S

CH2M HILL ENGINEERING CHANGE NOTICE

Page 1 of 11 ☒ DM ☐ FM ☐ TM

1a. **ECN** 725832 **R** 1

1b. **Proj. ECN** N/A - - R

2. **Simple Modification** ☒ Yes ☐ No	3. **Design Inputs** – For full ECNs, record information on the ECN-1 Form (not required for Simple Modifications)		4. **Date** August 28, 2008
5. **Originator's Name, Organization, MSIN, & Phone No.** Peter McNabb, CH2M Hill Hanford Group, S7-90, 373-5255	6. **PrHA Number** **No.** 00507 R - 0 ☐ N/A	7. **USQ Number** **No.** TF - 08 - 1487 - D R - 1 ☐ N/A	8. **Related ECNs** ECN-725832-R0
9. **Title** 240-S-302 Pumping System Flush Water Filter Assembly Addition	10. **Bldg. / Facility No.** N/A	11. **Equipment / Component ID** N/A	12. **Approval Designator** N/A
13. **Engineering Documents/Drawings to be Changed** (Incl. Sheet & Rev. Nos.) H-14-107503 Sheet 1, Rev. 0 (see page 3 for continuation)		14. **Safety Designation** ☐ SC ☐ SS ☒ GS ☐ N/A	15. **Expedited/Off-Shift ECN?** ☐ Yes ☒ No

16a. **Work Package Number** N/A	16b. **Modification Work Completed** N/A Responsible Engineer / Date	16c. **Restored to Original Status (TM)** N/A Responsible Engineer / Date	17. **Fabrication Support ECN?** ☐ Yes ☒ No

18. **Description of the Change** (Use ECN Continuation pages as needed)

ECN-725832-R1 supercedes ECN-725832-R0 in its entirety.

PROBLEM STATEMENT: Catch tank 240-S-302 contains approximately 8,000 gallons of waste. Approximately 7,000 gallons of liquid sits on top of a solids inventory of 1,000 gallons. The catch tank is classified as an inactive miscellaneous underground storage tank. The removal of the free liquid from this leaking catch tank is a priority with the Washington State Department of Ecology. The design and fabrication of the 240-S-302 liquid pumping system is complete. The installation and operation of the system is pending. Flush water is to be used for performing the initial system leak check following installation, and following potential filter assembly replacements. The use of filtered water is desired to minimize the solids loading onto the pumping system filter train from potential debris in the site raw water. A flush filter assembly needs to be fabricated and design media updated to reflect its use. The flush filter assembly is to be fabricated and installed to support the planned operation of the 240-S-302 pumping system.

ECN-725832-R1 supercedes ECN-725832-R0 in its entirety.

DEFINED SOLUTION: Update released design media as shown within this ECN, to document the addition of the flush filter assembly. Add fabrication details and part identification to the related assembly drawing, as applicable.

See page 3 for continuation.

19. **Justification of the Change** (Use ECN Continuation pages as needed)

Engineering Rework ☐ Yes ☒ No

Training Impact ☐ Yes ☒ No

Removal of the free liquids from catch tank 240-S-302 is necessary. The installation of the 240-S-302 liquid pumping system components supports this objective. The plan to flush the 240-S-302 pumping system has been to utilize filtered raw water as the source. Water is to be supplied via a portable water truck. An existing filter arrangement is not available on the truck and the fabrication of a flush filter assembly is necessary. The flush filter assembly details are being added to the existing flush manifold assembly drawing and depicted on the 240-S-302 pumping system P&ID. The flush manifold assembly is to be fabricated from materials currently available on site.

20. **ECN Category**

☐ **Direct Revision**
☒ **Supplemental**
☐ **Void/Cancel**

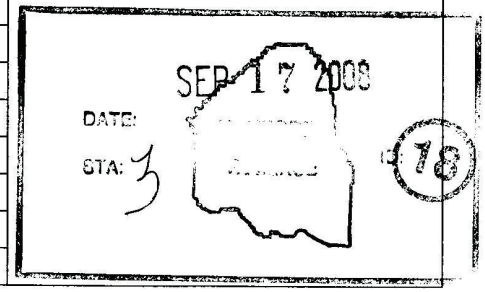
ECN Type

☒ **Supersedure**
☐ **Revision**

21. **Distribution**

Name	MSIN	Name	MSIN
DG Baide	S7-24	SM O'Toole	S7-90
RB Calmus	S7-75	SD Doss	S7-03
EO Thorne	R3-26	MH Brown	S7-03
JJ Elsen	B8-12	DM Jorgensen	S5-07
MA Fish	S7-24	WB Barton	S7-90
SD Kozlowski	R2-58		
TL Faust	S5-07		

Release Stamp



CH2M HILL ENGINEERING CHANGE NOTICE	1a. **ECN** 725832 **R** 1
Page 2 of 11 ☒ **DM** ☐ **FM** ☐ **TM**	1b. **Proj. ECN** N/A - - R

22. **Revisions Planned** (Include a brief description of the contents of each revision)
None

Note: All revisions shall have the approvals of the affected organizations as identified in block 12 "Approval Designator," on page 1 of this ECN.

23. **Commercial Grade Item Dedication Numbers** (associated with this design change)	24. **Engineering Data Transmittal Numbers** (associated with this design change, e.g., new drawings, new documents)
None	None

25. **Other Non Engineering (not in HDCS) documents that need to be modified due to this change**

Type of Document	Document Number	Update Completed On	Responsible Engineer (print/sign and date)
Alarm Response Procedure	N/A	N/A	N/A
Operations Procedure	N/A	N/A	N/A
Maintenance Procedure	N/A	N/A	N/A
N/A	N/A	N/A	N/A

26. **Field Change Notice(s) Used?**
☐ **Yes** ☒ **No**
If Yes, Record Information on the ECN-2 Form, attach form(s), include a description of the interim resolution on ECN Page 1, block 18, and identify permanent changes.

NOTE: ECNs are required to record and approve all FCNs issued. If the FCNs have not changed the original design media then they are just incorporated into the design media via an ECN. If the FCN did change the original design media then the ECN will include the necessary engineering changes to the original design media.

27. **Design Verification Required?**
☐ **Yes** ☒ **No**
If Yes, as a minimum attach the one page checklist from TFC-ENG-DESIGN-P-17.

28. **Approvals**

Facility/Project Signatures		Date	A/E Signatures		Date
Resp. Engineer	DB Smet	9/16/08	Originator/Design Agent	PW McNabb	9/16/08
Resp. Manager	DG Baide	9/16/08	Professional Engineer		
Quality Assurance			Project Engineer		
IS&H Engineer			Quality Assurance		
NS&L Engineer			Safety		
Environ. Engineer			Designer		
Engineering Checker	SM O'Toole	9/16/08	Environ. Engineer		
Other			Other		
Other			Other		
Other			DEPARTMENT OF ENERGY / OFFICE OF RIVER PROTECTION		
Other			Signature or a Control Number that tracks the Approval Signature		
Other					
Other			ADDITIONAL SIGNATURES		
Other					
Other					

Block 13 continued:

H-14-107508 Sheet 1, Rev. 0
H-14-107508 Sheet 2, Rev. 0

Block 18 continued:

SUPPORTING ANALYSIS: The filtering of the 240-S-302 system flush water is desired to minimize potential loading of the process stream filters (FLT-101, FLT-102 and FLT-103) during the performance of the initial system flush and subsequent system flushes following filter assembly replacement. The raw water flush filter assembly is to be installed for preventing potential debris, from either inside the water truck or raw water source, from entering the 240-S-302 pumping system.

The differential pressure should not exceed 35 psig, as calculated by subtracting PI-201 from either PI-202 or the pressure indicator at the water truck.

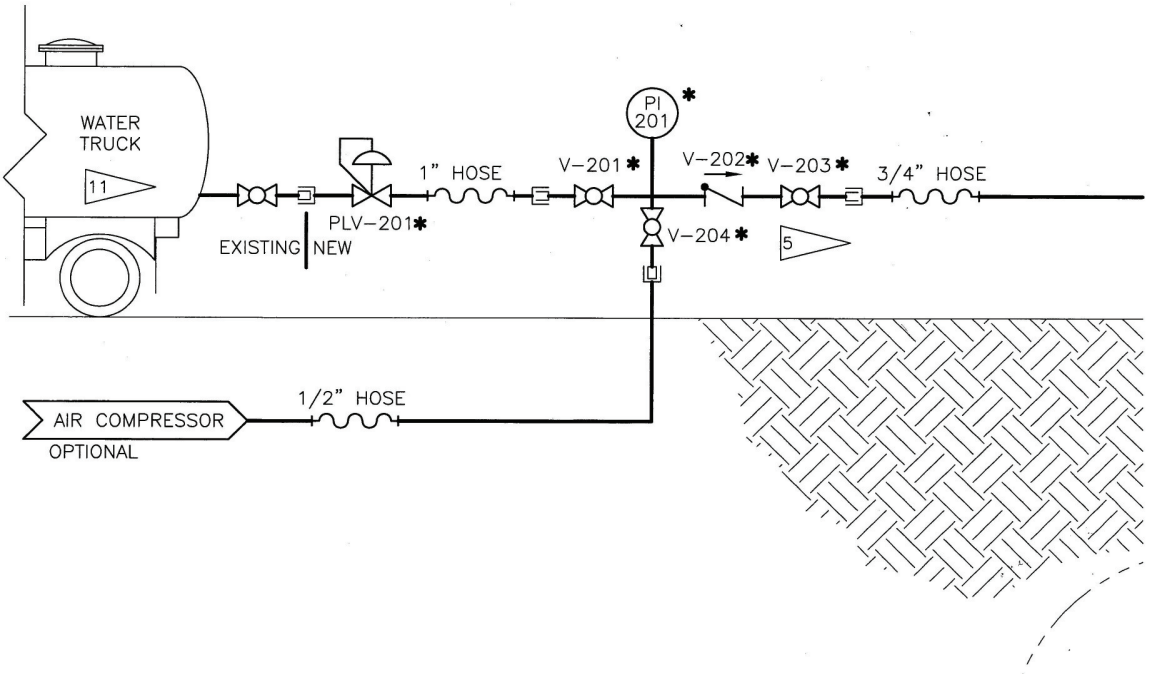
H-14-107503 Sheet 1; Add FLT-201 and PI-202 to the P&ID in the area of flush manifold, change as shown on page 5.

H-14-107508 Sheet 1; Add details for item -040 Flush Filter Assembly, update view of Item 1 – Flush Manifold Assembly to include Flush Filter Assembly, increase quantity of item 14 and add items 38 through 50, add filter and pressure indicator label EIN's to note 8; changes as shown on pages 7 and 9.

H-14-107508 Sheet 2; Add details for Item 4 - Flush Filter Assembly and associated part identification; changes as shown on page 11.

Document/Drawing No. H-14-107503 Sheet 1 Revision 0

WAS:



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CH2M HILL ENGINEERING CHANGE NOTICE CONTINUATION SHEET	Page 5 of 11	1a. ECN-725832 R1 1b. Proj. ECN N/A

Document/Drawing No. H-14-107503 Sheet 1 Revision 0

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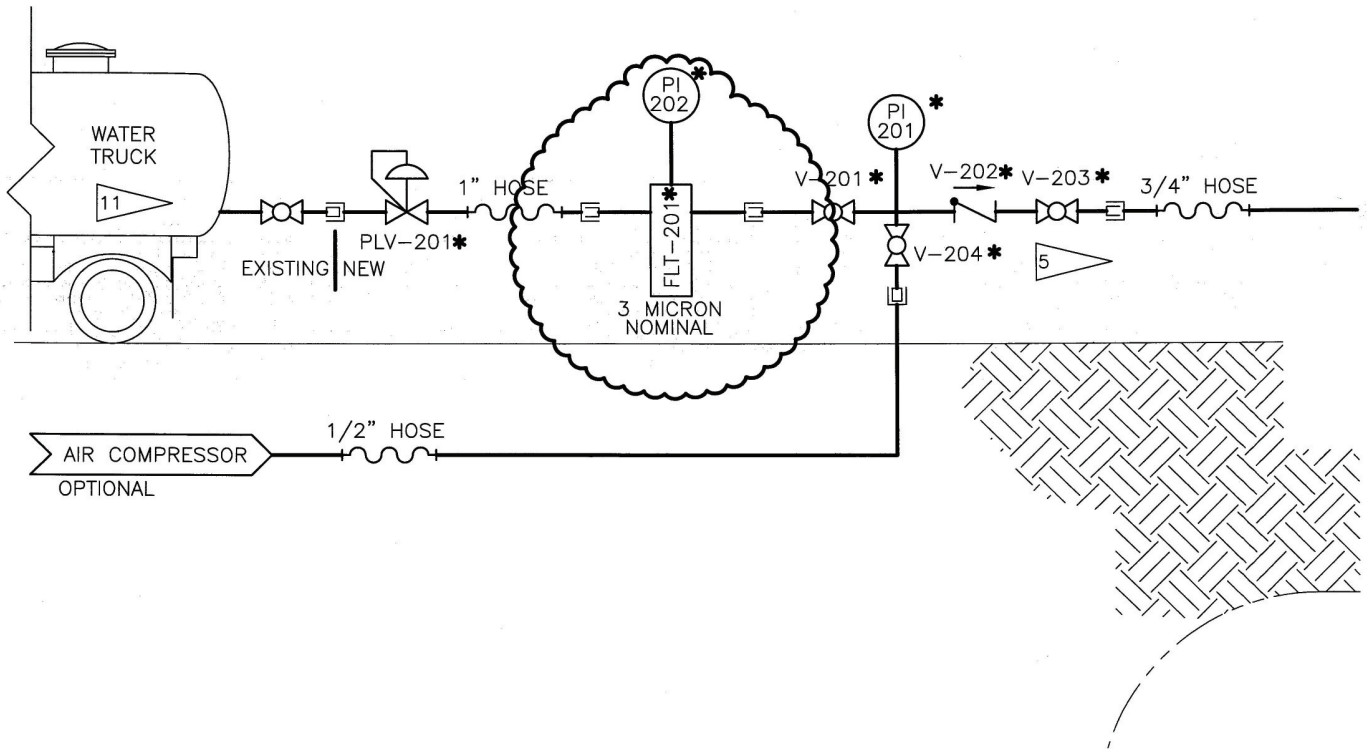

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Document/Drawing No. H-14-107508 Sheet 1 Revision 0

WAS:

7. LABEL VALVES AND PRESSURE INDICATOR WITH PHENOLIC LABELS, BLOCK TEXT, 3/16" SIZE, BLACK LETTERING ON WHITE BACKGROUND, TEXT AS FOLLOWS:
S302-RW-V-201
S302-RW-V-202
S302-RW-V-203
S302-RW-V-204
S302-RW-PI-201

PARTS LIST/MATERIAL LIST

QTY REQD -030	QTY REQD -020	QTY REQD -010	PARTS / DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET	ITEM NO
		X	-010	FLUSH MANIFOLD ASSEMBLY		1	1
	X	1	-020	MANIFOLD ASSEMBLY		2	2
X		1	-030	SUPPORT STAND ASSEMBLY		3	3

	2		100-A-SS	ADAPTER, MALE, 1"	DIXON		14

1a. ECN-725832 R1
1b. Proj. ECN N/A

Document/Drawing No. H-14-107508 Sheet 1 Revision 0

IS: ADD NEW LABEL TO NOTE 7, ADD NEW ASSEMBLY ITEM 4 & PARTS ITEMS 38 THRU 50, ADD ONE MORE TO THE QTY OF ITEM 14, AS SHOWN IN THE CLOUDED AREAS BELOW.

7. LABEL VALVES AND PRESSURE INDICATOR WITH PHENOLIC LABELS, BLOCK TEXT, 3/16" SIZE, BLACK LETTERING ON WHITE BACKGROUND, TEXT AS FOLLOWS:
S302-RW-V-201
S302-RW-V-202
S302-RW-V-203
S302-RW-V-204
~~S302-RW-PI-201~~
S302-RW-FLT-201
S302-RW-PI-202

PARTS LIST/MATERIAL LIST

QTY REQD -040	QTY REQD -030	QTY REQD -020	QTY REQD -010	PARTS / DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET	ITEM NO
			X	-010	FLUSH MANIFOLD ASSEMBLY		1	1
	X		1	-020	MANIFOLD ASSEMBLY		2	2
	X		1	-030	SUPPORT STAND ASSEMBLY		3	3
X			1	-040	FLUSH FILTER ASSEMBLY		2	4
1		2		100-A-SS	ADAPTER, MALE, 1"	DIXON		14
1				RD100BL	COUPLER, BOSS-LOCK 1" X 1" FNPT	(DIXON)		38
1				44254-02	FILTER HOUSING, 5DC2	CUNO		39
5				G78A2-2N	FILTER CARTRIDGE, 3 MICRON NOMINAL, MICRO KLEAN, 20" ELEMENTS	CUNO		40
1				(PGI-63C-PG200-CA01-B)	PRESSURE GAUGE, 0-200 PSI, LIQUID FILLED, CENTER BACK MOUNT	(SWAGELOK)		41
1					GOODYEAR RED HORIZON 300 HOSE, 1" MNPT ON EACH END, 2' L	(CENTRAL HOSE)		42
1					GOODYEAR RED HORIZON 300 HOSE, 1/4" MNPT ON EACH END, 2' L	(CENTRAL HOSE)		43
1				(SS-4-T)	PIPE TEE, 1/4" FNPT	(SWAGELOK)		44
2				(SS-4-HN)	HEX NIPPLE, 1/4" MNPT	(SWAGELOK)		45
2					PLUG, 3/4" MNPT 150#	SST		46
2					ELBOW, 90° THREADED, 2" FNPT 150#	SST		47
2					REDUCING BUSHING, 2" MNPT X 1" FNPT	SST		48
1					GOODYEAR RED HORIZON 300 HOSE, 1" MNPT ON EACH END, 5'-2" L	(CENTRAL HOSE)		49
1				71013RRL	BALL VALVE, FULL PORT 1/4" FNPT, SST	FLOWTEK		50

CADFILE: 725832-R0_PG6-6-7

Document/Drawing No. H-14-107508 Sheet 1 Revision 0

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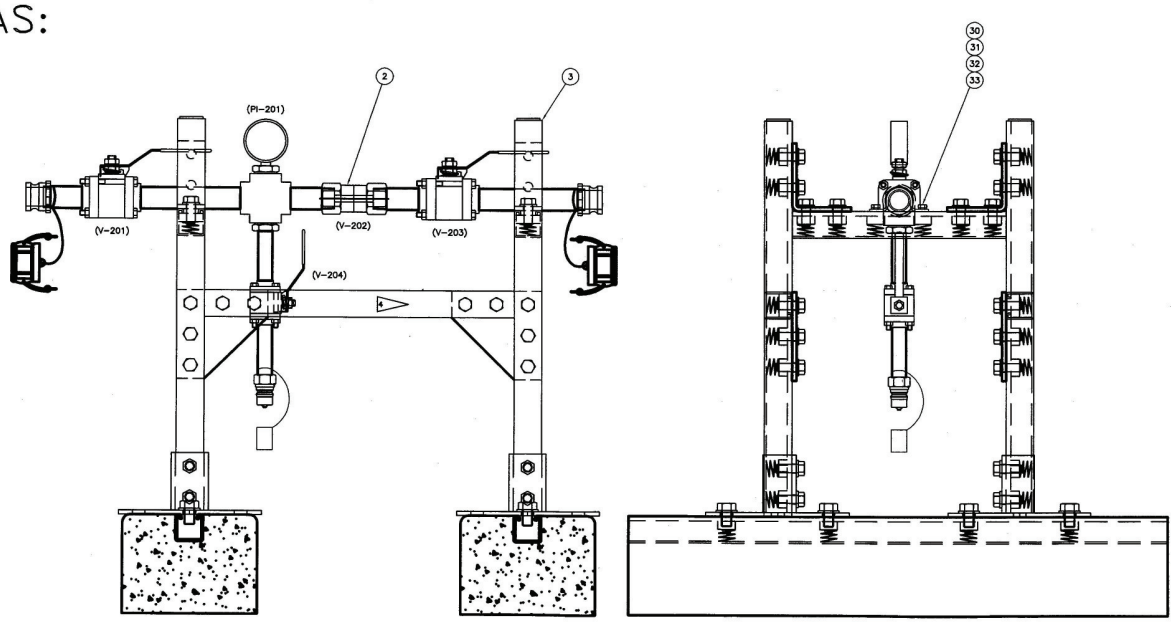

1 FLUSH MANIFOLD ASSEMBLY
SCALE: 3/8" = 1'

Document/Drawing No. H-14-107508 Sheet 1 Revision 0

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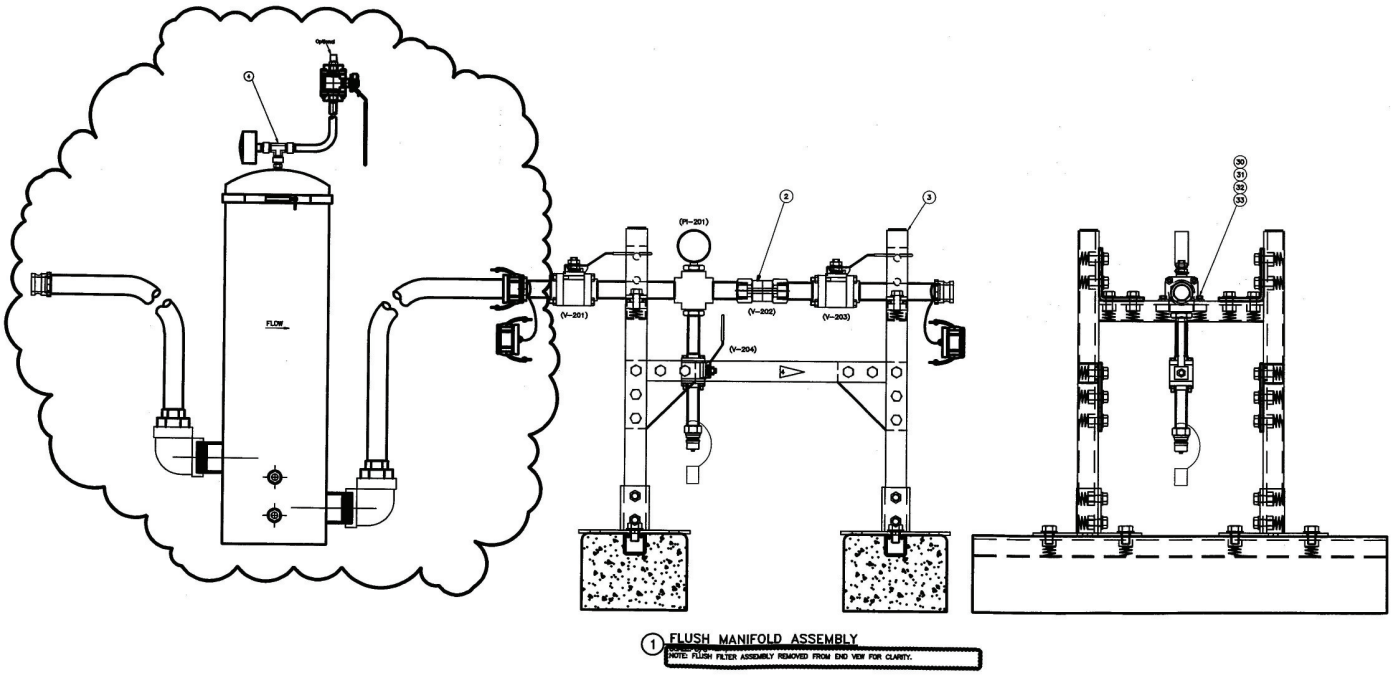
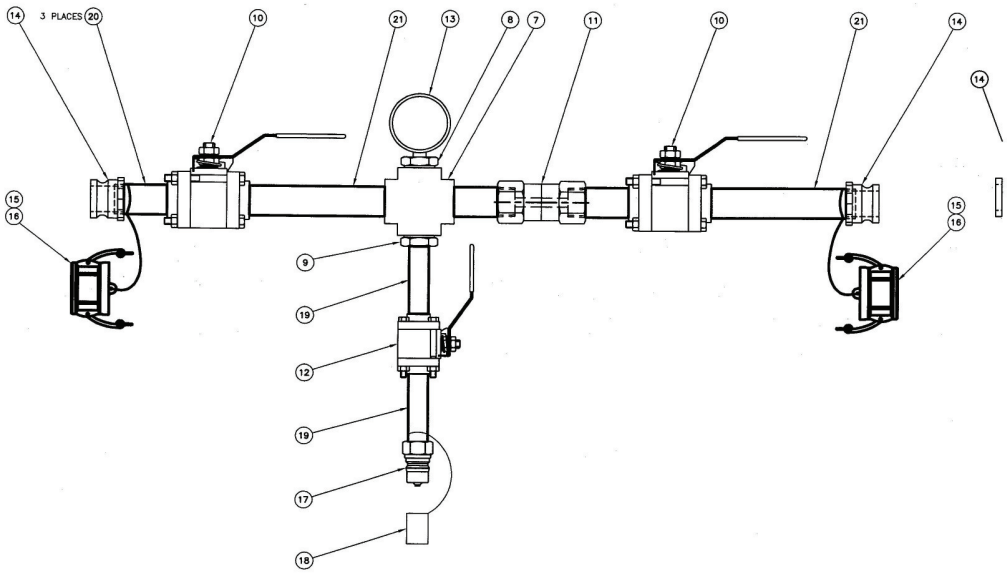


1 FLUSH MANIFOLD ASSEMBLY
NOTE: FLUSH FILTER ASSEMBLY REMOVED FROM END VIEW FOR CLARITY.

CADFILE: 725832-R0_PG8-9

Document/Drawing No. H-14-107508 Sheet 2 Revision 0

WAS:



2 MANIFOLD ASSEMBLY
SCALE: 1/2"=1"

CH2M HILL ENGINEERING CHANGE NOTICE
CONTINUATION SHEET

Page 11 of 11

1a. ECN-725832 R1

1b. Proj. ECN N/A

Document/Drawing No. H-14-107508 Sheet 2 Revision 0

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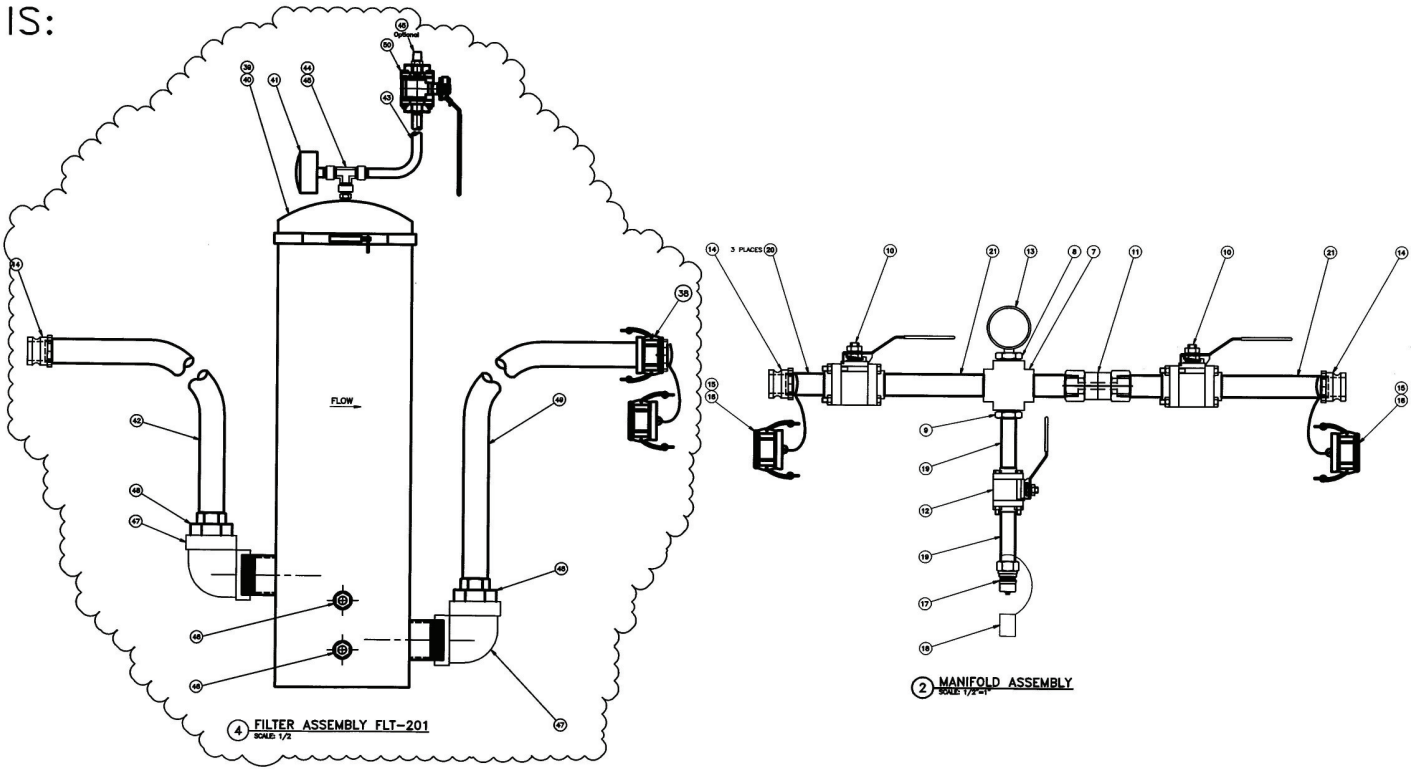

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