.00</u> (M2)
3. First Year Apprentice*		3. Apprentice*	
\$ <u>92.00</u> /Hr.		\$ <u>94.00</u> /Hr.	

<p>C. Site Painting Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (C1)</p> <p>2. Journeyman \$ <u>114.00</u> /Hr. x 80 Hrs. = \$ <u>9120.00</u> (C2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>		<p>N. Site Painting Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (N1)</p> <p>2. Journeyman \$ <u>114.00</u> /Hr. x 80 Hrs. = \$ <u>9120.00</u> (N2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>	
<p>D. Site Electrical Services</p> <p>1. Foreman \$ <u>130.00</u> /Hr. x 80 Hrs. = \$ <u>10400.00</u> (D1)</p> <p>2. Journeyman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (D2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>		<p>O. Site Electrical Services</p> <p>1. Foreman \$ <u>130.00</u> /Hr. x 80 Hrs. = \$ <u>10400.00</u> (O1)</p> <p>2. Journeyman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (O2)</p> <p>3. Apprentice* \$ <u>95.00</u> /Hr.</p>	
<p>E. Concrete Restoration / Repair & Expansion Joint Repair Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (E1)</p> <p>2. Journeyman \$ <u>114.00</u> /Hr. x 80 Hrs. = \$ <u>9120.00</u> (E2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>		<p>P. Concrete Restoration / Repair & Expansion Joint Repair Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (P1)</p> <p>2. Journeyman \$ <u>114.00</u> /Hr. x 80 Hrs. = \$ <u>9120.00</u> (P2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>	

**F. Site Heating,
Ventilation and Air
Conditioning Services**

1. Foreman

\$ 128.00 /Hr. x 80
Hrs.

= \$ 10240.00 (F1)

2. Journeyman

\$ 114.00 /Hr. x
80 Hrs.

= \$ 9120.00 (F2)

3. Apprentice*

\$ 92.00 /Hr.

G. Sheet Metal Worker

1. Foreman

\$ 115.00 /Hr. x 80
Hrs.

= \$ 9200.00 (G1)

2. Journeyman

\$ 114.00 /Hr. x
80 Hrs.

= \$ 9120.00 (G2)

3. Apprentice*

\$ 92.00 /Hr.

H. Pipefitter Services

1. Foreman

\$ 126.00 /Hr. x 80
Hrs.

= \$ 10080.00 (H1)

2. Journeyman

\$ 122.00 /Hr. x
80 Hrs.

= \$ 9760.00 (H2)

3. Apprentice*

\$ 95.00 /Hr.

**Q. Site Heating,
Ventilation and Air
Conditioning Services**

1. Foreman

\$ 127.00 /Hr. x 80
Hrs.

= \$ 10160.00 (Q1)

2. Journeyman

\$ 114.00 /Hr. x
80 Hrs.

= \$ 9120.00 (Q2)

3. Apprentice*

\$ 92.00 /Hr.

R. Sheet Metal Worker

1. Foreman

\$ 115.00 /Hr. x 80
Hrs.

= \$ 9200.00 (R1)

2. Journeyman

\$ 9120.00 /Hr. x
80 Hrs.

= \$ 9120.00 (R2)

3. Apprentice*

\$ 92.00 /Hr.

S. Pipefitter Services

1. Foreman

\$ 126.00 /Hr. x 80
Hrs.

= \$ 10080.00 (S1)

2. Journeyman

\$ 122.00 /Hr. x
80 Hrs.

= \$ 9760.00 (S2)

3. Apprentice*

\$ 98.00 /Hr.

<p>I. Millwrighting Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (I 1)</p> <p>2. Journeyman \$ <u>114.00</u> /Hr. x 80 Hrs. = \$ <u>9120.00</u> (I 2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>		<p>T. Millwrighting Services</p> <p>1. Foreman \$ <u>115.00</u> /Hr. x 80 Hrs. = \$ <u>9200.00</u> (T1)</p> <p>2. Journeyman \$ <u>112.00</u> /Hr. x 80 Hrs. = \$ <u>8960.00</u> (T2)</p> <p>3. Apprentice* \$ <u>92.00</u> /Hr.</p>	
<p>J. Shop Fabrication Services</p> <p>1. Foreman \$ <u>64.00</u> /Hr. x 80 Hrs. = \$ <u>5120.00</u> (J1)</p> <p>2. Journeyman \$ <u>60.00</u> /Hr. x 80 Hrs. = \$ <u>4800.00</u> (J2)</p> <p>3. Apprentice* \$ <u>55.00</u> /Hr.</p>		<p>U. Shop Fabrication Services</p> <p>1. Foreman \$ <u>64.00</u> /Hr. x 80 Hrs. = \$ <u>5120.00</u> (U1)</p> <p>2. Journeyman \$ <u>60.00</u> /Hr. x 80 Hrs. = \$ <u>4800.00</u> (U2)</p> <p>3. Apprentice* \$ <u>57.00</u> /Hr.</p>	
<p>K. Material Mark-Up Including all insurance, overhead, profit and any other mark-up</p> <p>Reference Section 01025 Payment Formula Hypothetical Material Cost + Fixed Fee \$50,00.00 + \$3,750.00 = \$ <u>53,750.00</u> (K)</p>		<p>V. Material Mark-Up Including all insurance, overhead, profit and any other mark-up</p> <p>Reference Section 01025 Payment Formula Hypothetical Material Cost + Fixed Fee \$50,00.00 + \$3,750.00 = \$ <u>53,750.00</u> (V)</p>	

<div>Year 1: Total</div> <div>(Sum of A1, A2, B1, B2, C1, C2, D1, D2, E1, E2, F1, F2, G1, G2, H1, H2, I 1, I 2, J1,J2, K)</div>	<div></div> <div>=\$ 233,670.00</div>	<div>Year 2: Total</div> <div>(Sum of L1, L2, M1, M2, N1, N2, O1, O2, P1, P2, Q1, Q2, R1, R2, S1, S2, T1, T2, U1, U2, V)</div>	<div></div> <div>=\$ 233.430.00</div>
<div>TOTAL (Sum of Years 1 and 2)</div>	<div>=\$ 467,100.00</div>		
<div>Amount Written In Words:</div> <div>Four Hundred Sixty Seven Thousand One Hundred Dollars and</div> <div>No Cents</div>			
<div>Note:</div> <div>*Items No. A3, B3, C3, D3, E3, F3, G3, H3, I 3, J3, L3, M3, N3, O3, P3, Q3, R3, S3, T3, U3 (Apprentice for Year 1 and Year 2 Respectively) shall <u>not</u> be included in the hypothetical total bid price. The hourly rate for ALL Apprentice’s shall be provided for future work if necessary.</div>			

PASSAIC VALLEY SEWERAGE COMMISSION
CONTRACT NO. B044- SUBCONTRACTOR LISTING

The undersigned proposes to use the following subcontractors to perform the work indicated (use additional sheets as required).

<u>Work to be Performed</u>	<u>Name(s) and Address of Subcontractor(s)**</u>	<u>License Number(s)</u>
1. Plumbing & Gas Fitting and all Kindred Work	<u>IN HOUSE</u> _____ _____	_____
2. Heating and Ventilation and all Kindred Work	<u>IN HOUSE</u> _____ _____	_____
3. Electrical Work	<u>EJS ELECTRICAL CONSTRUCTION LLC</u> <u>24 Sarno Road</u> <u>Milltown NJ 08850</u>	<u>34EB01609500</u>
4. Structural Steel and Ornamental Iron Work	<u>IN HOUSE</u> _____ _____	_____

Allen M. [Signature]
 Name and Title of Authorized Representative

[Signature]
 Signature of Authorized Representative

****IMPORTANT NOTE:** Whenever a Bid sets forth more than one subcontractor for any of the specialty trade categories (1) through (4) specified hereinabove in this section, the Bidder shall submit to PVSC a certificate signed by the bidder listing each subcontractor named in the Bid for that category. The certificate shall set forth the scope of work for which the subcontractor has submitted a price quote and which the Bidder has agreed to award to each subcontractor should the Bidder be awarded the contract. The certificate shall be submitted to PVSC simultaneously with the list of subcontractors. The certificate may take the form of a single certificate listing all subcontractors or, alternatively, a separate certificate may be submitted for each subcontractor.

GENERAL CONDITIONS – INDEX

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00738 Substantial Completion and Inspections

00700 GENERAL CONDITIONS

00701 The Contractor enters into this agreement with the full knowledge of the conditions and requirements of the specifications, including the physical characteristics above, on and below the surface of the ground where applicable.

00702 The Contractor will, simultaneously with the execution of this contract, deliver to PVSC a surety bond of a surety company qualified to do business in New Jersey, and shall be listed in the current Federal Register, Department of the Treasury Circular 570. "Surety Companies acceptable on Federal Bonds." The said surety bond will provide that the surety company will become surety for the faithful performance of the work and shall be in an amount equal to the contract price, and shall be so conditioned as to indemnify PVSC against any losses due to the failure of the Contractor to conform to the requirements.

The form of the surety bond shall be subject to the approval of the Chief Counsel of PVSC and shall be in accordance with the requirements of N.J.S.A. 2A:44-143 to 147.

00703 The Contractor agrees that during the entire term of the contract it will pursue the work faithfully and diligently and will, at all times, have the necessary sources of supply, labor, material and machinery necessary to complete the contract in accordance with the terms of the specifications.

00704 All work done under this contract shall be done to the satisfaction of the Engineer of PVSC, who shall in all cases determine the amount, quality, acceptability and fitness of the material and work which are to be paid for hereunder and shall decide any questions which may arise as to the fulfillment of this decision thereon shall be final and conclusive. The word "Engineer" shall mean the person holding the position of Manager of Plant Engineering of the Passaic Valley Sewerage Commission, or his duly authorized representative.

00705 If the Contractor should be adjudged a bankrupt, or if it should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if it should persistently or repeatedly refuse or should fail to supply enough skilled workmen or proper materials, or if it should fail to make prompt payment to subcontractors for material, labor, or equipment rental, or persistently disregard laws, ordinances, or other instructions of the Engineer, or this contract, then PVSC, upon the certificate of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy and after giving the Contractor thirty (30) days written notice, terminate the employment of the Contractor. The termination of the employment of the Contractor under the provisions of this paragraph shall not relieve the surety of its responsibility.

00706 The Contractor shall be responsible for all parts of its work, either temporary or permanent, until the contract is accepted by PVSC and it shall thoroughly protect all work, finished or unfinished, against damage from any cause. Risk of loss shall remain with the Contractor until the work has been accepted by a resolution duly adopted by PVSC. The use of part or all of the work by PVSC shall not relieve the Contractor of its responsibility until such time as the work has been formally accepted by resolution. The Contractor shall conduct its operations in such a manner as to provide maximum safety for all employees on the work and the public as well, and shall comply with the requirements of all New Jersey and Federal Statutes governing safety requirements for employees.

00707 All notices, demands, requests, instructions, approvals and claims shall be in writing. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor specified in the bid (or at such other offices as the Contractor may from time to time designate to the Engineer in writing) or if deposited in the United States mail in a sealed, postage prepaid envelope, or delivered by telephone electronic/facsimile (FAX) transmission system. All papers required to be delivered to PVSC shall, unless otherwise specified to the Contractor in writing, be delivered to the office of PVSC AT 600 Wilson Avenue, Newark, New Jersey and any notice to or demand upon PVSC shall be sufficiently given if delivered to the

said office, or if deposited in the United States mail in a sealed, postage-prepaid envelope, certified mail, return receipt requested.

- 00708** No final payment shall be made until the Engineer has certified to PVSC that the work has been completed by the Contractor in accordance with the requirements of the plans, specifications and contract.
- 00709** The Contractor shall not assign the contract or sublet it in whole or in part without the prior written consent of PVSC, nor shall the Contractor assign any monies due or becoming due to it without the prior written consent of PVSC.
- 00710** This contract, and all incorporations by reference together with the plans, specifications and bid documents, constitutes the entire agreement and understanding between the parties. This contract may not be modified, altered, abridged, amended or supplemented, except by written agreement executed by the parties.
- 00711** Neither the inspection by the Engineer or any agent or employee of PVSC, nor any order by PVSC for the payment of money, nor any payment for, or acceptance of, the whole or any part of the work, by PVSC or the Engineer, nor any possession taken by PVSC or their employees, shall operate as a waiver of any provisions of this contract, or of any right to damage herein provided, nor shall any waiver of any breach of the contract be held to be a waiver of any or subsequent breach. Any remedy provided in this Contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided, and PVSC shall also be entitled as of right to a writ of injunction against any breach of any of the provisions of this contract.
- 00712** The Contractor covenants and agrees that anything in this contract or in the contract documents to the contrary notwithstanding, or regardless of any matter, thing, contingency or condition unforeseen or otherwise, present or future, the Contractor shall not be entitled to receive any additional or further sums of money than the amounts in said contract documents provided, except pursuant to a written change order duly authorized by a resolution of PVSC; and the failure of PVSC to insist upon strict performance of any of the terms, covenants, agreements, provisions or conditions in this contract or in the contract documents or any one or more instances, shall not be construed as a waiver of relinquishment for the future of any such terms, covenants, agreements, provisions and conditions, but the same shall be and remain in full force and effect with power and authority on the part of PVSC to enforce the same or cause the same to be enforced at any time, without prejudice to any other rights which PVSC may have against the Contractor under this contract or the contract documents.
- 00713** Plans, specifications and the within contract shall be construed in accordance with the laws of the State of New Jersey.
- 00714** The Contractor shall commence with the work on the project within ten (10) days after notice to proceed unless stated otherwise herein.
- 00715** The Contractor has agreed that it has carefully examined the site of the work, the form of the contract and specifications and the drawings referred to therein, and will provide all necessary machinery, tools, apparatus, and other means for construction and do all the work and furnish all the materials called for by the within contract and the specifications and the requirements under them of the Engineer and in accordance with the bidders notice, information for bidders, plans, general requirements, specifications, etc., all of which are incorporated herein as though fully set forth and form a part of this contract.
- 00716** The Contractor is held to have visited the site prior to the time of submitting bids and to have apprised and informed itself of all conditions at the site. Any information furnished by a representative of PVSC upon such matters shall in no way relieve the Contractor from risk or responsibility in fulfilling all of the terms of the contract; nor shall PVSC assume any responsibility or incur any liability as the result of furnishing of information by any representative.

- 00717** Any information as to the location of existing substructures and utilities shown on the contract drawings is not guaranteed as to accuracy by PVSC and PVSC incurs no responsibility or obligation to the Contractor or others in connection therewith.
- 00718** The Contractor shall not employ any subcontractor that PVSC may object to as incompetent or unfit; nor shall the Contractor subcontract to any person that has submitted a bid proposal for the award of the contract. Additionally, the Contractor shall not enter into any joint venture of any kind whatsoever relating to the within construction. PVSC may waive the provisions of this paragraph in its sole and absolute discretion, upon submission of a written request by the Contractor for a waiver supported by a disclosure of all of the facts and circumstances accompanied by a copy of the joint venture contract agreement or understanding.
- All bidders on this contract are required to hold or obtain a "New Jersey Business Registration Certificate" as required by N.J.S.A. 52:32-44 et seq. Information on New Jersey Business Registration Certification Program operated by the New Jersey Department of the Treasury can be found on the internet at www.nj.gov/njbgs or by phone 609-292-1730. Failure to submit proof of registration (prior to contract award, in accordance with the 2009 Amendment to N.J.S.A. 40A:11-23.2) requires mandatory rejection of bid as a non-waivable defect. Bidder may submit certificate number as proof of certification as a courtesy at time of bid.
- All bidders and their subcontractors on this contract are required to hold or obtain a "Public Works Contractor Registration" as defined in section 2 of P.L. 1963, c. 150 (C.34:11-56.26) amended 2003, c.91., s.2., and listed subcontractors are registered pursuant to P.L. 1999, c.238 (C.34:11-56.48 et seq.) at the time the bid is made.
- The Bidder shall submit a copy of the Public Works Certificate of Registration issued by the Commissioner of Labor with the Bid.
- Each contractor shall, after the bid is made, prior to the awarding of the contract, submit to the public entity the certificates of registration for all subcontractors listed in the bid proposal. Applications for registration shall not be accepted as a substitute for a certificate of registration for the purposes of this section, as required by L. 1999, c238; amended 2003, c.91, s.4.
- 00719** The Contractor agrees that it is as fully responsible to PVSC for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.
- 00720** The Contractor will be required to comply with the requirements of Local Public Contracts Law (N.J.S.A. 40A:11-1 et seq.) and all New Jersey Statutes affecting public contracts; more particularly, but not limited to, the provisions of the Statutes hereinafter recited. All statutes not referred to herein but required by law to be applicable to public contracts are incorporated herein as though fully set forth.
- 00721** Representatives of PVSC shall have access to the work when it is in progress. Any inspection costs incurred by PVSC by reason of any breach or derelictions by the Contractor shall be chargeable to the Contractor.
- 00722** The Contractor must arrange for its own utilities, paying for all permits, connections, consumption, as required of whatsoever kind.
- 00723** The Contractor shall procure at its own expense all necessary permits to prosecute and complete the work. It shall keep itself fully informed of all existing and future state and Federal Laws and Regulations and Municipal Ordinances and Regulations, in any manner affecting the work and the persons engaged or employed in the work, or the materials used in the work, or in any affecting the performance of the work, either with respect to hours of labor or otherwise, and of all such laws, ordinances, regulations, orders and decrees, and shall protest and indemnify PVSC and their officers and agents against any claims or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree, whether by itself, or by its agents or employees.

00724 To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless PVSC and its Commission, officers, directors, employees, and agents (collectively, the "Indemnified Parties" and individually, an "Indemnified Party") from and against any and all claims, damages, losses, fines, civil penalties, liabilities, judgments, costs and expenses of any kind or nature whatsoever, including, but not limited to, interest, court costs and attorneys' fees, which in any way arise out of or result from any act(s) or omission(s) by Contractor (or anyone directly or indirectly employed by Contractor, including sub-contractors, or anyone for whose acts Contractor may be liable) in the performance or non-performance of services or other obligations under this agreement or in the use or occupancy of any facilities or equipment provided by the Indemnified Parties, including, but not limited to, injury to or death of any person, damage to or destruction of any property, real or personal (including, but not limited to, property owned, leased or under the control of the Indemnified Parties), and liability or obligations under or with respect to any violation of federal, state and local laws, regulations, rules, codes and ordinances (including, but not limited to, those concerning environmental protection).

This section shall apply regardless of whether or not the damage, loss, or injury complained of arises out of or relates to the negligence (whether active, passive or otherwise) of, or was caused in part by, an Indemnified Party. However, nothing contained in this section shall be construed as a release or indemnity by Contractor of an Indemnified Party from or against any loss, liability, or claim to the extent arising from the gross negligence or willful misconduct of that Indemnified Party.

This section shall not be construed to negate, abridge or otherwise reduce any other right to indemnity which would otherwise exist in favor of any Indemnified Party, or any obligation of Contractor, or its officers, directors, employees, agents, contractors, or sub-contractors to indemnify an Indemnified Party. Contractor's obligations under this section shall not be limited by any limitation on the amount or type of damages, compensation, or benefits paid or payable by Contractor under workers' compensation laws, disability benefits laws, or other employee benefit laws or regulations.

The indemnification obligations of this section shall survive termination or expiration of the Contract.

00725 NOT USED IN THIS CONTRACT

00726 NOT USED IN THIS CONTRACT

00727 The Contractor must procure and maintain during the term of this contract the following types of insurance coverage, which shall be consistent with the terms of the specifications and general and supplemental conditions:

1. Commercial General Liability ("GCL") insurance, for personal injury and property damage liability of not less than five million dollars (\$5,000,000) combined single limit for each occurrence/five million dollars (\$5,000,000) aggregate;
2. Comprehensive automobile liability insurance coverage of not less than one million dollars (\$1,000,000) combined single limit;
3. Workers' compensation with limits in accordance with New Jersey law; and
4. Employer liability insurance with limits of at least five hundred thousand dollars (\$500,000).

PVSC and its Commission, officers, directors, employees, and agents shall be named as additional insureds on the CGL and comprehensive automobile liability policies, and, within 20 days of the Notice of Intent to Award Contract, the Contractor shall provide evidence of same in the form of certified endorsements specifically naming PVSC and its Commission, officers, directors, employees, and agents as additional insureds. The submission of a Certification of Insurance will not serve as adequate proof that PVSC and its Commission, officers, directors, employees, and agents have been named as additional insureds.

Each insurance policy shall contain a provision stating that neither the insured, nor the insurer may cancel, materially change, or refuse renewal without a minimum 30 days prior written notice to PVSC. In the event of cancellation due to non-payment of premiums, said notice shall be at least 10 days prior to cancellation. All insurance required pursuant to this section shall remain in full force and effect until the final contract payment, or until the end of the warranty period which ever is later.

Each insurance policy shall provide that neither the Contractor, nor its insurer, shall have any right to subrogation against PVSC. Any and all policies of insurance maintained by the Contractor shall be primary without contribution from any insurance procured, carried, and/or maintained by PVSC.

In the event the Contractor is permitted to utilize any subcontractor, the Contractor shall require the subcontractor's insurance coverage to be at least equal to the requirements set forth above, including, without limitation, the provisions regarding the naming of additional insureds and the Contractor's insurance being primary. In the alternative, the Contractor may insure the activities of its subcontractors under its own policies. The Contractor is responsible for and will assume all liabilities for any insurance deficiency or delinquency of a subcontractor or any claim that may result because of the deficiency or delinquency.

The Contractor's insurance carrier(s) shall also provide an endorsement insuring, accepting and including the requirement of indemnification and defense as set forth in General Conditions Section 00724.

- 00728** Before the final acceptance of the work, the Contractor shall remove all equipment, temporary work, unused materials and rubbish, and temporary buildings; shall repair or replace in an acceptable manner all private or public property which may have been damaged, destroyed, moved or removed on account of the prosecution of the work; and shall leave the site and all adjacent properties in a neat and presentable condition wherever its operations have disturbed conditions existing at the time of the starting of the work.
- 00729** No final or semifinal payment shall be made until the Contractor has executed and delivered a release to PVSC and every member, agent or employee thereof, from all claims and liability to the Contractor for everything and anything done or furnished, or of any person relating to or affecting the work. (Semifinal payment shall mean payment for all work performed under the contract, except retainage held as a guarantee against warrantee claims.)
- 00730** Before final or semifinal payment, the Contractor shall deliver to PVSC an affidavit of payment of all claims of suppliers and subcontractors. In the event that any supplier or subcontractor has not been paid and the claim is disputed by the Contractor, the Contractor shall submit all of the facts in its affidavit and PVSC shall be authorized, in the exercise of its discretion, to withhold from the payment the sum of money sufficient to guarantee payment of the claim. Nothing contained herein, however, shall incur any responsibility by PVSC to any material man or subcontractor, nor shall anything contained herein give rise to a cause of action by any subcontractor or supplier against PVSC.
- 00731** Before final acceptance and final or semifinal payment by PVSC, the Contractor shall deliver to PVSC a complete release of all liens arising out of the contract. Contractor agrees that at no time shall any municipal liens, mechanical liens, notices of intention, or secured instruments be filed against the work and should PVSC be compelled to remove or discharge a municipal lien, mechanics lien, notice of intention or secured instrument, the Contractor shall reimburse PVSC for all costs.
- 00732** Before final or semifinal payment the Contractor shall deliver to PVSC a consent or the Surety to the final payment. Release of final payment shall act to release PVSC of all claims by the Contractor's performance of the contract.
- 00733** **NOT APPLICABLE TO THIS CONTRACT**
- 00734** All payments under the within contract shall be upon the written certification of the Engineer.

To the extent applicable, pursuant to N.J.S.A. 2A:30A-2(f), disputes regarding whether a party has failed to make payments required pursuant to N.J.S.A. 2A:30A-2 may be submitted to a process of alternative dispute resolution. Alternative dispute resolution permitted by this section shall not apply to disputes concerning the bid solicitation or award process, or to the formation of contracts or subcontracts. In any civil action brought to collect payments pursuant to this section, the action shall be conducted inside of this State and the prevailing party shall be awarded reasonable costs and attorney fees.

00735 The Commission may order, and the Contractor shall perform, extra work under this contract that is limited to the subject matter of this contract.

On any work done by the contractor, as ordered by the Commission in writing, which is not covered in the contract, the contractor shall be paid as extra work. Extra Work costs shall be arrived at as follows:

- (a) By such applicable unit prices, if any, as are set forth in the contract; or
- (b) If no such unit prices are set forth, and if the parties cannot agree upon prices or lump sum, then for work performed the Contractor shall receive as compensation the actual cost to him, which cost shall include only:
 - 1. Labor, including foreman, but not supervisors.
 - 2. Materials entering permanently into the work.
 - 3. The ownership or rental cost of construction plant and equipment during the time of use on the extra or changed order.
 - 4. Power and consumable supplies for the operation of power equipment during the above time.
 - 5. Insurance.
 - 6. Social Security and old age and unemployment contributions.
 - 7. Plus a fixed fee equal to 15% of the summation of items #1 through #6 above, which fee shall be compensation to cover the cost of supervision, overhead, bond, profit, and any other general expenses. The prime contractor will not be permitted to include both his 15% and any subcontractor's 15% for the items enumerated herein.

00736 In the event that the vendor, unless prevented by strike or strikers, which prevents delivery of parts or services, and shall fail to furnish the materials, or services listed in this contract as per the specifications, and according to all the terms of this contract, the Commission reserve the right to rescind the contract and purchase the materials, or services through the open market, and the vendor agrees to pay the excess costs, if any, between the amount paid for same and the amount calculated at the contract price.

00737 During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.S.A. 17:27-7.2 et seq.; provided, however, that the Dept. of Labor and Workforce Development (LWD), Construction EEO Monitoring Program may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions prescribed by the following provisions, A, B and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that is percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2 et seq.. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

- A. If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three (3) business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union as least five (5) business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.
- B. If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:
 - 1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the

Division pursuant to N.J.A.C. 17:27-5.3 et seq., of its workforce needs, and request referral of minority and women workers;

- 2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;
- 3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;
- 4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;
- 5) If necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;
- 6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:
 - i) The contractor or subcontractor shall interview the referred minority or women worker.
 - ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.
 - iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.
 - iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.
- 7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program upon request.

- C. The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA 201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7 et seq. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

- D. The contractor and its subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (N.J.A.C. 17:27)**.

00738 Substantial Completion and Inspections

Substantial Completion

When work (or specified part thereof) has progressed (including and specified operational periods) to a point that the Owner determines that the work is ready for its intended use with contract documents.

Substantial Completion Inspection

At the point that the Contractor feels that substantial completion is satisfied, request in writing to the Owner a substantial completion inspection. At or prior to the time the Contractor requests substantial completion the Contractor shall have previously submitted O&M manuals, spare parts, guarantees, warranties, as-built and record drawings, certifications and other documents necessary for close-out of the work. At the substantial completion inspection, the Owner shall: inspect the work, add to the Contractor's list any other items to be completed or corrected; and, determine whether the work is substantially complete. If the work is not substantially complete, the Contractor shall forthwith complete all the items the owner has determined to be needed for substantial completion. Upon completion of such work the Contractor shall request an inspection of such work. When the Owner determines that the

work is substantially complete including all claims and compensation therefore have been satisfied, the (Owner and Contractor) shall each sign the Certificate of Substantial Completion and semi-final payment will be released, which excludes retainage and punch list items (with dollar amounts associated) listed in the Certificate of Substantial Completion.

Final Inspection

Inspection shall be conducted between the Owner and Contractor to determine if deficiencies have been completed and work is acceptable, so that final payment can be released to the Contractor.

00800 SUPPLEMENTAL CONDITIONS – INDEX

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00800 SUPPLEMENTAL CONDITIONS

00821 N.J.S.A. 10:2-1 – Anti-Discrimination

Every contract for or on behalf of the State or any county or municipality or other political subdivision of the State, or any agency of or authority created by any of the foregoing, for the construction, alteration or repair of any public building or public work or for the acquisition of materials, equipment, supplies or services shall contain provisions by which the contractor agrees that:

- a. In the hiring of persons for the performance of work under this contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under this contract, no contractor, nor any person acting on behalf of such contractor or subcontractor, shall by reason of race, creed, color, national origin, ancestry, marital status, gender identity or expression, sex, affectional or sexual orientation, discriminate against any person who is qualified and available to perform the work to which the employment relates;
- b. No contractor, subcontractor, nor any person on his behalf shall in any manner, discriminate against or intimidate any employee engaged in the performance of work under this contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under such contract, on account of race, creed, color, national origin, ancestry, marital status, gender identity or expression, sex, affectional or sexual orientation;
- c. There may be deducted from the amount payable to the contractor by the contracting public agency, under this contract, a penalty of \$50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the contract; and
- d. This contract may be canceled or terminated by the contracting public agency, and all money due or to become due hereunder may be forfeited, for any violation of this section of the contract occurring after notice to the contractor from the contracting public agency of any prior violation of this section of the contract.

00822 N.J.S.A. 14A:13-3 – Foreign Corporations

1. No foreign corporation shall have the right to transact business in this State until it shall have procured a certificate of authority to do so from the Secretary of State. A foreign corporation may be authorized to do in this State any business which may be done lawfully in this State by a domestic corporation, to the extent that it is authorized to do such business in the jurisdiction of its incorporation, but no other business.
2. Without excluding other activities which may not constitute transacting business in this State, a foreign corporation shall not be considered to be transacting business in this State, for the purposes of this act, by reason of carrying on in this State any one or more of the following activities:
 - a. Maintaining, defining or otherwise participating in any action or proceeding, whether judicial, administrative, arbitative or otherwise, or effecting the settlement thereof or the settlement of claims or disputes;
 - b. Holding meetings of its directors or shareholders;
 - c. Maintaining bank accounts or borrowing money, with or without security, even if such borrowings are repeated and continuous transactions and even if such security has a situs in this State;
 - d. Maintaining offices or agencies for the transfer, exchange and registration of its securities, or appointing and maintaining trustees or depositaries with relation to its securities.

3. The specification in subsection 14A:13-3(2) does not establish a standard for activities which may subject a foreign corporation to service of process or taxation in this State.

00823 N.J.S.A. 34:11-56.27 – Prevailing Wages

Every contract in excess of the prevailing wage contract threshold amount for any public work to which any public body is a party or for public work to be done on property or premises owned by a public body or leased or to be leased by a public body shall contain a provision stating the prevailing wage rate which can be paid (as shall be designated by the commissioner) to the workers employed in the performance of the contract and the contract shall contain a stipulation that such workers shall be paid not less than such prevailing wage rate. Such contract shall also contain a provision that in the event it is found that any worker, employed by the contractor or any subcontractor covered by said contract, has been paid a rate of wages less than the prevailing wage required to be paid by such contract, the public body, the lessee to whom the public body is leasing a property or premises or the lessor from whom the public body is leasing or will be leasing a property or premises may terminate the contractor's or subcontractor's right to proceed with the work, or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The contractor and his sureties shall be liable for any excess costs occasioned thereby to the public body, any lessee to whom the public body is leasing a property or premises or any lessor from whom the public body is leasing or will be leasing a property or premises.

N.J.S.A. 34:11-56.26(5) has added to the existing prevailing wage requirements off-site workers who custom fabricate plumbing, heating, cooling, ventilation, or exhaust duct systems and mechanical insulation as part of a public works project.

N.J.S.A. 34:11-56.25 et seq., requires that all public works employers shall submit a certified payroll record to the public body or lessor which contracted for the public work project each payroll period within ten (10) days of the payment of wages. The public body shall receive, file and make available for inspection during normal business hours the certified payroll records. A copy of the certified payroll form may be obtained by contacting the New Jersey Department of Labor, Division of Workplace Standards, Public Contracts Section, CN 389, Trenton, New Jersey 08625-0389.

NOTE: Prevailing wage rates will not apply or be applicable to any contract unless an appendix from the New Jersey Department of Labor which includes the "Prevailing Wage Rate Determination," listing the prevailing wage levels is attached to the contract.

00824 N.J.S.A. 52:25-24.2 – Statement of Ownership

No corporation or partnership shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies, the cost of which is to be paid with or out of any public funds, by the State, or any county, municipality or school district, or any subsidiary or agency of the State, or of any county, municipality or school district, or by any authority, board, or commission which exercises governmental functions, unless prior to the receipt of the bid or accompanying the bid, of said corporation or said partnership, there is submitted a statement setting forth the names and addresses of all stockholders in the corporation or partnership who own 10% or more of its stock, of any class or of all individual partners in the partnership who own a 10% or greater interest therein, as the case may be. If one or more such stockholder or partner is itself a corporation or partnership, the stockholders holding 10% or more of that corporation's stock, or the individual partners owning 10% or greater interest in that partnership, as the case may be, shall also be listed. The disclosure shall be continued until all names and addresses of every noncorporate stockholder, and individual partner, exceeding the 10% ownership criteria established in this act, has been listed.

00825 N.J.S.A. 52:33-2 and -3 – Use of Domestic Materials

52:33-2 Notwithstanding any inconsistent provision of any law, and unless the head of the department, or other public officer charged with the duty by law, shall determine it to be inconsistent with the public interest, or the cost to be unreasonable, only domestic

products and materials shall be acquired or used for any public work. This requirement is specifically set forth in N.J.S.A. 40A:11-18 and is incorporated herein by reference and made a part hereof.

This section shall not apply with respect to domestic materials to be used for any public work, if domestic materials of the class or kind to be used are not mined, produced or manufactured, as the case may be, in the United States in commercial quantities and of a satisfactory quality.

52:33-3 Every contract for the construction, alteration, or repair of any public work in this state shall contain a provision that in the performance of the work the contractor and all subcontractors shall use only domestic materials in the performance of the work; but if the head of the department or other public officer authorized by law to make the contract shall find that in respect to some particular domestic materials it is impracticable to make such requirement or that it would unreasonably increase the cost, an exception shall be noted in the specifications as to that particular material, and a public record made of the findings which justified the exception.

00826 Hazardous Materials

All hazardous material whether sold, delivered, and/or used to perform a service on the PVSC site, shall be properly labeled in accordance with the New Jersey Worker and Community Right to Know Act (P.L. 1983, c315, N.J.S.A. 34:5A-1 et seq.). The bidder shall include with his bid proposal the Material Safety Data Sheets, for all the products that he intends to deliver to the PVSC under this bid. The vendor shall comply with these terms otherwise his bid will be disqualified.

Hazardous material not complying with this act will cause the PVSC to reject shipments or deny the use of such materials on its site. The vendor shall be responsible for any cost incurred for materials found not to be in compliance with the act. The PVSC will make the sole determination if this act is being violated, and the vendor shall abide by this decision. Violation of this act may be considered an abandonment of the contract, and the Commission may seek redress under the Default Article of the contract.

00827 Certified Payroll

Effective February 18, 1992 Regulation N.J.A.C. 12:60 and 6.1 of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq., requires that all public works employers shall submit a certified payroll record to the public body or lessor which contracted for the public work project each payroll period within ten (10) days of the payment of wages. The public body shall receive, file and make available for inspection during normal business hours the certified payroll records.

A copy of the certified payroll form may be obtained by contacting the New Jersey Department of Labor, Division of Workplace Standards, Public Contracts Section, CN 389, Trenton, New Jersey 08625-0389, telephone (609) 292-2259.

00828 Set-Aside Contract Compliance

Contractor shall comply with the New Jersey Statute governing minority and female contractor and subcontractor participation on construction contracts as required by N.J.S.A. 52:32-17. The regulations, which are more specifically set forth in N.J.A.C. 17:14-1.1 et seq., are incorporated herein by reference and made a part hereof.

00829 NOT APPLICABLE TO THIS CONTRACT

00830 N.J.S.A. 40A:11-17 – Number of Working Days Specified

All specifications for the doing of any public work for a contracting unit shall fix the date before which the work shall be completed, or the number of working days to be allowed for its completion; and every such contract shall contain a provision for a deduction, from the contract

price, or any wages paid by the contracting unit to any inspector or inspectors necessarily employed by it on the work, for any number of days in excess of the number allowed in the specifications.

00831 N.J.S.A. 40A:11-19 – Liquidated Damages

Any contract made pursuant to P.L.1971, c.198 (C.40A:11-1 et seq.) may include liquidated damages for the violation of any of the terms and conditions thereof or the failure to perform said contract in accordance with its terms and conditions, or the terms and conditions of P.L.1971, c.198 (C.40A:11-1 et seq.). Notwithstanding any other provision of law to the contrary, it shall be void, unenforceable and against public policy for a provision in a contract entered into under P.L.1971, c.198 (C.40A:11-1 et seq.) to limit a contractor's remedy for the contracting unit's negligence, bad faith, active interference, tortious conduct, or other reasons unanticipated by the parties that delay the contractor's performance, to giving the contractor an extension of time for performance under the contract. For the purposes of this section, "contractor" means a person, his assignees or legal representatives with whom a contract with a contracting unit is made.

00832 N.J.A.C. 17:44-2.2 (b) : Authority to Audit or Review Contract Records

- a. Relevant records of private vendors or other persons entering into contracts with covered entities are subject to audit or review by OSC pursuant to N.J.S.A. 52:15C-14(d).
- b. The contractor shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request."

Background Information

On September 22, 2004, then-Governor James E. McGreevey issued Executive Order 134, the purpose of which was to insulate the negotiation and award of State contracts from political contributions that posed a risk of improper influence, purchase of access or the appearance thereof. To this end, Executive Order 134 prohibited State departments, agencies and authorities from entering into contracts exceeding \$17,500 with individuals or entities that made certain political contributions. Executive Order 134 was superseded by Public Law 2005, c. 51, signed into law on March 22, 2005 ("Chapter 51").

On September 24, 2008, Governor Jon S. Corzine issued Executive Order No. 117 ("E.O. 117"), which is designed to enhance New Jersey's efforts to protect the integrity of procurement decisions and increase the public's confidence in government. The Executive Order builds upon the provisions of Chapter 51.

Two-Year Certification Process

Upon approval by the State, the Certification and Disclosure of Political Contributions form (CH51.1R1/21/2009) is valid for a two (2) year period. Thus, if a vendor receives approval on Jan 1, 2009, the certification expiration date would be Dec 31, 2011. Any change in the vendor's ownership status and/or political contributions during the two-year period will require the submission of new Chapter 51/EO117 forms to the State Review Unit. **Please note that it is the vendor's responsibility to file new forms with the State should these changes occur.**

Prior to the awarding of a contract, the agency should first send an e-mail to CD134@treas.state.nj.us to verify the certification status of the vendor. If the response is that the vendor is NOT within an approved two-year period, then forms must be obtained from the vendor and forwarded for review. If the response is that the vendor is within an approved two-year period, then the response so stating should be placed with the bid/contract documentation for the subject project.

Instructions for Completing the Forms

NOTE: Please refer to the next section, "Useful Definitions for Purposes of Ch. 51 and E.O. 117," for guidance when completing the forms.

Part 1: VENDOR INFORMATION

Business Name – Enter the full name of the Vendor, including trade name if applicable.

Business Type -- Select the vendor's business organization from the list provided.

Address, City, State, Zip and Phone Number -- Enter the vendor's street address, city, state, zip code and telephone number.

Vendor Email – Enter the vendor's primary email address.

Vendor FEIN – Please enter the vendor's Federal Employment Identification Number.

Part 2: PUBLIC LAW 2005, Chapter 51 / EXECUTIVE ORDER 117 (2008) DUAL CERTIFICATION

Read the following statements and verify that from the period beginning on or after October 15, 2004, no contributions as set forth at subsections 1(a)-(c) have been made by either the vendor or any individual whose contributions are attributable to the vendor pursuant to Executive Order 117 (2008).

NOTE: Contributions made prior to November 15, 2008 are applicable to Chapter 51 only.

Part 3: DISCLOSURE OF CONTRIBUTIONS MADE

Check the box at top of page 2 if no reportable contributions have been made by the vendor.
If the vendor has no contributions to report, this box must be checked.

Name of Recipient Entity – Enter the full name of the recipient entity.

Address of Recipient Entity – Enter the recipient entity's street address.

Date of Contribution – Indicate the date of the contribution.

Amount of Contribution – Enter the amount of the reportable contribution.

Type of Contribution – Select the type of contribution from the list provided.

Contributor Name – Enter the full name of the contributor.

Relationship of Contributor to the Vendor -- Indicate relationship of the contributor to the vendor, e.g. officer or partner of the company, spouse of officer or partner, resident child of officer or partner, parent company of the vendor, subsidiary of the vendor, etc.

NOTE: If form is being completed electronically, click "Add a Contribution" to enter additional contributions. Otherwise, please attach additional pages as necessary.

Part 4: CERTIFICATION

Check box A if the person completing the certification and disclosure is doing so on behalf of the vendor and all individuals and/or entities whose contributions are attributable to the vendor.

Check box B if the person completing the certification and disclosure is doing so on behalf of the vendor only.

Check box C if the person completing the certification and disclosure is doing so on behalf of an individual and/or entity whose contributions are attributable to the vendor.

Enter the full name of the person authorized to complete the certification and disclosure, the person's title or position, date and telephone number.

USEFUL DEFINITIONS FOR THE PURPOSES OF Ch. 51 and E.O. 117

- **"Vendor"** means the contracting entity.
- **"Business Entity"** means any natural or legal person, business corporation, professional services corporation, limited liability company, partnership, limited partnership, business trust, association or any other legal commercial entity organized under the laws of New Jersey or any other state or foreign jurisdiction. The definition also includes (i) if a business entity is a for-profit corporation, any officer of the corporation and any other person or business entity that owns or controls 10% or more of the stock of the corporation; (ii) if a business entity is a professional corporation, any shareholder or officer; (iii) if a business entity is a general partnership, limited partnership or limited liability partnership, any partner; (iv) if a business entity is a sole proprietorship, the proprietor; (v) if the business entity is any other form of entity organized under the laws of New Jersey or any other state or foreign jurisdiction, any principal, officer or partner thereof; (vi) any subsidiaries directly or indirectly controlled by the business entity; (vii) any political organization organized under 26 U.S.C.A. § 527 that is directly or indirectly controlled by the business entity, other than a candidate committee, election fund, or political party committee; and (viii) with respect to an individual who is included within the definition of "business entity," that individual's spouse or civil union partner and any child residing with that person.¹
- **"Officer"** means a president, vice-president with senior management responsibility, secretary, treasurer, chief executive officer, or chief financial officer of a corporation or any person routinely performing such functions for a corporation. Please note that officers of non-profit entities are excluded from this definition.

- **“Partner”** means one of two or more natural persons or other entities, including a corporation, who or which are joint owners of and carry on a business for profit, and which business is organized under the laws of this State or any other state or foreign jurisdiction, as a general partnership, limited partnership, limited liability partnership, limited liability company, limited partnership association, or other such form of business organization.
- **“Reportable Contributions”** are those contributions, including in-kind contributions, in excess of \$300.00 in the aggregate per election made to or received by a candidate committee, joint candidates committee, or political committee; or per calendar year made to or received by a political party committee, legislative leadership committee, or continuing political committee.
- **“In-kind Contribution”** means a contribution of goods or services received by a **candidate committee, joint candidates committee, political committee, continuing political committee, political party committee, or legislative leadership committee**, which contribution is paid for by a person or entity other than the recipient committee, but does not include services provided without compensation by an individual volunteering a part of or all of his or her time on behalf of a candidate or committee.
- **“Continuing Political Committee”** includes any group of two or more persons acting jointly, or any corporation, partnership, or any other incorporated or unincorporated association, including a political club, political action committee, civic association or other organization, which in any calendar year contributes or expects to contribute at least \$4,300 to aid or promote the candidacy of an individual, or the candidacies of individuals, for elective public office, or the passage or defeat of a public question, and which may be expected to make contributions toward such aid or promotion or passage or defeat during a subsequent election, provided that the group, corporation, partnership, association or other organization has been determined by the Commission to be a continuing political committee in accordance with N.J.S.A. 19:44A-8(b) et seq..
- **“Candidate Committee”** means a committee established by a candidate pursuant to N.J.S.A. 19:44A-9(a), for the purpose of receiving contributions and making expenditures.
- **“State Political Party Committee”** means a committee organized pursuant to N.J.S.A. 19:5-4.
- **“County Political Party Committee”** means a committee organized pursuant to N.J.S.A. 19:5-3.
- **“Municipal Political Party Committee”** means a committee organized pursuant to N.J.S.A. 19:5-2.
- **“Legislative Leadership Committee”** means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly, or the Minority Leader of the General Assembly pursuant to N.J.S.A. 19:44A-10.1 for the purpose of receiving contributions and making expenditures.
- **“Political Party Committee”** means:
 1. The State committee of a political party, as organized pursuant to N.J.S.A. 19:5-4;
 2. Any county committee of a political party, as organized pursuant to N.J.S.A. 19:5-3; or
 3. Any municipal committee of a political party, as organized pursuant to N.J.S.A. 19:5-2.

Agency Submission of Forms

The agency should submit the completed and signed Two-Year Vendor Certification and Disclosure forms, together with a completed Ownership Disclosure form, either electronically to cd134@treas.state.nj.us or regular mail at Chapter 51 Review Unit, P.O. Box 039, 33 West State Street, 9th Floor, Trenton, NJ 08625. Original forms should remain with the Agency and copies should be sent to the Chapter 51 Review Unit.

Questions & Answers

Questions regarding the interpretation or application of Public Law 2005, Chapter 51 (N.J.S.A. 19:44A-20.13 et seq.) or Executive Order 117 (2008) may be submitted electronically through the Division of Purchase and Property website at <http://www.state.nj.us/treasury/purchase/execorder134.shtml>. Responses to previous questions are posted on the website, as well as additional reference materials and forms.

NOTE: *The Chapter 51 Q&A on the website DOES NOT address the expanded pay-to-play requirements imposed by Executive Order 117. The Chapter 51 Q&A are only applicable to contributions made prior to November 15, 2008. There is a separate, combined Chapter 51/E.O. 117 Q&A section dealing specifically with issues pertaining to contributions made after November 15, 2008, available at: <http://www.state.nj.us/treasury/purchase/execorder134.shtml#state>.*

00901 NOTICE OF EXECUTIVE ORDER 125 REQUIREMENT FOR POSTING WINNING PROPOSAL AND CONTRACT DOCUMENTS

Pursuant to Executive Order No. 125, signed by Governor Christie on February 8, 2013, the Office of the State Comptroller ("OSC") is required to make all approved State contracts for the allocation and expenditure of federal reconstruction resources available to the public by posting such contracts on an appropriate State website. Such contracts are posted on the New Jersey Sandy Transparency website located at:

<http://nj.gov/comptroller/sandytransparency/contracts/sandy/>.

The contract resulting from this RFQ/RFP is subject to the requirements of Executive Order No. 125. Accordingly, the OSC will post a copy of the contract, including the RFQ/RFP, the winning bidder's proposal and other related contract documents for the above contract on the Sandy Transparency website.

In submitting its proposal, a bidder may designate specific information as not subject to disclosure. However, such bidder must have a good faith legal and/ or factual basis to assert that such designated portions of its proposal (i) are proprietary and confidential financial or commercial information or trade secrets or (ii) must not be disclosed to protect the personal privacy of an identified individual. The location in the proposal of any such designation should be clearly stated in a cover letter, and a redacted copy of the proposal should be provided.

The State reserves the right to make the determination as to what is proprietary or confidential, and will advise the winning bidder accordingly. The State will not honor any attempt by a winning bidder to designate its entire proposal as proprietary, confidential and/or to claim copyright protection for its entire proposal. In the event of any challenge to the winning bidder's assertion of confidentiality with which the State does not concur, the bidder shall be solely responsible for defending its designation.

¹ Contributions made by a spouse, civil union partner or resident child to a candidate for whom the contributor is eligible to vote or to a political party committee within whose jurisdiction the contributor resides are permitted.

DIVISION 1 - GENERAL REQUIREMENTS

01010 SCOPE OF WORK

The contractor shall provide supervision, labor, equipment, materials and supplies necessary to perform miscellaneous repairs to PVSC plant infrastructure on an as needed basis.

It is the intent of this contract to provide for supplementary repair work and related services which are provided on an as needed "Time and Material" basis for various tasks including but not limited to emergency services, unscheduled repairs and system modification tasks.

Work shall include but not be limited to the following:

- Welding of Steel, Stainless Steel and Aluminum
- General Steel Repair
- Shop Fabrication
- HVAC Service and Repair
- Concrete Restoration and Repair
- Expansion Joint Repair
- Millwright and Rigging Services
- Pipe Fitting Services
- Drive Mechanism Repair
- Various Painting of Equipment
- General Labor & Demolition
- Tank Cleaning
- Electrical Work

It is the intent of this contract to require an installation complete in every detail, whether or not indicated in the Specifications. Consequently, the Contractor shall be responsible for all details necessary to furnish, install and properly adjust, test, and place in successful operation, a complete installation of the equipment as specified.

01011 ERRORS OR OMISSIONS OF DETAILS IN SPECIFICATIONS

Errors in the specifications which are purely typographical shall be interpreted as would be the logical conclusion or brought to the attention of the Owner for interpretation.

The Contractor is required to check all dimensions and quantities on any drawings or schedules made available by the Owner, and shall notify the Owner of all errors therein which he may discover by such examination.

01025 PAYMENT

The contractor's Payment Application will be based upon work completed and certified by the Plant Engineer on the eighteenth (18th) day before the Passaic Valley Sewerage Commission meeting date. A schedule of meeting dates will be furnished to the Contractor. The Payment Application must be submitted to PVSC's Plant Engineer within two (2) working days of the above cutoff date. Payment will be made to the contractor during the week following the Passaic Valley Sewerage Commission meeting.

Payments to the contractor shall be based on submission of a detailed invoice identifying the labor, material, rental equipment (to supply equipment that is not included within this contract) and subcontractor costs, if applicable.

Labor costs shall be reimbursed based on documented timesheet reports of the hours worked times the specific labor rate identified on the T&M Schedule. Overtime hourly work (if approved) will be billed at a cost of 1.5 times the T&M Schedule rate

Rental Equipment costs to supply equipment not included within this contract shall be reimbursed based on documented invoices from all suppliers and/or vendors. Original invoices shall be submitted for every piece of rental equipment procured for each assigned task order for which payment is being requested.

Material Cost shall be reimbursed based on documented invoices from all suppliers and vendors. Original invoices shall be submitted for every item of material purchased for each assigned task order for which payment is being requested. The hypothetical material cost in Section 00400 Supplement to Bid Forms is strictly hypothetical. The Contractor will be reimbursed only for the actual material costs, supported by suppliers and/or vendors invoices and purchased specifically by authorization of the task order.

The contractor shall be entitled to a fixed fee in addition to the actual material and rental equipment costs in accordance with the schedule below. The fixed fee amount shall be included in the overall cost of the individual Task Orders and shall be part of the "not to exceed" amount. Payment of the fixed fee amount shall either be proportionately reimbursed based on the progress payments under the Task Order or at the completion of the task order.

Range		Fixed Fee
\$0.00	\$100.00	\$0.00
\$101.00	\$500.00	\$30.00
\$501.00	\$1,000.00	\$75.00
\$1,001.00	\$5,000.00	\$300.00
\$5,001.00	\$10,000.00	\$750.00
\$10,001.00	\$25,000.00	\$1,750.00
\$25,001.00	\$50,000.00	\$3,750.00
\$50,001.00	\$75,000.00	\$6,250.00
\$75,001.00	\$100,000.00	\$8,750.00
\$100,001.00	\$125,000.00	\$11,250.00
\$125,001.00	\$150,000.00	\$13,750.00
\$150,001.00	\$175,000.00	\$16,250.00
\$175,001.00	\$200,000.00	\$18,750.00
\$200,001.00	\$250,000.00	\$22,500.00
\$250,001.00	\$300,000.00	\$27,500.00
\$300,001.00	\$400,000.00	\$35,000.00
\$400,001.00	\$500,000.00	\$45,000.00
\$500,001.00	\$750,000.00	\$62,500.00
\$750,001.00	\$1,000,000.00	\$87,500.00
\$1,000,001.00	\$2,000,000.00	\$150,000.00

01037 REPLACEMENTS

In the event of damage to any PVSC property or equipment, immediate necessary repairs and/or replacements shall be made subject to the approval of the Engineer, and at no additional cost to the Owner.

In the event of damage to any equipment critical to the Sewerage Treatment Plant, repairs will be made by PVSC and the cost will be backcharged to the Contractor.

01038 CARE AND PROTECTION OF PROPERTY AND MATERIALS

From the commencement of the work until its completion, the Contractor shall be solely responsible for damages caused to the property of the Owner, for the care, protection and security of the work covered by the contract, and for all materials delivered to the site or incorporated in the work.

01040 CONCURRENT WORK AND OTHER CONTRACTORS

The right is reserved by the Owner to do work using its own forces or other contractors and to permit public utility companies and others to do work during the progress and within the limits of or adjacent to the Project, and the Contractor shall conduct his work and cooperate with such other parties so as to cause as little interference as possible with such other work, as the Owner may direct.

If, in the judgment of the Owner, the joint occupation of the site of the work by the Owner or by two (2) or more contractors working on different contracts at the same time actually impedes progress in the work herein described, the Owner may extend the time for the completion of the work and in an amount which accords with and compensates for the delays so caused.

01046 WORKING HOURS

Contractor will have access to the site and work of this contract during normal PVSC working hours (7:45 a.m. to 4:15 p.m.), five (5) days per week, with the exception of PVSC Holidays. Other hours require PVSC consent and approval. A list of PVSC Holidays will be provided to the Contractor.

01048 SUBCONTRACTS AND SUBCONTRACTORS

The Contractor shall, within ten (10) days after "Notice to Proceed" notify the Engineer in writing of the names, addresses and experience records of subcontractors (if any) he proposes for principal parts of the work. PVSC reserves the right to review the qualifications of all subcontractors and to reject any deemed not qualified to perform the work required. Subcontractors must be covered by insurance as required in the General Conditions, Sections 00725, 00726 and 00727.

The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them as he is for acts and omissions of persons directly employed by him. He further agrees that he will bind his subcontractors to each and every part of the Contract Documents.

Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

01049 WORK BY PVSC PERSONNEL

The right is reserved by the owner to do work using its own forces and/or other contractors to do work during the progress and within the limits of or adjacent to the work of this contract, and this contractor shall conduct his work and cooperate with such other parties so as to cause as little interference as possible with such other work.

01300 SUBMITTALS

The Contractor shall submit for the Owner's review and approval, Shop Drawings showing the details of all materials, equipment and installations which the Contractor proposes to furnish in conformance with the Specifications. The Shop Drawings shall be reviewed for conformance with all the Contract Documents.

The Shop Drawings shall consist of catalog cuts, manufacturer's details, text, drafted drawings, layout drawings, assembly drawings, floor plans and any other documents which describe the item being submitted.

Shop Drawings shall give all ratings, configurations, dimensions and ancillary items in sufficient detail to enable the Owner to pass on the suitability of the equipment, materials or layout for the purpose intended. The drawings shall, where needed for clarity, include outline and sectional views, and detailed dimensions and designations of the kind of material. Drawings for submission shall be coordinated by the Contractor with the drawings previously approved and with the existing space, equipment, structure, and all other requirements of the Contract.

The Contractor shall submit four (4) copies of all Shop Drawings for approval. The Owner shall retain two (2) copies for his records, and return two (2) to the Contractor.

01310 SCHEDULING

Within ten (10) days from receiving the Notice to Proceed from PVSC, the contractor shall meet with the PVSC Plant Engineer to receive a schedule from PVSC.

It is understood and agreed that the contractor will not be penalized for delays when the Owner determines that the contractor is without fault and the contractor's reasons for requesting a time extension to complete the service work is acceptable to the Owner.

The contractor shall report to the site with adequate workforce to perform all service work requested or to make necessary repairs commencing within three (3) days of receiving notice from PVSC by telephone, e-mail, US mail and/or fax.

01410 TESTING OF MATERIALS

The Commission may hire a testing laboratory to determine if the materials conform to the specifications. If the specifications are not met, the materials will be rejected and the cost of testing will then be paid by the vendor.

01420 INSPECTION AND ACCEPTANCE

Inspection of materials by the Commission' personnel shall not relieve the vendor of any obligations to fulfill the terms of this contract, and any defective part found at the time of installation shall be made good. All unsuitable materials shall be rejected notwithstanding that such part and materials have been previously overlooked by the engineer and accepted.

01421 DEFECTIVE WORK, EQUIPMENT OR MATERIALS

If the Contractor shall fail or neglect to replace any defective work and or material or to discard condemned materials within two (2) days after the service by the Owner of an order to replace such defective work or discard such equipment or materials, or to prove to the satisfaction of the Owner that he is initiating effective efforts to replace defective materials, the Owner may cause such defective work to be replaced or the condemned materials to be discarded, and acceptable materials provided. The expense thereof shall be deducted from the monies as are or may become due under this contract; or if such monies are not sufficient to meet said expense, the additional monies shall be furnished by the contractor or his Surety. If, during the warranty period provided for hereinafter, any work done in accordance with that article shall be found defective before the end of the warranty period, such defective work shall be made good in the same manner as provided herein. The Owner will have the option at all times to allow the

defective or improper work to stand and to accept an equitable deduction from the contract price therefore.

01422 OWNER'S RIGHT TO DO WORK AND THREE-DAY CLAUSE

If the Contractor or his subcontractors should neglect to prosecute the work properly or fail to perform any provisions of the contract documents, the Owner, after three (3) days written notice to the Contractor may without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

01602 TOOLS, EQUIPMENT AND UTILITIES

All tools, and equipment, required to perform the work described in the contract shall be provided by the Contractor.

01603 SAFETY

The Contractor is solely responsible for the safety of its employees, subcontractors, suppliers and representatives, including but not limited to the development and implementation of effective safety practices and programs in accordance with Federal, State and Local requirements, including the requirements of PVSC's Construction Safety & Health Manual for Contractors:

<http://www.nj.gov/pvsc/home/forms/pdf/ConstructionSafetyHealthManualforContractors08272012.pdf>

Prior to commencing any work at the site the Contractor shall designate in writing to PVSC the name of the person who is their on-site safety officer. The Contractors designated on-site safety officer shall be in charge of all of the safety programs of the Contractor and will be responsible to ensure the proper development, implementation and enforcement of all necessary and appropriate safety practices. The Contractor's designated on-site safety officer shall be on site **at all times** that work is being conducted, and shall be solely responsible for supervision of the Contractor's employees, subcontractors, suppliers and representatives for safety.

The Contractor throughout the work of this contract shall comply with the PVSC Safety Rules, as well as the Federal Occupational Safety and Health Act and the applicable New Jersey Department of Labor Administrative Codes. The Contractor will be provided with a copy of the PVSC Safety Rules, these rules, including the wearing of protective head gear, shall be strictly enforced by the Contractor in respect to his own employees, subcontractor's employees, and other personnel engaged in business with the Contractor on PVSC's property.

Contractor's (and subcontractor's) personnel when on PVSC property shall prominently display the Company Name or Logo on their safety helmet (hard hat).

The Contractor is advised of the 15 MPH speed limit on all plant roads, and will be held responsible for his employees (and subcontractors) compliance with this and all rules for traffic safety in the plant.

All Contractors' personnel shall wear OSHA approved hard hats and shall display a clearly visible Company Logo on the hat.

The Contractor's attention is directed toward several OSHA Safety and Health Standards and New Jersey Labor Department Administrative Codes that influence the conduct of his work in specific areas.

1. OSHA Confined Space Standard, 29 CFR 1910.146 – Work in Confined Spaces
2. OSHA Control of Hazardous Energy (Lockout/Tagout) Standard, 29 CFR 1910.147 (Electrical energy lockout and other energy sources such as steam, air, liquids.)

3. NJAC 7:31-1-6 – Toxic Catastrophe Prevention Act

4. NFPA 70E – Standard for Electrical Safety in the Workplace

Before any work commences on PVSC property, the Contractor's Superintendent shall contact the PVSC Facility Supervisor at the site. The PVSC Supervisor will inform the Contractor of the PVSC emergency plant evacuation plan and where he is to assemble his personnel.

The Contractor shall instruct and show his personnel where to assemble, at the sound of the PVSC emergency evacuation siren. The Facility Supervision will notify the Contractor's personnel of the emergency evacuation route they are to follow. At the assembly point, the Contractor's person in charge shall account for all his personnel, supply transportation, and see that they utilize the prescribed evacuation route.

Where portions of the work of the contract fall under the authority of these Administrative Codes for Public Employees, the Contractor shall at all times maintain safety standards for his employees at least as comprehensive as that imposed by the Codes. This includes, for example (and not limited to), monitoring of air in confined spaces with appropriate instrumentation for noxious or toxic gases % oxygen, and lockout and tagout of hazardous energy such as electrical, steam, air or liquids under pressure.

The Contractor shall be responsible for providing first aid, and emergency medical assistance for any of his employees injured on the work site. The Contractor shall be responsible for arranging emergency assistance with local hospitals, and/or EMT services. The Contractor's arrangements shall be submitted in writing, with required telephone numbers to PVSC's Security Department. PVSC Security will summon the Contractor's emergency personnel, if the Contractor calls PVSC Security from any in plant telephone.

Contractor's personnel will not be treated in the PVSC Dispensary for minor injuries, cuts or services.

01604 MATERIALS HANDLING AND STORAGE

Material storage and staging area shall be approved by the Owner. All equipment and materials to be incorporated in the work shall be so placed as not to injure the work or the Owner's property as so that free access may be had at any time to all parts of the work, and to all utility installations in the vicinity of the work.

Materials and equipment shall be kept neatly piled and compactly and conveniently stored so as to inconvenience as little as possible travel in the area. Contractor shall obtain approval of PVSC for storage of his materials and equipment.

All loss, injury, or damage to the work or materials from whatever cause, shall be made good at the Contractor's expense.

Contractor shall be responsible for daily cleanup. All removed materials, rubbish and other things not required to be incorporated in the work shall be promptly removed from the property.

The Contractor will be responsible for the security of his tools, equipment and all his materials.

Any spillage caused by the Contractor, his subcontractors, suppliers or his equipment, while on PVSC property, shall be the Contractor's responsibility to properly clean up at the Contractor's expenses. The clean up shall meet all Federal and State requirements, including proper documentation as may be required.

01630 DOMESTIC PRODUCTS AND MATERIALS

In accordance with N.J.S.A. 40A:11-18, only products and materials produced, mined or manufactured in the United States which will ultimately become the property of the PVSC may be used in this contract.

This section shall not apply with respect to domestic materials, if domestic materials of the class or kind to be used are not mined, produced or manufactured, as the case may be, in the United States in commercial quantities and of a satisfactory quality or in respect to some particular domestic materials it is impracticable to make such requirement or that it would unreasonably increase the cost, an exception shall be permitted. Any request for exception of this requirement shall be in writing and shall be approved by the Engineer.

01710 QUALIFICATION OF CONTRACTOR

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

The contractor shall insure that all requested repairs, concrete restoration work, welding, electrical, pipefitting and fabrication etc. shall be performed by personnel who are trained to provide the type of service specified,

The Contractor and/or subcontractor must submit with his contract proposal all information as required by Section 00403- SUBCONTRACTOR LISTING

The Contractor shall use only workers with at least three (3) years' documented experience in the particular craft that is requested by PVSC. The contractor shall submit WITH HIS CONTRACT PROPOSAL a certification of this experience for all workers scheduled to perform the work. The certification for each worker shall include that persons craft(s) and the names and address of at least (3) customers that they have performed similar work for within the past (3) years. No worker will be permitted on site to perform any work unless their certification for that particular craft which they were hired to do has been submitted, approved and on file in the PVSC Engineering Department.

01720 TRADE PRACTICE/SUPERVISION

The Contractor shall retain skilled craftsmen for the duration of the job and shall provide continual supervision to insure that good trade practices, including safety, are adhered to.

Further, the Contractor's Superintendent and trade Foreman shall be available for consultation with regard to work performed under this specification, to the PVSC designated representative, throughout each day for the duration of the contract.

Contractor will be held responsible for the conduct of his personnel on site, and shall promptly remove individuals who are drunk, disorderly, or found with controlled substances, when requested by the Owner.

Parking for Contractor trucks and employees vehicles with the plant is at the Commission convenience. Parking shall be where designated by the Commission and is subject to change.

01730 WARRANTY AND QUALITY ASSURANCE

Contractor shall warrant all work to PVSC for one (1) year against defective materials and workmanship. Warranty to begin from date of substantial completion as defined/determined by PVSC.

Inspection of work and materials by the Owner shall not relieve the Contractor of any obligations to fulfill the terms of this contract, and any defective work found at the time of installation shall be made good. All unsuitable materials shall be rejected notwithstanding that such materials have been previously overlooked by the Owner and accepted.

The work site shall remain open to the Owner for purposes of inspection. The Owner reserves the right to halt progress as he deems the specifications or the intent of the specifications are not being adhered to. The terms Owner, Engineer or Plant Engineer, shall be construed to be interchangeable in this Contract.

DIVISION 3 CONCRETE

03000 GENERAL CONCRETE RESTORATION AND REPAIR WORK

03001 SCOPE OF WORK

The work of this section includes all supervision, labor, materials, equipment, and incidentals necessary to perform miscellaneous concrete repairs and rehabilitation work including spall and crack repair, form work, grouting, injection grouting and expansion joint work at various PVSC Facilities as directed by the Engineer on an as needed basis.

The work shall include but shall not be limited to the following:

- General Concrete restoration work
- Concrete form work
- Grouting
- Chemical Injection Grouting
- Reinforcing Steel
- Concrete repairs to Spalls; Cracks
- Expansion Joints
- Concrete Demolition
- Preparation and restoration of spalled, loose, cracked or eroded concrete. Concrete restoration work generally involves horizontal, vertical and obstructed concrete surfaces. Repairs shall include surface preparation, removal of failed concrete, form work etc. as specified herein and as directed by the Engineer.
- Provide all materials and equipment to repair concrete spalls and cracks. Repairs shall include chemical grout injection where directed and cleaning and concrete resurfacing.
- Clean up and disposal of all materials involved in surface preparation, removal of failed concrete, chemical grout injection and other debris or related materials.
- The Contractor shall determine by field survey in conjunction with the Engineer. The extent of concrete restoration and concrete cracks to be repaired stabilized and resurfaced. Report of field survey shall be submitted by the Contractor to the Engineer for review and approval prior to starting work.
- The Contractor shall refer to the Contract Documents for work of other trades and contracts which may affect the work under this Contract.
- The Contractor shall also coordinate installation of items furnished by other trades.

03002 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. ASTM A185 - Standard Specification for Steel Welded Wire Fabric, Plain for Concrete Reinforcement.

3. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 4. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 5. ASTM C33 - Standard Specification for Concrete Aggregates.
 6. 6. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
 7. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete
 8. ASTM C150 - Standard Specification for Portland Cement
 9. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 10. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 11. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 12. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
- B. American Concrete Institute (ACI).
1. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
 2. ACI 301 - Standard Specification for Structural Concrete.
 3. ACI 305R - Hot Weather Concreting.
 4. ACI 306R - Cold Weather Concreting.
 5. ACI 315 - Details and Detailing of Concrete Reinforcement.
 6. ACI 318 - Building Code Requirements for Structural Concrete.
- C. Concrete Reinforcing Steel Institute (CRSI)
1. MSP - Manual of Standard Practice
- D. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

03003 SUBMITTALS

- A Submit as a minimum the following in accordance with Section 01300:
1. Manufacturer's literature and product data on the repair mortar, primer and curing compound etc. The submittal shall include instructions and recommendations on mixing, handling, placement and approximate uses for each product, along with the manufacturer's statement certifying the use of each product in this application.
 2. Restoration procedures – The Contractor shall have the manufacturer of the mortar review and approve all procedures prior to submitting to the Engineer for review. Procedures shall address adverse weather placement (winter, summer, rain, etc.).
 3. Certified test results verifying compressive strength requirements specified herein.

4. Surface preparation procedures.
5. Material Safety Data Sheets (MSDS) for all concrete admixtures and curing agents.
6. Technical data on all materials and components.

03004 QUALITY ASSURANCE

- A. If, during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the Engineer may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made at the Contractor's expense.
- B. Reinforced concrete shall comply with ACI 318.
- C. All testing and inspection services required, unless otherwise specified, shall be provided and paid for by the Owner. Testing necessary to establish the concrete mixes shall be performed by and at the expense of the Contractor. Methods of testing shall comply with the latest applicable ASTM standards.

03005 MATERIALS, PARTS AND SUPPLIES

All parts and materials supplied by Contractor under the contract resulting from this Invitation and Bid shall be new, first quality products meeting original equipment manufacturer (OEM) specifications, but are not required to be provided by the OEM.

All materials and supplies shall be billed as per Section 01025

The Contractor must submit a clear and legible copy of the original material invoice with his payment request in order to get reimbursed for the materials.

Examples of reimbursable Materials and Supplies include but are not limited to the following:

- Concrete
- Grout
- Rebar
- Injection Grout Material
- Expansion Joint Material

Examples of items that are to be included with the Contractor General Equipment and are not considered reimbursable materials and supplies include but are not limited to the following:

- Various Masonry Trowels
- Mallets; Chisels; Hammers
- Grinders
- Portable Cement Mixers
- Shovels and Rakes
- Various Floats
- Pressure Grout Injection Equipment
- Forms

03006 OEM or SPECIALTY SUBCONTRACTOR SERVICES

When requested by the Engineer, work shall include the services of a qualified factory-trained field representative of the manufacturer or specialty subcontractor to properly assist the Contractor for diagnostic services, repair and removal, or installation and startup at cost + 5%. The Contractor must submit clear legible copy of the OEM or Specialty Subcontractors services invoice with his payment request in order to get reimbursed for their services.

The pricing of the OEM and Specialty Subcontractor Services must be reasonable and competitive with prevailing market pricing.

03007 QUALIFICATIONS, GENERAL

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

The contractor shall insure that all requested concrete restoration work shall be performed by personnel who are trained to provide the type of service specified, and as outlined in Section 01710 Qualifications of Contractor.

03008 DELIVERY, STORAGE AND HANDLING

- A. Reinforcing steel shall be shipped and stored with bars of the same size and shape fastened bundles with durable tags, marked in a legible manner with waterproof markings showing the same designations as shown on the submitted placing drawings. Reinforcing steel shall be free from mill scale, loose rust, dirt, grease, or other foreign matter. Store off the ground and protect from moisture, dirt, oil, or other injurious contaminants.
- B. Products shall be stored in conformity with the manufacturer's recommendations.
- C. Sand, aggregates and cement shall be stored or stockpiled in conformity with the recommendations of ACI 301.

03009 AREAS OF WORK

The areas of work to be repaired, modified etc. will be determined by the Engineer.

03010 SURFACE PREPARATION

- A. All areas to be repaired, modified etc. shall be prepared in strict accordance with the Manufactures recommendations as described below or as directed by the engineer.
- B. Concrete surfaces to receive concrete, grout etc., shall be clean and sound; free of ice, frost, dirt, grease, oil, form release agent, laitance and paints and free of all loose material or foreign matter which may affect the bond or performance of the concrete
- C. Remove scaling, broken, loose and disintegrating materials, by use of hand tools or power driven saws, down to solid unyielding material with a minimum surface profile of +/-3/8 inch. Saw cut edges of repair areas to a depth of 3/8 inch. Loose or unsound concrete shall be hammered out.
- D. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to bond the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.
 - 1. Air compressors used to clean surfaces in contact with grout shall be the oil less type or equipped with an oil trap in the airline to prevent oil from being blown onto the surface.

- E. Remove all loose rust, oil or other deleterious substances which may affect the bond or performance of the concrete, grout etc. from metal embedment's or bottom of baseplates prior to the installation of the grout.
- F. Wash concrete surfaces clean and then keep moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, or flooding the surface. Upon completion of the 24 hour period, remove visible water from the surface prior to grouting.
- G. Provide forms for grout. Line or coat forms with release agents recommended by the grout manufacturer. Provide forms anchored in place and shored to resist the forces imposed by the grout and its placement.
- H. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.
- I. Support equipment during alignment and installation of grout by shims, wedges, blocks or other approved means. The shims, wedges and blocking devices shall be prevented from bonding to the grout by bond breaking coatings and removed after grouting unless otherwise approved by the Engineer. Grout voids created by the removal of shims, wedges and blocks.
- J. Install grout to preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.
- K. Reflect all existing underlying expansion, control and construction joints through the grout.

03011 DEWATERING

Furnish all labor, materials and equipment to dewater the area to be repaired. (If Required) Dewatering shall include the diversion, collection and removal of all wastewater, ice, and snow and rain runoff for the work areas to permit construction in the dry.

03012 JOB CONDITIONS

- A. Perform all work during dry and proper temperature conditions in accordance with the manufacturer's recommendations. All furnished work shall be protected during inclement weather with tarpaulins or heavy gage polyethylene sheeting.
- B. Perform all work at temperature and conditions suitable for proper curing in accordance with the manufacturer's recommendations.
- C. Coordinate concrete rehabilitation work with work to be performed under other Sections of the Specifications. New items will be furnished, refurbished and/or installed under other Sections of the specifications
- D. When removing concrete, line drill at limits of removal. Remove concrete such that existing concrete and reinforcing to be left in place and existing equipment in place are not damaged. Saw cut at limits of concrete to be removed only when written approval from the Engineer has been obtained.
- E. Repair or replace concrete specified to be left in place which is damaged during concrete modifications as directed by the Engineer at no additional cost to the Owner.

03013 CERTIFICATIONS

Furnish a notarized certificate stating that the materials to be provided meet the requirements of this Section and have the manufacturer's current printed literature on the specified product.

03014 **PRODUCTS**

03014.1 **GENERAL**

- A. The use of manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- B. Like items of materials shall be the end products of one manufacturer in order to provide standardization for appearance, maintenance and manufacturer's service.
- C. Materials shall comply with this Section and any applicable State or local requirements.

03014.2 **MATERIALS**

Materials shall comply with this Section and any Federal, State or local VOC limitations.

- A. Cement shall be domestic Portland cement conforming to ASTM C150. The allowable types of cement for each concrete class are shown in Table 1. Air entraining cements shall not be used.
- B. Fine aggregate shall be washed inert natural sand conforming to the requirements of ASTM C33.
- C. Coarse aggregate shall be a well-graded crushed stone or washed gravel conforming to the requirements of ASTM C33, size 57. Limits of Deleterious Substances and Physical Property Requirements shall be as recommended for severe weathering regions.
- D. Water shall be potable, clean and free from injurious amounts of oils, acids, alkalis, organic matter, or other deleterious substances.
- E. Nonshrink cementitious grouts: Conform to ASTM C1107, Grades B or C and CRD-C 621. Grouts shall be Portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.
- F. Cement Grout shall be a mixture of one part Portland cement conforming to ASTM C150, Types I, II, or III and one to two parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.
- G. Concrete Grout shall conform to the requirements of Section 03301 except as specified herein. Proportion with cement, coarse and fine aggregates, water, water reducer and air entraining agent to produce a mix having an average strength of 3500 psi at 28 days (2500 psi nominal strength). Coarse aggregate size shall be 3/8-inch maximum. Slump shall not exceed 5-inches.
- H. Concrete admixtures shall be free of chlorides and alkalis (except for those attributable to water). When it is required to use more than one admixture in a concrete mix, the admixtures shall be from the same manufacturer. Admixtures shall be compatible with the concrete mix including other admixtures [and shall be suitable for use in contact with potable water after 30 days of concrete curing].
 - 1. Air entraining admixture shall comply with ASTM C260. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
 - 2. Water reducing admixture shall comply with ASTM C494, Type A. Proportioning and mixing shall be in accordance with manufacturer's recommendations.

3. Admixtures causing retarded or accelerated setting of concrete shall not be used without written approval from the Engineer. When allowed, the admixtures shall be retarding or accelerating water reducing admixtures.
- I. Reinforcing steel bars shall be deformed, intermediate grade, steel conforming to ASTM A615 Grade 60.
 - J. Reinforcing steel spirals for columns shall conform to ASTM A82 or ASTM A615 Grade 60.
 - K. Welded steel wire fabric shall conform to ASTM A185.
 - L. Tie wires for reinforcing steel shall be 16 gauge or heavier, black annealed wire.
 - M. Precast concrete block bar supports shall conform to CRSI - Manual of Standard Practice (MSP) for Precast Concrete Bar Supports.
 - N. Form Materials shall conform to ACI 301 and ACI 302 unless otherwise shown or specified.

03015 EXECUTION

03015.1 INSTALLATION - GENERAL

- A. All products shall be stored, mixed and applied in strict compliance with the manufacturer's recommendations and as directed by the Engineer
- B. Provide staffing and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.
- C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 degrees F and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Do not allow differential heating or cooling of baseplates and grout during the curing period.
- D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 40 degrees F and 90 degrees F range.
- E. Cut, repair, remove, and modify parts of the existing structures as indicated and as specified. Finishes, joints, reinforcements and sealants are specified in their respective sections. All work shall comply with the requirements of this Section and as directed to the Engineer
- F. Placement Procedure: Placement/installation shall be performed in accordance with the Manufacturer's Requirements at the time of the application. The finished product shall be a smooth surface and conform to the surrounding surface area.
- G. Where concrete is repaired in the vicinity of an expansion joint or control joint, preserve the isolation between components on either side of the joint.
- H. The modification surface shall be brought into alignment with the adjacent existing surfaces to provide a uniform, even surface. The modification surface shall match adjacent existing surfaces in texture and shall receive any coatings or surface treatments which had been provided for the existing surface.
 - a. Apply anti-corrosion coating to any exposed reinforcing steel, as outlined above in Section 2.02 C.

- b. Provide temporary facilities and controls as specified in Section 01520 or as required for the duration of work. The Contractor shall follow the manufacturer's recommended procedures for application of mortar within temperature limitations.
- c. Mixing shall be performed in accordance with the manufacturer's requirements.
- d. Follow manufacturer's recommendations for curing. Generally, moist cure with wet burlap, polyethylene, a fine mist of water or apply the specified curing compound. Moist curing should commence immediately after finishing. Surface finish shall be as required for the application of concrete protective coating specified in Section 09900

03015.2 INSPECTION AND COORDINATION

- A. The batching, mixing, transporting, placing and curing of concrete shall be subject to the inspection of the Engineer at all times. The Contractor shall advise the Engineer of his/her readiness to proceed at least 24 hours prior to each concrete placement. The Engineer will inspect the preparations for concreting including the preparation of previously placed concrete, the reinforcing steel, and the alignment, cleanliness and tightness of formwork. No placement shall be made without the inspection and acceptance of the Engineer.

03015.3 CURING AND PROTECTION

- A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.
- B. All concrete shall be cured in conformity with ACI 301. Concrete that is to be used for the containment of water shall be water cured. Water curing shall be by ponding, by continuous sprinkling or by covering with continuously saturated burlap. Other concrete shall be cured by either water curing, sheet material curing or liquid membrane curing compound except that liquid membrane curing compound shall not be used on any concrete surface where additional concrete is to be placed or where the concrete surface is to be coated or painted.
- C. Finished surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.
- D. Concrete placed during cold weather shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 306R. Salt, manure or other chemicals shall not be used for cold weather protection.
- E. Concrete placed during hot weather, shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 305R. The temperature of the concrete shall be such that it will cause no difficulties from loss of slump, flash set or cold joints. Immediately cover plastic concrete with sheet material during hot weather.

03015.4 APPLICATION OF CONCRETE SEALER

- A. Apply concrete sealer to all concrete surfaces indicated. Concrete surfaces shall be prepared and sealer be applied in conformance with the manufacturer's recommendations.

END OF SECTION

DIVISION 9 - FINISHES

09900 SCOPE OF WORK

The work of this section shall consist of providing all supervision, labor, equipment and materials required to sandblast and repaint various metal and concrete structures throughout the PVSC Facility. Metal and Concrete structures include but are not limited to the following: influent wells, influent well hanger support channels, upper drive cage areas and rake arm assemblies etc.

The work shall include, but not be limited to the following:

- a. Provide and erect all ladders or any additional equipment required for access to designated areas, including scaffolding.
- b. Provide all materials and equipment for surface preparation.
- c. Apply primer and top coat per contract and manufacturers specification.
- d. Clean-up and disposal of all residue from surface preparation and other debris or related materials.
- e. Care is to be taken so no materials from the surface preparation or overspray materials contaminate other areas inside or outside the tank.

Work surfaces and materials are to be kept dry at all times during the course of the work. No work will be permitted on wet surfaces, or at temperatures below that recommended by the paint manufacturer.

The contractor shall conduct the work in a safety conscious fashion in accordance with Section 01603. This shall include all rules and codes relating to containment procedures and VOC emissions.

09901 QUALIFICATIONS, GENERAL

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

- The contractor shall insure that all requested coating work; shall be performed by personnel who are trained to provide the type of service specified, such as **Painters qualified for abrasive blast surface preparation; airless sprayer coating applications; and spark testing procedures.** And as outlined with in this contract and in Section 01710 Qualifications of Contractor.

09902 MATERIALS, PARTS AND SUPPLIES

All parts and materials supplied by Contractor under the contract resulting from this Invitation and Bid shall be new, first quality products meeting original equipment manufacturer (OEM) specifications, but are not required to be provided by the OEM.

Materials that are **not included** in the contract and shall be billed as per Section 01025 include the following:

- Protective Coatings, Primers, Sealers, Top Coats etc.
- Sandblast Media
- Degreasing and Cleaning Agents
- Containment Items; (**For Containment areas larger than 5,000 square feet only.**) Tarps, Supports, Brackets, Ropes, Wire, Tie Downs etc.
 - (Refer to section 09907.1 Containment)

- Consumable Items such as but not limited to
 - Roller Sleeves
 - Grinder Pads
 - Caulking
 - Fuel Costs for Compressors and Generators. (***Direct Reimbursable Cost for Fuel Only. No Overhead and Profit fees shall be added.***)

All materials and supplies shall be billed as per Section 01025

09903 EQUIPMENT AND SUPPLIES

The contractor shall provide, safety, supervision, labor, equipment, materials and supplies necessary to perform proper surface preparation and the application of Industrial and/or Architectural Painting systems for various PVSC infrastructure items, equipment, buildings etc. on an as needed basis for a two (2) year period.

General examples of items that are to be included with the Contractor General Equipment and are not considered reimbursable materials and supplies are listed specifically within **CONTRACTOR'S WORK FORCE** Section 09913 and include but are not necessarily limited to the following:

- Ladders
- Electric or Gas Airless Paint Sprayers, nozzles, tips etc.
- Sandblasting Equipment with Sand Pots up to 600lbs, hoses, nozzles, tips etc.
- Containment Items; (***For Containment areas up to 2,500 square feet only.***) Tarps, Supports, Brackets, Ropes, Wire, Tie Downs etc. (Refer to section 09907.1 Containment)
- Pressure Washers
- Brushes, rollers, pole extenders, paint trays etc.
- Paint thinners for cleaning tools and equipment.
- Air Monitors
- Lighting
- All Personal Protective Equipment – Tyvec Suits, Gloves, Goggles, Air Masks & Filters etc.
- All Standard hand power tools. Hammers, screw drivers, grinders etc.

09004 OEM or SPECIALTY SUBCONTRACTOR SERVICES

When requested by the Engineer, work shall include the services of a qualified factory-trained field representative of the manufacturer or specialty subcontractor to properly assist the Contractor for diagnostic services, repair and removal, or installation and startup at cost + 5%. The Contractor must submit clear legible copy of the OEM or Specialty Subcontractors services invoice with his payment request in order to get reimbursed for their services.

The pricing of the OEM and Specialty Subcontractor Services must be reasonable and competitive with prevailing market pricing.

09905 EQUIPMENT TO BE REFINISHED

The equipment to be refinished will be determined by the Engineer.

09906 SURFACE PREPARATION

All areas to be refinished shall be sandblasted clean as per the Engineers instruction and as outlined in the Steel Structures Painting Council Surface Preparation Specification.

The ends of all sandblasted areas shall be "feathered" smooth into the existing painted areas not requiring work in such a manner as to cause the acceptance areas to remain in good, quality condition and not create peeling or cracking of the edges where they join the new work.

The Contractor shall schedule his work such that all areas sandblasted as per Section 09904 will receive the prime coat the same day.

09907 PROTECTIVE COATING

The Primer and Finish Coat shall be applied as per manufacturer's recommendations and as directed by the Engineer.

09908 Application

The application of all coatings shall be in strict accordance with the manufacturer's instructions and recommendations. Each coat shall be a contrasting color to the pending coat. All coatings shall have no soft spots or streaks and dry film thickness shall be measured with a magnetic dry film gauge.

09909 WORKMANSHIP

All protective coating, finishing and painting work shall be performed and completed in a first class manner.

Items or surfaces not being painted or coated but which are adjacent to surfaces to be cleaned and painted shall be protected against contamination and damage during the preparation and painting operations. Particular care shall be taken to prevent sand or cleaning agents from entering moving mechanical linkage, joints, electric motors, drive chains, bearings, journals, or other moving parts. Nameplates, instruction plates, and similar plates shall be masked or otherwise protected during cleaning and coating, painting and finishing operations.

Particular care shall also be taken to prevent damage to nearby property, automobiles, etc., due to wind drift and airborne particles of either the cleaning agents or finish material.

09909.1 Containment

Contractor shall provide and install proper containment tarps, drop cloths etc. as necessary and as required.

- For containment areas up to 2,500 square feet. The cost for all materials required to properly install the containment such as supports, brackets, ropes, wire, tie downs etc. shall be included. The installation labor costs shall be based on the hourly wage rate as submitted in the Contract specifications.
- For containment areas larger than 2,500 square feet, the contractor may submit an invoice for the additional containment material costs and will be paid as outlined in Section 01025. The installation labor costs shall be based on the hourly wage rate as submitted in the Contract specifications.

09910 REPLACEMENTS

In the event of detriment to any PVSC owned equipment due to such causes as mechanical damage, overspray and contamination, immediate necessary repairs and/or replacements shall be made, subject to the approval of the Engineer, and at no additional cost to the Owner.

09911 PRODUCT HANDLING

Deliver all packaged materials to the job-site in their original unopened containers with all labels intact and legible at time of inspection. Storage of materials on site shall be limited to those materials which have been specified and approved by the PVSC Plant Engineer and in areas also so approved.

Store all materials in an approved manner, all materials must be protected at all times from moisture (rain, etc.). The Contractor shall be responsible for the security of materials.

09912 CLEANING OF TANKS AFTER SURFACE PREPARATION AND REFINISHING

Abrasive material used in the surface preparation shall be removed dry immediately following the sandblast operation. Under no circumstances shall this material be allowed to enter the tank piping system. All materials and residue shall be cleaned from the surfaces to be coated.

Once work has been completed, it will be the Contractor's responsibility to remove all construction debris and other related materials. The Contractor shall leave all work areas in a condition acceptable to the Engineer.

END OF SECTION

DIVISION 15 - MECHANICAL

15000 SCOPE OF WORK

The Contractor shall provide Supervision, Labor, Equipment, Materials and Supplies necessary to perform miscellaneous Infrastructure repairs at Various PVSC Facilities on an as needed basis.

The work shall include but shall not be limited to the following:

1. Repairs and modifications to various types of equipment typically found in a Waste Water Treatment Plant, Including but not limited to the following:

- Rake Arm assemblies including scraper arms and squeegees
- Sludge Collector Assembly (Existing Drive Mechanism Manufacturer's include DBS, Walker Process and Dorr Oliver)
- Equipment Removal, Installation and Startup
- Center Drive Cage; Center Column and Tank Influent Well and supports
- Various Piping Systems
- Conveyor Systems
- Tanks
- Motors
- Skimmer and Scum Assemblies and troughs

2. Structural Welding of Steel, Stainless Steel and Aluminum.

3. Various Painting of Equipment as outlined in Section 9900 Painting.

4. Installation or repair to various platforms, cat walks, ladder, stairway and/or safety railings

5. Fabrication or repair to metal housings or enclosures.

6. Drilling, hand power sawing and grinding as may be required for any of the above tasks.

7. Tank Cleaning as required.

8. Rigging as required for the above tasks.

9. General electrical work. (Refer to Section 16050 Electrical)

10. Clean up job sites and disposal of debris

11. Demolition

12. Setting, Leveling and Alignment of Equipment

13. Rigging

14. Miscellaneous concrete repairs (Refer to Section 3 Concrete)

- Concrete Form Work
- Grouting
- Chemical Injection Grouting
- Concrete Demolition
- Concrete Spall and Crack Repair

15001 REFERENCE SPECIFICATION CODES AND STANDARDS

The most recent edition of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC-04 Specifications for Structural Steel Buildings – Allowable Stress Design, Plastic Design

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)

ASNT-01 Recommended Practice SNT-TC-1A

AMERICAN WELDING SOCIETY

AWS A2.4 Standard Symbols for Welding, Brazing and Nondestructive Examination

AWS A3.0 Standard Welding Terms and Definitions

AWS B2.1 Welding Procedure and Performance Qualification

AWS D1.1 Structural Welding Code – Steel

AWS Z49.1 Safety in Welding and Cutting and Allied Processes

15002 Diagnostic and Cost Estimating, Per Report

At the request of the Plant Engineer, the Contractor shall inspect at the site the requested component and furnish the Plant Engineer with the following:

A written report including color photographs, each photograph or group of photographs shall be captioned to describe a condition shown. The report shall:

- a) Identify the component
- b) Nature and extent of the problem
- c) Specific steps, procedures, specifications for a repair
- d) Safety considerations and requirements
- e) Out-of-Service ramifications, duration of repair
- f) Estimated labor time for each work procedure
- g) List of replacement components required with estimated cost of each
- h) Estimated not to-exceed cost of an overall repair

On repairs to all OEM equipment, mechanisms etc. and when requested by the Engineer, the Contractor shall contact the original equipment Manufacturer (OEM) and request a repair procedure. The OEM procedure should contain an outline of the recommended repair procedure including all parts and supplies required and an estimated time for labor hours required to complete the repair.

The Contractor shall be compensated for the time to perform a diagnostic inspection and write the inspection report. Should the Engineer determine that an OEM Representative is required on site to assist with the diagnostics of the equipment; the Contractor shall be **reimbursed for the cost of the OEM Representative at cost plus 5%.**

NOTE: Contractor's site visits for task estimating purposes for requested work that do not require Diagnostic Service will not be compensated.

The Contractor and the Engineer must agree on a total not to exceed price (labor, parts, supplies, etc.) in writing prior to starting any and all work.

15002.1 Malfunction Report

Vendor shall furnish a malfunction incident report to the Engineer upon completion of each repair/service call. The report shall include, at a minimum, the following:
Date and time notified Date and time of commencement of work

- Type and model number(s) of equipment
- Time expended for repair
- Description of repair necessity
- List of parts replaced

15002.2 Service Records

In addition to the malfunction incident report(s), Contractor shall maintain a complete record of all service performed on each piece of equipment, including all parts replaced. The service record shall be an individual record identifying each piece of equipment explicitly, with a complete history of dated service and all parts used recorded therein.

The contractor shall also provide the ENGINEER with work slips showing the following:

- All work performed on the job
- Number of hours on the job
- Cost per hour for labor
- Total labor cost
- Materials used on the job
- Cost of materials
- Total cost of job (labor and materials)

Materials, Parts and Supplies

All parts and materials supplied by Contractor under the contract resulting from this Invitation and Bid shall be new, first quality products meeting original equipment manufacturer (OEM) specifications, but are not required to be provided by the OEM.

All materials and supplies shall be billed as per Section 01025

The Contractor must submit a clear and legible copy of the original material invoice with his payment request in order to get reimbursed for the materials.

Some examples of reimbursable Materials and Supplies include but are not limited to the following:

- Steel, Stainless Steel, etc.
- Consumables ie. Welding rods, grinding wheels, etc.
- Paint
- Sandblast Material i.e. "Black Beauty"

General examples of items that are to be included with the Contractor General Equipment and are not considered reimbursable materials and supplies are listed specifically within **CONTRACTOR'S WORK FORCE** Sections 15012.1 through 15012.9 and include but are not necessarily limited to the following:

- Ladders and Scaffolding
- Air Monitors
- Lighting
- Protective Equipment – Tyvec Suits, Gloves, etc.
- All hand power tools
- Hoists
- Compressors
- Sandblast Equipment
- Dewatering Pumps
- Welders

OEM or SPECIALTY SUBCONTRACTOR SERVICES

When requested by the Engineer, work shall include the services of a qualified factory-trained field representative of the manufacturer or specialty subcontractor to properly assist the Contractor for diagnostic services, repair and removal, or installation and startup at cost + 5%. The Contractor must submit clear legible copy of the OEM or Specialty Subcontractors services invoice with his payment request in order to get reimbursed for their services.

The pricing of the OEM and Specialty Subcontractor Services must be reasonable and competitive with prevailing market pricing.

TEMPORARY FACILITIES AND SERVICES**Use of Owner's Water, Electricity and Sanitary Facilities**

During the time for completion of this contract, the Contractor will be afforded the use of certain Owner supplied facilities. The Owner's offer make available to the contractor for his use electric, potable water, sanitary facilities and space for the Contractor's office equipment trailer(s) is a gratuitous act on the part of the PVSC (Owner) who no assumes any liability for any claim by the Contractor, Contractor's subcontractors or vendor's personnel arising from the use of following facilities or services.

- A. Electric Service – 120 VAC receptacles will, in general be available to the Contractor for hand tools, provided that the contractor supplies all necessary extension cords and other equipment required for the performance of the work.
- B. Portable Water Service - City of Newark Potable Water will be available to the Contractor, provided that the Contractor supplies all hoses, valves and other equipment required for the performance of the work.
- C. Sanitary Facilities – Existing sanitary facilities maintained by the PVSC (Owner) will be made available for use by the Contractor's personnel provided that the Contractor's personnel using said facilities display acceptable standards relating to cleanliness and neatness.

Continued use by the Contractor of the aforementioned facilities or services will depend upon the Contractor's compliance with all PVSC (Owner) rules and regulations. Any abuse or negligent act on the part of the Contractor or the Contractor's personnel will be cause for the Owner to discontinue the use of these facilities or services by the Contractor.

FIELD ACCEPTANCE TESTS, STARTUP AND TRAINING

After the equipment and appurtenances have been installed they shall be inspected, put in final adjustment and given such operation tests with presence of the Engineer as will assure the Engineer that each part and all together are in proper adjustment and satisfactory operating condition and will perform in accordance with the requirements of the specifications.

The Contractor shall submit a test procedure for approval prior to performing the field acceptance test.

The manufacturer shall certify in writing to the Engineer that the installation is in accordance with the Manufacturer's standards, conforms to the specifications and is in proper working order and ready for startup.

When Requested by the Engineer for equipment startup, the Contractor shall provide the services of a qualified, factory-trained representative who shall make not less than one (1) separate trip of not less than one-half day after the equipment is in permanent operating condition to supervise startup and initial operation, to make necessary adjustments and to instruct employees of the Owner in the proper operation and maintenance of the equipment.

MATERIALS AND WORKMANSHIP

All material furnished to be first-class high-grade quality, of best workmanship and design; conforming to pertinent specifications of American Welding Society, American Society of Testing Materials and American Standards Association. No inferior or low grade materials will be approved or accepted. All work assembly and construction to be done in neat, first class manner; based on industry practices.

All parts entering assembly or weldment to be constructed and fabricated for continuous and uninterrupted service to eliminate necessity of attention when operating over long periods. Suitable provision to be made for easy adjustment or replacement of all parts requiring adjustment or renewal.

The Contractor is responsible for ensuring dimensions are confirmed and suit job conditions. Information pertaining to field fabrication processes, techniques of construction and coordination of work are sole responsibility of Contractor.

15008 QUALIFICATIONS, GENERAL

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

The contractor shall insure that all requested repairs, concrete restoration work, welding, electrical, pipefitting and fabrication etc. shall be performed by personnel who are trained to provide the type of service specified, and as outlined in Section 01710 Qualifications of Contractor.

15009 SAFETY

In addition to the safety requirements of contract section 01603, special safety precautions during welding shall conform to AWS Z49.1.

15010 EQUIPMENT, MATERIALS AND SUPPLIES

All welding equipment, electrodes, welding wire and fluxes shall be capable of producing satisfactory weld when used by a qualified welder or welding operator performing qualified welding procedures. All welding equipment and materials shall comply with the applicable requirements of AWS D1.1.

15011 EXECUTION

The contractor shall verify all dimensions, grades, elevations, job conditions, and shall make any field measurements necessary and shall be fully responsible for accuracy and layout of work. The contractor shall review the drawings and any discrepancies shall be reported to the engineer for clarification prior to starting fabrication.

Workmanship and techniques for welded construction shall conform to the requirements of AWS D1.1 and AISC-04. When AWS D1.1 and the AISC-04 specification conflict, the requirements of AWS D1.1 shall govern.

15011.1 PRODUCTIVITY

The productivity rate for work performed under this contract shall be equal to or greater than the productivity rate for similar tasks as published in the most recent edition of RS Means "Building Construction Data".

15011.2 FABRICATIONS

- A. Wherever possible, fabrications of sub assemblies or finished items shall be done in the contractor's shop.
- B. Materials and sub assemblies shall be properly marked and match marked as required for field assembly.

15011.3 WELDED CONSTRUCTION

- A. Comply with AWS D1.1 Code for procedures, appearance and quality of welds and welders and methods used in correcting welding work.
- B. Stainless steel welding shall conform to the details and standards of workmanship of this specification and AWS D1.1 except that the pre-qualified welds for carbon steel are not applicable to stainless steel. Welders and weld procedures for stainless steel shall be specifically qualified per AWS B2.1 for the type of stainless steel to be welded. Welders and weld procedures for welding of stainless steel to carbon steel shall be qualified per AWS B2.1.
- C. Unless otherwise shown, all butt and bevel welds shall be complete penetration.

15012 CONTRACTOR'S WORK FORCE

The Contractor shall employ a sufficient work force of qualified welders, painters, laborers, and supervision etc. to maintain the schedule established by the Plant Engineer. The contractor is not expected to maintain a full-time workforce on-site unless work is available to maintain such workforce. However, the contractor shall report to the site with adequate workforce to perform all work requested or to make necessary repairs commencing within three (3) days of receiving notice from PVSC by telephone, e-mail, US mail and/or fax. Depending on the amount of work assigned, this may require the Contractor to retain additional resources.

For work on this contract, all crews shall include a foreman trained for confined entry procedures whose responsibility shall be the training and direction of the other crew members. This person or a designated replacement shall be at the work site at all times. Following indoctrination of all site workers in accordance with activity, a permit signed by the foreman shall be provided for each worker in the confined entry activity. These written regulations and the individual permits shall be kept on site for the duration on the activity.

The foreman shall be trained for the setup, testing and calibration of the meter for the atmospheric testing. A minimum of one other person on the crew must be capable of this setup, testing and calibration. In areas of confined entry, there shall be no work unless there is in use a functioning meter at all times in the immediate work area and a spare meter on site as a backup.

The written procedure for the activity shall as a minimum describe the specific activity, the nature of the confined area, the possible risks, the entrance procedure, the exit procedure, response to emergency procedure and immediate telephone or radio contacts.

The foreman and those working under the foreman shall be trained in confined entry procedures. Where applicable to the work, a written procedure specific to the work must be on site with the foreman at all times and the foreman shall be required to issue daily or work shift permits for each person in his charge as well as for plant personnel who have reason for being in the area of work. The foreman shall have direct responsibility for compliance with the written confined entry procedures by every person in the work area.

15012.1 Site Labor Crew

Work under this section shall involve physical labor at various site locations including heavy construction projects, tunnel and shaft excavations, and demolition sites. Laborer shall be required to operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. Laborer shall be required to clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, may assist other craft workers.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Site Labor Crew shall have on site all tools of the trade required to properly perform all work required to from his craft. These tools include but are not limited to the following:

- Personal Hand Tools of all types
- Air Hammers, Earth Tampers, Cement Mixers
- Mechanical Hoists
- Surveying and Measuring Equipment.
- Pressure Washers
- Pumps and Hoses
- Ladders
- Other General Use Tools

15012.2 Site Welding Crew

Work under this item shall include services of a qualified welder with all equipment bid for each hour on site. Welder shall have onsite the equipment and capacity to weld all types of steel, including stainless, and to braze. Welder shall be required to provide all personal safety equipment. The contractor shall be required to advise the Engineer of the specifics of the work to be done and receive the approval of the Engineer prior to the start of work.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Welding Crew shall have on site all the tools of the trade required to properly perform all work required from his craft, including but not limited to the following:

- Hele Arc, Stick Weld
- Ladders
- Mechanical Hoists
- Stick Weld
- Tig, Mig and Arc Welding Equipment
- Other General Hand Tools
- Stainless Tig and Mig Welding Equipment
- Torches, etc.

15012.3 Site Painting Crew

Work under this item shall include the services of qualified Painters with all equipment bid for each hour on site. The painters shall be required to sandblast and repaint various metal structures throughout the PVSC Facility.

ALL PAINTING AND/OR SANDBLASTING WORK SHALL BE PERFORMED AS OUTLINED IN SECTION 9 – FINISHES

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Painters shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Ladders
- Electric or Gas Airless Paint Sprayers, nozzles, tips etc.
- Sandblasting Equipment with Sand Pots up to 600lbs, hoses, nozzles, tips etc.
- Containment Items; (**For Containment areas up to 2,500 square feet only.**) Tarps, Supports, Brackets, Ropes, Wire, Tie Downs etc. (Refer to section 09907.1 Containment)
- Pressure Washers
- Brushes, rollers, pole extenders, paint trays etc.
- Paint thinners for cleaning tools and equipment.
- Air Monitors
- Lighting
- All Personal Protective Equipment – Tyvec Suits, Gloves, Goggles, Air Masks & Filters etc.
- All Standard hand power tools. Hammers, screw drivers, grinders etc.

15012.4 Site Electrical Crew

Work under this item shall include services of a qualified electrician with all tools and equipment bid for each hour on site. The Electrician shall be skilled tradesmen specializing in electrical wiring of buildings, machinery and related equipment. The electrician must also be qualified in the installation of new electrical components and the maintenance and repair of existing electrical infrastructure.

ALL ELECTRICAL WORK SHALL BE PERFORMED AS OUTLINED IN SECTION 16050 – ELECTRICAL GENERAL

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Electricians shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Pipe and Tube bender
- Cable pulling Equipment
- Lineman's pliers, Diagonal pliers, Needle-Nose-pliers
- Conduit bending equipment
- Wire Strippers, cable cutters, Rotosplit

- Mechanical Hoists
- Ladders
- Multimeter, Test Light
- Step Bit, Cord, Rope and/or Fish Tape
- Insulation Resistance Tester i.e. Megger
- Knockout Punch
- Other general use tools with application in electric power wiring including , screwdrivers, hammers, reciprocating saws, drywall saws, metal punches, flashlights, chisels, adjustable slip-joint pliers, drills etc.

15012.5 Site Heating, Ventilation and Air Conditioning Crew

Work under this item shall include services of a qualified Heating, Air Conditioning and Refrigeration mechanic with all tools and equipment bid for each hour on site. The Mechanic shall be a skilled tradesmen specializing in repairing or replacing defective equipment, components, or wiring and related equipment. Reassemble and test equipment following repairs. Inspect and test system to verify system proper operations, and to detect and locate malfunctions. The mechanic must also be qualified in the installation of new system components and the maintenance and repair of existing equipment.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Heating, Air Conditioning and Refrigeration mechanic shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Personal Hand Tools i.e. Screwdrivers; Channel Locks; Pliers, Shears, Mallets, Punches, Files, Snips etc.
- Digital Clamp Meters
- Mechanical Hoists
- Forming Machines i.e. Power Hammers, Shrinkers - Stretchers etc.
- Ladders
- Welding, Brazing and soldering equipment.
- Anemometers
- Duct lifts
- Other General Tools

15012.6 Site Pipefitting Crew

Work under this item shall include services of a qualified pipefitter with all tools and equipment bid for each hour on site. The pipefitters shall have the capacity to layout, assemble, fabricate, and perform repairs on mechanical piping systems at various PVSC facilities.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Pipefitters shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Personal Hand Tools and Wrenches
- Threaders and Pipe Cutters
- Mechanical Hoists
- Hammer Drills
- Ladders
- Roll Grover's
- Core Drilling Equipment
- Other General Tools

15012.7 Site Millwright Crew

Work under this item shall include services of a qualified Millwright with all tools and equipment bid for each hour on site. The Millwrights shall be highly skilled workers who have the capacity to install, assemble, align and, when necessary, dismantle machinery at various PVSC facilities.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Millwright shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Personal Hand Tools and Wrenches
- Torque Wrenches, Feeler Gauges and dial indicators
- Alignment Equipment including Laser Alignment Equipment
- Dollies; Johnson Bars; Chain Falls and Come-A-Longs
- Straps, Chains, Shackles
- Ladders
- Mechanical Hoists
- Other General Tools

15012.8 Shop Fabrication Crew

Work under this item shall include services of a qualified welder with all equipment bid for each hour on site except the welding shall be performed in the **contractors off site weld shop**. Shop Fabrication items shall then be delivered to the site for installation. Welder shall have the equipment and capacity to weld all types of steel, including stainless, and to braze. Welder shall be required to provide all personal safety equipment. The contractor shall be required to advise the Engineer of the specifics of the work to be done and receive the approval of the Engineer prior to the start of work.

The work crew shall consist of one (1) Journeyman, one (1) Forman and equipment as follows:

The Welding Crew shall have on site all the tools of the trade required to properly perform all work required from his craft, including but not limited to the following:

- Hele Arc, Stick Weld
- Ladders
- Mechanical Hoists

- Stick Weld
- Tig, Mig and Arc Welding Equipment
- Other General Hand Tools i.e. Screwdrivers; Channel Locks; Pliers, Shears, Mallets, Punches, Files, Snips etc.
- Forming Machines i.e. Power Hammers, Shrinkers - Stretchers etc.
- Welding, Brazing and soldering equipment
- Stainless Tig and Mig Welding Equipment
- Torches, etc.

15012.9 Site Mason/Concrete Rehabilitation Crew

Work under this item shall include services of a qualified Mason with all tools and equipment bid for each hour on site. The Masons shall be highly skilled workers who have the capacity to perform concrete form work; grout repair; injection grout repair and concrete restoration work at various PVSC facilities.

ALL MASONRY/CONCRETE REHABILITATION WORK SHALL BE PERFORMED AS OUTLINED IN SECTION 03000 CONCRETE

The work crew shall consist of one (1) Journeyman, one (1) Forman & equipment as follows:

The Mason shall have on site all tools of the trade required to properly perform all work required from his craft. These tools include but are not limited to the following.

- Various Masonry Trowels
- Mallets; Chisels; Hammers
- Grinders
- Portable Cement Mixers
- Shovels and Rakes
- Various Floats
- Forms
- Pressure Grouting Injection Equipment

15013 Field Equipment/ Rental Equipment / Rental Rates.

Costs for the Contractor to supply rental equipment that is not included within this contract shall be based on documented invoices, plus a fixed fee in accordance with a fee schedule provided in Section 01025

All rates shall include all fuel, lubricants, supplies, small tools, necessary attachment, repairs, overhaul, any maintenance, storage fees and insurance required.

In addition to the usual field maintenance equipment; vehicles, hoists, compressors, tools and the like, the successful bidder will be required to have ladders, all safety equipment, air monitors, harnesses, etc. for purposes of providing on-site repair of equipment. A request for these services will be advised with sufficient notice to allow fitting the crew and trucks for the specific work. The Contractor shall be expected to commence the service operation within three (3) working days of the request for service. The operation will be as directed by the Engineer who may, entirely at his option, terminate the service for whatever reason.

Laborers required in addition to the above specified persons shall be provided and paid for in accordance with the items bid for these services.

15013.1 CONTRACTOR OWNED EQUIPMENT

Should the contractor be required to supply equipment that he owns and is not included within these contract requirements he must submit the hourly rate for such Contractor owned equipment.

The pricing of all contractors owned equipment must be reasonable and competitive with prevailing market pricing and as per Equipmentwatch.com

All rates shall include all fuel, lubricants, supplies, small tools, necessary attachment, repairs, overhaul, any maintenance, storage fees and insurance required.

Idle time for equipment will not be paid for, except where the equipment has been held on the site on a standby basis at the request of the Engineer.

All contractor owned equipment shall be billed as per Section 01025

15014 EMERGENCY BREAKDOWN

In the case of equipment breakdown, which shall constitute a request for emergency service, the contractor shall respond within a maximum of one (1) working day after receipt of such request for service by PVSC. Contractor shall be capable of performing such work on a twenty-four (24) hour basis, seven (7) days a week. Contractor shall provide PVSC with name and telephone numbers of the person to be contacted. (It is understood that work in excess of 8 hours per day or 40 hours per week would compensate at premium rates in accordance with the contractors T&M Schedule).

15015 WORK PERFORMED BY PVSC

It is anticipated that PVSC will perform most of the minor electrical work ancillary to work under this contract (e.g. disconnection, reconnection of power, controls, etc.)

PVSC will drain/fill tanks as may be required.

THE COMMISSION RESERVES THE RIGHT TO PERFORM WORK WITH THEIR OWN WORK FORCE OR OBTAIN COMPETITIVE BIDS AND/OR QUOTES, AND IS UNDER NO OBLIGATION TO USE THE CONTRACTORS WORK FORCE AND CAN STOP WORK AT ANYTIME.

END OF SECTION

DIVISION 16 ELECTRICAL

16050 ELECTRICAL GENERAL

16051 SCOPE OF WORK

The work of this section shall consist of providing all supervision, labor, equipment and materials, required to perform various electrical work throughout the PVSC Facility.

The work shall include, but not be limited to the new installation, troubleshooting or repair of the following:

- Basis Electric Service and Metering
- Switchboards and Panel boards
- Fuses
- Motor Starters
- Motor Control Centers
- Cable & Conduits
- Pull Boxes; Cable Support Boxes; Outlet Boxes; Sleeves
- Safety Switches
- Motor Power and Control Circuit Wiring
- Feeders
- Lighting Fixtures

The electrical equipment/system etc. to be worked on will be determined by the Engineer on an as needed basis

PVSC will provide contract shop drawings as required to show the principal elements of the electrical Work. They are not intended as detailed working drawings for the electrical Work, but as a complement to the Specifications to clarify the principal features of the electrical systems.

The Drawings show features of the existing electrical system information based upon limited record documentation and observation. Any existing electrical systems that require work of any type under this contract must be field verified as to their condition and system parameters.

It is the intent of this Contract Specifications that all equipment and devices, furnished and installed under this Contract be properly connected and interconnected with other equipment and devices so as to render the installations complete for successful operation, regardless of whether all the connections and interconnections are specifically mentioned in the Specifications or shown on the Drawings.

B. Coordination:

1. Review procedures and schedules under other Sections and coordinate with other trades the installation/repair of electrical items. Coordinate all work with the existing conditions in advance.

C. Temporary Power and Lighting:

Contractor to provide Temporary Power and Lighting as required.

16052 QUALITY ASSURANCE

A. Permits: Refer to the General Conditions for responsibilities for obtaining and paying for CONTRACTOR's permits, licenses and inspection fees.

B. Codes: Perform all work in accordance with applicable codes. Provide and ground all electrical equipment in compliance with the latest edition of the National Electrical Code.

C. Testing Laboratory Labels: Electrical material and equipment shall be new and shall bear the label of the Underwriters' Laboratories, Inc., or other nationally recognized, independent testing laboratory, wherever standards have been established and label service regularly applies.

D. Area Classifications:

Materials and equipment shall conform to the area classifications specified.

- **Corrosive Locations:** All outdoor locations shall be classified as wet and corrosive. Materials, equipment and incidentals in wet and corrosive areas shall meet NEC and NEMA requirements for corrosive locations. Enclosures installed in corrosive locations shall meet NEMA 4X requirements, **unless specified otherwise.**
- **Dusty Locations:** All indoor areas shall be considered as dusty locations. Materials, equipment and incidentals in dusty locations shall meet NEC and NEMA 12 requirements, **unless specified otherwise.**

E. Field Quality Control:

1. Conduct field quality control work for the electrical work performed under this contract. Field quality control shall be in accordance with the contract requirements and all applicable Federal, State and Local codes.

16053 QUALIFICATIONS, GENERAL

The Contractor shall have experience in the construction modifications or maintenance in Sewerage Treatment Plants, Pump Stations or similar facilities.

The contractor shall insure that all requested electrical and service repairs, shall be performed by personnel who are trained to provide the type of service specified, and as outlined in Section 01710 Qualifications of Contractor.

16054 MATERIALS, PARTS AND SUPPLIES

All parts and materials supplied by Contractor under the contract resulting from this Invitation and Bid shall be new, first quality products meeting original equipment manufacturer (OEM) specifications, but are not required to be provided by the OEM.

All materials and supplies shall be billed as per Section 01025

The Contractor must submit a clear and legible copy of the original material invoice with his payment request in order to get reimbursed for the materials.

Examples of reimbursable Materials and Supplies include but are not limited to the following:

- Wires
- Kindorf, Greenfield
- Junction boxes

- Plastic and Steel Conduit
- Cable
- Fixtures

Examples of items that are to be included with the Contractor General Equipment and are not considered reimbursable materials and supplies include but are not limited to the following:

- Pipe and Tube bender
- Cable pulling Equipment
- Lineman's pliers, Diagonal pliers, Needle-Nose-pliers
- Conduit bending equipment
- Wire Strippers, cable cutters, Rotosplit
- Mechanical Hoists
- Ladders
- Multimeter, Test Light
- Step Bit, Cord, Rope and/or Fish Tape
- Insulation Resistance Tester i.e. Megger
- Knockout Punch
- Other general use tools with application in electric power wiring including , screwdrivers, hammers, reciprocating saws, drywall saws, metal punches, flashlights, chisels, adjustable slip-joint pliers, drills etc.

16055 OEM or SPECIALTY SUBCONTRACTOR SERVICES

When requested by the Engineer, work shall include the services of a qualified factory-trained field representative of the manufacturer or specialty subcontractor to properly assist the Contractor for diagnostic services, repair and removal, or installation and startup at cost + 5%. The Contractor must submit clear legible copy of the OEM or Specialty Subcontractors services invoice with his payment request in order to get reimbursed for their services.

The pricing of the OEM and Specialty Subcontractor Services must be reasonable and competitive with prevailing market pricing.

16056 SUBMITTALS

Submit under provisions of Section 01300, Shop Drawings, Product Data and Samples.

1. Shop Drawings and Product Data: Include manufacturer's drawings, bills of material, panel and equipment layouts, catalog data, schematics diagrams, wiring diagrams and other documentary or descriptive information etc. as required for each assembly

a. Bills of material: Include a numbered list of all components, with manufacturer's name, catalog number, rating, and other identification. Place item number or similar identification on all other drawings where item appears.

b. Where additions and modifications are made to existing equipment, provide drawings, which include both retained existing equipment and new work.

c. For informational purposes only, submit equipment installation instructions in separate submittals from other shop drawings.

10657 JOB CONDITIONS

A. Existing Conditions:

1. Examine the Site and existing facilities to compare them with the Contract Documents relative to the conditions of the premises, location of and connection to existing facilities, and obstructions that may affect the Work.
2. Perform the Work with due regard to safety and in a manner that will not interfere with the existing equipment or cause interruption of the functions of the Site, unless specified otherwise.
3. Where the Work ties in with existing installations, CONTRACTOR shall take precautions and safeguards in connecting the Work to existing operating circuits to prevent interruption to existing circuits. Connection of Work to existing circuits shall be performed in the presence of OWNER and ENGINEER.

B. Staging.

1. Where the Work requires certain equipment to be taken out of service, CONTRACTOR shall perform the Work with due regard to maintenance of operations and construction staging per Section 01750, Maintenance of Plant Operations during Construction.
2. The level of service and control existing at the start of the Contract shall be maintained at all times, except as required during actual change-over to new equipment. Interruptions of existing circuits shall be coordinated with the OWNER who will determine the length of time a circuit may be de-energized to maintain the OWNER's processes in dependable and safe operation.

16058 PRODUCTS

16058.1 IDENTIFICATION DEVICES

A. Equipment and Device Nameplates:

1. Provide nameplates to identify equipment, item's function and the equipment to which it serves.
2. Nameplates shall be laminated plastic with black letters on a white background.
3. Letter engravings shall be 1/2-inch high for equipment identification and 1/4-inch high for pilot device identification.
4. Nameplates one-inch or less in height shall have one mounting hole at each end. Nameplates greater than one-inch in height shall have mounting holes in all four corners.
5. Fasteners: Fasten all signs and nameplates with 3/16-inch diameter, round head, stainless steel, self-tapping screws.

16058.2 Mounting and Supporting Material

A. Channels, Fittings and Brackets:

1. Provide channels, fittings, brackets and related hardware for mounting and supporting the electrical equipment. Include all anchor bolts, concrete inserts and related hardware for proper support of equipment.
2. Channels shall conform to ASTM A569 or A570. Channels shall have a minimum thickness of 12 gauge and a cross sectional width dimension of 1-1/2 inch minimum. The depth shall be as required to satisfy load requirements.

3. Attachment holes, when required, shall be factory punched on hole centers approximately equal to the cross sectional width and shall be 9/16 inch diameter.

4. Fittings and brackets shall have 9/16 inch diameter holes on centers identical to the channel or as required to align with the channel holes. Fittings and brackets shall have the same width as the channel and shall be 1/4 inch thick minimum. Fittings and brackets shall mate properly with the channel.

5. All channels, fittings, brackets and related hardware shall be steel and have an electro-plated zinc finish according to ASTM B633.

6. In corrosive areas, channels, fittings, brackets and related hardware shall be Type 316 stainless steel.

B. Conduit Hangers, Supports and Inserts:

1. Provide channels, rods, straps, anchors and related hardware for support of the exposed conduit system. Include all anchor bolts, concrete inserts and related hardware for proper support of the conduit system.

2. Conduit hangers and supports in corrosive areas shall be 316 stainless steel.

C. Manufacturers: Provide one of the following:

1. B-Line Systems.

2. Kindorf.

3. Or equal

16059 EXECUTION

16059.1 SUPPORT INSTALLATION

A. Install supporting devices level, parallel and perpendicular to building walls and floors, such that the support system is installed in a neat and professional manner.

B. The channels, fittings and brackets shall be rigidly bolted together and braced to make a substantial supporting framework support system.

C. All holes in hung ceilings for support rods and other equipment shall be made adjacent to bars where possible, to facilitate removal of ceiling panels.

D. All equipment fastenings to steel columns, beams and trusses shall be by beam clamps. In lieu of beam clamps, equipment may be welded to steel structures,

16059.2 EQUIPMENT IDENTIFICATION

A. Identify equipment by means of nameplates. Re-label existing equipment whose designation has been changed.

B. Color code and identify wires and cables by means of wire markers. Color and markers shall match the existing installation. Determine existing identification requirement in advance with OWNER. Identify power conductors by circuit number and phase. Identify each control, signal and status wire by a unique number. Numbering system shall reflect the actual designations used in the Work. Coil spare wiring neatly. Tag each spare wire and note its origin.

- C. All feeders and branch circuit devices shall have nameplates identifying the served equipment name and number. For modified circuits under this Contract the CONTRACTOR shall remove nameplates that are no longer valid and provide new nameplates reflecting the modifications. The nameplates shall identify the served equipment name and number and shall be installed on the existing equipment.

16059.3 EQUIPMENT GROUNDING

- A. Equipment grounding conductors shall be pulled into conduits with non-grounded conductors shall be insulated. Insulation shall be green.
- B. Connect ground conductors to conduit with copper clamps, straps or with grounding bushings.
- C. Connect to equipment by means of lug compressed on cable end. Bolt lug to equipment frame using holes or terminals provided on equipment specifically for grounding. Do not use hold down bolts. Where grounding provisions are not included, drill suitable holes in locations designated by ENGINEER.
- D. Connect to motors by bolting directly to motor frames, not to sole plates or supporting structures.
- E. Scrape bolted surfaces clean and coat with a conductive oxide resistant compound.

16059.4 DEMONSTRATION OF EQUIPMENT

- A. Demonstrate, in the presence of the OWNER, when the work is substantially complete that all electrical systems and electrically operated equipment operates as specified, designed and as required.
- B. Coordinate the demonstration of equipment tests with the OWNER's personnel in advance and in accordance with the requirements of Section 01750, Maintenance of Plant Operations During Construction.
- C. Include the following operational tests:
 - 1. Operate power circuits to verify proper operation and connection to equipment.
 - 2. Removed and reapplied supplies to automatic transfer equipment to verify their operation.
 - 3. Operate all control circuits including pushbuttons, indicating lights and similar devices to verify proper connection and function. Operate all devices, such as pressure and flow switches and similar devices to verify that shut-downs and control sequences operate as required.
- D. Provide a demonstration of equipment report. The report shall include complete information on the tests performed and the results.

16059.5 FIELD QUALITY CONTROL

- A. Provide field services for the interface and demolition of the existing circuits. The equipment and circuit requirements of each system shall be field determined prior to performing system modifications.
- B. The field services required at a minimum shall include the following:
 - 1. Coordinate the interface of equipment with OWNER's personnel and field conditions.

2. Obtain existing record control panel diagrams from the OWNER and field determine circuit terminations and sources of power. Coordinate with the OWNER for the termination requirements for the additional signals.
 3. Field compare existing starter and panel control circuit terminations from as-built record drawings with the existing circuits.
 4. Field trace existing circuits as required for the demolition and interface of the equipment provided.
 5. Field identify starter and panel control terminations for follow function for the purpose of reconnection. The existing source of supplies shall be field determined, identified and disconnected prior to the demolition of each circuit.
- C. Provide all tools and equipment as required to perform the tracing of circuits necessary for proper execution of the work.
- D. It shall be the responsibility of this CONTRACTOR to defined and identify all wiring, circuit terminations and equipment to be modified to ensure the proper interface of all components. The CONTRACTOR shall include in his bid all costs associated with the field services specified as required to ensure a complete functional system.

END OF SECTION

THE PARTICULAR PREVAILING WAGE SCHEDULES
INCLUDED IN THIS CONTRACT ARE NOT REPRINTED HERE
DUE TO SIZE.