

CITY OF MIDDLETON IDAHO

PLACE PARK LIFT STATION UPGRADES



For Information:
Civil Dynamics, PC.
5605 S 10TH Ave
Caldwell, ID 83607
453-2028

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(Not Bound in Contract Documents, Bidder is Responsible to obtain a Copy)

ADVERTISEMENT FOR BID

Bids for the City of Middleton Place Park Lift Station Upgrades project are due by 10:00 am local time, January 28, 2025 and are to be delivered to Middleton City Hall, 1103 W Main St, Middleton Idaho. Bids received after 10:00 am local time will not be accepted or opened.

This project will consist of furnishing all labor, materials, equipment, and supplies to complete upgrades to the Place Park Lift Station. Upgrades include adding a generator for standby power, installing a new water service for site maintenance water, extending the fenced area, installing a concrete approach, and other related upgrades. Work includes limited traffic control. All work, materials, and installation shall be in accordance with the project plans, specifications, Idaho Standards for Public Works Construction, and the Middleton Supplement to ISPWC.

The project **is not** subject to Davis Bacon or Buy American requirements.

Engineer's estimate \$102,000 – 166,000

All bids shall be submitted on the prescribed bid form and in the manner indicated in the Instructions to Bidders.

Bid Documents are available electronically for free on the City website (Departments->Public Works->Public Bid Opportunities). Printed Documents are available either via in-person pick-up or via mail. The non-refundable cost of printed Bidding Documents is \$25.

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Addenda, if any, will be posted on City website under Public Bid Opportunities.

The City of Middleton reserves the right to accept the bids and award a contract to the lowest responsible bidder based on the base bid schedule; to postpone the acceptance of the bid and the award of the contract for a period not to exceed sixty (60) days; or to reject any and all the bids received and further advertise the project for bids. The base bid will be awarded to only one contractor. The City of Middleton may reject any bid not in compliance with all prescribed public bidding procedures and requirements, and may reject, for good cause, any or all bids upon the finding of the City it is in the public interest to do so.

If you need more information regarding the project, contact **Devin Krasowski, PE, Civil Dynamics, PC**, devin@civildynamics.net.

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACTS

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 – DEFINED TERMS

- 1.01 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:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

CIVIL DYNAMICS PC

5605 S 10TH Ave

Caldwell ID 83607

208-453-2028

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the advertisement or invitation to bid may be obtained from the Issuing Office.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of 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 for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- 4.01 *Subsurface and Physical Conditions*
- A. The Supplementary Conditions identify:
1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
 - a. No known reports.
- 4.02 *Underground Facilities*

- A. 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.

4.03 *Hazardous Environmental Condition*

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site. None known or provided.

4.04 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, 4.03, and 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.

4.05 On request, Owner will provide 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.

4.06 A. Reference is made to Article 7 of the Supplementary Conditions for the 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. No other work will be performed on the site.

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

4.07 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. 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;
- D. carefully study all: (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," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";

- E. 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 (1) the cost, progress, and performance of the Work; (2) the 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; and (3) Bidder's safety precautions and programs;
- F. 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;
- G. 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;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – PRE-BID CONFERENCE

- 5.01 No pre-Bid conference will be held.

ARTICLE 6 – SITE AND OTHER AREAS

- 6.01 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.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 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 Engineer as having received the Bidding Documents. Questions received less than ten 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.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must 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 issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award may be returned within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

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

ARTICLE 10 – LIQUIDATED DAMAGES

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

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 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.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute.
- 12.02 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Engineer at cost.
- 13.02 All blanks on the Bid Form shall be completed in 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 listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may not be entered.
- 13.03 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.

- 13.04 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.
- 13.05 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.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 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.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.11 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, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID; COMPARISON OF BIDS

14.01 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. 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.
- C. 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.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents. The Bid Form is to be completed and submitted with the Bid security and the following documents:

- 15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title, the name and address of Bidder, and shall be 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." A mailed Bid shall be addressed to City of Middleton, PO Box 487, Middleton ID 83644.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. A summary of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for sixty (60) days, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 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.
- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 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.

Owner will award the Contract to the responsive and responsible Bidder whose base Bid is lowest.

ARTICLE 20 – CONTRACT SECURITY AND INSURANCE

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

ARTICLE 21 – SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 – SALES AND USE TAXES

22.01 Owner is not exempt from Idaho state sales and all taxes on materials and equipment are to be incorporated in the Work.

ARTICLE 23 – RETAINAGE

23.01 Owner will hold retainage equal to five (5%) percent.

BID DOCUMENTS

BID FORM
CITY OF MIDDLETON
PLACE PARK LIFT STATION UPGRADES

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

CITY OF MIDDLETON IDAHO
1103 W Main St, PO Box 487
Middleton, ID 83644

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

B. Bidder 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.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (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) as identified, and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site.

E. Bidder has considered 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 (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this 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.
- G. Bidder 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 Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- 1. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

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, non-competitive levels; and
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.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and ready for final payment as outlined in Paragraph 4.02 of the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of _____;

B. List of Proposed Subcontractors, as required by Idaho Code;

HVAC: _____

Plumbing: _____

Electrical: _____

C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

D. Public Works License No.: _____ [or] Evidence of Bidder's ability to obtain necessary License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in [State where Project is located] is
____ / ____ / ____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

Public Works License No. _____.

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:

Description *(Project Name and Include Location)*:

BOND

Bond Number:

Date *(Not earlier than Bid due date)*:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Above addresses are to be used for giving any required notice. Provide execution by any additional parties, such as joint venturers, if necessary.

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 Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
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 of 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.

CONTRACT DOCUMENTS

Notice of Award

Date: _____

Project: Place Park Lift Station Upgrades	
Owner: City of Middleton, Idaho	Owner's Contract No.:
Contract:	Engineer's Project No.:
Bidder:	
Bidder's Address:	

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for Place Park Lift Station Upgrades.

The Contract Price of your Contract is: _____
_____ (\$ _____)

2 copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

~~_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.~~

You must comply with the following conditions precedent within fifteen [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner 2 fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security Bonds as specified in the Instructions to Bidders (Article 20), General Conditions (Paragraph 5.01), and Supplementary Conditions (Paragraph SC-5.01).
3. Other conditions precedent:
Insurance Certificates

Failure to comply with these conditions within fifteen (15) days will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Middleton, Idaho
Owner
By: _____
Authorized Signature

Honorable Mayor

Title

Copy to Engineer

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between _____ City of Middleton, Idaho _____ (“Owner”) and

_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

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

This project will consist of furnishing all labor, materials, equipment, and supplies to complete upgrades to the Place Park Lift Station. Upgrades include adding a generator for standby power, installing a new water service for site maintenance water, extending the fenced area, installing a concrete approach, and other related upgrades. Work includes limited traffic control. All work, materials, and installation shall be in accordance with the project plans, specifications, Idaho Standards for Public Works Construction, and the Middleton Supplement to ISPWC.

ARTICLE 2 – THE PROJECT

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

Place Park Lift Station Upgrades

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by Civil Dynamics, PC, 5605 S 10th Avenue, Caldwell, ID, 83607. Civil Dynamics PC, City Engineer, is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All 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.

4.02 *Days to Achieve Substantial Completion and Final Payment*

- A. Bidder agrees that the Work will be substantially complete within 45 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 60 calendar days after the date when the Contract Times commence to run. Bidder accepts the provisions of the Agreement as to liquidated damages.

The contractor shall have 60 weeks after the execution of the contract for the procurement, submittal approval, and delivery of the generator and ATS switch. City will issue Notice to Proceed and contract time will commence when Contractor has generator and automatic transfer switch delivered. City acknowledges these items may have long lead times.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$500 for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$500 for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 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 Paragraphs 5.01.A, 5.01.B, and 5.01.C below:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. 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.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 20 day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A 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.
 - 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.
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100% percent of the Work completed, less such amounts as Engineer shall 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.

6.03 *Final Payment*

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

ARTICLE 7 – INTEREST

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of 8% percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. 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.
 - C. 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.

- D. Contractor has carefully studied all: (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), if any, and (2) reports and drawings of Hazardous Environmental Conditions, if any.
- E. 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 the 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.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that 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.
- G. 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.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 7, inclusive).
 - 2. Performance bond
 - 3. Payment bond
 - 4. Special Addendum to the Contract
 - 5. General Conditions (pages 1 to 62, inclusive).
 - 6. Supplementary Conditions (pages 1 to 10, inclusive).
 - 7. Specifications as listed in the table of contents of the Project Manual.

8. Drawings/Map.
9. Addenda (numbers _ to _, inclusive).
10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid
 - b. Documentation submitted by Contractor prior to Notice of Award:
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages _____ to _____, inclusive).
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

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

10.02 Assignment of Contract

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

10.03 Successors and Assigns

- A. 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.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that 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.

10.05 *Contractor's Certifications*

- A. 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 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 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 prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 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, non-competitive levels; and
 - 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.

10.06 *Other Provisions*

None listed

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

City of Middleton, Idaho _____

By: _____

Title: Honorable Mayor _____

Attest: _____

Title: _____

Address for giving notices:
1103 W Main St
Middleton, ID 83644

(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: _____

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

Attest: _____

Title: _____

Address for giving notices:

License No.: _____
(Where applicable)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

Agent for service of process:

PERFORMANCE BOND

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

Effective Date of Agreement:
Amount:
Description (*Name and Location*):

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

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.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 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
 - 2.2 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 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 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 to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner 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.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 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 the 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:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. 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.

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

8. 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 Contractor ceased working 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.

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

10. 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.

11. Definitions.

- 11.1 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.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 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 otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – <i>(Name, Address and Telephone)</i> Surety Agency or Broker: Owner's Representative <i>(Engineer or other party)</i> :
--

PAYMENT BOND

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

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

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 address 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 (at the address described in Paragraph 12) 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 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 otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner’s Representative *(Engineer or other)*:

**SPECIAL ADDENDUM TO CONTRACT WITH THE CITY OF MIDDLETON
COMPLIANCE WITH IDAHO CODE § 67-2346 AND IDAHO CODE § 67-2359**

CERTIFICATION OF COMPANY

WHEREAS, the City of Middleton and _____
(Company), are entering into that certain contract to which this Special Addendum is attached (Contract); and,

WHEREAS, the Company is required by law to make certain certifications in contracts with the City of Middleton concerning the Company’s business practices and ownership.

NOW, THEREFORE, THE COMPANY CERTIFIES THE FOLLOWING:

ANTI-BOYCOTT AGAINST ISRAEL ACT. IDAHO CODE § 65-2346.

[] By checking this box, the Company certifies that the Company is not currently engaged in, and will not for the duration of the Contract engage in, a boycott of goods or services from Israel or territories under its control. For the purpose of this certification, the terms “Boycott Israel” and “Boycott the State of Israel” shall have the meanings assigned to them by Idaho Code § 67-2346.

**CONTRACT WITH A COMPANY OWNED OR OPERATED BY THE GOVERNMENT
OF CHINA PROHIBITED. IDAHO CODE § 65-2359.**

[] By checking this box, the Company certifies that the Company is not currently owned or operated by the government of China and will not for the duration of the Contract be owned or operated by the government of China. For the purpose of this certification, the term “Government of China” shall have the meaning assigned to it by Idaho Code § 67-2359.

AUTHORIZED SIGNATORY OF THE COMPANY

Printed Name: _____

DATE: _____

GENERAL CONDITIONS

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

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

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

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

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

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

1.02 *Terminology*

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

B. *Intent of Certain Terms or Adjectives:*

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

C. *Day:*

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

D. *Defective:*

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

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

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

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

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

2.02 Copies of Documents

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

2.03 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times will commence to run on the day indicated in the Notice to Proceed.

2.04 Starting the Work

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

2.05 *Before Starting Construction*

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

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

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

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

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

3.02 *Reference Standards*

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

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written

interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

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

3.04 *Amending and Supplementing Contract Documents*

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

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

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

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and

Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

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

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

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

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

4.03 *Differing Subsurface or Physical Conditions*

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

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

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

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

C. *Possible Price and Times Adjustments:*

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

4.04 *Underground Facilities*

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

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

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

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

5.02 *Licensed Sureties and Insurers*

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

5.03 *Certificates of Insurance*

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

- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
 - 1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

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

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

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

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

5.07 *Waiver of Rights*

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

5.08 *Receipt and Application of Insurance Proceeds*

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

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

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

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

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

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

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

6.02 *Labor; Working Hours*

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

6.03 *Services, Materials, and Equipment*

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

6.04 *Progress Schedule*

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

6.05 *Substitutes and "Or-Equals"*

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

2. *Substitute Items:*

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

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

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

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

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

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

6.08 *Permits*

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

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

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

6.11 *Use of Site and Other Areas*

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

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

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

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

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

6.12 *Record Documents*

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

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

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

6.15 *Hazard Communication Programs*

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

6.16 *Emergencies*

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

6.17 *Shop Drawings and Samples*

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

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

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

6.18 *Continuing the Work*

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

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

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

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

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

7.03 *Legal Relationships*

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

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

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

8.03 *Furnish Data*

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

8.04 *Pay When Due*

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

8.05 *Lands and Easements; Reports and Tests*

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

8.06 *Insurance*

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

8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

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

8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

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

8.11 *Evidence of Financial Arrangements*

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

8.12 *Compliance with Safety Program*

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

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

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

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

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

9.04 *Authorized Variations in Work*

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

9.05 *Rejecting Defective Work*

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

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

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

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

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

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

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

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

10.02 *Unauthorized Changes in the Work*

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

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

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

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

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

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

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

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

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

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

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 Notice of Defects

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

13.02 Access to Work

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

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

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

13.05 *Owner May Stop the Work*

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

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

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

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

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

14.02 Progress Payments

A. Applications for Payments:

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

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

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

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

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

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and

- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

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

C. Payment Becomes Due:

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

14.08 *Final Completion Delayed*

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

14.09 *Waiver of Claims*

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

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

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

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

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

dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

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

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

17.06 *Headings*

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

SUPPLEMENTARY CONDITIONS

SUPPLEMENTARY CONDITIONS

Supplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition). All provisions which 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-2.02 *Copies of Documents*

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:

- A. Owner shall furnish to Contractor up to 1 printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction.**

SC-4.02 *Subsurface and Physical Conditions*

SC-4.02 Add the following new paragraphs immediately after Paragraph 4.02.B:

- C. The following reports of explorations and tests of subsurface conditions at or contiguous to the Site are known to Owner:
 - 1. None.****
- D. The reports and drawings identified above are part of the Contract Documents, and the “technical data” contained therein the Contractor may rely. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.**

SC-4.06 *Hazardous Environmental Conditions*

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

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.**
- B. Not Used.**

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

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

- a. State: Statutory
- b. Applicable Federal (e.g., Longshoreman's): Statutory
- c. Employer's Liability: \$500,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

- a. General Aggregate \$1,000,000
- b. Products - Completed Operations Aggregate \$1,000,000
- c. Personal and Advertising Injury \$1,000,000
- d. Each Occurrence (Bodily Injury and Property Damage) \$1,000,000
- e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
- f. Excess or Umbrella Liability
 - General Aggregate \$1,000,000
 - Each Occurrence \$1,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. **Bodily Injury:**
Each person **\$1,000,000**
Each Accident **\$1,000,000**

b. **Property Damage:**
Each Accident **\$1,000,000**

[or]

a. **Combined Single Limit of** **\$1,000,000**

4. **The Contractual Liability coverage required by Paragraph 5.04.B.3 of the General Conditions shall provide coverage for not less than the following amounts:**

a. **Bodily Injury:**
Each person **\$1,000,000**
Each Accident **\$1,000,000**

b. **Property Damage:**
Each Accident **\$1,000,000**
Annual Aggregate **\$1,000,000**

5. **List by name other persons or entities to be included on policy as additional insureds:**

City of Middleton, ID, Civil Dynamics PC, Control Engineers

SC-5.06 *Property Insurance*

GC-5.06.A.1 refers to other individuals or entities that are to be identified in SCs as being entitled to protection as loss payees under the property insurance on the Work. In such cases use the following:

SC-5.06.A.1 Add the following new subparagraph after subparagraph GC-5.06.A.1:

a. **In addition to the individuals and entities specified, include as loss payees the following:**

City of Middleton, Idaho

SC-5.06.A. Delete Paragraph 5.06.A in its entirety and insert the following in its place:

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof. Contractor shall be responsible for any deductible or self-insured retention. This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, Engineer, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or loss payee;
2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by these Supplementary Conditions.
3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
5. allow for partial utilization of the Work by Owner;
6. include testing and startup;
7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued; and
8. comply with the requirements of Paragraph 5.06.C of the General Conditions

SC-6.17 *Shop Drawings and Samples*

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

F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop

Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.

G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

SC-9.03 *Project Representative*

SC-9.03 Add the following new paragraphs immediately after Paragraph 9.03.A:

B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:

1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
3. *Liaison:*
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

- 4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.**
- 5. *Shop Drawings and Samples:***
 - a. Record date of receipt of Samples and approved Shop Drawings.**
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.**
- 6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.**
- 7. *Review of Work and Rejection of Defective Work:***
 - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.**
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress 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 work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.**
- 8. *Inspections, Tests, and System Startups:***
 - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.**

- b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records:*

- a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- b. Maintain records for use in preparing Project documentation.

10. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *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.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the 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 delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion:*

- a. **Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.**
- b. **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.**
- c. **Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.**

C. The RPR shall not:

1. **Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).**
2. **Exceed limitations of Engineer’s authority as set forth in the Contract Documents.**
3. **Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.**
4. **Advise on, issue directions relative to, or assume control over any 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.**
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.**
6. **Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.**
7. **Accept Shop Drawing or Sample submittals from anyone other than Contractor.**
8. **Authorize Owner to occupy the Project in whole or in part.**

SC-12.01 *Change of Contract Price*

SC-12.01.C *Contractor's Fee.* Delete the semicolon at the end of GC 12.01.C.2.c, and add the following language:

, provided, however, that on any subcontracted work the total maximum fee to be paid by Owner under this subparagraph shall be no greater than 10 percent of the costs incurred by the Subcontractor who actually performs the work;

SC-16.01 *Methods and Procedure*

SC-16.02 Add the following new paragraph immediately after Paragraph 16.01.

SC-16.02 *Arbitration*

Revise General Conditions, Article 16, 16.01.C. as follows:

A. Mediation. Owner and Contractor agree that they shall first submit any and all unsettled claims, and counterclaims between them arising out of or relating to this Agreement or the breach thereof (“Disputes”) per General Conditions 16.01.A and 16.01.B. If such mediation is unsuccessful in resolving a Dispute, then (1) the parties mutually agree to a dispute resolution method of arbitration, and (2) in any case either party may seek to have the Dispute resolved by the District Court of the Third Judicial District of the State of Idaho.

B. Arbitration. If the parties mutually agree, the Disputes between Owner and Contractor shall be settled by arbitration in accordance with the American Arbitration Association rules effective at the Effective Date of the Agreement, subject to the conditions stated below. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under prevailing law of any court having jurisdiction.

1. Notice of the demand for arbitration must be filed in writing with the other party to the Agreement. The demand must first be made within a reasonable time after the Dispute has arisen. In no event may the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such Dispute would be barred by the applicable statute of limitations.

2. All demand for arbitration and all answering statements thereto which include any monetary claims must contain a statement of the total sum or value in controversy as alleged by the party making such demand Disputes that are not subject to arbitration may be resolved in the District Court for the Third Judicial District of the State of Idaho

CONSTRUCTION DOCUMENTS

Notice to Proceed

Date: _____

Project: Place Park Lift Station Upgrades

Owner: City of Middleton, Idaho

Owner's Contract No.:

Contract:

Engineer's Project No.:

Contractor:

Contractor's Address:

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement, the date of Substantial Completion is _____.

Before you may start any Work at the Site, you must:

_____ *[add other requirements]*.

Owner

Given by:

Authorized Signature

Title

Date

Copy to Engineer

Contractor's Application for Payment No.

	Application Period:	Application Date:
To (Owner): City of Middleton, Idaho	From (Contractor):	Via (Engineer):
Project: Place Park Lift Station Upgrades	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment Change Order Summary

Approved Change Orders			
Number	Additions	Deductions	
TOTALS			
NET CHANGE BY CHANGE ORDERS			

	1. ORIGINAL CONTRACT PRICE..... \$ _____
	2. Net change by Change Orders..... \$ _____
	3. Current Contract Price (Line 1 ± 2)..... \$ _____
	4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)..... \$ _____
	5. RETAINAGE:
	a. X _____ Work Completed..... \$ _____
	b. X _____ Stored Material..... \$ _____
	c. Total Retainage (Line 5a + Line 5b)..... \$ _____
	6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c)..... \$ _____
	7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)..... \$ _____
	8. AMOUNT DUE THIS APPLICATION..... \$ _____
	9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)..... \$ _____

Contractor's Certification	
<p>The undersigned Contractor certifies that to the best of its knowledge: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.</p>	
By:	Date:

Payment of:	\$ _____	
		(Line 8 or other - attach explanation of the other amount)
is recommended by:	_____	_____
	(Engineer)	(Date)
Payment of:	\$ _____	
		(Line 8 or other - attach explanation of the other amount)
is approved by:	_____	_____
	(Owner)	(Date)
Approved by:	_____	_____
	Funding Agency (if applicable)	(Date)

Change Order

No. _____

Date of Issuance: _____

Effective Date: _____

Project: Place Park Lift Station Upgrades	Owner: City of Middleton, Idaho	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

None

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

Original Contract Price: No Change

Original Contract Times: Working days Calendar days

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

\$ _____

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Price prior to this Change Order:

Contract Times prior to this Change Order:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

[Increase] [Decrease] of this Change Order:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Price incorporating this Change Order:

Contract Times with all approved Change Orders:

\$ _____

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____
Engineer (Authorized Signature)

By: _____
Owner (Authorized Signature)

By: _____
Contractor (Authorized Signature)

Date: _____

Date: _____

Date: _____

Approved by Funding Agency (if applicable):

Date: _____

Certificate of Substantial Completion

Project: Place Park Lift Station Upgrades

Owner: City of Middleton, Idaho

Owner's Contract No.: N/A

Contractor:

Engineer's Project No.:

This Certificate of Substantial Completion applies to:

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A tentative list of items to be completed or corrected is noted above. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

Amended Responsibilities

Not Amended

Owner's Amended Responsibilities:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer

Date

Accepted by Contractor

Date

Accepted by Owner

Date

FINAL CONTRACT VOUCHER CERTIFICATE

Contractor: _____

Project Name: _____

Final Contract Amount: _____

Contractor's Certification

I, the undersigned, having first been duly sworn, certify that I am authorized to sign for the claimant; that in connection with the work performed and to the best of my knowledge no loan or gratuity of gift in any form whatsoever has been extended to any employee of the City of Middleton, nor have I rented or purchased any equipment or materials from any employee of the City of Middleton; I further certify that the attached final estimate is a true and correct statement showing all the monies due me from the City of Middleton for work performed and material furnished under this contract; that I have carefully examined said final estimate and understand the same, and that I hereby release the City of Middleton from any and all claims of whatsoever nature which I may have, arising out of the performance of said contract, which are not set forth in the said estimate..

X _____
Contractor Authorized Signature Required

Type Signature Name

Printed Name:

NOTARY PUBLIC in and for the State
Idaho, residing at _____
My Commission Expires: _____

Owner Certification

I, certify the attached final estimate to be based upon actual measurements, and to be true and correct.

X _____
Project Engineer Date Approved

X _____
Date Approved

Note: Contractor's Claims, if any, must be included, and the Contractor's Certification must be labeled indicating a Claim attached.

SPECIAL PROVISIONS

SPECIAL PROVISIONS GENERAL CONSTRUCTION NOTES:

1. Work

The Work to be performed under this Contract shall consist of furnishing all plant, tools, equipment, materials, supplies, and manufactured articles and for furnishing all transportation and services, including fuel, power, water and essential communications, and for the performance of all labor, work, or other operations required for the fulfillment of the Contract materials and services not expressly shown or called for in the Contract Documents and plans which may be necessary for the complete and proper construction of the Work in good faith, shall be performed, furnished, and installed by the Contractor as though originally so specified or shown, at no increase in cost to the Owner.

2. Public Works Contractor's License

The Contractor or Subcontractor must obtain said license before award can be made to the Contractor.

3. Basis of Payment

Except as modified herein, the various work called for on the *Bid Schedule* shall be performed, measured, and paid for as indicated on said Bid Schedule and as provided in the 2020 IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPWC). The Contractor is required to be a current holder of the ISPWC and hold a Public Works license. The contractor must maintain a complete copy of the referenced ISPWC document on site.

4. Basis of Quantities

Unless otherwise specified herein, all quantities are based upon in-place, completed and accepted units.

5. Quantity Change

The quantities shown for each bid item are approximate and the Owner reserves the right to increase or decrease individual items such as amounts as may be to the best interest of the Owner, depending upon conditions encountered during the work. If quantities are increased or decreased, the per unit price in the bid shall be used for payment. Unreasonable and unbalanced bid prices may be rejected by the Owner for individual bid items, and renegotiated.

6. Submittals

The contractor shall furnish to the Engineer for review, four (4) copies of each shop drawing submittal and materials submittal, two of which will be retained by the Owner.

Acceptance of shop drawings by the Engineer is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the Plans and Specifications. The contractor is responsible for dimensions which shall be confirmed and correlated at the job site, fabrication process and techniques of construction, coordination of his work with that of all other trades and the satisfactory performance of his work.

Acceptance by the Engineer of any drawings, method of work, or any information regarding materials or equipment the contractor proposes to provide shall not relieve the contractor of his responsibility for any errors therein and shall not be regarded as an assumption of risk or

liability by the Engineer, or by any officer or employees thereof, and the contractor shall have no claim under the contract on account of the failure or partial failure or inefficiency of any plan or method of work or material or equipment so accepted.

7. Record Drawings

Contractor must provide accurate record drawings detailing the depth, size, type of material and alignment of the new pipeline and all other existing utilities that are encountered during excavation. Contractor must submit the record drawings within four weeks of completion of the project to the Engineer for review, approval, and submission to the Owner.

8. Pre-Construction Meeting

Prior to scheduling a preconstruction meeting, the Contractor shall submit all material certifications and required submittals as outlined in the Submittals section of the ISPWC.

9. On Site Supervision

The General Contractor shall provide competent on-site supervision during all construction activities, including SUBCONTRACTOR activities. The superintendent shall be identified and shall, at a minimum, be on-site from the notice to proceed date to the completion date. If for any reason the superintendent needs to be replaced by the General Contractor, a written notice must be submitted to the OWNER within five (5) working days before the event occurs.

10. Staging Area

The contractor will be responsible to furnish a staging area for the project. The contractor shall coordinate, as necessary, to establish a staging area for the project that provides secure storage of all materials. If other than Middleton City property, contractor shall obtain written agreement with the property owner of the staging area covering items such as applicable contractor's insurance, activity and use limits, and restoration of the site at completion of the project.

11. Construction Sequence

Cleanup of all construction debris, excess excavation, excess material and complete restoration of all landscaping, signposts, landscape rock, shrubbery, trees, pavement, curb and similar items shall be completed immediately. The Contractor shall not stockpile the excavated material except as necessary for construction backfill. All excavated material shall be removed from adjacent areas and the surfaces shall be left in a condition equivalent to the original surface and free of rocks, gravel, boulders, or other foreign material.

All work necessary to complete the project construction is to be included in the listed bid items. Include clearing, grubbing, utility location, utility coordination, utility relocation, excavation, grading, demolition, hauling, disposal, material placement, compaction, base/leveling course, landscaping and landscape repair and testing of the individual bid item – concrete, compaction, pipe, and other as applicable.

12. Sign or Other Obstruction Remove and Replace

Contractor must remove and replace all mail boxes, signs, or other obstruction to existing or better condition. This work is incidental to construction. No separate pay item will be made.

13. Retain and Protect Existing Items

All items outside of the temporary construction area shall be retained and protected unless specifically noted otherwise on the plans.

14. Damage Beyond Construction Limits

Damage to property outside the construction limits of this project shall be promptly repaired by the Contractor. The cost of these repairs shall be considered incidental to other items of work and no separate payment will be made. The Contractor shall obtain a release from the Owner specifying that they are satisfied with the repair work. Final release of contract retainage will not be authorized until this provision has been met.

15. Survey Monuments, Benchmarks and Construction Staking Control

The Contractor shall preserve existing survey monuments and benchmarks wherever possible, including property corners demarking private property. **Contractor is responsible for staking as he deems necessary for the construction. Staking is incidental; no separate pay item will be made.**

16. Testing and Construction Observation

All test and observation shall be performed in accordance with manufacturer requirements, these special provisions, and the ISPWC as outlined in the project manual. The Contractor is solely responsible for scheduling all inspection and testing as required. All costs of testing and retesting for previously failed test shall be back charged to the responsible Contractor. All cost of re-inspecting failed items shall also be back charged to the responsible Contractor.

All testing of concrete, soil and compactive efforts to assure compaction requirements are satisfied is incidental to construction and there is no separate pay item. The testing shall be done by a certified materials testing firm and laboratory. The results shall be forwarded to Engineer upon receipt by Contractor. Each layer of material is to be tested and the results approved by the Engineer prior to installing the next subsequent layer.

Compaction requirements shall be in accordance with the Classes of Compaction and Density Requirements of the ISPWC Specifications and, in no case, shall be less than 95%.

17. Trenches and Pipe Bedding

All backfill for storm drain, irrigation, and domestic water pipe shall be Type A-1 according to the specifications set forth in the current edition of the ISPWC section 306 (Trench Backfill). Pipe bedding for storm drain and gravity irrigation shall be Type 1. Pipe bedding for pressure irrigation and domestic water pipe shall be Type III according to the specifications set forth in the current edition of the ISPWC section 305 (Pipe Bedding). All costs associated with trenching and pipe bedding shall be included in the individual pipe bid items, and no separate payment will be made.

18. Dewatering

Contractor shall obtain a short term activity exemption from the Idaho Department of Environmental Quality (DEQ) prior to any trench or subsurface dewatering discharge. Contractor shall contact Craig Shepard at DEQ (373-0577) for assistance. Dewatering is incidental to the construction, there is no separate pay item, and shall be done in conformance

with ISPWC, Section 205. The contractor shall obtain permission from the appropriate entity having jurisdiction over any canals, ditches or drainage ways used for disposal of dewatering water.

19. Water for Construction

Water required during the course of construction can be obtained from the City of Middleton. Coordinate with the City of Middleton for availability and schedule.

20. Asphalt and Concrete Cutting

All cutting of existing asphalt pavement and concrete shall be by saw. The costs associated with cutting existing asphalt pavement and concrete shall be considered incidental to other items of work and no separate payment will be made.

21. Sources

The Contractor shall use approved commercial sources for Uncrushed Aggregate Base, Crushed Aggregate for Base Type I, plant mix pavement aggregates, Portland cement concrete aggregates, structural fill, trench bedding and backfill.

22. Excess Material Site

The Contractor shall be responsible for providing a site for the disposal of excess or unsuitable materials. If bituminous material is to be disposed of, the site shall meet the requirements of the Idaho Department of Environmental Quality. No separate payment will be made for the acquisition or operation of the sites, or for loading, hauling or unloading the materials at the site.

SPECIAL PROVISION BID ITEMS

ITEM SP100 – Maintenance Water Provisions

This item includes all materials, labor, equipment, testing, and services necessary to install a new 1.5-inch water service connection, backflow prevention device (including enclosure and concrete pad), and 1.5-inch yard hydrant to provide maintenance water for the lift station site. The water service connection shall be per ISPWC Section 404 and the City of Middleton Supplement. The backflow prevention device and 1.5-inch hydrant shall be per the Construction Drawings and manufacturer's requirements.

This item also includes approximately 28 feet of Type "P" Surface Restoration (Asphalt Roadway) related to the service line installation (Per ISPWC Section 307). Quantity given is a plan estimate. The entirety of this item will be paid for via lump sum with no quantity adjustments.

SP100 – Maintenance Water Provisions – Per Lump Sum

ITEM SP200 – Gravel Access

This item includes all materials, labor, equipment, testing, and services necessary to install the gravel access described on the Construction Drawings (Keynote 11 on Sheet C1.0 and delineated by the "New Road Mix / Fabric Boundary" listed in the legend).

The Subgrade Separation Geotextile shall be per ISPWC Section 2050. The 8-inch layer of Type I Crushed Aggregate shall be per ISPWC Section 802.

SP200 – Gravel Access – Per Square Yard

ITEM SP300 – Sprinkler Relocation and Landscape Repair

This item consists of furnishing all labor, equipment, and material necessary to relocate and/or modify components of the existing sprinkler system adjacent to the lift station to account for the extended fence area and to perform any landscape or sprinkler repair necessary to restore the area around the lift station site to pre-project conditions.

If grass is damaged during construction and it is too cold to reestablish, contractor shall install as soon as weather permits. All areas repaired will need to be graded flat and grass will need to match surrounding grades.

All materials shall conform to the ISPWC and Middleton Supplement. Materials may include topsoil, hydroseed, sod, new irrigation line, new sprinklers, or other materials as required.

SP300 – Sprinkler Relocation and Landscape Repair – Per Lump Sum

ITEM SP400 – Bollard


This item consists of furnishing all materials, labor, equipment, and services necessary to install bollards as detailed on Sheet C1.0 Detail 1 of the Construction Drawings.

SP400 – Bollard – Per Each

ITEM SP500 – Generator and All Electrical Materials and Installation

This item includes furnishing all materials, labor, equipment, and services necessary to install the backup generator including full fuel tank, concrete pad, automatic transfer switch, and automatic bank load and to complete all other electrical and controls work as specified in the Construction Drawings. Work shall be completed per Section 16620 and Section 16050 of the Special Provisions.

SP500 – Generator and All Electrical Materials and Installation – Per Lump Sum

<i>Issue Date</i>	<i>Originated/Revised</i>	<i>Checked</i>	<i>Approved</i>	<i>Remarks</i>
Revision A 08/21/2023	A. Yellen 08/21/2023	M. Johnson 08/21/2023	- -	Issued for Review and Comment
 <p>1095 S Federal Way Boise, Idaho 83705</p> <p>(208) 433-9997 fax (208) 426-0550</p> <p>Control Engineers, PA</p>			<p>City of Middleton Idaho Park Place Lift Station Generator / ATS Addition <u>SPECIFICATION SECTION 16620</u> BACKUP GENERATOR</p>	

SECTION 16620

BACKUP GENERATOR
CITY OF MIDDLETON, IDAHO
PARK PLACE GENERATOR ADDITION PROJECT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Specification Section covers general and technical requirements applicable to all designing, fabricating and testing of equipment, materials, tools, delivery and related services necessary to supply a diesel oil fueled backup generator, along with any required accessories, for the Park Place Lift Station Generator Addition Project for the City of Middleton, Idaho.
- B. The backup generator shall be designed for outdoor use and be provided with a sound dampening and weather proof enclosure as specified below.

1.2 RELATED SECTIONS AND DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections included in the Contract Documents, apply to this Section.

1.3 REFERENCES

- A. ANSI – American National Standard Institute

ANSI C57.13, Requirements for Instrument Transformers

ANSI/NFPA 70, National Electrical Code (NEC)
- B. ASCE – American Society of Civil Engineers

ASCE 7, Minimum Design Loads for Buildings and Other Structures
- C. Code of Federal Regulations

Title 40, Part 89, Protection of Environment
- D. FM – FM Global

All inclusive, as applicable.

- E. NEMA – National Electrical Manufacturers Association
 - NEMA AB 1, Molded Case Circuit Breakers and Molded Case Switches
 - NEMA ICS 2, Industrial Control Devices, Controllers and Assemblies
 - NEMA MG 1, Motors and Generators
 - NEMA MG 1-22, Standard Performance Tests
 - NEMA MG 2, Safety Standard for Construction and Guide for Selection, Installation, and Use of Electric Motors and Generators
 - NEMA 250, Enclosures for Electrical Equipment
- F. NFPA – National Fire Protection Association
 - NFPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
 - NFPA 110, Standard for Emergency and Standby Power Systems
- G. UBC – Uniform Building Code
- H. UL – Underwriters’ Laboratories, Inc.
 - UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids
 - UL 1008, Standard for Transfer Switch Equipment
 - UL 2200, Standard for Stationary Engine Generator Assemblies

1.4 DEFINITIONS AND AMBIENT REQUIREMENTS

- A. Definitions:
 1. Contract Documents: Purchase and contractual documentation and agreements among Owner, Engineer, Contractor and Manufacturer.
 2. Contractor: Contractor providing and installing equipment and systems. Carries ultimate responsibility for a complete and operable system.
 3. Engineer: Overseeing engineering firm and Owner’s representative.
 4. Manufacturer: Supplier/fabricator of overall Backup Generator assemblage to Contractor.
 5. Owner: City of Middleton, Idaho.

- B. Ambient Conditions:
 - 1. Maximum Temperature: +105°F
 - 2. Minimum Temperature: -30°F
 - 3. Elevation: 2,398 feet above sea level
- C. Seismic Requirements: In accordance with the Contract Documents.
- D. Wind Design Requirements: In accordance with the Contract Documents.
- E. Snow Load Requirements: In accordance with the Contract Documents.

1.5 SUBMITTALS

- A. Submit the material in accordance with requirements of the Contract Documents, Appendix A to this Section and where further defined below.
 - 1. Engine Generator Parameter Schedule: Complete the Engine-Generator Parameter Schedule included in the Appendices to this Section. Complete shaded fields and modify already completed fields as necessary to reflect offered product. Provide detail adequate for Engineer review.
 - 2. Equipment Assembly and Details: Bid-specific materials reflecting the offered product. Include dimensioned plans where required.
 - a. Plans, elevations and details shall be sufficient for the Engineer to determine impact to bid design.
 - 3. Electrical Wiring: Bid specific materials reflecting the offered product. General manufacturer drawings are acceptable if they provide detail adequate to determine impact to bid design.
 - 4. Reference Material: Bid-specific materials reflecting the offered product. General manufacturer information is acceptable if it provides detail adequate to determine impact to bid design
 - a. Each copy of the Installation, Operation and Maintenance Instructions shall be securely bound in its own three-ring binder with tabs to identify equipment and procedures.
 - b. Circuit Breaker Operating and Fuse Time-Current Curves shall be detailed to the extent necessary to permit the Engineer adequate review.
 - c. Priced Maintenance Support Contract Details and Recommended Spare Parts List shall be adequate for Owner to make select services and equipment.
 - d. Shop and Field Test Reports shall be in booklet form showing all required factory tests performed. Include the following information with each report:
 - 1) A copy of all measurements taken.
 - 2) The dates of testing.
 - 3) The test results signed and dated.

5. Record Documents: Record Documents showing as-built condition of completed assemblage. Include all drawings, appendices and literature prepared and assembled under this Contract.
6. Warrantees and Guarantees: Manufacturer's warrantees and guarantees as described under Article 1.8, "Warranty." Include durations of individual offerings and their associated features.
7. Other: Provide the following as indicated.
 - a. Include an itemized list of proposed exceptions with the bid materials and future submittals as they are identified. Identify by page and paragraph where an exception is being taken, accompanied by an explanation of a proposed alternate solution. If the exception is being taken because of incompatibility of specified items, then make a clear statement to that effect.
 - b. Identify the expected range of fuel parameters in detail sufficient to permit the Owner to determine if his anticipated supply meets the manufacturer's requirements.
 - c. Outline copies of shop and field test procedures with Code references where applicable.
 - d. Sound Pressure Level Data in drawing or tabular format specifying the Manufacturer's guaranteed maximum dB(A) levels about the four sides of the enclosure at a distance of seven meters from the enclosure exterior.

1.6 PRODUCT OPTIONS, SUBSTITUTIONS AND EXCEPTIONS

- A. Design requirements in this Section and the attached data sheets are intended to identify particular features of design having significance to the Owner.
- B. Submit product options and substitutions in accordance with the Contract Documents. Product options and substitutions require written Engineer approval. Refer to the requirements for exceptions, above.

1.7 QUALITY ASSURANCE

- A. Refer to the Contract Documents for general quality assurance requirements.
- B. Electrical Components, Devices and Accessories: Listed and labeled as defined in ANSI/NFPA 70, Article 100, by a testing agency acceptable to the Authority Having Jurisdiction, and marked for intended use.
- C. Test all materials and equipment as required by this Section and standards referenced.

1.8 WARRANTY

- A. Manufacturer shall guarantee performance of the backup generator equipment supplied at design conditions and shall warrant that material and workmanship of product are in accordance with Contract Document requirements.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Prepare equipment and materials for shipment under the provisions of the Contract Documents.
- B. Transport and handle equipment and material under provisions of the Contract Documents.
- C. Include provisions with shipment for storing and protecting equipment and material at the job site in accordance with the Contract Documents.

PART 2 PRODUCTS

2.1 GENERAL

- A. Manufacturer's name or trademark and other applicable markings and ratings shall be visible on all installed equipment.
- B. All electrical equipment and material shall be new, free of defects and identified as to suitability for a specific task, environment, or application.
- C. Materials and equipment shall be UL or CSA (US or NRTL suffix only) listed for the application and as required by the Authority Having Jurisdiction, unless the materials or equipment are of a type for which those organizations do not provide a listing or labeling service.
- D. Electrical equipment used to control and isolate power to machines, and equipment requiring servicing and maintenance, shall include a Lockout/Tagout device as required by OSHA Regulations 29 CFR 1926.417. Examples are manually operated electric circuit breakers and disconnect switches.
- E. The equipment ratings shown on the Drawings and in this Section are nominal and may have to be derated to account for the elevation or other environmental conditions.
- F. Substitutions: Under provisions of the Contract Documents, and then only with the written approval of the Engineer.

- G. After-Installation Training: Upon completion of equipment installation by Contractor and at a time designated by the Engineer, the Contractor shall provide training at Project Site to the Owner's operation personnel in the operation and maintenance of the backup generator furnished under this Section. Duration of training shall be predicated on providing proper training to enable operation personnel to safely and effectively operate the equipment.

2.2 BACKUP GENERATOR SYSTEM

A. General:

1. The generator set shall provide backup power at site conditions provided above. Unit shall be classified as a Class 12, Type 60, Level 2 EPSS in accordance with Chapter 4 of NFPA 110.
2. Diesel generator set shall consist of a diesel engine driver, generator, a fuel storage tank with secondary containment and an outdoor weatherproof enclosure, mounted on a common steel skid base. The diesel engine and generator shall be direct coupled. Auxiliary equipment shall be supplied by the generator set Supplier to include drive coupling, guards, circuit breaker protection, automatic startup controls, battery starting system, and other accessories as specified herein and/or as required for a complete and properly operating system.
3. Generator, driver, and auxiliary systems shall be a complete integrated package from a single Manufacturer. The engine and generator shall be suitably matched to prevent problems due to vibration.
4. Sound pressure levels generated under normal conditions shall not exceed 70 dBA measured 23 feet in all directions from the unit.

B. Engine:

1. Type: Water-cooled, four cycle, diesel, internal combustion engine.
2. Fuel System: Diesel
3. Engine Speed: 1800 rpm.
4. Governor: Electronic governor with isochronous frequency regulation from no load to full rated load. Steady-state operating band shall be $\pm 0.25\%$.
5. Protective Devices: Engine shutdowns on high water temperature, low oil pressure, overspeeds, and engine over crank. Limits as selected by Manufacturer.
6. Engine Starting: Automatically started on signal from the automatic transfer switch by a battery-powered electric starter. Additionally, capable of being manually started on signal from contact closure input by Others. Installation should include a multiple cranking cycle with three timed attempts to start before initiation of an alarm.
7. Engine Jacket Heater: Thermal circulation type water heater with integral thermostatic control, sized to maintain engine jacket water at 90°F, and suitable for operation on 120 VAC.

8. Radiator: Propylene glycol coolant, with blower type fan, sized to maintain safe engine temperature in the specified low ambient temperature.
9. Engine Accessories: Lube oil filter, intake air filter, lube oil cooler, gear-driven water pump. Include water temperature and lube oil pressure readouts on engine-generator control panel.
10. Mounting: Provide units with suitable spring-type vibration isolators and mount on structural steel base.

C. Generator:

1. Type: NEMA MG 1, three phase, four poles, reconnectable brushless synchronous generator with brushless exciter.
2. Output Rating: Refer to Engine-Generator Parameter Schedule of Appendix B.
3. Insulation: NEMA MG 1, Class H.
4. Temperature Rise: Maximum temperature rise not to exceed 130°C in 40°C ambient.
5. Enclosure: NEMA MG 1, open drip proof.
6. Stator Heater: Electric resistance type heater with integral thermostatic control, sized to minimize condensation and moisture collection and suitable for operation on 120 VAC.
7. Voltage Regulation: Generator-mounted, volts per Hertz exciter-regulator to match engine and generator characteristics, with voltage regulation $\pm 0.25\%$ from no-load to full load. Include manual controls to adjust output voltage $\pm 5\%$.

D. Accessories:

1. Day Tank: Day tank shall be provided in the unit skid base sized, with vent and overflow, of sufficient volume to provide twenty-four continuous hours of operation at full Service Load. Vents and drains shall be provided where necessary for operation or maintenance and routed to an accessible location on the equipment or skid for operation of the associated valve. Day tank shall be dual-wall, secondary containment diesel generator base tank in accordance with UL 142. Include flexible fuel line connections, fuel gauge and check valve. Flexible hose connections shall be provided with equipment if required to limit nozzle loads from Owner connected piping systems. Fuel line connections shall not extend beyond the outside dimensions of the skid base. The day tank shall have a sediment and water collection area at the lowest point of the fuel tank bottom with a minimum holding capacity of 2 gallons. The entire bottom surface of the fuel tank shall slope toward this area. An accessible drain valve shall be provided at the lowest point with a locking operator. Piping tie-ins for Engineer continuation of fill piping shall consist of Class 150 flanges and be located along the perimeter of the equipment skid. Provide a low-level sensing switch and a high-level sensing switch, both with 10 A, DPDT contacts.
2. Exhaust Silencer: sized by engine Manufacturer.

3. Batteries: Heavy-duty, starting, lead-acid storage batteries, 500 ampere-hours minimum capacity. Match battery voltage to starting system. Include battery rack and necessary cables and clamps.
4. Battery Tray: Plastic coated metal or wooden tray treated for electrolyte resistance, constructed to contain spillage of electrolyte.
5. Battery Charger: Current limiting design. Include overload protection, full wave rectifier, DC voltmeter and DC ammeter and 120 VAC fused input to be supplied from an external 15 A source.
6. Line Circuit Breaker: NEMA AB 1 molded case circuit breaker for the backup generator assembly output with integral thermal and instantaneous magnetic trip in each pole. Provide suitable adjustability to permit Owner selection of trip settings. Include battery-voltage operated shunt trip connection to open circuit breaker on engine failure. Provide means for locking disconnect handle for lockout activities. Refer to NEC for additional requirements that may be applicable because of rating.
7. Engine-Generator Control Panel: Generator mounted NEMA Type 1, control panel enclosure with engine and generator controls and indicators. The control panel shall incorporate solid-state circuitry, microprocessor control and watertight modular components. The panel shall be shock-mounted to the generator and include all indications, controls and shutdowns required by NFPA 110 including the following:
 - a. Illumination lights and switches.
 - b. Electrical Monitoring: Phase-phase voltage, phase-neutral voltage, phase current and frequency. Potential and current transformers per ANSI C57.13
 - c. Automatic starting controls.
 - d. Capability for remote start and shutdown from dry contact.
 - e. Output voltage level adjustment rheostat.
 - f. Display capability for oil pressure, water temperature and battery voltage.
 - g. Audible and visual annunciation for low oil pressure, high water temperature, over speed and over crank.
 - h. Fuel level indication and fuel low-level alarm.
 - i. Three-position function switch marked, "RUN" – "OFF/RESET" – "AUTO."
 - j. Four electrically isolated Form-C dry contacts rated 4 A and 120 VAC for remote alarms and status indication. Three of the contacts shall be designated for Owner use of "ENGINE ON/OFF" status, circuit breaker "OPEN/CLOSE" indication, and general trouble/fault alarm. All four shall be capable of being user assigned from Engine-Generator Control Panel.
 - k. Total running time meter.
8. Outdoor Sound Limiting Enclosure: Enclosure shall be constructed of hot-rolled sheet metal with hinged and locking doors/panels, intake and exhaust plenums, thermal and acoustic insulation as necessary. The enclosure shall be reinforced to be vibration free and be designed to perform without

overheating the generator in the maximum ambient temperature. Include an emergency stop switch, shipped loose, capable of being remotely mounted as directed by the Owner.

- a. Intake plenum shall be designed and arranged such that the intake suction for the engine shall be taken from the generator-end of the weatherproof enclosure. Provide duct silencers and/or acoustic louvers as necessary to achieve sound limit requirements.
- b. Exhaust plenum shall be designed and arranged such that the exhaust from the engine shall exit through the engine-end of the weatherproof enclosure. Provide duct silencers and/or acoustic louvers as necessary to achieve sound limit requirements.

E. Automatic Transfer Switch: Transfer switch, as indicated in the Contract Documents, shall be electrically operated contactor type that is mechanically held in both operating positions

1. Transfer switch as specified herein shall be Service Equipment listed and labeled, Preferred and Alternate, dual source. Refer to Contract Documents.
2. Transfer switch shall be suitable for use in accordance with NFPA 70 and shall be UL listed. Transfer switch shall be manufactured and tested in accordance with applicable requirements of IEEE C37.90.1, NEMA ICS 1, NEMA ICS 2, UL 1008 and NFPA 110. It shall be designed and manufactured to prevent stops in an intermediate or neutral position during transfer by the use of electrical actuators and stored-energy mechanisms. Each pole of the double throw switch shall have separate arcing contacts of a non-welding type. Transfer switch shall be rated for continuous duty at the continuous current rating specified. The switch shall be fully compatible, and adequately rated for the application indicated.
3. Transfer switch shall permit inphase automatic synchronous transfer to preferred power source upon regaining normal power after a programmed time delay adequate to ensure stability of Preferred source.
4. Override Time Delay: Time delay to override monitored source deviation shall be adjustable from 0.5 to 6 seconds and factory set at a nominal 1 second. The device shall detect and respond to a sustained voltage drop of 10 percent of nominal voltage between any two of the preferred supply conductors and initiate a second time delay which is adjustable between 1 and 10 minutes, and factory set at a nominal 5 minutes. At the end of this second timer, transfer action to the alternate source and start the engine-driven generator set. The pickup voltage shall be adjustable between 90 and 100 percent of nominal and factory set at a nominal 95 percent. The dropout voltage shall be adjustable from 80 to 100 percent of the pickup value, and factory set at a nominal 90 percent.
5. Transfer Time Delay: Time delay before transfer to the alternate power source shall be adjustable from 0 to 5 minutes and factory set at 1 minute. The device shall monitor the frequency and voltage of the alternate power source and transfer when frequency and voltage is stabilized at or above 90 percent of rated values. The pickup voltage shall be adjustable from 85 to 100 percent of

nominal, and factory set at 90 percent. The pickup frequency shall be adjustable from 90 to 100 percent of nominal and factory set at 95 percent.

6. Return Time Delay: Time delay before return transfer to the preferred power source shall be adjustable from 0 to 30 minutes and factory set at 30 minutes. Selectability shall be provided to permit override of automatic return transfer. The time delay shall be automatically defeated upon loss or sustained under voltage of the alternate power source, provided that the preferred supply has been restored.
7. Auxiliary Contacts: Two Form-C auxiliary switches shall operate when the transfer switch is connected to the preferred power source, and two Form-C switches shall operate when the transfer switch is connected to the alternate power source.
8. Supplemental Features: The Transfer Switch shall be furnished with the following:
 - a. Engine start contact.
 - b. Test switch.
 - c. Close differential protection.
 - d. Time delay bypass switch.
 - e. Automatic return-to-normal bypass switch.
 - f. Manual return-to-normal switch.
 - g. Programmed engine exercising
9. Operator: A manual operator, conforming to the applicable provisions of UL 1008, shall be provided to permit manual operation of the Transfer Switch without opening the enclosure, and incorporate features to prevent operation by other than authorized and qualified personnel. The Transfer Switch shall be designed for use of the manual operator under no load conditions in the usual instances, but with the capability of operation under load conditions when necessary.
10. Green Indicating Lights: A green indicating light shall supervise the preferred power source and shall have a nameplate engraved PREFERRED.
11. Red Indicating Lights: A red indicating light shall supervise the alternate power source and shall have a nameplate engraved ALTERNATE.

2.3 WIRING

- A. All internal wiring connections shall be made at equipment terminals or terminal blocks using the Manufacturer's standard wire connectors or lugs and terminal blocks. Wires shall be continuous from terminal to terminal.
- B. All circuits requiring external wiring connections shall be wired to terminal blocks with not more than two wires connected to any terminal point on the internal side.
- C. The control terminal blocks shall be rated at least 10 A continuous at 600 VAC, 90°C.

2.4 IDENTIFICATION

- A. The backup generator and all devices shall be furnished with engraved nameplates made of 1/16 inch thick laminated black and white material, with 1/8 inch letters engraved through the white top lamination to the black. Nameplates shall be attached with stainless-steel self-tapping screws or permanent adhesive.
- B. Engraved metal rating nameplates shall be permanently attached to the equipment with self-tapping screws or captive fasteners. Rating nameplate shall indicate Manufacturer's name, style, type model/catalog number, and equipment rating.
- C. Identification of wiring shall be provided using Manufacturer's standard wire identification. Individual identification for each wire shall be included in wiring and schematic diagrams. All wires shall be labeled at both ends and at any point between where the wires may terminate with non-adhesive type labels. At terminal blocks used to splice wires, the incoming and outgoing wires must both be labeled. All labels must be permanent. Wire numbers shall be printed or machine-stamped; handwritten wire numbers are not acceptable.

2.5 SPECIAL TOOLS AND SPARES

- A. Provide one set of any materials, equipment and supplies that will be required to operate and maintain the backup generator. This includes:
 - 1. Any special tools required for breaker removal and replacement.
 - 2. Any fuses required for normal and backup operation of the backup generator.

2.6 FACTORY FINISHES AND PAINTING

- A. All exterior and interior steel surfaces of backup generator shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. The paint finish color of the backup generator shall Manufacturer's standard.
- B. Interior surfaces shall be finished in Manufacturer's standard.
- C. The Contractor shall supply paint, matching each color used, for field touch-up after installation of the equipment.

2.7 SOURCE QUALITY CONTROL

- A. The backup generator set shall be completely assembled and wired in the factory. All operating parts shall be completely adjusted for proper operation. Wiring shall be checked for accuracy. All controls, including alarm and shutdown devices, shall be operated sufficiently to ensure equipment functions properly.
- B. Before shipment, the backup generator set shall be factory tested using Manufacturer's standard testing procedures including a test under rated load and

power factor. Proper performance and functioning of control and interfacing circuitry shall be verified.

- C. All standard factory tests shall be made in accordance with NEMA MG 1-22, Standard Performance Tests.
- D. Contractor shall arrange Owner witnessing of factory tests at Manufacturer's facility. Notify Engineer before tests are scheduled according to the Contract Documents.

PART 3 EXECUTION

3.1 PREPARATION

- A. Before commencing construction work:
 - 1. Verify that site preparation work performed by others is complete and ready to receive work.
 - 2. Inspect all equipment for damage and report any deficiencies immediately to Engineer. Repair or replace damaged equipment to the satisfaction of Engineer.
 - 3. Compare equipment nameplate information with latest one-line diagram and report discrepancies to Engineer.

3.2 INSTALLATION

- A. Conduct receiving inspection.
- B. Install, set and otherwise affix in place all equipment and hardware in accordance with Manufacturer's instructions, according to the Contract Documents, final design Drawings, Specifications and all applicable requirements of NFPA 37 and NFPA 110.
- C. All contact surfaces of bolted connections shall be:
 - 1. Thoroughly degreased and scratch brushed.
 - 2. Liberally coated with electrical joint compound and brushed through the compound.
 - 3. Joined without removal of compound.
- D. Provide grounding and bonding in accordance with Section 16050 and the National Electrical Code.

3.3 FIELD QUALITY CONTROL

- A. Perform the following inspections and tests in accordance with this Section and the codes and standards listed in Article 1.3. If any deficiencies in Contractor-furnished

equipment or material are revealed during tests, correct such deficiencies and repeat the tests.

B. General:

1. Verify proper operation of engine cooling and fuel systems, all engine control, instrumentation and accessories.
2. Perform field quality control testing. Maintain a written record of all tests performed. This record shall contain test results, date of tests, names of personnel performing and witnessing the tests, identification of the devices tested, including serial numbers when applicable and calibration test data for the test equipment. Furnish calibrated meters, instruments, temporary wiring, and labor necessary to perform all required tests and adjustments.
3. Replace or repair any devices or equipment that are damaged during testing or handling.
4. Inspect completed installation for physical damage, proper alignment, anchorage, and grounding.
5. Check proper installation and tightness of connections for circuit breaker.
6. Check tightness of accessible bolted bus joints using calibrated torque wrench.

C. Test all equipment and material items in accordance with Manufacturers' recommended practices, including all visual, mechanical and electrical tests.

D. Perform inspection and test of circuit breaker.

E. Perform inspection and test of batteries and charger.

F. Perform all Installation Acceptance Tests as required by NFPA 110 and submit test results. It is anticipated that installed electrical loads will be available for this test, but Contractor shall ensure the load bank selected has the capability to provide 100 percent of the nameplate kW rating.

G. Notice of Testing: Notify Engineer at least 48 hours in advance of scheduled witness testing.

H. Adjustments

1. Adjust generator output voltage and engine speed.
2. Adjust trip units to provide adequate overcurrent protection and selective tripping with downstream protective devices.

3.4 MANUFACTURERS' FIELD SERVICES

A. If required, the Contractor shall obtain the services of Manufacturers' representatives experienced in the installation, adjustment and operation of the specified generator equipment to supervise the installation, adjustment and testing of the equipment.

- B. If required, the Contractor shall obtain services of the Manufacturers' representatives experienced in calibration and setting all other specialized equipment.

APPENDICES

Appendix A – Submittal Data Requirements

Appendix B – Engine-Generator Parameter Schedule

Appendix C – Engine-Generator Loading Schedule

END OF SECTION

APPENDIX A

SUBMITTAL DATA REQUIREMENTS

Client: City of Middleton, Idaho Park Place Lift Station Generator Addition		Specification No. 16620			Project No. 0108-22-05	
DATA DESCRIPTION		DATA WITH BID	REVIEW COPIES TO ENGINEER	DATE REQ'D	CERTIFIED COPIES TO ENGINEER	DATE REQ'D
1	ENGINE-GEN. PARAMETER SCHEDULE					
2	Appendix B	2			3	2 AAR
3	EQUIPMENT ASSEMBLY AND DETAILS					
4	Dimensioned Plans and Elevations	2	3	3ARO	3	2 PTS
5	Interior Plan Arrangements	2	3	3ARO	3	2 PTS
6	Dimensioned Foundation Loading/Weights	2	3	3ARO	3	2 AAR
7	Dimensioned Stubup & Anchor Bolt Plans	2	3	3ARO	3	2 AAR
8	Clearance Requirements, including for access	2	3	3ARO	3	2 ASF
9	Equipment Details and Catalog Cuts	2	3	3ARO	3	2 ASF
10	ELECTRICAL WIRING					
11	Schematic and Wiring Diagrams	2	3	3ARO	3	2 AAR
12	One - Line Diagram	2	3	3ARO	3	2 AAR
13	Interconnecting Diagrams		3	3ARO	3	2 AAR
14	REFERENCE MATERIAL					
15	General Description	2	3	3ARO	3	2 ASF
16	Performance Data	2	3	3ARO	3	2 ASF
17	Install, Operate & Maintenance Instructions		3	3ARO	3	2 PTS
18	Fuse T-C & CB Operating Curves	2	3	3ARO	3	2 AAR
19	Priced Maintenance Support Contract Details	2				
20	Bills of Material	2	3	3ARO	3	2 ASF
21	Shop and Field Test Reports				3	2 ASF
22	Record Documents				3	2 ASF
23	Recommended Spare Parts with Prices	2				
24	Warrantees/Guarantees, durations and features	2				
25	OTHER					
26	Itemized list of exceptions with alternates	2				
27	Expected range of fuel parameters	2			3	2 AAR
28	Shop and Field Test Procedures		3	3ARO		
29	Sound Pressure Level Data	2			3	2 AAR

NOTES:

ARO = weeks after order received

AAR = weeks after approval received

PTS = weeks prior to shipment

ASF = weeks after shipment from factory

APPENDIX B

ENGINE-GENERATOR PARAMETER SCHEDULE

Owner's Estimated Generator Rating: (25) kW
Contractor's Recommended Generator Rating: [] kW
Contractor's Block Heater Load: [] W
Contractor's Stator Heater Load: [] W
Generator Impedance Z: [] %
Generator Armature Resistance R_a : [] Ω
Maximum Generator Subtransient Reactance X''_d : [] Ω
Available Short Circuit Current at Generator Terminals: [] amperes, symmetrical

Power Application: Standby
Fuel: Diesel
Overload Capacity: 110 percent of Service Load
Running Service Load: 31.3kVA

Power Factor: 1.0
Engine-Generator Application: Stand-alone, closing in on dead bus
Heat Exchanger Type: Manufacturer's standard
Governor Type: Electronic
Governor Application: Isochronous

Frequency Bandwidth, steady state: Plus/minus 0.25 percent
Maximum Speed: 1800 rpm
Frequency: 60 Hz
Voltage: 120/240 volts
Phases: 1 Phase
Phase Rotation: N/A

Load List Basis:
Linear, non-rotating: approx. 8kVA
Motors, FVNR: (2) 3.75hp


Max Time to Start and be Ready to Assume Service Load: 60 seconds
Maximum Motor Starting: (TBD) Horsepower, Code F, full-voltage across the line.
Maximum Motor Starting: (TBD) Horsepower, Code F, Variable Frequency Drive.
Max Step Load for Increase of Service Load: 100 percent of Service
Maximum Voltage Deviation with Step Load Increase: 30 percent.
Transient Voltage Recovery Time with Step Load Increase: [] seconds
Maximum Frequency Deviation with Step Load Increase: 10 percent.
Transient Frequency Recovery Time with Step Load Increase: [] seconds

Max Step Load for Decrease of Service Load: 100 percent of Service
Maximum Voltage Deviation with Step Load Decrease: 10 percent.
Transient Voltage Recovery Time with Step Load Decrease: [] seconds
Maximum Frequency Deviation with Step Load Decrease: 10 percent.
Transient Frequency Recovery Time with Step Load Decrease: [] seconds

APPENDIX C

ENGINE-GENERATOR LOADING SCHEDULE

Refer to One-Line Diagram

<i>Issue Date</i>	<i>Originated/Revised</i>	<i>Checked</i>	<i>Approved</i>	<i>Remarks</i>
Revision A 08/21/2023	A. Yellen 08/21/2023	M. Johnson 08/21/2023	- -	Issued for Review and Comment
 <p>Control Engineers, PA</p>			<p>1095 S. Federal Way Boise, Idaho 83705</p> <p>(208) 433-9997 fax (208) 426-0550</p>	
			<p>City of Middleton Idaho Park Place Lift Station Generator / ATS Addition <u>SPECIFICATION SECTION 16050</u> ELECTRICAL INSTALLATION AND MATERIALS</p>	

SECTION 16050

ELECTRICAL INSTALLATION AND MATERIALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Specification Section covers the requirements for the furnishing of all designs, labor, supervision, equipment, materials and methods for performing all operations necessary to meet the requirements of electrical work for the project.
- B. Furnish, install, interconnect and test the equipment and materials specified herein.
- C. Site elevation, weather data, seismic requirements and other information and general criteria applicable to the work and materials specified herein are provided in the related Sections listed below and other Specification Sections.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections included in Contract Documents, and other Sections as they apply to this Section.

1.3 REFERENCES

- A. ANSI – American National Standards Institute
 - ANSI/NEMA C80.1, Rigid Steel Conduit - Zinc Coated
 - ANSI/NEMA C80.3, Electrical Metallic Tubing - Zinc Coated (EMT)
 - ANSI/NEMA C82.1, Specifications for Fluorescent Lamp Ballasts
 - ANSI/NEMA C82.4, Ballasts for High-Intensity-Discharge and Low-Pressure Sodium Lamp Ballasts (Multiple Supply Type)
 - ANSI/IEEE C2, National Electric Safety Code (NESC)
 - ANSI/IEEE No. 81, IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

ANSI/IEEE No. 515, IEEE Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications

ANSI/IEEE 43, Recommended Practice for Testing Insulation Resistance of Rotating Machinery.

ANSI/IEEE 112, Standard Test Procedure for Polyphase Induction Motors and Generators.

ANSI/IEEE 114, Test Procedure for Single-phase Induction Motors.

ANSI/NEMA PB 1, Panelboards

ANSI/NFPA 70, National Electrical Code (NEC)

ANSI/UL 489, UL Standard for Safety Molded-Case Circuit Breakers and Circuit-Breaker Enclosures

ANSI/UL 845, Motor Control Centers

B. IEEE – Institute of Electrical and Electronic Engineers

IEEE 519, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

C. ASTM – American Society for Testing and Materials

ASTM A123, Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products

ASTM A475, Standard Specification for Zinc-Coated Steel Wire Strand

ASTM A153/A153M, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

ASTM B1, Standard Specification for Hard-Drawn Copper Wire

ASTM B3, Standard Specification for Soft or Annealed Copper Wire

ASTM B8, Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard or Soft

ASTM B227, Standard Specification for Hard-Drawn Copper-Clad Steel Wire

ASTM B695, Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel

D. NETA – InterNational Electrical Testing Association

ATS - Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems

E. NEMA – National Electrical Manufacturers Association

NEMA 250, Enclosures for Electrical Equipment (1000 Volts Maximum)

NEMA AB 1, Molded Case Circuit Breakers and Molded Case Switches

NEMA FB 1, Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies

NEMA ICS 2, Industrial Control Devices, Controllers, and Assemblies

NEMA ICS 3, Industrial Control and Systems Factory Built Assemblies

NEMA ICS 4, Industrial Control and Systems Terminal Blocks

NEMA KS 1, Enclosed and Miscellaneous Distribution Equipment Switches (600 V Maximum)

NEMA MG 1, Motors and Generators

NEMA TC 8-90, Extra-Strength PVC Plastic Utilities Duct for Underground Installation

NEMA TC 9-90, Fittings for ABS and PVC Plastic Utilities Duct for Underground Installation

NEMA WC 7, Cross-Linked Thermosetting-Polyethylene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy

NEMA WC 8, Ethylene-Propylene-Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy

F. NFPA – National Fire Protection Association

National Fire Code, all inclusive as applicable.

G. OSHA – Occupational Safety and Health Administration

OSHA 29 CFR 1926.417, Lockout and Tagging of Circuits

H. UL – Underwriters’ Laboratories, Inc.

UL 98, Enclosed and Deadfront Switches

UL 360, Liquid-Tight Flexible Steel Conduit

UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures

UL 508A, Industrial Control Panels

UL 514B, Fittings for Cable and Conduit

UL 698A, Industrial Control Panels Relating to Hazardous (Classified) Locations

UL 845, Standard for Safety Motor Control Centers

UL 1008, Standard for Transfer Switch Equipment

UL 1449, Standard for Transient Voltage Surge Suppressors

I. FM – FM Global

All inclusive, as applicable.

1.4 DEFINITIONS AND AMBIENT REQUIREMENTS

A. Definitions:

1. Contract Documents: Purchase and contractual documentation and agreements among Owner, Engineer, Contractor and Manufacturers.
2. Contractor: Contractor providing and installing equipment and systems. Carries ultimate responsibility for a complete and operable facility.
3. Engineer: Overseeing engineering firm and Owner’s representative.
4. Manufacturer: Supplier/fabricator of equipment and components to Contractor.
5. Owner: City of Middleton, Idaho.

B. Ambient Conditions:

1. Maximum Temperature: +105°F

2. Minimum Temperature: -30°F
3. Elevation: 2,398 feet above sea level

C. Seismic Requirements: In accordance with the Contract Documents.

D. Wind Design Requirements: In accordance with the Contract Documents.

E. Snow Load Requirements: In accordance with the Contract Documents.

1.5 PRODUCTS TO BE FURNISHED UNDER OTHER SECTIONS AND INSTALLED UNDER THIS SECTION

A. Materials specified in the Contract Documents.

1.6 PRODUCTS TO BE FURNISHED AND INSTALLED UNDER THIS SECTION

A. Materials specified in the Contract Documents and under this Section including, but not limited to:

1. Conduit and Fittings
2. Wire and Cable:
 - a. Low-Voltage Wire and Cable
 - b. Tray Cable
 - c. Shielded Tray Cable
 - d. Instrumentation Cable
 - e. Telephone Cable
3. Grounding and Bonding
4. Lighting Fixtures and Accessories
5. Small Power and Lighting Transformers
6. Power Panelboards
7. Distribution Panelboards, including modifications to existing
8. Safety Switches
9. Wiring Devices
10. Enclosures
11. Individually Mounted Motor Starters and VFDs
12. Control Panels
13. Electric Motors and Accessories
14. Instrumentation

1.7 PRODUCTS TO BE FURNISHED AND INSTALLED BY OTHERS

A. Control and SCADA software development

1.8 SERVICES TO BE PROVIDED UNDER THIS SECTION

- A. Interface and coordinate with the electric utility under direction of Falls Water and their agreements and understandings with the electric utility. Coordinate and provide information and detail as may be requested by the electric utility.
 - 1. Schedule and coordinate energization of any new or modified service at all sites.

1.9 SUBMITTALS

- A. Submit the following in accordance with requirements of the Contract Documents.
- B. Product Data: Submit data for all equipment provided and as listed below. Include product description, dimensional details, plans and elevations, conduit entrance/stub up locations, manufacturers' installation details and assembly drawings with bills of material. Include wiring diagrams, interconnecting diagrams and foundation loading/weight. Include catalog cuts with ratings, specifications, standards compliance, finish, and enclosure type. Include photometric data for all light fixtures.
 - 1. Safety switches, small distribution transformers, mini-power-centers and panelboards.
 - 2. Enclosures and associated equipment.
 - 3. Motor starter overload relays.
 - 4. Individually mounted motor starters and VFDs.
 - 5. Wire and cables.
 - 6. Grounding materials.
 - 7. Lighting fixtures and accessories.
 - 8. Control panels, including schematic and wiring diagrams showing all internal and external connections.
 - 9. Instrumentation.
 - 10. (Active) Harmonic Filter calculations with verification of compliance to IEEE 519. Provide certificate for active correction units shown on drawings.
- C. Inspection and Test Reports: Submit legible shop test results for source testing specified in Part 2 of this Section and legible field test results for source testing specified in Part 3 of this Section.
- D. Other: Submit legible interruption of power schedule as requested in below.

1.10 PRODUCT OPTIONS, SUBSTITUTIONS AND EXCEPTIONS

- A. Include an itemized list of proposed exceptions with the bid materials and future submittals as they are identified. Identify by page and paragraph where an exception

is being taken, accompanied by an explanation of a proposed alternate solution. If the exception is being taken because of incompatibility of specified items, then make a clear statement to that effect.

- B. Design requirements in this Section and its references are intended to identify particular features of design having significance to the Owner.
- C. Submit product options and substitutions in accordance with the Contract Documents. Product options and substitutions require Engineer approval. Refer to the requirements for exceptions, above.

1.11 QUALITY ASSURANCE

- A. Refer to Contract Documents for General Quality Assurance requirements.
- B. Electrical Components, Devices and Accessories: Listed and labeled as defined in ANSI/NFPA 70, Article 100, by a testing agency acceptable to the Authority Having Jurisdiction, and marked for intended use.
- C. Test all materials and equipment as required by this Section and standards referenced.

1.12 OPERATION AND MAINTENANCE DATA

- A. Refer to the Contract Documents for operation and maintenance manuals submittal requirements.

1.13 WARRANTY

- A. Warrant that materials and workmanship or apparatus supplied are in accordance with Contract Document requirements.

1.14 DELIVERY, STORAGE AND HANDLING

- A. Ensure equipment and materials are prepared for shipment in accordance with Manufacturers' instructions.
- B. Transport, handle, store and protect products, equipment and materials in accordance with Manufacturers' instruction.
- C. Seal, store, and handle cables to ensure no damage to the outer covering or insulation from moisture and weather.
- D. Replace damaged or defective items with new items.

- E. Assume full responsibility for materials furnished by others but installed under this Section, and for their safekeeping, until the completed installation has been approved and accepted.
- F. Protect all items from the detrimental effects of weather. Prior to installation, items subject to corrosion under damp conditions, and items containing insulation, such as transformers, conductors, and devices shall be stored indoors.

1.15 STANDARD REQUIREMENTS

- A. Perform work according to the following:
 - 1. The Contract Documents.
 - 2. The contents of this Section.
 - 3. The Drawings.
 - 4. The installation and testing instructions of the Manufacturers of equipment or materials supplied for installation, unless the Section or the Drawings call for more stringent requirements.
- B. Complete and prepare for use all electrical systems as outlined on the Drawings and in each Specification Section.
- C. Furnish all labor and materials necessary for the completion and satisfactory operation of the electrical systems.
- D. All materials and installations shall be in strict accordance with the applicable requirements of the NEC and the NESC.

1.16 CLASSIFIED AREAS

- A. Classified areas are noted on the Drawings and other Contract Documents. All electrical materials, equipment, and work in these areas shall comply with the requirements of the NEC, applicable Codes, Standards and Recommended Practices of the NFPA and other regulatory bodies as may be invoked, subject to approval by the Authority Having Jurisdiction.

1.17 DRAWINGS

- A. The electrical Drawings are diagrammatic. Follow them as appropriate in the actual construction of the facilities and as the work of the other trades will permit.
- B. Verify Drawing dimensions and layouts for clearance and interference prior to the commencement of any work.

1.18 OPERATION PRIOR TO COMPLETION

- A. If advantageous, operate mechanical or electrical equipment after it is tested, operable and safe. Obtain approval from Engineer prior to doing so.
- B. Properly clean all equipment, and complete all punch list items before final acceptance by the Engineer regardless of whether the equipment has or has not been operated.

1.19 SPACE AND EQUIPMENT ARRANGEMENT

- A. Determine that the equipment proposed will fit the allotted space. Shop drawings shall show suitable arrangements, which allow for operations, maintenance and the NEC working space.
- B. Locate and install equipment readily accessible for operation and maintenance. Engineer reserves the right to require minor changes in locations of equipment, prior to roughing in, without incurring additional costs or changes.

1.20 INTERRUPTION OF EXISTING ELECTRICAL AND OTHER NECESSARY SERVICES

- A. Tie-ins, alterations to, or replacement of, existing circuits or equipment shall be scheduled according to requirements listed in the Contract Documents. Prepare a written schedule of dates and time and number of hours needed for all shutdowns and submit to the Engineer for review.
- B. Do not interrupt or impede other contractors' operations and work in adjacent areas.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All electrical equipment and material shall be new, free of defects, and identified as to suitability for a specific task, environment or application.
- B. The Manufacturer's name or trademark and other applicable markings such as voltage, current, wattage or similar ratings shall appear on all installed equipment.
- C. Materials and equipment shall be UL or CSA (US or NRTL suffix only) listed and labeled unless the materials or equipment are of a type for which those organizations do not provide a listing or labeling service. In such cases provide materials and equipment acceptable to the local Authority Having Jurisdiction.

- D. Electrical equipment used to control and isolate power to machines, and equipment requiring servicing and maintenance, shall include a Lockout/Tagout device as required by OSHA Regulations 29 CFR 1926.417. Examples are manually operated electric circuit breakers and disconnect switches.
- E. All electrical equipment specified or shown on the Drawings, and not specifically shown to be furnished and installed by others, shall be furnished and installed by the Contractor.

2.2 CONDUIT AND FITTINGS

A. Conduit:

1. Rigid Galvanized Steel Conduit (RGS): RGS shall comply with the requirements of ANSI C80.1.
2. Electrical Metallic Tubing (EMT): EMT shall comply with the requirements of ANSI C80.3.
3. Liquid-Tight Flexible Steel Conduit: Liquid-tight flexible conduit shall be flexible metal galvanized steel with a sunlight-resistant jacket. The entire assembly shall comply with UL 360.
4. Nonmetallic Conduit (PVC): Nonmetallic conduit shall conform to NEMA TC 8 Type EB and UL Standard 651. Conduit shall be heavy wall type, Schedule 40.
5. Minimum above-grade conduit size for RGS, EMT and flexible metal conduits shall be $\frac{3}{4}$ inch trade diameter unless otherwise noted on the Drawings. Size $1\frac{1}{4}$ inch and $3\frac{1}{2}$ inch shall not be used.
6. Minimum below-grade direct burial and in-concrete conduit size for RGS shall be 1-inch trade diameter unless otherwise noted on the Drawings.
7. Minimum below-grade and in-concrete conduit size for PVC shall be 2-inch trade diameter unless otherwise noted on the Drawings.

B. Fittings:

1. Fittings for RGS, EMT or flexible metal conduit shall be zinc coated and in compliance with UL 514 and NEMA FB 1.
2. Fittings for PVC conduit shall be in accordance with fittings and conduit bodies shall be in compliance with NEMA TC 9.
3. Fittings shall be sized sufficiently so as not to exceed the Manufacturer's recommendations for minimum bend radius for cables contained within.

C. Wireway: Wireway shall be rated NEMA 12 unless otherwise noted on the Drawings.

2.3 WIRE AND CABLE

A. Low-Voltage Wire and Cable:

1. Low-voltage wire and cable used for power, control and lighting shall be single conductor copper, stranded, rated 600 V, types THHN/THWN or XHHW-2 insulation according to NEMA WC 7 or NEMA WC 8, sized as shown on the Drawings or as required by the load and the NEC.
2. Minimum wire size shall be No. 12 AWG for power circuits, No. 14 AWG for lighting circuits and No. 16 AWG for control circuits.
3. All wire and cable shall have a minimum temperature rating 75 deg F.

B. Tray Cable:

1. Multi-conductor power cables and control cables shall be type TC rated 600 V for use in wet and dry locations in accordance with the NEC.
2. The power cables shall contain a bare copper ground wire sized according to NEC requirements.
3. The conductors shall be copper per ASTM B3, stranded according to ASTM B8, sized as shown on the Drawings.
4. Conductor insulation shall be types THHN/THWN or XHHW-2 according to NEMA WC 7 or NEMA WC 8.
5. The overall jacket shall be heavy-duty hypalon or chlorinated polyethylene (CPE) having high resistance to tearing, punctures, moisture, ozone, oil, sunlight, and chemicals.
6. All wire and cable shall have a minimum temperature rating of 75 deg F.

C. Shielded Tray Cable:

1. Multi-conductor shielded power cables shall be type TC rated 600 V for use in wet and dry locations in accordance with the NEC.
2. The power cables shall contain three insulated power conductors and one insulated ground conductor.
3. The conductors shall be copper per ASTM B3, stranded according to ASTM B8, sized as shown on the Drawings.
4. Conductor insulation shall be types THHN/THWN or XHHW-2 according to NEMA WC 7 or NEMA WC 8.
5. The shield shall be a 10-mil-thick copper corrugated tape applied longitudinally over a clear polyester tape.
6. The overall jacket shall be heavy-duty hypalon or chlorinated polyethylene (CPE) having high resistance to tearing, punctures, moisture, ozone, oil, sunlight, and chemicals.

D. Instrumentation Cable:

1. Shielded Twisted-Pair Cable:

- a. Description: A pair of individual conductors, twisted and triplexed with a copper drain wire and an aluminum Mylar tape applied over the triplexed group, with an overall jacket.
- b. Individual Conductors: Tinned stranded copper.
- c. Insulation Voltage Rating: 600 V.
- d. Insulation Material: High-density polyethylene (HDPE).
- e. Minimum conductor size shall be No. 18 AWG or as shown on the Drawings.
- f. Shielding: Overall aluminum Mylar tape.
- g. Overall Jacket: HDPE or CPE.

2. Multi-Conductor Cable:

- a. Description: Multi-conductor instrument cable shall consist of a bundle of individually shielded twisted pairs as specified above, bundled together with a copper drain wire and an overall aluminum Mylar tape shield covered by an overall jacket.
- b. Overall shield: Aluminum Mylar tape.
- c. Overall jacket: HDPE or CPE.

3. Identification: All instrument cable shall be labeled and marked as required by the NEC.

4. All instrumentation cable shall be type TC rated 600 V for use in wet or dry locations.

5. All instrumentation cable shall have an overall jacket having a high resistance to tearing, punctures, moisture, ozone, oil, sunlight, and chemicals.

E. Telephone/Network Cable:

1. Copper wire multi-paired, solid conductor, polyethylene jacket, with quantity of pairs as shown on the Drawings.
2. Each pair shall be Category 5, 24 AWG.
3. Cable shall be suitable for overhead and cable tray installation.

F. Coaxial Cable: RGS type, bare copper covered steel conductor with polyethylene insulation, conductive layer, tinned copper braid shield and polyethylene jacket.

2.4 GROUNDING AND BONDING

A. Rod Electrode:

1. Material: Copper-clad steel ground rod.
2. Diameter: $\frac{3}{4}$ inch.
3. Length: 8 feet.

- B. Mechanical Connectors:
 - 1. Description: Bolted pressure clamp-type connectors.
 - 2. Material: Silicon Bronze.
- C. Grounding Connections: Connections shall be made by the exothermic process or high-strength compression connectors as shown on the Drawings.
- D. Wire:
 - 1. Description: Bonding and grounding conductors sized No. 8 AWG and smaller shall be solid, bare copper complying with ASTM B1. Bonding and grounding conductors sized No. 6 AWG and larger shall be Class B, stranded copper complying with ASTM B8.
 - 2. Material: Copper, sized as shown on the Drawings.

2.5 LIGHTING FIXTURES AND ACCESSORIES

- A. Luminaires:
 - 1. Refer to Fixture Schedules in the drawing set.
 - 2. Furnish lighting fixtures as shown on the Drawings. All fixtures shall be new and UL listed.
 - 3. All luminaires and lighting equipment shall be delivered to the project site complete with suspension accessories, canopies, casings, sockets, holders, reflectors, diffusing materials, and ballasts, all wired and assembled.
- B. Lamps: Furnish energy-saving lamps for lighting fixtures where available or as specified on the Drawings.
- C. Accessories: Furnish all material and suspension accessories required for installation of the lighting fixtures.

2.6 SMALL POWER AND LIGHTING TRANSFORMERS

- A. General-purpose dry-type transformers per ANSI/NEMA ST 20, NEMA 2, factory-assembled, air-self-cooled, two-winding type with ratings as shown on the Drawings.
- B. Insulation system average winding temperature rise for rated kVA as follows:
 - 1. 1-15 kVA: Class 185 with 115°C rise.
 - 2. 25-150 kVA: Class 220 with 150°C rise.
- C. Winding Taps:
 - 1. Transformer 15 kVA and less: Two 5 percent full-capacity primary taps below rated voltage.

2. Transformers 25 kVA and larger: Four 2.5 percent full-capacity primary taps below rated voltage and two 2.5 percent full capacity taps above rated voltage.

2.7 POWER PANELBOARDS

- A. Panelboards shall be NEMA PB 1, circuit breaker type, UL approved.
- B. Panelboard bus shall be copper, with ratings as indicated on the Drawings. Provide copper ground bus in each panelboard.
- C. Molded case circuit breakers shall be NEMA AB 1, with integral thermal and instantaneous magnetic trip in each pole. ANSI/UL 489 listed Type HACR for air conditioning equipment branch circuit breakers.
- D. Enclosures shall be NEMA PB 1, Type 1, unless indicated otherwise on the Drawings.
- E. Cabinet fronts shall be flush or surface type, as indicated on the Drawings, fastened with concealed trim clamps or screw cover and shall include a hinge and latch where applicable. Provide a directory card and holder mounted on the inside of the door. Finish in manufacturer's standard gray enamel.

2.8 DISTRIBUTION PANELBOARDS

- A. Lighting and appliance branch circuit panelboards shall be NEMA PB1, circuit breaker type.
- B. Panelboard bus shall be copper, with ratings as indicated on the Drawings. Provide copper ground bus in each panelboard.
- C. Molded case circuit breakers shall be NEMA AB 1, bolt-on or snap-on type thermal magnetic trip circuit breakers, with common trip handle for all poles. Provide circuit breakers ANSI/UL 489 listed as Type SWD for lighting circuits. Provide UL Class A ground fault interrupter circuit breakers where scheduled.
- D. Enclosures shall be NEMA PB 1, Type 1, unless indicated otherwise on the Drawings.
- E. Cabinet fronts shall be flush or surface type, as indicated on the Drawings, fastened with concealed trim clamps or screw cover and shall include a hinge and latch where applicable. Provide a directory card and holder mounted on the inside of the door. Finish in manufacturer's standard gray enamel.

2.9 CONTROL PANELS

- A. Provide control panels arranged as shown on the Drawings.
 - 1. Enclosures: Panel enclosures shall be NEMA 4X, NEMA 4, NEMA 12 or as shown on the Drawings and provided with continuous-hinged covers and external mounting feet. Finish shall be ANSI 61 Gray Polyester Powder Coating.
 - 2. Completed control panels shall be labeled as conforming to UL 508A and/or UL 698A, as applicable.
 - 3. Wiring: Internal panel wiring shall be single conductor stranded copper conductor, 600 VAC class, 90°C rated, switchboard wire, Type THHN insulation. Minimum single conductor wire size shall be No. 16 AWG.
 - 4. Indicating Lights and Switches: Panel indicating lights shall be heavy-duty, industrial, transformer types with legend plate, NEMA 4/13. Switches shall be heavy-duty, industrial with legend plate, NEMA 4/13.
 - 5. Terminal Strips: Terminal strips shall be tubular screw with pressure plate types, sized as shown on the Drawings, suitable for mounting on mounting rails. Terminal block circuit breakers shall be thermal-magnet types, sized as shown on the Drawings.
 - 6. Wireways: Provide plastic wireways to facilitate panel wiring, sized and routed as required, and installed with sufficient wiring space to allow easy connection of wires and readability of wire labels outside the wireways.
 - 7. Barriers: Provide steel barriers as required to maintain separation between low level analog signals and 120 VAC power circuits.
 - 8. Nameplates: Provide nameplates for all devices mounted inside and outside the cabinets as shown on the Drawings. Nameplates shall be engraved laminated plastic, black with white surface, fastened to the cabinet surfaces with self-tapping stainless-steel machine screws or permanent adhesive.

2.10 ENCLOSURES

- A. Junction boxes shall be NEMA 4X, NEMA 4, NEMA 12 or as shown on the Drawings. Terminal strips shall be tubular screw with pressure-plate types, sized as shown on the Drawings, suitable for mounting on mounting rails. Terminal block circuit breakers shall be thermal-magnetic types, sized as shown on the Drawings. Provide nameplates for panel cover as shown on the Drawings. Nameplates shall be engraved laminated plastic, black with white surface, fastened to the cabinet surfaces with self-tapping stainless-steel machine screws or permanent adhesive.

2.11 WIRING DEVICES

- A. Convenience Receptacles:
 - 1. Rating: 120 V.

2. Source of Supply: Panelboard, with no more than eight receptacles per 20-ampere circuit breaker, unless conditions dictate otherwise. Receptacles shall not be connected to same circuits as lighting fixtures unless shown otherwise.
3. Locations: Furnish as shown on Drawings.
4. Description:
 - a. GFCI Receptacles: Specification grade, duplex, 15-A, 2-pole, 3-wire, ivory, NEMA type 5-15.
 - b. Cover Plates: Plates shall be cast material with a neoprene gasketed spring door for damp locations.
 - c. Outlet Boxes: Surface mount cast box with a 3/4-inch hub.
 - d. Mounting Height: 4'-6" in process areas above grade or floor unless noted.
 - e. Mounting Height: 12" to bottom in office areas above grade or floor unless noted.
 - f. Convenience Receptacles: 20-A, 2-pole, 3-wire duplex, ivory (NEMA 5-20) with cover to match unless indicated otherwise in the Drawings.

B. Terminal Blocks and Accessories:

1. Terminal Blocks and Accessories shall be UL listed and comply with the requirements of NEMA ICS 4.
2. Terminal blocks shall be suitable for copper conductor connections.

2.12 INDIVIDUALLY MOUNTED MOTOR STARTERS

A. Local motor starters shall be furnished by the Contractor unless specifically indicated otherwise on the Drawings.

1. Fractional horsepower manual starters shall be full-voltage, non-reversing, single-speed, 2-pole, with overload protection for 115/230 volt, single phase, 60-hertz induction motors, single unit with toggle type of operator in NEMA 4 enclosures, unless enclosure is designated otherwise on the Drawings. NEMA size shall be as required by the Drawings.
2. Combination motor starters shall be full-voltage, non-reversing, single-speed for 480 volt, 3 phase, 60 hertz service complete with externally resettable overloads, molded case circuit breaker MCP, and control transformer (100 VA minimum), with primary and secondary fuses, rated 480-120 volt. Contactor shall have 120 volt operating coil and a minimum of one normally open and one normally closed, electrically independent contacts wired to terminal blocks. These contacts shall be in addition to those required for "seal-in" and local indicators. The combination starters shall be in NEMA 4 enclosures, unless enclosures are designated otherwise on the Drawings. NEMA sizes and additional features shall be as required by the Drawings.

2.13 SAFETY SWITCHES

- A. Materials:
 - 1. All materials and equipment shall meet the requirements of NEMA KS 1, ANSI/NFPA 70 and UL 98.
 - 2. Switches shall be quick-make, quick-break type, load interrupter knife switches, heavy-duty, enclosed, fusible or non-fusible rated for voltage, ampere, or ampere and horsepower, as indicated on the Drawings.
 - 3. Enclosures: NEMA type 3R for outdoor, NEMA 4X, NEMA 4, NEMA 12 for indoors or as shown on the Drawings.
 - 4. Externally operable handle interlocked to prevent opening front cover with switch in ON position and interlock bypass for testing purposes. Handle lockable in OFF and ON positions with room for up to three padlocks. All switches shall have switchblades, which are fully visible in the OFF position when the switch door is open. Fuse clips, designed to accommodate Class K fuses.
 - 5. Fuses shall be as indicated on the Drawings.

2.14 INSTRUMENTATION

- A. Provide instrumentation in accordance with the Instrument Schedule as shown on the Drawings.

2.15 SOURCE QUALITY CONTROL

- A. Provide Manufacturers' standard shop test reports for all equipment and devices provided under this Section.

PART 3 EXECUTION

3.1 GENERAL

- A. Install equipment according to the Manufacturers' instructions, the Drawings, and Specification Sections.
- B. Inspect equipment for physical damage and report any deficiencies immediately to Engineer. Compare equipment nameplate information with latest Drawings and report discrepancies to Engineer
- C. Work shall be performed by qualified electricians, conforming to the best-accepted trade practice and with the proper tools and shall conform to the requirements of the Drawings, Specification Sections and the NEC.
- D. Electrical clearance at all voltage levels shall be made according to the requirements of the NEC and the NESC.

- E. The installation shall conform to structures, preserve clearances, avoid obstructions, maintain headroom and keep openings and passageways clear.
- F. Exact locations, distances, and levels shall be governed by field conditions.
- G. Phase Rotation:
 - 1. The required order of phase rotation for the project shall be phase A, phase B, phase C, with the voltage reaching maximum amplitude in that order.
 - 2. When facing circuit breakers, motor starters, or panelboards, the phase conductor to terminal connection shall be A-B-C, with A phase on the left and C phase on the right. Bus bars in the equipment shall be in the order A-B-C from front to back and top to bottom.
 - 3. All motors shall be bumped to check for correct direction of rotation prior to further testing.
 - 4. Wires/cables shall be phase marked at source and load ends.
 - 5. When phase reversing is required, record and change at the motor end.
- H. Support for Equipment:
 - 1. Provide all necessary supports for equipment installed under this Section and in accordance with the Drawings. Supports shall include steel frames, plates, brackets, racks, and other shapes of adequate size, fastened with bolts, screws, or by welding. The use of any other material for support shall require the Engineer's approval.
 - 2. Thoroughly clean metal surfaces and paint in accordance the Contract Documents.
 - 3. Provide all supports, foundations, curbs, and stands for other electrical equipment, which are not shown on the Drawings, but necessary for proper installation.
- I. Cutting and Patching:
 - 1. Avoid cutting into the work of others by using sleeves, inserts, chases and similar openings necessary for installation of the electrical work. The Contractor shall be responsible for correctly sizing and locating the work, and shall furnish all sleeves and inserts.
 - 2. Properly reinforce and patch all cutting, welding, or drilling of concrete or structural members to match as nearly as possible the surrounding work. Secure approval of the Engineer before cutting, welding, or drilling any concrete or structural member.
 - 3. Coordinate equipment and raceway locations to openings in walls, floors, and equipment pads.
 - 4. All cutting and patching shall be done by individuals skilled in the appropriate building trade.
 - 5. Restore all surfaces to match adjacent surface.

- J. Identification: Furnish and install engraved nameplates identifying control stations, safety switches, individual motor starters, panelboards, transformers, and other electrical equipment not identified by factory nameplates. Nameplate material shall be 1/16 inch-thick black and white laminated phenol resin. The engraving shall extend through a semi-matte white surface to give black letters of adequate readability. The height of letters and figures shall be approximately 1/8 inch for component nameplates and 7/16 inch for position nameplates. Furnish a list of nameplate legends, descriptions, types, and sizes for approval by the Engineer prior to procurement.
- K. Field Quality Control: Perform all quality control testing unless otherwise indicated. The types and frequency of testing, and reporting of test results shall be according to this Section and the Manufacturer's instructions. Refer to the Contract Documents for detailed field quality control requirements by system.
- L. Electrical Testing:
1. General: Upon completion and before acceptance of the work, perform complete functional operating tests of all systems, optionally in the Engineer's presence. Demonstrate that all systems and equipment function as intended according to the requirements of this Section and other Sections. Report defective systems or materials found during acceptance tests directly to the Engineer. Maintain written records of all tests. Submit certified test reports to the Engineer in accordance with Contract Documents.
 2. Testing and Adjusting: The following requirements are supplementary to test requirements specified for individual equipment or systems under this and other Sections.
 - a. Schedule all testing for approval by the Engineer.
 - 1) Notify the Engineer at least one week in advance of any testing.
 - 2) Complete test and inspection records shall be made and incorporated into a report for each piece of equipment tested.
 - a) Record all readings taken.
 - b) Submit copies to Engineer for review as specified in Part 1.
 - b. Furnish calibrated meters, instruments, temporary wiring and labor necessary to perform all required tests and adjust equipment and wiring installed and connected in this work.
 - c. Verify correct polarity and phasing, freedom from grounds and shorts, and proper equipment operation.
 3. Test each piece of equipment as specified in other Sections.
 4. Perform function-operating tests after completing the equipment tests as indicated above, to demonstrate the proper interaction of all sensing, processing, and action devices.
 5. Test all interlocks, safety devices and fail safe functions in addition to the design function.

6. Propose methods to initiate the sensing device by physical stimuli and quantitatively measure the end result or output.
- M. Start-Up Assistance: Provide start-up assistance to the Engineer in accordance with Contract Documents. This start-up assistance may include, but is not limited to, inspection, testing, pre-operational checkout, trouble shooting and engineering support necessary to bring the facility into full operation.
- N. Adjusting and Cleaning:
1. Keep premises clean and orderly during construction.
 2. Keep all equipment nameplates clean for easy reading.
 3. Upon completion of work, clean all equipment and remove surplus material and rubbish relating to electrical work, leaving the work area neat and clean.

3.2 CONDUIT AND FITTINGS

- A. General Installation:
1. All conduit and fittings shall be installed in a neat and workmanlike manner according to this Section, the Drawings, the NEC, and the Manufacturer's written instructions.
 2. Coordinate conduit installation with the other trades to avoid interference.
 3. Conduit entrances through exterior concrete walls or below grade footings shall be made watertight. Provide pipe sleeves in the concrete with 1/2-inch minimum clearance around the conduit and an entrance seal.
 4. In no case shall any conduit or body be mounted "hard-up" against structural members, building siding or concrete. Stand-offs shall be provided which allow a minimum of 1/4" free air space between the conduit or body and the surface to which it is being mounted.
 5. In no case shall it be acceptable to use any conduit, body or other part of any raceway system to establish ground continuity or bonding extension.
- B. Application:
1. Buildings:
 - a. PVC Schedule 40: Embedded Conduits
 - b. IMC: All exposed conduit
 2. Make electrical connections to motors and other equipment subject to vibration or movement with liquid-tight flexible steel conduit.
 3. Connectors terminating flexible conduit shall be insulated, watertight, and shall meet UL requirements for positive ground continuity.
- C. Exposed Conduit Installation:
1. Route exposed conduits parallel or perpendicular to structure lines with right-angle turns and standard bends.

2. Supports: Conduit and raceways shall be supported in accordance with NEC Chapter 3.
3. Rigidly maintain and fasten exposed conduit to structural steel using clamps or devices manufactured for the purpose. Banks of conduits (two or more conduits) shall be installed on galvanized, pre-formed steel channel supported from the building or structural members and clamped with steel channel conduit clamps. Single conduits may be fastened to wood or concrete structures with one-hole conduit clamps and clampbacks.
4. Rigidly brace conduit supports at the first and last support of conduit runs where a vertical or horizontal direction change occurs, so that wire may be pulled without damaging the conduit system.
5. Support conduits and equipment independently. Conduits shall not be supported from piping or pipe supports unless shown otherwise on the Drawings.
6. Obtain written permission from the Engineer prior to welding to or drilling structural members.

D. Rough-In Work:

1. Field Bends: Make field bends with standard tools and equipment manufactured specifically for conduit bending.
2. Conduit Sizing: Where conduit size is not indicated on the Drawings, size according to the NEC for the number and sizes of wires to be installed.
3. Liquid-Tight Installation: Liquid-tight flexible steel conduit shall be installed as follows:
 - a. Limited to connections less than 36 inches in length.
 - b. Bonded per NEC requirements.
4. Conduit Expansion Joints: Provide conduit expansion joints with bonding conductor at building expansion joints and wherever necessary to compensate for thermal expansion and contraction of the conduit or building. Expansion fittings shall be approved for the use intended and shall include a copper-bonding jumper.
5. Install pull fittings or boxes in accessible locations to facilitate pulling wire and cables. Maximum distance for straight runs shall not exceed 200 feet.
6. Install drain fittings in the vertical drops of outdoor, above grade conduit runs at the point at which the conduits enter control panels and other similar enclosures.
7. Secure conduit to all equipment enclosures internal and external to the facility, not furnished with threaded hubs or bases, with conduit hubs and insulating ground bushings on the inside of the enclosure.

E. Below Grade Conduit, General

1. Conduits shall slope at least three inches per 100 feet and be arranged to drain to handholes or cable vaults. Where conduits must be tapped, provide drain tees in a coarse gravel bed.
2. Terminate indoor conduit stub-ups with a coupling three inches above the floor for extension or for using seal fittings. The exception is for conduits under major equipment, which may terminate with a coupling flush with the floor.
3. Review all drawings and vendor data of the area and equipment concerned to avoid interferences, and then install the conduits in a suitable position.
4. Above grade conduit extensions shall be RGS or EMT, as required by the area, unless indicated otherwise on the Drawings. Provide below grade PVC conduits with approved adapters for connection to the metal conduit. Install adapters below grade, in the concrete envelope if applicable.

F. Conduit in Slab

1. Conduits larger than 1 inch shall not be installed in structural concrete slabs unless approved in writing, or shown on the Drawings.
2. Conduit shall not interfere with the proper placement of principal concrete reinforcement.
3. Conduit shall be placed between the upper and lower layers of reinforcing steel, where applicable.

G. Conduit in Duct Banks or Earth

1. A minimum of 12 inches of separation between conduit and hot water or steam lines shall be maintained. Locate the top of the conduit envelope a minimum of 36 inches below grade. Conduit envelopes shall be above water mains, sewers and gas lines.
2. Reinforce sections of duct banks installed under railroads and roadways, crossing disturbed soil, and crossing open trenches, such as for sewers or water mains, with steel bar.
3. The concrete envelope surrounding the structure of conduits shall have a minimum thickness of three inches on the top, bottom, sides and between conduits and as indicated by NEC. Where reinforced duct sections are required, as under roadways, increase and reinforce the thickness of the concrete envelope adequately for the specific truck loading. Truck loading will be provided by the Engineer upon request.
4. After concrete has set, backfill and compact fill to a depth of 10 to 12 inches above top of duct bank. Install a continuous warning strip of approved six-inch wide metal-foil-backed plastic tape, detectable type, colored red with suitable warning legend describing electrical lines. Continue backfill and compacting in accordance with the Contract Documents.
5. Duct banks shall have concrete dyed red.

H. Field Quality Control: Inspect conduit and fittings for proper installation, connections, fitting tightness, and support.

3.3 WIRE AND CABLE

A. Examination:

1. Verify that any mechanical work likely to damage wire and cable has been completed.
2. Verify that conduit systems and wireways are ready to receive cable.

B. General:

1. Complete and clean conduit systems and wireways before pulling in wires or cables.
2. Do not install cables in conduit if the ambient temperature of the work area is below the cable Manufacturer's recommended minimum handling temperature.
3. Install power conductors continuous from termination to termination. When necessary, make splices and taps only in junction boxes or terminal boxes. Submit location for review by Engineer.
4. Use cable-pulling lubricants when pulling cables. The type of lubricants shall be suitable for the insulation involved. Cables shall be pulled directly from reels into the conduit raceway. Do not lay conductors out on the ground or triplex them prior to pulling into the raceway system.
5. Pulling stresses applied to conductors shall not exceed the Manufacturer's limitations.
6. Avoid parallel runs of signal cables next to noise generating equipment whenever possible. However, if parallel runs cannot be avoided, maintain the following minimum spacing between power cables and signal cables:

Parallel Power Wiring Capacity	Minimum Separation from Signal Cables
120 V, up to 10 A	12 inches
120 V, 11 A to 49 A	18 inches
240 V, up to 50 A	18 inches
240 V, 51 A to 199 A	24 inches
480 V, up to 200 A	24 inches

Crossovers that bring power and signal cables into close proximity shall be made at right angles.

C. Preparation:

1. Use swab to clean conduits of debris before pulling cables.
2. Do not install cables until it has been verified that cable splicing and testing can proceed immediately thereafter.
3. Do not leave conduit systems and enclosures open or wires exposed to weather or mechanical hazards longer than necessary.

D. Installation:

1. Wire and cable shall be installed in a neat and workmanlike manner and according to this Section, the Drawings, the Manufacturer's written instructions and the NEC.
2. Cable routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.
3. Install a green insulated copper-grounding conductor, No. 12 AWG minimum, with each electrical circuit, sized according to NEC requirements or as shown on the Drawings.
4. The 600-V instrument cable shall be installed to preclude kinking, excess tension, and crushing of the insulation and shielding.
5. Low-voltage conductors No. 8 AWG and larger shall be terminated or spliced with compression connectors except where clamp or pressure terminals are part of the connected equipment. Conductors smaller than No. 8 AWG used in lighting or HVAC may be spliced using twist-on connectors at junction points.
6. Use pre-insulated compression connectors for wiring 600 V or less.
7. Terminate wiring for control, instrument and communication systems only on terminal blocks in designated terminal boxes or approved enclosures. There shall be no more than two conductors per terminal, including strap-type jumpers.
8. Where possible, color-code No. 6 AWG and smaller wire by the color of the insulation covering. Wires larger than No. 6 AWG may be color-coded using wrap-around markers and phase tape.
9. Instrumentation Wiring: Minimize the number of splices in shielded signal wires and cables. Make splices in suitable terminal boxes with screw-type terminal blocks where required. Soldering shall not be acceptable. Provide terminals for each active and spare pair in multiconductor cables. Ground the cable shield and make it electrically continuous throughout the entire run. Ground the overall cable shield at the panel end only.
10. Splicing of Wire: If splicing is necessary, it shall be done in an accessible pull, junction or outlet box.
11. Splices shall provide a firm mechanical and electrical connection.
12. The insulation value of the splice shall equal the conductor insulation.
13. The conductor shall be inserted full depth into a pressure lug.
 - a. Wire nuts shall be used at taps to lighting fixtures.
 - b. Termination or splice devices shall be approved for use with the conductor to be installed.
 - c. Splices shall be indicated on the Record Drawings.
14. Splices and Connection to Devices: A minimum of 8 inches of conductor shall be left in boxes.
15. Avoid abrasion and other damage to cables during installation.

16. All wire and cable installed shall be listed by UL for the specific type of installation (e.g., conduit, duct, aerial and similar items) as shown on the Drawings.
17. The bending/training radius of insulated wire or cable shall not be less than the minimum recommended by the Manufacturer.

E. Identification:

1. Color Coding: Grounded conductors and grounding conductors shall be color coded according to the NEC.
 - a. Phase conductors for three-phase feeders and motor branch circuits shall be color coded as follows:
 - 1) 120/208 Volt:
 - Phase A: Black.
 - Phase B: Red.
 - Phase C: Blue.
 - Neutral: White.
 - Ground: Green.
 - 2) 277/480 Volt:
 - Phase A: Yellow.
 - Phase B: Orange.
 - Phase C: Brown.
 - Neutral: Gray.
 - Ground: Green.
 - b. Conductors for 120/240 V single-phase feeders and branch circuits shall be color coded as follows:
 - Phase 1: Black.
 - Phase 2: Red.
 - Neutral: White.
 - Ground: Green.
 - c. Conductors for analog systems shall be color-coded as follows:
 - Positive: Black
 - Negative: White
 - Shield: N/A
 - Ground: Green with yellow stripe
 - d. Where insulation pigmentation or coding is not available for large conductor sizes, use a colored plastic tape and wrap in a spiral half-lap manner to identify the exposed conductors.
 - e. Control cable color-coding shall comply with NEMA WC 7, Appendix K, Table K-2.
 - f. Color-code otherwise unidentified conductors with self-adhesive wrap-around markers at each splice or terminated end, and at all locations where the conductor is visible and accessible.

2. Wire and Circuit Identification
 - a. Power and feeder wires shall be uniquely identified at termination points. Tags shall be solid or heat-shrink sleeve type with machine-printed identification symbol. Adhesive or individual-letter type tags may only be used with prior approval of the Engineer.
 - b. Signal, control, and instrument wires shall be identified at all termination and splice points. Identify as shown on the Drawings. Tags shall be solid or heat-shrink sleeve type with machine-printed identification symbol. Adhesive or individual-letter type tags may only be used with prior approval of the Engineer.

F. Field Quality Control:

1. Low-Voltage, 600 V Maximum, Cables and Wires
 - a. Perform Visual and Mechanical inspection except for thermographic survey per NETA.
 - b. Perform Electrical Tests per NETA. Test values per NETA.
 - c. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

3.4 GROUNDING AND BONDING

- A. Examination: Verify that final backfill and compaction has been completed before driving rod electrodes.
- B. Installation:
 1. Install products in accordance with Manufacturers' instructions.
 2. Establish a grounding electrode system in accordance with Chapter 2 of the NEC. Provide interconnection of grounding electrodes listed in the NEC, where they exist, with the following additional requirements:
 - a. If specified, install driven ground rods connected by bare copper wire located as shown on the Drawings. The top of ground rods shall be a minimum of 2-1/2 feet below finished grade.
 - b. If specified, the main cable of a ground ring shall be No. 4/0 AWG unless indicated otherwise on the Drawings, installed a minimum of 2-1/2 feet below grade. Taps shall be minimum No. 2 AWG copper cable unless indicated otherwise on the Drawings.
 - c. Coordinate site activities with other Contractors to ensure concrete-encased electrodes within foundations and footings are captured within the grounding electrode system.
 3. All below grade connections shall be exothermic. Make above-grade connections to motors and equipment using bolted pressure clamp-type connectors. Connections to building steel and structures shall be exothermic or as indicated on the Drawings.

4. Where structures or equipment requiring grounding are not available at time of installation, bring the buried ground leads or taps near the proposed terminal point. Provide a 6-foot coil, protected and tagged for identification.
5. Equipment remote from the grounding electrode system may be grounded by separate grounding electrodes and conductors to comply with NEC requirements.
6. Connect all non-current carrying metal parts of electrical equipment and installations to the grounding electrode system as required by the Drawings and the NEC. These shall include, but are not necessarily limited to, building structural columns, lightning arresters, raceways, electrical equipment enclosures, ground bus, transformers and motor frames.
7. In no case shall it be acceptable to use any conduit, body or other part of any raceway system to establish ground continuity or bonding extension. All raceway systems shall contain a suitably sized green-jacketed ground conductor.
8. Grounding jumpers shall be required around all flexible conduit connections for 1-1/2 inch seal-tight flexible conduit and larger. All flexible conduits less than 1-1/2 inch without an integral ground wire shall have a grounding jumper.
9. Connect the grounding system for instrumentation and computers according to the Manufacturer's instructions and in compliance with NEC requirements. Obtain and review this information prior to constructing the grounding system.

C. Field Quality Control:

1. Perform Visual and Mechanical Inspection per NETA.
2. Perform Electrical Tests per NETA. Test values per NETA.
3. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents. Include final grounding electrode system configuration and resistance-to-ground values.

3.5 ELECTRIC MOTORS AND ACCESSORIES

A. Installation:

1. Install and test single-phase and three-phase squirrel-cage induction motors and accessories in accordance with all Manufacturers' instructions including motors shipped separately from driven equipment.
2. Verify all motor data is in accordance with Contract Documents prior to motor installation or connection.
3. Make the electrical connections in accordance with Manufacturer's instructions and the Drawings.
4. Provide grounding and bonding in accordance with this Specification Section and the National Electrical Code.
5. Check for motor free rotation. Check motor rotation for proper shaft direction.
6. Check for proper motor lubrication.

7. Verify that correct quantity and size of all overload and protective devices are provided in each motor starter.
8. Record nameplate data for each motor including horsepower, voltage, full load amps, RPM, service factor and insulation class. Provide copy to Engineer prior to testing. See Appendix B.

B. Field Quality Control

1. Provide documented receipt inspection to verify that all equipment and materials are of the types and quantity required for the Work, are not damaged nor exhibit other unsatisfactory characteristics, and are stored properly and protected from dirt or moisture.
2. Perform Visual and Mechanical Inspection per NETA and as referenced in this Section.
3. Perform Non-Optional Electrical Tests for Induction Motors in accordance with NETA and as referenced in this Section. Test values per NETA.
4. If any deficiencies are revealed during any tests, such deficiencies shall be brought to the attention of the Engineer.
5. Notice of Testing: Notify Engineer three working days in advance of testing to allow witnessing of tests.
6. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

3.6 LIGHTING FIXTURES AND ACCESSORIES

A. Installation:

1. Install in accordance with Manufacturer's instructions.
2. Install and connect all luminaires and lighting equipment and accessories shown on the Drawings to make a completed system ready for service.
3. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
4. Bond products and metal accessories to branch circuit equipment grounding conductor.
5. Replace any damaged or defective fixtures, including glassware and plastics or diffusers or lamps, up to time of final inspection and acceptance by the Engineer.
6. Luminaire wiring, supports, and connections shall be in accordance with Article 410 of the NEC. Do not locate splices or taps within an arm, stem or chain. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminal.
7. Install lamps for lighting fixtures as specified on the plans.

- B. Field Quality Control:
 - 1. Operate each luminaire after installation. Inspect for proper connection and operation.
 - 2. Provide a minimum of eight hours demonstration of luminaire operation.
 - 3. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

- C. Adjusting:
 - 1. Aim and adjust luminaires as indicated on the Drawings or as directed by the Engineer.
 - 2. Upon completion of work there shall be a complete set of lamps of proper sizes and types, in good condition, in all fixtures.

- D. Cleaning:
 - 1. All fixtures shall be cleaned of dirt and foreign matter before the installation is turned over to the Owner.
 - 2. Clean photometric control surfaces as recommended by Manufacturer.
 - 3. Clean finishes and touch up paint.

3.7 SMALL POWER AND LIGHTING TRANSFORMERS

- A. Installation
 - 1. All dry-type transformers shall be installed in accordance with NEMA ST20, NFPA 70, and the Manufacturer's written instructions.
 - 2. Use a two-foot minimum flexible conduit for connections to transformer.
 - 3. Mount transformers on vibration isolating pads when necessary to isolate noise from the building structure.
 - 4. Provide seismic restraints where required.
 - 5. Install transformers so that ventilation openings are not obstructed.
 - 6. Provide grounding and bonding.

- B. Field Quality Control
 - 1. Check for damage and verify that all connections are tight prior to energizing the transformer.
 - 2. Measure primary and secondary voltages and make appropriate tap adjustments.
 - 3. Perform an insulation resistance test with a 1000 V megger for all 480-volt and higher windings, and 500 V megger for winding 240 volts and lower. Values of insulation resistance less than Manufacturer's minimum or one megohm shall be investigated. Replace defective materials.
 - 4. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

3.8 PANELBOARDS

- A. Install panelboards in accordance with NEMA PB 1.1. Panelboards shall be plumb, with recessed panelboards flush with wall finishes. Provide supports in accordance with this Section.
 - 1. Panelboards shall be mounted with top six feet above finished floor where obtainable.
 - 2. Provide filler plates for unused spaces in panelboards.
 - 3. Provide typed or neatly printed circuit directories for each branch circuit panelboard. Revise directory to reflect circuiting changes required to balance phase loads.
 - 4. Provide engraved plastic nameplates identifying each panelboard in accordance with the panelboard schedules.
- B. Field Quality Control
 - 1. Measure steady state load currents at each panelboard feeder. If necessary, rearrange circuits in the panelboard to balance the phase loads to within 20 percent of each other. Maintain proper phasing for multi-wire branch circuits.
 - 2. Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and tightness of connections for circuit breakers.

3.9 WIRING DEVICES

- A. Installation: The installation of wiring devices shall comply with the NEC, in agreement with this Section and the Manufacturer's written instructions.
- B. Identification: Identify and mark all device plates with the panel and circuit number.
- C. Field Quality Control: Prior to final acceptance, replace all cracked, chipped, or burned devices or cover plates and damaged devices.

3.10 SAFETY SWITCHES

- A. Installation:
 - 1. The installation of switches shall comply with the NEC and the Drawings, this Section, and the Manufacturer's written instructions.
 - 2. Install fuses in fusible disconnect switches.
- B. Identification: Switches are to be clearly identified and labeled to indicate power source, voltage, number of phases, and equipment being served.
- C. Field Quality Control:
 - 1. Perform Visual and Mechanical Inspection per NETA.

2. Perform Electrical Tests per NETA. Test values per NETA.
3. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

3.11 INSTRUMENTATION

- A. Installation: The installation of instrumentation shall comply with the NEC, ISA and the Drawings, this Section, and the Manufacturer's written instructions.
- B. Identification: Instrumentation is to be clearly identified and labeled to indicate device and loop number in accordance with the Contract Documents.
- C. Field Quality Control:
 1. Perform Visual, Electrical and Mechanical Inspection in accordance with the Manufacturer's written instructions.
 2. Submit testing and inspection documentation in accordance with above submittal requirements and the Contract Documents.

APPENDICES

Appendix A – Instrument Inspection, Test and Calibration Procedure

END OF SECTION

APPENDIX A

INSTRUMENT INSPECTION, TEST AND CALIBRATION PROCEDURES

1. GENERAL

1.1 GENERAL PROCEDURES FOR INSPECTION, TEST, AND INSTRUMENT CALIBRATION

- 1.1.1 Each instrument shall be checked against the latest version of the Database for tagging, manufacturer, model number, range, action, etc., before functional testing or calibration.
- 1.1.2 Any air system, permanent or temporary, used for energizing instrumentation shall be dry and clean at all times, and be blown down thoroughly before use. Any connection between the air supply system shall be via proper filter and regulator.
- 1.1.3 Plastic sealing plugs shall be used for all pneumatic connections and tubing except during test and immediately before final connection in the field.
- 1.1.4 Care shall be observed when connecting electric power supplies to the instrumentation. Insure correct voltage and frequency on AC power supplies. Insure correct voltage, polarity, and superimposed ripple on DC power supplies. Insure correct polarity of the supply and proper grounding before connecting instruments.
- 1.1.5 The Instrumentation and Control Systems Contractor shall satisfy the requirement that the installation, calibration, and checkout of the instruments meet the requirements of the project specifications.
- 1.1.6 The Calibration procedures for verifying instrument precision should conform to accepted practices as outlined in ASTM, ASHRAE, ISA, etc. specifications.
- 1.1.7 The Instrumentation and Control Systems Contractor shall provide copies of manufacturer's installation and calibration instructions to the calibration technicians prior to the commencement of calibration.

1.2 INSTRUMENT QUALITY LEVELS AND METEROLOGY

- 1.2.1 Instrumentation supplied for the calibrating sensing instruments for facility control system shall include documentation concerning the calibration method and traceability to the National Institute for Standards and Testing (NIST).
- 1.2.2 Process instrumentation shall be field checked for accuracy before installation even if the instruments have been calibrated by the manufacturer's metrology facilities.

2. PRODUCTS

2.1 CALIBRATION AND TEST EQUIPMENT

- 2.1.1 All calibration and test equipment shall be in proper working order and calibrated using traceable standards and equipment set by the NIST. Certificates of traceability shall be kept on file in the field calibration office or field project office. Copies of the traceability documents shall be included with the submittal of the calibration forms.
- 2.1.2 All calibration and test equipment shall carry a documented current calibration sticker reflecting the date of the last calibration and the name or initials of the technician who performed the calibration. A current calibration will be performed before the equipment is shipped to the site. The calibration equipment shall be shipped directly from the calibrating authority to the site, in packaging provided by the calibrating authority. A current calibration will be performed for all calibration or test equipment every 180 days or within the normal calibration interval, whichever is less.
- 2.1.3 Any field instruments calibrated with test equipment whose calibration has expired will be rejected and will be required to be recalibrated.
- 2.1.4 All Calibration and test equipment shall be of a higher accuracy than the instrument being calibrated. The manufacturer's recommendations for calibration accuracy will prevail in all instances.
- 2.1.5 The Instrumentation and Control Systems Contractor shall supply calibration and test equipment of sufficient quantity, quality, and type to calibrate the instruments and sensors used in the installation.

2.2 BENCH TEST AND CALIBRATION FORMS AND METHODOLOGY

- 2.2.1 Calibration forms and calibration procedures for each instrument type shall be generated by the Instrumentation and Control Systems Contractor and approved by the Owner or his representative before proceeding with any calibrations. The manufacturer's procedures or the Owners existing procedures shall form the basis for the calibration procedure.
- 2.2.2 The following format shall be used for instrument calibration form:
- 2.2.3 A separate calibration form shall be generated for similar types of instruments that have different accuracy and tolerance requirements.
- 2.2.4 The form shall contain as found and as calibrated data areas. The form shall contain areas for the calibrating and test instruments manufacture, serial number, and date of calibration.
- 2.2.5 The forms shall be filled out and signed in black ink.
- 2.2.6 Those instruments that can shall be calibrated on the bench under controlled conditions. Care shall be taken with those instruments that must be calibrated in the field to approximate the conditions of the bench test.

3. EXECUTION

- 3.1.1 The Instrumentation and Control Systems Contractor shall calibrate all instrumentation in an environment suitable to quality testing procedures. High accuracy comparative instruments or mechanisms shall be the standard against which instrument calibration is tested.
- 3.1.2 Verify that all process and test instruments have been calibrated and traceable to the NIST or other appropriate reference standards. Verify that a calibration sticker has been affixed to the instrument and that each instrument is within its calibration period at the time that the calibration is performed.
- 3.1.3 Each instrument shall be calibrated as per Owner approved calibration procedures and forms.
- 3.1.4 Each instrument shall have a calibration sheet completely filled out with all pertinent data related to the calibration and system. These calibration sheets shall be organized in a binder by system and turned over to the Owner at the completion of the project.
- 3.1.5 Instruments shall have a calibration sticker placed on the instrument. The sticker shall not be placed until the instrument has successfully completed the calibration procedure and the associated calibration form has been filled out and signed. The sticker shall bear the date of calibration and expiration and initials of the technician certifying calibration.

END OF SECTION

RIGHT OF WAY PERMIT



CITY OF MIDDLETON
 P O Box 487, MIDDLETON, ID 83644
 208-585-3133, Fax: 208-585-9601
 WWW.MIDDLETON.ID.GOV

Date Received: _____

Received by: _____

Fee paid: \$ _____

DATE: 9/12/2024	NAME:	Office Use Only	
JOB: PLACE PARK LIFT STATION UPGRADES	COMPANY NAME:	Fee \$75/day	
JOB LOCATION: Cornell St ROW adj to Place Park Lift Station	COMPANY ADDRESS:	Reinspection Fee: \$50/per inspection <i>OK</i>	
		Deposit Homeowner: \$500	<i>N/A</i>
COMPANY PHONE:		Deposit Single Lot/Area: \$2,000	<i>N/A</i>
		Deposit Multiple Lots/Areas: \$4,000	<i>N/A</i>

UTILITY: (Check One)	Distance from Center Line:	ROW Line:
Overhead	Angle of Crossing:	Potential:
Underground	Size of Pipe:	Pressure:
Surface	Vertical Clearance:	Depth:

Attach map of work to be performed, and traffic control plan. Traffic control plan shall be submitted to City under separate cover.

Description of Work to be Performed and an Estimate of the number of days will be working in right-of-way.
 Work necessary to complete the Place Park Lift Station Upgrades project.
 Duration of the project shall be as described in the project documents.
 Contractor to complete the Contractor Information Sheet (page 3 of 4) upon notice of award and prior to any work in the City right-of-way.

I certify that I am the authorized company representative and request permission to construct the above facilities within the City of Middleton right of way in accordance with the General Provisions attached with this form. The special provisions and the plans are made a part of this permit.

	JASON VAN GILDER	9/12/24
Signature Name (sign above)	Print Name (print above)	Date

Special Terms and Conditions:
 Contractor shall notify the City's Project Representative 24 hrs in advance of any work in the right-of-way.
 Contractor shall prepare and implement a traffic control plan approved by the City in advance of any work in the City Right-of-Way affecting vehicular or pedestrian traffic.

Permission is hereby granted to the above named applicant to perform the work described above according to all approved application materials, terms, conditions shown on this form and attachments.

APPLICATION APPROVAL	INSPECTION APPROVAL
9/12/24	Final Inspection Date(s): _____
Public Works	
Date:	Public Works Date

The following must be included with this application: (Check to confirm attached.)

- N/A 1. **Homeowner Refundable Deposit** \$500 cash or check
- N/A 2. **Certificate of Liability Insurance (Contractor Only)** *Will be on file with the City as part of the project's contract documents.*
Showing at least \$500,000 Personal Injury and \$1,000,000 General Aggregate. We reserve the right in more sensitive locations to request higher limits.
- N/A 3. **Refundable Deposit (Contractor Only)** *Waived due to the City having a performance bond on file for the project.*
Work in Right-of-Way single lot or area: \$2,000.
Work in Right-of-Way multiple lots or areas: \$4,000
*The deposit can be paid with **Cashier's Check or Letter of Credit**.* The deposit shall be kept on file with the Middleton City Clerk and refunded upon completion and satisfactory final inspection of the project.
- N/A 4. **Inspection Fee -** *The City has contracted for inspection services outside of this permit.*
Work in Right-of-Way Permit - **\$75/day**

Date

Work Schedule

To be determined in project correspondence

Work Begins

As described in the project correspondence

Work Completed

As described in the project correspondence

End of Warranty Period (to be modified accordingly based on actual completion of work)

NOTES:

- A) An inspection of the proposed location of improvements (with appropriate pre-marking) shall be requested of the Public Works Supervisor prior to the issuance of any permit.
- B) All trench repair/backfill shall be in accordance with ISPWC standards.
- C) Compaction tests shall be completed in accordance with ISPWC and submitted to the City.
- D) **No Paving** will be allowed in City Rights of Way after **October 15** or below the temperature as required by ISPWC. All paving will be inspected and completed in accordance with ISPWC Standards.
- E) **No Construction** will be allowed in Public Right of Way after **November 15**. All completed construction will be accompanied by an approved inspector's report.
- F) The Public Works Supervisor will determine **spring** start updates.
- G) Contractors' hours of operation will be 7:00 a.m. to 4:00 p.m. Monday through Friday.
- H) In any case of street cuts, the permittee shall be required to back fill street cut and provide at least a temporary surface repair within 48 hours of opening such cut. Upon back filling any street cut and allowing access of such area to the public, the surface of such cut shall be kept in a maintained condition by the permittee until permanently restored.
- I) If driveway approach culverts are required. The Public Works Department shall approve the culvert size, which in any event shall not be less than **12 inches in diameter**.
- J) Prior to Final Inspection, all projects utilizing directional drilling techniques within public right of way shall provide to the City a post construction video inspection of sewer mains and laterals within the construction area documenting that the sewer system was not damaged by construction activities.
- K) Reasonable notification to the public and the Fire Department – Quick Response of City service disruption (water, sewer, and traffic) is contractor's responsibility.

CONTRACTOR INFORMATION SHEET

Please fill in the following information:

(Date completed: _____)

COMPLETE NAME OF COMPANY/CONTRACTOR:			
CORPORATION	PARTNERSHIP	JOINT VENTURE	PROPRIETOR
MAILING ADDRESS:			
OFFICE PHONE:		EMERGENCY PHONE (24 hrs):	
PERSON(S) TO CONTACT:			
NAME OF LOCAL LIABILITY INSURANCE COMPANY:			
AGENT'S NAME:			
MAILING ADDRESS:			
OFFICE PHONE:		EXTENSION NO:	
PERSON(S) ALLOWED TO SIGN FOR PERMITS:			
NAME:		TITLE:	
TYPE OF WORK PERFORMED BY YOUR COMPANY			
CONCRETE WORK		ASPHALT WORK	
DRIVEWAY APPROACHES		DRIVEWAY TIE-INS	
SIDEWALKS		ALLEYS	
CURBS & GUTTERS		STREETS	
EXCAVATION ONLY (ON THOSE ITEMS MARKED ABOVE)			
WATER LINES		SEWER LINES	
OTHER WORK AS SPECIFIED:			

GENERAL PROVISIONS

1. During the process of the works such as barricades, lights and other traffic control devices shall be erected and maintained as may be necessary or as may be directed for the protection of the traveling public. Said barricades, lights and other traffic control devices shall conform to the current issue of The Manual on Uniform Traffic Control Devices for Streets and Highways. Parked equipment and stored materials shall be as far from the travel way as feasible. Items left overnight within 30 ft. of travel way shall be marked and/or protected.
2. In accepting this permit, the permittee, its successors and assigns agree to hold the City of Middleton harmless from any and all liability on account of the erection, installation, construction, maintenance or operation of the facilities located under this permit.
3. Except as herein authorized, all underground crossings shall be bored or jacked. No excavation shall be made or obstacle placed within the right of way of the City of Middleton in such a manner as to interfere with travel over said roadway.
4. Any disturbance of the traveled surface of the road and/or traffic control devices shall be restored to the satisfaction of the Public Works Supervisor.
5. If the work done under this permit interferes in any way with the drainage of the roadway, the permittee shall wholly and at his own expense make such provision as the Public Works Supervisor may direct to provide for said drainage.
6. On completion of said work herein contemplated all rubbish and debris shall be immediately removed and the roadway and roadside shall be left neat and presentable to the satisfaction of the Public Works Supervisor.
7. All of the work herein contemplated shall be done to conform with current government and industry standards under the supervision and to the satisfaction of the Public Works Supervisor and the entire expense of said supervision shall be borne by the permittee.
8. The City hereby reserves the right at any time in the future to order the change of location or the removal of any structure(s) or facility(ies) authorized by this permit. Said change or removal to be made at the sole expense of the permittee, or its successors and assigns, unless such structure(s) or facility(ies) have been located pursuant to the special provisions.
9. All such changes, reconstruction or relocation by the permittee shall be done in such a manner as will cause the least interference with any of the functions of the City of Middleton.
10. This permit or privilege granted under MCC _____ shall not be deemed or held to be an exclusive one and shall not prohibit the City of Middleton from granting other permits or franchise rights of like or other nature to other public or private utilities, nor shall it prevent the City of Middleton from using any of its roads, streets, or public places or affect its right to full supervision and control over all or any part of them, none of which is hereby surrendered.
11. The City may revoke, amend, amplify or terminate this permit or any of the conditions herein enumerated if permittee fails to comply with any or all of its provisions, requirements or regulations as herein set forth or through willful or unreasonable neglect, fails to heed or comply with notices given, or if the utility herein granted is not installed or operated and maintained in conformity herewith.
12. The permittee shall maintain at its sole expense the structure or subject for which the permit is granted.
13. Adequate drawings or sketches shall be included showing the existing and/or proposed location of the facility with respect to the existing and/or planned location of the road improvement, the traveled way, the rights of way lines, and where applicable, the control of access lines and approval access points.
14. If trench or pavement settlement should occur within two years from the date of installation, repairs shall be made by the permittee as directed by the Public Works Supervisor at no cost to the City. If the permittee fails to make the necessary repairs, the City will make the repairs and bill the permittee. No new permits shall be issued to the permittee until such claim has been settled.
15. No work shall be started until an authorized representative of the Public Works Department has given notice to the permittee to proceed.
16. A cashiers check or letter of credit in the amount of \$ _____ is required for the protection of the City of Middleton as set forth in the terms of the bond.
17. Any replacement of, addition to, or change in the facility granted by this permit shall require a new permit prior to initiation of such work.

PERMIT TO BE VOIDED IF WORK NOT COMPLETED BY _____

CONSTRUCTION DRAWINGS

GENERAL NOTES

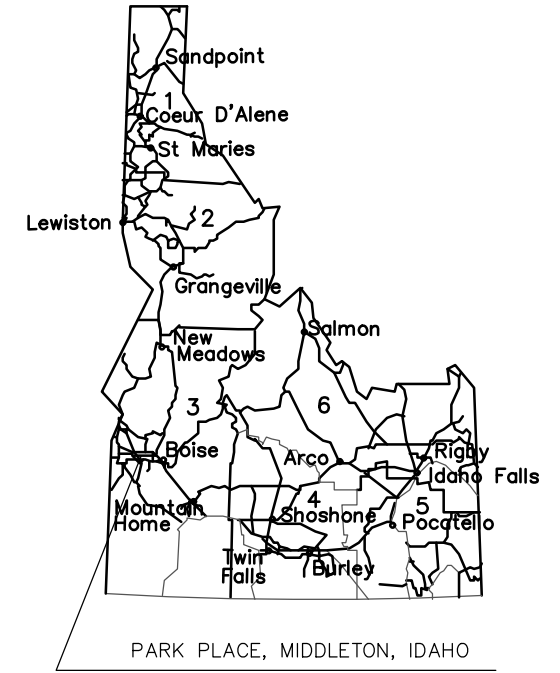
1. ALL WORK TO BE IN CONFORMANCE WITH THE MOST CURRENT ISPWC AND THE CITY OF MIDDLETON SUPPLEMENTAL.
2. ALL CONTRACTORS WORKING WITHIN THE PROJECT BOUNDARIES ARE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE SAFETY LAWS OF ANY JURISDICTIONAL BODY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOW IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
4. WORK SUBJECT TO APPROVAL BY ANY AGENCY MUST BE APPROVED PRIOR TO (A) BACKFILLING TRENCHES FOR PIPE; (B) PLACING OF AGGREGATE BASE; (C) PLACING OF CONCRETE; (D) PLACING OF ASPHALT PAVING. WORK DONE WITHOUT SUCH APPROVAL DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER.
5. ALL CONTRACTORS, SUB-CONTRACTORS AND UTILITY CONTRACTORS SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE A MINIMUM OF TWO (2) DAYS PRIOR TO COMMENCING ANY CONSTRUCTION ON THE PROJECT.
6. ONLY PLAN SETS STAMPED "APPROVED FOR CONSTRUCTION" AND SIGNED BY THE ENGINEER SHALL BE USED FOR PROJECT CONSTRUCTION. USE OF PLANS NOT STAMPED "APPROVED FOR CONSTRUCTION" SHALL BE GROUNDS FOR THE ISSUANCE OF A STOP WORK ORDER.
7. ALL MATERIALS FURNISHED ON OR FOR THE PROJECT SHALL MEET THE MINIMUM REQUIREMENTS OF THE APPROVING AGENCY OR AS SET FORTH IN THE PROJECT PLANS AND SPECIFICATIONS, WHICHEVER IS MORE RESTRICTIVE. CONTRACTOR SHALL FURNISH PROOF THAT ALL MATERIALS MEET THE REQUIREMENTS AT THE REQUEST OF THE OWNER OR ENGINEER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND PAYING FOR ALL COSTS ASSOCIATED WITH ALL TESTING REQUIRED BY THE PROJECT SPECIFICATIONS. ALL TESTS SHALL BE PERFORMED BY A CERTIFIED TESTING LABORATORY AND CERTIFIED TEST RESULTS SHALL BE SUBMITTED TO THE OWNER'S ENGINEER. WORK PERFORMED WITHOUT CERTIFIED TEST RESULTS SHALL NOT BE ACCEPTED.
9. TRAFFIC AND ROAD NAME SIGNS, SIGN MATERIALS AND INSTALLATION ARE TO MEET THE MUTCD AND THE CITY OF MIDDLETON SUPPLEMENTAL
10. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN FOR APPROVAL BEFORE WORK BEGINS. TRAFFIC CONTROL PLAN SHALL ADDRESS PEDESTRIAN AND VEHICLE TRAFFIC DETOURS.
11. RECORD DRAWING SHOWING CHANGES FROM THE APPROVED PLANS SHALL BE PROVIDED TO THE CITY.

WATER NOTES

1. ALL WORK FOR THE WATER SYSTEM SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE I.S.P.W.C AND THE "IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS" WATER SPECIFICATIONS.
2. ALL WATER PIPE AND FITTINGS SHALL COMPLY WITH APPLICABLE PORTIONS OF SECTION 400 OF THE I.S.P.W.C. STANDARD SPECIFICATIONS AND DRAWINGS.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY AND ALL DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
4. PLACE NO. 12 DIRECT BURIAL WIRE ALONG THE TOP OF WATER MAINS, SERVICE LINES AND PRESSURE WATER LINES.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY TWO (2) WORKING DAYS BEFORE INITIAL CONSTRUCTION BEGINS AND SHALL ALSO REQUEST INSPECTION OF WATER LINES AND APPURTENANCES TWENTY-FOUR (24) HOURS IN ADVANCE OF CONSTRUCTION.
6. WORK SUBJECT TO APPROVAL BY ANY POLITICAL SUBDIVISION OR AGENCY MUST BE APPROVED PRIOR TO (A) BACKFILLING TRENCHES FOR PIPE; (B) PLACING OF AGGREGATE BASE; (C) PLACING OF ASPHALT PAVING, (D) PLACING OF CONCRETE. WORK DONE WITHOUT SUCH APPROVAL DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER.

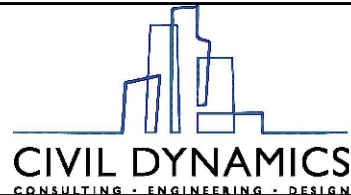
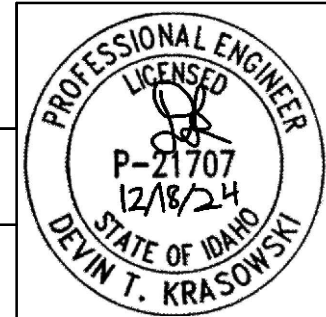
PARK PLACE LIFT STATION UPGRADES

CITY OF MIDDLETON, IDAHO
2024



INDEX OF SHEETS	
SHEET #	DESCRIPTION
G1.0	COVER SHEET
C1.0	CIVIL SITE PLAN
E0.1-2.1	ELECTRICAL PLAN SHEETS (BY CONTROL ENGINEERS)

Dig Line, Inc.
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Excavation!
811 or (800) 342-1585



5605 S 10TH AVE
CALDWELL, ID. 83607
(208)453-2028 PH
(208)453-2035 FAX

PROJECT NAME:
PLACE PARK LIFT STATION UPGRADES
CITY OF MIDDLETON, IDAHO

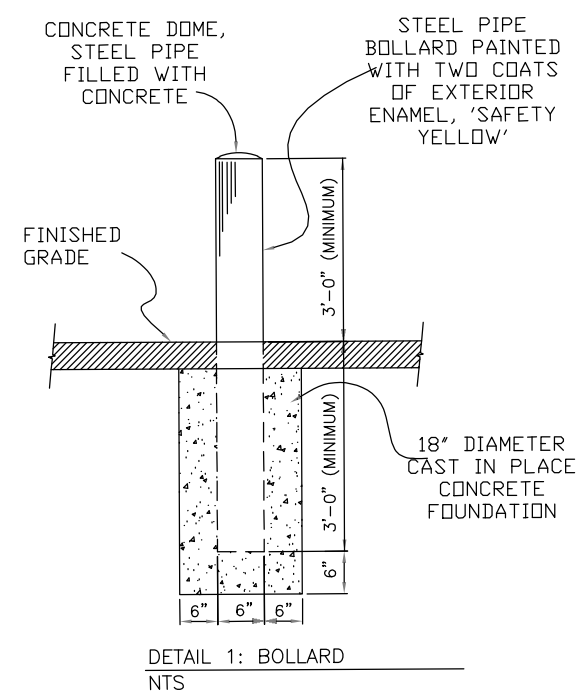
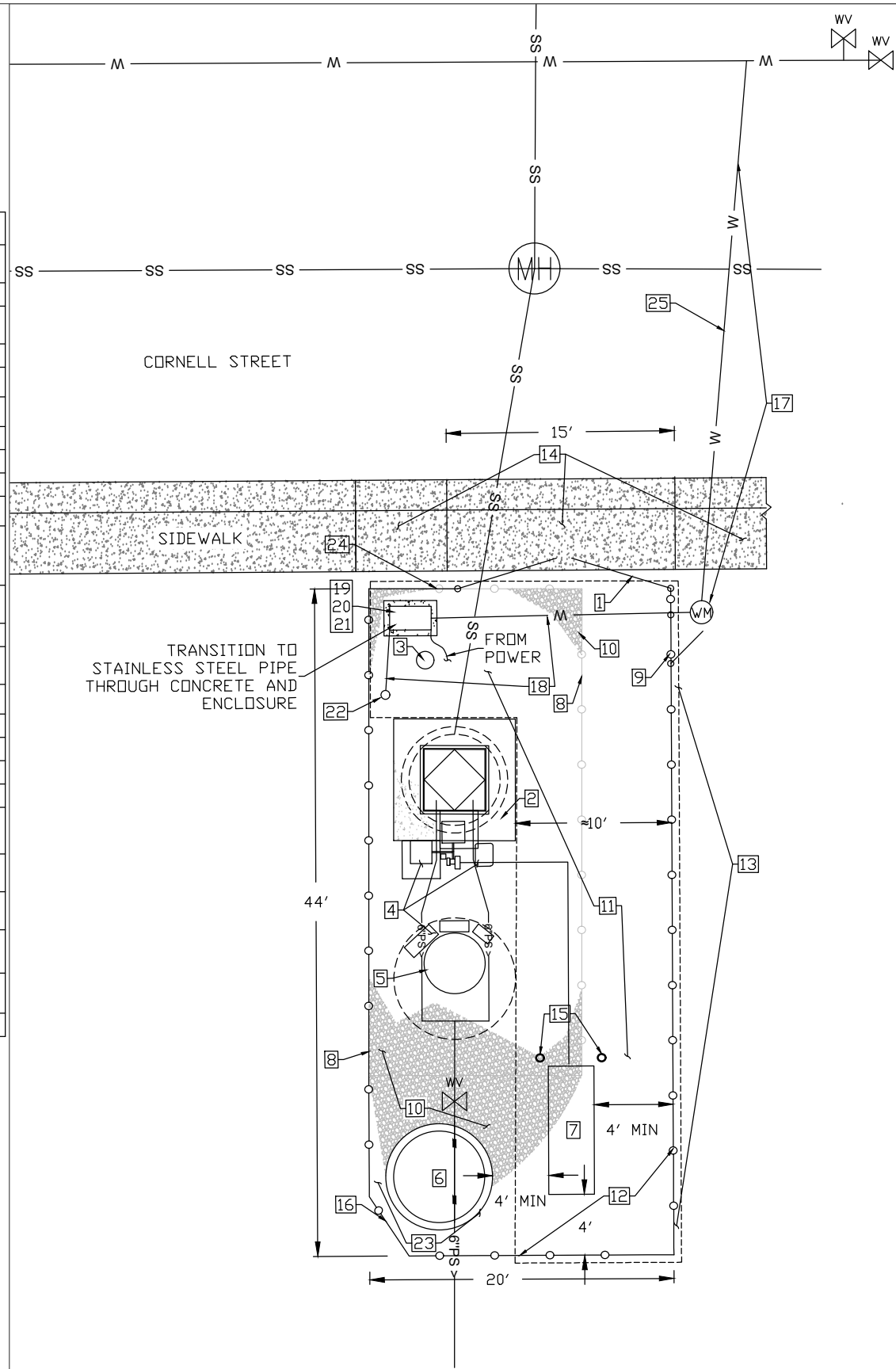
SHEET TITLE:
COVER

DESIGNED BY:
MM
DRAWN BY:
DTK
CHECKED BY:
MJM
DRAWING DATE:
DECEMBER 2024

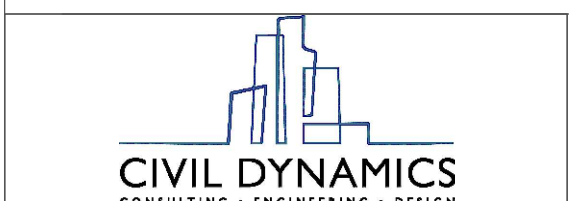
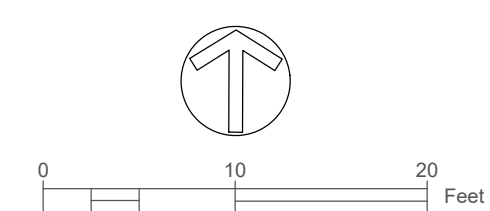
SCALES SHOWN ARE FOR 11' X 17' PRINTS ONLY
SHEET NO:
G1.0

KEYNOTES	
1	RELOCATE EXISTING DOUBLE SWING GATE AS SHOWN
2	EXISTING CONCRETE SLAB, WET WELL COVER, AND HATCH
3	EXISTING STREET LIGHT. INSTALL MANUAL ON/OFF SWITCH AND LED LIGHT FIXTURE PER ELECTRICAL SHEETS.
4	MISC. ELECTRICAL EQUIPMENT, SEE ELECTRICAL SHEETS
5	EXISTING VALVE VAULT
6	EXISTING BYPASS MANHOLE
7	INSTALL NEW GENERATOR, SEE ELECTRICAL SHEETS
8	EXISTING FENCED AREA TO BE EXTENDED TO THE SOUTH AND EAST
9	RELOCATE EXISTING SINGLE GATE TO THIS APPROX. LOCATION
10	EXISTING GRAVEL
11	RESURFACE APPROX. 64 SY WITH SEPARATION FABRIC (ISPC 2050.2.3) AND 8" OF 3/4" MINUS CRUSHED AGGREGATE, COMPACTED. EXCAVATE AS NECESSARY TO MATCH EXISTING GRADE.
12	EXTEND FENCED AREA TO BE 20'X44' FROM NORTHWEST CORNER. MATCH EXISTING HEIGHT AND TOP RAIL.
13	RELOCATE SPRINKLERS AND CAP EXISTING SPRINKLERS AS NECESSARY
14	REMOVE EXISTING CURB, GUTTER, AND SIDEWALK. INSTALL APPROACH PER ISPC SD-710B AND MIDDLETON SUPPLEMENT. APPROACH WIDTH TO BE 15'. BOLLARD. SEE DETAIL 1 THIS SHEET
15	ANGLE FENCE TO AVOID ENCRDACHING ON PATHWAY
16	INSTALL NEW 1.5" WATER SERVICE PER MIDDLETON SUPPLEMENTAL W-1-1
17	1.5" HDPE SERVICE LINE PER MIDDLETON SUPPLEMENTAL
18	1.5" BACKFLOW ASSEMBLY, WATTS LF009 OR EQUAL
19	INSULATED ENCLOSURE (HOTBOX LF013027023AAV, OR EQUAL) MOUNTED ON 2.5' X 3.5' CONCRETE PAD, 4" THICK, ON COMPACTED 3/4" ROADMIX BASE
20	PROVIDE RECEPTACLE PER ELECTRICAL SHEETS. PROVIDE HEAT TAPE TO SUFFICIENTLY PROTECT ABOVE SLAB PIPING FROM FREEZING.
21	FRDST FREE YARD HYDRANT (WOODFORD U150M OR EQUAL) WITH 1.5" CAM LOCK FITTING
22	REPURPOSE GRAVEL REMOVED FROM NORTH OF WET WELL TO COVER THIS AREA WITH GRAVEL
23	MAINTAIN EXISTING "NO PARKING" AND CITY OF MIDDLETON OWNERSHIP SIGNS. ADD SECOND NO PARKING SIGN.
24	REPAIR ASPHALT PER ISPC SECTION 307

- NOTES:
- SEE ELECTRICAL PLANS FOR ANY NECESSARY MODIFICATIONS.
 - LIFT STATION TO REMAIN IN SERVICE DURING CONSTRUCTION. PROVIDE ACCESS TO CITY PERSONAL TO ALLOW FOR ROUTINE MAINTENANCE DURING CONSTRUCTION. ANY INTERRUPTION IN SERVICE SHALL BE MINIMIZED AND COORDINATED WITH CITY STAFF.
 - SITE FENCING SHALL BE MAINTAINED DURING CONSTRUCTION TO MINIMIZE HAZARDS TO PARK USERS. IF TEMPORARY CONSTRUCTION FENCING IS REQUIRED IT WILL BE INCIDENTAL TO THE PROJECT.
 - MAINTAIN AT LEAST 6 FEET HORIZONTAL SEPARATION BETWEEN NEW WATER SERVICE LINE AND SEWER MAIN.



- LEGEND:
- NEW ROAD MIX / FABRIC BOUNDARY
 - ○ ○ CHAIN LINK FENCE TO BE REMOVED
 - ○ ○ CHAIN LINK FENCE
 - ss — SANITARY SEWER
 - w — WATER
 - 6"PS — PRESSURE SEWER



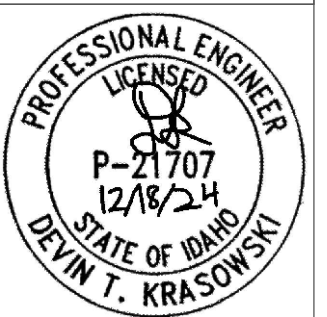
5605 S 10TH AVE
CALDWELL, ID. 83607
(208)453-2028 PH
(208)453-2035 FAX

PROJECT NAME:
PLACE PARK LIFT
STATION UPGRADES
CITY OF MIDDLETON, IDAHO

SHEET TITLE:
SITE PLAN

DESIGNED BY:
DTK
DRAWN BY:
DTK
CHECKED BY:
MJM
DRAWING DATE:
DECEMBER 2024

SCALES SHOWN
ARE FOR 11" X 17"
PRINTS ONLY
SHEET NO:
C1.0



DRAWING INDEX

GENERAL NOTES

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
E0.1	INDEX AND GENERAL NOTES
E0.2	SYMBOLS & ABBREVIATIONS
E1.0	ONE-LINE DIAGRAM & PANELBOARD SCHEDULE
E2.0	SITE PLAN
E2.1	ELECTRICAL LAYOUT

- E0.2 IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS DRAWING AND NOT ON THE PLANS.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE, LOCAL ELECTRIC CODE AND OTHER LOCAL ORDINANCES.
- ALL MATERIALS USED SHALL BE UL LISTED.
- WHEN ELECTRICAL EQUIPMENT (PANELBOARDS, MOTOR CONTROL CENTERS, AND SWITCHGEAR) IS MOUNTED AGAINST A WALL IN ANY ROOM OF THE BUILDING, ELECTRICAL CONTRACTOR SHALL USE PROPER CAULKING MATERIALS TO SEAL THE SPACE BETWEEN THE EQUIPMENT AND THE WALLS WHERE IT IS MOUNTED.
- ALL RACEWAY AND CABLE PENETRATIONS SHALL BE SEALED WITH APPROPRIATE RATED MATERIALS DESIGNED TO MAINTAIN NECESSARY FIRE RATINGS.
- CABLE TRAY, CONDUIT, AND CABLE SHALL BE SUPPORTED PER NEC REQUIREMENTS AT A MINIMUM.
- CONTRACTOR SHALL CIRCUIT NO MORE THAN SIX (6) 120V CONVENIENCE RECEPTACLES ON A SINGLE 15A CIRCUIT AND NO MORE THAN EIGHT (8) 120V CONVENIENCE RECEPTACLES ON A SINGLE 20A CIRCUIT.
- AMPACITY OF ALL POWER CABLES LISTED IN THE CABLE SCHEDULE (IF PROVIDED) HAVE BEEN SIZED ACCORDING TO NEC USING 75°C COPPER WIRE UNO.
- CONTRACTOR IS ALLOWED TO GROUP CIRCUITS TO CONSOLIDATE CONDUIT RUNS AT THEIR DISCRETION PROVIDED CIRCUIT CONDUCTORS ARE DERATED, AND CONDUIT AND J-BOXES ARE SIZED ACCORDING TO THE NEC. REVISE DRAWINGS AND CABLE/CONDUIT SCHEDULE TO MATCH.
- FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL), SEE OTHER LEGENDS.
- IF REFERENCED AS FUTURE, CONTRACTOR SHALL MAKE SPACE AND ELECTRICAL ALLOWANCES FOR BUT NOT PROVIDE OR INSTALL ASSOCIATED EQUIPMENT OR SYSTEMS EXCEPT WHERE REQUIRED BY OTHER CONTRACT DOCUMENTS. PROVIDE AND INSTALL UNDERGROUND CONDUIT, STUB UP AND CAP.
- ALL PART NUMBERS CALLED OUT FOR MODELING PURPOSES. CONTRACTOR TO PROVIDE SAME OR EQUIVALENT UPON ENGINEERING APPROVAL.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SET OF DRAWINGS SHOWING ANY FIELD CHANGES, ACTUAL CONDUIT ROUTING AND EQUIPMENT LOCATIONS. THE SET SHALL BE TURNED OVER TO THE ENGINEER AT THE END OF THE PROJECT.
- CONNECTIONS BETWEEN RIGID CONDUIT AND MOTOR TERMINAL BOXES OR OTHER EQUIPMENT SUBJECT TO VIBRATION SHALL BE FLEXIBLE LIQUID-TIGHT CONDUIT UNO.

ENVIRONMENTAL CONDITIONS

- AREA ENVIRONMENTAL CLASSIFICATIONS:
 - WET AREAS: PUMP ROOM & OUTDOORS
 - DRY AREAS: ELECTRICAL ROOM
- GENERAL CONDUIT REQUIREMENTS UNLESS NOTED OTHERWISE:
 - WET AREAS SHALL BE PVC COATED RGS.
 - DRY AREAS SHALL BE EMT.
 - UNDERGROUND CONDUIT OR ENCASED IN CONCRETE SHALL BE PVC SCH. 40.
- MINIMUM ENCLOSURE REQUIREMENTS UNLESS NOTED OTHERWISE:
 - DRY AREAS: NEMA 1
 - WET AREAS: NEMA 4

CITY OF MIDDLETON IDAHO
PARK PLACE LIFT STATION
GENERATOR ADDITION

INDEX AND GENERAL NOTES

PROJECT: 0108-22-05
PROJECT DATE: 05/26/22
DESIGNER: AMK
DRAWN: AMK
CHECKED: MTJ
APPROVED:
SCALE: AS NOTED



1006 S FEDERAL WAY
BOISE, IDAHO 83705
(208) 433-6907
(208) 426-0560 FAX



Control Engineers

REVISION NUMBER	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
A	FOR REVIEW & COMMENT	AMK	MTJ	8/21/23
B	ISSUE FOR BID	AMK	MTJ	10/2/24

SHEET NUMBER
E0.1

ELECTRICAL LEGEND

ABBREVIATIONS

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED. FURNISHED AND INSTALLED UNDER OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION SPECIFIED IN DIVISION 16. COORDINATE FINAL CONNECTION WITH EQUIPMENT SUPPLIER.
	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
	BRANCH CIRCUIT PANELBOARD
	UNIT HEATER
	TELEPHONE TERMINAL CABINET
	COMPUTER TERMINAL CABINET
	TERMINAL JUNCTION BOX
	MOTOR, SQUIRREL-CAGE INDUCTION, HORSEPOWER INDICATED ON ONE-LINE DIAGRAM
	LUMINAIRE, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	LUMINAIRE, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	LUMINAIRE, UNSWITCHED, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	LUMINAIRE AND POLE, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	WALL MOUNTED LUMINAIRE, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	EMERGENCY LIGHTING UNIT, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	EXIT LIGHTS, CAPITAL LETTER INDICATES ITEM IN SCHEDULE
	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT IN PANELBOARD.
	SWITCH:
	2- DOUBLE POLE
	3- THREE WAY
	4- FOUR WAY
	CRE- CORROSION RESISTANT MOTOR SWITCH
	D- DIMMER
	K- KEY OPERATED SWITCH
	P- PILOT LIGHT
	WP- WEATHERPROOF
	XP- EXPLOSION PROOF
	M- SWITCH WITHOUT OVERLOADS
	MS-STARTER WITH OVERLOADS
	LA-2 HOME RUN - DESTINATION SHOWN
	or --- EXPOSED CONDUIT AND CONDUCTORS
	--- or --- CONCEALED CONDUIT AND CONDUCTORS
	MINIMUM NO.12 AWG POWER
	MINIMUM NO.14 AWG LIGHTING
	MINIMUM NO.16 AWG CONTROL
	--- UNGROUNDING OR NEUTRAL CONDUCTORS
	--- GROUND CONDUCTORS
	~ FLEXIBLE OR LIQUID-TIGHT CONDUIT
	C200 CIRCUIT CALLOUT INDICATES CONDUIT SIZE AND NUMBER AND TYPE OF CONDUCTORS
	○ GROUND TEST WELL
	⊗ GROUND ROD
	↳ CONDUIT DOWN
	↳ CONDUIT UP
	↳ CONDUIT, STUBBED AND CAPPED AS SHOWN
	B- BUS DUCT, SEE SPECIFICATIONS
	CE- CONCRETE ENCASED CONDUIT
	DB- CONCRETE ENCASED DUCT BANK
	G- GROUND
	DN- DEVICENET
	ETH- ETHERNET

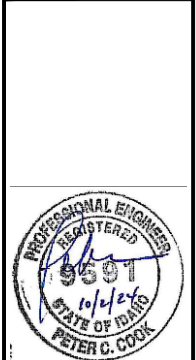
SYMBOL	DESCRIPTION
	CONVENIENCE RECEPTACLE - DUPLEX UNLESS SPECIFIED OTHERWISE. NUMBER INDICATES PANELBOARD CIRCUIT.
	WP-WEATHERPROOF C- CLOCK HANGER TL-TWIST LOCK CR-CORROSION RESISTANT
	GFCI RECEPTACLE. NUMBER INDICATES PANELBOARD CIRCUIT.
	QUAD RECEPTACLE, PANELBOARD CKT INDICATED
	RECEPTACLE, SPECIAL PURPOSE - AMPERAGE INDICATED
	DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
	CEILING FAN - FLUSH IN CEILING
	MULTI-OUTLET ASSEMBLY
	CLOCK HANGER CONVENIENCE RECEPTACLE
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY) FLUSH IN FLOOR
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY)
	DATA RECEPTACLE (QUAD JACK RJ-45 DATA OUTLET BOX ONLY)
	THERMOSTAT. NUMBER INDICATES PANELBOARD CIRCUIT.
	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE.
	CONTROL STATION, SEE CONTROL DIAGRAMS FOR TYPE.
	CONDUIT FITTING OR JUNCTION BOX
	DISCONNECT OR SAFETY SWITCH
	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED.
	LIGHTING CONTACTOR, CURRENT RATING INDICATED. FOR NUMBER OF POLES, SEE CONTROL DIAGRAM.
	STARTER MAGNETIC NEMA SIZE INDICATED, SEE CONTROL DIAGRAM.
	COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED) MAGNETIC STARTER, NEMA SIZE INDICATED, SEE CONTROL DIAGRAM.
	METERING FACILITIES
	MULTI-PARTY DESK TOP COMMUNICATIONS SYSTEM STATION WITH REMOTE AMPLIFIER
	MULTI-PARTY WALL MOUNTED COMMUNICATIONS SYSTEM STATION WITH INTEGRAL AMPLIFIER
	CONE TYPE PAGING SPEAKER, CEILING MOUNTED
	INTERIOR PAGING TRUMPET SOUND REPRODUCER, WITH REMOTE AMPLIFIER, SURFACE MOUNTED.
	OUTDOOR PAGING TRUMPET SOUND REPRODUCER, WITH REMOTE AMPLIFIER, SURFACE MOUNTED.
	TERMINAL CABINET FOR COMMUNICATIONS SYSTEM
	ALARM HORN
	ALARM STROBE
	ALARM COMBINATION STROBE/HORN
	FIRE ALARM HORN
	FIRE ALARM COMBINATION STROBE/HORN
	FIRE ALARM COMBINATION STROBE/SPEAKER, WALL MOUNT
	FIRE ALARM IONIZATION DETECTOR
	AIR DUCT IONIZATION DETECTOR
	FIRE ALARM STATION, AUTOMATIC, HEAT DETECTOR
	ELECTRONICALLY MONITORED/CONTROLLED CIRCUIT BREAKER

SYMBOL	DESCRIPTION															
	CONTACT - NORMALLY OPEN WITH NEMA SIZE INDICATED AS APPLICABLE															
	CONTACT - NORMALLY CLOSED															
	OVERLOAD RELAY HEATER															
	MAGNETIC STARTER WITH NEMA SIZE INDICATED															
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, FRAME SIZE SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.															
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.															
	SWITCH - CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.															
	FUSE - RATING INDICATED															
	DRAWOUT CIRCUIT BREAKER, LOW VOLTAGE															
	DRAWOUT CIRCUIT BREAKER, MEDIUM VOLTAGE															
	DRAWOUT FUSED SWITCH, MEDIUM VOLTAGE															
	SURGE ARRESTER															
	CAPACITOR - KVAR INDICATED															
	METER WITH SWITCH - SCALE RANGE SHOWN															
	GROUND															
	TRANSFORMER, SECONDARY VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE															
	PICK-UP SETTING TIME CURRENT CHARACTERISTIC															
	GROUND FAULT RELAY WITH CURRENT TRANSFORMER															
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN															
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED															
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK															
	NORMALLY CLOSED, TIME DELAY OPENING															
	NORMALLY CLOSED, TIME DELAY CLOSING															
	NORMALLY OPEN, TIME DELAY CLOSED															
	NORMALLY OPEN, TIME DELAY OPEN															
	REMOTE DEVICE															
	ROTARY SELECTOR SWITCH - ARROW INDICATES SPRING RETURN IF APPLICABLE - CHART IDENTIFIES OPERATION:															
	<table border="1"> <thead> <tr> <th rowspan="2">CKT</th> <th colspan="3">POSITION</th> </tr> <tr> <th>HAND</th> <th>OFF</th> <th>AUTO</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td>0</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> <td>0</td> <td>X</td> </tr> </tbody> </table>	CKT	POSITION			HAND	OFF	AUTO	1	X	0	0	2	0	0	X
CKT	POSITION															
	HAND	OFF	AUTO													
1	X	0	0													
2	0	0	X													
	X - CLOSED CONTACT O - OPEN CONTACT															
	CURRENT TRANSFORMER, NUMBER INDICATED															
	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR															
	INDICATING LIGHT - LETTER INDICATES COLOR															
	A - AMBER G - GREEN B - BLUE R - RED C - CLEAR W - WHITE															
	DISCONNECT, SAFETY SWITCH															

ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION
A	AMMETER, AMPERE, AMBER	M	MAGNETIC CONTACTOR
AF	AMPERE FRAME	MCC	MAKE BEFORE BREAK
AFD	ADJUSTABLE FREQUENCY DRIVE	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE, METAL HALIDE
AFG	ABOVE FINISHED GRADE	MO	MOTOR OPERATOR
AIT	AMPERE INSTANTANEOUS TRIP	MPC	MINI-POWER-CENTER
AS	AMMETER SWITCH, AMPERE SENSOR, ADJUSTABLE SETTING	MS	MOTOR STARTER
ASU	AIR SUPPLY UNIT	MSB	MAIN SWITCH BOARD
AT	AMPERE TRIP	MT	MOUNT
ATC	AUTOMATIC THROWOVER CONTROL	MTS	MANUAL TRANSFER SWITCH
ATS	AUTOMATIC TRANSFER SWITCH: P=PREF., A=ALT.	MTD	MOUNTED
		MTP	MOTOR THERMAL PROTECTION
		NA	NEUTRAL
BBM	BREAK BEFORE MAKE	NA	NON-AUTOMATIC
BC	BARE COPPER	NC	NORMALLY CLOSED
BKR	BREAKER	NL	NIGHT LIGHT
		NO	NORMALLY OPEN
		NP	NAMEPLATE
		NTU	NEPHELOMETRIC TURBIDITY UNITS
CB	CONDUIT, CONTACTOR		
CB	CIRCUIT BREAKER	OC	ON CENTER
CC	CONTROL CABLE	OFE	OWNER FURNISHED EQUIPMENT
CE	CONCRETE ENCASED	OL	OVERLOAD RELAY
CKT	CIRCUIT		
CPT	CONTROL POWER TRANSFORMER	PB	PULL BOX, PUSH BUTTON, SWITCH
CR	CONTROL RELAY	PC	PHOTOCELL
CRE	CORROSION-RESISTANT	PH	PHASE
CRS	COATED RIGID STEEL CONDUIT	PMR	PHASE MONITOR RELAY
CT	CURRENT TRANSFORMER	PNL	PANEL
		PNLB	PANELBOARD
DC	DIRECT CURRENT	PS	PRESSURE SWITCH
DIV	DIVISION	PT	POTENTIAL TRANSFORMER
DSC	DISCONNECT, SAFETY SWITCH	PVC	POLYVINYL CHLORIDE CONDUIT
E	EMPTY, EXISTING		
EO	ELECTRIC OPERATOR	R	RED
EQPT	EQUIPMENT	RCPT	RECEPTACLE
ESS	EMERGENCY SHUTDOWN SWITCH	REQD	REQUIRED
ETM	ELAPSED TIME METER	RGS	RIGID GALVANIZED STEEL (RMC)
EXST	EXISTING	RM	REMOTE MULTIPLEXER
FDR	FEEDER	RS	RIGID STEEL CONDUIT
F	FUSE	RT	REMOTE TELEMETRY
FLR	FLOOR	RVNR	REDUCED VOLTAGE NON-REVERSING
FLUOR	FLOUORESCENT	RVR	REDUCED VOLTAGE REVERSING
FO	FIBER OPTIC		
FVNR	FULL VOLTAGE NON-REVERSING	SA	SURGE ARRESTOR
FVR	FULL VOLTAGE REVERSING	SCCR	SHORT CIRCUIT CURRENT RATING
G	GREEN, GROUND	SE	SERVICE ENTRANCE
GALV	GALVANIZED	S/N	SOLID NEUTRAL
GEPD	GROUND EQUIPMENT PROTECTION DEVICE	SPD	SPEED
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SSC	SOLID STATE CONTROL
GFR	GROUND FAULT RELAY	SST	STAINLESS STEEL
GND	GROUND	STR	MOTOR STARTER
H	HIGH SPEED	SOV	SOLENOID VALVE
HH	HANDHOLE	SUSE	SUITABLE FOR USE AS SERVICE EQUIPMENT
HID	HIGH INTENSITY DISCHARGE		
HMCP	MOTOR CIRCUIT PROTECTOR	SW	SWITCH
HPS	HIGH PRESSURE SODIUM HAND SWITCH OR STATION	T	THERMOSTAT
IC	INTERRUPTING CAPACITY	TB	TERMINAL BOARD, TERMINAL BLOCK OR TERMINAL BOX
I&C	INSTRUMENTATION AND CONTROL	TC	TIME CLOSE
IMC	INTERMEDIATE METAL CONDUIT	TD	TEMPERATURE DETECTOR RELAY
INCAND	INCANDESCENT	TDR	TIME DELAY RELAY
INST	INSTANTANEOUS	TJB	TERMINAL JUNCTION BOX
J, J-BOX	JUNCTION BOX	T.O.	TIME OPEN
K	KEY INTERLOCK	TS	AUTO TRANSFORMER
L	LIGHTING CONTACTOR, LOW SPEED	TS	TEMPERATURE SWITCH
LOS	LOCKOUT STOP PUSH BUTTON	TSP	TWISTED SHIELDED PAIR
LR	LATCH RELAY, LINE REACTOR	TST	TWISTED SHIELDED TRIAD
LT FLEX	LIQUID TIGHT FLEX CONDUIT	TYP	TYPICAL
LTS	LIGHTS		
		UH	UNIT HEATER
		UNO	UNLESS NOTED OTHERWISE
		UVR	UNDER VOLTAGE RELAY
		V	VOLTMETER, VOLT
		VFD	VARIABLE FREQUENCY DRIVE
		VS	VOLTMETER SWITCH
		W	WATT
		WHD	WATTHOUR DEMAND METER
		WP	WEATHERPROOF
		XFDR	TRANSDUCER
		XFMR	TRANSFORMER
		XFPR	TRANSPONDER

CITY OF MIDDLETON IDAHO
PARK PLACE LIFT STATION
GENERATOR ADDITION

PROJECT: 0108-22-05
PROJECT DATE: 05/26/22
DESIGNER: AMK
DRAWN: AMK
CHECKED: MTJ
APPROVED:
SCALE: AS NOTED

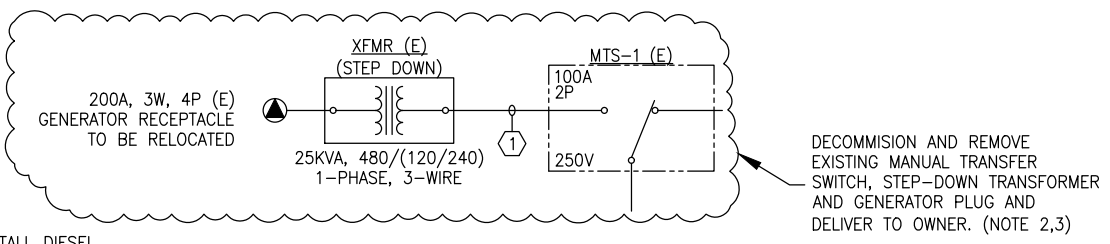


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(208) 426-0560 FAX



REVISION NUMBER	DESCRIPTION	DATE	CHECKED BY	DATE
A	FOR REVIEW & COMMENT	8/21/23	AMK	MTJ
B	ISSUE FOR BID	10/2/24	AMK	MTJ

SHEET NUMBER
E0.2



PROVIDE AND INSTALL DIESEL GENSET AND NEMA 3R ATS. REFER TO SPECIFICATION SECTIONS 16050 AND 16620 FOR DETAILS.

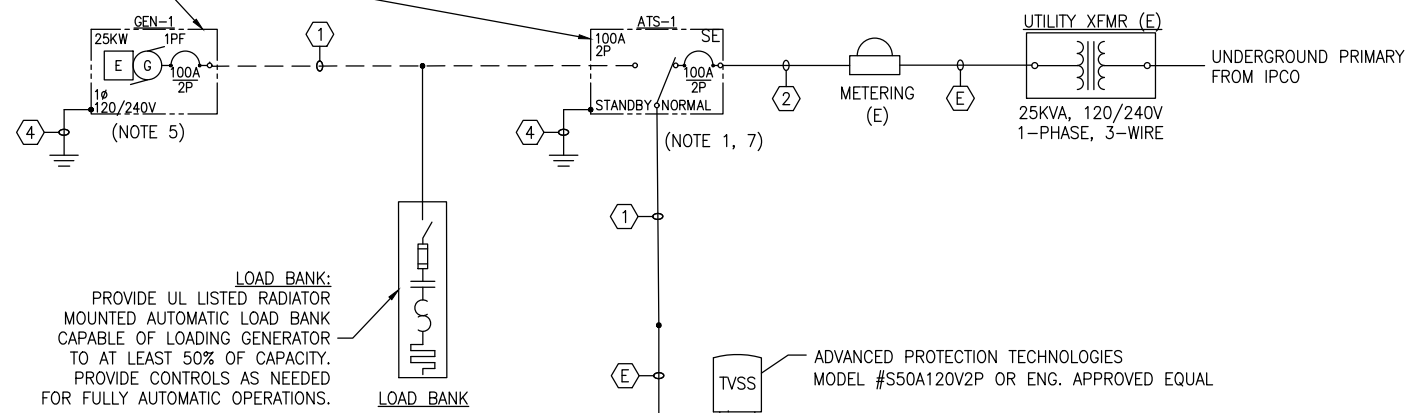
DECOMMISSION AND REMOVE EXISTING MANUAL TRANSFER SWITCH, STEP-DOWN TRANSFORMER AND GENERATOR PLUG AND DELIVER TO OWNER. (NOTE 2,3)

ALARM NOTIFICATIONS:

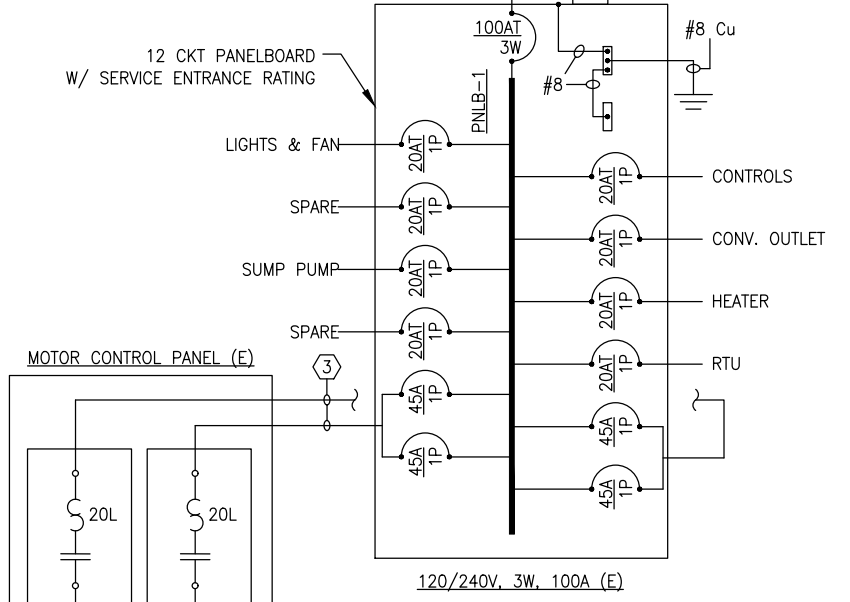
- THE FOLLOWING CRITICAL ALARM CONDITIONS SHALL BE MONITORED BY THE PLC AND SHALL BE INTEGRATED INTO THE OWNER'S EXISTING OPERATOR NOTIFICATION SYSTEM: CONDUIT AND CONDUCTORS BY CONTRACTOR SCADA INTEGRATED BY OWNER.
1. GENERATOR RUNNING
 2. GENERATOR ALARM
 3. ATS UTILITY POWER LOSS
 4. ATS TRANSFERRED TO GEN

SHEET NOTES:

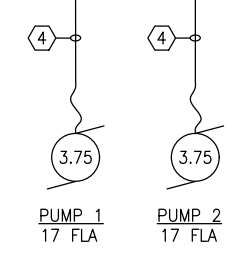
1. REFER TO GENERATOR/ATS SPECIFICATION 16050.
2. DECOMMISSION & REMOVE EXISTING MTS-1 AND GIVE TO CUSTOMER. INSTALL ATS-1 IN PLACE OF MTS-1.
3. DECOMMISSION GENERATOR PLUG & STEP-DOWN TRANSFORMER AND PROVIDE TO OWNER.
4. PROVIDE 2 20A* CIRCUIT BREAKERS FOR GENERATOR BLOCK HEATER AND GENERATOR BATTERY CHARGER. *REVIEW GENERATOR DOCUMENTS FOR PROPER CIRCUIT BREAKER SIZING.
5. PROVIDE REINFORCED STRUCTURAL SLAB AS PER MANF. RECC.
6. (E) INDICATES EXISTING EQUIPMENT TO BE RETAINED OR MODIFIED UNDER THIS CONTRACT UNO.
7. PROVIDE UNISTRUT RACK ANCHORED TO REINFORCED CONCRETE SLAB.



LOAD BANK:
PROVIDE UL LISTED RADIATOR MOUNTED AUTOMATIC LOAD BANK CAPABLE OF LOADING GENERATOR TO AT LEAST 50% OF CAPACITY. PROVIDE CONTROLS AS NEEDED FOR FULLY AUTOMATIC OPERATIONS.



START/RUN CAPACITORS AND ASSOCIATED RELAYS PROVIDED BY PUMP MANF. TO BE INSTALLED BY CONTRACTOR



ONE-LINE DIAGRAM (MCP-1)(E)
NO SCALE

CONDUIT/WIRE SCHEDULE						
CIRCUIT	#	PHASE CONDUCTORS PER CONDUIT (QTY) SIZE	NEUTRAL CONDUCTORS PER CONDUIT (QTY) SIZE	GROUND CONDUCTORS PER CONDUIT (QTY) SIZE	CONDUIT SIZE/TYPE	COMMENTS
1	1	(2) #2	(1) #2	(1) #8	2" PVC	
2	1	(2) #2	(1) #2	-	2" PVC	
3	-	-	-	-	-	
4	1	-	-	(1) #8	1" IMC	
E	-	-	-	-	-	EXISTING EQUIP.

SERVICE : 240/120 V, 1-Phase, 3W
 PANEL NAME : PNLB-1
 MOUNTING : Surface, NEMA
 REFERENCE DRAWING : ONE-LINE
 TRANSFORMER RATING (KVA) : 25.0
 VOLTS (PH TO PH) : 240
 VOLTS (PH TO G) : 120

PROJECT NAME : MIDDLETON PARK PLACE UPGRADE
 WORK ORDER NO. : 0206-12-01
 SPECIFICATION NO. : 16050

REVISION/DATE : REV B, 5-16-2023
 DESIGNED BY/DATE : MTJ, 6-15-2023
 CHECKED BY/DATE : PCC, 8-12-2023

DESCRIPTION	VA OR WATTS		BREAKER POLE	CKT NO	BUS CONN	CKT NO	BREAKER POLE	DESCRIPTION		
	A	B						A	B	
LIGHTS & FAN	500	--	1	20	1	X-	2	1	200	CONTROLS
GENERATOR BATTERY CHARGER	--	400	1	20	3	-X	4	1	20	CONV. OUTLET
SUMP PUMP	300	--	1	20	5	X-	6	1	20	HEATER
GENERATOR BLOCK HEATER	--	1500	1	20	7	-X	8	1	20	RTU-SCADA
WET WELL PUMP 1	2600	--	2	40	9	X-	10	2	40	WET WELL PUMP 2
HOTBOX HEAT TRACE	200	--	1	20	11	-X	12			
	--	--			13	X-	14			
	--	--			15	-X	16			
	--	--			17	X-	18			
	--	--			19	-X	20			
	--	--			21	X-	22			
	--	--			23	-X	24			
TOTAL (1)	3600	4500						TOTAL (2)	3800	2980
TOTAL (1+2)	7400	7480								

PHASE A CURRENT : 61.7
 PHASE B CURRENT : 62.3
 TOTAL PANEL CURRENT : 62.3
 TOTAL PANEL KVA : 15.0

Breaker Types
 None Switch Rated
 G GFCI
 H HACR

BUS RATING : 100 A
 MAIN LUGS : --
 MAIN BREAKER : 100 A
 FEEDER ENTRANCE : Top
 FEEDER SIZE : See One Line
 PANEL SOURCE : Utility Xfmr

NOTES: 1. Loads estimated, Contractor to confirm.

**PARK PLACE LIFT STATION
 PANELBOARD SCHEDULE (PNLB-1)(E)**
 NO SCALE

CITY OF MIDDLETON IDAHO
 PARK PLACE LIFT STATION
 GENERATOR ADDITION

PROJECT: 0108-22-05
 PROJECT DATE: 05/26/22
 DESIGNER: AMK
 DRAWN: AMK
 CHECKED: MTJ
 APPROVED:
 SCALE: AS NOTED

ONE-LINE DIAGRAM & PANELBOARD SCHEDULE

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Control Engineers

REVISION NUMBER	DESCRIPTION	DATE
A	FOR REVIEW & COMMENT	8/21/23
B	ISSUE FOR BID	10/2/24

SHEET NUMBER
 E1.0

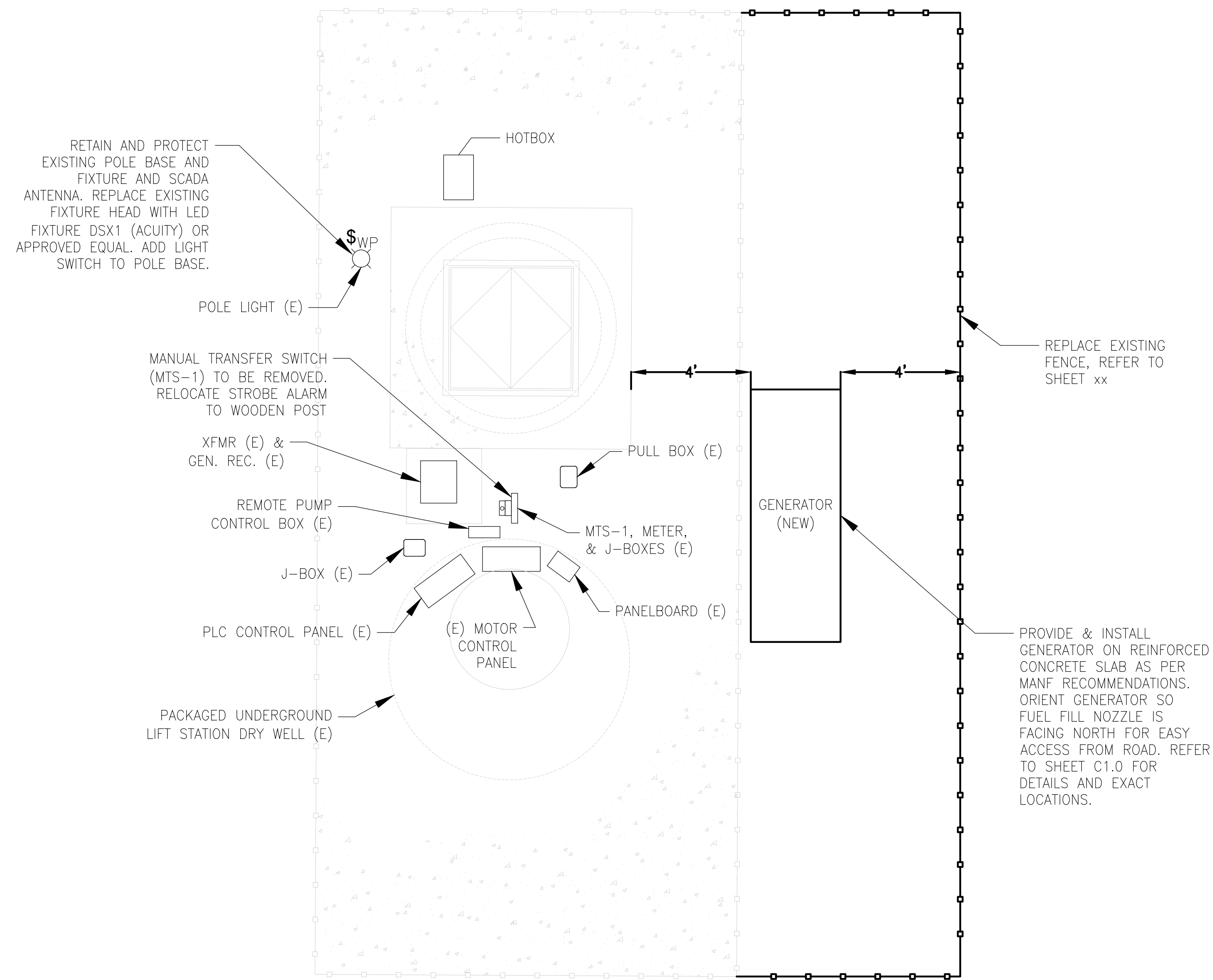
SHEET NOTES:

1. REFER TO GENERATOR/ATS SPECIFICATION 16620.
2. RETAIN & PROTECT ALL EXISTING EQUIPMENT UNO.

ALARM NOTIFICATIONS:

THE FOLLOWING CRITICAL ALARM CONDITIONS SHALL BE MONITORED BY THE PLC AND SHALL BE INTEGRATED INTO THE OWNERS EXISTING OPERATOR NOTIFICATION SYSTEM. CONDUIT AND CONDUCTORS BY CONTRACTOR, SCADA INTEGRATION BY OWNER

1. GENERATOR RUNNING
2. GENERATOR ALARM
3. ATS UTILITY POWER LOSS
4. ATS TRANSFERRED TO GEN



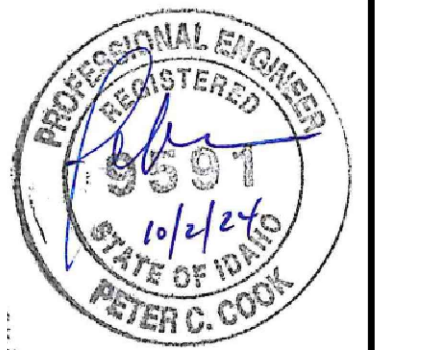
1 SITE PLAN
SCALE: 3/8" = 1'0"



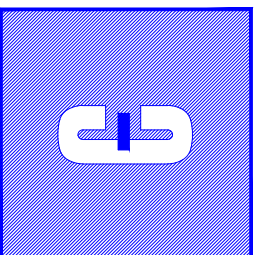
CITY OF MIDDLETON IDAHO
PARK PLACE LIFT STATION
GENERATOR ADDITION

SITE PLAN

PROJECT: 0108-22-05
PROJECT DATE: 05/26/22
DESIGNER: AMK
DRAWN: AMK
CHECKED: MTJ
APPROVED:
SCALE: AS NOTED



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Control Engineers

REVISION NUMBER	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
A	FOR REVIEW & COMMENT	AMK	MTJ	8/21/23
B	ISSUE FOR BID	AMK	MTJ	10/2/24

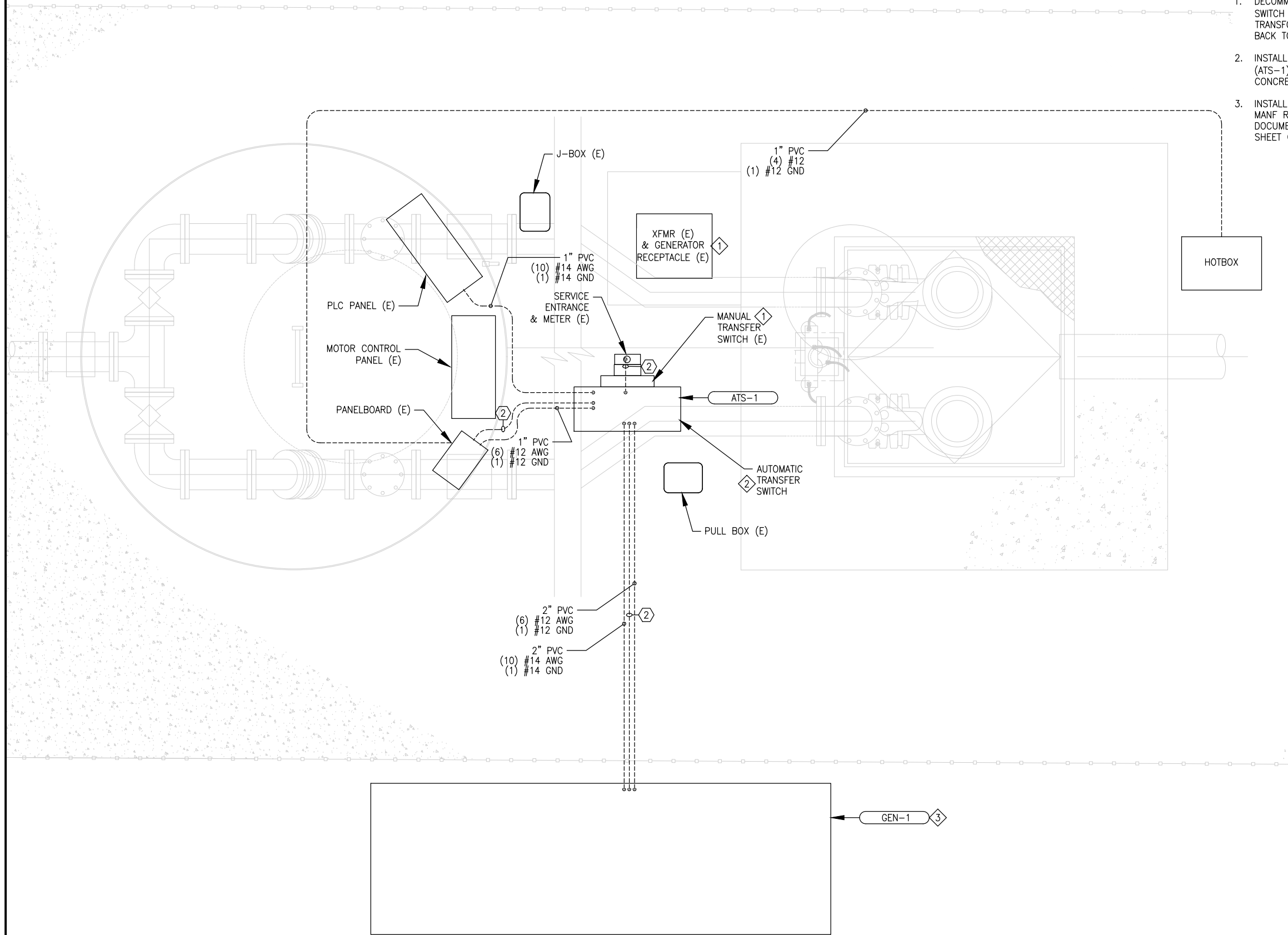
SHEET NUMBER
E2.0

SHEET NOTES:

1. REFER TO ONE-LINE DWG E1.0 FOR CONDUIT/WIRE SIZE.

KEY NOTES:

1. DECOMMISSION AND REMOVE EXISTING MANUAL TRANSFER SWITCH (MTS-1), GENERATOR PLUG & STEP-DOWN TRANSFORMER AND DELIVER TO OWNER. DEMO CONDUCTORS BACK TO SOURCE
2. INSTALL NEMA 3R RATED AUTOMATIC TRANSFER SWITCH (ATS-1) IN PLACE OF (MTS-1). PROVIDE REINFORCED CONCRETE SLAB AS PER MANF RECOMMENDATIONS.
3. INSTALL GENSET ON REINFORCED CONCRETE SLAB AS PER MANF RECOMMENDATIONS. REFER TO SUBMITTAL DOCUMENTS FOR CONDUIT STUB UP LOCATIONS. REFER TO SHEET C1.0 FOR PRECISE DIMENSIONS AND DETAILS.

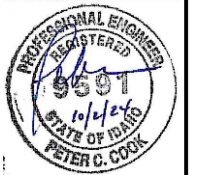


ELECTRICAL LOCATION PLAN
SCALE: 1" = 1'0"

**CITY OF MIDDLETON IDAHO
PARK PLACE LIFT STATION
GENERATOR ADDITION**

ELECTRICAL LAYOUT

PROJECT: 0108-22-05
PROJECT DATE: 05/26/22
DESIGNER: AMK
DRAWN: AMK
CHECKED: MTJ
APPROVED:
SCALE: AS NOTED



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Control Engineers

REVISION NUMBER	DESCRIPTION	CHECKED BY	DATE
A	FOR REVIEW & COMMENT	MTJ	8/21/23
B	ISSUE FOR BID	MTJ	10/2/24

SHEET NUMBER **E2.1**