

# NORTH KERN WATER STORAGE DISTRICT

Kern County, California



## NOTICE TO PLANHOLDERS

Attached is Addendum No. 3 to the  
Specifications No. NK-619 for  
PIPELINE AND PUMP STATION PROJECT

Sign and return this notice with your Proposal.

### **GEI Consultants, Inc.**

5001 California Ave, Suite 120,

Bakersfield, CA 93309

Tel: (661) 327-7601



Date: October 27, 2021

Firm Name\_\_\_\_\_

By\_\_\_\_\_

Title\_\_\_\_\_

Date\_\_\_\_\_

By signing the cover sheet, Contractor certifies that it has reviewed the contents of the subject addendum and that its proposal has been prepared taking into consideration the changes made by said addenda.

## **NORTH KERN WATER STORAGE DISTRICT**

### **ADDENDUM NO. 3 TO THE SPECIFICATIONS NO. NK-619 for PIPELINE AND PUMP STATION PROJECT**

The Specifications No. NK-619 is hereby changed and/or clarified as follows:

#### **1. Section A, Notice Inviting Bids**

- a. Section A-8 Certified Checks and Bonds, page A-4. Replace third sentence in entirety with “Said cash, check or bidder’s bond shall be in an amount not less than five percent (5%) of the amount of the bid.”

#### **2. Section B, Instructions to Bidders**

- a. Section B-14 Bidders Bond, page B-7. Replace second sentence in entirety with “Said check or bid bond shall be for a sum not less than five percent (5%) of the aggregate sum of the proposal.”
- b. Section B-15 Good Faith Efforts Checklist for Disadvantaged Business Enterprises, page B-8. Remove in entirety.

#### **3. Proposal Bidding Schedule**

- a. Bid Item 13 – Remove in its entirety
- b. Bid Item 15 – Remove in its entirety
- c. Bid Item 61 – Replace the item Description in entirety “Furnish and Install Flange supports and foundation (3.5’ x 7.5’x 1.5’) per Contract Drawing S-02, Detail 2” with “Furnish and Install Flange supports and foundation per Contract Drawing S-05.”
- d. Bid Item 61 – Replace the quantity “6 EA” with “5 EA”
- e. Bid Item 62 – Replace the item Description in entirety “Furnish and Install Pipe Supports and Foundation (2.5’ x 2.5’x 1.5’) per Contract Drawing S-02, Detail 1” with “Furnish and Install pipe supports and foundation per Contract Drawing S-04.”

#### **4. Measurement and Payment**

- a. Bid Item 13 – Remove in its entirety
- b. Bid Item 15 – Remove in its entirety

- c. Item 61. Furnish and Install Flange Support and Foundation (Bid Item No. 61).
  - a) Description, page Measurement and Payment 28 of 30. Replace referenced contract drawing “S-02 Detail 2” with “S-05.”
- d. Item 62. Furnish and Install Flange Support and Foundation (Bid Item No. 62).
  - a) Description, page Measurement and Payment 29 of 30. Replace referenced contract drawing “S-02 Detail 1” with “S-04.”

## 5. Good Faith Efforts Checklist

- a. Remove in entirety.

## 6. Notice to Proceed Checklist

- a. Remove last item, “DBE Check List”, from Checklist

## 7. Section C, General Conditions

- a. C-1.h. “Contract Documents”, page C-1. Remove “the DBE Check List” from line five of paragraph.

## 8. Section H, Painting and Coating

- a. Replace Section H-5 in entirety with the following:

Item	Paint or Coating System for Exposed Surfaces
1. Ladders and ladder rungs, safety cable, all nuts, bolts, washers and fasteners including anchor bolts.	All surfaces shall be hot-dip galvanized (unless stainless).
2. All metalwork, operating platforms, including structural steel, grating, checkered plate, handrails, minor steel pipe, all other field fabricated structural work and miscellaneous metal work including pipe supports, flange supports, pipe tie down straps and marker posts, unless galvanizing or other protective coating is specified or shown on the Drawings. <u>Stainless steel metalwork does not require coating.</u>	Solvent cleaning of dirt and scum followed by SSPC-SP6, commercial sandblasting to remove all loose rust, mill scale and other foreign substances followed by one shop coat of epoxy primer paint to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to a minimum thickness of 3 mils (minimum dry film thickness of total paint system—8.0 mils).
3. All aboveground cast iron and steel valves, fittings and castings, not including brass.	Shop cleaned by SSPC-SP6, commercial sandblasting and one shop spray coat of epoxy primer plus one field-applied spray coat of polyamide epoxy primer to 5.0 mil thickness followed by one spray coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system—8 mils).

Item	Paint or Coating System for Exposed Surfaces
4. All aboveground steel pipe and fittings.	Solvent cleaning of oil, dirt, following by SSPC-SP6, commercial sand blasting, followed by one shop coat of epoxy primer to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system—8 mils. No lining unless specified.
5. All belowground steel pipe and fittings.	Shop cleaned by SSPC-SP6, commercial sandblasting and a 1-1/2 inch minimum thickness cement mortar coating reinforced with 3/4-inch galvanized welded wire fabric or 2 × 4 W0.5 × W0.5 welded wire fabric. Coating shall be in accordance with AWWA C205 and the cement mortar shall contain no less than 1-part Type V cement to 3-parts sand. No Lining unless specified.
6. All aboveground ductile iron pipe, and ductile iron fittings.	One shop coat of epoxy primer to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to 3.0 mil thickness and cement mortar lined.
7. All belowground ductile iron pipe, and ductile iron fittings.	Asphaltic coating with polyethylene wrapping and cement mortar lined.
<p>8. Pumps and Motors</p> <p>(a) Bowl assembly and column pipe exterior surfaces; column pipe and discharge head interior surfaces, bottom of pump base plate, and suction barrel interior surfaces and base plate.</p> <p>(b) Discharge head exterior; and top and sides of pump base plate.</p> <p>(c) Suction barrel exterior; exclusive of item 7(a) above.</p> <p>(d) Motors</p>	<p>Shop applied near-white sandblast followed by application of two or more coats of high-build epoxy to produce a minimum dry film thickness of 10 mils.</p> <p>Shop cleaned in accordance with manufacturer's standard procedures and one shop spray coat of epoxy primer to 3.0 mil thickness, plus one field-applied spray coat of epoxy primer followed by one spray coat of polyurethane to 2.0 mil thickness (minimum dry film thickness of total paint system—8 mils).</p> <p>Shop applied commercial sandblast, followed by two coats of coal tar to produce a minimum dry film thickness of 16 mils.</p> <p>Shop applied primer coat and one field applied spray coat of polyamide epoxy to 4.0 mil thickness, followed by one spray coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system—7 mils).</p>

## **9. Section N, Vertical Turbine Pump**

- a. Section N-2, Materials. Add “Cascade Pump Company” and “Sulzer/Johnston” to item a. Manufacturer list

## **10. Drawings**

- a. The Gooseneck Assembly and Mag Meter shown on the Well Connection Drawings shown on C-101, C-102, C-103 shall be removed from the scope of work. Revised Drawings of C-101, C-102, and C-103 will be provided in Addendum 4.

## **11. The following provides a list of questions related to the project received from plan holders and the responses provided:**

**Q1:** Regarding Section N, Vertical Turbine Pump, if acceptable, please add Cascade Pump to the accepted vendors.

**A1:** Cascade Pump Company has been added as an approved pump manufacturer.

**Q2:** Sections H-3, J-c-8 and J-e-5 of the specifications seem to indicate that the DI pipe, fittings, and spools on the project will be cement mortar lined and cement mortar coated. We feel that this is perhaps a mistake. We are not aware of any ductile iron manufacturers that make cement mortar coated items. The standard DI materials are cement mortar lined and "asphalt" coated. Please confirm that standard CM lined + APSH coated ductile is indeed the required materials for this project?

**A2:** See revised specification Section H-5 Painting and Coating.

**Q3:** Regarding the buried and above ground SCH-40 STL pipe and fittings required at the Well Site Connections. Can you please clearly indicate what the lining and coating requirements are for this pipe. Specifically the lining requirements. Are the lines to be "bare" inside with coatings from the H specification? Or will they require CM lining? Etc.

**A3:** See revised specification Section H-5 Painting and Coating.

**Q4:** How does the district anticipate dealing with the HPI degree points along the pipeline alignment. For example sheet CC-03. At stations 30+77, 31+95, 32+46, 32+99, Etc. There are anywhere from 10° to 60° notes in the drawings. Is it the intent to have contractors allow for DI fittings, 11.25°, 22.5°, 45°, & 90° where needed? Or does the district anticipate roping the C-900 pipe? Please clarify.

**A4:** The Contractor to utilize allowable joint deflection as needed within the constraints of Specification Section J-e-3-7.

**Q5:** There are pressure gauges shown on sheets C-101, C-102, & C-103. Are these to be included to be installed per detail 2 on CG-05? Also, are the threaded ports already on the existing pipe? Or will there be saddles required? Please clarify.

**A5:** Contractor is to install new pressure gauge at each well site per Detail 2 on CG-05. Contractor to verify in field and install threaded ports as needed.

**Q6:** Sheet CG-01 represents the typical pipe trench section for the project which requires compaction requirements to be 95% in the bedding, pipe and trench zones. This will be nearly impossible to achieve with the native soils without damaging the pipe therefore requiring the section to be a sand slurry. We would recommend verifying the bedding section is firm and unyielding, and reduce the pipe and trench zone compaction requirement to 90% to achieve an equitable pipe laying process for both Owner and Contractor.

**A6:** Based on the Geotech investigation/report included in the Specification Appendix we do not anticipate any issues with native soil to achieve 95%.

**Q7:** Can you please clarify the amount required for the bid bond (5% vs. 10%)?

**A7:** The amount required for the bid bond is 5%.

**Q8:** Can the below grade DIP for the pump station be constructed from epoxy lined and coated steel pipe?

**A8:** No. Construct per plans and specs. See revised Section H-5 Painting and Coating.

**Q9:** In specification N-2 (a) you list five specific manufacturers and Sulzer/Johnston would like to be added to this list.

**A9:** Sulzer/Johnston has been added to the list.

**Q10:** The "lining" and "coating" for the steel pipe at the Well Modifications seems unclear from the plans and specifications. Can you please indicate what the lining and coatings are for the buried steel sch40 pipe? Can you please indicate what the lining and coatings are for the above ground steel sch40 pipe?

A10: See revised Section H-5 Painting and Coating.

**Q11:** Section H for Painting and Coatings on sheet H-3 (Item 5) indicate that the Ductile Iron shall be coated with cement mortar coating. This application works for steel pipe but not Ductile Iron. The manufacturers cannot coat DI with cement mortar. Can you please (like the question above) clearly indicate what the linings and coatings are for DI pipe both buried and above ground?

A11: See revised Section H-5 Painting and Coating.

**Q12:** It seems like the Check Valve on sheet C-102 for the (ENLARGED PLAN NO. 9 -CONNECTION TO EXISTING 16" PVC IRRIGATION) location is buried? After the site visit we assume the existing 16" BFV and the existing 16" PVC IRR line that we tie into are buried. How do you propose putting in a 16" CV below ground? Please clarify.

A12: The check valve is eliminated from this contract.

**Q13:** After review of the Rosedale Pump Station grading plan, we anticipate that the raised pump station earthwork pad will require roughly 5,000 CY of import soils. Is there a location onsite that we will be generating this soil from, or is the contractor to provide this import for this location? Please clarify.

A13: The District will provide a location onsite for the soil from one of the ponds in the vicinity of the project. The soil used shall conform to Section E Earthwork and Sitework requirements. The contractor shall remove the soil evenly from the pond and maintain proper grading of the site.

**Q14:** What material will be required for the above ground temporary piping at the Discharge Locations shown on drawing C-104? Specifically the pipe after the 18" butterfly valves above grade and running to the road crossings. It appears from the existing systems onsite that they are currently using aluminum pipe with grooved couplings up the slopes and into the canals. Will this be sufficient for the details on sheet C-104? Or will the pipe need to be 18" Steel pipe? This will be heavier pipe and more difficult to install up the slopes. Please clarify if aluminum pipe is sufficient for the above grade pipe?

A14: Schedule 40 steel pipe will be required for the above ground temporary piping.

**Q15:** Bid item 11 calls out 7EA 16" Butterfly Valves. We currently count 12EA from the plans. 11EA below ground and 1EA above ground. Can you please confirm the 7EA? Below is a list of the 16" valves we have found.

Below Ground

At No 9 Connection Tie IN @ Friant Kern Connection - 1EA

At Well 88-25-030 - 1EA

At Well 88-25-031 - 2EA

At Well 88-29-006 - 1EA

At Well 88-29-009 - 2EA

At Well 90-00-022 - 1EA

At Well 90-00-026 - 1EA

At Well 90-00-032 - 2EA

Above Ground

At Well 90-00-035 - 1EA

A15: Bid Item 11 refers to the 16" Butterfly Valves along the mainline.

Butterfly Valves

CA-01 STA 9+59.34

CA-04 STA 44+98.78

CB-01 STA 11+46.26

CB-03 STA 35+75.5

CB-07 STA 37+15.47

CC-01 STA 9+95.86

CC-02 STA 27+75.94

The other below ground 16" Butterfly Valves are to be included in the respective Well Connection. See Section 10-B Measurements and Payments.

Bid Item 25 - 1 EA

Bid Item 27 - 1 EA

Bid Item 28 - 1 EA

Bid Item 29 - 1 EA

Bid Item 30 - 1 EA

**Q16:** Bid item 13 calls out 1EA 24" Butterfly Valve. We currently cannot find this valve. Can you please clarify the location?

A16: Bid item 13 to be removed.



**Q17:** Bid item 15 calls out 1EA 36" Butterfly Valve. We currently cannot find this valve. Can you please clarify the location?

A17: Bid item 15 to be removed.

**Q18:** There are conflicting details when looking at the discharge details regarding type of material. I would think all above ground would be epoxy steel and below ground would be PVC and ductile fittings, however, the notes are unclear. Could you please elaborate on this for takeoff and quote purposes?

A18: Above grade is steel piping. The portion of piping transitioning from above ground to below ground is steel pipe (DI pipe is also acceptable). See revised Section H-5 Painting and Coating. Below grade items are PVC with ductile Iron fittings.

**Q19:** Per spec section H-5 No. 5, it states that all below ground steel pipe, ductile iron pipe, and ductile iron fittings must be coated with cement mortar 1-1/2" minimum. Please confirm.

A19: See revised Section H-5 Painting and Coating.

**Q20:** Notes on the plans as well as spec section J-1-2 a. 1. state all steel pipe to be schedule 40. That seems to be heavy for this application vs. standard wall. Please confirm.

A20: Contractor Shall use Schedule 40 Steel Pipe.

**Q21:** Will the District/Engineer allow DI pipe and fittings at the Well Connections and Modification sites in lieu of the listed steel pipe? We propose DI below ground be CM lined and Asphalt coated with 8Mil poly bagging. We propose the above ground DI be CM lined and primer coated. The final coating of the above ground DI pipe would be per the Section H (Item 4.) Similar to the above ground steel pipe, which would be a two part primer and polyurethane in the field coating. Bid Items (23-33)

A21: DI pipes and fittings are allowed at Well Connections and Modification sites. See revised Section H-5 Painting and Coating.

**Q22:** Similar to the question 023 above, will DI be allowed at the Temporary Discharge and Connection to Existing locations in lieu of the listed steel pipe? Bid Items (23-33)

A22: DI pipes and fittings are allowed at the Temporary Discharge and Connection to Existing Discharge. See revised Section H-5 Painting and Coating

**Q23:** Per Addendum 2, Q-4: DBE/GFE are not required. In addendum 2, page B-9, the GFE Checklist is still listed as a required document for the bid package. Do you want a blank copy of the GFE checklist turned in with the bid documents or may we leave it out?

A23: GFE Checklist is not required to be submitted.

**Q24:** We DO have to turn in the Subcontractor No-Collusion Affidavit for all listed subcontractors?

A24: The Subcontractor's Non-Collusion Affidavit is required at the time of submission of the bid.

**Q25:** Page 28 of 30 for the measurement and payment section in the specifications describes the bid items for (F&I - Flange supports and foundation (3.5' x 7.5'x 1.5') per Drawing S-02, Detail 2). Both the bid schedule and the narrative calls for Drawing S-02 Detail 2. However, drawing S-02 is for the Pump concrete pedestal. We think the intent is to direct to Drawing S-05. Please clarify that this is correct.

A25: Page 28 of 30 for the measurement and payment Bid Item 61 it intended to direct to Drawing S-05. Please see revised Measurement and Payment.

**Q26:** Page 28 of 30 for the measurement and payment section in the specifications describes the bid items for (F&I - Pipe Supports and Foundation (2.5' x 2.5'x 1.5') per Drawing S-02, Detail 1). Both the bid schedule and the narrative calls for Drawing S-02 Detail 1. However, drawing S-02 is for the Pump concrete pedestal. We think the intent is to direct to Drawing S-04. Please clarify that this is correct.

A26: Page 29 of 30 for the measurement and payment Bid Item 62 it intended to direct to Drawing S-04. Please see revised Measurement and Payment.

**Q27:** The current bid quantity for Bid Item 61 (F&I - Flange supports and foundation (3.5' x 7.5'x 1.5') is 6EA. However we are finding 10EA on Sheet M-01 at the Pump Station. 2EA for the 24" PRV and 8EA for the four Oil Filled CV. Please clarify.

A27: Please see the revised Bid Schedule Description and Quantity. Each item under this bid item consists of two flange supports and foundation. Quantity count is 1EA 24" PRV and 4EA 18" Oil Filled CV.

Bid Item 61 – Replace the item Description in entirety “Furnish and Install Flange supports and foundation (3.5' x 7.5'x 1.5') per Contract Drawing S-02, Detail 2” with “Furnish and Install Flange supports and foundation per Contract Drawing S-05.”

Bid Item 61 – Replace the quantity “6 EA” with “5 EA.”

**Q28:** The current bid quantity for Bid Item 62 (F&I - Pipe Supports and Foundation (2.5' x 2.5'x 1.5')) is 8EA. However we are finding 6EA on Sheet M-01 at the Pump Station. 6EA for the 36" above ground manifold on the south side of the station. Please clarify.

A28: Please see the revised Bid Schedule Description. Quantity consist of 6EA for the 36" above ground manifold. And 2EA for the 24" above ground bypass line.

Bid Item 62 – Replace the item Description in entirety “Furnish and Install Pipe Supports and Foundation (2.5' x 2.5'x 1.5') per Contract Drawing S-02, Detail 1” with “Furnish and Install pipe supports and foundation per Contract Drawing S-04.”

**Q29:** The location of Detail 6 on sheet CG-30 for the Combination ARV is indicated on sheet M-01 on top of the 42" 90° Bend. However we cannot find a call out for the Combination ARV Detail 5 on sheet CG-03. Are these to be included just prior to each of the Pumps on sheet M-01. If that is the case, are there to be 4EA of these Detail 5 ARV's. Please clarify the final count of the detail 5 ARV's.

A29: Detail 5 on CG-03 is not required. The detail will be removed from the Contract Drawings.

## **12. List of Attachments**

- a. Planholders List
- b. NK 619 Addendum 3 Specifications

SPECIFICATIONS NO. NK-619 for PIPELINE AND PUMP STATION PROJECT  
Planholders List - Addendum 3

Contractor Name	Name	Email
Kern County Builders Exchange	Samantha Geissel	<a href="mailto:sgeissel@kcbex.com">sgeissel@kcbex.com</a>
	Damariz Lopez	<a href="mailto:dlopez@kcbex.com">dlopez@kcbex.com</a>
Dodge Data		<a href="mailto:dodge.bidding@construction.com">dodge.bidding@construction.com</a>
		<a href="mailto:support@construction.com">support@construction.com</a>
		<a href="mailto:projectdata@construction.com">projectdata@construction.com</a>
		<a href="mailto:mekayla.starr@construction.com">mekayla.starr@construction.com</a>
W.M. Lyles	Scott Fults	<a href="mailto:sfults@wmlylesco.com">sfults@wmlylesco.com</a>
	Kevin Shigematsu	<a href="mailto:kshigematsu@wmlylesco.com">kshigematsu@wmlylesco.com</a>
Cal-Prime	Kelly Hudson	<a href="mailto:kellyhudson@calprimeinc.com">kellyhudson@calprimeinc.com</a>
Ruben's pipeline	Ruben Sandoval	<a href="mailto:ruben@rubenspipeline.com">ruben@rubenspipeline.com</a>
Specialty Construction	Tom Seidel	<a href="mailto:TSeidel@specialtyconstruction.com">TSeidel@specialtyconstruction.com</a>
	Doug Clay	<a href="mailto:DClay@specialtyconstruction.com">DClay@specialtyconstruction.com</a>
Floyd Johnston	Sandy Brooks	<a href="mailto:sbrooks@floydjohnston.com">sbrooks@floydjohnston.com</a>
Nicholas Construction, Inc.	Alex Silicz	<a href="mailto:alex@nicholasconstructioninc.com">alex@nicholasconstructioninc.com</a>
Blois Construction, Inc.	Crissy Cabrera	<a href="mailto:CrissyGonzales@BloisConstruction.com">CrissyGonzales@BloisConstruction.com</a>
		<a href="mailto:bidinfo@bloisconstruction.com">bidinfo@bloisconstruction.com</a>
Granite	Sarah Pearse	<a href="mailto:sarah.pearse@gcinc.com">sarah.pearse@gcinc.com</a>
HPS	Stepheny Urenda	<a href="mailto:surenda@hpsmechanical.com">surenda@hpsmechanical.com</a>
A-C Electric	Chris Gatlin	<a href="mailto:Chris.Gatlin@a-celectric.com">Chris.Gatlin@a-celectric.com</a>
Technical Systems Inc. (TSI)	Brad Peistrup	<a href="mailto:bradp@tsicontrols.com">bradp@tsicontrols.com</a>
Aegion, Underground Solutions, Inc.	Brett Fornelli	<a href="mailto:bfornelli@aegion.com">bfornelli@aegion.com</a>
Flo-Systems, Inc.	Amir Soltanieh	<a href="mailto:amirs@flo-systems.net">amirs@flo-systems.net</a>
Brax Company, Inc.	Brent Welling	<a href="mailto:bwelling@braxcompany.com">bwelling@braxcompany.com</a>
Romtec	Travis Olson	<a href="mailto:travis.olson@romtec.com">travis.olson@romtec.com</a>
Clark Bros Inc	Saifuddin Misbah	<a href="mailto:smisbah@clarkbrosinc.com">smisbah@clarkbrosinc.com</a>
Crane Engineering	Jeff Jacobson	<a href="mailto:J.Jacobson@craneengineering.net">J.Jacobson@craneengineering.net</a>
Flow N Control., Inc.	Anna Jesmok	<a href="mailto:anna@flowncontrol.com">anna@flowncontrol.com</a>
Pacific Boring	Ted Miller	<a href="mailto:ted@pacificboring.com">ted@pacificboring.com</a>

**SECTION A****NOTICE INVITING BIDS****NORTH KERN WATER STORAGE DISTRICT  
Kern County, California****NOTICE INVITING BIDS****FOR CONSTRUCTING THE  
PIPELINE AND PUMP STATION PROJECT  
SPECIFICATIONS NO. NK-619****A-1 Invitation for Bids**

**NOTICE IS HEREBY GIVEN** that sealed bids will be received by the NORTH KERN WATER STORAGE DISTRICT, hereinafter referred to as the District, for furnishing all labor, services, materials, tools, equipment, supplies, and facilities necessary therefore, transportation, utilities, and all other items as provided in the Contract Documents for the acceptable completion of the work described in Section A-4, together with all appurtenances thereto, in strict accordance with the Plans and Specifications on file at the office of the District.

**Bids shall be made in accordance with the prevailing rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code Section 1770 et seq., and the Davis-Bacon Act, whichever is greater.** Prevailing wage schedules for Kern County are available from the Department of Industrial Relations-Division of Labor Statistics & Research via the internet at [www.dir.ca.gov](http://www.dir.ca.gov). Copies of the prevailing rates of per diem wages are also on file at the office of the District and will be made available to any interested party on request. Davis-Bacon Act wages can be found at [www.wdol.gov](http://www.wdol.gov).

The Contractor, its Subcontractors and Suppliers will be required to comply with all applicable State and Federal requirements.

**A-2 Submitting Bids and Bid Opening**

Bids will be received at the offices of the District, 33380 Cawelo Extended, Bakersfield, CA 93308, until 2:00 p.m. on November 5, 2021, at which time and place the bids will be publicly opened and read aloud. Bids shall be timely submitted in sealed envelopes marked as directed in Section A-13. Facsimile bids will not be accepted.

It is the sole responsibility of the bidder to ensure that their bid is received in proper time and at the proper location and in the proper format. Facsimile bids will not be accepted. Bids received after said deadline time will be returned unopened to the bidder.

A pre-bid conference and tour will be held on October 18, 2021, at 9:00 a.m. commencing at the offices of the District, 33380 Cawelo Extended, Bakersfield, CA 93308 and then continued at the project Site.

### **A-3 Location of the Work**

The work to be constructed hereunder is located within Kern County, in the vicinity of Bakersfield, California.

### **A-4 Description of Work**

The description of the work is as follows:

#### **Base Contract (Pipeline and Pump Station):**

- a. Installing ~5.5 Miles of furnished C900 DR 25 PVC Water Main. See Appendix G for complete quantity list and pipe diameter furnished.
- b. Furnishing and installing ~0.5 Miles of 16-inch C900 DR 25 PVC Pipeline from Well 88-25-031 to Water Main.
- c. Furnishing and installing Water Main Butterfly Valves, Combination Air Valves, and Blow Off Valves.
- d. Installing Water Main across the Calloway and CT-1 Canal and the 9-2 Canal.
  - Construction of canal lining.
  - Demolition of existing canal concrete lining.
  - Clearing, grubbing, and stripping.
  - Furnishing and installing rip-rap.
  - Site grading and earthwork.
  - Furnishing, installing, maintaining, and removing temporary canal isolation structures.
  - Dewatering
- e. Furnishing and installing two Temporary Discharge Structures From the Water Main to the Friant Kern Canal and Install one Tie-in of the Water Main to an Existing Friant Kern Canal Discharge Structure.
- f. Furnishing and installing 11 Well Modification, Connections to the Water Main, and Discharge Structures.
- g. Construction of a 45 cfs pumping plant (4-15 cfs pumps one backup pump), including inlet and outlet structures, CAN pumps, 36-inch pump header pipeline, 30-inch diameter pump inlet pipeline, 18-inch diameter pump outlet pipeline, valves, couplings, meter, 24-inch pressure

regulating bypass, pipe supports, pump slab, and entire site grading.

- h. Construction of concrete electrical equipment slabs.
- i. Construction of electrical equipment building.
- j. Furnishing and installing Site Electrical and Instrumentation.
- k. Furnishing and installing chain-link fencing and gates.
- l. Pumping Plant Site Grading and Earthwork and crushed rock ground cover.

See Section 10B Measurement and Payment for further breakdown and additional detail of the Description of Work.

#### **A-5 Classification of Contractors License / Contractor Registration**

A contractor submitting a proposal shall possess, at the time the contract is awarded, that classification of contractor's license required by law to enable the contractor to perform the work contemplated under the Contract Documents, as more specifically set forth in the Specifications. Contractors shall provide the District with their Contractor's license number and expiration date as provided in the proposal.

#### **A-6 Award of Contract**

Each bid shall be made on the proposal forms furnished by the District and shall be in accordance with the Contract Documents. The Proposal Bidding Schedule includes places to enter bid prices for each of the various items of work. Bidders will be required to submit prices for all the items on the bid schedule. Award of the Contract, if made by the District, will be to the qualified responsible Bidder submitting the lowest responsive Bid Proposal on the basis of the prices in the Base Bid in accordance with California Public Contract Code Section 20103.8(a). **See Section B-17 for further particulars of the bidding and basis of award.**

Proposals will be accepted until the date and time specified in the Notice of Inviting Bids. The Contract will be awarded as soon as practicable to the lowest qualified responsible bidder that has submitted a responsive bid, price and other factors considered, provided its Bid is reasonable and is in the best interest of the District to accept.

The District reserves the right, after opening bids, to reject any or all bids, or to make award to the lowest responsive and responsible bidder and reject all other bids. Refer to Paragraph B-3 for information regarding "Responsible Bidder" and submission of a "Responsive Bid".

The successful Bidder will be notified in writing by District of the Award of Contract within 30 days after opening of Bids. Accompanying the Notice of Award will be a copy of the Contract, which successful Bidder will be required to execute properly and return to District, together with properly executed Performance Bond, Payment Bond,

Certificates of Insurance and Endorsement, and Non-Collusion Affidavits, all within 15 days after date of receipt of such Notice of Award. District will promptly determine whether such Contract, Bonds, and Certificates of Insurance and Endorsement are as required by the Specifications and, upon such determination, will forward a fully signed copy of the Contract to successful Bidder.

#### **A-7 Site Conditions**

Each bidder shall carefully examine the Plans, read the Specifications and the forms of the Contract Documents, and shall visit the site of the proposed work to fully inform himself as to all existing conditions and limitations that may affect the execution of work under the Contract, and each such bidder shall include in the prices bid the cost of all incidentals and appurtenances. The failure or omission of any bidder to receive or examine any form, instrument, addendum, or other document, or his failure to visit the worksite and acquaint himself with conditions at the construction site, shall in no respect relieve any such bidder from any obligation imposed by his bid or by the Contract. The submittal of a bid shall be taken as prima facie evidence of compliance with all instructions contained herein. **All bidders must contact the District to coordinate site visits.**

#### **A-8 Certified Checks and Bonds**

Each bid shall be under sealed cover and must be accompanied by a Bid Guarantee in the form of either cash, a certified or cashier's check, or by a corporate surety bond on the form furnished by the District and made payable to the North Kern Water Storage District as a guaranty that the bidder will, if an award is made to him in accordance with the terms of his bid, promptly secure worker's compensation insurance, liability insurance, and any other insurance required by the Contract Documents, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the Contract and for the payment of claims of all persons supplying labor and materials for the construction of the work. Should the successful bidder fail to so perform, the District shall be entitled to retain the moneys represented by said check or bond as liquidated damages on account of the delay and inconvenience occasioned to the District, it being expressly agreed and understood that the amount of said check or bond constitutes reasonable damages and that it is impracticable or extremely difficult to ascertain actual damages. Said cash, check or bidder's bond shall be in an amount not less than five percent (5%) of the amount of the bid. The District reserves the right to reject any bond, if in the opinion of the Engineer or the District's Attorney, the Surety's acknowledgment is not legally sufficient. All sureties utilized by bidders shall be legally qualified to do business in the State of California, shall carry a current Best's Insurance Guide rating of "A" or better, Class X or better, and shall furnish such reports as to their financial condition, from time to time, as may be requested by the District, including the Financial Statement of Bonding Company furnished with the Bond. The premiums for all said bonds shall be paid by the bidder. If any surety becomes unacceptable to the District in the absolute judgment and discretion of the District, then the bidder/contractor shall promptly furnish at its own expense such additional bonds as may be required by the



District to protect the District's interests and the interests of persons supplying labor or materials in the prosecution of the work contemplated by these Contract Documents.

In the event of any conflict between the terms of the Contract Documents and the terms of the bonds, the terms of the Contract Documents shall control and the bonds shall be deemed to be amended thereby. The District shall be entitled to exercise any and all rights granted by the Contract Documents in the event of default, without control by the surety, provided that the District promptly notifies the surety at the time or before the exercise of such rights. The exercise by the District of such rights shall not affect the liability of the surety under the bonds.

Bid security of unsuccessful bidder will be returned to the bidder within sixty (60) days of the time the execution of the contract by the District and the successful bidder award of Contract is made.

#### **A-9 Contract Retention**

At the request and expense of the Contractor and pursuant to Public Contract Code section 22300, securities equivalent to any amount withheld by the District to ensure the Contractor's performance under the Contract shall be deposited with the District as substitute security, or, at the Contractor's request, with a state or federally chartered bank in California as the escrow agent. Escrow instructions shall conform to the requirements of Public Contract Code section 22300.

#### **A-10 Wage Rates / Compliance Monitoring**

Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code section 1770 et seq. and the Davis-Bacon Act, whichever is greater. A copy of the prevailing wage rate schedules is on file at the office of the District and by this reference incorporated herein. The Contractor shall post a copy of said documents at each job site. The Contractor and any Subcontractor under him shall pay not less than the specified prevailing rate of per diem wages for general, holiday and overtime work to all workers employed in the execution of this Contract.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Each contractor and subcontractor shall furnish the records specified in Labor Code section 1776 directly to the Labor Commissions, in the manner set forth in Labor Code section 1771.4.

Contractors shall be required to post job site notices, as prescribed by regulation.

**A-11 Use of Apprentices**

If the project requires the employment of workers in any apprenticeable craft or trade, once awarded, the Contractor or Subcontractors must apply to the Joint Apprenticeship Council unless already covered by local apprenticeship standards under Labor Code Section 1777.5, and the Contractor shall otherwise comply with Section 1777.5.

**A-12 Contract Documents**

The Contract Documents shall consist of the Notice Inviting Bids, the Instructions to Bidders, the accepted Proposal and Proposal Bidding Schedule, the Contractor's Licensing Statement, the Information Required of Bidders, the Agreement, the Proposal Bond, the Faithful Performance Bond, the Payment Bond, the Non-Collusion Affidavits, the Good Faith Efforts Check List for Disadvantage Business Enterprises, the Notice to Proceed, General Conditions, Special Conditions, the Plans and Specifications, Appendices and any change order or Addenda, setting forth any modifications or interpretations of any of said Documents, all of which documents are on file or will be on file in the office of the District, 33380 Cawelo Extended, Bakersfield, CA 93308, and which are hereby referred to and made a part of this Notice Inviting Bids.

All questions about the meaning or intent of the Contract Documents are to be directed to the Engineer.

Questions regarding the type of work required may be addressed to the following:

Kevin Yao  
GEI Consultants, Inc.  
Tel. 818-552-6410  
[kyao@geiconsultants.com](mailto:kyao@geiconsultants.com)

**All questions or inquiries regarding the project or the Contract Documents shall be directed solely to the person listed above. Bidders shall not contact any participants in the project regarding the project or the Contract Documents prior to the time that the bids are opened.**

A full set of Plans and Specifications is available for inspection without charge at the office of the District, 33380 Cawelo Extended, Bakersfield, CA 93308. Requests for plans and specifications may be addressed to the following: Grace Martin: [gmartin@geiconsultants.com](mailto:gmartin@geiconsultants.com). Additionally, the bid documents can also be accessed through the District's website: <https://www.northkernwsd.com/customer-service/notices/>.

District may amend any provision or part of the Specifications at any time prior to three days before closing time, provided that the closing time set forth may be extended by District at any time prior to said closing time. Such amendments, if any, will be in the form of addenda which will be issued simultaneously to all persons who have obtained a copy of the Contract Documents from the District, and are on the planholder's list.

Addenda will be emailed ONLY to all parties recorded by the Engineer as having received the Contract Documents. If you wish to receive addenda by some means other than email, please advise the Engineer immediately. Questions received less than three days prior to the date for opening of bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or responses will be without legal effect and are not to be relied upon by the Bidders unless they are integrated into the written Contract Documents.

### **A-13 Address and Marking of Proposal**

The envelope enclosing the proposal shall be sealed and addressed to the North Kern Water Storage District and mailed or delivered to 33380 Cawelo Extended, Bakersfield, CA 93308. The envelope shall be plainly marked in the upper left-hand corner with the name and address of the bidder and shall bear the words "Proposal for", followed by title of the Specifications for the work and the date and hour for opening of bids. The certified or cashier's check, money order, or bidder's bond, where applicable, shall be made payable to North Kern Water Storage District. The bid security shall be enclosed in the same envelope with the proposal.

### **A-14 Substitute Securities**

Pursuant to Public Contract Code Section 22300, equivalent securities may be substituted for monies withheld to ensure performance of the contract. The District reserves the right to solely determine the adequacy of the securities being proposed by the Contractor and the value of those securities. The District shall also be entitled to charge an administrative fee, as determined by District in its sole discretion, for substituting equivalent securities for retention amounts. The District's decisions with respect to the administration of the provisions of Section 22300 shall be final and shall include, but not be limited to, determinations of what securities are equivalent, the value of the securities, the negotiability of the securities, the costs of administration and the determination of whether or not the administration should be accomplished by an independent agency or by the District. The District shall be entitled, at any time, to request the deposit of additional securities of a value designated by District, in District's sole discretion, to satisfy this requirement. If the District does not receive satisfactory securities within twelve (12) consecutive days of the date of the written request, District shall be entitled to withhold amounts due to Contractor until securities of satisfactory value to District have been received.

Date: October 8, 2021

North Kern Water Storage District

By: s/s Ram Venkatesan  
Deputy General Manager

**This page intentionally left blank.**

**SECTION B****INSTRUCTIONS TO BIDDERS****B-1 Form of Proposal and Signature**

The Proposal shall be submitted only on the form attached hereto or copies thereof and shall be enclosed in a sealed envelope and marked and addressed as hereinafter directed. The bidder shall state in figures the unit prices or the specific sums, as the case may be, for which he proposes to supply the labor, materials, supplies, or machinery, and perform the work required by the Contract and other Contract Documents, including the Specifications. If the unit price and the total amount named by a bidder for any item are not in agreement, the unit price alone will be considered as representing the bidder's intention and the totals will be corrected to conform thereto.

If the Proposal is made by an individual, it shall be signed by him and his full name and address shall be given; if it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of such firm shall be given; and if it is made by a corporation the name of the corporation shall be signed by its duly authorized officer or officers attested by the corporate seal, the names and titles of all officers of the corporation shall be given, and the address of the corporation and the state in which incorporated shall be stated.

Proposals will be considered only from persons licensed as required under applicable provisions of the Contractors' State License Law (California Business and Professional Code, Section 7000 et seq.) and rules and regulations adopted pursuant thereto; and each bidder shall insert his license number in the place provided in the Proposal. No oral, telephonic, or telegraphic proposal or modification of a proposal will be considered.

**B-2 Preparation of the Proposal**

Blank spaces in the Proposal shall be properly filled. The phraseology of the Proposal must not be changed, and no additions shall be made to the items mentioned therein. Unauthorized conditions, limitations, or provisos attached to a Proposal will render it informal and may cause its rejection. If erasures, interlineations or other changes appear on the form, each erasure, interlineation or change must be initialed by the person signing the Proposal. Alternative proposals will not be considered unless specifically provided for in the Bidding Schedule.

Proposals may be withdrawn without prejudice by written or telegraphic requests received from bidder prior to the time for opening of bids, and Proposals so withdrawn will be returned to bidders unopened when reached in the process of opening bids. No Proposal may be withdrawn after the hour fixed for opening bids without rendering the accompanying certified or cashier's check or bidder's bond subject to retention as liquidated damages in like manner as in the case of failure to execute the Contract after award, as in the Contract Documents herein provided.

No Proposal received after the time fixed or at any place other than the place stated in the Notice Inviting Bids will be considered. All bids will be opened and read publicly. Refer to Paragraph B-17 of the "Bid Submission and Opening Procedures" for information regarding the procedures for opening of bids. Bidders, their representatives and other interested parties are invited to be present at the opening. Where bonds are required, the bidder shall name in his Proposal the surety or sureties which have agreed to furnish said bonds.

### **B-3 Responsible Bidder and Responsive Bid**

A "Responsive Bid" is one that materially conforms in all respects to the requirements set forth in Section A—Notice Inviting Bids and Section B—Instructions to Bidders. The District reserves the right to waive any irregularities in the Bids received.

A "Responsible Bidder" is one that has the qualifications, general competency, and resources to perform the Work covered by the Proposal. Among other matters, a Responsible Bidder is one that can demonstrate successful completion of projects involving work of scope and complexity comparable to that being installed under the Contract Documents. Bids shall identify such projects and provide the information indicated in the "Information Required of Bidder" form. District expressly reserves the right to reject any Bid if it determines that Bidder's business or technical organization, financial resources, plant and equipment to be used in performing work, or lack of successful experience in performing work of similar scope and complexity, is such that it is not in District's best interest to accept the Bid.

### **B-4 Brokerage of Work Not Favorably Considered**

In general, the brokerage of work will not be favorably considered, and, the subletting of the entire Contract or of substantial complete units of it will be permitted only upon an adequate showing of the necessity involving some new condition not reasonably foreseen at the time of the Proposal. Additionally, subletting shall be in compliance with the Subletting and Subcontracting Fair Practices Act, Public Contract Code section 4100, et seq.

### **B-5 Equalizing Factors**

Wherever applicable, equalizing elements or factors not specifically mentioned or provided for herein, such as interest during construction, cost of transportation, inspection (including salaries and travel subsistence expenses), installation and operation, or any other factor or element in addition to that of price which would affect the total cost or value to the District, will be taken into consideration in comparing bids for award of the Contract.

### **B-6 Servicing and Maintenance**

Each bidder must, if requested, furnish evidence that there is an efficient service organization which regularly carries a stock of repair parts for the proposed equipment to

be furnished and installed in the work and that the organization is conveniently located for prompt service.

**B-7 Local Conditions**

Before submitting a Proposal, the Bidder shall carefully examine the Plans, read the Specifications and all other Contract Documents, visit the site of the work, and fully inform himself as to all conditions and limitations, including the character of equipment and facilities needed preliminary to and during the prosecution of the work, the uncertainty of weather, site accessibility, groundwater level, and soil conditions along the line or work, and as to all other matters which can in any way affect the work to be done. Failure to do so will not release bidders from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The District makes no representation or warranty regarding the accuracy or interpretation of information derived from maps, plans, specifications, profiles, drawings, borings, or other investigations and will not be responsible for any understanding or representations concerning conditions made by any of its officers or agents, including the Engineer or his assistants, prior to the execution of the Contract. The quantities of work or material stated in the unit price items of the Bidding Schedule are given only as a basis for the comparison of bids, and the District does not represent or warrant that the actual amount of work or material will correspond therewith, but reserves the right to increase or decrease the quantity of any unit price items of the work as may be deemed necessary or expedient by the Engineer.

**B-8 Execution of Contract**

The District reserves the right to accept or reject bids for a period of thirty (30) calendar days after date of opening, and no bid can be withdrawn during said period. A bidder to whom award is made shall execute a written Contract with the District in the form attached hereto and obtain insurance and faithful performance and labor and material bonds of the types and character and in the amounts required in Paragraph B-9, B-10, and B-11, within ten (10) calendar days from the date of the mailing of a notice from the District to the bidder of the acceptance of his Proposal, or such additional time as may be allowed by the Engineer. If a bidder to whom award is made fails or refuses to so perform, his Bid Guarantee shall become the property of the District, as provided for in Paragraph A-8, and the award will be annulled, and in the discretion of the District, an award may be made to the bidder whose Proposal is next most acceptable to the District; and such bidder shall fulfill every requirement hereof as if he were the party to whom the first award was made.

**B-9 Bonds**

In conformance with Paragraph A-8 of the Notice Inviting Bids, a bidder to whom the Contract is awarded shall, within the time specified in Paragraph B-8, furnish a surety bond conditioned upon the full and faithful performance of all obligations required to be performed under the Contract and full performance and verity of all warranties and guarantees therein contained. Said bond, referred to herein as the Faithful Performance Bond, shall be in an amount equivalent to one-hundred percent (100%) of the total

amount payable under the Contract Documents. The form of the Faithful Performance Bond set forth in these Contract Documents is a mandatory form.

In conformance with Paragraph A-8 of the Notice Inviting Bids, a bidder to whom the Contract is awarded shall, within the time specified in Paragraph B-8, furnish a Payment Bond, approved by the District, in accordance with the provisions of Civil Code sections 3225-3227, inclusive, and sections 3247-5252, inclusive. Said Payment Bond shall be in the sum of not less than one-hundred percent (100%) of the total amount payable under the Contract Documents. The form of the Payment Bond set forth in these Contract Documents is a mandatory form.

Said bonds shall be of a form satisfactory to the District and shall be obtained from responsible corporate sureties acceptable to the District. All sureties utilized by bidders shall be legally qualified to do business in the State of California, shall carry a current Best's Insurance Guide rating of "A" or better, Class X or better. Said sureties shall furnish reports as to their financial condition from time to time as requested by the District. The premiums for said bonds shall be paid by the bidder.

If any surety becomes unacceptable to the District or fails to furnish reports as to its financial condition as requested by the District, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the District and of persons supplying labor or materials in the prosecution of the work contemplated by this Contract.

In the event of any conflict between the terms of the Contract and the terms of said bonds, the terms of the Contract shall govern and said bonds shall be deemed to be amended thereby. Without limiting the foregoing, the District shall be entitled to exercise all rights granted to it by the Contract in the event of default, without control thereof by the surety, provided that the District gives the surety notice of such default at the time or before the exercise of any such right by the District and, regardless of the terms of said bonds, the exercise of any such right by the District shall in no manner affect the liability of the surety under said bonds.

#### **B-10 Workers' Compensation Insurance**

Prior to execution of the Contract as specified under Paragraph C-23 and in conformance with Section 3700 of the California Labor Code, a bidder to whom the Contract has been awarded shall sign and file with the District the following certification: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract." In addition, before the Contract is executed on behalf of the District, a bidder to whom the Contract has been awarded shall furnish satisfactory evidence that he has secured, in the manner required by law, the payment of the workers' compensation provided for in the California Labor Code and all amendments thereto.



**B-11 Public Liability and Property Damage Insurance**

The Contractor shall at his own expense maintain in effect at all times during the performance of the work, comprehensive liability insurance in the amounts given below, in a form and with insurance companies acceptable to the District. Such insurance shall contain endorsements as follows: (a) including the State of California, the California Department of Water Resources, the United States, the U.S. Bureau of Reclamation, , North Kern Water Storage District, the District, the Engineer, and their respective directors, officers and agents as additional named insureds; (b) providing contractual liability coverage for the Contractor's indemnification obligations under the Contract documents; (c) providing coverage for explosion, collapse and underground hazards; (d) personal injury coverage, including injury to the Contractor's own employees; (e) providing that the insurance may not be canceled or reduced until thirty days (30) days after the District and the Engineer shall receive written notice of such cancellation or reduction; (f) providing "cross liability" or "severability of interest" coverage for all insureds, providing that the coverage afforded the additional named insureds shall not be prejudiced by any failure of the Contractor to comply with notice requirements of the policy; and (g) providing that any other insurance maintained by the District or the Engineer is excess and not contributing insurance with the insurance required herein.

Contractor shall, at its sole cost and expense, procure and maintain the following insurance coverage:

**Commercial General Liability Insurance:** This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$1,000,000 each occurrence and an aggregate limit of at least \$2,000,000. Coverage must be purchased on a post 2004 ISO occurrence or equivalent and include coverage for, but not limited to, the following:

- a. Bodily Injury and Property Damage
- b. Personal Injury and Advertising Injury
- c. Fire legal liability
- d. Products and completed operations

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- a. Waiver of subrogation in favor of District and North Kern WSD and acceptable to District.
- b. Additional insured endorsement in favor of District and North Kern WSD and acceptable to District.
- c. Separation of insureds.

**Business Automobile Insurance:** This insurance shall contain a combined single limit of at least \$1,000,000, and include coverage for, but not limited to the following:

- a. Bodily injury and property damage.

- b. Any and all vehicles owned, used or hired.

This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- a. Waiver of subrogation in favor of District and North Kern WSD and acceptable to District.
- b. Additional insured endorsement in favor of District and North Kern WSD and acceptable to District.
- c. Separation of insureds.

**Workers' Compensation and Employers' Liability Insurance:** This insurance shall include coverage for, but not limited to:

- a. Contractor's statutory liability under the workers' compensation laws of the state(s) in which the services are to be performed. If optional under state laws, the insurance must cover all employees anyway.
- b. Employers' Liability (Part B) with limits of at least \$1,000,000 each accident, \$1,000,000 by disease policy limit, \$1,000,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- a. Waiver of subrogation in favor of and acceptable to District.

**Excess Liability (if necessary):** The limits of insurance required in these Contract Documents may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the District and other required additional insureds specified above (if agreed to in a written contract or agreement) before the District or other additional insureds' own primary or self-insurance shall be called upon to protect it as a named insured.

The Contractor shall, within the period stated in Paragraph B-8 and as a condition precedent to execution of the Contract by the District, deliver to the District a certificate of insurance issued by the insurer reflecting the existence of the required insurance, together with signed copies of the above-specified endorsements. If required by the District, the Contractor shall also furnish a complete copy of the policy and all endorsements. The Contractor shall also disclose the amount of the deductible under its policy(ies) and if the District determines that the deductible is excessive, may require the Contractor to post a bond guaranteeing payment of any losses and defense costs within the deductible layer.

## **B-12 Subcontracts**

Bidder shall furnish information regarding its Subcontractors in substantially the form set forth in the bid forms. If no Subcontractors are to be used, Bidder shall so state. Bidder's

attention is directed to Sections 4100 through 4113 of the California Public Contract Code for requirements and provisions relative to Subcontractors. No substitution of subcontractors by the Bidder shall be consented to or permitted except in accordance with the provisions of Public Contract Code Sections 4107 and 4107.5.

The bidder shall perform with his own organization, work equivalent to at least sixty (60) percent of the total Contract price, and no more than work equivalent to forty (40) percent of the total Contract price may be performed by subcontractors. The cost of Contractor-furnished materials installed by labor carried on the bidder's own payroll may be included in the above required sixty (60) percent.

In conformance with the provisions of Section 4104 of the Public Contract Code of the State of California, each bidder shall set forth in his or her Proposal on the form provided therefor:

- a. The name and location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half ( $\frac{1}{2}$ ) of one percent (1%) of the Contractor's total bid; and
- b. The portion of the work which will be done by each such subcontractor and a description of the nature of such work.

### **B-13 Non-Collusion Affidavits**

In accordance with the provisions of Section 7106 of the Public Contract Code, each bidder shall execute and submit with their bid a Non-Collusion Affidavit in the form attached hereto. Additionally, the principal contractor shall secure from each proposed subcontractor a Non-Collusion Affidavit in the form also attached hereto.

### **B-14 Bidder's Bond**

Each proposal must be accompanied by a certified or cashier's check drawn on a responsible bank or a bidder's bond made by a responsible corporate surety, payable to the North Kern Water Storage District, as a guarantee that if the bid is accepted, the bidder will, within the time specified in the Instructions to Bidders, enter into a written contract in the form hereinafter set forth and obtain insurance and faithful performance and labor and material payment bonds of the types and character, and in the amounts as required in said Instructions to Bidders. Said check or bid bond shall be for a sum not less than five percent (5%) of the aggregate sum of the proposal. Checks will be returned (a) to unsuccessful bidders as soon as practicable after the opening of bids and (b) to the successful bidder as soon as he has executed the contract and obtained the required insurance and bonds, provided he so performs in the manner and within the time stated in the Instruction to Bidders. Should the successful bidder fail to so perform, the District

shall be entitled to retain the moneys represented by said check or bond as liquidated damages on account of the delay and inconvenience occasioned to the District, it being expressly agreed and understood that the amount of said check or bond constitutes reasonable damages and that it is impracticable or extremely difficult to ascertain actual damages. There is enclosed following the Proposal for these Specifications a form of Bidder's Bond, and all Bidders submitting bonds as bid guarantees are required to make use of this form and to submit the complete form with submitted proposals.

**B-15 Not Used****B-16 Construction Schedule**

Preliminary Construction Schedule - The Contractor shall submit with his Bid a preliminary construction schedule for the District's review, which includes important milestones. **For purposes of preparing said Construction Schedule, Contractors should assume the Notice to Proceed will be issued on December 1, 2021.** The Preliminary Construction Schedule shall be in sufficient detail to show the chronological relationship of all activities of the project, including, but not limited to, estimated starting and completion dates of various activities including shop drawing submittal and approval, mobilization of equipment and resources, procurement of materials, construction of components of project, and completion of closeout of project. The schedule shall be prepared in Critical Path Method (CPM) format.

The CPM schedule shall include at a minimum the following: (1) identification of the basic tasks or activities that must be performed to complete the project; (2) estimation of the duration of the specific activities; and (3) a determination of the logical flow of the work, which includes a determination of which activities must be completed before the subsequent ones can commence.

The Preliminary Construction Schedule shall reflect completion of all work under the Contract within the specified times and in accordance with the Contract Documents, including the Specifications. The Preliminary Construction Schedule will be used by the District in determining award of the Contract.

**Post-Bid Pre-Award Schedule** - As a condition of award during the period after the opening of bids and prior to actual award of the Contract by the District, the apparent low bidder shall submit a Construction Schedule as set forth in this section. The Construction Schedule shall indicate the time of starting and completion of each major structure or phase of the Work and such intermediate phases as will serve for well-defined chronological order on the Construction Schedule. The schedule shall also indicate the anticipated date of receipt of major items of equipment, and all items of equipment receipt and installation of which is critical to the scheduled progress of the project. The Construction Schedule shall be prepared in Critical Path Method format. Four (4) copies of the schedule shall be submitted.

Within five (5) calendar days after bid date, the apparent low bidder shall designate in writing an authorized representative who will be responsible for the preparation of the post-bid pre-award Construction Schedule as set forth in this Section.

The apparent low bidder's representative shall have the authority to fulfill the requirements of preparing the schedule in a professional and acceptable manner demonstrating competence in use of the Construction Schedule, including scheduling experience on project of similar value and complexity.

#### **B-17 Bid Submission and Opening Procedures**

The Proposal Bidding Schedule includes a Base Bid and the lowest bid will be determined based on the submission of a responsive bid from a responsible bidder (refer to Section B-3). Accordingly, the following procedures will be followed:

- a. **Bid Envelopes:** Bids must be submitted in a labeled envelope plainly marked in the upper left-hand corner with the name and address of the bidder and shall bear the words "Proposal for", followed by the title of the Contract Documents for this work and the date and hour for opening bids.
- b. **Contents of Bid:** Bidders shall complete and submit all documents noted as "REQUIRED" listed below for bids to be considered responsive. Bid proposal shall be organized and submitted as follows:

##### REQUIRED

1. Bidder's Proposal
  2. Proposal Bidding Schedule
  3. Information Required of Bidder Form
  4. Good-Faith Efforts Checklist
  5. Preliminary Construction Schedule (ref. Paragraph B-16)
  6. Bidder's Non-Collusion Affidavit (ref. Paragraph B-13)
  7. Subcontractor Non-Collusion Affidavit (ref. Paragraph B-13)
  8. All Issued Addenda (signed front-covers only)
  9. Bid Security (in the form of a certified or cashier's check or bidder's bond) (ref. Paragraph B-14)
  10. Proof that contractor and subcontractors are registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- c. **Delivery of Bid:** It is the bidder's responsibility to make sure that their bid is submitted within the specified time. Late bids will not be accepted regardless of postmark and will be returned unopened to the bidder.

1. Hand Delivery – Bid shall be sealed and submitted prior to the time and place established for receiving bids.
  2. Mail or Courier Delivery – Bid shall be sealed and inserted into another envelope or packaging exhibiting all information as required for delivery of the envelope or package to the place established for receiving bids. Bidders submitting Bid Packages via mail or courier delivery are strongly encouraged to notify the District in advance that a bid is being delivered in this manner.
- d. **Opening of Bids:** The Bid Opening will be held at the place and time stated in Paragraph A-2. The envelope containing the “Bid” as described in Section B-17b will be publicly opened at the prescribed time and the amount of the Base Bid will be read aloud. This will continue until all bids are announced. A bid tabulation will be prepared during the Bid Opening which lists the Base Bid amounts and the corresponding name of the bidders. At the request of the bidders, the District will transmit a bid tabulation of all bids, to include bidder name and the corresponding Base Bid amount.
3. **Announcement of Bid Ranking and Bidders:** The announcement of bid ranking and bidders will be completed after the public bid opening and evaluation of bids.

**\*\*END OF SECTION\*\***

**PROPOSAL BIDDING SCHEDULE****Specifications No. NK-619****Pipeline and Pump Station Project**

The following Proposal Bid Schedule lists the items necessary to complete the Work. Bidder shall complete the schedule including the unit and total price of each item, including applicable sales and other taxes. If the total cost of any item or the total Base Bid is inconsistent with the unit cost, the unit cost shall prevail. Payment of each item will be based on the Plans and are to be considered as “final pay quantity for each item”, unless the dimensions of the portion of the work shown on the Plans are revised by the Engineer, or unless the portion of the work is eliminated. If the dimensions of the specific portion of the work are revised, and the revisions result in an increase or decrease in the estimated quantity of the portion of the work, the final quantity for payment will be revised in the amount represented by the changes in the dimensions. If a specific portion of the work is eliminated, the final pay quantity designated for that specific portion of the work will be eliminated. All costs for completing the Work described in the Contract Documents shall be included in the bid items listed below. Contractor shall include all costs to accomplish the project including (but not limited to): mobilization/demobilization, develop water supply, materials, equipment, labor, overhead, profit, taxes, delivery charges, permits etc.

**Base Contract****Pipeline and Pump Station project – Project Wide Items**

<b>Item No</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total</b>
<b>Schedule A: General Items</b>					
1	Mobilization and Demobilization		LS		
2	Environmental Compliance		LS		
3	Traffic Control		LS		
<b>Schedule B: Water Mains</b>					
4	Installation of District-Furnished 16-inch diameter C900 DR 25 PVC Water Main*	7,785	LF		
5	Installation of District-Furnished 20-inch diameter C900 DR 25 PVC Water Main*	6,200	LF		
6	Installation of District-Furnished 24-inch diameter C900 DR 25 PVC Water Main*	10,620	LF		
7	Installation of District-Furnished 30-inch diameter C900 DR 25 PVC Water Main*	500	LF		
8	Installation of District-Furnished 36-inch diameter C900 DR 25 PVC Water	1,140	LF		

	Main*				
9	Installation of District-Furnished 42-inch diameter C900 DR 25 PVC Water Main*	2,860	LF		
10	Furnish and Install 16-inch diameter C900 DR 25 PVC Pipeline from Well 88-25-031 to Water Main	2,715	LF		
11	Furnish and install 16-inch Butterfly Valve on water mains	7	EA		
12	Furnish and install 20-inch Butterfly Valve on water mains	3	EA		
13	<i>Removed</i>				
14	Furnish and install 30-inch Butterfly Valve on water mains	1	EA		
15	<i>Removed</i>				
16	Furnish and Install 3-inch Combination Air Valve Assembly on water mains	27	EA		
17	Furnish and Install Blow Off Assembly on water mains	4	EA		
18	Installation of CT-1 Canal Crossing and Calloway Canal Crossing per Contract Drawing CG-07 and CG-08		LS		
19	Installation of 9-2 Canal Crossing per Contract Drawing CC-14		LS		
20	Furnish and Install Temporary Discharge for 88-25 Wells pipeline per Contract Drawing C-104 Enlarged Pan No. 18		LS		
21	Furnish and Install Temporary Discharge for Rosedale Pump Station Discharge Pipeline per Contract Drawing C-104 Enlarged Pan No. 19		LS		
22	Furnish and Install Connection to Existing Friant Kern Canal Discharge Pipeline per Contract Drawing C-102, Enlarged Plan No. 9		LS		
<b>Schedule C: Well Connections and Modifications</b>					
23	Furnish and Install Well 88-25-016 Connection and Modification per Contract Drawing C-102, Enlarged Plan No. 12 and Contract Drawing C-103, Enlarged Plan No. 14		LS		
24	Furnish and Install Well 88-25-030 Connection and Modification per Contract Drawing C-102, Enlarged Plan No. 10 and Contract Drawing C-103, Enlarged Plan No. 15		LS		
25	Furnish and Install Well 88-25-031 Connection and Modification per Contract Drawing C-102, Enlarged Plan		LS		



	No. 11 and Contract Drawing C-103, Enlarged Plan No. 16				
26	Furnish and Install Well 88-29-006 Connection and Modification per Contract Drawing C-102, Enlarged Plan No. 7 and Contract Drawing C-103, Enlarged Plan No. 13		LS		
27	Furnish and Install Well 88-29-009 Connection and Modification per Contract Drawing C-102, Enlarged Plan No. 8		LS		
28	Furnish and Install Well 99-00-022 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 6		LS		
29	Furnish and Install Well 99-00-026 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 3		LS		
30	Furnish and Install Well 99-00-032 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 2 and Contract Drawing C-103, Enlarged Plan No. 17		LS		
31	Furnish and Install Well 99-00-035 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 1		LS		
32	Furnish and Install Well 99-02-004 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 5		LS		
33	Furnish and Install Well 99-02-006 Connection and Modification per Contract Drawing C-101, Enlarged Plan No. 4		LS		
<b>Schedule D: Rosedale Pump Station</b>					
34	Furnish and Install Meter/Main & Power Distribution Switchboard		LS		
35	Furnish and Install Pump Control Panels	4	EA		
36	Furnish and Install PLC Control Panel		LS		
37	Furnish and Install Instrumentation		LS		
38	Furnish and Install Site Electrical Materials		LS		
39	Furnish Electrical Systems Analysis.		LS		
40	PLC and SCADA Programming, including all start-up services, debugging, trouble shooting, and final system tuning and operator training.		LS		

41	Furnish and Install 15 CFS Pump per Contract Drawing M-01	4	EA		
42	Furnish and Install 18" Oil Cushioned Check Valve per Contract Drawing M-01	4	EA		
43	Furnish and Install 18" Flanged Butterfly Valve Assembly per Contract Drawing M-01	4	EA		
44	Furnish and Install 24" Flanged Butterfly Valve Assembly for Pressure Reducing Valve Isolation per Contract Drawing M-01	2	EA		
45	Furnish and Install 30" MJ x MJ Butterfly Valves W/Torque Tube and Handwheel per Contract Drawing M-01	4	EA		
46	Furnish and Install 36" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel on suction header per Contract Drawing M-01	1	EA		
47	Furnish and Install 24" MJ x MJ Butterfly valves W/Torque Tube and Handwheel on suction header per Contract Drawing M-01	1	EA		
48	Furnish and Install 24" Pressure Reducing Valve per Contract Drawing M-01	1	EA		
49	Furnish and Install 36" MJ Ductile Iron Pump Header Pipe Spools per Contract Drawing M-01		LS		
50	Furnish and Install 36"x30 MJ Ductile Iron Tees per Contract Drawing M-01	4	EA		
51	Furnish and Install 36"x24" MJ Ductile Iron Tees per Contract Drawing M-01	1	EA		
52	Furnish and Install 24" x 36" PE x PE Reducer per Contract Drawing M-01	1	EA		
53	Furnish and Install 30" Ductile Iron Pipe Spools to Pumps per Contract Drawing M-01	4	EA		
54	Furnish and Install all other 24", 36", 36x42" Reducer, 42" and Flanged and MJ Ductile Iron Pipe Spools and Fittings not specifically called out or included in this bid schedule but as shown per Contract Drawing M-01. Include allowances for locking gaskets and all flexible restrained piping system components shown.		LS		
55	Furnish and Install 36" Steel Piping for Pump Header w/36 x 18 Tees, and other weld neck flanged fitting per Contract		LS		

	Drawing M-01				
56	Furnish and Install 18" Steel Piping for Pump Header w/ and other weld neck flanged fittings per Contract Drawing M-01	4	EA		
57	Furnish and Install 24" Steel Pipe and other weld neck flanged Fittings for Pressure Reducing Valve per Contract Drawing M-01		LS		
58	Furnish and Install 36-inch Mag Meter per Contract Drawing M-01		LS		
59	Pump Station Start-up and Testing		LS		
60	Furnish and Install pump concrete pedestal (6' x 31.5' x 2.5) per Contract Drawing S-02	1	LS		
61	Furnish and Install Flange supports and foundation per Contract Drawing S-05	5	EA		
62	Furnish and Install pipe supports and foundation per Contract Drawing S-04.	8	EA		
63	Furnish and Install Utility Transformer pad per Contract Drawing S-03	1	LS		
64	Furnish and Install Electrical Equipment Building and Foundation (28' x 17') per Contract Drawing S-03	1	LS		
65	Furnish and Install Chain Link Fencing per Contract Drawing C-201 and CG-06		LS		
66	Site Grading per Contract Drawings C-201		LS		

\* The District purchased all the C900 DR25 PVC pipes required to install for this contract to avoid constructions delays and meet project deadlines. Pipe quantities and storage location map are in Appendix G.

**TOTAL AMOUNT FOR Base Contract  
(Item No. 1 through Item No. 66)**

**TOTAL PRICE \$** \_\_\_\_\_

Bid Submitted by:

Contractor \_\_\_\_\_

Date \_\_\_\_\_

## MEASUREMENT AND PAYMENT

### SPECIFICATIONS NO. NK-619 PIPELINE AND PUMP STATION PROJECT

Payment for the various items of the Proposal Bid Schedule, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the Work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety, and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Proposal Bid Schedule, but which is necessary for the complete construction of the Work and all costs therefore shall be included in the prices named in the Proposal Bid Schedules for the various appurtenant items of work.

#### Base Contract

#### SCHEDULE A – General Items

##### 1. Mobilization and Demobilization (Bid Item No. 1)

- a. **Description:** This item shall include all activities and costs for transportation of personnel, equipment, and operating supplies to and from the site; establishment of portable sanitary and refuse facilities; obtaining an adequate source of fresh water; location, provision and installation of field offices & equipment/materials, storage yards excavation equipment, buildings, and other necessary facilities for the Contractor's operations at the site; insurances, premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable. Provisions for contract closeout, including cleaning, final site clean-up, waste disposal, touch up and repair, final equipment check, providing project Record Drawings and providing warranties.

Portions of this site are not fenced, the contractor will be responsible to provide his own security for equipment, materials, fuel, tools, etc. that he may have on site.

The Contractor shall provide all necessary equipment & materials; all tools, accessories, power, fuel, materials, supplies, lighting, water, and other support equipment; and experienced personnel necessary to execute the Work in an orderly an efficient manner. This item also includes the removal of all work-related items from the job site and reversal of temporary items completed in the mobilization and construction.

- b. **Measurement and Payment** - The Final Pay Lump Sum (LS) Price paid for Mobilization and Demobilization shall include full compensation for all labor,

materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred to complete the mobilization and demobilization effort and items to complete the project that are not covered under any other line item – including, but not limited to, premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable.

**2. Environmental Compliance (Bid Item No. 2)**

- a. **Description:** The Contractor shall comply with all local, state and federal requirements for Storm Water Pollution Prevention and Site dust control. Contractor shall install, construct, maintain all necessary measures to comply with and keep the necessary records in accordance with the requirements of the applicable agencies.
- b. **Measurement and Payment -** The Final Pay Lump Sum Price paid for Environmental Compliance measures shall include full compensation for furnishing all permits, fees, labor, materials, tools, equipment, and incidentals and for doing all work involved in PM-10 and SWPPP Compliance.

**3. Traffic Control Plan and Implementation (Bid Item No. 3)**

- a. **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to design, furnish, install, maintain, and operate all necessary facilities to provide traffic control for safety and proper construction of the work.
- b. **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**SCHEDULE B – Water Mains**

**4. Install 16-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 4)**

- a) **Description:** The 16-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to install 16-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's

instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**5. Install 20-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 5)**

- a) **Description:** The 20-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to install 20-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**6. Install 24-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 6)**

- a) **Description:** The 24-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 24-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all

necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**7. Install 30-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 7)**

- a) **Description:** The 30-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 30-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**8. Install 36-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 8)**

- a) **Description:** The 36-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 36-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints,

backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**9. Install 42-inch Diameter C900 DR25 PVC Water Main Pipe (Bid Item No. 9)**

- a) **Description:** The 42-inch C900 DR 25 CL 165 has been furnished to avoid construction delays. Contractor is responsible to pick up the furnished pipe and transport to project site. Pipe quantities and storage location map are provided in Appendix G. The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 42-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**10. Furnish and Install 16-inch Diameter C900 DR25 PVC Pipeline from Well 88-25-031 to Water Main (Bid Item No. 10)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 16-inch C900 DR 25 CL 165 pipe in conformance with the provided Specifications, Plans and Details. The contractor shall perform all activities, including but not limited to; excavation, shoring, subgrade preparation, bedding preparation, laying of joints, pressure test joints, backfill and compaction, dewatering, ductile iron fittings, restraints and all



necessary appurtenances, and traffic control. The contractor shall lay all pipe in accordance with manufacturer's instructions, unless otherwise specified. Special attention shall be paid to making sure that proper consolidation, support and compaction is provided at the haunches of the pipe to the spring-line. All water lines shall have a minimum (typical) cover of 48-inches.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

#### **11. Furnish and Install 16-inch Butterfly Valves (Bid Item No. 11)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 16-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 16-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

#### **12. Furnish and Install 20-inch Butterfly Valves (Bid Item No. 12)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 20-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 20-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall

perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**13. Removed (Bid Item No. 13)**

**14. Furnish and Install 30-inch Butterfly Valves (Bid Item No. 14)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install a 30-inch Underground Service Butterfly Valve in conformance with the provided Specifications, Plans and Details. This includes, but is not limited to: furnishing and installing a 30-inch Underground Service Butterfly Valve per the contract drawings and specifications, concrete support pad, concrete pad around actuator shaft, valve actuator shaft, flanges, flange adapters with backup rings, bolts, restraints, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, forming, provision and placement of concrete, pouring, finishing, curing, installation, coating, and all backfill and compaction. The contractor shall properly apply all grease and coatings to each valve as specified.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**15. Removed (Bid Item No. 15)**

**16. Furnish and Install 3-inch Combination Air Valve Assemblies (Bid Item No. 16)**

- a) **Description:** The Contractor shall provide all materials, equipment, labor, and incidentals to furnish and install 3-in Air Valves in conformance with the provided Specifications, Plans (CG-03) and Details. This includes, but is not limited to, furnishing and installing the precast concrete manhole with galvanized

steps, precast concrete grade rings as required, traffic weight cast iron manhole frame and cover with diamond tread, air valve assembly, stainless steel tapping sleeve, and gravel per the Plans, and any other labor, materials, transportation, supplies, tools, and equipment necessary to complete the work as shown in the Plans and described in the Specifications. The contractor shall perform all subgrade preparation including, but not limited to, bedding preparation, laying of joints, forming, provision and placement of reinforcing steel, provision and placement of concrete, pouring, finishing, curing, provision and placement of all miscellaneous metalwork and painting, pressure test joints, and all backfill and compaction.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**17. Furnish and Install Blow off Assembly (Bid Item No. 17)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Blow Off Assembly on mainline per contract drawings CG-09, Detail 1, but not limited to, precast box, valves, fittings, ductile iron pipe, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Air Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**18. Calloway and CT-1 Canal Crossing (Bid Item No. 18)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, to perform the Calloway and CT-1 Canal Crossing per the contract drawing CG-07 and CG-08, including, but not limited to, saw cutting, concrete liner removal and disposal, excavation, backfilling, imported trench backfill, compaction, grading, dewatering, restoration of existing riprap, replacement of concrete liner, traffic control, all necessary appurtenances, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**19. 9-2 Canal Crossing (Bid Item No. 19)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, to perform the 9-2 Canal Crossing per the contract drawing CC-14, including, but not limited to excavation, backfilling, imported trench backfill, compaction, grading, dewatering, removal and restoration of riprap.
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**20. Furnish and Install pipeline 88-25 discharge structure (Bid Item No. 20)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install material for the discharge structure 88-25 Wells per Contract Drawing C-104 Enlarged Pan No. 18 including, but not limited to, connecting to the 24-inch C900 DR 25 PVC mainline, restraints, ductile iron fittings, mag meter, valves, spools, steel pipe, supports, welding, road crossings, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-104, Enlarged Plan No 18 – 88-25 Wells Pipeline from the 24” Coupling Adapter and 24”x18” Eccentric Reducer to the 18”x12” Road Crossings and the Discharge into the Friant Kern Canal (STA 1+04.61).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**21. Furnish and Install Rosedale discharge structure (Bid Item No. 21)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install material for the discharge structure 88-25 Wells per Contract Drawing C-104 Enlarged Plan No. 19 including, but not limited to, connecting to the 42-inch C900 DR 25 PVC mainline, restraints, ductile iron fittings, mag meter, valves, spools, steel pipe, supports, welding, road crossings, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-104, Enlarged Plan No 19 – Rosedale Pump Station Discharge Pipeline from the 42” Coupling Adapter and 42”(S)x24”(W)x18”(N)x24”(E) Cross to the 18”x12” Road Crossings and the Discharge into the Friant Kern Canal (STA0 +70).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**22. Connect 88-29 pipeline to existing discharge structure (Bid Item No. 22)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Connection to Existing Friant Kern Discharge Structure per Contract Drawing C-102, Enlarged Plan No. 9 including, but not limited to, coupling adapters, valves, spools, fittings, restraints, shoring, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances.

Includes furnishing and installing of items shown on C-102, Enlarged Plan No 9 – Connection to Existing 16” PVC Irrigation from the 24” Coupling Adapter and 24”x16” Eccentric Reducer to the 16”x16”x16” Tee and 16” Coupling Adapter.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**SCHEDULE C – Well Connections and Modifications**

**23. Furnish and Install Well 88-25-016 Connection and Tie In (Bid Item No. 23)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install Well Connection Tie In (88-25-016) per Contract Drawing C-102, Enlarged Plan No. 12 and C-103, Enlarged Plan No. 14 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 14 including removal, replacement, and disposal of Well 88-25-016 existing steel pipe and components per plan.
- The entirety of the Connection shown on C-102, Enlarged Plan No. 12 to the existing 10" PVC line to the 12" Butterfly Valve connecting to the 24"x24"x12" Tee (included in Bid Item No. 6).
- The entirety of the 12" Steel Discharge and all components from the 12"x12"x12" Tee to the 12" 45 bend at the end of pipe (C-102, Enlarged Plan No. 12).
- Removal and Disposal of the existing 10" Irrigation (C-102, Enlarged Plan No. 12)

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

#### **24. Furnish and Install Well 88-25-030 Connection and Tie In (Bid Item No. 24)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-25-030) per Contract Drawing C-102, Enlarged Plan No. 10 and C-103, Enlarged Plan No. 15 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 15 including removal, replacement, and disposal of Well 88-25-030 existing steel pipe and components per plan.

- All items on C-102, Enlarged Plan No. 10 with the exception of items included in Bid Item No. 4:
    - 16"x16"x16" Tee,
    - 2' Spool,
    - 16" Butterfly Valve,
    - 16" Coupling Adapter
  - Removal and Disposal of the existing 14" Irrigation (C-102, Enlarged Plan No. 10).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**25. Furnish and Install Well 88-25-031 Connection and Tie In (Bid Item No. 25)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-25-031) per Contract Drawing C-102, Enlarged Plan No. 11 and C-103, Enlarged Plan No. 16 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, welding, removal and disposal of existing piping, relocation of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.
- Includes furnishing and installing of the following items:
- All items on C-103, Enlarged Plan No. 16 including removal, replacement, and disposal of Well 88-25-031 existing steel pipe and components per plan.
  - The entirety of the Connection shown on C-102, Enlarged Plan No. 11 to the 16" PVC Water Main line to the 16" Butterfly Valve connecting to the 20"x20"x16" Tee (included in Bid Item No. 5).
  - The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 11).
  - Relocation of Existing irrigation lines as needed (C-102, Enlarged Plan No. 11)

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**26. Furnish and Install Well 88-29-006 Connection and Tie In (Bid Item No. 26)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-29-006) per Contract Drawing C-102, Enlarged Plan No. 7 and C-103, Enlarged Plan No. 13 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 13 including removal, replacement, and disposal of Well 88-29-006 existing steel pipe and components per plan.
  - All items on C-102, Enlarged Plan No. 7 with the exception of items included in Bid Item No. 4:
    - 16"x16"x16" Tee,
    - 5' Spool,
    - 16" Butterfly Valve,
    - 16" Coupling Adapter
  - The entirety of the 12" Steel Discharge and all components (C-102, Enlarged Plan No. 7).
  - Removal and Disposal of Existing 10" irrigation line (C-102, Enlarged Plan No. 7).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**27. Furnish and Install Well 88-29-009 Connection and Tie In (Bid Item No. 27)**



- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (88-29-009) per Contract Drawing C-102, Enlarged Plan No. 8 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-102, Enlarged Plan No. 8 to the existing Well 88-29-009 to the Existing 10" PVC including the removal, replacement, and disposal of existing steel pipe and components.
- The entirety of the Connection shown on C-102, Enlarged Plan No. 8 to the existing 10" PVC line to the 16" Butterfly Valve Connected to the 24"x24"x16" Tee on the Water Main (included in Bid Item No. 6).
- The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 8).
- Removal of Existing 10" Irrigation discharge Line (C-102, Enlarged Plan No. 8).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**28. Furnish and Install Well 99-00-022 Connection and Tie In (Bid Item No. 28)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-022) per Contract Drawing C-101, Enlarged Plan No. 6 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 6 to the existing Well 99-00-022 10" Steel Pipe to the 16" Butterfly Valve connected to the 36"x36"x16" Tee on the Water Main (included in Bid Item No. 8).
  - The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-101, Enlarged Plan No. 6).
  - Remove Portion of Existing 18" Reinforced Concrete Pipe (C-101, Enlarge Plan No. 6).
  - Cap and Abandonment of the Existing 18" Reinforced Concrete Pipe (C-101, Enlarge Plan No. 6).
  - Removal/Replacement/Disposal of well 99-00-022 existing steel pipe and components per C-101, Enlarged Plan No. 6
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**29. Furnish and Install Well 99-00-026 Connection and Tie In (Bid Item No. 29)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-026) per Contract Drawing C-101, Enlarged Plan No. 3 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 3 to the existing Well 99-00-026 10" Steel Discharge Piping to the 16" Butterfly Valve connected to the 24"x24"x16" Tee on the Water Main (Bid Item No. 6).
- The entirety of the 12" Steel Discharge and all components from the 16"x16"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 8).
- Cap and Abandonment of the Existing 20" Reinforced Concrete Pipe (C-102, Enlarged Plan No. 8).
- Removal/Replacement/Disposal of well 99-00-026 existing steel pipe and components per C-101, Enlarged Plan No. 3.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**30. Furnish and Install Well 99-00-032 Connection and Tie In (Bid Item No. 30)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-032) per Contract Drawing C-101, Enlarged Plan No. 2 and Contract Drawing C-103, Enlarged Plan No. 17 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- All items on C-103, Enlarged Plan No. 17 including removal, replacement, and disposal of Well 99-00-032 existing steel pipe and components per plan.
  - The entirety of the Connection shown on C-101, Enlarged Plan No. 2 to the existing 10" PVC line to the 16" Butterfly Valve connected to the 20"x20"x16" Tee on the Water Main (Bid Item No. 5).
  - The entirety of the 12" Steel Discharge and all components from the 12"x12"x12" Tee to the 12" 45 bend at end of pipe (C-102, Enlarged Plan No. 2).
  - Removal of Existing 10" Irrigation discharge Line (C-102, Enlarged Plan No. 2).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**31. Furnish and Install Well 99-00-035 Connection and Tie In (Bid Item No. 31)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-00-035) per Contract Drawing C-101, Enlarged Plan No. 1 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, removal and disposal of existing piping, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 1 to the existing Well Connection 99-00-035 Steel Pipe to the Existing 10" Butterfly Valve with the exception of the 16"x16"x16" Tee (Bid Item No.4).
- The entirety of the connection between the 16"x16"x16" Tee and the connection to the 16" PVC Water Main with the exception of the 16" Butterfly Valve (Bid Item No. 10).
- Removal/Replacement/Disposal of well 99-00-035 existing steel pipe and components per C-101, Enlarged Plan No. 1.

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**32. Furnish and Install Well 99-02-004 Connection and Tie In (Bid Item No. 32)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-02-004) per Contract Drawing C-101, Enlarged Plan No. 5 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, welding, coating repair, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 5 to the existing Well Connection 99-02-004 12" Steel Pipe to the 24"x24"x12" Tee (Bid Item No. 6).

- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**33. Furnish and Install Well 99-02-006 Connection and Tie In (Bid Item No. 33)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install Well Connection Tie In (99-02-006) per Contract Drawing C-101, Enlarged Plan No. 4 including, but not limited to, coupling adapters, valves, spools, steel pipe, fittings, restraints, supports, mag meter, welding, bedding and backfilling, imported trench backfill, compaction, dewatering, pressure test joints, and all necessary appurtenances. All water lines shall have a minimum cover of 48-inches.

Includes furnishing and installing of the following items:

- The entirety of the Connection shown on C-101, Enlarged Plan No. 4 to the existing Well Connection 99-02-004 12" Steel Pipe to the 24"x24"x12" Tee (Bid Item No. 6).
- b) **Measurement and Payment:** The Final Pay Lump Sum paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made, therefore.

**SCHEDULE D – Rosedale Booster Pump Station**

**34. Furnish and Install Meter/Main And Power Distribution Switchboard (Bid Item No. 34)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the Meter/Main and Power Distribution Switchboard complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new switchboard, bus splices, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**35. Furnish and Install Pump Control Panel (Bid Item No. 35)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the Pump Control Panels complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new Pump Control Panels, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pump Control Panel paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**36. Furnish and Install PLC Control Panel (Bid Item No. 36)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install the PLC Control Panel complete and in place as shown on the Plans. This shall include, but not be limited to, installation of new PLC Control Panel, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**37. Furnish and Install Instrumentation (Bid Item No. 37)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install instrumentation complete and in place as shown on the Plans. This shall include, but not be limited to, installation of the Instrumentation, and associated power and control wires, conduit, junction boxes, grounding, process connection equipment, all associated mounting hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**38. Furnish and Install Site Electrical Materials (Bid Item No. 38)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install Site Electrical Materials complete and in place as shown on the Plans. This shall include, but not be limited to, utility coordination, installation of the utility transformer pad, primary and secondary conduit, and Security Control Panel, site lighting, Electrical Building Power, Control, Lighting, Receptacles, HVAC, and associated power and control wires, conduit, junction boxes, grounding, all associated hardware, testing, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**39. Furnish Electrical Systems Analysis (Bid Item No. 39)**

- a) **Description:** This item shall include providing all labor, programming, configuration, materials, services, equipment, and incidentals required to furnish the Electrical Systems Analysis. This shall include, but not be limited to, utility coordination, single-line development, submittal coordination, site visits, travel expenses, office expenses, printing and production expenses, and professional services required to output a protective device coordination study, device setting and labeling for all new electrical devices, equipment included in this project as shown on the Plans.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, programming, labeling, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**40. Furnish PLC and SCADA Programing (Bid Item No. 40)**

- a) **Description:** This item shall include providing all labor, programming, configuration, tools, equipment, and incidentals required to furnish, install and test the PLC and SCADA Programming, including, all associated communications equipment, software and hardware, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, programming, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**41. Furnish and Install 15 CFS Pump (Bid Item No. 41)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 15 CFS Pump per the contract specifications and contract drawing M-01 including, but not limited to pump base, fittings, testing, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per 15 CFS Pump paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**42. Furnish and Install BPS 18-inch Oil Cushioned Check Valve (Bid Item No. 42)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Oil Cushioned Check Valve per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.



- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Oil Cushioned Check Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**43. Furnish and Install BPS 18-inch Flanged Butterfly Valve Assembly (Bid Item No. 43)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Flanged Butterfly Valve Assembly per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**44. Furnish and Install BPS 24-inch Flanged Butterfly Valve Assembly (Bid Item No. 44)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" Flanged Butterfly Valve Assembly for PRV Isolation per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve assembly paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**45. Furnish and Install BPS 30-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 45)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 30" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**46. Furnish and Install BPS 36-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 46)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel on suction header per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**47. Furnish and Install BPS 24-inch Butterfly Valve with Torque Tube and Handwheel (Bid Item No. 47)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" MJ x MJ Butterfly Valve W/Torque Tube and Handwheel on suction header per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Butterfly Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**48. Furnish and Install BPS 24-inch Pressure Reducing Valve (Bid Item No. 48)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" Pressure Reducing Valve per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, all necessary appurtenances, sensor, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pressure Reducing Valve paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**49. Furnish and Install BPS 36-inch Ductile Iron Mechanical Joint Header Pipe Spools (Bid Item No. 49)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" MJ Ductile Iron Pump Header Pipe Spools per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**50. Furnish and Install BPS 36-inch x 30-inch Ductile Iron Mechanical Joint Tee (Bid Item No. 50)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36"x30" MJ DI Tees per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Tee paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**51. Furnish and Install BPS 36-inch x 24-inch Ductile Iron Mechanical Joint Tee (Bid Item No. 51)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36"x24" MJ DI Tees per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Tee paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**52. Furnish and Install BPS 36-inch x 24-inch Reducer (Bid Item No. 52)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 24" x 36" PE x PE Reducer per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Reducer paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**53. Furnish and Install BPS 30-inch Ductile Iron Mechanical Joint Pipe Spools (Bid Item No. 53)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 30" Ductile Iron Pipe Spools to Pumps per the contract drawing M-01 including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Linear Foot paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**54. Furnish and Install BPS Other (Bid Item No. 54)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to all other components, 24", 36", 36x42" Reducer, 42" and Flanged and MJ Ductile Iron Pipe Spools and Fittings not specifically called out or included in this bid schedule but as shown per Contract Drawing M-01. including, but not limited to, adaptors, restrained fittings, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**55. Furnish and Install BPS 36-inch Steel Pipe Pump Header (Bid Item No. 55)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 36" Steel Piping for Pump Header w/36 x 18 Tees, and other weld neck flanged fitting per Contract Drawing M-01 including, but not limited to, bedding and backfilling, imported trench backfill, compaction, dewatering, fittings, adaptors, and all necessary appurtenances. All Water Lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**56. Furnish and Install BPS 18-inch Steel Pipe Pump Header (Bid Item No. 56)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install 18" Steel Piping for Pump Header and other weld neck flanged fittings per Contract Drawing M-01 including, but not limited to, bedding and backfilling, imported trench backfill, compaction, dewatering, fittings, adaptors, and all necessary appurtenances. All Water Lines shall have a minimum (typical) cover of 48-inches.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pump Header paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**57. Furnish and Install BPS 24-inch Steel Pipe and Fittings for PRV (Bid Item No. 57)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install 24-inch Steel Pipe and fittings per contract drawings including, but not limited to, fittings, all necessary appurtenances, and other incidentals to complete the Work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**58. Furnish and Install 36-inch Mag meter (Bid Item No. 58)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to furnish and install 36-inch mag meter per contract drawing M-01, but not limited to, protective vault/enclosure, fittings, piping, pipe supports, grounding, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**59. Pump Station Start up and Testing (Bid Item No. 59)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to perform start up testing and testing per the contract specifications including, but not limited to, booster pump station, all new piping, all necessary appurtenances, and other incidentals to complete the Work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**60. Furnish and Install Pump Concrete Pedestal (Bid Item No. 60)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install pump concrete pedestal per the contract drawing S-02, including, but not limited to concrete, rebar and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**61. Furnish and Install Flange Support and Foundation (Bid Item No. 61)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Flange supports and foundation per Detail 1 on the contract drawing S-05, including, but not limited to concrete, rebar, pipe supports, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Flange Support and Foundation paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**62. Furnish and Install Pipe Support and Foundation (Bid Item No. 62)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install pipe supports and foundation per Detail 1 on the contract drawing S-04, including, but not limited to concrete, rebar, pipe supports, and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Quantity Unit Price per Pipe Support and Foundation paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**63. Furnish and Install Utility Transformer Pad Foundation (Bid Item No. 63)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and Install utility transformer pad per the contract drawing S-03, including concrete, rebar, and other incidentals to complete the work.

- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**64. Furnish and Install Electrical Equipment Building and Foundation (Bid Item No. 64)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install Electrical Equipment Building and Foundation per contract drawing S-03, including, but not limited to concrete, rebar and other incidentals to complete the work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**65. Furnish and Install Chain Link Fence (Bid Item No. 65)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to Furnish and install chain link fencing per contract drawing C-201 and CG-06, including, but not limited to, posts, gates, and other incidentals to complete this work.
- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**66. Site Grading (Bid Item No. 66)**

- a) **Description:** This item shall include providing all labor, materials, transportation, supplies, tools, equipment, and incidentals required to grade the Booster Pump Site per contract drawings C-201, including, but not limited to all earthwork, import of material, gravel, and other incidentals to complete this work.



- b) **Measurement and Payment:** The Final Pay Lump Sum Price paid for this item shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the Work on this contract item and no additional allowance shall be made therefore.

**\*\* END OF SECTION\*\***

**NOTICE TO PROCEED CHECKLIST**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

From: The Board of Directors,  
North Kern Water Storage District

Notice is hereby given that you are authorized and directed to proceed with the following project in accordance with the Contract Documents:

Specifications No. NK-619 for Constructing the Pipeline and Pump Station Project.

These documents have been received and are on file with the North Kern Water Storage District:

The Agreement, fully executed	[ ]
Payment Bond (100%)	[ ]
Faithful Performance Bond (100%)	[ ]
Worker's Compensation Insurance Certificate	[ ]
Liability Insurance Policy or Certificate, with Endorsements	[ ]
Post-Award Schedule	[ ]
Non-Collusion Affidavits	[ ]

A copy of the Award of Contract has been mailed by this District to the California Division of Apprenticeship Standards, Department of Industrial Relations.

Under the terms of the Contract, work is to start within ten (10) calendar days after the date set forth below and is to be completed within the time set forth in the Special Conditions.

North Kern Water Storage District

\_\_\_\_\_  
Date

By: \_\_\_\_\_  
Ram Venkatesan  
Deputy General Manager

**This page intentionally left blank.**

## SECTION C

### GENERAL CONDITIONS

#### C-1 Definitions

The following terms, as used in any of the Contract Documents, are respectively defined as follows:

- a. **“Application for Payment”** – the form accepted by Engineer which is to be used by Contractor in requesting payments and which is to include such supporting documentation as is required by the Contract Documents.
- b. **“Board of Directors” or “Board”** – the Board of Directors of the District.
- c. **“Certificate of Completion and Final Acceptance”** – the certification and acceptance by Engineer of Work when it has been completed in all respects in accordance with the Contract Documents and any Modifications thereof previously approved. Such acceptance is constituted by a Certificate of Completion and Final Acceptance by Engineer to Contractor.
- d. **“Change Order”** – a written order to Contractor from Engineer authorizing a substitution, addition, deletion or revision in the Work, or an adjustment in the Contract Price or Contract Time issued after the effective date of the Contract.
- e. **“Change Work”** – a substitution, addition, deletion or revision in the Work within the general scope of the Contract necessary to the completion of the Work.
- f. **“Construction Schedule”** – an outline of construction activities showing the sequence and timeline for completing the components of the Work.
- g. **“Contract”** – the written agreement between District and Contractor covering the Work; other Contract Documents are attached to the Contract and made a part thereof as provided therein.
- h. **“Contract Documents”** – the Notice Inviting Bids, the Instructions to Bidders, the accepted Proposal and Proposal Bidding Schedule, the Contractor’s Licensing Statement, the Information Required of Bidders, the Agreement, the Proposal Bond, the Faithful Performance Bond, the Payment Bond, the Non-Collusion Affidavits, the Notice to Proceed, General Conditions, Special Conditions, the Specifications, Plans, Appendices and any Change Order or Addenda, setting forth any modifications or interpretations of any of said documents.
- i. **“Contractor”** – the bidder who submitted the accepted Proposal and who executed a Contract to complete the Work in accordance with the Contract Documents, and the legal representatives of said party.

- j. **“Contract Price”** – the monies payable by District to Contractor under the provisions of the Contract Documents.
- k. **“Contract Time”** – the length of time stated in the Contract Documents for the completion of the Work.
- l. **“Day”** – a calendar day of 24 hours measured from midnight to the next midnight.
- m. **“Defective”** – an adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment, unless responsibility for the protection thereof has been assumed by District.
- n. **“Design Engineer (Engineer)”** – GEI Consultants Inc., 5001 California Ave, Ste 120, Bakersfield CA 93309
- o. **“Detail Drawings”** – details of standard structures, devices, or installations referred to on the Project Drawings or in the other Contract Documents.
- p. **“District”** – the North Kern Water Storage District.
- q. **“Effective Date of the Contract”** – the date indicated in the Contract in which a fully executed Contract is delivered to the District.
- r. **“Equipment”** – products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items).
- s. **“Extra Work”** – Work outside the general scope of the Contract.
- t. **“Federal Grant Agreement”** – the agreement entered between the District and the Bureau of Reclamation.
- u. **“Field Order”** – a written order issued to Contractor by Engineer which orders minor Change Work but which does not involve a change in the Contract Price or the Contract Time, or such an order issued when, as determined, the time required for development and execution of a Change Order would result in delay or stoppage of the Work or would allow a hazardous condition to exist.
- v. **“Final Inspection”** – determines if the Work has reached Final Completion.
- w. **“Final Completion”** – indicates that the Work has been fully completed in accordance with the Contract Documents and is ready for acceptance and final payment by the District.

- x. **“Final Punch List”** – contains items that remain uncompleted after Substantial Completion but that must be completed prior to Final Completion.
- y. **“Materials”** – products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form Work.
- z. **“Modification”** – a Written Amendment to the Contract signed by both parties, a Change Order or a Field Order. Any Modification involving a permit must be supported by the written agreement of the agency issuing the permit. A Modification may be issued only after the effective date of the Contract.
- aa. **“Notice of Award”** – the written notice by District to the apparent successful Bidder of District’s intent to sign and deliver the Contract upon Contractor’s delivery of all Contract Documents.
- bb. **“Notice of Completion”** – the written notice filed by District with the County Recorder certifying that the Work has been completed.
- cc. **“Notice to Proceed”** – the written notice by District to Contractor fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform its obligation under the Contract Documents.
- dd. **“Plans” or “Drawings”** – means and includes Project Drawings and Detail Drawings.
- ee. **“Preconstruction Conference”** – a conference held before Contractor starts Work at the Site, attended by Contractor, Engineer and others as appropriate, to discuss the schedules provided, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a Working understanding among the parties as to the Work.
- ff. **“Products”** - includes purchased items for incorporation into the Work regardless of whether specifically purchased for the Project or taken from Contractor’s stock of previously purchased products.
- gg. **“Project”** – see Work.
- hh. **“Project Drawings”** – the drawings developed by District or Engineer, or both, specifically for the Project which show the character and scope of the Work and are part of the Contract Documents.
- ii. **“Release and Certificate of Final Payment”** – the release by Contractor, in consideration of final payment, of District from all claims and obligations of every nature.

- jj. **“Schedule of Values”** – a statement furnished by Contractor to Engineer reflecting the portions of the Contract Price allotted for the various parts of the Work and used as the basis for reviewing Contractor's Application for Payment.
- kk. **“Semi-Final Inspection”** – determines if the Work has reached Substantial Completion.
- ll. **“Shop Drawings” or “Submittals”** – all drawings, diagrams, illustrations, schedules and other material which are specifically prepared by or for Contractor to illustrate some portion of the Work, samples, and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a Supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.
- mm. **“Site”** – the location or locations where the Work is to be accomplished.
- nn. **“Special Conditions”** – specific clauses setting forth requirements peculiar to the Work and supplementary to the General Conditions.
- oo. **“Specifications”** – the manual prepared by District or for District by the Engineer.
- pp. **“State”** – the State of California.
- qq. **“State Grant Agreement”** – the agreement entered between the District and the California Department of Water Resources.
- rr. **“Subcontractor”** – an individual, firm or corporation having a direct subcontract with Contractor or with any other Subcontractor for the performance of a portion of the Work at the Site, or for the fabrication and installation of a portion of the Work in accordance with drawings contained in the Contract or furnished by Contractor under the Contract.
- ss. **“Substantial Completion”** – means the Work has progressed to the point that the Work is ready for beneficial use and occupancy by the District for the intended purpose.
- tt. **“Supplier”** – a manufacturer, fabricator, supplier, distributor, materialman or vendor.
- uu. **“Technical Conditions”** – specific clauses setting forth conditions or requirements for materials, equipment, construction systems, standards, workmanship, measurement and payment.
- vv. **“U.S. BUREAU OF RECLAMATION, USBR, RECLAMATION”** – the United States Bureau of Reclamation Department of the Interior.
- ww. **“Work”** – the entire construction or the total of the separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result

of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

- xx. **“Written Amendment”** – a written amendment of the Contract Documents, signed by District and Contractor on or after the Effective Date of the Contract.
- yy. Whenever in the Specifications or upon the Plans the words **DIRECTED, REQUIRED, PERMITTED, ORDERED, DESIGNATED, PRESCRIBED**, or words of like importance are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Engineer is intended, and similarly the words **APPROVED, ACCEPTABLE, SATISFACTORY**, or words of like importance, shall mean approved by or acceptable to, or satisfactory to the Engineer, unless otherwise expressly stated.
- zz. **“AASHTO”** – the American Association of State Highway and Transportation Officials.
- aaa. **“ACI”** – the American Concrete Institute.
- bbb. **“AISC”** – the American Institute of Steel Construction.
- ccc. **“AISI”** – the American Iron and Steel Institute.
- ddd. **“ASME”** – the American Society of Mechanical Engineers.
- eee. **“ASTM”** – the American Society for Testing and Materials.
- fff. **“AWS”** – the American Welding Society.
- ggg. **“AWWA”** – the American Water Works Association.
- hhh. **“FWA”** – Friant Water Authority
- iii. **“IEEE”** (formerly AIEE) – the Institute of Electrical and Electronics Engineers.
- jjj. **“IPCEA”** – the Insulated Power Cable Engineers Association.
- kkk. **“NEMA”** – the National Electrical Manufacturers Association.
- lll. **“SSPC”** – the Steel Structures Painting Council.
- mmm. **“USAS”** (formerly ASA) – the United States of America Standard(s) Institute.
- nnn. **“State”, “DWR”** – respectively, the State of California and the California Department of Water Resources.
- ooo. **“State Standard Specifications”** – Standard Specifications issued by the State of California, Department of Transportation, latest edition.



- ppp. **“County”** – County of Kern, California.
- qqq. The figures given in the Specifications or upon the Plans after the word **ELEVATION**, or an abbreviation of it, shall mean distances in feet above U.S. Coast and Geodetic Survey sea level datum, as established by the Engineer.
- rrr. All gender specific pronouns shall be interpreted to include all genders.

## **C-2 Correlation and Intent of Documents**

The Contract Documents are complementary, and what is called for in any one shall be as binding as if called for in all. The intention of the Contract Documents is to require a complete and finished piece of Work including all labor, materials, equipment, facilities, and transportation necessary for the proper execution of the Work, with the exception of such items as are definitely stated in the Specifications or on the Plans to be furnished by the District. Should there be a conflict between the Specifications and the Plans, the Specifications shall be controlling. Should there be a conflict between the General Conditions and the Special Conditions, the Special Conditions shall be controlling.

## **C-3 Assignment**

Neither party to the Contract shall assign the Contract nor sublet it as a whole without the prior written consent of the other, nor shall the Contractor assign any money due or to become due to it hereunder without prior written consent of the Engineer.

## **C-4 Subcontracts**

- a. The attention of the Contractor is directed to the provisions of Public Contract Code, Section 4100 et seq. as amended, and said provisions are by this reference incorporated herein and made a part hereof.
- b. Each subcontract shall contain a suitable provision for the suspension or termination of that subcontract should the Work be suspended or terminated or should the Subcontractor neglect or fail to conform to every provision of the Contract Documents insofar as such provisions are relevant. The Contractor shall be as fully responsible to the District for the acts or omissions of his Subcontractors and of the persons either directly or indirectly employed by them as he is for the acts or omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. If a legal action against the District is initiated by a subcontractor, the Contractor shall reimburse the District for the amount of legal expenses incurred by the District in defending itself in said action.
- c. A copy of each subcontract, if in writing, or if not in writing then a written statement signed by Contractor, giving the name of the subcontractor, and the terms and conditions of such subcontract, shall be filed with Owner before the

subcontractor commences performance of the Work. Each subcontract shall contain a reference to the agreement between Owner and Contractor, and the terms of that agreement and all parts thereof shall be made a part of such subcontract insofar as applicable to the Work covered thereby. Each subcontract shall provide for its annulment by Contractor at the order of Owner, if, in Owner's opinion, the subcontractor fails to comply with the requirements of the principal agreement insofar as the same may be applicable to his work. Nothing herein contained shall create any contractual relation between any subcontractor and Owner or relieve Contractor of any liability or obligation hereunder.

- d. Contractor is hereby alerted to provisions of Section 7107 of the Public Contract Code, requiring Contractor to pay to each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received, within seven (7) days from receipt of all or any portion of such retention proceeds from Owner.
- e. Pursuant to Public Contract Code Section 6109, subcontractors who are ineligible to perform work on a public works project as determined by the Department of Industrial Relations pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code shall not perform any portion of the work contemplated herein. Any subcontract between the Contractor and an ineligible subcontractor shall be void as a matter of law, and the ineligible subcontractor shall not receive any payment for performing such work.

#### **C-5 Suspension of Work – Damages for Delay**

- a. The Engineer may at any time, by notice in writing to the Contractor, suspend any part of the Work for such period of time as may be necessary to prevent improper execution of the Work on the Project, and the Contractor shall have no claim for an extension of time to complete the Work, or for damages or additional compensation on account of any such suspension.
- b. The District may at any time suspend any part or all of the Work upon ten (10) days' written notice to the Contractor, who shall thereupon discontinue all Work suspended except for all operations to prevent loss or damage to Work already executed as may be directed by the Engineer. The Contractor shall be paid on the same basis as Extra Work for costs of Work performed in accordance with such orders of the Engineer during such suspension, provided that this shall not include any costs pertaining to Work not suspended by said notice. Work shall be resumed by Contractor after such suspension on ten (10) days' written notice from the District. In the event of suspension of the entire Work by the District, the Contractor shall be paid the sum of one-hundred fifty dollars (\$150.00) for each calendar day during which the entire Work shall have been suspended. Said sum is hereby mutually agreed upon as fixed and liquidated damages in full settlement of all costs and expenses, losses and damages resulting to the Contractor from such suspension.

- c. In the event of any suspension of the Work in whole or in part, the Contractor shall be entitled to any extension of time to complete the Work in a length equal to the length of the suspension of the Work. Provided, however, that the Contractor shall not be entitled to an extension of time to complete the Work in the event that the Work is suspended by the Engineer to prevent or correct improper execution of the Work.

#### **C-6 Time of Work –Termination for Delay – Time Extensions**

- a. The Contractor shall at all times employ such force, plant, materials, and tools as will be sufficient, in the opinion of the Engineer, to prosecute the Work at not less than the rates fixed under the terms of the Contract and to complete the Work or any separable portions thereof within the time limits fixed therein. If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will ensure its completion within the time specified in the Contract, or any extension thereof, or fails to complete said Work within such time, the District may, by written notice to the Contractor, terminate his right to proceed with the Work or such part of the Work as to which there has been delay. In such event the District may take over the Work and prosecute the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the Work such materials, appliances, equipment, and plant as may be on the site of the Work and necessary for its prosecution. Whether or not the Contractor's right to proceed with the Work is terminated, he and his sureties shall be liable for all damages, including attorney's fees, sustained or incurred by the District in enforcing the provisions hereof against the Contractor due to any refusal or failure to prosecute the Work.
- b. The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:
  - 1. The delay in the completion of the Work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to Acts of God (herein to include only the following occurrences or conditions and effect: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves), acts of the public enemy, acts of the District in either its governmental or contractual capacity, acts of another Contractor in the performance of a contract with the District, fires, floods, (excluding site flooding due to ground water), epidemics, quarantine restrictions, strikes, lockouts, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or such subcontractors and suppliers; and
  - 2. The Contractor, within ten (10) days from the beginning of any such delay (unless the Engineer grants a further period of time before the date of final payment under the Contract), shall notify the Engineer in writing of the

causes of delay and request an extension of time. The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties.

- c. The rights and remedies of the District provided in this clause are in addition to any other rights and remedies provided by law or under this Contract.
- d. A request for an extension of time, or the granting of an extension of time, shall not constitute a basis for any claim against the District for additional compensation. The Contractor shall be deemed to have waived any claim for additional compensation, and does hereby waive any such claim.
- e. No additional time extensions will be granted for inclement weather conditions, only as provided under this paragraph. Contract time extensions will be granted as provided in this Paragraph C-6; however, the Contractor is advised that weather-related time extensions will be granted only if conditions are such that it is impossible to perform any productive Work. The Contractor shall make every effort to protect the Work from adverse weather and shall minimize delays and time extensions by taking mitigative measures such as pumping of surface water, utilizing equipment best suited for adverse weather, etc.

#### **C-7 Termination for Reasons Other Than Delay**

- a. If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed for the Contractor on account of his insolvency and not be discharged within ten (10) days after his appointment, or if the Contractor should fail to make prompt payment to Subcontractors or for material or labor, or should persistently disregard laws, ordinances, or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provisions of the Contract, then the District, upon the certification of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, and after giving the Contractor ten (10) days written notice, terminate the employment of the Contractor and take possession of the Site and of all equipment, materials, tools, and other facilities thereon and finish the Work by whatever method the District may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If upon completion of the Work the total cost to the District, including attorney's fees, in connection therewith shall be less than the amount which would have been paid if the Work had been completed by the Contractor in accordance with the terms of the Contract, then said difference shall be paid to the Contractor in the same manner as the final payment under the Contract. If the expense, including attorney's fees, incurred by the District on account of termination of employment of the Contractor and subsequent completion of the Work by the District by whatever method the District may deem expedient shall exceed said amount which the

Contractor would otherwise have been paid, the Contractor and his sureties shall be liable to the District for the full amount of such excess expense.

- b. In addition to its rights under Paragraph C-7, Subsection (a) hereof, if at any time before completion of the Work under the Contract it shall be determined by the District that reasons beyond the control of the parties hereto render it impossible or against the interests of the District to complete the Work, or if the Work shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent authority, the District may, upon ten days written notice to the Contractor, discontinue the Work, and terminate the Contract. Upon service of such notice of termination the Contractor shall discontinue the Work in such manner, sequence, and at such times as the Engineer may direct, continuing and doing after said notice only such Work until such time or times as the Engineer may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the Work thus dispensed with, nor any other claim except (1) for the Work actually performed up to the time of complete discontinuance, including any Extra Work ordered by the Engineer to be done, and (2) for any liquidated damages due hereunder in accordance with the provisions relating to suspension of Work.

#### **C-8 Authority of the Engineer**

- a. The Engineer shall give all orders, lines, grades, and directions contemplated under the Contract. The Engineer may determine the adequacy of the Contractor's methods, tools, plant, equipment, and appurtenances and he shall determine in all cases the quantity, quality, acceptability, and fitness of the several kinds of Work and materials which are to be paid for. The Engineer shall have the authority to determine all questions in relation to said Work and the construction thereof and decide in all cases questions which may arise relative to the fulfillment of this Contract on the part of the Contractor. The Engineer shall also have the authority to reject all Work and materials which do not conform to the Contract and to stop the Work when necessary to prevent its improper execution. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Specifications or Drawings, the matter shall be referred to the Engineer, who shall decide the same in accordance with the true intent and meaning. Any differences or conflicts which may arise between the Contractor and other contractors of the District in regard to their Work will be adjusted and determined by the Engineer. All instructions, rulings, and decisions of the Engineer shall be made promptly and in writing, if so requested, and they shall be final and binding.
- b. If at any time the Contractor's Work force, tools, plant or equipment appear to the Engineer to be insufficient, inefficient or inappropriate to secure the required quality of Work or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, improve their character, to augment their number or to substitute other personnel, new tools, plant, or equipment, as the case may be, and the Contractor shall comply with such order.

- c. The undertaking of inspections by the Engineer or the giving of instructions as herein authorized shall not be construed as supervision of the actual construction or make the Engineer or the District responsible for providing a safe place for the performance of Work by the Contractor, Subcontractor, or Suppliers; or for access, visits, use, Work, travel or occupancy by any person.

#### **C-9 Changes and Extra Work**

- a. Without invalidating the Contract, District may, at any time or from time to time, order Change Work or request Extra Work to be performed by the Contractor. Change Work may involve increasing or decreasing the quantity of an item or portion of the Work; deleting any item, or items, of the Work; or adding items to the Work.
- b. Engineer will provide Contractor with a written description of the scope of Work involved. Unless otherwise required, Contractor shall, within 10 days after receipt of such written material, submit in writing to Engineer a proposal for accomplishing such Work.

The proposal shall reflect any change in cost to Contractor for performing the proposed Change Work or Extra Work under the Contract, in comparison to what the cost would have been otherwise. The proposal shall state the basis for compensation for such Work. Sufficient detail shall be given in the proposal to permit thorough analysis.

The proposal shall state also the basis for any change of Contract Time, or for a change in the time required for completion of any items of Work for which a specific completion time or date is set forth in the Contract, due to the Change Work or Extra Work. Sufficient detail shall be given in the proposal to permit thorough analysis.

The proposal shall state if the performance of such Change Work or Extra Work would result in any change in the time required for completion of any items of the Work as shown on Contractor's current construction schedule. A revised construction schedule shall be submitted with the proposal if any such changes are involved.

Engineer will analyze the proposal data, clarify as needed and, if necessary, attempt to reach agreement on the terms of the proposal through negotiations with Contractor.

Engineer will then determine one of the following:

- 1. A Change Order will be issued ordering Change Work or Extra Work, based upon the Contractor's proposal covering such Work, or on the proposal as modified by mutual agreement.

2. The proposed Change Work or Extra Work will not be performed under the Contract.

Change Work and Extra Work must be authorized through a Change Order or Field Order. Upon receipt of a Change Order, Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If, as determined by District, any Change Order causes a change in Contract Price or a change in Contract Time, an equitable adjustment will be made.

- c. Engineer may authorize minor Change Work not involving a change in Contract Price or Contract Time, which is consistent with the intentions of the Contract Documents. This will be accomplished by Field Order and shall be binding on District and on Contractor who shall perform the change promptly. If Contractor believes that Work under a Field Order justifies an increase in Contract Price or an extension of Contract Time, Contractor may make a claim as provided for in Paragraphs C-10 and C-11.

Engineer may also issue a Field Order for Change Work where, as determined, the time required for development and execution of a Change Order would result in delay or stoppage of the Work or would allow a hazardous condition to exist. In these cases, a Change Order will be developed as soon as possible to replace the Field Order.

Additional Work performed without authorization of a Change Order will not entitle Contractor to an increase in Contract Price or an extension of Contract Time.

It shall be solely the responsibility of Contractor to provide any notice to sureties of any change affecting the general scope of the Work or change in Contract Price or Contract Time.

- d. Any Change Work or Extra Work will be authorized by written orders to Contractor by Engineer, except that in the event of an emergency which Engineer determines endangers life or property and only in such an event, Engineer may issue oral orders to Contractor for any Work required by reason of such emergency. Any such oral orders will be confirmed in writing as soon as practicable. Such orders, whether written or oral, may be accompanied by drawings and data as are necessary to show the extent of such ordered Work.

Contractor shall commence such Work so that all current Contract Time requirements will be met, except that in the event of an emergency which Engineer determines endangers life or property, Contractor shall commence such Work as required by Engineer.

- e. If the time required for completion of any items for which a specific completion date is set forth in the Contract is changed because of the performance of Change Work or Extra Work, an adjustment in the time for completion for the affected

items will be made. The construction schedule shall be revised to reflect such adjustment and resubmitted for approval.

#### **C-10 Change of Contract Price**

- a. The Contract Price constitutes the total compensation payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at its expense without change in the Contract Price.

The Contract Price may be changed only by a Change Order. Any claim by Contractor for an increase in the Contract Price shall be based on written notice delivered to Engineer within 15 days after the occurrence of the event giving rise to the claim. Failing such notice, the claim shall be deemed to have been waived by Contractor. Notice of the amount of the claim with supporting data, shall be delivered within 45 days after such occurrence unless Engineer agrees in writing to allow an additional period of time. Any change in the Contract Price will be determined by Engineer.

- b. The basis for change of Contract Price through a Change Order shall be either Contract unit or lump sum prices, if applicable, or new unit or lump sum prices, unless otherwise specified.

If the basis of compensation proposed by Contractor for Change Work, or any part thereof, is not acceptable, and if a basis of compensation for such Work, or any part thereof, cannot be agreed upon, the basis of compensation will be determined by Engineer and set forth in the Change Order.

In the event that an agreement cannot be reached for the basis of compensation, such basis of compensation will either be as developed by Engineer (considering the character, location and extent of the Change Work and Contract unit or lump sum prices) or cost-plus as provided in Paragraph C-10(c).

If at any time after Contractor commences such Change Work, another basis of compensation for such Work, or any part thereof, is agreed upon, compensation will be made in accordance with such agreement. In any event Contractor shall keep accurate records of its actual costs for such Change Work.

If the Change Order in a situation where a basis of compensation must be determined by the Engineer, involves deletion of an entire item, or items of Work, payment will be made to Contractor for Work performed prior to the date Contractor was notified by Engineer in writing of such deletion. If acceptable material for use in the deleted Work was ordered by Contractor prior to notification, and if the order for such material cannot be cancelled, as determined by Engineer, Contractor will be paid for such material. Upon such payment said material will become the property of District and District will arrange for its disposition at District expense. All payments to Contractor for material order's



that cannot be cancelled will be on a cost-plus basis as provided in Paragraph C-10(c) below. If the order for said material can be cancelled, Contractor will be paid for only actual costs of ordering and canceling.

- c. Any Work performed under the Contract on a cost-plus basis shall be in accordance with the following:

1. **Direct Labor Cost** - Payment shall be made for all manual classifications up to and including foremen, but shall not include superintendents, assistant superintendents, general foremen, surveyors, office personnel, time-keepers and maintenance mechanics. The direct labor cost for foremen shall be proportioned to all of their assigned work and only that portion applicable to cost-plus Change Work or Extra Work shall be paid for such Work. The time charged to Change Work or Extra Work shall be subject to daily approval and no charges shall be accepted unless evidence of such approval is submitted by Contractor with its billing. Labor rates used to calculate the direct labor costs shall be those rates in effect during the accomplishment of Change Work or Extra Work. In addition to the direct payroll costs, the direct labor costs shall include payroll taxes and insurance, vacation allowance, subsistence, travel time, overtime premium and any other payroll additives required to be paid by Contractor by law or collective bargaining agreements. Copies of certified pertinent payrolls shall be submitted to Engineer. Overtime shall not be worked without prior written approval by the Engineer. No time or charges will be allowed except when the employees are actually engaged in the proper, efficient, and diligent performance or completion of the Change Work or Extra Work as authorized.
2. **Equipment Costs** - Payment for the rental and operation of the equipment furnished and used by Contractor shall be made for all construction and automotive equipment, except equipment or tools with a current new cost at point of origin of \$500 or less each.

Equipment time charged to Change Work or Extra Work will be subject to daily approval and no charges will be accepted unless evidence of such approval is submitted with Contractor's billing.

The equipment rental rates used shall be those rates listed in "Labor Surcharge and Equipment Rental Rates" as published by Caltrans, in effect as of the date of the Contract. These rates shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Such rates shall not include costs for operating labor, which will be paid as provided in Paragraph C-10(c), Item (1) Direct Labor Cost, or for transportation of equipment to and from the location of Change Work or Extra Work. For equipment proposed to be used for which rental rates are not set forth in said publication, the rental rates shall be

negotiated with Engineer and agreed upon in writing before such equipment is used on any Change Work or Extra Work.

When the operated use of equipment is infrequent and, as determined, the equipment need not remain at the Site continuously, payment shall be limited to actual hours of use. Equipment not operating but retained at the location of Change Work or Extra Work at Engineer's direction shall be paid for at a rate equal to the rental rate times the right of way delay factor in the above-referenced Caltrans publication.

Transportation costs for bringing equipment that will be used exclusively for cost-plus Work to the Site and for returning equipment to the point of origin, will be reimbursed to Contractor based on invoices, provided that prior written approval for such transport has been given by Engineer to Contractor.

3. **Material Costs** - Payment for the cost of materials furnished and used by Contractor in performing any Change Work or Extra Work shall be made, provided such furnishing and use of materials was as specifically authorized in a Modification and the actual use was verified by Engineer. Charges shall be the net cost to Contractor for such materials delivered at the Site and vendor's invoice shall accompany the billing along with verification by Engineer of use of such materials.
4. **Subcontract and Outside Service Costs** - Payment for Work and services subcontracted by Contractor in the performance of Change Work or Extra Work will be allowed only when both the Subcontractor and the terms of payment to such Subcontractor have been approved in writing before the Subcontractor starts to Work on Change Work or Extra Work. Such charges will be allowed at net cost to Contractor on the same basis as provided in Items (1) through (3) above.
5. **Tools, Supplies, Overhead, Supervision and Profit** - Payment for use of tools and equipment with a current new cost of \$500 or less each and for supplies, overhead, supervision and profit will be made in an amount determined as follows:
  - a) For Work performed by Contractor an amount equal to the following percentages of Items (1), (2) and (3) above:

Direct Labor Costs	20
Equipment Costs	15
Material Costs	15

- b) For Work performed by Subcontractor or through outside services an amount equal to the following percentages of Items (1), (2) and (3) above:

Direct Labor Costs	25
Equipment Costs	20
Material Costs	20

No payment shall be made for cost-plus Work except as provided in Items (1) through (5) above. No payment shall be made for extended home office overhead costs. Any other costs for such Work shall be considered to be included in these payments.

### **C-11 Change of Contract Time**

- a. All time limits stated in the Contract Documents are of the essence of the Contract. The Contract Time may be changed only by a Change Order.
- b. If any Change Work or Extra Work requires a change of Contract Time, or in the time required for the completion of any items of Work for which a specific completion time or date is set forth in the Contract, an adjustment shall be made by Change Order to allow sufficient time for the required Work to be efficiently performed by Contractor, as determined by the Engineer.
- c. If Contractor's performance is prevented or delayed by any cause, existing or future, which is beyond the reasonable control and without the fault or negligence of Contractor and which condition was not foreseeable by Contractor at the time the Contract was entered into, such as an act, omission or neglect of the District, or its representatives, or by acts of the public enemy, or by a war in which the United States of America is a participant, or by earthquakes affecting the Site or by area-wide strikes, fire, unusually severe weather, epidemics, or quarantine restrictions, Contractor shall, within ten (10) days after the commencement of any such delay, give to Engineer written notice thereof and of the anticipated results thereof. Within seven (7) days after the termination of any such delay, Contractor shall file a written notice with Engineer specifying the actual duration of the delay and claim for increase of Contract Time. Failing to meet either of the above notice requirement the claim shall be deemed to have been waived by Contractor. If District determines that the delay was beyond the control and without the fault or negligence of Contractor and not foreseeable by Contractor at the time the Contract was entered into, the Contract Time will be extended in an amount equal to time lost due to such delay and the Contract will be modified by Change Order accordingly.

The Contract Time will not be extended if any such delay is attributed by Contractor to any Subcontractor(s) or Supplier(s) and District determines that the

cause of the delay was not beyond the reasonable control or due to the fault or negligence of said Subcontractor(s) or Suppliers(s); or 1) the services, equipment or supplies involved were available in adequate time from other sources; 2) Engineer directed Contractor, in writing, to obtain such services, equipment or supplies from said other sources; and 3) Contractor failed to comply with such directions.

- d. When Contractor requests an increase of Contract Time for delay due to inability to obtain materials or equipment, its last written notice, as provided in Paragraph C-11(c), shall include the following:
1. Date Engineer was notified of delay.
  2. Date the delay began.
  3. Exact description of material or equipment causing delay.
  4. Documentation showing when and from whom ordered.
  5. Documentation of promised delivery schedule.
  6. Documentation of actual delivery schedule.
  7. Description of how late delivery caused delay (include current construction schedule).
  8. Documentation of measures taken to try and get prompt delivery.
  9. Documentation of attempts to get timely delivery from other sources.
  10. Description of steps taken to minimize effects of late delivery on progress of Work.
  11. Description of steps taken to stay within Contract Time after actual delivery.
  12. Statement of actual days lost as a result of late delivery.

#### **C-12 Right-of-Way – Construction Roads**

- a. The right of way for the Work to be constructed under these Specifications will be provided by the District. Nothing herein contained, however, and nothing marked on the Plans, shall be interpreted as giving the Contractor exclusive occupancy of the territory provided. When two or more contracts are being executed at one time on the same or adjacent land in such a manner that Work on one contract may interfere with that on another, the Engineer shall decide which contractor shall cease Work and which shall continue; or, whether the Work on both contracts shall progress at the same time, and if so, in what manner. When the

territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the Contractor so desiring, to the extent, amount, in the manner, and at the time permitted. No such decision as to the method or time of conducting the Work or the use of territory shall be the basis of any claim for delay or damage.

- b. Lands to be furnished by the District for construction operations will be specifically shown on the Plans or provided for in the Special Conditions. Should the Contractor find it necessary to use additional land for his purposes during the construction of the Work, he shall provide for the use of such lands at his own expense. A copy of each written agreement between the Contractor and affected landholder(s) for the use of additional lands shall be filed with the Engineer prior to the use of land.
- c. The Contractor shall construct and maintain all roads necessary to reach the various parts of the Work and for the transportation thereto of construction material and personnel. The cost of constructing and maintaining such roads shall be borne by the Contractor.

### **C-13 Notice and Service Thereof**

Any notice required or given under the contract shall be in writing, be dated, and signed by the party giving such notice or his duly authorized representative, and be served as follows:

- a. If to the District or the Engineer, by personal delivery or by deposit in the United States mail;
- b. If to the Contractor, by personal delivery to the Contractor or to his authorized representative at the site of the project or by deposit in the United States mail;
- c. If to the surety or any other person, by personal delivery to said surety or other person or by deposit in the United States mail;
- d. All mailed notices shall be in sealed envelopes, shall be sent by certified mail with postage prepaid, and shall be addressed to the addresses in the Contract Documents or such substitute addresses which a party designates in writing and serves as set forth herein; and,
- e. Any notice served in accordance with this Section C-13, shall be deemed received by the addressee seventy-two (72) hours after deposited, postage prepaid, in the United States mail.

Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor personally.

**C-14 Personal Attention**

The Contractor shall give his personal attention constantly to the faithful prosecution of the Work, and shall be present, either in person or by duly authorized and competent representative, on the site of the Work continually during its progress to receive directions or instructions from the Engineer. Whenever the Contractor is not present on any part of the Work, and where it may be desired to give instructions or directions, they may be given by the Engineer and they shall be received and obeyed by the superintendent or foreman who may have charge of the particular part of the Work in reference to which said instructions or directions are given.

**C-15 Construction Program (Schedule)**

**Post-Award Schedule** - Within five (5) days of award of Contract by the District, the Engineer will return the post-bid pre-award Construction Schedule to the Contractor. The Contractor shall modify the schedule to include any modifications, or changes and to reflect final phasing and scheduling of Work.

The Contractor shall complete these modifications within five (5) calendar days from date the schedule is returned to him and shall resubmit it for review. Upon receiving written notice from the Engineer that the schedule, as revised, has been accepted, it will then become the Construction Schedule by which the Contractor shall construct the Work and shall be subject to progress reporting, revision, and updating procedures implemented during the course of construction.

The initial Construction Schedule shall contain no Contract changes or delays which may have occurred during the interim submittal period. Changes shall be entered at the first update revision as specified under revisions to Construction Schedule produced below.

At any time during the progress of the project, if Contractor's progress has fallen behind the accepted Construction Schedule, Contractor shall take such corrective steps as may be required, including but not limited to, increasing the number of personnel, shifts, overtime operations, days of work, and amount of construction equipment until such time as the Work is back on schedule, at no additional cost to the District. He shall also submit at the next weekly construction progress meeting such supplementary schedule or schedules as may be deemed necessary to demonstrate the manner in which the approved rate of progress will be regained.

**Revisions to Construction Schedule** - The Contractor shall submit a revised Construction Schedule within five (5) days of the occurrence of any of the following:

- a. When delay in completion of any activity or group of activities indicates an overrun of the Contract time by thirty (30) working days.
- b. Delays in submittals, deliveries, or work stoppage are encountered which make re-planning or rescheduling of the Work necessary.

- c. The schedule does not represent the actual prosecution and progress of the project as being performed in the field.

The revised Construction Schedule shall be submitted to the Engineer for review with a letter describing the reasons for submitting a revised Construction Schedule with any supporting documentation. The cost of revisions to the Construction Schedule resulting from Contract changes will be included in the cost for the change in the Work.

The cost of revision to the Construction Schedule not resulting from authorized changes in the Work shall be the responsibility of the Contractor.

## **C-16 Survey Requirements**

Survey reference and control staking for construction will be done by a Licensed Land Surveyor provided by the District, at the District's expense. Contractor shall be provided with adequate Survey Site Control to establish the grade, position and alignment to complete the construction project per the plans and specifications. Any grade stakes or reference points which may be lost or destroyed by the Contractor during the progress of his work shall be replaced at the Contractor's expense. Said reference staking and control staking shall be provided as follows:

### Pipeline Installation:

One set of offset stakes with hubs on approximate 50' spacing shall be provided for the full length of piping including stakes at angle points, turnouts, air valves, and at the beginning and ends of the pipeline run. Offset stakes and hubs shall be preserved throughout the duration of the project so as to be used for inspection/verification purposes through the final grading phase.

The Contractor shall be responsible for preserving permanent survey monuments, benchmarks, and reference stakes/hubs. If any permanent or temporary survey monuments or benchmarks, including the above reference staking, are lost or disturbed and need to be replaced as set forth in Section 8771 of the California Business and Professions Code, such replacement shall be made by the Engineer at the expense of the Contractor.

The Contractor shall notify the Engineer at least three (3) working days before he will require survey services in connection with constructing any portion of the Work

Contractor shall compile and maintain all survey notes in an approved form and shall furnish to the Engineer one copy of said notes as they are compiled, and upon completion of Contract work, Contractor shall furnish to the Engineer all original survey notes.

### Canal Grading, Lining and Access Ramps:

One set of offset stakes with hubs on each side of the canal at on approximate 100' spacing shall be provided for the full length of the canal, on approximate 50' spacing in transition and curve areas, and at angle points, beginning of curves (BC) and end of curves (EC) and at

the ends of each reach.

At least Two (2) site control points will be set for the. Contractor will be given coordinates and elevations of the control points for reference.

The Contractor shall be responsible for preserving permanent survey monuments and benchmarks. If any permanent or temporary survey monuments or benchmarks are lost or disturbed and need to be replaced as set forth in Section 8771 of the California Business and Professions Code, such replacement shall be made by the Engineer at the expense of the Contractor.

The Contractor shall notify the Engineer at least five (5) working days before he will require survey services in connection with constructing any portion of the Work

Contractor shall compile and maintain all survey notes in an approved form and shall furnish to the Engineer one copy of said notes as they are compiled and, upon completion of Contract work, Contractor shall furnish to the Engineer all original survey notes.

#### **C-17 Plans and Specifications**

Plans furnished herewith are for bidding purposes. The Engineer will furnish the Contractor, free of charge, all copies of working Plans and Specifications reasonably necessary for the execution of the Work. The Contractor shall have no claim for excusable delay on account of the failure of the Engineer to deliver necessary Plans or Specifications unless the Engineer shall have failed to deliver the same within two (2) weeks after receipt of written demand for the Plans and Specifications by the Contractor.

The Contractor shall keep one (1) copy of all current Plans and Specifications relating to the Work, in good order, available to the Engineer and his representatives, and convenient to the Site.

If the Contractor, in the course of the Work, finds any discrepancy between the Plans and the physical condition of the locality, or any errors or omissions in the drawings, or in the layout as given by points and instructions, it shall be his duty to inform the Engineer in writing, and the Engineer will promptly verify the same. Any Work done after such discovery, until authorized, will be done at the Contractor's risk. All Plans, Specifications, and copies thereof furnished by the Engineer shall not be reused on other Work and, with the exception of the signed Contract sets, are to be returned to him, on request, at the completion of the Work.

The Contractor shall not take advantage of any errors, discrepancies or omissions which may exist in the Plans and Specifications but shall immediately call them to the attention of the Engineer whose interpretation or correction thereof shall be conclusive.

It is intended that the information pertaining to conditions that may affect the cost of the Work will be shown on the contract drawings or indicated in the Specifications; however, the District does not warrant the completeness or accuracy of such information. The



Contractor shall ascertain the existence of conditions that would affect the cost of the Work which would have been disclosed by a reasonable examination.

Existing improvements visible at the Site for which no specific disposition is made on the Plans but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the Plans shall be removed and disposed of by the Contractor.

When deemed necessary by the Engineer, additional Detailed Drawings will be furnished to the Contractor during the progress of the Work.

### **C-18 Inspection of Work**

- a. The State of California, the California Department of Water Resources, the US Bureau of Reclamation, North Kern Water Storage District, the District, the Engineer and their respective directors, officers, and their representatives shall at all times have access to the Work wherever it is in preparation or progress, and the Contractor shall provide safe and convenient facilities for such access and for inspection. If the Specifications, the Engineer's instructions, laws, ordinances, or any public authority require any material, equipment or Work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the Engineer, of the time fixed for inspection. Inspections by the Engineer will be made promptly and, where practicable, at the source of supply.
- b. Work performed without inspection or proper testing may be required to be removed and replaced under proper inspection and testing and the entire cost of removal and replacing, including the cost of District-furnished materials used in the Work, shall be borne by the Contractor, regardless of whether or not the Work exposed is found to be defective. Examination of questioned Work may be ordered by the Engineer and, if so ordered, the Work must be uncovered by Contractor. If such Work is found to be in accordance with the Contract Documents, the District will pay the cost of reexamination and replacement. If such Work is found to be not in accordance with the Contract Documents, Contractor shall pay such cost, unless he shows that the defect in the Work was caused by another contractor, and in that event the District will assume responsibility for such costs.
- c. The inspection of the Work shall not relieve the Contractor of his obligation to fulfill the Contract as herein prescribed or in any way alter the standard of performance provided by Contractor. Defective Work shall be made good and unusable materials may be rejected, notwithstanding that such Work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the Work or any part thereof shall be found defective, Contractor shall, within ten (10) calendar days, make good such defect in a manner satisfactory to the Engineer. If the Contractor shall fail or neglect to make ordered repairs of defective Work or to remove the condemned materials from the

Work within ten (10) calendar days after direction by the Engineer in writing, the District may make the ordered repairs, or remove the condemned materials, and deduct the cost thereof from any moneys due the Contractor.

- d. Contractor shall give Engineer timely notice of the Work for all required inspections, tests or approvals and shall cooperate with inspection and testing personnel to facilitate the required inspections or test.
- e. Testing of materials for construction (soils, concrete etc.) will be provided by the District at District's expense. In the event of a failed test, the Contractor shall be responsible to pay for all costs associated with retesting.
- f. The Contractor shall furnish promptly, without additional charge, all facilities, labor and materials reasonably needed by the Engineer for performing all inspection and tests. Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.

#### **C-19 Conditions Affecting Work**

The Contractor shall be responsible for ascertaining the nature and location of the Work, and the general and local conditions which can affect the Work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the Work without additional expense to the District. Except as expressly provided to the contrary in the Contract, the Contractor assumes all risk with respect to unforeseen difficulties which may be encountered in performance of the Work, including and without limiting the generality of the foregoing: obstacles, obstructions or adverse ground water conditions in or along the line of Work and variance of the quality or quantity of surface and subsurface materials from that which was assumed.

#### **C-20 Compliance with Laws – Permits – Taxes**

The Contractor is an independent contractor and shall, at his sole cost and expense, comply with all laws, rules, ordinances and regulations of all governing bodies having jurisdiction over the Work, obtain all necessary permits and licenses therefor, pay all manufacturers' taxes, sales taxes, use taxes, processing taxes, and all Federal and State taxes, insurance and contributions for Social Security and Unemployment which are measured by wages, salaries or any remuneration paid to the Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. The Contractor shall also pay all property tax assessments on materials or equipment used until acceptance by the District. Without limitation, materials furnished and performance by the Contractor hereunder shall comply with Safety Orders of the Division of Industrial Safety, State of California.

The Contractor, upon request, shall furnish evidence satisfactory to the Engineer and/or to the District that any or all of the foregoing obligations have been or are being fulfilled. The Contractor warrants to the District that he is licensed by all applicable governmental

bodies to perform this Contract and will remain so licensed throughout the progress of the Work, and that he has, and will have, throughout the progress of the Work, the necessary experience, skill, and financial resources to enable him to perform this Contract.

## **C-21 Indemnification**

- a. To the fullest extent permitted by law, the Contractor shall assume the defense of and indemnify and save harmless the State of California, the California Department of Water Resources, the United States, the U.S. Bureau of Reclamation, North Kern Water Storage District, the District, , the Design Engineer, the Engineer, and their respective directors, officers and agents from any and all loss, damage, liability, claims or causes of action of every nature whatsoever for damage to or destruction of property, including the District's property, or for injury to or death of persons, including Contractor's employees, in any manner, including that alleged to have been caused by the negligence of the indemnitees or any of them, arising out of or incident to the performance of this Contract; provided, however, that the Contractor shall have no such obligation with respect to such of the foregoing as are actually caused by the sole negligence or willful misconduct of the indemnitees or any of them; and provided further, that the Contractor shall not be liable for damages resulting solely from error or omission in design which were not due to or contributed to by negligence or fault of the Contractor, his subcontractors, agents or employees.
- b. The Contractor shall at all times preserve and protect the Work installed and performed hereunder, and assume full responsibility for the condition thereof until final acceptance by the District. The Contractor shall be liable for any loss or damage to any Work in place and to any materials on the Site which may be caused by the Contractor, his employees, agents or guests. Any such damage shall be immediately repaired by the Contractor, and, upon failure to do so, the District may remedy the same and deduct the cost thereof from any amount due or to become due the Contractor.
- c. The Contractor shall assume the defense of and indemnify and save harmless the State of California, the California Department of Water Resources, the United States, the U.S. Bureau of Reclamation, North Kern Water Storage District, the District, the Design Engineer, the Engineer, and their respective directors, officers and agents against any and all liens, claims, demands and costs, including attorneys' fees, for labor and material furnished to the Contractor or any of his Subcontractors in connection with the performance of this Contract. In the event that the Contractor or any of his Subcontractors shall fail to pay for any material or labor used in the performance of this Contract, or any lien is filed against the said property, or any claim is asserted or action filed on any Bond, by any person claiming to have furnished labor or materials to the Contractor or any of his subcontractors in connection with the performance of this Contract, the District shall be entitled, at its option, to pay for said material or labor, or discharge any such lien, or to pay or settle any such claim or action and to deduct the amount so paid, together with any and all costs and attorney's fees incurred by or on behalf

of the District in connection with any such payment, discharge, or settlement, from amounts due or to become due the Contractor hereunder. The District may also deduct from any amounts due or to become due to the Contractor, any other amounts owing by the Contractor to the District, including the cost of any materials, labor, services, equipment or facilities supplied by the District as to which the Contractor has the obligation to supply the same hereunder. In the event that the balance which otherwise would be due the Contractor shall be insufficient to so reimburse the District, the Contractor shall pay the District any deficiency upon demand.

- d. The Contractor shall pay all royalties and license fees. Contractor shall, at his own cost, expense and risk, defend any and all suits or claims for infringement of any patent rights and shall save the District and its directors, officers, employees and agents harmless from loss on account thereof; except that the District shall be responsible for all such loss when a particular manufacturer is specified by it unless the Contractor has information that the process or article specified is or may be an infringement of a patent, in which case Contractor shall be responsible for such loss unless he promptly gives such information, in writing, to the Engineer.

**C-22 Protection of Work Site, Existing Structures, Roadways, Utilities, Vegetation, and Private Property**

- a. The Contractor shall effectively secure and protect adjacent property and structures, livestock, crops and other vegetation.
- b. The Contractor shall open fences on or crossing the right of way and install temporary gates of sound construction thereon so as to prevent the escape of livestock (if applicable). Adjacent fence posts shall be adequately braced to prevent the sagging or slackening of the wire. Before such fences are opened, the Contractor shall notify the District or tenant of the property and, where practicable, the opening of the fences shall be in accordance with the wishes of said District or tenant. The Contractor shall be responsible that no loss or inconvenience shall accrue to the District or tenant by virtue of his fences having been opened or the gate not having been either shut or attended at all times. Where special types of fences are encountered, the Contractor shall install temporary gates made of similar materials and of suitable quality to serve the purposes of the original fences. In all cases where the Contractor removes fences to obtain Work room, he shall provide and install temporary fencing as required, and on completion of construction shall restore the original fence to the satisfaction of the Engineer. All cost of providing, maintaining and restoring gates and fencing shall be borne by the Contractor.
- c. The Contractor shall use extreme care during construction to prevent damage from dust to crops and adjacent property. The Contractor, at his own expense, shall provide adequate dust control for the right of way and take other preventive measures as directed by the Engineer.

- d. The Contractor shall be responsible for all damage to any property resulting from trespass by the Contractor or his employees in the course of their employment, whether such trespass was committed with or without the consent or knowledge of the Contractor.
- e. The Contractor shall see that the Site is kept drained and free of all ground water.
- f. The Contractor shall be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas.
- g. In the event of an emergency or unusual conditions endangering life, the Work, or adjacent property, the Contractor may, without special instructions or authorization, act at his discretion to prevent or eliminate such danger. Should the Engineer deem an emergency condition to exist, the Contractor shall immediately do those things and take those steps ordered by the Engineer. The decision of the Engineer in this respect shall be final. Any claims for compensation made by the Contractor on account of emergency Work shall be determined by agreement.
- h. The Contractor shall be responsible for locating, removal, relocation and protection of all public and private utility facilities, including irrigation facilities, located on the site of the Project and the Contractor shall not be entitled to any extension of time or claim for damages or extra compensation in connection therewith. Provided however, if and to the extent that existing main or trunkline public utility facilities as defined by Government Code Section 4215 ("Public Utility Facilities") are not identified in the Contract Documents, as between the Contractor and the District, the District will be responsible for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating Public Utility Facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such Work regarding said Public Utility Facilities, as the case may be, but the Contractor shall perform any such Work in conformance with applicable provisions of Paragraphs C-9 and C-10 if so directed by the Engineer. The Contractor will not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the public agency or the District of the Public Utility Facilities to provide for removal or relocation of any Public Utility Facilities. If the Contractor, while performing the Contract Work, discovers utility facilities not identified by the District in the Contract Documents, he shall immediately notify the Engineer in writing.
- i. Subject to the provisions of Paragraph C-22(h), where the Work to be performed under the Contract crosses or otherwise interferes with existing streams, water courses, canals, farm ditches, pipelines, drainage channels, or water supplies, the Contractor shall provide for such water courses or pipelines and shall perform such construction during the progress of Work so that no damage will result to either public or private interests, and the Contractor shall be liable for all damage that may result from failure to so provide during the progress of the Work.

**C-23 Workers and Wages**

- a. **Character of Workers** – Only qualified, careful and efficient Workers shall be employed. When required in writing by the Engineer, the Contractor or any subcontractor shall remove from the Work any person who is, in the opinion of the Engineer, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, and shall not again employ such person on the Work except with the consent of the Engineer. Such removal shall not be the basis for any claim for compensation or damages against the District, or any of its officers or agents.
- b. **Convicts** – No convict labor shall be directly employed by the Contractor or any subcontractor in the performance of any Work done under this Contract.
- c. **Hours of Work** – Eight (8) hours of labor shall constitute a legal day's work upon all the Work hereunder and the time of service of any worker employed by the Contractor or by any Subcontractor under him shall be limited and restricted to eight (8) hours during any one (1) calendar day, except that work performed by employees in excess of eight (8) hours per day and forty (40) hours in any one (1) calendar week will be permitted upon compensation for all hours worked in excess of said limitations at not less than one and one-half times the basic rate of pay or as otherwise may be required by applicable law. The Contractor and all Subcontractors under him shall keep record of hours worked as required by Section 1812 of the California Labor Code. As required by Section 1813 of the California Labor Code, the Contractor shall forfeit as a penalty to the District twenty-five dollars (\$25) for each worker employed in the execution of the Contract by him or by any Subcontractor under him for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of this subsection.
- d. **Compliance with State Requirements for Employment of Apprentices** – The Contractor's attention is directed to Section 1777.5 of the California Labor Code; provisions of said section pertaining to employment of registered apprentices are hereby incorporated by reference into these Specifications. As applicable, the Contractor or any Subcontractor employed by him in the performance of Contract Work shall take such actions as necessary to comply with provisions of said Section 1777.5.
- e. **Wage Rates** – Bids shall be made in accordance with the prevailing rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code Section 1770 et seq. and the Davis-Bacon Act, whichever is greater.

The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Pursuant to Article 2 (commencing at Section 1770), of the California Labor Code, the Director of the State of California, Department of Industrial Relations has ascertained the generally prevailing rate of

per diem wages and the generally prevailing rates for legal holiday and overtime work in the locality in which the work is to be performed, for each craft or type of worker needed to execute the Contract. The Contractor and all Subcontractors under him shall pay not less than said specified rates to all workers employed in the execution of the Contract, a copy of which wage rate schedule is on file at the office of the District and by this reference incorporated herein. The Contractor shall post a copy of said documents at each job site. As required by Section 1775 of the California Labor Code, the Contractor shall, as a penalty to the District, forfeit an amount determined by the Labor Commissioner, not more than fifty dollars (\$50), for each calendar day, or portion thereof, for each worker paid less than the specified prevailing rates for work done under the Contract by him or by any subcontractor under him. The Contractor and all subcontractors under him shall keep records of wages paid as required by Section 1776 of the California Labor Code. The Contractor and each Subcontractor shall furnish the record specified in section 1776 of the California Labor Code to the Labor Commission in the manner required by section 1171.4 of the California Labor Code. The Contractor and each Subcontractor shall pay travel and subsistence payments to each worker needed to execute the Work required by the Contract, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the California Labor Code. The labor rates determined by the Department of Industrial Relations are set forth in a schedule located at the District office, and is available to any interested party upon request.

Prevailing wage schedules for Kern County are also available from the Department of Industrial Relations-Division of Labor Statistics & Research via the internet at [www.dir.ca.gov](http://www.dir.ca.gov). Davis-Bacon Act wages can be found at [www.wdol.gov](http://www.wdol.gov).

- f. **Worker's Compensation Insurance** – In accordance with the provisions of Section 3700 of the California Labor Code, every Contractor shall secure the payment of compensation to his employees. Prior to commencing Work, Contractor shall sign and file with the District a certification as follows: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract."
- g. **Labor Discrimination** – The Contractor's attention is directed to Section 1735 of the California Labor Code. The Contractor agrees to comply with provisions of said section that read as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, mental condition, marital status or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for

public works violating this section is subject to all the penalties imposed for a violation of this chapter.”

The Contractor’s attention is further directed to Section 1777.6 of the California Labor Code, and the Contractor agrees to ensure compliance with the provisions of said section which provide as follows:

“It shall be unlawful for an employer or a labor union to refuse to accept otherwise qualified employees as registered apprentices on any public works, on the ground of the race, religious creed, color, national origin, ancestry, sex or age, except as provided in Section 3077, of such employee.”

#### **C-24 Clean-up**

During the progress of the Work, the Contractor shall maintain the site and related structures and equipment in a clean, orderly condition and free from unsightly accumulation of rubbish. Upon completion of the Work and before the final Application for Payment is submitted, the Contractor shall at his own cost and expense remove from the vicinity of the Work all plants, buildings, rubbish, unused Work materials, concrete forms, and temporary bridging and other like material, belonging to him or used under his direction during construction. In the event of Contractor’s failure to do so, the same may be removed by the District after ten (10) calendar days notice to the Contractor at the expense of the Contractor. Where the construction has crossed yards or driveways, the yards and driveways shall be restored by the Contractor to the complete satisfaction of the Engineer at the Contractor’s expense.

#### **C-25 Safety**

- a. Contractor shall be solely and completely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The duty of the Engineer to conduct construction review of the Contractor’s performance and the undertaking of inspections by the Engineer or the giving of instructions as authorized herein is not intended to include review of the adequacy of the Contractor’s safety measures in, on, or near the construction site and shall not be construed as supervision of the actual construction nor make the Engineer or the District responsible for providing a safe place for the performance of Work by the Contractor, Subcontractors, or Suppliers; or for access, visits, use, work, travel or occupancy by any person. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
  1. All persons on the Site or who may be affected by the Work;
  2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and



3. Other property at the Site or adjacent thereto, including crops, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- b. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and/or underground facilities (including districts and utility districts) when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- c. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor.
- d. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is fully completed and accepted. Such duties and responsibilities shall be extended, however, to include any time period in which warranty Work or other Work by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, remains in progress.
- e. The Contractor shall have at the Site, copies or suitable extracts of Construction Safety Orders, issued by Cal-OSHA. The Contractor shall comply with the provisions of these and all other applicable laws, ordinances and regulations.

The Contractor shall submit to the District a copy of his permit for the project issued by Cal-OSHA, within ten (10) calendar days after the mailing of the Notice of Award and before the commencement of any operations.

- f. If there is any non-compliance with the Cal-OSHA Construction Safety Orders, the Contractor shall stop forthwith all affected Work until there is compliance in the opinion of the State Division of Industrial Safety. The District, Engineer, officers, employees, consultants, and agents of the aforementioned, shall not be liable for costs incurred by the Contractor due to work stoppage. The Contractor will not be eligible for an extension of time to complete the Work within the time set forth in this Contract due to the Work stoppage.

## **C-26 Accidents**

The Contractor shall provide, at the site, such equipment and medical facilities as are necessary to supply first aid service to anyone who may be injured in connection with the

Work. The Contractor must promptly report to the Engineer in a writing giving full details and statements of witnesses of all accidents whatsoever arising out of, or in connection with the performance of the Work, whether on or adjacent to the Site, which cause death, personal injury, or property damage. In addition, if death or serious injury or serious damage are caused, the accident shall be reported immediately by telephone or messenger to the Engineer. If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

#### **C-27 Guarantee**

In addition to warranties, representations and guarantees stated elsewhere in the Contract and in addition to any warranties implied by law, the Contractor unconditionally guarantees all Contractor furnished materials and workmanship furnished hereunder, and agrees to replace at Contractor's sole cost and expense, and to the satisfaction of the Engineer and the District, any and all materials which may be defective or improperly installed, whether such defects of material and installation are of patent or latent nature.

#### **C-28 Special Controls**

- a. **Traffic Control** – Contractor shall conduct his Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, whether public or private, Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when Contractor has obtained written permission from the owner and tenant of private property involved, to obstruct traffic at the designated point.

Where required by the authority having jurisdiction thereover that traffic be maintained over any construction Work in or around a public street, road, or highway, and the traffic cannot be maintained on the alignment of the original roadbed or pavement, Contractor shall, at his own expense, construct and maintain a detour around the construction Work. Each detour shall include all necessary barricades, guardrails, approaches, lights, signals, signs, and other devices and precautions necessary for protection of the Work and safety of the public.

- b. **Surface and Stormwater Control** – The Contractor shall divert or otherwise control surface water and waters flowing from existing projects or structures from coming onto its Work areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas. Following completion of Work under the Contract, ditches, dikes, or other ground alterations made by the Contractor shall be removed and the ground surfaces shall be returned to their former condition, or as near as practicable, in

the Engineer's opinion. Surface and storm water that enters the Contractor's Work area shall be controlled, treated, and disposed in a lawful manner.

- c. **Dust Control** – The Contractor shall provide effective measures to prevent operations from producing dust in amounts damaging to personnel, property, District plant operations, plants, or animals, and to prevent causing a nuisance to persons living or occupying buildings in the vicinity.

Areas used by the Contractor for construction roads or other purposes in connection with the Work shall be given an approved dust inhibiting surface treatment to avoid production of dust. This surface condition shall be continuously maintained during the entire construction period. The Contractor's construction facilities shall be operated in a manner ensuring minimum dust production.

Trucks transporting soil, or cement, or debris shall be covered or moistened with water to suppress the dispersion of dust.

- d. **Light Abatement** – The Contractor shall exercise special care to direct floodlights to shine downward at an angle less than horizontal. These floodlights shall also be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence in its direct beam. The Contractor shall correct lighting nuisance whenever it occurs.

- e. **Air Pollution Control** – The Contractor shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity that exceeds the legal limit.

The Contractor shall maintain equipment in proper mechanical adjustment to minimize the volume of exhaust emissions.

- f. **Noise Control** – The Contractor shall conduct operations to abate noise wherever possible and to minimize noise where complete abatement is not possible.

To limit noise, construction vehicle equipment shall be kept in proper working order for the duration of the construction activities.

- g. **Restoration of Improvements** – Upon completion of the Work, the Contractor shall reconstruct existing roads to a condition equivalent to that which existed before the start of Work.

- h. **Security** – The Contractor shall prevent unauthorized personnel or vehicular entry into the project site.

The Contractor shall be responsible for providing security within the Site as the Contractor deems necessary for the protection of its own equipment, materials, or Work from vandalism or theft. District shall not be responsible for theft or damage to the Contractor's equipment, materials, or Work.

All staff working for or representing the Contractor, including Subcontractors, shall possess a valid California identification with a photograph of the staff member.

The Contractor shall provide the names of its lead persons, supervisors and all employees working on the project.

## **C-29 Products, Material and Equipment**

- a. **General** – The word "Products" as used in the Contract Documents, is defined to include purchased items for incorporation into the Work regardless of whether specifically purchased for the Project or taken from Contractor's stock of previously purchased products. The word "Materials" is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form Work. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items). Definitions in this Paragraph are not intended to negate the meaning of other terms used in the Contract Documents, including "specialties", "systems", "structure", "finishes", "accessories" "furnishings", "special construction", and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying, and erection of the Work.

- b. **Product Delivery and Storage** – The Contractor shall deliver and store the Work in accordance with manufacturer's written recommendations and by methods and means that will prevent damage, deterioration, and loss including theft.
- c. **Transportation and Handling** – Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in manufacturer's unopened containers and packaging. The Contractor shall provide Equipment and personnel to handle Products by methods to prevent soiling and damage. The Contractor shall provide additional protection during handling to prevent marring and otherwise damaging Products, packaging, and surrounding surfaces.
- d. **Storage and Protection** – Products shall be stored in accordance with manufacturer's written instructions and with seals and labels intact and legible. Sensitive Products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's recommendations.

For exterior storage of Products, items shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.

Storage shall be arranged to provide access for inspection. The Contractor shall periodically inspect to assure Products are undamaged and are maintained under required conditions.

Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.

- e. **Maintenance of Products in Storage** – Stored Products shall be periodically inspected on a scheduled basis. The Contractor shall maintain a log of inspections and shall make the log available on request. The Contractor shall comply with manufacturer's Product storage requirements and recommendations. The Contractor shall maintain manufacturer-required environmental conditions continuously. The Contractor shall ensure that surfaces of Products exposed to the elements are not adversely affected and that weathering of finishes does not occur.

For mechanical and electrical equipment, the Contractor shall provide a copy of the manufacturer's service instructions with each item and the exterior of the package shall contain notice that instructions are included.

### **C-30 Payments to Contractor and Completion**

- a. **Schedule of Values** – Within fourteen (14) calendar days after receiving the Notice to Proceed, the Contractor shall submit a detailed Schedule of Values to the Engineer for approval. The Schedule of Values shall be used as a basis for determining progress payments on a lump sum contract or any designated lump sum bid item. The Schedule of Values shall be a schedule of cost loaded construction activities equal, in total, to the lump sum bid and shall be in such form and sufficient detail to correctly represent a reasonable apportionment of the lump sum.

Each lump sum bid item on the Bid Schedule must be broken down separately. The breakdown of each lump sum bid item must cover the cost of construction required by the Contract Drawings and Contract Documents for that item. The sum of the values for the construction activities, within a bid item, must equal the total bid amount for that item. The breakdown shall include subcontract amounts which shall not deviate from the amounts submitted in the Proposal Bidding Schedule. The Contractor shall provide certification from the Subcontractors certifying the subcontract amounts.

- b. **Applications for Payment**

1. An Application for Payment for each calendar month of Contract Work (but not more often than once a month), shall be submitted by the Contractor to Engineer for review covering the Work completed as of the date of the Application for Payment and accompanied by all supporting documentation as is required by the Contract Documents.
2. Contractor may apply for payment for materials and equipment to be used in the Work but not yet incorporated therein, which have been delivered to, and are suitably stored, at the Site. The application shall be accompanied by data satisfactory to District to establish District's title to such materials and equipment or otherwise protect District's interest, and shall be subject to approval by Engineer. Payment for such materials and equipment will not include any amount for Contractor's overhead or profit, or relieve Contractor of its obligation to protect and install such materials and equipment in accordance with the Contract Documents, or to restore damaged or defective Work involving such materials and equipment.
3. Beginning with the second Application for Payment, each Application for Payment shall be submitted with all release forms confirming that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. As provided in Section 7201 of the Public Contract Code, a five percent (5%) retention of payment will be withheld on all progress payments.
5. The provisions pertaining to the withholding of specified percentages of the Contract price, may, at the Contractor's request and expense, be satisfied by depositing with the District or State or Federally chartered bank as escrow agent, securities equivalent to the amount to be withheld. Securities eligible for investment include those listed in California Government Code Section 16430 and bank and savings and loan certificates of deposit.

**c. Review of Applications**

1. Engineer will, within five (5) days after receipt of each Application for Payment, either prepare a recommendation of payment and present to the District or return the Application of Payment to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. If the Application for Payment has been returned to the Contractor, the Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will represent by Engineer to District, that:

- a) The Work has progressed to the point indicated; and
  - b) The quality of the Work is generally in accordance with the Contract Documents.
- 3. Engineer may refuse to recommend the whole or any part of any payment for any of the following reasons:
  - a) Any claims are filed against Contractor by District, Engineer, or third parties, or if reasonable evidence indicates the probability that such claims will be filed;
  - b) Contractor is in default of any Contract condition;
  - c) The Work is defective, or completed Work has been damaged, which will require that the Work be corrected or replace;
  - d) District has been required to correct defective Work or complete Work; or
  - e) The Contractor has failed to provide the required waivers and releases.
- d. **Payment Becomes Due**
  - 1. Partial payments will be made as the Work progresses and following the District's monthly Board meeting, or as soon thereafter as practical.
  - 2. The Contractor is hereby notified that because of the need for payments to be reviewed by the District's Board of Directors and because the Board only regularly meets once a month, delays of as much as sixty (60) days may occur in Contractor's receipt of payment for progress pay estimates and the final pay estimate. The Contractor is urged to process his request for payment in a timely manner to minimize payment delays. The Contractor agrees that such a delay shall not entitle Contractor to any remedy provided for in the Contract Documents or law.
- e. **Reduction in Payment**
  - 1. The District may refuse to make payment of the full amount recommended by Engineer because:
    - a) Claims have been made against District on account of Contractor's performance;
    - b) Stop notices or liens have been filed in connection with the Work;

- c) There are other items entitling the District to a set-off against the amount recommended;
  - d) Failure of the Contractor to make payment properly to Subcontractors or for material or labor;
  - e) A reasonable doubt that the Contract can be completed for the balance then unpaid;
  - f) Damage to another Contractor, Subcontractor, Supplier, or Individual;
  - g) Failure of the Contractor to keep his Work progressing in accordance with the time schedule; or
  - h) Where Work on unit price items is substantially complete but lack clean-up and/or correction ordered by the Engineer.
2. If District refuses to make payment of the full amount recommended by Engineer, District will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. District shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by District and Contractor, when Contractor corrects to District's satisfaction the reasons for such action.

**f. Substantial Completion and Final Review**

- 1. When the Work has been completed and ready for its intended use, Contractor shall notify District and Engineer in writing that the Work is Substantially Complete and request that Engineer issue a certificate of Substantial Completion, which will be in the form of a letter.
- 2. When the Work has been Substantially Completed and the Contractor so notifies the Engineer in writing, the Engineer and Contractor will jointly make a Semi-Final Inspection and may prepare a Punch List. As a result of this inspection, the Engineer may determine that (1) the Work is not sufficiently complete to warrant a Semi-Final Inspection or the preparation of a Final Punch List, (2) the Work is sufficiently complete for the Engineer to prepare a Final Punch List but certain incomplete or Defective Work prohibits use of the Work for its intended purpose and therefore, the Work is not Substantially Complete, or (3) that the Work is Substantially Complete and usable for its intended purpose and the Engineer can prepare a Final Punch List. In preceding cases 1 and 2, the Contractor shall continue the Work and call for a second Semi-Final Inspection when the Work is ready. In case (3), the Engineer will prepare a Final Punch List and a notice of Substantial Completion which shall establish the date of Substantial



Completion and shall state the time agreed to by the District and the Contractor (not to exceed 30 days) in which the Contractor shall complete all Work ready for Final Inspection. The date of Substantial Completion shall be revised if necessary such that it is no more than 30 days prior to the actual date of Final Completion. The Engineer shall attach a copy of the Final Punch List to the notice of Substantial Completion. If the Contractor does not achieve Substantial Completion on the second attempt, it shall reimburse the District the cost of the Engineer's services for additional inspections.

3. When the Contractor has completed or corrected all the items on the Engineer's Final Punch List, the Contractor shall give the Engineer written notice that the Work is ready for Final Inspection and acceptance and the Engineer shall make a Final Inspection. If the Engineer finds the Work is not fully complete, it shall notify the Contractor of items still requiring completion or correction. The Contractor shall immediately correct these deficiencies and call for a re-inspection. When the Engineer finds to the best of the Engineer's knowledge, information and belief, and on the basis of the Engineer's observations and inspections, the Work is acceptable and fully complete in accordance with the Contract Documents, the Engineer will recommend that the District issue and file a Notice of Completion, designating Final Completion, and accept the Work in accordance with the terms and conditions of the Contract Documents. The Notice of Completion will be file once the Final Completion has been achieved.
4. The District shall file the Notice of Completion with the Kern County recorder's office within 10 days of acceptance of the Work and Final Completion. This will be the date when the Contractor is relieved from responsibility to protect the Work.
5. Contractor is herein put on notice and acknowledges that the date of the filing of the Notice of Completion is the date by which any liquidated damages will be computed for the Work as a whole and that the District is under no duty to place the Contractor on notice that Liquidated Damages are about to run, or have begun to run.

**g. Partial Utilization**

1. Prior to Substantial Completion of all the Work, District may use or occupy any Substantially Completed part of the Work which District and Engineer agree constitutes a separately functioning and usable part of the Work that can be used by District for its intended purpose without significant interference with Contractor's performance of the remainder of the Work.
2. When provided for in the Contract Documents or agreed to in writing by the District and the Contractor, the District may notify the Contractor and begin

using a portion of the Work even though the overall Work is not Substantially Complete. The Contractor, the District and the Engineer shall agree on and document responsibilities for security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that portion of the Work being used by the District. The District, the Contractor and the Engineer shall inspect such portion of the Work and shall prepare a list of Work to be completed or corrected before final acceptance. The District's use of any portion of the Work shall not constitute final acceptance of that portion of the Work prior to Final Completion and acceptance of the Work as a whole. Provided, however, the warranty for such Work will commence upon Substantial Completion for that portion of the Work that is Substantially Complete. The District shall allow the Contractor reasonable access to complete or correct Work in areas being used by the District. Partial beneficial occupancy shall not relieve the Contractor of liquidated damages unless the Contract Documents expressly provide for and identify the portion of Work that may be considered Substantially Complete before the remaining portions of the Work.

**h. Final Payment**

**1. Application for Payment**

- a) After Contractor has, in the opinion of Engineer, satisfactorily addressed all items in the Final Punch List and has delivered, in accordance with the Contract Documents, all operation and maintenance manuals, warranties, record drawings, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents etc. and other documents, Contractor may make application for final payment following the procedure for progress payments.
- b) The final Application for Payment shall be accompanied (except as previously delivered) by:
  - 1) All documentation called for in the Contract Documents;
  - 2) Consent of the surety, if any, to final payment;
  - 3) A list of all claims against District that Contractor believes are unsettled; and
  - 4) Complete and legally effective releases or waivers (satisfactory to District) of all lien rights arising out of or liens filed in connection with the Work.

**2. Engineer's Review of Application and Acceptance**

- a) If, on the basis of Engineer's observation of the Work during construction and Final Inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within five (5) days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to District for payment. At the same time Engineer will also give written notice to District and Contractor that the Work is acceptable. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- b) Neither the acceptance of the Work by the District nor the payment of all or part of the sum due the Contractor hereunder shall constitute a waiver by the District of any claim which the District may have against the Contractor or surety under this Contract or otherwise.

### 3. **Payment Becomes Due**

Final payment shall not be due until thirty-five (35) days after either the Notice of Completion has been recorded in compliance with the Code of Civil Procedure of the State of California or after such time as the Contractor has submitted all documents required in Paragraph C-30(h) and has addressed all items in the Final Punch List, whichever is later. The Contractor is hereby notified that because of the need for payments to be reviewed by the District's Board of Directors and because the Board only regularly meets once a month, delays of as much as sixty (60) days may occur in his receipt of payment for progress pay estimates and the final pay estimate. The Contractor is urged to process his request for payment in a timely manner to minimize payment delays. The Contractor agrees that such a delay shall not entitle Contractor to any remedy provided for in the Contract Documents or law.

## **C-31 Project Meetings**

- a. **Pre-Construction Conference** – Upon receipt of the Notice to Proceed, or at an earlier time if mutually agreeable, the District will arrange a preconstruction conference to be attended by the Contractor, Contractor's superintendent, the District, the Engineer or his representative, and representatives of utilities, major Subcontractors, and others involved in the execution of the Work.

The purpose of this conference shall be to establish a working understanding between the parties and to discuss the Construction Schedule (Critical Path Method format required), Shop Drawing submittals and processing, applications for payment and their processing, and such other subjects as may be pertinent for the execution of the Work.

**b. Progress Meetings**

1. The District may arrange and conduct progress meetings. These meetings shall be attended by the Engineer or his representative, Contractor, Contractor's superintendent and representatives of all Subcontractors, utilities, and others, that are active in the execution of the Work. The purpose of these meetings shall be to expedite the Work of any Subcontractor (if acceptable to the District) or other organization that is not up to schedule, resolve conflicts, and in general, coordinate and expedite the execution of the Work.
2. The agenda of progress meetings shall include review of progress and schedule, of payment request, of the latest Construction Schedule update, and of the record documents. To the maximum extent practicable, Contractor shall contact the District and Engineer at least twenty-four (24) hours in advance of the meetings regarding items the Contractor wishes to have added to the agenda.
3. Persons designated by the Contractor to attend and participate in project meetings shall have the authority to commit the Contractor to the resolution of problems as agreed upon in the project meetings.
4. A meeting will be held every week (unless the District determines otherwise) for the duration of the Project to review, evaluate, and discuss each Construction Schedule submittal. The location of the meetings shall be determined by the District prior to the first meeting.
5. The Contractor shall designate persons to attend these Construction Schedule review meetings who are familiar with the Construction Schedule and with the current construction problems and activities and with the logic of the Work sequences used in preparing the schedule and the updates.
6. On the last working day of every week, Contractor shall submit to Engineer, Contractor's plan of activities for the following two (2) weeks (a "two-week look-ahead schedule"). The plan of activities shall describe the activity and location of the activity. Failure to submit a two-week look-ahead schedule, shall subject the contractor to withholding of monthly progress payment for month that the schedule(s) was not submitted.

**c. Progress and Schedule Review**

1. The progress of the Work and the Construction Schedule shall be reviewed to verify:
  - a) Actual start and finish dates of completed activities since the last progress meeting.
  - b) Durations and progress of all activities not completed.
  - c) Reason, time, and cost data for Change Order Work that is to be incorporated into the Construction Schedule or payment request form.
  - d) Payment due to the Contractor based on percentage complete of items in the submitted payment request.
  - e) Reasons for, and duration of, required revisions in the Construction Schedule.
  - f) After each progress meeting, upon request the Contractor shall submit to the Engineer three (3) prints of the last accepted Construction Schedule, revised in accordance with the progress review.
  - g) If the progress meeting coincides with the beginning of the month when Applications for Payment are due, the Contractor shall have his copy of the payment request form and all other data required by the Contract Documents completed prior to the progress meeting. The Engineer will process Contractor's payment request after satisfactory review of the schedule update.

### **C-32 Record Drawings**

- a. The Contractor shall maintain one record set of drawings at the Site. On these, it shall mark all project conditions, locations, configurations, and any other changes or deviations which may vary from the information represented on the original Plans, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Plans. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the Work as actually constructed. These master record drawings of the Contractor's representation of as-built conditions, including all revisions made necessary by addenda and change orders shall be maintained up-to-date during the progress of the Work. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date. Record drawings shall be maintained up to date on a daily basis.

- b. Changes shall be marked directly on the drawings. Green color-coding shall be used when showing information deleted from Drawings. Red color-coding shall be used when showing information added to Drawings. Blue color shall be used for clouding an area or areas affected by the change(s). Information shall be legible and completely detailed. The level of detail shall be sufficient to allow a draftsman to incorporate the changes into a CAD file without reference to other documents besides the marked-up drawing(s). It is not acceptable to simply reference change directives or to mark drawings: "see RFI-XX" or "see survey notes". If there is insufficient space on a drawing to markup the change, the Contractor will be required to draw additional sketches to completely explain the change and attach the sketches to the drawing.
- c. The Engineer has the right to inspect the Contractor's marked-up drawings at any time to ascertain that they are being kept up to date and show sufficient details. The Engineer may require that all as-built records, survey field notes and other documentation be submitted at the completion of certain construction elements of the overall project. Should the Contractor's marked-up drawings, survey field notes, and other as-built documentation not be up to date or lack necessary details, the Engineer may withhold five percent (5%) from each monthly progress payment, until the drawings, survey field notes and other as-built documentation are brought up to date and properly detailed.
- d. Copies of the record drawings shall be submitted on upon completion of all Work.
- e. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by Change Order drawings or final Shop Drawings, and by including appropriate reference information describing the change orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.
- f. Record drawings shall be accessible to the Engineer at all times during the construction period.
- g. Final payment will not be acted upon until the record drawings have been prepared and delivered to the Engineer. Said up-to-date record drawings shall be in the form of a set of prints with carefully plotted information overlaid.
- h. Prior to final acceptance of the Work, the Contractor shall finalize and deliver a complete set of record drawings to the Engineer for transmittal to the District, conforming to the construction records of the Contractor. This set of record drawings shall consist of corrected drawings showing the reported location of the Work. The information submitted by the Contractor and incorporated by the Engineer into the record drawings will be assumed to be correct, and the Contractor shall be responsible for the accuracy of such information, and for any errors or omissions which may appear on the record drawings as a result.

- i. Contractor shall refer to Paragraph C-33 for requirements regarding Contract Closeout.

### **C-33 Contract Closeout**

Prior to submitting the Final Application for Payment and issuance of the Final Payment, as described in Paragraph C-30(h), the Contractor must complete the Work described below.

- a. **Cleaning** – Throughout the period of construction the Contractor shall keep the Work site free and clean of all rubbish and debris, and shall promptly remove from the Site, or from property adjacent to the Site, all unused and rejected materials, surplus earth, concrete, plaster, and debris, excepting select material which may be required for refilling or grading.
- b. **Final Site Clean-Up** – Upon completion of the Work, and prior to final acceptance, the Contractor shall remove from the vicinity of the Work all surplus material, and equipment belonging to him or used under his direction during construction.
- c. **Waste Disposal** – The Contractor shall dispose of surplus materials, waste products, demolition materials, and debris. The Contractor shall transport and dispose of waste materials in accordance with applicable laws and regulations.
- d. **Project Record Documents** – The Contractor shall maintain at the Site, available to the District and Engineer, one copy of the Contract Documents, Plans, Change Orders, and other modifications in good order and marked to record all changes made during construction. These foregoing documents shall be delivered to the Engineer upon completion of the Work and will be known as Project Record Documents. Project Record Documents shall be reviewed during progress meetings to ascertain that all changes have been recorded. Contractor shall store Project Record Documents separately from other documents used for construction.
- e. **Touch-Up and Repair** – The Contractor shall touch-up or repair finished surfaces on structures, equipment, fixtures, or installations that have been damaged prior to final acceptance. Surfaces on which such touch-up or repair cannot be successfully accomplished shall be completely refinished or in the case of hardware and similar small items, the item shall be replaced. Such items shall include, but not be limited to, the following:
  - 1. Road surfaces (paved and unpaved)
  - 2. Structure concrete surfaces
  - 3. Equipment exposed surfaces

4. Piping exposed surfaces

- f. **Final Equipment Check** – After test operation and before final acceptance, each piece of machinery shall be lubricated and all components and couplings checked for proper alignment and adjustment.

Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's and District's final review.

Provide submittals to District that are required by governing or other authorities.

Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

g. **Warranties**

1. Provide Manufacture's Equipment Warranties as required by these Specifications.
2. Execute and assemble documents from Subcontractors, Suppliers, and manufacturers.
3. Provide Table of Contents and assemble in binder with durable plastic cover.
4. Submit prior to final Application for Payment.
5. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

h. **Record Drawings** – Refer to Section C-32.

i. **Operation and Maintenance (O&M) Manuals**

1. Provide four (4) original O&M manuals and one (1) electronic copy (in pdf) to the Engineer prior to final Application for Payment. All O&M manuals shall be provided in a three-ring binder, with tabs and an index describing the contents of the binder. One binder containing the O&M manual for each piece of equipment shall be furnished and be included in a separate binder. All O&M manual copies whose original pages are color shall be provided in color. The binder cover sheet shall include at a minimum: (1) the name of the project; (2) the contents of the binder; (3) the District's name; (4) the date; and (5) the volume number (i.e. Vol 1 of 2 etc.). One hardcopy of the O&M manual shall be provided to the Engineer and District for review prior to reproducing all four sets. Once



the sample copy has been approved, the Contractor may proceed with preparing the four original sets.

2. Operation and maintenance instructions shall include, at a minimum, the below listed data for each item of mechanical, electrical, and instrumentation equipment. All equipment manufacturers shall be made aware of these requirements and all associated costs shall be included in the costs for furnishing the equipment or system.
  - a) All information provided as part of the Shop Drawings.
  - b) All information required as part of equipment Specification Section.
  - c) Manufacturer's O&M manual customized for equipment provided. Cross out equipment not provided.
  - d) Bill of material listing every component of equipment listed by make and part number. An insufficient bill of materials shall result in O&M manual submittal rejection.
  - e) An itemized list of all data provided.
  - f) Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier, and spare parts warehouse.
  - g) Equipment function, normal operating characteristics, and limiting conditions.
  - h) Recommended maintenance procedures during storage of equipment prior to installation and after installation but prior to start-up.
  - i) Recommended installation, adjustment, start-up, calibration, and troubleshooting procedures.
  - j) Recommended lubrication, lubrication intervals, and an estimate of yearly quantity needed.
  - k) Recommended step-by-step procedures for all modes of operation. Operating instructions for startup, routine and normal operation, regulation and control, shutdown, and emergency conditions. Instructions shall include keystrokes and procedures required for adjusting control setpoints for equipment operation.
  - l) Complete internal and connection wiring diagrams of actual installation.
  - m) Equipment maintenance.

- n) Test data and performance curves, where applicable.
  - o) Recommended preventive maintenance procedures and schedule.
  - p) Complete parts lists (bill of materials), by generic title and identification number (part number), with exploded views of each assembly.
    - 1) Every component shall be listed on the bill of material with its corresponding part number.
    - 2) A recommended spare parts list shall include generic title and identification numbers (part numbers).
  - q) Recommended spare parts and any special tools required.
  - r) Disassembly, overhaul, and reassembly instructions.
  - s) Factory and field test results (if applicable).
  - t) Manufacturer's contact information and local certified service representative's contact information.
3. Following completion of an item, instructions and procedures shall be modified by the Contractor to reflect field changes. In addition, the O&M manuals shall contain reproducible prints of the Contract record wiring diagrams, schematics, and installation drawings required. Information not applicable to equipment installed in the Work shall be excluded.
4. Individual O&M manuals shall be broken into sections and indexed. Under each section there shall be a description of the operation and maintenance, and installation instructions of each item. Sections shall be labeled and each item shall be sub-labeled. No acceptance of equipment will be made until the individual O&M manual has been approved. Contractor's copy of each individual O&M manual shall be available at the site of the Work for use by field personnel and the Engineer during start-up and testing of the equipment.

#### **C-34 Satisfaction of Liens**

If any liens or claims remain unsatisfied after final payment to the Contractor, the Contractor shall pay or refund to the District any money that the latter may be compelled to pay to discharge such liens and costs together with reasonable attorneys' fees incurred by the District in enforcing the Contractor's obligations hereunder.

**C-35 Claims Against the District and Payment of Attorneys' Fees**

In the event that any litigation of any nature between the District and the Contractor becomes necessary to enforce or interpret all or any portion of this Contract, it is mutually agreed that the prevailing party therein shall receive from the other, in addition to such sums as may be reduced to judgment, an amount sufficient to reimburse such prevailing party for reasonable attorneys' fees and litigation costs paid or owing as a result of such litigation.

**C-35.1 Compliance with Civil Code section 9204**

Contractor shall comply with Public Contract Code section 9204, the provisions of which are replicated immediately below:

- (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.
- (b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.
- (c) For purposes of this section:
  - (1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:
    - (A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.
    - (B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.
    - (C) Payment of an amount that is disputed by the public entity.
  - (2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)

(A) “Public entity” means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) “Public entity” shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) “Public works project” means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) “Subcontractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) Void

(1) Void

- (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.
- (B) The claimant shall furnish reasonable documentation to support the claim.
- (C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.
- (D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)

- (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.
- (B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any

disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

- (C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.
  - (D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
  - (E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.
- (3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
  - (4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.
  - (5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a

subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on their own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

- (e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.
- (f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.
- (g) This section applies to contracts entered into on or after January 1, 2017.
- (h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.
- (i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

#### **C-35.2 Compliance with Public Contract Code section 20104 *et seq.***

Following compliance with Public Contract Code section 9204 as provided in C-35.1, Contractor shall comply with Public Contract Code section 20104 *et seq.* if applicable.

The provisions of Public Contract Code §20104, et seq., apply to certain claims of

\$375,000 or less. If a claim is subject to Public Contract Code §20104, et seq., the provisions thereof shall be followed. In accordance with Public Contract Code §20104, the provisions are replicated immediately below:

Section 20104:

- (a)
  - (1) This article applies to all public works claims of three hundred seventy- five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.
  - (2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.
- (b)
  - (1) "Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California.
  - (2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.
- (c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.
- (d) This article applies only to contracts entered into on or after January 1, 1991.

Section 20104.2:

For any claim subject to this article, the following requirements apply:

- (a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
- (b)
  - (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the



claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

- (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
- (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c)

- (1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
- (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
- (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the

running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

- (f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

#### Section 20104.4

The following procedures are established for all civil actions filed to resolve claims subject to this article:

- (a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- (b)
  - (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration
  - (2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

- (3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.
- (c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

Section 20104.6:

- (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
- (b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.”

Notwithstanding the permissive language found in Public Contract Code section 20104.2(e), it is agreed and understood that the Contractor, and/or its agents, must file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

**C-36 Waiver of Interest in Certain Situations**

The District shall have no obligation to pay and the Contractor hereby waives the right to recover interest with regard to monies which the District is required to withhold by reason of judgment, order, statute or judicial process.

**C-37 Assignments of Antitrust Actions**

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions

code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

### **C-38 Notice of Latent or Hazardous Conditions**

In accordance with Section 7104 of the Public Contract Code, where the Specifications require digging trenches or excavating deeper than four (4) feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

- a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
- b. Subsurface or latent physical conditions at the Site differing from those indicated in the Plans and Specifications;
- c. Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Specifications.

Upon receipt of written notice by the Contractor of such conditions, the District shall promptly investigate the conditions. If the District finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, the District will issue a change order under the procedures described in the Contract.

In the event a dispute arises between the District and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause decrease or increase in the cost of or time required for performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, and Contractor shall retain any and all rights provided either under the Contract or by law which pertain to the resolution of disputes and protests between the District and the Contractor.

### **C-39 Claims**

Claims by the Contractor shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed with the District on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by the Contract for the filing of claims.

For claims of less than fifty-thousand dollars (\$50,000), the District will respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim any additional documentation supporting the claim or relating to defenses to the claim or claims the

District may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and the Contractor. The District's written response to the claim, as further documented, shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

For claims greater than or equal to fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District will respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim or claims the District may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and Contractor. The District's written response to the claim, as further documented, will be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or request documentation, whichever is greater.

If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

If following the meet and confer conference the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Government Code Section 900 et seq. and a lawsuit on the claim may be filed in the appropriate state court.

The court shall submit the matter to non-binding mediation. The parties are to select a mediator within fifteen (15) days of submittal to mediation, and the mediation must be commenced within thirty (30) days of the submittal to mediation.

If the matter remains in dispute, the case shall be submitted to judicial (non-binding) arbitration pursuant to Code of Civil Procedure Section 1141.10 et seq. If either party objects to the arbitrator's award, the matter can then go to trial de novo in the trial court. Any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees as provided by applicable law, pay the attorney's fees of the other party arising out of the trial de novo.

**C-40 Contractor's License**

Contractor, including all Subcontractors and Specialty Contractors, shall possess a valid California Contractor's license, of the required class for the Work to be performed and completed as required by the Project, the Contract Documents, and the Specification, at the time the Bid/Proposal is submitted and during the entire course of performance under the Contract. The following statement, in pertinent part, shall be included in at least 10-point type on all written contracts with respect to which the person is a prime contractor in accordance with Section 7030 of the California Business and Professions Code:

**"Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, CA 95826."**

**C-41 Department of Industrial Relations Registration**

Pursuant to Labor Code Section 1725.5, all Contractors, including Subcontractors and Specialty Contractors, are to be registered with the Department of Industrial Relations in order to be qualified to bid on, be listed in a bid proposal, or engage in the performance of any public work contract. The foregoing are required to register with the Department of Industrial Relations prior to bidding, being included on a bid, or engaging in Work set forth herein. Said Registration shall be maintained by the Contractor at all times prior to and throughout the course of completion of the Project, and the cost and renewal thereof is to be the sole responsibility of the Contractor, Subcontractor, and/or Specialty Contractor

**\*\*END OF SECTION\*\***

**This page intentionally left blank.**

## SECTION H PAINTING AND COATING

### H-1 General

The Contractor shall provide all labor, materials and equipment and perform all operations required to paint or protectively coat and line ferrous metalwork, pipe and other surfaces which have not been specified in other sections of these Specifications.

### H-2 Quality Control

- a. **General** – Unless otherwise specified, the Contractor shall clean and paint or protectively coat the surfaces of all ferrous metalwork installed above-ground in conformance with the schedule below. Surfaces of items to be completely embedded in concrete, and galvanized and stainless-steel surfaces and nonferrous surfaces, including aluminum and bronze surfaces, shall not be painted. Regardless of the method of cleaning specified in this Section, surfaces of all metalwork shall be cleaned of oil, grease, dust, dirt, rust, loose mill scale and other foreign substances by approved means prior to painting or coating; where specified, power tool cleaning or sandblasting shall be performed. Damaged areas of shop painted surfaces shall be cleaned and repainted to match existing at the Contractor's expense. No paint or coating shall be shop or field applied in inclement weather or when the ambient temperature is below 45 F. Materials which have been painted shall be handled with care and protected as necessary to preserve the painted surfaces in good condition. Items or surfaces not to be painted but which are adjacent to surfaces to be painted shall be protected against contamination and damage during cleaning and painting operations.
- b. **Submittals** – In accordance with the applicable requirements of the General and Special Conditions, the Contractor shall submit to the Engineer for approval a list of the manufacturer and type of all paints to be used for the work. Should samples be required for testing the suitability of any paint, the Contractor shall supply any such samples including such manufacturer's certifications as are required.

### H-3 Materials

- a. **General** – The paint shall conform to the quality standards specified herein for the various types of paint and shall be manufactured by Tnemec Company, Inc. or equal. Paint colors shall be selected by the Engineer from standard color charts supplied by the paint manufacturer. The color of the first coat of paint shall be white or other approved color providing discernible contrast with finish coat.
- b. **High Build Epoxy** – Series V69, Hi Build, Epoxoline II
- c. **Polyurethane** – Series 1075, Endura-Shield II
- d. **Epoxy Primer** – Series V69, Hi Build Epoxoline II



- e. **Polyamide Epoxy Primer** – Series V69, Hi Build Epoxoline II
- f. **Coal Tar** – Series 46H-413, Hi-Build Tneme Tar

#### H-4 Surface Preparation

Surface preparation shall be in accordance with the methods herein and as indicated in the Schedule for Painting and Protective Coatings. Power tool cleaning, commercial blast cleaning, and near-white blast cleaning shall be in accordance with Specifications SSPC-SP4, SSPC-SP6, and SSPC-SP10, respectively, as published by the Steel Structures Painting Council.

#### H-5 Schedule for Painting and Protective Coatings

Item	Paint or Coating System for Exposed Surfaces
1. Ladders and ladder rungs, safety cable, all nuts, bolts, washers and fasteners including anchor bolts.	All surfaces shall be hot-dip galvanized (unless stainless).
2. All metalwork, operating platforms, including structural steel, grating, checkered plate, handrails, minor steel pipe, all other field fabricated structural work and miscellaneous metal work including pipe supports, flange supports, pipe tie down straps and marker posts, unless galvanizing or other protective coating is specified or shown on the Drawings. <u>Stainless steel metalwork does not require coating.</u>	Solvent cleaning of dirt and scum followed by SSPC-SP6, commercial sandblasting to remove all loose rust, mill scale and other foreign substances followed by one shop coat of epoxy primer paint to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to a minimum thickness of 3 mils (minimum dry film thickness of total paint system–8.0 mils).
3. All aboveground cast iron and steel valves, fittings and castings, not including brass.	Shop cleaned by SSPC-SP6, commercial sandblasting and one shop spray coat of epoxy primer plus one field-applied spray coat of polyamide epoxy primer to 5.0 mil thickness followed by one spray coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system–8 mils).

Item	Paint or Coating System for Exposed Surfaces
4. All aboveground steel pipe and fittings.	Solvent cleaning of oil, dirt, following by SSPC-SP6, commercial sand blasting, followed by one shop coat of epoxy primer to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system—8 mils. No lining unless specified.
5. All belowground steel pipe and fittings.	Shop cleaned by SSPC-SP6, commercial sandblasting and a 1-1/2 inch minimum thickness cement mortar coating reinforced with 3/4-inch galvanized welded wire fabric or 2 × 4 W0.5 × W0.5 welded wire fabric. Coating shall be in accordance with AWWA C205 and the cement mortar shall contain no less than 1-part Type V cement to 3-parts sand. No Lining unless specified.
6. All aboveground ductile iron pipe, and ductile iron fittings.	One shop coat of epoxy primer to 3.0 mil thickness, one field coat of epoxy primer to 2.0 mil thickness, and one finish coat of polyurethane to 3.0 mil thickness and cement mortar lined.
7. All belowground ductile iron pipe, and ductile iron fittings.	Asphaltic coating with polyethylene wrapping and cement mortar lined.

Item	Paint or Coating System for Exposed Surfaces
<p>8. Pumps and Motors</p> <p>(a) Bowl assembly and column pipe exterior surfaces; column pipe and discharge head interior surfaces, bottom of pump base plate, and suction barrel interior surfaces and base plate.</p>	<p>Shop applied near-white sandblast followed by application of two or more coats of high-build epoxy to produce a minimum dry film thickness of 10 mils.</p>
<p>(b) Discharge head exterior; and top and sides of pump base plate.</p>	<p>Shop cleaned in accordance with manufacturer's standard procedures and one shop spray coat of epoxy primer to 3.0 mil thickness, plus one field-applied spray coat of epoxy primer followed by one spray coat of polyurethane to 2.0 mil thickness (minimum dry film thickness of total paint system – 8 mils).</p>
<p>(c) Suction barrel exterior; exclusive of item 7(a) above.</p>	<p>Shop applied commercial sandblast, followed by two coats of coal tar to produce a minimum dry film thickness of 16 mils.</p>
<p>(d) Motors</p>	<p>Shop applied primer coat and one field applied spray coat of polyamide epoxy to 4.0 mil thickness, followed by one spray coat of polyurethane to 3.0 mil thickness (minimum dry film thickness of total paint system – 7 mils).</p>

#### **H-6 Application**

All spray coats of shop or field applied paint shall be applied by approved, airless spray equipment. Exact methods of paint application shall be in conformance with the manufacturer's recommendations.

#### **H-7 Payment**

No separate payment will be made for work or materials involved in cleaning and painting or providing protective coatings for metalwork as specified herein. The cost of all such work and materials shall be included in the applicable lump sum price stated in the Proposal Bidding Schedule for the item of work requiring painting or coating.

**\*\*END OF SECTION\*\***

**SECTION N****VERTICAL TURBINE PUMP****N-1 General****a. Summary**

1. Section includes vertical turbine pumps with cans and accessories for the following pump stations:
  - a) Rosedale Booster Station Pumps 1, 2, 3, and 4.
2. Supplier shall furnish all pumps, pump cans, motors, equipment frames, sole plate, air valves, pump accessories, and specifications for equipment anchor bolts. Detailed installation instructions and equipment check-out and start-up services are also included.

**b. System Description**

1. Design Requirements:
  - a) Pumps shall operate at specified range of operating conditions and variable speeds without cavitation and undue noise and vibration.
  - b) Provide pumps with Cans designed per Hydraulic Institute Standards. Provide isolation and air release valve on pump can per manufacturer's recommendation.
  - c) Design equipment so parts are readily accessible for inspection and repairs, and suitable for service required.
  - d) Equipment shall operate free from vibration and noise under load conditions.
  - e) Bearings and similar parts shall have temperature rise not exceeding limit of safety and good practice for such parts.
  - f) Pumps and motors shall be designed for use with variable speed drive equipment and suitable for operation over a frequency range between 30 and 60 hertz.

**c. Quality Assurance**

1. Each impeller shall be dynamically balanced and factory tested as indicated. Submit certificate verifying that impeller was balanced to within allowable standards and that pumping capacity is as specified.

2. Pumps, motors, drive shafts, couplings, and bearings shall be supplied from single supplier.

**d. Project Site Conditions**

1. Pumps shall be furnished and delivered to the site. Supplier shall coordinate delivery of the pumps and equipment with the Owner or Owner's Representative.
2. Pump supplier shall provide equipment check-out, start-up and training services as specified herein. Suppliers and contractors are required for all cost and schedule requirements to comply with necessary training for site access.

**e. Safety**

1. Contractor shall identify and comply with all applicable safety regulations.

**f. Submittals**

1. General: Submit in accordance with specifications.
2. Submit Manufacturer's Product Data in sufficient detail to confirm compliance with requirements of this Section. Submit Product Data and Shop Drawings in one complete submittal package. Partial submittals are unacceptable.
3. Shop Drawings:
  - a) The Contractor shall furnish the following for each pump. The information shall be accurate and clear. A catalog curve is acceptable. Pump curve data shall be presented in the format that demonstrates conditions shown in Table 2 can be achieved. The information to be submitted for each pump shall include:
    - (1) Performance curves developed for specified operating conditions showing relationship between flow, head, total pump and overall efficiencies, and horsepower for a minimum flow rates conditions specified and show pump curves from continuous flow through run-out, including the rated design point and the Best Efficiency Point (BEP).
    - (2) Drawings and literature submitted shall include detailed specifications and drawings indicating dimensions, make, style, speed, size, type, horsepower, head capacity, total pump efficiency, NPSH curves, specific materials used, design features, weights and any other information required.
    - (3) Certified Pump Curves showing head versus capacity, total pump efficiency versus capacity; NPSH and BHP requirements, and thrust and moment of inertia characteristics. Each curve shall be continuous

over the full operating range from zero (0) flow up to the maximum flow permissible through each pump, and shall be based upon the operating range specified. Each curve shall state the RPM speed of the pumping unit, and shall be furnished full-size on 8-1/2" x 11" paper. The pumps be capable of meeting all aspects of the Detailed Vertical Turbine Pump Specification section and as shown on the Drawings. Certified Performance curves from similar pumps will be acceptable.

- (4) Construction details and materials of construction
  - (5) Pump installation detail for each pump specific to location (specifically indicating how each new pump and associated sole and base plates will be installed)
  - (6) Pump design shall account for the motor's weight, natural frequency, thrust limitations, deflection at center of gravity, and other parameters.
  - (7) Details of lining and coating thickness, materials, testing, as specified herein.
  - (8) Detailed drawings showing dimensions for cans, pump dimensions, base plate and bolt hole locations shall be provided.
4. Product Data:
- a) Catalog cuts and product specification for each product being provided.
5. Operation and Maintenance (O&M) Manuals:
- a) Provide one (3) hard copy O&M manuals and one (1) electronic copy (in pdf) for each pump to the Engineer prior to final Application for Payment. All O&M manuals shall be provided in a three-ring binder, with tabs and an index describing the contents of the binder and be designed for rough outdoor usage. Light-duty manuals shall not be acceptable. One binder containing the O&M manual for each piece of equipment shall be furnished and be included in a separate binder. All O&M manual copies whose original pages are color shall be provided in color. The binder cover sheet shall include at a minimum:
    - (1) Name of the project;
    - (2) Contents of the binder;
    - (3) Owner's Purchase Order No.
    - (4) Owner's Pump Tag Number
    - (5) Pump Model and Serial Number;

(6) Date

One hardcopy of the O&M manual shall be provided to the Engineer and Owner for review prior to reproducing all three (3) sets. Once the sample copy has been approved, the Contractor may proceed with preparing the three (3) original sets.

- b) Operation and maintenance instructions shall include, at a minimum, the below listed following data for each item of mechanical, electrical, and instrumentation equipment. All equipment manufacturers shall be made aware of these requirements and all associated costs shall be included in the costs for furnishing the equipment or system.

- (1) All information provided as part of the Shop Drawings.
- (2) All information required as part of the Specifications.
- (3) Owners Purchase Order Number
- (4) Owners Job Number
- (5) Owner's Pump Tag Number
- (6) Pump Model and Serial Number
- (7) Location of parts and service center
- (8) Manufacturer's O&M manual customized for equipment provided. Cross out equipment not provided.
- (9) Bill of material listing every component of equipment listed by make and part number. An insufficient bill of materials shall result in O&M manual submittal rejection.
- (10) An itemized list of all data provided.
- (11) Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier, and spare parts warehouse.
- (12) Equipment function, normal operating characteristics, and limiting conditions.
- (13) Recommended maintenance procedures during storage of equipment prior to installation and after installation but prior to start-up
- (14) Recommended installation, adjustment, start-up, calibration, and troubleshooting procedures.

- (15) Recommended lubrication, lubrication intervals, and an estimate of yearly quantity needed.
- (16) Complete internal and connection wiring diagrams of actual installation.
- (17) Equipment maintenance.
- (18) Test data and performance curves, where applicable.
- (19) Recommended preventive maintenance procedures and schedule.
- (20) Complete parts lists (bill of materials), by generic title and identification number (part number), with exploded views of each assembly.
- (21) Every component shall be listed on the bill of material with its corresponding part number.
- (22) A recommended spare parts list shall include generic title and identification numbers (part numbers).
- (23) Disassembly, overhaul, and reassembly instructions.
- (24) Factory and field test results.
- (25) Manufacturer's certification that the pumping units will meet the vibration (Hydraulic Institute Standards 9.6.4-2009) and critical speed limitations
- (26) Manufacturer's contact information and local certified service representative's contact information.

**g. Warranty**

- 1. The manufacturer shall provide a one (1) year warranty for pumps.
- 2. The pump manufacturer shall be responsible for all supplied components and for the satisfactory installation and operation for a completely assembled unit, including complete compatibility with the motors, and suction barrels.

**h. Pump Delivery Schedule, Storage, and Handling**

- 1. All of the pumps shall be available for delivery as specified.
- 2. Preparation for shipment shall be in accordance with the pump manufacturer's standards, except where modified by the specification herein. Each container shall be marked with the Purchase Order Number, Customer's Job Number and Pump



Tag Number. If assembled equipment is too heavy or too long for ship shipment, it may be packaged and shipped separately (suitably tagged for reassembly). Pumps and motors shall be shipped separately.

3. Vertical turbine pumps, and associated items, shall be delivered to the site in accordance with the manufacturer's instructions except as may be modified by the plans, special specifications, or as directed by the Owner. Each unit shall be shipped in such a manner that no damage will result to any part. Every precaution shall be exercised in handling so as to avoid imposing any strain on any part of the pump.

**i. Experience Requirement**

1. Pumping equipment shall be the product of a manufacturer or manufacturers having at least twenty (20) years of experience in the manufacture, testing, and installation of such equipment.

**N-2 Materials**

**a. Manufacturer**

1. Goulds
2. Peerless
3. Layne/Verti-Line
4. Flowserve
5. Fairbanks
6. Cascade Pump Company
7. Sulzer/Johnston

**b. General Design Requirements**

1. Each vertical turbine pump shall be specifically designed for the operating conditions specified and per the physical conditions shown. The pumps shall be designed and suitable to operate continuously over the specified range of flow and head conditions provided. At a minimum, the pumps shall be capable of operating against all possible flow and head conditions within the envelope defined by the four conditions noted in the attached Table 2.
2. Each pump provided under this Contract shall be capable of operating continuously without evidence of cavitation, excessive noise, vibration (Hydraulic Institute Standards 9.6.4-2009) or damage to impellers, in conformance with the requirements listed in Table 2.

3. In addition to those requirements set forth in Table 2, the following performance requirements shall be satisfied:
  - a) For all pumping units providing the same nominal design capacity and head, the design of each impeller and the design of each impeller bowl shall be identical in order to ensure interchangeability of parts for all pumps of this design capacity.
  - b) The Rated Design Flow conditions for pumping unit listed in Table 2 shall be the approximate capacity at which the Best Efficiency Point (BEP) occurs.
  - c) For each pumping unit and for any operating condition from minimum to maximum pump total head and flow conditions:
    - (1) The head capacity curve for the vertical turbine pump shall be as steep as practicable within the constraints of this section, and shall exhibit a continuously rising characteristic to shutoff head, with no points of zero slope or slope reversal.
    - (2) The pumping head shall be the total dynamic head which, in these specifications, shall be the sum of the static head plus the friction head above the pump discharge outlet plus the velocity head at the discharge outlet. The pumping head does not include the losses in the entrance, column, or discharge elbow.
    - (3) The NPSH required shall not exceed 12.2 feet for water at a design temperature of 30°C (86°F). Each pumping unit to be operated within its own p rated flow and can have pressure on the inlet suction piping as noted.
  - d) The pump shall be designed to operate continuously at any point in the operating range of the curve without cavitation, overheating or excessive vibration (Hydraulic Institute Standards 9.6.4-2009). The motor nameplate horsepower rating shall not be exceeded by the pump brake horsepower requirements for any point on the entire curve.

**c. Hardware**

1. All bolts and nuts necessary to assemble the pump bowl and column, and all other bolted, connections shall be stainless ASTM A193 Type 316. Miscellaneous wetted fasteners shall be of stainless-steel material

**d. Design and Fabrication**

1. Pump Design:
  - a) Pumps shall be designed for installation as shown.

- b) All pumps to be furnished shall be short-coupled, water lubricated, open-line shaft vertical turbine type pumps.
  - c) Design and fabrication shall be as specified herein and shall conform with certain specified applicable requirements of AWWA E103, Part A. Pump terminology and nomenclature used in these Specifications will be as used and defined in the Hydraulic Institute (HI) Standards and in AWWA E103.
  - d) Castings and forgings shall be North American sourced where available.
2. Line Shaft:
- a) The line shaft shall be open and shall be turned and precision ground Type 416 stainless steel shafting, furnished in sections not exceeding ten (10) feet in length. Line shaft couplings shall be of Type 410 stainless steel. The shaft diameter shall be as per special specifications excluding undercut. The line shaft shall not be reduced in size through the stuffing box.
3. Bowl Assembly:
- a) Shall be of cast iron and shall be provided coated with 3M SK134W coating (exterior surfaces) or approved equal.
  - b) All castings and forgings shall be North American sourced
  - c) Pump impellers bronze.
  - d) The pump shaft shall be fabricated from stainless steel. Regardless of the pump total head, all line shafting for pumps of one given design capacity shall be of the same diameter. The impeller shaft shall be Type 416 stainless steel. The shaft shall not be smaller in diameter than the line shaft.
  - e) The top bowl of each pump assembly may be directly coupled to the bottom of the discharge head; for any pump bowl installation where the top bowl is not directly attached to the bottom plate of the discharge head, carbon steel column pipe conforming with AWWA C202 shall be provided to enclose the shaft; such column pipe shall be bolted to the bottom of the discharge head and bolt-connected to the upper pump bowl. As required, top shafting and intermediate shafting for each pump shall be provided with alignment bearings to insure that any lateral shaft deflection during laboratory or field operation shall not exceed manufacturer's standard requirements when measured at the stuffing box.
  - f) Each pump shall be provided with a stuffing box assembly with a minimum of 6 rings of packing that shall be readily accessible through an opening provided in the pump discharge head. Stuffing box shall be by pumped water.

4. Strainer:

- a) Bell suction shall be fitted with clip-on basket strainer.
  - b) Area of strainer shall be greater than 4 times the impeller eye area.
5. Discharge Head:
- a) Each pump discharge head shall be provided with an ANSI Class 125 lb. ANSI flanged connection and provisions for venting air during starting operations.
  - b) The column and discharge elbow shall be designed to withstand the internal pressures and external loads associated with pump operation, transportation, erection/installation, and testing required in the field. The discharge head shall be provided with lifting lugs to facilitate the handling of these parts (discharge head attached to the column and bowl assembly; i.e. complete pumping unit) during installation and maintenance.
  - c) The minimum offset of structural natural frequencies shall be 20% above or 15% below the pump operating speed throughout its entire range
  - d) A cast iron stuffing box with removable bronze bushing, stainless steel split gland and stainless hardware. Stuffing box shall utilize a minimum of 6 synthetic packing rings and be lubricated by pumped water.
  - e) Discharge head shall include two (2) 1/4" threaded (NPT) sample ports and stainless-steel ball valves on either side of the pump discharge nozzle

**e. Pump Materials**

- 1. For all pumps, materials for major pump components shall conform to the requirements listed in Table 1, materials for all other pump components not specified below shall be in conformance with requirements listed under AWWA E103, Table 1.

**Table 1 – Pump Materials**

<b>Component</b>	<b>Material Requirements</b>
Bowls	ASTM A48 Class 30 cast-iron; coated with 3M SK134W coating interior and exterior surfaces of all bowls.
Impeller	Aluminum Bronze, with polished surface finish maximum (polish to manufacturer's standard requirements)
Impeller Shaft Method of Connection	Keyed
Impeller Wear Ring	Aluminum Bronze
Bowl Wear Ring	Aluminum Bronze
Bowl Shaft	Type 416 Stainless Steel, ASTM A582
Column	Carbon steel pipe, Schedule 40, in maximum 10-ft lengths, Flanged with registered fit and through bolting. Flange faces shall be machined after welding onto the column. Coated with 3M SK134W coating: interior and exterior surfaces.
Line Shaft and Couplings	Line Shaft: Type 416 Stainless Steel shaft in maximum 10-ft lengths, sized in accordance with AWWA E-103 standards. Shaft Coupling: Type 416 Stainless Steel, threaded or keyed to the shaft.
Shaft Lubrication	Product water, Open lineshaft construction
Shaft Seal	Sealing System: Mechanical seal, housing material cast iron.
Line shaft Bearings	Bronze
Discharge Head	Carbon Steel removable stuffing box with stainless steel studs or tee bolts and brass nuts. Coated with 3M SK134W coating: interior and exterior surfaces.
Fabricated steel plate	Carbon steel – ASTM A36, coated with 3M SK134W; interior and exterior surfaces of discharge heads.
Strainer	Galvanized Steel
Bottom Bearing	Close tolerance sleeve type with length min 2-1/2 times shaft diameter, permanently grease lubricated
Bowl Bearing	Product-lubricated bronze sleeves bearings
Flanges	ANSI Class 150
Hardware (fasteners, bolts, nuts, washers, etc.)	316 SS – ASTM A193
Sole Plate	Fabricated and machined steel plate coated with 3M SK134W coating.

**f. Motors****1. Acceptable Manufacturers**

- a) US Motors
- b) Toshiba
- c) Siemens

- d) Or Approved Equal
- 2. The motors shall not be less than the horsepower shown in Table 2, motor speed as noted, TEFC, NEMA Design B squirrel cage type, grease lubricated premium efficiency motor with 1.15 service factor and suitable for operation on 230/460, 3 phase power, and with a variable frequency drive controller operating over a range of 30 to 60 Hz. Motor shall be dynamically balanced.
- 3. Motor shaft shall be hollow shaft and connected to the pump by means of coupling located on the top side of the motor.
- 4. Motor size shall be sufficient to prevent overloading and overheating at all operating conditions specified.
- 5. Following installation, grouting and connection of all piping, pump and motor must be checked for alignment in accordance with standards of the Hydraulic Institute and the manufacturer's installation instructions.

**g. Nameplates**

- 1. Each pump and motor shall be provided with a nameplate of corrosion-resistant metal securely fastened to the unit. Each pump shall have the plate installed at a point diametrically opposite the discharge nozzle. Each nameplate shall show the following data in engraved or stamped legible characters:
  - a) Name of manufacturer
  - b) Pump serial number
  - c) Owner's pump tag number
  - d) Year built
  - e) Rated Design capacity in gpm
  - f) Rated Total Dynamic Head (in feet) at Rated Design capacity
  - g) Number of pump stages
  - h) Overall efficiency at the best efficiency point
  - i) Type of impeller (open, enclosed, or semi-open)
  - j) Impeller clearance at the best efficiency point
  - k) Complete motor nameplate information

**N-3 Execution****a. Delivery and Installation**

1. Installation of the equipment will be by others. Supplier shall provide detailed installation instructions and have a technician available for installation troubleshooting.
2. Delivery to the project site shall be by the Supplier. Coordinate delivery of the pumps and other equipment to the site with Owner and Engineer.
3. Pump Manufacturer shall provide factory trained personnel onsite to set impeller gap, verify field installation is in accordance with manufacturers requirements, and assure final adjustments are completed before starting equipment.

**b. Field Quality Control**

1. Manufacturer's Field Service:
  - a) Supplier shall provide specifications for all lubricants and provide detailed instructions for pre-start up equipment check-out.
  - b) The initial startup of the system shall be performed by a qualified factory representative of the equipment supplied. It shall be the responsibility of the factory representative to supervise the startup and instruct the Owner's personnel in the proper initial setup, operation, and maintenance procedures.
  - c) Supplier's or manufacturer's representative for equipment specified herein shall be present at job site for minimum three (3) man-days, travel time excluded, for assistance during installation, startup and training of Owner's personnel. It is anticipated that this will consist of three (3) site visits and shall include minimum of:
    - (1) 1 day for installation
    - (2) 1 day for instruction and startup services
    - (3) 1 day for post-startup services

**c. Pump Installation**

1. The following installation requirements apply to each pump:
  - a) All equipment shall be installed by others. The Supplier shall provide complete installation instructions, and as defined in the specifications herein, the technical services of an authorized manufacturer's representation to provide technical direction of installation and field testing of the pumps. The

field personnel provided by the pump manufacturer shall be capable, qualified, and able to perform the duties required.

- b) The Supplier shall provide the service of a fully qualified, factory-trained service representative of the pump manufacturer who shall inspect the foundation prior to pump installation, during the installation by Contractor, initial start-up, and testing, and make adjustments as may be necessary for proper operation. The Contractor shall coordinate provisions for the services of the manufacturer's representative for such periods of time as may be necessary to place the unit in satisfactory operating condition.
- c) Supplier's (manufacturer's representative) shall be present for the start-up of each pump.
- d) Following each pump installation the Contractor shall provide a certification letter that the pump and motor are aligned, connected, and installed in accordance with the manufacturer's recommendations.
- e) Installation and field testing of each pump and all associated components shall be certified by the Contractor and Supplier.
- f) The pump shall be installed so the pump mounting flange is level within 0.001 inch per foot when measured along any horizontal axis. These values must be verified by the Supplier's representative, in the presence of the Owner. The Contractor shall provide written acceptance that the pump has been checked for alignment and is certified as being within the required manufacturer's tolerance, aligns with existing pump discharge piping and motor coupling, and pump mounting mounting/foundation dimensions.

**d. Spare Parts**

- 1. The following spare parts and special tools shall be delivered to the Owner prior to final acceptance for each pump.
  - a) Touch-up paint
  - b) Two (2) sets of pump shaft bearings for each different size shaft provided
  - c) Two (2) sets of packing for each different size shaft provided
  - d) Four (4) sets of all gaskets and o-rings for each different size shaft provided

**e. Coatings**

- 1. All exposed and buried surfaces shall be primed top coated with Tnemec Series 141 high solids epoxy coating system or approved equal.



2. The General Contractor shall touch up and clean and paint the surfaces of all metal work scratched during installation in accordance with manufacturer's recommendations.

**f. Performance Testing**

1. Factory Testing:

- a) "Full scale" witnessed factory performance test with factory motor shall be required by the Owner for the pumps indicated in Table 2. Pump shall be fully assembled with bowl assembly, column, and discharge head. All other performance tests shall be conducted in the field after installation. "Full scale" performance tests shall be performed in an open-sump test pit providing a minimum submergence not to exceed five (5) feet unless otherwise listed.
- b) Tests shall be performed in accordance with the applicable provisions of AWWA E103 or the standards of the Hydraulic Institute. To successfully pass the factory performance test, a pumping unit shall meet all performance requirements, including total pump efficiencies (including bowl efficiency and all losses through the column and discharge head), as specified herein.
- c) The acceptance criteria of the factory test will be in accordance with Hydraulic Institute Standards 14.6 - 2011 acceptance Grade 1E.
- d) Factory performance curves shall be developed for specified operating conditions showing relationship between flow, head, efficiency, and horsepower for a minimum of the flow conditions shown in Table 2 and from full speed dead head flow through run-out, including the rated design point (Table 2) and the Best Efficiency Point (BEP).
- e) Supplier shall provide a minimum of fifteen (15) calendar days' notice prior to the need for witness testing.
- f) It is required that the pump manufacturer list the guaranteed total pump efficiency for all pumps at the specified design heads and submit curves showing the performance characteristics of the pumps. In the event of failure of pump to meet the guaranteed total pump efficiency.
- g) The Owner shall accept the pump when the field-testing requirements specified herein are satisfied.

2. Field Testing:

- a) After the completion of installation, each pumping unit shall be field tested to verify compliance with operating parameters. Contractor shall oversee and certify field testing to demonstrate compliance with the performance

requirements as specified. The Owner's staff will be available to assist Contractor during this process (i.e. turn pumps on/off, etc.). The Contractor shall provide a formal field testing report for each pump within fourteen (14) calendar days following successful field testing to be reviewed by the Owner and Supplier.

- b) Field tests shall be conducted using raw water
- c) Each pump shall be operated by the Contractor for as long as required to insure proper installation and operation. The pump shall be operated to verify the pump satisfies all of the performance requirements listed herein. The Supplier and Contractor shall be responsible for making all adjustments required for proper operation. Pump supplier shall be responsible for travel and extra costs to modify pumps if it is determined that pumps as supplied do not meet the performance conditions.

#### **N-4 Attachments**

- a. Table 2 – Pump Design Basis and Other Applicable Information**

Pump Specifications  
 GEI PROJECT No. 2005381  
 TABLE 2 - PUMP DESIGN BASIS AND OTHER APPLICABLE INFORMATION

Pump Station I.D.	Pump Name /Tag Number	Depth from Pump Outlet Centerline To Can Inlet Centerline	Inlet Pipe Suction Pressure	Rated Design Flow GPM / TDH	Witnessed Factory Testing Required (Yes/No)	Other Operating Conditions			Proposed Motor Rated Horsepower	Maximum Pump Speed (RPM)	Allowable Max Number of Pump Stages	Min. Pump Efficiency at Rated Design
						Condition 2 GPM/TDH	Condition 3 GPM/TDH	Condition 4 GPM/TDH				
Rosedale Booster Station	Pump 1	8' - 6"	5'	6,720 / 24.2	No	5400/30	7600/20	4800/17	100	900	1	81%
	Pump 2	8' - 6"	5'	6,720 / 24.2	No	5400/30	7600/20	4800/17	100	900	1	81%
	Pump 3	8' - 6"	5'	6,720 / 24.2	No	5400/30	7600/20	4800/17	100	900	1	81%
	Pump 4	8' - 6"	5'	6,720 / 24.2	No	5400/30	7600/20	4800/17	100	900	1	81%

**\*\*END OF SECTION\*\***