



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item:	Resolution Awarding Bid to Substation Enterprises for the delivery the Substation Package for Geneva Business Park III Substation.		
Presenter & Title:	Aaron Holton – Superintendent of Electric Services		
Date:	June 5, 2023		
Please Check Appropriate Box:			
<input checked="" type="checkbox"/>	Committee of the Whole Meeting	<input type="checkbox"/>	Special Committee of the Whole Meeting
<input checked="" type="checkbox"/>	City Council Meeting	<input type="checkbox"/>	Special City Council Meeting
<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	Other -
Associated Strategic Plan Goal/Objective:			
Estimated Cost: \$464,426.00 + contingency	Budgeted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Funding? <input type="checkbox"/> Yes <input type="checkbox"/> No
If “Other Funding,” please explain how the item will be funded:			
Executive Summary:			
<p>In anticipation of this load growth in Geneva Business Park, the Geneva Business Park III substation and transformer will need to be constructed. A Request for Bids was advertised and no bids were received. The bid package was advertised a second time with one bid submitted by Substation Enterprises in the amount of \$464,426.00. This is within the engineer’s estimated budget.</p> <p>The substation package consists of the structural steel, aluminum busswork, insulators, metering, various hardware and the circuit switchers used to build the 34kV buss to feed the new transformer at GBP III.</p> <p>The anticipated delivery date of the structural steel and busswork is estimated at 38 week after receipt of order. Several items, namely the circuit switchers are anticipated to take 74 weeks. As such, this project will be funded over multiple fiscal years.</p>			
Attachments: <i>(please list)</i>			
<ul style="list-style-type: none"> • Resolution and supporting documentation 			
Voting Requirements:			
<p><i>This motion requires a simple majority of affirmative votes for passage.</i></p> <p><i>The Mayor may vote on three occasions: (a) when the vote of the aldermen or trustees has resulted in a tie; (b) when one half of the aldermen or trustees elected have voted in favor of an ordinance, resolution, or motion even though there is no tie vote; or (c) when a vote greater than a majority of the corporate authorities is required by state statute or local ordinance to adopt an ordinance, resolution, or motion.</i></p>			
Recommendation / Suggested Action: <i>(how the item should be listed on agenda)</i>			
<p>Recommend Resolution Awarding bid to Substation Enterprises, Inc for the for the Geneva Business Park III substation in an amount of \$464,426.00 and authorize the City Administrator to approve change orders not to exceed 10% of the contract amount.</p>			

RESOLUTION NO. 2023-55

AWARDING BID TO SUBSTATION ENTERPRISES, INC FOR THE DELIVERY OF SUBSTATION PACKAGE MATERIALS AND EQUIPMENT FOR THE GENEVA BUSINESS PARK III SUBSTATION IN AN AMOUNT OF \$464,426.00 AND AUTHORIZE THE CITY ADMINISTRATOR TO APPROVE CHANGE ORDERS NOT TO EXCEED 10% OF THE CONTRACT AMOUNT.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GENEVA, KANE COUNTY, ILLINOIS, as follows:

SECTION 1: That the City Administrator is hereby authorized to award, on behalf of the City of Geneva, the bid to Substation Enterprises, Inc for the delivery of substation package materials and equipment for the Geneva Business Park III substation in an amount of \$464,426.00 and authorize the city administrator to approve change orders not to exceed 10% of the contract amount, in the form attached hereto.

SECTION 2: This Resolution shall become effective from and after its passage as in accordance with law.

PASSED by the City Council of the City of Geneva, Kane County, Illinois, this 5th day of June, 2023

AYES: __ NAYS: __ ABSENT: __ ABSTAINING: __ HOLDING OFFICE: __

Approved by me this 5th day of June, 2023.

Mayor

ATTEST:

City Clerk

May 10, 2023

Aaron Holton
Electric Division Superintendent
City of Geneva
1800 South Street
Geneva, IL 60134

**SUBJECT: Contract 23-02 Business Park III Packager Procurement –
Letter of Recommendation**

Dear Aaron:

On April 10, 2023 zero (0) bids were received for the Business Park III Packager Procurement Contract. This contract was rebid and on May 1, 2023, one (1) bid was received and opened at the City of Geneva (Geneva) in response to the request for proposal for the Business Park III Packager Procurement Contract. The bid was opened and read aloud by Geneva. The bid was then sent to Stanley Consultants to be reviewed in their office. A bid tabulation of this review is enclosed for your review. (Attachment A)

The bid had a one exception. This was an exception to liquidated damages. When asked about this exception it was removed from their bid. This can be seen in the question and answer document (Attachment B).

Stanley Consultants recommends that Contract 22-03 Business Park III Packager Procurement be awarded to Substation Enterprises, Inc. for the bid price of \$464,426. This is due to the bid conforming to the bid and having no exceptions for clarifications.

A draft conformed contract between the City of Geneva and Substation Enterprises, Inc. has been provided (Attachment C). Please review and if Geneva is in agreement with the recommendation of awarding this contract to Substation Enterprises, Inc. please print and sign three originals of the Agreement Between Buyer and Seller page 5, and prepare a Notice-to-Proceed letter for Substation Enterprises, Inc. Send the Notice-to-Proceed letter with the signed signature pages to Substation Enterprises, Inc. with the direction to sign and date all three originals and send to me to be used in creating the conformed contract. Also, in this letter request that Substation Enterprises provide a copy of their certificate of insurance.



If you have any questions, please contact me at 563.264.6461.

Sincerely,

A handwritten signature in blue ink, reading "Philip E. Schulz".

Philip E. Schulz
Project Manager
Stanley Consultants, Inc.

cc: Aaron Holton
Files

Attachments: Appendix A - Draft Conformed Contract
Appendix B – Substation Enterprises Question and Answers
Attachment C – Bid Tabulation

Draft Conformed Contract

for

Contract 23-02 Substation Package Procurement Business Park III Substation

between

**City of Geneva
Geneva, Illinois**

and

**Substation Enterprises, Inc.
Alabaster, Alabama**

May 2023

Project Manual

for

Contract 23-02 Substation Package Procurement Business Park III Substation

City of Geneva Geneva, IL



John Sovers
Signature

4/14/2023
Date

License Expiration Date: 11-30-2023
Illinois Firm Registration No. 184-001533



Nathan Pierson
Signature

4/14/2023
Date

License Expiration Date: 11-30-2024



A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

CONTRACT 23-02
SUBSTATION PACKAGE PROCUREMENT
BUSINESS PARK III SUBSTATION

CITY OF GENEVA
GENEVA, ILLINOIS

Resp. Charge	Document	Title	Page
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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00		PROCUREMENT AND CONTRACTING REQUIREMENTS	
JRS	00 01 15	Drawing List	1
JRS	00 52 63	Agreement between Buyer and Seller – EJCDC P-520 (2000 Edition)	1 to 5
		Exhibit A	1 to 8
JRS	00 72 63	Procurement General Conditions	1 to 12

SPECIFICATIONS GROUP

GENERAL REQUIREMENTS SUBGROUP

DIVISION 01		GENERAL REQUIREMENTS	
JRS	01 11 00	Summary of Work	1
JRS	01 25 13	Product Substitutions	1 to 2
		Product Substitution Request Form	1
JRS	01 33 00	Submittal Procedures	1 to 6
		Submittal Transmittal Form	1
JRS	01 43 33	Manufacturer's Field Services	1
JRS	01 60 00	Product Requirements	1 to 3
JRS	01 70 00	Execution and Closeout Requirements	1
JRS	01 78 23	Operating and Maintenance Data	1 to 4
		Operating and Maintenance Manual Cover Diagram	1 to 2

SITE AND INFRASTRUCTURE SUBGROUP

DIVISION 33		UTILITIES	
JRS	33 72 25	Distribution Substation Equipment	1 to 13
NJP	33 72 26	Substation Structures, Buses, and Insulators	1 to 10

Drawing No.	Title	Rev. No.
GG01	Coversheet and Drawing Index	3/7/2023
EO03	One-Line Diagram Sheet 1	3/7/2023
EP01	General Arrangement	3/7/2023
EP06A	Elevations Sheet 1	3/7/2023
EP06B	Elevations Sheet 2	3/7/2023
EP07	Bill of Material	3/7/2023

THIS AGREEMENT is by and between City of Geneva (Buyer) and Substation Enterprises, Inc. (Seller).

Buyer and Seller, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. GOODS AND SPECIAL SERVICES

- 1.1 Seller shall furnish the Goods and Special Services as specified or indicated in the Contract Documents. The Goods and Special Services to be furnished are described in Section 01 11 00.

Article 2. THE PROJECT

- 2.1 The Project for which the Goods and Special Services to be provided under the Contract Documents may be the whole or only a part is generally described as Business Park III Substation Package Procurement Project.

Article 3. ENGINEER

- 3.1 The Contract Documents for the Goods and Special Services have been prepared by Stanley Consultants, Inc. who is hereinafter called Engineer and who is to assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with the furnishing of Goods and Special Services.

Article 4. POINT OF DESTINATION

- 4.1 The place where the Goods are to be delivered is defined in the General Conditions as the Point of Destination and is designated as: Business Park III Substation address: 1717 Averill Rd, Geneva, IL 60134.

Article 5. CONTRACT TIMES

- 5.1 **Time of the Essence.** All time limits for Milestones, if any, for the delivery of Goods and the furnishing of Special Services as stated in the Contract Documents are of the essence of the Contract.
- 5.2 **Days for Submittal of Shop Drawings.** All Shop Drawings and Samples required by the Contract Documents will be submitted to Buyer for Engineer's review within 30 days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions.
- 5.3 **Dates for Delivery of Goods.** The Goods are to be delivered to the Point of Destination and ready for Buyer's receipt of delivery. Steel to be delivered on (or within a period of 15 days prior to or after) October 26, 2023. Coordinate with Owner on exact date at time of shipment. Anchor bolts are to be delivered no later than 45 days before the delivery of the structures. All other materials are to be delivered no later than 10 days after the delivery of the structures.
- 5.4 **Liquidated Damages.** Buyer and Seller recognize that Buyer will suffer financial loss if the Goods are not delivered at the Point of Destination and ready for receipt of delivery by Buyer within the times specified in Paragraph 5.3 above, plus any extensions thereof allowed in accordance with Article 7 of the General Conditions. The parties also recognize that the timely performance of services by others involved in the Project is materially dependent upon Seller's specific compliance with the requirements of Paragraph 6.02. Further, they recognize the delays, expense, and difficulties involved in proving the actual loss suffered by Buyer if complete acceptable Goods are not delivered on time. Accordingly, instead of requiring such proof, Buyer and Seller agree that as liquidated damages for delay (but not as a penalty) Seller shall pay Buyer \$750 for each day that expires after the time specified in Paragraph 5.3 for delivery of acceptable Goods.

Article 6. CONTRACT PRICE.

6.1 Buyer shall pay Seller for furnishing the Goods and Special Services in accordance with the Contract Documents an amount in current funds as follows:

For a Lump Sum of:

Four Hundred Sixty Four Thousand Four Hundred Twenty Six Dollars (\$464,426)

6.1.1 Unit Adjustment Prices. To adjust Lump Sum for changes from quantities required by Contract Documents.

Item	Unit	Unit Adjustment Price
Site services of service engineer	per day	NA
Transportation, travel time, and out-of-pocket expenses for travel of service engineer to Site	per round trip	NA

Article 7. PAYMENT PROCEDURES.

7.1 **Submittal and Processing of Payments.** Seller shall submit Applications for Payment in accordance with Article 10 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

7.2 **Progress Payments; Retainage.**

7.2.1 Buyer shall make progress payments on account of the Contract Price on the basis of Seller's Applications for Payment as follows:

7.2.1.1 Upon receipt of the first Application for Payment submitted in accordance with Paragraph 10.01.A.1 of the General Conditions and accompanied by Engineer's recommendation of payment in accordance with Paragraph 10.02.A of the General Conditions, an amount equal to 10% of the Contract Price, less such amounts as Engineer may determine in accordance with Paragraph 10.02.A.3 of the General Conditions.

7.2.1.2 Upon receipt of the second such Application for Payment accompanied by Engineer's recommendation of payment in accordance with Paragraph 10.01.A.2 of the General Conditions, an amount sufficient to increase total payments to Seller to 90% of the Contract Price, less such amounts as Engineer may determine in accordance with Paragraph 10.02.A.3 of the General Conditions.

7.3 **Final Payment.** Upon receipt of the final Application for Payment accompanied by Engineer's recommendation of payment in accordance with Paragraph 10.06 of the General Conditions, Buyer shall pay the remainder of the Contract Price as recommended by Engineer.

Article 8. INTEREST.

8.1 All moneys not paid when due as provided in Article 10 of the General Conditions shall bear interest at the rate of 4% per annum.

Article 9. SELLER'S REPRESENTATIONS.

- 9.1 In order to induce Buyer to enter into this Agreement, Seller makes the following representations:
 - 9.1.1 Seller has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - 9.1.2 If specified or if, in Seller's judgment, any local condition may affect cost, progress or the furnishing of the Goods and Special Services, Seller has visited the Point of Destination and become familiar with and is satisfied as to the local conditions that may affect cost, progress or the furnishing of the Goods and Special Services.
 - 9.1.3 Seller is familiar with and is satisfied as to all local federal, state and local Laws and Regulations that may affect cost, progress and the furnishing of the Goods and Special Services.
 - 9.1.4 Seller has carefully studied and correlated the information known to Seller, and information and observations obtained from Seller's visits, if any, to the Point of Destination, with the Contract Documents.
 - 9.1.5 Seller has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Seller has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Seller.
 - 9.1.6 The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for furnishing Goods and Special Services.

Article 10. CONTRACT DOCUMENTS.

- 10.1 The Contract Documents consist of the following:
 - 10.1.1 This Agreement (pages 1 to 5, inclusive).
 - 10.1.2 Exhibits to this Agreement (pages 1 to 8, inclusive).
 - 10.1.3 General Conditions (pages 1 to 12, inclusive).
 - 10.1.4 Specifications as listed in Project Manual table of contents.
 - 10.1.5 Drawings consisting of a cover sheet and sheets as listed in Drawing List and in Standard Drawing List.
 - 10.1.6 The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - 10.1.5.1 Notice to Proceed (pages _____ to _____, inclusive);
 - 10.1.5.2 Written Amendment(s);
 - 10.1.5.3 Work Change Directive(s);
 - 10.1.5.4 Change Order(s).
- 10.2 The documents listed in paragraph 10.1 are attached to this Agreement (except as expressly noted otherwise above).
- 10.3 There are no Contract Documents other than those listed above in this Article 10.
- 10.4 The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.

Article 11. MISCELLANEOUS.

- 11.1 **Defined Terms.** Terms used in this Agreement will have the meanings indicated in the General Conditions and the Supplementary Conditions.
- 11.2 **Assignment.** No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound. 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). 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.
- 11.3 **Successors and Assigns.** Buyer and Seller 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.
- 11.4 **Severability.** Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Buyer and Seller, 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.
- 11.5 **Waiver.** It is agreed that no waiver or modification of this contract or of any covenant, condition or limitation contained in it shall be valid unless it is in writing and duly executed by the party to be charged with it, and that no evidence of any waiver or modification shall be offered or received in evidence in any proceeding, arbitration, or litigation between the parties arising out of or affecting this contract, or the right or obligations of any party under it, unless such waiver or modification is in writing, duly executed as above. The parties agree that the provisions of this paragraph may not be waived except by a duly executed writing.
- 11.7 **Entire Agreement.** This Agreement states the entire contract between the parties hereto with respect to the subject matter hereof, and all prior and contemporaneous understandings, representations, and agreements are merged herein or superseded hereby. No alterations, modifications, release, or waiver of this contract or any of the provisions hereof shall be effective unless in writing, executed by the parties.

IN WITNESS WHEREOF, Buyer and Seller have signed this Agreement in duplicate. One counterpart each has been delivered to Buyer and Seller. All portions of the Contract Documents have been signed or identified by Buyer and Seller or on their behalf.

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

Buyer:

Seller:

By: _____
(CORPORATE SEAL)

By: _____
(CORPORATE SEAL)

Attest _____

Attest _____

Address for giving notices:

Address for giving notices

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

Agent for service of process: _____

(If Seller is a corporation, attach evidence of authority to sign.)

Designated Representative:

Designated Representative:

Name: _____

Name: _____

Title: _____

Title: _____

Address: _____

Address: _____

Phone: _____

Phone: _____

Facsimile: _____

Facsimile: _____

END OF SECTION

ATTACHMENT A

CERTIFICATION OF COMPLIANCE

The undersigned hereby certifies as follows:

1. That he has the authority and consent to make this certification on behalf of the bidder,
Substation Enterprises
 (Name of Company)
2. That he has knowledge of the City of Geneva Codes pertaining to the disqualification of certain bidders.
3. That he knows that the bidder listed above is not disqualified from bidding under the aforementioned sections.
4. That he has knowledge of the City of Geneva ordinances relating to Fair Employment Practices and knows and understands the contents thereof; he certifies hereby that it is the policy of the bidder to recruit, hire, train, upgrade, promote, and discipline its employees without regard to race, creed, color, religion, age, sex, or physical or mental impairment.
5. That said bidder is not barred from bidding on the aforementioned contract as a result of a violation of Sections 33E-3 or 33E-4 of Chapter 38 of the Illinois Revised Statutes, 1989.
6. That pursuant to Chapter 24, Section 11-42.1-1 of the Illinois Revised Statutes, the bidder is not delinquent in the payment of any taxes administered by the Department of Revenue.
7. That the contractor (either as an individual or company) agrees to provide a drug free workplace as provided for by the Public Act 86-1459.
8. That all work under this contract shall comply with the Occupational Safety and Health Act (OSHA) of 1975, and all other Federal, State, or Local statutes, rules, or regulations including all City of Geneva Safety Procedures affecting the work done under the contract.
9. That all work done in Kane County, Illinois under this contract shall comply with the Prevailing Wage Rate Act of the State of Illinois, County of Kane, Illinois Revised Statutes, 1987, Chapter 48, par 39s-1, et. seq. and as amended by Public Acts 86-799 and 86-693, in effect at the time work is performed.

ATTACHMENT A (continued)

By submission of this bid, I certify that the bid has been arrived at independently and has been submitted without collusion between or among any vendor of materials, supplies, equipment, or services.

Substation Enterprises, Inc
 Name of Corporation, Partnership, or Proprietor

145 Commercial Ct A
 Address

Alabaster AL 35007
 City State Zip

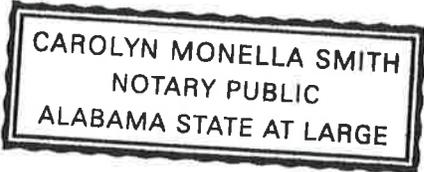
205-685-2755
 Telephone

Michael Zwickel
 Authorized Signature/Title

SUBSCRIBED AND SWORN to before me

this 26 day of April, 2023.

Carolyn Monella Smith
Notary Public



My commission expires: 4-17-27

NOTICE: SUBMIT PROPOSALS ON PROPOSAL FORM ONLY

FORM OF PROPOSAL

Name of Bidder Substation Enterprises
 Address of Bidder 145 Commercial Ct, Alabaster AL 35007
 Telephone No. of Bidder 205-685-2755

To: City Administrator
 City of Geneva
 22 South First Street
 Geneva, IL 60134

The undersigned bidder, having examined the specifications of the following proposal, hereby proposes to provide the required labor, services, and materials described in this Form of Proposal, the Instruction to Bidders, and Specifications for the sum or sums stated hereinafter:

I. LUMP SUM BID PRICE - BUSINESS PARK III SUBSTATION PACKAGE PROCUREMENT:

Design, fabricate, test, deliver FOB Business Park III substation, substation steel, materials and equipment as specified for the sum of:

Business Park III Package:

464 426 (Dollars)
 To be delivered on: 36-38 weeks, ARO for everything but circuit switchers
72-74 weeks, ARO for 20 circuit switchers

Prices contained herein are firm through order by May 31, 2023.

Price for extending warranty:

2 years \$ _____
 5 years \$ Included in price

II. UNIT ADJUSTMENT PRICES: Required Base Bid quantities of the items listed below are set forth in the Specifications. If increases or decreases in these quantities occur, the Contract Price is to be adjusted by Change Order on the basis of the following. Adjustment prices are subject to acceptance by Owner, and rejection of one or more adjustment prices will not invalidate acceptance of this Bid.

Item	Unit	Unit Adjustment Price
Site services of Service Engineer	per day	\$ NA
Transportation, travel time, and out-of-pocket expenses for travel of Service Engineer to Site	per round trip	\$ NA

The undersigned bidder states that this proposal is made in conformity with the specifications and agrees that, in the event of any discrepancies between any conditions of this proposal and the specifications prepared by the City of Geneva, the provisions of the latter shall prevail.

The undersigned bidder accepts the provisions of the Agreement as to liquidated damages.

The undersigned bidder certifies that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for these services, labor and materials.
Signed by:

BIDDER: Substation Enterprises
 BY: Michael Zanzoni
 TITLE: Engineering Manager
 DATE: 4/26/23

NOTICE: SUBMIT PROPOSALS ON THIS FORM ONLY

4/26/2023

SUBSTATION ENTERPRISES					BILL OF MATERIAL				
145 Commercial Court					CITY OF GENEVA				
P.O. Box 2010					BUSINESS PARK III SUBSTATION				
Alabaster, AL 35007									
Ph. 205-685-2755									
Fax. 205-685-2753					PROJECT NO: I-4334				
ITEM	QTY	MFG	CAT. NO.	DESCRIPTION					
1	6284			STEEL STRUCTURES, HOT-DIPPED GALVANIZED AFTER FABRICATION AND ASSEMBLED WITHIN LIMITATIONS OF TRUCKING					
2A	40	UI		ANCHOR BOLT: 1" W/ 2HHN,2FW					
5	2	GALV		STATIC MAST, 30' WITH ANCHOR BOLTS					
8	4	SEI		SWITCH OPERATOR GROUND PLATFORM					
8A	8	AE	GC143AG2	GROUND CONN TWO PIECE DOUBLE GROOVE 4/0 CU TO FLAT					
10	1	ROYAL	AV3412STD	SWITCH: 35 KV 1200 AMP GROUP OPERATED CENTER BREAK VEE ALUMINUM LIVE PARTS WITH SWING HANDLE OPERATOR, STANDARD ARCING HORNS, ON TR-210 INSULATORS					
11	1	ROYAL	AV3412STD WITH A9500	SWITCH: 35 KV 1200 AMP GROUP OPERATED CENTER BREAK VEE ALUMINUM LIVE PARTS WITH MOTOR OPERATOR, STANDARD ARCING HORNS, ON TR-210 INSULATORS					
41	3	OB	EVP0022003001	LIGHTNING ARRESTER, 22 KV MCOV STATION CLASS POLYMER					
41	9	SEIB		BOLTS:					
50	6	ABB	E-923A655G05	POTENTIAL TRANSFORMER, 35 KV					
50	24	SEIB		BOLTS:					
51	3	ABB	923A177G02	CURRENT TRANSFORMER, 35 KV WITH BAR KIT					

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
51	12	SEIB		BOLTS:
52	2	S&C	398436- BE10H1MW1Y	CIRCUIT SWITCHER
60	400	BUS		BUS: 3" IPS AL 6063-T6 (10 PCS @ 40')
61	40	BUS		BUS: 2" IPS AL 6063-T6 (1 PC @ 40')
62	80	BUS		BUS: 1-1/4" IPS AL 6063-T6 (2 PCS @ 40')
63	100	CHAMP		CABLE: 477 ACSR
64	100	CUWIRE		CABLE: 2/0 BARE COPPER, 19 STRAND
65	360	CHAMP		CABLE: 266 ACSR (DAMPENING)
66	750	CUWIRE		CABLE: 4/0 BARE COPPER, 19 STRAND
68	850	CHAMP		CABLE: 3/8" OHGW
70	6	AE	WTTFR3060C	TEE CONN WELDED 3" AL TO 4-HOLE PAD
70A	3	AE	WTT2153020	TEE CONN WELDED 3" AL TO (2) 2" AL AT 15 DEGREES
70B	6	AE	WTT153020	TEE CONN WELDED 3" AL TO 2" AL AT 15 DEGREES
70C	3	AE	WTTFR1024C	TEE CONN WELDED 1-1/4" AL TO 4-HOLE PAD
70C	9	SEIB		BOLTS:
70D	3	AE	ATCF9301	TEE CONN BOLTED 477 ACSR TO 4-HOLE PAD
70D	12	SEIB		BOLTS:
71A	3	AE	WCI3030	COUPLER STRAIGHT WELDED 3" AL
72	6	AE	ACF9C	TERM CONN BOLTED 477 ACSR TO 4-HOLE PAD

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
72	24	SEIB		BOLTS:
72A	9	AE	WFTF30C	TERM CONN WELDED 3" AL TO 4-HOLE PAD EXPANSION
72A	36	SEIB		BOLTS:
72B	6	AE	WSTF12C	TERM CONN WELDED 1-1/4" AL TO 4-HOLE PAD
72B	24	SEIB		BOLTS:
72C	12	AE	SWL025C	TERM CONN BOLTED 2/0 CU TO 4-HOLE PAD
72C	48	SEIB		BOLTS:
72E	15	AE	WSTF30CCF	TERM CONN WELDED 3" AL TO 4-HOLE PAD CENTER-FORMED
72E	60	SEIB		BOLTS:
76A	4	LH	QSC552N	STRAIN CLAMP 3/8" OHGW
76A	4	AE	ST4	GROUND CONN
76A	4	AE	AS25L	ANCHOR SHACKLE
80	25	AE	GC143AG2	GROUND CONN TWO PIECE DOUBLE GROOVE 4/0 CU TO FLAT
80A	115	AE	GC141AG2	GROUND CONN TWO PIECE SINGLE GROOVE 4/0 CU TO FLAT
80D	16	AE	SWL025B	GROUND TERM 4/0 CU TO 2-HOLE PAD
80D	32	SEIB		BOLTS:
81		BY	OTHERS	FENCE GROUNDING
82		BY	OTHERS	GROUND RODS
83		BY	OTHERS	EXOTHERMIC GROUNDING
101	5	CP	SETS	PHASE MARKERS, PORCELAIN ALUMINUM, 4" LETTERS AS FOLLOWS: "A" BLACK LETTER ON WHITE BACKGROUND, "B" BLACK LETTER ON WHITE BACKGROUND, & "C" BLACK LETTER ON WHITE BACKGROUND

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
102	32	CP		SWITCH NUMBERS, 3" NUMERALS BLACK LETTER ON WHITE BACKGROUND AS FOLLOWS: () "1", () "2", () "3", () "4", () "5", () "7", () "9", () "0", & () "T"
102	8	CP		HOLDERS
104		BY	OTHERS	LIGHTS, CONDUIT, CONTROL CABLE, JUNCTION BOXES, ETC

STANDARD GENERAL CONDITIONS FOR PROCUREMENT CONTRACTS

ARTICLE 1- DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Whenever 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 the singular or 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 signed by both Buyer and Seller covering the Goods and Special Services and which lists the Contract Documents in existence on the Effective Date of the Agreement.

3. Application for Payment-The form acceptable to Buyer which is used by Seller in requesting progress and final payments and which is accompanied by such supporting documentation as is required by the Contract Documents.

4. Bid- The offer or proposal of a Seller submitted on the prescribed form setting forth the prices for the Goods and Special Services to be provided.

5. Bidder-The individual or entity that submits a Bid directly to Buyer.

6. Bidding Documents-The Bidding Requirements and the proposed Contract Documents (including all Addenda).

7. Bidding Requirements-The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and Bid Form with any supplements.

8. Buyer- individual or entity purchasing the Goods and Special Services. The term "Buyer" is used to be consistent with the Uniform Commercial Code (UCC).

9. Change Order-A document which is signed by Seller and Buyer and authorizes an addition, deletion, or revision to the Contract Documents or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement. Change Orders may be the result of mutual agreement by Buyer and Seller, or of resolution of a Claim.

10. Claim-A demand or assertion by Buyer or Seller 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 Buyer and Seller concerning the Goods and Special Services. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. Contract Documents-Those items so designated in the Agreement. Shop Drawings and other Seller submittals are not Contract Documents, even if accepted, reviewed, or approved by Engineer or Buyer.

13. Contract Price-The moneys payable by Buyer to Seller for furnishing the Goods and Special Services in accordance with the Contract Documents as stated in the Agreement.

14. Contract Times-The times stated in the Agreement by which the Goods must be delivered and Special Services must be furnished.

15. Drawings-That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Goods and Special Services to be furnished by Seller. Shop Drawings and other Seller submittals are not Drawings as so defined.

16. 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.

17. Engineer-The individual or entity designated as such in the Agreement.

18. Field Order-A written order issued by Engineer which requires minor changes in the Goods or Special Services but which does not involve a change in the Contract Price or Contract Times.

19. General Requirements-Sections of Division 01 of the Specifications. The General Requirements pertain to all sections of the Specifications.

20. Goods-The tangible and movable personal property that is described in the Contract Documents, regardless of whether the property is to be later attached to realty.

21. Goods and Special Services-The full scope of materials, equipment, other items, and services to be furnished by Seller, including Goods, as defined herein, and Special Services, if any, as defined herein. This term refers to both the Goods and the Special Services, or to either the Goods or the Special Services, and to any portion of the Goods or the Special Services, as the context requires.

22. 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.

23. Milestone-A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to the Contract Times.

24. Notice of Award-The written notice by Buyer to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Buyer will sign and deliver the Agreement.

25. Notice to Proceed-A written notice given by Buyer to Seller fixing the date on which the Contract Times commence to run and on which Seller shall start to perform under the Contract.

26. Point of Destination-The specific address of the location where delivery of the Goods shall be made, as stated in the Agreement.

27. Project-The total undertaking of which the Goods and Special Services may be the whole, or only a part.

28. Project Manual-The documentary information prepared for bidding and furnishing the Goods and Special Services. A listing of the contents of the Project Manual is contained in its table of contents.

29. Samples-Physical examples of materials, equipment, or workmanship that are representative of some portion of the Goods and Special Services and which establish the standards by which such portion of the Goods and Special Services will be judged.

30. Seller-The individual or entity furnishing the Goods and Special Services.

31. Shop Drawings-All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Seller and submitted by Seller to illustrate some portion of the Goods and Special Services.

32. Special Services-Services associated with the Goods to be furnished by Seller as required by the Contract Documents.

33. Specifications-That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the furnishing of the Goods and Special Services, and certain administrative requirements and procedural matters applicable thereto.

34. Successful Bidder-The Bidder submitting a responsive Bid, to whom Buyer makes an award.

35. Supplementary Conditions-That part of the Contract Documents which amends or supplements these General Conditions.

36. Work Change Directive-A written statement to Seller issued on or after the Effective Date of the Agreement and signed by Buyer ordering an addition, deletion, or other revision in the Contract Documents with respect to the Goods and Special Services. 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 Paragraphs 1.02.B and 1.02.C are not defined, but have the indicated meanings when used in the Bidding Requirements or Contract Documents.

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 Goods and Special Services. It is intended that such exercise of professional judgment,

action, or determination will be commercially reasonable and will be solely to evaluate, in general, the Goods and Special Services for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed 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 shall not be effective to assign to Engineer any duty or authority to supervise or direct the furnishing of Goods or Special Services or any duty or authority to undertake responsibility contrary to any other provision of the Contract Documents.

2. The word "non-conforming" when modifying the words "Goods and Special Services," "Goods," or "Special Services," refers to Goods and Special Services that fail to conform to the Contract Documents.

3. The word "receipt" when referring to the Goods, shall mean the physical taking and possession by the Buyer under the conditions specified in Paragraph 8.01.B.3.

4. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

5. The word "furnish," when used in connection with the Goods and Special Services shall mean to supply and deliver said Goods to the Point of Destination (or some other specified location) and to perform said Special Services fully, all in accordance with the Contract Documents.

C. 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

A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller also shall deliver such bonds as Seller may be required to furnish.

2.02 Evidence of Insurance

A. When Seller delivers the executed counterparts of the Agreement to Buyer, Seller shall deliver to Buyer, with copies to each additional insured identified by name in Paragraph 4.2.C.1, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Seller is required to purchase and maintain in accordance with Article 4.

2.03 Commencement of Contract Times; Notice to Proceed

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

2.04 Designated Representatives

A. Buyer and Seller shall each designate its representative at the time the Agreement is signed. Each representative shall have full authority to act on behalf of and make binding decisions in any matter arising out of or relating to the Contract.

2.05 Progress Schedule

A. Within 15 days after the Contract Times start to run, Seller shall submit to Buyer and Engineer an acceptable progress schedule of activities, including at a minimum, Shop Drawing and Sample submittals, tests, and deliveries as required by the Contract Documents. No progress payment will be made to Seller until an acceptable schedule is submitted to Buyer and Engineer.

B. The progress schedule will be acceptable to Buyer and Engineer if it provides an orderly progression of the submittals, tests, and deliveries to completion within the specified Milestones and the

Contract Times. Such acceptance will not impose on Buyer or Engineer responsibility for the progress schedule, for sequencing, scheduling, or progress of the work nor interfere with or relieve Seller from Seller's full responsibility therefor. Such acceptance shall not be deemed to acknowledge the reasonableness and attainability of the schedule.

2.07 Preliminary Conference

A. Within 20 days after the Contract Times start to run, a conference attended by Seller, Buyer, Engineer and others as appropriate will be held to establish a working understanding among the parties as to the Goods and Special Services and to discuss the schedule referred to in Paragraph 2.06.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.08 Safety

A. Buyer and Seller 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. When Seller's personnel, or the personnel of any subcontractor to Seller, are present at the Point of Destination or any work area or site controlled by Buyer, the Seller shall be responsible for the compliance by such personnel with any applicable requirements of Buyer's safety programs that are made known to Seller.

ARTICLE 3- CONTRACT DOCUMENTS: INTENT AND AMENDING

3.01 Intent

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce or furnish the indicated Goods and Special Services will be provided, whether or not specifically called for, at no additional cost to Buyer.

C. Clarifications and interpretations of, or notifications of minor variations and deviations in, the Contract Documents, will be issued by Engineer as provided in Article 9.

3.02 Standards, Specifications, Codes, Laws and Regulations

A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws and Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws and 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.

B. 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 Buyer or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to Buyer or Engineer, or any of their consultants, agents, or employees any duty or authority to supervise or direct the performance of Seller's obligations 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. Seller's Review of Contract Documents Before the Performance of the Contract: Before performance of the Contract, Seller shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Seller shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Seller discovers or has actual knowledge of and shall obtain a written interpretation or clarification from Engineer before proceeding with the furnishing of any Goods and Special Services affected thereby.

2. Seller's Review of Contract Documents During the Performance of the Contract: If, during the performance of the Contract, Seller discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Contract, any standard, specification, manual or code, or of any instruction of any Supplier, Seller shall promptly report it to Engineer in writing. Seller shall not proceed with the furnishing of the Goods and Special Services affected thereby until an amendment to or clarification of the Contract Documents has been issued.

3. Seller shall not be liable to Buyer or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Seller had actual knowledge thereof.

B. Resolving Discrepancies: 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:

1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

2. the provisions of any Laws or Regulations applicable to the furnishing of the Goods and Special Services (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Clarifying Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions to the Goods and Special Services or to modify contractual terms and conditions by a Change Order.

B. Buyer may issue a Work Change Directive providing for additions, deletions, or revisions to the Goods and Special Services, in which case (1) the Contract Price shall be equitably adjusted to account for any reasonable and necessary credits to Buyer for any such deletion, or for costs (including reasonable overhead and profit) incurred by Seller to accommodate such an addition or revision and (2) the Contract Times shall be equitably adjusted to account for any impact on progress and completion of performance. Such adjustments subsequently shall be duly set forth in a Change Order.

C. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Goods and Special Services may be authorized, by one or more of the following ways:

1. Field Order;
2. Engineer's written interpretation or clarification.

ARTICLE 4- BONDS AND INSURANCE

4.01 Bonds

A. Seller shall furnish to Buyer payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Seller's obligations under the Contract Documents. This bond shall remain in effect until 1) one year after the date when final payment becomes due or 2) completion of the correction period specified in Paragraph 8.03, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Seller shall also furnish such other bonds as are required by the Contract Documents.

B. Bond 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 current 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. Bond 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 Seller 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 4.01.B, Seller shall promptly notify Buyer 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 4.01.B and 4.02.

4.02 Insurance

A. *Property Insurance*: Seller shall assume all risk of loss or damage to the Goods prior to acceptance of delivery by Buyer at the point of delivery; and shall purchase and maintain insurance on the Goods during the process of fabrication and while in transit to insure against the perils of fire and extended coverage including "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse, water damage and such other perils as may be provided herein and as Seller deems appropriate.

B. *Liability Insurance* Seller shall purchase and maintain such liability and other insurance as is appropriate for the furnishing of Goods and Special Services and as will provide protection from claims set forth below which may arise out of or result from Seller's furnishing of the Goods or Special Services and Seller's other obligations under the Contract Documents, whether the furnishing of Goods or Special Service, or other obligations are to be performed by Seller, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to furnish the Goods or Special Services, 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 Seller's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Seller's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by Seller, or (ii) by any other person for any other reason;
5. claims for damages, other than to the Goods, 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.

C. The policies of insurance so required by this Paragraph 4.02 to be purchased and maintained shall:

1. with respect to insurance required by Paragraphs 4.02.B.3 through 4.02.B.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) City of Geneva, Illinois, Stanley Consultants, Inc., their consultants, shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other 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 below or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;
4. include contractual liability insurance covering Seller's indemnity obligations under Paragraphs 5.09 and 12.02.
5. 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 Buyer and Seller and to each other additional insured identified in these General Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by Seller pursuant to Paragraph 4.02.E will so provide);
6. remain in effect at least until final payment and at all times thereafter when Seller may be correcting, removing, or replacing nonconforming Goods in accordance with Paragraph 8.03; and
7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and Seller shall furnish Buyer and each other additional insured identified herein, to whom a certificate of insurance has been issued, evidence

satisfactory to Buyer and any such additional insured of continuation of such insurance at final payment and one year thereafter); and

8. with respect to any delegation of professional design services to Seller pursuant to Paragraph 5.10, include professional liability coverage by endorsement or otherwise.

D. The limits of liability for the insurance required by Paragraph 4.02.B 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 4.02.B.1 and B.2:

- | | |
|---|-------------|
| a. State: | Statutory |
| b. Applicable Federal (e.g., Longshoreman's): | Statutory |
| c. Employer's Liability: | \$1,000,000 |

2. Seller's General Liability under Paragraphs 4.02.B.3 through B.6 which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Seller:

- | | |
|--|-------------|
| a. General Aggregate | \$3,000,000 |
| b. Products – Completed Operations Aggregate | \$3,000,000 |
| c. Personal and Advertising Injury | \$3,000,000 |
| d. Each Occurrence (Bodily Injury and Property Damage) | \$3,000,000 |
| e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable. | |
| f. Excess or Umbrella Liability: | |
| 1) General Aggregate | \$3,000,000 |
| 2) Each Occurrence | \$3,000,000 |

3. Automobile Liability under Paragraph 4.02.B.6:

- | | |
|-----------------------------|-------------|
| a. Bodily Injury: | |
| 1) Each person | \$2,000,000 |
| 2) Each Accident | \$2,000,000 |
| b. Property Damage: | |
| 1) Each Accident | \$2,000,000 |
| c. Combined Single Limit of | \$2,000,000 |

E. Seller shall deliver to Buyer, with copies to each additional insured identified in Paragraph 4.02.C.1, certificates of insurance (and other evidence of insurance requested by Buyer or any other additional insured) which Seller is required to purchase and maintain.

F. Failure of Buyer to demand certificates of insurance or other evidence of Seller's full compliance with these insurance requirements or failure of Buyer to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Seller's obligation to maintain such insurance.

G. If Buyer has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained on the basis of non-conformance with the Contract Documents, Buyer shall notify Seller in writing within 10 days after receipt of the certificates or other evidence required by Paragraph 4.02.J. Seller shall provide such additional information in respect to insurance as Buyer shall reasonably request.

H. Upon assignment of this Contract, Seller shall comply with the written request of assignee to provide certificates of insurance to assignee.

I. Buyer does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Seller.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Seller's liability under the indemnities granted to Buyer in the Contract Documents.

4.03 Licensed Sureties and Insurers

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Buyer or Seller 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.

ARTICLE 5 - SELLER'S RESPONSIBILITIES

5.01 Supervision and Superintendence

A. Seller shall supervise, inspect, and direct the furnishing of the Goods and Special Services competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform its obligations in accordance with the Contract Documents. Seller shall be solely responsible for the means, methods, techniques, sequences, and procedures necessary to perform its obligations in accordance with the Contract Documents. Seller shall not be responsible for the negligence of Buyer or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure that is shown or indicated in and expressly required by the Contract Documents.

5.02 Labor, Materials and Equipment

A. Seller shall provide competent, qualified and trained personnel in all aspects of its performance of the Contract.

B. All Goods, and all equipment and material incorporated into the Goods, shall be as specified, and unless specified otherwise in the Contract Documents, shall be:

1. new, and of good quality;
2. protected, assembled, connected, cleaned, and conditioned in accordance with the original manufacturer's instructions; and
3. shop assembled to the greatest extent practicable.

5.03 Laws and Regulations

A. Seller shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of its obligations in accordance with the Contract Documents. Except where otherwise expressly required by such Laws and Regulations, neither Buyer nor Engineer shall be responsible for monitoring Seller's compliance with any Laws or Regulations.

B. If Seller furnishes Goods and Special Services knowing or having reason to know that such furnishing is contrary to Laws or Regulations, Seller 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 performance. It shall not be Seller's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this provision shall not relieve Seller of Seller'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 shall be the subject of an adjustment in Contract Price or Contract Times. If Buyer and Seller 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 9.06.

5.04 Or Equals

A. Whenever the Goods, or an item of material or equipment to be incorporated into the Goods, are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier or manufacturer, 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 is permitted, other items of material or equipment or material or equipment of other suppliers or manufacturers may be submitted to Buyer for Engineer's review.

1. If in Engineer's sole discretion, such an item of material or equipment proposed by Seller 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.

2. For the purposes of this paragraph, a proposed item of material or equipment may be considered functionally equal to an item so named only if:

a. in the exercise of reasonable judgment, Engineer determines that: 1) it is at least equal in quality, durability, appearance, strength, and design characteristics; 2) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; 3) it has an acceptable record of performance and availability of responsive service; and

b. Seller certifies that if approved: 1) there will be no increase in any cost, including capital, installation or operating costs, to Buyer; and 2) the proposed item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. **Engineer's Evaluation:** Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraph 5.04.A. Engineer will be the sole judge of whether to accept or reject such a proposal or submittal. No "or-equal" will be ordered, manufactured or utilized until Engineer's review is complete, which will be evidenced by an approved Shop Drawing. Engineer will advise Buyer and Seller in writing of any negative determination. Notwithstanding Engineer's approval of an "or-equal" item, Seller shall remain obligated to comply with the requirements of the Contract Documents.

C. **Special Guarantee:** Buyer may require Seller to furnish at Seller's expense a special performance guarantee or other surety with respect to any such proposed "or-equal."

D. **Data:** Seller shall provide all data in support of any such proposed "or-equal" at Seller's expense.

5.05 Taxes

A. Seller shall be responsible for all taxes and duties arising out of the sale of the Goods and the furnishing of Special Services. All taxes are included in the Contract Price.

1. Buyer will furnish the required certificates of tax exemption to Seller with respect to materials and equipment to be incorporated into the Project facilities.

2. Buyer's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Seller, or to supplies or materials not incorporated into the Project facilities.

3. The Contract Price does not include the cost of sales or compensating use taxes to the extent such are exempted by this paragraph.

5.06 Shop Drawings and Samples

A. Seller shall submit Shop Drawings and Samples to Buyer for Engineer's review in accordance with the schedule required in Paragraph 2.06.A. All submittals will be identified as required and furnished in the number of copies specified in the Contract Documents. The 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 Seller proposes to provide.

B. Where a Shop Drawing or Sample is required by the Contract Documents, any related work performed prior to Engineer's review of the pertinent submittal will be at the sole expense and responsibility of Seller.

C. Submittal Procedures:

1. Before submitting each Shop Drawing or Sample, Seller shall have determined and verified:

a. all field measurements (if required), quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto; and

b. that all materials are suitable with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the furnishing of Goods and Special Services.

c. Seller shall also have reviewed and coordinated each Shop Drawing or Sample with the Contract Documents.

2. Each submittal shall bear a stamp or include a written certification from Seller that Seller has reviewed the subject submittal and confirmed that it is in compliance with the requirements of the Contract Documents. Both Buyer and Engineer shall be entitled to rely on such certification from Seller.

3. With each submittal, Seller shall give Buyer and 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 in a written communication separate from the submittal and by specific notation on each Shop Drawing or Sample.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples.

2. Engineer's review will be only to determine if the Goods and Special Services covered by the submittals will, after installation or incorporation in the Project, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole.

3. Engineer's review shall not relieve Seller from responsibility for any variation from the requirements of the Contract Documents; nor will any review by Engineer relieve Seller from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.06.C.1.

E. Seller 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 Seller shall reimburse Buyer for Engineer's charges for such time.

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

G. **Resubmittal Procedures:** Seller 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. Seller shall direct specific attention in writing to any revisions other than the corrections called for by Engineer on previous submittals.

5.07 Continuing Performance

A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06.A., and the Goods shall be delivered and the Special Services furnished within the Contract Times specified in the Agreement.

B. Seller shall carry on furnishing of the Goods and Special Services and adhere to the progress schedule during all disputes or disagreements with Buyer. No furnishing of Goods and Special Services shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraphs 11.03 or 11.04, or as Buyer and Seller may otherwise agree in writing.

5.08 Seller's Warranties and Guarantees

A. Seller warrants and guarantees to Buyer that the title to the Goods conveyed shall be proper, its transfer rightful, and free from any security interest, lien, or other encumbrance. Seller shall defend, indemnify, and hold Buyer harmless against any liens, claims, or demands contesting or affecting title of the Goods conveyed.

B. Seller warrants and guarantees to Buyer that all Goods and Special Services will conform with the Contract Documents, and with the standards established by any Samples approved by Engineer. Engineer shall be entitled to rely on Seller's warranty and guarantee. If the Contract Documents do not otherwise specify the characteristics or the quality of the Goods, the Goods shall comply with the requirements of Paragraph 5.02.B.

C. Seller's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, improper modification, improper maintenance, or improper operation by persons other than Seller; or

2. corrosion or chemical attack, unless corrosive or chemically-damaging conditions were disclosed by Buyer in the Contract Documents and the Contract Documents required the Goods to withstand such conditions;

3. use in a manner contrary to Seller's written instructions for installation, operation, and maintenance; or
4. normal wear and tear under normal usage.

D. Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Goods and Special Services that are non-conforming, or a release of Seller's obligation to furnish the Goods and Special Services in accordance with the Contract Documents:

1. observations by Buyer or Engineer;
2. recommendation by Engineer or payment by Buyer of any progress or final payment;
3. use of the Goods by Buyer;
4. any acceptance by Buyer (subject to the provisions of Paragraph 8.02.D.1) or any failure to do so;
5. the issuance of a notice of acceptance by Buyer pursuant to the provisions of Article 8;
6. any inspection, test or approval by others; or
7. any correction of non-conforming Goods and Special Services by Buyer.

E. Buyer shall promptly notify Seller of any breach of Seller's warranties or guarantees.

F. Seller makes no implied warranties under this Contract.

5.09 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Seller shall indemnify and hold harmless Buyer and Engineer, and the officers, directors, members, partners, employees, agents, consultants, contractors, 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 Seller's obligations under the Contract Documents, provided that any such claim, cost, loss, or damages attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Goods themselves), including the loss of use resulting therefrom, but only to the extent cause by any negligent act or omission of Seller, or any individual or entity directly or indirectly employed by Seller or anyone for whose acts Seller may be liable.

B. In any and all claims against Buyer or Engineer or any of their respective assignees, consultants, agents, officers, directors, members, partners, employees, agents, consultants, contractors, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Seller, any subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to furnish any of the Goods and Special Services, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 5.09.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 seller 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 Seller under Paragraph 5.09.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, and consultants 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.

5.10 Delegation of Professional Design Services

A. Seller will not be required to provide professional design services unless such services are specifically required by the Contract Documents or unless such services are required to carry out Seller's responsibilities for furnishing the Goods and Special Services. Seller 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 the Goods and Special Services are specifically required of Seller by the Contract Documents, Buyer and Engineer will specify all performance and design criteria that such services must satisfy. Seller 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 Goods and Special Services designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Buyer 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 Buyer and Engineer have specified to Seller all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 5.10, 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 5.06.D.2.

E. Seller shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 6 - SHIPPING AND DELIVERY

6.01 Shipping

A. Seller shall select the carrier and bear all costs of packaging, transportation, insurance, special handling and any other costs associated with shipment and delivery.

6.02 Delivery

A. Seller shall deliver the Goods F.O.B. the Point of Destination in accordance with the Contract Times set forth in the Agreement, or other date agreed to by Buyer and Seller.

B. Seller shall provide written notice to Buyer at least 10 days before shipment of the manner of shipment and the anticipated delivery date. The notice shall also include any instructions concerning special equipment or services required at the Point of Destination to unload and care for the Goods. Seller shall also require the carrier to give Buyer at least 24 hours notice by telephone prior to the anticipated time of delivery.

C. Seller will be responsible and bear all costs for unloading the Goods from carrier.

D. Buyer will assure that adequate facilities are available to receive delivery of the Goods during the Contract Times for delivery set forth in the Agreement, or another date agreed by Buyer and Seller.

E. No partial deliveries shall be allowed, unless permitted or required by the Contract Documents or agreed to in writing by Buyer.

6.03 Risk of Loss

A. Risk of loss and insurable interests transfer from Seller to Buyer upon Buyer's receipt of the Goods.

B. Notwithstanding the provisions of Paragraph 6.03.A, if Buyer rejects the Goods as non-conforming, the risk of loss on such Goods shall remain with Seller until Seller corrects the non-conformity or Buyer accepts the Goods. If rejected Goods remain at the Point of Destination pending modification and acceptance, then Seller shall be responsible for arranging adequate protection and maintenance of the Goods at Seller's expense.

6.04 Progress Schedule

A. Seller shall adhere to the progress schedule established in accordance with Paragraph 2.06 as it may be adjusted from time to time as provided below.

1. Seller shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.06) 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 7. Adjustments in Contract Times may only be made by a Change Order.

ARTICLE 7 - CHANGES: SCHEDULE AND DELAY

7.01 Changes in the Goods and Special Services

A. Buyer may at any time, without notice to any surety, make an addition, deletion, or other revision to the Contract Documents with respect to the Goods and Services, within the general scope of the Contract, by a Change Order or Work Change Directive. Upon receipt of any such document, Seller shall promptly proceed with performance pursuant to the revised Contract Documents (except as otherwise specifically provided).

B. If Seller concludes that a Work Change Directive issued by Buyer affects the Contract Price or Contract Times, then Seller shall notify Buyer within 15 days after Seller has received the Work Change Directive, and submit written supporting data to Buyer within 45 days after such receipt. If Seller fails to notify Buyer within 15 days, Seller waives any Claim for such adjustment. If Buyer and Seller 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 9.06.

C. Seller shall not suspend performance while Buyer and Seller are in the process of making such changes and any related adjustments to Contract Price or Contract Times.

7.02 Changing Contract Price or Contract Times

A. The Contract Price or Contract Times may only be changed by a Change Order.

B. Any Claim for an adjustment in the Contract Price or 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 9.06.

C. If Seller is prevented from delivering the Goods or performing the Special Services within the Contract Times for any unforeseen reason beyond its control and not attributable to its actions or inactions, then Seller shall be entitled to an adjustment of the Contract Times to the extent attributable to such reason. Such reasons include but are not limited to acts or neglect by Buyer, inspection delays, fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters. If such an event occurs and delays Seller's performance, Seller shall notify Buyer in writing within 15 days of knowing or having reason to know of the beginning of the event causing the delay, stating the reason therefor.

D. Seller shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Seller. Delays attributable to and within the control of Seller's subcontractors or suppliers shall be deemed to be delays within the control of Seller.

E. If Seller is prevented from delivering the Goods or furnishing the Special Services within the Contract Times due to the actions or inactions of Buyer, Seller shall be entitled to any reasonable and necessary additional costs arising out of such delay to the extent directly attributable to Buyer.

F. Neither Buyer nor Seller shall be entitled to any damages arising from delays which are beyond the control of both Buyer and Seller, including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, and other like matters.

ARTICLE 8 - BUYER'S RIGHTS

8.01 Inspections and Testing

A. General:

1. The Contract Documents specify required inspections and tests. Buyer shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Goods at Seller's facility, and at the Point of Destination. Seller shall allow Buyer a reasonable time to perform such inspections or tests.

2. Seller shall reimburse Buyer for all expenses, except for travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, for inspections and tests specified in the Contract Documents. If as the result of any such specified testing the Goods are determined to be non-conforming, then Seller shall also bear the travel, lodging, and subsistence expenses of Buyer's and Engineer's representatives, and all expenses of re-inspection or retesting.

3. Buyer shall bear all expenses of inspections and tests that are not specified in the Contract Documents (other than any re-inspection or retesting resulting from a determination of non-conformity, as set forth in Paragraph 8.01.A.2 immediately above); provided, however, that if as the result of any such non-specified inspections or testing the Goods are determined to be non-conforming, then Seller shall bear all expenses of such inspections and testing, and of any necessary re-inspection and retesting.

4. Seller shall provide Buyer timely written notice of the readiness of the Goods for all inspections, tests, or approvals which the Contract Documents specify are to be observed by Buyer prior to shipment.

5. Buyer will give Seller timely notice of all specified tests, inspections, and approvals of the Goods which are to be conducted at the Point of Destination.

6. If, on the basis of any inspections or testing, the Goods appear to be conforming, Buyer will give Seller prompt notice thereof. If on the basis of said inspections or testing, the Goods appear to be non-conforming, Buyer will give Seller prompt notice thereof and will advise Seller of the remedy Buyer elects under the provisions of Paragraph 8.02.

7. Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections shall constitute acceptance of non-conforming Goods, or prejudice Buyer's rights under the Contract.

B. Inspection on Delivery:

1. Buyer or Engineer will visually inspect the Goods upon delivery solely for purposes of identifying the Goods and general verification of quantities and observation of apparent condition in order to provide a basis for a progress payment. Such visual inspection will not be construed as final or as receipt of any Goods and Special Services that, as a result of subsequent inspections and tests, are determined to be non-conforming.

2. Within ten days of such visual inspection, Buyer shall provide Seller with written notice of Buyer's determination regarding conformity of the Goods. In the event Buyer does not provide such notice, it will be presumed that the Goods appear to be conforming and that Buyer has acknowledged their receipt upon delivery.

3. If, on the basis of the visual inspection specified in Paragraph 8.01.B.1, the Goods appear to be conforming, Buyer's notice thereof to Seller will acknowledge receipt of the Goods.

C. Final Inspection:

1. After all of the Goods have been incorporated into the Project, tested in accordance with such testing requirements as are specified, and are functioning as indicated, Buyer or Engineer will make a final inspection.

2. If, on the basis of the final inspection, the Goods are conforming, Buyer's notice thereof will constitute Buyer's acceptance of the Goods.

3. If, on the basis of the final inspection, the Goods are non-conforming, Buyer will identify the non-conformity in writing.

8.02 Non-Conforming Goods and Special Services

A. If, on the basis of inspections and testing prior to delivery, the Goods and Special Services are found to be non-conforming, or if at any time after Buyer has acknowledged receipt of delivery and before

the expiration of the correction period described in Paragraph 8.03, Buyer determines that the Goods and Special Services are non-conforming, then Seller shall promptly, without cost to Buyer and in response to written instructions from Buyer, either correct such non-conforming Goods and Special Services, or, if Goods are rejected by Buyer, remove and replace the non-conforming Goods with conforming Goods, including all work required for reinstallation.

B. Buyer's Rejection of Non-Conforming Goods:

1. If Buyer elects to reject the Goods in whole or in part, Buyer's notice to Seller will describe in sufficient detail the non-conforming aspect of the Goods. If Goods have been delivered to Buyer, Seller shall promptly, and within the Contract Times, remove and replace the rejected Goods.

2. Seller shall bear all costs, losses and damages attributable to the removal and replacement of the non-conforming Goods as provided in Paragraph 8.02.E.

3. Upon rejection of the Goods, Buyer retains a security interest in the Goods to the extent of any payments made and expenses incurred in their testing and inspection.

C. Remediating Non-Conforming Goods and Special Services:

1. If Buyer elects to permit the Seller to modify the Goods to correct the non-conformance, then Seller shall promptly provide a schedule for such modifications and shall make the Goods conforming within a reasonable time.

2. If Buyer notifies Seller in writing that any of the Special Services are non-conforming, Seller shall promptly provide conforming services acceptable to Buyer. If Seller fails to do so, Buyer may delete the Special Services and reduce the Contract Price a commensurate amount.

D. Buyer's Acceptance of Non-Conforming Goods: Instead of requiring correction or removal and replacement of non-conforming Goods discovered either before or after final payment, Buyer may accept the non-conforming Goods. Seller shall bear all reasonable costs, losses, and damages attributable to Buyer's evaluation of and determination to accept such non-conforming Goods as provided in Paragraph 8.02.E.

E. Seller shall pay all claims, costs, losses, and damages, including but not limited to all fees and charges for re-inspection, retesting and for any engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs arising out of or relating to the non-conforming Goods and Special Services. Seller's obligations shall include the costs of the correction or removal and replacement of the non-conforming Goods and the replacement of property of Buyer and others destroyed by the correction or removal and replacement of the non-conforming Goods, and obtaining conforming Special Services from others.

F. Buyer's Rejection of Conforming Goods: If Buyer asserts that Goods and Special Services are non-conforming and such Goods and Special Services are determined to be conforming, or if Buyer rejects as non-conforming Goods and Special Services that are later determined to be conforming, then Seller shall be entitled to reimbursement from Buyer of costs incurred by Seller in inspecting, testing, correcting, removing, or replacing the conforming Goods and Special Services, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs associated with the incorrect assertion of non-conformance or rejection of conforming Goods and Special Services.

8.03 Correction Period

A. Seller's responsibility for correcting all non-conformities in the Goods and Special Services will extend for a period of one year after the earlier of the date on which Buyer has placed the Goods in continuous service or the date of final payment, or for such longer period of time as may be prescribed by Laws or Regulations or by the terms of any specific provisions of the Contract Documents.

ARTICLE 9- ROLE OF ENGINEER

9.01 Duties and Responsibilities

A. The duties and responsibilities and the limitations of authority of Engineer are set forth in the Contract Documents.

9.02 Clarifications and Interpretations

A. Engineer will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents as Engineer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Such written clarifications and interpretations will be binding on Buyer and Seller. If either Buyer or Seller believes that a written clarification or interpretation justifies an adjustment in the Contract Price or Contract Times, either may make a Claim therefor.

9.03 Authorized Variations

A. Engineer may authorize minor deviations or variations in the Contract Documents by: 1) written approval of specific variations set forth in Shop Drawings when Seller has duly noted such variations as required in Paragraph 5.06.C.4, or 2) a Field Order.

9.04 Rejecting Non-Conforming Goods and Special Services

A. Engineer will have the authority to disapprove or reject Goods and Special Services that Engineer believes to be non-conforming. Engineer will also have authority to require special inspection or testing of the Goods or Special Services as provided in Paragraph 8.01 whether or not the Goods are fabricated or installed, or the Special Services are completed.

9.05 Decisions on Requirements of Contract Documents

A. Engineer will be the initial interpreter of the Contract Documents and judge of the acceptability of the Goods and Special Services. Claims, disputes and other matters relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to Seller's performance will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph.

B. When functioning as interpreter and judge under this Paragraph 9.05, Engineer will not show partiality to Buyer or Seller and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by Engineer pursuant to this Paragraph 9.05 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 10.07) will be a condition precedent to any exercise by Buyer or Seller of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.06 Claims and Disputes

A. Notice: Written notice of each Claim relating to the acceptability of the Goods and Special Services or the interpretation of the requirements of the Contract Documents pertaining to either party's performance shall be delivered by the claimant to Engineer and the other party to the Agreement within 15 days after the occurrence of the event giving rise thereto, and written supporting data shall be submitted to Engineer and the other party within 45 days after such occurrence unless Engineer allows an additional period of time to ascertain more accurate data.

B. Engineer's Decision: Engineer will review each such Claim and render a decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

C. If Engineer does not render a formal written decision on a Claim within the time stated in Paragraph 9.06.B., Engineer shall be deemed to have issued a decision denying the Claim in its entirety 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. Engineer's written decision on such Claim or a decision denying the Claim in its entirety that is deemed to have been issued pursuant to Paragraph 9.06.C, will be final and binding upon Buyer and Seller 30 days after it is issued unless within 30 days of issuance Buyer or Seller appeals Engineer's decision by initiating the mediation of such

Claim in accordance with the dispute resolution procedures set forth in Article 13.

E. If Article 13 has been amended to delete the mediation requirement, then Buyer or Seller may appeal Engineer's decision within 30 days of issuance by following the alternative dispute resolution process set forth in Article 13, as amended; or if no such alternative dispute resolution process has been set forth, Buyer or Seller may appeal Engineer's decision by 1) delivering to the other party within 30 days of the date of such decision a written notice of intent to submit the Claim to a court of competent jurisdiction, and 2) within 60 days after the date of such decision instituting a formal proceeding in a court of competent jurisdiction.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 9.06.

G. The parties agree to endeavor to avoid or resolve Claims through direct, good faith discussions and negotiations whenever practicable. Such discussions and negotiations should at the outset address whether the parties mutually agree to suspend the time periods established in this Paragraph 9.06; if so, a written record of such mutual agreement should be made and jointly executed.

ARTICLE 10- PAYMENT

10.01 Applications for Progress Payments

A. Seller shall submit to Buyer for Engineer's review Applications for Payment filled out and signed by Seller and accompanied by such supporting documentation as is required by the Contract Documents and also as Buyer or Engineer may reasonably require. The timing and amounts of progress payments shall be as stipulated in the Agreement.

1. The first application for Payment will be submitted after review by Engineer of all Shop Drawings and of all Samples required by the Contract Documents.

2. The second Application for Payment will be submitted after receipt of the Goods has been acknowledged in accordance with Paragraph 8.01.B and will be accompanied by a bill of sale, invoice, or other documentation reasonably satisfactory to Buyer warranting that Buyer has rightfully received good title to the Goods from Seller and that, upon payment, the Goods will be free and clear of all liens. Such documentation will include releases and waivers from all parties with viable lien rights. In the case of multiple deliveries of Goods, additional Applications for Payment accompanied by the required documentation will be submitted as Buyer acknowledges receipt of additional items of the Goods.

10.02 Review of Applications for Progress Payments

A. Engineer will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Buyer, or return the Application to Seller indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Seller may make the necessary corrections and resubmit the Application.

1. Engineer's recommendation of payment requested in the first Application for Payment will constitute a representation by Engineer, based on Engineer's review of the Application for Payment and the accompanying data that the Shop Drawings and Samples have been reviewed and approved as required by the Contract Documents and Seller is entitled to payment of the amount recommended.

2. Engineer's recommendation of payment requested in the Application for Payment submitted upon Buyer's acknowledgment of receipt of the Goods will constitute a representation by Engineer, based on Engineer's review of the Application for Payment and the accompanying data Seller is entitled to payment of the amount recommended. Such recommendation will not constitute a representation that Engineer has made a final inspection of the Goods, that the Goods are free from non-conformities, acceptable or in conformance with the Contract Documents, that Engineer has made any investigation as to Buyer's title to the Goods, that exhaustive or continuous inspections have been made to check the quality or the quantity of the Goods beyond the responsibilities specifically assigned to Engineer in the Contract Documents or that there may not be other

matters or issues between the parties that might entitle Seller to additional payments by Buyer or Buyer to withhold payment to Seller.

3. Engineer may refuse to recommend that all or any part of a progress payment be made, or Engineer may nullify all or any part of any payment previously recommended if, in Engineer's opinion, such recommendation would be incorrect or if on the basis of subsequently discovered evidence or subsequent inspections or tests Engineer considers such refusal or nullification necessary to protect Buyer from loss because the Contract Price has been reduced, Goods are found to be non-conforming, or Seller has failed to furnish acceptable Special Services.

10.03 Amount and Timing of Progress Payments

A. Subject to Paragraph 10.02.A., the amounts of the progress payments will be as provided in the Agreement. Buyer shall within 45 days after receipt of each Application for Payment with Engineer's recommendation pay Seller the amount recommended; but, in the case of the Application for Payment upon Buyer's acknowledgment of receipt of the Goods, said 45-day period may be extended for so long as is necessary (but in no event more than 60 days) for Buyer to examine the bill of sale and other documentation submitted therewith. Buyer shall notify Seller promptly of any deficiency in the documentation and shall not unreasonably withhold payment.

10.04 Suspension of or Reduction in Payment

A. Buyer may suspend or reduce the amount of progress payments, even though recommended for payment by Engineer, under the following circumstances:

1. Buyer has reasonable grounds to conclude that Seller will not furnish the Goods or the Special Services in accordance with the Contract Documents, and

2. Buyer has requested in writing assurances from Seller that the Goods and Special Services will be delivered or furnished in accordance with the Contract Documents, and Seller has failed to provide adequate assurances within ten days of Buyer's written request.

B. If Buyer refuses to make payment of the full amount recommended by Engineer, Buyer will provide Seller and Engineer immediate written notice stating the reason for such action and promptly pay Seller any amount remaining after deduction of the amount withheld. Buyer shall promptly pay Seller the amount withheld when Seller corrects the reason for such action to Buyer's satisfaction.

10.05 Final Application for Payment

A. After Seller has corrected all non-conformities to the reasonable satisfaction of Buyer and Engineer, furnished all Special Services, and delivered all documents required by the Contract Documents, Engineer will issue to Buyer and Seller a notice of acceptance. Seller may then make application for final payment following the procedure for progress payments. The final Application for Payment will be accompanied by all documentation called for in the Contract Documents, a list of all unsettled Claims, and such other data and information as Buyer or Engineer may reasonably require.

10.06 Final Payment

A. If, on the basis of final inspection and the review of the final Application for Payment and accompanying documentation, Engineer is reasonably satisfied that Seller has furnished the Goods and Special Services in accordance with the Contract Documents, and that Seller's has fulfilled all other obligations under the Contract Documents, then Engineer will, within ten days after receipt of the final Application for Payment, recommend in writing final payment subject to the provisions of Paragraph 10.07 and present the Application to Buyer. Otherwise, Engineer will return the Application to Seller, indicating the reasons for refusing to recommend final payment, in which case Seller shall make the necessary corrections and resubmit the Application for payment. If the Application and accompanying documentation are appropriate as to form and substance, Buyer shall, within 45 days after receipt thereof, pay Seller the amount recommended by Engineer, less any sum Buyer is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages to which Buyer is entitled.

10.07 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Buyer against Seller, except Claims arising from unsettled liens from non-conformities in the Goods or Special Services appearing after final payment, from Seller's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Seller's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Seller against Buyer (other than those previously made in accordance with the requirements herein and listed by Seller as unsettled as required in Paragraph 10.05.A, and not resolved in writing).

ARTICLE 11 - CANCELLATION, SUSPENSION, AND TERMINATION

11.01 *Cancellation*

A. Buyer has the right to cancel the Contract, without cause, at any time prior to delivery of the Goods by written notice. Cancellation pursuant to the terms of this paragraph shall not constitute a breach of contract by Buyer. Upon cancellation:

1. Buyer shall pay Seller for the direct costs incurred in producing any Goods that Seller has specially manufactured for the Project, plus a fair and reasonable amount for overhead and profit.
2. For Goods that are not specially manufactured for the Project, Seller shall be entitled to a restocking charge of 10 percent of the unpaid Contract Price of such Goods.

11.02 *Suspension of Performance by Buyer*

A. Buyer has the right to suspend performance of the Contract for up to a maximum of ninety days, without cause, by written notice. Upon suspension under this paragraph, Seller shall be entitled to an increase in the Contract Times and Contract Price caused by the suspension, provided that performance would not have been suspended or delayed for causes attributable to Seller.

11.03 *Suspension of Performance by Seller*

A. Subject to the provisions of Paragraph 5.07.B, Seller may suspend the furnishing of the Goods and Special Services only under the following circumstance:

1. Seller has reasonable grounds to conclude that Buyer will not perform its future payment obligations under the Contract; and,
2. Seller has requested in writing assurances from Buyer that future payments will be made in accordance with the Contract, and Buyer has failed to provide such assurances within ten days of Seller's written request.

11.04 *Breach and Termination*

A. Buyer's Breach:

1. Buyer shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including but not limited to:
 - a. wrongful rejection or revocation of Buyer's acceptance of the Goods,
 - b. failure to make payments in accordance with the Contract Documents, or
 - c. wrongful repudiation of the Contract.
2. Seller shall have the right to terminate the Contract for cause by declaring a breach should Buyer fail to comply with any material provisions of the Contract. Upon termination, Seller shall be entitled to all remedies provided by Laws and Regulations.

a. In the event Seller believes Buyer is in breach of its obligations under the Contract, Seller shall provide Buyer with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Buyer shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Seller may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.

B. Seller's Breach:

1. Seller shall be deemed in breach of the Contract if it fails to comply with any material provision of the Contract Documents, including, but not limited to:

- a. failure to deliver the Goods or perform the Special Services in accordance with the Contract Documents,
- b. wrongful repudiation of the Contract, or
- c. delivery or furnishing of non-conforming Goods and Special Services.

2. Buyer may terminate Seller's right to perform the Contract for cause by declaring a breach should Seller fail to comply with any material provision of the Contract Documents. Upon termination, Buyer shall be entitled to all remedies provided by Laws and Regulations.

a. In the event Buyer believes Seller is in breach of its obligations under the Contract, and except as provided in Paragraph 11.04.B.2.b, Buyer shall provide Seller with reasonably prompt written notice setting forth in sufficient detail the reasons for declaring that it believes a breach has occurred. Seller shall have seven days from receipt of the written notice declaring the breach (or such longer period of time as Buyer may grant in writing) within which to cure or to proceed diligently to cure such alleged breach.

b. If and to the extent that Seller has provided a performance bond under the provisions of Paragraph 4.01, the notice and cure procedures of that bond, if any, shall supersede the notice and cure procedures of Paragraph 11.04.B.2.a.

ARTICLE 12 - LICENSES AND FEES

12.01 *Intellectual Property and License Fees*

A. Unless specifically stated elsewhere in the Contract Documents, Seller is not transferring any intellectual property rights, patent rights, or licenses for the Goods delivered. However, in the event the Seller is manufacturing to Buyer's design, Buyer retains all intellectual property rights in such design.

B. Seller shall pay all license fees and royalties and assume all costs incident to the use or the furnishing of the Goods, unless specified otherwise by the Contract Documents.

12.02 *Seller's Infringement*

A. Subject to Paragraph 12.01.A, Seller shall indemnify and hold harmless Buyer, Engineer and their officers, directors, members, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable 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 or alleged infringement of any United States or foreign patent or copyright by any of the Goods as delivered hereunder.

B. In the event of suit or threat of suit for intellectual property infringement, Buyer will promptly notify Seller of receiving notice thereof.

C. Seller shall promptly defend the claim or suit, including negotiating a settlement. Seller shall have control over such claim or suit, provided that Seller agrees to bear all expenses and to satisfy any adverse judgment thereof.

1. If Seller fails to defend such suit or claim after written notice by Buyer, Seller will be bound in any subsequent suit or claim against Seller by Buyer by any factual determination in the prior suit or claim.

2. If Buyer fails to provide Seller the opportunity to defend such suit or claim after written notice by Seller, Buyer shall be barred from any remedy against Seller for such suit or claim.

D. If a determination is made that Seller has infringed upon intellectual property rights of another, Seller may obtain the necessary licenses for Buyer's benefit, or replace the Goods and provide related design and construction as necessary to avoid the infringement at Seller's own expense.

12.03 *Buyer's Infringement*

A. Buyer shall indemnify and hold harmless Seller, and its officers, directors, partners, employees, agents, consultants, contractors, and subcontractors from and against all claims, costs, losses, damages, and judgments (including but not limited to all reasonable 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 or alleged infringement of any United States or foreign patent or copyright caused by Seller's compliance with Buyer's design of the Goods or Buyer's use of the Goods in combination with other materials or equipment in any process (unless intent of such use was known to Seller and Seller had reason to know such infringement would result).

B. In the event of suit or threat of suit for intellectual property infringement, Seller must after receiving notice thereof promptly notify Buyer.

C. Upon written notice from Seller, Buyer shall be given the opportunity to defend the claim or suit, including negotiating a settlement. Buyer shall have control over such claim or suit, provided that Buyer agrees to bear all expenses and to satisfy any adverse judgment thereof.

1. If Buyer fails to defend such suit or claim after written notice by Seller, Buyer will be bound in any subsequent suit or claim against Buyer by Seller by any factual determination in the prior suit or claim.

2. If Seller fails to provide Buyer the opportunity to defend such suit or claim after written notice by Buyer, Seller shall be barred from any remedy against Buyer for such suit or claim.

12.04 *Reuse of Documents*

A. Neither Seller nor any other person furnishing any of the Goods and Special Services under a direct or indirect contract with Seller shall: (1) 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 versions; or (2) reuse any of such Drawings, Specifications, other documents, or copies thereof on any other project without written consent of Buyer and Engineer and specific written verification or adaptation by Engineer. This prohibition will survive termination or completion of the Contract. Nothing herein shall preclude Seller from retaining copies of the Contract Documents for record purposes.

12.05 *Electronic Data*

A. Unless otherwise stated, copies of data furnished by Buyer or Engineer to Seller, or by Seller to Buyer 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. The transferring party will correct any errors detected within the 60-day acceptance period.

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 13 - DISPUTE RESOLUTION

13.01 *Dispute Resolution Method*

A. Either Buyer or Seller may initiate the mediation of any Claim decided in writing by Engineer under Paragraph 9.06.B or 9.06.C 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 Engineer's decision from becoming final and binding. The venue for any mediation proceeding shall be in an agreed upon location in Kane County, IL.

B. Buyer and Seller 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 mediation process does not result in resolution of the Claim, then Engineer's written decision under Paragraph 9.06.B or a denial pursuant to Paragraph 9.06.C shall become final and binding 30 days after termination of the mediation unless, within that time period, Buyer or Seller:

1. elects in writing to invoke any dispute resolution process provided for in Article 13, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. if no dispute resolution process has been provided for in Article 13, delivers to the other party written notice of the intent to submit the Claim to a court in Kane County, Illinois, and within 60 days of the termination of the mediation institutes such formal proceeding.

ARTICLE 14- MISCELLANEOUS

14.01 *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) if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

14.02 *Controlling Law*

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

B. In the case of any conflict between the express terms of this Contract and the Uniform Commercial Code, as adopted in the state whose law governs, it is the intent of the parties that the express terms of this Contract shall apply.

14.03 *Computation of Time*

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 shall be omitted from the computation.

14.04 *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, and 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.

14.05 *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 Goods and Special Services and termination or completion of the Agreement.

14.06 *Entire Agreement*

A. Buyer and Seller agree that this Agreement is the complete and final agreement between them, and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may not be altered, modified, or amended except in writing signed by an authorized representative of both parties

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Agreement comprises manufacturing, testing, delivering, of substation steel, equipment, and miscellaneous materials for Business Park III Substations, Geneva, IL.

1.02 AGREEMENT

- A. Perform Work under single lump sum Agreement.

1.03 WORK BY OTHERS

- A. Foundation design and installation.
- B. Installation of steel and equipment.
- C. Below grade grounding design, materials, and installation.
- D. Manufacturing, testing, delivering of two termination structures and mounted equipment marked on drawings as procured by Customer.

1.04 CONTRACTOR USE OF PREMISES

- A. Limit Contractor's use of premises for Work and for storage, to allow for Work by other contractors.
- B. Coordinate use of premises under direction of Engineer. Contractor shall confine construction equipment, storage of materials and equipment and operations of workers to areas permitted by law, ordinances, permits, or requirements of Contract Documents, and shall not unreasonably encumber premises with construction equipment or other material or equipment.
- C. Assume full responsibility for protection and safekeeping of items under this Agreement, stored on Site.
- D. Move any stored items, under Contractor's control, which interfere with operations of Owner or separate contractor.
- E. Obtain and pay for use of additional storage or Work areas needed for operations.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SUBSTITUTIONS

- A. For period of 30 days after effective date of Agreement, Engineer will consider formal requests from Contractor for substitution of products in place of those specified. After end of that period, requests will be considered only in case of product unavailability or other conditions beyond control of Contractor.
- B. Submit 3 copies of request for substitution for consideration using attached Product Substitution Request Form. Limit each request to one proposed Substitution. Support each request with:
 - 1. Complete data substantiating compliance of proposed substitutions with requirements stated in Contract Documents. Burden of proof is on proposer.
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature; identify:
 - 1) Product description.
 - 2) Reference standards.
 - 3) Performance and test data.
 - c. Samples, as applicable.
 - d. Name and address of similar projects on which product has been used, and date of each installation.
 - 2. Itemized comparison of proposed substitution with product specified; list significant variations.
 - 3. Data relating to changes in construction schedule.
 - 4. Any effect of substitution on separate contracts.
 - 5. List of changes required in other work or products.
 - 6. Accurate cost data comparing proposed substitution with product specified. Amount of any net change to Contract Price.
 - 7. Designation of required license fees or royalties.
 - 8. Designation of availability of maintenance services, sources, or replacement materials.
- C. Substitutions will not be considered for acceptance when:
 - 1. They are indicated or implied on Shop Drawings.
 - 2. They are requested directly by Subcontractor or supplier.
 - 3. Acceptance will require substantial revision of Contract Documents.
- D. Substitute products shall not be ordered or installed without written notification from Engineer of Owner's acceptance.
- E. Engineer will determine acceptability of proposed substitutions.

1.02 CONTRACTOR'S REPRESENTATION

- A. In making formal request for substitution Contractor represents that:
 - 1. It has investigated proposed product and has determined that it is equal to or superior in all respects to that specified.
 - 2. It will provide same warranties or Bonds for substitution as for product specified or as required by Owner.
 - 3. It will coordinate installation of accepted substitution into Work, and will make such changes as may be required for Work to be complete in all respects.
 - 4. It waives claims for additional costs caused by substitution which may subsequently become apparent.
 - 5. Cost data is complete and includes related costs under its Agreement, but not:
 - a. Costs under separate contracts.
 - b. Engineer's costs for redesign or revision of Contract Documents.
 - 6. It will reimburse Owner for charges of Engineer or Engineer's consultants for evaluating any proposed substitute, whether proposed substitute is accepted or rejected.

1.03 ENGINEER DUTIES

- A. Review Contractor's requests for substitution with reasonable promptness and advise Owner.
- B. Notify Contractor in writing of Owner's decision to accept or reject requested substitution.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PRODUCT SUBSTITUTION REQUEST FORM

To: _____

Project: _____

Specified Item:	Section	Page	Paragraph	Description
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The undersigned request consideration of the following:

PROPOSED SUBSTITUTION _____

Attached data includes product description, specifications, drawings, photographs, performance, and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.
2. The undersigned will pay for changes to the building design, including engineering design, detailing, and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item.

Submitted by:

Signature _____

Firm _____

Address _____

Date _____

Telephone _____

Attachments

For use by Engineer/Architect

Approved Approved as noted

Not Approved Received too late

By _____

Date _____

Remarks _____

PART 1 GENERAL

1.01 SUBMITTAL PROCEDURES

- A. Submit electronically when required by Specification Sections. Contact Engineer as listed below for submittal instructions. An FTP/FTA site or direct posting site will be provided after award to post submittals and to receive return submittals:

Mr. Philip Schulz, P. E.
Email: schulzphil@stanelygroup.com
Office Phone: 563-264-6461
Stanley Consultants, Inc.
Stanley Building
225 Iowa Avenue
Muscatine, Iowa 52761-3764

- B. Engineer will make internal distribution to the Owner and other interested parties.
- C. Submittals shall be in English language.
- D. Weights, measures, and units shall be English units with SI metric values following in parenthesis.
- E. Symbols and drawings shall conform to ANSI Y32.2/IEEE 315/CSA Z99.

1.02 CONTRACTOR RESPONSIBILITIES

- A. Review submittals prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance to Specifications.
- C. Coordinate each submittal with other submittals and with requirements of Work and of Contract Documents.
- D. Notify Engineer in writing, at time of submission, of any deviations in submittals from requirements of Contract Documents. Any such deviations permitted by Engineer will require modifications of Contract Documents.
- E. Provide space on Shop Drawings for Contractor and Engineer stamps.
- F. When Shop Drawings are revised for resubmission, identify all changes made since previous submission.
- G. Submittals containing language imposing duties on others (such as verification of dimensions or supply of related information) inconsistent with contract language shall be null and void.
- H. Submittals shall not be used as media for inquiries for information or for verification of information that must be supplied by others to Contractor. Inquiries or verification of information shall be made by separate Contractor submittal using Request for Information (RFI) process.
- I. Begin no fabrication or Work which requires submittal review until return of submittals by Engineer with stamp, as either "Reviewed", "Reviewed as Noted", or "Reviewed as Noted-Resubmit."

- J. Distribute copies of reviewed submittals that carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.03 ENGINEER DUTIES

- A. Review required submittals with reasonable promptness and in accord with schedule, only for general conformance to design concept of Project and compliance with information given in Contract Documents. Review shall not extend to means, methods, sequences, techniques, or procedures of construction or to safety precautions or program incident thereto. Review of a separate item as such will not indicate approval of assembly in which item functions.
- B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or review of submittal. Engineer's action on submittals is classified as follows:
 - 1. Reviewed: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents. Contractor may proceed with fabrication of work in submittal.
 - 2. Reviewed As Noted: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by reviewer. Contractor may proceed with fabrication of work in submittal with modifications and corrections as indicated by reviewer.
 - 3. Reviewed As Noted-Resubmit: Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by reviewer. Contractor may proceed with fabrication of work in submittal with modifications and corrections as indicated by reviewer. Contractor shall make any corrections indicated by reviewer and resubmit for review.
 - 4. Resubmit: Submittal has been reviewed and appears not to be in conformance to design concept of Project or with Contract Documents. Contractor shall not proceed with fabrication of work in submittal, but instead shall make any corrections required by reviewer and resubmit for review.
 - 5. Returned without Review: Submittal is being returned without having been reviewed because: 1) not required by Contract Documents; 2) grossly incomplete; 3) indicates no attempt at conformance to Contract Documents; 4) cannot be reproduced; 5) lacks Contractor's completed approval stamp; or 6) lacks design professional's seal when required by law or Contract Documents. If submittal is required by Contract Documents, Contractor shall not proceed with Work as detailed in submittal, but instead shall correct defects and resubmit for review.
 - 6. For Information Only: Submittal has not been reviewed but is being retained for informational purposes only.
 - 7. Void: Submittal is voided because it is no longer required or has been superseded by another submittal.
- C. Return one electronic copy of submittals to Contractor. Contractor shall make additional distribution as required.
- D. Review of submittals shall not relieve Contractor from responsibility for any variation from Contract Documents unless Contractor has, in writing, called Engineer's attention to such variation at time of submission, and Engineer has given written concurrence pursuant to Contract Documents to specific variation, nor shall any concurrence by Engineer or other reviewer relieve Contractor from responsibility for errors or omissions in submittals.

1.04 SHOP DRAWINGS SUBMITTALS

- A. Submit for review for limited purpose of checking for conformance to information given and design concept expressed in Contract Documents. Produce copies and distribute in accordance with article "Submittal Procedures" and for record documents purposes as described in Section 01 70 00.
- B. Designate in construction schedule, or in separate coordinated submittal schedule, dates for submission and dates that reviewed submittals will be needed.

- C. Do not ship equipment until return of shop test results by Engineer as "Reviewed" or "Reviewed as Noted"
- D. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in Work or in work of other contractors.
- E. Present in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable review of information as required.
- F. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Drawings.
- G. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- H. Equipment which is identified on Contract Documents with tag number or name shall be identified on Shop Drawing with same tag.
- I. Schedule submittals to expedite Project. Coordinate submission of related items.
- J. For each submittal for review, allow 15 days to complete review process.
- K. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- L. Shop Drawings shall be submitted in electronic format.
 - 1. Submittal Transmittal form (see pdf attached) shall be provided in Word format for each submittal. MSWord template will be provided after award.
 - 2. Text documents shall be submitted in .pdf or .doc format except for the shop drawing Transmittal Form.
 - 3. Drawings shall be submitted in .pdf or .tif format.
 - 4. Electronic submittal shall be suitable for reproduction in black and white.
 - 5. Samples may be submitted to Engineer at address given above.
- M. Submittals shall contain:
 - 1. Date of submission and dates of any previous submissions.
 - 2. Project title and number.
 - 3. Contract identification.
 - 4. Names of:
 - a. Contractor.
 - b. Supplier.
 - c. Manufacturer.
 - 5. Identification of product, with Specification section number and article number.
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of Work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. An 8" x 3" blank space for Contractor and reviewer stamps.
 - 12. Indication of Contractor's approval, initialed or signed, with wording substantially as follows:

"Contractor represents to Owner and Engineer that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or assumes full responsibility for doing so and has reviewed or coordinated each submittal with requirements of Work and Contract Documents."
- 13. If Contract Documents include performance specifications stating required results which can be verified as meeting stipulated criteria, so that further design by Contractor prior to fabrication is

necessary, Submittal depicting such design must be prepared under seal of professional engineer registered in appropriate state and Submittal shall be signed and sealed in accordance with applicable regulations and with following certification statement:

"I hereby certify that this engineering document was prepared by me or under my direct personal supervision, that I am a duly licensed professional engineer under laws of state of Iowa and I accept responsibility for adequacy of this document to meet criteria stipulated in Contract Documents."

N. Product Data:

1. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
2. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

O. Design data:

1. Submit for Engineer's knowledge as contract administrator or for Owner.
2. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

P. Data sheets:

1. Data sheets may require information not known until Contractor's engineering is complete. Furnish estimated values based on good engineering judgment. Estimated values shall be identified by placement of "(est.)" next to value.
2. Data Sheets shall be updated and resubmitted by Contractor once final values are known.
3. Do not leave items blank or labeled "To Be Determined" or "Later."
4. Do not submit manufacturer Product Data instead of completed data sheets.

Q. Test reports:

1. Submit for Engineer's knowledge as contract administrator or for Owner.
2. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

R. Certificates:

1. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor.
2. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
3. Certificates may be recent or previous test results on material or product, but must be acceptable to reviewer.

S. Manufacturer's instructions:

1. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
2. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

T. Samples:

1. Samples for selection as specified in product sections:
 - a. Submit for aesthetic, color, or finish selection.
 - b. Submit samples of finishes *from full range of manufacturers' standard colors, textures, and patterns for selection.
2. Submit to illustrate functional and aesthetic characteristics of product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
3. Include identification on each sample, with full Project information.
4. Submit number specified in individual Specification Sections; one of which will be retained by Engineer.

5. Reviewed Samples which may be used in Work are indicated in individual Specification Sections.
6. Samples will not be used for testing purposes unless specifically stated in specification section.

U. Proposed products list:

1. Within 15 days after date of Notice to Proceed, submit list of major products proposed to Engineer for use, with name of manufacturer, trade name, and model number of each product.
2. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

V. Operations and maintenance manuals:

1. Designate in construction schedule, or in separate coordinated schedule, dates for submission and dates that reviewed operations and maintenance manuals will be needed.
2. Operations and maintenance manuals shall be presented in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable reviewer to review information as required. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Drawings.

1.05 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in submittals required by Engineer and resubmit until stamped as either "Reviewed," "Reviewed as Noted," or "For Information Only."
- B. Text and depictions changed on Submittal shall be back-circled (clouded).
- C. Engineer will assume that portions of Submittal not back-circled have not been changed by Contractor from previous submission.
- D. Indicate revision number and date in document revision block.

1.06 DISTRIBUTION

- A. Distribute reproductions of Shop Drawings which carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" to:
 1. Record Documents file.
 2. Other affected contractors.
 3. Subcontractors.
 4. Supplier or fabricator.
- B. Distribute Samples which carry Engineer stamp as either "Reviewed" or "Reviewed as Noted" as directed by Engineer.

1.07 CONSTRUCTION PROGRESS DOCUMENTATION

- A. Construction progress schedules: Submit initial schedules to Engineer within 15 days after date of Notice to Proceed. After review, resubmit required revised data within ten days.
- B. Form of schedules:
 1. Prepare schedules in form of horizontal bar chart.
 - a. Provide separate horizontal bar for each trade or operation.
 - b. Horizontal time scale: Identify first work day of each week.
 - c. Scale and spacing: To allow space for notations and future revisions.
 - d. Minimum sheet size: 11 x 17.
 2. Format of listings: Chronological order of start of each item of Work.
 3. Identification of listings: By major Specification Section numbers.
- C. Submittal schedule shall show dates for Contractor's submittals.

- D. Progress revisions:
 - 1. Indicate progress of each activity to date of submission.
 - 2. Show changes occurring since previous submission of schedule:
 - a. Major changes in scope.
 - b. Activities modified since previous submission.
 - c. Revised projections of progress and completion.
 - d. Other identifiable changes.
 - 3. Provide narrative report as needed to define:
 - a. Problem areas, anticipated delays, and impact on schedule.
 - b. Corrective action recommended, and its effect.
 - c. Effect of changes on schedules of other prime contractors.
- E. Distribution copies of reviewed schedules to:
 - 1. Subcontractors.
 - 2. Other concerned parties.
- F. Instruct recipients to report promptly to Contractor, in writing, any problems anticipated by projects shown in schedules.

1.08 SUBMITTAL TRANSMITTAL FORM PROCEDURES

- A. Submittals shall be accompanied by completed copies of Submittal Transmittal form, bound herein. An electronic version of transmittal form is available and may be obtained from Engineer. Reproduce additional copies required.
- B. Submit one copy of transmittal form for initial submittals and resubmittals. Sequentially number transmittal form. Revise submittals with original number and sequential alphabetic suffix.
- C. Prior to submittal, complete information under heading "Contractor's Transmittal."
- D. Engineer will complete information under "Reviewer's Action."
- E. Do not include submittals for more than one section of Specifications on Submittal Transmittal form.
- F. Identify project title, location, and number and contract title and number.
- G. Identify preparer name and, submittal number, including preparer's submittal revision number.
- H. A brief description under "Title" should clearly identify specific application of equipment or material covered by Submittal, utilizing where possible same title used in Drawings and Specifications.
- I. Identify Specification Section number.
- J. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of Work and Contract Documents.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 SERVICE ENGINEER RESPONSIBILITIES

- A. Contractor shall provide qualified Service Engineer(s), as necessary to:
 - 1. Supervise assembly of equipment.
 - 2. Inspect equipment after it is installed to assure that all details of installation are correct and that equipment is prepared for operation in accordance with manufacturer's instructions and recommendations.
 - 3. Check connections to equipment and adjust, or supervise adjustment of, control and indicating devices after equipment has been installed and connected.
 - 4. Fully instruct Owner's operating personnel in operation and maintenance of equipment.
- B. Presence of Service Engineer will in no way relieve Contractor of any responsibility assumed under Agreement.
- C. Work and abilities of Service Engineer shall be subject to review of Engineer. If Engineer determines that any Service Engineer is not properly qualified, Contractor shall replace Service Engineer upon written notification by Engineer.
- D. Contractor shall provide continuity in assignment of Service Engineer to Work. In event substitution of Service Engineer is made which is not at request of Engineer, substitute's time for "familiarization" shall be at Contractor's expense.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 PRODUCTS

- A. Provide products of qualified manufacturers suitable for intended use. Provide products of each type by a single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer for components being replaced.

1.02 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.03 RECEIVING, UNLOADING AND STORING

- A. Contractor shall take custody of equipment and materials received and shall be solely responsible for damage and shortages until acceptance of Contractor's work by Owner.
- B. Unload equipment as soon as possible after arrival. Contractor shall pay freight railcar and truck demurrage, detention, and any other costs which may be billed to Owner due to failure to unload railcars or trucks within time required by freight companies.
- C. Use of bare wire rope slings for unloading and handling equipment and materials is prohibited without Owner approval.
- D. Equipment and materials shall be stored and maintained in accordance with manufacturer's recommendations and these specifications.
- E. Provide physical protection for equipment placed in storage.
 - 1. Stored equipment shall be supported above ground and shall be covered with canvas or other heavy-duty sheeting. Cover shall be securely fastened and shall be replaced if torn or otherwise damaged during storage period.
 - 2. Following items shall be stored in weatherproof, heated (minimum 50°F) building complete with bins for storage of small pieces of equipment. Storage inside of existing plant will not be available.
 - a. Electronic instruments and cabinets.
 - b. Electrical equipment with general purpose enclosures.
 - c. Insulation materials.
 - d. Rotating equipment.
 - e. Miscellaneous electronic equipment, gaskets, and small machined parts.
 - f. Instruments and controls.
 - g. Protection panels.
- F. Inspect stored equipment weekly and document activities performed. Renew protective coatings as necessary to preserve fitness of equipment.
- G. Contractor shall provide materials, equipment, and labor required for such storage and maintenance. Contractor shall be accountable for any deterioration of materials or equipment occasioned by

improper storage or maintenance, and shall recondition, repair, or replace any such materials or equipment without additional cost to Owner.

- H. Electrical equipment or equipment with any electrical components stored outdoors shall be supported at least 12" above ground.

1.04 GENERAL STORAGE

- A. Store products immediately on delivery in accordance with manufacturer's instructions, with seals and labels intact. Protect until installed.
- B. Arrange storage in manner to provide access for maintenance of stored items and for inspection.

1.05 ENCLOSED STORAGE

- A. Store products subject to damage by elements in substantial weathertight enclosures.
- B. Maintain temperature and humidity within ranges required by manufacturer's instructions.
- C. Provide humidity control and ventilation for sensitive products, as required by manufacturer's instructions.
- D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

1.06 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
- D. Provide surface drainage to prevent flow or ponding of rainwater.
- E. Prevent mixing of refuse or chemically injurious materials or liquids.

1.07 MAINTENANCE OF STORAGE

- A. Periodically inspect stored products on scheduled basis. Maintain log of inspections, make available to Engineer on request.
- B. Verify storage facilities comply with manufacturer's product storage requirements.
- C. Verify manufacturer required environmental conditions are maintained continually.
- D. Verify surfaces of products exposed to elements are not adversely affected and if weathering of finishes is acceptable under requirements of Contract Documents.

1.08 MAINTENANCE OF EQUIPMENT STORAGE

- A. For mechanical and electrical equipment in long-term storage, manufacturer's service instructions shall accompany each item, with notice of enclosed instructions shown on exterior of package.
- B. Service equipment on regularly scheduled basis, maintaining log of services; submit as record document.

1.09 PRODUCTS LIST

- A. Within 30 days after effective date of Agreement, submit complete list of major products which are proposed for installation electronically to Engineer.
- B. Tabulate products by Specification section number and title.
- C. For products specified only by reference standards, list for each such product:
 - 1. Name and address of manufacturer.
 - 2. Trade name.
 - 3. Model or catalog designation.
 - 4. Manufacturer's data:
 - a. Reference standards.
 - b. Performance test data.

1.10 PRODUCT OPTIONS

- A. For products specified only by reference standard, select product meeting that standard, by any manufacturer. For products specified by naming several products or manufacturers, select any one of products and manufacturers named which complies with Specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equal," submit request as for substitutions for any product or manufacturer which is not specifically named in accordance with Section 01 25 13.
- D. For products specified by naming only one product and manufacturer, there is no option and no substitution will be allowed.
- E. Whenever Specifications call for item by manufacturer's name and type and additional features of item are specifically required by Specifications, additional features specified shall be provided whether or not they are normally included in standard manufacturer's item listed.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.02 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract Drawings.
- G. Submit documents to Engineer for final Application for Payment.

1.03 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

PART 1 GENERAL

1.01 OPERATING AND MAINTENANCE DATA REQUIREMENTS

- A. Operating and maintenance data shall be in English language.
- B. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Agreement.
- C. Prepare operating and maintenance data as specified in this section and as referenced in other pertinent sections of Specifications.
- D. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems.

1.02 QUALITY ASSURANCE

- A. Preparation of data shall be done by personnel:
 - 1. Trained and experienced in maintenance and operation of described products.
 - 2. Familiar with requirements of this section.
 - 3. Skilled as technical writers to extent required to communicate essential data.
 - 4. Skilled as draftsmen competent to prepare required drawings.

1.03 FORM OF SUBMITTALS

- A. Prepare data in form of an instructional manual for use by Owner's personnel.
- B. Format:
 - 1. Sheet size: 8-1/2" x 11" minimum.
 - 2. Paper: 20 lb minimum, white, for typed pages.
 - 3. Text: Manufacturer's printed data, or neatly typewritten.
 - 4. Drawings:
 - a. Provide reinforced punched binder tab, bind in with text.
 - b. Larger size drawings shall be folded to 8-1/2" x 11", and inserted into pockets.
 - 5. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - a. Provide typed description of product, and major component parts of equipment.
 - b. Provide indexed tabs.
 - 6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS." List:
 - a. Title of Project.
 - b. Identity of separate structure as applicable.
 - c. Identity of general subject matter covered in manual.
 - 7. Binders:
 - a. Commercial quality 3-ring binders with durable and cleanable plastic covers.
 - b. Maximum ring size: 3".
 - c. When multiple binders are used, correlate data into related consistent groupings.

1.04 CONTENT OF MANUAL

- A. Neatly typewritten table of contents for each volume, arranged in systematic order.
 - 1. Contractor, name of responsible principal, address, and telephone number.
 - 2. List of each product required to be included, indexed to content of volume.
 - 3. List, with each product, name, address, and telephone number of:
 - a. Subcontractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Identify area of responsibility of each.
 - d. Local source of supply for parts and replacement and list of recommended spare parts.

4. Identify each product by product name and other identifying symbols as set forth in Contract Documents, including nameplate information and shop order numbers for each item of equipment furnished.

B. Product data:

1. Include only those sheets which are pertinent to specific product.
2. Annotate each sheet to:
 - a. Clearly identify specific product or part installed.
 - b. Clearly identify data applicable to installation.
 - c. Delete references to inapplicable information.

C. Drawings:

1. Supplement product data with Drawings as necessary to clearly illustrate:
 - a. Relations of component parts of equipment and systems.
 - b. Control and flow diagrams.
2. Coordinate Drawings with information in Project record documents to assure correct illustration of completed installation.
3. Do not use Project record documents as maintenance Drawings.

D. Written text, as required to supplement product data for particular installation.

1. Organize in consistent format under separate headings for different procedures.
2. Provide logical sequence of instructions for each procedure.

E. Copy of each warranty, Bond, and service contract issued.

1. Provide information sheet for Owner's personnel, giving:
 - a. Proper procedures in event of failure.
 - b. Instances which might affect validity of warranties or Bonds.

1.05 MANUAL FOR MATERIALS AND FINISHES

A. Submit 3 copies of complete manual in final form.

B. Contents, for architectural products, applied materials and finishes:

1. Manufacturer's data, giving full information on products.
 - a. Catalog number, size, composition.
 - b. Color and texture designations.
 - c. Information required for re-ordering special-manufactured products.

C. Contents, for moisture protection and weather-exposed products:

1. Manufacturer's data, giving full information on products.
 - a. Applicable standards.
 - b. Chemical composition.
 - c. Details of installation.
2. Instructions for inspection, maintenance, and repair.

D. Additional requirements for maintenance data: Respective sections of Specifications.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit 3 hard copies and 1 PDF copy of complete manual in final form

B. Contents, for each unit of equipment and system, as appropriate:

1. Description of unit and component parts:
 - a. Function, normal operating characteristics, and limiting conditions.
 - b. Performance curves, engineering data, and tests.
 - c. Complete nomenclature and commercial number of replaceable parts.
2. Operating procedures:
 - a. Startup, break-in, routine, and normal operating instructions.
 - b. Regulation, control, stopping, shutdown, and emergency instructions.

- c. Summer and winter operating instructions.
 - d. Special operating instructions.
 3. Maintenance procedures:
 - a. Maintenance schedule:
 - 1) Show required maintenance for all equipment in package on one document, broken out by day, week, month, year, 5 years, etc.
 - 2) Set up as a checklist to be used by owner to verify maintenance is being completed.
 - b. Routine operations.
 - c. Guide to "trouble-shooting."
 - d. Disassembly, repair, and reassembly.
 - e. Alignment, adjusting, and checking.
 4. Servicing and lubrication schedule: List of lubricants required.
 5. Manufacturer's printed operating and maintenance instructions.
 6. Description of sequence of operation by control manufacturer.
 7. Original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - a. Predicted life of parts subject to wear.
 - b. Items recommended to be stocked as spare parts.
 8. As-installed control diagrams by controls manufacturer.
 9. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
 10. Other data as required under pertinent sections of Specifications.
- C. Content, for each electrical and electronic system, as appropriate.
1. Description of system and component parts:
 - a. Function, normal operating characteristics, and limiting conditions.
 - b. Performance curves, engineering data, and tests.
 - c. Complete nomenclature and commercial number of replacement parts.
 2. Circuit directories of panelboards:
 - a. Electrical service.
 - b. Controls.
 - c. Communications.
 3. As-installed color-coded wiring diagrams.
 4. Operating procedures:
 - a. Routine and normal operating instructions.
 - b. Sequences required.
 - c. Special operating instructions.
 5. Maintenance procedures:
 - a. Routine operations.
 - b. Guide to "trouble-shooting."
 - c. Disassembly, repair, and assembly.
 - d. Adjustment and checking.
 6. Manufacturer's printed operating and maintenance instructions.
 7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
 8. Other data as required under pertinent sections of Specifications.
- D. Prepare and include additional data when need for such data becomes apparent during instruction of Owner's personnel.
- E. Additional requirements for operating and maintenance data: Respective sections of Specifications.

1.07 SUBMITTAL SCHEDULE

- A. Preliminary draft:
1. Provide 2 copies with shipped equipment.
 2. Submit 2 copies to Owner.
 3. Submit 2 copies to Engineer of proposed formats and outlines of contents prior to start of Work. Engineer will review draft and return 1 copy with comments.

- B. Submit 1 copy of completed data in final form 15 days prior to final inspection or acceptance. Copy will be returned after final inspection or acceptance, with comments.
- C. Submit specified copies of approved data in final form 10 days after final inspection or acceptance.

PART 2 PRODUCTS

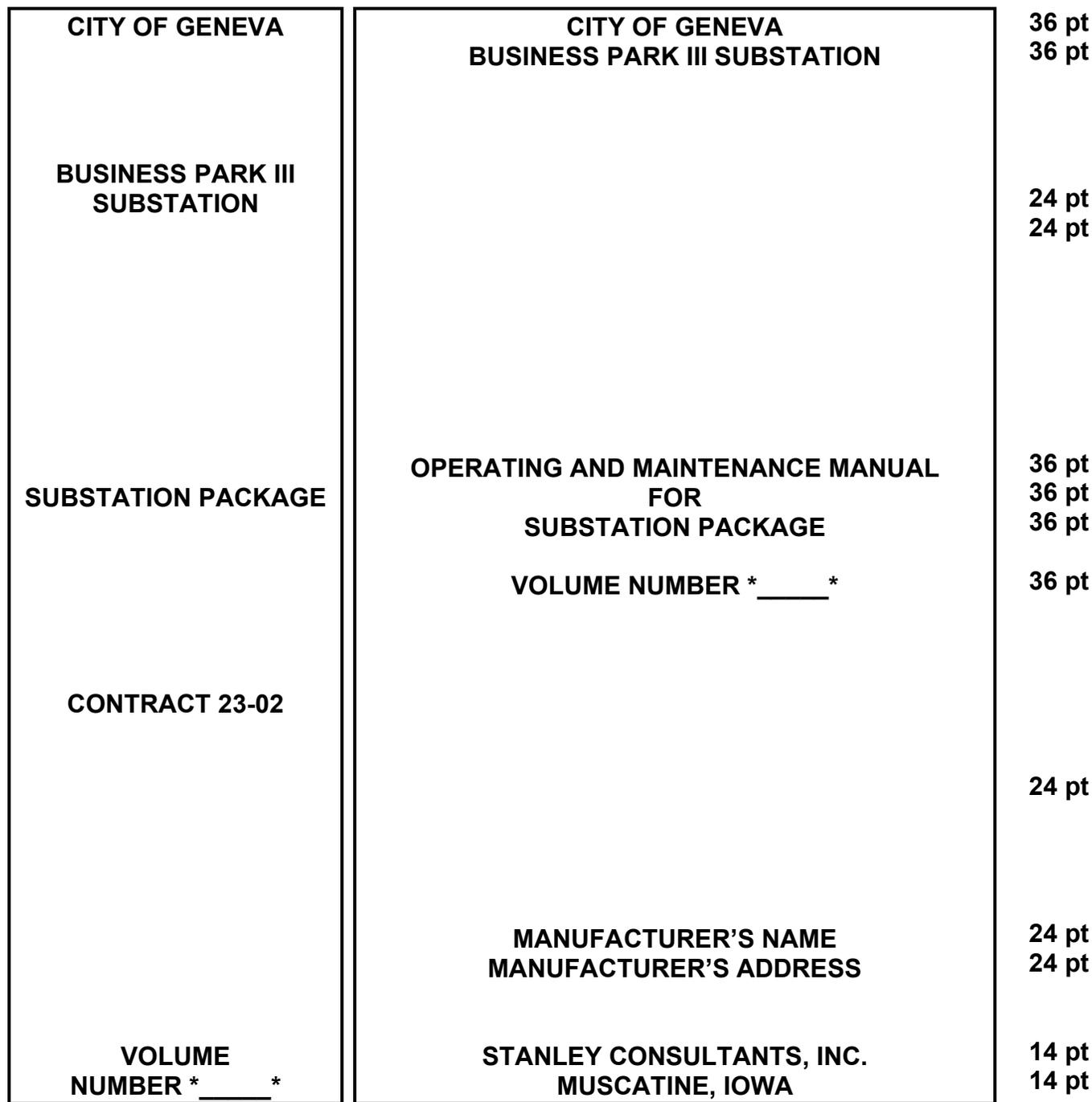
NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

OPERATING AND MAINTENANCE MANUAL COVER DIAGRAM



SPINE

COVER

1. Imprinting shall be in Arial font.
 2. Spine printing shall be 12-point.
 3. Cover printing shall be in point sizes indicated.
- * If more than one volume is necessary, imprint cover with volume numbers.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Substation equipment and hardware including switches, surge arresters, and transformers.

1.02 WORK BY OTHERS

- A. Receiving and storage of equipment.
- B. Final placement and assembly.
- C. Power, control and grounding connections.

1.03 INFORMATIONAL SUBMITTALS

- A. Submit with Bid:
 - 1. Completed Data Sheets.
 - 2. Manufacturer, rating, and type of each piece of equipment to be furnished.
 - 3. Maximum loads which can be supported by switch terminal pads.
 - 4. Complete data and listing of items requiring field assembly and installation.
- B. Product Data
 - 1. Detailed list of materials identifying manufacturer and type.
 - 2. Complete instruction manuals and parts list for all equipment furnished.
 - 3. Manufacturer's catalog numbers on all standard components and accessories. Submit additional data when requested.
 - 4. Maximum loads which can be supported by switch terminal pads.
 - 5. List of miscellaneous materials proposed, including conduit, conductor, and accessories, identifying manufacturer and type.
 - 6. Special construction techniques required.
 - 7. Component and accessories list.
 - 8. Ratings and nameplate information.
 - 9. Installation information.
- C. Quality assurance data:
 - 1. Current transformer excitation and ratio correction factor curves.
 - 2. Equipment performance data and operating characteristics.
 - 3. Certified production test data and reports.
 - 4. Test reports for previous design, and documentation showing previous design ratings and configurations.
 - 5. Certified copy of manufacturer's field representative report if field service provided.
- D. Manufacturer's instructions: Provide detailed manufacturer's installation instructions and drawings including, but not limited to:
 - 1. Interior and exterior of equipment cleaning and debris removal prior to placing into service.
 - 2. Group-operated disconnect switches: Installation and alignment requirements.
 - 3. Circuit switchers: Installation along with terminal and ground connections requirements.
 - 4. Power fuses: Installation and alignment for proper operation and contact wipe.
 - 5. Voltage transformers: Installation instructions and terminal and ground connections.
 - 6. Coupling capacitor voltage transformers. Installation instructions and terminal and ground connections.

1.04 ACTION SUBMITTALS

- A. Product Data: Certified Data Sheets.

- B. Shop Drawings:
1. Certified nameplate, outline, general arrangement, assembly, and installation details drawings for major items of equipment furnished.
 2. Complete "engineered layout" drawings for each type of group-operated switch, including mounting layout details of all operating mechanism components and accessories.
 3. Shop drawings on nonstandard components.
 4. Certified elevation and outline drawings with dimensions.
 5. Certified plan view drawings with dimensions.
 6. Interface coordination details.
 7. Wiring and termination drawings.
 8. Complete schematic and connection diagrams for motor operators if specified on Data Sheets.

1.05 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data. Provide, at minimum:
1. General description and technical data.
 2. Receiving, storage, installation, and testing instructions.
 3. Operating and maintenance procedures.
 4. Complete set of final drawings.
 5. Complete documentation of inspections and tests performed, including any logs, curves, and certificates. Documentation shall note any replacement of equipment or components that failed during testing.
 6. Spare parts lists.
 7. Installation field reports.
 8. Data sheets updated to reflect field installation conditions.

1.06 QUALITY ASSURANCE

- A. Manufacturer qualifications:
1. Manufacturer of equipment shall be manufacturer of major components within assembly.
 2. ISO 9000 certified.
 3. Manufacturer shall have produced similar electrical equipment for a minimum period of 5 years.
 4. When requested by Engineer, provide acceptable list of similar equipment installations complying with requirements of this specification.
- B. Regulatory requirements:
1. Design, fabricate, and test equipment in accordance with applicable standards of ANSI, NEMA, NFPA 70, IEEE, and shall be in accordance with applicable requirements of OSHA.
 2. Where applicable, equipment and materials supplied shall be of type listed in "List of Materials Acceptable for Use on Systems of REA Electrification Borrowers," Bulletin 43-5.
 3. Design equipment in accordance with relevant sections of most recent local Building Code.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver f.o.b. job site, unloaded.
- B. Ship equipment as completely assembled as practicable.
- C. Handle equipment to prevent damage, denting, or scoring during shipping and delivery.
- D. Protect from weather, dirt, water, construction debris, and physical damage in accordance with manufacturer's instructions.

1.08 WARRANTY

- A. Provide manufacturer's standard 1-year warranty from date of delivery.

PART 2 PRODUCTS

2.01 SYSTEM REQUIREMENTS

- A. Design equipment using system characteristics and ratings shown on Data Sheets.

2.02 DISCONNECT SWITCH

- A. Insulator units: ANSI C29.9.
- B. Operating mechanism:
 - 1. Manual:
 - a. Heavy-duty, swing-handle operated complete with accessories, including flexible grounding cable and provision for padlocking in "Open" and "Closed" positions.
 - b. Stainless steel or galvanized after fabrication.
 - c. Size to eliminate twisting or sag.
 - d. Switch mechanism shall be such that, if properly aligned, it is impossible to remain in partially opened or closed position.
 - 2. Motor operator:
 - a. High-speed (4 seconds maximum), heavy-duty motor operator including:
 - b. "Close" and "Open" test pushbuttons for local control of motor operator.
 - c. Mechanical indicator for local indication of operator position.
 - d. Provide decoupling mechanism with following:
 - 1) Hand crank for manual operation of motor operator with motor de-energized.
 - 2) Means for electrical operation of motor operator without operation of primary switch.
 - 3) Swing handle operator for manual operation of switch with motor operator unit decoupled.
- C. Linkage: Provide between operator and switch including flexible grounding strap.
- D. Switch poles: Fully coordinated and field adjustable per pole and for alignment and 3-phase timing coordination.
- E. Switch contacts:
 - 1. Self-wiping.
 - 2. Field-adjustable.
 - 3. Field-adjustable contact pressure.
- F. Standards: NEMA SG6 and ANSI C37.32.
- G. Manufacturer: Mindcore, ABB, Pascor, Southern States L.L.C., Royal Electric Manufacturing Company, Inc., S&C Electric Company, Siemens, or USCO Power Equipment Corp.

2.03 CIRCUIT SWITCHER

- A. Operating mechanism: If provided with decoupling mechanism, should permit operation of interrupter and motor operator with disconnect blades locked open, provided with padlocking provisions.
- B. Mounting pedestals:
 - 1. Construction: Galvanized steel with frame to support 3 poles of switchers.
 - 2. Galvanized anchor bolts with 2 washers and 2 heavy hex nuts.
- C. Operations and controls:
 - 1. Pushbuttons for local control of circuit switcher.
 - 2. "Local-Remote" selector switch.
 - 3. Operating linkage between operator and switch
 - 4. Position indicator or indicating light for operator.
 - 5. Electric operation counter.

6. If disconnect switch specified on Data Sheets, decoupling mechanism to permit operation of interrupter and motor operator with disconnect blades locked open.
7. Manual trip lever for interrupter.
8. Manual opening handle for disconnect blades, if specified on Data Sheets

D. Terminals: 4-hole with NEMA drilling.

E. Current transformers when specified on Data Sheets:

1. Multiratio, with fully distributed windings for relaying or metering service in quantities, ratios, and ratings as indicated on Data Sheets.
2. Extend leads into junction box and terminate on shorting-type terminal blocks.
3. Extend leads into NEMA 3R minimum junction cabinet and terminate on shorting-type terminal blocks.
4. Design for mounting directly on circuit switcher.
5. Provide complete with mounting hardware, supports, and wiring.

F. Standard: NEMA SG6.

G. Manufacturer: ABB, Siemens, or S & C Electric Company.

2.04 SURGE ARRESTERS

A. Type: Metal-oxide station class arresters with ground connections.

B. Connectors: Primary and ground.

C. Standard: ANSI C62.11.

D. Manufacturer: General Electric "Tranquell," Ohio Brass "DynaVar," or ABB "ExlimQ."

2.05 CURRENT TRANSFORMERS

A. Primary terminal: Tin-plated copper bars suitable for either copper or aluminum connections.

B. Secondary terminals: In closed connection box with conduit entrances.

C. Ground terminal: Clamp-type connector suitable for No. 6 to No. 2 AWG.

D. Standard: ANSI C57.13.

E. Manufacturer: General Electric or ABB.

2.06 VOLTAGE TRANSFORMERS

A. Primary terminal: Clamp type connector suitable for No. 2 to 4/0 AWG copper or aluminum cable.

B. Secondary terminals: In closed connection box with conduit entrances.

C. Ground terminal: Clamp type connector suitable for No. 6 to No. 2 AWG.

D. Standard: ANSI C57.13

E. Manufacturer: General Electric or ABB.

2.07 SWITCH TERMINAL PAD DESIGN LOADINGS

A. Longitudinal switches (parallel to switch blades) shall be capable of resisting, without injury or failure, force listed in ANSI C37.32, Table 2.

2.08 FINISHES

- A. Stainless steel or galvanized. Apply to exposed parts after fabrication.

2.09 SOURCE QUALITY CONTROL

- A. Perform factory testing in accordance with applicable standards of IEEE, ANSI, and NEMA.
- B. Tests shall be performed at 60 Hz.
- C. Certified accuracy tests on metering type current and voltage transformers shall be in accordance with ANSI C57.13.
- D. Test results shall indicate that equipment meets standard specified before shipment can be made.

PART 3 EXECUTION**3.01 MANUFACTURER FIELD SERVICES**

- A. Provide manufacturer's service representative to support installation and construction as required.

DATA SHEET SUBSTATION CHARACTERISTICS (APPLIES TO ALL DATA SHEETS)		Substation Name: Business Park III	
		REV. #	
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Voltages;			
High Voltage	kV	34.5	
Low Voltage	kV		
24 Hr. Avg. Ambient Design Temperature	°C	30	
Maximum Ambient Temperature	°C	40	
Minimum Ambient Temperature	°C	-30	
Site Elevation Above Sea Level	ft	Less than 3,300 ft	
Specific local Building Code and specific sections on seismic requirements used in equipment design	---	By Manufacturer	
Symmetrical short circuit current	kA	40	
Operating Frequency	Hz	60	

DATA SHEET DISCONNECT SWITCH		Equipment Name: Line Switch	
		Tag No.: LS-3	REV. #
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Manufacturer	
Catalog/Serial No.	N/A	By Manufacturer	
CHARACTERISTICS			
Group Operated	Y/N	Y	
Number of Poles	1 or 3	3	
Number of Insulators Per Pole	2 or 3	2	
Operating Mechanism	Manual / Motor	Motor	
Quick Break Arc Restrictors	Y/N	N	
Rotating Insulator	Y/N	Y	
Break Type	Vertical , Center or Single Side Break	Center	
Single-Throw	Y/N	y	
Use (Line Switch, Bypass Switch, Bus Transfer Switch, etc)	----	Line Switch	
RATINGS			
Nominal Circuit Voltage	kV	34.5kV	
BIL	kV	200	
Continuous Current	A	1200	
INSULATION			
Insulator Type	TR- x	By Manufacturer	
Phase Spacing	Inches	48	
Insulator BIL	kV	200	
Minimum creepage distance	inches	By Manufacturer	
MOTOR OPERATING MECHANISM			
Motor Operator Required	Y/N	Y	
High Speed	Y/N	Y	
Control Voltage (AC or DC)	V	125 VDC	
Fused Disconnect Switch	Y/N	Y	
Space Heaters	Y/N	Y	
Close/Open Pushbuttons For Local Control	Y/N	Y	
Mechanical Indicator For Operator Position	Y/N	Y	
Decoupling Mechanism	Y/N	Y	
Linkage	Y/N	Y	
Quantity N.O. (8)		8	
Quantity N.C. (8)		8	
DELIVERY			
Method of Shipment (truck, rail)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

DATA SHEET DISCONNECT SWITCH		Equipment Name: Transformer Switch	
		Tag No.:	REV. #
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Manufacturer	
Catalog/Serial No.	N/A	By Manufacturer	
CHARACTERISTICS			
Group Operated	Y/N	Y	
Number of Poles	1 or 3	3	
Number of Insulators Per Pole	2 or 3	2	
Operating Mechanism	Manual / Motor	Manual	
Quick Break Arc Restrictors	Y/N	N	
Rotating Insulator	Y/N	Y	
Break Type	Vertical , Center or Single Side Break	Center	
Single-Throw	Y/N	y	
Use (Line Switch, Bypass Switch, Bus Transfer Switch, etc)	----	Transformer Switch	
RATINGS			
Nominal Circuit Voltage	kV	34.5kV	
BIL	kV	200	
Continuous Current	A	1200	
INSULATION			
Insulator Type	TR- x	By Manufacturer	
Phase Spacing	Inches	48	
Insulator BIL	kV	200	
Minimum creepage distance	inches	By Manufacturer	
MOTOR OPERATING MECHANISM			
Motor Operator Required	Y/N	N	
High Speed	Y/N		
Control Voltage (AC or DC)	V		
Fused Disconnect Switch	Y/N		
Space Heaters	Y/N		
Close/Open Pushbuttons For Local Control	Y/N		
Mechanical Indicator For Operator Position	Y/N		
Decoupling Mechanism	Y/N		
Linkage	Y/N		
Quantity N.O. (8)			
Quantity N.C. (8)			
DELIVERY			
Method of Shipment (truck, rail)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

DATA SHEET CIRCUIT SWITCHER		Equipment Name: Line Circuit Switcher	
		Tag No.: CS-3 & CS-23REV. #	
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Manufacturer	
Catalog/Serial No.	N/A	By Manufacturer	
TYPE			
Group Operated	Y	Y	
Number of Poles	3	3	
Power Operated Disconnect	Y/N	Y	
Interrupter Orientation	Vertical or Horizontal	Vertical	
Single-Throw	Y	Y	
Bypass Blades	Y/N	N	
Service Type	Indoor or Outdoor	Outdoor	
RATINGS			
Nominal Circuit Voltage Class	kV rms	34.5	
Maximum Voltage	kV rms	38	
BIL	kV	200	
Continuous Current	A	1200	
Momentary Current	A	104,000	
Three Second Current	A	40,000	
Fault Closing Capability	A	40,000	
Primary Fault Interrupting	A	40,000	
Secondary Fault Interrupting	A	4000	
Operating Frequency (50 or 60)	Hz	60	
Maximum Interrupting Time	cycles	3	
INSULATION			
Insulator BIL	kV	200	
Minimum creepage distance	inches	By Manufacturer	
Insulator Color		ANSI 70 Gray	
Phase Spacing	Inches	48	
ELECTRICALLY SEPARATE AUXILIARY SWITCHES			
# of N.O. For Remote Ind./Control (8)		8	
# of N.C. For Remote Ind./Control (8)		8	
# of N.O. Which Follow Operator Mech. (2)		2	
# of N.C. Which Follow Operator Mech. (2)		2	
TARGETS			
Adequate Gas Pressure In Interrupter	Y/N	Y	
Position of Interrupter Contacts	Y/N	Y	
ACCESSORIES			
Operating Linkage Between Operator And Switch	Y	N	
Position Indicator or Indicating Light for Operator	Y	Y	
Electric Operation Counter	Y	Y	
Decoupling Mechanism With Padlock Provisions	Y	Y	
Manual Trip Lever For Interrupter	Y	Y	
Manual Opening Handle for Disconnect Blades	Y/N	Y	

DATA SHEET CIRCUIT SWITCHER		Equipment Name: Line Circuit Switcher	
		Tag No.: CS-3 & CS-23REV. #	
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
COLOR			
Insulators and Painted Surfaces	ANSI 70 Gray	ANSI 70 Gray	
MOUNTING PEDASTAL			
Height	Inches	By Contactor	
TARGETS VISIBLE FROM GROUND LEVEL			
Adequate Gas Pressure	Y	Y	
Position Of Interrupter Contacts	Y	Y	
DELIVERY			
Method of Shipment (truck, rail)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

DATA SHEET SURGE ARRESTER		Equipment Name: xxxxxx	
		Tag No.: xxx-#####	REV. #
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Contractor	
Catalog/Serial No.	N/A	By Contractor	
RATINGS			
Maximum Continuous Operating Voltage (MCOV)	kV	22	
Duty Cycle	kV	27	
Class	Intermediate or Station	Station	
Type	Metal Oxide Varistor or Silicon Carbide	Metal Oxide Varistor	
INSULATION			
Minimum creepage distance	inches	By Manufacturer	
Insulator Color		ANSI 70 Gray	
Phase Spacing	Inches	48	
COLOR			
Color		ANSI 70 Gray	
DELIVERY			
Method of Shipment (truck, rail,)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

DATA SHEET VOLTAGE TRANSFORMER		Equipment Name: Line and Bus VT	
		Tag No.: xxx-##### REV. #	
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Manufacturer	
Catalog/Serial No.	N/A	By Manufacturer	
TYPE			
Outdoor	Y	Y	
Insulation	Dry Type or Oil Filled	Dry	
Number of Bushings	1	1	
Number and Type of Secondary Windings	X and Y	X	
Quantity	----	6	
RATINGS			
Nominal Primary Circuit Voltage	kV L-L	34.5	
Transformer Primary Voltage	kV L-G	19.9	
Transformer Secondary Voltage	(/)volts	115/67	
Ratio	(/ :1)	175/300:1	
Transformer Primary Connection	L-G	L-G	
BIL	kV	200	
Frequency (50 or 60)	Hz	60	
Accuracy Classification		0.3 W, X, M, Y, Z	
Thermal Burden Rating Total Both Windings	VA	2000	
INSULATION			
Insulator BIL	kV	200	
Minimum creepage distance	inches	By Manufacturer	
Insulator Color		ANSI 70 Gray	
Phase Spacing	Inches	48	
Color			
Color		ANSI 70 Gray	
DELIVERY			
Method of Shipment (truck, rail,)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

DATA SHEET CURRENT TRANSFORMER		Equipment Name: Line CT	
		Tag No.: xxx-##### REV. #	
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/A	By Manufacturer	
Catalog/Serial No.	N/A	By Manufacturer	
TYPE			
Outdoor	Y	Y	
Insulation	Dry Type or Oil Filled	Dry	
Number of Bushings	1	1	
Number and Type of Secondary Windings	SR or DR or MR	MR	
Quantity	----	3	
RATINGS			
Nominal Primary Circuit Voltage	kV L-L	34.5	
Transformer Primary Amperage	A	1200	
Transformer Secondary Voltage	(/)volts	115/67	
Ratio	(:5)	1200:5	
BIL	kV	200	
Frequency (50 or 60)	Hz	60	
Accuracy Classification		C400	
Thermal Rating Factor	--	2	
INSULATION			
Insulator BIL	kV	200	
Minimum creepage distance	inches	By Manufacturer	
Insulator Color		ANSI 70 Gray	
Phase Spacing	Inches	48	
COLOR			
Color		ANSI 70 Gray	
DELIVERY			
Method of Shipment (truck, rail)	---	By Manufacturer	
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	

END OF SECTION

- 1) Philip E. Schulz
- 2) Seth G. Weiss

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Design, furnish, and deliver:
 - 1. Substation steel structures, stands, and bus supports required for mounting equipment located above ground or at foundation level.
 - 2. Substation bus system, including buses, connectors, insulators, and accessories.
 - 3. Shielding masts.
 - 4. Anchor bolt assemblies for structures, stands, and shielding masts.
 - 5. Hardware and assemblies as required to install specified structures and equipment.
- B. Electrical connectors for equipment unless specified otherwise.
- C. Grounding for equipment mounted on structures.
- D. Switch operator grounding platforms.

1.02 WORK BY OTHERS

- A. Receipt, unloading, storage, and installation of structures.
- B. Erection and installation of structures including side and load side flexible bus connections to other equipment and lines.
- C. Furnish and install substation concrete foundations.
- D. Furnish and install substation and equipment grounding.
- E. Furnish and install anchor bolts for structures and stands.
- F. Furnish and install substation equipment.

1.03 INFORMATIONAL SUBMITTALS

- A. Submit with Bid:
 - 1. Completed Data Sheets.
 - 2. Material list indicating quantity, description, and manufacturer of components including approximate structure weights.
- B. Product Data:
 - 1. Recommended installation sequence for structures.
 - 2. Complete instruction manuals and parts list for equipment furnished.
 - 3. Bus cutting and splicing guide for use by erection crew.
 - 4. Manufacturer's installation instructions for bus fittings. Provide temperature compensation chart for bus expansion fittings. Special structure installation instructions shall be provided with detail erection drawings, including but not limited to:
 - a. Limitations on attachments and attachment locations.
 - b. Field welding limitations.
- C. Shop Drawings:
 - 1. Prepare Shop Drawings and calculations under seal of a professional engineer registered in state indicated by location on Data Sheets.
 - 2. Structural design calculations.
 - 3. Anchor bolt plans and details shall be included with the design calculations submittal.
 - 4. Assembly, installation, and anchor bolt detail drawings for structures, and stands including baseplate dimensions and minimum foundation dimensions.

5. Foundation loading diagrams:
 - a. Indicate simultaneous shear in each direction, simultaneous moment in each direction, and vertical load at each structure bearing plate for each specified load condition.
 - b. For multiple leg or multiple column structure, loading diagrams shall show simultaneous loading at each column or leg for each load condition.
 - c. State whether indicated loads are working loads or multiplied by an overload factor. If overload factors are included, magnitude shall be indicated.
 6. If Supplier is packaging structures as appropriate to provisions of contract:
 - a. General arrangement drawings to exact scale with complete dimensions showing plans, elevations, and sections of substation structures and stands with equipment, buses, and jumpers mounted thereon and showing electrical clearances.
 - b. Bus plan and elevations drawings shall indicate size, type and location of electrical connection bolts. Include instructions for bolt tightening.
 - c. Steel erection drawings
 - d. Shop Drawings on nonstandard components.
 7. Shop fabrication detail drawings for structures.
 8. Steel drawings shall indicate size, type and location of structure connection bolts.
 9. Include instructions for bolt tightening
- D. Quality assurance data:
1. Welding certificate for each person welding, showing that person has passed tests specified by AWS.
 2. Structural design computations and drawings showing additional detail, if requested by Engineer.

1.04 ACTION SUBMITTALS

- A. Product Data:
1. Manufacturer's catalog sheets with catalog number identified on standard components and accessories.
 2. Detailed list of materials identifying quantity, description, and manufacturer of components. List manufacturer's catalog number and type. Cross reference material list to item numbers used on design drawings (if applicable).
 3. Such other similar material that Engineer may request.
- B. Shop Drawings:
1. Prepare Shop Drawings and calculations under seal of a professional engineer registered in the state indicated by location on Data Sheets.
 2. Steel erection drawings.
 3. Steel drawings shall indicate size, type and location of equipment mounting bolts.
 4. Steel design forces for design of foundations.
 5. Shop Drawings on nonstandard components

1.05 CLOSEOUT SUBMITTALS

- A. Project Record Documents.
- B. Operation and maintenance manuals. In addition to requirements of Section 01 78 23, provide at a minimum:
1. General description and technical data.
 2. Receiving, storage, installation, and testing instructions.
 3. Operating and maintenance procedures.
 4. Complete set of final drawings.
 5. Complete documentation of inspections and tests performed, including any logs, curves, and certificates. Documentation shall note any replacement of equipment or components that failed during testing.
 6. Spare parts lists.
 7. Installation field reports.
 8. Data sheets updated to reflect field installation conditions.

1.06 QUALITY ASSURANCE

- A. Steel design shall be signed and sealed by engineer registered in state indicated by location on Data Sheets.
- B. Regulatory requirements:
 - 1. Detail in accordance with AISC Structural Steel Detailing Manual.
 - 2. When applicable, equipment and materials supplied shall be of types listed in "List of Materials Acceptable for Use on Systems of RUS Electrification Borrowers, "Informational Publication 202-1."
 - 3. Structures shall be designed, fabricated, assembled, and tested in conformance to:
 - a. American Institute of Steel Construction (AISC), Manual of Steel Construction.
 - b. American Society of Civil Engineers (ASCE), Substation Structure Design Guide.
 - c. NEMA SG6 - Power Switching Equipment and TT1- Tapered Tubular Steel Structures.
 - d. RUS Bulletin 1724E-300 (when applicable).
 - e. National Electric Safety Code (NESC) for structures that terminate transmission conductors within the substation.
 - f. American National Standards Institute (ANSI).
 - g. American Society for Testing Materials (ASTM).
 - h. American Welding Society (AWS).
- C. Substation structures shall be designed and furnished by single manufacturer.
- D. Manufacturer qualifications:
 - 1. Manufacturer of major components within assembly.
 - 2. ISO 9001 certified.
 - 3. Produced similar electrical equipment for a minimum period of 5 years.
 - 4. Qualified design staff regularly devoted to development of structural plans associated with substation structure design and fabrication.
 - 5. Regularly engaged in design and fabrication of substation structures.
 - 6. When requested by Engineer, provide acceptable list of similar equipment installations complying with requirements of this specification.
- E. Fabricator qualifications: Fabricators of steel structures shall be subject to review of Engineer and shall have following qualifications:
 - 1. Regularly engaged in fabrication of substation structures.
 - 2. Previously designed and fabricated substation structures of general types specified.
 - 3. Qualified design staff regularly devoted to design and detailing of substation structures.
 - 4. When applicable, fabricators of steel structures shall have a working familiarity with RUS Bulletin 1724E-300, June 2001 Edition, "Design Guide for Rural Substations," Chapter VII, Structures.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Handle and transport structural steel with care to avoid bending or damage to coating system.
 - 1. Pieces or structures bent in handling may be used only if they can be straightened without injury to galvanizing or pieces or structures.
- B. During delivery and storage, handle equipment to prevent damage, denting, or scoring.
- C. Store equipment and components in clean, dry place. Protect from weather, dirt, water, construction debris, and physical damage in accordance with manufacturer's instructions.

1.08 SITE CONDITIONS

- A. Environmental requirements shall be as determined for location indicated on Data Sheets.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Arthur Tatman Associates, Inc.
- B. Dis-tran Packaged Substation, LLC.
- C. M.D. Henry Company.
- D. Substation Enterprises, Inc.
- E. Substation Products, Inc.
- F. Valmont Utility.

2.02 DESIGN REQUIREMENTS

- A. Materials and equipment shall be furnished in a fully engineered and coordinated design package.
- B. Determine required quantities of structures and bus from Drawings.
- C. Structure and bus system shall be complete with required insulators, connectors, fastenings, and accessories.
- D. Design substation for voltages listed in Data Sheets.
- E. One-line diagram, plan, and elevations of substation is shown on Drawings.
- F. Substation shall be of low-profile type using rolled and formed structural shapes. Lattice-type structures not acceptable.
- G. Transmission lines shall enter substation as shown on Drawings and Data Sheets.
- H. As appropriate to design, power fuses, single-pole disconnects, and voltage regulator bypass switches shall be operable from ground level
- I. Design structures and buses for connection to power transformers, as shown on Drawings.
- J. Individual cantilevered columns supporting equipment shall be tubular sections.

2.03 STEEL STRUCTURES

- A. Dimensions:
 - 1. As required to provide structural strength, maintain electrical clearances, and to suit equipment provided.
 - 2. Required clearances and spacings:
 - a. Bus and line clearances: NEMA SG6, NESC, and as shown on Drawings.
 - b. Phase spacing, outdoor switches, and fuses: NEMA SG6 and as shown on Drawings.
 - 3. Minimum equipment spacing: As recommended by equipment manufacturer for electrical clearance and maintenance.
- B. Design:
 - 1. Loading shall be determined for all structures.
 - 2. Conform to ASCE Substation Structure Design Guide Manual No. 113, NEMA SG6 and TT1 manufacturing standards with following additions.
 - 3. Load cases with ice shall include ice on structures.

4. Structure sizing may be based on design stress taken as yield stress for factored loading cases.
 5. Structures that terminate transmission conductors within the substation shall be designed to satisfy NESC Heavy District Loading Rule 250B, Extreme Wind Rule 250C, and Extreme Ices with Concurrent Wind Rule 250D in addition to requirements of other specified regulatory documents.
 - a. Shield wires: 3/8" (10 mm) EHS.
 - b. Design Tensions: Shield wire tension: unfactored, 1,500 lbs. under NESC Heavy District Loading per wire.
 - c. Design structures to take maximum unbalanced condition of external line load which can be imposed upon structures.
 6. Proper provisions shall be made for temporary stresses caused by erection or maintenance.
 7. Deflections of structures under unfactored loads shall be less than those required by ASCE Substation Structure Design Guide Manual No. 113.
 8. Structures shall be tubular (square, rectangular, or multiple-sided) or rolled open sections (wide flange shapes).
- C. Shielding mast
1. Type: Self-supporting, continuously tapered tubular; galvanized steel; with welded baseplate; anchor bolts; hand-hole at base; internal damping cable, or equivalent means.
 2. Grounding: Provide 2 ground lugs on opposite sides.
- D. Steel fabrication:
1. Structural steel shapes and plates shall conform to ASTM A36 or A992, unless otherwise specified. Hollow structural steel tubing, (HSS shapes) shall conform to ASTM A500, Grade B or C, unless otherwise shown.
 2. Materials for tubular steel plates for shafts, base plates, and accessory plates must conform to ASTM A36, A500, A572, A588, or A871 amended to date. All high strength steel plates shall meet or exceed minimum Charpy impact values at 15 ft-lbs. at -20°F (-29°C).
 3. Steel work, including anchor bolts, nuts and washers, shall be hot-dip galvanized after fabrication in accordance with ASTM A123 and A385.
 4. Anchor bolts shall be supplied by steel fabricator along with templates for proper alignment.
 5. Anchor bolts shall be in accordance with ASTM F1554, Grade 36 or Grade 55, weldable, minimum and shall be galvanized on the threaded end a minimum of 12" (300 mm) in accordance with ASTM A123, A153 and A385. Furnish anchor bolts with 2 washers, 1 heavy hex leveling nut, 1 heavy hex nut, 1 locknut, and setting templates. Nuts and washers shall be fully galvanized. Nuts shall conform to ASTM F563. Washers shall conform to ASTM F436. Alternate anchor bolt material may be proposed for Engineer's review.
 6. Erection bolts and equipment mounting bolts: ASTM A394 and A325. Bolts and nuts shall be hex head, galvanized.
 7. Locknuts: MF No. 1, ANCO, hex head, galvanized; or approved equal.
 8. Permanently stamped pieces on baseplate and at eye level with piece identification.
 9. Coordinate equipment mounting requirements with steel fabricator.
 10. Fabricate structures in accordance with AISC standards to provide individual structures with common structural members consistent with that structure and to provide overall aesthetic substation. Members with pre-punched holes on standard spacing will not be acceptable.
 11. Allowable stresses: Conform to AISC "Specification for Structural Steel Buildings", except increase in allowable stresses for wind loading shall not be applied to members subjected to stresses produced by winds in conjunction with other specified loads.
 12. Connections: Use high-strength bolts for field-connections. Conform to "Specification for Structural Joints Using ASTM A325 or A490 Bolts", as approved by Research Council on Structural Connections of the Engineering Foundation, and published by AISC.
 13. Furnish at least 5% extras of each size bolt and nut required in assembly. Drawing shall indicate sizes of bolts used and location.
 14. All welding work conforms to AWS D1.1 unless otherwise specified.
 15. Welded connections may be used for factory-assemble structures if welding is done prior to galvanizing.
 16. All welders employed shall be qualified, in accordance with the American Welding Society Standard Qualification Procedure.
 17. All holes shall be punched to full size unless noted otherwise.

18. All holes shall be spaced accurately in accordance with the steel structural drawings and shall be located in the gauge line with a maximum allowable variation in hole spacing of 1/16".
19. Structural members with concealed surfaces may be used provided their thickness is increased 1/16" greater than thickness required for strength or deflection to allow for loss of metal from corrosion. Concealed surfaces shall not be galvanized.
20. Straightening: Members which are bent or out of line after galvanizing shall be carefully straightened with use of straightening roller machine. Use of sledges or other methods in which material or its finish may be mutilated shall not be allowed.
21. Marking: Each individual piece shall be marked with correct mark designation, as shown on shop detail drawings.

E. Finish: Cleaning and galvanizing of structural steel shall be in accordance with following:

1. Steel work, including bolts, shall be hot-dip galvanized after fabrication, unless otherwise specified. Galvanizing, tests, and inspection: ASTM A123 and A385.

F. Grounding (above-grade):

1. Provide grounding for equipment mounted on structures.
2. Structure ground attachment locations:
 - a. Provide NEMA 2-hole attachment 12" (300 mm) above each baseplate.
 - b. Provide single-hole attachment every 4' (100 mm) (maximum) on vertical and horizontal members to structure mounted equipment.
3. Ground cable: 4/0 AWG stranded soft-drawn copper.
4. Ground clamps:
 - a. Provide bolted, NEMA 2-hole, bronze or copper clamp on each structure leg or column 12" (300 mm) above baseplate.
 - b. Provide bolted, bronze or copper clamp for support of ground cable on vertical and horizontal members;
 - 1) Double-cable clamp: Burndy Type GC, or equal.
 - 2) Single-cable clamp: Burndy Type GB, or equal.
5. Grounding operator's platforms: 3'-0" x 4'-0" (900 mm x 1200 mm) galvanized steel grating with 1" x 3/16" (25 mm x 5 mm) serrated bearing bars at 1-3/16" (30 mm) oc, cross bars at 4" (100 mm) oc. Furnish for each group-operated switch and circuit switcher.

G. Anchor Bolts:

1. Structures will have concrete pier type foundations. Design and furnish anchor bolts with double nuts (one on either side of base plate). Up to two bolt diameter clearance between top of concrete and bottom of base plate can be expected; design anchor bolts for gap between concrete and steel.
2. Embedded length for deformed reinforcing bars used as anchor bolts shall be determined as specified in ASCE Substation Design Guide using 3,500 psi concrete (f'c).

2.04 TOUCH-UP OF GALVANIZING

- A. Galvanizing damaged prior to or during shipment shall be regalvanized by painting with a zinc-rich paint containing either 65% to 69% metallic zinc by weight or a minimum of 92% metallic zinc by weight in dry film. Galvanizing damaged prior to or during shipment shall be regalvanized by painting with "Galvanox" Type 1 by Carboline-Subox Div., or equal.
- B. For damage not repairable by use of zinc-rich paints, zinc-rich solders shall be used in accordance with ASTM A780.
- C. Apply in accordance with manufacturer's recommendations.

2.05 BUSES AND CONDUCTORS

- A. Rigid buses: Aluminum tubular bus conductor AA Schedule 40 pipe (standard pipe size), ASTM B429, 6063-T6 alloy of sizes indicated on Drawings.

- B. Cable for jumper buses shall be size and type as shown on Drawings, in accordance with:
1. ACSR:
 - a. ASTM B232.
 - b. Each individual aluminum wire entering into construction of completed conductors shall conform to ASTM B230.
 - c. Core wire shall be galvanized steel wire, ASTM B245.
 2. 1350-H19 (EC) grade aluminum: ASTM B230.
- C. Provide damping conductor for horizontal bus runs of aluminum bus over 5' (1.5 m) and vertical runs where shown on Drawings.
1. Damping conductor shall have multistrand steel core (ACSR).
 2. Minimum sizes for damping conductor:

Tube Size	Cable Size
3" and less	266.8 kcmil
3-1/2"	397.5 kcmil
4"	795 kcmil
5"	1,431 kcmil
6"	1,590 kcmil

3. Two damping cables may be substituted for single damping cable provided weight of two cables is at least as great as single cable and does not exceed weight of single cable by more than 10%.

2.06 BUS AND CONDUCTOR ACCESSORIES

- A. Furnish bus fittings, bus supports, connectors, electrical connection bolts and miscellaneous hardware as required.
- B. Supplier is responsible for hardware and is required to furnish replacements for material lost in shipping or incomplete shipping in a timely manner not to delay erection.
- C. Tubing bus connectors: Welded type unless otherwise noted on Drawings.
- D. Provide end plugs for tubing at all open ends, including at connectors.
- E. Connectors, fittings and hardware shall be as shown on Drawings.
- F. Suspension clamps, bus support clamps, compression-type terminals, deadend fittings, and strain clamps for use with ACSR conductor shall be aluminum alloy and shall be equal to reference details and manufacturer's references shown on Drawings, except that clevis connections shall be made with threaded hex-head bolts, nuts, and stainless steel self-locking cotter pins.
- G. Compression-type deadend fittings shall develop not less than 95% of ultimate strength of conductor and shall have conductivity of not less than that of conductor with which they are used.
- H. Couplers: High-strength aluminum alloy tubing, slotted design equal to Anderson Type WCI.
- I. Aluminum-to-aluminum and aluminum-to-copper connections: Use aluminum connectors unless otherwise indicated on Drawings.
- J. Aluminum connectors: Aluminum Alloy SC70A in accordance with ASTM B26 (AA Alloy Designation No. 356). Design and proportion for contact with copper surfaces without use of plating or bushings.
- K. Copper-to-copper connections shall be made with bronze connectors.
- L. Terminal pads shall be in accordance with latest NEMA Publication No. CC-1.

- M. Furnish terminal connectors for attaching to Owner-furnished equipment unless otherwise indicated on Drawings.
- N. Electrical connection bolts:
 - 1. Each bolt assembly shall consist of 1 bolt, 2 flat washers, 1 split lock washer, or 1 compression-type Belleville washer and 1 hex nut.
 - 2. Aluminum-to-aluminum connection: Aluminum Alloy 2024-T4 anodized, lubricated bolts, aluminum Alloy 6061-T6 nuts, aluminum Alloy 7075-T6 large, flat washers, aluminum Alloy 7075-T6 split lock washers.
 - 3. Aluminum-to-copper connection:
 - a. 18-8 stainless steel bolts, nuts, and flat washers.
 - b. Use compression-type Belleville washer instead of split lock washer.
 - c. Belleville washers shall be stainless steel with cadmium plating.
 - 4. Copper-to-copper connection: High-strength silicon bronze bolt, nut, flat washers, and split lock washer.
- O. Identification tags:
 - 1. Furnish porcelain enamel phase identification tags with 4" (100 mm) black letters on white background mounted to structures at ends and midway of each bus, at each incoming/outgoing line position, over each PCB position, and at each VT or CCVT.
 - 2. Furnish porcelain enamel phase identification tags with 3" (75 mm) black letters on white background with all numerals on single line.
 - 3. Furnish one tag for each switch and PCB with designations provided later by Owner.
 - 4. Switch identification tags shall be located on steel next to switch operator.
 - 5. Mounting:
 - a. Provide suitable devices for mounting tags.
 - b. Provide stainless steel mounting hardware.

2.07 INSULATORS

- A. Conform to NEMA SG6, NEMA HV1, and these Specifications.
- B. Refer to Data Sheets for insulator design specification data.
- C. Color: ANSI Z55.1 No. 70 light gray.

PART 3 EXECUTION

3.01 EXAMINATION

Not Used

DATA SHEETS STEEL STRUCTURES, BUSES AND INSULATORS		Equipment Name: xxxxxx	
		Tag No.: xxx-#####	REV. #
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
Manufacturer	N/a		
Catalog/Serial No.	N/a		
System Data:			
Substation Name	---	Business Park	
Location	---	Geneva, IL	
Substation Voltage Levels			
High Voltage	kV	34.5	
Low Voltage	kV	12.47	
Ambient High Temperature	°C	40	
Minimum ambient temperature	°C	-30	
Altitude	Ft	Less than 3,300'	
Line Exits			
High Voltage Side	Overhead / Underground	OH	
Low Voltage Side	Overhead / Underground	UG	
Steel Structure Data:			
Loading Cases to be Checked			
ASCE Substation Structure Design Guide Loading	Y/N	Y	
Fault Current/Short Circuit Loading	Amps		
Seismic Loading	Y/N		
Structures Termination Transmission Conductors			
NESC District Loadign Rule 250B	Y/N	Y	
NESC Extreme Wind Loading Rule 250C	Y/N	Y	
NESC Extreme Ice Loadign Rule 250D	Y/N	Y	
Seismic Load Data			
Building Code			
Spectral Response Acceleration, SS	N/A	0.189	
Spectral Response Acceleration, S1	N/A	0.062	
Site Class A, B, C, D, E, or F	N/A	D	
Occupancy Category	N/A	III	
Importance Factor	N/A	1.25	
Galvanized w/ Standard Finish	Y/N	Y	
Galvanized w/ Dulled Finish	Y/N	N	
Shielding Masts:			
Shielding Mast(s)	Y/N	Y	
Anchor Bolts:			
Provide for structures furnished	Y/N	Y	
Provide for pad mounted equip.	Y/N	N (By Contractor)	
Delivery (enter date or weeks after receipt of order)		By Manufacturer	
Rigid Bus Data:			
Bus Type	Tubular/ Angular	Tubular	
Bus Size and Type Al	5", 4", 3" etc., 6063-T6, 6061-T6,	3"	

DATA SHEETS STEEL STRUCTURES, BUSES AND INSULATORS		Equipment Name: xxxxxx	
		Tag No.: xxx-#####	REV. #
DESCRIPTION	UNITS	SPEC DATA	VENDOR DATA
	Schedule 40		
Bus Rating	Amp	1200	
Short Circuit Bracing	kA	40	
Station Post Insulator Data:			
High Voltage Insulators			
High Side NEMA Classification		TR-210	
High Side BIL	kV	200	
Strength classification	----	Standard	
Cantilever	lb	By Vendor	
Stack Type	----	By Vendor	
Bolt Circle Diameter	In	3	
Color	---	ANSI Z55 No. 70 Gray	
Porcelain (POR) or Polymer (PLY)	POR/PLY	POR	
Low Voltage Insulators			
Low Side NEMA Classification		N/A	
Low Side BIL	kV		
Strength classification	----		
Cantilever	lb		
Stack Type	----		
Bolt Circle Diameter	In		
Color	---	ANSI Z55 No. 70 Gray	
Porcelain (POR) or Polymer (PLY)	POR/PLY		
Delivery Schedule:			
Total No. of Weeks from Award of Contract, FOB site	wks	By Manufacturer	
Submittal of Review Drawings After Award of Contract	wks	By Manufacturer	
Manufacturing Time after Receipt of Approved Drawings	wks	By Manufacturer	
Special Requirements:			
Special Environmental or Other Requirements:	---		
Site Conditions:			
Sequencing:			
Scheduling and Coordination:			

END OF SECTION

- 1) Hannah Henry
- 2) Jason L. Varone, Phillip E. Schulz

Contract 23-02 Business Park III Substation Packager Procurement

Bid Review Questions for Substation Enterprises, Inc.

Question	Substation Enterprises Response
1. Price is shown to be firm through 5/31/2023. To process through Geneva approval additional time will be required. Verify approval of prices held firm through 6/15/2023.	Substation Enterprises will hold prices firm for an order received by 6/15/23
2. Exception was provided to not allow liquidated damages. This is not acceptable to Geneva. Verify approval for liquidated damages with a cap of 10% of contract price.	Substation Enterprises will accept liquidated damages with a cap of 10% of contract price

City of Geneva

Business Park III Substation Packager Procurement
Contract 23-02

Manufacturer	Substation Enterprises	Distran	Valmont Industries
Bid Document is Signed	Y	NO BID	NO BID
Bid Bond	N		
Certificat of Compliance	Y		
Warranty	5 YR		
Data Sheets	N		
Clarifications	N		
Delivery	17-Jun-23		
Bid Price	\$ 464,426.00		
Cost to Offload Assemble and Test in Field	Included above		
Cost of Required Spare Parts			
Total Bid Price	\$ 464,426.00		
2YR Warranty Adder	Included		
Total Bid Price (with 2YR Warranty)	\$ 464,426.00		
5YR Warranty Adder	Included		
Total Bid Price (with 5YR Warranty)	\$ 464,426.00		
Service Engineer Requirement			
- Cost per day	N/A		
- Travel per round trip	N/A		
Comments	- Provided a BOM that has been reviewed - Initial Clarification was removed		