SEWERAGE and WATER BOARD

of

NEW ORLEANS

SPECIFICATIONS

FOR

CONTRACT 1381

FURNISH AND INSTALLATION OF AIR COMPRESSIONS AND ASSOCIATED EQUIPMENT AT THE MWPP

Proposals To Be Opened
11:00 O’Clock A.M., Local Time on, Friday, September 23, 2016
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PROCUREMENT REQUIREMENTS
Sealed Bids for construction of Contract 1381, addressed to Sewerage and Water Board of New Orleans, will be received at the office of the Purchasing Agent, Room 133, 625 St. Joseph Street, New Orleans, Louisiana 70165, until 11:00 o’clock a.m., local time, on the 23rd day of September, 2016. Any Bids received after the specified time will not be considered.

Bids will then be publicly opened and read.

The Project contemplated consists of:

Removal and replacement of existing compressed air systems and associated piping at the Main Water Purification Plant.

The Work will be completed in all respects within 180 calendar days from the date when the Contract Times commence to run.

Bidding Documents and proposal forms are available gratis from Sewerage & Water Board of New Orleans website: www.swbno.org (Click on Bids and Business, then Bid Ads and Spec) OR through Sewerage & Water Board’s Purchasing Department, 625 St Joseph St. Room 133, New Orleans, LA 70165.

Except for material suppliers, Bid Documents will be issued only to Contractors and/or Subcontractors who are licensed by the Louisiana State Licensing Board for Contractors, under Louisiana Revised Statutes 37:2150 through 37:2163 as amended, and who have furnished satisfactory evidence to the Purchasing Agent of the Board that they are licensed and are qualified to perform the work called for in the Contract Documents. Bids will be accepted from only those Contractors who possess a Municipal and Public Works License, in accordance with the above referenced Louisiana Statutes.

Each Bid must be submitted on the prescribed Bid Form and accompanied by Bid security as prescribed in the Instructions to Bidders. Envelopes containing bids and bid guarantee must be sealed, marked with the project name and with the Contractor’s name as it appears on the license and the Louisiana Contractor’s License number. The right is reserved to reject any and all bids or proposals for just cause and to waive informalities. The Board also reserves the right to reject all proposals in the event that a formal agreement regarding funding from FEMA is not received prior to award of this Contract.
NEW ORLEANS MASTER 469936

The Successful Bidder will be required to furnish the additional bond(s) and insurance prescribed in the Bidding Documents.

In order to perform public work, Bidder and Subcontractors shall hold all necessary licenses as required by the above referenced Louisiana Statutes. This Project is classified as municipal and public works construction.

A MANDATORY prebid conference will be held at 10:00 a.m. local time on September 9, 2016 at Sewerage & Water Board of New Orleans, 2nd Floor Board Room, located at 625 Saint Joseph St., New Orleans, Louisiana, 70165. Refer to Instructions to Bidders for additional information.

Owner’s right is reserved to reject all Bids or any Bid not conforming to the intent and purpose of the Bidding Documents.

CEDRIC S. GRANT
EXECUTIVE DIRECTOR

JOSEPH R. BECKER
GENERAL SUPERINTENDENT

END OF SECTION
INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

1.1. Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

1.1.1. Issuing Office—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered: Purchasing Agent, Room 133, 625 St. Joseph Street, New Orleans, Louisiana 70165.

2. COPIES OF BIDDING DOCUMENTS

2.1. Complete sets of the Bidding Documents are available in electronic form on the Sewerage & Water Board of New Orleans website: www.swbno.org (Click on Bids and Business, then Bid Ads and Spec) and may be downloaded for use by interested bidders. Reproduction costs for any of the downloaded electronic Bidding Documents shall be borne by the Contractor.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids. Neither Owner nor Engineer assumes responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.

2.3. Drawings included in the Bidding Documents are electronic .pdf files generated from electronic drawing files. Any reduction from actual size is indicated by a note or scale bar on Drawing.

2.4. Owner and Engineer, in making Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

3.1. In order to perform public work, Bidder and its Subcontractors, prior to award of Contract or as otherwise required by the jurisdiction, shall hold or obtain such licenses as required by State Statutes, and federal and local Laws and Regulations.

3.2. Bidder is advised to carefully review those portions of the Bid Form requiring representations and certifications.

4. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.1. Subsurface and Physical Conditions:
4.1.1. The Supplementary Conditions identify:

4.1.1.1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.

4.1.1.2. Those drawings known to Owner of physical conditions relating to existing surface and subsurface structures at the Site (except Underground Facilities).

4.1.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

4.2. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner or others.

4.3. Hazardous Environmental Condition:

4.3.1. The Supplementary Conditions identify reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

4.3.2. Copies of reports and drawings referenced will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings. Costs associated with making available copies of reports and drawings shall be borne by Bidder.

4.4. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02 through 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to
prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

4.5. On request, Owner will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.6. Related Work at Site: Reference is made to the General Requirements for identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request Owner will provide to each Bidder for examination, access to Contract Documents (other than portions thereof related to price) for such other work.

4.7. Safety: Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.8. It is responsibility of each Bidder before submitting a Bid to:

4.8.1. Examine and carefully study the Bidding Documents, other related data identified in the Bidding Documents, and any Addenda.

4.8.2. Visit the Site to become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

4.8.3. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

4.8.4. Carefully study all:

4.8.4.1. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable “technical data”.

4.8.4.2. Reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in
Paragraph 4.06 of the Supplementary Conditions as containing reliable “technical data”.

4.8.5. Consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on:


4.8.5.2. Means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents.

4.8.5.3. Bidder’s safety precautions and programs.

4.8.6. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

4.8.7. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

4.8.8. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in Bidding Documents and confirm that written resolution thereof by Engineer is acceptable to Bidder.

4.8.9. Determine Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work.

4.9. Submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this article; that without exception the Bid is premised upon performing and furnishing the Work required by Bidding Documents and applying specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by Bidding Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder; and that Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for performing and furnishing the Work.
5. SPECIAL PRODUCT REQUIREMENTS

5.1. Bidder’s attention is directed to the Supplementary Conditions, Paragraph 6.03.

6. PREBID CONFERENCE

6.1. A MANDATORY prebid conference will be held at 10:00 a.m. local time on Friday, September 9, 2016 at Sewerage and Water Board Engineering Building, Board Room, located at 625 Saint Joseph St., New Orleans, Louisiana, 70165. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference. Bids will not be accepted from Bidders that do not have a representative at the prebid conference. Engineer will transmit to prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

7. SITE AND OTHER AREAS

7.1. The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner, unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

7.2. The location of the work sites are Sycamore Filter Gallery, 8800 S. Claiborne Avenue, New Orleans, La. 70118. The Contractor will perform all his work in a way that minimizes interferences with both the public and Water Board personnel. All schedules and methods of work are subject to approval by the Engineer.

7.3. Because of the location of the job site on the grounds of the Main Water Purification Plant, it is imperative that the Contractor schedule and conduct his work in such manner so as not to interfere in any way with the operation of the plant. Trucking through the plant, delivering and storing materials and equipment, shall be done with the approval of the Engineer. The Contractor’s personnel will be allowed to enter the Plant and park private vehicles on Sewerage and Water Board property (except in the Visitors Parking Area); however, he will be allowed to bring equipment and company vehicles only into the plant as necessary to execute the work of this contract. Equipment and vehicles may be required to be moved if their presence interferes with the normal operations of the plant.

7.4. All work as described in these document must NOT interfere with water purification operations in general.

7.5. All work of this contract MUST be coordinated with Operations Department personnel through the Engineer, with proper advanced notice.

8. INTERPRETATIONS AND ADDENDA
8.1. All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the office issuing documents as having received the Bidding Documents. Questions received less than 7 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

8.2. Addenda may also be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

8.3. Addenda issued in response to questions will be issued no later than 72 hours prior to bid opening.

9. BID SECURITY

9.1. Bid shall be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder’s maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the attached form), issued by a surety meeting the requirements of Paragraph 5.01 and Paragraph 5.02 of the General Conditions.

9.2. Upon Notice of Award of the Contract, the Bid security of all bidders, other than the lowest two (2) formal bidders will be returned. The return of the Bid security to whom the Contract is awarded is conditioned upon the successful bidder furnishing the insurance required in the specifications and appearance before the Notary for the Sewerage and Water Board of New Orleans within ten (10) consecutive calendar days after notice by the Executive Director or designee of the award of the contract and executing the contract and furnishing bond for the faithful fulfillment thereof according to the attached specifications. The Bid security of the next lowest bidder will be returned as soon as the successful bidder has executed the Contract and furnished bond. If all bid proposals are rejected, all Bid security will be returned immediately.

9.3. Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within 7 days after Bid opening.

10. CONTRACT TIMES

10.1. The number of days within which, or the dates by which, Milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

11. LIQUIDATED DAMAGES

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

12. SUBSTITUTE AND “OR-EQUAL” ITEMS
12.1. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

13. WAGE RATES

13.1. The Work under these Bidding Documents is to be paid for by public funds; therefore, minimum prevailing wage rates published by the Secretary of the U.S. Department of Labor (see appended rate tables). Refer to Paragraph 6.09.D of the Supplementary Conditions for more information.

13.2. The successful bidder is to make available to the Board, complete records in connection with payment of employees during the term of the job in order to permit the Internal Audit Division to check as to adherence to the wage scale presently in effect in accordance with U.S. Government standards.

14. PREPARATION OF BID

14.1. With each electronic copy of the Bidding Documents, Bidder will be furnished one separate Bid Form, and, if applicable, the Bid Bond Form. Contractor is to print and complete all pertinent documents included as the Bid Form.

14.2. All blanks on the Bid Form shall be completed by typing or printing with ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item, unit price item, and alternate listed therein or the words “No Bid,” “No Change,” or “Not Applicable” entered.

14.3. A Bid by a corporation shall be executed in the corporate name by the president or a vice president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

14.4. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

14.5. A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

14.6. A Bid by an individual shall show the Bidder’s name and official address.
14.7. A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

14.8. All names shall be typed or printed in ink below the signatures.

14.9. The Bid shall contain an acknowledgement of receipt of all Addenda; the numbers of which shall be filled in on the Bid Form.

14.10. Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

14.11. The Bid shall contain evidence of Bidder’s authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder’s state contractor license number and class, if applicable, shall also be shown on the Bid Form.

15. BASIS OF BID; COMPARISON OF BIDS

15.1. Lump Sum:

15.1.1. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

15.1.2. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate. In the comparison of Bids, alternates will be applied in the same order as listed in the Bid Form.

15.2. Unit Price:

15.2.1. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Unit Price Bid Table.

15.2.2. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

15.2.3. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
15.3. Alternates:

15.3.1. Alternates requiring pricing in the Bid Form are described in Section 01 11 00, Summary of Work, and in the Bid Form.

15.3.2. Indicate in Bid Form the amount to be added or subtracted from the base Bid for alternates described.

15.3.3. Include cost of all related work, including modifying surrounding work to integrate the Work of each alternate.

15.3.4. Alternates listed on Bid Form will be reviewed and accepted or rejected at Owner’s option. Accepted alternates will be identified in the Agreement.

16. SUBMISSION OF BID

16.1. The Bid Form, pages 1 and 2 of Section 00 41 13 Louisiana Uniform Public Work Bid Form is to be completed and submitted with the Bid Security. The two (2) lowest bidders will have three (3) days following the bid opening to submit the following:

16.1.1. Page 3 of Section 00 41 13 Louisiana uniform Public Work Bid Form, Additional Requirements, Bidder Declaration, Guarantees, and Emergency Procedures.

16.1.2. Page 4 of Section 00 41 13 Louisiana Uniform Public Work Bid Form, Affidavit

16.1.3. Voluntary Extensions of the Award of Contract

16.1.4. Affidavit of Noncollusion

16.1.5. Economically Disadvantaged Business Participation Summary Sheet

16.2. A Bid shall be submitted no later than the date and time prescribed, and at the place indicated in the Invitation to Bid. Enclose Bid in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), name and address of Bidder, and accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation “BID ENCLOSED”.

16.3. In accordance with LRS 37:2163, Bidders are required to certify they hold an active Contractor’s license and indicate license number on Bid envelope. Bid envelopes received with no Contractor license number will not be opened and will automatically be rejected and considered nonresponsive.
16.4. Bidders are required to submit, in addition to the original Form of Proposal contained herein, three additional copies of the complete proposal including any and all inserts, drawings, brochures, or qualification data of any kind. Failure to submit the copies shall be considered as an informality and should not invalidate the bid, provided that within 24 hours after the bid opening or after the request has been made in writing by the Purchasing Agent for the Sewerage and Water Board of New Orleans, the bidder has furnished same to the Purchasing Department.

17. OPENING OF BIDS

Bids will be opened at the time and place indicated in the Invitation to Bid and unless obviously nonresponsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

18. BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.1. All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

19. EVALUATION OF BIDS AND AWARD OF CONTRACT

19.1. Pursuant to Louisiana Statute 38:2225, a resident Bidder shall be allowed a preference over a nonresident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the nonresident Bidder.

19.2. Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.3. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.4. Staff recommended awards based on bid results will be posted on a bulletin board located outside the office of the Sewerage and Water Board Purchasing Department within 72 hours (excluding Saturdays, Sundays, and Holidays) after the Bid opening. Bidders may also telephone the Purchasing Department to determine the bid results. Objection by a bidder to any recommended award must be made in writing to the Purchasing Agent or Assistant Purchasing Agent within 72 hours (excluding Saturdays, Sundays, and Holidays) after the recommended bid award has been posted.
20. **NOTARIAL FEE.**

20.1. The Contract and Bond shall be signed in the City of New Orleans, before the Notary for the Sewerage and Water Board of New Orleans, by the Contractor in person or by a duly authorized representative. The notarial fee for the execution of the contract shall be paid by the Contractor in accordance with the Notarial Fee Schedule below. Contractor shall also be responsible for payment of all recordation costs.

**NOTARIAL FEE SCHEDULE**

Notarial work for all Sewerage and Water Board of New Orleans construction contracts, requiring to be notarized:

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<thead>
<tr>
<th>Contract Value</th>
<th>Fee</th>
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<tr>
<td>Under $1,000.00</td>
<td>$162.00</td>
</tr>
<tr>
<td>$1,000.00 to $49,999.99</td>
<td>$297.00</td>
</tr>
<tr>
<td>$50,000.00 to $499,999.99</td>
<td>$756.00</td>
</tr>
<tr>
<td>$500,000.00 to $999,999.99</td>
<td>$1,623.00</td>
</tr>
<tr>
<td>$1,000,000.00 or over</td>
<td>$3,247.00</td>
</tr>
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21. **CONTRACT SECURITY AND INSURANCE**

21.1. Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner’s requirements as to bonds and insurance. When Successful Bidder delivers executed Agreement to Owner, it shall be accompanied by such bonds.

22. **SIGNING OF AGREEMENT**

23.1. The proposal submitted by the lowest bidder will be tentatively selected by the Sewerage and Water Board at its next scheduled Finance Committee meeting of the Board after the date of opening bids provided that the lowest proposal is acceptable to the Sewerage and Water Board. The final award of the contract will be made at the subsequent Board meeting. All prices bid must be held firm for 120 days or until final award of contract by the Board. The Board reserves the right to reject any one or all bids for just cause and to waive informalities in Bidding.

23.2. After submittal of required Insurance and Bonds, in form acceptable to the Sewerage and Water Board, the selected Bidder will be authorized by the Executive Director of the Board to appear before the City Notary to sign the contract within ten (10) consecutive calendar days from the date of the notice.

23. **SALES AND USE TAXES**

24.1. Applicable state and local sales and use taxes for purchase of materials and supplies furnished under this contract shall be paid by the Contractor. Such taxes shall be included in
the lump sum bid for the work of this contract. The board shall be relieved of any obligation to pay these taxes.

24.2 ACT 318 OF 1958

24.2.1 Under the terms of Act 318 of 1958, of the Regular Session of the Legislature of the State of Louisiana, all things being equal, preference must be given to either (1) firms doing business in the State of Louisiana or (2) to products produced (or) grown (or) manufactured in the state.

24.2.2 Before any bill for supplies used shall be paid to any non-resident firm, a statement in writing shall be submitted by the seller to the effect that his firm has paid all taxes duly assessed by the State of Louisiana and its political subdivisions, including franchise taxes, to the state and its political subdivisions.

24. RETAINAGE

24.1. Provisions concerning retainage and Contractor’s rights to deposit securities in lieu of retainage, if applicable, are set forth in the Agreement.

END OF SECTION
LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Sewerage and Water Board of New Orleans
Purchasing Department, Room 133
625 St. Joseph St
New Orleans, LA 70165

BID FOR: Contract 1381 Furnish and Installation of Air Compressors and Associated Equipment at the MWPP

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Sewerage & Water Board of New Orleans and dated: August 15, 2016

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following ADDENDA: (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated “Base Bid” * but not alternates) the sum of:

Dollars ($

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1: Credit for purchase of Load Bank equipment, accessories and transportation to job site, in lieu of and matching the bid price of Bid Item No. 2 (positive number to be viewed as a deductive item) for the lump sum of:

Dollars ($

Alternate No. 2: Rental of Load Bank equipment, accessories and transportation to/from job site (positive number to be viewed as an additive item) for the lump sum of:

Dollars ($

NOTE TO BIDDERS: Alternates No. 1 and No. 2 (Bid Item Nos. 8 and 9) should be entered in above as positive numbers. In the situation where the Sewerage and Water Board elects to execute the alternates, both Alternate No. 1 and No. 2 will be executed and the Sewerage and Water Board would subtract Alternate No. 8 and add Alternate No. 9 from the total base bid items.

NAME OF BIDDER: 

ADDRESS OF BIDDER: 

LOUISIANA CONTRACTOR’S LICENSE NUMBER: 

NAME OF AUTHORIZED SIGNATORY OF BIDDER: 

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: 

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: 

DATE: 

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O).

BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.

ALL ADDITIONAL REQUIREMENTS

All blank spaces in this Proposal section shall be filled. A bid price shall be indicated for each bid item. Bids received without all such items completed will be considered non-responsive. The bid shall contain an acknowledgement of receipt of all Addenda in space provided. The Louisiana Uniform Public Work Bid Form & Unit Price Form (if applicable) and the amount of Deposit or Bid Bond five percent (5%) of the total amount of the proposal is REQUIRED to be submitted in a sealed envelope on bid opening date. The two (2) lowest numerical bidders have three (3) days after the bid opening (exclusive of Saturdays, Sundays and Holidays) to submit any additional information such as (Voluntary Extension Sheet, Affidavit, Economically Disadvantage Business Summary Sheet if applicable) as well as requirements of Sections 9-03 through 9-7 below. Failure to do so will render the bid non-responsive.

6-3 BIDDER DECLARATION

____ do hereby declare that ______ the only person ______ interested in this proposal and that no other person than the one ______ herein named have any interest herein or in the contract proposed to be taken; that it is made without any connection with any other person or persons making proposal for the same work and that it is in all respects fair and without collusion or fraud; also that no member of the Sewerage and Water Board or of the City Council of the City of New Orleans or any officer or employee of the City of New Orleans or of the several boards thereof, who are by law excluded from participation herein, and directly or indirectly interested herein or in furnishing bond or in any portion of the profits hereof.

_______ do hereby also declare that ______ have LOUISIANA CONTRACTOR’S LICENSE in the field of ______________________________________________________ with NUMBER ____________________.

And _____ do further declare that _____ have carefully examined the annexed specifications and the drawings furnished, and personally inspected the ground and that _____ will contract to provide the necessary tools, machinery and apparatus and other means of construction, and to furnish all labor and material specified in this contract or called for by the plans, necessary to complete the work in the manner specified and within the time mentioned in the specifications and according to the requirements of the Engineer, as herein set forth.

6-4 In accordance with Louisiana Revised Statute 38:2227 the following affidavit shown on the next page must be submitted with the bid, or no later than 3 days after the bid opening (excluding Saturdays, Sundays, and Holidays). Failure to do so will render the bid non-responsive. Please note, THE AFFIDAVIT MUST BE NOTARIZED.

6-5 GUARANTEES

____________________ guarantee that the whole of the work under this contract will be fully completed within (180) calendar days after the date of the "Work Order" from the Engineer.

In case of delay in the completion of the contract beyond the contract time of completion as determined by the Board hereby agree to pay, as liquidated damages, the sum of Three Thousand Dollars ($3000.00) for each calendar day of such delay, which liquidated damages shall become due by the mere elapsing of the delay without the necessity of putting ________ in default.

6-6 EMERGENCY PROCEDURES

Contractor must furnish telephone numbers for routine or emergency telephone calls.

NAME  TITLE

__________________________________________

TELEPHONE NO.: NORMAL CALLS __________________________________________

EMERGENCY____________________________________________________________

STATE OF LOUISIANA
PARISH OF ORLEANS

AFFIDAVIT

BEFORE ME, the undersigned authority, duly commissioned and qualified and sworn in and for the State and Parish aforesaid, personally came and appeared ____________________________________________________, who after being duly sworn, did depose and say as follows:

1) He/she is the ___________________________ (title) of ________________________________ (company);

2) He/she has not been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

3) The contracting entity, person or corporation whose principal(s), member(s), and /or Officer(s) have, within the preceding 5 years, not been convicted or plead guilty to, a felony under state or federal statutes, for embezzlement, theft of public funds, bribery, falsification or destruction of public records; (City Code Section 2-8)

4) The following is a list of individual partners, incorporators, directors, managers, officers, organizers, or members who have a minimum ten percent interest ownership interest in the bidding entity:
   _________________________________ (name)  ________________________________ (name)
   _________________________________ (name)  ________________________________ (name)
   _________________________________ (name)  ________________________________ (name)

5) No other persons hold an ownership interest in the bidding entity via a counter letter.

6) None of the above named individual partners, incorporators, directors, managers, officers, organizers, or members, who has a minimum ten percent interest ownership in the bidding entity, been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

7) He/she is not delinquent on any taxes owed the City of New Orleans or fees/charges to the Sewerage and Water Board. (City Code Section 2-8)

The following sections apply only to Public Works Contracts:

8) In accord with LA Revised Statute 38:2212.10 the entity represented herein is registered and participates in the “Status verification system” of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324(a), known as the “E-Verify” program to verify that all employees in the State of Louisiana are legal citizens of the United States or are legal aliens.

9) The entity represented herein shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

10) The entity represented herein shall require all subcontractors to submit to the contractor a sworn affidavit verifying compliance with the Status verification system.

WITNESSES:

____________________________________  ______________________________________

AFFIANT

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS

____________________ DAY OF ________________, 20______.

____________________________________

NOTARY PUBLIC

Notary Id. No. or Bar Roll No.

PLEASE PRINT NAME OF NOTARY

NEW ORLEANS MASTER 469936

VOLUNTARY EXTENSIONS OF THE AWARD
FOR CONTRACT NO. 1381

SECTION 5
If this bid is determined to be the lowest responsive and responsible bid, Bidder agrees to bid extension of the award date by up to two (2) thirty (30) day periods in accordance with the provisions of Louisiana Revised Statute. Title 38, Section 2215 (A).

AGREED:

________________________________________
NAME OF BIDDER (TYPE OR PRINT)

________________________________________
SIGNATURE OF BIDDER

________________________________________
COMPANY NAME

*** END OF SECTION ***
NEW ORLEANS MASTER 469936

BID BOND

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:
Project (Brief Description Including Location):

BOND

Bond Number:
Date (Not later than Bid due date):
Penal sum

(Words)..............................................................................................(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

_______________________________(Seal) SURETY

Bidder’s Name and Corporate Seal

By: ________________________________
Signature and Title

Attest: ________________________________
Signature and Title

SURETY

_______________________________(Seal)

Surety’s Name and Corporate Seal

By: ________________________________
Signature and Title

(Attach Power of Attorney)

Attest: ________________________________
Signature and Title

Note: Above addresses are to be used for giving required notice.

PW/WBG/469936
AUGUST 16, 2016

BID BOND
00 43 13 - 1
NEW ORLEANS MASTER 469936

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety’s liability.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:
   3.1. Owner accepts Bidder’s Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
   3.2. All Bids are rejected by Owner, or
   3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety’s written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term “Bid” as used herein includes a Bid, offer, or proposal as applicable.

END OF SECTION
AFFIDAVIT OF NONCOLLUSION

Each Bidder shall complete the following statement

STATE OF ____________________________
COUNTY OF ____________________________

Affiant is the agent authorized by the Bidder to submit the attached Bid. Affiant further states that the Bidder has not been a party to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any State, Parish, or City official or employee as to quantity, quality, or price in the prospective Contract, or any other terms of said prospective contract; or in any discussions between Bidders and any State, Parish, or City official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Affiant further warrants that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by Contractor for purpose of securing business.

____________________________________
Name of Contractor

____________________________________
Bidder (Affiant)

Subscribed and sworn to before me this _______ day of _______________ , 20 _____

My commission expires: ____________________________

____________________________________ Notary Public

END OF SECTION
# ECONOMICALLY DISADVANTAGED BUSINESS PARTICIPATION SUMMARY SHEET

Minimum Percentage Goal Participation for this Contract is __20__%

## Contract Name and #
Furnish and Installation of Air Compressors and Associated Equipment at the MWPP

<table>
<thead>
<tr>
<th>Name and Address of Disadvantaged Business Enterprise Company</th>
<th>Name of Contact Person</th>
<th>Scope of Work to be Performed</th>
<th>Dollar Amount of work to be performed</th>
<th>Percentage of Dollar Amount to Total Bid Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**THIS FORM MUST BE COMPLETED AND SUBMITTED BY THE TWO LOWEST NUMERICAL BIDDERS, ALONG WITH CORRESPONDENCE FROM SLDBE(S) ON THEIR OWN LETTERHEAD REAFFIRMING NEGOTIATED TERMS, NO LATER THAN 3 DAYS AFTER THE BID OPENING (EXCLUSIVE OF SATURDAYS, SUNDAYS AND HOLIDAYS). FAILURE TO DO SO WILL RENDER THE BID NON-RESPONSIVE.**

BY SUBMITTAL OF THIS FORM, PRIME CONTRACTOR ACKNOWLEDGES THAT DBE(S) HAVE BEEN CONTACTED AND A FIRM PRICE HAS BEEN OBTAINED.

**NOTE:** Signature required even if judged NOT APPLICABLE by the BIDDER

<table>
<thead>
<tr>
<th>Prime Name: ____________________________</th>
<th>Prime Signature: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Company’s Name: ____________________</td>
<td>Date: ____________________________ Signature</td>
</tr>
<tr>
<td>Prime Address: __________________________</td>
<td>E-mail: ____________________________</td>
</tr>
<tr>
<td></td>
<td>Telephone Number: __________________________</td>
</tr>
</tbody>
</table>

For Construction Projects

Revised June 6, 2016
DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

In accordance with the adoption of Resolution R231-97, the Sewerage and Water Board of New Orleans has established a race and gender-neutral Disadvantaged Business Enterprise (DBE) Plan. As part of that Plan, on any publicly bid goods and services (which shall include professional and non-professional services) project, not involving funds from a source other than the Sewerage and Water Board of New Orleans, the prime contractor shall be required to make a demonstrated good faith effort to award (20)% of the amount of the contract to certified disadvantaged business enterprises as subcontractors or suppliers performing commercial useful functions which are consistent with the work required on this contract. The percent participation having been determined for this specific contract by recommendation of the Construction Review Committee (CRC), which is a joint effort of representatives from the City of New Orleans, Sewerage and Water Board, and representatives of local contractor organizations. This percentage requirement shall be considered an informality which is subject to modifications and may be waived or adjusted by the Sewerage and Water Board of New Orleans if the prime contractor, after having demonstrated a good faith effort, is unable to comply with the requirement.

DEMONSTRATED GOOD FAITH EFFORTS

Before receiving an award of the contract, the contractor must meet the DBE goals or prove that he/she has made a demonstrated good faith efforts. To determine whether a particular contract bidder has made demonstrated good faith efforts to reach the DBE participation goal, the Board and its staff will consider the following:

a. whether the contractor attended all pre-bid meetings that may have been scheduled by the Board to inform DBE firms of subcontracting opportunities and/or requested the Board Directory of Certified DBE firms;

b. whether the contractor advertised in general circulation and trade association publications, concerning the DBE subcontracting opportunities, and allowed the subcontractors reasonable time to respond;

c. whether the contractor provided written notice to a reasonable number of individually named DBE firms and allowed sufficient time for the DBE firms to participate effectively;
d. whether the contractor followed up initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested in bidding;

e. whether the contractor selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation);

f. whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;

g. whether the contractor negotiated in “good faith” with interested DBEs and did not reject DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;

h. if the contractor did reject a DBE as unqualified, the contractor must state his or her reason for doing so in writing;

i. whether the contractor has used the services of available community organizations and small and/or disadvantaged business groups; local, state and federal small or disadvantage business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBE firms;

j. whether the contractor has made sufficient efforts to negotiate with DBEs for specific sub-bids, including at a minimum:

(1) names, addresses, telephone numbers of DBEs that the contractor contacted,

(2) a description of information provided to those DBE firms, and

(3) a statement of why additional agreements with DBEs were not reached to include but not limited to proof the DBEs’ price exceeded that of non-DBEs.
1. **Policy:**

It is the policy of the Board that DBE firms, as defined in the Board’s Disadvantaged Business Enterprise Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of the Board’s publicly bid contracts. Consequently, the CRC and the Board have set the DBE participation goal applicable to this construction contract.

2. **DBE Obligation:**

The Board and its contractors agree to ensure that DBE’s, as defined in the Board’s Disadvantaged Business Enterprises Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of contracts and subcontracts provided under this agreement. In this regard, contractors shall take all necessary and reasonable steps in accordance with this DBE Plan to ensure that DBE’s have the maximum allowable opportunity to compete for such contracts. The Board and its contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of the Board’s publicly bid contracts.

3. **Utilization of DBE Vendor Listings:**

All bidders are required to utilize the most recent Sewerage and Water Board State-Local Disadvantaged Business Enterprise Program Approved Vendor Listings for **Construction, Goods & Services/Professional Services**, in their selection of DBE entities to meet DBE participation goals. **Bidders are required to utilize DBE’s as subcontractors or suppliers only in the areas for which they are certified.** A description of the areas of work that DBE’s can provide is contained in these vendor listings. In addition, an alphabetical list of vendors/contractors is provided indicating the name of the company, address, name of owner, telephone number, fax number, the date the company became certified, and a description of the work that these entities are certified to perform. **Companies that are already certified as a DBE cannot fulfill the DBE requirements by listing themselves as the subcontractor to meet the DBE goal.** The prime contractor shall select another DBE from the Sewerage and Water Board’s Approved Vendor Listing.
4. **Contacting DBE’s and Obtaining a Firm Price**

   All prime contractors are required to contact DBE’s and obtain a firm price before listing the DBE’s on the Participation Summary Sheet. As confirmation of established contact, bidder will include with their Participation Summary Sheet submission a signed correspondence from the SLDBE subcontractor on their own letterhead that reaffirms negotiated terms such as scope of work and monetary compensation.

5. **Failure to Comply with DBE Bid Specifications:**

   All bidders for this Board contract are hereby notified that failure to comply with the above DBE specifications may constitute the bid as being non-responsive, and sufficient cause for rejection.

6. **Failure to Carry Out DBE Policy:**

   All bidders, potential contractors, or subcontractors for this Board contract are hereby notified that failure to comply with the DBE policy and DBE obligations, set forth above, shall constitute a breach of contract which may result in termination of the contract or such other remedy as deemed appropriate by the Board, to include excluding bidder from bidding on future Board contracts.

7. **Setting Minimum Participation Goals:**

   The stated minimum percentage DBE participation goal recommended by CRC and approved by the Board applies to the work of this contract. The two lowest numerical bidders must complete and submit a DBE Participation Summary Sheet no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). The DBE Participation Summary Sheet should be completed properly, showing that at least the percentage goal of the total contract bid price will be subcontracted or otherwise awarded through procurement action to DBE’s. Should the bidder fail to comply with this request, the bid shall be considered unresponsive, unless:

   a. An affidavit is furnished by the bidder with its bid showing that the DBE goals cannot be met for the following reasons:

      (1) No DBE firms made offers. Here, it must be shown, documented and demonstrated that good faith efforts (as defined in Part III, D, 2.
of the Board’s DBE plan) were made by the bidder to obtain the participation of DBE firms and that they did not respond, or

(2) The DBE offers made and accepted for subcontract and/or material supplies do not total the stated goal for participation, but total a lesser percentage, and

(3) The bidder was unable to obtain DBE further participation, despite his or her demonstrated good faith efforts (as defined in Part III, D, 2 of the Board’s DBE Plan) to obtain additional participation by DBE firms.

b. Each of the assertions made by the bidder must be supported by documentary evidence.

8. **Other Clauses Unaffected:**

Nothing contained herein shall invalidate, change, annul, release, restrict, or affect the liability on the bonds or insurance given by the contractor, or the time required for completion of the contract.

9. **Determination of Efforts to Meet Goals:**

Initial determination of bidder efforts to meet the DBE participation goal shall be based on the DBE participation representations submitted by the two lowest numerical bidders no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). Bidders shall submit all the forms required herein no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays), and the DBE Office will examine the contents thereof. The Board’s DBE Officer may, if deemed advisable, request further information, explanation or justification from any bidder.

10. **Contract Monitoring:**

a. The Board’s DBE Office will monitor contractor during the operation of the contract to insure that the contractor meets all of its DBE obligations as specified in the contract bid. The Board’s DBE office shall establish rules and regulations, to be approved by the Board, for the ongoing monitoring of contractor compliance.
b. Disadvantaged Business Enterprise Program Office personnel or their designated representative shall be allowed to conduct periodic monitoring of contractors’ compliance with the agreed to Disadvantaged Business Enterprise Program participation requirements. Contractors shall be required to complete and return to the Disadvantaged Business Enterprise Program Office in the time required all requests for information and data relative to the contractors’ activities in meeting the required Disadvantaged Business Enterprise participation goal. Additionally, Disadvantaged Business Enterprise Office personnel or their designated representative shall have access to contractor and subcontractor(s) records pertaining to, but not specifically limited to labor, costs and materials supplied and used on the Board contract, as well as inspection and photocopying of any and all contracts, agreements and correspondence relative to the Disadvantaged Business Enterprise contract participation requirements. Such inspection will be performed during normal business hours, and will be conducted in such a fashion so as to minimize interference with production of the contract. Visits may be made to job sites, as well as to administrative offices of the contractor and subcontractor(s) participants. Such inspection and on-site visits may be scheduled with or without prior notice to the contractor or Disadvantaged Business Enterprise subcontractor participant. Contractors’ failure to comply with these monitoring requirements may result in termination of the contract or such other remedy as deemed appropriate by Board.

11. **Maintaining Records:**

Subsequent to the completion of a contract, contractors are required to maintain for three (3) years such records as are necessary to determine compliance with their DBE obligations. During construction, or performance of the DBE obligations, contractors shall submit reports as requested to enable the DBE Office to monitor this compliance.

12. **Umbrella Bonding:**

On contracts where subcontracting exists and where practicable (i.e., when a substantial risk or financial hardship would not be incurred by the prime contractor), the contractor may use an umbrella bond to encompass the DBE firm.
13. **Board Action to Seek Compliance:**

The contractor consents to such appropriate actions taken to ensure that prime contractors and subcontractors comply with the DBE provisions, to include but not limited to:

- **a.** desk audits to review all material, and information concerning the contractor’s compliance;
- **b.** on-site reviews that may include interviews, visits to project locations, and inspection of documents and/or information not available at the desk audit that pertains to the contractor’s compliance;
- **c.** any additional investigation that may be called for by a lack of proper record keeping, failure of the prime contractor to cooperate; failure of DBEs to cooperate; visible evidence unsatisfactory performance; other evidence as may warrant further investigation.

14. **Non-Compliance Finding:**

The Board staff will make compliance determinations regarding its prime contractors. Documentation of noncompliance will include the specific areas in which the contractors failed to comply. In these instances, appropriate legal action consistent with the DBE and other contract provisions will be taken.

15. **Contractor’s Duties**

- **a.** **Record Keeping**

  Successful bidders shall establish and maintain records and submit regular reports to the DBE office as required, which will identify and assess progress in achieving DBE subcontract goals and other DBE participation efforts.

- **b.** **Failure To Comply With EDBP Participation Requirements**

  Failure to comply with any of the EDBP requirements of this contract shall constitute a violation of the terms and conditions of
this contract and a cause for the termination of the contract at the option of the Board.

**Such violations shall include, but not limited to:**

Failing to meet the percentage participation requirements as set out in the contract documents.

Failing to use certified EDBP contractors/vendors in performing the scope of work as identified in the contract documents (EDBP participation summary sheet).

Failing to comply with the “monitoring of EDBP requirements” included herein as part of the contract, such as contractors:

- Failure to submit quarterly report and any other necessary reports timely and adequately as required by the EDBP Office.
- Failure to grant access to contractor/subcontractor records by EDBP Office personnel, and
- Failure to allow on-site investigations and visits, etc.
- Failing to report the removal or termination of a certified EDBP vendor/subcontractor.
- Failing to secure authorization for replacement of certified EDBP subcontractors from the Director of the Economically Disadvantaged Business Program.

In Lieu of termination the Board, through the EDBP Office, may impose the following penalties:

- Withhold from the contractor in violation up to 10% of all future payments due to the contractor, until such time as the violations have been corrected.
- Withhold from the contractor in violation, all future payments until such time as the violations have been corrected.
c. **Subcontract Clause**

All bidders and potential contractors must assure the Board that they will include the above clauses in all agreements, which offer further subcontracting opportunities.

d. **Contract Award**

Bidders are hereby advised that meeting DBE subcontract goals or making a demonstrated good faith efforts to meet such goals are conditions of being awarded and maintaining construction, procurement, or professional services contracts by the Board.

e. **Restrictions on DBE Subcontracting**

No **DBE** subcontractor or vendor selected to perform work as a **DBE** on a Sewerage and Water Board contract will be allowed to subcontract any portion of its work to a Non-Board certified **DBE**, unless the work to be performed is necessary for the execution of the contract and there are no Board certified **DBE’s** available to perform such work.

This process will require that each **DBE** participant performing work on a Sewerage and Water Board funded contract submit a request to subcontract out any portion of work deemed necessary for execution of the contract to the Board’s **EDBP** office. On a form provided by the **EDBP** office, the **DBE** contractor or vendor will indicate the dollar amount of work to be subcontracted, the specific scope or nature of the work, the percentage of the total amount of work to be performed by the **DBE** subcontractor and vendor, and the entity to whom the work will be subcontracted.

Both prime and **DBE** subcontractors are advised that the failure to comply with these requirements may result in the loss of **DBE** certification and non-compliance by the prime contractor in meeting **DBE** contractual obligations.

f. **Changes In DBE Participation**

The Prime Contractor will not be allowed to make changes in DBE participation without submittal of a written request explaining
reason, a revised Participation Summary Sheet and approval by the Director of the Economically Disadvantaged Business Program. Failure to comply with these requirements may result in non-compliance by the Prime Contractor in meeting DBE contractual obligations.

16. **POLICY TO ENHANCE THE USE OF DBE VENDORS**

All vendors/contractors are encouraged to identify and use S&WB certified DBE vendors to the fullest extent possible in major as well as minor purchases of heavy equipment, hardware supplies, etc.

The Sewerage and Water Board has a long-standing commitment to fairness and equal opportunity in hiring and contracting. As such, the workforce of contractors/vendors is encouraged to be representative of a diverse population. Achievement of the full benefits of diversity will only come when an attitude of inclusion is adopted.

The Sewerage and Water Board believes that developing such a policy would be a positive step to increase the dollar value of contracts awarded to DBE vendors and subcontractors.

17. **ACCESS TO APPROVED VENDOR LISTS**

The current listings of Vendors approved by the Sewerage and Water Board are available for use by the bidders on the Sewerage and Water Board external Website, WWW.SWBNO.ORG.
PART 2

CONTRACTING REQUIREMENTS
AGREEMENT

THIS AGREEMENT is by and between the Sewerage and Water Board of New Orleans (Owner) and ________________________________ (Contractor).

Owner and Contractor, in consideration of the mutual covenants set forth herein, agree as follows:

1. WORK

1.1. Contractor shall complete the Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

- Demolition and removal of the existing 100 HP air compressor currently located at the Sycamore Filter Gallery.
- Demolition and removal of existing air dryer, (2) two reciprocating compressors, and associated piping.
- The erection of walkway, and platform at the proposed location of the air compressors.
- Furnish and install (2) new 60 HP rotary compressors, (1) new refrigerant cycling air dryer, and 1550 gallon vertical storage tank.
- Furnish and install all associated piping to compressed air system.
- Furnish and install valving and piping around the filter gallery to provide compressed air to filters.
- Furnish and install electrical equipment required for the powering and control of the compressed air system.
- Furnish and install of new acid piping, and repair existing piping fiberglass tray.
- Clean up of the job site.
- All other work required to properly complete this project.

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

3. ENGINEER

3.1. The Project has been designed by Sewerage & Water Board of New Orleans, who is to act as the Engineer-of-Record under the oversight and administration of the Owner’s Representative.

4. CONTRACT TIMES

4.1. Time of the Essence: Time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.2. Days to Achieve Substantial Completion and Final Payment:

4.2.1. The Work shall be substantially completed within 180 days from the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 180 calendar days after the date when the Contract Times commence to run.

4.3. Liquidated Damages:

4.3.1. Should the Contractor fail to commence or start the work within the time allotted or fail to complete individual phases of the work within the times allotted for said individual phases, the Contractor shall pay to the Board the sum of $500.00 liquidated damages for each calendar day beyond the times specified. If unforeseen circumstances are encountered at the work site, the Contractor may request in writing an extension in days for the completion of work. If granted, the extension of time must be approved in writing by the Engineer and submitted with the invoice.

4.4. Night, Weekend or Holiday Work

4.4.1. Night, weekend or holiday work which requires the presence of an engineer or inspector will not be permitted except in cases of emergency or by permission of the Engineer. Except in cases of emergency, all requests for night, weekend or holiday work shall be submitted in writing at least seven calendar days prior to the work being performed. Any approved night, weekend or holiday work requires prior written authorization from the Engineer.
5. CONTRACT PRICE

5.1. Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to the prices stated in Contractor’s Bid attached hereto as an exhibit.

5.1.1. Lump Sum: For Work other than Unit Price Work, a lump sum of $__________.

6. PAYMENT PROCEDURES

6.1. Submittal and Processing of Payments: Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.2. Progress Payments and Retainage: Owner will make progress payments on account of the Contract Price on the basis of Contractor’s Application for Payment on the date of each month as established in the preconstruction conference during performance of the Work as provided herein. All such payments will be measured by the Schedule of Values established as provided in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided in the General Requirements.

6.2.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:

6.2.1.1. Ninety-five percent of Work completed for contracts in the amount of $500,000.00 or greater (with the balance being retainage).

6.2.1.2. Ninety percent of Work completed for contracts in an amount less than $500,000.00 (with the balance being retainage).

6.2.1.2. Ninety percent of the paid invoice value of materials and equipment not incorporated in the Work, with 5 percent retainage withheld from this amount.

6.2.2. In accordance with Louisiana Statute 38:2249, Contractor may withdraw up to the entire retained amount if they deposit an equal amount in a Certificate of Deposit issued by a commercial bank or savings and loan located in Louisiana.
6.2.3. In accordance with Louisiana Statute 38:2248.A, retainage will be released within 45 days of Substantial Completion.

6.2.4. Upon Substantial Completion, Owner will pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer will determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer’s estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.3. Final Payment:

6.3.1. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner will pay the remainder of the Contract Price as recommended by Engineer as provided in Paragraph 14.07.

7. CONTRACTOR’S REPRESENTATIONS

7.1. In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

7.1.1. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

7.1.2. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

7.1.3. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

7.1.4. Contractor has carefully studied: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) if any, which have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable “technical data”, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site which have been identified in Paragraph 4.06 of the Supplementary Conditions as containing reliable “technical data.”

7.1.5. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the
Contract Documents; and Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on 1) the cost, progress, and performance of the Work; 2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and 3) Contractor’s safety precautions and programs.

7.1.6. Based on the information and observations referred to above, Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

7.1.7. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

7.1.8. Contractor has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

7.1.9. The Contract Documents are generally sufficient to indicate and convey understanding of terms and conditions for performance and furnishing of the Work.

8. CONTRACT DOCUMENTS

8.1. Contents:

8.1.1. The Contract Documents that are attached to this Agreement (except as expressly noted otherwise) consist of the following:

8.1.1.1. This Agreement.

8.1.1.2. Performance bond.

8.1.1.3. General Conditions

8.1.1.4. Supplementary Conditions

8.1.1.5. Specifications as listed in the table of contents of the Project Manual.
8.1.1.6. Drawings consisting of Dwg. No. 12108-W43 with each sheet bearing the following general title: “Furnish and Installation of Air Compressors and Associated Equipment at the MWPP”.

8.1.1.7. Addenda

8.1.2. Exhibits to this Agreement (enumerated as follows):

8.1.2.1. Contractor’s Bid.

8.1.3. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

8.1.3.1. Notice to Proceed.

8.1.3.2. Work Change Directives.

8.1.3.3. Change Order(s).

8.2. There are no Contract Documents other than those listed above in this Article.

8.3. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

9. MISCELLANEOUS

9.1. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

9.2. Successors and Assigns: Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.3. Severability: Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.4. Assignment of Contract:

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

9.5. Contractor’s Certifications:

9.5.1. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this paragraph:

9.5.1.1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in Contract execution;

9.5.1.2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract Price at artificial noncompetitive levels, or (c) to deprive Owner of the benefits of free and open competition;

9.5.1.3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

9.5.1.4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.
IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner, Contractor, and Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on ______, 20___ (which is the Effective Date of the Agreement).

OWNER: ____________________________
______________________________
By: ____________________________
Title: ____________________________

[CORPORATE SEAL]
Attest: ____________________________
Title: ____________________________
Address for giving notices:
______________________________

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CONTRACTOR: ____________________________
______________________________
By: ____________________________
Title: ____________________________

[CORPORATE SEAL]
Attest: ____________________________
Title: ____________________________
Address for giving notices:
______________________________

License No. ____________________________
(Where applicable)
Agent for service or process: ________
______________________________

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

END OF SECTION
PERFORMANCE BOND FORM

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:
Amount:
Description (Name and Location):

BOND

Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:
Signature: __________________________(Seal) __________________________(Seal)
Name and Title

SURETY

Signature and Title

By: __________________________

Space is provided below for signatures of additional parties, if required.

CONTRACTOR AS PRINCIPAL

Company:
Signature: __________________________(Seal)

SURETY

Signature and Title

Attest: __________________________

(Attach Power of Attorney)
Name and Title

Surety’s Name and Corporate Seal

By: ______________________________
Signature and Title

(Attach Power of Attorney)

Attest: ______________________________
Signature and Title
NEW ORLEANS MASTER 469936

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.

3. If there is no Owner Default, Surety’s obligation under this Bond shall arise after:

   3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner’s right, if any, subsequently to declare a Contractor Default; and

   3.2. Owner has declared a Contractor Default and formally terminated Contractor’s right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1.; and

   3.3. Owner has agreed to pay the Balance of the Contract Price to:

       1. Surety in accordance with the terms of the Contract;

       2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.

4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety’s expense take one of the following actions:

   4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

   4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

6. After Owner has terminated Contractor’s right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

   6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;
6.2. Additional legal, design professional, and delay costs resulting from Contractor’s Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after Contractor Default or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1. Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.

12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.
PAYMENT BOND FORM

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR
(Name and Address):

SURETY
(Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:
Amount:
Description (Name and Location):

BOND

Bond Number:
Date (Not earlier than Contract Date):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:
Signature: ____________________________ (Seal)
Name and Title

SURETY

Surety’s Name and Corporate Seal
By: _________________________________
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _______________________________
Signature and Title
NEW ORLEANS MASTER 469936

CONTRACTOR AS PRINCIPAL

Company:
Signature: ___________________________ (Seal)
Name and Title

SURETY

_____________________________ (Seal)
Surety’s Name and Corporate Seal

By: _______________________________
Signature and Title

(Attach Power of Attorney)

Attest: _______________________________
Signature and Title
1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to Owner, this obligation shall be null and void if Contractor:

   2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

   2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

   4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

   4.2. Claimants who do not have a direct contract with Contractor:

      1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and

   2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. Reserved.

7. Surety’s total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner’s priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions:

15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms “labor, materials or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor’s Subcontractors, and all other items for which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY – Name, Address and Telephone Surety Agency or Broker:
Owner’s Representative (engineer or other party):

END OF SECTION
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.19:

Engineer is the General Superintendent for the Sewerage and Water Board of New Orleans or delegate and has the authority provided in this Contract to approve or disapprove all changes to the Contract documents.

SC-1.01. Add the following language at the end of Paragraph 1.01.A.44:

Substantial Completion is further defined as (i) that degree of completion of the Project’s operating facilities or systems sufficient to provide Owner the full time, uninterrupted, and continuous beneficial operation of the Work; and (ii) required functional, performance and acceptance, or startup testing has been successfully demonstrated for components, devices, equipment, and instrumentation and control to the satisfaction of Engineer in accordance with the requirements of the Specifications.

SC-1.01. Add the following new paragraph immediately after Paragraph 1.01.A.51:

1.01.A.52. Specialist—The term Specialist refers to a person, partnership, firm, or corporation of established reputation (or if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the Contract Documents, or otherwise performing Work required by the Contract Documents. Where the Specifications require the installation by a Specialist, that term shall also be deemed to mean either the manufacturer of the item, a person, partnership, firm, or corporation licensed by the manufacturer, or a person, partnership, firm, or corporation who will perform the Work under the manufacturer’s direct supervision.

1.01.A.53. Construction Coordinator—The term Construction Coordinator, where and when used, refers to an authorized representative of Owner or Engineer who may be assigned to the Site or any part thereof to monitor and oversee construction activities by Contractor. Synonymous with Resident Project Representative (RPR) and Owner’s Representative.
1.01.A.54 Owner’s Representative—The term Owner’s Representative, where and when used, refers to an authorized representative of Owner who may be assigned to the Site or any part thereof to monitor and oversee construction activities by Contractor. Synonymous with Resident Project Representative (RPR) and Construction Coordinator.

SC-2.01. Delete the wording “and Owner” and “each” in lines 2 and 7 in Paragraph 2.01.B

SC-2.02. Amend first sentence in Paragraph 2.02.A to read as follows:

2.02.A. Upon award of Contract, Owner will furnish Contractor with complete conformed project documents (Drawings and Project Manual) in electronic format.

SC-2.03. Delete the third sentence of Paragraph 2.03.A in its entirety.

SC-3.01. Add the following new paragraph immediately after Paragraph 3.01.C:

3.01.D. Sections of Division 01, General Requirements, govern the execution of the Work of all sections of the Specifications.

SC-4.02. Add the following new paragraph(s) immediately after Paragraph 4.02.B:

4.02.D. The following drawings of physical conditions relating to existing surface and subsurface structures at the Site (except Underground Facilities) are known to Owner:

4.02.D.1. Record drawings of the Main Water Purification Plant.

4.02.E. Copies of reports and drawings itemized in SC-4.02.C and SC-4.02.D that are not included with Bidding Documents may be examined at Owner’s offices during regular business hours. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner.

SC-4.06. Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following in their place:

4.06.A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner.

SC-5.01. Delete in Paragraph 5.01.A first sentence the wording “and payment”

SC-5.02. Add the following new paragraph immediately after Paragraph 5.02.A:

SC-5.02.B. As an alternative to the requirements in paragraph A above, bonds may also be provided by a Louisiana Domiciled Insurance company with at least an A.M. Best’s Financial Strength Rating of A minus (A-) rating, or the bond shall be written by an insurance company that is either domiciled in Louisiana or owned by Louisiana...
residents and is licensed to write surety bonds. In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana. Surety and insurance companies from which the bonds and insurance for this Project are purchased under the provisions of paragraph 5.02.A shall have an A.M. Best’s Financial Strength Rating of A minus (A-) or better with a Financial Size Category of no less than VII, in addition to other requirements specified herein.

SC-5.04. Add the following language after Paragraph 5.04.B.1:

Policies will endorse the following parties or entities as additional insured:

5.04.B.1.a. Sewerage and Water Board of New Orleans, 625 St. Joseph Street, New Orleans, Louisiana 70165

5.04.B.1.b. The City of New Orleans, 1300 Perdido Street, New Orleans, Louisiana 70112

SC-5.04. Add the following new paragraph immediately following Paragraph 5.04.B:

5.04.C. Insurance: General Requirements

The Contractor will maintain, at his own cost and expense, and in good standing, such insurance as will protect the Sewerage and Water Board of New Orleans (the Board), the City of New Orleans (the City,) their officers, officials, employees, boards, commissions and volunteers, as well as the Contractor himself and any subcontractors from and against any and all claims for damages to public and private property and personal injury, including death, to employees or to the public, which may arise from any operations under this Contract or any of its subcontracts. The coverage will contain no special limitations on the scope of protection afforded to the Board and the City. Both the Board and the City will appear as “Additional Insured” on all Commercial General Liability and Business Automobile Liability. Any failure to comply with the reporting provisions of a policy will not affect coverage provided to the Board and the City, their officers, officials, employees, boards and commissions and volunteers. The Contractor’s insurance will apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer’s liability.

In general, insurance is to be placed with insurers with an A.M. Best’s rating of A-:V, although this requirement may be reviewed and modified by the Risk Manager of the Sewerage and Water Board of New Orleans in the best interest of the Board. The Risk Manager may also consider performing such review upon written request from the Contractor. The Contractor shall furnish the Sewerage and Water of New Orleans with certificates of insurance affecting coverage required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates of insurance are to be received and approved by the Risk Manager of the Sewerage and Water Board of New Orleans, 625 St. Joseph St., Rm. 119, New Orleans, LA 70165, before work
commences. The Sewerage and Water Board of New Orleans reserves the right to require complete, certified copies of all insurance policies at any time, as proof that the insurance placed meets the requirements of this Contract.

If the insurance is written subject to a deductible clause, Contractor assumes responsibility for the amount of the deductible. In addition, the Contractor shall be required to furnish to the Risk Manager of the Sewerage and Water Board of New Orleans all copies of investigative reports with regard to any and all claims with the Contractor and his insurance carriers, relative to the contract, with the exception of claims filed with his Workers’ Compensation Insurance. Such reports shall include dates, location and description of loss as well as amounts of settlements or judgments in order that annual aggregate limits maybe monitored by the Sewerage and Water Board of New Orleans for the Contactor’s compliance with these Specifications.

The furnishing of insurance as provided above shall not relieve the Contractor of his responsibility for losses not covered by insurance. All policies shall be with insurance companies authorized to do business in Louisiana and shall remain in full force and effect until the final completion of the work and acceptance thereof by the authority of the Board.

5.04.C.1 Subrogation

The Contractor, Subcontractor(s), and their insurers shall agree to waive all the rights of subrogation against the Board, the City, and their officers, officials, employees, boards and commissions, and volunteers for losses arising from work performed by the Contractor for the Board and the City.

5.04.C.2. Insurance Cancellations and Stop-Work

Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the Risk Manager, 625 St. Joseph St., Rm. 119, New Orleans, LA 70165, of the Sewerage & Water Board of New Orleans, via certified mail.

The Contractor and/or his insurer shall notify the Risk Manager of the Sewerage and Water Board of New Orleans at least thirty (30) days in advance of any insurance coverage to be canceled or of any insurance coverage that will expire. The Contractor shall simultaneously furnish the Board evidence of new coverage to be effective the same day and hour of the expired or canceled coverage.

In the event the Contractor and/or his insurer fails to submit this evidence of new coverage five (5) days prior to the cancellation date or expiration date of any policy or policies, the Sewerage and Water Board will have the right to obtain the required coverage to become effective on the date of cancellation or expiration of said policies. The cost of such new policies shall be at the
expense of the Contractor and any expenditure incurred by the Board for this coverage will be deducted from any balance due to the Contractor.

Should the Board be unable to secure new coverage to take the place of the expired or cancelled policy or policies, a “stop work” order will be issued and all work on the contract shall cease on the same date and hour as the coverage ceases. Should the Contractor fail or refuse to secure coverage within five (5) days after the date of the “stop work” order, the Contractor shall be declared to be in default, and the contract between the parties shall be considered cancelled and of no further force or effect between the parties reserving all the rights of the Board against the Contractor and his surety.

5.04.C.3. Insurance Policies, Endorsements, and Limits Required

The following are the types of insurance policies and the minimum limits of insurance coverage which shall be maintained by the Contractor during the entire term of the Contract:

5.04.C.3.a. WORKERS’ COMPENSATION AND EMPLOYERS LIABILITY INSURANCE

WORKERS’ COMPENSATION AND EMPLOYERS LIABILITY INSURANCE, as will protect Contractor from claims under Louisiana Workers’ Compensation Laws. The Workers’ Compensation section of the policy shall afford Statutory Limits and be in accordance with all Louisiana Workers’ Compensation Statutes. The Employers Liability limit shall not be less than $1,000,000 each accident for bodily injury by accident and $1,000,000 each employee/policy limit for bodily injury by disease. Whenever any Federal Longshoreman’s and Harbor Workers’ Act, and shall also include protection for injuries and/or death to Master and Members of the crews of vessels with statutory limits in accordance with the Jones Act.

5.04.C.3.b. COMMERCIAL GENERAL LIABILITY INSURANCE

COMMERCIAL GENERAL LIABILITY INSURANCE, with a limit of not less than $1,000,000 each occurrence and not less than $2,000,000 general annual aggregate, including Explosion, Collapse, and Underground Property Damage Hazards. The Products-Completed Operations aggregate limit shall not be less than $1,000,000 each occurrence. The general aggregate limit shall apply separately to this project.

5.04.C.3.c. BUSINESS AUTOMOBILE LIABILITY INSURANCE
BUSINESS AUTOMOBILE LIABILITY INSURANCE, which shall cover liability arising out of accidents involving any auto (including Owned, Hired, and Non-Owned autos). The limit of liability shall not be less than $1,000,000 each accident for all injuries, property damage, and/or death resulting from any one occurrence.

5.04.C.3.d. OWNER’S AND CONTRACTOR’S PROTECTIVE LIABILITY INSURANCE

OWNER’S AND CONTRACTOR’S PROTECTIVE LIABILITY INSURANCE, as will protect the Contractor, the Sewerage and Water Board of New Orleans, and the City of New Orleans from and against any and all claims and lawsuits involving vicarious liability. The limits of liability shall be the same as specified in Paragraph (b) above, and shall include Explosion, Collapse and Underground Hazards.

5.04.C.3.e. PROFESSIONAL LIABILITY INSURANCE

PROFESSIONAL LIABILITY INSURANCE, applicable to the particular profession or service to be provided, with a limit of not less than $1,000,000 each Claim, with at least a $2,000,000 annual aggregate, and without any restrictive “negligent act, negligent error, or negligent omission” clause, and sufficient to protect the Contractor, the Board, and the City, for a five (5) year period from completion of this contract, against any and all claims which may arise from the Contractor’s negligent performance of work described herein.

5.04.C.3.f. PROPERTY INSURANCE

PROPERTY INSURANCE, required on all work except sewer and water drainage pipelines, reinforced concrete canals, work completely underground, and similar work (however Contractor is not relieved of responsibility therefore) as follows:

5.04.C.3.f(1).

ALL RISKS BUILDERS RISK INSURANCE (covering Fire, Extended Coverage, Vandalism and Malicious Mischief) will be carried on a completed value or reporting form, for not less than 100 percent of the value of the work, including foundations.

Coverage will include all machinery and equipment to be installed, whether furnished by the Sewerage & Water Board or by Contractor, for not less than 100 percent of the installed value of the machinery and equipment. This insurance shall be written in the same Insurance Company carrying the Builder’s
Risk Insurance, shall include testing and startup, shall for partial utilization of the Work by Owner, and shall terminate only when installation has been accepted by the Sewerage and Water Board.

The All Risks Builder’s Risk Policy shall include the names of the Sewerage & Water Board of New Orleans, and City of New Orleans, and will cover the interests of all sub-contractors without specifically naming them.

5.04.C.3.g. WORKERS’ COMPENSATION AND UNEMPLOYMENT COVERAGE, ADDITIONAL CONDITIONS

5.04.C.3.g(1)

WORKERS’ COMPENSATION: The Contractor expressly agrees and acknowledges that it is an “independent contractor” as defined in LSA-R.S.23:1021(6), and that its employees shall not be considered employees of the Board for workers’ compensation benefits or coverage.

5.04.C.3.g(2)

EXCLUSIVE OF UNEMPLOYMENT COMPENSATION COVERAGE: Contractor herein expressly agrees and acknowledges that it is an “independent contractor” as defined in LSA-R.S.23:1472(E0, that neither the contractor nor any one employed by the Contractor shall be considered an employee of the Board for the purpose of employment of compensation coverage.

SC-5.06. Delete Paragraph 5.06.A in its entirety.

SC-5.06. Delete Paragraph 5.06.B in its entirety.

SC-5.06. Delete Paragraph 5.06 E in its entirety.

SC-5.07. Delete third sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

Contractor and Contractor’s insurers waive all rights against Owner and their respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors,
members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused.

SC-5.07. Delete the last sentence of Paragraph 5.07.A in its entirety and insert the following in its place:

None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Contractor as trustee or otherwise payable under any policy so issued.


SC-5.08. Delete Paragraph 5.08.A in its entirety.

SC-5.08. Delete Paragraph 5.08.B in its entirety.

SC-6.02. Add the following language to the end of Paragraph 6.02.B:

SC-6.02. Add the following new paragraph immediately after Paragraph 6.02.B:

6.02.C. Contractor shall reimburse Owner for Engineer’s additional extraordinary costs for onsite personnel overtime work resulting from Contractor’s overtime operations. Reimbursement shall be on the cost basis defined in Paragraph 14.02.D.4 of these Supplementary Conditions.

6.03. Add the following new paragraph immediately after Paragraph 6.03.C:

6.03.D. Domestic Manufacture:

6.03.D.1. All equipment to be furnished and components of all items specified herein, except bearings, shall be of domestic produce, manufacture and assembly, i.e., manufactured and assembled within the limits of the United States. Parts must be available from suppliers that manufacture components in the USA. The Board reserves the right to waive this requirement if, in the opinion of the Engineer, it appears to be in the best interests of the Board.

6.03.D.2. Sewerage and Water Board staff will determine the ability of the lowest bidder to design and build the equipment and machinery specified hereon. Along with other factors to be considered by Sewerage and Water Board staff will be the manufacturer’s facilities, listings of similar equipment and installations, equipment reliability and longevity. Should the lowest bidder be found “non-responsive”, then an informal hearing will be held to provide the lowest bidder the opportunity to refute the reasons for disqualification.

SC-6.05. Add the following language at the end of Paragraph 6.05.E:
Reimbursement rates for Engineer or their officers, directors, members, partners, employees, agents, and other consultants and subcontractors for evaluation of proposed substitutes shall be on the basis established in Paragraph 14.02.D.4 of these Supplementary Conditions.

SC-6.06. Add the following new paragraph immediately after Paragraph 6.06.G:

6.06.H. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

SC-6.08. Add the following language:

6.08 Permits:

A. Before commencing work, the Contractor shall obtain, at his own expense, any required permits from the City of New Orleans. The Contractor shall also secure, at his own expense, any necessary inspection certificates required after the work is completed.

B. Evidence of compliance shall be furnished to the Board prior to starting work, in the case of permits, or within 10 calendar days after completion of that work requiring inspection certificates.

SC-6.11. Add the following language to the end of Paragraph 6.11.A.1:

Contractor shall not enter upon nor use property not under Owner control until appropriate easements have been executed and a copy is on file at the Site.

SC-6.13. Add the following new paragraphs immediately after 6.13.C:

6.13.C.1. The Owner’s Safety Orientation Notice is applicable to the Work and is appended to these Supplementary Conditions.

6.13.C.2. The Owner’s Drug-Free Workplace Policy is applicable to the Work and is appended to these Supplementary Conditions.

6.13.C.3. Owner’s Safety Clearance Procedure

**Definitions:**

**Operator:** The Board employee who is onsite and in responsible charge of the operation of the plant, station, or other facility.

**Out of Service:** The electrical/mechanical disconnection of equipment which is to remain inoperable.
**Power Dispatcher:** The shift employee on duty at Central Control at the time safety clearance occurs.

**Signee:** The person who actually tags-out equipment for safety clearance.

**Supervisor/Foreman:** The Board employee who is the supervisor/foreman in responsible charge of the repair/maintenance of one or more work locations which requires safety clearance. This person may not necessarily be "onsite" at any particular location.

**Tag-out:** The physical tagging of equipment by an operator for the purpose of disabling equipment.

**Lock-out:** The physical locking of equipment by an operator for the purpose of disabling equipment.

**General Provisions**

1) All equipment repair/maintenance work which is scheduled and requires safety clearance should be presented to Central Control at the beginning of each work day by the supervisor/foreman/electrical engineer in charge of the repair/maintenance. Twenty four (24) hour advance notice of scheduled work for major outages is desirable; however, it is understood that due to the nature of the services provided by the Board this preferred notice may not be possible for every safety clearance.

2) In cases where two or more crafts are working on, or require safety clearance on the same equipment, the supervisor/foreman/electrical engineer for each craft must follow the appropriate safety clearance procedure and the equipment must be tagged out for each craft's signee. No equipment can be tested and/or restored to service until all tags have been removed in accordance with the tag removal procedure.

3) When an operator requests service for equipment at an unmanned facility, i.e. an unmanned sewer station or unmanned underpass station, from either Electrical Maintenance or Mechanical Maintenance, the appropriate maintenance department shall request the responsible operator to tag-out the equipment. When the appropriate maintenance department, in the course of servicing this equipment, requires restoration of power, the appropriate maintenance department shall contact the responsible operator directly (if operator is present) or by radio or telephone (if operator is absent) and request that the responsible operator grant his permission. If the power is to be restored for only a short duration, the appropriate maintenance department shall thereafter contact the operator for permission to either remove power or restore power, as often as needed. The operator shall log each request. If the request to restore power is for a short duration only, and the operator does not receive contact from the appropriate maintenance personnel to remove power.
again, the operator shall make every attempt to contact the appropriate maintenance personnel in order to ensure that no accident has occurred.

4) If equipment must remain "Out of Service" upon completion of the onsite work, the signee must request their tag be replaced with an "Out of Service" tag in the name of their department: e.g. "Out of Service - Electrical Maintenance", in addition it must be physically locked-out by that department. However the "Out of Service" tag does not relinquish the responsibility of following the safety clearance procedure each day that piece of equipment is worked on.

5) Any equipment restored to service after being tagged "Out of Service" must be tested through operational test procedures. The signee must remain, when possible, on-site until testing is complete.

6) Any individual involved in these procedures may halt the procedure at any time if it is felt the safety of the personnel and/or equipment warrants said stoppage, or if conditions within the system change that may require postponement of the work.

7) In the event the responsible person, signee, leaves the job site without releasing the cleared equipment and is unreachable to release their tag-out the following procedure must be enacted before the signees name, tag-out, can be removed from the cleared equipment.

a) Cause must be established by the senior power dispatcher giving reason to remove the tag-out.
b) Senior power dispatcher must receive orders from the Chief of Operations or higher, in his absence, to remove said tag-out.
c) Concurrence given by a senior representative of the following:
   • Department or company to which the signee works for.
   • Senior representative of the plant, station, facility in which the tag-out occurs.
   • If jobsite is in the field then, inspection by Electrical Engineering assuring work has halted for the day.
d) Once all areas have been satisfied then the senior power dispatcher may have the signees tag-out removed.

NOTE: The above and following procedures may be deviated from above at the discretion of the power dispatcher in cases of emergency.

SC-6.17. Add the following new paragraphs immediately after Paragraph 6.17.E.1:

6.17.E.2. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than the number of submittals specified in Paragraph 14.02.D.4 of these Supplementary Conditions. Engineer will record time for reviewing subsequent submittals of Shop
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Drawings, Samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer’s charges for such time in accordance with Paragraph 14.02.D.4 of these Supplementary Conditions.

6.17.E.3. In the event Contractor requests a substitution for a previously approved item, Contractor shall reimburse Owner for Engineer’s charges for such time, unless the need for such substitution is beyond the control of Contractor.

SC-7.02. Delete Paragraphs 7.02.A and 7.02.B in their entirety and insert the following in their place:

7.02.A. Owner intends to contract with others for the performance of other work on the Project at the Site. The authority and responsibility of the Construction Coordinator for the various prime contractors, utility owners, and Owner (if present at the Site) shall be as follows:

7.02.A.1 Owner’s Representative, whom the engineer may name at a later date, shall have authority and responsibility for coordination of the various contractors at the Site.

7.02.A.2. Specific matters to be covered by such authority and responsibility: Prioritization of work activity should conflicts occur in work areas between contractors or between contractor and Owner’s operations; approval of requests to curtail, interrupt, or otherwise disrupt Owner operation to allow Contractor work to be scheduled and/or occur; cancellation of scheduled Contractor activity in the event Owner requirements supersede prior plans; other issues that require approval or prioritization relative to interference with Owner operations or conflicts with other.

7.02.A.3. Extent of such authority and responsibility: Owner’s Representative decision and direction to Contractor shall be final. Planning and discussions to coordinate options relative to operational disruptions requested by Contractor will be scheduled by Owner’s Representative. Owner’s Representative will review and respond to requests by the Contractor for outage, interconnection, operational disruption, contract activity prioritization, or the like, within 10 business days.

7.02.A.4. Limitations of such authority and responsibility: Owner’s Representative may not modify the Contract or its terms and conditions.

7.02.B. Unless expressly assigned to the Construction Coordinator, all other authority and responsibility will remain vested with each prime contractor, utility owner, or Owner (if present at the Site).

SC-7.04. Add the following new paragraph immediately after Paragraph 7.03:

SC-7.04. Claims Between Contractors
7.04.A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor’s performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the Construction Coordinator, if applicable, Contractor shall (without involving Owner, Engineer, or Construction Coordinator) either i) remedy the damage; ii) agree to compensate the other contractor for remedy of the damages; or iii) remedy the damages and attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

7.04.B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the Construction Coordinator (if applicable) and the officers, directors, members, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all Claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, their officers, directors, members, partners, employees, agents, and other consultants and subcontractors, or the Construction Coordinator (if applicable) to the extent said Claim is based on or arises out of Contractor’s performance of the Work. Should another contractor cause damage to the work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the Construction Coordinator (if applicable) or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the Construction Coordinator (if applicable) on account of any such damage or Claim.

7.04.C. If Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor’s exclusive remedy with respect to Owner, Engineer, and Construction Coordinator (if applicable) for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or Construction Coordinator (if applicable) for activities that are their respective responsibilities.

SC-8.02. Delete Paragraph 8.02.A in its entirety and replace with the following:

8.02.A. In case of termination of the employment of Engineer, Owner shall appoint an Engineer whose status in the Contract Documents shall be that of the former Engineer.

SC-8.06. Delete Paragraph 8.06.A in its entirety.
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SC-9.03. Add the following new paragraphs immediately after Paragraph 9.03.A:

9.03.B. Resident Project Representative (RPR) will be furnished by Owner. The responsibilities, authority, and limitations of the RPR are limited to those of Engineer in accordance with Paragraph 9.09 and as set forth elsewhere in the Contract Documents and are further limited and described below.

9.03.C. Responsibilities and Authority:

9.03.C.1. Schedules: Review and monitor Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.

9.03.C.2. Conferences and Meetings: Conduct or attend meetings with Contractor, such as preconstruction conferences, progress meetings, Work conferences and other Project related meetings.

9.03.C.3. Liaison: (i) Serve as Engineer’s liaison with Contractor, working principally through Contractor’s authorized representative, and assist in understanding the intent of the Contract Documents; (ii) assist Engineer in serving as Owner’s liaison with Contractor when Contractor’s operations affect Owner’s onsite operations; (iii) assist in obtaining from Owner additional details or information when required for proper execution of the Work.

9.03.C.4. Interpretation of Contract Documents: Inform Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

9.03.C.5. Submittals: Receive submittals that are furnished at the Site by Contractor, and notify Engineer of availability for examination. Advise Engineer and Contractor of the commencement of any Work or arrival of materials and equipment at Site, when recognized, requiring a Shop Drawing or Sample if the submittal has not been approved by Engineer.

9.03.C.6. Modifications: Consider and evaluate Contractor’s suggestions for modifications in Drawings or Specifications and provide recommendations to Engineer; transmit to Contractor, in writing decisions as issued by Engineer.

9.03.C.7. Review of Work and Rejection of Defective Work: (i) Conduct onsite observations of the Work in progress to assist Engineer in determining if the Work is, in general, proceeding in accordance with the Contract Documents; (ii) inform Engineer and Contractor whenever RPR believes that any Work is defective; (iii) advise Engineer whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the
completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged or does not meet the requirements of any inspection test, or approval required to be made; and advise Engineer of that part of the Work in progress that RPR believes should be corrected or rejected or uncovered for observation, or requires special testing, inspection, or approval.

9.03.C.8. Inspections, Tests, and System Startups: (i) Verify tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; (ii) observe, record, and report to Engineer appropriate details relative to the test procedures and system startups; and (iii) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.

9.03.C.9. Records: (i) Maintain records for use in preparing Project documentation; (ii) keep a diary or log book recording pertinent Site conditions, activities, decisions and events; (iii) record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of Contractors, Subcontractors, and major Suppliers of materials and equipment.

9.03.C.10. Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

9.03.C.12. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify materials and equipment certificates and operation and maintenance manuals and other data required by Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents been delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

9.03.C.13. Completion: (i) Participate in a Substantial Completion inspection; assist in determination of Substantial Completion and the preparation of lists of items to be completed or corrected; (ii) Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied; and (iii) observe whether items on final list have been completed or corrected, and make recommendations to Engineer concerning acceptance.

9.03.D. Limitations of Authority: Resident Project Representative will not:
9.03.D.1. have authority to authorize a deviation from Contract Documents or substitution of materials or equipment, unless authorized by Engineer; or

9.03.D.2. exceed the limitations of Engineer’s authority as set forth in Contract Documents; or

9.03.D.3. undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s authorized representative; or

9.03.D.4. advise on, issue directions relative to, or assume control over an aspect of the means, methods, techniques, sequences, or procedures of Contractor’s work unless such advice or directions are specifically required by the Contract Documents; or

9.03.D.5 advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor; or

9.03.D.6. participate in specialized field or laboratory tests or inspections conducted offsite by others, except as specifically authorized by Engineer; or

9.03.D.7. accept Shop Drawings or Samples from anyone other than Contractor; or

9.03.D.8. authorize Owner to occupy the Project in whole or in part.

SC-9.09. Add the following new paragraph immediately after Paragraph 9.09.E:

9.09.F. Contractors, Subcontractors, Suppliers, and others on the Project, or their sureties, shall maintain no direct action against Engineer, its officers, employees, affiliated corporations, and subcontractors, for any Claim arising out of, in connection with, or resulting from the engineering services performed. Only the Owner will be the beneficiary of any undertaking by Engineer.

SC-10.05. Delete Paragraphs 10.05.C through 10.05.E in their entirety and insert the following in their place and renumber Paragraph 10.05.F to read 10.05.D:

10.05.C. Engineer’s Action and Executive Negotiation:

10.05.C.1. Engineer’s Action:

10.05.C.1.a. Engineer will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. Engineer’s written decision on such Claim, dispute or other matter will be final and binding upon Owner and Contractor, unless within 10 days after issuance of Engineer’s written decision, either party appeals the decision by giving
the other party and Engineer written notice of request for executive negotiation.

10.05.C.1.b. In the event Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

10.05.C.2. Executive Negotiation:

10.05.C.2.a. Within 10 days of the delivery of notice of appeal to Engineer’s written decision regarding Claim, dispute or other matter, senior representatives of at least Owner and Contractor, having authority to settle the dispute, and Engineer shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt to resolve the dispute.

10.05.C.2.b. In the event a mutually acceptable decision cannot be reached through executive negotiation within 20 days of the appealing party’s notice, or mutually agreeable longer period, or if the party receiving such notice will not meet within 10 days, Owner or Contractor may make a written declaration, delivered to the other party and Engineer, that the executive negotiation is deemed unsuccessful and may initiate further dispute resolution measures in accordance with Article 16.

10.05.C.2.c. If no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to further appeal Engineer’s written decision shall be delivered by Owner or Contractor to the other and to Engineer within 30 days after the date upon which the executive negotiation has been declared unsuccessful, or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by Owner and Contractor), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

SC-11.01. Delete Paragraph 11.01.A.5.c in its entirety and insert the following in its place:

11.01.A.5.c. Construction Equipment and Machinery:

11.01.A.5.c(1) Rentals of construction equipment and machinery, and the parts thereof in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. Such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
11.01.A.5.c(2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the Rental Rate Blue Book published by Equipment Watch. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than $1,000 will be considered small tools.

SC-11.01. Add the following language to the end of Paragraph 11.01.A.5.h:

Express and courier services must be approved prior to use.

SC-11.01. Delete Paragraph 11.01.C in its entirety.

SC-11.02. Delete Paragraph 11.02 in its entirety.

SC-12.01. Add the following language to the end of Paragraph 12.01.C.2.c:

except, the maximum total allowable cost to Owner shall be the Cost of the Work plus a maximum collective aggregate fee for Contractor and tiered Subcontractors of 20 percent;

SC-12.01. Add the following new paragraph immediately after Paragraph 12.01.C:

12.01.D. In the event Contractor submits request for additional compensation as a result of a change or differing Site conditions, or as a result of delays, acceleration, or loss of productivity, Owner reserves right, upon written request, to audit and inspect Contractor’s books and records relating to the Project. Upon written request for an audit, Contractor shall make its books and records available within 14 days of request. Owner shall specifically designate identity of auditor. As part of audit, Contractor shall make available its books and records relating to the Project, including but not limited to Bidding Documents, cost reports, payroll records, material invoices, subcontracts, purchase orders, daily timesheets, and daily diaries. Audit shall be limited to those cost items which are sought by Contractor in a change order or claim submission to Owner.

SC-13.03. Delete Paragraph 13.03.B in its entirety and insert the following in its place:

13.03.B. Contractor shall employ an independent testing laboratory or testing agency and shall be responsible for arranging and shall pay for specified tests, inspections, and approvals required for Owner’s and Engineer’s acceptance of the Work at the Site except:
13.03.B.1. costs incurred in connection with tests or inspections pursuant to Paragraph 13.04 shall be paid for as provided in said paragraph; and

13.03.B.2. as otherwise specifically provided in the Contract Documents.

SC-13.03. Add the following language at the end of Paragraph 13.03.D:

Tests required by Contract Documents to be performed by Contractor that require test certificates be submitted to Owner or Engineer for acceptance shall be made by an independent testing laboratory or agency licensed or certified in accordance with Laws and Regulations and applicable state and local statutes. In the event state license or certification is not required, testing laboratories or agencies shall meet the following applicable requirements:


13.03.D.2. Calibrate testing equipment at reasonable intervals by devices of accuracy, traceable to the National Institute of Standards and Technology or accepted values of natural physical constants.

SC-14.02. Delete Paragraph 14.02.C.1 in its entirety and insert the following in its place:

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

SC-14.02. Add the following new paragraph(s) immediately after Paragraph 14.02.D.3:

14.02.D.4. Items entitling Owner to retain set-offs from the amount recommended, including but not limited to:

14.02.D.4.a. Owner compensation to Engineer at an estimated average rate of $150 per each extra personnel hour for labor plus expenses, if applicable, because of the following Contractor-caused events:

14.02.D.4.a.(2). return visits to manufacturing facilities to witness factory testing or retesting;

14.02.D.4.a.(3). Submittal review in excess of two reviews by Engineer for substantially the same submittal, in accordance with Paragraphs 6.17.E.2 and 6.17.E.3 of these Supplementary Conditions;

14.02.D.4.a.(4). evaluation of proposed substitutes and making changes to Contract Documents occasioned thereby, in accordance with Paragraph 6.05.E of these Supplementary Conditions;
14.02.D.4.a.(5). Overtime worked by Contractor necessitating Engineer, and their officers, directors, members, partners, employees, agents, and other consultants and subcontractors of each, Resident Project Representative or Resident Project Representative’s Site staff, if any, to work extraordinary overtime in accordance with Paragraph 6.02.C. of these Supplementary Conditions.


SC-14.06. Add the following new paragraph immediately after Paragraph 14.06.A:

14.06.B. In accordance with Louisiana Statute 38:2248, punch lists will include cost estimate for each item of work identified by Engineer based on mobilization, labor, materials, and equipment costs of correcting each punch list item. Completed punch list items will be paid upon expiration of 45-day lien period.

SC-14.07. Delete Paragraph 14.07.C.1 in its entirety and insert the following in its place:

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

The percentage of the value of the work done, as stated in Paragraph 14.02.A.3 of the General Conditions, will be withheld by the Board for a period of not less than forty-five (45) consecutive calendar days after the contract has been accepted by the Board, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. At the end of the forty-five (45) day period, the percentage withheld by the Board, will be paid to the Contractor, less any sums that may be legally deducted under any provisions of this contract, upon the Contract or furnishing the Board with a certificate from the Recorder of Mortgages for the Parish of Orleans, certifying that the contract is clear of all liens and privileges.

SC-14.10. Add the following new paragraph immediately Paragraph 14.09.2:

SC-14.10 Maintenance Period. The maintenance period under this contract, except as otherwise specifically provided for herein, shall be for a period of forty-five (45) consecutive calendar days beginning from the day after the contract has been accepted by the Board, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. During the maintenance period the Contractor will repair, at his own expense, all defects in the work that may arise, to the satisfaction of the Engineer. The Contractor shall restore all surfaces for which he is responsible under the specifications, whether unimproved, partially improved, or paved surfaces (See Section B of the General Specifications), and maintain them in
good condition to the satisfaction of the Engineer. If the Contractor should fail or refuse to repair, at his own expense, any defects in structures or surfaces developing before the expiration of the aforesaid forty-five (45) days or to adjust satisfactorily any claims for damages to public or private property, the Board shall have the right to continue to hold the retainer and to make the necessary repairs and to satisfy the claims for damages, by such means as the Board shall elect, and to reimburse itself for the cost of these repairs and satisfied claims, out of the said retainer. Any surplus of this retainer will then be paid the Contractor, under the conditions above stated, any deficiency shall be made good by the surety.

SC-15.03.A. Delete the first sentence of Paragraph 15.03.A in its entirety and insert the following in its place:

Upon 7 days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract or any portion of the Contract.


SC-16.01. Delete Paragraph 16.01 in its entirety and insert the following in its place:

SC-16.01 Meet to Confer and Negotiate

16.01.A. Engineer’s action under Paragraph 10.05.C shall become final and binding 30 days after receipt of written notice of Engineer’s action or decision unless, within that time period, Owner or Contractor gives to the other party written notice of intent to submit the Claim to a process of bilateral negotiations as set forth below.

16.01.B. Within 30 days of the delivery of such notice, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

16.01.C. If the negotiations contemplated by Paragraph SC-16.01.B are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under SC-16.01.B shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

16.01.D. If the Claim is not resolved by negotiation, Engineer’s action under Paragraph 10.05.C shall become final and binding 30 days after termination of the negotiations unless, within that time period, Owner or Contractor:

16.01.D.1. gives to the other party written notice of intent to submit the Claim to a court of competent jurisdiction; or

16.01.D.2. agrees with the other party to submit the Claim to another dispute resolution process.
16.01.E. Notwithstanding any applicable statute of limitations, a party giving notice under Paragraph SC-16.01.D.1 shall commence an action on the Claim within 1 year of giving such notice. Failure to do so shall result in the Claim being time-barred and Engineer’s action or denial shall become final and binding.

END OF SECTION
STATEMENT OF POLICY

It is the policy of the Sewerage and Water Board of New Orleans that all work places associated with its operation, maintenance, improvements, and expansion be kept drug free. In order to insure this, the Sewerage and Water Board has approved the following drug testing policy to be implemented on this contract.

NOTICE

The contractor shall notify all personnel to be employed on this contract that they must submit to drug testing upon the occurrence of any accident, injury, or unsafe and hazardous incident which involves them. Agreement to submit to such drug testing shall be required for the employment of all personnel under this contract.

PENALTIES

Any employee who refuses to agree to testing under this policy or who refuses to be drug tested after the occurrence of any accident, injury or unsafe and hazardous incident which involves them, or who fails to report any such accident, injury or incident within twenty-four (24) hours of its occurrence, shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee found to have a positive test result after his conformational testing shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee deemed incompetent under these provisions shall be removed by the contractor from work under this contract and any other current Board contract.

TESTING PROCEDURE

The contractor shall while performing this contract, require any of its employees who are involved in an accident, injury or unsafe and hazardous incident while in the course and scope of their employment, whether vehicular or non-vehicular in nature, to be tested for blood alcohol or drug levels through a laboratory approved by the National Institute for Drug Abuse. Said employee shall provide a testing sample as soon as possible after such accident, injury or incident, but no longer than twenty-four (24) hours from the time of the occurrence. The contractor shall provide copies of the results of the initial testing on the samples involved to the Risk Manager of the Sewerage and Water Board of New Orleans as soon as such results are known. If the initial testing reveals a positive result, the contractor shall forward the remainder of the original testing sample to a second, conformational testing. The Sewerage and Water Board of New Orleans shall consider any result to be positive if it indicates any level which exceeds the levels set forth as follows:
CUT-OFF LEVELS INDICATING POSITIVE TEST RESULTS

The following initial cut-off levels shall be used when screening specimens to determine whether negative or positive:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Initial Test Level (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites</td>
<td>50</td>
</tr>
<tr>
<td>Cocaine metabolites</td>
<td>300</td>
</tr>
<tr>
<td>Opiate metabolites</td>
<td>300</td>
</tr>
<tr>
<td>Phencyclidine (PCP, etc.)</td>
<td>25</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>300</td>
</tr>
<tr>
<td>Alcohol</td>
<td>.04% by weight based on grams of alcohol per 100cc of blood</td>
</tr>
<tr>
<td>LSD</td>
<td>150</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>300</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>300</td>
</tr>
</tbody>
</table>

Quantitative GC/MS confirmation procedures at the following cut-off values shall be used for the following drugs:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Confirmatory Test Level (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites*</td>
<td>10</td>
</tr>
<tr>
<td>Cocaine metabolites**</td>
<td>150</td>
</tr>
<tr>
<td>Opiates (Morphine, Codeine)</td>
<td>150</td>
</tr>
<tr>
<td>Phencyclidine (PCP, etc.)</td>
<td>25</td>
</tr>
<tr>
<td>Amphetamines (amphetamine, Methamphetamine)</td>
<td>300</td>
</tr>
<tr>
<td>LSD</td>
<td>150</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>300</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>300</td>
</tr>
</tbody>
</table>

* Delta-9-Tetrahydrocannabinol - 9-Carboxylic Acid
** Benzoylecgonine
Drug-Free Workplace Policy
Sheet 3 of 3

The contractor shall choose the laboratory to be used for drug testing, and shall identify such laboratory to the Risk Manager of the Sewerage and Water Board prior to receiving approval to start work. All laboratories shall be approved by the National Institute for Drug Abuse.

The contractor shall notify the Board's Risk Manager immediately of the results of any conformational testing.

The Contractor's Senior Project Superintendent working in consultation and conjunction with the Board's Risk Manager and the Board's Engineer, shall determine whether an accident, injury or unsafe or hazardous incident occurred. The Safety Department of the Sewerage and Water Board reserves the right to investigate any such matter and make a complete report to the Executive Director of the Sewerage and Water Board whose decision shall be final.

The Sewerage and Water Board shall not be liable for any cause of action of any employee of the contractor brought against the contractor as a result of this policy. The Sewerage and Water Board shall not be liable for the contractor's failure to stipulate adherence to the terms and conditions of this drug testing policy as a condition of employment of any employee on this contract. The Board shall not release the contractor from his responsibilities under the policy unless failure to adhere to the conditions of this policy shall be a direct result of any action taken by the Board.

These requirements shall be acknowledged by signature of the contractor's authorized representative in the space provided in the "Form of Proposal".
Welcome

We welcome you to the S&WB and request your assistance in maintaining our Safety Standards. For the safety of yourself and everyone working at the S&WB, you are asked to observe the following safety precautions. When this notice has been read thoroughly, a senior representative of your company is required to distribute this information to all employees who will be affected. You may call the Board’s Risk Management Department at (504) 585-2382 or the Board’s Safety Manager, Mr. Keith Pete, at (504) 585-2522 if you have any questions.

Basic

1. Smoking will be allowed in designated areas only.

2. Horseplay, practical joking and fighting are positively prohibited.

3. The use or possession of illegal drugs or intoxicating beverages is strictly prohibited on all S&WB property.

4. Housekeeping is a must. We will keep our area safe and free from litter and expect you do to the same.

5. Handrails must always be used when going up and down ladders or stairs.

6. When working in confined spaces, the contractor must be in full compliance with Occupational Safety and Health Administration (OSHA) Standard # 29CFR 1910.146 at all times. Atmospheric conditions such as adequate ventilation, the presence of oxygen and the absence of explosive gases must be assured before working in voids, tanks, or other enclosed spaces.

7. Radios must be turned off.

Emergency

8. The S&WB Emergency Response Plan is a document, which provides specific notification instructions to be followed in case of hazardous material spills. The Board’s Environmental Affairs Office phone number is 942-3855 during normal business hours 7:30 a.m. to 4:00 p.m.

9. The Board’s 24-hour emergency lines are (504) 529-2837 and 865-0575 (Central Control Dispatcher, Carrollton Plant.)

10. Since Board contracts are performed under various circumstances at various locations, prior to beginning any work, the contractor should consult with the Board employee who is responsible for monitoring the contract in order to establish the most effective procedures for handling emergencies.
Transportation

Warning signals and lights shall be used as follows:

11. Rotating beacons shall be used if your vehicle is so equipped.

12. Tail lights / emergency flashers shall be used.

13. Orange reflector type safety cones shall be placed to give other motorists warning.

14. If vehicle is moving, backing, or parking, proper traffic control shall be exercised.

Protective Clothing and Equipment

15. All personnel who are exposed to eye hazards will wear safety glasses. Hard hats will be worn at all times while an employee is in the immediate vicinity of overhead hazards or while operating heavy equipment without a Rollover Protection Device.

16. Protective clothing and equipment such as rubber aprons and gloves, eye and face protection, approved respirators or dust masks will be worn when handling all harmful chemicals.

Reporting

17. Defective equipment, machinery, hazardous conditions, or unsafe work practices or conditions shall be reported immediately to your Supervisor / Foreman who will then contact proper S&WB personnel for corrections.

18. All injuries will be reported to the Risk Manager, (504) 585-2422, or to the Safety Unit, (504) 585-2522, regardless of how minor an injury may seem.

19. S&WB employees may hold safety meetings to discuss and promote safe working conditions and accident prevention. You may be asked to attend.

Work Smart

20. Stay alert at all times, know what is going on around you. Know the safe operating procedures concerned with your assigned duties. When your duties may influence the safety of Board employees, notify the employees and their supervisors first.

21. Vendor / Contractors shall at all times demonstrate strict compliance with all Federal, State and Local regulations regarding safety, including but not limited to, all relevant Department of Environmental Quality (DEQ), Department of Transportation (DOT), Environmental Protection Agency (EPA), and Occupational Safety and Health Act (OSHA) regulations.

22. The Vendor / Contractor will at the request of the Risk Manager and/ or Safety Manager remove any of his employees found to be creating or contributing to unsafe conditions.
23. The following items are not allowed on any S&WB Facility or jobsite:

- Firearms and Ammunition
- Alcohol and illegal drugs
Definitions:

Operator: The Board employee who is on-site and in responsible charge of the operation of the plant, station, or other facility.

Out of Service: The electrical/mechanical disconnection of equipment which is to remain inoperable.

Power Dispatcher: The shift employee on duty at Central Control at the time safety clearance occurs.

Signee: The person who actually tags-out equipment for safety clearance.

Supervisor/Foreman: The Board employee who is the supervisor/foreman in responsible charge of the repair/maintenance of one or more work locations which requires safety clearance. This person may not necessarily be "on-site" at any particular location.

Tag-out: The physical tagging of equipment by an operator for the purpose of disabling equipment.

Lock-out: The physical locking of equipment by an operator for the purpose of disabling equipment.

General Provisions

1) All equipment repair/maintenance work which is scheduled and requires safety clearance should be presented to Central Control at the beginning of each work day by the supervisor/foreman/electrical engineer in charge of the repair/maintenance. Twenty four (24) hour advance notice of scheduled work for major outages is desirable; however, it is understood that due to the nature of the services provided by the Board this preferred notice may not be possible for every safety clearance.

2) In cases where two (2) or more crafts are working on, or require safety clearance on the same equipment, the supervisor/foreman/electrical engineer for each craft must follow the appropriate safety clearance procedure and the equipment must be tagged out for each craft's signee. No equipment can be tested and/or restored to service until all tags have been removed in accordance with the tag removal procedure.
3) When an operator requests service for equipment at an unmanned facility, i.e. an unmanned sewer station or unmanned underpass station, from either Electrical Maintenance or Mechanical Maintenance, the appropriate maintenance department shall request the responsible operator to tag-out the equipment. When the appropriate maintenance department, in the course of servicing this equipment, requires restoration of power, the appropriate maintenance department shall contact the responsible operator directly (if operator is present) or by radio or telephone (if operator is absent) and request that the responsible operator grant his permission. If the power is to be restored for only a short duration, the appropriate maintenance department shall thereafter contact the operator for permission to either remove power or restore power, as often as needed. The operator shall log each request. If the request to restore power is for a short duration only, and the operator does not received contact from the appropriate maintenance personnel to remove power again, the operator shall make every attempt to contact the appropriate maintenance personnel in order to ensure that no accident has occurred.

4) If equipment must remain "Out of Service" upon completion of the on-site work, the signee must request their tag be replaced with an "Out of Service" tag in the name of their department: e.g. "Out of Service - Electrical Maintenance", in addition it must be physically locked-out by that department. However the "Out of Service" tag does not relinquish the responsibility of following the safety clearance procedure each day that piece of equipment is worked on.

5) Any equipment restored to service after being tagged "Out of Service" must be tested through operational test procedures. The signee must remain, when possible, on-site until testing is complete.

6) Any individual involved in these procedures may halt the procedure at any time if it is felt the safety of the personnel and/or equipment warrants said stoppage, or if conditions within the system change that may require postponement of the work.

7) In the event the responsible person, signee, leaves the job site without releasing the cleared equipment and is unreachable to release their tag-out the following procedure must be enacted before the signees name, tag-out, can be removed from the cleared equipment.

   1) Cause must be established by the senior power dispatcher giving reason to remove the tag-out.
2) Senior power dispatcher must receive orders from the Chief of Operations or higher, in his absence, to remove said tag-out.

3) Concurrence given by a senior representative of the following:
   a) Department or company to which the signee works for.
   b) Senior representative of the plant, station, facility in which the tag-out occurs.
   c) If job site is in the field then, inspection by Electrical Engineering assuring work has halted for the day.

Once all areas have been satisfied then the senior power dispatcher may have the signees tag-out removed.

**NOTE:** The above and following procedures may be deviated from above at the discretion of the power dispatcher in cases of emergency.
Safety Clearance Procedure  
25 Hertz System  
"Non-Sewerage and Water Board Personnel"

1) The Company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

NOTE: After normal working hours clearance request will be routed through Central Control who will notify the proper personnel in Electrical Engineering. It will be the responsibility of Electrical Engineering to identify said feeders.

2) Electrical Engineering will then contact the power dispatcher informing them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher with a clearance list.

3) Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will contact the power dispatcher making their clearance request.

4) The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety.

5) If the request involved equipment within a station or facility the power dispatcher then notifies the operator of the work to be performed and supplies the operator with a list of the clearance request.

6) The operator makes a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.

7) The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized list.

8) After the completion of step seven (7), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of the equipment by the power dispatcher. The company's signee will request the operator at each location to place a tag-out with the company name/signee's name on each piece of equipment on the clearance list.
9) After receiving a tag-out report from the operators, the power dispatcher will then verify the tag-out reports against their finalized clearance list. If satisfactory, the power dispatcher will verify with the company's signee what was tagged-out. The company's signee will then be allowed to begin work.

10) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

NOTE: Due to the nature of some work it may be necessary that voltage be present.

11) Upon completion of the on-site work, the company's signee must report to a Board facility, involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company name/signee name off each piece of equipment. The operator and power dispatcher may restore the equipment to its connected position and test same following standard operating procedures.

12) If the equipment is to remain out of service, the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnection and testing process.

13) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.
Safety Clearance Procedure
60 Hertz System
"Non Sewerage and Water Board Personnel"

1) The company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

2) Electrical Engineering will then contact the power dispatcher, if the work to be performed is outside of a station. The operator, if the work to be performed is inside the station. They will inform them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher or operator with a clearance list.

3) The Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will conduct their business with the operator or power dispatcher based on the procedures listed below.

4) The power dispatcher reviews their one line schematics or the operator make a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.

5) **If handled through the power dispatcher:**
The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized clearance list.

**If handled through the operator:**

The operator will contact the power dispatcher informing them of the work to be performed along with a clearance list request. The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety. A finalized clearance list is then agreed upon by all parties involved. The operator will then through normal operating procedures disconnect from all power sources all equipment on the finalized clearance list.
6) After the completion of step five (5), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of equipment by the operator or power dispatcher. The company's signee will then request the operator at each location to place a tag-out with the company's name/signee name on each piece of equipment on the clearance list.

7) **If handled through the operator:**

   The operator will then contact the power dispatcher providing then with a tag-out report for logging purposes.

8) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

**NOTE:** Due to the nature of some work it may be necessary that voltage be present.

9) Upon completion of the on-site work, the company's signee must report to a Board facility involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company's name/signee name off each piece of equipment. The operator and/or power dispatcher may restore the equipment to its connected position and test same following standard operating procedures.

10) If the equipment is to remain out of service the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnecting and testing process.

11) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.
INSURANCE AND INDEMNIFICATION REQUIREMENTS

INSURANCE AND INDEMNIFICATION

A. All insurance requirements as may appear elsewhere in this contract are hereby amended and superseded, as shown below.

B. Insurance Requirements

The Contractor will maintain, at his own cost and expense, and in good standing, such insurance as will protect the Sewerage and Water Board of New Orleans (the Board), the City of New Orleans (the City,) their officers, officials, employees, boards, commissions and volunteers, as well as the Contractor himself and any Subcontractors from and against any and all claims for damages to public and private property and personal injury, including death, to employees or to the public, which may arise from any operations under this contract or any of its subcontracts. The coverage will contain no special limitations on the scope of protection afforded to the Board and the City. Both the Board and the City will appear as “Additional Insured” on all Commercial General Liability, Business Automobile and Professional Liability Insurance. Any failure to comply with the reporting provisions of a policy will not affect coverage provided to the Board and the City, their officers, officials, employees, boards and commissions and volunteers. The Contractor’s insurance will apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer’s liability.

The Contractor, Sub-Contractor(s), and their insurers shall agree to waive all the rights of subrogation against the Board, the City, and their officers, officials, employees, boards and commissions, and volunteers for losses arising from work performed by the Contractor for the Board and the City. Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the Risk Manager, 625 St. Joseph St., Rm. 119, New Orleans, LA 70165, of the Sewerage & Water Board of New Orleans, via certified mail.

In general, insurance is to be placed with insurers with an A.M. Best’s rating of at least A-:V, although this requirement may be reviewed and modified by the Risk Manager of the Sewerage and Water Board of New Orleans in the best interest of the Board. The Risk Manager may also consider performing such review upon written request from the Contractor. The Contractor shall furnish the Sewerage and Water of New Orleans with certificates of insurance affecting coverage required by this contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates of insurance are to be received and approved by the Risk Manager of the Sewerage and Water Board of New Orleans before work commences. The Sewerage and Water Board of New Orleans reserves the right to require complete, certified copies of all insurance policies at any time.
The following are the types of insurance policies and the minimum limits of insurance coverage which shall be maintained by the Contractor during the entire term of the Contract:

a) WORKERS’ COMPENSATION AND EMPLOYERS LIABILITY INSURANCE, as will protect him from claims under Louisiana Workers’ Compensation Laws. The Workers’ Compensation section of the policy shall afford Statutory Limits and be in accordance with all Louisiana Workers’ Compensation Statutes. The Employers Liability limit shall not be less than $1,000,000 each accident for bodily injury by accident and $1,000,000 each employee/policy limit for bodily injury by disease. Whenever any Federal Longshoreman’s and Harbor Workers’ Act, and shall also include protection for injuries and/or death to Master and Members of the crews of vessels with statutory limits in accordance with the Jones Act.

b) COMMERCIAL GENERAL LIABILITY INSURANCE, with a limit of not less than $1,000,000 each occurrence and $2,000,000 general aggregate, including Explosion, Collapse, and Underground Property Damage Hazards. The Products-Completed Operations aggregate limit shall not be less than $1,000,000 each occurrence. The general aggregate limit shall apply separately to this project.

c) BUSINESS AUTOMOBILE INSURANCE, which shall cover liability arising out of any auto (including Owned, Hired, and Non-Owned autos). The limit of liability shall not be less than $1,000,000 each accident for all injuries, property damage, and/or death resulting from any one occurrence.

d) OWNER’S AND CONTRACTOR’S PROTECTIVE LIABILITY INSURANCE, in the name of the Sewerage and Water Board of New Orleans, and the City of New Orleans as Named Insureds. The limits of liability shall be the same as specified in Paragraph (b) above, and shall include Explosion, Collapse and Underground Hazards.

The furnishing of insurance as provided above shall not relieve the Contractor of his responsibility for losses not covered by insurance. Prior to the signing of the contract, evidence of all such applicable insurance satisfactory to the Board shall be filed with the Risk Manager of the Sewerage and Water Board. All policies shall be with insurance companies authorized to do business in Louisiana and shall remain in full force and effect until the final completion of the work and acceptance thereof by the authority of the Board. The Contractor and/or his insurer shall notify the Risk Manager of the Sewerage and Water Board of New Orleans at least thirty (30) days in advance of any insurance coverage to be canceled or of any insurance coverage that will expire. The Contractor shall
simultaneously furnish the Board evidence of new coverage to be effective the same day and hour of the expired or canceled coverage. In the event the Contractor fails to submit this evidence of new coverage five (5) days prior to the cancellation date or expiration date of any policy or policies, the Sewerage and Water Board will have the right to obtain the required coverage to become effective on the date of cancellation or expiration of said policies. The cost of such new policies shall be at the expense of the Contractor and any expenses incurred by the Board for this coverage will be deducted from any balance due to the Contractor. Should the Board be unable to secure new coverage to take the place of the expired or cancelled policy or policies, a “stop work” order will issued and all work on the contract shall cease on the same date and hour as the coverage ceases. Should the Contractor fail or refuse to secure coverage within five (5) days after the date of the “stop work” order, the Contractor shall be declared to be in default, and the contract between the parties shall be considered cancelled and of no force or effect between the parties reserving all the rights of the Board against the Contractor and his surety.

SAFETY AND HAZARDOUS MATERIALS

If this transaction requires the Contractor or Sub-Contractor employees to enter Sewerage and Water Board facilities or jobsites, a senior employee of the Contractor will review the Attachment to this contract entitled Sewerage and Water Board Safety Orientation Notice (Notice), and will explain the contents of this Notice to every employee who will enter or work upon Board facilities. This Notice is included as a part of the specifications for this contract. If this contract involves the handling or delivery of hazardous materials, the Contractor shall ensure that he or any deliverer is at all times in compliance with the OSHA and EPA Standards that are most applicable to management of the potentially damaging substance. The Contractor shall also ensure that manufacturer of the materials maintains product liability insurance for any commodity involved in this transaction which, if defective, could cause bodily injury and property damage. The vendor, any and all sub-Contractors and all insurers shall agree to waive all the rights of subrogation in favor of the Sewerage & Water Board of New Orleans as a condition of the required insurance.

INDEMNIFICATION

To the fullest extent permitted by the law, the Contractor shall indemnify, hold forever harmless and defend the Sewerage & Water Board of New Orleans, its officers, agents, employees, representatives, and insurers from any and all claims, demands, suits, money judgments, costs and expenses, arising out of any accident, injury or damage to loss of property or personal injury during the performance of the contract, growing out of, resulting from or by reason of any act of omission by the Contractor, his agents, or employees.
A. Contractor shall further indemnify and hold the Board harmless from any and all claims and liens for labor, services or materials furnished to the Contractor in connection with the performance of this contract.

B. Limitations by statute as to workers’ compensation or any other benefits, payable by or on behalf of the Contractor, to any injured party shall not limit the Contractor’s indemnification of the Board under this agreement.

WORKERS’ COMPENSATION AND UNEMPLOYMENT COVERAGE, GENERAL CONDITIONS

A. WORKERS’ COMPENSATION:

The Contractor expressly agrees and acknowledges that it is an “independent Contractor” as defined in LSA-R.S.23:1021(6), and that its employees shall not be considered employees of the Board for workers’ compensation benefits or coverage.

B. EXCLUSIVE OF UNEMPLOYMENT COMPENSATION COVERAGE:

Contractor herein expressly agrees and acknowledges that it is an “independent Contractor” as defined in LSA-R.S.23:1472(E0, that neither the Contractor nor any one employed by the Contractor shall be considered an employee of the Board for the purpose of employment of compensation coverage.

POLLUTION LIABILITY INSURANCE, or ENVIRONMENTAL LIABILITY INSURANCE, either on a “per occurrence” or a “claims-made” basis, with a limit of not less than $1 Million per occurrence or per claim, and with a $2 Million general annual aggregate, naming the Sewerage and Water Board of New Orleans and the City of New Orleans as well as any involved subcontractors as “additional insured,” covering bodily injury, property damage and remediation expenses arising out of the release toxins, hazardous materials and contaminants into the environment as a result of their activity. The Contractor’s agent or broker should determine which coverage forms of Pollution Liability Insurance or Environmental Liability Insurance should be provided for the work to be undertaken.
PART 3
SPECIFICATIONS
PART 1- GENERAL

1.01 SECTION INCLUDES

A. The work to be done under this section of the specifications includes all labor, materials, equipment, and services necessary for removing existing air compressors, dryer, receiver tank, colonnade wall section, and pavement required for trough construction, as shown on the drawings.

B. Codes: Conduct all work in strict compliance with the current City of New Orleans Building Code.

1.02 SEQUENCE OF CONSTRUCTION

A. The following is a sequence of construction designed to continue operation of the Sycamore Filter Gallery compressed air supply and protect existing utilities. If Contractor proposes a more fitting sequence of construction, it shall be submitted to the Board for approval.

1. The Contractor shall remove (2) two Nash air compressors and (1) one desiccate air dryer from the compressed air room at the SFG.

2. The contractor shall remove the existing temporary wall section from the air compressor room, as shown on drawings.

3. After the installation of the new outside platform, air compressors, dryer and testing has been completed on the new system the Contractor shall remove the existing receiver tank and 100 HP compressor.


1.03 DEMOLITION AND REMOVAL

A. Prior to commencing work, the Contractor shall submit a detailed plan for demolition, removal and disposal of items designated on the Drawings or Specifications for such work. The plan shall provide for safe conduct of the work,
protection of property which is to remain undisturbed and coordination with other work in progress. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations. The Contractor shall submit his plan to the Engineer for approval. The plan shall contain the following:

1. Schedule for completion of all demolition work included in the Specifications.

2. Plans for dismantling, removing, and disposing of all items indicated for demolition, including procedures and methods to provide necessary supports, lateral bracing, and shoring when required.

3. Methods to ensure that existing structures and piping are not damaged during demolition operations.

4. Methods of storage and/or disposal.

5. Safety precautions to protect personnel and property.

6. All other associated work.

B. The Contractor shall furnish all labor, equipment and services required and shall remove or have removed from the site, all items indicated on the Contract Drawings or Specifications.

1. Demolition Clarification
   a. Remove existing out-of-service compressors, air dryer, and associated piping.
   b. Remove existing air receiver from compressor room.
   c. Remove existing temporary wall section.

C. The Contractor shall submit copies of all licenses, certifications, notifications, permits and receipts required or issued for the equipment, methods, and disposal areas used for disposing of the materials removed.

D. The items indicated on the drawings shall be demolished in accordance with the applicable provisions of Chapter 33 of the current City of New Orleans Building Code.
Code, due care being exercised at all times for the protection of adjoining property and the public. Use of explosives is strictly prohibited.

E. During demolition work, the Contractor shall continuously evaluate the condition of the items being demolished and take immediate action to protect all personnel working in or around the demolition site. No area, section, or component of slabs, walls, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while personnel remove debris or perform other work in the immediate area.

F. All materials, structures, and improvements salvaged as the result of the work done on this contract shall become the property of the Contractor, and shall be promptly removed from the site of the work, and the site left clean and smooth upon completion of the work. Storage or sale of removed items will not be permitted on site. Care shall be taken to not damage salvage items, which shall be delivered in similar condition they were before removal.

1. Items to be salvaged and returned to the Board:
   a. NASH compressors

G. All debris shall be removed from the site by the Contractor and disposed of in accordance with applicable laws and ordinances of the City of New Orleans. Burning of combustible materials from demolished structures will not be permitted on site. The Contractor shall utilize and coordinate licensed disposal sites for the removal of sludge material from pump pit cleaning.

H. Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

I. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

J. Utility Services: Maintain existing utilities indicated to stay in service and protect them against damage during demolition operations.

K. Any and all excavations or holes shall be filled in a sanitary and safe manner to grade.

L. Contractor shall secure the work site and leave the sidewalk area clean at the end
of each workday.
PART 2- EXECUTION

2.01 EXECUTION

A. Removals: Remove elements to the limits shown on the Drawings. Any removals beyond the limits shown on the drawings shall be repaired and restored to original condition at the Contractor’s expense.

B. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air. Comply with governing regulations pertaining to environmental protection. The use of water is not acceptable when its use may create hazardous or objectionable conditions.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by site work and demolition operations. Return adjacent areas to condition existing prior to start of work.

* * * END OF SECTION * * *
PART 1- GENERAL

1.01 The work to be done under this section of the specifications includes all labor, materials, equipment and services necessary for poured in place reinforced concrete construction and grouting, as shown on the drawings and herein specified.

1.02 SCOPE OF WORK

A. Drawings will contain all design specifications for the concrete trough and the air receiver tank platform.

1.03 SUBMITTALS

A. Drawings and design computations for all formwork (including prefabricated forms) shall be submitted at least 45 days before either fabrication on site or before delivery of prefabricated forms. The drawings and data submitted shall include the type, size, quantity, and strength of all materials of which the forms are to be made; the plan for jointing of facing panels; details affecting the appearance; type and location of form ties; and the assumed design values and loading conditions.

B. Shop drawings showing all dimensions necessary for fabrication and placing of reinforcing steel and accessories, without reference to the design drawings, shall be submitted for approval. Shop drawings shall include the details of bar supports including types, sizes, spacing and sequence.

C. Concrete mix proportions shall be determined by the Contractor in accordance with the requirements specified herein, and submitted for approval. The quantities of all ingredients per cubic yard and nominal maximum coarse aggregate size that will be used in the manufacture of each quality of concrete shall be stated. Proportions shall indicate the weights of cement, pozzolan (if used), and water; weights of aggregates in a saturated surface-dry condition; and the quantities of admixtures. The submission shall be accompanied by test reports from a laboratory complying with ASTM C 1077 which show that proportions thus selected will produce concrete of the qualities indicated. The submission shall provide information specified herein regarding documenting of average strength, and if applicable, regarding determining standard deviation. Concrete compression strength results submitted shall include specific gravity and absorption of fine and coarse aggregates determined by ASTM C.
128 and ASTM C 127, respectively; slump; air content; and concrete temperature. No substitution shall be made in the source or type of materials used in the work without additional tests to show that the new materials and quality of concrete are satisfactory. Strength of concrete will be considered satisfactory if the averages of all sets of three consecutive test results equals or exceeds the specified compressive strength, \( f'c \), and no individual test (average of two companion cylinders) result falls below \( f'c \) by more than 500 pounds per square inch. Additional analysis or testing shall be required at the Contractor’s expense when the strength of the concrete in the structure is considered potentially deficient.

1. Cement and pozzolan (if used): Submit manufacturer’s certification of compliance, accompanied by mill test reports, stating that materials meet the requirements of the specification under which they are furnished. Certification and mill test reports shall be from current production and be representative of the particular lot furnished. No cement or pozzolan shall be used until notice of acceptance has been given by the Engineer. Cement and pozzolan will be subject to check testing from samples obtained at the mill, at transfer points, or at the project site, as scheduled by the Engineer, and such sampling will be by or under the supervision of the Board at its expense. Material not meeting specifications shall be promptly removed from the site of work.

2. Aggregates: Information identifying the aggregate source to be used along with gradation tests for fine and coarse aggregates shall be submitted for approval. The gradation test for fine aggregate shall include the No. 8 and No. 30 sieve sizes.

3. Water: The name of the source of mixing and curing water shall be submitted, indicating compliance with Subsection 2.01B.

4. Submit manufacturer’s certificates indicating the following:
   a. Impervious-sheet curing materials shall be certified for compliance with all specification requirements.
   b. Air-entraining admixtures shall be certified for compliance with all specification requirements.
   c. Other chemical admixtures shall be certified for compliance with all specification requirements.
   d. Curing compounds shall be certified for compliance with all specification requirements.

D. CODES

1. Concrete construction and formwork shall meet the requirements of the current City of New Orleans Building Code.

2. Except where modified herein reinforcing steel shall be in accordance with the "Manual of Standard Practice" of the Concrete Reinforcing Steel Institute and the "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315 latest revision, of the American Concrete Institute.
3. Except where modified herein formwork shall be in accordance with "Recommended Practice for Concrete Formwork", ACI 347 latest revision, of the American Concrete Institute.

4. Except where modified herein concrete construction and formwork shall be in accordance with "Building Code Requirements of Reinforced Concrete", ACI 318 latest revision, of the American Concrete Institute.

PART 2- PRODUCTS

2.01 MATERIALS

A. Cement shall conform to ASTM C150, Type 1. Contractor shall submit mill certificates in accordance with Subsection 1.03C.

B. Water shall be fresh, clear, clean, and potable.

C. Aggregate shall conform to ASTM C33. Fine and coarse aggregate shall be regarded as separate ingredients. Each size of coarse aggregate, as well as a combination of sizes when two or more are used, shall conform to the grading requirements of this ASTM Specification. Contractor shall submit aggregate source and gradation tests for both fine and coarse aggregate, in accordance with Subsection 1.03C.

D. Steel reinforcing bars shall be deformed billet steel bars of Grade 60 in conformance with ASTM A615.

E. Welded wire fabric shall be steel wire fabric conforming to ASTM A185.

F. Non Shrink Grout shall be as called for in section 2.015.

G. Plywood for forms shall be PLYFORM Class 1, 48 inch x 96 inch 5/8 inch or 3/4 inch thick, B B exterior type, oiled and edge sealed, DFPA grade trademarked.

2.02 CLASSIFICATION OF CONCRETE

A. Concrete shall be furnished under Option C of ASTM C94.

B. Maximum aggregate size shall be 1 inch.

C. Slump shall range between 2 inches and 4 inches.
D. Air entraining concrete shall not be used.

E. Compressive strength of the concrete shall be 4000 psi minimum at the 28 day break.

F. Minimum cement content shall be 6 bags per cubic yard of 4000 psi concrete.

G. The General Specifications, Section "C", are hereby modified to conform to ASTM C94. Any portion of Section "C" of the General Specifications not in conflict with ASTM C94 shall have full force and effect.

H. Admixtures shall only be used with the approval of the Engineer. Fly ash shall not be used.

I. Constituents of the mix as required by Paragraph 5.4.2 of ASTM C94 shall be furnished by the Contractor to the Engineer prior to any delivery of concrete. The mix shall be approved by an independent testing laboratory employed by the Board.

J. Testing of cylinders for compressive strength shall be done by an independent testing laboratory employed by the Board.

K. Additional information as allowed in Paragraph 16.2 of ASTM C94 is:

   1. Reading of revolution counter at first addition of water.
   2. Signature of initials of ready mix representative.
   3. Indication that all ingredients are as previously certified or approved.

L. Failure to meet strength requirements: Paragraph 18 of ASTM C94 is not applicable. The Board, expressly, does not agree to binding arbitration. In the event that concrete tested in accordance with the requirements of Paragraph 17 ASTM C94 fails to meet the strength requirements of this specification, then the Engineer of the Board shall make the final decision as to what adjustment, if any, shall be made. His decision shall be final except as modified by the Board.

M. Test cylinders: At least 4 test cylinders shall be made for each 100 cubic yards or portion thereof concrete delivered. At least 4 cylinders shall be made each day concrete is delivered. Cylinders shall be tested at 7 and 28 days age.
2.03 FORMWORK

A. Design and Engineering: The design and engineering of the formwork, as well as its construction, shall be the responsibility of the Contractor. The formwork shall be designed for the loads and lateral pressures imposed and wind loads as specified by the New Orleans Building Code and Related Regulations.

B. Inspection by Engineer: Before concreting, the forms are to be inspected and the screeds checked by the Engineer to see if they will result in concrete of the required dimensions. The Engineer's inspection of the forms and screeds does not relieve the Contractor of any contract requirement.

C. Molding or chamfer strips suitable to the job, 1 in. nominal size, shall be placed in the slab edge forms, or other formwork where the concrete will be exposed to view.

D. Camber formwork to compensate for anticipated deflections due to the weight and pressure of fresh concrete and other construction load. Formwork shall produce concrete within the herein specified tolerances.

E. Adjustment: Provide positive means of adjustment (wedges or jacks) of shores and struts and take up all settlement during concrete placing operations.

F. Lateral Deflection: Brace formwork against lateral deflection.

G. Temporary Openings: Provide temporary openings in formwork as required to facilitate cleaning and observation immediately before concrete is deposited.

H. Form accessories partially or wholly embedded in the concrete, such as ties and hangers, shall be a commercially manufactured type. Wire is not acceptable. The portion remaining within the concrete shall leave no metal within 1 ½ in. of the surface when the concrete is exposed to view. Spreader cones on ties shall not exceed 1 in. in diameter. Form ties shall have water stops and shall not be pulled completely from the walls. Ends of ties shall be at least 1 ½ in. from the face of the wall after the ties are broken off. Chairs and other supports for reinforced steel in slabs above grade and in walls shall be plastic tipped.

I. Tolerances: Formwork shall be constructed so as to insure that the concrete surfaces produced shall conform to the tolerances shown in the following table:
<table>
<thead>
<tr>
<th><strong>CONSTRUCTION TOLERANCES FOR REINFORCED CONCRETE CONSTRUCTION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Footings</strong></td>
</tr>
</tbody>
</table>
| Variation from plans (size)                                   | Plus 2" *  
|                                                            | Minus ¼" |
| Variation in thickness                                       | Plus 10%  
|                                                            | Minus 5%  |
| Variation from plans (location)                              | 2% of footing width in direction of mislocation but not more than 2" |

<table>
<thead>
<tr>
<th><strong>Pits, sumps, sleeves, floor and wall openings</strong></th>
</tr>
</thead>
</table>
| Variation from plans (size)                     | Plus ¼"  
|                                                            | Minus ¼" |
| Variation from plans (location)                  | Plus ¼"  
|                                                            | Minus ¼" |

<table>
<thead>
<tr>
<th><strong>Vertical surfaces: walls, columns, piers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation from plumb (walls, columns, piers)</td>
</tr>
<tr>
<td>Variation from plumb (conspicuous lines and control-joint grooves)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Horizontal surfaces: decks, beams, soffits, caps, floors, slabs, ceilings</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation from grade or level decks, beams, soffits, caps, floor, slabs, ceilings)</td>
</tr>
<tr>
<td>Variation from level (exposed conspicuous lines)</td>
</tr>
<tr>
<td>Variation of the surface from plane</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Variation from true location for columns and walls</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>½&quot; maximum</td>
</tr>
<tr>
<td>Variation in thickness of slabs and walls</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>¼&quot; minus, ½&quot; plus *</td>
</tr>
</tbody>
</table>

* Tolerance is allowable only if there is no interference with other construction elements.
J. Above grade forms shall be constructed of plywood or metal. Generally, seams shall not be closer than 4 ft. on centers.

K. Below grade forms may be of tongue and groove sheathing.

L. Form surfaces shall be smooth, mortar tight, and free from holes and seams which would permit appreciable amounts of water or paste to escape. Edges of adjacent panels of all forms shall be kept flush with each other so that the finished concrete shows a minimum of seam marks. The Engineer may require the Contractor to keep wooden forms continuously soaked with water if in his opinion this step is necessary to prevent movement of the members due to swelling at the time of concreting and to retain the water tightness of the form.

M. Form materials shall be new and in good condition. Metal forms shall be free from dents, kinks, bends, etc.

N. Oil forms before steel reinforcing is in place. Oil coating shall not be so thick as to soften or stain the concrete surface. The trade name and specifications of the oil to be used shall be submitted to the Engineer for approval.

O. Wooden spacers shall be removed as work progresses.

P. Form Removal

1. Formwork for slabs and other parts that support the weight of concrete shall remain in place until the concrete has reached its specified 28 day strength, unless otherwise specified or permitted. When shores and other vertical supports are arranged so that the form facing material may be removed without loosening or disturbing the shores and supports, the facing material may be removed at an earlier age as specified or permitted. The shores and supports shall remain in place until the concrete has reached its specified 28 day strength, unless otherwise specified or permitted. Whenever the formwork is removed during the curing period the exposed concrete shall be cured by one of the methods specified.

2. If, in the opinion of the Engineer, the forms are to be left in place longer than the minimum requirements, the Contractor shall abide by the Engineer's decision in the matter. There shall be no additional cost to the Board incurred by this action.

3. In no case shall the supporting forms or shoring be removed until the members have acquired sufficient strength to support their weight and load thereon.

4. Forms shall be removed in such a manner as to insure the complete safety of the structure and precautions shall be taken to avoid marring the concrete.
5. Concrete shall be presumed to have reached its specified strength when either of the following conditions has been met:
   a. Where test cylinders, cured under the most disadvantageous field condition prevailing for any portion of the concrete represented, have reached the required strength, the condition shall have been met. Except for the field curing and age at test, the cylinders shall be molded and tested as specified.
   b. When the concrete has been cured as specified for the same length of time as the age at test of laboratory cured cylinders which reach the required strength, the condition shall have been met. The length of time the concrete has been cured in the field shall be determined by the cumulative number of days or fractions thereof, not necessarily consecutive, during which the temperature of the air in contact with the concrete is above 50°F and the concrete has been damp or thoroughly sealed from evaporation and loss of moisture.

2.04 OPENINGS

Additional openings not shown on plans, but required, shall be approved by Engineer and all except very small openings shall be protected by short diagonal, vertical and horizontal bars so placed to carry the stress around the opening, all as directed by the Engineer.

2.05 REINFORCEMENT

A. Bars: Only new bars, free from loose rust, dirt, grease, loose mill scale, and foreign matter shall be procured by the Contractor for work under this contract. All necessary precautions shall be taken by the Contractor to keep the bars from harmful rust, etc. If, in the opinion of the Engineer, the rust is of such a nature as to prevent an adequate bond between the basic steel and the concrete, the Engineer shall require the Contractor to adequately clean or replace the objectionable bars, at no additional cost to the Board. Bars shall be stored above ground and adequately protected such that they shall remain free of dirt, grease, scale and harmful rust until the concrete is placed.

B. Cover: Unless otherwise shown on the plans, reinforcing steel shall be so placed in the forms to provide a minimum of 2 in. of cover between the edge of the steel and the outside of the concrete when in place.

C. Supports: All steel reinforcement is to be accurately located in the forms and firmly held in place, before and during the placing of concrete, by means of metallic supports, spacer bars, wires, and other devices adequate to insure against displacement during construction and keep the steel at the proper distance from the formwork. On the ground and where necessary, supporting concrete blocks with the tie wires may be used. Concrete blocks shall not be used on formed surfaces which
will be exposed to view. Bar supports for reinforcing in all slabs, except those poured on earth, beams, and walk shall be "Rustless" plastic accessories as manufactured by Builders Plastic Products, Inc. or Engineer approved equal. Bar supports and spacers shall be sufficient in number and sufficiently heavy to carry the steel they support even when subject to construction loads. Supports and their proper spacing are the responsibility of the Contractor. In general, horizontal bars over 5/8 in. in diameter shall be supported at intervals not greater than 6 ft. and horizontal bars 5/8 in. in diameter or less shall be supported at intervals not greater than 4 ft. During the process of pouring concrete, any displaced reinforcement is to be corrected as soon as detected. Welded wire fabric shall be supported as required for reinforcing bars.

D. Rebar support chairs are recommended for placement of reinforcing steel. All rebar supports should be manufactured to the recommendations or specifications of the Concrete Reinforcing Steel Institute (CRSI) and comply with American Concrete Institute (ACI) ACI-50-66, ACI-315 and ACI-315R. Cement blocks may be used only on bottom slabs. They shall be made of 1 part cement to 2 ½ parts sand and accurately cast to size with cast in tie wires.

E. Tie bars, mats, etc., together in a manner and at such intervals that the bars will not change position. Tying bar shall not be smaller than 14 gauge. Bars shall be tied at all intersections except where spacing is less than 1 ft. in each direction where alternate intersections shall be tied.

F. Splices: Except as shown on the drawings, bars shall not be spliced without the permission of the Engineer. Splices which are permitted shall be "Class B" unless otherwise noted on the contract drawings. In general such splices shall be so located that no more than 2 bars in any 12 in. width of the member and not more than 50% of the total area shall be spliced at any one point. Welded wire fabric shall have lapped splices so made that the overlap measured between outermost cross wires of each fabric sheet is not less than the spacing of the cross wires plus 2 inches.

G. Placement: Place bars to the following tolerances:
   1. Concrete cover at formed surfaces: + 1/4 in., 0 in.
   2. Minimum spacing between bars: 1/4 in., +0 in.
   3. Depth of bars in slabs and beams:
      a. Members 8 in. deep or less: +/ 1/4 in.
      b. Members more than 8 in. deep: +/ 1/2 in.
      c. Crosswise of members: +/ 1 in. of specified spacing except at inserts, etc.
      d. Lengthwise of members: +/ 2 in.

H. Minimum spacing center to center of parallel bars shall be not less than 2 bar diameters nor shall the minimum clear distance between the bars be less than 1 1/3 times the maximum size of the coarse aggregate.

CAST-IN-PLACE CONCRETE
03 30 00 - 10
I. Repositioning: Bars may be repositioned as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter or exceeding the specified tolerances, the resulting arrangement of bars shall be subject to approval by the Engineer.

J. Fabricating Bar
1. Before fabrication of reinforcing bars, the Contractor shall submit copies of all bar lists, bending diagrams, and placement drawings to the Engineer for approval.

2. At least 4 weeks’ time shall be allowed for the Engineer to approve the above lists and diagrams. However, the Engineer’s approval will not relieve the Contractor of responsibility for correctness of such lists and diagrams. Contractor shall bear any expense required to revise material furnished in accordance with such lists and diagrams to conform with the plans.

3. The reinforcement shall be accurately bent cold in the shop to shapes indicated on the plans and with tolerances as listed herein and specified in ACI 315.

4. Bars used for concrete reinforcement shall meet the following requirements for fabricating tolerances:
   a. Sheared length: ± 1 inch.
   b. Stirrups, ties, spirals: ± ½ inch.
   c. All other bends: ±1 inch in overall length, ½ inch in overall depth and 1 inch in the eye of return bends.

5. Bending in the field shall be done where called for on the plans or where specifically approved by the Engineer and shall be done in a manner that will not damage the material.

6. Bars badly bent, damaged, or broken during construction shall be replaced by the Contractor at no cost to the Board.

7. Bends for stirrups and ties shall be made around a pin having a diameter of not less than twice the least diameter of the bar.

K. Shipping of bars shall be in standard bundles, tagged and marked in accordance with the Code of Standard Practice of the Concrete Reinforcing Steel Institute. The Contractor shall be responsible for unloading bars and providing adequate storage facilities for them.

L. Inspection: Reinforcement in all members shall be placed and then inspected and approved by the Engineer before placing of concrete begins. Concrete placed in
violation of this provision may be rejected and removal required at no expense to the Board.

2.06 ANCHOR BOLTS AND EMBEDDED ITEMS

Anchor Bolts, inserts, pipe sleeves, pipes, conduits, flashing, catch basin cover frames, and other embedded fixtures are to be firmly in position before the concrete is placed; shifted items shall be corrected. Anchor bolts, inserts, etc., shall have a final location within ± 1/8 in. of their location and elevation shown on the drawings.

2.07 MIXING CONCRETE

A. Mix concrete in quantities for immediate use only.

B. Retempering: Concrete which has taken its initial set shall not be retempered, but shall be discarded.

C. Mixing Time: If more than 45 minutes elapses between the initial addition of water of the concrete and the time it will reach the forms, the concrete shall be discarded.

D. Slump: Indiscriminate addition of water to increase slump will be prohibited. When concrete arrives at the project with slump below that suitable for placing, water may be added only if neither the maximum permissible water cement ratio nor the maximum slump is exceeded. The water must be incorporated by additional mixing equal to at least half of the total mixing required.

2.08 HANDLING AND PLACING CONCRETE

A. Clean hardened concrete and foreign materials from inner surfaces of conveying equipment before each use.

B. Before placing concrete, complete all formwork; remove all ice and excess water; secure all reinforcement; position all expansion joint materials, anchors, and other embedded items; and obtain approval of preparations by Engineer.

C. Transport concrete from the mixer to the place of final deposit as rapidly as practical by methods which will prevent separation or loss of ingredients and in a manner approved by the Engineer, which manner shall assure that the quality of the concrete is not harmed. The method shall result in uniform concrete of the proper consistency at the forms and shall prevent segregation, excessive drying, stiffening, or overly wet consistency.
D. Height of drop used in handling concrete shall be limited to avoid segregation. The proposed drop shall be submitted to the Engineer for approval. Where conditions make placing and compacting difficult, batches of mortar containing the same proportions of cement to sand as used in the concrete shall first be deposited in the forms to a depth of at least one inch.

E. Chutes for handling concrete shall be of rounded cross section. The slope shall be steep enough to permit flow without requiring a consistency other than that specified.

F. Sufficient equipment and operators shall be provided by the Contractor so that the entire mixer output can be handled without delay.

G. Place concrete in a manner that will result in uniformly dense concrete without segregation or honeycombed areas. Deposit within a lateral distance of 3 feet from its final location. No more concrete shall be deposited in one place than can be compacted conveniently and effectively. Any segregated rock is to be dug out and spread on other areas so as to avoid rock pockets. An unusually stiff batch of concrete may, if approved by the Engineer, be spread in a thin layer and worked into the other concrete.

H. Rate of pour shall be such that at no time shall fresh concrete be placed upon concrete which has started its initial set. Fresh layers of concrete shall be well worked into proceeding layers.

I. Weather Conditions: Do not place concrete during rain, snow, or when the temperature is below 40°F.

J. Contaminated Concrete: Concrete contaminated by foreign materials shall not be deposited.

K. Remove temporary spreaders in forms when the concrete being placed has reached an elevation rendering their service unnecessary. They may not remain embedded in concrete.

L. Deposit concrete as near to its final position as possible.

M. Segregation: Do not subject concrete to any procedure which will cause segregation.

2.09 CONSOLIDATION
A. Consolidate the concrete as it is being placed; it is to be compacted thoroughly and uniformly by means of hand tools, vibrators, or finishing machines to secure a dense structure, close bond with reinforcement, and smooth surfaces. The concrete is to be worked well around the reinforcement, the embedded fixtures, and into the corners of the forms.

B. Vibrators shall be used wherever possible to produce a dense and compact concrete. They shall be used periodically while pouring structures. The same experienced men shall be designated to operate the vibrators at all times.

C. Spade the sides of a layer of concrete lightly against the forms. The forms are to be vibrated by hammering or other suitable means.

D. Spare vibrators shall be kept on the job site during concrete placing operations.

2.010 PROTECTION

Cover existing concrete or structures near a new placement with heavy paper or burlap to prevent marring by splashing or dipping of freshly poured concrete. When freshly poured concrete has been allowed to fall or splatter on existing structures it shall be thoroughly cleaned off before the end of the working day.

2.011 JOINTS AND EMBEDDED ITEMS

A. Construction joints are to be allowed only where and as shown on the plans.

B. Continue reinforcing across all joints.

C. Keys and dowels shall be provided as directed by the Engineer or as shown on the drawings.

2.012 REPAIR OF DEFECTIVE WORK

A. Patching

1. Immediately after forms have been removed, the surface will have all defects, holes, honeycombs, seams, etc., patched. All patching shall be done in an approved manner.

2. Seams and honeycombs shall be thoroughly cleaned and chipped. All loose gravel shall be removed. The surface shall be wetted and then patched by troweling stiff cement mortar onto surface and then finishing flush.
3. The finish to the patch shall be such that the patch matches with the adjoining concrete surface. For example, when patching concrete originally poured against a steel form, the patch shall be finished with steel trowel rather than a wood float.

2.013 FINISHING

A. Finish the formed surfaces of concrete immediately after the removal of forms and the patching mortar has set with one of the finishes listed below:

1. Rough or board form finish Rough or board form finish surfaces shall be reasonably true to line and plane with no specific requirements for selected facing materials. Tie holes and defects shall be rubbed down with wooden blocks. Otherwise, surfaces shall be left with the texture imparted by the forms.

2. Plywood finish Plywood finish shall be produced in the same manner as rough or board form finish, except as follows:

   a. Concrete shall be cast against forms constructed on plywood not less than 5/8 in. thick or boards lined with tempered hardboard not less than 3/16 in. thick.

   b. The arrangement of plywood sheets or liner sheets shall be orderly and symmetrical, and sheets shall be in as large sizes as are practicable.

   c. Sheets showing torn grain, worn edges, patches of holes from previous use, or other defects which will impair the texture of concrete surfaces shall not be used.

   d. All fins on the surface will be completely removed.

3. Smooth rubbed finish Smooth rubbed finish shall be produced on freshly hardened concrete. All necessary patching shall have been done immediately after forms have been removed, and rubbing shall be completed not later than the following day. Surface shall be wetted and rubbed with carborundum brick or other abrasive with mortar until a uniform color and texture are produced.

B. Surfaces to receive the above listed finishes are as follows:

1. Rough finish- Edges of all foundations to be covered by backfill, below the water line, or otherwise hidden from view.

2. Plywood finish- All surfaces to receive a rubbed finish, the underside and edges of elevated slabs.
3. Smooth rubbed finish— All interior concrete exposed to view, and all exterior concrete from top down to 1 ft. below grade or water line.

C. Flatwork shall be finished as follows:

1. Edge forms and intermediate screed strips shall be set accurately to produce the designed elevations and contours in the finished surface. The concrete surface shall be aligned to the contours of screed strips by the use of strikeoff templates or approved compacting type screeds.

2. When the formwork is cambered, screeds shall be set to a like camber to maintain the proper concrete thickness.

3. Joints in slabs on grade shall be located and detailed as indicated on the drawings.

4. Concrete in slabs shall be thoroughly consolidated. Internal vibration shall be used in all slabs. Concrete to be consolidated shall be dry as practical and the surface thereof shall not be manipulated prior to finishing operations.

5. After consolidation, the surface of flatwork shall be given the following finish:
   After the concrete has been placed, struck off, consolidated and leveled, the concrete shall not be worked further until ready for floating. Floating shall begin when the water sheen has disappeared, and/or when the mix has stiffened sufficiently to permit the proper operation of a powerdriven float. The surfaces shall then be consolidated with floats which shall be used in locations inaccessible to the powerdriven machine. Trueness of surfaces shall be rechecked at this stage with a 10 ft. straight edge applied at not less than two different angles. All high spots shall be cut down and all low spots filled during the procedure. The slab shall then be refloated immediately to a uniform, smooth, granular texture.

2.014 CURING

A. Freshly deposited concrete shall be protected from premature drying and excessively hot or cold temperatures, and shall be maintained with minimal moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete.

B. During the curing period, the concrete shall be protected from damaging mechanical disturbances, particularly load stresses, heavy shock, and excessive vibration. All finished concrete surfaces shall be protected from damage caused by construction equipment, material, or method, and by rain or running water. Self supporting structures shall not be loaded in such a way as to overstress the concrete.
C. For formwork, the forms shall be kept continuously saturated for six to nine days after which the forms shall be stripped and the finishing operation immediately commenced. After finishing, the concrete shall be cured an additional four days by an absorptive mat or fabric meeting the requirements of ASTM C171, kept continuously wet.

D. On flatwork, curing shall immediately follow the finishing operation. Total curing time shall be seven days. On flatwork, absorptive mat or fabric meeting the requirements of ASTM C171 shall be used.

E. When the mean daily temperature of the atmosphere is less than 40°F, the temperature of the concrete shall be maintained between 50°F and 70°F for the required curing period. When necessary, arrangements for heating, covering, insulating, or housing the concrete work shall be made in advance of placement and shall be adequate to maintain the required temperature and moisture conditions without injury due to concentration of heat.

F. When necessary, because of hot weather, arrangements for installation of windbreaks, shading, fog spraying, sprinkling, ponding, or wet covering of a light color shall be made in advance of placement, such protective measures shall be taken as quickly as concrete hardening and finishing operation will allow.

2.015 GROUT

A. Grout shall be one part cement to 2½ parts mason sand unless other mixes are designated on the drawings.

B. Non shrink grout shall be a catalyzed, non metallic grout as approved by the Engineer and manufactured by the W. R. Grace Co., the Masterbuilders Co., or the U. S. Grout Corp. Mixing and application shall be in accordance with the manufacturer's directions.

2.016 WATERSTOP

A. The Contractor shall provide waterstops as indicated on the drawings.

B. Waterstop shall be Model No. MC-2010M as manufactured by the Adeka Corporation. Installation shall conform to the manufacturer’s instructions and recommendations.

PART 3- EXECUTION

3.01 TESTING
A. Testing shall be in accordance with the provisions of ASTM C94.

B. An Independent Testing Laboratory employed by the Board shall perform the tests.

C. Test results shall be evaluated in accordance with the provisions of ASTM C94.

3.02 CLEAN UP

A. Contractor shall clean all concrete surfaces.

B. Surfaces shall be broom cleaned and flushed with clean water.
PART 1- GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. The work to be done under this section of the specification includes all labor, materials, equipment and services necessary to furnish and install structural steel and other items of work as called for in these specifications and shown on the drawings.

B. Related Sections include the following:
   1. Specification Section “Cast-in Place Concrete.”
   2. Specification Section “Roofing & Siding Panels”

1.03 SUBMITTALS

A. Shop drawings of all structural steel shall be furnished in accordance with Paragraph of these Specifications. Shop drawings shall include, as a minimum, catalog cuts, fabrication and assembly details, type, grade and class of materials, as appropriate, mill certificates for all steel products, weld symbols, AWS joint designation number that will be used, non-destructive testing to be performed and splice locations, if any. Certificates of material tests, examinations and welding procedure and operator qualifications shall also be included in the submittal.

B. Product data for the following:
   1. All structural steel
   2. Anchor bolts and bearing plates
   3. Grating

1.04 QUALITY ASSURANCE

A. Fabrication and erection shall be in accordance with the AISC "Code of Standard Practice for Steel Buildings and Bridges" and "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings."

B. Welding of connections shall be in accordance with AWS "Code for Arc and Gas Welding in Building Construction."

C. Welding operator qualifications shall be in accordance with AWS Code.

PART 2- PRODUCTS
2.01 MATERIALS

A. STRUCTURAL STEEL

1. Structural wide flange beams shall conform to the requirements of the current issue of ASTM A992, yield stress 50 ksi. Other structural steel shapes, plates and bars shall conform to the requirements of the current issue of ASTM Standard Specifications A36.

2. Nuts, bolts, and washers shall conform to the requirements of the current issue of ASTM Standard Specifications A325.

3. Welding shall be arc welding using electrodes conforming to the requirements of AWS Classification Number E70 and shall be suitable for the positions and conditions of their intended use.

4. Connections for which details are not indicated shall be designed in accordance with the current edition of the AISC Steel Construction Manual. Connections for members for which loads are not given shall be designed to develop the member. All bolted connections shall be designed according to the AISC Specifications for Structural Joints using ASTM A325 bolts.

5. Holes for bolts shall be drilled or sub-punched and reamed. Welding equipment shall be in good condition and subject to inspection by the Engineer. Any equipment found in need of repairs shall be rejected until the necessary repairs have been made.

6. Fabrication of structural steel shall not begin before approved shop drawings have been returned to the Contractor.

7. Galvanized items shall be hot dipped in accordance with the requirements of ASTM A123 or A153. All fabrication shall be performed prior to galvanizing. Small void defects in the galvanizing may result from aspects of galvanizing process or improper handling of steel after galvanizing. No welding shall be permitting after galvanizing. The repair of the damaged surface shall be performed in accordance with ASTM A780. If welding of galvanized surface is required, and the galvanizing is destroyed, the members affected shall be regalvanized at the expense of the Contractor. The amount of surface that is allowable for repair at the Contractor’s plant is no more than one half of one percent of the accessible area to be coated on that article or 36 in² per ton of piece weight, whichever is less. If the area of repairs exceeds the above limits, the fabricated unit shall be regalvanized.
8. Steel work shall be accurately erected, properly located in position, level and plumb and with all parts well pinned up and firmly bolted together before welding is commenced. The elements entering into a complete member shall be straight and fitted closely together; the finished construction of all parts shall be free from twists, bends, open joints, or other signs of poor workmanship.

B. ANCHOR BOLTS AND BEARING PLATES

1. All work shall be done in conformance with the details shown on the plans. If the Contractor chooses to provide alternate details, the work including all anchor bolts and bearing plates shall be designed by a Registered Civil Engineer licensed to practice in the State of Louisiana.

2. Bearing plates shall have a full even bearing over their entire surfaces and shall be grouted.

3. Cast-in-place anchor bolts shall conform to ASTM F1554 with minimum grade 55 ksi. The nuts shall be heavy hex complying with ASTM A563 and washer ASTM F436.

4. Post installed bolts for concrete shall consist of hybrid adhesive and threaded steel rods. The adhesive shall consist of resin, hardener, cement and water, and shall be capable of developing concrete break out strength in accordance with Appendix D, ACI 318-2008. The rods for all bolts, except for stainless steel bolts, shall comply with ISO 898 class 5.8 or ASTM A193 B7 with nuts ASTM A563, grade DH and washers ASTM F436. The rods for stainless steel bolts shall comply with ASTM F593, CW with nuts ASTM F594, Alloy Group I and washers ANSI B18.22.1, Type A, plain.

C. GRATING

1. Platform shall be designed under the direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Louisiana.

2. Design computations and shop drawings of structural members and grating shall be submitted in accordance with section 1.03 of these Special Specifications.

3. The platform (@ el. 6.33’) shall be galvanized steel grating. Grating supports shall be structural steel sections, as specified in subsection 2.01A, and galvanized in accordance with ASTM A123. Maximum beam deflection shall not exceed 1/240 of span. Anchor bolts and nuts shall be Type 304 stainless steel.
4. Galvanized steel grating for platform shall be fabricated in accordance with National Association of Architectural Metal Manufacturers MBG 531 using carbon steel bars, with swaggered cross bars spaced on 4-inch centers. Bearing bars shall be spaced on 1-3/16 inch centers. Bearing bar size shall be 1 inch x 1/4 inch. The top surface of the bearing bars shall be serrated to provide a non-slip surface. Steel grating shall be designed to support a uniform load of 200 lb per ft² with a maximum deflection of 1/4-inch. Band all ends of grating. Install steel clamps or clips to anchor the grating securely to supports.

5. Galvanized steel grating for trough shall be fabricated in accordance with National Association of Architectural Metal Manufacturers MBG 531 using heavy duty carbon steel bars with swaggered cross bars spaced on 4-inch centers. Bearing bars shall be spaced on 1-3/16 inch centers. Bearing bar size shall be 1 inch x 3/16 inch. All open ends will be banded. The top of the bearing bars shall be serrated to provide a non-slip surface. Steel grating shall be designed to support Modified AASHTO H-25 wheel load. Band all ends of grating. Install steel clamps or clips to anchor the grating securely to supports.

6. The grating shall be fastened to the framing members below using 3/8” thick saddle clip, “Gratefix Grating Clip – Hot Dip Galvanized”, Model No. GF1G10 by Simplified Building, or approved equal.

D. GUARDRAILS

1. Guardrails shall consist of galvanized steel tube railings, consisting of top rail, bottom rail, toe plates, 46-inch height support posts and offset-design component fittings. The guardrail system shall have durable corrosion preventing coating applied to the galvanized coating. Hollaender NuRail fittings shall be required.

2. Guardrails shall be designed to withstand a load of 100 lb/ft applied vertically downward to the top rail and simultaneously with the 50 lb/ft horizontal load. Post spacing shall not exceed 5 ft for the guard rails.

3. Handrails shall be designed under the direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Louisiana.

4. Shop drawings of handrail profiles, materials, sizes, connection attachments, anchorage and accessories shall be submitted in accordance with section 1.03 of these Special Specifications.

5. Rails and posts shall be galvanized HSS 1.90-diameter x 0.188 thickness conforming to ASTM A53, Grade B. Toe plates shall be 5-inch high galvanized steel plate conforming to OSHA standards and shall allow for expansion and contraction between posts. Provide toe plates at all guardrails.
PART 3- EXECUTION

3.01 TESTING

A. An independent testing laboratory shall be employed by the Board to inspect and perform the tests on items included in this section.

B. The testing laboratory shall inspect all structural steel including shop inspection of fabrication and assembly of structural steel, castings and other metal items.

C. A schedule of fabrication for the metal items, location of the shop and dates of inspection shall be provided to the testing laboratory, the Board and the Engineer at least ten (10) days in advance of the commencement of the layout work on fabricated material.

D. The testing laboratory shall provide to the Engineer a detailed report of its inspection of the work and the work’s conformance to AISC specifications and ASTM standards. The Contractor shall furnish means and assistance for testing materials and inspection. The testing laboratory’s approval does not relieve the Contractor of responsibility to perform quality control to insure that the products conform to the requirements of the Contract.

E. The testing laboratory’s inspector shall perform visual inspections of all welds and perform a minimum of two (2) non-destructive inspections as detailed on the shop drawings, and approved by the Engineer.

END OF SECTION
SECTION 07 40 00
ROOFING AND SIDING PANELS

PART 1- GENERAL

1.01 SECTION INCLUDES

A. Preformed, prefinished metal roof panels.

B. Miscellaneous trim, flashing, closures and accessories.

C. Fastening devices.

1.02 REFERENCES


B. ASTM A 606/A 606M - Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance

C. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.


F. American Iron & Steel Institute (AISI) Specification for the Design of Cold formed Steel Structural Members.

1.03 DESIGN / PERFORMANCE REQUIREMENTS

A. Design Requirements for Roof Systems:

   1. System Design: Metal roof system as designed by the manufacturer shall be a complete system. All components of the system shall be supplied by the same manufacturer.
2. Roof Panels: Steel panels shall be designed in accordance with the AISI Cold-Formed Steel Design Manual.

3. Design Loads: Design load application shall be in accordance with local building code.

4. Wind Loads: The design wind loads shall be based on the wind criteria in accordance with local building code.

5. Deflection: Deflection requirements shall be in accordance with the applicable building code, or as a minimum, L/180 for wind load (but not less than 10 psf (49 kg/sq m).

6. Thermal Expansion and Contraction: Completed metal roofing and flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability. Design temperature differential shall be not less than 200 degrees F.

7. Accessories and Fasteners: Accessories and fasteners shall be capable of resisting the specified design wind suction forces in accordance with local building code.

1.04 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Elevations and plans showing layout of roof panels, sections and details, fastening and joint details, trim and accessories. Show details of interfaces with adjacent products, weatherproofing, terminations, and penetrations of metal work.
D. Verification Samples: For each finish product specified, two samples, minimum size 12 inches (305 mm) square, representing actual product, color, and texture.

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

F. Provide executed copy of manufacturer’s warranty as applicable.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in factory production with fixed based roll forming equipment for the profiles and s type specified with a minimum 10 years documented experience and a documented, standardized quality control program such as ISO-9001 approval.

B. Installer Qualifications: Company specializing in installation of Metal Roof and Wall Panel Products of the type specified with a minimum 5 years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver panels to job site properly packaged to provide protection against transportation damage.

B. Store products in manufacturer's unopened and undamaged packaging with label intact in a clean, dry indoor location until ready for installation.

C. Stack all materials to prevent damage and to allow for adequate ventilation. Elevate one end to promote drainage.

D. Panels with strippable film must not be stored in the open, exposed to the sun.

E. Protect panels from contact with materials that could cause staining or discoloration of the finish.

1.07 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
1.08 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. Do not install panels over wet or frozen substrate.

1.09 WARRANTY

A. Provide Paint finish with the manufacturer’s limited 20 five year warranty against cracking, peeling and fade (not to exceed 5 N.B.S. units).

PART 2- PRODUCTS

2.01 PREFORMED METAL ROOF AND WALL PANELS

A. B-Deck: Ribbed metal panels designed for horizontal and vertical applications.

1. Application:
   a. Metal Roof Panels.

2. Material:
   a. Steel Sheet with gauge as required by Design Requirements.

3. B-Deck:
   a. 22 ga (0.0295 in.)
   b. Panel width/type: 36 inches, interlocking
   c. Coverage of 36 inches and an overall width 36-5/8 inches.
   d. Ribbed profile 6 inches o.c. with top rib 1-1/8 inches wide and bottom profile 3-1/2 inches wide.
   e. Depth 1-1/2 inch.

2.02 ACCESSORIES

A. Metal Components:
1. Provide accessories and other items essential to a complete roof or wall panel installation including panel clips, trim, closures, fascia, soffits, caps and similar metal components.

2. Metal components fabricated from same gauge and finish as metal panels, unless otherwise noted.

3. Flashing: Provide the same gauge and finish as the exterior panel, unless otherwise noted.

B. Fasteners:

1. Exposed fasteners shall be hex head self-drilling screws with bonded washers and color to match panels. Screws may be either plated steel or stainless steel.

2. Exposed stainless steel rivets shall match color finish of panel.

3. Frame fastener shall be Hilti X-ENP-19-L15 with a 36/3 pattern or engineer approved equal. Perimeter fasteners shall be spaced at identical spacing as sidelap connectors.

4. Sidelap connector shall be Hilti S-SLC 01 M HWH with a 36 in spacing or engineer approved equal.

C. Closure Strips: EPDM rubber to match configuration of the covering.

D. Sealants:

1. Exposed Sealants: One component silicone based as recommended by panel manufacturer: field applied.

2. Concealed Sealants: Non-curing, non-skinning butyl, polyisobutylene or polybutane tape as recommended by panel manufacturer; field applied.

2.03 MATERIALS

A. Galvanized Steel Sheet: ASTM A 653/A 653M, G90/Z275 zinc coated, coil coated:

2. Thickness: Available in 28 gauge to 11 gauge sheet thickness.

3. Material Finish:
   a. Paint Finish:
      1) Siliconized Polyester: Corasil two coat resin system with a total Dry Film Thickness (DFT) of 0.9 to 1.1 mils.
   b. Color: White
      1) Color as selected from the manufacturers standard range.

2.04 FABRICATION
   A. Form and fabricate panels to the profiles and configurations indicated on the Drawings.
   B. Factory form panels and components on a stationary industrial rolling mill.
   C. Fabricate panels to full length indicated.

2.05 MANUFACTURERS
   A. Acceptable Manufacturer: Corrugated Metals Inc. or engineer approved equal.

PART 3- EXECUTION

3.01 EXAMINATION
   A. Do not begin installation until substrates have been properly prepared.
   B. Inspect framing to verify that installation tolerance is in conformance with AISC Code, Section 7.
   C. Verify primary and secondary framing members are installed and fastened, properly aligned and sloped where required.
   D. Verify openings, curbs, pipes, sleeves, ducts, or vents through panels are solidly set, properly framed and located.
   E. If framing or substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install roofing and siding systems in accordance with approved shop drawings and manufacturer's printed installation instructions.

B. Install panels properly aligned, level and plumb.

C. Panels shall be in full and firm contact with supports and with each other at side and end laps.

D. Attach panels using manufacturer’s fasteners, spaced in accordance with approved shop drawings.

E. Install panels weather tight.

F. Do not allow panels or trim to come into contact with dissimilar materials.

G. Installation shall provide for expansion and contraction of panels and flashings waves, warps, buckles, fastening distress or distortions.

H. Provide underlayment for roofing panels where required by the manufacturer.

I. Provide closures at all panel openings.

J. Coordinate flashing and seals at intersections with adjacent work as required for a watertight installation.

K. Use tape sealant at side and end laps of all through fastened roof assembles with a slope of 4:12 or less.

L. Install metal roofing accessories in accordance with the manufacturer’s instructions and the approved shop drawings.

3.04 CLEANING

A. Clean any grease, finger marks or stains from the panels per manufacturer’s recommendations.
3.05 PROTECTION

A. Protect installed products until completion of project.

B. Remove and replace any panels or components, which are damaged beyond successful repair.

C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION
SECTION 26 00 00

ELECTRICAL INSTALLATION

3-01 GENERAL

A. It is the intent of these specifications to set the minimum standards for Electrical Construction for the Purchase and Installation of Compressor, Air Tank and Dryer in the Sycamore Filter Gallery at the MWPP.

B. Contractor shall furnish all labor, tools, materials, equipment, supplies, and supervision necessary and proper to install, complete in every detail, the Electrical System and devices called for in these specifications and as shown on the plans.

3-02 SCOPE

A. The work shall include, but is not necessarily limited to, the following:

1. Furnishing and installing electrical switches, transformer, lighting panel, equipment, and wiring as shown on the plans and as specified herein.

2. Furnishing and installing LED Lighting in the Colonnade and new covered platform.

3. Return of existing electrical equipment to the SWBNO.

B. Contractor shall also be responsible for any and all additional work required to properly accomplish the evident intent of these specifications.

3-03 CONTRACTOR'S RESPONSIBILITY

A. The Contractor is responsible for providing all labor, tools, temporary construction, materials, supervision and appurtenances of any nature required to accomplish the evident intent of these plans and specifications.

B. Various items necessary and proper for the construction may not be shown on the plans or named in the specifications. This shall not relieve the Contractor of his responsibility to furnish and/or perform said items in order to accomplish the intent of the contract.

3-04 INSPECTIONS, CODES AND STANDARDS

A. The electrical installation shall conform to the requirements of the latest addition of the New Orleans Building Code, the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).
B. Electrical equipment shall be built and tested in accordance with the applicable standards of the National Electrical Manufacturer's Association (NEMA), the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), and Underwriters Laboratories (UL).

C. A City of New Orleans Electrical Inspection Certificate shall be furnished by Contractor after completion of all work.

3-05 CONTRACT DRAWINGS

A. Electrical drawings relative to the work of this Contract are as follows:

   No. 5089-P1 and P2    One-Line Diagram, Elementary Wiring Diagrams, and, Power and Lighting Layout.

B. All drawings shall be used for general guidance only. All dimensions, sizes, locations, and equipment mountings shall be verified in the field by the Contractor. The Contractor shall be responsible for ascertaining and verifying all sizes, dimensions, quantities, etc. prior to purchase of materials. Equipment and conduit runs may be relocated up to 5'-0" from the locations shown by order of the Board Engineer without additional costs, providing such relocation is ordered prior to rough-in or installation.

C. Drawing scales may have been altered by photographic reproduction – DoNotScale.

3-06 APPLICATION OF PLANS AND SPECIFICATIONS

A. Contract plans and specifications are intended to be complimentary, one to the other, and work shown described, or noted on one shall be as binding as items of work shown described or noted on both sets of documents.

B. In case of conflict between the plans and the specifications, Contractor shall figure cost on the basis of the most costly alternative and call the conflict to the attention of the Board Engineer for evaluation and resolution. The Board Engineer shall be the sole authority in determining which of the conflicting items shall take precedence. Such conflict shall not be a basis for an extra cost claim or other expense to the Board.

3-07 WORK INCLUDED IN OTHER SECTIONS

A. All electrical work furnished under other sections shall comply with the
requirements of this Section 03 - Electrical Installation.

B. The Contractor shall coordinate his work with the work of other trades and SWBNO forces to ensure the smoothest and most efficient prosecution of the work.

C. The Contractor shall familiarize himself with work of other sections of these specifications to ensure proper coordination of all trades.

3-08 MATERIALS AND WORKMANSHIP

A. All materials and equipment shall be new and unused, shall comply with all applicable standards of IEEE, ANSI and NEMA, and shall bear the approved device label of the Underwriter's Laboratories, Inc., if such equipment or materials has been tested and listed by UL.

B. The work as installed is subject to the approval of the Board Engineer. Workmanship shall be of the highest quality conforming to the best electrical installation practice. Any work or material which is rejected must be removed immediately and replaced. No sub-standard work will be accepted. The placement of conduits, sleeves, grounding conductors, and openings in slabs, foundations and walls for electrical construction requirements shall be properly coordinated in all respects with work of other trades. All dimensions, measurements, special requirements, etc. shall be determined and verified in the field by the Electrical Contractor.

C. It is the intent of these specifications to receive work of the highest caliber and degree of workmanship. All work shall be performed in a workmanlike manner utilizing the highest standards and procedures currently in effect.

D. All conduits shall be run truly parallel and perpendicular to all building and structure surfaces. Stub-ups from underground runs shall be truly vertical with no portion of the bend showing. All racks, hangers, and support structures shall be true and plumb.

E. Any work performed, in the sole opinion of the Board Engineer, to less than the highest standards of acceptable workmanship shall be redone by the Contractor at no additional cost to the Board. The decision of the Board Engineer regarding acceptability of workmanship shall be final and binding on the Contractor.

F. Only those items of materials and equipment so indicated on the drawings or so designated in these specifications to be furnished by the S&WB, or by others, will be furnished by others for installation by the Contractor. The Contractor shall furnish all other required materials and equipment whether listed or not, as necessary for a
complete and operable installation.

G. Contractor shall continuously maintain adequate protection of all his work from damage and shall protect Board property from injury arising in connection with his work. He shall assume cost for repair of any such damage, injury, or loss. He shall adequately protect adjacent properties and facilities of other owners.

3-09 SUBSTITUTE MATERIALS AND EQUIPMENT

A. All materials and/or equipment indicated on the contract plans and/or included in the specifications by a specific Manufacturer's Name, Catalog or Model Number have been selected to establish a standard for quality and/or function. If the Contractor wishes to substitute Material and/or Equipment of another manufacturer because of availability or as "an equal" he shall, after signing of the contract, comply with the following:

1. Such Materials and/or Equipment must be submitted for the Board Engineer's approval within forty-five (45) consecutive days after signing of contract and thereafter must be reviewed and approved as "Equal" by the Engineer.

2. If the Contractor fails to submit the Materials and/or Equipment substitutions within the forty-five (45) day limit or if any one of the Materials and/or Equipment submitted within the specified period is not approved by the Engineer, then only Materials and/or Equipment specified in the Contract Documents will be accepted.

3. The term "Equal" used herein is defined as meaning "Equal" in the opinion of the Board Engineer.

4. No more than one submittal of a proposed Material and/or Equipment substitute for each item of Material and/or Equipment indicated on the drawings and/or included in the specifications will be reviewed for approval by the Board Engineer.

B. The decision of the Board Engineer shall be final and binding regarding acceptability of substitute materials and equipment.

3-10 SUBMITTALS

A. After award of this Contract and before purchase of the below listed materials and equipment, the Contractor shall furnish six copies of shop drawings, catalog sheets, and any other data for approval of the following equipment and materials:

1. Fusible Disconnect Switches.
2. 600 Volt Wiring, Cables and Conductors.

3. Conduit and Fittings.

4. Lighting Transformer.

5. LED Lighting Fixture.

6. Fabricated Galvanized Rack

7. Unistrut

8. Lighting Panel

B. Materials or Equipment listed above which are ordered without approval of the Board Engineer are subject to rejection and shall be replaced with approved items at no additional cost to the Board.

3-11 ITEMS AND EQUIPMENT REMOVED OR RETURNED

A. Items to be removed by the Contractor are as shown on the drawings or as called for in these specifications.

B. Materials and equipment removed shall become the Contractor's property except where noted otherwise on the drawings or in these specifications.

C. No materials shall be deposited in thoroughfares, canals, adjacent properties or on the jobsite.

D. All electrical items to be returned shall be delivered to the Electric Shop, located at the Main Water Purification Plant, 8801 Spruce St., New Orleans, LA. Provide 24 hour advance notice of intent to deliver by telephoning 504-865-0500, Mr. Eric Mancuso, to arrange for receipt of the items. Specific items to be returned are:

   1. Disconnect switches
   2. Breaker Panel

E. All items returned to the S&WB shall be returned in condition equal to that at the time of removal. Equipment or items to be returned to the Board which are lost or damaged shall be replaced with new items or materials equal in all respects to the original.

3-12 WARRANTY

Contractor shall warrant to the Sewerage and Water Board that all work performed under
this Contract shall contain no defective materials, workmanship, or title, and shall be of the kind and quality described in the specifications. Any defects appearing within one (1) year of the erection and acceptance of the equipment shall be corrected by the Contractor at no cost to the Sewerage and Water Board.

3-13 AS BUILT DRAWINGS

A. Contractor shall keep and maintain accurate records of all installations under this contract. One clear, concise, and legibly marked copy of the Electrical drawings indicating the actual "as built" conditions shall be provided to the Board Engineer prior to the acceptance of the Contract.

C. A complete "As Built" diagram (Drawing 5089-P2 "As Built") shall be photographically imprinted on a 1/8" aluminum plate and shall be mounted on station wall with brass machine screws and lead expansion anchors, positioned five (5') feet above the finished floor to center of drawing. The finished graphic shall be 22" x 29" (nominal) and is locally available through Metal Graphics, Inc.

3-14 CUTTING, PATCHING AND PAINTING

A. The Contractor shall perform all cutting, patching and painting required for the installation of all electrical circuits and equipment.

B. Patching and painting shall match original material, texture and paint type and color.

C. Furnish and install all necessary sleeves, inserts, thimbles, anchor bolts, etc., required for conduit, lighting fixtures, or other Electrical equipment. The proper location of all inserts, sleeves, thimbles, anchor bolts, etc. is the responsibility of the Electrical Contractor.

3-15 CONDUIT, FITTINGS, SUPPORTS, AND INSTALLATION

A. All conduit installed above ground shall be rigid copper free aluminum. All conduit installed below grade shall be reinforced concrete encased, Schedule 40 PVC or rigid galvanized steel as required by the plans. All conduit encased in concrete building slabs, walls, ceilings, etc. shall be rigid galvanized steel.

B. Aluminum conduit shall be used for building wiring and systems not encased in concrete. Conduit which may contact concrete or grout, passing through walls or floors, shall be rigid galvanized steel and insulated or wrapped to prevent possible corrosion.

C. Conduits shall be run parallel to each other and parallel and perpendicular to building surfaces. Direction changes shall be made by means of field bends. All bends in multiple conduit runs shall be concentric to provide a neat workmanlike appearance.
D. Conduits shall be cut with a hack saw or power saw only- pipe cutters shall not be allowed. Conduits shall be properly reamed after cutting. Conduits shall be threaded with standard tapered electrical conduit dies with five (5) full threads applied. Field cuts in steel conduit or unistrut shall be immediately coated with cold galvo compounds- no rust will be accepted.

E. Condulet and conduit fittings shall be cast alumninum or malleable iron with full screw covers and gaskets. Condulets and fittings shall only be used in lieu of field bends where either shown on the plans or as specifically allowed and approved by the Board Engineer. Condulets shall be selected (C, LB, LR, LL, T, or TB) to allow direct front access to the condulet cover.

F. Conduits shall be secured to building surfaces by means of malleable iron one hole straps and backing plates. Stamped steel one hole straps shall not be allowed. Conduits shall be mounted to unistrut or power strut supports with approved clamps.

G. All conduits entering panels, junction boxes, enclosures, etc. shall be fitted with insulated throat grounding bushings, or Meyers Hubs.

H. Conduits shall penetrate building or existing manhole walls through core drilled holes. The annular space shall be filled with a sand and cement grout after insulation of the conduit.

I. Conduits entering the top or sides of outdoor boxes, panels, enclosures, etc. shall be fitted with Meyers Hubs.

J. Conduits penetrating walls or floors from below ground areas shall be sealed as necessary to prevent ingress of water along either interior or along exterior of conduit.

K. Union fittings installed on aluminum conduit shall be aluminum as manufactured by Killark, or equal.

L. Flexible metal conduit shall be liquid tight with hot-dip galvanized steel core and extruded polyvinyl gray jacket, O.Z. type UAG, or equal. Connectors for liquid tight conduit shall be the grounding type, malleable iron, cadmium plated, O.Z., “Ground-Tile”, or equal. Length of “Sealtight” conduit shall not exceed 18 inches.

M. Sizes of conduits shall not be smaller than 3/4" or the NEC requirements, but in no case shall be smaller than shown on the drawings.

N. Conduit routings deviating from those indicated on the drawings shall not be used without approval by the Engineer; however, the Contractor shall make allowance for possible obstructions to the routes indicated.
O. Contractor shall provide properly bonded expansion fittings where conduits cross building expansion joints. Conduit expansion fittings shall be combination expansion-deflection type, O.Z. type Ax8, or approved equal. Conduits shall cross expansion joints at right angles to the joint.

P. Conduits stubbing up from below electrical equipment shall be terminated with insulated throat grounding bushings connected together with one continuous stranded bare copper cable connected at both ends to the ground bus.

Q. Connection of all motors and equipment subject to vibration and not equipped with a portable cord shall be made with liquid tight flexible metal conduit to a maximum length of 18 inches between the rigid system and equipment.

R. Spacing between conduit supports shall not exceed 10 feet. Conduits shall not be fastened to members of steel structures that are removable. Conduit hangers shall be supported from building structures and not from equipment or other conduits.

S. Conduits supported on steel structural members shall be clamped to the structure with malleable iron, hot-dip galvanized clamps, Korns, or approved equal.

T. Trapeze type conduit supports shall consist of unistrut channel, P-1000 or P-1001 (galvanized steel or aluminum as required) as indicated on the plans. Unistrut channel, conduit straps, and bolts and nuts shall be aluminum for aluminum conduit and hot-dip galvanized steel for steel conduit. Hanger rods, beam clamps, concrete inserts and miscellaneous hardware shall be hot-dip galvanized.

U. All hardware items which are not part of manufactured equipment and which are supplied by the Contractor shall be aluminum or stainless steel, type 316, for use with aluminum materials or equipment and hot-dip galvanized steel for use with galvanized materials or equipment.

V. Aluminum struts and supports, such as trapeze for multiple conduit runs, shall be insulated from threaded steel rods, washers and nuts, by fiber washers and from concrete or structural steel by 1/8" thick neoprene rubber pads.

W. All spare building conduits shall be fitted with a 40# pull string and capped.

3-16 JUNCTION, PULL, AND OUTLET BOXES

A. Pull boxes in runs of rigid steel conduit shall be heavy duty external flanged for flush mounting. Bodies shall be of Feraloy iron alloy. Covers shall be heavy duty checkered steel plates with cemented neoprene gasket and stainless steel screws. Pull boxes shall be rated for H-20 vehicular traffic loading. Both cover and body shall be hot-dip galvanized after fabrication. Pull boxes shall be NEMA 4, weather proof and water tight. Pull boxes shall be Cooper WJBF or equal.
B. Pull boxes and junction boxes in runs of aluminum conduit shall be cast aluminum with cast aluminum, gasketed covers for boxes nominally four (4") inches square and smaller.

C. Pull boxes and junction boxes in runs of exposed aluminum conduit shall be fabricated of 1/8" thick aluminum sheet with screw-on, gasketed aluminum covers, for boxes larger than four (4") inches square.

D. Outlet boxes for surface mounted switches, receptacles, etc. shall be cast aluminum with cast aluminum device covers, Crouse-Hinds type FS or FD boxes, or equal. Covers for weatherproof duplex receptacles shall have spring doors, Crouse-Hinds Cat. No. WLRD-1, or equal.

E. Junction and pull boxes shall be furnished as indicated on the plans or as required in the field for proper installation of the conduit and wiring systems. All boxes shall be selected and applied in accordance with the provisions of the National Electrical Code pertaining to such boxes.

F. Wiring device boxes for concealed runs within building shall be 4-11/16" boxes, recessed, with plaster rings. Provide stainless steel covers.

3-17 WIRE AND CABLE

A. 600 Volt Conductors - Building Wire:

All conductors installed in conduit for power and lighting service shall be 600 volt rated, stranded copper, 90/75 degree C, THHN/THWN insulated and sized as shown on the plans or as required by the N.E.C. In no case shall power wiring be less than #12 Awg.

B. Use new wiring and fixtures for new Colonnade Lighting.

Control cables shall be acceptable for use in OSHA regulated installations, UL listed as Type C, and shall be flame retardant, meeting the requirements of ICEA S-61-402, UL-1272, and IEEE-383.

Color coding shall be by means of pigmented and colored insulation per IPCEA Method 1A which combines pigmented coloring and numerical conductor coding.

C. Ground Conductors:

1. Equipment and service grounding conductors installed in conduit shall be green jacketed. Type THHN/THWN, 600 volt stranded copper, sized as shown on the plans.
2. **GREEN TAPE OR GREEN PAINTED CONDUCTORS WILL NOT BE ACCEPTED.**

3-18 WIRE AND CABLE INSTALLATION AND TERMINATION

A. Each conduit shall be continuous, open and clear of debris and obstructions before Contractor installs wire or cable. The conductors shall be installed in such manner and by such methods as to insure against damage to the insulation, damage to the outer jacket, or stretching of the conductor.

B. Wires and cables shall be pulled in their conduits with the application of a suitable lubricant, such as Ideal Yellow 77, or equal, that will have no injurious effect on the covering of the conductor. No oil or grease shall be used.

C. Cables shall be pulled into conduits with natural or synthetic fiber ropes where necessary - wire rope or steel cable will not be allowed.

D. Cable terminations at motors rated 480 volts and below shall be made with tinned copper compression lugs on both incoming cables and on motor leads bolted together with bolts, nuts, washers and lock washers, all of silicon bronze. Each bolted connection shall be insulated with a heat shrink motor connection kit, Raychem Type MCK, or approved equal, of the proper type for the size of cable terminated.

E. Splices and taps made on power circuits, where approved by the Board Engineer, shall be made with a bronze split-bolt connector. The splice or tap shall be insulated with a heat shrink sleeve, Raychem Type WCS, or approved equal.

F. Terminations in all control wiring under screw heads shall be made with insulated, tinned copper, crimp-on, ring terminals.

G. Multi-conductor control cable shall be spliced, where specifically required, with 3M Manufacturing Company, Scotchcast Splicing Kits.

H. All open wiring connections shall be effectively taped and insulated for the working voltage.

I. All new conductors shall be installed in continuous runs without splices.

J. Splices and taps in building service wiring serving lights, receptacles, etc. shall be made in approved boxes or enclosures by means of wirenut type connectors with internal helical spring contacts.

K. Low Voltage Electrical Tape shall be Scotch 33+ vinyl plastic. High Voltage Tape shall be Scotch 130C linerless tape. Irregular surfaces of bolts, connectors, etc. shall be filled with Scotch "Scotchfil" insulating putty prior to taping.
3-19 TESTING OF WIRE AND CABLE

A. When wire and cable installation is complete and not more than 72 hours before energization of the system the wire and cable shall be tested. Testing shall consist of a megohmeter or high potential test for all insulated wire and cable. Contractor shall test only new wiring installed under this contract.

B. 600 volt rated power cable shall be given a megger test with a 1000 volt megger and held for one minute or until reading reaches a constant value for 15 seconds. Minimum acceptable reading is 100 megohms. Cable shall be unconnected when tested.

C. Control cables shall be tested with the 500 volt megger. Minimum acceptable reading is 1.0 megohm.

D. Certified copies of all test results, which clearly identify the particular wire or cable tested, shall be submitted to the Board Engineer prior to energizing any system.

3-20 GROUNDING

A. The grounding system shall be installed in accordance with Article 250 of the National Electrical Code.

B. A green insulated ground conductor, Type THHN/THWN, sized as shown on the plans and in accordance with Table 250-102 (C)(1) of the National Electrical Code, shall be run in all conduits and bonded to all ground buses, bushings, and equipment as required.

C. All metallic conduit, transformers, supports, troughs, switchgear enclosures, cabinets, boxes and other equipment enclosures shall be grounded in accordance with the National Electrical Code.

D. Insulated Throat Grounding Bushings shall be used on all conduits entering safety switches, motor starters, troughs, control panels, enclosures, and panelboards. Grounding conductors shall be bound to each grounding bushing.

E. All motor frames shall be grounded through the rigid conduit system and a separate grounding conductor through flexible "Sealtite" conduit.

F. All equipment grounding conductors shall be either bare or green insulated stranded copper. Painted or taped insulation will not be accepted as a substitute for green insulation.

G. The entire station conduit system shall be grounded by means of screwed fittings with five full threads engaged; set screw or compression type fittings are unacceptable, and internal ground wire which shall be pulled in all conduits. Each conduit not terminating
in a device with integral hub shall be fitted with an insulated throat grounding bushing. Conduit ground wires shall be bound to said bushings, enclosure ground connections and cabinets.

H. All connections to rods, water pipes, or building columns shall be made by means of braized fittings. In lieu of braized fittings, Cadweld type connections may be used if desired.

I. Drain wires from shielded pairs shall be grounded in the main terminal panel only. Do not ground in intermediate panels, boxes, fittings, or at point of field device connection.

3-21 LIGHTING PANEL

A. Furnish 208/120 single phase lighting with 60 amp main as shown on plans.

3-22 SAFETY SWITCHES

A. All safety switches shall be UL Listed, shall meet or exceed Federal Specification W-S-865C for Type HD enclosed heavy duty switches, and NEMA Enclosed Switch Standard KS1-1983 for Type HD switches. Fusible switches shall be UL Listed for 200,000 RMS Symmetrical Amperes Interrupting Capacity when used with Class J or R fuses.

B. Safety switches shall be Premium Construction Specifications Grade, heavy-duty type, visible blade with quick-make, quick-break mechanism, rated for 250 or 600 volts with ampere ratings shall be as indicated on the plans, either fusible or non-fusible, as shown.

D. Enclosures shall be Nema 3R for outdoor mounted switches, with full cover interlock and defeater mechanism.

E. Provide switches per equipment schedule shown on drawings

3-23 LIGHTING TRANSFORMER

The lighting transformer shall be 480 Volt: 208/120 volt single phase dry type transformer with NEMA 3R rated enclosure per equipment schedule shown on drawings.

3-24 LED LIGHTING FIXTURES

A. Furnish LED fixtures per plans.
3-25 FUSES

A. All 480 volt and 250 volt fusible equipment shall be equipped with Littlefuse dual element time delay, Type R rejection fuses, Class RK-1 and RK-5, as required by the plans, with positive blown fuse indicator built integrally with the main fusebody and visible from the front when viewed in fuse holders. Indicating feature shall not use "pop-up" pins or similar indicating means. Fuses shall be premium quality rated for 300,000 ampere interrupting capacity, with type and ampere rating embossed into end ferrules or buswork. Overload element shall open at a temperature less than 300 F, and shall be thermally reversible to withstand repeated cycling. Fuse construction shall be such that end ferrules are electrically continuous with buswork and remain "hot" with fuse energized.

B. Contractor shall furnish fuses as shown on the plans. Furnish 10% spare fuses, but no less than three (3) of each rating and voltage level used.

C. Control fuses shall be furnished as required by the particular control device. Provide spares as outlined above.

D. Switchgear control circuit fuses shall be furnished as recommended by the manufacturer. Provide spares as outlined above.

3-26 NAMEPLATES, LABELING, AND MARKING

A. All items of power and control shall have engraved phenolic nameplates.

B. All Disconnect Switches, Double Throw Switches, and Motor Starters shall have an engraved phenolic nameplate, three ply, white letters on black background, identifying the device and source of power.

C. Secure nameplates to enclosure faces with drive screws, rivets, or stainless steel self-tapping screws. Glued or taped nameplates will not be accepted.

D. All panelboard directories shall be neatly typed to identify circuit loads.

E. Provide two (2") inch high stainless steel numerals on each motor to indicate Motor #1 or Motor #2. Numerals shall be attached to motor frame by means of brass or machine screws in tapped holes.

3-27 CLEANING UP

A. The Contractor shall remove all debris, surplus and waste materials, oil, grease, or stains resulting from the work performed prior to acceptance. All panel, starter, enclosure, switchgear and device interiors shall be thoroughly cleaned of all dust, dirt, debris, etc. prior to final acceptance. Touch-up all paint and finishes
damaged in installation. Touch-up paint shall exactly match and blend with factory finishes.

B. All rust shall be removed to base metal which shall be primed and painted to match original finish. Rusted nuts, bolts, washers, or other items of hardware shall be replaced at no additional cost.

3-28 STATION START-UP

A. Contractor shall demonstrate to the Board Engineer that all control and power systems are fully operational and will perform in accordance with the intent of these specifications.

B. Motor rotation shall be verified and corrected as required. Full load current shall be measured and motor overload heaters revised accordingly.

C. Automation panel elevations and spans shall be set to the elevations provided by the S&WB operations department.

END OF SECTION
PART 1- GENERAL

1.01 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary
      Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY
   A. This Section includes piping and related specialties for general-service compressed-
      air systems operating at 125 psi and less.
   B. Related Sections include the following:
      1. Specification Section “General-Service Packaged Rotary-Screw Air Compressors”.

1.03 SUBMITTALS
   A. Product data for the following:
      1. Pipes
      2. Couplings
      3. Fittings
      4. Valves
      5. Safety Valves
      6. Pressure Gages
      7. Supporting Elements

1.04 QUALITY ASSURANCE
   A. Comply with ASME B31.9, "Building Services Piping," for low-pressure compressed-
      air piping.
   B. The Contractor shall obtain the services of a qualified engineer or technician from the
      compressor manufacturer to review final installation, and supervise start-up, and
      testing of the compressor. After satisfactory installation of the equipment, the
      engineer or technician shall provide a signed certification that the equipment is
      installed in accordance with the manufacturer's recommendations.

PART 2- PRODUCTS

2.01 MANUFACTURERS
A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
   1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.

2.02 PIPING AND FITTINGS

A. Schedule 40, Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade A or B, black or hot dip, zinc coated. Provide Type S, Grade B, and hot-dip zinc-coated pipe options if indicated.
   5. Forged-Steel Fittings: ASME B16.11, socket type.
   7. Steel-Piping Grooved-End Fittings: ASTM A 47/A 47M, malleable-iron casting; ASTM A 106, steel pipe; or ASTM A 536, ductile-iron casting; with dimensions matching steel pipe; and made by keyed-coupling manufacturer. Provide galvanized finish if indicated.
   8. Steel-Piping Keyed Couplings: AWWA C606 or UL 213, for steel-pipe dimensions and rated for 300-psig (2070-kPa) minimum working pressure. Include ferrous housing sections, gasket suitable for compressed air, and bolts and nuts. Provide FPM or NBR gasket if indicated. Do not provide EPDM gasket if compressed air contains oil or oil vapor.
      1) Available Manufacturers:
         a. Central Sprinkler Co.; Central Grooved Piping Products.
         b. Grinnell Corp.
         d. Victaulic Corp. of America.
         e. Ward Manufacturing, Inc.
   9. Steel-Piping Expansion Joints: Compound, galvanized-steel fitting with telescoping body and slip-pipe section. Include packing rings, packing, limit rods, chrome-plated finish on slip-pipe sections, and flanged ends.

B. Stainless-Steel Pipe: ASTM A 312/A 312M, Schedule 5, stainless steel with plain ends.
   1. Stainless-Steel Pressure-Seal Fittings: Stainless-steel housing with O-ring end seals suitable for compressed-air piping and rated for 300-psig minimum working pressure. Provide FPM or NBR O-ring seals if indicated. Do not provide EPDM gasket if compressed air contains oil or oil vapor.

GENERAL-SERVICE COMPRESSED AIR PIPING

22 15 13 - 2
1) Manufacturer: Victaulic Corp. of America.

C. Transition Couplings for Metal Piping: Metal coupling or other manufactured fitting same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

PART 3- EXECUTION

3.01 PREPARATION

A. Interruption of Existing Compressed-Air Service: Do not interrupt compressed-air service to facilities unless permitted under the following conditions and then only after arranging to provide temporary compressed-air service according to requirements indicated:

3.02 PIPING APPLICATIONS

A. Install nipples, flanges, unions, transition and special fittings, and valves with pressure ratings same as or higher than system pressure rating used in applications below, unless otherwise indicated.

B. Joining of Dissimilar Metal Piping: Use dielectric fittings.
   1. NPS 2 and Smaller: Dielectric unions.
   2. NPS 2-1/2 to NPS 4 Dielectric flanges.

C. Use metal general-service compressed-air piping between air compressors and air receivers. Use of plastic piping for this application is prohibited.

D. Low-Pressure Compressed-Air Piping between Air Compressors and Receivers the following piping materials for each size range:
   1. NPS 2 (DN 50) and Smaller: Light-wall steel pipe, steel pressure-seal fittings with EPDM O-ring seals, and pressure-sealed joints.
   2. NPS 2 (DN 50) and Smaller: Stainless-steel pipe, stainless-steel pressure-seal fittings with EPDM O-ring seals, and pressure-sealed joints.
   3. NPS 2-1/2 and larger: Schedule 5, stainless-steel; pipe with groove ends; stainless steel grooved-end fittings; couplings with EPDM gaskets; and grooved joints.

E. Low-Pressure Compressed-Air Distribution Piping: Use the following piping materials for each size range:
   1. NPS 2 and Smaller: Schedule 40, black-steel pipe; threaded malleable-iron fittings; and threaded joints.
   2. NPS 2 and Smaller: Stainless-steel pipe, stainless-steel pressure-seal fittings with EPDM O-ring seals, and pressure-sealed joints.

3.03 VALVES
A. Ball valves 3 inches and smaller shall be full port, two or three piece ball valve conforming to MSS SP 110. The ball valve shall have a SWP rating of 150 psig and a CWP rating of 600 psig. The body material shall be Bronze ASTM B584, Alloy C844. The ends shall be soldered.

B. Check valves smaller than 4 inches shall be Class 125, bronze swing check valves with non metallic Buna-N disc. The check valve shall meet MSS SP-80 Type 4 standard. The check valve shall have a CWP rating of 200 psig. The check valve shall have a Y pattern horizontal body design with bronze body material conforming to ASTM B62, solder joints, and PTFE or TFE disc.

C. DIELECTRIC FITTINGS
   1. Fittings joining copper alloy and ferrous materials shall be isolated.
   2. Dielectric unions shall be factory fabricated union assemblies, rated at 250 psig minimum working pressure at 180 degrees F suitable for compressed air service.
   3. Dielectric flanges shall be factory fabricated companion flange assemblies, rated at 300 psig minimum working pressure at 180 degrees F suitable for compressed air service.

D. FLEXIBLE PIPE CONNECTORS
   1. Stainless steel hose flexible connectors shall be corrugated, stainless steel tubing with stainless steel wire braid covering and ends welded to inner tubing. The stainless steel hose connectors shall be rated at 200 psig minimum. The end connections for NPS 2 inches and smaller shall be threaded steel pipe nipple. The end connections for NPS 2-1/2 inches and larger shall be flanged steel nipple.

3.04 SPECIALITIES

A. Pressure Gages: Pressure gages permanently installed in the system or used for testing purposes shall be listed for compressed air service and shall include a snubber or pulsation dampener and an isolation valve for maintenance access.
   1. For line pressure use adjacent to source equipment: ASME B40.1, pressure gage, single, size 4 1/2 inches, for compressed air, accurate to within two percent, with metal case. Range shall be two times operating pressure. Dial graduations and figures shall be black on a white background, or white on a black background. Gage shall be labeled for appropriate service, and marked "USE NO OIL".
   2. For all services downstream of main shutoff valve: Manufactured for compressed air use and marked "USE NO OIL", 1 1/2 inch diameter gage with dial range 1-100 psig for air service.

B. Air Pressure Regulating Valves:
   1. Air pressure regulating valves under NPS 3 inches shall be pilot or diaphragm
operated, bronze body and trim, direct acting, spring loaded manual pressure setting adjustment and rated for 200 psig inlet pressure. Delivered pressure shall not vary more than one kPa for each 10 kPa (1.5 psig) variation in inlet pressure.

C. Safety valves shall be constructed according to the ASME BPVC Section VIII and be National Board Certified, labeled, and factory sealed. The safety valve shall be constructed of bronze body with poppet type safety valve for compressed air service.

D. The automatic drain valves shall have stainless steel body and internal parts rated for 200 psig minimum working pressure. The automatic drain valve shall be capable of automatic discharge of collected condensate.

3.05 PIPING INSTALLATION

A. All pipe shall be installed at right angles or parallel to building walls. Diagonal runs are prohibited unless indicated.

B. Piping shall be installed above accessible ceilings, allowing for sufficient space for ceiling panel removal and to coordinate with other services occupying that space.

C. Piping installed adjacent to equipment shall be located to allow for the required service clearances.

D. Air and drain piping shall be installed with a 1 percent slope downward in direction of flow.

E. Nipples, flanges, unions, transitions, and special fittings, and valves shall be installed with pressure ratings same as or higher than system pressure rating.

F. Flanged joints may be used instead of specified joint for any piping or tubing system.

G. Only eccentric reducers shall be installed where compressed air piping is reduced in direction of flow, with bottoms of both pipes and reducers fitting flush.

H. Branch connections shall be installed from the top of the main compressed air line. Drain legs and drain trap shall be installed at the end of each main and branch and at all low points in the system.

I. Thermometers and pressure gages shall be installed on discharge piping from each air compressor and on each receiver.

J. Valves shall be installed to permit servicing to all equipment.

Piping shall be cut square and accurately to measurements determined at place of
installation and worked into place without springing or forcing the pipe.

K. Rigidly support valves and other equipment to prevent strain on tube or joints. Suitably brace piping against sway and vibration. Bracing shall consist of brackets, anchor chairs, rods, and structural steel for vibration isolation.

L. Install air and drain piping with 1 percent slope downward in direction of airflow.

M. Install eccentric reducers where piping is reduced in direction of flow, with bottoms of both pipes and reducer fitting flush.

N. Install branch connections to compressed-air mains from top of main. Provide drain leg and drain trap at end of each main and branch and at low points.

3.06 STARTUP AND TESTING

A. As recommended by product manufacturer and listed standards and under actual or simulated operating conditions, pneumatic tests shall be conducted to prove piping system integrity and full compliance with design and specified requirements. Tests of the various items of equipment shall be performed simultaneously with each integrated system. Tests shall be pneumatic and shall use dry, oil-free compressed air, carbon dioxide or nitrogen in metallic systems.

B. The tests shall include initial piping purge test, initial pneumatic test for positive-pressure gas systems, initial cross-connection test, and initial standing positive-pressure gas piping tests, system capacity, control function, and alarm functions.

C. Pneumatic tests shall be performed utilizing a test pressure of 50 psi higher than the MAWP, minimum of 150 psi. Test pressure shall be maintained for a minimum period of four hours to ensure the temperature in the piping system stabilizes, then the pressure is refreshed and held for two hours with no loss of pressure. Pneumatic testing performance shall be in accordance with industry safety standards with the pressure gradually increased in increments of 25% of the MAWP until the required test pressure is reached. At each interval, the system pressure shall be held long enough for piping strains to stabilize. If leaks are observed, the leaks shall be identified, the system de-pressurized and repairs made before proceeding.

D. Other than standard piping flanges, plugs, caps and valves, only use commercially manufactured expandable elastomer plugs for sealing off piping for test purposes. Published safe test pressure rating of any plug used shall be not less than three times the actual test pressure being applied. During pneumatic testing evacuate personnel from areas where plugs are used.

E. Remove components that could be damaged by test pressure from piping systems.
F. Perform valve-operating tests and drainage tests to insure valves do not leak when operating under pressure and are correctly labeled.

G. Check piping system components, such as valves, for proper operation under system test pressure.

H. No test media shall be added to a system during a test for a period specified or determined by the Contracting Officer.

I. Duration of a test will be determined by the Contracting Officer and will be for a minimum of 15 minutes with a maximum of 24 hours. Test may be terminated by direction of the Contracting Officer at any point after it has been determined that the pressure leak test has been satisfied.

J. Prepare and maintain test records of all piping systems tests. Records shall show Governmental and Contractor test personnel responsibilities, dates, test gage identification numbers, ambient temperatures, pressure ranges, rates of pressure drop, and leakage rates.

K. System verification and final testing shall be conducted comprising of a system verifier standing pressure test, verifier cross-connection test, verifier piping purge test, verifier final tie-in test, verifier operational pressure test, verifier piping particulate test, verifier piping purity test, labeling, and source equipment verification test.

L. When any defects are detected, correct defects and repeat test at no additional costs to the Government. When testing reveals system leakage, isolate and repair the leaks, replace defective materials where necessary, and retest the system until there is no loss of pressure. Remake leaking gaskets with new gaskets and new flange bolting, and discard used bolting and gaskets.

3.07 DEMONSTRATION AND TRAINING
A. Provide services of manufacturer’s technical representative for four hours to instruct Board Personnel in operation and maintenance of the system.

3.08 LABELING AND IDENTIFICATION
A. Labels for pipe shall have printed legends to identify contents and arrows showing the direction of flow.

B. Pipe identification shall comply with ASME A13.1. Pipe identification labels shall be located as follows:
   1. At intervals of not more than 20 feet.
   2. At least visible once in or above every room.
3. On both sides of walls or partitions penetrated by the piping.
4. At least once in every story height traversed by risers.

3.09 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:
   1. Test and adjust piping safety controls. Replace damaged and malfunctioning safety controls.
   2. Piping Leak Tests: Test new and modified parts of existing piping. Cap and fill general-service compressed-air piping with oil-free dry air or gaseous nitrogen to pressure of 50 psig above system operating pressure, but not less than psig. Isolate test source and let stand for four hours to equalize temperature. Refill system, if required, to test pressure; hold for two hours with no drop in pressure.
   3. Repair leaks and retest until no leaks exist.
   4. Report results in writing.
PART 1- GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes systems and related specialties for general-service packaged rotary-screw air compressor systems operating at 125 psi and less.

B. Scope of work:
Contractor shall furnish and install two (2) rotary screw compressors, one (1) refrigerated air dryer, and 1550 gallon receiver tank at the Sycamore Filter Gallery. The Contractor shall remove all existing air compressors, dryer and receiver tank when the new air system has been installed and properly tested by the Contractor and approved by the engineer. See contract drawing for demolition plans. The contractor shall coordinate with the Engineer and Operations to ensure no disruption of service.

C. Related Sections include the following:

1. Specification Section “General-Service Compressed-Air Piping and Valves”.

1.03 SUBMITTALS

A. Product data for the following:
1. Air compressors
2. Refrigeration Dryers
3. Filter Units
4. Receiver Tanks

B. The Contractor shall furnish to the Board six (6) copies containing all descriptive literature of all component parts installed, with manufacturer's model number; individual part number and description, etc. Also to be supplied are six (6) copies of Operation and Maintenance manuals (O&M) for the air compressors and dryers. The Contractor shall furnish a maintenance procedure for air compressors and dryer with complete operation instructions for all equipment.

1.04 QUALITY ASSURANCE
A. The Contractor shall obtain the services of a qualified engineer or technician from the compressor manufacturer to review final installation, and supervise start-up, and testing of the compressor. After satisfactory installation of the equipment, the engineer or technician shall provide a signed certification that the equipment is installed in accordance with the manufacturer's recommendations.

1.05 WARRANTY

A. All equipment supplied under this section shall be warranted for a period of one (1) year by the Contractor and the compressor manufacturer. Warranty period shall commence on the date of the Board’s acceptance.

B. The equipment shall be warranted to be free from defects in workmanship, design and materials. If any part of the equipment should fail during the warranty period, it shall be replaced in the machine(s) and the unit(s) restored to service at no expense to the Board.

PART 2- PRODUCTS

2.01 ROTARY-SCREW COMPRESSORS
Contractor shall furnish and install two (2) new single stage contact cooled rotary screw air compressors shall be Ingersoll Rand Model: R45i-X125 60HP with X8i controller, or approved equal operated from a 480V, 3-phase, 60 Hz source include a Ground Relay or equal device to provide coordination with upstream protective devices.

A. Operating Conditions
The compressor shall be rated for the following conditions:
- Max. Operating Pressure: 125 psig
- Min. Operating Pressure: 115 psig
- Capacity: 253 CFM
- Max. Ambient Air Temp.: 115 °F
- Min. Ambient Air Temp.: 35 °F

B. Inlet Air Filter
Inlet air filtration shall be a dry type air cleaner 99.9% efficient at 3 micron and above.

C. Compression Module/ Air End
The rotors shall be manufactured from AISI-1045 steel. Rotor housings shall be made of close grain high quality cast iron.
D. Main Drive Motor
   1. The frame shall be cast iron and foot and flanged mounted.
   2. Bearings shall be lubricated with bearing housings having inlet and relief fittings to simplify the lubrication procedures.
   3. The motor shall have class F insulation as standard.
   4. All windings and leads shall be copper with triple coats of insulating varnish.

E. Integral Drive Assembly
   Gear housing shall be completely sealed against atmospheric contaminants.
   Drive shall include a self-centering Teflon impregnated motor shaft seal.

F. Lubrication System

   Elements of the lubrication system shall include the following:

   1. Coolant filtration- Full capacity coolant filter shall be a 5 micron replaceable element. Filter condition shall be monitored by the controller and shall provide warning when filter differential reaches set point and internal pressure relief with bypass.
   2. Coolant/ Lubricant Temperature Control- There shall be a thermostatic control valve, and shall control the quantity of coolant.
   3. Coolant Injection- The coolant shall be injected through a single large port on female rotor side.

G. Coolant/Air Separation

   The separator element shall be two-stage molded fiberglass structurally reinforced coalescing separator. The separator vessel shall be protected by pressure relief safety valve mounted on the side of the tank. There shall be a coolant drain valve at the bottom of the tank which shall be piped out the sub-base and a coolant filter point located that it is not possible to overfill the compressor with coolant.
   Compressor shall be filled with PAG advanced synthetic lubricant.

H. Coolers

   Cooler shall be an aluminum finned tube construction and shall be designed to operate continuously, fully loaded in ambient air up to 115°F without exceeding the normal design coolant injection temperature.

I. Fan Motors

   Fan motor shall be a TEFC high efficiency motor.
J. Compressors/ Capacity Controls
   Units shall be fitted with automatic stop/start as standard allowing compressor
to run unloaded for a predetermined time.

K. Controller

Controller shall have the following features:

1. Standard web pages monitoring
2. Standard remote control via web pages
3. Email notification of warnings and trips
4. Built-in sequencer for up to 4 units

L. Outdoor Installation Rain Protection

Compressors shall have outdoor ingress protection to ensure that sensitive electrical areas
are ingress protected and any water penetration into general machine is channeled out of
the enclosure appropriately.

2.02 Cycling Refrigerated Air Dryer

Contractor shall and install a complete mechanical refrigerated drying system for the
removal of moisture, oil aerosols and other contaminants. Dryer shall be complete in
all respects including integral components equipment, inter-connecting piping, wiring
and controls. Dryer shall be Ingersoll Rand Model NVC1000A, or Approved Equal.

A. Operating Conditions
   The dryer shall be rated for the following conditions:
   Inlet Air Flow: 1,000 CFM
   Inlet Air Pressure: 100 psig
   Inlet Air Temperature: 100 °F
   Ambient Temperature: 100 °F
   Outlet Pressure Dew Point: 38°F

B. Components and Construction
   The dryer shall be complete with the following:
   1. Precooler/ Reheater exchanger
   2. Independent non-cycling refrigerated chiller sections
3. Refrigeration systems equipped with independent fully-hermetic compressor air-cooled condenser, and refrigerated control devices
4. Centrifugal air/moisture separator
5. Solenoid condensate drain valve controlled by on board microprocessor
6. Microprocessor based control system to monitor system operation
7. Full cabinet enclosure to protect internal components

C. Precooler/ Reheater
   1. Stainless steel heat exchangers precool the incoming compressed air using the exiting chilled, dry air allowing efficient heat exchange in the air to refrigerant circuit.
   2. Air-to-air heat exchangers shall be designed to provide smooth, non-fouling exchange surfaces with minimal associated pressure drop.

D. Internal and External Air side Connections
   1. All airside connections shall be made with 150 # ANSI FLG, NPT and fabricated using carbon steel pipe.

E. Refrigeration system shall use refrigerant 404A to minimize environmental hazard.

F. Piping used in the refrigeration system shall be ASTM B75 or ASTM B743 refrigeration gauge piping.

G. Air/Moisture separator shall be centrifugal type and shall provide for separation efficiency in excess of 99%. Condensate collected at the bottom of the separator shall be discharged by a timed electric solenoid drain operated by the unit controller.

H. Microprocessor Controls and Instrumentation
   The microprocessor shall be factory wired to the unit control panel and complete with all electric controls required for proper operation. The electrical system shall be designed for single point electrical connection. The electrical enclosure shall be NEMA 1 rated and the panel shall be designed in accordance to UL508A. The compressor and fan motors shall be furnished with internal thermal protective devices.
   The standard microprocessor shall incorporate the following features:
   1. Chiller Temperature Digital Readout
   2. Suction Temperature Digital Readout
3. Suction Pressure Digital Readout
4. Discharge Pressure Digital Readout
5. Dryer Running Time
6. Diagnostic memory
7. Automatic Dryer Restart
8. Remote Start/Stop
9. Remote Communication Ready
10. High Discharge Pressure Cutout Alarm
11. High Chiller Temperature Alarm
12. Low Chiller Temperature Alarm
13. Display Drain Valve Operation
14. Cycle Operation of Condenser Fans to Match Refrigeration Load

I. Dryer System shall have a power outage restart operation. The dryer shall be required to automatically restart after a power supply interruption.

J. Enclosure and Base
   The fans, fan guards and cabinet shall form a NEMA 1/ IP 21 rated enclosure. The enclosure shall be 16 or 18 gauge steel and painted with electro-statically applied powder coat paint. The base shall be galvanized metal.

K. Testing
   The following testing functions shall be performed on the dryer:
   1. Electrical functionality test
   2. Tracer gas leak test to the refrigeration side
   3. Refrigeration leak test at designed system pressure and vacuum rate rise leak test.
   4. Airside pressure leak test to 125 psig
   5. Heat exchanger trace gas leak test at 550 psig

2.03 Filter System

   Contractor shall furnish and supply filter to remove oil and water liquid/mists and solid particles from the compressed air. Filter shall have filtering capability to remove oil and water liquid/mist down to .5 ppm by weight. The filter shall use both mechanical and centrifugal action to remove up to 99% of all solid particles and droplet of water or oil before air reaches the filter element. Filter shall be Ingersoll Rand Model NLM 800, or Approved Equal, rated for 975 SCFM @125 psig. Particulate filter shall be activated carbon type Ingersoll Rand Model FA1155IG, or Approved Equal, rated for 680 CFM at 100 psig.
2.04 Receiver Tank
The Contractor shall furnish and install a 1,550 gallon vertical receiver tank, as shown on drawings. Tank must be built in strict accordance with in the latest ASME codes for unfired pressure vessels. The tank shall be stamped with both ASME and National Board Markings for receiver type vessels. Maximum working pressure shall be 165 PSI @ 400°F. The tank must be thoroughly clean and free from all dirt and chips prior to last end being welded. The interior of the vessel shall be cleaned and free from all weld slag. The tank shall be finished primer and baked on powder coat primer. The tank manufacturer shall plug all tapped and welded flange openings prior to shipping.

PART 3-EXECUTION

3.01 INSTALLATION
The Contractor shall install the air compressors and accessories in accordance with manufacturer's recommendations and as indicated on the drawings. All equipment shall be installed plumb and level and anchored to structure, matching holes provided. Install the compressor under the direct supervision of an authorized representative of the manufacturer.

3.02 STARTUP AND TESTING
A. The Contractor shall furnish the services of a compressor manufacturer's authorized representative to supervise prestart checkout, initial start-up, performance testing, and operator instruction. Time available shall be as required to properly start up but not less than 3 consecutive days for the compressor.
PART 1- GENERAL

1.01 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY
   A. This Section includes piping and related specialties for the furnishing and installation of Fluorsilicic Acid Piping.

1.03 SUBMITTALS
   A. Product data for the following:
      1. Pipes
      2. Couplings
      3. Fittings
      4. Supporting Elements

1.04 QUALITY ASSURANCE
   A. Comply with ASME B31.3, "Processing Piping".
   B. The Contractor shall obtain the services of a technician from the piping manufacturer to review final installation, and testing of the piping. After satisfactory installation of the equipment, the engineer or technician shall provide a signed certification that the equipment is installed in accordance with the manufacturer's recommendations.
   C. The Contractor shall obtain components from a single source having responsibility and accountability.

PART 2- PRODUCTS

2.01 PIPING SYSTEM
   A. The system piping shall be a double-containment piping system of uniform materials.

2.02 MANUFACTURERS
   A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified. Asahi America, or Engineer Approved Equal.

2.03 PIPING AND FITTINGS

A. MATERIALS

1. Piping and fittings (both product and containment) shall be Polyvinyl Chloride with a Cell Classification of 12454-B in accordance with ASTM D 1784.

B. PRESSURE RATING PIPES

Both inner and outer pipes shall conform to requirements for a hydrostatic design basis.

1. Product Pipe
   Shall be SCH 40 PVC piping and shall be IPS dimensions manufactured in accordance with ASTM D 1785. Fittings shall be produced in accordance with ASTM D 2467.

2. Containment Pipe
   Shall be SCH 40 PCV Pipe shall be IPS dimensions manufactured in accordance with ASTM D 1785. Fittings shall be produced in accordance with ASTM D 2466. Containment pipe shall be at least 2 sizes larger than Product Pipe.

3. Fittings shall meet the same pressure requirements for both product and containment piping, respectively.

C. VALVES

Valve arrangements that are to be double contained shall be supplied pre-assembled and tested to 150% of the maximum operating pressures.

D. PIPE SUPPORTS

Support, guides, etc. for product pipe shall be provided of same resin as product pipe. Supports shall be placed in a manner that a maximum of 0.1” deflection is allowed between supports. Supports shall allow axial movement of the product pipe within containment pipe. Supports shall maintain a concentric relationship between product pipe and containment pipe.

E. ANCHORS
Anchors shall be provided of same resin as product pipe and containment pipe. Anchors shall be of same wall thickness as product and containment pipe.

F. FITTING SUPPORT DISKS

Support disks used to centralize fittings shall lock the product fitting to the containment fitting. Free-floating fittings are not allowed.

G. DOUBLE CONTAINED FLANGES

All double contained flange connections shall consist of a double o-ring and a flat-faced flange. The flange design shall provide adequate flow of fluid through the annular space. All flanges shall be of the same resin as the pipe.

PART 3- EXECUTION

3.01 INSTALLATION

A. Install double-containment piping to comply with manufacturer’s recommended procedures.

B. All joining shall be done utilizing a two step process of primer and cement in accordance with ASTM D 2564.

C. Hot gas welding shall not be allowed for wetted components.

D. Manufacturer Representative shall be hired by installing firm for onsite on-site training in the assembly, installation, and operation of double-containment system.

3.02 PIPE TESTING

Testing shall be conducted in accordance with manufacturer’s recommendation. The Board shall be notified of testing schedule.

A. PRESSURE SYSTEMS

1. Product Pipe
   Should be tested hydrostatically to 150% of the operating pressure per ASME B31.3 part 345.

2. Containment PIPE
   The containment piping shall be tested hydrostatically to 150% of operating pressure per ASME B31.3 or per local codes. The product pipe must be pressurized to the same pressure as the test to prevent collapsing of product pipe.
3.03 PIPE SUPPORTS

A. Universal Pipe Clamps shall have full interlocking contact with existing interior channel flanges to maximize pull-out resistance and be adjustable to accommodate a minim ¾” variance in piping or conduit O.D. sizes.

B. All chemical pipe supports shall be made of injection molded 40% long glass fiber reinforced polyurethane.
PART 4

DRAWINGS
(BOUND SEPARATELY)