



## PART 2 PROJECT MANUAL

### 2.1 CONTRACT FORMS

- A. Section 00850: SRF Funding Requirement Specifications
  - 1. Section 1. Item, on page No. 3, change to read: This contract is governed by the Davis Bacon and related Acts and is subject to General Decision Number CO160012 dated 5/6/16 CO12.
- B. Section 00850A: Davis Bacon Wage Determination
  - 1. Replace in its entirety with the Attachment

### 2.2 DIVISION 11—EQUIPMENT

- A. Section 11311: In-Line Centrifugal Pumps: Delete in its entirety

### 2.3 DIVISION 13 – SPECIAL CONSTRUCTION

- A. Section 13400: Measurement and Control Instrumentation
  - 1. 2.2.H. Item, on page No. 16-17: Delete in its entirety
  - 2. 2.7.B. Item, on page No. 20: Delete in its entirety
- B. Section 13470: Data Acquisition Computer System: Delete in its entirety

### 2.4 DIVISION 16 – ELECTRICAL

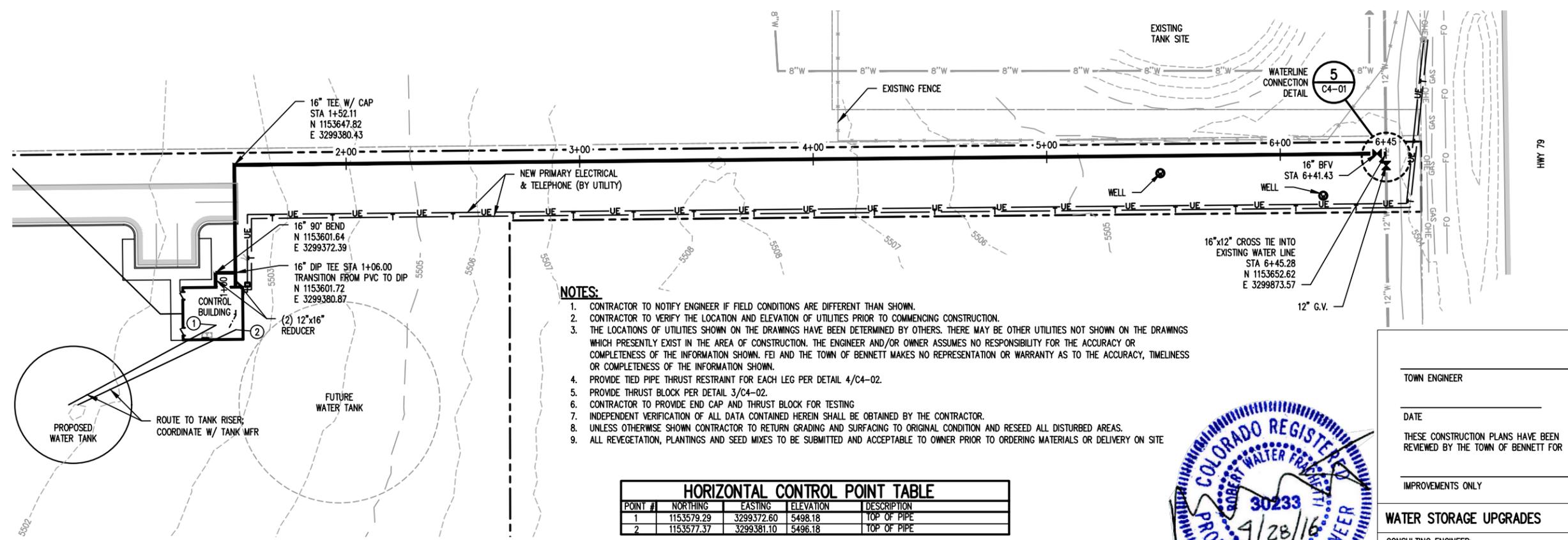
- A. Section 16440: Switchboards: Delete in its entirety
- B. Section 16903: Programmable Logic Controllers
  - 1. 2.1.A.2. Item, on page No. 5: Delete in its entirety
  - 2. 2.1.B. Item, on page No. 5: Delete in its entirety
  - 3. 2.2.A.1. Item, on page No. 5, change to read: The control system consists of 1 Allen-Bradley MicroLogix 1400 PLC in the Operations Building, and associated I/O assemblies. The I/O counts for the PLCs are as follows:
  - 4. 2.2.A.2.a. Item, on page No. 5, change to read: LCP-2000
  - 5. 2.2.A.2.a.1). Item, on page No. 5, change to read: Allen-Bradley MicroLogix 1766-L32AWAA
  - 6. 2.2.C.4.a. Item, on page No. 7: Delete in its entirety
  - 7. 2.2.C.4.b.1)d). Item, on page No. 7, change to read: Panelview Plus P/N 2711PC-K4M20D8
  - 8. 2.2.C.4.b.1)e). Item, on page No. 7: Delete in its entirety
  - 9. 2.2.C.4.d. Item, on page No. 7-8: Delete in its entirety
- C. Section 16905: Control Narratives
  - 1. Delete all alarms

## PART 3 PROJECT PLANS

### 3.1 REVISIONS TO DRAWINGS; REMOVE AND REPLACE

- A. Sheet No. 09 of 44: Water Distribution Line Plan & Profile Sta 1+00 To Sta 6+53.85
  - 1. Added existing grade line.
- B. Sheet No. 10 of 44: Sanitary Sewer Line Plan & Profile Sta 1+00 to Sta 2+87.23
  - 1. Added existing and proposed grade lines.
- C. Sheet No. 33 of 44: Control Building Plan
  - 1. Added recirculation pump model information.
- D. Sheet No. 41 of 44: Recirculation Pump Schematic & PLC One-Line
  - 1. Added Water On Floor Sensor
  - 2. Added Intrusion Switch
  - 3. Added Room Temperature Transmitter
  - 4. Deleted Stopped Light and Overload Light
  - 5. Added notes with model numbers
- E. Sheet No. 43 of 44: Control System Architecture
  - 1. Replaced work by others with two Serial Radios and a PLC
  - 2. Deleted Ethernet switch in control panel, autodialer, 8-port Ethernet switch, PC and monitor

**END OF ADDENDUM NO. 4**



- NOTES:**
- CONTRACTOR TO NOTIFY ENGINEER IF FIELD CONDITIONS ARE DIFFERENT THAN SHOWN.
  - CONTRACTOR TO VERIFY THE LOCATION AND ELEVATION OF UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
  - THE LOCATIONS OF UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED BY OTHERS. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THE DRAWINGS WHICH PRESENTLY EXIST IN THE AREA OF CONSTRUCTION. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. FEI AND THE TOWN OF BENNETT MAKES NO REPRESENTATION OR WARRANTY AS TO THE ACCURACY, TIMELINESS OR COMPLETENESS OF THE INFORMATION SHOWN.
  - PROVIDE TIED PIPE THRUST RESTRAINT FOR EACH LEG PER DETAIL 4/C4-02.
  - PROVIDE THRUST BLOCK PER DETAIL 3/C4-02.
  - CONTRACTOR TO PROVIDE END CAP AND THRUST BLOCK FOR TESTING
  - INDEPENDENT VERIFICATION OF ALL DATA CONTAINED HEREIN SHALL BE OBTAINED BY THE CONTRACTOR.
  - UNLESS OTHERWISE SHOWN CONTRACTOR TO RETURN GRADING AND SURFACING TO ORIGINAL CONDITION AND RESEED ALL DISTURBED AREAS.
  - ALL REVEGETATION, PLANTINGS AND SEED MIXES TO BE SUBMITTED AND ACCEPTABLE TO OWNER PRIOR TO ORDERING MATERIALS OR DELIVERY ON SITE

HORIZONTAL CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1153579.29	3299372.60	5496.18	TOP OF PIPE
2	1153577.37	3299381.10	5496.18	TOP OF PIPE



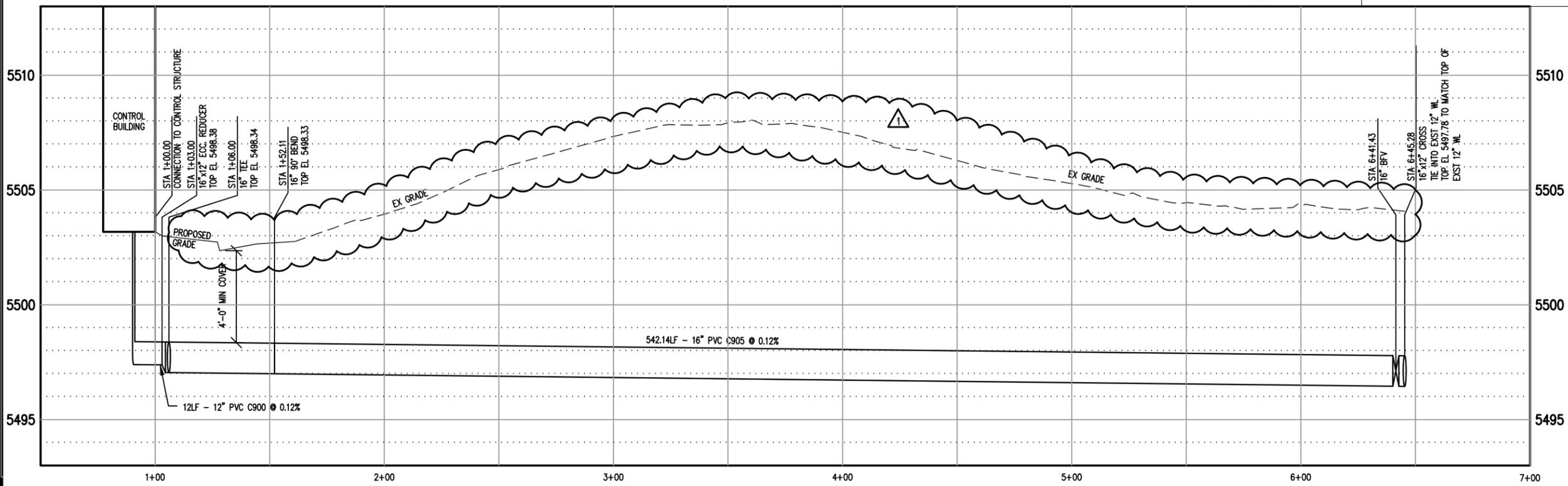
TOWN ENGINEER \_\_\_\_\_  
 DATE \_\_\_\_\_  
 THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY THE TOWN OF BENNETT FOR IMPROVEMENTS ONLY

**WATER STORAGE UPGRADES**      **SHT 9 OF 44**

CONSULTING ENGINEER:  
 ROBERT FRACHETTI, FEI ENGINEERING, INC.  
 5325 S. VALENTIA WAY  
 GREENWOOD VILLAGE, CO 80111  
 (303) 300-3464

REV. No.	DATE	DESCRIPTION
	2/2016	90% DESIGN REVIEW SET
	3/2016	BID SET
	5/2016	ADDENDUM 4

LOCATION: W:\Bennett, Town of\BENN-15-0176 - WATER STORAGE TANK\C2-01.dwg PLOTTED: 5/26/2016 1:48 PM BY: Samuel A. Jones



**PROFILE**  
 HORIZ: 1"=50'  
 VERT: 1"=5'



Copyright: FEI Engineers Inc.

TOWN OF BENNETT  
 NEW WATER STORAGE TANK

**WATER DISTRIBUTION LINE PLAN & PROFILE STA 1+00 TO STA 6+53.85**

PROJECT No.: BENN-15-0176  
 DATE: 5/26/2016  
 DESIGNED BY: PWS  
 DRAWN BY: SAJ  
 CHECKED BY: RWF

**C2-01**

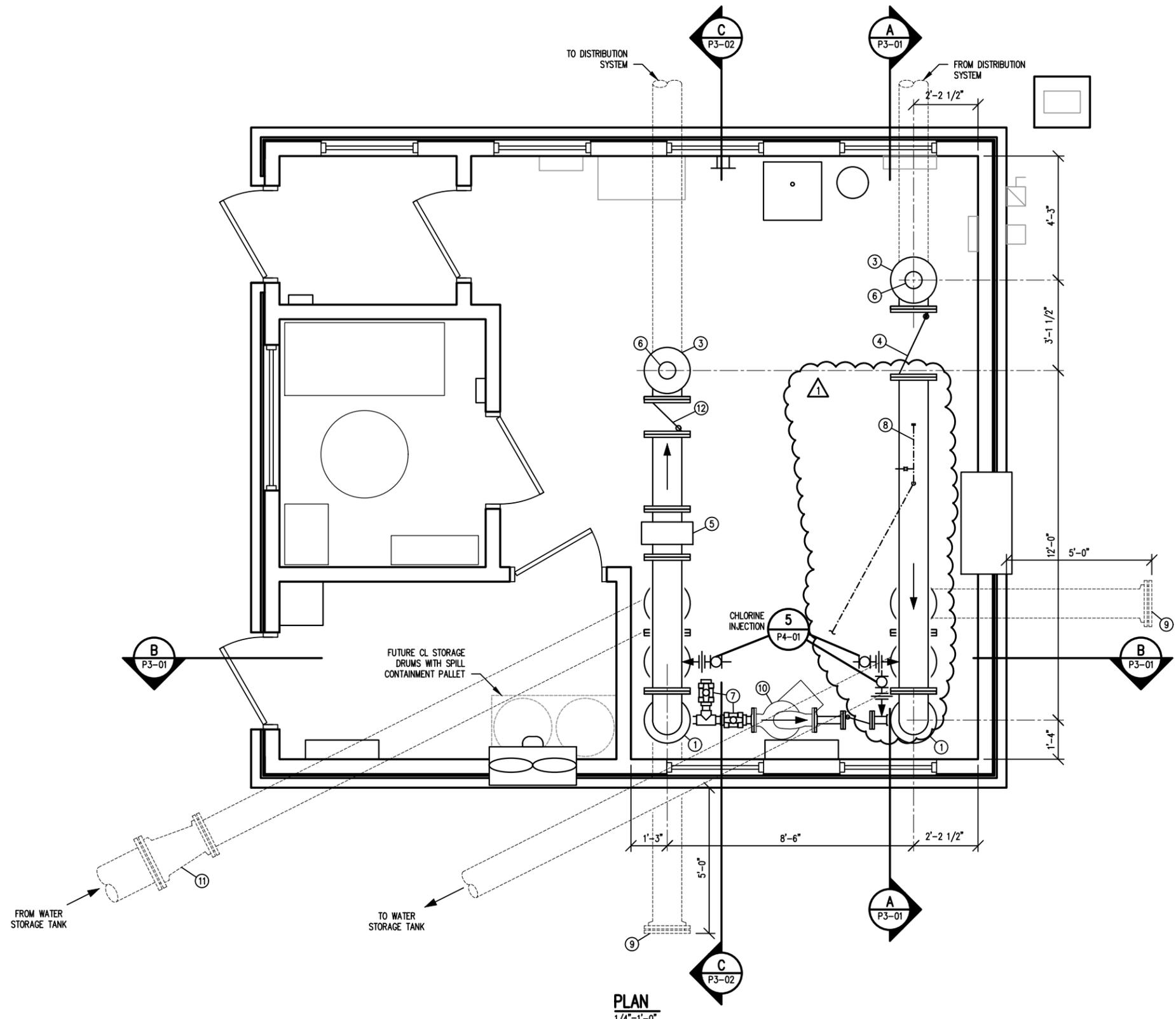


LOCATION: W:\Bennett, Town of\BENN-15-0176 - WATER STORAGE TANK\PI-01.dwg PLOTTED: 5/26/2016 1:48 PM BY: Samuel A. Jones



**EQUIPMENT NOTES:**

- ① 12" DIP 90° BEND
- ② 12" DIP GATE VALVE
- ③ 12" DIP TEE
- ④ 12" DIP CHECK VALVE
- ⑤ 12" MAGNETIC FLOW METER
- ⑥ 2" COMBINATION AIR VALVE; SEE 7/P4-01
- ⑦ 3" SST BALL VALVE
- ⑧ INSTRUMENT TAP FOR PIT-1010; SEE 8/P4-01
- ⑨ 12" DIP JOINT AND PLUG; RESTRAIN PER DETAILS 1&2 ON SHEET C4-02
- ⑩ TANK MIX SYSTEM RECIRCULATION PUMP  
GRUNDFOS  
MODEL: TP 80-4014 U-G-A-B4BE  
PRODUCT: 96411824  
MOTOR: 1/2 HP, 3 PHASE, TEFC OR EQUAL
- ⑪ 16" x 12" DIP MJ REDUCER
- ⑫ 12" GLOBE SILENT CHECK VALVE
- ⑬ 3/4" PRESSURE SENSING LINE; FIELD ROUTE TO TANK



**PLAN**  
1/4"=1'-0"

TOWN ENGINEER \_\_\_\_\_  
DATE \_\_\_\_\_  
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**WATER STORAGE UPGRADES** SHT 33 OF 44

CONSULTING ENGINEER:  
ROBERT FRACHETTI, FEI ENGINEERING, INC.  
5325 S. VALENTIA WAY  
GREENWOOD VILLAGE, CO 80111  
(303) 300-3464

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

REV. No.	DATE	DESCRIPTION
	2/2016	90% DESIGN REVIEW SET
	3/2016	BID SET
	4/2016	CDPHE RFI
1	5/2016	ADDENDUM No. 1
2	5/2016	ADDENDUM No. 4

**TOWN OF BENNETT  
NEW WATER STORAGE TANK  
CONTROL BUILDING PLAN**

PROJECT No.: BENN-15-0176

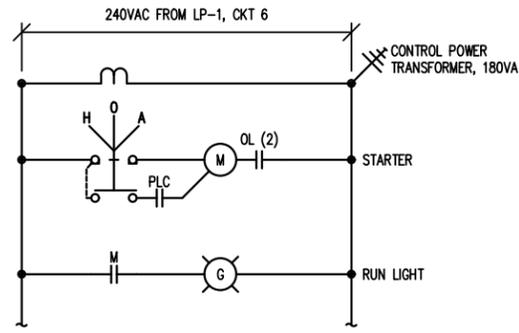
DATE: 5/26/2016

DESIGNED BY: PWS

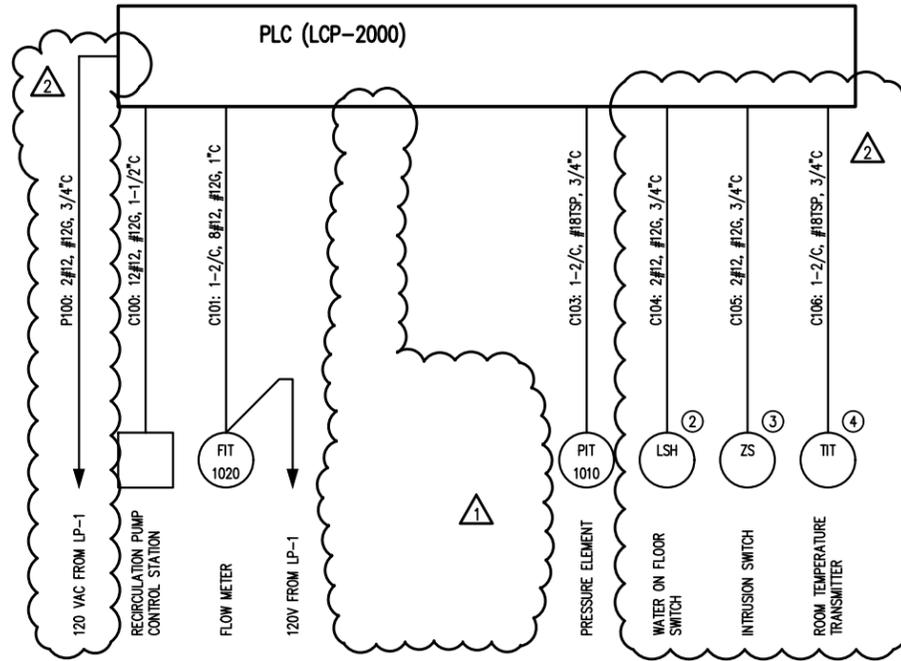
DRAWN BY: SAJ

CHECKED BY: RWF

P1-01



**RECIRCULATING PUMP SCHEMATIC**  
(TYP 1)



**PLC ONE-LINE**

- NOTES:**
- ① PUT MOTOR STARTER IN A NEMA 1 ENCLOSURE WITH INTEGRAL HAND-OFF-AUTO SELECTOR
  - ② WATER ON FLOOR SENSOR TO BE GEMS LS-270 OR APPROVED EQUAL
  - ③ INTRUSION SWITCH TO BE HONEYWELL 958-2 OR APPROVED EQUAL
  - ④ TEMPERATURE TRANSMITTER TO BE PYROMATION MODEL NUMBER 2215-RBF-185L3-T440



\_\_\_\_\_  
TOWN ENGINEER

\_\_\_\_\_  
DATE

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY THE TOWN OF BENNETT FOR IMPROVEMENTS ONLY

**WATER STORAGE UPGRADES**      **SHT 41 OF 44**

CONSULTING ENGINEER:  
ROBERT FRACHETTI, FEI ENGINEERING, INC.  
5325 S. VALENTIA WAY  
GREENWOOD VILLAGE, CO 80111  
(303) 300-3464



REV. No.	DATE	DESCRIPTION
	2/2016	90% DESIGN REVIEW SET
	3/2016	BID SET
1	5/2016	ADDENDUM No. 1
2	5/2016	ADDENDUM No. 4

TOWN OF BENNETT  
NEW WATER STORAGE TANK

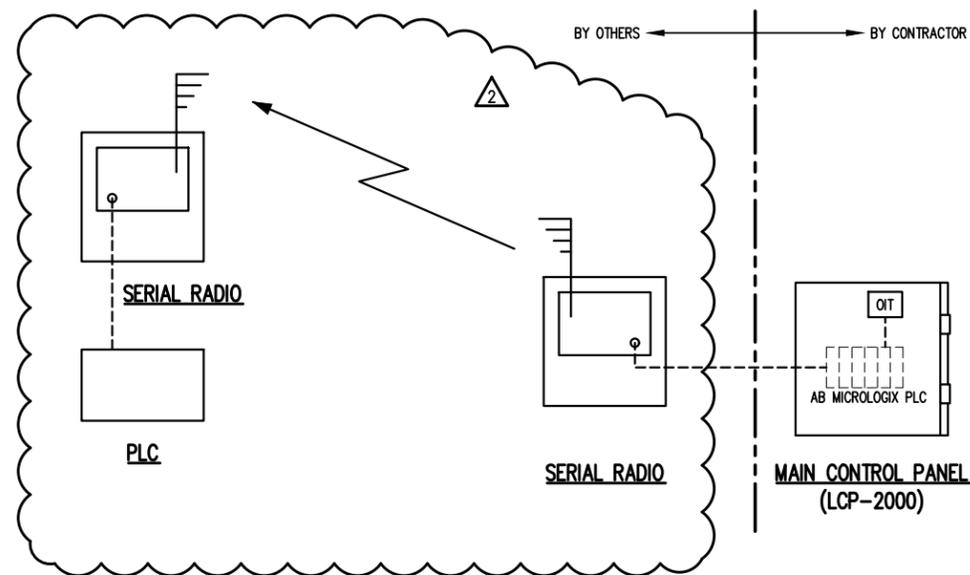
**RECIRCULATION PUMP SCHEMATIC  
& PLC ONE-LINE**

PROJECT No.: BENN-15-0176  
DATE: 5/26/2016  
DESIGNED BY: ALK  
DRAWN BY: KPR  
CHECKED BY: RWF

**E2-01**



LOCATION: W:\Bennett, Town of\BENN-15-0176 - WATER STORAGE TANK\E2-01.dwg PLOTTED: 5/26/2016 1:48 PM BY: Samuel A. Jones



CONTROL SYSTEM ARCHITECTURE DIAGRAM

**NOTES:**

1. PLC TO BE MICROLOGIX 1400, P/N 1766-L32AWAA.
2. OIT TO BE PANELVIEW PLUS COMPACT, P/N 2711PC-K4M20D8.
3. CONTRACTOR TO PROVIDE PLC CABINET COMPLETE, WITH ALL SIGNALS SCALED AND READY FOR TELEMETRY.
4. ALL TELEMETRY AND RADIO INFRASTRUCTURE BY OTHERS.



REV. No.	DATE	DESCRIPTION
	2/2016	90% DESIGN REVIEW SET
	3/2016	BID SET
2	5/2016	ADDENDUM No. 4



\_\_\_\_\_  
TOWN ENGINEER

\_\_\_\_\_  
DATE

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY THE TOWN OF BENNETT FOR IMPROVEMENTS ONLY

**WATER STORAGE UPGRADES** **SHT 43 OF 44**

CONSULTING ENGINEER:  
ROBERT FRACHETTI, FEI ENGINEERING, INC.  
5325 S. VALENTIA WAY  
GREENWOOD VILLAGE, CO 80111  
(303) 300-3464



TOWN OF BENNETT  
NEW WATER STORAGE TANK

**CONTROL SYSTEM ARCHITECTURE**

PROJECT No.: BENN-15-0176  
DATE: 5/25/2016  
DESIGNED BY: NET  
DRAWN BY: SAJ  
CHECKED BY: RWF

**E4-02**

LOCATION: W:\Bennett, Town of\BENN-15-0176 - WATER STORAGE TANK\E4-02.dwg PLOTTED: 5/25/2016 2:48 PM BY: Samuel A. Jones

General Decision Number: CO160012 05/06/2016 CO12

Superseded General Decision Number: CO20150012

State: Colorado

Construction Type: Heavy

Counties: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld Counties in Colorado.

HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/08/2016
1	01/15/2016
2	01/22/2016
3	03/11/2016
4	03/18/2016
5	03/25/2016
6	05/06/2016

ASBE0028-001 10/01/2014

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems).....	\$ 28.83	13.53
<hr style="border-top: 1px dashed black;"/>		

\* BRCO0007-004 01/01/2016

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS AND JEFFERSON COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 26.01	7.71

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 BRCO0007-006 05/01/2015

EL PASO AND PUEBLO COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 24.44	8.90

-----  
 ELEC0012-004 09/01/2015

PUEBLO COUNTY

	Rates	Fringes
ELECTRICIAN		
Electrical contract over		
\$1,000,000.....	\$ 27.35	11.00+3%
Electrical contract under		
\$1,000,000.....	\$ 24.85	11.00+3%

-----  
 ELEC0068-001 06/01/2015

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,  
 JEFFERSON, LARIMER, AND WELD COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 33.15	13.46

-----  
 ELEC0111-001 01/01/2016

	Rates	Fringes
Line Construction:		
Groundman.....	\$ 18.79	22.25%+\$5.45
Line Equipment Operator.....	\$ 29.40	22.25%+\$5.45
Lineman and Welder.....	\$ 42.14	25.25%+\$5.45

-----  
 ELEC0113-002 06/01/2015

EL PASO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 30.00	14.95

-----  
 ELEC0969-002 06/01/2015

MESA COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 24.00	7.92

-----  
 ENGI0009-001 10/23/2013

	Rates	Fringes
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Power equipment operators:

Blade: Finish.....	\$ 25.04	9.15
Blade: Rough.....	\$ 24.73	9.15
Bulldozer.....	\$ 24.73	9.15
Cranes: 50 tons and under..	\$ 24.88	9.15
Cranes: 51 to 90 tons.....	\$ 25.04	9.15
Cranes: 91 to 140 tons.....	\$ 25.19	9.15
Cranes: 141 tons and over...	\$ 25.97	9.15
Forklift.....	\$ 24.37	9.15
Mechanic.....	\$ 24.88	9.15
Oiler.....	\$ 24.01	9.15
Scraper: Single bowl under 40 cubic yards.....	\$ 24.88	9.15
Scraper: Single bowl, including pups 40 cubic yards and over and tandem bowls.....	\$ 25.04	9.15
Trackhoe.....	\$ 24.88	9.15

-----  
IRON0024-003 11/01/2013

	Rates	Fringes
Ironworkers:.....	\$ 24.80	18.77
Structural		

-----  
LABO0086-001 05/01/2009

	Rates	Fringes
Laborers:		
Pipelayer.....	\$ 18.68	6.78

-----  
PLUM0003-005 07/01/2014

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,  
JEFFERSON, LARIMER AND WELD COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 35.18	12.34

-----  
PLUM0058-002 07/01/2015

EL PASO COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 34.30	14.38

-----  
PLUM0058-008 07/01/2015

PUEBLO COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 34.30	14.38

-----  
PLUM0145-002 07/01/2013

## MESA COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 32.67	11.55

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 PLUM0208-004 06/01/2015

 ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,  
 JEFFERSON, LARIMER AND WELD COUNTIES

	Rates	Fringes
PIPEFITTER.....	\$ 35.35	13.39

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 SHEE0009-002 07/01/2015

	Rates	Fringes
Sheet metal worker.....	\$ 32.85	14.63

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 TEAM0455-002 07/01/2015

	Rates	Fringes
Truck drivers:		
Pickup.....	\$ 19.66	4.02
Tandem/Semi and Water.....	\$ 20.29	4.02

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 SUCO2001-006 12/20/2001

	Rates	Fringes
BOILERMAKER.....	\$ 17.60	
Carpenters:		
Form Building and Setting....	\$ 16.97	2.74
All Other Work.....	\$ 15.14	3.37
Cement Mason/Concrete Finisher....	\$ 17.31	2.85
IRONWORKER, REINFORCING.....	\$ 18.83	3.90
Laborers:		
Common.....	\$ 11.22	2.92
Flagger.....	\$ 8.91	3.80
Landscape.....	\$ 12.56	3.21
Painters:		
Brush, Roller & Spray.....	\$ 15.81	3.26
Power equipment operators:		
Backhoe.....	\$ 16.36	2.48
Front End Loader.....	\$ 17.24	3.23
Skid Loader.....	\$ 15.37	4.41

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 WELDERS - Receive rate prescribed for craft performing

operation to which welding is incidental.

=====  
 Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).  
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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor

200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION