

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1   27</div>	
2. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">0002</div>		3. EFFECTIVE DATE <div style="text-align: center;">05-Sep-2023</div>		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)	
6. ISSUED BY <div style="text-align: center;">CODE</div> USAED, WALLA WALLA - CONTRACTING DIV. ALAN INGLIS 201 N. THIRD AVENUE WALLA WALLA WA 99362-1876		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center;">CODE</div> <div style="text-align: center; font-size: 1.2em;">See Item 6</div>					
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. W912EF23Q0034	
				X		9B. DATED (SEE ITEM 11) 31-Jul-2023	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended. <p>Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:</p> <p>(a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.</p>							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) <p>The purpose of this Amendment is to revise Technical Specifications Sections 3.54, 3.55, 3.61-3.63 and CLINs 0054, 0055, 0061-0063 and to extend due date to 11 September 2023. See revised specifications for details.</p> <p>All other terms and conditions remain unchanged.</p>							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR  _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED  05-Sep-2023	

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

## SECTION SF 1449 - CONTINUATION SHEET

## SOLICITATION/CONTRACT FORM

The required response date/time has changed from 06-Sep-2023 02:00 PM to 11-Sep-2023 02:00 PM.

## SUPPLIES OR SERVICES AND PRICES

## CLIN 0054

The pricing detail quantity has increased by 6.00 from 6.00 to 12.00.

## CLIN 0055

The CLIN description has changed from Elbow, 90 Degree, Stainless Steel to DO NOT QUOTE.

The CLIN extended description has changed from:

Schedule 10S. See Tech Spec item 3.55 - IAW Tech Specs

To:

(added to CLIN 0054).

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The pricing detail quantity has decreased by 6.00 from 6.00 to 0.00.

## CLIN 0061

The pricing detail quantity has increased by 1.00 from 3.00 to 4.00.

## CLIN 0062

The pricing detail quantity has increased by 2.00 from 2.00 to 4.00.

## CLIN 0063

The CLIN description has changed from Lateral, 45 Degree, Reducing to DO NOT QUOTE.

The CLIN extended description has changed from:

Stainless Steel, Schedule 10S. See Tech Spec item 3.63 - IAW Tech Specs

To:

(added to CLIN 0062)

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The pricing detail quantity has decreased by 2.00 from 2.00 to 0.00.

#### DELIVERIES AND PERFORMANCE

The following Delivery Schedule item for CLIN 0054 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	6	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	12	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

The following Delivery Schedule for CLIN 0055 has been deleted:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	6	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

The following Delivery Schedule item for CLIN 0061 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
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50 wks. ADC	3	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401
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To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	4	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

The following Delivery Schedule item for CLIN 0062 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	2	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
50 wks. ADC	4	ARMY CORPS OF ENGINEERS PERFORMANCE SPECIALIST MCNARY PROJECT WHSE 82790 DEVORE ROAD UMATILLA OR 97882-1230 541-922-1355 FOB: Destination	960401

The following Delivery Schedule for CLIN 0063 has been deleted:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
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50 wks. ADC

2

ARMY CORPS OF ENGINEERS  
PERFORMANCE SPECIALIST  
MCNARY PROJECT WHSE  
82790 DEVORE ROAD  
UMATILLA OR 97882-1230  
541-922-1355  
FOB: Destination

960401

The following have been modified:

TECHNICAL SPECIFICATIONS

**TECHNICAL SPECIFICATIONS  
MCNARY LOCK AND DAM  
NAVIGATION LOCK DOWNSTREAM SUMP (MECHANICAL)**

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## **1.0 INTENT**

The following specifications pertain to the purchase of mechanical items that will be used to upgrade the pumping capability for the unwatering, dewatering, and air systems in the downstream sump at the Navigation Lock. McNary Project staff will install the items listed below.

## **2.0 SCOPE**

The Contractor shall be required to deliver the mechanical items to McNary Dam by the date shown in Section 12.0 *Delivery Requirements*. The Contractor shall provide documentation and other items as stated in the specifications.

## **3.0 MECHANICAL ITEM REQUIREMENTS**

### **3.1 Suction lift pump for dewatering system.**

- 3.1.1 Brand Name: HCP Pumps America.
- 3.1.2 Model Description: 10" suction lift pump, 1175 GPM @ 82 THD, 50 HP Motor, Model P-10, Self-Priming.
- 3.1.3 Stainless Steel impeller and wear plates.
- 3.1.4 326T adjustable base frame for motor.
- 3.1.5 Pump and Motor direct coupled.
- 3.1.6 Delivered as complete skid of pump, motor, and base frame.
- 3.1.7 Quantity of ONE (1) pump each.

### **3.2 Spare rotating assembly for suction lift pump.**

- 3.2.1 Quantity of ONE (1) job complete rotating assembly with stainless steel impeller.

### **3.3 Spare parts kit for suction lift pump.**

- 3.3.1 Quantity of ONE (1) job of manufacturers recommended spare parts.
  - 3.3.1.1 Pump Inlet Check Valve, Pivot Caps, Hex Cap Screws and Lock Washers.
  - 3.3.1.2 Clean Out Cover Gasket.
  - 3.3.1.3 Fill Cover Plate Gasket.
  - 3.3.1.4 Wear Plate Assembly and O-Ring.
  - 3.3.1.5 Relief Valve.

### **3.4 Vertical Turbine Type pumps for unwatering system.**

- 3.4.1 Brand Name: Gould's Water Technology

- 3.4.2 Model Description: Vertical Turbine Type, 250 GPM @ 75 THD, Column and Bowl Assembly length equals 188". Open Lineshaft with Threaded Column Pipe.
- 3.4.3 Model No: Gould's Water Technology VIT-DITM 9AWHC, Two Stage, 7.5 HP 1770 RPM, 3PH/60Hz/230/460V.
- 3.4.4 Suction strainer to be 304L stainless steel.
- 3.4.5 All wetted surfaces shall be coated with Skotchkote 134, Fusion Epoxy, 12 mils thick.
- 3.4.6 Delivered as completely assembled pump. Motors and suction strainers shipped on separate skid.
- 3.4.7 Quantity of THREE (3) pumps each.
- 3.5 Spare parts for Vertical Turbine Type pumps.
  - 3.5.1 Quantity of ONE (1) kit of recommended factory spare parts for one pump assembly.
    - 3.5.1.1 Pump Suction Bearing, 1.50" ID x 1.87" OD x 6" Long, P/N A854 1618. ONE (1) each.
    - 3.5.1.2 Pump Intermediate Bearing, 1.50" ID x 1.87" OD x 2.50" Long, P/N B3637 1618. ONE (1) each.
    - 3.5.1.3 Pump Discharge Bearing, 1.50" ID x 1.87" OD x 3.75" Long, P/N A855 1618. ONE (1) each.
    - 3.5.1.4 Pump Impeller, 10RAHC/9WAHC SS 6.38" Diameter, P/N B03547BDCN2227P. TWO (2) each.
    - 3.5.1.5 Line Shaft Coupling, 1" Diameter Threads, P/N IE112 2265. TWO (2) each.
    - 3.5.1.6 Quantity of ONE (1) kit.
- 3.6 Spare shaft packing sets for Vertical Turbine Type pumps.
  - 3.6.1 Quantity of THREE (3) shaft packing ring sets. Each placed in protective packaging.
- 3.7 Elbow, 90 Degree, Flanged with Base, Ductile Iron, Class 125.
  - 3.7.1 4" IPS.
  - 3.7.2 Straight Standard Base.
  - 3.7.3 Meet material requirements of ASTM A536.
  - 3.7.4 Galvanized in accordance with ASTM-A153 or ASTM-F2329/2329M.
  - 3.7.5 Dimensions meet requirements of ASME B16.1, B16.42, and ANSI AWWA C110/A21.10.
  - 3.7.6 Quantity of TWO (2) flanged 90-degree elbows with base.
- 3.8 Gasket Kit, Flange. 4" Pipe
  - 3.8.1 Premium Nitrile full face gaskets. Fasteners - Stainless steel meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.8.2 Quantity of Six (6) flange gasket and fastener kits.
- 3.9 Gasket Kit, Flange. 6" Pipe
  - 3.9.1 Premium Nitrile full face gaskets. Fasteners - Stainless steel meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.9.2 Quantity of Ten (10) flange gasket and fastener kits.
- 3.10 Gasket Kit, Flange. 10" Pipe
  - 3.10.1 Premium Nitrile full face gaskets. Fasteners - Stainless steel meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.10.2 Quantity of Twenty (20) flange gasket and fastener kits.
- 3.11 Weldolet, Forged Steel, Class 3000.
  - 3.11.1 1" socket weld branch end connection.
  - 3.11.2 4" IPS run pipe size.

- 3.11.3 Reducing Size – Inside reduction = 1.049”.
- 3.11.4 Meet material requirements of ASTM A182, XS.
- 3.11.5 Dimensions meet requirements of ASME B16.11 and MSS SP-97.
- 3.11.6 Quantity of THREE (3) forged steel weld-o-lets.
- 3.12 Spud, Welding, Stainless Steel, Class 1000.
  - 3.12.1 1” NPT threaded branch end connection.
  - 3.12.2 10” IPS run pipe size, Schedule 10S.
  - 3.12.3 Spud includes a pilot.
  - 3.12.4 Meet material requirements of ASTM A182, F304.
  - 3.12.5 Dimensions meet requirements of ASME B1.20.1 and MSS SP-114.
  - 3.12.6 Quantity of THREE (3) stainless steel welding spuds.
- 3.13 Elbowlet, Stainless Steel, Class 1000.
  - 3.13.1 1” NPT threaded branch end connection.
  - 3.13.2 10” IPS run pipe size, Schedule 10S.
  - 3.13.3 Weld to long radius 90 Degree elbow.
  - 3.13.4 Meet material requirements of ASTM A182, F304.
  - 3.13.5 Dimensions meet requirements of ASME B1.20.1 and MSS SP-97.
  - 3.13.6 Quantity of TWO (2) stainless steel welded elbowlets.
- 3.14 Valve, Gate, 10”.
  - 3.14.1 10” IPS, Roll Grooved end connections. Working Pressure 250 PSIG
  - 3.14.2 Outside Stem & Yoke. Manual handwheel operated.
  - 3.14.3 Body: Ductile Iron conforming to ASTM A536, Grade 65-45-12.
  - 3.14.4 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.14.5 Resilient Seat.
  - 3.14.6 Fusion bonded epoxy coated inside/outside to AWWA C550.
  - 3.14.7 Quantity of TWO (2) valves each.
- 3.15 Valve, Check, 10”.
  - 3.15.1 10” IPS, Roll Grooved end connections.
  - 3.15.2 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.15.3 Resilient-seat spring return swing check for horizontal installation.
  - 3.15.4 Body and Disc material: Stainless steel conforming to ASTM A351 Grade CF8M.
  - 3.15.5 Seat material: Nitrile.
  - 3.15.6 Shaft/Spring material: 17-4PH stainless steel conforming to ASTM A564.
  - 3.15.7 Remaining material: 316 stainless steel.
  - 3.15.8 Drain holes, TWO (2) 1/2" NPT, one hole each side of the seat.
  - 3.15.9 Quantity of One (1) rebuild maintenance kit.
  - 3.15.10 Quantity of TWO (2) valves each.
- 3.16 Valve, Gate, 6”.
  - 3.16.1 6” IPS, Roll Grooved end connections. Working Pressure 250 PSIG.
  - 3.16.2 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.16.3 Outside Stem & Yoke. Manual handwheel operated.
  - 3.16.4 Body: Ductile Iron conforming to ASTM A536, Grade 65-45-12.
  - 3.16.5 Resilient Seat.
  - 3.16.6 Fusion bonded epoxy coated inside/outside to AWWA C550.
  - 3.16.7 Quantity of TWO (2) valves each.
- 3.17 Valve, Check, 4”.

- 3.17.1 4" IPS, Roll Grooved end connections.
  - 3.17.2 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.17.3 Resilient-seat spring return swing check for horizontal installation.
  - 3.17.4 Body and Disc material: Stainless steel conforming to ASTM A351 Grade CF8M.
  - 3.17.5 Seat material: Nitrile.
  - 3.17.6 Shaft/Spring material: 17-4PH stainless steel conforming to ASTM A564.
  - 3.17.7 Remaining material: 316 stainless steel.
  - 3.17.8 Drain holes, TWO (2) 1/2" NPT, one hole each side of the seat.
  - 3.17.9 Quantity of THREE (3) valves each.
- 3.18 Valve, Ball, 4".
- 3.18.1 4" IPS, Roll Grooved end connections.
  - 3.18.2 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.18.3 90 Degree Open/Shut service only. Manually operated with enamel painted carbon steel handle, stamped carbon steel integral locking device.
  - 3.18.4 Body/End Cap material: Stainless steel, CF8M.
  - 3.18.5 Ball material: 316 stainless steel.
  - 3.18.6 Seat material: (RTFE) Reinforced polytetrafluorethylene.
  - 3.18.7 Seal material: Fluoroelastomer
  - 3.18.8 Quantity of FIVE (5) valves each.
- 3.19 Valve, Combination Air, Val-Matic, Model 201C.2.
- 3.19.1 1" IPS, Single body.
  - 3.19.2 Operate as air release and air/vacuum valve.
  - 3.19.3 Body/Cover/Baffle material: Stainless steel, ASTM A351, Grade CF8M.
  - 3.19.4 Trim material: 316 stainless steel.
  - 3.19.5 Comply with AWWA C512.
  - 3.19.6 Seal material: EPDM
  - 3.19.7 Quantity of ONE (1) valve each.
- 3.20 Valve, Air/Vacuum, Vertical Pump, Val-Matic, Model 101ST.
- 3.20.1 1" IPS inlet and outlet.
  - 3.20.2 Regulate exhaust of air and surges on pump start-up.
  - 3.20.3 Dual Port Throttling Device: Adjustable for exhaust air. Unrestricted independent air vacuum port during shut down.
  - 3.20.4 Body/Cover material: Stainless steel, ASTM A351, Grade CF8M.
  - 3.20.5 Trim material: 316 stainless steel.
  - 3.20.6 Comply with AWWA C512.
  - 3.20.7 Quantity of TWO (2) valves each.
- 3.21 Valve, Ball, Threaded, Two Piece.
- 3.21.1 1" IPS, FNPT end connections. 1,000 PSI CWP
  - 3.21.2 90 Degree Open/Shut service only. Manually operated handle with locking device.
  - 3.21.3 Body/Ball material: 316 Stainless steel.
  - 3.21.4 Port Size: Full.
  - 3.21.5 Seat material: (PTFE) Polytetrafluorethylene.
  - 3.21.6 Quantity of TEN (10) valves each.
- 3.22 Valve, Gate, Threaded.
- 3.22.1 1" IPS, Non-Rising Stem, FNPT end connections, Class 200.
  - 3.22.2 Manually operated.
  - 3.22.3 Body/Gate material: 316 Stainless steel.



- 3.22.4 Packing material: (PTFE) Polytetrafluorethylene Plastic.
- 3.22.5 Quantity of FIFTEEN (15) valves each.
- 3.23 Pipe, Stainless Steel, Schedule 10S.
  - 3.23.1 10" IPS. Wall thickness 0.165".
  - 3.23.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.23.3 Dimensions meet requirements of ASME B36.19M.
  - 3.23.4 Seamless.
  - 3.23.5 Quantity of ONE (1) twenty-foot length pipe.
- 3.24 Pipe, Stainless Steel, Schedule 10S.
  - 3.24.1 6" IPS. Wall thickness 0.134".
  - 3.24.2 Meet requirements of ASTM A312/A312M, Grade 304L, UNS# S30400.
  - 3.24.3 Dimensions meet requirements of ASME B36.19M.
  - 3.24.4 Seamless.
  - 3.24.5 Quantity of TWO (2) twenty-foot length pipes. 40 feet total.
- 3.25 Pipe, Stainless Steel, Schedule 10S.
  - 3.25.1 1" IPS. Wall thickness 0.109".
  - 3.25.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.25.3 Dimensions meet requirements of ASME B36.19M.
  - 3.25.4 Seamless.
  - 3.25.5 Quantity of TEN (10) twenty-foot length pipes. 200 feet total.
- 3.26 Pipe, Stainless Steel, Schedule 40S.
  - 3.26.1 2" IPS. 2.375" OD x wall thickness 0.154".
  - 3.26.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.26.3 Dimensions meet requirements of ASME B36.19M.
  - 3.26.4 Seamless.
  - 3.26.5 Quantity of TWENTY (20) feet of 2" stainless-steel pipe in one continuous length.
- 3.27 Pipe, Stainless Steel, Schedule 40S.
  - 3.27.1 1-1/2" IPS. 1.900" OD x wall thickness 0.145".
  - 3.27.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.27.3 Dimensions meet requirements of ASME B36.19M.
  - 3.27.4 Seamless.
  - 3.27.5 Quantity of TWENTY-FIVE (25) twenty-foot length pipes. 500 feet total.
- 3.28 Pipe, Stainless Steel, Schedule 40S.
  - 3.28.1 1" IPS. 1.315" OD x wall thickness 0.133".
  - 3.28.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.28.3 Dimensions meet requirements of ASME B36.19M.
  - 3.28.4 Seamless.
  - 3.28.5 Quantity of THREE (3) twenty-foot length pipes. 60 feet total.
- 3.29 Pipe, Stainless Steel, Schedule 80S.
  - 3.29.1 1" IPS. 1.315" OD x wall thickness 0.179".
  - 3.29.2 Meet requirements of ASTM A312/A312M, Grade 304, UNS# S30400.
  - 3.29.3 Dimensions meet requirements of ASME B36.19M.
  - 3.29.4 Seamless.
  - 3.29.5 Quantity of TWELVE (12) feet in one continuous length.
- 3.30 Pipe, Steel, Schedule 80.
  - 3.30.1 1" IPS. 1.315" OD x wall thickness 0.179".
  - 3.30.2 Meet requirements of ASTM A106.

- 3.30.3 Seamless.
- 3.30.4 Quantity of TWELVE (12) feet in one continuous length.
- 3.31 Bar, Round, Stainless Steel.
  - 3.31.1 3/4" Diameter x 12' Long.
  - 3.31.2 Meet requirements of ASTM A276.
  - 3.31.3 Annealed.
  - 3.31.4 Material: 304. UNS S30400.
  - 3.31.5 Quantity of TWELVE (12) feet in one continuous length.
- 3.32 Bar, Flat, Stainless Steel.
  - 3.32.1 3/8" Thick x 6" Wide x 6" Deep.
  - 3.32.2 Meet requirements of ASTM A276.
  - 3.32.3 Annealed.
  - 3.32.4 Material: 304. UNS S30400.
  - 3.32.5 Quantity of SIX (6) stainless steel square flat bars.
- 3.33 Bar, Flat, Stainless Steel.
  - 3.33.1 3/8" Thick x 3" Wide x 12' Long.
  - 3.33.2 Meet requirements of ASTM A276.
  - 3.33.3 Annealed.
  - 3.33.4 Material: 304. UNS S30400.
  - 3.33.5 Quantity of TWO (2) length of stainless-steel flat bar. 24 feet total.
- 3.34 Bar, Flat, Stainless Steel.
  - 3.34.1 3/8" Thick x 2" Wide x 6-1/2" Long.
  - 3.34.2 Meet requirements of ASTM A276.
  - 3.34.3 Annealed.
  - 3.34.4 Material: 304. UNS S30400.
  - 3.34.5 Quantity of THIRTY (30) each.
- 3.35 Bar, Flat, Stainless Steel.
  - 3.35.1 1/4" Thick x 2" Wide x 12' Long.
  - 3.35.2 Meet requirements of ASTM A276.
  - 3.35.3 Annealed.
  - 3.35.4 Material: 304. UNS S30400.
  - 3.35.5 Quantity of THREE (3) each.
- 3.36 Elbow, 90 Degree, Stainless Steel, Class 150.
  - 3.36.1 1-1/2" IPS.
  - 3.36.2 Socket weld connections.
  - 3.36.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.36.4 Dimensions meet requirements of MSS-SP-114.
  - 3.36.5 Quantity of FIFTEEN (15) Socket Weld 90 Degree elbows.
- 3.37 Elbow, 90 Degree, Stainless Steel, Class 150.
  - 3.37.1 1" IPS.
  - 3.37.2 Socket weld connections.
  - 3.37.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.37.4 Dimensions meet requirements of MSS-SP-114.
  - 3.37.5 Quantity of TEN (10) Socket Weld 90 Degree elbows.
- 3.38 Elbow, 90 Degree, Stainless Steel, Class 150.
  - 3.38.1 1" IPS.

- 3.38.2 Threaded end connections.
- 3.38.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
- 3.38.4 Dimensions meet requirements of MSS-SP-114 and ASME B1.20.1.
- 3.38.5 Quantity of SEVEN (7) Threaded 90 Degree elbows.
- 3.39 Elbow, 45 Degree, Stainless Steel, Class 150.
  - 3.39.1 1-1/2" IPS.
  - 3.39.2 Socket weld connections.
  - 3.39.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.39.4 Dimensions meet requirements of MSS-SP-114.
  - 3.39.5 Quantity of TEN (10) Socket Weld 45 Degree elbows.
- 3.40 Tee, Stainless Steel, Class 150.
  - 3.40.1 1-1/2" IPS.
  - 3.40.2 Socket weld connections.
  - 3.40.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.40.4 Dimensions meet requirements of MSS-SP-114.
  - 3.40.5 Quantity of TEN (10) Socket Weld Tees.
- 3.41 Coupling, Reducer, Stainless Steel, Class 150.
  - 3.41.1 2" FNPT x 1-1/2" FNPT.
  - 3.41.2 Threaded end connections.
  - 3.41.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.41.4 Dimensions meet requirements of MSS-SP-114 and ASME B1.20.1.
  - 3.41.5 Quantity of SIX (6) Threaded Reducer Couplings.
- 3.42 Tee, Stainless Steel, Class 150.
  - 3.42.1 1" IPS.
  - 3.42.2 Threaded end connections.
  - 3.42.3 Meet material requirements of ASTM A351, 304 Grade CF-8.
  - 3.42.4 Dimensions meet requirements of MSS-SP-114 and ASME B1.20.1.
  - 3.42.5 Quantity of FIVE (5) Threaded Tees.
- 3.43 Coupling, Straight, Stainless Steel, Class 1000.
  - 3.43.1 1-1/2" IPS.
  - 3.43.2 Socket weld connections.
  - 3.43.3 Meet material requirements of ASTM A182, F304.
  - 3.43.4 Dimensions meet requirements of MSS-SP-114 and ASME B16.11.
  - 3.43.5 Quantity of THIRTY (30) Socket Weld Straight Couplings.
- 3.44 Coupling, Straight, Stainless Steel, Class 1000.
  - 3.44.1 1" IPS.
  - 3.44.2 Threaded end connections.
  - 3.44.3 Meet material requirements of ASTM A182, F304.
  - 3.44.4 Dimensions meet requirements of MSS-SP-114 and ASME-B1.20.1.
  - 3.44.5 Quantity of FIVE (5) Threaded Straight Couplings.
- 3.45 Union, 3 Piece, Straight, Stainless Steel, Class 1000.
  - 3.45.1 1-1/2" IPS.
  - 3.45.2 Socket weld connections.
  - 3.45.3 Meet material requirements of ASTM A182, F304.
  - 3.45.4 Dimensions meet requirements of MSS-SP-114, ASME B1.20.1 and B16.11.
  - 3.45.5 Threads conforming to Class 2A/2B Fit.
  - 3.45.6 Quantity of SIX (6) Socket Weld 3 Piece Unions.

- 3.46 Union, 3 Piece, Straight, Stainless Steel, Class 1000.
  - 3.46.1 1" IPS.
  - 3.46.2 Threaded end connections.
  - 3.46.3 Meet material requirements of ASTM A182, F304.
  - 3.46.4 Dimensions meet requirements of MSS-SP-114, ASME 1.20.1 and B16.11.
  - 3.46.5 Threads conforming to Class 2A/2B Fit.
  - 3.46.6 Quantity of THREE (3) Threaded 3 Piece Unions.
- 3.47 Insert, Reducer, Straight, Stainless Steel, Class 3000.
  - 3.47.1 1-1/2" (1.900") OD x 1" (1.340") ID.
  - 3.47.2 Socket weld connections.
  - 3.47.3 Meet material requirements of ASTM A182, F304.
  - 3.47.4 Dimensions meet requirements of MSS-SP-79.
  - 3.47.5 Quantity of TEN (10) Socket Weld Reducer Inserts.
- 3.48 Elbow, 90 Degree, Stainless Steel, Schedule 10S.
  - 3.48.1 10" IPS. Wall thickness 0.165".
  - 3.48.2 SHORT Radius Elbow. Butt weld ends.
  - 3.48.3 Meet requirements of ASTM A403.
  - 3.48.4 Dimensions meet requirements of ASME B36.19M, ASME B16.25 and MSS SP-43.
  - 3.48.5 Quantity of FOUR (4) SR 90 Degree elbows.
- 3.49 Elbow, 90 Degree, Stainless Steel, Schedule 10S.
  - 3.49.1 10" IPS. Wall thickness 0.165".
  - 3.49.2 LONG Radius Elbow. Butt weld ends.
  - 3.49.3 Meet requirements of ASTM A403.
  - 3.49.4 Dimensions meet requirements of ASME B36.19M, ASME B16.25 and MSS SP-43
  - 3.49.5 Quantity of TWO (2) LR 90 Degree elbows.
- 3.50 Elbow, 90 Degree, Stainless Steel, Schedule 10S.
  - 3.50.1 10" IPS. Wall thickness 0.165".
  - 3.50.2 THREE x RADIUS (3R) Elbow. Butt weld ends.
  - 3.50.3 Meet requirements of ASTM A403.
  - 3.50.4 Dimensions meet requirements of ASME B36.19M and ASME B16.25.
  - 3.50.5 Quantity of ONE (1) 3R 90 Degree elbow.
- 3.51 Elbow, 45 Degree, Stainless Steel, Schedule 10S.
  - 3.51.1 10" IPS. Wall thickness 0.165".
  - 3.51.2 Butt weld ends.
  - 3.51.3 Meet requirements of ASTM A403.
  - 3.51.4 Dimensions meet requirements of ASME B36.19M and ASME B16.25.
  - 3.51.5 Quantity of FOUR (4) 45 Degree elbows.
- 3.52 Strainer, Tee Type, IPS Carbon Pipe.
  - 3.52.1 10" IPS, Roll Grooved end connections.
  - 3.52.2 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC)
  - 3.52.3 Body, Coupling, and Cap material: Ductile Iron conforming to ASTM A536 Grade 65-45-12, with enamel coating, orange.
  - 3.52.4 Coupling gasket material: Nitrile.
  - 3.52.5 Basket frame and mesh material: 304 stainless steel. 6 x 6 mesh (0.041" wire) with 0.126" opening.
  - 3.52.6 End cap has drain plug installed.
  - 3.52.7 Quantity of ONE (1) strainer each.

- 3.53 Elbow, 90 Degree, Stainless Steel, Schedule 10S.
- 3.53.1 10" IPS. Long Radius Elbow.
  - 3.53.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.53.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.53.4 Quantity of FIVE (5) 90 Degree elbows.
- 3.54 Elbow, 90 Degree, Stainless Steel, Schedule 10S.
- 3.54.1 6" IPS. Long Radius Elbow.
  - 3.54.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.54.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.54.4 Quantity of ~~SIX (6)~~ TWELVE (12) 90 Degree Long Radius elbows.
- ~~3.55 Elbow, 90 Degree, Stainless Steel, Schedule 10S.~~
- ~~3.55.1 6" IPS.~~
  - ~~3.55.2 Short Radius Elbow.~~
  - ~~3.55.3 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.~~
  - ~~3.55.4 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).~~
  - ~~3.55.5 Quantity of SIX (6) 90 Degree Short Radius elbows~~
- 3.56 Elbow, 45 Degree, Stainless Steel, Schedule 10S.
- 3.56.1 10" IPS.
  - 3.56.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.56.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.56.4 Quantity of THREE (3) 45 Degree elbows.
- 3.57 Elbow, 45 Degree, Stainless Steel, Schedule 10S.
- 3.57.1 6" IPS.
  - 3.57.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.57.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.57.4 Quantity of TWO (2) 45 Degree elbows.
- 3.58 Tee, Stainless Steel, Schedule 10S.
- 3.58.1 10" IPS.
  - 3.58.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.58.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.58.4 Quantity of THREE (3) Tees.
- 3.59 Tee, Reducing, Stainless Steel, Schedule 10S.
- 3.59.1 10" IPS x 10" IPS x 6" IPS.
  - 3.59.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.59.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).

- 3.59.4 Quantity of TWO (2) Reducing Tees.
- 3.60 Tee, Reducing, Stainless Steel, Schedule 10S.
- 3.60.1 6" IPS x 6" IPS x 4" IPS.
  - 3.60.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.60.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.60.4 Quantity of TWO (2) Reducing Tees.
- 3.61 Reducer, Concentric, Stainless Steel, Schedule 10S.
- 3.61.1 6" IPS x 4" IPS.
  - 3.61.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.61.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.61.4 Quantity of ~~THREE (3)~~ FOUR (4) Concentric Reducers.
- 3.62 Lateral, 45 Degree, Stainless Steel, Schedule 10S.
- 3.62.1 6" IPS.
  - 3.62.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.
  - 3.62.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).
  - 3.62.4 Quantity of ~~TWO (2)~~ FOUR (4) 6" IPS 45 Degree Laterals.
- ~~3.63 Lateral, 45 Degree, Reducing, Stainless Steel, Schedule 10S.~~
- ~~3.63.1 6" IPS x 6" IPS x 4" IPS.~~
  - ~~3.63.2 Standard: Schedule 10S, Type 304 stainless steel Roll Grooved end connections from material conforming to ASTM A403/A403M or pipe conforming to ASTM-A312/A312M.~~
  - ~~3.63.3 Roll Groove in compliance with ANSI/AWWA C606-15 and ASTM-F1548 to fit Type 1 Gasketed Mechanical Coupling (GMC).~~
  - ~~3.63.4 Quantity of TWO (2) 6" IPS x 6" x 4" 45 Degree Reducing Laterals.~~
- 3.64 Flange, Stainless Steel, Slip-On, Forged.
- 3.64.1 10" IPS.
  - 3.64.2 Standard: Conforming to ASME-SA-182/SA-182M, Grade F304.
  - 3.64.3 Flange dimensions conforming to ASME B16.5, Class 150.
  - 3.64.4 Quantity of TEN (10) 10" IPS Slip-On flanges.
- 3.65 Adapter, Flange to Roll Grooved end connections.
- 3.65.1 4" IPS.
  - 3.65.2 Designed to transition from ANSI B16.5 Class 150 flange to Roll Grooved end connections pipe.
  - 3.65.3 Standard: Type 316 stainless steel, conforming to ASTM A351/A351M Grade CF8M.
  - 3.65.4 Quantity of FOUR (4) 4" Flange to Roll Groove Adapters.
- 3.66 Coupling, Flexible, Stainless Steel.
- 3.66.1 6" IPS.
  - 3.66.2 Application: Joins Schedule 10S stainless steel Roll Grooved end connections pipe, fittings, valves, and accessories.
  - 3.66.3 In compliance with ANSI/AWWA C606-15 and ASTM-F1476 for Type 1, Class 2, Flexible and Restrained, Gasketed Mechanical Coupling (GMC).
  - 3.66.4 Housing: Type 316 stainless steel, conforming to ASTM A351/A351M Grade CF8M.
  - 3.66.5 Gasket: Nitrile. Temperature range -20F to +180F.

- 3.66.6 Fasteners: Stainless steel oval track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
- 3.66.7 Quantity of SIXTEEN (16) 6" IPS Flexible Couplings.
- 3.67 Coupling, Flexible, Stainless Steel.
  - 3.67.1 10" IPS.
  - 3.67.2 Application: Joins Schedule 10S stainless steel Roll Grooved end connections pipe, fittings, valves, and accessories.
  - 3.67.3 In compliance with ANSI/AWWA C606-15 and ASTM-F1476 for Type 1, Class 2, Flexible and Restrained, Gasketed Mechanical Coupling (GMC).
  - 3.67.4 Housing: Type 316 stainless steel, conforming to ASTM A351/A351M, A743, and A744 Grade CF8M.
  - 3.67.5 Gasket: Nitrile. Temperature range -20F to +180F.
  - 3.67.6 Fasteners: Stainless steel oval track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.67.7 Quantity of FOURTEEN (14) 10" IPS Flexible Couplings.
- 3.68 Coupling, Rigid, Stainless Steel.
  - 3.68.1 4" IPS.
  - 3.68.2 Application: Provides a rigid pipe joint to restrict axial or angular movement for Schedule 10S stainless steel Roll Grooved end connections, fittings, valves, and accessories.
  - 3.68.3 In compliance with ANSI/AWWA C606-15 and ASTM-F1476 for Type 1, Class 1, Rigid and Restrained, Gasketed Mechanical Coupling (GMC).
  - 3.68.4 Housing: Type 316 stainless steel, conforming to ASTM A351/A351M, A743, and A744 Grade CF8M.
  - 3.68.5 Gasket: Nitrile. Temperature range -20F to +180F.
  - 3.68.6 Fasteners: Stainless steel oval track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.68.7 Quantity of EIGHT (8) 4" IPS Rigid Couplings.
- 3.69 Coupling, Rigid, Stainless Steel.
  - 3.69.1 6" IPS.
  - 3.69.2 Application: Provides a rigid pipe joint to restrict axial or angular movement for Schedule 10S stainless steel Roll Grooved end connections pipe, fittings, valves, and accessories.
  - 3.69.3 In compliance with ANSI/AWWA C606-15 and ASTM-F1476 for Type 1, Class 1, Rigid and Restrained, Gasketed Mechanical Coupling (GMC).
  - 3.69.4 Housing: Type 316 stainless steel, conforming to ASTM A351/A351M, A743, and A744 Grade CF8M.
  - 3.69.5 Gasket: Nitrile. Temperature range -20F to +180F.
  - 3.69.6 Fasteners: Stainless steel oval track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (S316), Condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (S316), Condition CW, with galling reducing coating.
  - 3.69.7 Quantity of TWELVE (12) 6" IPS Rigid Couplings.
- 3.70 Channel Strut, Stainless Steel.
  - 3.70.1 12 Gauge. Thickness of channel metal – 0.105".
  - 3.70.2 Type 304 Stainless Steel.
  - 3.70.3 1-5/8" x 1-5/8". 7/8" opening.

- 3.70.4 2" center spacing on bolt slots.
- 3.70.5 Bolt Slots are 9/16" wide x 1-1/8" long.
- 3.70.6 Quantity of TWENTY (20) ten-foot-long stainless-steel channel struts.
- 3.71 Channel Strut, Stainless Steel.
  - 3.71.1 12 Gauge. Thickness of channel metal – 0.105".
  - 3.71.2 Type 304 Stainless Steel.
  - 3.71.3 1-5/8" x 3-1/4" back-to-back style. No holes.
  - 3.71.4 Quantity of TWENTY (20) ten-foot-long back-to-back style channel struts.
- 3.72 Nut, Channel Strut, Stainless Steel, 1/2"
  - 3.72.1 With Spring.
  - 3.72.2 1-5/8" x 1-5/8" Strut Channel.
  - 3.72.3 1/2" – 13 Thread Size.
  - 3.72.4 S316 Stainless.
  - 3.72.5 Quantity of FIVE HUNDRED (500) 1/2" Channel Nuts with Spring.
- 3.73 Nut, Channel Strut, Stainless Steel, 1/2"
  - 3.73.1 No Spring.
  - 3.73.2 1-5/8" x 1-5/8" Strut Channel.
  - 3.73.3 1/2" – 13 Thread Size.
  - 3.73.4 S316 Stainless.
  - 3.73.5 Quantity of FIVE HUNDRED (500) 1/2" Channel Nuts with No Spring.
- 3.74 Adjustable Rod Beam Attachment.
  - 3.74.1 304 Stainless Steel. Attaches to ceiling to allow vertical adjustment where needed for pipe hangers.
  - 3.74.2 3/4" Threaded Rod Hole. Diameter of threaded rod hole – 11/16".
  - 3.74.3 Height – 3-11/16".
  - 3.74.4 Centerline of retaining bolt holes – 6-1/4".
  - 3.74.5 Overall width at ceiling attachment point – 7-3/4".
  - 3.74.6 Adjustment allowed for threaded rod – 2-9/16".
  - 3.74.7 Quantity of FOUR (4) Adjustable Rod Beam Attachment.
- 3.75 Flat Top Clevis Hanger, 6" Pipe.
  - 3.75.1 304 Stainless Steel.
  - 3.75.2 Allows for 15 Degrees movement. Will not allow pinching of the pipe during installation.
  - 3.75.3 Quantity of FOUR (4) 6" Adjustable Standoff Clamp.
- 3.76 Standard Clevis Pipe Hanger, 10" Pipe.
  - 3.76.1 304 Stainless Steel.
  - 3.76.2 Allows for 15 Degrees movement. Will not allow pinching of the pipe during installation.
  - 3.76.3 Quantity of FOUR (4) 10" Standard Clevis Pipe Hanger.
- 3.77 Cushion Clamp, 6" Pipe.
  - 3.77.1 304 Stainless Steel.
  - 3.77.2 Mechanically attach to 1-5/8" Channel Strut by hooking the lip of the channel. No bolting to the channel strut allowed.
  - 3.77.3 Shoulder stud securely fastened to one clamp half. Nylon-Insert 304 stainless steel nut to retain both halves of the clamp.
  - 3.77.4 Cushion material – thermoplastic elastomer with interlocking edges and channel locator legs.
  - 3.77.5 Cushion opening to be at the top.
  - 3.77.6 6.62" ID of cushion. 7.07" width of clamp. 3.6" from bottom of cushion to centerline of cushion. 8.2" from bottom of cushion to the top of the clamp halves.
  - 3.77.7 Quantity of SIX (6) 6" Cushion Clamps for Pipe.



3.78 Cushion Clamp, 1-1/2" Pipe.

- 3.78.1 Stainless Steel. Attaches to 1-5/8" Channel Strut by hooking the lip of the channel. No bolting to the channel strut allowed
- 3.78.2 Shoulder stud securely fastened to one clamp half. Nylon-Insert 304 stainless steel nut to retain both halves of the clamp.
- 3.78.3 Cushion material – thermoplastic elastomer with interlocking edges and channel locator legs.
- 3.78.4 Cushion opening to be at the top.
- 3.78.5 1.9" ID of cushion. 2.3" width of clamp. 1.10" from bottom of cushion to centerline of cushion. 2.86" from bottom of cushion to the top of the clamp halves.
- 3.78.6 Quantity of ONE HUNDRED (100) 1-1/2" Cushion Clamps for Pipe.

3.79 Clevis Pipe Spacer.

- 3.79.1 304 Stainless Steel.
- 3.79.2 Used as a spacer to keep clevis pipe hanger from collapsing during seismic event.
- 3.79.3 3" Pipe.
- 3.79.4 Quantity of FOUR (4) 3" Clevis Pipe Spacers.

3.80 Clevis Pipe Spacer.

- 3.80.1 304 Stainless Steel.
- 3.80.2 Used as a spacer to keep clevis pipe hanger from collapsing during seismic event.
- 3.80.3 10" Pipe.
- 3.80.4 Quantity of FOUR (4) 10" Clevis Pipe Spacers.

3.81 Channel Strut Seismic Retrofit Bracket, 3/4" Rod.

- 3.81.1 Finish: Dura-Green.
- 3.81.2 Prevent Longitudinal and Transverse Loads.
- 3.81.3 Kit includes Bracket, Retaining Plate, and Key.
- 3.81.4 Quantity of TEN (10) Seismic Retrofit Brackets.

3.82 Channel Strut Two Hole Open Angle Brace, 45 Degree.

- 3.82.1 304 Stainless Steel.
- 3.82.2 7/32" x 2-5/16" x 3".
- 3.82.3 Hole diameter: 9/16". Hole centerline 1-1/16" from end of brace.
- 3.82.4 Quantity of TWENTY (20) Two Hole Open Angle Braces.

3.83 Channel Strut Two Hole Corner Angle Brace, 90 Degree.

- 3.83.1 304 Stainless Steel.
- 3.83.2 7/32" x 1-7/8" x 2-1/16".
- 3.83.3 Hole diameter: 9/16".
- 3.83.4 Quantity of TWELVE (12) Two Hole Corner Angle Braces.

3.84 Grating, Fiberglass Molded.

- 3.84.1 Resin Material: CORVEX Isophthalic Polyester with chemical formulations as necessary to provide the corrosion resistance, strength, and other physical properties as required.
- 3.84.2 Color: Yellow.
- 3.84.3 Depth of Grating: 1-1/2".
- 3.84.4 Mesh: 1-1/2" x 1-1/2" Square, 3.8lbs per sq. ft., Open Area = 70%.
- 3.84.5 Slip Resistant Surfacing: Superior slip resistance shall be provided by a Meniscus Top.
- 3.84.6 Meet flame spread rating of 25 or less IAW ASTM-E84 Tunnel Test and self-extinguishing requirements and classified per ASTM-D635.
- 3.84.7 Quantity of FOUR (4) mesh grating panels 1-1/2" x 1-1/2" square x 4' Wide x 12' Long.

3.85 Grating, Fiberglass Molded.

- 3.85.1 Resin Material: CORVEX Isophthalic Polyester with chemical formulations as necessary to provide the corrosion resistance, strength, and other physical properties as required.
- 3.85.2 Color: Yellow.
- 3.85.3 Depth of Grating: 1-1/2".
- 3.85.4 Mesh: 1-1/2" x 1-1/2" Square, 3.8lbs per sq. ft., Open Area = 70%.
- 3.85.5 Slip Resistant Surfacing: Superior slip resistance shall be provided by a Meniscus Top.
- 3.85.6 Meet flame spread rating of 25 or less IAW ASTM-E84 Tunnel Test and self-extinguishing requirements and classified per ASTM-D635.
- 3.85.7 Quantity of SIXTEEN (16) mesh grating panels 1-1/2" x 1-1/2" square x 5' Wide x 10' Long.
- 3.86 Pedestal, Adjustable, Fiberglass Molded Grating.
  - 3.86.1 Adjustable pedestal ranging in height from 5-3/4" to 9".
  - 3.86.2 1/8" tabs extending into FRP walkways.
  - 3.86.3 Base diameter between 8" and 9".
  - 3.86.4 Depth of Grating: 1-1/2".
  - 3.86.5 Slope Compensation: 0" to 1/2" per foot slope compensation (0 to 4%).
  - 3.86.6 Quantity of ONE HUNDRED EIGHTY (180) Adjustable Pedestals.
- 3.87 Kit, Brace, Adjustable.
  - 3.87.1 Brace kits for Adjustable Pedestals.
  - 3.87.2 Length: Range from 11-3/4" to 36". Pedestal Spacing.
  - 3.87.3 Includes fastening hardware to connect adjustable pedestals and lock adjustable brace in place.
  - 3.87.4 Quantity of EIGHTY (80) Adjustable Brace Kits.
- 3.88 Saddle Clip for Restraining Fiberglass Molded Grating.
  - 3.88.1 Type M2 Saddle Clip.
  - 3.88.2 Material: 316 Stainless Steel.
  - 3.88.3 Quantity of THREE HUNDRED (300) Type M2 Saddle Clips.
- 3.89 Self-Tapping Screw.
  - 3.89.1 Dimensions: 2" long, #10 Screw Size, .190" thread width, extra wide head 0.448".
  - 3.89.2 Material: 316 Stainless Steel.
  - 3.89.3 Quantity of FIVE HUNDRED (500) Self-Tapping Screws.
- 3.90 Cap Screw, Hex.
  - 3.90.1 Dimensions: 1/2-13 x 1". ASME B18.2.1, Fully Threaded
  - 3.90.2 Material and Mechanical Properties: ASTM-F593, 304, Condition CW.
  - 3.90.3 Thread Requirements: ASME B1.1, UNC, Class 2A.
  - 3.90.4 Finish: ASTM-A380/A380M.
  - 3.90.5 Head Marking: Manufacturer ID and F593C.
  - 3.90.6 Quantity of ONE HUNDRED (100) of 1/2-13 x 1".
- 3.91 Cap Screw, Hex.
  - 3.91.1 Dimensions: 1/2-13 x 1-1/4", ASME B18.2.1, Fully Threaded.
  - 3.91.2 Material and Mechanical Properties: ASTM-F593, 304, Condition CW.
  - 3.91.3 Thread Requirements: ASME B1.1, UNC, Class 2A.
  - 3.91.4 Finish: ASTM-A380/A380M.
  - 3.91.5 Head Marking: Manufacturer ID and F593C.
  - 3.91.6 Quantity of ONE HUNDRED (100) of 1/2-13 x 1-1/4".
- 3.92 Cap Screw, Hex.
  - 3.92.1 Dimensions: 1/2-13 x 1-1/2". ASME B18.2.1, Fully Threaded
  - 3.92.2 Material and Mechanical Properties: ASTM-F593, 304, Condition CW.
  - 3.92.3 Thread Requirements: ASME B1.1, UNC, Class 2A.
  - 3.92.4 Finish: ASTM-A380/A380M.

- 3.92.5 Head Marking: Manufacturer ID and F593C.
- 3.92.6 Quantity of ONE HUNDRED (100) of 1/2-13 x 1-1/2".

3.93 Nut, Hex.

- 3.93.1 Dimensions: 1/2-13. ASME B18.2.2.
- 3.93.2 Material and Mechanical Properties: ASTM F594C, 304.
- 3.93.3 Thread Requirements: ASME B1.1, UNC, Class 2B.
- 3.93.4 Finish: ASTM-A380/A380M.
- 3.93.5 Head Marking: Manufacturer ID and per ASTM-F594.
- 3.93.6 Quantity of THREE HUNDRED (300) of 1/2-13 Hex Nuts.

3.94 Nut, Hex.

- 3.94.1 Dimensions: 3/4-10. ASME B18.2.2.
- 3.94.2 Material and Mechanical Properties: ASTM -F594D.
- 3.94.3 Thread Requirements: ASME B1.1, UNC, Class 2B.
- 3.94.4 Finish: ASTM-A380/A380M.
- 3.94.5 Head Marking: Manufacturer ID and per ASTM-F594.
- 3.94.6 Quantity of ONE HUNDRED (100) of 3/4-10 Hex Nuts.

#### **4.0 OPERATION AND MAINTENANCE DATA REQUIREMENTS FOR ITEMS 3.1 AND 3.4 ONLY:**

##### **4.1 SUBMISSION OF OPERATION AND MAINTENANCE DATA**

Submit Operation and Maintenance (O&M) Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system, stressing and enhancing the importance of system interactions, troubleshooting, and long-term preventative maintenance and operation. The subcontractors shall compile and prepare preliminary O&M data and deliver to the Contractor prior to the training of Government personnel. Compile and prepare both a draft version and a final version of aggregate O&M data including clarifying and updating the original sequences of operation to as-built conditions. Organize and present information based on the O&M Data Package called out in the individual technical specifications and in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal.

##### **4.1.1 PACKAGE QUALITY**

Documents must be fully legible. Operation and Maintenance data must be consistent with the manufacturer's standard brochures, schematics, printed instructions, general operating procedures, and safety precautions. Poor quality copies and material with hole punches obliterating the text or will not be accepted.

##### **4.1.2 PACKAGE CONTENT, TYPES, AND NUMBER OF COPIES**

Data package content shall be as shown in the paragraph LIST AND SCHEDULE OF O&M DATA PACKAGE ITEMS below. Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission, except as follows. Commissioned items without a specified data package requirement in the individual technical sections shall use Data Package 3. Different Data Package items are required for each O&M Data Submittal. These items are detailed in the tables under paragraph LIST AND SCHEDULE OF O&M DATA PACKAGE ITEMS below. O&M Data types are defined as follows:

- a. Final O&M Data - Within 30 calendar days after final approval of all draft submissions of all O&M data requirements, submit five (5) Final Operation and Maintenance Manuals and Parts Catalogs (HC) copies for approval, for each type and class of equipment. If the final O&M Manuals are "Returned for Correction," four (4) of the five (5) sets of manuals will be returned to the Contractor with all submitted final binders. The final submittal, after corrections, shall consist of five (5) copies of the approved O&M Manuals. If final O&M Manuals

are "Approved," the Government will retain all five (5) copies and return a signed ENG Form 4025 to the Contractor.

#### **4.1.3 Changes to Submittals**

Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected after acceptance of the O&M Data. Changes, additions, or revisions required by the Government for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

#### **4.1.4 Electronic Copies**

Assemble data packages into electronic Operation and Maintenance Manuals. Assemble each manual into a composite electronically indexed file using the most current version of Adobe Acrobat or similar software capable of producing PDF file format. Provide compact disks (CD) or data digital versatile disk (DVD) as appropriate, so that each one contains operation, maintenance and record files, project record documents, and training videos. Include a complete electronically linked operation and maintenance directory. Page numbering, indexing and the marking out of irrelevant parts shall be consistent with hard copies of the O&M Manuals. All documents shall be "Read Only." Label all CDs with the following information:

1. Name of project.
2. Contract number.
3. Name and address of Contractor.
4. Specific item or materials covered by the manual.
5. Date of submittal.

##### **4.1.4.1 Organization**

Bookmark Product and Drawing Information documents using the current version of CSI Masterformat numbering system, and arrange submittals using the specification sections as a structure. Use CSI Masterformat and UFGS numbers along with descriptive bookmarked titles that explain the content of the information that is being bookmarked.

##### **4.1.4.2 Hard Copies**

The final O&M submission shall be an assembly of all draft copies and other data required. The submittal shall consist of as many binders as required with a maximum thickness per binder of three (3) inches. The binders shall have a durable leatherette cover and shall be designed for 8-1/2 by 11-inch sheets with binding either of telescoping posts and slide-lock or with fastening using screw posts. Either type of binding provided shall be suitable for ready replacement of sheets. Plastic ring-type loose-leaf binders will not be acceptable. Covers and spines of binders shall bear permanent printed markings listing the following:

- (1) Name of project.
- (2) Contract number.
- (3) Name and address of Contractor.
- (4) Specific item or materials covered by the manual.
- (5) Date of submittal.

Shop drawings, assembly drawings, wiring diagrams and/or schematics utilizing previously approved shop drawings or specially prepared drawings for these manuals or parts catalogs shall be of a size that requires folding only in left-to-right coordinate as a manual or catalog is opened. Each sheet in the binder shall be numbered and an index provided for ready reference to the data. Each manual shall contain a master table of contents. The master table of contents shall contain all chapters, appendixes, and a master index and shall be included in the front of the first volume if there is more than one volume. Each subsequent volume shall contain an index for the contents within that respective volume. Each volume shall not be broken between chapters, appendixes, and indexes. All chapters, appendixes, and indexes shall be adequately separated and identified by standard line indexes. All standard catalog cuts, manufacturer's printed data or descriptive literature, parts sheets, illustrations, etc., shall either be original manufacturer sheets or reproduced copies equal in clarity and durability to the original copies. of such manuals or parts catalogs shall contain all original copies of such data. Thermofax and similar nonpermanent copies are not acceptable.

## **4.2 O&M DATABASE**

Develop an editable, electronic spreadsheet based on the equipment in the Operation and Maintenance Manuals that contains the information required to start a preventive maintenance program. As a minimum, provide list of system equipment, location installed, warranty expiration date, manufacturer, model, and serial number.

## **4.3 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES**

Furnish the O&M data packages specified in individual technical sections. For Data Package information requirements see paragraph TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES below. The required information for each O&M data package is as follows:

### **4.3.1 DATA PACKAGE**

- a. Safety precautions
- b. Operator prestart
- c. Startup, shutdown, and post-shutdown procedures
- d. Normal operations
- e. Emergency operations
- f. Environmental conditions
- g. Lubrication data
- h. Consumables
- i. Preventive maintenance plan and schedule
- j. Cleaning recommendations
- k. Troubleshooting guides and diagnostic techniques
- l. Wiring diagrams and control diagrams
- m. Maintenance and repair procedures
- n. Removal and replacement instructions

- o. Product submittal data
- p. O&M submittal data
- q. Parts identification
- r. Spare parts and supply list
- s. Warranty information
- t. Testing equipment and special tool information
- u. Testing and performance data
- v. Contractor information

#### **4.4 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES:**

##### **4.4.1 OPERATING INSTRUCTIONS**

Include specific instructions, procedures, and illustrations for the following phases of operation for the installed model and features of each system:

###### **4.4.1.1 Safety Precautions**

List personnel hazards and equipment or product safety precautions for all operating conditions.

###### **4.4.1.2 Operator Prestart**

Include procedures required to install, set up, and prepare each system for use.

###### **4.4.1.3 Startup, Shutdown, and Post-Shutdown Procedures**

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures, including the control sequence for each procedure.

###### **4.4.1.4 Normal Operations**

Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment. Include functional descriptions of operating parts.

###### **4.4.1.5 Emergency Operations**

Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.

###### **4.4.1.6 Operator Service Requirements**

Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

#### **4.4.1.7 Environmental Conditions**

Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item should not be allowed to run.

### **4.4.2 PREVENTIVE MAINTENANCE**

#### **4.4.2.1 Lubrication Data**

Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under paragraph OPERATOR SERVICE REQUIREMENTS:

- a. A table showing recommended lubricants for specific temperature ranges and applications.
- b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.
- c. A Lubrication Schedule showing service interval frequency.
- d. Where the Contractor or the supplier has installed a lubricant or oil prior to shipment to the project, the "Brand Name" as well as the specification shall be indicated.

#### **4.4.2.2 Consumables**

Provide a list of all consumable (grease, oil, filters, etc.) products used in equipment provided under this contract. Where the Contractor has installed a consumable product prior to Government acceptance, provide the "Brand Name" as well as the specification for each product. Include the following information:

- a. Manufacturer's name and contact information.
- b. Manufacturer's model number, part number, and serial number as applicable.
- c. Current sources/vendors with contact information.
- d. Current prices for each consumable.

#### **4.4.2.3 Preventive Maintenance Plan and Schedule**

Include manufacturer's schedules for routine preventive maintenance, inspections, tests, and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. Provide manufacturer's projection of preventive maintenance workhours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

### **4.4.3 CORRECTIVE MAINTENANCE (REPAIR)**

Include manufacturer's recommended procedures and instructions for problems and making repairs.

#### **4.4.3.1 Troubleshooting Guides and Diagnostic Techniques**

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

#### **4.4.3.2 Wiring Diagrams and Control Diagrams**

Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

#### **4.4.3.3 Maintenance and Repair Procedures**

Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards. Include recommended clearances, bolt torques, pressure settings, etc.

#### **4.4.3.4 Removal and Replacement Instructions**

Include step-by-step procedures and a list of required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings, and adjustments required. Instructions shall include a combination of text and illustrations.

#### **4.4.4 CORRECTIVE MAINTENANCE WORK-HOURS**

Include manufacturer's projection of corrective maintenance workhours, including requirements by type of craft. Corrective maintenance that requires completion or participation of the equipment manufacturer shall be identified and tabulated separately.

#### **4.4.5 Appendices**

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

##### **4.4.5.1 Product Submittal Data**

Provide a copy of all SD-03 Product Data submittals required in the applicable technical sections.

##### **4.4.5.2 Manufacturer's Instructions**

Provide a copy of all SD-08 Manufacturer's Instructions submittals required in the applicable technical sections.

##### **4.4.5.3 O&M Submittal Data**

Provide a copy of all SD-10 Operation and Maintenance Data submittals required in the applicable technical sections.

##### **4.4.5.4 Parts Identification**

a. Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Parts identification lists shall contain the following information:

1. Special hardware requirements, such as requirement to use high-strength bolts and nuts.
2. Identification of all parts by manufacturer's make, model, serial number, and National Stock Number (NSN).
3. Manufacturer's name, address, phone number, and website where parts can be ordered to allow reordering without further identification.
4. Current sources\vendor names for the parts, their respective addresses and telephone numbers.



5. Purchase price, where applicable.
  6. Current replacement costs for each part.
  7. Clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part.
  8. Cross referencing of manufacturer's reference numbers with Contractor's reference numbers and shop drawings where applicable.
- b. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

#### **4.4.5.5 Spare Parts and Supply Lists**

- a. When specified, include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. Identify spare parts and supplies that have a long lead-time to obtain.
- b. All spare parts lists, for both recommended spare parts and those provided under this contract, shall contain the information identified in paragraph PARTS IDENTIFICATION above in addition to the following:
  1. Full description, nomenclature, and serial number of each part.
  2. Required number of each part for normal equipment operation.
  3. Recommended list of spare parts to be stocked at the Project.
  4. Actual spare parts supplied under this contract.

#### **4.4.5.6 Warranty Information**

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force. Include warranty information for primary components such as the compressor of an air conditioning system.

#### **4.4.5.7 Personnel Training Requirements**

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

#### **4.4.5.8 Testing Equipment and Special Tool Information**

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

#### **4.4.5.9 Testing and Performance Data**

Include completed pre-functional checklists, functional performance test forms, and monitoring reports. Include recommended schedule for re-testing and blank test forms.

#### **4.4.5.10 Contractor Information**

For each item, also provide the name address and telephone number of the manufacturer's representative and service organization that can provide replacements most convenient to the Project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

### **5.0 COMMERCIAL PACKAGING AND SHIPMENT REQUIREMENTS**

5.1 ASTM-A700-14 – Standard Guide of Packaging, Marking, and Loading Methods for Steel Products for Shipment pertain to Piping, Round Bar, Flat Bar, and Channel Strut.

5.2 ASTM-D3951-18 – Standard Practice for Commercial Packing applies to all other items except for the dewatering and unwatering pumps.

### **6.0 SECURITY REQUIREMENTS**

6.1 General Security Requirements and Guidance. The security requirements described below apply to all contract personnel (including employees of the prime Contractor (“Contractor”) and all subcontractor employees) supporting the performance requirements of the contract. The Contractor is responsible for compliance with these security requirements. Questions regarding security matters shall be addressed to the designated Government representative. Contract personnel are critical to the overall security and safety of US Army Corps of Engineers (USACE) installations, facilities and activities and security awareness training contributes to those efforts. The Department of Defense (DoD) and Army security training requirements specified below, if applicable, are performance requirements, all applicable contract personnel shall complete initial training within 30 days of contract award or the date new contract personnel begin performance on the contract. Within five business days from the completion of training, the Contractor shall provide written documentation (e.g. email or memorandum) to the Government representative. The documentation shall include the names of the contract personnel trained and which training they completed; the Contractor shall maintain training records as part of their contract files and be prepared to provide copies of training certificates to the Government representative. Contractor personnel and vehicles are subject to search when entering federal installations. Additionally, all contract personnel shall comply with Force Protection Condition (FPCON) measures, Random Antiterrorism measures (commonly referred to as “RAMs”), and Health Protection Condition (HPCON) measures. The Contractor is responsible for meeting performance requirements during elevated FPCON and/or HPCON levels in accordance with applicable RA plans and procedures – this includes identifying mission essential and non-mission essential personnel. In addition to the changes otherwise authorized by the changes clause of the contract, should the FPCON and/or HPCON levels at any individual facility or installation change, the Government may implement security changes that affect contract personnel. The Contractor shall ensure all contract personnel are aware of their security responsibilities, including any site-specific requirements identified in the local policies or procedures.

6.2 Physical Security and Access Control Requirements. All contract personnel requiring physical access to a federal installation or facility shall comply with the access control procedures of that location. Contract personnel requiring unescorted access to meet contract performance requirements on a DoD installation in the US shall be vetted by the installation/facility Provost Marshall/Directorate of Emergency Services/Security Office using the National Crime Information Center-Interstate Identification Index (commonly referred to as “NCIC-III”) and Terrorist Screening Database (commonly referred to as “TSDB”). Contract personnel shall comply with all personal identity verification requirements specified in installation/facility policies and procedures. Contract personnel who do not meet requirements for unescorted access to USACE facilities shall coordinate escorted access with the Government representative, as needed. Contract personnel who receive keys, access cards, or lock combinations that provide access to government-owned property shall comply with key and lock control procedures of the RA.

### **7.0 DELIVERY REQUIREMENTS**

7.1 All materials shall be delivered FOB Destination no later than Fifty (50) weeks after final approval of submittal packages.

Shipments are only allowed during normal business hours of Monday – Thursday 7:00am to 4:00pm. No shipments shall be made accepted on Federal Holidays. All shipments shall be delivered to:

McNary Lock and Dam  
82790 Devore Rd.  
Umatilla, OR 97882

(End of Summary of Changes)