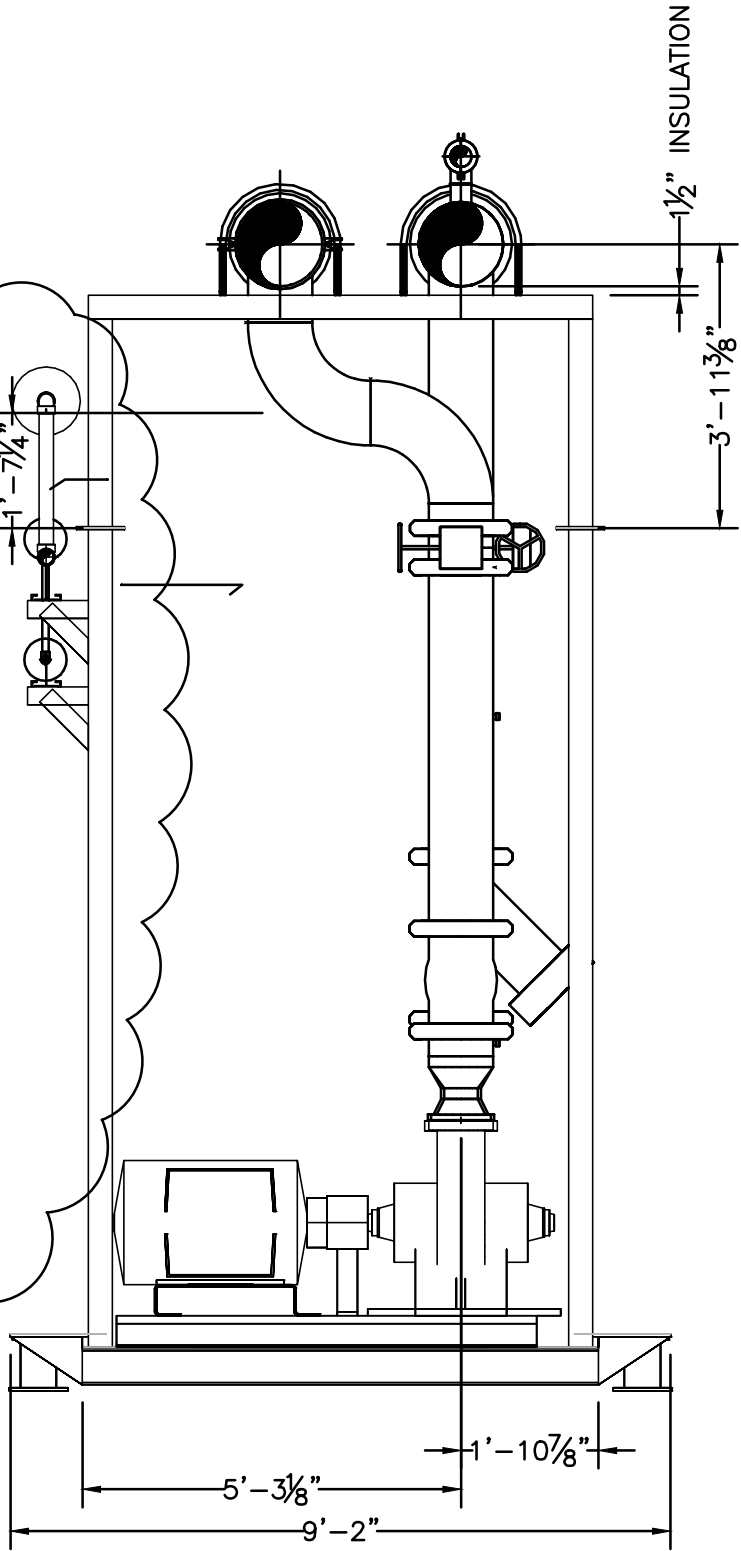
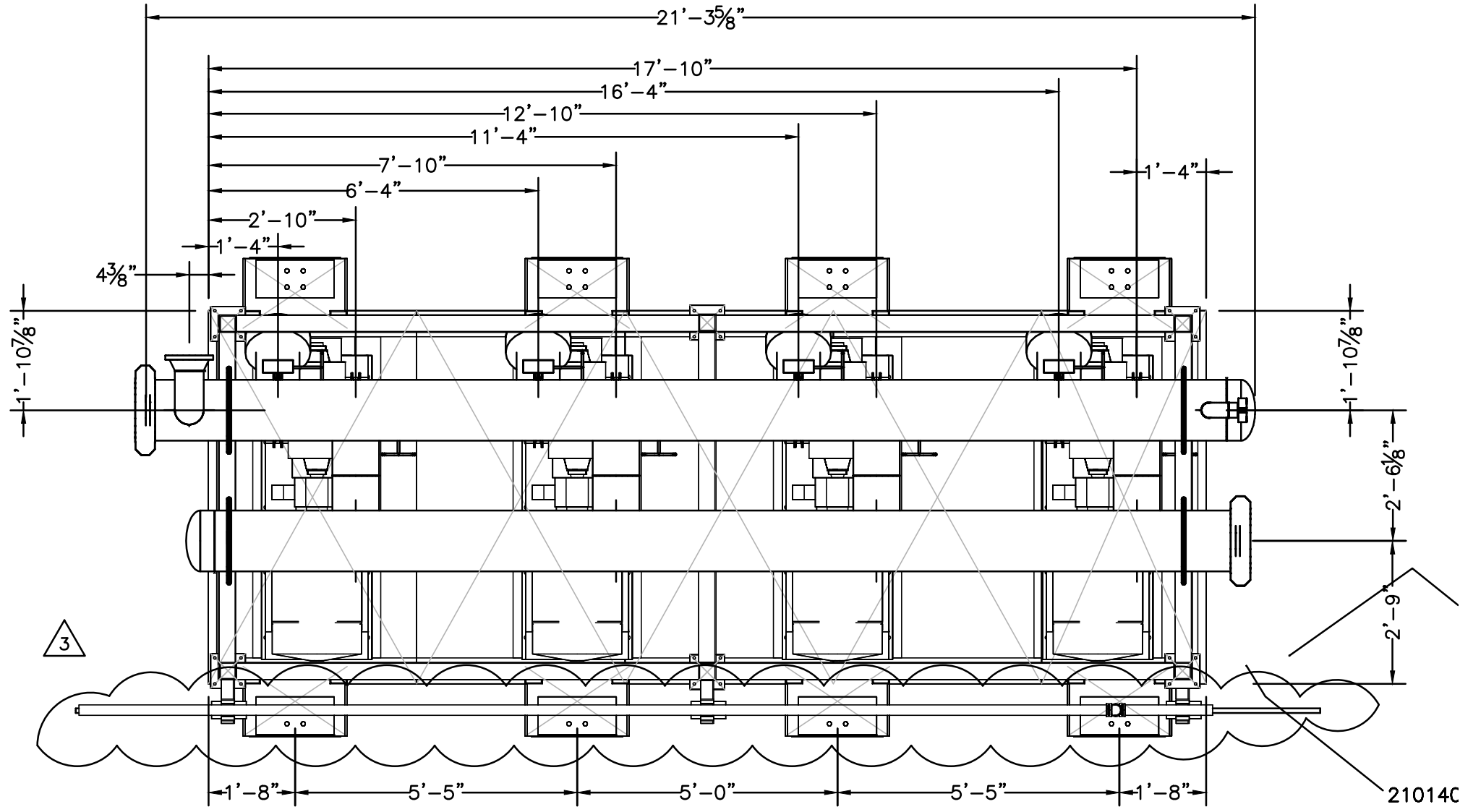
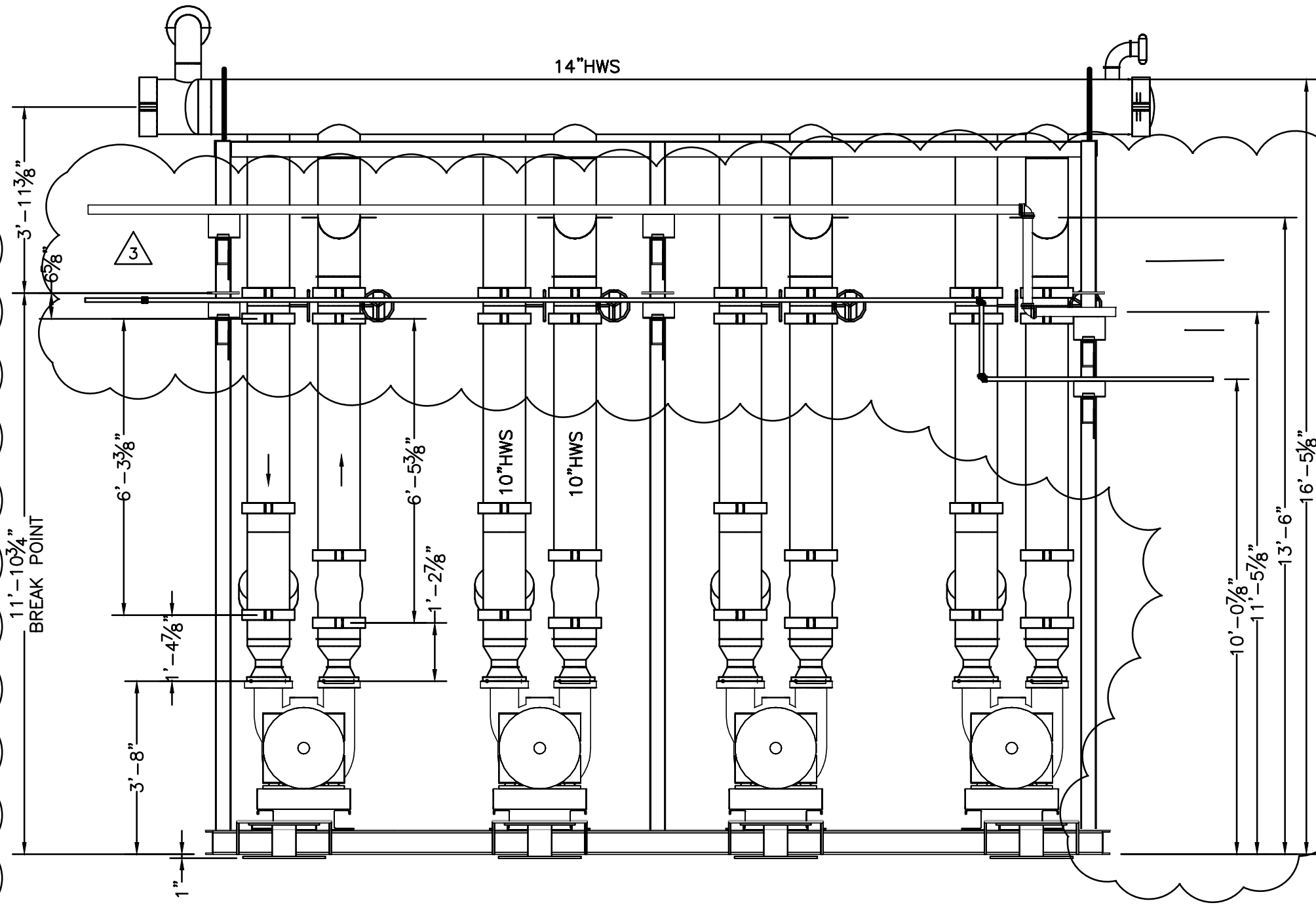
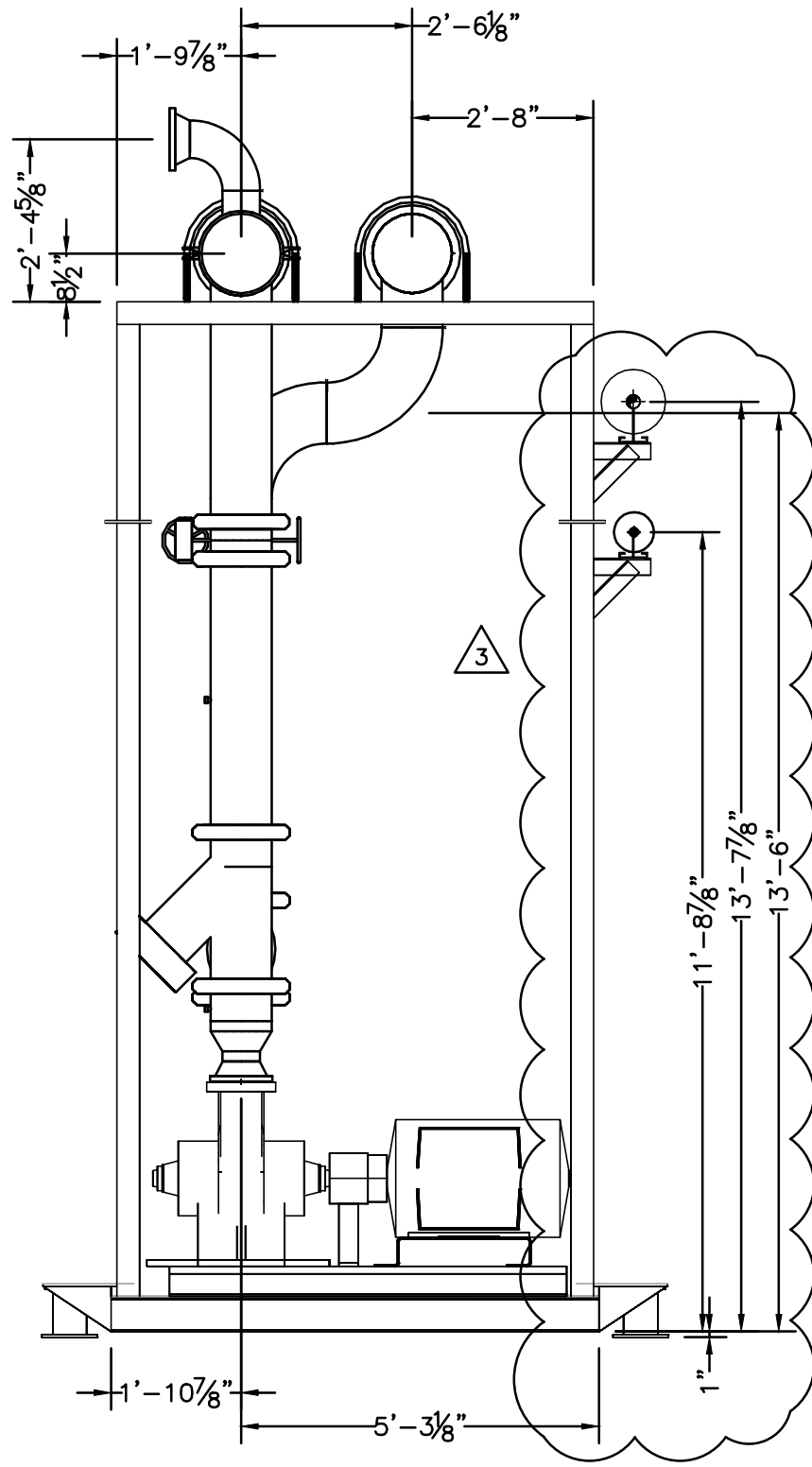


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03/04/2021 7:45pm
jmurphy

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WUSM RESEARCH BUILDING

NRB

HEATING HOT WATER PUMP SKID

HHWS

12/2/2020

210140

REF.DWG.

DRN JMM

CHK

APP

JOB NO.

REF.DWG.

QTY.

1

SHT/NO

1 of 4

REV

3

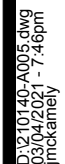
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210140-A005

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SPOOL WEIGHT	SPECIAL NDE	VT	PWHT	
WELD GAP	ASME	X-RAY	HYDRO TEST	
SPEC.	NA	NA	NA	
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REV	DATE	DESCRIPTION	DRN	CHK
3				

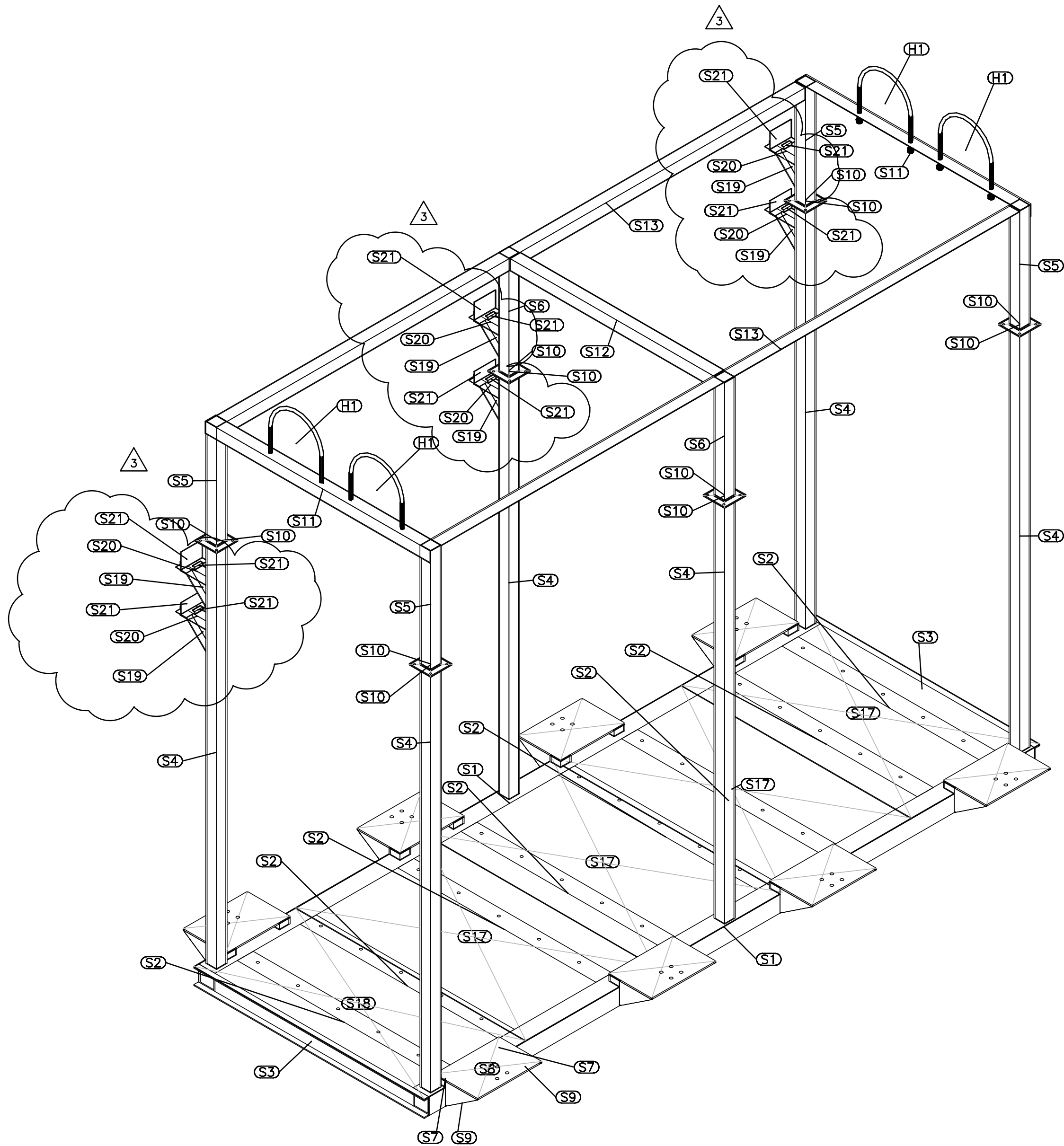
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03/04/2021 7:46pm
jmurphy

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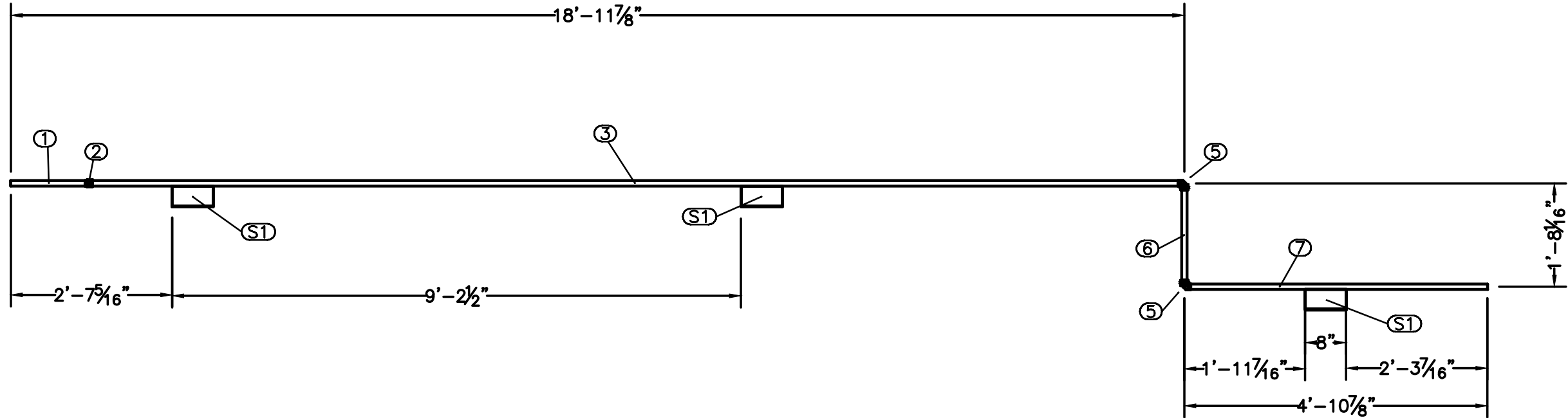
BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
H1	Fig137	Fig.137 U-Bolt (4)-Nut Black	4	18	
S1	CS SQ Tube	ASTM A36 CS Square Tube	2	SQ6x6x1/2	226"
S2	CS SQ Tube	ASTM A36 CS Square Tube	8	SQ6x6x1/2	74"
S3	C6x8.2	ASTM A36 CS C-Channel	2	C6x8.2	86"
S4	CS SQ Tube	ASTM A36 CS Square Tube	6	SQ4x4x1/4	136 1/2"
S5	CS SQ Tube	ASTM A36 CS Square Tube	4	SQ4x4x1/4	38 1/4"
S6	CS SQ Tube	ASTM A36 CS Square Tube	2	SQ4x4x1/4	38"
S7	CS SQ Tube	ASTM A36 CS Square Tube	2	SQ4x4x1/4	2"
S8		ASTM A36 CS Plate 1/2" Thick	1	24x16x1/2	
S9		ASTM A36 CS Plate 1/2" Thick	2	8x12x1/2	
S10		ASTM A36 CS Plate 1/4" Thick	12	8x8x1/4	
S11	L4x4x1/4	ASTM A36 CS Equal Angle	2	L4x4x1/4	84"
S12	L4x4x1/4	ASTM A36 CS Equal Angle	1	L4x4x1/4	76"
S13	L4x4x1/4	ASTM A36 CS Equal Angle	2	L4x4x1/4	216"
S17		ASTM A36 CS Plate 1/4" Thick	4	48x86x1/4	
S18		ASTM A36 CS Plate 1/4" Thick	1	37 7/8x86x1/4	

BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
S19	L3x3x1/4	ASTM A36 CS Equal Angle	6	L3x3x1/4	11 7/16"
S20	L3x3x1/4	ASTM A36 CS Equal Angle	6	L3x3x1/4	10"
S21	L1x1x1/4	ASTM A36 CS Equal Angle	11	L1x1x1/4	3"

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DRN JMM		12/2/2020		WUSM RESEARCH BUILDING										REV	
CHK				NRB										SHT/NO	
APP				HEATING HOT WATER PUMP SKID										4 of 4	
JOB NO.		210140		HHWS										1	
REF.DWG.				SERVICE NAME										QTY.	
DRAWING NO./TRACKING NO.		210140-A005												3	
DUE DATE		QC		TACK		CUT		WELD INCHES		WELD MAP		SHIP LOOSE MATERIAL		COMMENTS	
SPOOL WEIGHT		SPECIAL NDE		VT		COMPLETION DATE		PWH		NA		MURPHY WPS#			
WELD GAP		X-RAY		HYDRO TEST		NA		NA		NA		NA		NA	
SPEC.		ASME		NA		NA		NA		NA		NA		NA	
REV		3/4/21		ADDED CONDESATE		DATE		REV		3		REV		3	
DRN		CHK		APP		DESCRIPTION		DRN		CHK		APP			



Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	1	3M FS SW Cplg					3/4
5	2	3M A105 FS SW 90 Deg Ell					3/4
1	1	Sch 80 A106B CS SMLS Pipe	SW	SW	1'-2 13/16"	14.828	3/4
3	1	Sch 80 A106B CS SMLS Pipe	SW	SW	17'-7 9/16"	211.563	3/4
6	1	Sch 80 A106B CS SMLS Pipe	SW	SW	1'-6 5/16"	18.343	3/4
7	1	Sch 80 A106B CS SMLS Pipe	SW	SW	4'-10"	58.000	3/4

BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
S1	WT4x5		3		8"

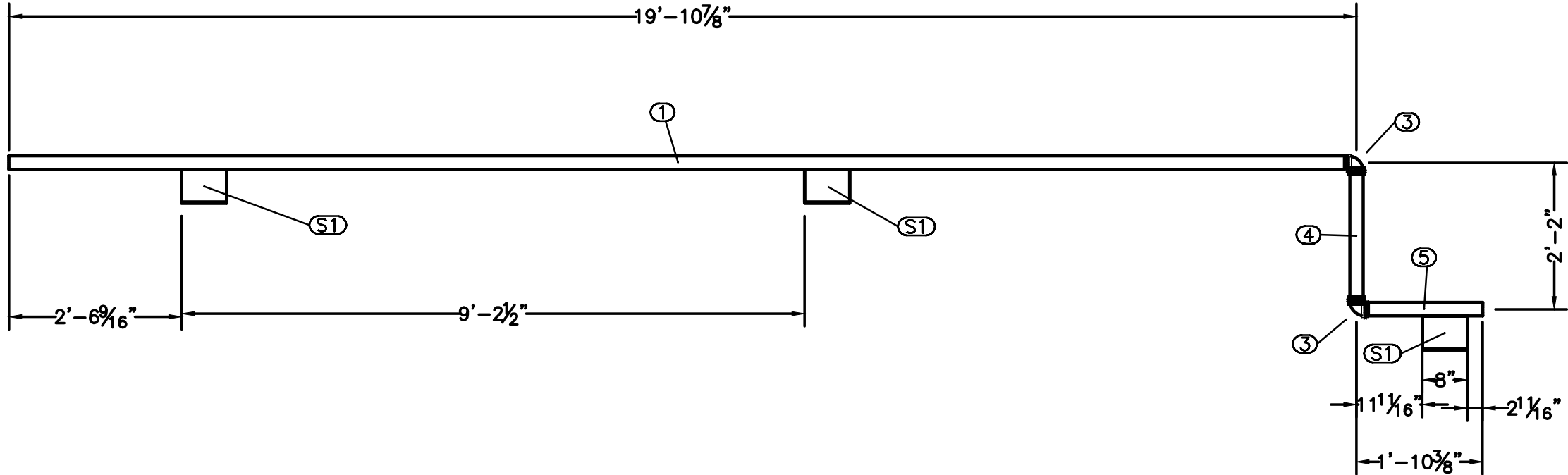
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<input type="checkbox"/> FLANGE WEIGHT/ORIENTATION <input type="checkbox"/> FITTING ORIENTATION <input type="checkbox"/> BOLTS/CPLG'S/TH'D TIGHT <input type="checkbox"/> SPOOL IDENTIFICATION	QA/QC ACCEPT	SPEC. NA	ASME	X-RAY	HYDRO TEST	COMMENTS		
			NA	NA	NA			
			NA	NA	NA			
			NA	NA	NA			
0	REV	DATE	DESCRIPTION			MURPHY WPS#		
						DRN	CHK	APP

DRN JMM	3/4/2021	WUSM RESEARCH BUILDING			
CHK		NRB			
APP		SERVICE NAME			
JOB NO.	210140	QTY.	1	SHT/NO	1 OF 1
REF.DWG.		REV	0		
DRAWING NO./TRACKING NO.		210140-A005-008			



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	2	3M A105 FS SW 90 Deg Ell					2
1	1	Sch 80 A106B CS SMLS Pipe	SW	SW	19'-9 1/4"	237.270	2
4	1	Sch 80 A106B CS SMLS Pipe	SW	SW	1'-10 3/4"	22.750	2
5	1	Sch 80 A106B CS SMLS Pipe	SW	SW	1'-8 3/4"	20.750	2

BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
S1	WT6x7		3		8"

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FLANGE WEIGHT/ORIENTATION			
FITTING ORIENTATION			
BOLTS/CPLG'S/TH'D TIGHT			
SPOOL IDENTIFICATION			
QA/QC ACCEPT		COMMENTS	
SPEC.	ASME	HYDRO TEST	PWHT
NA	NA	NA	NA
0			
REV	DATE	DESCRIPTION	MURPHY WPS#
		DRN	CHK
			APP

DRN JMM	3/4/2021	WUSM RESEARCH BUILDING			
CHK		NRB			
APP		SERVICE NAME			
JOB NO.	210140	QTY.	1	SHT/NO	1 OF 1
REF.DWG.		REV	0		
DRAWING NO./TRACKING NO.					
210140-A005-007					