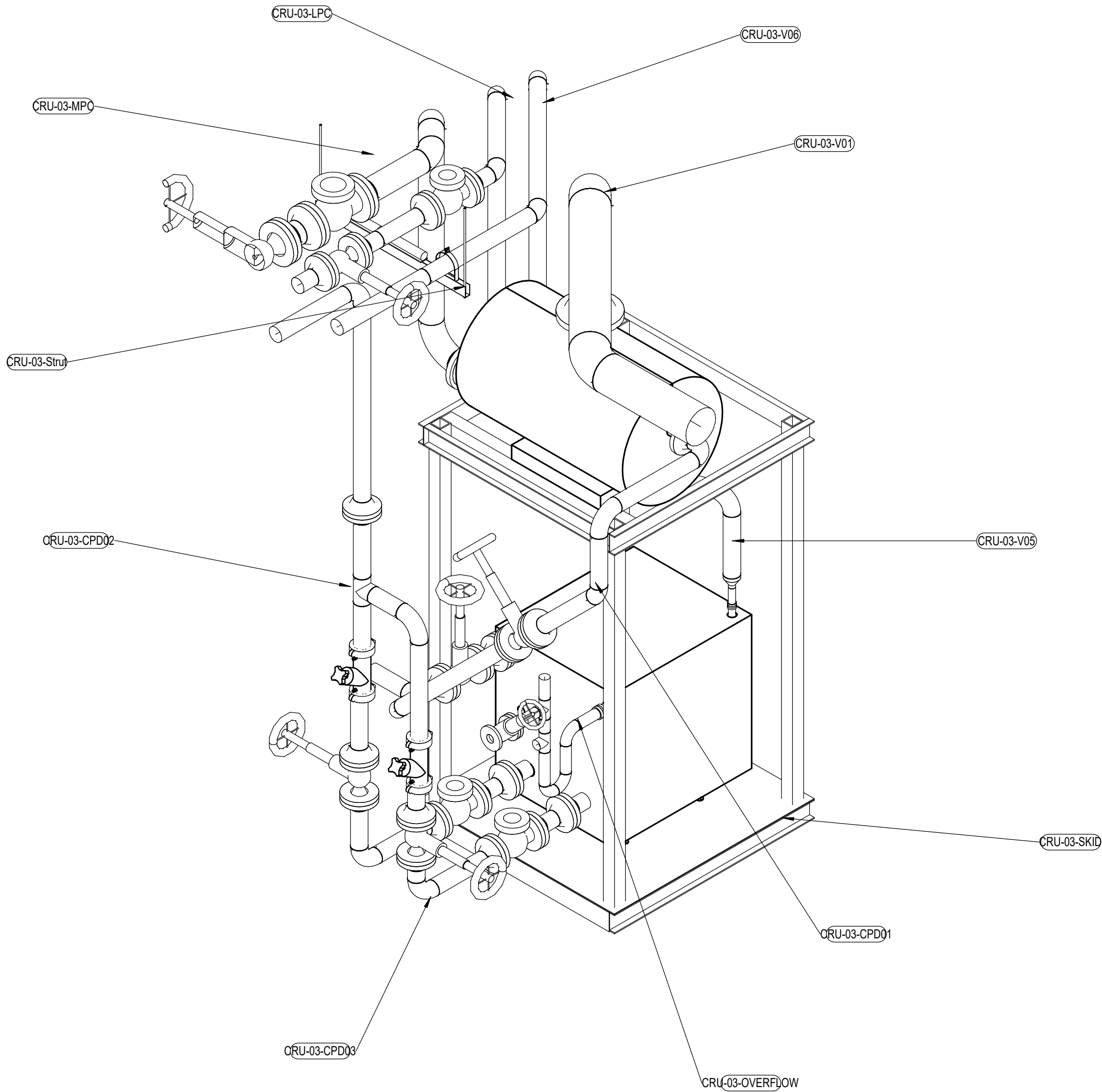


BIM 360://WUSM NRBWUSM RB HPF.rvt
8/4/2021 10:11:49 AM



1 **CRU-03**
SCALE:

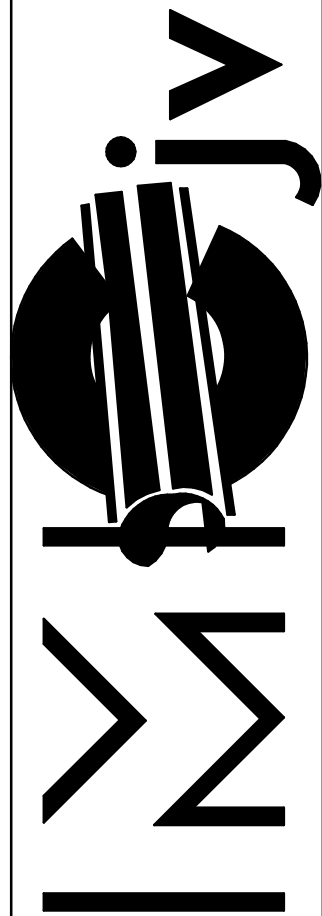
A1	A3	B1	B3
A2	A4	B2	B4

JOB: WASH U NRB

TICKET:

Drawn By: Author

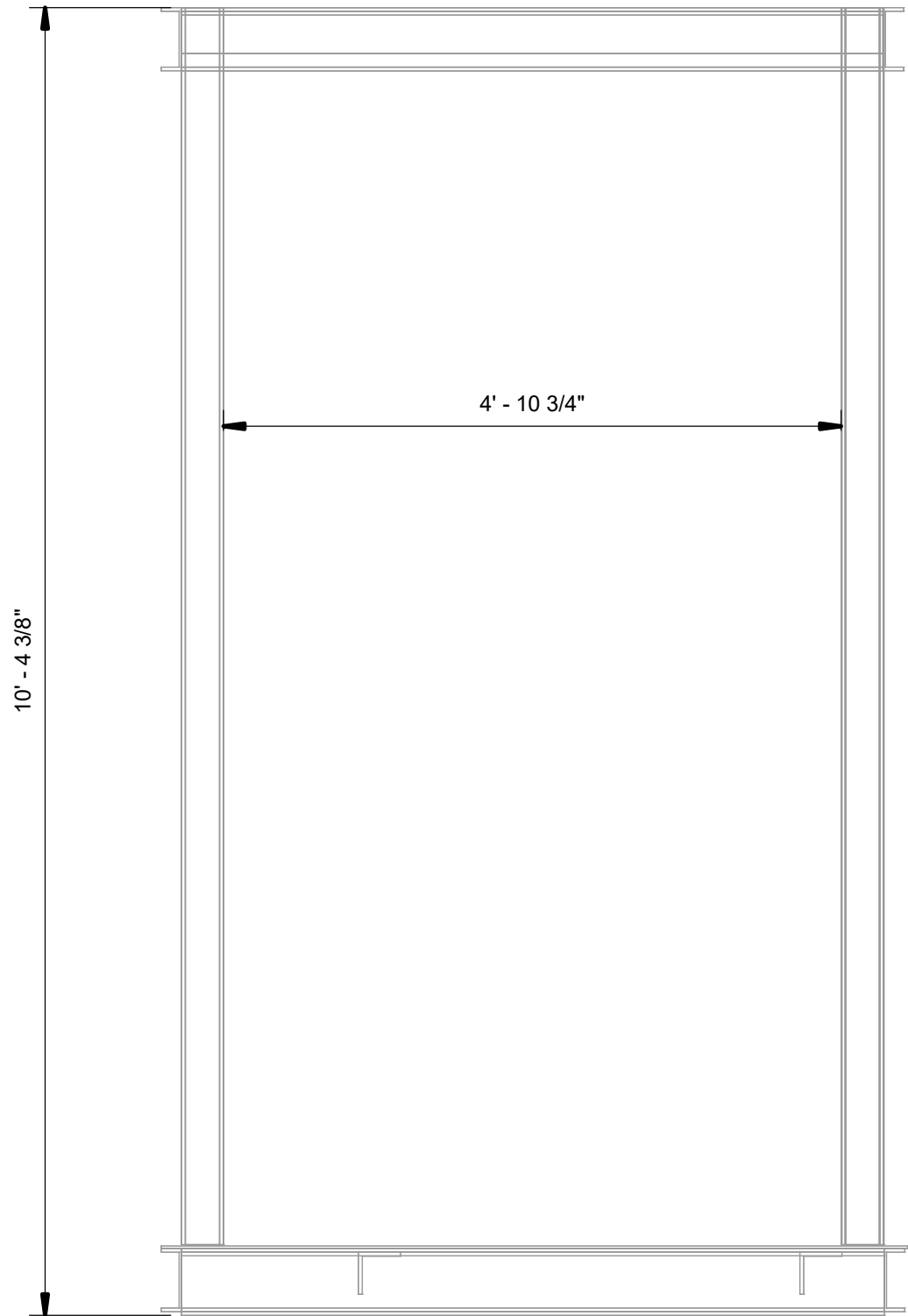
DATE: 08/02/21 DATE REQ:



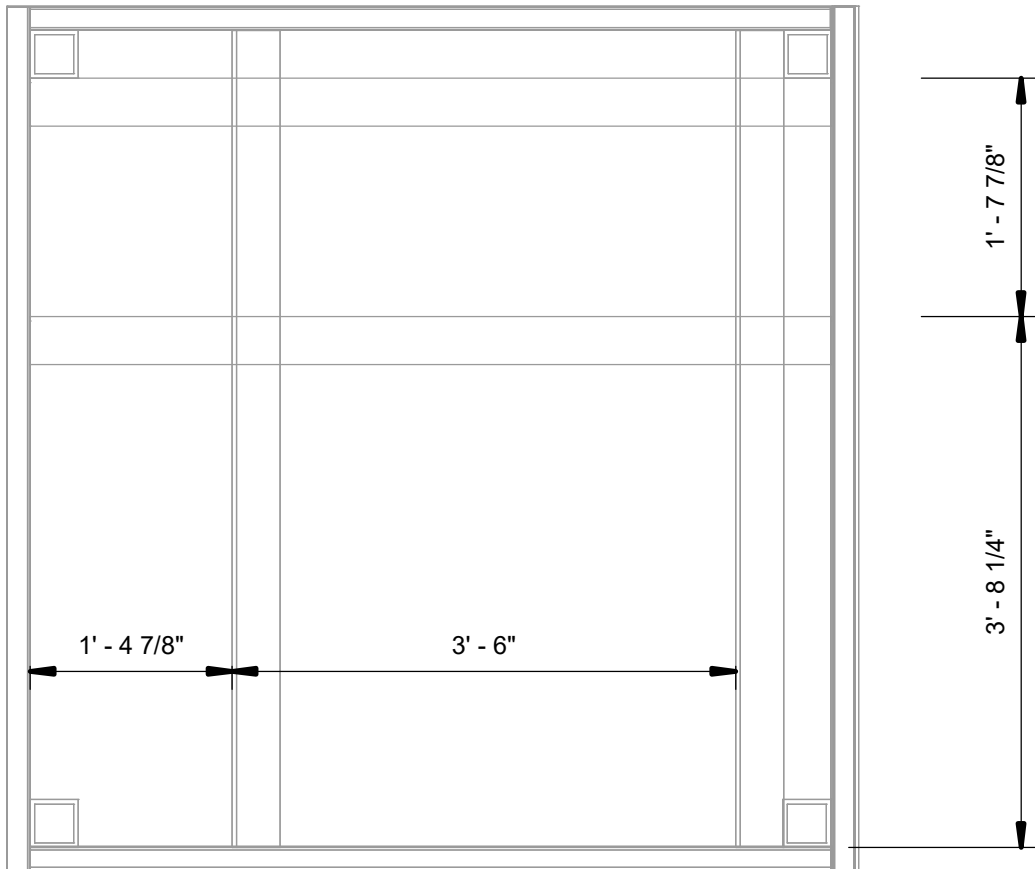
1233 N. Price Rd.
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10/22/2021 10:42:29 AM

Mark	Qty	Description	Size	Length
01	4	SQ Tube	4x4x3/8	9' 9 5/8"
02	2	L-Angle (Eq)	4x4x3/8	5' 6 3/4"
03	2	L-Angle (Eq)	4x4x3/8	5' 8 1/8"
04	1	Flat Stock	1/4"	
05	4	C-Channel	6x8.2	5' 6 3/4"
06	4	C-Channel	6x8.2	6' 0"

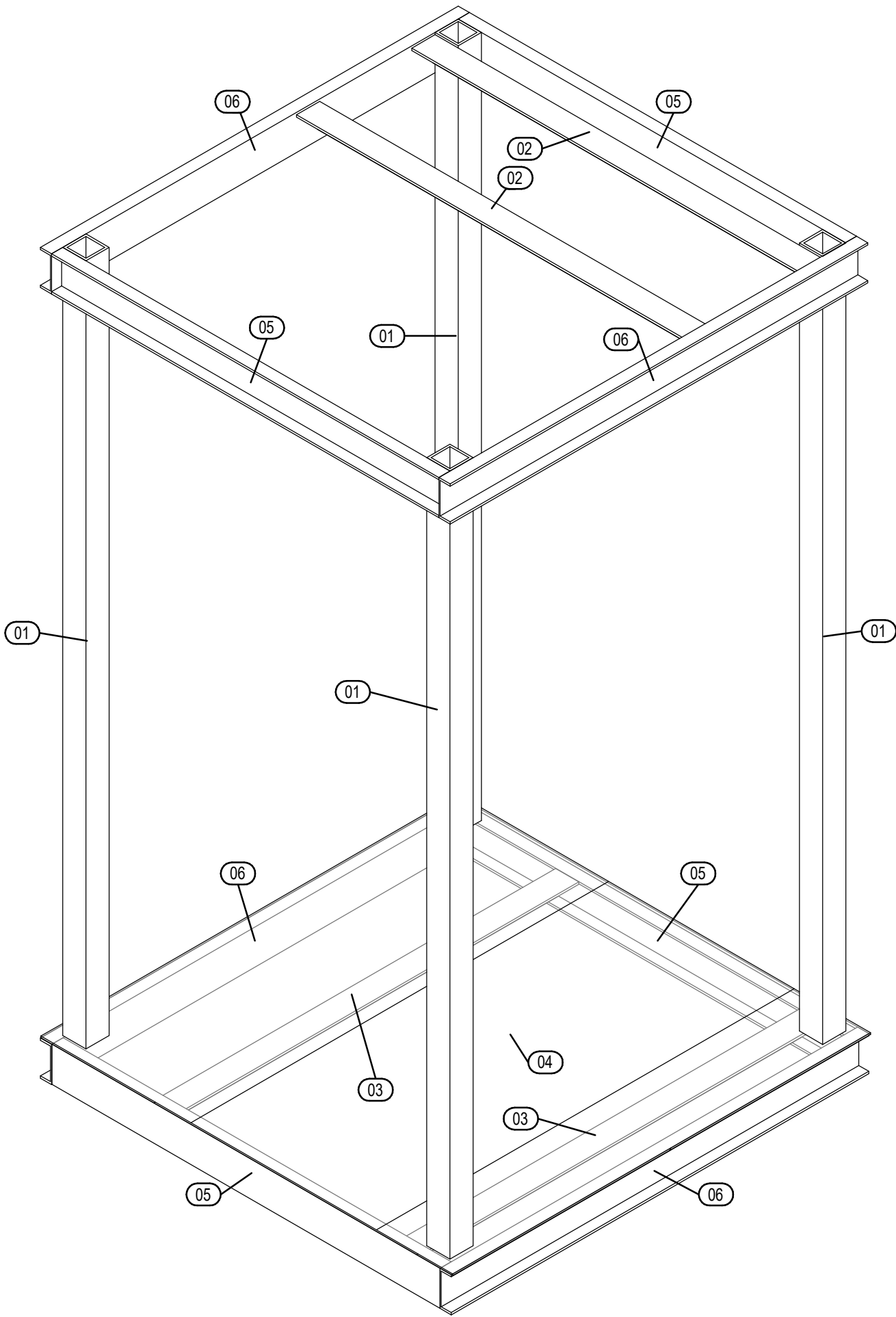


FRONT ELEVATION
3/4" = 1'-0"



TOP VIEW
3/4" = 1'-0"

A1	A3	B1	B3
A2	A4	B2	B4



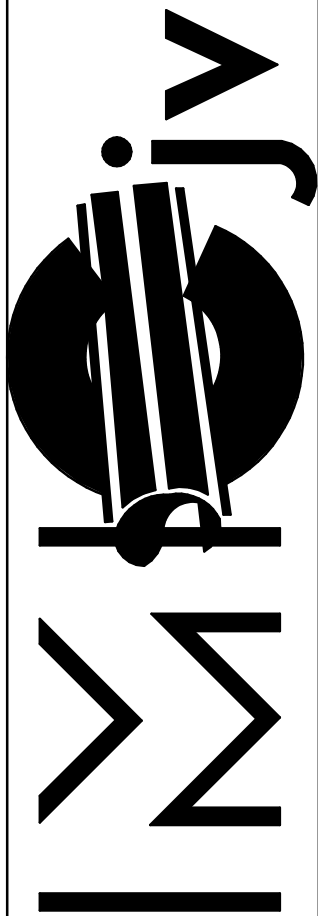
ISOMETRIC

JOB: WASH U NRB

TICKET: CRU-03-SKID

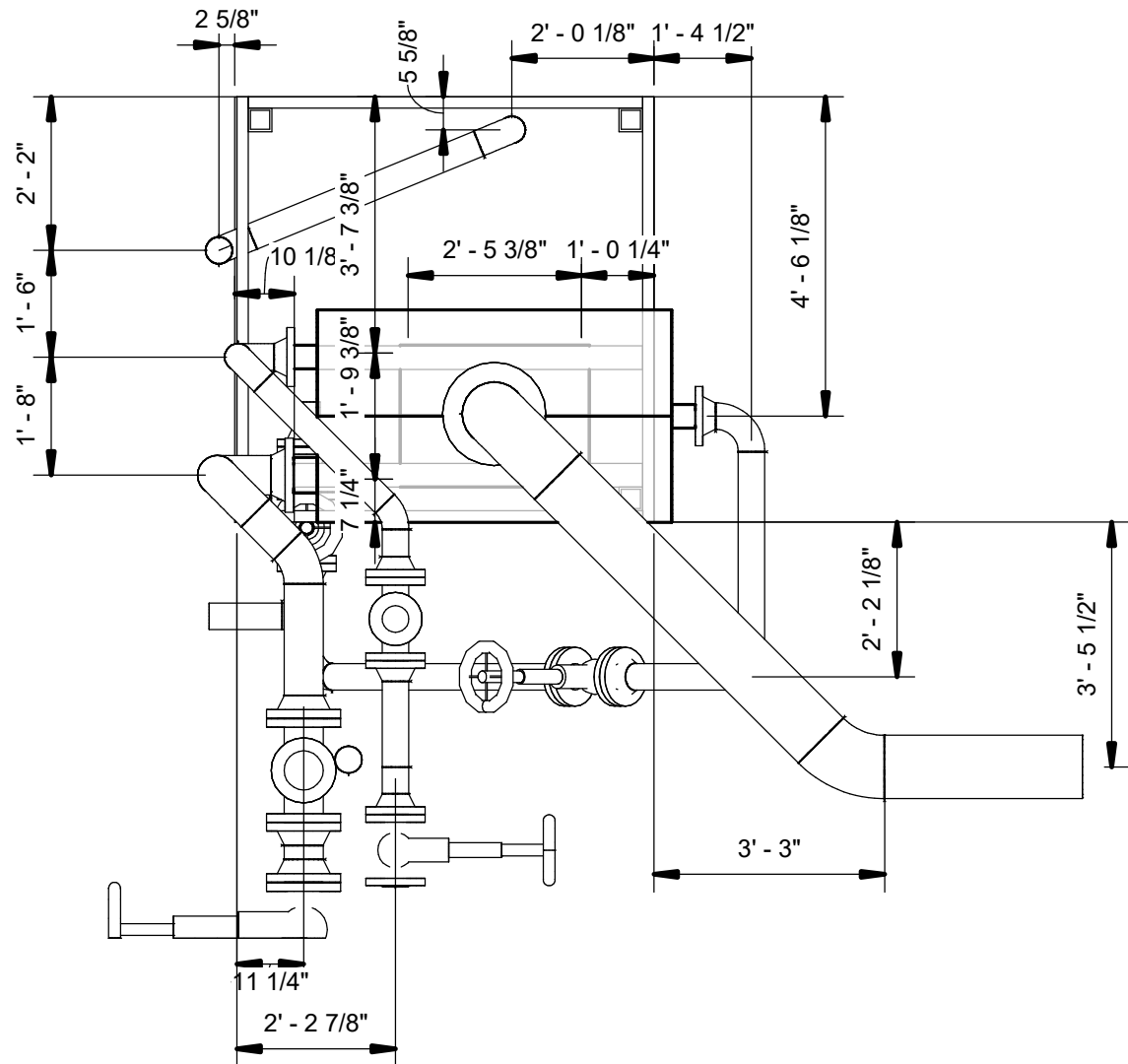
Drawn By: Author

DATE: 07/30/21 DATE REQ:

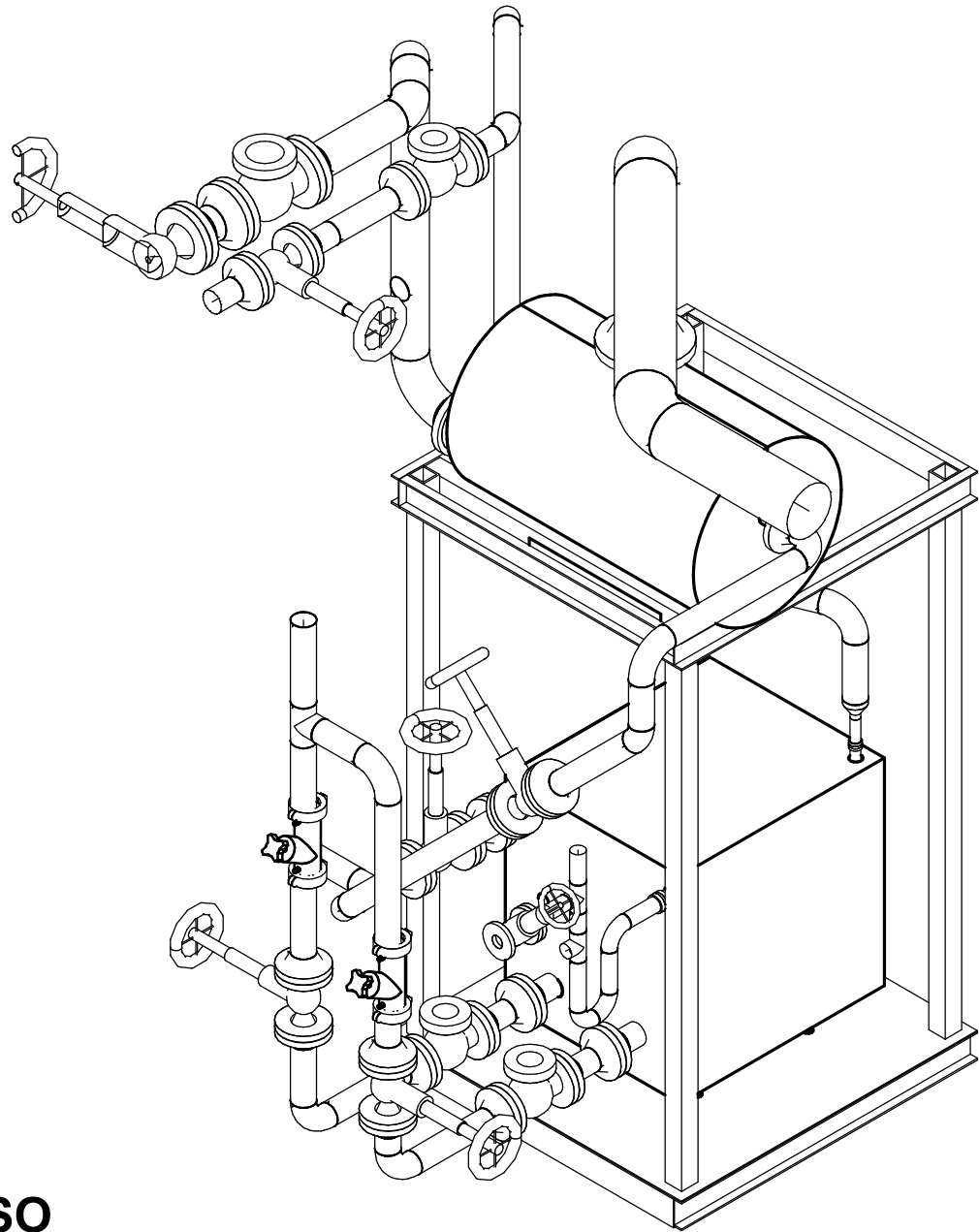


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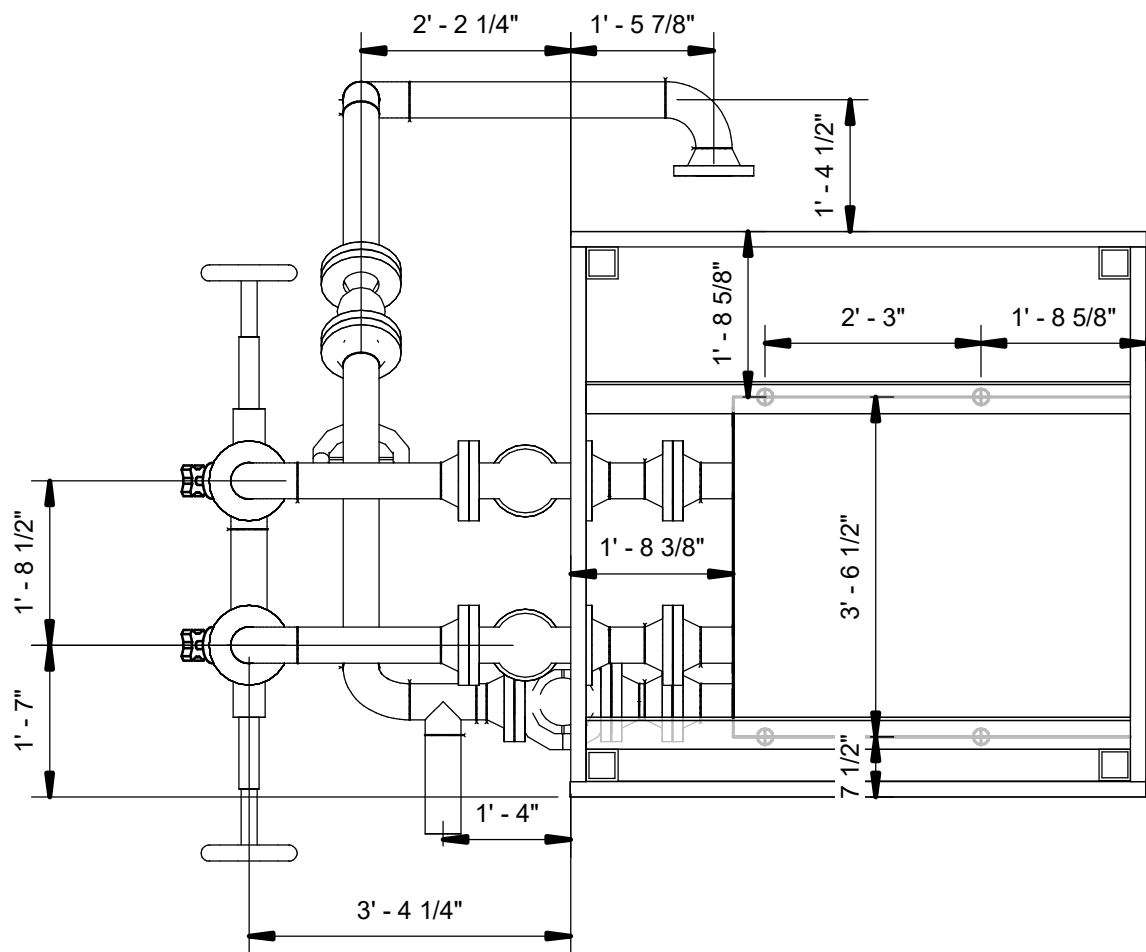
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10/22/2021 10:42:36 AM



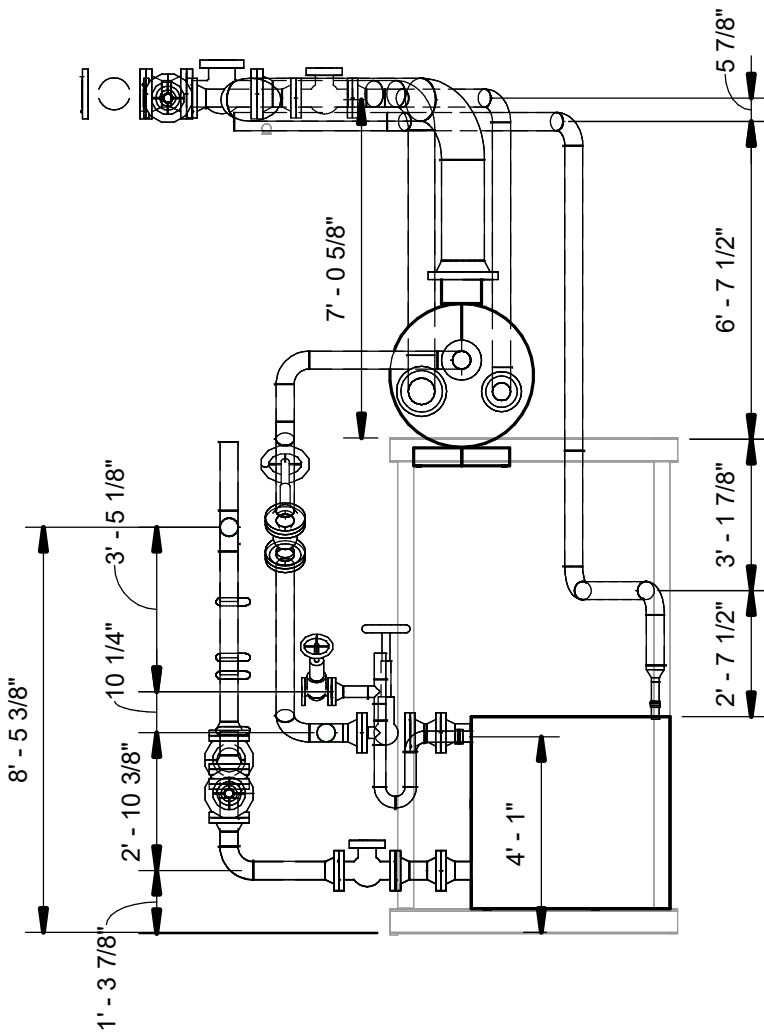
2 **CRU-03 DIM-TOP VIEW**
SCALE:



1 **CRU-03 DIM-ISO**
SCALE:



3 **CRU-03 DIM-BOTTOM VIEW**
SCALE:



4 **CRU-03-DIM-ELEVATION**
SCALE: 1/4" = 1'-0"

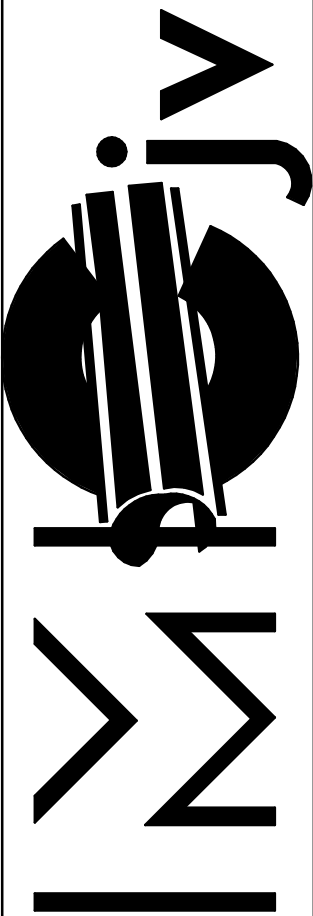
A1	A3	B1	B3
A2	A4	B2	B4

JOB: **WASH U NRB**

TICKET:

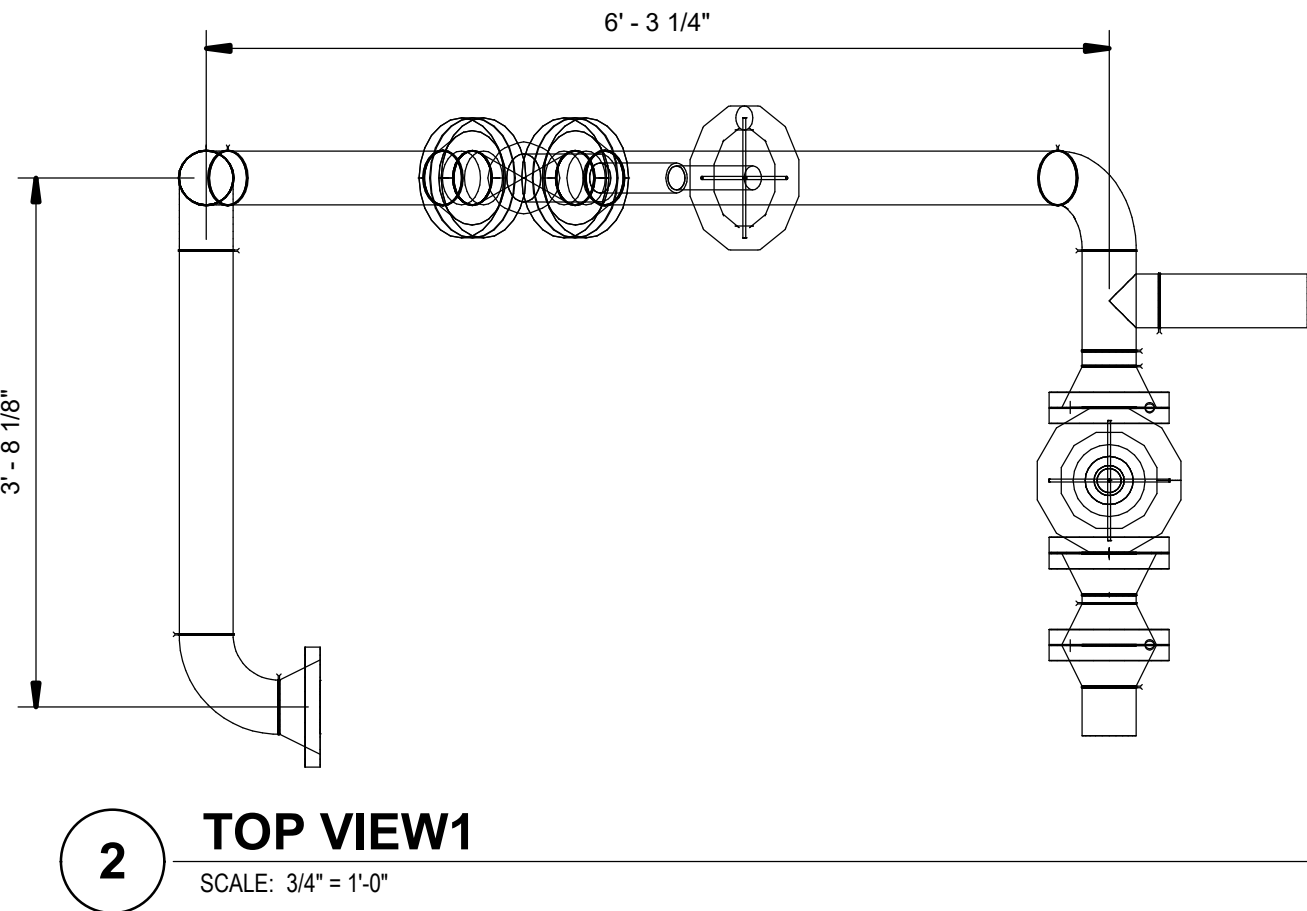
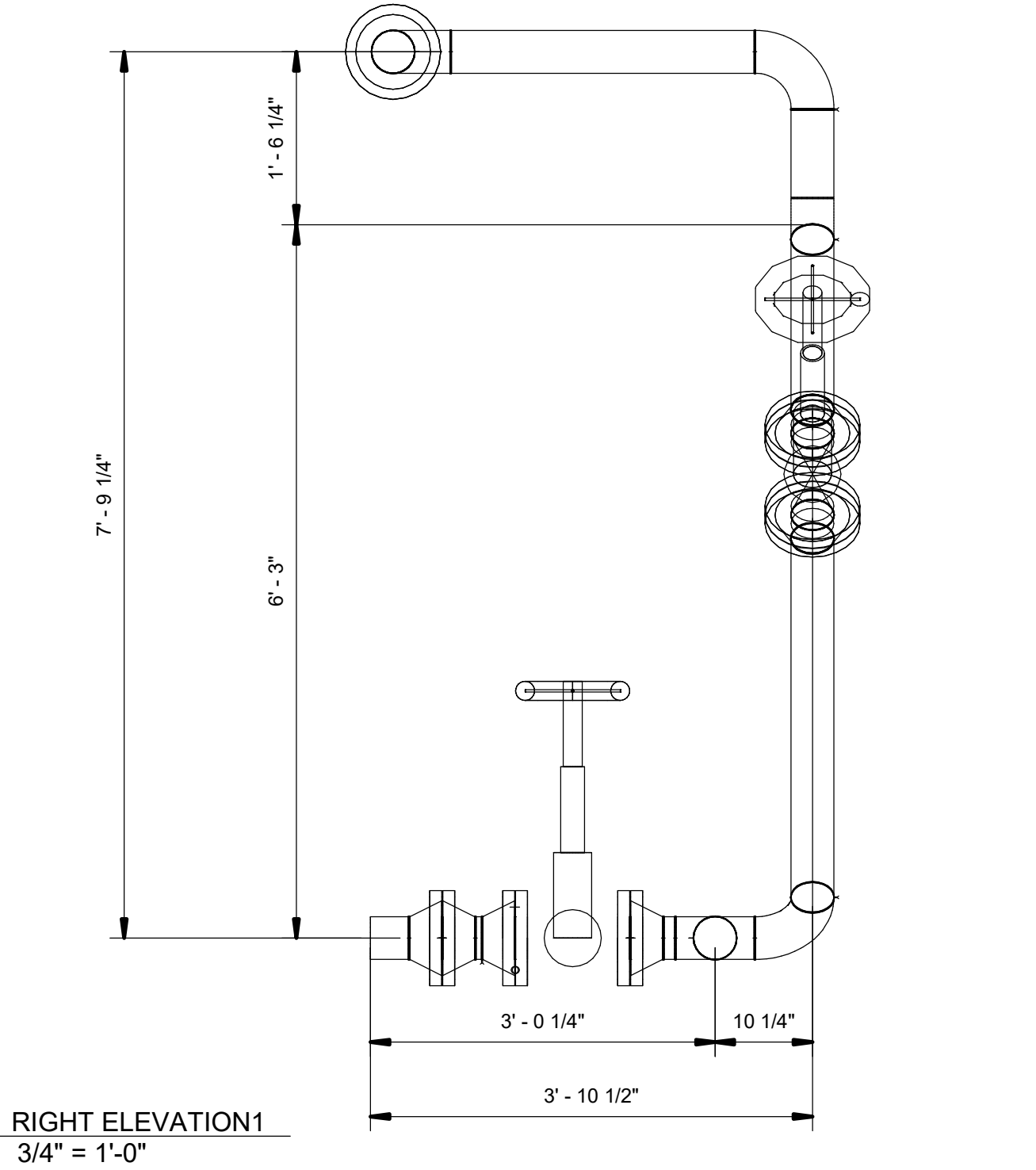
Drawn By: Author

DATE: 08/04/21 DATE REQ:



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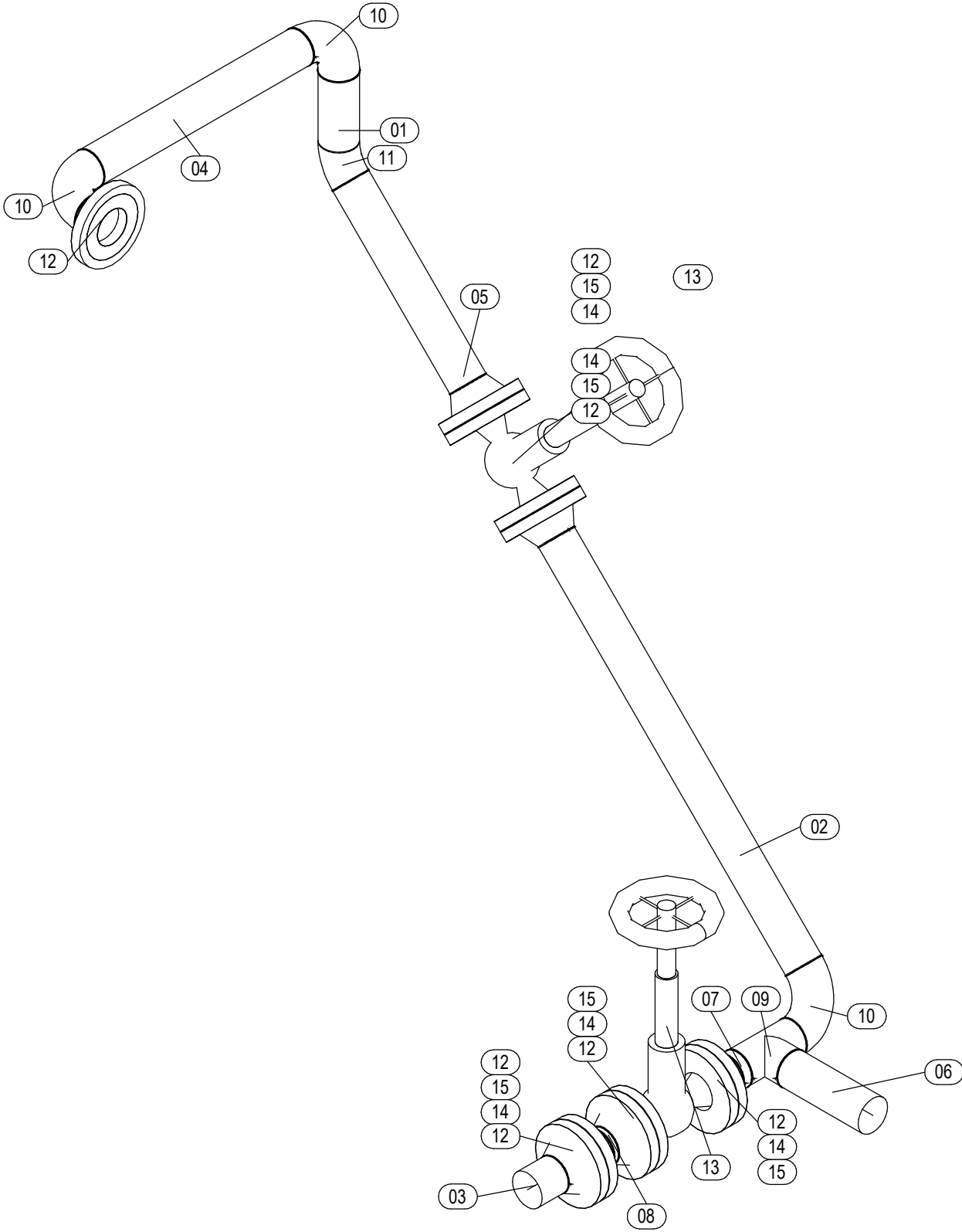
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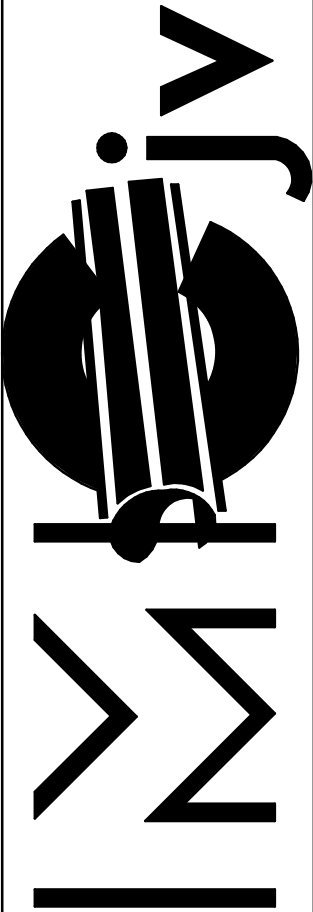
A1	A3	B1	B3
A2	A4	B2	B4

ISOMETRIC1

Mark	Qty	Description	Size	Length	Insulation
01	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-9 3/16"	4 1/2"
02	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	4'-5 5/16"	4 1/2"
03	1	Anvil Std SA-53B CS Smls Pipe NIP x 4	4"	0'-4"	4 1/2"
04	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	2'-7 7/8"	4 1/2"
05	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	2'-1 1/4"	4 1/2"
06	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-0 1/4"	
07	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-1 1/8"	4 1/2"
08	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	9/16"	4 1/2"
09	1	Weldbend XH SA234 WPB CS BW TEE	4"		4 1/2"
10	3	Weldbend XH SA234 WPB CS BW LR 90 Deg Ell	4"		4 1/2"
11	1	Weldbend XH SA234 WPB CS BW 45 Deg Ell	4"		4 1/2"
12	7	Weldbend 300lb RF XH Bore SA105 CS WN FLG	4"		4 1/2"
13	2	Nibco F-667-O Gate Valve	4"		4 1/2"
14	5	Generic 300# RF Gasket 304SS FG CS Style CG 3/32	4"		4 1/2"
15	5	300 # Bolt Set	4"		4 1/2"

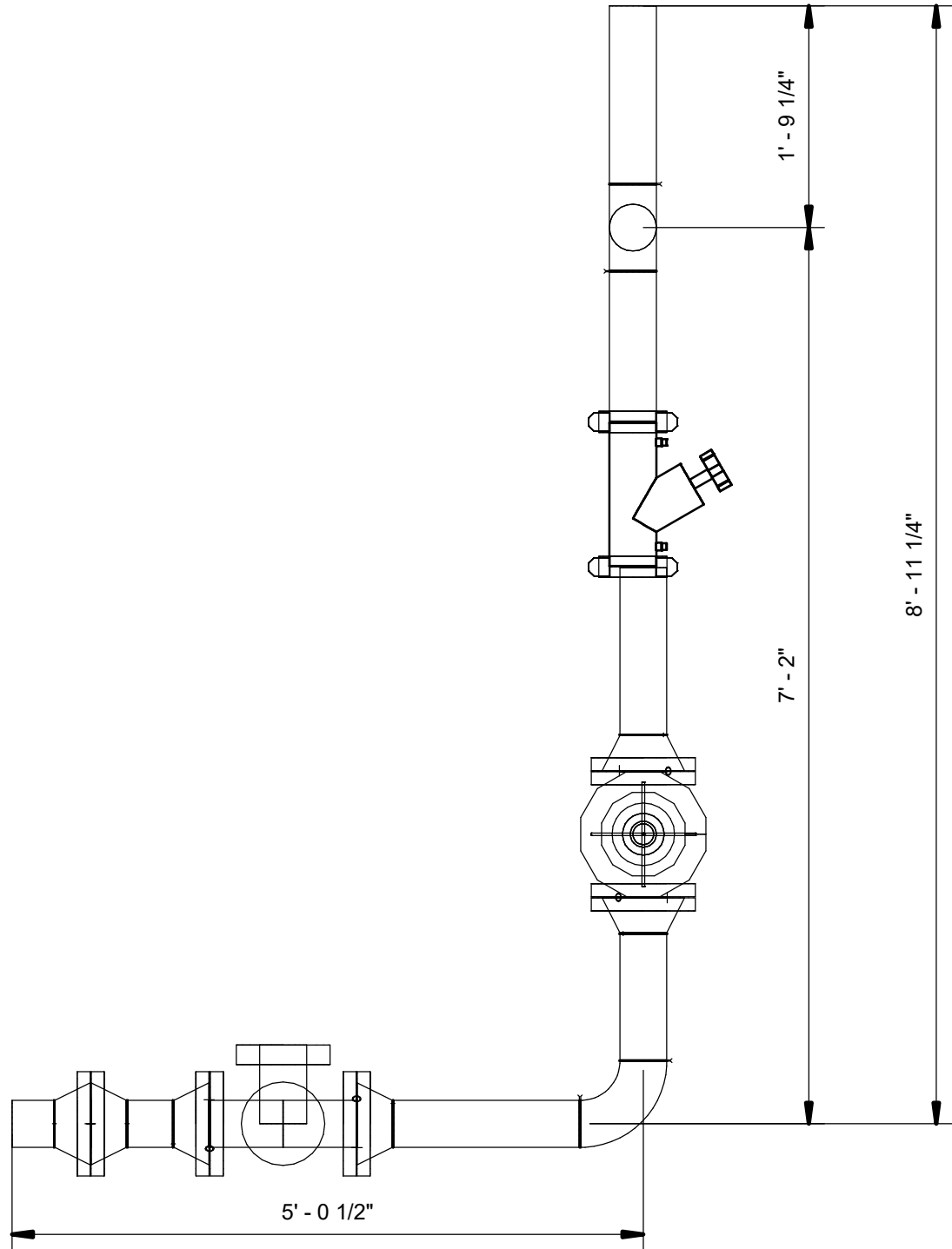


JOB:	WASH U NRB
TICKET:	CRU-03-CPD01
Drawn By: Author	
DATE: 07/28/21	DATE REQ:

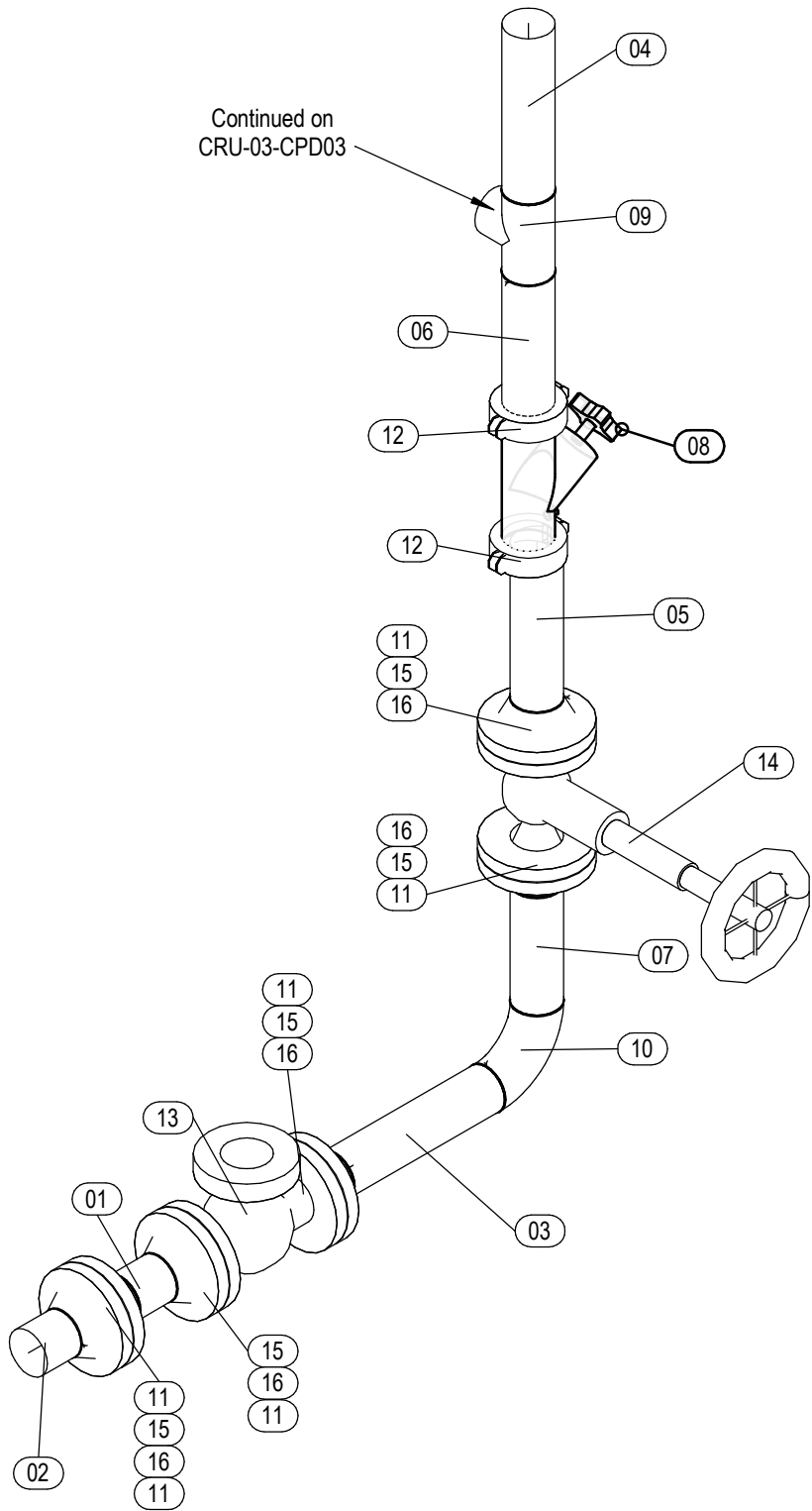


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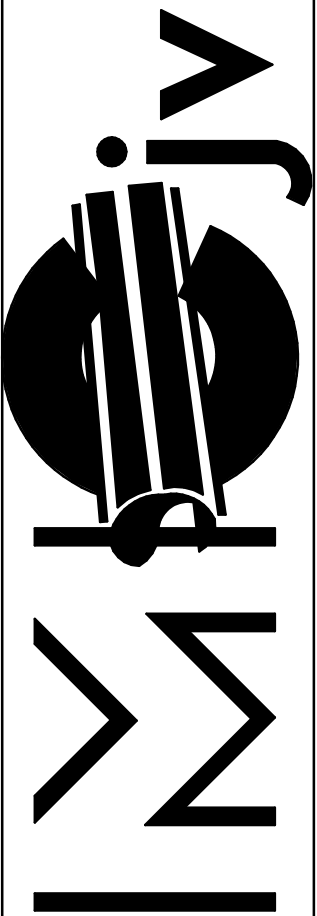
Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-4 5/16"	BVL X BVL	4 1/2"
02	1	Anvil Std SA-53B CS Smls Pipe NIP x 4	4"	0'-4"	BVL X THRD	4 1/2"
03	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-5 13/16"	BVL X BVL	4 1/2"
04	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-5"	BVL X BVL	4 1/2"
05	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-4"	BVL X BVL	4 1/2"
06	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-2 5/16"	BVL X BVL	4 1/2"
07	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-0 1/16"	BVL X BVL	4 1/2"
08	1	VIC TA CIRCUIT BALANCING VALVE SERIES 789 (GRVD)	4"			0"
09	1	Weldbend XH SA234 WPB CS BW TEE	4"			4 1/2"
10	1	Weldbend XH SA234 WPB CS BW LR 90 Deg Ell	4"			4 1/2"
11	6	Weldbend 300lb RF XH Bore SA105 CS WN FLG	4"			4 1/2"
12	2	Victaulic Style 107 EHP Pnt QuickVic Rigid Coupling	4"			1"
13	1	Nibco F-968-B Swing Check	4"			4 1/2"
14	1	Nibco F-617-O Gate Valve	4"			4 1/2"
15	5	Generic 300# RF Gasket 304SS FG CS Style CG 3/32	4"			4 1/2"
16	5	300 # Bolt Set	4"			4 1/2"



ISOMETRIC

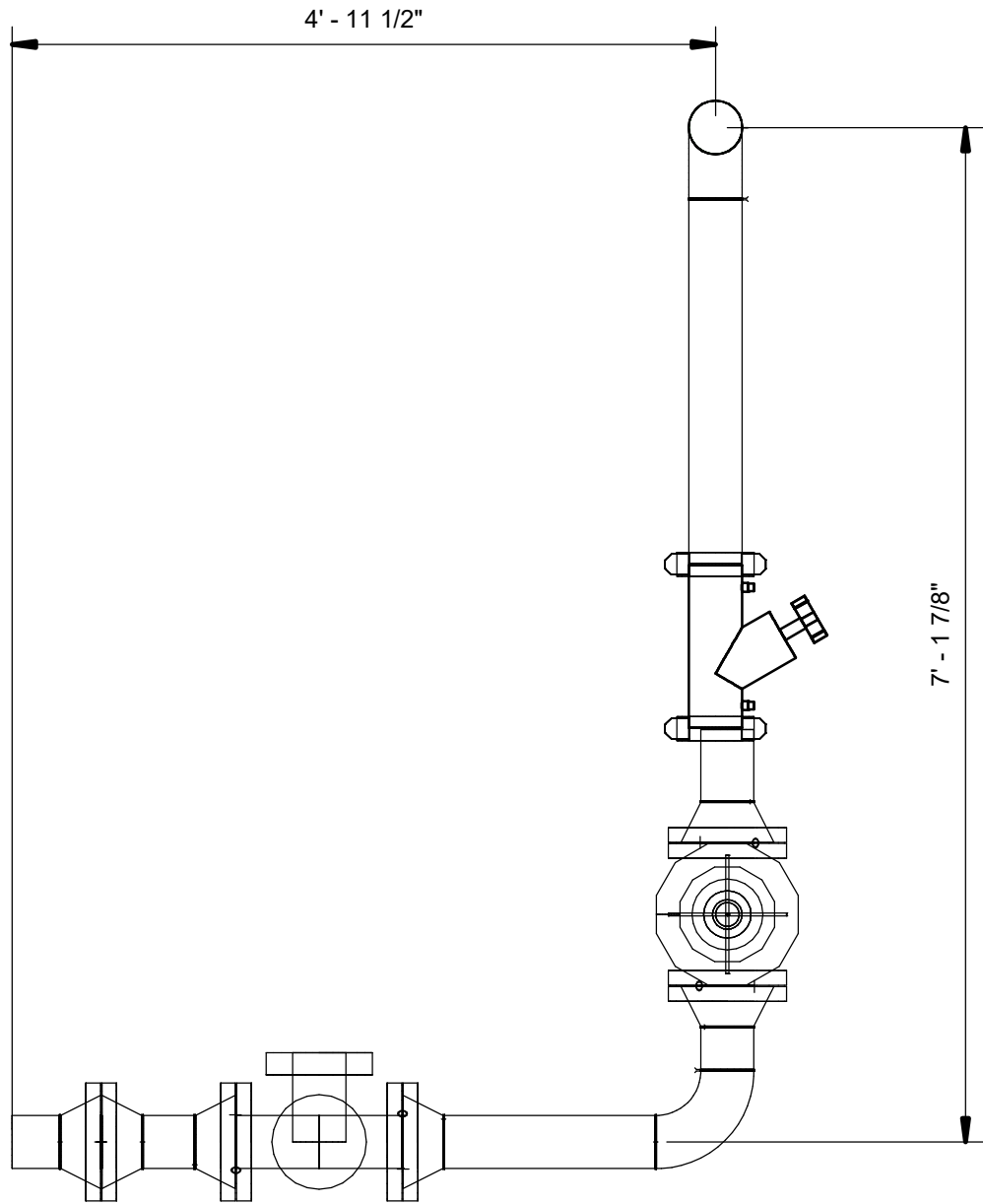
A1	A3	B1	B3
A2	A4	B2	B4

JOB:	WASH U NRB
TICKET:	CRU-03-CPD02
Drawn By: Author	
DATE: 07/28/21	DATE REQ:

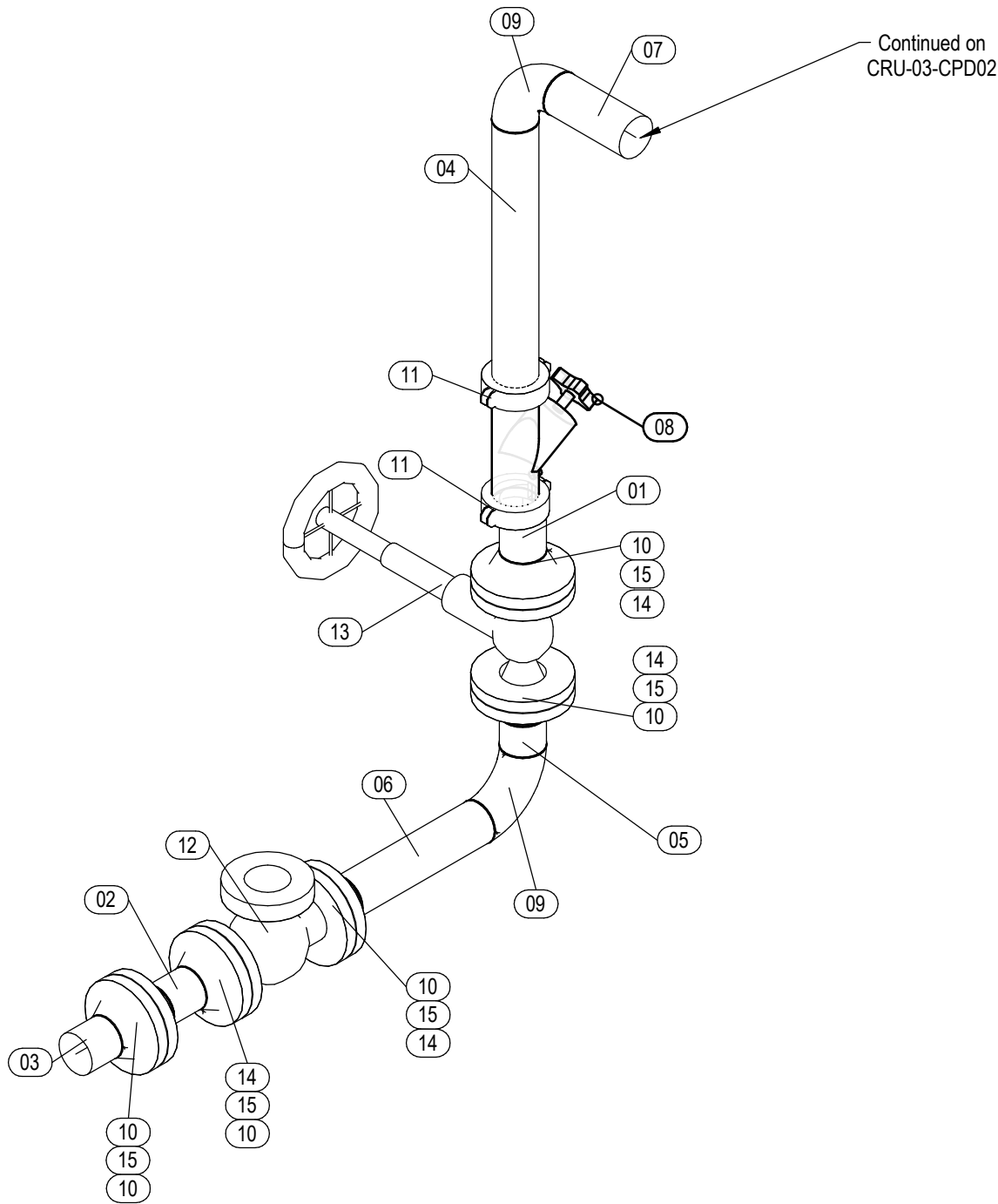


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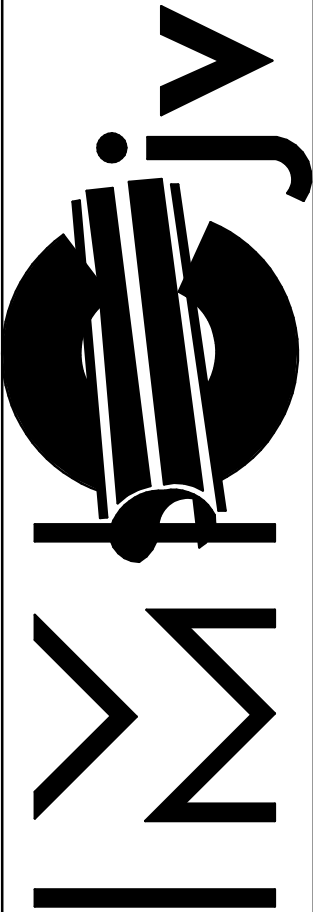


Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-6 1/16"	BVL X GRV	4 1/2"
02	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-4 5/16"	BVL X BVL	4 1/2"
03	1	Anvil Std SA-53B CS Smls Pipe NIP x 4	4"	0'-4"	BVL X THRD	4 1/2"
04	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	2'-6 3/4"	BVL X GRV	4 1/2"
05	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-3 1/2"	BVL X BVL	4 1/2"
06	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-5 13/16"	BVL X BVL	4 1/2"
07	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-10 3/16"	BVL X BVL	4 1/2"
08	1	VIC TA CIRCUIT BALANCING VALVE SERIES 789 (GRVD)	4"			0"
09	2	Weldbend XH SA234 WPB CS BW LR 90 Deg Ell	4"			4 1/2"
10	6	Weldbend 300lb RF XH Bore SA105 CS WN FLG	4"			4 1/2"
11	2	Victaulic Style 107 EHP Pnt QuickVic Rigid Coupling	4"			1"
12	1	Nibco F-968-B Swing Check	4"			4 1/2"
13	1	Nibco F-617-O Gate Valve	4"			4 1/2"
14	5	Generic 300# RF Gasket 304SS FG CS Style CG 3/32	4"			4 1/2"
15	5	300 # Bolt Set	4"			4 1/2"



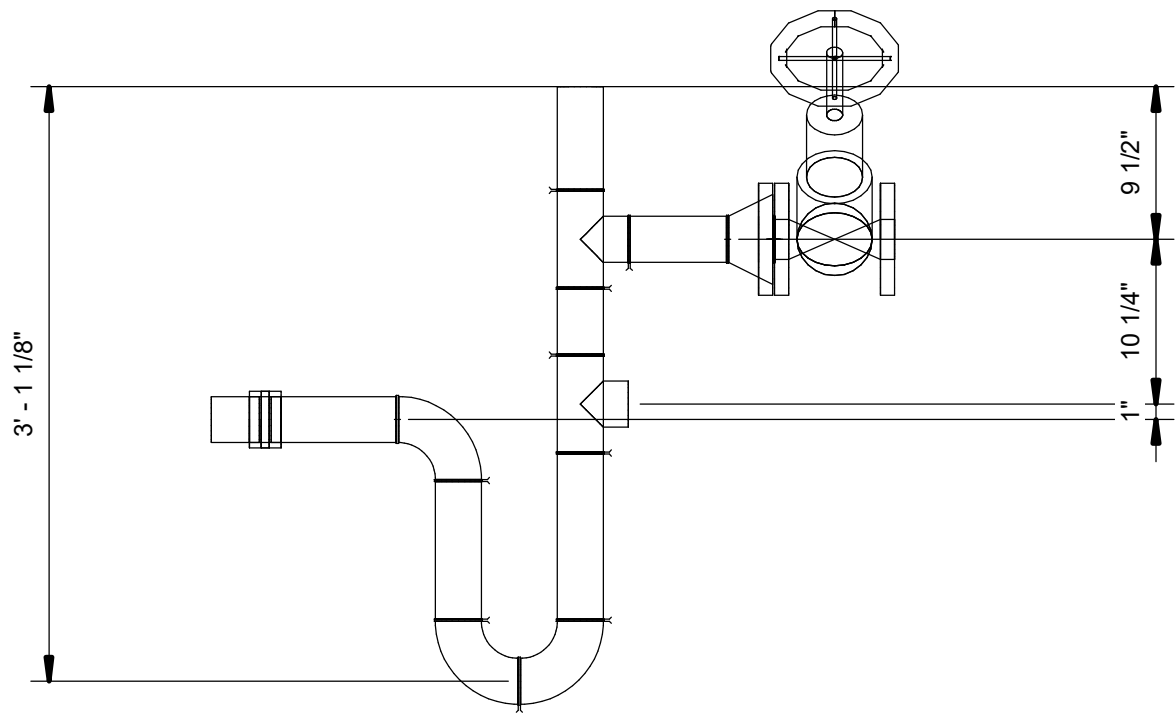
A1	A3	B1	B3
A2	A4	B2	B4

JOB:	WASH U NRB
TICKET:	CRU-03-CPD03
Drawn By: Author	
DATE: 07/28/21	DATE REQ:



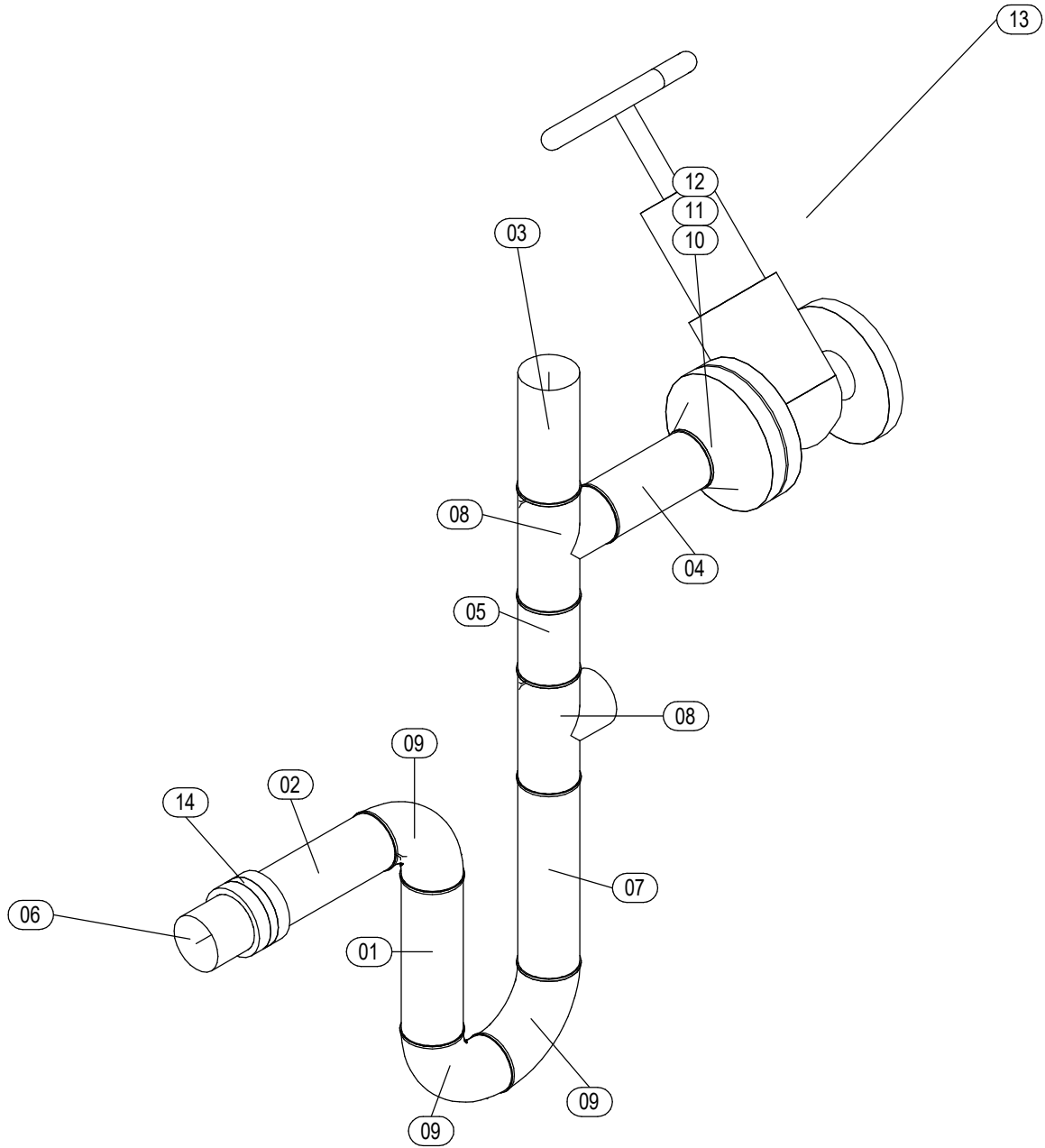
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8/9/2021 12:18:28 PM



RIGHT ELEVATION4
1" = 1'-0"

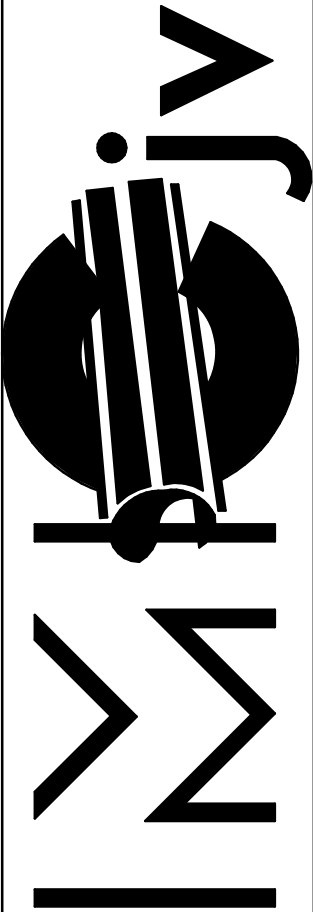
Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-8 5/8"	BVL X BVL	
02	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-7 13/16"	BVL X GRV	
03	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-6 7/16"	BVL X BVL	
04	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-6"	BVL X BVL	
05	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-4 1/16"	BVL X BVL	
06	1	Anvil Std SA-53B CS Smls Pipe NIP x 3	2 1/2"	0'-3"		
07	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	2 1/2"	0'-10 5/16"	BVL X BVL	
08	2	Weldbend Std Wt SA234 WPB CS BW TEE	2 1/2"			
09	3	Weldbend Std Wt SA234 WPB CS BW LR 90 Deg Ell	2 1/2"			
10	1	Weldbend 150lb RF Sch 40 Bore SA105 CS WN Flg	2 1/2"			
11	1	Generic 150# CS Flange Bolt Set	2 1/2"			
12	1	Generic 150# 304 Spiral Wound StyleCG 1-8	2 1/2"			
13	1	NIBCO F-617-O Gate Valve	2 1/2"			
14	1	Anvil 3M FS SW Cplg	2 1/2"			



ISOMETRIC4

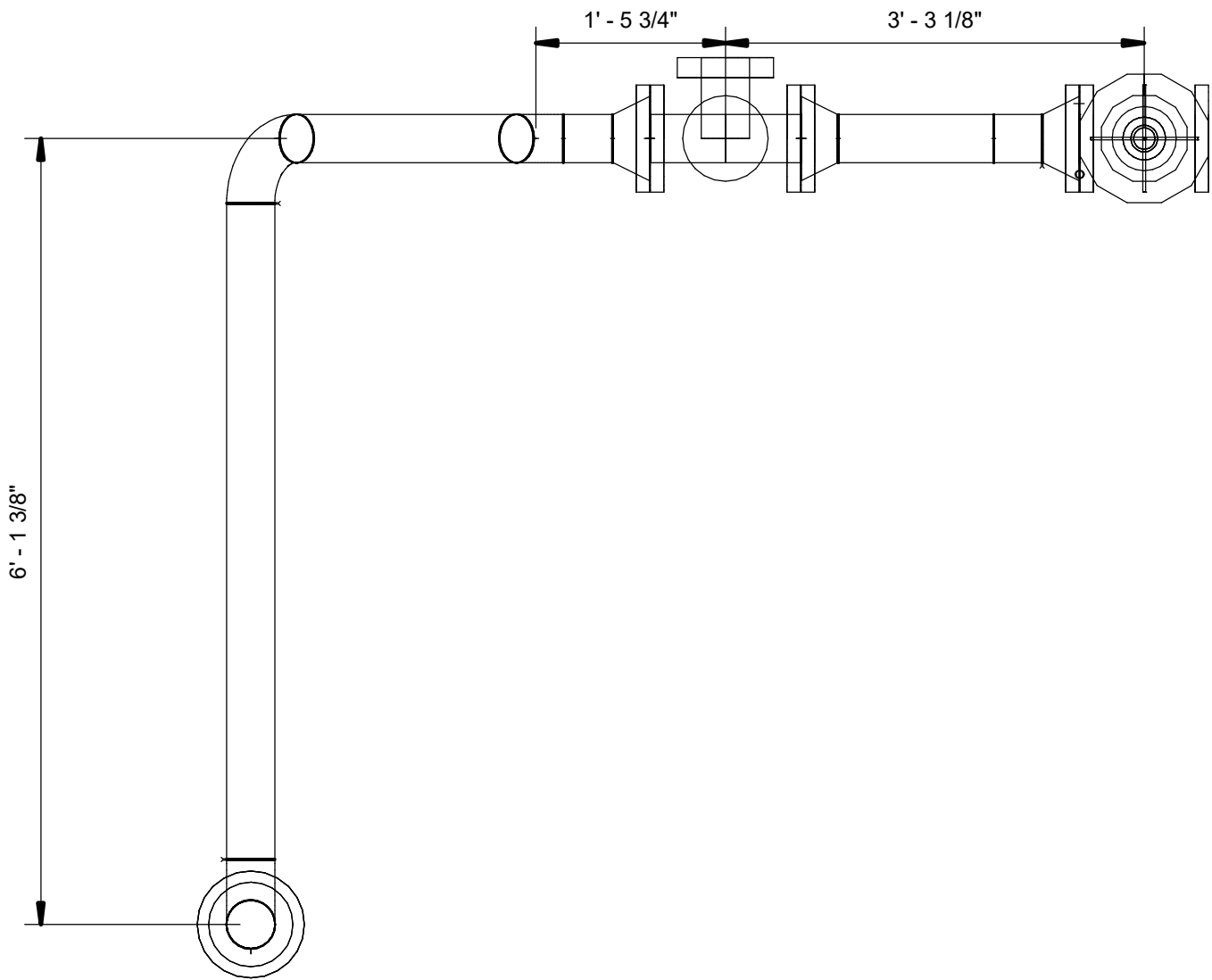
A1	A3	B1	B3
A2	A4	B2	B4

JOB:	WASH U NRB
TICKET:	CRU-03-OVERFLOW
Drawn By: Author	
DATE: 07/28/21	DATE REQ:

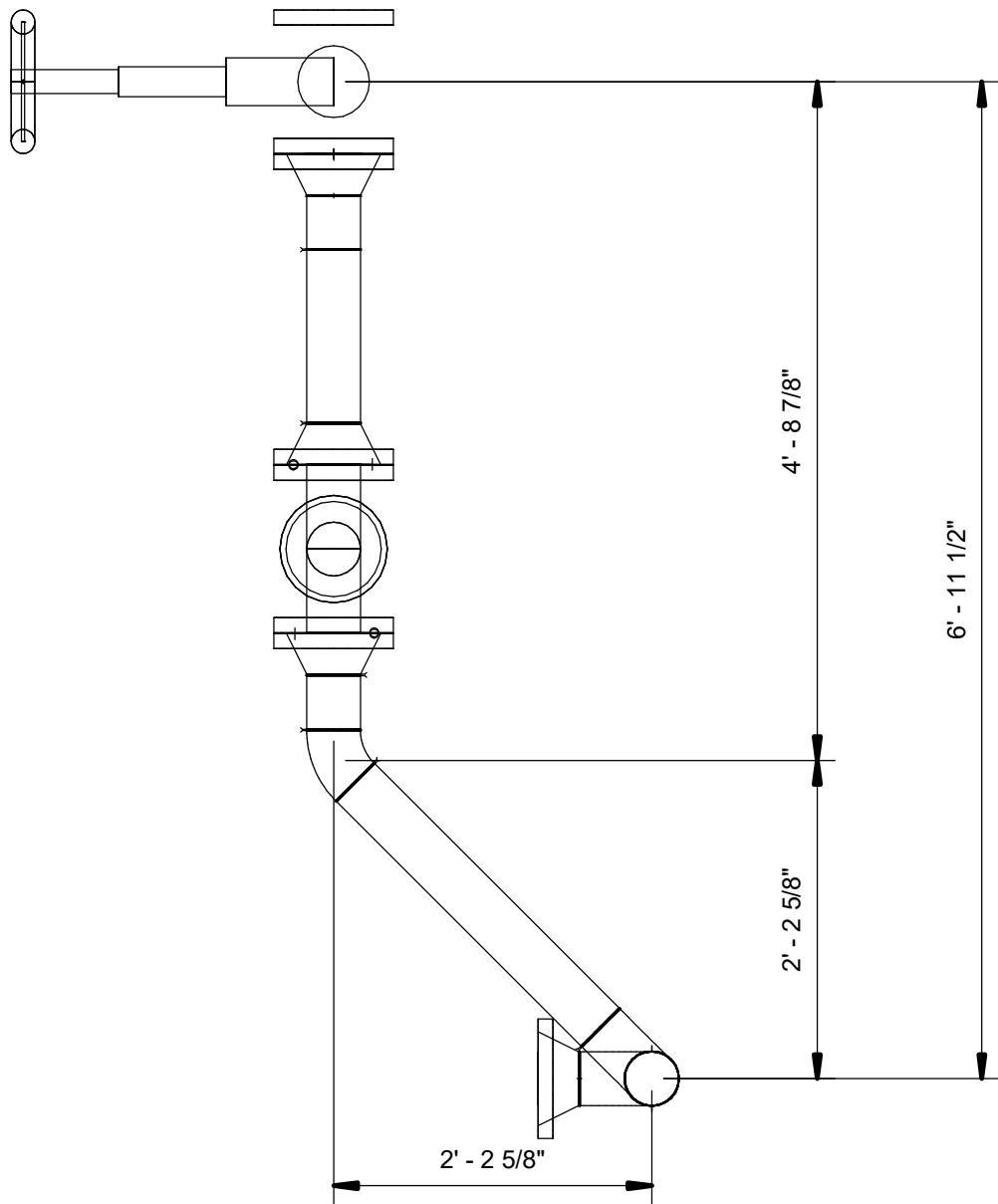


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8/9/2021 12:18:12 PM

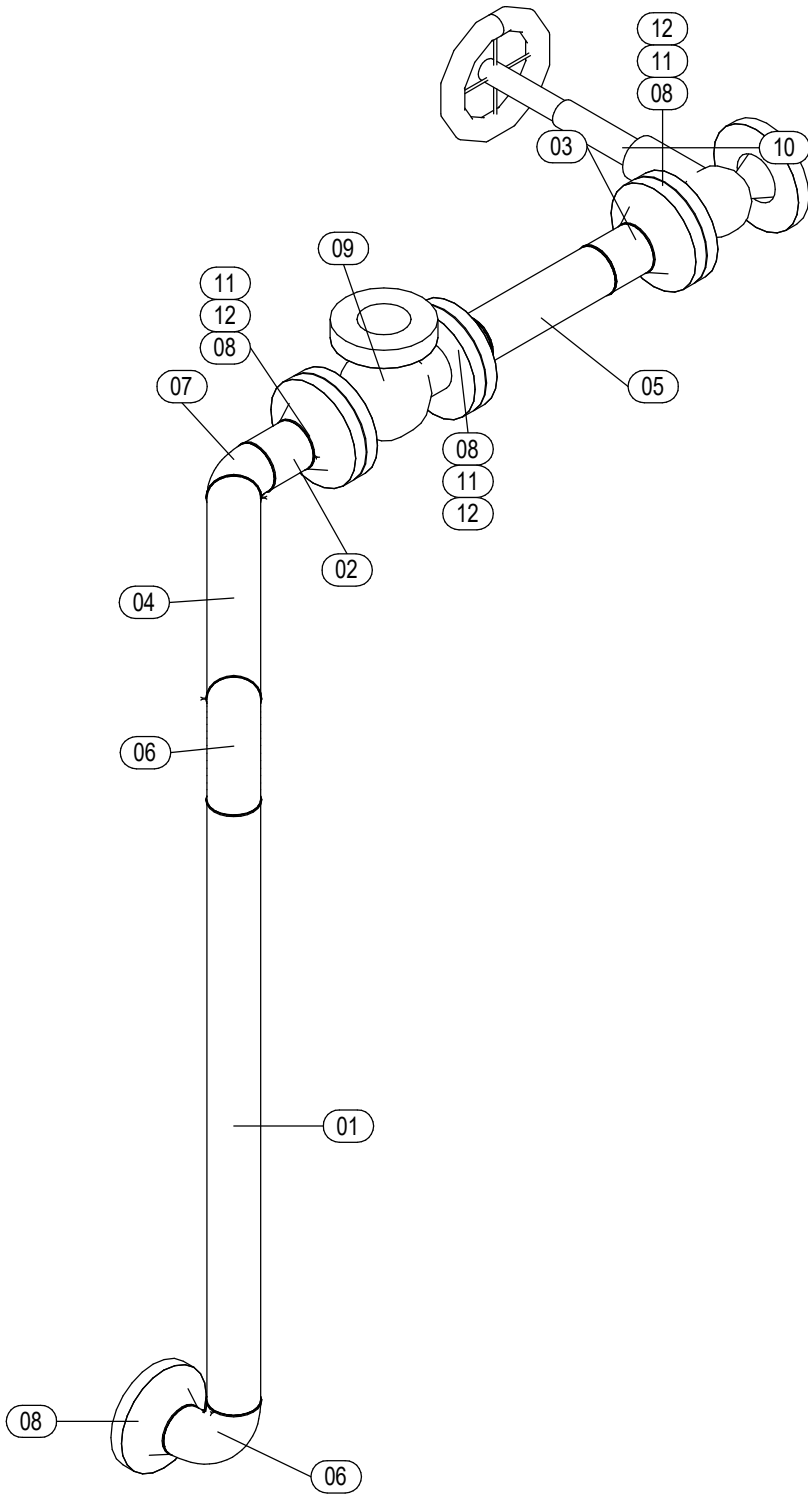


RIGHT ELEVATION6
3/4" = 1'-0"



TOP VIEW6
3/4" = 1'-0"

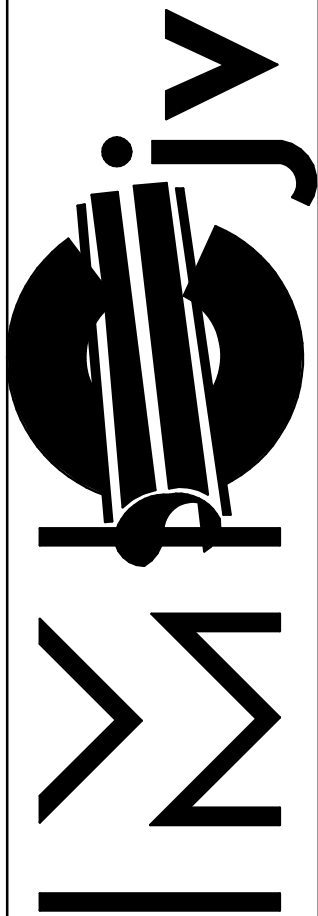
Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	5'-1 3/16"	BVL X BVL	4 1/2"
02	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-4 1/2"	BVL X BVL	4 1/2"
03	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	0'-4 3/8"	BVL X BVL	4 1/2"
04	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	2'-4 7/8"	BVL X BVL	4 1/2"
05	1	Chicago Area XH SA-53B CS SMLS Pipe	4"	1'-2 3/8"		4 1/2"
06	2	Weldbend XH SA234 WPB CS BW LR 90 Deg Ell	4"			4 1/2"
07	1	Weldbend XH SA234 WPB CS BW 45 Deg Ell	4"			4 1/2"
08	4	Weldbend 300lb RF XH Bore SA105 CS WN FLG	4"			4 1/2"
09	1	Nibco F-968-B Swing Check	4"			4 1/2"
10	1	Nibco F-617-O Gate Valve	4"			4 1/2"
11	3	Generic 300# RF Gasket 304SS FG CS Style CG 3/32	4"			4 1/2"
12	3	300 # Bolt Set	4"			4 1/2"



ISOMETRIC6

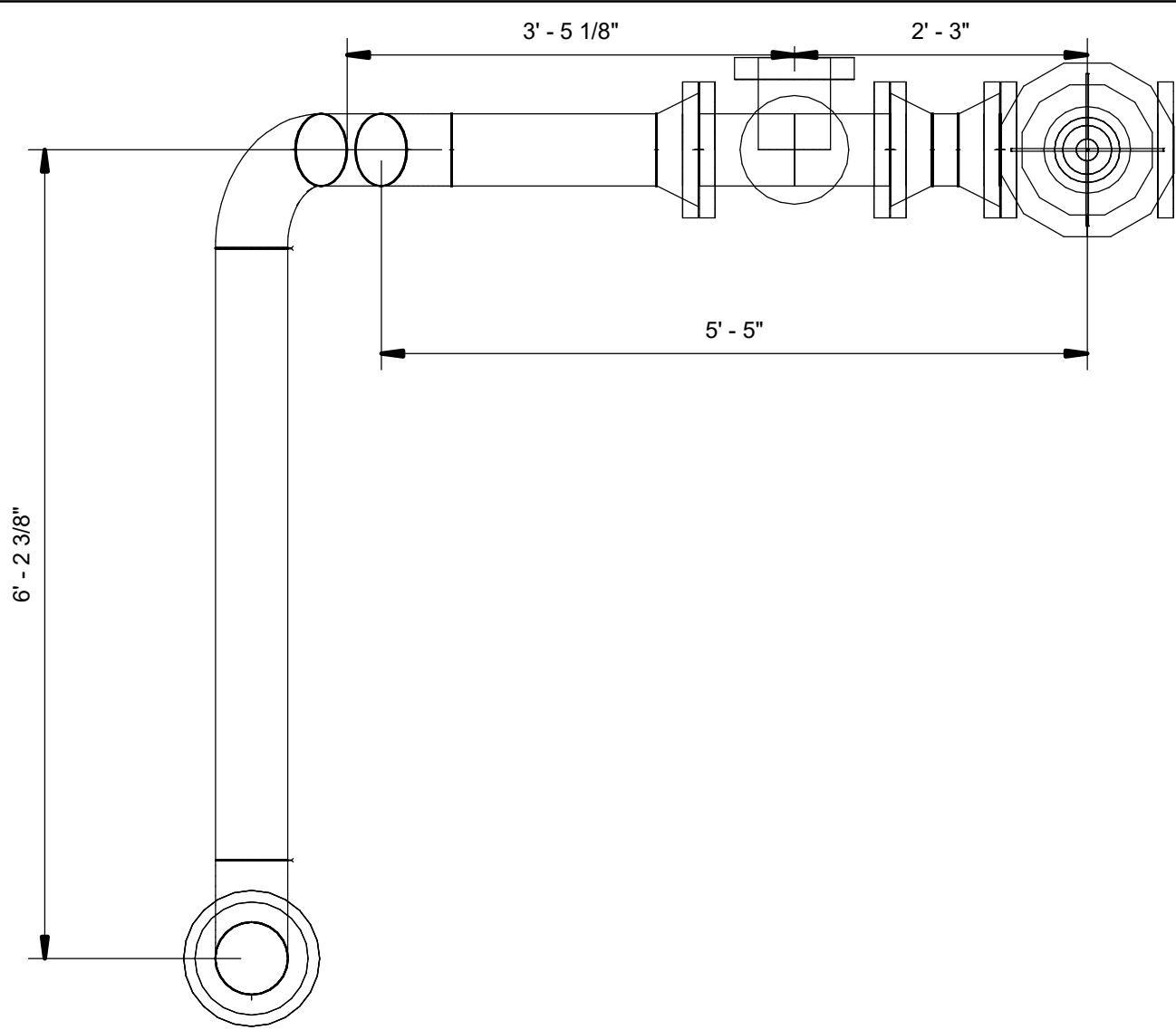
A1	A3	B1	B3
A2	A4	B2	B4

JOB: WASH U NRB
TICKET: CRU-03-LPC
Drawn By: Author
DATE: 07/28/21
DATE REQ:

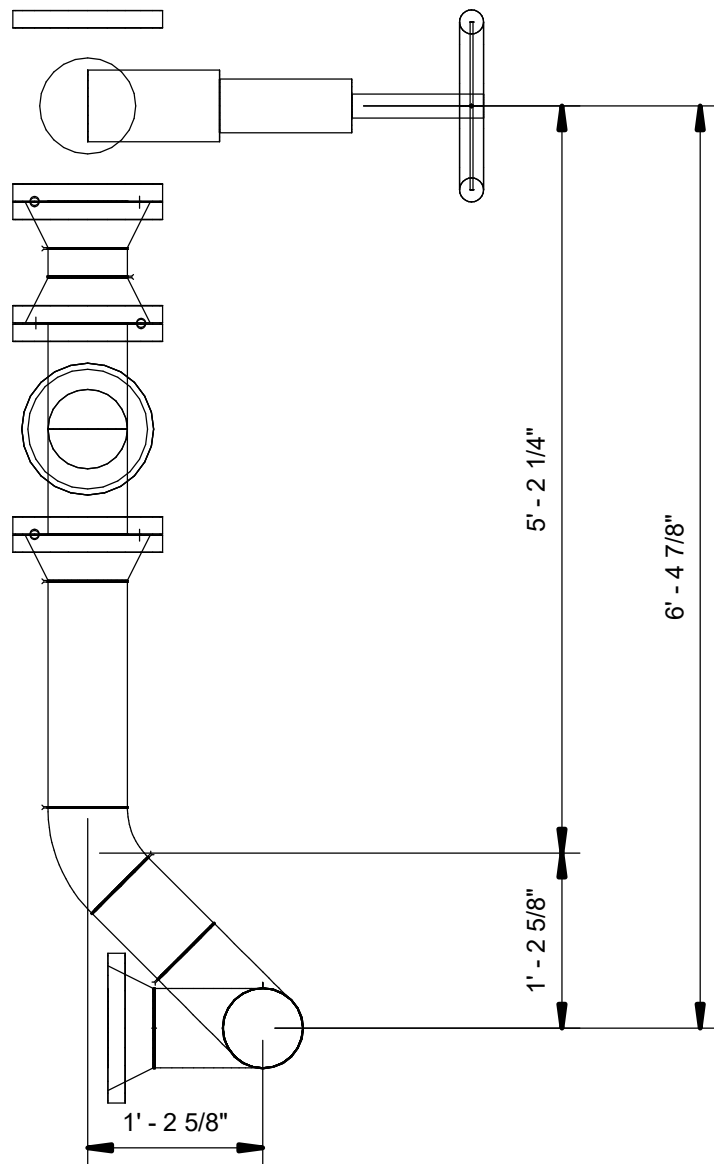


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8/9/2021 12:18:21 PM

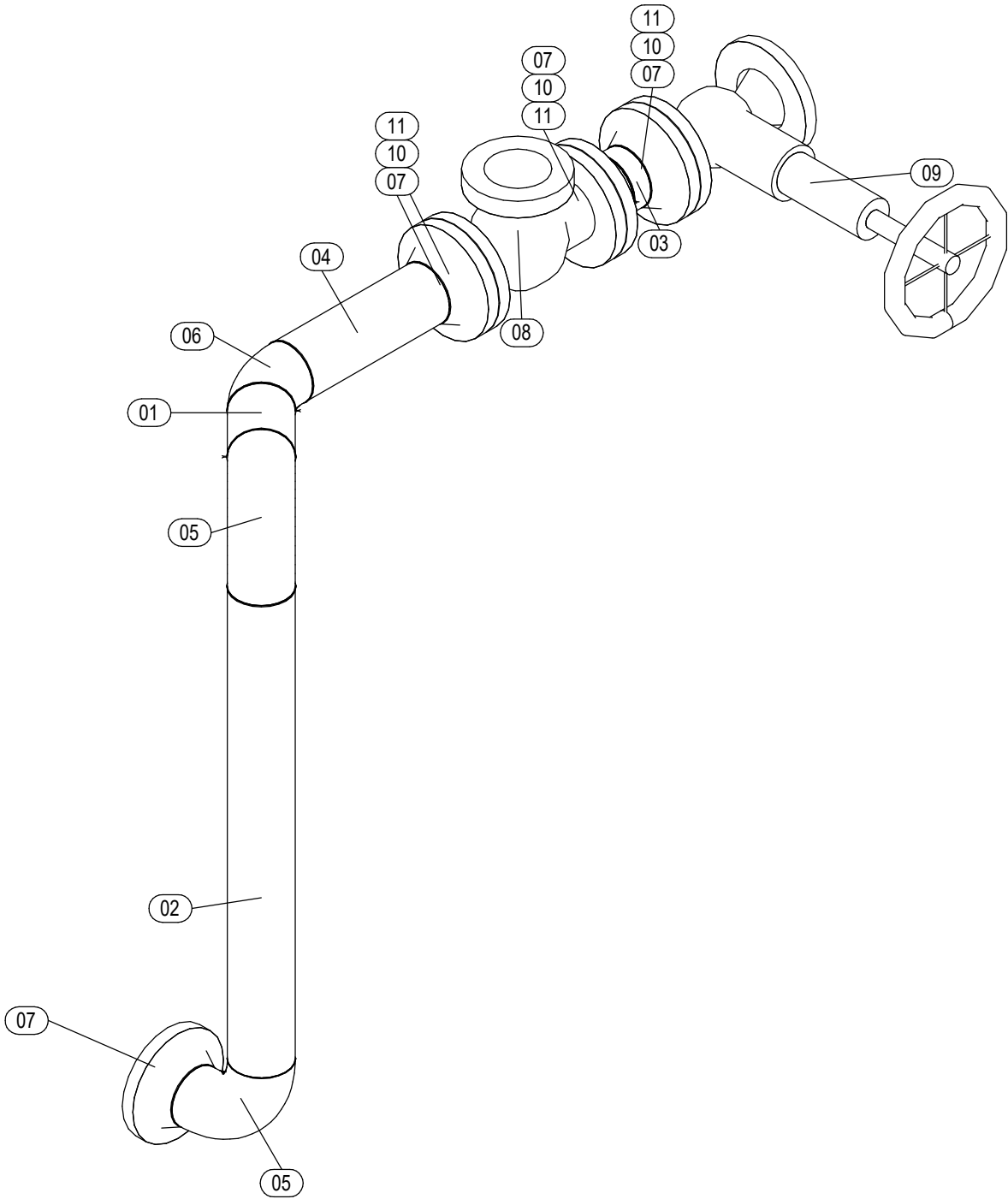


RIGHT ELEVATION7
3/4" = 1'-0"



TOP VIEW7
3/4" = 1'-0"

Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area XH SA-53B CS SMLS Pipe	6"	0'-7 5/8"	BVL X BVL	4 1/2"
02	1	Chicago Area XH SA-53B CS SMLS Pipe	6"	4'-8 1/4"	BVL X BVL	4 1/2"
03	1	Chicago Area XH SA-53B CS SMLS Pipe	6"	0'-2 1/4"	BVL X BVL	4 1/2"
04	1	Chicago Area XH SA-53B CS SMLS Pipe	6"	1'-6 11/16"	BVL X BVL	4 1/2"
05	2	Weldbend XH SA234 WPB CS BW LR 90 Deg Ell	6"			4 1/2"
06	1	Weldbend XH SA234 WPB CS BW 45 Deg Ell	6"			4 1/2"
07	4	Weldbend 300lb RF XH Bore SA105 CS WN FLG	6"			4 1/2"
08	1	Nibco F-968-B Swing Check	6"			4 1/2"
09	1	Nibco F-617-O Gate Valve	6"			4 1/2"
10	3	Generic 300# RF Gasket 304SS FG CS Style CG 3/32	6"			4 1/2"
11	3	300 # Bolt Set	6"			4 1/2"



ISOMETRIC7

A1	A3	B1	B3
A2	A4	B2	B4

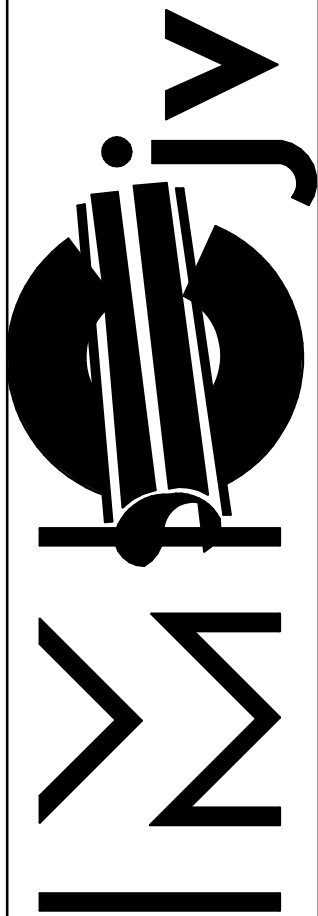
JOB: WASH U NRB

TICKET: CRU-03-MPC

Drawn By: Author

DATE: 07/28/21

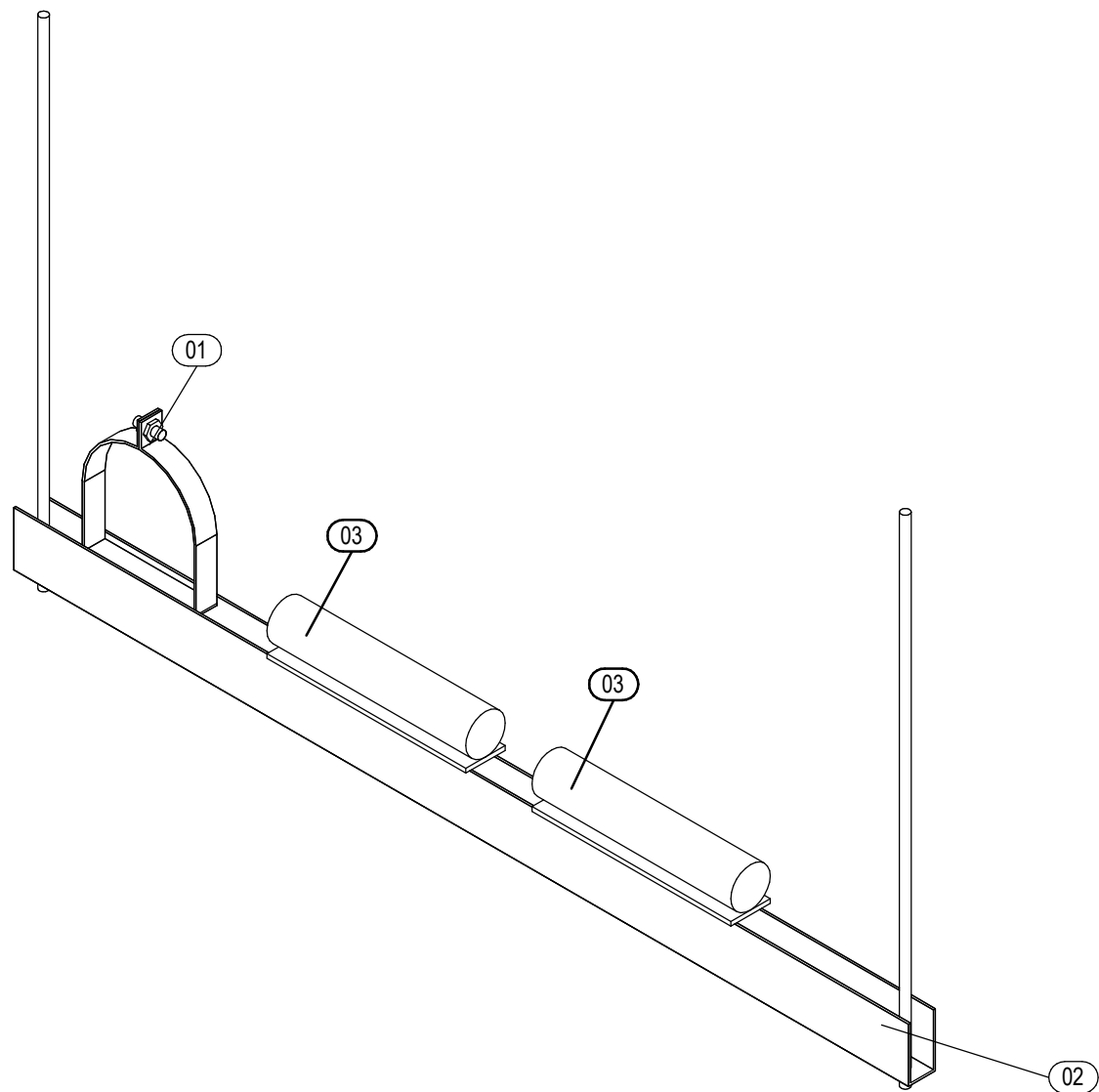
DATE REQ:



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BIM 360://WUSM NRBWUSM_RB_HPF.rvt
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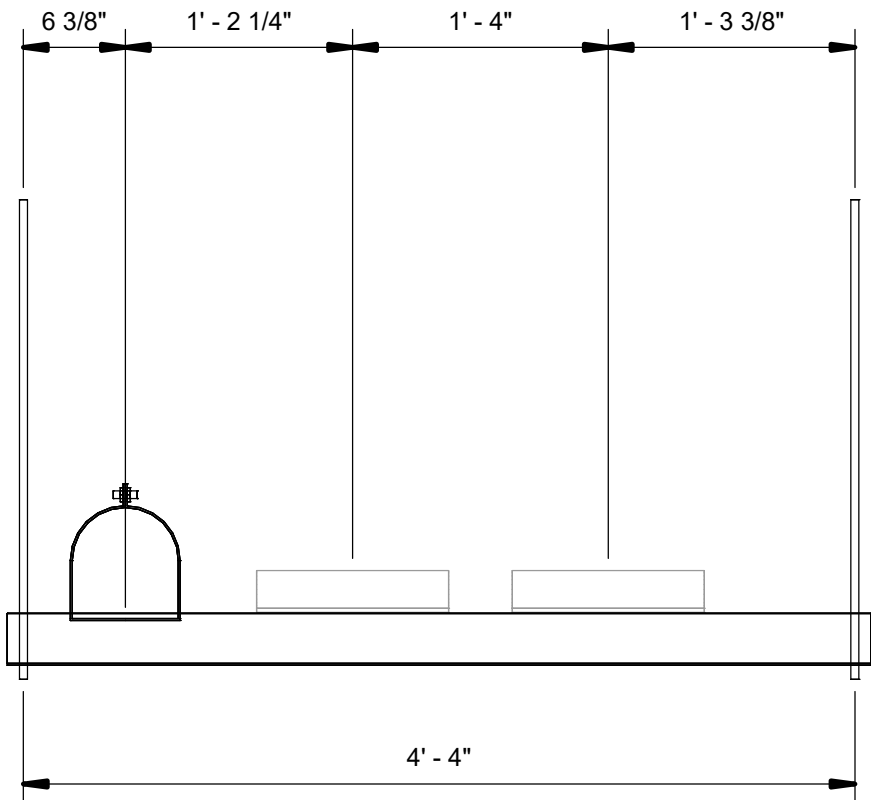
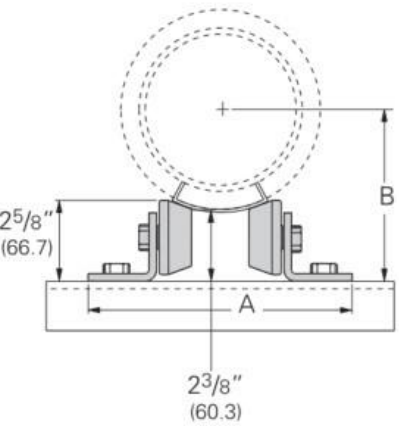
Mark	Qty	Description	Size	Strut Width	Rod 1	Rod 2
01	1	B-Line B2000 ZN Sch 40 Pipe Clamp	6"			
02	1	B-Line 1-5/8 GRN 12GA Bk/Bk 2in Slotted Unistrut	50"	4' - 6"	2' - 6"	2' - 6"
03	2	B218 Roller	N/A	12"		



ISOMETRIC

- GENERAL NOTES**
- NOTE THAT FIG 165 ANVIL PIPE SADDLES ARE TO BE USED WITH THE B218 ROLLERS.
 - "A" DIMENSION IS SHOWN AS STRUT LENGTH ON BOM
 - NOTE THAT THE "SIZE" COLUMN IS INCORRECT FOR ALL UNISTRUT PIECES AND SHOULD BE IGNORED.
 - NOTE THAT THE "STRUT WIDTH" COLUMN IS THE END TO END DIMENSION OF THE STRUT PIECE.

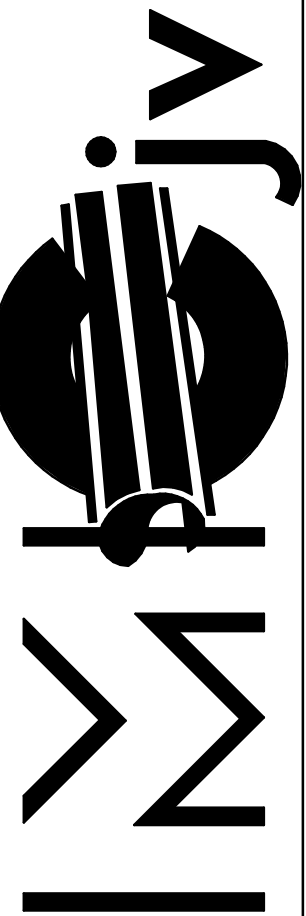
**B218
Pipe Rollers - 1/2" (15) to 8" (200) Pipe**



FRONT ELEVATION
1" = 1'-0"

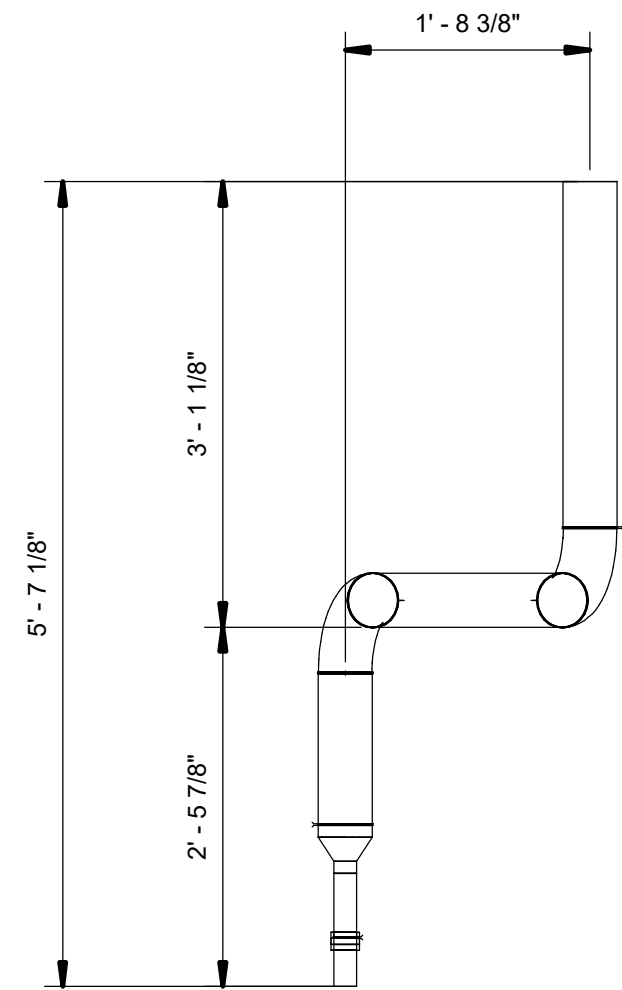
A1	A3	B1	B3
A2	A4	B2	B4

JOB:	WASH U NRB
TICKET:	CRU-03-Strut
Drawn By: Author	
DATE: 07/29/21	DATE REQ:

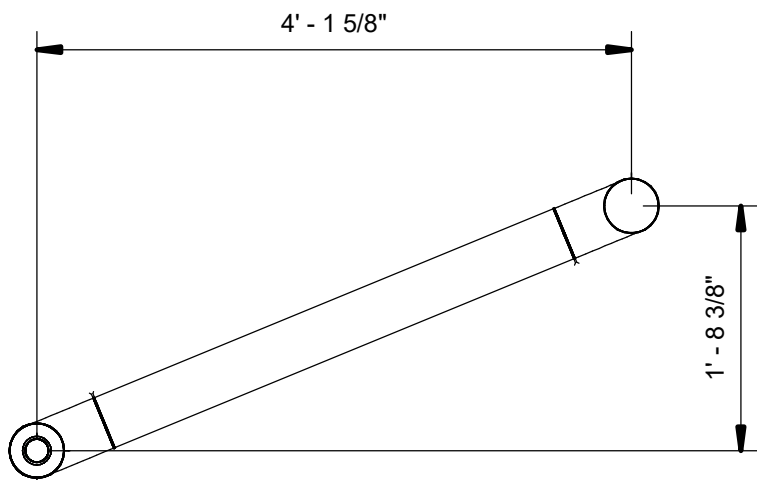


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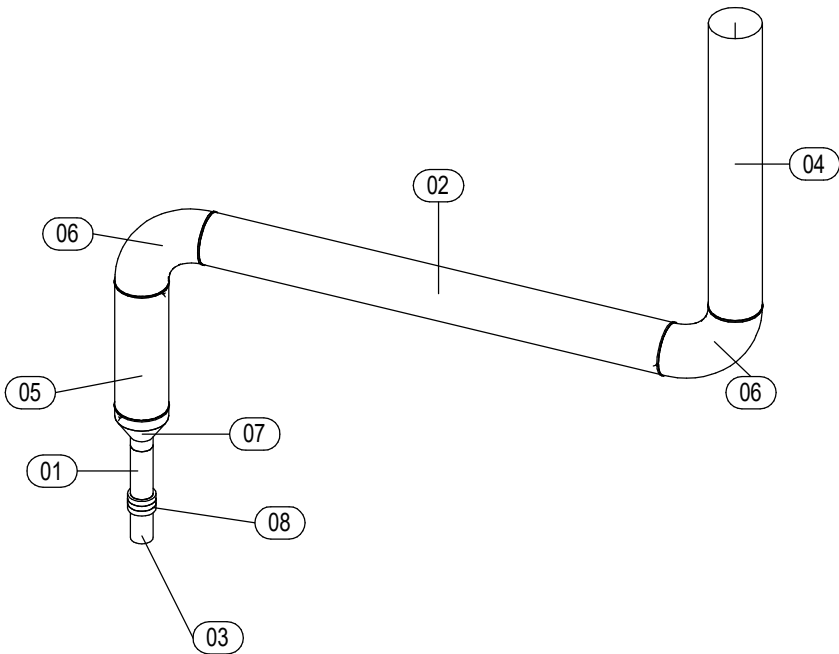


RIGHT ELEVATION8
3/4" = 1'-0"



TOP VIEW8
3/4" = 1'-0"

Mark	Qty	Description	Size	Length	Insulation
01	1	Chicago Area Sch 80 A106B CS SMLS Pipe	1 1/2"	0'-5 5/16"	1"
02	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	3'-5 3/8"	1"
03	1	Anvil Std SA-53B CS Smls Pipe NIP x 3	1 1/2"	0'-3"	1"
04	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	2'-4 13/16"	1"
05	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	1'-0 1/2"	1"
06	2	Weldbend Std Wt SA234 WPB CS BW LR 90 Deg Ell	4"		1"
07	1	Weldbend Std Wt SA234 WPB CS BW CONC RED	4"x1 1/2"		1"
08	1	Anvil 3M FS SW Cplg	1 1/2"		1"



ISOMETRIC8

A1	A3	B1	B3
A2	A4	B2	B4

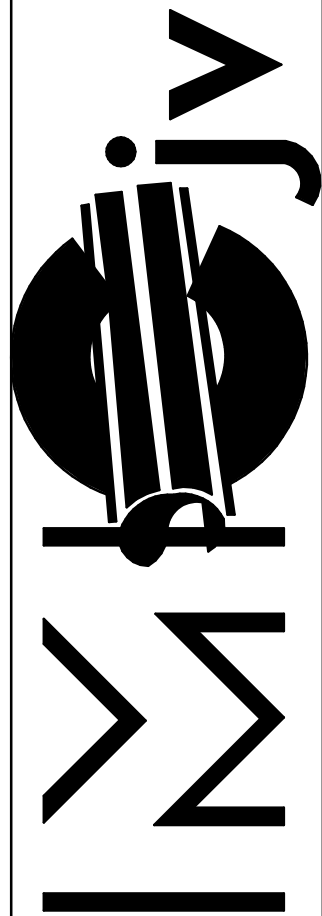
JOB: WASH U NRB

TICKET: CRU-03-V05

Drawn By: Author

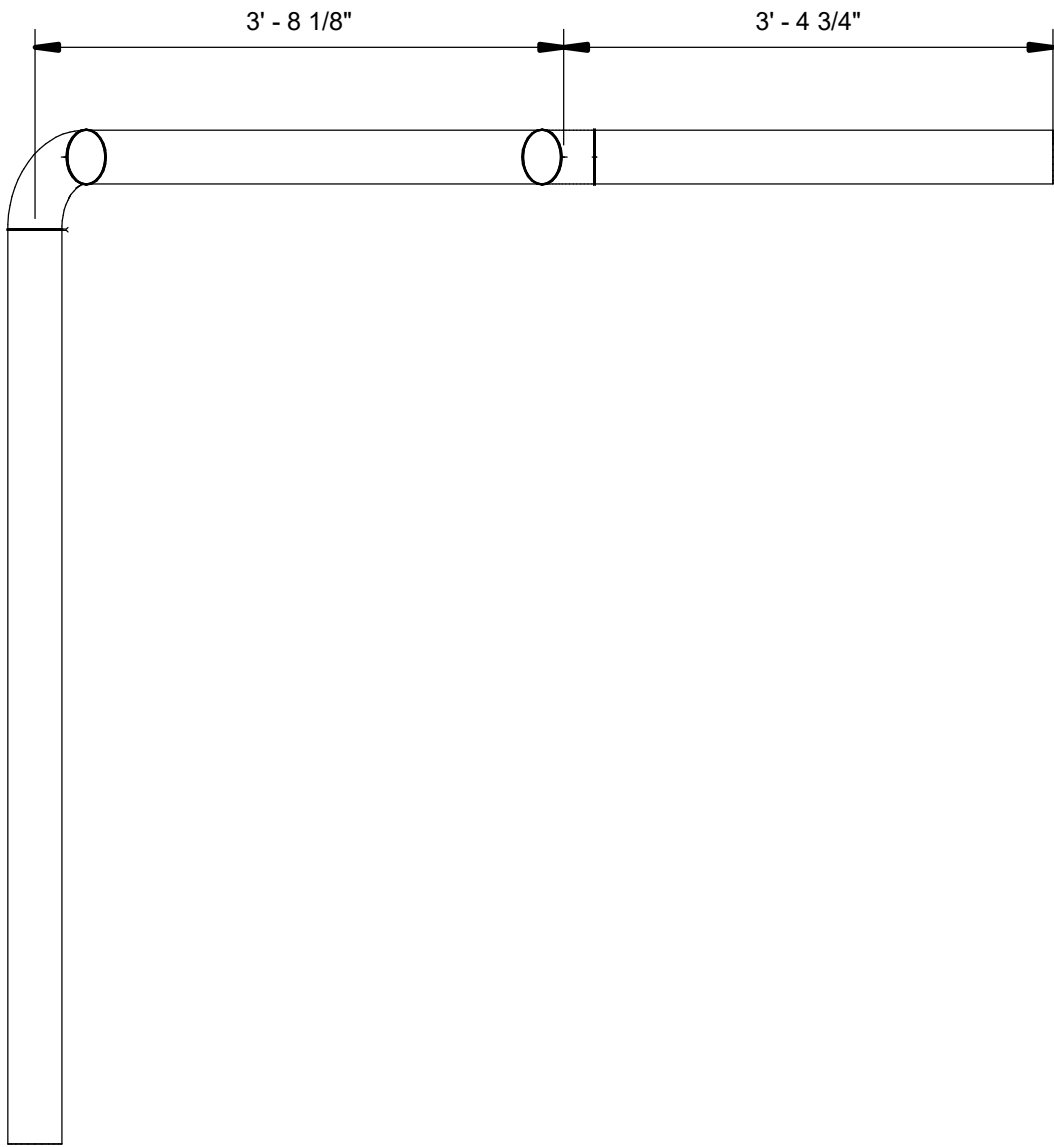
DATE: 07/28/21

DATE REQ:

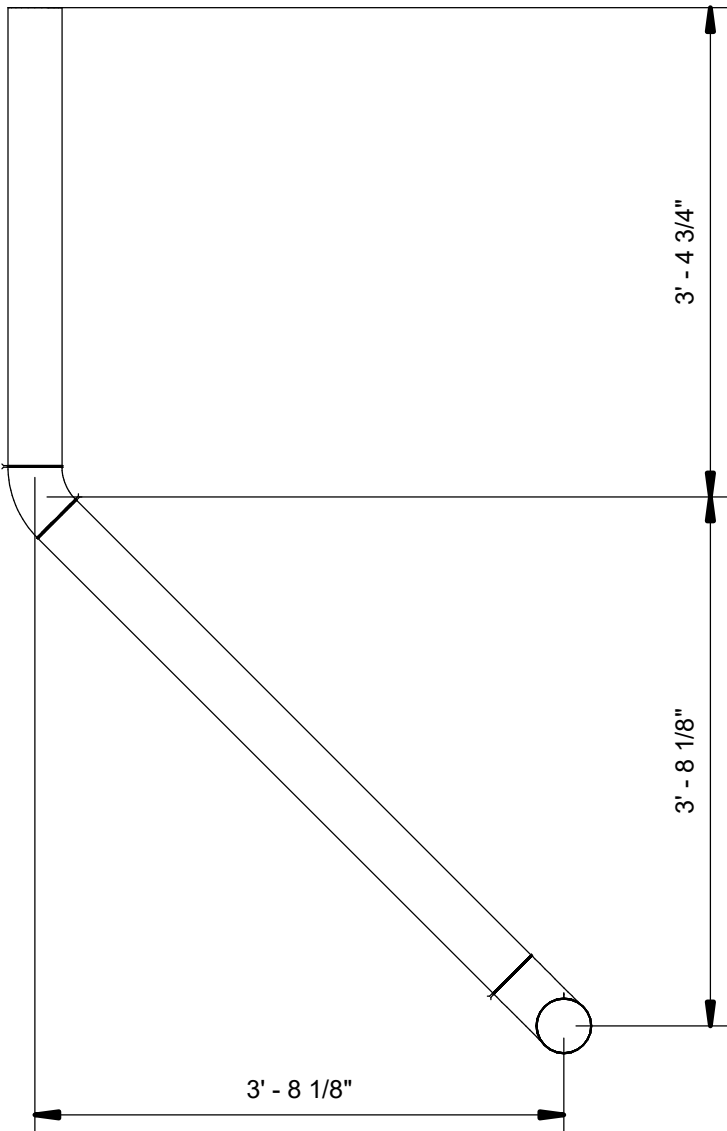


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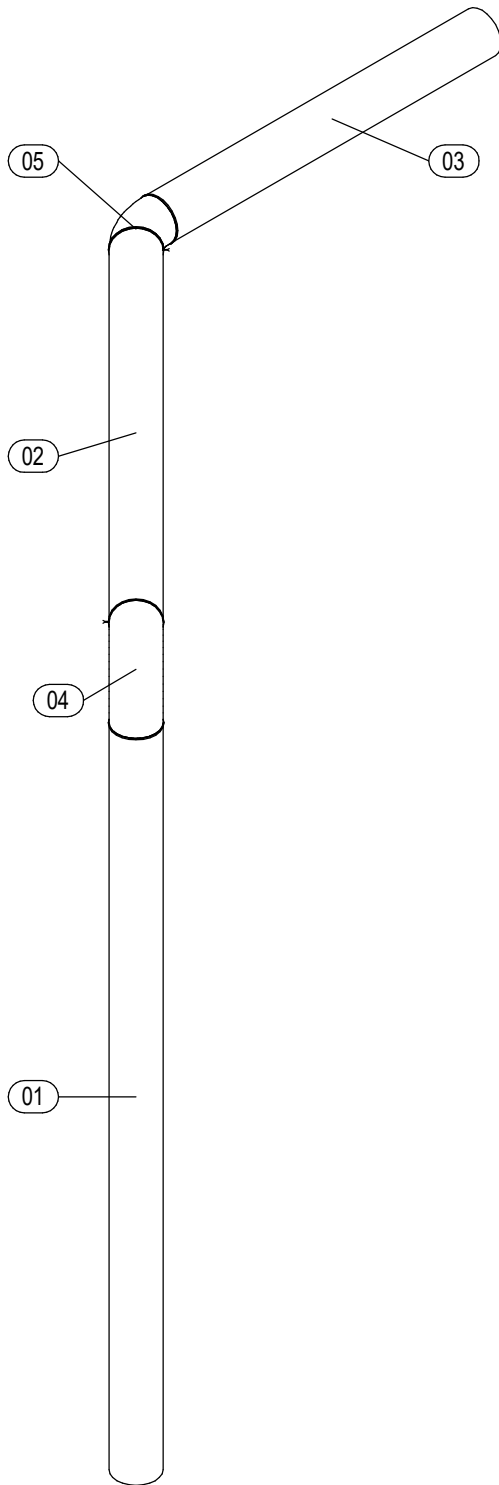


RIGHT ELEVATION9
3/4" = 1'-0"



TOP VIEW9
3/4" = 1'-0"

Mark	Qty	Description	Size	Length	End Prep	Insulation
01	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	6'-4 3/16"	BVL X BVL	1"
02	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	4'-5 5/8"	BVL X BVL	1"
03	1	Chicago Area Sch 40 SA-53B CS Smls Pipe PE	4"	3'-2 3/16"	BVL X BVL	1"
04	1	Weldbend Std Wt SA234 WPB CS BW LR 90 Deg Ell	4"			1"
05	1	Weldbend Std Wt SA234 WPB CS BW 45 Deg Ell	4"			1"



ISOMETRIC9

A1	A3	B1	B3
A2	A4	B2	B4

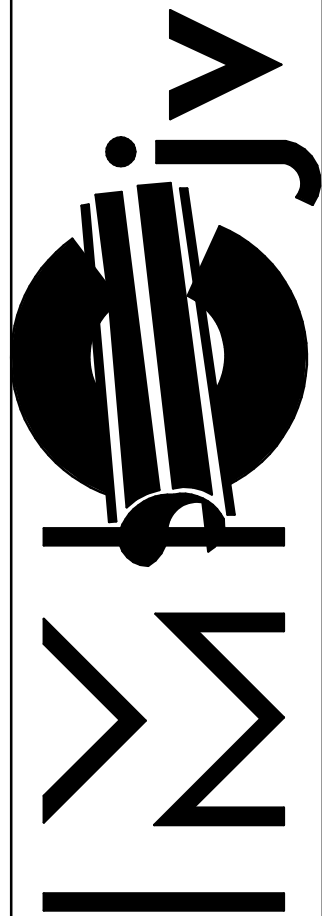
JOB: WASH U NRB

TICKET: CRU-03-V06

Drawn By: Author

DATE: 07/28/21

DATE REQ:



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