SOLICITATION NO.: W912EK26BA014
B5MRLD21202502

US Army Corps of Engineers
Rock Island District

90% REVIEW

MISSISSIPPI RIVER BASIN
LOCK AND DAM 21
QUINCY, IL
BOLTED TAINTER GATE FABRICATION

Fabrication Contract and Specifications

JUNE 2026

SOLICITATION, OFFER, AND AWARD

1. This Contract is a Rated Order under the Defense Priorities and Allocations System (DPAS) - Code of Federal Regulations - at 15 CFR 700.

RATING

PAGE OF PAGES 1 | 71

2. CONTRACT NUMBER	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER
	W912EK26BA014	[X] SEALED BID (IFB) INVITATION FOR BID [ ] NEGOTIATED (RFP) REQUEST FOR PROPOSAL		

7. ISSUED BY CODE W912EK

W07V ENDIST ROCK ISLAND
KO CONTRACTING DIVISION, 1 ROCK ISLAND ARSENAL
ROCK ISLAND, IL 61299-5001
UNITED STATES
JOSEPH PORTER, EMAIL: JOSEPH.E.PORTER@USACE.ARMY.MIL TELEPHONE: (309) 794-5333

8. ADDRESS OFFER TO *(If other than item 7)*

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 1 copies for furnishings the supplies or services in the Schedule will be received at the place specified in item 8, or if hand carried, in the depository located in _____ until 01:00 PM *(Hour)* local time 01 SEP 2026 *(Date)*

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision Number 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE *(NO COLLECT CALLS)*			C. EMAIL ADDRESS
		AREA CODE	NUMBER	EXTENSION	
	JOSEPH PORTER	309	794-5333		JOSEPH.E.PORTER@USACE.ARMY.MIL

11. TABLE OF CONTENTS

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OFFER *(Must be fully completed by offeror)*

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days *(60 calendar days unless a different period is inserted by the offeror)* from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT *(See Section I, Clause Number 52.232-8)*	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)

14. ACKNOWLEDGMENT OF AMENDMENTS *(The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):*	AMENDMENT NUMBER	DATE	AMENDMENT NUMBER	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND THE TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*

15B. TELEPHONE NUMBER				17. SIGNATURE	18. OFFER DATE
AREA CODE	NUMBER	EXTENSION	[ ] 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.		

AWARD *(To be completed by Government)*

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL OPEN COMPETITION UNDER THE UNITED STATES CODE AT:
[ ] 10 U.S.C. 3204(a) [ ] 41 U.S.C. 3304(a) ( )

23. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)* ITEM

24. ADMINISTERED BY *(If other than Item 7)*

25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER *(Type or print)*	27. UNITED STATES OF AMERICA *(Signature of Contracting Officer)*	28. AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition is unusable

STANDARD FORM 33 (REV. 12/2022)
Prescribed by GSA - FAR (48 CFR) 53.214 (c)

Created On:
11 Jun 2026, 07:08 AM Central Daylight Time

DRAFT

Section A - Solicitation/Contract Form

Instrument Name: Lock and Dam 21 Bolted Tainter Gate Fabrication

Product Service Code : 5450

CERTIFICATION REQUIREMENTS

POST AWARD CERTIFICATION REQUIREMENTS:

The bidder shall submit one (1) copy of the certifications listed below from the American Institute of Steel Construction (AISC) for all fabrication plants to be utilized for this project. All certifications shall be current, with proof that the certifications have been continuously held for the past three (3) years or noncontinuously for five (5) years within the past ten (10) years from the solicitation issue date.

IBR (Certified Bridge Fabricator - Intermediate) with FCE (Fracture Control Endorsement)

OR

ABR (Certified Bridge Fabricator - Advanced) with FCE (Fracture Control Endorsement)

OR

HYD (Certified Hydraulic Fabricator - Standard) with FCEH (Fracture Control Endorsement for Hydraulic)

OR

HYDA (Certified Hydraulic Fabricator - Advanced)

AND

The bidder shall submit one (1) copy of the paint/coating certifications listed below for all fabrication plants to be utilized for this project. All certifications shall be current, with proof that the certifications have been continuously held for the past three (3) years or non-continuously for five (5) years within the past ten (10) years from the solicitation issue date.

Complex Coatings Endorsement - Enclosed, Covered, or Exposed (CCE-1, CCE-2, or CCE-3)

OR

The Society for Protective Coatings QP3 - Shop Painting Certification

MVR.02

QUESTION AND ANSWER VIA PROJNET ALL SUBMITTED QUESTIONS FOR THIS PROJECT AND THE ANSWERS PROVIDED SHALL BE VIEWED IN BIDDER INQUIRY IN PROJNET AT (https://www.projnet.org).

Technical inquiries and questions relating to this solicitation are to be submitted via Bidder Inquiry in ProjNet at (https://www.projnet.org) No Later Than (NLT) TBD. To submit or review inquiry items, prospective vendors will need to use the Bidder Inquiry Key presented below and follow the instructions listed below the key for access. A prospective vendor who submits a comment /question will receive an acknowledgement of their comment/question via email. Another email to the same address will notify the prospective vendor once the reply is available for viewing.

The Bidder Inquiry Key is: UT6ZNR-VPBEWG

Specific Instructions for First Time ProjNet Bid Inquiry Access:

1. From the ProjNet home page linked above, click on Quick Add on the upper right side of the screen.

2. Identify the Agency. This should be marked as USACE.

3. Key. Enter the Bidder Inquiry Key listed above.

4. Email. Enter the email address you would like to use for communication.

5. Click Continue. A page will then open saying that a user account was not found and will ask you to create one using the provided form.

6. Enter your First Name, Last Name, Company, City, State, Phone, Email, Secret Question, Secret Answer, and Time Zone. Make sure to remember your Secret Question and Answer as they will be used from this point on to access the ProjNet system.

7. Click Add User. Once this is completed you are now registered within ProjNet and are currently logged into the system.

Specific Instructions for Future ProjNet Bid Inquiry Access:

1. For future access to ProjNet, you will not be provided any type of password. You will utilize your Secret Question and Secret Answer to log in.

2. From the ProjNet home page linked above, click on Quick Add on the upper right side of the screen.

3. Identify the Agency. This should be marked as USACE.

4. Key. Enter the Bidder Inquiry Key listed above.

5. Email. Enter the email address you used to register previously in ProjNet.

6. Click Continue. A page will then open asking you to enter the answer to your Secret Question.

7. Enter your Secret Answer and click Login. Once this is completed you are now logged into the system.

MVR.13 INSTRUCTIONS TO BIDDERS

INSTRUCTION TO BIDDERS

The Rock Island District has implemented the below procedures for all current bid openings. Electronic Submission of Bids:

For this IFB Solicitation, the Rock Island District is requesting electronic bids be submitted via email to the Contracting Officer and Contract Specialist.

NO HARD COPY BIDS WILL BE ACCEPTED

Contracting Officer - Jeffrey Voss at jeffrey.r.voss@usace.army.mil

Contract Specialist - Joseph Porter at joseph.e.porter@usace.army.mil

In the subject of the e-mail - the solicitation and Project Name shall be provided.

The Contracting Officer or Contract Specialist will send an email acknowledging receipt. Please note, the Firewall can cause a delay in receipt of email, so be sure to allow time for the delay.

The Bid Opening is currently scheduled for TBD Central Time.

The Contracting Officer and Contract Specialist will begin downloading bids ONE HOUR BEFORE BID OPENING TIME, which is the bid receipt cutoff time.

All bids received after TBD Central Time (hour before the above) on TBD will be considered late.

Audio Teleconference Bid Opening Information:

Please use the following call-in information to attend the meeting:

Microsoft Teams

Meeting ID: TBD

Passcode: TBD

Dial in by phone:

TBD

Following the conclusion of the bid opening, the Bid Abstract will be uploaded to SAM website under this solicitation, within 24 hours.

Bid Bonds (Offer Guarantee) should be submitted electronically with the Bid Package as per the scheduled Bid Opening on Amendment.

Per Class Deviation 2020-O0016, Electronic signatures and electronic, mechanically-applied, or printed dates may be used and shall be considered original signatures and dates. In addition, a Corporate Seal is not required, the SF 28 need not be sworn and notarized and a written authorization of the release signed by the surety is acceptable in lieu of the notarized authorization of release by the surety. Original Certified Bonds need not be submitted at time of bid.

HOWEVER, the Rock Island District reserves the right to request the Original Certified Bonds, if deemed necessary to verify their authenticity.

The following deviation clauses now apply, in lieu of the corresponding FAR clauses:

FAR 52.228-11, Pledges of Assets (DEVIATION 2020-O0016), which removes the requirement for the Standard Form 28 to be sworn and notarized.

FAR 52.228-16, Performance and Payment Bonds--Other than Construction (DEVIATION 2020-O0016), which removes requirements for seals on Standard Forms.

For any Questions please contact:

Contacts outlined above

*** END OF NARRATIVE ***

Section B - Supplies or Services & Prices or Costs

Additional Information/Notes

Item	Supplies/Service	Quantity	Unit	Unit Price	Amount
0001	Base Bid - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		
Option Line Item 0002	Option A - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		
Option Line Item 0003	Option B - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		
Option Line Item 0004	Option C - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		
Option Line Item 0005	Option D - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		
Option Line Item 0006	Option E - Miss Dam 21 Bolted Tainter Gate Replacement Product Service Code: 5450 Pricing Arrangement: Firm Fixed Price	1	Job		

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT	DELIVERY DATE
	BASE BID					
0001	Tainter Gate Fabrication	3	EA	_____	$ _____	
0002	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0003	Barge Demurrage					
0003AA	First 30 Days	30	DY	_____	$ _____	
0003AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - BASE BID (ITEM NOS. 0001 THROUGH 0003AB, INCL.)					$ _____	
	OPTION A					
0101	Tainter Gate Fabrication	1	EA	_____	$ _____	
0102	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0103	Barge Demurrage					
0103AA	First 30 Days	30	DY	_____	$ _____	
0103AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION A (ITEM NOS. 0101 THROUGH 0103AB, INCL.)					$ _____	
	OPTION B					
0201	Tainter Gate Fabrication	1	EA	_____	$ _____	
0202	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0203	Barge Demurrage					
0203AA	First 30 Days	30	DY	_____	$ _____	
0203AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION B (ITEM NOS. 0201 THROUGH 0203AB, INCL.)					$ _____	
	OPTION C					
0301	Tainter Gate Fabrication	1	EA	_____	$ _____	
0302	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0303	Barge Demurrage					
0303AA	First 30 Days	30	DY	_____	$ _____	
0303AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION C (ITEM NOS. 0301 THROUGH 0303AB, INCL.)					$ _____	
	OPTION D					
0401	Tainter Gate Fabrication	1	EA	_____	$ _____	
0402	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0403	Barge Demurrage					

0403AA	First 30 Days	30	DY	_____	$ _____	
0403AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION D (ITEM NOS. 0401 THROUGH 0403AB, INCL.)					$ _____	
	OPTION E					
0501	Tainter Gate Fabrication	1	EA	_____	$ _____	
0502	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0503	Barge Demurrage					
0503AA	First 30 Days	30	DY	_____	$ _____	
0503AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION E (ITEM NOS. 0501 THROUGH 0503AB, INCL.)					$ _____	
	OPTION F					
0601	Tainter Gate Fabrication	1	EA	_____	$ _____	
0602	Tainter Gate Delivery	1	JOB	XXXXXXXX	$ _____	_____
0603	Barge Demurrage					
0603AA	First 30 Days	30	DY	_____	$ _____	
0603AB	Over 30 Days	60	DY	_____	$ _____	
TOTAL OF ESTIMATED AMOUNTS - OPTION F (ITEM NOS. 0601 THROUGH 0603AB, INCL.)					$ _____	
TOTAL OF ESTIMATED AMOUNTS - BASE BID AND ALL OPTIONS (ITEM NOS. 0001 THROUGH 0603AB, INCL.)					$ _____	

JOB = LUMP SUM DY = DAY EA = EACH

ENSURE UNIT PRICES AND AMOUNT LINES FOR ALL ITEMS ARE COMPLETED.

GOVERNMENT RESERVES THE RIGHT TO EXERCISE OPTIONS UNTIL 30 DECEMBER 2026.

IF ANY OPTIONS ARE AWARDED, THE CONTRACT DURATION WILL BE EXTENDED BY 150 DAYS UPON AWARD FOR EACH ADDITIONAL OPTION.

IF GATES ARE CONSOLIDATED FOR SHIPMENT ON FEWER BARGES, DELIVERY AND BARGE DEMURRAGE CLIN VALUES TO BE BASED ON ANTICIPATED SHIPPING PLAN.

DELIVER BASE BID AND OPTION GATES TO THE LOCATION AS INDICATED WITHIN 900 CALENDAR DAYS AFTER NOTICE TO PROCEED OF THE BASE BID.

GOVERNMENT REQUIRES NOTIFICATION AT LEAST 30 DAYS PRIOR TO DELIVERY OF GATE(S).

CONTRACTOR TO REMOVE DELIVERY BARGE(S) FROM THE APPLICABLE SITE WITHIN 7 CONSECUTIVE CALENDER DAYS FOLLOWING RELEASE BY THE GOVERNMENT.

SEE CLAUSE FAR 5152.211-9001 FOR MORE INFORMATION ON VARIATIONS IN QUANTITY.

DO NOT FILL-IN/COMPLETE THE DELIVERY DATE COLUMN WHEN SUBMITTING YOUR PROPOSAL. THE GOVERNMENT WILL FILL-IN/COMPLETE THIS INFORMATION AT THE TIME OF AWARD AND/OR MODIFICATIONS. SEE CLAUSE TIME OF DELIVERY FOR MORE INFORMATION.

THERE ARE TEN GATES AT LOCK AND DAM 21. IN ADDITION TO THE GATES LISTED IN THE ABOVE SCHEDULE OF PRICES, AND PENDING THE AVAILABILITY OF FISCAL YEAR 2027 FUNDING, THE GOVERNMENT MAY PROCURE UP TO AN ADDITIONAL THREE GATES VIA THIS CONTRACT.

Section C - Description/Specifications/Statement of Work

Requirements

Lock and Dam 21 Bolted Tainter Gate Fabrication

Section E - Inspection and Acceptance

FAR Clauses Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.246-2	Inspection of Supplies-Fixed-Price.	1996-08		
52.246-16	Responsibility for Supplies.	1984-04		

Section F - Deliveries or Performance

0001	**Delivery Schedule** Delivery Estimated By Delivery Date 17 Apr 2029 **Quantity** 1 Job **Address and POC** Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES **Special Handling/Notes** FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination
Option Line Item 0002	**Delivery Schedule** Delivery Estimated By Delivery Date 14 Sep 2029 **Quantity** 1 Job **Address and POC** Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES

	Special Handling/Notes FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination
Option Line Item 0003	**Delivery Schedule** Delivery Estimated By Delivery Date 11 Feb 2030 **Quantity** 1 Job **Address and POC** Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES **Special Handling/Notes** FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination
Option Line Item 0004	**Delivery Schedule** Delivery Estimated By Delivery Date 11 Jul 2030 **Quantity** 1 Job **Address and POC**

	Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES **Special Handling/Notes** FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination
Option Line Item 0005	**Delivery Schedule** Delivery Estimated By Delivery Date 08 Dec 2030 **Quantity** 1 Job **Address and POC** Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES **Special Handling/Notes** FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination

Option Line Item 0006	**Delivery Schedule** Delivery Estimated By Delivery Date 07 May 2031 **Quantity** 1 Job **Address and POC** Ship To DoDAAC: 965146 CountryCode: USA ARMY CORPS OF ENGINEERS CIVIL WORKS ENGINEER DISTRICT, LOCK AND DAM 21 QUINCY, IL 62301 UNITED STATES **Special Handling/Notes** FoB Details Party to Pay Transportation Cost: Contractor Point Type: Destination

FAR Clauses Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.242-17	Government Delay of Work.	1984-04		
52.247-34	F.o.b. Destination.	1991-01		

Section G - Contract Administration Data

DFARS Clauses Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.201-7000	Contracting Officer's Representative.	1991-12		

Section I - Contract Clauses

FAR Clauses Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.202-1	Definitions.	2020-06		
52.203-3	Gratuities.	1984-04		
52.203-5	Covenant Against Contingent Fees.	2014-05		
52.203-6	Restrictions on Subcontractor Sales to the Government.	2020-06		
52.203-7	Anti-Kickback Procedures.	2020-06		
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity.	2014-05		
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity.	2014-05		
52.203-12	Limitation on Payments to Influence Certain Federal Transactions.	2020-06		
52.203-13	Contractor Code of Business Ethics and Conduct.	2021-11		
52.203-19	Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements.	2017-01		
52.204-10	Reporting Executive Compensation and First-Tier	2026-02		

	Subcontract Awards. (Deviation 2026-O0038)	
52.204-13	System for Award Management-Maintenance. (Deviation 2026-O0038)	2026-02
52.204-19	Incorporation by Reference of Representations and Certifications.	2014-12
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, Proposed for Debarment, or Voluntarily Excluded. (Deviation 2026-O0038)	2026-02
52.209-9	Updates of Publicly Available Information Regarding Responsibility Matters. (Deviation 2026-O0038)	2026-02
52.209-10	Prohibition on Contracting With Inverted Domestic Corporations. (Deviation 2026-O0038)	2026-02
52.210-1	Market Research. (Deviation 2026-O0038)	2026-02
52.211-5	Material Requirements. (Deviation 2026-O0038)	2026-02
52.214-26	Audit and Records-Sealed Bidding. (Deviation 2026-O0038)	2026-02
52.214-27	Price Reduction for Defective Certified Cost or Pricing Data-Modifications-Sealed Bidding.	2020-06

52.214-28	Subcontractor Certified Cost or Pricing Data-Modifications-Sealed Bidding. (Deviation 2026-O0038)	2026-02
52.214-29	Order of Precedence-Sealed Bidding.	1986-01
52.219-8	Utilization of Small Business Concerns. (Deviation 2026-O0038)	2026-02
52.222-3	Convict Labor. (Deviation 2026-O0038)	2026-02
52.222-19	Child Labor-Cooperation with Authorities and Remedies. (Deviation 2026-O0038)	2026-03
52.222-20	Contracts for Materials, Supplies, Articles, and Equipment. (Deviation 2026-O0038)	2026-02
52.222-35	Equal Opportunity for Veterans. (Deviation 2026-O0038)	2026-02
52.222-36	Equal Opportunity for Workers with Disabilities. (Deviation 2026-O0038)	2026-02
52.222-37	Employment Reports on Veterans. (Deviation 2026-O0038)	2026-02
52.222-40	Notification of Employee Rights Under the National Labor Relations Act. (Deviation 2026-O0038)	2026-02

52.222-50	Combating Trafficking in Persons. (Deviation 2026-O0038)	2026-02
52.222-54	Employment Eligibility Verification. (Deviation 2026-O0038)	2026-02
52.222-90	Addressing DEI Discrimination by Federal Contractors. (Deviation 2026-O0040, Revision 1)	2026-04
52.223-23	Sustainable Products. (Deviation 2026-O0038)	2026-02
52.226-7	Drug-Free Workplace.	2024-05
52.226-8	Encouraging Contractor Policies to Ban Text Messaging While Driving.	2024-05
52.227-1	Authorization and Consent.	2020-06
52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement.	2020-06
52.228-2	Additional Bond Security.	1997-10
52.228-11	Individual Surety-Pledge of Assets.	2021-02
52.228-14	Irrevocable Letter of Credit.	2014-11
52.229-3	Federal, State, and Local Taxes.	2013-02
52.232-1	Payments.	1984-04
52.232-8	Discounts for Prompt Payment.	2002-02

52.232-11	Extras.	1984-04
52.232-17	Interest.	2014-05
52.232-23	Assignment of Claims.	2014-05
52.232-25	Prompt Payment.	2017-01
52.232-33	Payment by Electronic Funds Transfer-System for Award Management.	2018-10
52.232-39	Unenforceability of Unauthorized Obligations.	2013-06
52.232-40	Providing Accelerated Payments to Small Business Subcontractors.	2023-03
52.233-3	Protest after Award. (Deviation 2026-O0038)	2026-02
52.233-4	Applicable Law for Breach of Contract Claim. (Deviation 2026-O0038)	2026-02
52.240-91	Security Prohibitions and Exclusions. (Deviation 2026-O0038)	2026-02
52.242-2	Production Progress Reports.	1991-04
52.242-13	Bankruptcy.	1995-07
52.243-1	Changes-Fixed-Price. (Deviation 2026-O0038)	2026-02
52.244-6	Subcontracts for Commercial Products and Commercial Services. (Deviation 2026-O0038)	2026-04

52.246-23	Limitation of Liability.	1997-02
52.246-24	Limitation of Liability-High-Value Items.	1997-02
52.249-2	Termination for Convenience of the Government (Fixed-Price).	2012-04
52.249-8	Default (Fixed-Price Supply and Service).	1984-04

DFARS Clauses Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.203-7000	Requirements Relating to Compensation of Former DoD Officials.	2011-09		
252.203-7001	Prohibition on Persons Convicted of Fraud or Other Defense-Contract-Related Felonies.	2023-01		
252.203-7002	Requirement to Inform Employees of Whistleblower Rights.	2022-12		
252.203-7003	Agency Office of the Inspector General.	2019-08		
252.203-7004	Display of Hotline Posters.	2023-01		
252.204-7003	Control of Government Personnel Work Product.	1992-04		
252.204-7012	Safeguarding Covered Defense	2024-05		

	Information and Cyber Incident Reporting.	
252.204-7015	Notice of Authorized Disclosure of Information for Litigation Support.	2023-01
252.204-7018	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services.	2023-01
252.204-7020	NIST SP 800-171 DoD Assessment Requirements.	2023-11
252.205-7000	Provision of Information to Cooperative Agreement Holders.	2024-10
252.209-7004	Subcontracting with Firms that are Owned or Controlled by the Government of a Country that is a State Sponsor of Terrorism.	2019-05
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements.	2023-01
252.223-7008	Prohibition of Hexavalent Chromium.	2023-01
252.225-7001	Buy American and Balance of Payments Program.	2024-02
252.225-7002	Qualifying Country Sources as Subcontractors.	2022-03
252.225-7012	Preference for Certain Domestic Commodities.	2022-04
252.225-7048	Export-Controlled Items.	2013-06

252.225-7056	Prohibition Regarding Business Operations with the Maduro Regime.	2023-01
252.225-7058	Postaward Disclosure of Employment of Individuals Who Work in the People's Republic of China.	2023-01
252.225-7060	Prohibition on Certain Procurements from the Xinjiang Uyghur Autonomous Region.	2023-06
252.226-7001	Utilization of Indian Organizations, Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns.	2023-01
252.232-7010	Levies on Contract Payments.	2006-12
252.243-7001	Pricing of Contract Modifications.	1991-12
252.243-7002	Requests for Equitable Adjustment.	2022-12
252.247-7023	Transportation of Supplies by Sea.	2024-10

FAR Clauses Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.211-11	Liquidated Damages-Supplies, Services, or Research and Development.	2000-09		

Liquidated Damages-Supplies, Services, or Research and Development (Sept 2000)

(a) If the Contractor fails to deliver the supplies or perform the services within the time specified in this contract, the Contractor shall, in place of actual damages, pay to the Government liquidated damages of $1,500.00 per calendar day of delay.

(b) If the Government terminates this contract in whole or in part under the Default-Fixed-Price Supply and Service clause, the Contractor is liable for liquidated damages accruing until the Government reasonably obtains delivery or performance of similar supplies or services. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(c) The Contractor will not be charged with liquidated damages when the delay in delivery or performance is beyond the control and without the fault or negligence of the Contractor as defined in the Default-Fixed-Price Supply and Service clause in this contract.

(End of clause)

52.217-7	Option for Increased Quantity-Separately Priced Line Item.	1989-03

Option for Increased Quantity-Separately Priced Line Item (Mar 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor as listed in the Schedule of Prices. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

52.219-28	Postaward Small Business Program Rerepresentation. (Deviation 2026-O0038)	2026-02

Postaward Small Business Program Rerepresentation (Feb 2026) (Deviation 2026-O0038)

(a) Definitions. As used in this clause-

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern-

(1) Means a concern, including its affiliates, that is independently owned and operated, not dominant in its field of operation, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause.

(2) Affiliates, as used in this definition, means business concerns, one of whom directly or indirectly controls or has the power to control the others, or a third party or parties control or have the power to control the others. In determining whether affiliation exists, consideration is given to all appropriate factors including common ownership, common management, and contractual relationships. SBA determines affiliation based on the factors set forth at 13 CFR 121.103.

(b) If the Contractor represented that it was a small business concern, a small disadvantaged business concern, or a joint venture that was any of the small business concerns identified in 19.000(a)(3) prior to award of this contract, the Contractor shall rerepresent its size and socioeconomic status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts-

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code(s) assigned to this contract. The small business size standard corresponding to this NAICS code(s) can be found at https://www.sba.gov/document /support--table-size-standards.

(d) The small business size standard for a Contractor providing an end item that it does not manufacture, process, or produce itself, for a contract other than a construction or service contract, is 500 employees, or 150 employees for information technology value-added resellers under NAICS code 541519, if the acquisition-

(1) Was set aside for small business and has a value above the simplified acquisition threshold;

(2) Used the HUBZone price evaluation preference regardless of dollar value, unless the Contractor waived the price evaluation preference; or

(3) Was an 8(a), HUBZone, service-disabled veteran-owned, economically disadvantaged women-owned, or women-owned small business set-aside or sole-source award regardless of dollar value.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the representation(s) required by paragraph (b) of this clause by validating or updating all its representations in the Representations and Certifications section of the System for Award Management (SAM) and its other data in SAM, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting officer in writing within the timeframes specified in paragraph (b) of this clause, that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in SAM, or does not have a representation in SAM for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

(1) The Contractor represents that it [ ] is, [ ] is not a small business concern under ____NAICS

Code assigned to ____contract number.

(2) [Complete only if the Contractor represented itself as a small business concern in paragraph (g)(1) of this clause.] The Contractor represents that it [ ] is, [ ] is not, a small disadvantaged business concern as defined in 13 CFR 124.1001.

(3) Women-owned small business (WOSB) joint venture eligible under the WOSB Program. The Contractor represents that it [ ] is, [ ] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [____The Contractor shall enter the name and unique entity identifier of each party to the joint venture: __.]

(4) Economically disadvantaged women-owned small business (EDWOSB) joint venture. The Contractor represents that it [ ] is, [ ] is not a joint venture that complies with the requirements of 13 CFR 127.506(a) through (c). [____The Contractor shall enter the name and unique entity identifier of each party to the joint venture: __ .]

(5) Service-disabled veteran-owned small business (SDVOSB) joint venture eligible under the SDVOSB Program. The Contractor represents that it [ ] is, [ ] is not an SDVOSB joint venture eligible under the SDVOSB Program that complies with the requirements of 13 CFR 128.402. [____The Contractor shall enter the name and unique entity identifier of each party to the joint venture: __.]

(6) HUBZone joint venture eligible under the HUBZone Program.[Complete only if the offeror is a HUBZone small business concern.] The offeror represents, as part of its offer, that It [ ] is, [ ] is not a HUBZone joint venture that complies with the requirements of 13 CFR 126.616(a) through (c). [____The Contractor shall enter the name and unique entity identifier of each party to the joint venture: .] Each HUBZone small business concern participating in the HUBZone joint venture must be certified as a HUBZone concern. [____Contractor to sign and date and insert authorized signer's name and title.]

(End of clause)

52.228-16	Performance and Payment Bonds-Other Than Construction.	2006-11

Performance and Payment Bonds-Other Than Construction (Nov 2006)

(a) Definitions. As used in this clause-

"Original contract price" means the award price of the contract or, for requirements contracts, the price payable for the estimated quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) The Contractor shall furnish a performance bond (Standard Form 1418) for the protection of the Government in an amount equal to 100 percent of the original contract price and a payment bond Standard Form 1416) in an amount equal to 100 percent of the original contract price.

(c) The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within 10 days, but in any event, before starting work.

(d) The Government may require additional performance and payment bond protection if the contract price is increased. The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bonds or to obtain additional bonds.

(e) The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register, or may be obtained from the:

U.S. Department of the Treasury,

Financial Management Service,

Surety Bond Branch,

3700 East West Highway,

Room 6F01

Hyattsville, MD 20782.

Or via the internet at http://www.fms.treas.gov/c570/.

(End of clause)

52.232-32 Performance-Based Payments. 2012-04

Performance-Based Payments (Apr 2012)

(a) Amount of payments and limitations on payments. Subject to such other limitations and conditions as are specified in this contract and this clause, the amount of payments and limitations on payments shall be specified in the contract's description of the basis for payment.

(b) Contractor request for performance-based payment. The Contractor may submit requests for payment of performance-based payments not more frequently than monthly, in a form and manner acceptable to the Contracting Officer. Unless otherwise authorized by the Contracting Officer, all performance-based payments in any period for which payment is being requested shall be included in a single request, appropriately itemized and totaled. The Contractor's request shall contain the information and certification detailed in paragraphs (l) and (m) of this clause.

(c) Approval and payment of requests.

(1) The Contractor shall not be entitled to payment of a request for performance-based payment prior to successful accomplishment of the event or performance criterion for which payment is requested. The Contracting Officer shall determine whether the event or performance criterion for which payment is requested has been successfully accomplished in accordance with the terms of the contract. The Contracting Officer may, at any time, require the Contractor to substantiate the successful performance of any event or performance criterion which has been or is represented as being payable.

(2) A payment under this performance-based payment clause is a contract financing payment under the Prompt Payment clause of this contract and not subject to the interest penalty provisions of the Prompt Payment Act. The designated payment office will pay approved requests on the N/A[Contracting Officer insert day as prescribed by agency head; if not prescribed, insert "30th"] day after receipt of the request for performance-based payment by the designated payment office. However, the designated payment office is not required to provide payment if the Contracting Officer requires substantiation as provided in paragraph (c)(1) of this clause, or inquires into the status of an event or performance criterion, or into any of the conditions listed in paragraph (a) of this clause, or into the Contractor certification. The payment period will not begin until the Contracting Officer approves the request.

(3) The approval by the Contracting Officer of a request for performance-based payment does not constitute an acceptance by the Government and does not excuse the Contractor from performance of obligations under this contract.

(d) Liquidation of performance-based payments.

(1) Performance-based finance amounts paid prior to payment for delivery of an item shall be liquidated by deducting a percentage or a designated dollar amount from the delivery payment. If the performance-based finance payments are on a delivery item basis, the liquidation amount for each such line item shall be the percent of that delivery item price that was previously paid under performance-based finance payments or the designated dollar amount. If the performance-based finance payments are on a whole contract basis, liquidation shall be by either predesignated liquidation amounts or a liquidation percentage.

(2) If at any time the amount of payments under this contract exceeds any limitation in this contract, the Contractor shall repay to the Government the excess. Unless otherwise determined by the Contracting Officer, such excess shall be credited as a reduction in the unliquidated performance-based payment balance(s), after adjustment of invoice payments and balances for any retroactive price adjustments.

(e) Reduction or suspension of performance-based payments. The Contracting Officer may reduce or suspend performance-based payments, liquidate performance-based payments by deduction from any payment under the contract, or take a combination of these actions after finding upon substantial evidence any of the following conditions:

(1) The Contractor failed to comply with any material requirement of this contract (which includes paragraphs (h) and (i) of this clause).

(2) Performance of this contract is endangered by the Contractor's-

(i) Failure to make progress; or

(ii) Unsatisfactory financial condition.

(3) The Contractor is delinquent in payment of any subcontractor or supplier under this contract in the ordinary course of business.

(f) Title.

(1) Title to the property described in this paragraph (f) shall vest in the Government. Vestiture shall be immediately upon the date of the first performance-based payment under this contract, for property acquired or produced before that date. Otherwise, vestiture shall occur when the property is or should have been allocable or properly chargeable to this contract.

(2) "Property," as used in this clause, includes all of the following described items acquired or produced by the Contractor that are or should be allocable or properly chargeable to this contract under sound and generally accepted accounting principles and practices:

(i) Parts, materials, inventories, and work in process;

(ii) Special tooling and special test equipment to which the Government is to acquire title;

(iii) Nondurable (i.e., noncapital) tools, jigs, dies, fixtures, molds, patterns, taps, gauges, test equipment and other similar manufacturing aids, title to which would not be obtained as special tooling under paragraph (f)(2)(ii) of this clause; and

(iv) Drawings and technical data, to the extent the Contractor or subcontractors are required to deliver them to the Government by other clauses of this contract.

(3) Although title to property is in the Government under this clause, other applicable clauses of this contract (e.g., the termination clauses) shall determine the handling and disposition of the property.

(4) The Contractor may sell any scrap resulting from production under this contract, without requesting the Contracting Officer's approval, provided that any significant reduction in the value of the property to which the Government has title under this clause is reported in writing to the Contracting Officer.

(5) In order to acquire for its own use or dispose of property to which title is vested in the Government under this clause, the Contractor shall obtain the Contracting Officer's advance approval of the action and the terms. If approved, the basis for payment (the events or performance criteria) to which the property is related shall be deemed to be not in compliance with the terms of the contract and not payable (if the property is part of or needed for performance), and the Contractor shall refund the related performance-based payments in accordance with paragraph (d) of this clause.

(6) When the Contractor completes all of the obligations under this contract, including liquidation of all performance-based payments, title shall vest in the Contractor for all property (or the proceeds thereof) not-

(i) Delivered to, and accepted by, the Government under this contract; or

(ii) Incorporated in supplies delivered to, and accepted by, the Government under this contract and to which title is vested in the Government under this clause.

(7) The terms of this contract concerning liability for Government-furnished property shall not apply to property to which the Government acquired title solely under this clause.

(g) Risk of loss. Before delivery to and acceptance by the Government, the Contractor shall bear the risk of loss for property, the title to which vests in the Government under this clause, except to the extent the Government expressly assumes the risk. If any property is lost (see 45.101), the basis of payment (the events or performance criteria) to which the property is related shall be deemed to be not in compliance with the terms of the contract and not payable (if the property is part of or needed for performance), and the Contractor shall refund the related performance-based payments in accordance with paragraph (d) of this clause.

(h) Records and controls. The Contractor shall maintain records and controls adequate for administration of this clause. The Contractor shall have no entitlement to performance-based payments during any time the Contractor's records or controls are determined by the Contracting Officer to be inadequate for administration of this clause.

(i) Reports and Government access. The Contractor shall promptly furnish reports, certificates, financial statements, and other pertinent information requested by the Contracting Officer for the administration of this clause and to determine that an event or other criterion prompting a financing payment has been successfully accomplished. The Contractor shall give the Government reasonable opportunity to examine and verify the Contractor's records and to examine and verify the Contractor's performance of this contract for administration of this clause.

(j) Special terms regarding default. If this contract is terminated under the Default clause, (1) the Contractor shall, on demand, repay to the Government the amount of unliquidated performance-based payments, and (2) title shall vest in the Contractor, on full liquidation of all performance-based payments, for all property for which the Government elects not to require delivery under the Default clause of this contract. The Government shall be liable for no payment except as provided by the Default clause.

(k) Reservation of rights.

(1) No payment or vesting of title under this clause shall-

(i) Excuse the Contractor from performance of obligations under this contract; or

(ii) Constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause-

(i) Shall not be exclusive, but rather shall be in addition to any other rights and remedies provided by law or this contract; and

(ii) Shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(l) Content of Contractor's request for performance-based payment. The Contractor's request for performance-based payment shall contain the following:

(1) The name and address of the Contractor;

(2) The date of the request for performance-based payment;

(3) The contract number and/or other identifier of the contract or order under which the request is made;

(4) Such information and documentation as is required by the contract's description of the basis for payment; and

(5) A certification by a Contractor official authorized to bind the Contractor, as specified in paragraph (m) of this clause.

(m) Content of Contractor's certification. As required in paragraph (l)(5) of this clause, the Contractor shall make the following certification in each request for performance-based payment:

I certify to the best of my knowledge and belief that-

(1) This request for performance-based payment is true and correct; this request (and attachments) has been prepared from the books and records of the Contractor, in accordance with the contract and the instructions of the Contracting Officer;

(2) (Except as reported in writing on ____), all payments to subcontractors and suppliers under this contract have been paid, or will be paid, currently, when due in the ordinary course of business;

(3) There are no encumbrances (except as reported in writing on ____) against the property acquired or produced for, and allocated or properly chargeable to, the contract which would affect or impair the Government's title;

(4) There has been no materially adverse change in the financial condition of the Contractor since the submission by the Contractor to the Government of the most recent written information dated ____; and

(5) After the making of this requested performance-based payment, the amount of all payments for each deliverable item for which performance-based payments have been requested will not exceed any limitation in the contract, and the amount of all payments under the contract will not exceed any limitation in the contract.

(End of clause)

52.252-2	Clauses Incorporated by Reference.	1998-02

Clauses Incorporated By Reference (Feb 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.acquisition.gov

(End of clause)

52.252-4	Alterations in Contract.	1984-04

Alterations in Contract (Apr 1984)

Portions of this contract are altered as follows:

TBD

(End of clause)

52.252-6	Authorized Deviations in Clauses.	2020-11

Authorized Deviations in Clauses (Nov 2020)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any DFARS (48 CFR 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

DFARS Clauses Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.211-7003	Item Unique Identification and Valuation.	2023-01		

ITEM UNIQUE IDENTIFICATION AND VALUATION (JAN 2023)

(a) Definitions. As used in this clause-

"Automatic identification device" means a device, such as a reader or interrogator, used to retrieve data encoded on machine-readable media.

"Concatenated unique item identifier" means-

(1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; or

(2) For items that are serialized within the original part, lot, or batch number, the linking together of the unique identifier data elements in order of the issuing agency code; enterprise identifier; original part, lot, or batch number; and serial number within the original part, lot, or batch number.

"Data matrix" means a two-dimensional matrix symbology, which is made up of square or, in some cases, round modules arranged within a perimeter finder pattern and uses the Error Checking and Correction 200 (ECC200) specification found within International Standards Organization (ISO)/International Electrotechnical Commission (IEC) 16022.

"Data qualifier" means a specified character (or string of characters) that immediately precedes

a data field that defines the general category or intended use of the data that follows.

"DoD recognized unique identification equivalent" means a unique identification method that is in commercial use and has been recognized by DoD. All DoD recognized unique identification equivalents are listed at https://www.acq.osd.mil/asda/dpc/ce/ds/unique-id.html.

"DoD item unique identification" means a system of marking items delivered to DoD with unique item identifiers that have machine-readable data elements to distinguish an item from all other like and unlike items. For items that are serialized within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier and a unique serial number. For items that are serialized within the part, lot, or batch number within the enterprise identifier, the unique item identifier shall include the data elements of the enterprise identifier; the original part, lot, or batch number; and the serial number.

" Enterprise " means the entity (e.g., a manufacturer or vendor) responsible for assigning unique item identifiers to items.

" Enterprise identifier" means a code that is uniquely assigned to an enterprise by an issuing agency.

"Government's unit acquisition cost" means-

(1) For fixed-price type line, subline, or exhibit line items, the unit price identified in the contract at the time of delivery;

(2) For cost-type or undefinitized line, subline, or exhibit line items, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery; and

(3) For items produced under a time-and-materials contract, the Contractor's estimated fully burdened unit cost to the Government at the time of delivery.

"Issuing agency" means an organization responsible for assigning a globally unique identifier to an enterprise, as indicated in the Register of Issuing Agency Codes for ISO/IEC 15459, located at http://www.aimglobal.org/?Reg_Authority15459.

"Issuing agency code" means a code that designates the registration (or controlling) authority for the enterprise identifier.

"Item" means a single hardware article or a single unit formed by a grouping of subassemblies,

components, or constituent parts.

" Lot or batch number" means an identifying number assigned by the enterprise to a designated group of items, usually referred to as either a lot or a batch, all of which were manufactured under identical conditions.

"Machine-readable" means an automatic identification technology media, such as bar codes, contact memory buttons, radio frequency identification, or optical memory cards.

"Original part number" means a combination of numbers or letters assigned by the enterprise at item creation to a class of items with the same form, fit, function, and interface.

"Parent item" means the item assembly, intermediate component, or subassembly that has an embedded item with a unique item identifier or DoD recognized unique identification equivalent.

"Serial number within the enterprise identifier" means a combination of numbers, letters, or symbols assigned by the enterprise to an item that provides for the differentiation of that item from any other like and unlike item and is never used again within the enterprise.

"Serial number within the part, lot, or batch number" means a combination of numbers or letters assigned by the enterprise to an item that provides for the differentiation of that item from any other like item within a part, lot, or batch number assignment.

"Serialization within the enterprise identifier" means each item produced is assigned a serial number that is unique among all the tangible items produced by the enterprise and is never used again. The enterprise is responsible for ensuring unique serialization within the enterprise identifier.

"Serialization within the part, lot, or batch number" means each item of a particular part, lot, or batch number is assigned a unique serial number within that part, lot, or batch number assignment. The enterprise is responsible for ensuring unique serialization within the part, lot, or batch number within the enterprise identifier.

"Type designation" means a combination of letters and numerals assigned by the Government to a major end item, assembly or subassembly, as appropriate, to provide a convenient means of differentiating between items having the same basic name and to indicate modifications and changes thereto.

"Unique item identifier" means a set of data elements marked on items that is globally unique

and unambiguous. The term includes a concatenated unique item identifier or a DoD recognized unique identification equivalent.

"Unique item identifier type" means a designator to indicate which method of uniquely identifying a part has been used. The current list of accepted unique item identifier types is maintained at https://www.acq.osd.mil/asda/dpc/ce/ds/unique-id.html.

(b) The Contractor shall deliver all items under a contract line, subline, or exhibit line item.

(c) Unique item identifier.

(1) The Contractor shall provide a unique item identifier for the following:

(i) Delivered items for which the Government's unit acquisition cost is $5,000 or more, except for the following line items:

Contract Line, Subline, or

Exhibit Line Item Number Item Description

____ ____

____ ____

____ ____

(ii) Items for which the Government's unit acquisition cost is less than $5,000 that are identified in the Schedule or the following table:

Contract Line, Subline, or

Exhibit Line Item Number Item Description

____ ____

____ ____

____ ____

(If items are identified in the Schedule, insert "See Schedule in this table.)

(iii) Subassemblies, components, and parts embedded within delivered items, items with warranty requirements, DoD serially managed reparables and DoD serially managed nonreparables as specified in Attachment Number ____.

(iv) Any item of special tooling or special test equipment as defined in FAR 2.101 that have been designated for preservation and storage for a Major Defense Acquisition Program as specified in Attachment Number ____.

(v) Any item not included in (i), (ii), (iii), or (iv) for which the contractor creates and marks a unique item identifier for traceability.

(2) The unique item identifier assignment and its component data element combination shall not be duplicated on any other item marked or registered in the DoD Item Unique Identification Registry by the contractor.

(3) The unique item identifier component data elements shall be marked on an item using two dimensional data matrix symbology that complies with ISO/IEC International Standard 16022, Information technology - International symbology specification - Data matrix; ECC200 data matrix specification.

(4) Data syntax and semantics of unique item identifiers. The Contractor shall ensure that-

(i) The data elements (except issuing agency code) of the unique item identifier are encoded within the data matrix symbol that is marked on the item using one of the following three types of data qualifiers, as determined by the Contractor:

(A) Application Identifiers (AIs) (Format Indicator 05 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology - EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(B) Data Identifiers (DIs) (Format Indicator 06 of ISO/IEC International Standard 15434), in accordance with ISO/IEC International Standard 15418, Information Technology - EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance and ANSI MH 10.8.2 Data Identifier and Application Identifier Standard.

(C) Text Element Identifiers (TEIs) (Format Indicator 12 of ISO/IEC International Standard

15434), in accordance with the Air Transport Association Common Support Data Dictionary; and

(ii) The encoded data elements of the unique item identifier conform to the transfer structure, syntax, and coding of messages and data formats specified for Format Indicators 05, 06, and 12 in ISO/IEC International Standard 15434, Information Technology - Transfer Syntax for High Capacity Automatic Data Capture Media.

(5) Unique item identifier.

(i) The Contractor shall-

(A) Determine whether to-

(1) Serialize within the enterprise identifier;

(2) Serialize within the part, lot, or batch number; or

(3) Use a DoD recognized unique identification equivalent (e.g. Vehicle Identification Number); and

(B) Place the data elements of the unique item identifier (enterprise identifier; serial number; DoD recognized unique identification equivalent; and for serialization within the part, lot, or batch number only: original part, lot, or batch number) on items requiring marking by paragraph (c)(1) of this clause, based on the criteria provided in MIL-STD-130, Identification Marking of U. S. Military Property, latest version;

(C) Label shipments, storage containers and packages that contain uniquely identified items in accordance with the requirements of MIL-STD-129, Military Marking for Shipment and Storage, latest version; and

(D) Verify that the marks on items and labels on shipments, storage containers, and packages are machine readable and conform to the applicable standards. The contractor shall use an automatic identification technology device for this verification that has been programmed to the requirements of Appendix A, MIL-STD-130, latest version.

(ii) The issuing agency code-

(A) Shall not be placed on the item; and

(B) Shall be derived from the data qualifier for the enterprise identifier.

(d) For each item that requires item unique identification under paragraph (c)(1)(i), (ii), or (iv) of this clause or when item unique identification is provided under paragraph (c)(1)(v), in addition to the information provided as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report, the following information:

(1) Unique item identifier.

(2) Unique item identifier type.

(3) Issuing agency code (if concatenated unique item identifier is used).

(4) Enterprise identifier (if concatenated unique item identifier is used).

(5) Original part number (if there is serialization within the original part number).

(6) Lot or batch number (if there is serialization within the lot or batch number).

(7) Current part number (optional and only if not the same as the original part number).

(8) Current part number effective date (optional and only if current part number is used).

(9) Serial number (if concatenated unique item identifier is used).

(10) Government's unit acquisition cost.

(11) Unit of measure.

(12) Type designation of the item as specified in the contract schedule, if any.

(13) Whether the item is an item of Special Tooling or Special Test Equipment.

(14) Whether the item is covered by a warranty.

(e) For embedded subassemblies, components, and parts that require DoD item unique identification under paragraph (c)(1)(iii) of this clause or when item unique identification is

provided under paragraph (c)(1)(v), the Contractor shall report as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

(1) Unique item identifier of the parent item under paragraph (c)(1) of this clause that contains the embedded subassembly, component, or part.

(2) Unique item identifier of the embedded subassembly, component, or part.

(3) Unique item identifier type.**

(4) Issuing agency code (if concatenated unique item

identifier is used).**

(5) Enterprise identifier (if concatenated unique item identifier is used).**

(6) Original part number (if there is serialization within the original part number).**

(7) Lot or batch number (if there is serialization within the lot or batch number).**

(8) Current part number (optional and only if not the same as the original part number).**

(9) Current part number effective date (optional and only if current part number is used).**

(10) Serial number (if concatenated unique item identifier is used).**

(11) Description.

** Once per item.

(f) The Contractor shall submit the information required by paragraphs (d) and (e) of this clause as follows:

(1) End items shall be reported using the receiving report capability in Wide Area WorkFlow (WAWF) in accordance with the clause at 252.232-7003. If WAWF is not required by this contract, and the contractor is not using WAWF, follow the procedures at http://dodprocurementtoolbox.com/site/uidregistry/.

(2) Embedded items shall be reported by one of the following methods-

(i) Use of the embedded items capability in WAWF;

(ii) Direct data submission to the IUID Registry following the procedures and formats at http://dodprocurementtoolbox.com/site/uidregistry/; or

(iii) Via WAWF as a deliverable attachment for exhibit line item number (fill in) ____, Unique Item Identifier Report for Embedded Items, Contract Data Requirements List, DD Form 1423.

(g) Subcontracts. If the Contractor acquires by subcontract, any item(s) for which item unique identification is required in accordance with paragraph (c)(1) of this clause, the Contractor shall include this clause, including this paragraph (g), in the applicable subcontract(s), including subcontracts for commercial products or commercial services.

(End of clause)

252.236-7001	Contract Drawings and Specifications.	2000-08

CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall-

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this

paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title	File	Drawing No.
As listed on drawing sheet with the titel “Index of Drawings”		____
____	____	____
____	____	____
____	____	____
____	____	____

(End of clause)

Section J - List of Attachments

*** END OF NARRATIVE ***

Identifier	Document Name	Document Description	Reference Identifier	Date	Line Item	Page Numbers	Document Type	Provided Under Separate Cover
0001	A02 - SOP-2026-05-19	Proposal		01 Jun 2026			Attachment	No

Section K - Representations, Certification, & Other Statements

FAR Provisions Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.203-11	Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions.	2024-09		
52.240-90	Security Prohibitions and Exclusions Representations and Certifications. (Deviation 2026-O0038)	2026-02		

DFARS Provisions Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.203-7005	Representation Relating to Compensation of Former DoD Officials.	2022-09		
252.204-7008	Compliance with Safeguarding Covered Defense Information Controls.	2016-10		
252.225-7055	Representation Regarding Business Operations with the Maduro Regime.	2022-05		
252.225-7057	Preaward Disclosure of Employment of Individuals Who Work in the People's Republic of	2022-08		

	China.	
252.225-7059	Prohibition on Certain Procurements from the Xinjiang Uyghur Autonomous Region-Representation.	2023-06

FAR Provisions Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.203-2	Certificate of Independent Price Determination.	1985-04		

Certificate of Independent Price Determination (Apr 1985)

(a) The offeror certifies that-

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to-

(i) Those prices;

(ii) The intention to submit an offer; or

(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory-

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(2)

(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision ____[insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) of this provision have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

52.209-7	Information Regarding Responsibility Matters. (Deviation 2026-O0038)	2026-02

Information Regarding Responsibility Matters (Feb 2026) (Deviation 2026-O0038)

(a) Definitions. As used in this provision-

Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative Proceedings, Civilian Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

Federal contracts and grants with total value greater than $10,000,000 means-

(1) The total value of all current, active contracts and grants, including all priced options; and

(2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

Principal means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a division or business segment; and similar positions).

(b) The offeror [ ] has [ ] does not have current active Federal contracts and grants with total value greater than $10,000,000.

(c) If the offeror checked "has" in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

(i) In a criminal proceeding, a conviction.

(ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of $5,000 or more.

(iii) In an administrative proceeding, a finding of fault and liability that results in-

(A) The payment of a monetary fine or penalty of $5,000 or more; or

(B) The payment of a reimbursement, restitution, or damages in excess of $100,000.

(iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.

(2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.

(d) The offeror shall post the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIIS as required through maintaining an active registration in the System for Award Management, which can be accessed via https://www.sam.gov (see 52.204-7).

(End of provision)

52.209-11	Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law. (Deviation 2026-O0038)	2026-02

Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law (Feb 2026) (Deviation 2026-O0038)

(a) The Government will not enter into a contract with any corporation that-

(1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or

(2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

(b) The Offeror represents that-

(1) It is [ ] is not [ ] a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability; and

(2) It is [ ] is not [ ] a corporation that was convicted of a felony criminal violation under a Federal law within the preceding 24 months.

(End of provision)

52.209-13	Violation of Arms Control Treaties or Agreements-Certification. (Deviation 2026-O0038)	2026-02

Violation of Arms Control Treaties or Agreements-Certification (Feb 2026) (Deviation 2026-O0038)

(a) This provision does not apply to acquisitions at or below the simplified acquisition threshold or to acquisitions of commercial products and commercial services as defined in Federal Acquisition Regulation 2.101.

(b) Certification. [Offeror shall check either (1) or (2).]

[ ] (1) The Offeror certifies that-

(i) It does not engage and has not engaged in any activity that contributed to or was a significant factor in the President's or Secretary of State's determination that a foreign country is in violation of its obligations undertaken in any arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. The determinations are described in the most recent unclassified annual report provided to Congress pursuant to section 403 of the Arms Control and Disarmament Act (22 U.S.C. 2593a). The report is available at https://www.state.gov/bureaus-offices/under-secretary-for-arms-control-and-international-security-affairs/bureau-of-arms-control-verification-and-compliance/; and

(ii) No entity owned or controlled by the Offeror has engaged in any activity that contributed to or was a significant factor in the President's or Secretary of State's determination that a foreign country is in violation of its obligations undertaken in any arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. The determinations are described in the most recent unclassified annual report provided to Congress pursuant to section 403 of the Arms Control and Disarmament Act (22 U.S.C. 2593a). The report is available at https://www.state.gov/bureaus-offices/under-secretary-for-arms-control-and-international-security-affairs/bureau-of-arms-control-verification-and-compliance/; or

[ ] (2) The Offeror is providing separate information with its offer in accordance with paragraph (d)(2) of this provision.

(c) Procedures for reviewing the annual unclassified report (see paragraph (b)(1) of this provision). For clarity, references to the report in this section refer to the entirety of the annual unclassified report, including any separate reports that are incorporated by reference into the annual unclassified report.

(1) Check the table of contents of the annual unclassified report and the country section

headings of the reports incorporated by reference to identify the foreign countries listed there. Determine whether the Offeror or any person owned or controlled by the Offeror may have engaged in any activity related to one or more of such foreign countries.

(2) If such activity might have occurred, review all findings in the report associated with those foreign countries to determine whether or not each such foreign country was determined to be in violation of its obligations undertaken in an arms control, nonproliferation, or disarmament agreement to which the United States is a party, or to be not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. For clarity, in the annual report an explicit certification of non-compliance is equivalent to a determination of violation. However, the following statements in the annual report are not equivalent to a determination of violation:

(i) An inability to certify compliance.

(ii) An inability to conclude compliance.

(iii) A statement about compliance concerns.

(3) If so, determine whether the Offeror or any person owned or controlled by the Offeror has engaged in any activity that contributed to or is a significant factor in the determination in the report that one or more of these foreign countries is in violation of its obligations undertaken in an arms control, nonproliferation, or disarmament agreement to which the United States is a party, or is not adhering to its arms control, nonproliferation, or disarmament commitments in which the United States is a participating state. Review the narrative for any such findings reflecting a determination of violation or non-adherence related to those foreign countries in the report, including the finding itself, and to the extent necessary, the conduct giving rise to the compliance or adherence concerns, the analysis of compliance or adherence concerns, and efforts to resolve compliance or adherence concerns.

(4) The Offeror may submit any questions with regard to this report by email to NDAA1290Cert@state.gov. To the extent feasible, the Department of State will respond to such email inquiries within 3 business days.

(d) Do not submit an offer unless-

(1) A certification is provided in paragraph (b)(1) of this provision and submitted with the offer; or

(2) In accordance with paragraph (b)(2) of this provision, the Offeror provides with its offer

information that the President of the United States has

(i) Waived application under 22 U.S.C. 2593e(d) or (e); or

(ii) Determined under 22 U.S.C. 2593e(g)(2) that the entity has ceased all activities for which measures were imposed under 22 U.S.C. 2593e(b).

(e) Remedies. The certification in paragraph (b)(1) of this provision is a material representation of fact upon which reliance was placed when making award. If the Government later determines that the Offeror knowingly submitted a false certification, in addition to other remedies available to the Government, such as suspension or debarment, the Contracting Officer may terminate any contract resulting from the false certification.

(End of provision)

52.214-14	Place of Performance-Sealed Bidding.	1985-04

Place of Performance-Sealed Bidding (Apr 1985)

(a) The bidder, in the performance of any contract resulting from this solicitation, [ ] intends, [ ] does not intend [check applicable box] to use one or more plants or facilities located at a different address from the address of the bidder as indicated in this bid.

(b) If the bidder checks "intends" in paragraph (a) of this provision, it shall insert in the spaces provided below the required information:

Place of Performance (Street Address, City, State, County, ZIP Code)
Name and Address of Owner and Operator of the Plant or Facility if Other than Bidder

____ ____

____ ____

(End of provision)

52.229-11	Tax on Certain Foreign Procurements-Notice and Representation.	2020-06

Tax on Certain Foreign Procurements-Notice and Representation (Jun 2020)

(a) Definitions. As used in this provision-

Foreign person means any person other than a United States person.

Specified Federal procurement payment means any payment made pursuant to a contract with a foreign contracting party that is for goods, manufactured or produced, or services provided in a foreign country that is not a party to an international procurement agreement with the United States. For purposes of the prior sentence, a foreign country does not include an outlying area of the United States.

United States person as defined in 26 U.S.C. 7701(a)(30) means

(1) A citizen or resident of the United States;

(2) A domestic partnership;

(3) A domestic corporation;

(4) Any estate (other than a foreign estate, within the meaning of 26 U.S.C. 701(a)(31)); and

(5) Any trust if-

(i) A court within the United States is able to exercise primary supervision over the administration of the trust; and

(ii) One or more United States persons have the authority to control all substantial decisions of the trust.

(b) Unless exempted, there is a 2 percent tax of the amount of a specified Federal procurement

payment on any foreign person receiving such payment. See 26 U.S.C. 5000C and its implementing regulations at 26 CFR 1.5000C-1 through 1.5000C-7.

(c) Exemptions from withholding under this provision are described at 26 CFR 1.5000C-1(d)(5) through (7). The Offeror may claim an exemption from the withholding by using the Department of the Treasury Internal Revenue Service (IRS) Form W-14, Certificate of Foreign Contracting Party Receiving Federal Procurement Payments, available at www.irs.gov/w14. Any exemption claimed and self-certified on the IRS Form W-14 is subject to audit by the IRS. Any disputes regarding the imposition and collection of the 26 U.S.C. 5000C tax are adjudicated by the IRS as the 26 U.S.C. 5000C tax is a tax matter, not a contract issue. The IRS Form W-14 is provided to the acquiring agency rather than to the IRS.

(d) For purposes of withholding under 26 U.S.C. 5000C, the Offeror represents that

(1) It [ ] is [ ] is not a foreign person; and

(2) If the Offeror indicates "is" in paragraph (d)(1) of this provision, then the Offeror represents that-I am claiming on the IRS Form W-14 [ ] a full exemption, or [ ] partial or no exemption [Offeror must select one] from the excise tax.

(e) If the Offeror represents it is a foreign person in paragraph (d)(1) of this provision, then-

(1) The clause at FAR 52.229-12, Tax on Certain Foreign Procurements, will be included in any resulting contract; and

(2) The Offeror shall submit with its offer the IRS Form W-14. If the IRS Form W-14 is not submitted with the offer, exemptions will not be applied to any resulting contract and the Government will withhold a full 2 percent of each payment.

(f) If the Offeror selects "is" in paragraph (d)(1) and "partial or no exemption" in paragraph (d)(2) of this provision, the Offeror will be subject to withholding in accordance with the clause at FAR 52.229-12, Tax on Certain Foreign Procurements, in any resulting contract.

(g) A taxpayer may, for a fee, seek advice from the IRS as to the proper tax treatment of a transaction. This is called a private letter ruling. Also, the IRS may publish a revenue ruling, which is an official interpretation by the IRS of the Internal Revenue Code, related statutes, tax treaties, and regulations. A revenue ruling is the conclusion of the IRS on how the law is applied to a specific set of facts. For questions relating to the interpretation of the IRS regulations go to https://www.irs.gov/help/tax-law-questions.

(End of provision)

DFARS Provisions Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.204-7016	Covered Defense Telecommunications Equipment or Services-Representation.	2019-12		

COVERED DEFENSE TELECOMMUNICATIONS EQUIPMENT OR SERVICES-REPRESENTATION (DEC 2019)

(a) Definitions. As used in this provision, "covered defense telecommunications equipment or services" has the meaning provided in the clause 252.204-7018, Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services.

(b) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered defense telecommunications equipment or services".

(c) Representation. The Offeror represents that it [ ] does, [ ] does not provide covered defense telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument.

(End of provision)

252.204-7017	Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services-Representation.	2021-05

PROHIBITION ON THE ACQUISITION OF COVERED DEFENSE TELECOMMUNICATIONS EQUIPMENT OR SERVICES-REPRESENTATION (MAY 2021)

The Offeror is not required to complete the representation in this provision if the Offeror has represented in the provision at 252.204-7016, Covered Defense Telecommunications Equipment or Services-Representation, that it "does not provide covered defense telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument."

(a) Definitions. "Covered defense telecommunications equipment or services," "covered mission," "critical technology," and "substantial or essential component," as used in this provision, have the meanings given in the 252.204-7018 clause, Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services, of this solicitation.

(b) Prohibition. Section 1656 of the National Defense Authorization Act for Fiscal Year 2018 (Pub. L. 115-91) prohibits agencies from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service to carry out covered missions that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) Procedures. The Offeror shall review the list of excluded parties in the System for Award Management (SAM) at https://www.sam.gov for entities that are excluded when providing any equipment, system, or service to carry out covered missions that uses covered defense telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless a waiver is granted.

(d) Representation. If in its annual representations and certifications in SAM the Offeror has represented in paragraph (c) of the provision at 252.204-7016, Covered Defense Telecommunications Equipment or Services-Representation, that it "does" provide covered defense telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual

instrument, then the Offeror shall complete the following additional representation:

The Offeror represents that it [ ] will [ ] will not provide covered defense telecommunications equipment or services as a part of its offered products or services to DoD in the performance of any award resulting from this solicitation.

(e) Disclosures. If the Offeror has represented in paragraph (d) of this provision that it "will provide covered defense telecommunications equipment or services," the Offeror shall provide the following information as part of the offer:

(1) A description of all covered defense telecommunications equipment and services offered (include brand or manufacturer; product, such as model number, original equipment manufacturer (OEM) number, manufacturer part number, or wholesaler number; and item description, as applicable).

(2) An explanation of the proposed use of covered defense telecommunications equipment and services and any factors relevant to determining if such use would be permissible under the prohibition referenced in paragraph (b) of this provision.

(3) For services, the entity providing the covered defense telecommunications services (include entity name, unique entity identifier, and Commercial and Government Entity (CAGE) code, if known).

(4) For equipment, the entity that produced or provided the covered defense telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known).

(End of provision)

252.225-7000	Buy American--Balance of Payments Program Certificate.	2024-02

BUY AMERICAN-BALANCE OF PAYMENTS PROGRAM CERTIFICATE-BASIC (FEB 2024)

(a) Definitions. "Commercially available off-the-shelf (COTS) item," "component," "critical component," "critical item," "domestic end product," "foreign end product," "qualifying country," "qualifying country end product," and "United States," as used in this provision, have the meanings given in the 252.225-7001, Buy American and Balance of Payments Program-Basic clause of this solicitation.

(b) Evaluation. The Government-

(1) Will evaluate offers in accordance with the policies and procedures of Part 225 of the Defense Federal Acquisition Regulation Supplement; and

(2) Will evaluate offers of qualifying country end products without regard to the restrictions of the Buy American statute or the Balance of Payments Program.

(c) Certifications and identification of country of origin.

(1) For all line items subject to the Buy American and Balance of Payments Program-Basic clause of this solicitation, the Offeror certifies that-

(i) Each end product, except those listed in paragraphs (c)(2) or (3) of this provision, is a domestic end product and that each domestic end product listed in paragraph (c)(4) of this provision contains a critical component or a critical item; and

(ii) For end products other than COTS items, components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country. For those end products that do not consist wholly or predominantly of iron or steel or a combination of both, the Offeror shall also indicate whether these foreign end products exceed 55 percent domestic content, except for those that are COTS items. If the percentage of the domestic content is unknown, select "no".

(2) The Offeror certifies that the following end products are qualifying country end products:

Line Item Number	Country of Origin
_____	_____
_____	_____
_____	_____

(3) The following end products are other foreign end products, including end products manufactured in the United States that do not qualify as domestic end products. For those foreign end products that do not consist wholly or predominantly of iron or steel or a

combination of both, the Offeror shall also indicate whether these foreign end products exceed 55 percent domestic content, except for those that are COTS items. If the percentage of the domestic content is unknown, select "no".

Line Item Number	Country of Origin (If known)	Exceeds 55% Domestic Content (yes/no)
____	____	____
____	____	____
____	____	____

(4) The Offeror shall separately list the line item numbers of domestic end products that contain a critical component or a critical item (see Federal Acquisition Regulation 25.105).

Domestic end products containing a critical component or a critical item:

Line Item Number ____

[List as necessary]

(End of provision)

Section L - Instructions, Conditions, & Notices to Offerors or Quoters

EVALUATION OF SUB LINE ITEMS

Item Nos. 0003, 0103, 0203, 0303, 0403, 0503 are subdivided into two or more estimated quantities and are to be separately priced. The Government will evaluate each of these items on the basis of total price of its subline items.

Variations in Estimated Quantities--Subline Items.

VARIATIONS IN ESTIMATED QUANTITIES -- SUB LINE ITEMS

This variation in estimated quantities clause is applicable only to item Nos. 0003, 0103, 0203, 0303, 0403, 0503 .

(a) Variation from the estimated quantity in the actual work performed under any second or subsequent subline item or elimination of all work under such a second or subsequent subline item will not be the basis for an adjustment in contract unit price.

(b) Where the actual quantity of work performed for item Nos. 0003, 0103, 0203, 0303, 0403, 0503 is less than 85% of the quantity of the first subline item listed under such item, the contractor will be paid at the contract unit price for that subline item for the actual quantity of work performed and, in addition, an equitable adjustment shall be made in accordance with the clause at Federal Acquisition Regulation (FAR) 52.211-18, Variation in Estimated Quantities.

(c) If the actual quantity of work performed under item Nos. 0003, 0103, 0203, 0303, 0403, 0503 exceeds 115% or is less than 85% of the total estimated quantity of the subline item under that item and/or if the quantity of the work performed under the second subline item or any subsequent subline item under item Nos. 0003, 0103, 0203, 0303, 0403, 0503 exceeds 115% or is less than 85% of the estimated quantity of any such subline item, and if such variation causes an increase or a decrease in the time required for performance of this contract the contract completion time will be adjusted

TIME OF DELIVERY (JUNE 1997)

(a) The Government requires delivery to be made according to the following schedule:

Required Delivery Schedule

930 days after the Notice to Proceed. Duration will be extended by 150 days upon award for each additional option.

The Government will evaluate equally, as regards time of delivery, offers that propose delivery of each quantity within the applicable delivery period specified above. Offers that propose delivery

that will not clearly fall within the applicable required delivery period specified above, will be considered nonresponsive and rejected. The Government reserves the right to award under either the required delivery schedule or the proposed delivery schedule, when an offeror offers an earlier delivery schedule than required above. If the offeror proposes no other delivery schedule, the required delivery schedule above will apply.

DESIRED AND REQUIRED TIME OF DELIVERY (JUNE 1997)

(a) The Government desires delivery to be made according to the following schedule:

930 days after the Notice to Proceed. Duration will be extended by 150 days upon award for each additional option.

If the offeror is unable to meet the desired delivery schedule, it may, without prejudicing evaluation of its offer, propose a delivery schedule below. However, the offeror's proposed delivery schedule must not extend the delivery period beyond the time for delivery in the Government's required delivery schedule as follows:

Required Delivery Schedule

[Contracting Officer insert specific details]

Item No. Quantity Within Days After Date of Contract

Offers that propose delivery of a quantity under such terms or conditions that delivery will not clearly fall within the applicable required delivery period specified above, will be considered nonresponsive and rejected. If the offeror proposes no other delivery schedule, the desired delivery schedule above will apply.

Offeror's Proposed Delivery Schedule

Item No. Quantity Within Days After Date of Contract

(b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed or otherwise furnished to the successful offeror results in a binding contract. The Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day the award is dated. Therefore, the offeror shall compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding (1) five calendar days for delivery of the award through the ordinary mails, or (2) one working day if the solicitation states that the contract or notice of award will be transmitted electronically. (The term "working day" excludes weekends and U.S. Federal holidays.) If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

(End of condition)

VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

(End of condition)

*** END OF NARRATIVE ***

FAR Provisions Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.203-18	Prohibition on Contracting with Entities that Require Certain Internal Confidentiality Agreements or Statements-Representation.	2017-01		
52.204-7	System for Award Management-Registration. (Deviation 2026-O0038)	2026-02		
52.214-3	Amendments to Invitations for Bids. (Deviation 2026-O0038)	2026-02		
52.214-4	False Statements in Bids.	1984-04		
52.214-5	Submission of Bids. (Deviation 2026-O0038)	2026-02		

52.214-6	Explanation to Prospective Bidders.	1984-04
52.214-7	Late Submissions, Modifications, and Withdrawals of Bids. (Deviation 2026-O0038)	2026-02
52.214-10	Contract Award-Sealed Bidding.	1990-07
52.214-12	Preparation of Bids.	1984-04
52.214-34	Submission of Offers in the English Language.	1991-04
52.214-35	Submission of Offers in U.S. Currency.	1991-04
52.233-2	Service of Protest. (Deviation 2026-O0038)	2026-02

DFARS Provisions Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
252.204-7019	Notice of NIST SP 800-171 DoD Assessment Requirements.	2023-11		
252.204-7024	Notice on the Use of the Supplier Performance Risk System.	2023-03		
252.215-7013	Supplies and Services Provided by Nontraditional Defense Contractors.	2023-01		
252.225-7003	Report of Intended Performance Outside the United States	2025-10		

252.232-7016	Notice of Progress Payments or Performance-Based Payments.	2020-04

FAR Provisions Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.207-4	Economic Purchase Quantity-Supplies.	1987-08		

Economic Purchase Quantity-Supplies (Aug 1987)

(a) Offerors are invited to state an opinion on whether the quantity(ies) of supplies on which bids, proposals or quotes are requested in this solicitation is (are) economically advantageous to the Government.

_____

_____

(b) Each offeror who believes that acquisitions in different quantities would be more advantageous is invited to recommend an economic purchase quantity. If different quantities are recommended, a total and a unit price must be quoted for applicable items. An economic purchase quantity is that quantity at which a significant price break occurs. If there are significant price breaks at different quantity points, this information is desired as well.

Offeror Recommendations

Item	Quantity	Price Quotation	Total
____	____	____	____
____	____	____	____
____	____	____	____

_____ _____ _____ _____

(c) The information requested in this provision is being solicited to avoid acquisitions in disadvantageous quantities and to assist the Government in developing a data base for future acquisitions of these items. However, the Government reserves the right to amend or cancel the solicitation and resolicit with respect to any individual item in the event quotations received and the Government's requirements indicate that different quantities should be acquired.

(End of provision)

52.216-1	Type of Contract. (Deviation 2026-O0038)	2026-02

Type of Contract (Feb 2026) (Deviation 2026-O0038)

The Government contemplates award of a Firm Fixed Price contract resulting from this solicitation.

(End of provision)

52.219-4	Notice of Price Evaluation Preference for HUBZone Small Business Concerns. (Deviation 2026-O0038)	2026-02

Notice of Price Evaluation preference for HUBZone Small Business Concerns (Feb 2026) (Deviation 2026-O0038)

(a) Evaluation preference.

(1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except-

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference; and

(ii) Otherwise successful offers from small business concerns.

(b) Waiver of evaluation preference. A HUBZone small business concern may choose to waive the evaluation preference. If the concern waives the preference, the factor will be added to its offer for evaluation purposes.

[ ] Offeror chooses to waive the evaluation preference.

(c) Joint venture. A HUBZone joint venture agrees that, in the performance of the contract, at least 40 percent of the aggregate work performed by the joint venture shall be completed by the HUBZone small business parties to the joint venture. Work performed by the HUBZone small business parties to the joint venture must be more than administrative functions.

(End of provision)

52.228-1 Bid Guarantee. 1996-09

Bid Guarantee (Sept 1996)

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds-

(1) To unsuccessful bidders as soon as practicable after the opening of bids; and

(2) To the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

(c) The amount of the bid guarantee shall be 20 percent of the bid price or $3,000,000, whichever is less.

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of clause)

52.252-1	Solicitation Provisions Incorporated by Reference.	1998-02

Solicitation Provisions Incorporated by Reference (Feb 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

www.acquisition.gov

(End of provision)

52.252-3	Alterations in Solicitation.	1984-04

Alterations in Solicitation (Apr 1984)

Portions of this solicitation are altered as follows:

TBD

(End of clause)

52.252-5	Authorized Deviations in Provisions.	2020-11

Authorized Deviations in Provisions (Nov 2020)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any DFARS (48 CFR Chapter1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

Section M - Evaluation Factors for Award

FAR Provisions Incorporated by Reference

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.217-5	Evaluation of Options. (Deviation 2026-O0038)	2026-02		

FAR Provisions Incorporated by Full Text

Number	Title	Effective Date	Alternate Deviation	Variation Effective Date
52.219-2	Equal Low Bids. (Deviation 2026-O0038)	2026-02		

Equal Low Bids (Feb 2026) (Deviation 2026-O0038)

(a) This provision applies to small business concerns only.

(b) The bidder's status as a labor surplus area (LSA) concern may affect entitlement to award in case of tie bids. If the bidder wishes to be considered for this priority, the bidder must identify, in the following space, the LSA in which the costs to be incurred on account of manufacturing or production (by the bidder or the first-tier subcontractors) amount to more than 50 percent of the contract price.

_____ _____

(c) Failure to identify the labor surplus areas as specified in paragraph (b) of this provision will preclude the bidder from receiving priority consideration. If the bidder is awarded a contract as a result of receiving priority consideration under this provision and would not have otherwise

received award, the bidder shall perform the contract or cause the contract to be performed in accordance with the obligations of an LSA concern.

(End of provision)

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY OF WORK

The work includes, but is not limited to, fabrication, testing, painting, and delivery of Tainter gates, and barge demurrage.

1.2 DELIVERY LOCATION

Deliver Tainter gates to:

U.S. Army Corps of Engineers
Lock and Dam No. 21
909 W Lock and Dam Road
Quincy, IL 62305

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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1.4 FABRICATION PLANT REQUIREMENTS
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1.7 RESPONSIBILITY OF THE FABRICATOR
1.8 FABRICATION SCHEDULE

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SECTION 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation. Submittals not having a "G" designation are for information only. When used, a code following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Company Enrollment In E-Verify; G CT

Form I-9; G CT

**NOTE: To protect the privacy of Contractor personnel security information, submit with a cover page containing the Contract Number, Contract Title, and the Contractor's Point of Contact information in a sealed envelope/container and mail to:

ATTN: Security and Law Enforcement Office (CEMVR-SL)
U.S. Army Corps of Engineers
Rock Island District
P.O. Box 2004
Rock Island, IL 61204-2004

Fabrication Schedule; G CT

1.2 COORDINATION WITH OTHERS

Schedule and coordinate operations affecting other Contractors, Government personnel, utilities, and/or property occurring within the work limits. Accomplish with lead time sufficient for coordination of all involved parties as necessary for timely completion of each Contract feature. At a minimum, establish coordination with each of the following point(s) of contact, as required:

a. Area Engineer
Construction Branch
U.S. Army Corps of Engineers
Clock Tower Annex Bldg
1500 Rock Island Drive
Rock Island, IL 61201
Telephone No.: 309-794-5315
(Collect calls not accepted.)

1.3 ANTITERRORISM (AT) AND OPERATIONS SECURITY (OPSEC)

1.3.1 E-Verify Program

Comply with FAR 52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION and Subpart 22.18 and submit Company Enrollment in E-Verify at:

https://www.e-verify.gov/

to meet the Contract employment eligibility requirements. Cooperate with Federal and State agencies responsible for enforcing labor requirements including eligibility for employment under United States immigration laws in accordance with FAR 22.102-1(i) FEDERAL AND STATE LABOR REQUIREMENTS - POLICY. Submit an initial list of verified/eligible candidates within three business days after Notice to Proceed. When Contracts are with individuals, the individuals must complete a Form I-9, Employment Eligibility Verification, and submit it as part of the official Contract file.

1.4 FABRICATION PLANT REQUIREMENTS

The fabricating plant must be certified in accordance with Section 35 20 16 TAINTER GATES.

1.5 EXCLUSION OF PERIODS FOR GATE DELIVERY

Delivery at the designated site is prohibited between 1 January and 30 March, inclusive. Furthermore, this time period will not be considered in computing any time extensions to the Contract and no time extensions will be granted for adverse weather when delivering gates.

1.6 COMMERCIAL WARRANTIES

In addition to any other warranties required by this Contract, provide the Government with any commercial warranties that would be given to its customers in normal commercial practice. Pass through to the Government any warranties provided to it by any subfabricator under this Contract and take such actions as are necessary to make those warranties enforceable by the Government.

1.7 RESPONSIBILITY OF THE FABRICATOR

a. Is responsible for the professional quality, technical accuracy and the coordination of all designs, drawings and specifications furnished by the Supplier under this Contract. Without additional compensation, correct or revise designs, drawings, and specifications.

b. Neither the Governments review, approval or acceptance of, nor payment for, any of the services required under this Contract must be construed to operate as a waiver of any rights under this Contract or of any cause or action arising out of the performance of this Contract, and be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Suppliers negligence in connection with designs, drawings, and specifications, furnished under this Contract.

c. The rights and remedies of the Government provided for under the Contract are in addition to any other rights and remedies provided by law.

1.8 FABRICATION SCHEDULE

Prepare and submit a project schedule that details each significant milestone for the fabrication and delivery of all tainter gate(s). Submit the project schedule for Contracting Officer approval within 5 days after the Prefabrication Conference. The schedule must be in the form of a progress chart that can track the percentage of work scheduled for completion by any given date during the period. Once the project schedule is approved, update progress once a month until completion of the project. Include all witness points as defined in Section 35 20 16 TAINTER GATE and include, at a minimum, the following milestones:

(1) Receipt of fabrication materials.

(2) Fit up of structural members and skin plate.

(3) Welding completed.

(4) Fully assembled gate (before painting).

(5) Completion of painting (before shipping).

(6) Completion of trunnion yoke forgings, trunnion bushings, trunnion pins, lifting eyes, hoist attachments, side seals, and slide blocks.

(7) Delivery dates to Lock and Dam 21.

If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer will withhold approval of progress payments until the Contractor submits the required schedule.

If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, take necessary steps to improve progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

Failure to comply with the requirements of the Contracting Officer shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this Contract.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 JOB PRICE PAYMENT ITEMS

Payment items for the costs for which Contract job payments will be made, are listed in the SCHEDULE OF PRICES and as described. All costs for items of work, which are not specifically mentioned to be included in a particular job payment item and to be included in the listed job item most closely associated with the work involved. The job price and payment made for each item listed to constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.1.1 Tainter Gate Delivery

1.1.1.1 Payment

Payment for all costs associated with delivering each Tainter gate along with all associated components and appurtenances to the Project site will be made for:

Item No. 0002, "Base Bid - Tainter Gate Delivery;"

Item No. 0102, "Option A - Tainter Gate Delivery;"

Item No. 0202, "Option B - Tainter Gate Delivery;"

Item No. 0302, "Option C - Tainter Gate Delivery;"

Item No. 0402, "Option D - Tainter Gate Delivery;"

Item No. 0502, "Option E - Tainter Gate Delivery;" and

Item No. 0602, "Option F - Tainter Gate Delivery;" as applicable.

1.1.1.2 Unit of Measure

Unit of measure: job.

1.2 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this Contract on which the Contract unit price payments will be made are listed in the SCHEDULE OF PRICES and described below. The unit price and payment made for each item listed constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, surveys, and for performing all work required for each of the unit price items.

1.2.1 Tainter Gate Fabrication

1.2.1.1 Payment

a. General

Payment for all costs associated with fabricating, testing, painting each Tainter gate, complete with all components and other appurtenances, will be made for:

Item No. 0001, "Base Bid - Tainter Gate Fabrication;"

Item No. 0101, "Option A - Tainter Gate Fabrication;"

Item No. 0201, "Option B - Tainter Gate Fabrication;"

Item No. 0301, "Option C - Tainter Gate Fabrication;"

Item No. 0401, "Option D - Tainter Gate Fabrication;"

Item No. 0501, "Option E - Tainter Gate Fabrication;" and

Item No. 0601, "Option F - Tainter Gate Fabrication;" as applicable.

b. Partial Progress Payments

Partial progress payments will be made to the Contractor for materials, fabrication, and shop assembly. Payment will be made provided the materials have been accepted by the Contracting Officer, properly stored by the Contractor, and provided that satisfactory evidence is furnished in accordance with the FAR 52.232-16 PROGRESS PAYMENTS, that the Contractor has acquired title to such material and will be utilized on the work covered by this Contract. Such partial progress payments will be individually made as the work progresses on the following basis:

Payments will be made on a milestone basis for completion of assemblies or subassemblies under this bid item, but not more frequently than monthly. Develop a schedule of values itemizing the cost of assemblies/subassemblies and the milestones at which payment will be requested. Submit the schedule of values for Government approval. The schedule of values may include milestones such as (but not limited to): shop drawings approved; materials received; fit-up complete; final assembly complete; and delivery. All requests for payment must include the schedule of values indicating which items and corresponding milestones are being invoiced.

1.2.1.2 Unit of Measure

Unit of measure: each.

1.2.2 Barge Demurrage

1.2.2.1 Payment

Payment for all costs associated with demurrage of barges will be made for:

Item No. 0003AA, "Base Bid - Barge Demurrage - First 30 Days;"

Item No. 0003AB, "Base Bid - Barge Demurrage - Over 30 Days;"

Item No. 0103AA, "Option A - Barge Demurrage - First 30 Days;"

Item No. 0103AB, "Option A - Barge Demurrage - Over 30 Days;

Item No. 0203AA, "Option B - Barge Demurrage - First 30 Days;"

Item No. 0203AB, "Option B - Barge Demurrage - Over 30 Days;

Item No. 0303AA, "Option C - Barge Demurrage - First 30 Days;"

Item No. 0303AB, "Option C - Barge Demurrage - Over 30 Days;

Item No. 0403AA, "Option D - Barge Demurrage - First 30 Days;"

Item No. 0403AB, "Option D - Barge Demurrage - Over 30 Days;

Item No. 0503AA, "Option E - Barge Demurrage - First 30 Days;"

Item No. 0503AB, "Option E - Barge Demurrage - Over 30 Days;

Item No. 0603AA, "Option F - Barge Demurrage - First 30 Days;" and

Item No. 0603AB, "Option F - Barge Demurrage - Over 30 Days; as applicable.

1.2.2.2 Unit of Measure

Unit of measure: day.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

1.2 PREFABRICATION CONFERENCE

Conduct a prefabrication conference at the Supplier's facility that will be scheduled as soon as possible after Notice to Proceed and occurs prior to any fabrication. The successful Supplier will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date and time of the conference, any need for attendance by subfabricators, and information regarding the items to be discussed. See Section 01 45 04 FABRICATOR QUALITY CONTROL for information on the Mutual Understanding Meeting, to be held immediately after the Prefabrication Conference.

1.3 SUSTAINABILITY

a. Meet the United States Environmental Protection Agency (USEPA) recycled content requirements. Ensure that Contractor-furnished supplies contain recycled content (e.g., insulation, restroom dividers, roofing materials). The list of USEPA-Designated Recovered Material Products is available online at:

https://go.mil/cemvr-cpg

b. Meet the United States Department of Agriculture (USDA) BioPreferred Program requirements. Ensure that Contractor-furnished supplies contain biobased content (e.g., interior wall panels, plastic insulating foam, plastic lumber). The list of USDA-Designated BioPreferred Program Product Categories is available online at:

http://go.mil/cemvr-bppc

c. Print deliverables double-sided on paper that contains post-consumer fiber.

1.4 PROGRESS MEETINGS

a. Attend progress meetings as scheduled by the Government. Prepare agendas for the meetings. The list of attendees must include, but not be limited to, the Contractor's key site personnel, supervisor(s)/superintendent(s), safety person(s), quality control manager(s), and subcontractors' representative(s).

b. Address and discuss such items as progress of the work, potential

factors for delays, proposed daily work schedule for the next period, deficiencies, utility service interruptions, protection of adjacent areas, coordination with other Contractors and Government hired labor, material delivery schedules, submittals, quality control, safety issues, and any other issues requiring addressing or discussions.

c. Prepare minutes of the progress meetings and obtain a list of invitees and attendees from all parties. Submit minutes to all parties involved.

1.5 INSPECTION

The presence of a Government inspector does not relieve the Fabricator of the responsibility for the proper execution of the work in accordance with the Contract specifications and drawings.

1.6 ILLINOIS RETAILERS' OCCUPATIONAL TAX AND USE TAX EXEMPTION

Materials physically incorporated into real estate projects property are exempt from Illinois Retailers' Occupational Sales and Use Taxes. However, sales of tools, fuel, lumber for forms, and other end use or consumption items which are not physically incorporated into real estate are taxable sales. After receiving Notice to Proceed, the Contractor may request the Government Sales Tax Exemption Number.

PART 2 PRODUCTS

Not Used

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Not Used

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SUBMITTAL PROCEDURES

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1.1 SUMMARY

The submittal process is intended to be a paperless, electronic process using the Resident Management System's (RMS) Transmittal module to the maximum extent possible, unless otherwise noted in this Contract or as directed by the Contracting Officer in writing.

FAR 52.236-5 MATERIAL AND WORKMANSHIP and DFARS 252.236-7001 CONTRACT DRAWINGS AND SPECIFICATIONS apply to all "submittals."

Submittals may be requested in addition to those specified when deemed necessary to adequately describe the work covered.

Complete each submittal in sufficient detail to allow ready determination in accordance with Contract requirements.

The Contractor's Quality Control (CQC) System Manager to check and approve all items prior to submittal and code, sign, and date indicating action taken. Clearly identify proposed deviations from the Contract requirements. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Schedule and submit submittals requiring Government approval prior to the acquisition of the material or equipment covered. Pick up and dispose samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS's) and existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Submittals are identified by the Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals (SD-01 Prefabrication Submittals)

Submittals which are required prior to fabrication, commencing work on-site, or a construction activity, these include, but are not limited to, insurance, schedules, background checks, APP, AHA, work plans, tabular list including location, features, or other pertinent information regarding products, materials, equipment, components, and any incidental to be used in and for the work.

SD-02 Shop Drawings

Drawings, diagrams, and schedules specifically prepared to illustrate some portion of the work. Diagrams and instructions from the manufacturer or fabricator for use in producing the product and as aids for integrating the product or system into the project. Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work. Samples of warranty language when the Contract requires extended product warranty(s).

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment, or workmanship that illustrates functional and aesthetic characteristics of a material or product and to establish standards by which the work can be judged. Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project. Field samples and mock-ups constructed on the project site that establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies incorporated into the project and those to be removed at the conclusion of the work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of Contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.
Daily logs and checklists.
Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system, or material attesting that product, system, or material is in accordance as specified. Certificates, etc, to be dated after award of project Contract and clearly name the project. Document required of Contractor, or of a manufacturer, supplier, installer, or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by a manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm accordance with manufacturer's standards or instructions. The documentation will be signed by an authorized official of a testing laboratory or agency; state the test results; and indicate whether the material, product, or system has passed or failed the test.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel, including manufacturer's help and product line documentation necessary to maintain and install equipment. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance, and repair of the item. This data is intended to be incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism. Special requirements necessary to properly close out a construction Contract. For example, record drawings and as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase Contract.

1.2.2 Submittal Approving Authority

Office or designated person authorized to approve submittal.

1.2.3 Work

As used in this section, on- and off-site construction required by Contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTAL CLASSIFICATION

1.3.1 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system to be checked, and other items as designated by the Contracting Officer. Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of FAR 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they will be considered "shop drawings."

1.3.2 Information Only

Submittals not requiring Government approval are for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause as referenced. Approval is not required on information

only submittals. The Government reserves the right to require the Contractor to resubmit any item found not in compliance with the Contract. This does not relieve the Contractor from the obligation to furnish material in accordance with the drawings and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

1.4 SUBMITTAL REGISTER AND DATABASE

The Government-provided ATTACHMENT A - Submittal Register, has columns (a), (g), (h), and (i) filled in with planning dates and submitted for approval within 30 calendar days after Notice to Proceed is received. Maintain the Submittal Register and keep it updated as the work progresses throughout Contract duration. Submit completed Submittal Register with all final approved submittal items after the final inspection and prior to close out of the Contract. Use the RESIDENT MANAGEMENT SYSTEM (RMS) program as the primary tracking system for the Submittal Register and associated transmittals.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Track all submittals by maintaining a complete Submittal Register, including completion of all data columns, including dates on which submittals are received and returned by the Government.

1.4.1 Use of Submittal Register

Verify that all submittals required for the project are listed if any submittal is missing, an amendment or modification will be issued. Coordinate and complete the following fields on the register:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Needed By: Scheduled date that submittal item requires approval.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.4.2 Contractors Use of Submittal Register

Update the following field with each submittal throughout Contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

1.4.3 Approving Authority Use of Submittal Register

Update the following fields:

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (l): List date of submittal receipt.

Column (m) through (p): List date related to review actions.

Column (q): List date returned to Contractor.

1.5 CONTRACTOR'S TRANSMITTAL FORM PREPARATION

Use the RMS Transmittal Log for submitting both Government Approved and Information Only submittals in accordance with the instructions on the reverse side of the form and as specified. Generate Transmittal Form (ENG FORM 4025) and electronically sign by the Contractor Quality Control System Manager using the Resident Management System (RMS) Transmittal Log. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted.

Include all required submittal information, for each submittal item, and in the order listed on the ENG FORM 4025. Multiple submittal items from the same specification section may be transmitted with one ENG FORM 4025. Save submittal information as a .pdf file, separate from the ENG FORM 4025, named with the Contract Number and the Transmittal Number (for example: W912EK24C0001 00 73 05-1.pdf).

Large File Transmittal Submissions:

For transmittal document files too large for the RMS Transmittal Document Package (usually 250 MB or larger), post the transmittal to the following website:

https://safe.apps.mil/

The Contractor must request that the Contracting Officer provide a file drop-off request through the safe website, which will provide instructions for uploading the file. The E-mail subject and file name are to follow the same format as specified.

Sample Transmittal Submission:

For samples, mail or deliver the .pdf hard copy of the ENG FORM 4025 with the samples attached. Submit the ENG FORM 4025 electronically to serve as the official approval/disapproval document for the submission and to meet the requirements of this Contract. The sample will be kept by the Government unless otherwise coordinated.

1.6 VARIATIONS

Variations from Contract requirements require a Government approval in accordance with FAR 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION and will be considered where advantageous to the Government.

1.6.1 Considering Variations

Discussion with Contracting Officer prior to submission, will help ensure functional and quality requirements are met and minimize rejections and re-submittals. When contemplating a variation which results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from Contract requirements in transmittal letters. Failure to point out deviations may result in the Government requiring rejection and removal of such work at no additional cost to the Government.

1.6.2 Proposing Variations

Check the column "variation" of ENG FORM 4025 for submittals which include proposed deviations requested by the Contractor. If lower cost is a benefit, also include an estimate of the cost savings. Set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.6.3 Warranting that Variations are Compatible

When delivering a variation for approval, Contractor warrants that this Contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.6.4 Review Schedule is Modified

In addition to normal submittal review period, 10 working days will be allowed for consideration by the Government of submittals with variations.

1.7 GOVERNMENT APPROVING AUTHORITY

When approving authority is Contracting Officer, the Government will:

a. Note the date on which the submittal was received.

b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with Contract documents.

c. Identify returned submittals with one of the actions as specified and with markings appropriate for action indicated.

Upon completion of review of submittals requiring Government approval, code and date approved submittals. An electronic copy of the approved submittal will be retained by the Contracting Officer and an electronic copy of the submittal will be returned to the Contractor.

1.7.1 Review Period

Contracting Officer review will be completed within 30 calendar days after date of submission. Submittals will be returned to the Contractor with submittal action codes described in the instructions as provided on the ENG FORM 4025.

1.8 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. Adequate time (a minimum of 30 calendar days exclusive of mailing time) must be allowed and shown on the register for review and approval.

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work to avoid delays. Allow for potential resubmittal of requirements.

b. Submittals called for by the Contract documents to be listed on the register. If a submittal is called for but does not pertain to the Contract, include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the Contract documents but which have been omitted from the register or marked "N/A."

c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

d. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.9 DISAPPROVED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the Contract drawings or specifications, notify the Contracting Officer, as required under FAR 52.243-4 CHANGES. The Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in rejection and removal of such work at the Contractor's expense.

If changes are necessary to the submittals, make revisions and re-submit in accordance with the procedures above. Accomplish no item of work requiring a submittal change until the changed submittals are approved.

1.10 APPROVED SUBMITTALS

The Contracting Officer's approval or acceptance of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory. Approval or acceptance will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this Contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

The Government will electronically code and sign the transmittal form, and

return the completed transmittal package back to the Contractor through RMS.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
LD21 Bolted Tainter Gate Fabrications

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 14 00	SD-01 Preconstruction Submittals															
			Company Enrollment In E-Verify	1.3.1	G	CT												
			Form I-9	1.3.1	G	CT												
			Fabrication Schedule	1.8	G	CT												
		01 45 04	SD-01 Preconstruction Submittals															
			Fabricator Quality Control Plan	3.2.1	GECDM													
		01 78 00	SD-11 Closeout Submittals															
			As-Built Drawings	1.2.1	G													
			Operation and Maintenance	1.2.2	G													
			(O&M) Manuals															
			Final Records	1.2.3	G													
		05 05 23	SD-01 Preconstruction Submittals															
			Welding Procedure Specifications	1.4.3	GECDS													
			(WPS)															
			Welding Repair Plan	3.2.3	G	ECDS												
			Weld Tracking Log Template	1.4.4	G	ECDS												
			SD-03 Product Data															
			Filler Metal Product Data	2.1	G	ECDS												
			SD-06 Test Reports															
			Weld Tracking Log	1.4.5	GECDS													
			Nondestructive Testing Reports	3.2.2	G	ECDS												
			SD-07 Certificates															
			Qualification of Welders and	1.4.1	GECDS													
			Welding Operators															
			Certified Welding Inspector	1.4.2	G	ECDS												

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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		05 05 23	Nondestructing Testing	1.4.2	G ECDS													
			Personnel															
		09 97 02	SD-01 Preconstruction Submittals															
			Qualified Shop Coating	1.3.1	G EC-D													
			Certification															
			Qualified Coating Applicator	1.3.2	G EC-D													
			SD-03 Product Data															
			Manufacturer's Safety Data Sheet	2.1	G ECDS													
			SD-04 Samples															
			Product Samples	2.1	G ECDS													
			Special Paint Formulas	2.2	G ECDS													
			Solvent and Thinners	2.4.3	G ECDS													
			SD-06 Test Reports															
			Inspection Reports	3.4														
			SD-07 Certificates															
			Coating Thickness Gage	1.3.3														
			Qualification															
		35 05 40	SD-01 Preconstruction Submittals															
			Assembly and Installation Plan	3.6	GECDG													
			SD-02 Shop Drawings															
			Shop Drawings	1.6	G													
			Shop Drawings	3.9	G													
			SD-03 Product Data															
			Self-Lubricated Material Product	2.1	GECDG													
			Data															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
LD21 Bolted Tainter Gate Fabrications

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		35 05 40	Self-Lubricated Material Product	3.9	GECDG													
			Data															
			Grease Product Data	2.4														
			SD-07 Certificates															
			Manufacturer's Experience	1.3	G													
			Record															
			Self-Lubricated Material	1.7														
			Manufacturer's Warranty															
			Self-Lubricated Material	3.9														
			Manufacturer's Warranty															
			FCB Material Certifications	2.2.2	GECDG													
			FCB Material Certifications	3.9	GECDG													
			SD-09 Manufacturer’s Field															
			Reports															
			Post-Assembly QC Report	3.7														
			Post-Assembly QC Report	3.9														
			SD-10 Operation and Maintenance															
			Data															
			Operation and Maintenance	3.9	GECDG													
			Manuals															
		35 20 16	SD-01 Preconstruction Submittals															
			Work Plan	1.3.1	GECDS													
			Fabrication Log Template	1.3.5	GECDS													
			SD-02 Shop Drawings															
			Shop Drawings	1.3.2	GECDS													
			Assembly Drawings	1.3.3	GECDS													

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
LD21 Bolted Tainter Gate Fabrications

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		35 20 16	Delivery Drawings	1.6.2	GECDS													
			Installation Plan	1.3.4	GECDS													
			SD-03 Product Data															
			Rubber Seals	2.1.11	GECDS													
			Materials Disposition Record	2.1.1	GECDS													
			UHMW-PE	2.1.10	GECDS													
			SD-06 Test Reports															
			Manufacturer Certified RoCap	2.2.2.1	GECDS													
			Test Reports															
			Steel Fabrication Log	1.3.5	GECDS													
			Certified Test Reports	2.2.7	GECDS													
			Witness Points	1.5	GECDS													
			SD-07 Certificates															
			Calibrator	2.2.2.1	GECDS													
			Repair Of Mislocated Or	2.2.2.4	GECDS													
			Misdrilled Holes															
			Qualification Of Structural Steel	1.4.3	GECDS													
			Fabricator															
			Qualification Of Structural Steel	3.1.6	GECDS													
			Erector															
			SD-09 Manufacturer's Field															
			Reports															
			Control Dimensions	2.2.8	GECDS													

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SECTION 01 42 00

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PART 2 PRODUCTS

PART 3 EXECUTION

-- End of Section Table of Contents --

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
555 12th Street NW, Suite 1000
Washington, DC 20004
Ph: 202-624-5800
Fax: 202-624-5806
E-Mail: info@aashto.org
Internet: https://www.transportation.org/

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
130 East Randolph, Suite 2000
Chicago, IL 60601
Ph: 312-670-2400
Fax: 312-670-5403
Steel Solutions Center: 866-275-2472
E-mail: solutions@aisc.org
Internet: https://www.aisc.org/

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1899 L Street, NW,11th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
E-mail: info@ansi.org
Internet: https://www.ansi.org/

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)
1201 Dublin Road Suite G04

Columbus, OH 43215-1045
Ph: 800-222-2768 or 614-274-6003

E-mail: customersupport@asnt.org
Internet: https://www.asnt.org/

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: https://www.asme.org/

AMERICAN WELDING SOCIETY (AWS)
8669 NW 36 Street, #130
Miami, FL 33166-6672
Ph: 800-443-9353
Email: customercare@aws.org
Internet: https://www.aws.org/

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: https://www.astm.org/

RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)
E-Mail: info@boltcouncil.org
Internet: http://www.boltcouncil.org

SOCIETY FOR PROTECTIVE COATINGS (SSPC)
800 Trumbull Drive
Pittsburgh, PA 15205
Ph: 877-281-7772 or 412-281-2331
Fax: 412-444-3591
E-mail: customerservice@sspc.org
Internet: http://www.sspc.org

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)
400 Commonwealth Drive
Warrendale, PA 15096
Ph: 877-606-7323 or 724-776-4841
Fax: 724-776-0790
E-mail: customerservice@sae.org
Internet: https://www.sae.org/

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet: https://www.wbdg.org/army
THE CAD/BIM TECHNOLOGY CENTER FOR FACILITIES, INFRASTRUCTURE, AND ENVIRONMENT (USACE)on Internet:
https://cadbimcenter.erdc.dren.mil/
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: http://www.publications.usace.army.mil/
or
https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
1200 New Jersey Ave., SE
Washington, DC 20590
Ph: 202-366-4000
E-mail: ExecSecretariat.FHWA@dot.gov
Internet: https://highways.dot.gov/
Order from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: https://www.gpo.gov/

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

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1.3 RMS SOFTWARE
1.4 CONTRACT DATABASE - GOVERNMENT
1.5 CONTRACT DATABASE - CONTRACTOR
1.5.1 Administration
1.5.1.1 Contractor Information
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1.5.1.3 Correspondence
1.5.1.4 Equipment
1.5.1.5 Reports
1.5.1.6 Request For Information (RFI)
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SECTION 01 45 00

RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this section to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2024) Safety -- Safety and Occupational Health (SOH) Requirements

1.2 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this Contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the Contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the Contract period in the following areas:

Administration
Finances
Quality Control
Submittal Monitoring
Scheduling
Closeout
Import/Export of Data

1.2.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some documents such as correspondence, including pay requests and payrolls, may be required in paper format with original signatures. Paper documents will govern in the event of discrepancy with the electronic version. The Contracting Officer will determine which documents require submission of paper copies.

1.3 RMS SOFTWARE

RMS is a web based application. Download, install, and be able to utilize the latest version of RMS within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates, and training information are available from the RMS website (https://rms.usace.army.mil). The Government and the Contractor will have different access authorities to the same Contract

database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

1.4 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic Contract Award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance (QA) comments, as well as other miscellaneous administrative information.

1.5 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the Contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates, and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

1.5.1 Administration

1.5.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the Contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

1.5.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the Contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

1.5.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

1.5.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.5.1.5 Reports

Track the status of the project using the reports available in RMS. The value of these reports reflects the quality of the data input. These

reports include, but are not limited to, the Progress Payment Request worksheet, Quality Control (QC) comments, Deficiency Tracking Log, Submittal Register Status, and Three-Phase Control worksheets.

1.5.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response. Provide status at the weekly progress meeting.

1.5.2 Finances

1.5.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total Contract amount, including Modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

1.5.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the Contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data, either electronically or by hard copy.

1.5.3 Quality Control (QC)

Enter and track implementation of the Three-Phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Link each deficiency and QC test to a pay activity. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Ensure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments. Provide within 7 calendar days of Government acceptance of the CQC Plan.

1.5.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from supplemental formats must be consolidated and entered into the RMS QC Daily Report. Supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report.

1.5.3.2 Deficiency Tracking

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track, and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected

until the Government indicates concurrence in RMS.

1.5.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS, and upload meeting minutes of the meetings. Worksheets for the three-phase control meetings are generated within RMS.

1.5.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

1.5.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track, and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1 and as required by any other applicable Federal, State, or local agencies.

1.5.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

1.5.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

1.5.4 Submittal Management

The submittals required on the Submittal Register will be entered into the RMS database prior to Contractor use. Group electronic submittal documents into transmittal packages, except for very large electronic files, samples, spare parts, mock-ups, color boards, or where hard copies are specifically required. Track transmittals and update the Submittal Register in RMS daily throughout the duration of the Contract.

1.5.5 Schedule

Enter and update the Contract Project Schedule in RMS by either manually entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 14 00 WORK RESTRICTIONS.

1.5.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that closeout documents are entered, completed, and documented within RMS.

1.6 IMPLEMENTATION

The use of RMS as described in the preceding paragraphs is mandatory.

Ensure that sufficient resources are available to maintain Contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

1.7 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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SECTION 01 45 04

FABRICATOR QUALITY CONTROL

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following must be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals (Prefabrication Submittals)

Fabricator Quality Control Plan; G ECDM

1.2 FABRICATOR PERFORMANCE EVALUATIONS

The Contracting Officer will notify the Fabricator at the pre-fabrication conference of the elements that will be used to evaluate performance. This notification will be documented in the Contract file. The Government uses a web-based system to process Fabricator performance appraisals. The system is "Contractor Performance Assessment Reporting System (CPARS)." Provide a point-of-contact name and e-mail address of the representative in the Fabricator's organization that should be contacted to receive and review the Fabricator appraisal. CPARS notification must be via e-mail and the Fabricator Representative will have 30 days to review and comment on each evaluation forwarded to the company.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Be responsible for quality control and establish and maintain an effective quality control system in compliance with the FAR 52.246-2 INSPECTION OF SUPPLIES - FIXED PRICE. The quality control system will consist of plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The system must cover all fabrication operations, both onsite and offsite, and be keyed to the proposed fabrication sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the Contract. The project superintendent in this context will mean the individual with the responsibility for the overall management of the project including quality and production.

3.2 QUALITY CONTROL PLAN

3.2.1 General

Provide, not later than 30 calendar days after receipt of Notice to Proceed, the Fabricator Quality Control Plan (FQC) proposed to implement the requirements of the FAR 52.246-2 INSPECTION OF SUPPLIES - FIXED PRICE. The plan must identify personnel, procedures, control, instructions, test, records, and forms to be used. Fabrication will be permitted to begin only after acceptance of the FQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a FQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the FQC Plan

The fabricator's existing Fabricators Quality Control Plan along with any updates or amendments, may be submitted for approval, if it sufficiently addresses the intent of the quality control plan. The FQC plan must include, but is not limited to, covering all fabrication and delivery operations, both on-site and off-site, work by subfabricators, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a FQC function.

c. A copy of the letter to the FQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the FQC System Manager, including authority to stop work which is not in compliance with the Contract. The FQC System Manager will issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Submit these letters and will also be furnished to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subfabricators, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)

f. Procedures for tracking fabrication deficiencies from identification through acceptable corrective action. These procedures must establish verification that identified deficiencies have been corrected.

g. Reporting procedures, including proposed reporting formats.

h. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. This list will be agreed upon during the coordination meeting.

3.2.2.1 Acceptance of Plan

Acceptance of the Fabricator's plan is required prior to the start of fabrication. Acceptance is conditional and be predicated on satisfactory performance during the fabrication. The Government reserves the right to require the Fabricator to make changes in the FQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.2.2 Notification of Changes

After acceptance of the FQC Plan, notify the Contracting Officer in writing a minimum of 7 days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 DURING THE PREFABRICATION CONFERENCE

During the Prefabrication Conference, before start of fabrication, and prior to acceptance by the Government of the FQC Plan, meet with the Contracting Officer and discuss the Fabricator's quality control system. The FQC Plan must be submitted for review a minimum of 30 calendar days prior to the Prefabrication Conference. During the meeting, a mutual understanding of the system details will be developed, including the forms for recording the FQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Fabricator's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Government and signed by both the Fabricator and the Contracting Officer. The minutes will become a part of the Contract file. There may be occasions when subsequent conferences must be called by either party to reconfirm mutual understandings and/or address deficiencies in the FQC system or procedures which may require corrective action by the Fabricator.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

The requirements for the FQC organization are a FQC System Manager and sufficient number of additional qualified personnel to ensure Contract compliance. Provide a FQC organization which must be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the Contract. All FQC staff members will be subject to acceptance by the Contracting Officer.

3.4.2 FQC System Manager

Identify, as FQC System Manager, an individual within the on-site work organization who will be responsible for the overall management of FQC and has the authority to act in all FQC matters for the Fabricator. The FQC System manager must be a graduate engineer with a minimum of 3 years of experience on fabrication similar to this Contract; or a fabrication person with a minimum of 10 years experience in related work. This FQC System Manager must be on the site at all times during fabrication and must be employed by the Fabricator. The FQC System Manager must be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the FQC System Manager must be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate must be the same as for the designated FQC System Manager.

3.4.3 Organizational Changes

Maintain the FQC staff at full strength at all times. When it is necessary to make changes to the FQC staff, revise the FQC Plan to reflect the changes and submit the changes for acceptance.

3.5 SUBMITTALS

Submittals must be made as specified in Section 01 33 00 SUBMITTAL PROCEDURES. The FQC organization will be responsible for certifying that all submittals are in compliance with the Contract requirements.

3.6 TESTS

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to Contract requirements. Upon request, submit duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The list must give the test name, frequency, specification paragraph containing the test requirements, the personnel and laboratory responsible for each type of test, and an estimate of the number of tests required. Perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with Contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, will be recorded for the date taken and sent to the Contracting Officer within seven days. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test must be given. If approved by the Contracting Officer, actual test

reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this Contract.

3.7 COMPLETION INSPECTION

3.7.1 Final Fabrication Acceptance Inspection

This inspection must be accomplished prior to painting of each completed structure. The Fabricator's quality control inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer must be in attendance during the final acceptance inspection. Additional Government personnel may be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer. The Fabricator must give notice to the Contracting Officer at least 14 days prior to the final acceptance inspection and includes the Fabricator's assurance that all specific items previously identified to the Fabricator as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Fabricator to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Fabricator for the Government's additional inspection cost in accordance with the FAR 52.246-2 "INSPECTION OF SUPPLIES - FIXED PRICE."

3.7.2 Painting Acceptance Inspection

This inspection must be accomplished following painting of each completed structure. The Fabricator's quality control inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer will be in attendance during the Painting Acceptance Inspection. Additional Government personnel may also be in attendance. The Painting Acceptance Inspection will be formally scheduled by the Contracting Officer. The Fabricator must give notice to the Contracting Officer at least 14 days prior to the Painting Acceptance

3.8 DOCUMENTATION

Maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records must include the work of subfabricators and suppliers and be on an acceptable form that includes, as a minimum, the following information:

a. Fabricator/subfabricator and their area of responsibility.

b. Plant/equipment with hours worked, idle, or down for repair.

c. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

d. Submittals reviewed, with Contract reference, by whom, and action taken.

e. Instructions given/received and conflicts in drawings, plans, and specifications.

3.9 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Fabricator of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Fabricator at the work site, be deemed sufficient for the purpose of notification. If the Fabricator fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Fabricator.

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ATTACHMENT A - Final Closeout Checklist

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SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-11 Closeout Submittals

As-Built Drawings; G

Operation and Maintenance (O&M) Manuals; G

Final Records; G

1.2 PROJECT RECORD DOCUMENTS

1.2.1 As-Built Drawings

Submit a set of as-built drawings by either electronic submission or a paper set of drawings with the as-constructed conditions of the project. Paper as-builts submitted will be a minimum size of 11-inches x 17-inches.

Maintain and revise a full size set of paper drawings (22-inches x 34-inches) by red-line process showing as-built conditions during construction. On a weekly basis maintain and revise working as-built marked drawings to current state of construction and fabrication. One set of drawings will be available at the Contractor's work site at all times.

Accurately and neatly record changes from the Contract drawings which are made in the work or additional information which was uncovered in the course of construction as they occur by means of details and notes. Referencing modifications or requests for information, without providing the actual details on the drawing set, as-built drawings will be rejected.

The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each pay estimate. If the Contractor fails to maintain the working and final as-built drawings as specified, the Contracting Officer will deduct from the progress payment(s) an amount representing the estimated cost of maintaining the as-built drawings. This deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings.

1.2.2 Operation and Maintenance (O&M) Manuals

Submit the O&M Data, warranty(s), and data sheets of the materials and equipment incorporated in the construction. Organize the information into

main folders named "O&M Manuals," "Warranty(s)," and "Data Sheets." Within each folder, provide subfolders named by discipline such as "Architectural," "Mechanical," "Plumbing," "Electrical," etc. with each manual, warranty, and data sheet placed in the applicable subfolder as individual files and named by specification section and type of product. Below is a partial file structure naming convention example:

```
Main Folder: Data Sheets
  Subfolder:   Plumbing
    File name: 220000-Water Closet
                   File name: 220000-Urinal
                   File name: 220000-Lavatory1
                   File name: 220000-Lavatory2
```

1.2.2.1 Operation and Maintenance Data

Submit the O&M data for the materials indicated in the individual product specifications. The O&M data includes, but is not limited to, all of the manufacturer's standard O&M information such as assembly diagrams, parts diagrams, wiring diagrams, parts lists, installation instructions, operating instructions, maintenance and cleaning instructions, troubleshooting guide, and any other data required to operate and maintain the equipment.

1.2.2.2 Warranty(s)

Submit manufacturers' standard warranty(s) for all materials and equipment that extend beyond one year. Provide any specialty warranty(s) that are indicated in the individual product specifications.

1.2.2.3 Safety Data Sheets

Submit the safety data sheets for each product used for which product data required submission. Include on the safety data sheet, at a minimum, the manufacturer's name; the product model name and/or number; color or finish, if applicable; size of unit, if applicable; operating details such as voltage or flow rate; and any other similar information that would be pertinent to replacing or repairing the product.

1.2.2.4 Testing and Balancing Reports

Submit testing, adjusting, and balancing reports for all equipment tested, adjusted, and balanced.

1.2.2.5 Training

Submit verification training personnel on operation and maintenance of equipment was completed, as specified per individual product specifications.

1.2.3 Final Records

Submit the attached signature form indicating the following items have been completed to the approval and satisfaction of the Contracting Officer. The Contractor and Contracting Officer must sign ATTACHMENT A - Final Closeout Checklist.

1.2.3.1 Cleaning

Leave the premises broom clean. Remove stains, foreign substances, and temporary labels from surfaces. Vacuum carpet and soft surfaces as applicable. Clean equipment and fixtures to a sanitary condition. Replace filters of operating equipment. Remove debris from roofs, drainage systems, gutters, and downspouts. Sweep paved areas and rake clean landscaped areas. Remove waste, surplus materials, and rubbish off-site. Remove temporary structures, barricades, project signs, etc., and construction facilities.

1.2.3.2 Warranty Labels

Attach and complete warranty labels on all installed mechanical equipment and other warranted materials as specified.

1.2.3.3 Construction and Demolition Waste Management Records

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. Quantities may be measured by weight or by volume, but to be consistent throughout. List each type of waste separately noting the disposal or diversion date. Identify the landfill, recycling center, waste processor, or other organization used to process or receive the solid waste. Provide explanations for any waste not recycled or reused. With each application for payment, submit updated documentation for solid waste disposal and diversion, and submit manifests, weight tickets, receipts, and invoices specifically identifying the project and waste material. Make records available to the Contracting Officer during construction, and submit a copy of the records upon completion of the construction.

1.2.3.4 Real Property Record

Coordinate with the Contracting Officer to update DD Form 1354 "Transfer and Acceptance of Military Real Property" and submit an accounting of all installed property to include any additional assets, improvements, and/or alterations.

1.3 RED ZONE COMPLETION AND CLOSEOUT MEETING

Towards the end of Contract duration, identify actions necessary for completion and have a plan for accomplishing the actions in a timely matter. This will include construction and fiscal issues. Early emphasis on known construction issues prior to beneficial occupancy will allow for a timelier closeout of the construction Contract. This phase of the construction Contract will occur at 80 percent construction completion or at least 60 days from the scheduled Beneficial Occupancy Date (BOD). During the meeting Contracting Officer, Contractor, Government employees, and Customer team must make a coordinated effort to complete physical construction, as well as all required documentation, financial actions, permit requirements, system commissioning, and training of operators. The agenda includes, but is not limited to, the following:

a. Review of Red Zone Checklist.

b. Compare current schedule against Contract completion date, discuss beneficial occupancy dates.

c. Pending Modifications, final Variation in Estimated Quantities, or time extensions required.

d. Resolve outstanding Submittal Register.

e. Establish warranty periods and start dates.

f. Property transfer procedures and responsibilities.

g. Pre-final and final inspection procedures and scheduling.

h. Timely correction of deficiencies.

i. Submission/correction of payroll requirements.

j. Withholding of payment for outstanding items or Liquidated Damages.

k. Release of Claims and Final Payment procedures.

1.4 PAYMENT

Failure to submit the closeout submittals as required will be cause for withholding up to 10 percent payment due the Contractor. Approval and acceptance of the closeout submittals will be accomplished before final payment is made. No separate payment will be made for as-built drawings or other data submission as required, and all costs accrued in connection with such drawings and documents are considered a subsidiary obligation of the Contractor.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

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FINAL CLOSEOUT CHECKLIST

1. CLEANING: _____

Notes: _____

_____

_____

2. WARRANTY TAGS: _____

Notes: _____

_____

_____

3. CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT RECORDS: _____

Notes: _____

_____

_____

4. REAL PROPERTY RECORD: _____

Notes: _____

_____

_____

_____
CONTRACTOR

_____
CONTRACTING OFFICER

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WELDING

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)

ANSI/ASNT CP-189	(2020) ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2020; Errata 1 2021) Structural Welding Code - Steel
AWS QC1	(2016) Specification for AWS Certification of Welding Inspectors

ASTM INTERNATIONAL (ASTM)

ASTM E165/E165M	(2018) Standard Practice for Liquid Penetrant Examination for General Industry
ASTM E709	(2021) Standard Guide for Magnetic Particle Testing

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Welding Procedure Specifications (WPS); G ECDS

Welding Repair Plan; G, ECDS

Weld Tracking Log Template; G, ECDS

SD-03 Product Data

Filler Metal Product Data; G, ECDS

SD-06 Test Reports

Weld Tracking Log; G ECDS

Nondestructive Testing Reports; G, ECDS

SD-07 Certificates

Qualification of Welders and Welding Operators; G ECDS

Certified Welding Inspector; G, ECDS

Nondestructing Testing Personnel; G, ECDS

1.3 GENERAL REQUIREMENTS

Material with welds are prohibited unless the welding is specified, indicated, or otherwise approved. Do not begin welding until welding procedures, inspectors, nondestructive testing personnel, welders, welding operators, and tackers have been qualified and approved. Maintain records of the test results obtained in welding procedure and welder, welding operator, and tacker performance qualifications.

1.4 QUALITY ASSURANCE

1.4.1 Qualification of Welders and Welding Operators

All welders performing welds to be qualified in accordance with AWS D1.1/D1.1M, and all qualifications are current prior to commencing work. Submit certification for each welder stating the type of welding and positions qualified for, the code and procedure qualified under, date qualified, and the firm and individual certifying the qualification tests. If the qualification date of the welder or welding operator is more than 6 months old, accompany the welding operator's qualification certificate with a current certificate by the welder attesting to the fact that they have been engaged in welding since the date of certification, with no break in welding service greater than 6 months. Certifications and operator test records in accordance with the requirements of AWS D1.1/D1.1M.

1.4.2 Weld Inspector Qualification

Submit copies of certificates showing evidence of qualifications or certifications for certified welding inspector and nondestructing testing personnel. All inspectors, performing structural steel visual inspection in accordance with these specifications must be qualified and certified in conformance with AWS QC1. Provide an AWS Certified Welding Inspector (CWI) as the primary point of contact for quality control of welding. Do not use non-certified inspectors and certified associate weld inspectors (CAWI) for inspection under these specifications. All personnel who perform NDT must be qualified in accordance with: ANSI/ASNT CP-189 NDT Level II or III.

1.4.3 Welding Procedure Specifications (WPS)

Submit Welding Procedure Specifications (WPS), with supporting Procedure Qualification Records (PQR) and supporting test documentation on forms similar or equivalent to the sample forms in AWS D1.1/D1.1M, Annex J, for each weld, including prequalified welds, for approval before fabrication is commenced. Individually identify each Welding Procedure Specification and referenc it on the shop drawings. In case of conflict between this

specification and AWS D1.1/D1.1M as applicable, this specification will govern.

a. Submit a complete schedule of welding procedures for each steel structure to be welded prior to commencing fabrication. Provide the schedule in conformance with the requirements specified in the provisions of AWS D1.1/D1.1M. Use prequalified welding procedures for structural steel in accordance with AWS D1.1/D1.1M, Prequalification of WPSs Clause, or qualify by tests as prescribed in AWS D1.1/D1.1M, Qualification Clause. For welding procedures qualified by tests, the coupon welding and specimen testing must be witnessed by a Government representative and the test report document signed by the Contracting Officer.

b. Provide within the schedule detailed procedure specifications and tables or diagrams showing the procedures to be used for each required joint. Include in the welding procedures filler metal, preheat, interpass temperature and stress-relief heat treatment requirements. Clearly identify each welding procedure as being prequalified or required to be qualified by tests.

c. Show types and locations of welds designated or in the specifications to receive nondestructive testing in the welding procedures.

Approval of any welding procedure does not relieve the Contractor of the responsibility for producing a finished structure meeting all requirements of these specifications. The Contracting Officer will direct or authorize any changes in previously approved welding procedures that are deemed necessary or desirable.

1.4.4 Weld Tracking Log Template

Submit for approval a weld tracking log template, a minimum of 30 days prior to commencement of fabrication, to identify all necessary components to be addressed in the tracking of all welds for the structures in question.

1.4.5 Weld Tracking Log

Develop, maintain throughout fabrication, and submit a weld tracking log capable of identifying and tracking critical welds. Include the member to be welded, welding position, type of weld, applicable WPS reference, AWS joint preparation designation, name or stamping designation of welder, welding operator or tacker, date and time of completion of welding, name and date of CWI visual inspection, nondestructive testing (NDT) performed, including the type of inspection, date(s) of inspection, inspector name, and the acceptance criteria used, description of defects found and reason for non-compliance, and corrective action taken. Weld identification on the shop drawing must match weld tracking log identification. Bind a completed log together and submit immediately upon completion of the fabrication of the corresponding structure.

1.4.6 Detail Drawings

Identify all field welds required on the respective shop drawings. Provide each weld required, both shop and field, a unique identifier to permit tracking on the weld tracking log. Detail drawings for each component must show proposed welding sequences. Detail drawings must identify weld procedures and NDE required for each weld.

1.4.7 Quality Assurance (Qa) Testing By The Government

When the soundness of any weld is suspected of being deficient, due to faulty welding or stresses that might occur during shipment or erection, the Government reserves the right to perform nondestructive supplemental examinations before final acceptance. This may include ultrasonic, magnetic particle, liquid penetrant, radiography, or any other test that will thoroughly investigate the part in question. The Government reserves the right to hire a Third Party to perform supplemental examination or confirm results provided by the Contractor. The cost of such investigation will be borne by the Government. Any defects will be cause for rejection and rejected materials or parts must be replaced and retested at no additional cost to the Government. The government reserves the right to perform quality assurance (QA) throughout the length of the Contract and must be provided access to the components for inspection at any time.

PART 2 PRODUCTS

2.1 FILLER METAL

Provide the electrode, electrode-flux combination, and grade of filler metal in accordance with the appropriate AWS specification for the base metal and welding process being used or as indicated where a specific choice of AWS specification allowables is required. Submit filler metal product data for approval. Include the AWS designation of the electrodes to be used in the schedule of welding procedures. Use only low hydrogen electrodes for manual shielded metal-arc welding regardless of the thickness of the steel. Use a controlled temperature storage oven at the job site in accordance with AWS D1.1/D1.1M, Fabrication Clause to maintain low moisture of low hydrogen electrodes.

PART 3 EXECUTION

3.1 WELDING

Perform welding, inspection, and repairs in accordance with AWS D1.1/D1.1M. Use continuous welds on all exposed connections. Grind visible welds smooth in the finished installation. Smooth is defined as a maximum 250 microinches. Provide welded headed shear studs in accordance with AWS D1.1/D1.1M, except as otherwise specified.

3.1.1 Welding Process

Perform welding of structural steel by an electric arc welding process using a method which excludes the atmosphere from the molten metal and in conforms to AWS D1.1/D1.1M. Minimize residual stresses, distortion and shrinkage from welding.

3.1.2 Welding Technique

3.1.2.1 Preheat and Interpass Temperature

Perform preheating in accordance with AWS D1.1/D1.1M, Fabrication Clause or as otherwise specified except that the temperature of the base metal to be at least 70 degrees F. Slowly and uniformly preheat the joint area by

approved means to the prescribed temperature, held at that temperature until the welding is completed and permitted to cool slowly in still air.

3.1.2.2 Stress-Relief Heat Treatment

Where stress relief heat treatment is indicated, perform in accordance with AWS D1.1/D1.1M, Fabrication Clause unless otherwise authorized or directed. Peening is not an acceptable method for stress relieving.

3.1.3 Workmanship

Perform welding workmanship in accordance with AWS D1.1/D1.1M, Fabrication Clause and as specified.

3.1.3.1 Preparation of Base Metal

Prior to welding, inspect surfaces in accordance with AWS D1.1/D1.1M, Fabrication Clause.

3.1.3.2 Temporary Welds

Make temporary welds, required for fabrication and erection, under the controlled conditions prescribed for permanent work. Make temporary welds using low-hydrogen welding electrodes and by welders qualified for permanent work as specified. Conduct preheating for temporary welds in accordance with AWS D1.1/D1.1M for permanent welds except the minimum temperature to be 120 degrees F in any case. In making temporary welds, do not strike arcs outside of weld locations. Remove each temporary weld and grind flush with adjacent surfaces.

3.1.3.3 Tack Welds

Tack welds are to be incorporated into permanent work must exhibit the same quality requirements as the permanent welds; clean and thoroughly fuse with permanent welds. Perform preheating as specified for temporary welds. Provide cascaded ends on multiple-pass tack welds. Remove defective tack welds before permanent welding.

3.1.4 Welding of Steel Castings

Remove unsound material from the surfaces of steel castings, for incorporation into welded connections, by chipping, machining, air-arc gouging or grinding. Do not weld major connections designed for transfer of stresses if the temperature of the casting is lower than 100 degrees F. Preheat castings containing over 0.35 percent carbon or over 0.75 percent manganese to a temperature not to exceed 450 degrees F and conduct welding while the castings are maintained at a temperature above 350 degrees F. Welding is prohibited on castings containing carbon in excess of 0.45 percent except on written authorization. Castings requiring welding repairs after the first annealing and castings involving welding fabrication must be stress-relieved annealed prior to receiving final machining unless otherwise allowdd.

3.1.5 Seal Welds

Seal welds are required to maintain water tightness. Show and make all seal welds as indicated on the shop drawings. Make seal welds, when not specified or indicated, the minimum size fillet weld as required in AWS D1.1/D1.1M.

3.1.6 Weld Access Holes

Provide weld access hole as shown on contract drawings. Show all required weld access holes on shop drawings. Notify the Contracting Officer for the approval of weld access hole additions if the oversite of intersecting out-of-plane welds is encountered or splices are otherwise required. Payment for the addition of weld access holes not shown on contract drawings or shop drawings will be the Contractor's responsibility.

3.1.7 Weld Backing Removal

Weld backing material must be removed in all welded connections. Remove all steel weld backing material from welded joints prior to testing.

3.2 TESTS, INSPECTIONS, AND VERIFICATIONS

Perform material tests and analyses certified by an approved laboratory to demonstrate materials are in accordance as specified. Perform tests, inspections, and verifications as specified and provide certified test reports. Document inspections on the Weld Tracking Log. Conduct tests in the presence of the Contracting Officer, if required. Furnish samples for additional independent tests and analyses upon request by the Contracting Officer. Properly label specimens and samples and prepare for shipment.

3.2.1 Testing Agency

Perform the nondestructive examination of welds and the evaluation of examination tests for acceptability by a testing agency adequately equipped and competent to perform such services or by the Contractor using suitable equipment and qualified personnel. In either case, written approval of the examination procedures is required and performance of the examination tests completed in the presence of the Contracting Officer. The evaluation of tests are subject to approval and all records become the property of the Government. The laboratory and all personnel performing nondestructive testing must be qualified as specified. Only individuals qualified for NDT Level II or Level III may perform nondestructive testing.

3.2.2 Inspection of Structural Steel Welding

Conduct nondestructive testing of designated welds. Supplemental examination of any joint or coupon cut from any location in any joint may be required. Submit all nondestructive testing reports, records, or other documentation.

3.2.2.1 Welds Subject to Nondestructive Testing

Test the following welds in accordance with AWS D1.1/D1.1M ultransonic testing acceptance critieria for Cyclically Loaded Nontubular Connections in Tension, except for tubular connections. For tubular connections, use applicable AWS D1.1/D1.1M ultrasonic testing acceptance criteria for tubular connections. Test any weld repairs according to the same frequency. Testing requirements do not apply to armor.

Type of NDT	Frequency
Visual Inspection	100 percent of all welds.
Magnetic Particle Inspection	100 percent of all welds.
Ultrasonic Testing	100 percent of complete joint penetration welds.
Radiographic Testing	100 percent of butt-joint complete joint penetration welds

3.2.2.2 Visual Examination

Prior to any welding, a Certified Weld Inspector (CWI) supplied by the Contractor must visually inspect and document on the weld tracking log the preparation of material for welding at each weld or joint in order to assure compliance with AWS D1.1/D1.1M and approved WPS. The CWI must also perform visual inspection on all completed welds throughout the welding process to assure compliance with AWS D1.1/D1.1M and approved WPS. Clean all completed welds free of oxide, flux, scale, paint spatter, or other foreign matter before inspection. Conduct in accordance with AWS D1.1/D1.1M by a Certified Welding Inspector. Document inspection in the weld tracking log.

3.2.2.3 Ultrasonic Testing (UT)

Examine, evaluate, and report ultrasonic testing of welds in accordance with AWS D1.1/D1.1M, Inspection Clause, for cyclically loaded connections. Provide ultrasonic equipment capable of making a permanent record of the test indications. Record each weld tested.

3.2.2.4 Magnetic Particle Inspection (MT)

Perform in accordance with ASTM E709. MT by the prod method is prohibited. Permanent magnets are prohibited. Magnetic particle media suspended in a liquid solution is prohibited for use in field applications, unless specifically requested and approved by the Engineer. Provide MT particle media of a contrasting color to the test material. Use field indicators to verify the correct field strength and direction.

3.2.2.5 Dye Penetrant Inspection (PT)

Perform in accordance with ASTM E165/E165M. PT may be used as a verification of required test methods but may not be used in place of MT.

3.2.2.6 Supplemental Examination

When the soundness of any weld is suspected of being deficient due to faulty welding or stresses that might occur during shipment or erection, the Government reserves the right to perform nondestructive supplemental examinations before final acceptance. The cost of such inspection will be borne by the Government. If welds are found to be defective, repair of the defective work and cost of the reinspection will be borne by the Contractor.

3.2.2.7 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by nondestructive testing. When coupons are removed from any part of a structure, repair the members cut in a neat manner with complete penetraction groove welds to develop the full strength of the members. Submit proposed repair work for approval before commencing work. Develop a plan to reduce residual stress in all repaired weldments. The expense for removing and testing coupons, repairing cut members and the nondestructive examination of repairs will be borne by the Government. If the coupons fail testing, repair costs as well as sampling costs, will be borne by the Contractor.

3.2.3 Welding Repair Plan

Repair defective welds in full accordance with AWS D1.1/D1.1M, Fabrication Clause. Where required, submit a Welding Repair Plan for approval prior to making repairs. Address weld repairs within the weld as well as weld repairs for base metal defects in the welding repair plan. Remove defective filler metal to sound metal by use of air carbon-arc, oxygen gouging, or mechanical methods in accordance with AWS D1.1/D1.1M. Thoroughly clean surfaces before welding. Retest welds that have been repaired by the same methods used in the original inspection. Except for the repair of members cut to remove test coupons and found to have acceptable welds, repair and retest at no additional cost to the Government. At a minimum, include in the repair plan the following information:

(1) Company name and address
(2) Date
(3) Piece mark
(4) Fabricator
(5) Location of repair
(6) Detailed description of the non-conformance, including length, width, depth, etc.
(7) Photographs and detailed sketch or red-line shop drawing
(8) Proposed repair
(9) Quality Control Manager's signature and date

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DIVISION 09 - FINISHES

SECTION 09 97 02

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SECTION 09 97 02

PAINTING: HYDRAULIC STRUCTURES

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO HB-17	(2002; Errata 2003; Errata 2005, 17th Edition) Standard Specifications for Highway Bridges

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 420	(2010) Certification Standard for Shop Application of Complex Protective Coating Systems

ASTM INTERNATIONAL (ASTM)

ASTM D153	(1984; R 2014) Specific Gravity of Pigments
ASTM D281	(2012; R 2016) Standard Test Method for Oil Absorption of Pigments by Spatula Rub-Out
ASTM D304	(2026) Standard Specification for n-Butyl Alcohol (Butanol)
ASTM D520	(2025) Standard Specification for Zinc Dust Pigment
ASTM D561	(1982; R 2014) Carbon Black Pigment for Paint
ASTM D740	(2011) Methyl Ethyl Ketone
ASTM D841	(2019) Standard Specification for Nitration Grade Toluene
ASTM D1045	(2019) Standard Test Methods for Sampling and Testing Plasticizers Used in Plastics
ASTM D1152	(2006; R 2012) Methanol (Methyl Alcohol)
ASTM D1153	(2012) Methyl Isobutyl Ketone
ASTM D1200	(2010; R 2014) Viscosity by Ford Viscosity Cup

ASTM D1210	(2005; R 2014) Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage
ASTM D2917	(2007; R 2013) Methyl Isoamyl Ketone
ASTM D3465	(2014) Standard Test Method for Purity of Monmeric Plasticizers by Gas Chromatography
ASTM D3721	(2005; R 2011) Synthetic Red Iron Oxide Pigment
ASTM D4228	(2005; R 2017) Standard Practice for Qualification of Coating Applicators for Application of Coatings to Steel Surfaces
ASTM D4417	(2021) Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
ASTM D7091	(2021) Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nondestructive Coatings Applied to Non-Ferrous Metals
ASTM E1347	(2006; R 2020) Standard Test Method for Color and Color Difference Measurement by Tristimulus (Filter) Colorimetry

RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)

RCSC A348	(2020) RCSC Specification for Structural Joints Using High-strength Bolts

SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC PA 2	(2015; E 2018) Procedure for Determining Conformance to Dry Coating Thickness Requirements
SSPC Paint 27	(1982) Basic Zinc Chromate–Vinyl Butyral Wash Primer
SSPC QP 3	(2010) Standard Procedure for Evaluating Qualifications of Shop Painting Applicators
SSPC SP 1	(2015) Solvent Cleaning
SSPC SP 5/NACE No. 1	(2007) White Metal Blast Cleaning

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)

SAE AMS-STD-595A	(2017) Colors used in Government Procurement

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" or classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Qualified Shop Coating Certification; G, EC-DS

Qualified Coating Applicator; G, EC-DS

SD-03 Product Data

Manufacturer's Safety Data Sheet; G, ECDS

SD-04 Samples

Product Samples; G, ECDS

Special Paint Formulas; G, ECDS

Solvent and Thinners; G, ECDS

SD-06 Test Reports

Inspection Reports

SD-07 Certificates

Coating Thickness Gage Qualification

1.3 QUALIFICATIONS

Qualifications and experience must comply with the following.

1.3.1 Qualified Shop Painting Contractor

The Painting Contractor must be a certified SSPC QP 3 Painting Contractor or AISC 420 Complex Coating Endorsement - Enclosed (CCE-1) for all surface preparation or coating application. Submit a copy of the applicable SSPC Certificates or CCE-1 validating the Qualified Shop Coating Certification. The contractor must have been certified prior to award of this contract and must remain certified for the duration of this contract. Submit all renewals if they occur during the contract performance period. Renewals must be achieved prior expirations occurring.

1.3.2 Qualified Coating Applicator

Submit records of qualification tests for each Qualified Coating Applicator. Prior to the initiation of any work all coating applicators must be tested and certified as meeting the requirements of ASTM D4228. Certification must be administered by an authorized government representative. Applicators failing the certification procedure will not be permitted to apply any paint on the project.

1.3.2.1 Certification Test Procedure

Conduct certification testing of coating applicators at the job site in coordination with the Contracting Officer. Supply the fabricated test plates to be used for the tests and provide crane service, rigging, and any other work necessary to provide accessibility for the certification testing and inspection. The test plate must be painted in a near vertical position. In preparation, clean and prepare the test plate in accordance with the requirements of the contracted work. Perform abrasive blasting with the blast media to be used in the contract. The paints to be applied are Contractor supplied materials and are those previously tested and approved for use on the contract. Paints must be applied as specified in this contract. The painter being tested must mix and thin the paints to be used in the test and set up and adjust the application equipment for use. Each painter must apply each of the types of paint comprising the specified system. The contractor's QC inspector must be present during the procedure to monitor the actions of the painter being tested.

1.3.2.2 Certification Criteria

Evaluate the paint applicator based on the conformance of the applied paint system to the requirements of this specification. Deficiencies in the coatings, improper mixing or improper application methods are basis for failure. The authorized Government Representative is the sole judge as to the acceptability of each coating applicator's performance.

1.3.3 Coating Thickness Gage Qualification

Submit Coating Thickness Gage Qualification documentation of manufacturer's certification for all coating thickness gages. Use magnetic flux thickness gages as described in ASTM D7091 to make all coating thickness measurements on ferrous metal substrates. . Gages to be used on the job must have an accuracy of 3 percent or better and be certified by the manufacturer as meeting this requirement.

1.3.4 Certified Coating Inspector

Provide a certified coating inspector who is listed as either SSPC-PCI Level 2, or NACE CIP Level 2 for all surface preparation and painting activities. Submit a copy of the applicable SSPC or NACE Certificates. Submit all renewals if they occur during the contract performance period. Renewals must be achieved prior expirations occurring.

1.4 DELIVERY, STORAGE, AND HANDLING

Process and package paints to ensure that within a period of one year from date of manufacture, they will not gel, liver, or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, must be packaged in standard containers not larger than 5 gal, with removable friction or lug-type covers. Containers for vinyl-type paints must be lined with a coating resistant to solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof must be labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name, and formula or specification number of the paint together with special labeling instructions, when specified. Paint must be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather must be stored in

ventilated, heated shelters. All paints must be stored under cover from the elements and in locations free from sparks and flames.

1.5 AMBIENT CONDITIONS

Paint must be applied in accordance with the manufacturers written instructions or to the special requirements contained herein. Surfaces that are less than 5 degrees F above the dew point temperature must be monitored closely to assure that are completely free of moisture as determined by sight and touch. Paint must not be applied to surfaces upon which there is detectable frost or ice. Except as otherwise specified, paint must not be applied if the temperature of the surfaces to be painted and of air in contact therewith is less than 45 degrees F during paint application nor if the surfaces can be expected to drop to 32 degrees F or lower before the film has dried to a reasonably firm condition. During periods of inclement weather, painting may be continued by enclosing the surfaces and utilizing climate control equipment (e.g. dehumidification, heaters, etc.), provided the minimum temperatures and surface dryness requirements prescribed previously are maintained. Paint must not be applied to surfaces heated by direct sunlight or other sources to temperatures that will cause detrimental blistering, pinholing, or porosity of the film.

PART 2 PRODUCTS

2.1 PRODUCT SAMPLES

Submit product samples of each batch of thinner, solvent, and paint to the Government for testing. Submit manufacturer's Safety Data Sheet (SDS) for each type of paint used; for products that are specified to be applied in accordance with the manufacturer's recommendations, submit the paint manufacturer's product data sheet (PDS) or other written instructions for those products. Allow at least 30 days from time of delivery to the contracting officer for testing of samples of paints and thinners. Sampling may be at the jobsite or source of supply. Coordinate sampling and submission of all samples of paint and thinner with the Contracting Officer. Standard sample size for liquid paints and thinners is 1-quart; powders and other additives for multi component paints may be of appropriately smaller size. The sample must be labeled to indicate formula or specification number and nomenclature, batch number, batch quantity, color, date made, and applicable project contract number. Testing will be performed by the Government. Costs for retesting rejected material will be deducted from payments to the Contractor at the following rates for each paint sample retested and or each thinner retested.

Type	Estimated Cost
MIBK	$450
V-766e Gray	$2,200
V-766e White	$2,200
VZ108d	$2,200

2.2 SPECIAL PAINT FORMULAS

Special paints must have the composition as indicated in the formulas listed herein. Where so specified, package paint formulation components in separate containers for mixing on the job. If not specified or otherwise prescribed, the color must be that naturally obtained from the required pigmentation.

2.3 PAINT FORMULATIONS

Special paint formulas must comply with the following:

2.3.1 Formula VZ-108D

This formula is for Vinyl-Type Zinc-Rich Impacted Immersion Coating, the ingredients are shown below.

INGREDIENTS	PERCENT BY WEIGHT	POUNDS	GALLONS
COMPONENT A			
Vinyl Resin, Type 3	16.6	109.2	9.65
Methyl Isobutyl Ketone	80.6	528.9	79.30
Suspending Agent E	0.7	4.6	0.28
Suspending Agent F	0.4	2.7	0.19
Methanol	0.5	3.3	0.50
Synthetic Iron Oxide (Red)	1.2	7.9	0.19
Total	100.0	656.6	90.11
COMPONENT B			
Silane B	100.0	4.1	0.47
COMPONENT C			
Zinc Dust	100.0	550.0	9.42
		Total Volume	100.00 (mixed paint)

a. Disperse the iron oxide and suspending agents into the vehicle (Component A) to a fineness of grind of not less than 4 on the Hegman scale (ASTM D1210). Grinding in steel-lined containers or using steel-grinding media will not be permitted. The paint must show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods. The sole purpose of the iron oxide pigment is to produce a contrasting color. A red iron oxide-type 3 vinyl resin vehicle paste may be used in place of dry iron oxide provided compensating adjustments are made in the additions of Type 3 resin and methyl isobutyl ketone. The finished

product with zinc dust added must produce a paint which has a red tone upon drying and a reflectance of not more than 16 (ASTM E1347).

b. Supply VZ-108D paint as a kit. Each kit must consist of 4.5 gal (33.1 pounds) of Component A in a 5-gallon lug closure type pail, 27.5 pounds of zinc dust (Component C) packaged in a 1-gal plastic pail, and 3 fluid ounces of silane (Component B) packaged in a glass bottle of suitable size having a polyethylene lined cap. Place the bottle of silane on the zinc dust in the 1-gal pail. In addition to standard labeling requirements, identify each container of each component as to component type. Each container label of Component A must carry the following: MIXING AND APPLICATION INSTRUCTIONS: WARNING - THIS PAINT WILL NOT ADHERE TO STEEL SURFACES UNLESS COMPONENT B IS ADDED. Remove the 3 ounces of bottled Component B (silane) from the Component C (zinc dust) container and add to the base paint Component A) with thorough stirring. Then sift the zinc dust into the base paint while it is being vigorously agitated with a power-driven stirrer and continue the stirring until the zinc dust has been dispersed. At some point strain the mixed paint through a 30-60 mesh screen to prevent zinc dust slugs from reaching the spray gun nozzle. Stir the paint continuously during application at a rate that will prevent settling. If spraying is interrupted for longer than 15 minutes, vigorously whip the entire length of the hose to redisperse the zinc. If the spraying is to be interrupted for more than 1 hour, empty the hose by blowing the paint back into the paint pot. Thinning will not normally be required when ambient temperatures are below about 80 degrees F, but when the ambient and steel temperatures are higher, methyl isoamyl ketone (MIAK) or methyl isobutyl ketone (MIBK) should be used. If paint is kept covered at all times, its pot life will be about 8 days.

2.3.2 Formula V-766E

This formula is for Vinyl-Type White (or Gray) Impacted Immersion Coating, the ingredients are shown below.

INGREDIENTS	PERCENT BY MASS
Vinyl Resin, Type 3	5.6
Vinyl Resin, Type 4	11.6
Titanium Dioxide and (for Gray) Carbon Black	13.0
Plasticizer	2.9
Methyl Isobutyl Ketone	32.0
Toluene	34.7
Ortho-Phosphoric Acid	0.2
Total	100.0

a. Disperse the pigment by means of pebble mills or other approved methods to produce a fineness of grind (ASTM D1210) of not less than 7

on the Hegman scale. Grinding in steel-lined or steel-ball mills will not be permitted. No grinding aids, antisettling agents, or any other materials except those shown in the formula will be permitted. Measure the ortho-phosphoric acid accurately and dilute it with at least four parts of ketone to one part of acid. Add it slowly into the finished paint with constant and thorough agitation.

b. The finished paint must show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods, and have a viscosity between 60 and 90 seconds using ASTM D1200 and a No. 4 Ford cup.

c. Furnish the white and gray paints in the volume ratio designated by the purchaser. The gray paint must contain no pigments other than those specified. Include enough carbon black to produce a dry paint film having a reflectance of 20-24 (ASTM E1347). The resulting gray color must approximate color 26231 of SAE AMS-STD-595A.

2.4 INGREDIENTS FOR SPECIAL PAINT FORMULAS

The following ingredient materials and thinners apply only to those special paints whose formulas are shown above in detail.

2.4.1 Pigments and Suspending Agents

2.4.1.1 Carbon Black

Carbon black must conform to ASTM D561, Type I or II.

2.4.1.2 Zinc Dust

Zinc dust pigment must conform to ASTM D520, Type II.

2.4.1.3 Iron Oxide

Iron oxide, (Dry) synthetic (red), must conform to ASTM D3721. In addition, the pigment must have a maximum oil absorption of 24 and a specific gravity of 4.90 to 5.20 when tested in accordance with ASTM D281 and ASTM D153, Method A, respectively. When the pigment is dispersed into specified vinyl paint formulation, the paint must have color approximating SAE AMS-STD-595A color 10076 (dark red paint), and show no evidence of incompatibility or reaction between pigment and other components after 6 months storage.

2.4.1.4 Titanium Dioxide

Titanium dioxide in vinyl paint Formula V-766E must be one of the following: Kronos 2160 or 2101, Kronos, Inc.; Ti-Pure R-960, E.I. Dupont DeNemours and Co., Inc.

2.4.1.5 Suspending Agent E

Suspending Agent E must be a light cream colored finely divided powder having a specific gravity of 2 to 2.3. It must be an organic derivative of magnesium aluminum silicate mineral capable of minimizing the tendency of zinc dust to settle hard without increasing the viscosity of the paint appreciably. M-P-A-14, produced by Elementis Specialties, has these properties.

2.4.1.6 Suspending Agent F

Suspending Agent F must be a light cream colored finely divided powder having a specific gravity of approximately 1.8. It must be an organic derivative of a special montmorillonite (trialkylaryl ammonium hectorite). Bentone 27, produced by Elementis Specialties, has these properties.

2.4.2 Resins, Plasticizer, and Catalyst

2.4.2.1 Plasticizer

The plasticizer must be either Di 2-propyl Heptyl Phthalate (DPHP) or Diisodecyl Phthalate (DIDP). DPHP must have an ester content of not less than 99.5 percent (ASTM D3465), must contain not more than 0.1 percent water, and must have an acid number (ASTM D1045) of not more than 0.07.DIDP must have a purity of not less than 99.0 percent, must contain not more than 0.1 percent water, and must have an acid number (ASTM D1045) of not more than 0.10.

2.4.2.2 Vinyl Resin, Type 3

Vinyl resin, Type 3, must be a vinyl chloride-acetate copolymer of medium average molecular weight produced by a solution polymerization process and must contain (by weight) 85 +/- 1.0 percent vinyl chloride and 15 +/- 1.0 percent vinyl acetate by weight. The resin must have film-forming properties and must, in specified formulations, produce results equal to Vinnol H 15/50, as manufactured by Wacker Chemie AG.

2.4.2.3 Vinyl Resin, Type 4

Vinyl resin, Type 4, must be a vinyl chloride-acetate type produced by a solution polymerization process, must contain 1 percent interpolymerized dicarbonic acid, 84 +/- 1.0 percent vinyl chloride, and 15 +/- 1.0 percent vinyl acetate. The resin must have film-forming properties and must, in the specified formulations, produce results equal to Vinnol H 15/45 M, as manufactured by Wacker Chemie AG.

2.4.2.4 Ortho-phosphoric Acid

Ortho-phosphoric acid must be a chemically pure 85-percent grade.

2.4.3 Solvent and Thinners

2.4.3.1 Methanol

Methanol (methyl alcohol) must conform to ASTM D1152.

2.4.3.2 Methyl Ethyl Ketone

Methyl ethyl ketone (MEK) must conform to ASTM D740.

2.4.3.3 Methyl Isobutyl Ketone

Methyl isobutyl ketone (MIBK) must conform to ASTM D1153.

2.4.3.4 Methyl Isoamyl Ketone

Methyl isoamyl ketone (MIAK) must conform to ASTM D2917.

2.4.3.5 Toluene

Toluene must conform to ASTM D841.

2.4.4 Silane B

Silane B for Formula VZ-108D must be N-beta-(aminoethyl)-gamma-aminopropyltrimethoxy silane. Silquest A-1120, produced by Momentive Performance Materials Inc., and Silane Z-6020, produced by Dow Corning Corporation, are products of this type.

2.5 TESTING

2.5.1 Chromatographic Analysis

Solvents in vinyl paints and thinners are subject to analysis by programmed temperature gas chromatographic methods and/or spectrophotometric methods, employing the same techniques that give reproducible results on prepared control samples known to meet the specifications. If the solvent being analyzed is of the type consisting primarily of a single chemical compound or a mixture or two or more such solvents, interpretation of the test results must take cognizance of the degree of purity of the individual solvents as commercially produced for the paint industry.

2.5.2 Vinyl Paints

Vinyl paints are subject to the following adhesion test. When V-766 or V-106 formulations are tested, spray apply 5 to 7 mils (dry) to mild steel panels. The steel panels must be essentially free of oil or other contaminants that may interfere with coating adhesion and be dry blast cleaned to a White Metal grade in compliance with SSPC SP 5/NACE No. 1. The surface must have an angular profile of 2.0 to 2.5 mils as measured by ASTM D4417, Method C. When V-102 or V-103 formulations are tested, spray apply the product over 1.5 to 2.5 mils (dry) of V-766 or V-106 known to pass this test. When VZ-108 is tested, the coating must be mixed in its proper proportions and then spray applied to a dry film thickness of 1.5 to 2.5 mils above the blast profile. The VZ-108 must be top coated with a V-766 known to pass this test. In all cases, the complete system must have a total dry film thickness of 5 to 7 mils above the blast profile. After being air dried for 2 hours at room temperature, dry the panel in a vertical position for 16 hours at 120 degrees F. After cooling for 1 hour, immerse the panel in tap water at 85 to 90 degrees F for 48 to 72 hours. Immediately upon removal, dry the panel with soft cloth and examine for adhesion as follows: With a pocket knife or other suitable instrument, make two parallel cuts at least 1 inch long, 1/4 to 3/8 inch apart through the paint film to the steel surface. Make a third cut perpendicular to and passing through the end of the first two. With the tip of the knife blade, loosen the film from the panel from the third cut between the parallel cuts for a distance of 1/8 to 1/4 inch. With the panel being held horizontally, grasp the free end of the paint film between the thumb and forefinger and pulled vertically in an attempt to remove the film as a strip from between the first two cuts. Remove the strip of paint film at a rate of approximately 1/10 inch per second and maintaining it in a vertical position during the process of removal. The adhesion is acceptable if the strip of paint breaks when pulled or if the strip elongates a minimum of 10 percent during its removal. Paints not intended to be self-priming must not exhibit any delamination from the

primer.

2.6 PRIMER FOR SLIP CRITICAL JOINTS

Provide Class B coating in accordance with AASHTO HB-17 for slip critical joints. Apply primer on slip crtiical joints in accordance with RCSC A348 prior to any other painiting of components. Undermask application of primer on the faying surface up to 1/4". Apply in accordance with all federal, state, and local volatile organic compounds (VOC) rules and regulations. If flash rusting occurs, reclean the surface prior to application of primer.

PART 3 EXECUTION

3.1 CLEANING AND PREPARATION OF SURFACES TO BE PAINTED

3.1.1 General Requirements

Clean surfaces to be painted before applying paint or surface treatments. Remove deposits of grease or oil in accordance with SSPC SP 1, prior to mechanical cleaning. Perform solvent cleaning with mineral spirits or other low toxicity solvents having a flash point above 100 degrees F. Use clean cloths and clean fluids to avoid leaving a thin film of greasy residue on the surfaces being cleaned. Protect items not to be prepared or coated from damage by the surface preparation methods. Protect machinery and electrical components against entry of blast abrasive and dust into working parts. Program cleaning and painting such that dust or other contaminants from the cleaning process do not fall on wet, newly painted surfaces. Protect surfaces not intended to be painted from the effects of cleaning and painting operations. Conduct welding of, or in the vicinity of, previously painted surfaces in a manner to prevent weld spatter from striking the paint and to otherwise reduce coating damage to a minimum. Restore any paint damaged by welding operations to original condition. Surfaces to be painted that will be inaccessible after construction, erection, or installation operations are completed must be painted before they become inaccessible.

3.1.2 Ferrous Surfaces Subject to Severe Exposure

Dry blast-clean ferrous surfaces subject to extended periods of immersion or as otherwise required to white metal according to SSPC SP 5/NACE No. 1. The blast profile must be angular with a minimum profile height of 1.5 mils. Select appropriate abrasive size and equipment operating parameters to limit maximum surface profile on new steel to 2.5 mils and to prevent increasing existing profile height on previously blasted steel. Measure all surface profiles in accordance with ASTM D4417, Method C. Steel shot or other abrasives that do not produce an angular profile must not be used. If recycled blast media is used, maintain an appropriate particle size distribution so that the specified profile is consistently obtained. Round all sharp edges including those caused by corrosion, to a nominal 1/16 inch radius and reblast the areas prior to painting. Remove weld spatter not dislodged by blasting with impact or grinding tools and reblast the areas prior to painting. Surfaces must be dry at the time of blasting. Within 8 hours after blast cleaning, and in any case prior to the deposition of any detectable moisture, contaminants, or corrosion, clean all ferrous surfaces of dust and abrasive particles by brush, vacuum cleaner, and/or blown down with clean, dry, compressed air, and apply the first coat of paint. Authorization to extend this 8 hour coating requirement for shop application, application within dehumidified

containment, or other conditions will not be granted. Shop coat all shop blasted surfaces with the first and second coats of the specified paint system. Maintain the shop coating in good condition by cleaning and touching up of areas damaged during the construction period. If pinpoint or general rusting appears, the defective areas must be reblasted and repainted at no added cost to the Government.

3.1.3 Galvanized, Aluminum, Aluminum Alloy, or Copper Surfaces

Where surfaces are specified to be painted, first wash with clean mineral spirits and then pretreat with a primer in accordance with SSPC Paint 27. Mix the pretreatment primer by adding one volume of acid component (diluent) to four volumes of resin component (base solution) slowly and with constant stirring. After mixing, use the material within 8 hours. Spray apply the pretreatment primer at a coverage rate of 250 to 300 square feet/gallon (of resin component) to give dry film thickness of 0.3 to 0.5 mil. Small areas, such as bolt components, may be coated by brush or swab. Take care in spray application to avoid the deposition of dry particles on the surface. Maintain a wet spray at all times by additional thinning with Normal Butanol ASTM D304. Do not use the acid component (diluent) over and above the amount prescribed above. Apply the first coast of paint after the pretreatment primer film has dried at least one hour but more than 24 hours.

3.2 PAINT APPLICATION

3.2.1 General

Unless otherwise specified, the finished coating must be free from holidays, pinholes, bubbles, runs, drops, ridges, waves, laps, excessive or unsightly brush marks, and variations in color, texture, and gloss. Do not initiate the application of initial or subsequent coatings until the Contracting Officer has verified that atmospheric conditions and the surfaces to be coated are satisfactory. Each paint coat must be applied in a manner that will produce an even, continuous film of uniform thickness. Provide special attention to edges, corners, crevices, seams, joints, welds, rivets, corrosion pits, and other surface irregularities to ensure that they receive an adequate thickness of paint. Spray equipment must be equipped with traps and separators and where appropriate, mechanical agitators, pressure gauges, pressure regulators, and screens or filters. Air caps, nozzles, and needles must be as recommended by the spray equipment manufacturer for the material being applied. Airless-type spray equipment may be used only on broad, flat, or otherwise simply configured surfaces, except that it may be employed for general painting if the spray gun is equipped with dual or adjustable tips of proper types and orifice sizes. The use of airless-type equipment is not allowed for the application of vinyl paints.

3.2.2 Mixing and Thinning of Coatings other than the Vinyl Formulations

Paints must be thoroughly mixed, strained where necessary, and kept at a uniform composition and consistency during application. Incorporate dry-powder pigments specified to be added at the time of use, into the vehicle or base paint with the aid of powered stirrers, in a manner that will produce a smooth, homogeneous mixture free of lumps and dry particles. Where necessary to suit conditions of the surface temperature, weather, and method of application, the paint may be thinned immediately prior to use. Thinning, induction time and pot life must comply with the manufacturers written instructions (PDS). Bring any paint that has been

stored at a temperature below the manufacturer's application temperature range up to at least 70 degrees F before being mixed and thinned. Its temperature in the spray tank or other working container must not fall below the manufacturer's specified application temperature range during the application. Any paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field-mixing methods must not be used and must be removed from the project site. In order to determine its suitability for application, resample and submit for testing any paint and thinner that is more than 1 year from the date of manufacture or last documented testing. Moisture cure urethane paint must be resampled and resubmitted for testing to determine its suitability for application whenever the paint is more than six months beyond the date of manufacture on the container or more than 6 months beyond the last documented laboratory testing.

3.2.3 Time between Surface Preparation and Painting

Surfaces that have been cleaned and/or otherwise prepared for painting must be primed as soon as practicable after such preparation has been completed but, in any event, prior to any deterioration of the prepared surface.

3.2.4 Method of Paint Application

Unless otherwise specified, paint must be applied by brush, roller, or spray to ferrous and nonferrous metal surfaces. Special attention must be directed toward ensuring adequate coverage of edges, corners, crevices, pits, rivets, bolts, welds, and similar surface irregularities. Other methods of application to metal surfaces are subject to the specific approval of the Contracting Officer. Paint on plaster, concrete, or other nonmetallic surfaces must be applied by brush, roller, and/or spray.

3.2.5 Contacting Surfaces

Bolted connection faying surfaces must be painted with primer and the first vinyl coat before installation of bolted assemblies. Where a nonmetal surface is to be riveted or is a bolted contact with a metal surface, the contacting surfaces of the metal must be cleaned and provided the full vinyl system (three coats). Unless otherwise specified, do not coat corrosion-resisting metal surfaces, such as cladding. Alternatively, slip-critical primer may be applied on both sides of the faying surface of all ferrous bolted connections.

3.2.6 Coverage and Film Thickness

Film thickness or spreading rates must be as specified hereinafter. Where no spreading rate is specified, apply the paint at a rate consistent with the manufacturer's written instructions. In any event, the combined coats of a specified paint system must completely hide base surface and the finish coats must completely hide undercoats of dissimilar color.

3.2.7 Coating Thickness Measurement on Metal

Where dry film thickness requirements are specified for coatings on metal surfaces, make measurements with a gage qualified in accordance with paragraph Coating Thickness Gage Qualification and calibrated and used in accordance with ASTM D7091. Prior to each use, establish the Base Metal Reading (BMR) for the gage as specified in the test method. Verify the accuracy of the gage using plastic shims as specified by the test method

both prior to and following each set of measurements. Perform dry film measurements on all areas of the structure being coated in accordance with SSPC PA 2 with Level 1 thickness restrictions. Perform a sufficient number of thickness measurements to ensure that every area on every member is in compliance with the requirements of this contract. Report all thickness measurements as the mean for each spot determination.

3.2.8 Progress of Painting Work

Where field painting on any type of surface has commenced, complete the entire painting operation on that portion of the work, including priming and finishing coats, as soon as practicable and without prolonged delays. Allow sufficient time between successive coats to permit them to dry properly for recoating, modifying this period as necessary to suit adverse weather conditions. Paint is considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the finger, and the application of another coat of paint does not cause film irregularities such as lifting or loss of adhesion of the undercoat. All coats of all painted surfaces must be unscarred and completely integral at the time of application of succeeding coats. At the time of application of each successive coat, clean undercoats of dust, grease, overspray, or foreign matter by means of air blast, solvent cleaning, or other suitable means. Cement and mortar deposits on painted steel surfaces, not satisfactorily removed by ordinary cleaning methods, must be brush-off blast cleaned and completely repainted as required. If necessary for establishment of good adhesion, scuff sand high gloss undercoats, and, solvent wipe, or otherwise treat prior to application of a succeeding coat. Apply field coats on metal after erection except as otherwise specified and except for surfaces to be painted that will become inaccessible after erection.

3.2.9 Contacting Surfaces

When riveted or ordinary bolted contact is to exist between surfaces of ferrous or other metal parts of substantially similar chemical composition, such surfaces will not be required to be painted, but any resulting crevices must subsequently be filled or sealed with paint. Contacting metal surfaces formed by high-strength bolts in friction-type connections must not be painted. Where a nonmetal surface is to be in riveted or bolted contact with a metal surface, the contacting surfaces of the metal must be cleaned and given three coats of the specified primer. Unless otherwise specified, corrosion-resisting metal surfaces, including cladding therewith, must not be painted.

3.2.10 Drying Time Prior to Immersion

Minimum drying periods after final coat prior to immersion are: epoxy and moisture cure urethane systems at least 5 days, vinyl-type paint systems at least 3 days, and cold-applied coal tar systems at least 7 days. Increase minimum drying periods twofold if the drying temperature is below 65 degrees F and/or if the immersion exposure involves considerable abrasion.

3.2.11 Protection of Painted Surfaces

Where shelter and/or heat are provided for painted surfaces during inclement weather, such protective measures must be maintained until the paint film has dried and discontinuance of the measures is authorized. Items that have been painted must not be handled, worked on, or otherwise

disturbed until the paint coat is fully dry and hard. Store all metalwork coated in the shop or field prior to final erection out of contact with the ground in a manner and location that will minimize the formation of water-holding pockets; soiling, contamination, and deterioration of the paint film. Damaged areas of paint on such metalwork must be cleaned and touched up without delay. Apply the first field coat of paint within a reasonable period of time after the shop coat and in any event before weathering of the shop coat becomes extensive.

3.2.12 Vinyl Paints

3.2.12.1 General

Vinyl paints must be thoroughly mixed and kept at a uniform composition and consistency during application. Any paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field-mixing methods must not be used and must be removed from the project site. In order to determine its suitability for application, resample and submit for testing any paint and thinner that is more than 1 year from the previous documented testing. Each applied coat of vinyl paint must be free from any holidays, pinholes and bubbles. The finished coating must be free of excessive or unsightly brush marks, runs, drops, ridges, waves, laps and variations in color, and texture. Vinyl paints must be spray applied, except that areas inaccessible to spraying must be brushed. Vinyl Paints (Formulas V-102E, V-103C, V-106D, and V-766E) are ready-mixed paints designed to be spray applied over a wide range of ambient temperatures by field thinning with the proper type and amount of thinner. For spray application, they must be thinned as necessary up to approximately 25 percent (1 quart/gallon of base paint) with the appropriate thinner; when ambient and steel temperatures are above normal, up to 40-percent thinning may be necessary for satisfactory application. The zinc-rich vinyl paint (Formula VZ-108D) will normally require thinning only under certain weather conditions. Thinners for vinyl paints must be as follows:

APPROXIMATE AMBIENT AIR TEMPERATURE (Degrees F)	
Below 50	MEK
50 - 70	MIBK
Above 70	MIAK

Vary the amount of thinner to provide a wet spray and avoid deposition of particles that are semidry when they strike the surface. Do not apply vinyl paints when the temperature of the ambient air and receiving surfaces is less than 35 degrees F nor when the receiving surfaces are higher than 125 degrees F. Each double spray coat of vinyl paint must consist of a preliminary stripe coat applied by spray, brush, or combination thereof on edges, corners, interior angles, pits, seams, crevices, junctions of joining members, rivets, weld lines, and similar surface irregularities followed by an overall double spray coat. A double spray coat of vinyl-type paint consists of applying paint to a working area of not less than several hundred square feet (meters) in a single, half-lapped pass, followed after drying to at least a near tack-free condition by another spray pass applied at the same coverage rate and where practicable at right angles to the first. Rivets, bolts, and similar surface projections must receive sprayed paint from every direction to ensure complete coverage of all faces. Pits, cracks, and

crevices must be filled with paint insofar as practicable, but in any event, all pit surfaces must be thoroughly covered and all cracks and crevices must be sealed off against the entrance of moisture. Keep fluid and atomization pressures as low as practicable consistent with good spraying results. Application of more than 2.0 mils, average dry film thickness, of vinyl paint per double spray coat typically indicates semidry application and must be avoided. Except where otherwise indicated, an undercoat of the vinyl-type paint may receive the next coat any time after the undercoat is tack-free and firm to the touch, provided that no speedup or delay in the recoating schedule results in film defects such as sags, runs, air bubbles, air craters, or poor intercoat adhesion. Do not walk on, or otherwise abrade the prime coat or any other coat until it has hardened sufficiently to resist mechanical damage.

3.2.12.2 Vinyl Zinc-Rich Primer

Primer must be field mixed combining components A, B, and C in accordance with label instructions. After mixing, keep the paint covered at all times to avoid contamination and apply the mixed paint within 8 days after mixing. When the ambient and/or steel temperature is below about 80 degrees F, the paint will not normally require thinning; however, the paint must at all times contain sufficient volatiles (thinners) to permit it to be satisfactorily atomized and to provide a wet spray and to avoid deposition of particles that are semidry when they reach the surface. The paint must be stirred continuously during application at a rate that will prevent the zinc dust from settling. When spraying is resumed after any interruption of longer than 15 minutes, the entire length of the material hose must be whipped vigorously until any settled zinc is redispersed. Long periods of permitting the paint to remain stagnant in the hose must be avoided by emptying the hoses whenever the painting operation is to be suspended for more than 1 hour. Keep the material (paint) hoses as short as practicable, preferably not more than 50 feet in length. Equipment used for spraying this zinc primer must not be used for spraying other vinyl-type paints without first being thoroughly cleaned, since many of the other paints will not tolerate zinc contamination. Do not use any type of hot spray. An average dry film thickness of up to 2.5 mils may be applied in one double-spray coat. Unless specifically authorized, any coat of VZ-108 must receive a succeeding coat within 8 days. Ensure that the primed surfaces to receive paint are clean and dry prior to application of successive coats. Water must be used to remove dust. Detergent must be used to remove grease and oil.

3.2.12.3 Repair of Vinyl Coating Defects

Coating defects should be repaired when they are first observed but must be repaired prior to coating acceptance. Runs and sags may be brushed out before becoming dry. Pinholes must be physically closed by scrubbing with a brush wet with ketone solvent before the succeeding coat is applied. Overspray that will not be melted smooth by the succeeding coat must be removed by scrubbing with a brush wet with ketone solvent. Minor overspray in the final coat that results only in a reduced gloss at the outer limits of the spray pattern is not considered a defect and requires no additional attention. Insufficient thickness or incomplete hiding must be corrected with additional paint before the succeeding coat is applied. If any defect extends to the substrate, it must be determined if the substrate is corroding. In the case of pinholes it may be necessary to use magnification to observe the substrate. If the substrate is showing any corrosion, the required surface preparation must be restored by spot blasting, and the entire coating system replaced at that location.

Following the spot blasting the edges of the remaining coating must be scrubbed with ketone solvent to assure all remaining coating is tightly adhering before the new coating is applied. If VZ-108 does not receive the required succeeding coat within the required 8 days, it must be removed by abrasive blasting and replaced. Ensure that the primed surfaces to receive paint are clean and dry prior to application of successive coats. Water must be used to remove dust. Detergent must be used to remove grease and oil.

3.3 PAINT SYSTEMS APPLICATION

The required paint systems and the surfaces to which they are to be applied are shown in this paragraph, and/or in the drawings. Supplementary information follows.

3.3.1 Surface Preparation

The method of surface preparation and pretreatment shown in the tabulation of paint systems is for identification purposes only. Cleaning and pretreatment of surfaces prior to painting must be accomplished in accordance with detailed requirements previously described.

3.3.2 System No. 5-E-Z

Apply paint by spray to an average dry film thickness of a minimum of 7.0 mils for the completed system, with the thickness at any spot of not be less than 5.5 mils. The dry film thickness of the zinc-rich primer must be approximately 2.5 mils with no spot less than 2.0 mils. The specified film thickness must be attained in any event, and any extra coats needed to attain the specified thickness must be applied at no additional cost to the Government. Attaining the specified film thickness by applying fewer than the prescribed number of coats or spray passes will be acceptable provided heavier applications do not cause pinholes, bubbles, blisters, or voids in the dried film. The application of more than 2.0 mils (dry film thickness) per double spray coat nor more than 1.0 mil per single spray pass of nonzinc paint typically indicates the paint is not being applied wet enough to properly flow out and must be avoided.

3.3.3 Protection of Nonpainted Items and Cleanup

Maintain walls, equipment, fixtures and all other items in the vicinity of the surfaces being painted free from damage by paint or painting activities. Promptly repair any paint spillage and painting activity damage.

3.4 INSPECTION

Surface preparation and painting inspections must be conducted by an inspector certified as meeting one of the following designations: SSPC-PCI Level 2, NACE-CIP Level 2. The inspector will inspect and document all work phases and operations on a daily basis and submit daily Inspection Reports. As a minimum the daily report must contain the following:

a. Inspections performed, including the area of the structure involved and the results of the inspection.

b. Surface preparation operations performed, including the area of the

structure involved, the mode of preparation, the kinds of solvent, abrasive, or power tools employed, and whether contract requirements were met.

c. Thinning operations performed, including thinners used, batch numbers, and thinner/paint volume ratios.

d. Application operations performed, including the area of the structure involved, mode of application employed, ambient temperature, substrate temperature, dew point, relative humidity, type of paint with batch numbers, elapsed time between surface preparation and application, elapsed time for recoat, condition of underlying coat, number of coats applied, and if specified, measured dry film thickness or spreading rate of each new coating.

3.5 PAINTING SCHEDULES

SYSTEM NO. 5-E-Z				
Items or surfaces to be coated:		All non-stainless ferrous steel components of the structure. Finger shims are to have 1st coat (primer) only.		
SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
White metal blast cleaning	Vinyl zinc-rich VZ-108D (double spray coat)	Gray Vinyl V-766E (double spray coat)	White Vinyl V-766E (double spray coat)	Gray Vinyl V-766E (double spray coat)

SYSTEM NO. 5-E-Z				
Items or surfaces to be coated:		Galvanized fasteners		
SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
None	SSPC Paint 27	Gray Vinyl V-766E (double spray coat)	White Vinyl V-766E (double spray coat)	Gray Vinyl V-766E (double spray coat)

PRIMER FOR SLIP CRITICAL JOINTS				
Items or surfaces to be coated:		All faying surfaces of slip critical joints.		
SURFACE PREPARATION	1st COAT			
White metal blast cleaning	Class B primer			

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DIVISION 35 - WATERWAY AND MARINE CONSTRUCTION

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SECTION 35 05 40

SELF-LUBRICATED MATERIALS, FABRICATION, HANDLING, AND ASSEMBLY

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM B271/B271M	(2023) Standard Specification for Copper-Base Alloy Centrifugal Castings
ASTM D570	(2022) Standard Test Method for Water Absorption of Plastics
ASTM F593	(2024) Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

U.S. ARMY CORPS OF ENGINEERS (USACE)

CERL TR 99/104	(1999) Greaseless Bushings for Hydropower Applications: Program, Testing, and Results

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Assembly and Installation Plan; G ECDG

SD-02 Shop Drawings

Shop Drawings; G

SD-03 Product Data

Self-Lubricated Material Product Data; G ECDG

Grease Product Data

SD-07 Certificates

Manufacturer's Experience Record; G ECDG

Self-Lubricated Material Manufacturer's Warranty

FCB Material Certifications; G ECDG

SD-09 Manufacturer's Field Reports

Post-Assembly QC Report

SD-10 Operation and Maintenance Data

Operation and Maintenance Manuals; G ECDG

1.3 MANUFACTURER'S QUALIFICATIONS

Self-lubricated material manufacturer must have a minimum of 5 years experience in manufacturing self-lubricated materials. Submit a Manufacturer's Experience Record which details the number of years the manufacturer has been fabricating self-lubricated materials and a description of at least five previous, separate, similar installations within the last 5 years.

1.4 HANDLING

Handle self-lubricated components in a manner that does not damage or deform the self-lubricated material. Handle components that are the mating running surfaces of self-lubricated materials in a manner that does not damage or scratch the surface finish of the running surfaces. Do not allow self-lubricated components or their mating running surfaces to come into contact with chains, shackles, hooks, wire ropes, or other rigging that can damage them. Perform lifting, maneuvering, and securing of self-lubricated components and their mating running surfaces with fabric straps or other non-marring rigging. Replace self-lubricated components and components that are the mating running surfaces of self-lubricated components, at no cost to the Government, if they are scratched, nicked, chipped, marred, or otherwise damaged prior to the Government taking possession of the component.

1.5 SHIPPING AND TRANSPORT

Package self-lubricated components and components that are the mating running surfaces of self-lubricated components in a manner that protects them from damage during shipping and transport. Package self-lubricated components in crates or protective boxes with adequate padding prior to shipping or transport. If self-lubricated components are installed in a larger assembly that does not fit within a crate secure protective coverings over the self-lubricated components prior to shipping and transport.

1.6 SHOP DRAWINGS

Prepare and submit Shop Drawings for the self-lubricated components covered under this specification. Within the shop drawings show the complete fabrication dimensions and tolerances, installed dimensions and tolerances, component details, and material types of the self-lubricated components. If the contract drawings only show a fit class or require the self-lubricated material manufacturer to determine the fit then detail the specific dimensions and tolerances of the fit in the shop drawings and

indicate they are for Government approval. Show the same unit system on the shop drawings that was used in the contract drawings.

1.7 WARRANTY

Guarantee self-lubricated components for a period of 2 years from the date of acceptance. Guarantee replacement parts for 2 years from date of replacement. Provide warranty against defective materials, design, and workmanship. In cases where the equipment manufacturer's advertised minimum guarantee is in excess of 2 years, it remains in force for its full period. Upon receipt of notice from the Government of failure of a self-lubricated components during the warranty period, provide new replacement self-lubricated components promptly at no additional cost to the Government. Submit the Self-Lubricated Material Manufacturer's Warranty.

1.8 SELF-LUBRICATED COMPONENTS

Self-lubricated components covered under this specification are listed below or shown on the contract drawings. In addition, self-lubricated components that the Government has designated as a Failure Critical Bearing (FCB) are listed below or shown on the contract drawings. FCB requirements are outlined in sections below. Self-lubricated components that are not designated as FCB must meet the general self-lubricated material requirements detailed in section 2.1 below. Provide the following self-lubricated components:

TABLE 1:

Self-Lubricated Component Name	Quantity Required	Failure Critical Bearing (FCB)
Trunnion Bushing	2	Yes

PART 2 PRODUCTS

2.1 GENERAL SELF-LUBRICATED MATERIAL REQUIREMENTS

Submit Self-Lubricated Material Product Data showing the materials selected for use are in compliance with the requirements of this specification. Self-lubricated materials must:

a. Be approved by the material manufacturer for use in environments exposed to all weather conditions.

b. Have an operating temperature range of-30 to 200 degrees F.

c. Be approved by the material manufacturer for a dynamic bearing pressure of at least 10,000 psi.

d. Have a water absorption of less than 0.2 percent increase in weight for long term immersion as tested in accordance with ASTM D570.

e. Be continuous and without measurable gaps for the full self-lubricated material surface that contacts the mating running surface.

2.1.1 Polymer Coating Self-Lubricated Materials

In addition to the general self-lubricated material requirements in section 2.1 above polymer coated self-lubricated materials must:

a. Have a minimum of0.020 inches self-lubricated coating thickness after final machining.

b. Have a minimum compressive strength at failure of at least 20,000 psi as tested by the material manufacturer.

c. Have a coating backer material fabricated from copper alloy in accordance with ASTM B271/B271M UNS C95400.

d. Have an mechanical bond strength developed between the self-lubricated coating and backer material as the primary method of securing the self-lubricated coating. Mechanical fasteners, keys, or other keepers are not acceptable to retain the self-lubricated coating or transfer load between the coating and backer.

2.2 FAILURE CRITICAL BEARINGS (FCB)

Failure critical bearings are bearing or bushing applications where failure could potentially result in damage to critical systems or, applications where repair or replacement of a failed bearing or bushing would result in a loss of service or operation of a critical system. The designation FCB means failure critical bearing. FCB's are determined by the Government and are identified on the Contract drawings or in the Contract specifications.

2.2.1 FCB Material Qualifications

The following is required for a material to be considered acceptable for FCB applications:

a. The material must have been tested by the procedure defined in CERL TR 99/104.

b. The material must receive a performance score of 350 or above for both wet and dry testing as evaluated by the USACE Hydro Electric Design Center (HDC) in Portland, Oregon, using the bearing rating system in CERL TR 99/104 Appendix F.

c. The material manufacturer must sign a release agreement allowing public distribution of the material's test results.

2.2.2 Approved FCB Materials

The following list of materials meet FCB requirements:

TABLE 2:

FCB Material Name	Manufacturer	General Material Construction
Lubron HX	Lubron Bearing Systems	Polymer Coating - Bronze Backed

Karon V - bronze backed	Kamatics Corporation	Polymer Coating - Bronze Backed
Karon V - composite backed	Kamatics Corporation	Polymer Coating - Composite Backed

Submit FCB Material Certifications from the material manufacturer stating that the chemical formulations, manufacturing processes and overall structure of the materials supplied are identical to those of the bearings that meet the approved FCB materials above.

2.3 VERIFICATION OF FABRICATION DETAILS

Verify that the fabrication and installation details shown meet the self-lubricated material manufacturer's recommendations. Specifically, verify that:

a. Surface finish and hardness requirements shown for self-lubricated material mating running surfaces are in compliance with the self-lubricated material manufacturer's recommendations.

b. Self-lubricated material clearance fits, interference fits, and tolerances shown comply with the self-lubricated material manufacturer's recommendations.

If these fabrication and installation details are outside of the self-lubricated material manufacturer's recommendations notify the Government by submitting a Request for Information.

2.4 Grease Back-up

Supply grease grooves and ports as a back-up to the self-lubricating material. Sizes are as shown on the drawings. Provide grease product data for a lubricant that is suitable for use with the self-lubricating material. Grease groove on the trunnion pins and trunnion yoke capped with a 3/8" NPTF plug made of ASTM F593 S31600. Use anti-sieze coating to prevent galling of threads for ease of future removal.

PART 3 EXECUTION

3.1 FABRICATION

Fabricate self-lubricated components and their mating running surfaces to the materials, dimensions, tolerances, and qualities shown. Fabricate self-lubricated components in accordance with the self-lubricated material manufacturer's recommendations.

3.2 TEST FITTING

Test the fit of self-lubricated components with their mating surfaces in the presence of the Contracting Officer Representative prior to transporting components on site.

3.3 INTERFERENCE FITTING OF SELF-LUBRICATED MATERIALS

3.3.1 Preparation of Interference Fit Surfaces

Prior to interference fitting:

a. Remove coatings such as paint, galvanizing, and anodizing from the interference fit surfaces of the bushing/bearing housing.

b. Clean the interference fit surfaces of the bushing/bearing and housing of oil, grease, cutting fluids, or other substances.

c. Prepare the interference fit surfaces of the bushing/bearing in accordance with the self-lubricated material manufacturer's recommendations.

3.3.2 Press-Fitting

Press fit self-lubricated components in accordance with the material manufacturer's recommendations. Do not use hammer blows or other impact type loading to press fit self-lubricated components. Use a method to press fit self-lubricated components that provides a smooth and constant force such as a hydraulic or other style of press. Protect components from damage during the press fitting process.

3.3.3 Shrink-Fitting

Perform shrink fitting by lowering the temperature of the inner component to a point where the outside diameter shrinks adequately to avoid interference with the outside part. Use a method to lower the temperature of self-lubricated materials that is approved by the self-lubricated material manufacturer and submitted with the Assembly and Installation Plan. Ensure shrink-fit components are fully seated and prevented from moving prior to allowing the parts to return to ambient temperature.

3.4 MECHANICAL FASTENING OF SELF-LUBRICATED COMPONENTS

Install self-lubricated components in accordance with the approved Assembly and Installation Plan. Use 300 series stainless steel fasteners to install self-lubricated components unless otherwise noted. Install fasteners with a thread locker and to a torque value that does not damage or distort the self-lubricated materials. Determine the self-lubricated material manufacturer's maximum allowable amount of wear for the self-lubricated component. Install fasteners so that no part of the fastener extends beyond the fully worn running surface of the self-lubricated material.

3.5 BONDING INSTALLATION

Installing self-lubricated materials with a bonding adhesive is not permitted.

3.6 INSTALLATION PLAN

Submit an Assembly and Installation Plan showing the proposed method to assemble and install the self-lubricated components. Include pre-assembly fabrication dimensions, a description of the interference fitting procedure, mechanical fastening procedure including installation torques, post-assembly dimensions, installation procedure, method to measure and confirm the alignment requirements. Government approval of the plan does not relieve the requirement to provide a successful installation.

3.7 VERIFYING DIMENSIONS AFTER INSTALLATION

After shop assembly, measure self-lubricated components to verify contract required dimensions and alignment requirements are met. If assembly dimensions are not met, machine or hone the self-lubricated materials to achieve the required dimensions. Perform machining and honing of self-lubricated components in accordance with the self-lubricated material manufacturer's recommendations. Some self-lubricated materials are fabricated with a layer of premium grade material applied only at the running surface of the part. Provide enough premium grade material at running surfaces to allow for post-assembly machining. After completing the installation photograph the bearing/bushing showing the installed condition. Submit a Post-Assembly QC Report detailing the measured dimensions and alignment tolerances after assembly and showing compliance with the approved Assembly and Installation Plan. Include color photographs of the bearing/bushing showing the installed condition.

3.8 ASSEMBLY OF MATING COMPONENTS

3.8.1 Cleaning

Prior to final installation, clean self-lubricated materials and their running surfaces of oil, dirt, and debris using a method recommended by the self-lubricated material manufacturer.

3.8.2 Final Installation

Do not force components together in a manner that causes binding of the running surfaces of the components. Do not use lubricants to assemble self-lubricated components unless otherwise specified.

3.9 OPERATION AND MAINTENANCE MANUALS

In addition to the requirements of Section 01 78 00 CLOSEOUT SUBMITTALS, provide PDF format copies of the following information in the Operation and Maintenance Manuals. All information must be the most current and approved copy, reflecting any changes made during the construction process:

a. Shop Drawings.

b. Self-Lubricated Material Product Data.

c. Self-Lubricated Material Manufacturer's Warranty.

d. FCB Material Certifications.

e. Post-Assembly QC Report

f. Photographs showing the installed self-lubricated components

g. Guidance for when self-lubricated components need to be replaced

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TAINTER GATE

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 325	(2017) Steel Construction Manual
AISC 326	(2009) Detailing for Steel Construction
AISC 360	(2016) Specification for Structural Steel Buildings

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/AISC 303	(2022) Standard Practice for Structural Steel Buildings and Bridges

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B4.1	(1967; R 1994; R 2004; R 2009; R 2020) Preferred Limits and Fits for Cylindrical Parts
ASME B46.1	(2020) Surface Texture, Surface Roughness, Waviness and Lay
ASME BPVC SEC VIII D2	(2017) BPVC Section VIII-Rules for Construction of Pressure Vessels Division 2-Alternative Rules

AMERICAN WELDING SOCIETY (AWS)

AWS A2.4	(2012) Standard Symbols for Welding, Brazing and Nondestructive Examination
AWS A3.0M/A3.0	(2025) Standard Welding Terms and Definitions
AWS D1.1/D1.1M	(2020; Errata 1 2021) Structural Welding Code - Steel
AWS D1.5M/D1.5	(2020; Errata 1 2022) Bridge Welding Code

ASTM INTERNATIONAL (ASTM)

ASTM A6/A6M	(2024b) Standard Specification for General Requirements for Rolled Structural Steel

	Bars, Plates, Shapes, and Sheet Piling
ASTM A36/A36M	(2019) Standard Specification for Carbon Structural Steel
ASTM A275/A275M	(2023) Standard Practice for Magnetic Particle Examination of Steel Forgings
ASTM A307	(2021) Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
ASTM A388/A388M	(2016) Standard Practice for Ultrasonic Examination of Steel Forgings
ASTM A435/A435M	(2023) Standard Specification for Straight-Beam Ultrasonic Examination of Steel Plates
ASTM A563/A563M	(2024) Standard Specification for Carbon and Alloy Steel Nuts (Inch and Metric)
ASTM A572/A572M	(2021; E 2021) Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A668/A668M	(2023) Standard Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use
ASTM A705/A705M	(2023) Standard Specification for Age-Hardening Stainless Steel Forgings
ASTM A709/A709M	(2024) Standard Specification for Structural Steel for Bridges
ASTM A788/A788M-24	(2024) Standard Specification for Steel Forgings, General Requirements
ASTM A829/A829M	(2014) Standard Specification for Alloy Structural Steel Plates
ASTM A992/A992M	(2020) Standard Specification for Structural Steel Shapes
ASTM B695	(2021) Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
ASTM D256	(2010; R 2018) Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D395	(2016; E 2017) Standard Test Methods for Rubber Property - Compression Set
ASTM D412	(2016) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension

ASTM D471	(2016a) Standard Test Method for Rubber Property - Effect of Liquids
ASTM D570	(2022) Standard Test Method for Water Absorption of Plastics
ASTM D572	(2004; R 2019) Rubber Deterioration by Heat and Oxygen
ASTM D695	(2010) Standard Test Method for Compressive Properties of Rigid Plastics
ASTM D792	(2013) Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D2240	(2015; E 2017) Standard Test Method for Rubber Property - Durometer Hardness
ASTM D4020	(2011) Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials
ASTM F436/F436M	(2019) Standard Specification for Hardened Steel Washers Inch and Metric Dimensions
ASTM F3125/F3125M	(2019) Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength
ASTM F3148	(2024) Standard Specification for High Strength Structural Bolt Assemblies, Steel and Alloy Steel, Heat Treated, 144ksi Minimum Tensile Strength, Inch Dimensions

RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)

RCSC A348	(2020) RCSC Specification for Structural Joints Using High-strength Bolts

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FHWA HIF-23-003	(2023) Manual for Heat Straightening, Heat Curving and Cold Bending of Bridge Components

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals (Prefabrication Submittals)

Work Plan; G ECDS

Fabrication Log Template; G ECDS

SD-02 Shop Drawings

Shop Drawings; G ECDS

Assembly Drawings; G ECDS

Delivery Drawings; G ECDS

Installation Plan; G ECDS

SD-03 Product Data

Rubber Seals; G ECDS

Materials Disposition Record; G ECDS

UHMW-PE; G ECDS

SD-06 Test Reports

Manufacturer Certified RoCap Test Reports; G ECDS

Steel Fabrication Log; G ECDS

Certified Test Reports; G ECDS

Witness Points; G ECDS

SD-07 Certificates

Calibrator; G ECDS

Repair Of Mislocated Or Misdrilled Holes; G ECDS

Qualification Of Structural Steel Fabricator; G ECDS

Qualification Of Structural Steel Erector; G ECDS

SD-09 Manufacturer's Field Reports

Control Dimensions; G ECDS

1.3 SYSTEM DESCRIPTION

This specification covers fabrication of Tainter gates and all of its constituent materials, processes, and requirements.

a. Material with welds will not be accepted unless the welding is specified or indicated on the drawings or otherwise approved. Do not begin welding until welding procedures, inspectors, nondestructive testing personnel, welders, welding operators, and tackers have been qualified and approved. Each Contractor performing welding must maintain records of the test results obtained in welding procedure,

and welder, welding operator, and tacker performance qualifications.

b. As it is used in these specifications, "The Engineer" refers to the District engineer of record. The AWS D1.5M/D1.5 definition of "The Engineer" as specified in AWS D1.5M/D1.5 Application Clause refers to the District engineer of record in lieu of the state bridge engineer as specified in the Application Clause of AWS D1.5M/D1.5.

c. Schedule a Prefabrication Conference as soon as possible after Notice to Proceed and prior to any fabrication. Include the Prime Contractor, Fabricator, the Fabricator's primary QC representative, the Contracting Officer, and the Engineer of Record for the structure or structures being fabricated in the Prefabrication Conference, at a minimum. Hold the Prefabrication Conference at either the Fabrication Facilities or a similar location as deemed appropriate.

1.3.1 Work Plan

Submit a Work Plan for fabrication and assembly, including descriptions of shop facilities, equipment, number of personnel, and related information prior to the Prefabrication Conference to be used as discussion points, and procedures for safe conduct of the work. Include a description of the equipment used to calibrate, tension, and measure bolt pretension, bolt group tensioning sequences, method of match-marking, and tracking of pretensioed and retensioned bolts, and quality control measures to ensure that bolts are pretensioned and retensioned in accordance with RCSC A348. Include a description of the welding and testing process, sequencing, and quality control measures to limit distortion to welded members. Address process to meet control dimension requirements and recommended measuring system. Include in the procedures a detailed description of the methods and equipment to be used for each operation, including initial fit-up assembly, final assembly, and shipment.

1.3.2 Shop Drawings

Prior to performing any fabrication, submit complete detail shop drawings for approval. Prepare all detail drawings in accordance with ANSI/AISC 303, AISC 326, AISC 360, AISC 325, AWS A2.4, and AWS A3.0M/A3.0. The Contract Drawings were developed and are intended to be used as the detailed fabrication shop drawings. Return elements of fabricated items inadvertently omitted on contract drawings to the Engineer of Record for detailing unless they are to be detailed by the fabricator and so indicated on the shop drawings. Any items designed by the Contractor must be prepared and sealed by a Registered Professional Engineer. Cloud any and all details developed by the fabricator for approval by the Engineer of Record. Use a color other than red for markups. Cloud any and all splices in the drawings for approval by the Engineer of Record. Make all splices with complete joint pentration groove welds, unless requested in writing and approved by the Engineer of Record. Space proposed splice locations a minimum 12 inches apart on adjacent members. Limit splice locations to outside the middle third of flexural members. Show complete details of materials, tolerances, connections, and proposed welding sequences on the shop drawings. Include catalog cuts, templates, fabrication and assembly details, and type, grade, and class of materials, as appropriate in the shop drawings. Identify each member following the numbering scheme shown on the drawings. Provide a table containing a list of all members and a reference to each material certificate and test report that applies to that member. Identify weld procedures and NDE required for each weld on shop drawings. Provide a unique identifier to

permit tracking on the weld tracking log for each weld, both shop and field welds.

1.3.3 Assembly Drawings

Provide drawings and detailed descriptions of the fabrication sequence and assembly for connecting all components and subassemblies in the shop to assure satisfactory field installation. Include details describing fit-up, welding and bolting sequences of individual components and the completed assembly, and required hold points necessary for weld inspection in accordance with the Quality Control Plan or Fracture Control Plan. Show location and type of each field connection including anchor bolts and setting plans, as applicable. Include dimensions for alignment and elevations of each memeber The Assembly Drawings should be congruent with the distortion control plan and consider shrinkage, residual stresses, and final tolerances. Any completed work not within specified tolerances may be subject to rejection by the Contracting Officer and required to be redone at no additional cost to the Government.

1.3.4 Installation Plan

Provide a written plan with detailed drawings of the installation sequence of the structure. Include in the plan a step-by-step process that clearly identifies clearances of the structure to the surrounding components. Include in the plans the location of lifting with anticipated angle of structure considering the designed center of gravity. Consider all field conditions that affect the details and tolerances of the structure. Include dimensions for alignment and elevations of each member, location of members and attachments by match-marking of piece numbers, type and location of each field connection, detail of field connection, and anchor bolt and setting plans, as required.

1.3.5 Steel Fabrication Log

Submit the Steel Fabrication Log upon full completion and acceptance of each structure in electronic format: one PDF file per structure with PDF bookmarks for each section, as described below. Develop and continually update the Fabrication Log throughout the fabrication process and have available for Government review, upon request.

Generally, the Fabrication Log is an assembly of previously approved submittals for each individual structure. Assemble records of all aspects of the fabrication process for each Tainter gate and compile in such a manner as to identify and trace material items and processes used in the fabrication of that structure. The log must be capable of individually identifying and tracking every primary member, weld, and bolted connection on the project. Primary Member List: girder webs and flanges, end frame struts and bracing members, and the trunnion yoke assembly. Primary members must be identifiable and traceable from the mill through fabrication. Material orders and certifications must be cross-referenced with the corresponding shop drawings piece identification(s) as provided in ATTACHMENT A - Material Orders and Certifications Table of Contents. Material orders and certifications that apply to multiple structures must be duplicated to each structure's fabrication log.

Submit a Fabrication Log Template for approval prior to commencing fabrication. At a minimum, the log must include:

a. Work Plan (reference approved submittal identification number)

b. Welding Procedure Specifications
c. Welding Inspector Qualifications and Certifications (reference approved submittal identification number)
d. Weld Tracking Log
e. Bolt Tracking Log
f. Conditional Repair Plans
g. Nonconformance Reports
h. Paint Quality Control Logs
i. Material Orders and Certifications
j. Shop Drawings (reference approved submittal identification number)
k. As-Fabricated Drawings
l. Assembly Drawings
m. Control Dimensions
n. Installation Plan

1.4 QUALITY CONTROL

Establish and maintain quality control for all operations to assure compliance with Contract requirements. The quality control system must consist of plans, procedures, and organization necessary to produce an end product which complies with the requirements of this contract. The system must cover all design, fabrication, and delivery operations in accordance with 01 45 04 CONTRACTOR QUALITY CONTROL. Submit records of quality control test and corrective action taken, if any, within 24 hours for all operations including, but not limited to, the following: non-destructive weld testing, misplaced bolt bolts, tensioning of bolts, painting, preparation for storage and/or shipping.

1.4.1 Qualification of Welders and Welding Operators

Provide qualification of welders and welding operators conforming to the requirements of Section 05 05 23 WELDING.

1.4.2 Inspector Qualifications

Provide qualification of inspectors conforming to the requirements of Section 05 05 23 WELDING.

1.4.3 Qualification of Structural Steel Fabricator

The fabricating plant and fabricator must be certified under the AISC (American Institute of Steel Construction) Quality Certification Program, and must be designated an AISC Certified Bridge Facbricator (CBR) in one of the following categories at the time of bid and for the duration of the project:

a. IBR: Certified Bridge Fabricator - Intermediate

b. ABR: Certified Bridge Fabricator - Advanced

c. HYD: Certified Hydraulic Fabricator

d. HYDA: Certified Hydraulic Fabricator - Advanced

The fabricator or fabrication plant must possess three (3) years documented experience on projects of similar scope. Similar scope means projects of similar size and similar amounts of welding and detail types. Submit copies of the AISC certificate indicating that the fabrication plant meets the specified structural steelwork category and documented

experience. The bushings, pins, chain hoist slings, rubber seals, position indicator assembly, and other miscellaneous components as approved in writing are excluded from the AISC fabricator certification requirements.

1.5 QUALITY ASSURANCE

Establish Witness Points for the Initial QA Inspection, Intermediate QA Inspections, and Final Inspection as follows and submit a record of all witness points.

a. Start the Initial QA Inspection after the Government has determined that there is substantial completion of components that comprise a reasonable sampling of each significant FCM and non-FCM details. Determine the extent of completion and details and the date of the Initial QA Inspection by the Government at the Prefabrication Conference after discussion with the Contractor. At that time, produce a detailed schedule showing the progression of work and completion of components. This schedule will be updated weekly and provided by e-mail to the Contracting Officer. Give the Contracting Officer two weeks notice prior to the predetermined date for the Initial QA Inspection, including adjustments for changes in schedule.

b. Intermediate QA Inspections will be conducted on an as needed basis and at the discretion of the Government. Provide unpainted components for each QA NDT and Visual Inspection. At these stages of construction, give the Contracting Officer three working days to inspect the structure. Do not begin the QA Inspection period until a minimum period of 72 hours after any welding. After the Contracting Officer and the Engineer of Record has inspected the structure, make any changes required to the structure as directed by the Contracting Officer before proceeding with any additional welding. Proceed with the construction until the next witness point is reached, unless it is waived in writing by the Contracting Officer.

c. Each structure fabricated is subject to a Final Fabrication Inspection prior to painting. Conduct a Final Fabrication Inspection after the first structure is completed. Schedule and coordinate with the Contracting Officer and the Engineer of Record final fabrication inspections of additional structures. Give the Contracting Officer a minimum notice of two weeks prior to the Final Fabrication Inspection.

1.5.1 Quality Assurance Testing By The Government

Material component parts may be subjected to any form of nondestructive testing, as requested and directed by the Contracting Officer. This may include ultrasonic, magnetic particle, dye penetrant, radiography, or any other test that will thoroughly investigate the part in question. The cost of such investigation will be borne by the Government. Defects resulting from testing by the Government will be cause for rejection. Rejected materials or parts must be repaired in a manner approved by the Government or replaced. Repair or replace and retest all defects that are cause for rejection at no additional cost to the Government.

1.6 DELIVERY, STORAGE, AND HANDLING

Perform delivery, handling, and storage of materials and fabricated items in accordance with the requirements specified in. Arrange each structure

on the delivery vehicles such that no damage occurs during shipping. Direct all sling lifting lugs up. Protect structural steel members and packaged materials from corrosion and deterioration. Store material in a dry area. Store support materials outdoors, above ground, and on wood runners. Protect components and structures with effective and durable covers or in a manner that allows continual draining of surfaces to prevent pooling water. Deliver in accordance with 01 11 00 SUMMARY OF WORK.

1.6.1 Rubber Seals

Store rubber seals in a place which permits free circulation of air, maintains a temperature of 70 degrees F or less, and prevents the rubber from being exposed to the direct rays of the sun. Keep rubber seals free of oils, grease, and other materials which would deteriorate the rubber. Do not distort rubber seals during handling.

1.6.2 Delivery Drawings

Provide delivery drawings detailing methods of delivering the assembled structure to the site, including details for supporting components during shipping to prevent distortion or other damages.

PART 2 PRODUCTS

2.1 MATERIALS

Provide a system of identification which shows the disposition of specific lots of approved materials and fabricated items in the work, before completion of the contract. Provide materials orders, materials lists, and materials shipping bills conforming with the requirements herein.

2.1.1 Materials Disposition Record

Submit certified test reports for material tests with all materials delivered to the site. Submit all purchase and mill orders, shop orders for materials and work orders, including all new orders placed by Contractors and old orders extended for each supplier. The certified manufacturer's mill reports are to clearly show the applicable ASTM mechanical and chemical requirements together with the actual test results for the supplied fasteners. Furnish, at the time of submittal of shop drawings, a list designating the material to be used for each item. Purchase orders must contain the test site address and the name of the testing agency. Furnish a shipping bill or memorandum of each shipment of finished pieces or members to the project site, giving the designation mark and weight of each piece, the number of pieces, the total weight. Submit material records before the beginning of fabrication. Additional requirements for this submittal are listed below.

2.1.2 Bolts, Nuts, and Washers

2.1.2.1 Structural Bolts, Nuts, and Washers

Provide bolts with the finished shank sufficiently long to be in full bearing with the threads excluded from the shear plane, unless specifically stated otherwise. Provide all bolt assemblies with mechanically deposited zinc coating in accordance to ASTM B695, Class 55.

a. Provide structural steel bolts in accordance with ASTM F3125/F3125M, Grade A325, Type 1, heavy hex (Group 120), or ASTM F3148, Type 1

(Group 144), as specified.

b. Provide nuts in accordance with ASTM A563/A563M, Grade DH.

c. Provide washers in accordance with ASTM F436/F436M, plate hardened, Grade DH. Use beveled washers where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis. The use of washer-type indicating devices is prohibited.

2.1.2.2 Non-Structural Bolts, Nuts, and Washers

a. Provide fully threaded carbon bolts in accordance with ASTM A307. Provide nuts in accordance with ASTM A563/A563M, Grade DH. Provide washers in accordance with ASTM F436/F436M, plate hardened, Grade DH. Use beveled washers where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis.

2.1.3 Structural Steel Plate

Provide steel, toughness tests, and markings in accordance with ASTM A709/A709M, Grade 50. Where ASTM A709/A709M is specified, other material is not acceptable as a substitute.

Where ASTM A709/A709M Grade 50 is not available for selected rolled shapes, it is acceptable to build up the required section using ASTM A709/A709M Grade 50 plate of similar thickness using complete-joint-penetration welds. Test in accordance with paragraph "Welds Subject to Nondestructive Examination." Permanent stiffeners may be used to control distortion and must be clouded on the shop drawings for approval.

Provide steel plate in accordance with ASTM A829/A829M, where specified. Provide a yield strength of approximately 50 ksi, a chemical composition contains less than 0.26 percent carbon, elongation of minimum 20 percent for 2 inches in accordance with ASTM A6/A6M, and Charpy Impact Tests resulting in a minimum average engergy of 30 foot-pounds at 40 degrees Fahrenheit. Submit in writing for approval prior to purchasing.

2.1.4 Miscellaneous Steel Plate

Provide ASTM A572/A572M Grade 50 or ASTM A36/A36M for appurtenance components, as specified.

2.1.5 Structural Steel Shapes

Provide ASTM A992/A992M Grade 50 for all wide flange and WT shapes. Provide ASTM A572/A572M Grade 50 for all angles or channels.

2.1.6 Structural Steel Forgings

Provide ASTM A668/A668M Class G forging, carbon content not exceeding 0.35 percent and chemical composition which results in satisfactory weldability, meeting ASTM A788/A788M-24 supplemental toughness requirements S13 - Charpy Impact Tests with a minimum average engergy of 30 foot-pounds at 40 degrees Fahrenheit. Each forging must bear stamped mark numbers in accordance with ASTM A668/A668M. Provide a rough forging sketch and a Forging Plan, in accordance with ASTM A668/A668M, in the Shop Drawing submittal.

2.1.7 Trunnion Bushing

Provide in accordance with 35 05 40 SELF-LUBRICATED MATERIALS, FABRICATION, HANDLING, AND ASSEMBLY. The surface finish is as recommended by the bushing manufacturer, but no greater than 32 micro-inches.

2.1.8 Trunnion Pins

Provide trunion pins fabricated in accordance with ASTM A705/A705M Type 630 Condition H1150. The surface finish is as recommended by the bushing manufacturer, but no greater than 32 micro-inches. Provide a 2 inch diameter through hole along the length of the pin for future maintenance removal. Provide grease lines from the head of the pin with pipe plugs.

2.1.9 Grease Allowance

Provide grease allowance in accordance with 35 05 40 SELF-LUBRICATED MATERIALS, FABRICATION, HANDLING, AND ASSEMBLY.

2.1.10 UHMW-PE

Provide ultra-high molecular weight polyethylene (UHMW-PE), yellow in color. Manufacture with a maximum of 50 percent regenerated material, compression molded, stress relieved, and including an ultraviolet stabilizer.

2.1.10.1 Physical Characteristics

Submit the UHMW-PE product data. Ensure UHMW-PE components exhibit physical characteristics that meet the following requirements:

PHYSICAL TEST	TEST VALUE	TEST METHOD SPECIFICATION
Molecular Weight	3,000,000 to 5,000,000 g/mol	ASTM D4020
Static Coefficient of Friction to Steel (Dry)	Less than 0.18	
Specific Gravity	Greater than 0.92	ASTM D792
Water Absorption	None present under long-term immersion	ASTM D570
Izod Impact	Jacking block to exhibit a non-breaking condition	ASTM D256
Compressive Strength	4,000 psi minimum	ASTM D695
Hardness	65 to 70	ASTM D2240

2.1.11 Rubber Seals

Provide rubber seals of the mold type only, compounded of natural rubber, synthetic polyisoprene, or a blend of both, and contain reinforcing carbon black, zinc oxide, accelerators, antioxidants, vulcanizing agents, and plasticizers. Cut to length specified in the Drawings when the material is at a temperature between 40 and 70 degrees Fahrenheit. Match-drill bolt holes in the rubber seals with the seal support and clamping bars, as applicable, to ensure proper fit and spacing between holes of the

completed seal assembly. Ensure sealing surface is flush, straight, and free from offsets, warps, twists or other distortions.

2.1.11.1 Physical Characteristics

Submit the rubber seal product data. Ensure seals exhibit physical characteristics that meet the following requirements:

PHYSICAL TEST	TEST VALUE	TEST METHOD SPECIFICATION
Tensile Strength	2500 psi (min.)	ASTM D412
Elongation at Break	450 percent (min.)	ASTM D412
300 percent Modulus	900 psi (min.)	ASTM D412
Durometer Hardness (Shore Type A)	60 to 70	ASTM D2240
*Water Absorption	5 percent by weight (max.)	ASTM D471
Compression Set	30 percent (max.)	ASTM D395
Tensile Strength (after aging 48 hrs)	80 percent tensile strength (min.)	ASTM D572

Provide rubber seals from a manufacturer that has performed the "Water Absorption" test. Use distilled water and blot the washed specimen dry with filter paper or other absorbent material and suspended by means of small glass rods in the oven at a temperature of 70 degrees C plus or minus 2 degrees for 22 plus or minus 1/4 hour. Remove the specimen and allow to air cool to room temperature, and weigh the specimen. Record the weight the nearest 1 mg as M subscript 1 (M subscript 1 is defined in ASTM D471). Ensure the immersion temperature is 70 degrees C plus or minus 1 degree and the immersion duration is at least 166 hours.

2.2 FABRICATION

Provide Tainter gate(s) of welded fabrication, rolled members, and bolted connections as shown. Dimensional tolerances are as specified in the drawings.

2.2.1 Structural Fabrication

Material must be straight before being laid off or worked. Structural steel may be cut by mechanically guided or hand-guided torches, provided an accurate profile with a surface that is smooth and free from cracks and notches is obtained. Obtain approval prior to flame cutting material. Perform grinding of steel edges before paint preparation in order to remove hardness as a result of flame cutting. Cut and fabricate steel plates for primary members so that the primary direction of rolling is parallel to the direction of the main tensile or compressive stresses. Accurately shear material and neatly finish all portions of the work. Provide square and true corners unless otherwise shown. Material with sharp kinks or bends is cause for rejection. Use approved dies, press brakes, or bending rolls to make bends. Material with welds will not be accepted except where welding is definitely specified, indicated or otherwise approved. Break all edges of steel prior to coating. Break and

grind all square edges and holes other than bolt holes to a 1/16 inch radius prior to coating.

2.2.1.1 Component Tolerances for Structural Work

A variation of 1/32 inch is permissible in the overall length of component members with both ends milled. Component members without milled ends must not deviate from the dimensions shown by not more than 1/16 inch for members 30 feet or less in length and by not more than 1/8 inch for members over 30 feet in length.

2.2.1.2 Heat Straightening of Fabricated Members

Fabricated components or assemblies that do not meet tolerance requirements is cause for rejection. Replace rejected assembliies at no additional cost to the Government. Perform straightening by methods that will not impair the metal. Do not heat-straighten uless allowed in writing by the Engeineer; if requried, submit a heat straitening plan in accordance with FHWA HIF-23-003 Manual for Heat Straightening, Heat Curving and Cold Bending of Bridge Components. The use of cutting heads for heating and straightening is prohibited. Take precautions to avoid overheating the metal and allow it to cool to ambient temperature in a manner that will not impair the original properties of the metal and prior to the inspection for evidence of fracture or other damage. Straighten material without stressing or damaging the bolts, welds, or base metal. If the Contracting Offier determines it is not possible to straighten the member as part of an assembly, remove the rejected material from the assembly. Either straighten and re-assemble or replace the removed material, as required.

2.2.1.3 Welding

Provide welding in conformance with the requirements specified in Section 05 05 23 WELDING. For weldments including thick members, thermally stress relieve the assembly such that final machining achieves stable specified dimensions and tolerances. Thick members are defined as 1 inch and greater in thickness.

2.2.1.4 Machine Work

Tolerances, allowances, and gauges for metal fits between plain, nonthreaded, cylindrical parts to be in accordance with ASME B4.1 for the class of fit shown or required unless otherwise shown on approved shop drawings. Where fits are not shown they will be suitable as approved. Tolerances for machine-finished surfaces designated by non-decimal dimensions to be within 1/64 inch. Sufficient machining stock will be allowed on placing pads to ensure true surfaces of solid material. Provide finished contact or bearing surfaces true and exact to secure full contact. Polish journal surfaces and finish all surfaces with sufficient smoothness and accuracy to ensure proper operation when assembled. Parts entering any machine to be accurately machined and all like parts be interchangeable except that parts assembled together for drilling or reaming of holes or machining will not be required to be interchangeable with like parts. Accurately locate all drilled holes bolts. Structural connections with faying surfaces of bolted steel connections must meet a maximum 63 micro-inch.

2.2.1.4.1 Finished Surfaces

Provide surface finishes, indicated or specified, in accordance with ASME B46.1. Values of required roughness heights are arithmetical average deviations expressed in microinches. These values are maximum. Lesser degrees will be satisfactory unless otherwise indicated. Compliance with surface requirements to be determined by sense of feel and visual inspection of the work compared to Roughness Comparison Specimens in accordance with ASME B46.1. Values of roughness width and waviness height to be consistent with the general type of finish specified by roughness height. Where the finish is not indicated or specified use that which is most suitable for the particular surface, provide the class of fit required and be indicated on the shop drawings by a symbol in accordance with ASME B46.1 when machine finishing is provided. Flaws such as scratches, ridges, holes, peaks, cracks, or checks which will make the part unsuitable for the intended use will be cause for rejection.

2.2.1.4.2 Unfinished Surfaces

Lay out all work to secure proper matching of adjoining unfinished surfaces unless otherwise directed. Where there is a large discrepancy between adjoining unfinished surfaces chip and grind smooth or machine to secure proper alignment. Unfinished surfaces to be true to the lines and dimensions shown and be chipped or ground free of all projections and rough spots.

2.2.2 Bolted Connections

The materials, workmanship, installation, and verification must conform to the applicable provisions of RCSC A348 for the bolt assembly provided.

Tighten all bolt groups in a systematic manner starting at the most rigid part of the joint and working to the outside of the connection or the free edges. Install all high strength connection to a pretensioned condition. Tighten bolt assemblies for rubber seals, HDPE, and UHMW to a maximum of 50 foot-pounds, but do not cause excessive deformation of the material. Perform pretensioning in the same order as snug-tightening. Do not reuse galvanized structural bolts. Touching up or re-tightening bolts that may have been loosened by the installation of adjacent bolts will not be considered to be reused.

2.2.2.1 Rotational Capacity Tests

The manufacturer or distributor must perform rotational-capacity tests for any bolt assembly to be pretensioned in accordance with the bolt's ASTM supplementary requirement on all black or galvanized (after galvanizing) bolt, nut, and washer assemblies prior to shipping. The Contractor is responsible for assuring the rotational-capacity testing is performed by either the manufacturer or distributor prior to shipping. Submit a Calibrator certificate for the tension calibrator device showing proper calibration within 12 months of testing the bolts. Submit Manufacturer Certified RoCap Test Reports after bolts have been tested.

2.2.2.2 Structural Connections

All steel-to-steel structural connections must be fully pretensioned to a tension not less than that given below.

Nominal Bolt Diameter	Group 120	Group 144 and Group 150
5/8 inch	19 kips	24 kips
3/4 inch	28 kips	35 kips
7/8 inch	39 kips	49 kips
1 inch	51 kips	64 kips
1-1/8 inch	64 kips	80 kips
1-1/4 inch	81 kips	102 kips
1-3/8 inch	97 kips	121 kips
1-1/2 inch	118 kips	148 kips

To achieve pretension condition, bring the connection to a sung-tight condition and mark the bolts. After 48 hours, bring the connection back to the snug-tight condition and mark the bolt again. After final assembly of structural connection but prior to painting, tack weld the bolt shank to the nut.

2.2.2.2.1 ASTM F3148 Bolts

Utilize in all locations where it is feasible to install. Provide a single washer on the turned side only. Pretension the connection using turn-of-nut method using the angle mode.

2.2.2.2.2 ASTM F3125 Bolts

Utilize only in locations where ASTM F3148 bolts are unable to be installed. Cloud in the shop drawings all locations where ASTM F3148 bolts are not anticipated to be feasibly installed for approval. Pretension the connection using turn-of-nut method using the calibrated wrench or alternative approved method.

2.2.2.2.3 Alternative Procedure

Alternatively, apply a slip critical Class B coating in accordance with 09 97 02 PAINTING: HYDRAULIC STRUCTURES on all faying surfaces. Undermask all faying surfaces. It is acceptable to bring the connection to a snug-tight condition and immediately pretension using the methods described above.

2.2.2.3 Non-Structural Connections

Provide all non-structural connections, to include seal assemblies, using fully threaded non-structural bolts.

2.2.2.4 Bolt Holes

Accurately locate bolt holes so that they are smooth, perpendicular to the member and cylindrical. Remove burrs resulting from reaming at bolt holes and all faying surfaces. Exclude bolt threads from shear planes.

a. Drill or subdrill a minimum and ream holes for regular bolts in the shop not more than 1/16 inch larger than the diameter of the bolt. Punching of holes is prohibited on structural steel designated as ASTM A709/A709M.

b. Match-ream or drill holes for high strength fitted bolts. The threads of bolts must be excluded from the shear plane. Provide the body diameter of bolts and bolt holes in accordance with the tolerances as recommend by ASME B4.1 for the class of fit specified on the drawings.

c. The provisions of AWS D1.1/D1.1M Workmanship Clause allowing misdrilled holes do not apply. Repair all misdrilled holes as directed by the Engineer. For all bolt holes misdrilled or mislocated by more than 1/16 inch from the hole locations shown, submit repair of mislocated or misdrilled holes to the Government for approval prior to commencing with any repairs. Holes that cannot be repaired to the satisfaction of the Contracting Officer will require the replacement of the component. Provide larger bolt diameter of the same grade and type for misdrilled holes resulting in a hole diameter greater than 1/16" of the bolt diameter.

d. Poor matching of holes will be cause for rejection. Drifting occurring during assembly to not distort the metal or enlarge the bolts holes. Reaming to a larger diameter of the next standard sized bolt will not be permitted for slight mismatching.

2.2.3 Trunnion Yokes and Gate-side End Bracket

Provide trunnion yokes and gate-side end brackets as a forging or weldment utlizing complete-joint-penetrations welds. Provide weldment utilizing Structural Steel Plate, as specified above, utilizing either ASTM A709/A709M or ASTM A829/A829M. Bore pin holes and perform machining of the trunnion yoke assembly after any welding, straightening, stress-relieving, bolting and threading operations are completed. Press-fit bushings with supporting components to achieve the fit classification specified on the drawings. Drill grease holes in the bushings after installation in the trunnion yoke. Provide shims as shown.

2.2.4 Lifting Attachments

Provide as a weldment in accordance with specifications for Structural Steel Plate.

2.2.5 Machinery Hoist Connection

Privide as a forging.

2.2.6 Structure Identification

Provide one permanently affixed plate specifying the structure identification and gross weight of the structure. Provide material of half-inch steel plate with milled characters 1/4" deep. The markings must be visible when viewing the structures from above with a minimum character height of 4 inches and width of three inches. Include the identification plate location with the shop drawings for Government approval prior to fabrication. The structure identification is as follows:

M 21 TG-xx 000,000#

Cooridnate with the COR to replace the "xx" with sequential numbers. Replace the "000,000" with the as-installed weight by weighing the assembled structure after paint and miscellaneous attachments or by adding each weighed component, with the exclusion of the trunnion assembly (which includes the trunnion pin and trunnion bushing). Document the weight of each modular component in tabulated form. Round up to nearest one hundred pounds.

2.2.7 Tests, Inspections, and Verifications

Tests, inspections, and verifications for materials are to be performed in conformance with the requirements specified herein and in Section 05 05 23 WELDING. Submit additional Certified Test Reports for fabrication as specified below. Conduct tests in the presence of the Contracting Officer. Furnish specimens and samples for additional independent tests and analyses upon request by the Contracting Officer.

2.2.7.1 Nondestructive Testing

When doubt exists as to the soundness of any material part, such part may be subjected to any form of nondestructive testing determined by the Contracting Officer. The cost of such investigation will be borne by the Government. Any defects will be cause for rejection and rejected parts must be replaced and retested by the same test method that located the defect at the Contractor's expense.

2.2.7.2 Inspection of Steel Forgings

Each forged piece must be tension tested in accordance with ASTM A668/A668M. Ultrasonically test rough forgings in accordance with ASTM A388/A388M with acceptance criteria per ASME BPVC SEC VIII D2, paragraph 3.3.4. Repair welding is prohibited. Following finished machining, magnetic particle test threads, pin holes, and bearing surfaces in accordance with ASTM A275/A275M.

2.2.7.3 Inspection of Weldments

Perform ultrasonic test of weldments in accordance with the provisions of ASTM A435/A435M with application of supplementary requirement 1 (S1). Any discontinuity causing a total loss of back reflection will result in rejection of the part.

2.2.7.4 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by nondestructive examination. Repair all replaced members with complete joint penetration groove welds. Submit proposed repair work for approval before commencing work. Develop a plan to reduce residual stress in all repaired weldments. The expense for removing and testing coupons, xrepairing cut members and the nondestructive examination of repairs will be borne by the Government. If the coupons fail testing, repair costs as well as sampling costs, will be borne by the Contractor.

2.2.8 Control Dimensions

Submit the measuring system for approval with the work plan (e.g., calibrated steel tape of approximately the same temperature as the material being measured, or string line for bore alignment). The overall

dimensions of an assembled structural unit must be within the tolerances indicated on the drawings or as specified for the item of work. Where overall assembled tolerances are not specified, a variation of 1/4 inch is permissible. Perform control dimensions prior to witness points so that they may be verified during inspection and prior to either painting, final assembly, or delivery.

a. After fabrication and initial fit-up assembly of each structure, but prior to painting steel componenets, record and submit the actual dimensions of each structure on the "control dimensions" chart provided in the attachments and in accordance with these Specifications. Include bore alignment verification.

b. After final assembly of each structure, but prior to shipping the structure, record and submit the actual dimensions of each structure on the "control dimensions" chart provided in the attachments and in accordance with these Specifications. Include total weight of structure and center of gravity of structure.

c. Verify and document all control dimensions, excluding center of gravity and weight, upon delivery. Final verification and acceptance of the Control Dimensions must occur after the structure is unloaded from the shipping method.

2.2.8.1 Trunnion Bore Alignment

Control the alignment of the trunnion barrel bores to maintain coaxiality and parallelism between both borrels. It is critical for the operation of the gate to ensure both trunnion barrels are aligned and parallel to a common datum axis.

PART 3 EXECUTION

3.1 ASSEMBLY

3.1.1 Alignment and Setting

Each machinery component or structural unit attached to structures fabricated according to this specification must be accurately aligned by the use of steel shims or other approved methods so that no binding in any moving parts or distortion of any member occurs before it is fastened in place. The alignment of all parts with respect to each other must be true within the respective tolerances required. Shims are to remain with the final installation. Apply anti seize compound to laying surfaces where parts are press-fit.

3.1.2 Trunnion Yoke

Install the trunnion bushing to the trunnion yoke. For the purposes of determining control dimensions, shop assemble the trunnion yoke using shop bolts. Do not install trunnion pin. Do not bolt the trunnion yoke to the Tainter gate for shipping. Include properly sealed bucket of bolts for field installation by others.

3.1.3 Appurtenant Items

Attach primary lifting attachments (pad eyes), any secondary lifting attachments, the machinery connections, and chain guide plates prior to

shipping. Install rubber seal assemblies after painting is completed. Fasten rubber seals securely to metal retainers in the fully recessed position for shipping. Seal assembliy bolts are not to be pretensioned. Tighten to snug tight, or a maximum or 50 foot-pounds, without excessive deformation of the seal.

3.1.4 Painting

Paint all exposed steel surfaces of the structure, except machined surfaces, stainless steel surfaces, and other specified surfaces, as specified in Section 09 97 02 PAINTING - HYDRAULIC STRUCTURES prior to assembly. Apply primer coat only to the interior of all through-bolt holes. Alternatively, the faying surfaces may be masked off such that members can be fully painted prior to assembly.

3.1.5 Shop Assembly

Government personnel must be present during gate assembly and control dimension verification.

Perform fabrication and initial fit-up assembly of each structure in the shop. Perform initial fit-up shop assembly to check each structure to ensure that all control dimensions are satisfied, necessary clearances of adjacent components have been provided, proper bolt alignment, and that binding does not occur in any moving part. Fit-up assembly does not require the use of high-strength bolts. Perform assembly and disassembly work in the presence of the Contracting Officer unless waived in writing. Immediately remedy errors or defects disclosed by the Contractor without cost to the Government. Before disassembly for final assembly, each structural unit must be match-marked using a non-oil based method to facilitate final assembly. Indicate the location of match-marks by circling with a ring of black temporary paint or as otherwise directed.

To facilitate shipping methods, it is acceptable to disassemble the gate in the shop and re-assemble at a secondary location prior to barge shipping. See paragraph FINAL ASSEMBLY.

3.1.6 Final Assembly

Final structure assembly, including seal assemblies and appurtenant items, must be assembled in strict accordance with the contract drawings, approved drawings, and shop assembly match-markings. Final assembly may be performed in the shop or at a secondary assembly location prior to shipment. Final assembly is not permitted on Government property. Final assembly must be performed either by or under the supervision of the Contractor and the Contracting Officer. Final assembly in the field is required to be performed by an AISC Certified Erector (CSE). Submit a copy of the qualification of structural steel erector certificate indicating that the erector holds. Hang the fully assembled structure from the lifting points to determine weight for weight plate fabrication and estimate actual center of gravity. Immediately remedy errors or defects disclosed by the Fabricator with no cost to the Government. Exercise special care during delivery to prevent any sag of the structure due to compression of blocking or other causes.

3.2 PROTECTION

3.2.1 Cleaning

Thoroughly clean all parts to be installed. Remove packing compounds, rust, dirt, grit and other foreign matter. Do not use pipe wrenches, cold chisels or other tools likely to cause damage to the surfaces of rods, nuts or other parts for assembling and tightening parts. Place a half nut first when it is used for locking followed by the full nut. Lubricate threads of all bolts except high strength bolts, nuts and screws with an approved lubricant before assembly. Coat threads of corrosion-resisting steel bolts and nuts with an approved antigalling compound. Driving and drifting bolts or keys will not be permitted.

3.2.2 Finished Work

Thoroughly clean machined surfaces of foreign matter. Protect all finished surfaces by suitable means. Oil and wrap with moisture resistant paper unassembled pins and bolts or protect by other approved means. Wash finished surfaces of ferrous metals to be in bolted contact with an approved rust inhibitor and coated with an approved rust resisting compound for temporary protection during fabrication, shipping and storage periods.

3.2.3 Fasteners

Protect fastener components from dirt and moisture in closed containers at the site of installation. Take from protected storage only as many fastener components as are anticipated to be installed during the work shift. Do not use fasteners exhibiting any level of corrosion. Return fastener components that are not incorporated into the work to protected storage at the end of the work shift. Do not clean or modify fastener components from the as-delivered condition.

3.3 EXAMINATION

Structures will be inspected by the Government and accepted (or rejected) after delivery. When Government inspections result in structure rejection, promptly segregate and remove rejected structure from the delivery location. The Government may also charge an additional cost of inspection or testing when rejection makes re-inspection or retesting necessary. Structures will be rejected for exceeding the specified installation tolerances and/or for irreparable damage during fabrication or delivery operations.

-- End of Section --

MATERIAL ORDERS & CERTIFICATIONS TRACKING TABLE

[Project Title]

[Contract Number]

[Contractor Name], [Job Number]

Fabrication Log

[Structure Title] **[Structure HSS ID]**

Shop Drawing Piece Mark / Description	Heat No.	Purchase Order	Page No.

TAINTER GATE FABRICATION LOG TABLE OF CONTENTS

MISSISSIPPI RIVER BASIN, LOCK AND DAM 21 BOLTED TAINTER GATE FABRICATION

[Contract Number]

[Contractor Name], [Job Number]

Submergible Bolted Tainter Gate [Structure HSS ID]

Section	Contents
A	Work Plan [reference approved submittal identification number]
B	Welding Procedure Specifications
C	Welding Inspector Qualifications and Certifications [reference approved submittal identification number]
D	Weld Tracking Log
E	Bolt Tracking Log (RoCap and Pre-installation Verification Tests, Tightening Logs)
F	Conditional Repair Plans
G	Nonconformance Reports
H	Paint Quality Control Logs
I	Material Orders and Certifications
J	Shop Drawings [reference approved submittal identification number]
K	As-Fabricated Drawings
L	Assembly Drawings
M	Control Dimensions
N	Installation Plan