SAN ANTONIO WATER SYSTEM
CENTRAL WATER INTEGRATION PIPELINE
TERMINUS TREATMENT FACILITY
SAWS Job No. 18-8616
SAWS Solicitation No. CO-00185

ADDENDUM No. 2
August 17, 2018

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bidding documents and as such will be made a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the addendum number and issue date in the space provided in submitted copies of the proposal.

QUESTIONS AND ANSWERS

Refer to attached Question and Answer Form.

CLARIFICATIONS

a) The Request for Competitive Sealed Proposals, page IV-1, is being changed to change the due date of proposals.

REVISIONS TO CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS

REQUEST FOR COMPETITIVE SEALED PROPOSALS

a) Remove paragraph five (5) from the Request for Competitive Sealed Proposals, page IV-1, and replace with the following:

Sealed proposals will be received by Counter Services in the Customer Service office across from the Guard Station, 2800 U.S. Hwy 281 North, Customer Center Building, San Antonio, Texas 78212, **until 2:00 PM (CT), September 12, 2018**. Proposals will then be publicly opened and read aloud by Contract Administration in CR-C145, Customer Center Building, 2800 U.S. Hwy 281 North, San Antonio, Texas. Each proposal must be accompanied by a cashier's check, certified check, or bid bond in an amount not less than five percent of the total proposal price.

PRICE PROPOSAL

a) Delete the Price Proposal in its entirety and replace with revised Price Proposal provided herein. The revised Price Proposal has corrected Item No. references for early procurement allowances. Respondents should use this version when submitting a proposal for this project.

DRAWINGS

a) Delete sheet C-1029 and replace with C-1029 provided herein.

SECTION 01010

a) Delete Section 01010 in its entirety and replace with new Section 01010 provided herein. Revised paragraphs in this Section are highlighted in yellow.

SECTION 01015

a) Delete Paragraph 1.03, C and replace with: "CONTRACTOR shall perform daily clean-up of dirt outside the construction zone, and debris, scrap materials, and other disposable items. Keep streets, driveways, and sidewalks clean of dirt, debris and scrap materials. Do not leave building, roads, streets or other construction areas unclean overnight. Construction zone shall include Hardy Oak Blvd. Huebner Road shall be maintained by others."

b) Delete Paragraph 1.04, A and replace with: "Notify individual occupants in areas to be affected by the Work of the proposed construction and time schedule. Notification shall be not less than 72 hours or more than two (2) weeks prior to work being performed within 500 feet of the homes or businesses. SAWS Engineer will provide a sample door hanger showing form and content to be followed."

SECTION 01025

a) Delete Paragraph 1.12, A. Item No. 19 replace with the following:

Item No. 19: Permitting Fee Allowance

1. Description – This item shall be for permitting fees associated with the project scope.

2. Measurement – Measurement for the item "Permitting Allowance" will be "by permit" of the actual fees. This allowance shall cover any permit application fees for permits required to construct the project. Proof of payment of permits fees will be required, and reimbursements will be made on the basis of actual permit fees required by each respective agency paid. The labor, materials, and incidentals associated with obtaining permits shall be included in Item No. 1.

3. Payment of the not to exceed allowance price shall be paid for the fees. Payment shall constitute full compensation to the CONTRACTOR for covering necessary permit fees for the Project. CONTRACTOR shall provide permit fee receipts to SAWS for reimbursement.

SECTION 01040

a) Delete Section 01040 in its entirety and replace with new Section 01040 provided herein. Revised paragraphs in this Section are highlighted in yellow.

SECTION 01321

a) Delete Section 01321 in its entirety and replace with new Section 01321 provided herein. Entire section is re-written.

SECTION 01400

a) Delete Paragraph 1.08. B.

SECTION 01630

a) Delete Section 01630 in its entirety and replace with new Section 01630 provided herein. Revised paragraphs in this Section are highlighted in yellow.

SECTION 01700

a) Delete Paragraph 1.04 B.

b) Delete Paragraph 1.05. D and replace with "Warranties shall commence in accordance with the requirements in General Conditions Article IX "Project Completion and Acceptance"."

SECTION 01710

a) Delete Paragraph 3.01 G. and replace with "Dispose of nondegradable debris at an approved solid waste disposal site or in an alternate manner approved by governing regulatory agencies."

SECTION 01740

a) Delete Paragraph 1.02, A and replace with: "The manufacturer's warranty period shall be concurrent with the Contractor's, which is defined under Article 9.3 of the General Conditions, for no less than two (2) years, commencing at the time of final acceptance by the Owner which shall begin at substantial completion. Guarantee shall cover all necessary labor, equipment, materials, and replacement parts resulting from faulty or inadequate equipment design, improper assembly, defective workmanship and materials, leakage, breakage or other failure of all equipment and components furnished by the manufacturer."

SECTION 01752

a) Delete Paragraph 3.02, C, 3. and replace with: "I/O Loop Test – Refer to Division 16 testing requirements"

b) Delete Paragraph 3.02, C, 5. and replace with: "Electrical Testing - Refer to Division 16 testing requirements"

c) Delete Paragraph 3.04, A. and replace with: "As a prerequisite of Final Completion, after all functional and performance tests and the entire system is safe and ready to operate, the OWNER will test all constructed facilities using all specified systems in combination with each other for a period of thirty (30) days continuous operation (either actual or simulated) without interruption due to malfunctions of constructed facilities. All defects of material or workmanship which appear during this test period shall be corrected by the CONTRACTOR. After such corrections are made, the thirty (30) day test shall be restarted at zero and run again before final acceptance (final completion) of the equipment. The time need not be continuous based on malfunctions of associated existing facilities."

SECTION 11310

a) Paragraph 1.04, C, 14, revise to add "Basin" to the beginning of the sentence: "14. Basin depth and plan dimensions: As indicated on drawings".

b) Paragraph 1.04, D, 4, delete and replace with "Rated total head: 100 feet"

c) Paragraph 1.04, D, 5, delete and replace with "Minimum shut off head: 150 feet"

d) Paragraph 1.04, D, 13, revise to add "Basin" to the beginning of the sentence: "13. Basin depth and plan dimensions: As indicated on drawings".

e) Paragraph 2.02, B, b., delete and replace with: "

b. Pump shaft:

1) Pump shaft will be an extension of the motor shaft, no couplings.

2) Stainless steel – ASTM A479 S43100-T, completely isolated from pumped fluid. "

f) Paragraph 2.02, B, d., delete and replace with: "

d. Mechanical seals:

1) Tandem mechanical seal system, maintenance and adjustment free independent on direction of rotation for sealing.

2) Operate in lubricant reservoir to hydrodynamically lubricate lapped seal faces at a constant rate.
3) Lower primary seal between pump and lubricant chamber to contain one stationary and one positively driven rotating ring constructed of Tungsten-carbide.
4) Upper secondary seal located between lubricant chamber and motor housing to contain one stationary and one positively driven rotating ring constructed of corrosion resistant tungsten-carbide.
5) Seal system held in place by its own spring system.

SECTION 11315

a) Paragraph 1.05, A, 3, delete and replace with: "Thickened sludge SG (30%): 1.23"

b) Paragraph 1.05, A, 4, delete and replace with: "Thickened sludge viscosity (30%): 1,000 cps"

c) Paragraph 1.05, C, 7, delete and replace with: "Minimum motor horsepower: 15 hp"

d) Paragraph 1.05, D, 7, delete and replace with: "Minimum motor horsepower: 3.0 hp"

SECTION 15100

a) 2.01, E, add new Paragraph 11:

"CV7:

a. Valve: Check valve shall be single disc or flapper type, unobstructed waterway, quick-closing, outside lever and weight, horizontal swing. Conform to AWWA C508. Flanged style per the valve schedule with fusion bonded epoxy coated ductile iron body, ASTM A536 Grade 65-45-12. The disc or flapper shall be rubber or epoxy coated. The hinge pin shall be Type 303 or 316 stainless steel with both ends extending through bronze bushed bearings and outside stuffing boxes. The seat material shall be EPDM or Buna-N. .

b. Pressure: 150 psi.

c. Service: Backwash Recovery, Filter-to-Waste Recovery, Sludge Transfer, Centrifuge Feed, Liquid Sludge Loading

d. DeZurik/APCO CVS-6000/6000A, Pratt Series 9001, M&H 159, Val-Matic Swing-Flex."

b) Table 15100-1 REF 31 and 37,
   a. Size (in): Revise to "6"

c) Table 15100-1 REF 38, Change:
    a. Type/Style to: “CV2”
    b. Change Body Material to: “CF8M”
    c. Change Class/Pressure to: “150”
    d. Change Connection Type to: “LUGGED”

d) Table 15100-1 REF 39,
    a. TAG No: Delete 29-PV-11-1 and 29-PV-12-1
    b. QTY: Revise to “3”

e) Table 15100-1, add new row:
    a. DWG No: I-1004
    b. TAG No: 29-BFV-11, 29-BFV-12
    c. QTY: 2
    d. Description: BUTTERFLY VALVE
    e. Size (in): 10
    f. Type/Style: BFV1
    g. Location: LIME SOLUTION
    h. Mount: Process or Panel: PROCESS
    i. Fluid: CHS
    j. Body Material: DUCTILE IRON
    k. CLASS/ Pressure: 150
    l. Connection Type: LUGGED
    m. Operator: HANDLE
    n. Actuation: NONE
    o. Limit Switch: NO
    p. Comments: CONTRACTOR
    q. Spec Section: 15100

f) Table 15100-1 REF 187, 197, 201, 210, 214:
    a. Type/Style: Revise to “CV7”
    b. Connection Type: Revise to “FLANGE”
    c. Operator: Revise to “LEVER”

<u>SECTION 14630</u>

a) Paragraph 1.05, B. delete and replace with:

B. Crane Classification: Top Running.

	Dewatering Building
Capacity	5 Tons
Span (Center to Center Crane Runway)	Approximately 26-feet
Minimum Hook Height/Lift	15-feet

APPENDIX C

a) Package E-3A Lime Storage Silo and Feed Equipment Table of Contents delete "01092 Abbreviations" and "01400 Quality Control".

b) Package E-3B Lime Saturator and Solids Contact Unit delete "01092 Abbreviations" and "01400 Quality Control".”

The remainder of the bid documents remain unchanged.

This addendum is comprised of a total of **38** pages (including attachments).

Jarrett Kinslow, P.E.
Tetra Tech, Inc.
Texas Registered Engineering Firm No. 3924
700 North Saint Mary’s Street, Suite 300
San Antonio, Texas 78205

8/17/18

END OF ADDENDUM No. 2

Project: Central Water Integration Pipeline Terminus Treatment Facility

Question and Answer Form

Solicitation No.: CO-00185

Job No.: 18-8616

Question No.	Received	Question	Answer	Addendum Number
1	8/1/2018	I am the Victaulic Infrastructure specialist here in central and south Texas I have Victaulic option for the test cap/Bulkhead option on this job that would make the cap reusable as we as easier to remove and install and would like to discuss its use on this project.	The specified equipment selections for this project are not subject to change at this time. Any alternates will be considered on a case by case basis for a credit after the contract is awarded.	2
2	8/3/2018	Spec sections 01092 & 01400 from both sections E-3A Lime Storage Silo and Feed Equipment Division 1 and E-3B Lime Saturator Solids Contact Units are missing per the Table of Contents for the Central Water Integration Pipeline Terminus Treatment Facility.	The TOC will be revised to exclude the sections noted above, which are not part of the specification for this project.	2
3	8/9/2018	I was wondering who I should get in contact regarding getting some of our products into the specs/plans for this project?	The specified equipment selections for this project are not subject to change at this time. Any alternates will be considered on a case by case basis for a credit after the contract is awarded. Product approvals, except for specialized materials and equipment, go through the SAWS Product Standards Committee. For more information, see website below. http://www.saws.org/business_center/specs/product_submittal/	2
4	8/9/2018	Reference Section 5.18 , Working Hours. Please advise whether Contractor can work hours beyond those stipulated? Will double shifts for extended periods of time be allowed? Will work on Saturdays be allowed for the duration of the project?	Work hours can be extended with written permission of the Owner. Reference Supplementary Conditions, Article 5.18. Extended work hours are anticipated and will be approved by the Owner as required to meet the contract schedule.	1
5	8/9/2018	The Liquidated Damages on this project are extreme and the early completion bonus is unlikely to be attainable with the extremely tight completion dates. If work hours can't be extended, it will be a material decision in whether we can bid the project, so an expedited answer would be much appreciated.	See response to Question #4.	1
6	8/14/2018	Section 01025 Bid Proposal Items: Are all the electrical work for the project to be costed into Item 1, 16, 17 & 18?	As detailed in the descriptions for Items 2, 4, 7, 8, 10, 12, 14, 15, equipment installation includes electrical power and instrumentation Anything not covered by a sub-process area should be included in Item 1.	2
7	8/15/2018	Is it possible to provide Statement of Qualifications documents in a WORD format?	The Supplementary Instructions to Respondents evaluation criteria forms are posted on the SAWS website in Word.	2
8	8/15/2018	Please confirm Bidder surety's can use their own bid bond form.	Yes	2
9	8/15/2018	Please confirm there is no maintenance bond required.	No maintenance bond is required. See Section 01740 for requirements on Warranties and Bonds.	2
10	8/15/2018	Please explain difference between evaluation points and percentages. In reference to Supplementary Instructions to Respondents, evaluation of proposals, Number 4, A & B- it notes that the meeting the 20% M/WBE goal will calculate as 10 points toward evaluation, but then in B states that the SBE goal of 5% can earn an additional 5 points towards evaluation. However, under A, MBE, WBE and SBE are all combined and only add up to 10%. Can additional information be provided to break this down?	Response will be provided in Addendum #3.	3
11	8/15/2018	Please confirm the Minority Participation Goal on this project. Will the total MWBE/SBE Participation Goal for both SBE and M/WBE be 20%? Or is it 15% for M/WBE and 5% for SBE, (and combined they add up to 20%)?	Response will be provided in Addendum #3.	3
12	8/15/2018	Please confirm that all MBE and WBE subcontractors/suppliers used towards goal must also be SBE?	Response will be provided in Addendum #3.	3
13	8/15/2018	Can the SBE subcontractors/suppliers used towards 5% SBE goal also have other certifications like MBE/WBE? If so, are we permitted to count a subcontractor with both MBE and SBE towards 5% SBE goal and 20% M/WBE goal?	Response will be provided in Addendum #3.	3
14	8/15/2018	Bridge Crane: In the specs it calls for a 2.5-ton bridge crane. The drawing section on sheet S-1633 calls for a 5-ton. Please advise as to which is required.	The bridge crane shall be 5 ton capacity. Refer to revised specification attached to this Addendum.	2
15	8/15/2018	Drawing D-1106 & I-1004 shows the valves on the Solution Feed Pump Suction Lines to be Butterfly Valves 29-BFV-11 & 29-BFV-12. These valves are not shown in the Valve Schedule on page 15100-37. Drawing D-1106 & I-1004 in Appendix C – Early Procurement Equipment Section of the specs shows the valves in the Solution Feed Pump Suction Lines to be Plug Valves 29-PV-11-1 & 29-PV-12-1. The Valve Schedule on spec page 15100-37 also shows these valves to be Plug Valves 29-PV-11-1 & 29-PV-12-1. Please advise whether Plug or Butterfly Valves should be used in the Pump Suction Lines.	Valves (29-BFV-11 and 29-BFV-12) shall be butterfly valves as shown on the drawings. Refer to revised valve schedule attached to this Addendum.	2
16	8/15/2018	Reference Specification Section 15061 2.01 A. 2. g. "Approved manufactures: Only domestic DIP shall be provided." I wanted to verify if this was just the pipe or if it this would include the DI Fittings, Restraints and flanges on the DI Fab. Typically SAWS hasn't required these other items to be domestic.	Yes, all DIP fittings shall be domestic by one of the approved manufacturers.	2
17	8/15/2018	Section E on drawing D-1107 calls out 6" Lug Dual Disc Check Valves in Lime Solution Feed Pump Discharge Line. Drawing D-1106 calls these valves out as 29-CV-11 & 29-CV-12. Valve Schedule page 15100-37 lists 29-CV-11 & 29-CV-12 as Check Valve Type CV3 which is specified as a Rubber Flapper Swing Check Valve. Please advise if these valves should be Dual Disc as shown on drawings or Rubber Flapper as shown in Valve Schedule.	Valves (29-CV-11 and 29-CV-12) shall be dual disc check valves as shown on the drawings. Refer to revised valve schedule attached to this Addendum.	2

Project: Central Water Integration Pipeline Terminus Treatment Facility				
Question and Answer Form			**Solicitation No.: CO-00185**	
			Job No.: 18-8616	
Question No.	**Received**	**Question**	**Answer**	**Addendum Number**
18	8/15/2018	Drawing D-1602 & D-1603 calls out 6" Swing Check Valves on the plans for tag numbers 71-CV-11 & 71-CV-12. The valve Schedule calls these as CV-1 – Double Door Check Valve. Please verify if they should be CV-1 per valve schedule or Swing Check per the plans.	71-CV-11 and CV-CV-12 shall be Swing check valves. Refer to revised valve schedule and specification attached to this Addendum.	2
19	8/15/2018	Section C on D-1106 shows Plug Valves 25-PV-19-2 & 25-PV-29-2 to be 6" size while Valve Schedule page 15100-37 shows these valves to be 4" size. Pipe where these valves are installed are shown to be 6" size. Believe advise if 4" size shown in Valve Schedule is incorrect.	Valves shall be 6" as indicated on drawings. Refer to revised valve schedule, attached to this Addendum.	2
20	8/15/2018	Section E on drawing D-1107 shows Motorized V-Port Ball Valves 29-MOV-11 & 29-MOV-12 as well as Check Valves to be 6" size. Valve Schedule page 15100-37 shows these valves to be 10" size. Pipe where these valves are installed is shown to be 6" size. Please advise if 10" size shown in Valve Schedule is incorrect.	See response to Question #19.	2
21	8/16/2018	Dwg: E-1107 shows Building Exterior Lights that are not shown on the lighting schedule. The lights are denoted with symbol: Which is different than the wall packs shown on the fixture scheduld. Please provide us with the manufacturer & catalog numbers. The same fixture shows on other building lighting drawings as well. 	The referenced exterior light fixtures shall be McGraw-Edison catalog ISC-AF-800-LED-E1-T4W-BZ-7050-MA1255-XX or approved equal.	2
22	8/16/2018	We would like to respectfully request a 2 week bid extension to 9/21/2018.	A bid extension to September 12, 2018 will be provided as included in this Addendum.	2
23	8/16/2018	Can the bid date for the Terminus Treatment Facility be extended two weeks to 9/21/18?	See response to Question 22.	2

PRICE PROPOSAL

PROPOSAL OF _____, a corporation

a partnership consisting of _____

an individual doing business as _____

TO THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instructions to Respondents and Request for Competitive Sealed Proposals, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the project as specified, in accordance with the Plans and Specifications for the following prices to wit:

LUMP SUM PRICES FOR:

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
1.	Central Water Integration Pipeline Terminus Treatment Facility – Furnish all materials, labor, and equipment not included in other bid items for construction of a new water treatment facility, in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
2.	Carbon Dioxide System – Furnish all materials, labor, and equipment not included in the Item No. 8 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
3.	Carbon Dioxide Storage and Pressurized Feed Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description.	LS	1	$1,494,350.00	$1,494,350.00
4.	Lime System – Furnish all materials, labor, and equipment not included in the Item Nos. 5 and 6 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
5.	Lime Storage Silo and Feed Equipment Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description. **(Price updated per Addendum No. 1)**	LS	1	$1,320,310.00	$1,320,310.00
6.	Lime Saturator Solids Contact Units Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description. **(Price updated per Addendum No. 1)**	LS	1	$820,717.35	$820,717.35

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
7.	Fluoride & Filter Aid Polymer System – Furnish all materials, labor, and equipment for construction of the fluoride and filter aid polymer feed facilities in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
8.	Pressure Filter System – Furnish all materials, labor, and equipment not included in the Item No. 3 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
9.	Pressure Filter System Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description.	LS	1	$2,708,199.00	$2,708,199.00
10.	Stone Oak Pump Station – Furnish all materials, labor, and equipment not included in the Item No. 12 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
11.	Horizontal Split-Case Centrifugal Pumps Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description.	LS	1	$514,900.00	$514,900.00
12.	On-site Sodium Hypochlorite Generation (OSG) System – Furnish all materials, labor, and equipment not included in the Item No. 13 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
13.	On-site Sodium Hypochlorite Generation System Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description.	LS	1	$1,234,761.00	$1,234,761.00
14.	Gravity Thickener and Backwash Recovery – Furnish all materials, labor, and equipment for construction of the gravity thickener and backwash recovery facilities in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
15.	Dewatering (Deductive Alternate) – Furnish all materials, labor, and equipment for construction of the dewatering facilities in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
16.	Electrical – Furnish all materials, labor, and equipment not included in the Item No. 17 allowance in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY	UNIT PRICE (IN FIGURES)	TOTAL (IN FIGURES)
17.	Medium Voltage Metal Clad Switchgear Early Procurement Equipment Package Allowance. See Sections 01025 and 01630 for description.	LS	1	$627,560.00	$627,560.00
18.	Control Building – Furnish all materials, labor, and equipment for construction of the control building in accordance with the Contract Documents, complete in place. See Section 01025 for description.	LS	1	$_____	$_____
19.	Permit Allowance – See Section 01025 for description.	Not to Exceed Allowance		$50,000.00	$50,000.00
20.	General Allowance – Contractor shall include an allowance for items unforeseen or not specifically characterized in the Contract Documents, encountered during the course of construction. See Section 01025 for description.	Not to Exceed Allowance		$500,000.00	$500,000.00
A.	SUBTOTAL BASE BID AMOUNT (Items 1 – 20)				$_____
21.	Mobilization and Demobilization – This item shall include project move-in and move-out of personnel and equipment, for all work including furnishing all labor, materials, tools, equipment and incidentals required to mobilize, demobilize, bond and insure the Work for the project in accordance with the Contract Documents, complete in place. Maximum of 5% of Line Item 'A. SUBTOTAL BASE BID AMOUNT (Items 1 – 20)'	LS	1	$_____	$_____
B.	TOTAL BID AMOUNT (Items 1 – 21)				$_____

Mobilization and Demobilization lump sum bid shall be limited to a maximum 5% of the Line Item 'A. SUBTOTAL BASE BID AMOUNT (Items 1 – 20)'. Line Item 'A. SUBTOTAL BASE BID AMOUNT (Items 1 – 20)' is defined as all bid items EXCLUDING Item 21 – Mobilization and Demobilization. **If the Lump Sum price for Item 21 exceeds the allowable maximum stated for Mobilization and Demobilization, SAWS reserves the right to cap the amount at 5% and adjust the extension of the bid item accordingly.**

RESPONDENTS'S SIGNATURE & TITLE	FIRM'S NAME (TYPE OR PRINT)
FIRM'S ADDRESS	FIRM'S PHONE NO./FAX NO.
FIRM'S EMAIL ADDRESS	

The Contractor herein acknowledges receipt of the following:

Addendum Nos._____

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.

The Respondent offers to construct the Project in accordance with the Contract Documents for the contract price, to substantially complete Phase 1 of the work by **December 31, 2019**, Phase 2 of the work by **April 15, 2020** and to complete all work on the Project by **June 30, 2020**, as set forth in the Authorization to Proceed. **The Respondent understands and accepts the provisions of the Contract Documents relating to liquidated damages of the Project if not completed on time.**

Complete the additional requirements of the Price Proposal which are included on the following pages.

END OF SECTION

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 GENERAL CONDITIONS

A. CONTRACTOR shall include in the Bid Proposal all labor, equipment, material, tools, supplies, and incidentals necessary to complete all work required by this Contract in accordance with the latest Standard Specifications for Water Works Construction.

B. All work done under this Contract shall conform to all local ordinances. CONTRACTOR shall arrange and pay all cost of permits and inspection fees, and shall confine his operations to the limits set by law.

C. CONTRACTOR shall take care to protect existing trees in accordance with the latest requirements of the City of San Antonio Tree Preservation Ordinance No. 85262 (dated May 6, 2010, or latest revision). CONTRACTOR shall provide the required tree protection plan to avoid damage to mature trees and native brush and shall replace any vegetation that requires removal with equivalent vegetation unless such vegetation is specifically noted for removal on the Construction Plans.

D. It is the intent of the OWNER to award this project to one Contractor.

E. Portions of this project may be subject to review and acceptance by various agencies. CONTRACTOR will be required to coordinate with these agencies for such items as issuance of permits or work order inspections during construction, and final acceptance. The agencies for this project that may require coordination include, but are not limited to, the following:

1. Texas Commission on Environmental Quality
2. Texas Department of Transportation
3. Bexar County, TX
4. Edwards Aquifer Authority
5. City of San Antonio Public Works Department
6. City of San Antonio, TX
7. San Antonio Water System

1.02 EXISTING CONDITIONS

A. Project Location: The Central Water Integration Terminus Facility site is located at 20015 Hardy Oak Blvd, San Antonio Texas. The ~~5.0 acre~~ site is accessible from Hardy Oaks Road via an existing driveway and access easement. The drive entrance is near the intersection of Hardy Oaks Blvd and Andover Bay St (refer to the Construction Drawings).

~~B. The Segment 5-1 pipeline starts at the intersection of Summer Knoll and Knights Cross Drive, traverses south on Summer Knoll to Silver Knoll in the City of San Antonio. The pipeline then traverses from the cul-de-sac of Silver Knoll to the Terminus Tank Site through an easement.~~

B. Existing Utilities: Locate and protect all existing utilities impacted by this project. Those affected by this project may include, but are not limited to, the following:

1. San Antonio Water System
2. CPS Energy
3. Southwestern Bell Telephone
4. AT&T
5. Grande Cable
6. Others as indicated on the Construction Plans.

1.03 DESCRIPTION OF WORK

A. The Work covered under this contract includes, but is not limited to, the following facilities at the Terminus site:

1. Carbon Dioxide Storage and Feed System
2. Fluoride Storage and Feed System
3. Filter Aid Polymer Storage and Feed System
4. Lime Storage Silo and Feed Equipment
5. Lime Saturator Solids Contact Units
6. ~~Calcium Hydroxide Slurry (Liquid Lime) Storage and Feed System~~
7. Pressure Filter System
8. Backwash and Filter to Waste Recovery Basins
9. OSG System and Building
10. Stone Oak Pump Station ~~and Surge Tank~~

11. Control Building

12. Electrical Building and Standby Power Generator with Enclosure

13. Gravity Sludge Thickener

14. Sludge Holding Tank and Transfer Pumps

15. Dewatering Building ~~and Solids Loadout Canopy~~

16. Liquid Solids Loadout Facilities

17. General Electrical

18. Instrumentation and Control Systems

19. Yard Piping, including treatment process piping, chemical feed piping, potable water service loop and service lines, process and building drain lines, and a gravity sanitary sewer collection system.

20. 36-inch diameter welded steel pipeline and appurtenances from the Stone Oak Pump Station to connection point with Segment 5-1 pipeline contract at Terminus site property line.

21. 54-inch diameter welded steel pipeline and appurtenances from the Stone Oak Pump Station to tunnel shaft within the Terminus site (Segment 5-2 contract).

22. Site Preparation, Paving, Grading, and Drainage

23. Landscaping, Site Fencing, and Site Restoration

B. Performance Time**:** All work indicated in the Contract Documents shall be substantially complete, as defined in this Section, and ready for SAWS use by the time specified in the Bid Proposal**.** For every calendar day the work is incomplete beyond the above specified times the CONTRACTOR shall be made liable to the San Antonio Water System for **Liquidated Damages** in accordance with Article VIII, Section 8.6 of the General Conditions of these Contract Documents and any revisions to said General Conditions as documented in the Supplementary Conditions.

1.04 WORK SEQUENCE

A. Construct work in stages to provide proper coordination with work by others. Coordinate the construction schedule and operations with the OWNER's representative. Reference to General Conditions Item 5.15 and Section 01040 - Coordination.

1.05 CONTRACTOR'S USE OF PREMISES

A. CONTRACTOR shall have access to the Lot 3 of the Terminus Site for construction and for storage. The CONTRACTOR shall share use of the Lot 3 site with the Terminus Tank Contractor who will occupy the eastern end of the site as well as contractors for CWIP Segment 5-1 and 5-

2 who will occupy space in the southern and western portions of the site (refer to the Construction Drawings). Other Contractors will occupy Lot 1 and Lot 2 of the Terminus Site, therefore the CONTRACTOR will not be allowed to use either Lot 1 or Lot 2 premises for storage. The CONTRACTOR shall not impact the work by other Contractors and/or the OWNER at the Terminus site.

B. Coordinate use of premises under direction of the OWNER.

C. CONTRACTOR assumes full responsibility for the protection and safekeeping of products under this Contract.

D. Move any stored products, under CONTRACTOR's control, which interfere with operations of the OWNER or separate Contractor(s). No Separate Pay Item.

E. CONTRACTOR to obtain and pay for the use of storage or work areas needed for operations.

F. CONTRACTOR will provide their own power. The cost of said temporary electric power shall be the CONTRACTOR's responsibility. The running of electric line(s) within the site, from the electrical utility provider's power source to the project site, shall be the responsibility of the CONTRACTOR. The cost of this shall be included and made a part of the project's lump sum bid item for Mobilization. CONTRACTOR shall be responsible for power until such time as SAWS accepts the project and all related operations and maintenance manuals.

1.05 WORK OUTSIDE OF PROPERTY

A. CONTRACTOR shall not work outside of the SAWS's property or easements. Coordination with landowner is mandatory prior to work outside SAWS property. Protection of trees outside SAWS property is indispensable and under no circumstances shall trees be removed outside SAWS property unless otherwise noted on the drawings.

PART 2 PRODUCTS

A. All products incorporated into the work area shall be new, unused, and first quality.

PART 3 EXECUTION

A. All work shall be performed in a workmanlike manner by properly trained and qualified personnel under supervision of the CONTRACTOR's representative.

B. All work done under this Contract shall conform to all local ordinances. CONTRACTOR shall arrange and pay for all cost of permits and inspection fees and shall confine his/her operations to the limits set by law.

C. CONTRACTOR shall comply with all local and state rules and regulations that govern the San Antonio Water System.

END OF SECTION

SECTION 01040

COORDINATION

PART 1 GENERAL

1.01 CONTRACTOR COORDINATION

A. Coordinate scheduling, submittals, and Work of the various Specifications sections to assure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify that utility requirement characteristics of operating equipment are compatible with existing or planned utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate completion and clean up of Work for Substantial Completion.

1.02 SEQUENCING OF WORK

A. Overview

1. For the purposes of meeting certain project milestone dates for connection and coordination with work by others, the Work to be performed by the CONTRACTOR shall be separated into two (2) separate substantial completion phases.

B. Phase 1 Facilities shall consist of components of the Terminus Treatment Facility that are required to convey 48.62 MGD of potable water from the Project Company storage tank (Existing GST #1), to the point of connection with pipeline segments 5-1 and 5-2 shown in the Drawings, while providing supplemental dosing of sodium hypochlorite for adjustment of the disinfection residual. The minimum requirements for completed Phase 1 components are as follows:

1. Completion of the 54-inch welded steel piping from the Project Company storage tank outlet connection point to the SAWS storage tank inlet connection, including but not limited to all manual and automated (motorized) isolation valves and treatment bypass flow control valves (motor operated valves shall be supplied with temporary power), all flushing connections, drains, and any plugs or blind flanges needed to allow for achieving conveyance of potable water between the two (2) 10 MG storage tanks.

2. Completion of the 60-inch, 54-inch, 48-inch and 36-inch potable water piping from the SAWS storage tank outlet point of connection to the Stone Oak Pump Station, and continuing to the points of connection for the pipeline projects by others. All flushing connections, drains, and any plugs or blind flanges shall be provided as needed to allow for achieving conveyance of potable water from the SAWS 10 MG storage tank to the points of connection for the 54-inch Bitters pipeline and the 36-inch Knights Cross pipeline.

3. Completion of the Stone Oak Pump Station (on-site) including the structural mat slab foundation and all piping, valves, pumps, pipe supports, electrical power, motor starters,

lighting, heat tracing, and instrumentation and controls to provide a complete system ready for continuous operation.

4. Completion of the Electrical Building and its contents including but not limited to the primary utility power service, the outdoor medium voltage switchgear, the indoor medium voltage switchboard, the medium voltage starters, the 480-volt power system and all lighting, HVAC systems, plant SCADA panels, fire alarm, as required to provide permanent power to all systems as described herein for Phase 1 Facilities.

5. Provide power and SCADA communications to Lot 1 for Project Company.

6. Completion of the OSG Building and the tanks, piping, valves, controls, and pumping equipment associated with the OSG product tanks and the sodium hypochlorite feed pumps through to the point of chemical injection ~~at the primary and Project Company feed points~~. All Work required to provide a fully functional storage and pumping system for receiving bulk sodium hypochlorite deliveries in the range of 10-15% solution strength and feeding delivered chemical to the permanent injection points shall be provided.

~~7. Completion of the Calcium Addition Systems including but not limited to all associated tanks, piping, valves, controls, and pumping equipment through to the point of chemical injection at the plant bypass feed points. All Work required to provide a fully functional storage and pumping system for receiving bulk calcium chloride deliveries and feeding delivered chemical to the injection point shall be provided.~~

7. ~~Temporary SCADA system consisting~~ The Stone Oak Pump Station finished water sample panel, a local control panel equipped with PLC and HMI and remote monitoring and control to SAWS headquarters. The temporary SCADA system shall meet all TCEQ requirements for alarms and data logging of public drinking water systems.

8. All components associated with the SCADA system and associated process controls required for this Phase 1 shall be permanently installed with all wiring terminations completed in advance of the work to be completed by the Applications Service Provider (ASP) by Others. Contractor shall provide a minimum of 14 calendar day notice to Owner and the Engineer on the anticipated date for completion and readiness for the ASP mobilization. ASP startup period for this Phase 1 shall be 30 calendar days to complete work activities described in Section 17300. Contractor shall have provisions in place as described herein to temporarily circulate water (minimum 8 hrs per day) through the portions of the facility required for completion under this Phase for the final 15 days of this ASP startup period for verification and refinement of process controls. Delays during this period due to failure of system components or faulty workmanship of the Contractor shall be grounds for an extension of the ASP startup period.

9. All components associated with the SCADA system and associated process controls required for this Phase 2 shall be permanently installed with all wiring terminations completed in advance of the work to be completed by the Applications Service Provider (ASP) by Others. Contractor shall provide a minimum of 14 calendar day notice to Owner and the Engineer on the anticipated date for completion and readiness for the ASP mobilization. ASP startup period for this Phase 2 shall be 45 calendar days to complete

work activities described in Section 17300. Contractor shall have provisions in place as described herein to temporarily circulate water (minimum 8 hrs per day) through the portions of the facility required for completion under this Phase for the final 30 days of this ASP startup period for verification and refinement of process controls. Delays during this period due to failure of system components or faulty workmanship of the Contractor shall be grounds for an extension of the ASP startup period.

10. All systems described above shall be flushed, pressure tested, disinfected, and bacteriologically sampled to demonstrate bacteriological clearance prior to the specified substantial completion date.

11. Following the Phase 1 Substantial Completion, water will be periodically conveyed from the Project Company 10 MG tank through the Phase 1 facilities ranging from no flow to rates up to the full 48.6 MGD system capacity as required to meet the Project Company's contractual performance obligations. This startup will take place between January 15, 2020 and April 15, 2020 and will include a minimum of 25 calendar days. Additional days may be necessary as required to meet the Project Company's performance obligations.

12. Contractor shall coordinate all remaining Phase 2 construction activities and associated system startups to allow for the continuous operation of the Phase 1 facilities at all times except during coordinated system wide shutdowns.

13. Water for startup shall be in accordance with the Temporary Facilities Section. Contractor shall provide temporary provisions as required for system startup activities.

14. Contractor shall be responsible to provide temporary discharge valving and pipe provisions, dechlorination, discharge stabilization measures, etc. for the full treatment plant process water flow during startup activities. All discharge provisions shall remain in place until Final Completion is obtained or earlier as agreed upon and acceptable to Owner and Engineer.

15. Following Phase 1 Substantial Completion, when possible, potable process water is desired to be conveyed into the distribution system under the direction and full discretion of SAWS.

16. Provide all necessary sitework, perimeter 8-ft TCEQ security fence, and roads for deliveries to the Phase 1 facilities.

C. Phase 2 Facilities shall consist of all remaining components of the Terminus Treatment Facility.

D. Coordination

1. CONTRACTOR shall submit a construction schedule that clearly identifies start and end dates of the specific components to be constructed, in accordance with Section 01310 and incorporating the shutdowns described above.

2. CONTRACTOR is to submit schedules of connections, relocations and modifications to OWNER for approval and such items shall be coordinated with OWNER during construction.

3. The notice will include a work plan as further described in Subsection 3.01 (C) below.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 GENERAL

A. CONTRACTOR shall coordinate and schedule each task necessary to complete the work within the time allowed for the project. Work items from various phases may be done simultaneously or separately.

B. Each phase may require the CONTRACTOR to perform work such as installing temporary materials or equipment, and to require pumping and dewatering. CONTRACTOR'S plans and schedules shall be submitted to OWNER for review and approval, but this shall not be construed as the OWNER dictating the CONTRACTOR's means and methods, which are entirely the CONTRACTOR's responsibility.

C. CONTRACTOR shall be responsible for investigating the conditions to be encountered during connections to existing facilities and shall prepare a work plan for each connection. The work plan will detail the materials, labor and equipment expected to be needed during the connection, and the expected time to accomplish the task and restore the facility to normal operation. The plan and resources shall demonstrate to OWNER that the intended work can be performed with minimal risk to the operation. The work plan shall be submitted to OWNER at least 14 days before the intended connection date.

3.02 PIPE LOCATIONS

A. All pipes shall be located substantially as indicated on the Drawings, but the Engineer reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.

3.03 OPEN EXCAVATIONS

A. Contractor shall adequately safeguard all open excavations by providing temporary barricades, caution signs, lights, and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by workmen. All open excavations shall comply with applicable OSHA Standards.

3.04 TEST PITS

A. Test pits for the purpose of locating underground pipelines or structures in advance of the construction shall be excavated and backfilled by the Contractor. Test pits shall be backfilled immediately after their purpose has been satisfied and maintained in a manner satisfactory to the Engineer. The costs for such test pits shall be borne by the Contractor.

3.05 CARE AND PROTECTION OF PROPERTY

A. The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, or he shall make good the damage in other manner acceptable to the Engineer.

3.06 PROTECTION OF CONSTRUCTION AND EQUIPMENT

A. All newly constructed work shall be carefully protected from damage in any way. No wheeling or walking or placing of heavy loads on it shall be allowed and all portions damaged shall be reconstructed by the Contractor at no additional expense to the Owner.

B. Protect all structures in a suitable manner to prevent damage. Should any part of a structure become heaved, cracked or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by the Contractor at his own expense and to the satisfaction of the Engineer. If, in the final inspection of the work, any defects, faults or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein, for at least the guarantee period described in the Contract.

C. Further, the Contractor shall take all necessary precautions to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the Owner.

3.07 MAINTENANCE OF TRAFFIC

A. Unless permission to close a street is received in writing from the proper authority (County, City, TxDOT, etc.), all excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety satisfactory to the Engineer.

B. Detours around construction will be subject to the approval of the Owner and the Engineer. Where detours are permitted, the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured, the Contractor shall expedite construction operations and periods when traffic is being detoured will be strictly controlled by the Owner. All maintenance of traffic plans required for construction shall be approved by the local governmental entity having jurisdiction.

C. The Contractor shall take precautions to prevent injury to the public due to open trenches. Night watchmen may be required where special hazards exist, or police protection provided for traffic while work is in progress. The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.

3.08 PRIVATE LAND

A. The Contractor shall not enter or occupy private land outside the site, except by written permission of the appropriate owners. Contractor shall provide Owner a copy of such written permission prior to entering private land.

3.09 COOPERATION WITHIN THIS CONTRACT

A. The Contractor shall, prior to interrupting a utility service (water, sewer, etc.) for the purpose of making cut-ins to the existing lines or for any other purposes, contact the Owner and make arrangements for the interruption, which will be satisfactory to the Owner.

3.10 COOPERATION WITH OTHER CONTRACTS

A. This Contract may require a portion of the work to be connected to work done under other contract(s). It will be necessary for the Contractor to plan his work and cooperate with other contractors insofar as possible to prevent any interference and delay.

END OF SECTION

SECTION 01321

PROGRESS SCHEDULE

PART 1 GENERAL

1.01 GENERAL OVERVIEW

A. A Progress Schedule shall be used to control the Work and to provide a definitive basis for determining project progress. The Progress Schedule shall be prepared, maintained and updated by Contractor and historical dates agreed monthly with Program Manager. Contractor shall submit a Baseline Progress Schedule and a Progress Schedule for acceptance by Program Manager. These schedules shall be Contractor's working schedules and shall be used to plan, organize and execute the Work, record and report actual performance and progress, and show how Contractor plans to complete all remaining Work as of the end of each progress report period.

B. The Progress Schedule shall comprise all the detailed construction-related activities using the critical path method (CPM). The Progress Schedule shall provide sufficient detail and clarity to reflect the intricacies and interdependencies of activities, so Contractor can plan, schedule, monitor, control and report on the progress of his work. In addition, it shall provide Program Manager and Owner a tool to monitor and follow the progress for all phases of the Work.

1.02 PRE-CONSTRUCTION SCHEDULING CONFERENCE

A. Program Manager will conduct a pre-construction scheduling conference with Contractor to review requirements for the schedules including cost-loading and schedule configuration. The conference shall be conducted sufficiently early to allow Contractor to submit the Baseline Progress Schedule within 30 days of the Effective Date of the Contract.

B. At this meeting, Contractor shall explain in detail the procedure to be used to develop the schedule activity cost-loading or Schedule of Values and cash flow. This procedure is subject to the review and acceptance of Program Manager.

1.03 BASELINE PROGRESS SCHEDULE

A. Following the pre-construction scheduling conference but within 30 days calendar days after the Effective Date of the Contract, Contractor shall submit a Baseline Progress Schedule for review by Program Manager. If Program Manager has comments on the Baseline Progress Schedule, Contractor shall make the necessary changes and resubmit it within ten calendar days. No progress payments will be made during the period specified above for the Baseline Progress Schedule until the Baseline Progress Schedule has been accepted by Program Manager. The Baseline Progress Schedule shall:

1. Illustrate a feasible schedule for completion of the Work within the Contract Times and Milestones specified.

2. Provide an elementary example of the schedule in the format to be used for the Progress Schedule.

3. Include the activity code structure as described in Paragraph 19 of this specification.

4. Baseline Progress Schedule Submittal Format: Contractor shall submit an electronic XER file and a hardcopy of the baseline Progress Schedule. A brief narrative shall accompany the submittal, describing Contractor's scheduling approach to the project. The narrative shall include a description of the Contract milestones, approach for construction activities, a description of the project's critical path, identification of critical long-lead submittals, and planned outages. The narrative shall also incorporate activity codes, calendars, weather days, milestone constraints, and work breakdown structure in accordance with the requirements specified herein.

1.04 PROGRESS SCHEDULE

A. Once the Baseline Progress Schedule has been approved by the Program Manager, it become the Progress Schedule. The Progress Schedule comprises all the construction-related activities for the Work and shall show the order in which Contractor proposes to carry out the work. Contractor shall include milestones, coordination necessitated by limited access and available work areas, and the availability and use of manpower, material and equipment. Contractor shall use the Progress Schedule to plan, schedule and coordinate the Work including activities of subcontractors, equipment vendors, and suppliers.

B. The Progress Schedule shall be to the level of detail acceptable to Program Manager, and shall include the following:

1. Organization and structural breakdown of the Project;

2. Milestones and completion dates;

3. Type of work to be performed and the labor trades involved;

4. Purchase, manufacture and delivery activities for major materials and equipment;

5. Preparation, submittal, and acceptance of shop drawings and material samples;

6. Deliveries of owner-furnished equipment and/or materials;

7. Acceptances required by regulatory agencies and/or other third parties;

8. Assignment of responsibility for each activity;

9. Access requirements to work areas;

10. Identification of interfaces and dependencies with preceding, concurrent and follow-on contractors;

11. Tests, submittal of test reports and acceptance of test results;

12. Planning for phased or total acceptance by Owner; including start up and commissioning;

13. Identification of any manpower, material and equipment restrictions.

14. Sequence of construction to maintain plant operations;

15. Planned outages.

C. The activities included in the Progress Schedule shall be defined in work days. Durations shall be based on the labor (crafts), equipment, and materials required to perform each activity on a normal workday basis. Activity durations shall be 20 working days or less except in the case of non-construction activities such as procurement of materials, delivery of equipment, and concrete curing. All durations shall be the result of definitive manpower and resource planning by Contractor to perform the Work, in consideration of contractually defined on-site work conditions and Contractor's planned means and methods.

D. When the Progress Schedule is accepted by Program Manager, Program Manager will save a copy of the Progress Schedule as the baseline schedule and will use it for analysis of Contractor's progress.

E. Contractor shall update the Progress Schedule monthly.

1.05 ELECTRONIC PROGRESS SCHEDULE FORMAT AND REPORTING.

A. The Progress Schedule shall be created using Primavera P6 scheduling software.

1. Electronic schedule files shall be saved with .XER file extension.

2. The data date for schedule calculation in the Baseline Progress Schedule and Progress Schedule shall be set as the date of the Notice to Proceed unless otherwise specified by Program Manager.

1.06 COST-LOADING

A. Except for manufacturer lead-time, each Progress Schedule activity that has an actual cost shall have a cost value assigned to it. Equipment or material delivery activities bearing cost shall be separate activities. Each activity's assigned cost shall consist of all costs associated with that activity including all project management, superintendence, overhead and profit costs. The sum of all activity costs shall be equal to the current Contract Price at all times, including approved change orders. Contractor shall certify that the costs are not unbalanced and that the value assigned to each activity represents Contractor's total cost to perform that activity.

B. If Program Manager or Owner determines cost data does not meet the requirements for a balanced bid breakdown, Contractor shall submit documentation substantiating any cost allocation questioned. Cost allocations will be considered unbalanced if activity on the Progress Schedule has been assigned a disproportionate allocation of direct costs, overhead and profit. If documentation of the cost data does not, in the opinion of Program Manager substantiate cost allocations, the Progress Schedule will be returned to Contractor for action.

C. Contractor shall produce Cash Flow Projection reports and graphics from the Primavera P6 application.

D. Cost-loaded data shall be the basis for monthly payment applications and shall be included with monthly updates of the Progress Schedule.

1.07 RESOURCE-LOADING

A. Contractor shall build a resource (manpower) library within Primavera P6 and assign resources to each applicable Progress Schedule activity. Resource-loading shall determine the activity duration based on the assigned resource. Contractor shall submit a resource analysis report produced from Primavera P6 in the form of a series of graphics showing the principal trades. The report shall show the number of man-days of effort for each month over the life of the Contract. The manpower requirements forecast shall be updated monthly and shall include the actual manpower used by trade as of the current report period and the manpower required to complete the Work.

1.08 QUANTITIES-LOADING

A. Contractor shall build a resource (commodities) library within Primavera P6 and assign quantities to each applicable Progress Schedule activity. Quantities-loading shall determine the activity duration based on the assigned resource. Contractor shall submit quantity analysis report produced from Primavera P6 in the form of a series of graphics showing the principal commodities. The report shall show the quantities to install each month over the life of the Contract. The commodities forecast shall be updated monthly and shall include the actual quantities installed as of the current report period and the quantities required to complete the Work.

1.09 COORDINATING PROGRESS SCHEDULE WITH OTHER CONTRACT SCHEDULES

A. Where work is to be performed under this Contract concurrently with or contingent upon work performed on the same facilities or area under other contracts, the Progress Schedule shall be coordinated with the schedules of the other contracts. Owner will provide the schedules of other contracts for preparation and updating of the Progress Schedule. Contractor shall revise the Progress Schedule as required by changes in schedules of other contracts.

B. In case of interference between the operations of different contractors, Owner will determine the work priority of each contractor and the sequence of work necessary to expedite the completion of the entire project. In all such cases, the decision of Owner shall be accepted as final.

1.10 SUBMITTALS

A. The Progress Schedule and associated reports shall be submitted to Program Manager for acceptance within the period of the Baseline Progress Schedule specified herein. If the Progress Schedule is not submitted, no progress payments will be made after the due date until the Progress Schedule has been submitted.

B. Printouts and electronic layouts required as part of the Progress Schedule submittal and monthly updates are as follows:

1. Summary Schedule: one-page milestone and summary schedule, sorted by early-start, early-finish;

2. Detailed Project Schedule: organized by Work Breakdown Structure (WBS) or area of work; sorted by early-start, early-finish;

3. Critical Path Schedule: sorted based on the total Float, early-start, early-finish;

4. 60-Day Look Ahead Schedule: sorted by total early-start, early-finish;

5. Activities in Progress: organized by WBS or area of work; sorted by early-start, early-finish;

6. Cash Flow Trending Report: presented in an S-Curve format based on original planned early start and late start forecasted expenditures. In addition, the historical actual data point(s) are to be graphed within the S-Curve graphic report;

7. Monthly payment projections;

8. Out-of-sequence Report: tabular report showing work performed out-of-sequence.

C. Contractor shall submit additional layouts if directed by Program Manager.

D. The submittal shall include the following:

1. Narrative report summarizing the milestones, critical path, project approach including phasing or use of crews, significant submittal and fabrication items, coordination or interface requirements, Owner-provided items, and list of subcontractors and vendors.

2. Graphic reports including critical path report (longest path), summary schedule report, detail Project report by early-start early-finish, 60 days look-ahead report grouped by work breakdown structure or project phasing, and cash flow projection. Cash flow projections include estimated cumulative cost curves based on early and late start dates and projection of monthly payments over the life of the project

E. The schedule, critical path, and look-ahead schedules shall be submitted on (11”x17”) size paper.

F. The Progress Schedule file shall be submitted in an executable format, using Primavera Project Manager (P6) format.

G. The narrative shall be provided on 8”x11” paper.

H. Contractor shall submit 4 copies of each deliverable.

1.11 MONTHLY SCHEDULE UPDATES

A. Monthly Progress Schedule updates shall be submitted for the duration of the Contract on a date agreed to by Owner, Program Manager, and Contractor. If monthly Progress Schedule updates are not submitted by the due date, progress payments will be withheld until the required information is submitted.

B. The updated schedule shall be reviewed each month in a meeting with Program Manager to verify:

1. Actual start dates,

2. Actual completion dates,

3. Activity percent completion,

4. Revised logic (as-built and projected) and changes in activity durations, cost assigned,

5. Cost influence of change orders, if any,

6. Revisions due to extension of time.

C. Prior to each meeting, Contractor shall prepare a complete and accurate report of current procurement and construction progress through the end of the update period, and a depiction of how Contractor plans to continue the Work to meet all contract completion dates. All network changes and status data agreed to during each update meeting shall be considered as accepted by both parties unless written notice of any exceptions is given within five calendar days after the meeting.

D. For major network changes that cannot be agreed to during an updating meeting, Contractor shall submit the proposed changes for Program Manager's acceptance prior to inserting such changes into the network. Submittals may be in the form of marked-up networks, fragnets, or schedule abstracts, provided they are submitted with a letter of transmittal. A fragnet is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing schedule to demonstrate how project events have an impact on the schedule.

1.12 DATA DATE

A. The data date is the re-settable date in P6 that serves as the end of a reporting period. The reporting period will be recorded on a monthly basis, e.g., January 1st through January 31st with the 31st as the data date. If required for coordination purposes by Owner, Program Manager will provide specific data dates to be used by Contractor.

1.13 REVIEW PROCESS

A. Program Manager will review Contractor's Baseline Progress Schedule and Progress Schedule submittals within 15 calendar days after receipt of all required information.

B. At the request of Owner or Program Manager, Contractor shall participate in any meetings necessary to reach a mutual agreement and acceptance of the Baseline Progress Schedule, Progress Schedules, or Cash Flow Projections.

C. If any of the required submittals are returned to Contractor for corrections or revisions, they shall be resubmitted within ten calendar days after the return mailing date. Resubmittals shall include all information and media included in the first submittal. Review and response by Program Manager will be given within 10 calendar days after receipt of each resubmittal.

D. Schedules shall show contract completion of the Work on the Contract completion date and with zero or positive total Float even if Contractor plans to finish early. In no event shall acceptance of the Progress Schedule be a basis for a claim for delay against Owner or Program Manager by Contractor for an early finish. A Progress Schedule containing activities with negative Float or that extend beyond the date that the Work is completed and ready for final payment will not be acceptable.

E. Acceptance of the Progress Schedule by Program Manager does not relieve Contractor of responsibility for accomplishing the Work by the Contract completion date. Omissions and errors in the accepted Progress Schedule shall not relieve Contractor of obligations under the Contract. Acceptance by Program Manager in no way makes Program Manager or Owner an ensurer of the Progress Schedule's success or liable for time or cost overruns. Program Manager and Owner hereby disclaim any obligation or liability by reason of acceptance of the Progress Schedule by Program Manager.

1.14 RESPONSIBILITY FOR SCHEDULE COMPLIANCE

A. Whenever it becomes apparent from the current Progress Schedule that the critical path is delayed, and the contract completion date will not be met, Contractor shall mitigate the delay by taking some or all of the following actions at no additional cost to Owner.

1. Increase construction manpower in such quantities and crafts as will bring the project back on schedule within the completion dates and milestones.

2. Increase the number of working hours per shift, shifts per day, working days per week, and the amount of construction equipment, or any combination of the foregoing, to substantially eliminate the backlog of work.

3. Re-schedule activities to achieve maximum practical concurrence of activities and to comply with the schedule date(s).

B. Within ten calendar days of Program Manager’s request, Contractor shall submit a recovery schedule and written statement of the steps intended to remove or arrest the delay to the critical path in the schedule. If Contractor fails to submit the required information or should fail to take measures acceptable to Program Manager, Program Manager with Owner concurrence may direct Contractor to increase man-power, equipment and scheduled work hours to remove or arrest the delay to the critical path and Contractor shall promptly provide such level of effort at no additional cost to Owner.

C. In the event Contractor fails to follow the updated or revised recovery schedule, Owner may elect to withhold progress payments until Contractor complies with the revised schedule.

D. Should Contractor’s efforts not remove or arrest the delay to the critical path of the accepted schedule, then Owner shall be entitled to supplement Contractor’s work-force and equipment to remove and arrest any delay and shall be entitled to deduct all costs and expenses associated therewith from payments due to Contractor. If insufficient Contract funds remain, Owner may recover such funds from Contractor and its Surety.

1.15 CHANGES IN THE WORK, DELAYS, AND EXTENSIONS OF TIME

A. When changes in the Work or delays are experienced by Contractor and Contractor requests an extension of time, Contractor shall submit a written time impact analysis to Program Manager illustrating the influence of each change or delay to the current Contract Times. Each time impact analysis shall include a fragnet incorporating the change or delay into the Progress Schedule to demonstrate how Contractor was delayed.

B. Each time impact analysis shall demonstrate the estimated time impact based on the events of the change or the delay; the date the change was given to Contractor or the delay incurred, the status of construction at that point in time, and the event time computation of all activities affected by the change or delay. The event times used in the analysis shall be those included in the latest update of the Progress Schedule or as adjusted for the events of delay.

C. Three copies of the time impact analysis and an electronic copy shall be submitted within seven calendar days of delay occurrence or direction to proceed with a change is given to Contractor. No time extensions will be considered if the time impact analysis is not submitted within the specified time.

D. Program Manager will review Contractor's time impact analysis. Contractor shall furnish such justification and supporting evidence as Program Manager deems necessary to determine whether Contractor is entitled to an extension of time. Program Manager's review of each time impact analysis will be made within five working days of receipt of the time impact analysis and additional information as required by Program Manager, unless subsequent meetings and negotiations are necessary.

E. The Contract Times will be adjusted only for causes specified in the Causes for Extensions of Time paragraph herein. Time extensions will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total or remaining Float along the critical path at the time of actual delay. Delays in activities which are not on the critical path and do not affect Contract Times, will not be considered for an extension of time.

1.16 CAUSES FOR EXTENSIONS OF TIME

A. Additional positive total Float in the Progress Schedule generated by efficiencies of Owner or Contractor is a shared commodity to be reasonably used by either party and belongs exclusively to the Project. Contractor is not entitled to any additional compensation for completion of the project prior to expiration of the Contract Times.

B. Owner-Initiated Changes. Owner initiated changes to the Work that absorb Float time will not be considered for an extension of time. Owner-initiated changes that affect the critical path of the Progress Schedule shall be grounds for extending or shortening completion dates. Use of Float time for Contractor initiated changes will require Owner's concurrence. Contractor's changes, however, shall give way to Owner-initiated changes competing for the same Float time.

C. Outside Contractor's Control. Events outside of Contractor's control that affect the critical path of the Progress Schedule will be considered for an extension or reduction of the Contract Times.

D. Weather Delays. Weather delays shall be addressed as described in the General and Supplementary Conditions.

1.17 AS-BUILT SCHEDULE

A. As a condition precedent to release of final payment, the last update to the Progress Schedule submitted shall be identified by Contractor as the "As-Built Schedule". The "As-

Built Schedule" shall reflect the exact manner in which the project was actually constructed (including actual start and completion dates, activities, sequences, and logic) and shall be signed and certified by Contractor's project manager.

1.18 SCHEDULING SOFTWARE APPLICATION

A. Scheduling software shall be Primavera Project Manager (P6) or later version without exception.

1.19 SCHEDULE SOFTWARE SETTINGS AND RESTRICTIONS

A. Contractor shall consult with Program Manager for acceptable Primavera Project Manager software settings and restrictions. The following shall apply unless otherwise directed by Program Manager.

1. Schedule Options:

   a. Shall be defined only to "Use expected finish dates";

   b. Scheduling progressed activities to be set to "Use only retained logic", not progress override option;

   c. Critical Path activities defined as total Float less than or equal to zero;

   d. Calculating start-to-start lag from "early start" dates; and computing total Float as "finish Float = late finish – early finish";

   e. Calendar to be set for scheduling relationship lag as "Predecessor Activity Calendar."

2. Activity progress shall be shown using Remaining Duration. Date format shall be DDMMYY.

3. Default activity type shall be set to "Independent Task".

4. Date/time activity constraint(s), other than those required by the Contract, will not be allowed unless accepted by Program Manager. Contractor shall identify proposed constraints and explain the constraint purpose in the Narrative Report.

5. Lags shall not be used in the creation of an activity that will perform the same function, e.g., concrete cure time. Lag durations contained in the Progress Schedule shall not have a negative value. Contractor shall identify any lag proposed and explain the purpose of the lag in the Narrative Report.

6. Actual Start and Finish dates shall not be automatically updated by default mechanism that may be included in the CPM scheduling software system. Actual Start and Actual Finish dates on the CPM schedule shall be updated by actual work progression.

1.20 ACTIVITY CODES

A. The Primavera (P6) activity codes and work breakdown structure (WBS) to be confirmed or revised by Program Manager are listed below. Confirmation or revision of the activity codes and WBS will be provided to Contractor within three workdays of the Effective Date of the Contract. Use of Program Manager prescribed activity codes and WBS is mandatory.

B. "Project Codes" as defined by Primavera P6 is reserved for Owner. Only "Activity Codes" at Project Level will be permitted for Contractor use.

Activity Code	Code Value	Description
Construction Phase	A	Milestones
	BC	Administrative
	D	Submittals
	E	Construction Activities
Submittals	SUB	Submittals
	R&A	Review & Approve
	F&D	Fabricate & Deliver

1.21 ACTIVITY RELATIONSHIPS

A. Relationships between activities shall be identified with the following information:

1. Predecessor and successor activity ID.
2. Relationship types:

   a. FS - Finish to start

   b. SS - Start to start

   c. FF - Finish to finish

   d. SF - Start to finish – This relationship is not allowed, unless authorized by Program Manager.

1.22 PROJECT CALENDARS

A. Project Calendars shall use workdays and calendar days as the planning unit for the schedule. Use of Global Calendars is reserved for Owner. Each calendar shall be set to start on Mondays with holidays in accordance with Owner policy. The following calendars shall be used for each activity except as otherwise accepted by Program Manager:

1. 5-Day x 8 Hour Workweek (with holidays) shall be used for 5-day 40-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar. This calendar shall be used for all normal work activities, submittals, and fabricate and delivery activities. This calendar shall be the default calendar for the project unless otherwise specified.

2. 5-Day x 10-Hour Workweek (with holidays) shall be used for 5-day 50-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar.

3. 6-Day x 10-Hour Workweek (with holidays) shall be used for 6-day 60-hour workweek activities. Monday through Saturday. All holiday and non-work days shall be assigned to this calendar.

4. 7-Day Calendar (no holidays) shall be used for 7-day workweek activities. No non-work days shall be entered into this calendar.

5. Additional Calendars may be assigned depending on need. However, Contractor shall consult with Program Manager before other calendars are entered and/or used in the Progress Schedule.

B. The work day to calendar day correlation shall be based on a single shift and 5-day work week with adequate allowance for holidays, adverse weather and all other special requirements of the Work. Contractor may, at his option, propose alternate baseline calendars to allow a second shift and/or a single shift on Saturdays subject to the concurrence and acceptance of Owner. Under no circumstances will a schedule be accepted which allows regularly scheduled work on Sundays.

C. The holidays observed by Owner are as follows:

New Year's Day
Martin Luther King Day
Fiesta San Jacinto
Memorial Day
July 4th
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Eve
Christmas Day
New Year's Eve

1.23 FLOAT

A. Contractor shall not use Float suppression techniques, including preferential sequencing; lag logic restraints; zero total or free Float constraints; extended activity times; or imposing constraint dates other than as required by the Contract. Float suppression will be cause for rejection of the Baseline Progress Schedule or Progress Schedule and its updates.

1.24 MANDATORY MILESTONES

A. The Contract duration shall be equal to the time period between the Notice to Proceed and the completion of the Work in readiness for final payment. The following milestones are mandatory.

1. Notice to Proceed.

2. Milestones, if any, as indicated in Contractor's Contract.

3. Substantial Completion as indicated in Contractor's Contract.

4. Completion and readiness for final payment, as indicated in Contractor's Contract.

B. The following additional milestones are to be considered and incorporated into the Progress Schedule in accordance with the Contract, if applicable.

1. Permit constraints.

2. Facility shut down or outage milestone requirements.

3. Applicable phasing milestones.

4. Other milestones deemed appropriate by Program Manager.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01370

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. CONTRACTOR shall prepare a Schedule of Values for the Project and submit to the OWNER for review and approval.

1.02 RELATED WORK

A. Section 01025 – Measurement and Payment.

1.03 SUBMITTALS

A. CONTRACTOR Submittals

1. A preliminary Schedule of Values (Schedule) shall be submitted to OWNER, in triplicate, prior to or at the Pre-Construction Conference. The Schedule shall be a breakdown of each bid item and may be used to verify costs of credits, change orders, etc.

2. The preliminary Schedule will be reviewed by the OWNER for acceptance. The Schedule shall include sufficient detail, as decided by the OWNER, to determine if the prices included are “unbalanced” or “front-end loaded”. Inflation of prices for those items of work to be completed in the early stages of work shall not be acceptable.

3. OWNER will provide the CONTRACTOR with comments and may request additional information from the CONTRACTOR to justify certain item quantities and prices thereof. CONTRACTOR shall revise and resubmit the Schedule addressing all the OWNER’s comments until final acceptance by the OWNER.

4. The final approved Schedule of Values shall become the Schedule used in determining partial payment estimates.

5. No partial payment requests (including the first) shall be approved until the final Schedule of Values has been approved by the OWNER.

6. After acceptance of the final Schedule of Values, no modifications will be made to the Schedule, except as required by approved change orders.

7. CONTRACTOR to provide a copy of the final accepted Schedule of Values as an MS Excel format document. This will facilitate the process of contract modifications to implement the Schedule of Values.

B. Partial Payment Requests

1. Each partial payment request submitted by the CONTRACTOR shall include the approved Schedule of Values, modified to indicate the total quantity and price of the work completed up to the date of the request.

2. Five (5) percent of the lump sum amount of each piece of equipment as indicated in the Schedule of Unit Price Work or Schedule of Values will be paid after the required O&M data submissions are received and approved by the OWNER.

1.04 FORMAT

A. In so far as possible, total quantities and unit prices shall be shown for all items of work, separating for each item the materials and labor and such other sub-items the CONTRACTOR may desire.

B. "Lump Sum" and "miscellaneous" and other such general entries in the Schedule shall be avoided whenever possible.

C. Such items as Bond premiums, insurance, temporary facilities and equipment storage may be listed separately in the Schedule provided the costs can be substantiated.

D. Overhead and profit shall not be listed as separate items in the Schedule.

E. Breakdown costs to list major products or operations for each line item which has an installed value of more than $5,000.00.

F. The sum of the items listed on the Schedule shall equal the contract lump sum price. The value for mobilization costs listed in the Schedule shall not exceed five (5) percent of the total contract price. No additional payment will be allowed if the quantities shown on the Schedule are less than those actually required to accomplish the work, unless the quantities are altered by a change order.

1.04 FORECAST OF PAYMENTS

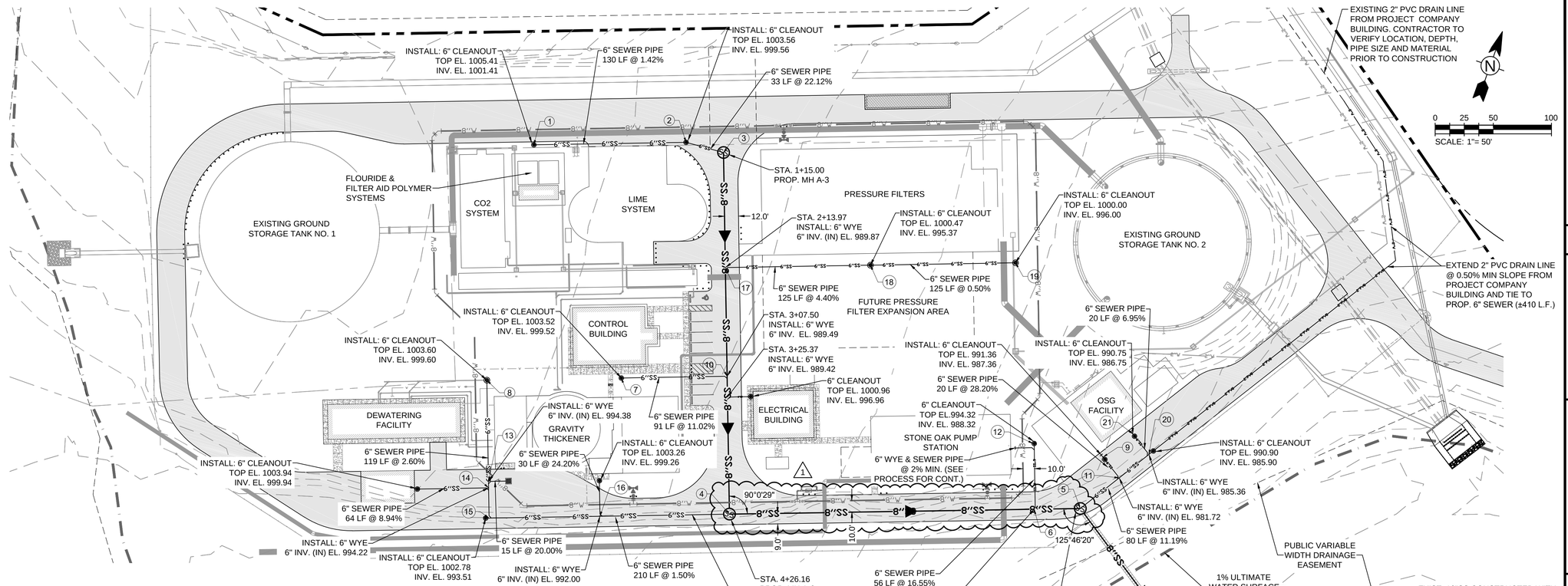
A. Within 30 days after the award of the Contract, prepare and submit to the OWNER a chart forecasting the monthly partial payment amounts that are anticipated for this project. During progress of the job, mark this chart to show actual payments to date and revise the forecast of payments as necessary and submit the revised chart to the OWNER monthly.

PART 2 PRODUCTS – NOT USED

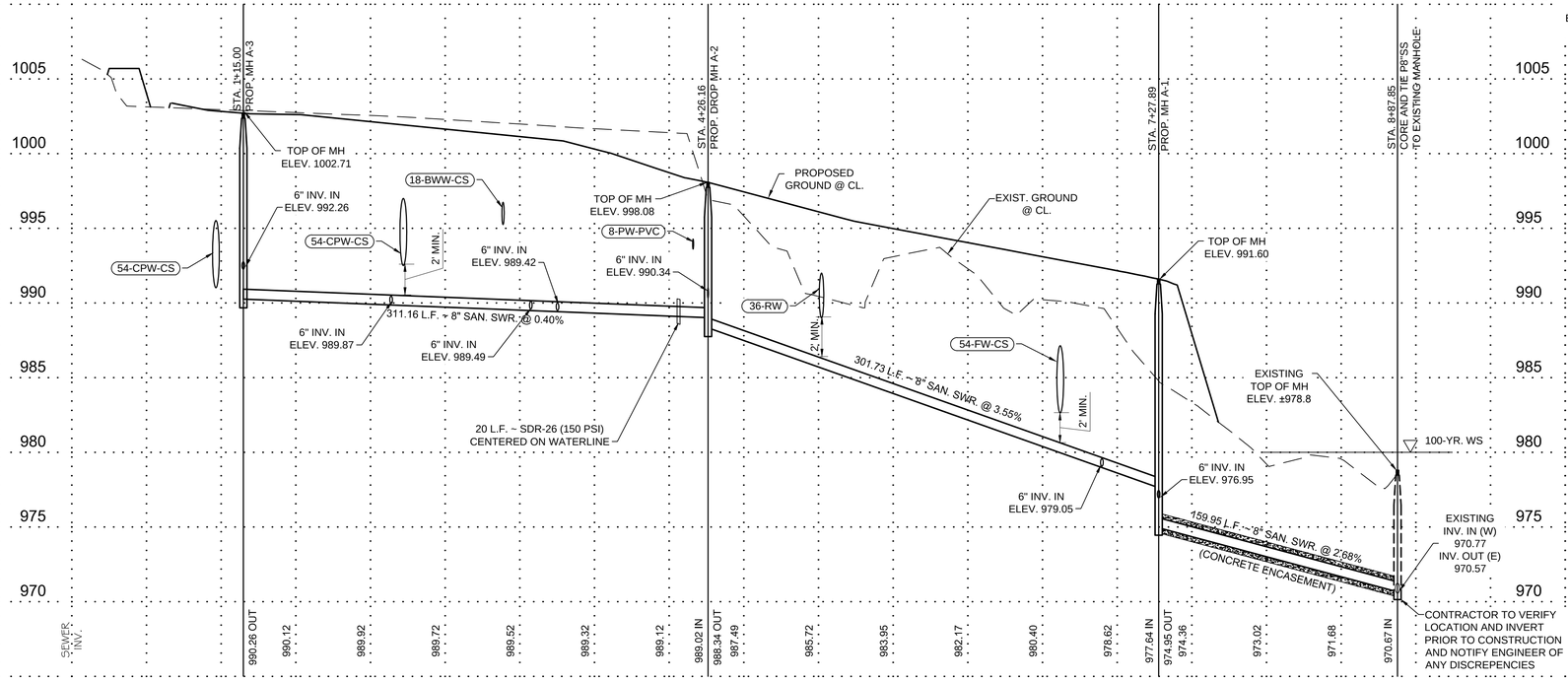
PART 3 EXECUTION – NOT USED

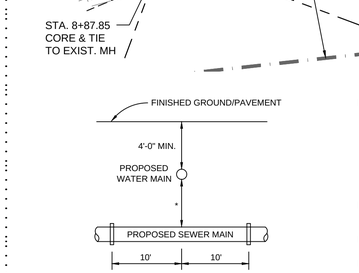
END OF SECTION

Point Table		
Point #	Northing	Easting
1	13778694.66	2133289.27
2	13778730.60	2133415.14
3	13778730.47	2133448.49
4	13778431.27	2133533.92
5	13778514.06	2133824.07
6	13778503.17	2133785.90
7	13778520.37	2133413.82
8	13778488.63	2133302.64
9	13778561.78	2133831.56
10	13778545.36	2133501.34
11	13778548.25	2133849.65
12	13778557.55	2133770.38
13	13778404.90	2133326.55
14	13778399.53	2133328.08
15	13778374.54	2133335.22
16	13778400.70	2133426.86
17	13778635.31	2133475.66
18	13778669.56	2133595.63
19	13778703.81	2133715.60
20	13778574.24	2133869.10
21	13778587.77	2133851.02



8" SANITARY SEWER





*SEPARATION DISTANCE TO COMPLY WITH TCEQ REGULATION 30 TAC 290.44(E) APPENDIX E & 30 TAC 217.53(D) APPENDIX D-SEPARATION DISTANCE

WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING.

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

LEGEND

- EXISTING SANITARY SEWER MANHOLE
- EXISTING CHAIN LINK FENCE
- EXISTING CONTOURS (1006)
- EXISTING 12" WATER LINE (12"W)
- EXISTING 8" SANITARY SEWER LINE (8"SS)
- EXISTING 12" SANITARY SEWER LINE (12"SS)
- PROPERTY LINE
- EXISTING FIRE HYDRANT
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED 8" SANITARY SEWER (8"SS)
- PROPOSED 8" WATERLINE (8"W)
- PROPOSED CONTOURS (1006)
- PROPOSED 6" SANITARY SEWER PIPE (6"SS)

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

8/16/18

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SAN ANTONIO WATER SYSTEM

MARK	DATE	DESCRIPTION
1	8/16/18	PER ADDENDUM #2
BY		
BY		

SAN ANTONIO WATER SYSTEM
CENTRAL WATER INTEGRATION PIPELINE
PROJECT TERMINUS FACILITY

SANITARY SEWER PLAN AND PROFILE

PROJ:	200-09308-18001
DESN:	NR
DRWN:	VS, ML
CHKD:	CB

C-1029

8/16/2018 2:59:58 PM - W:\WORK\C-1471 SAWS VISTA RIDGE INTEGRATION PROJECT (TETRA TECH)\DESIGN\CIVIL_TERMINUS FACILITY\CONSTRUCTION DOCUMENTS\C-1029 SANITARY SEWER PLAN AND PROFILE.DWG - NICHOLAS RAMONES