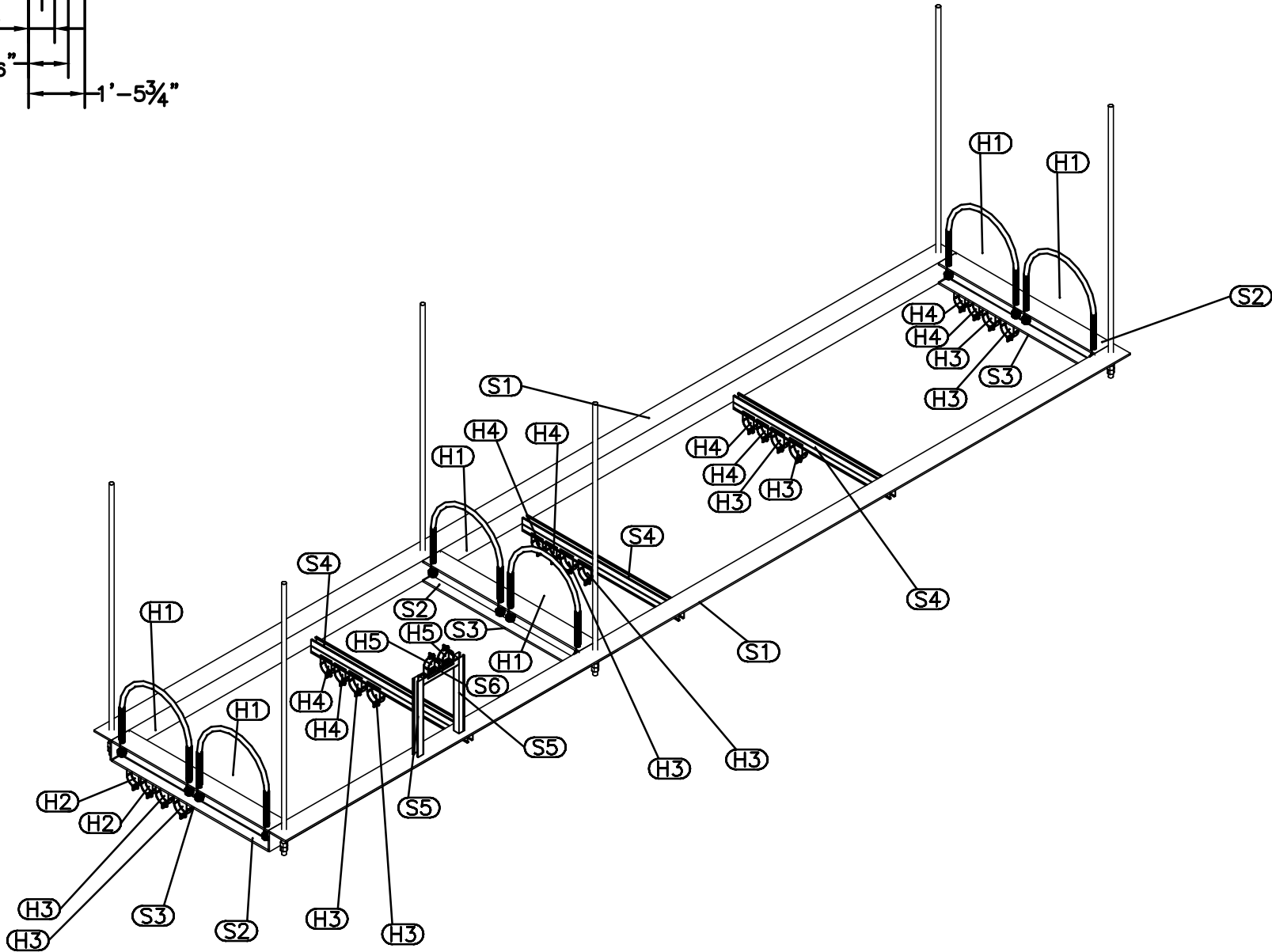
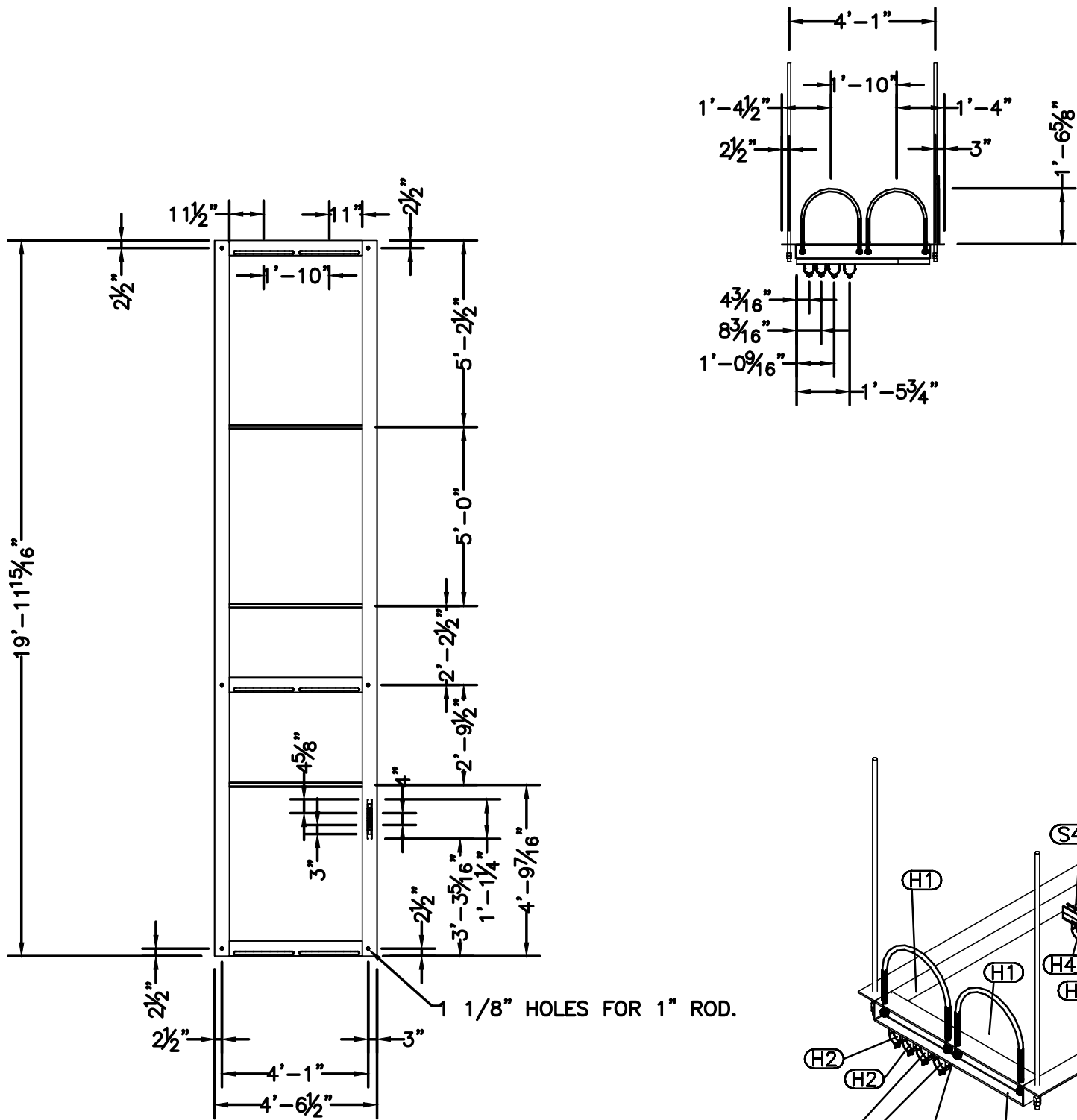


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		BOLTS/CPLG'S/TH'D TIGHT		<input type="checkbox"/>	
		SPOOL IDENTIFICATION		<input type="checkbox"/>	
SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS
NA	NA	NA	NA	NA	MURPHY WPS#
0	REV	DATE	DESCRIPTION		
			DRN	CHK	APP

DRN	JMM	3/12/2021	WUSM RESEARCH BUILDING		
CHK			NRB		
APP			SERVICE NAME		
JOB NO.	210140		REF.DWG.		
DRAWING NO./TRACKING NO.			QTY.	SHT/NO	REV
210140-A-UPL1-5			1	1 OF 2	0

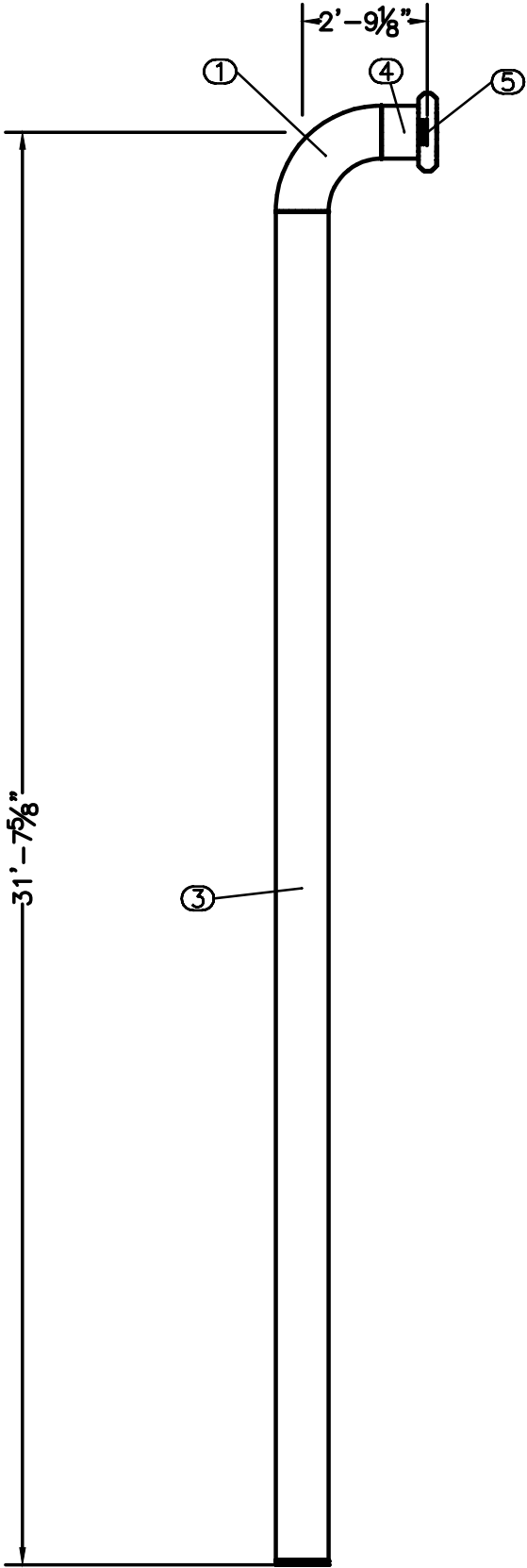


BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
H1	Fig137	Fig.137 U-Bolt (4)-Nut Black	6	18	
H2	723112	Klo-Shure Strut Clamp 1in Insul Cplg - Armaflex	2	1	
H3	723137	Klo-Shure Strut Clamp 1in Insul Cplg - Armaflex	10	1-1/4	
H4	723087	Klo-Shure Strut Clamp 1in Insul Cplg - Armaflex	8	3/4	
H5	928112	Klo-Shure Strut Clamp 1in Insul Cplg - Fiberglass_CTS	2	1	
S1	L5x5x3/8	ASTM A36 CS Equal Angle	2	L5x5x3/8	240°
S2	W5x19	ASTM A36 CS Wide Flange	3	W5x19	44 1/2°
S3	B22 GRN	1-5/8 GRN 12GA 2in Slotted Unistrut	3	1-5/8x1-5/8	34°
S4	B22A GRN	1FT GALV 12GA BACK/BACK CHANNEL	3	1-5/8x1-5/8	44 1/2°
S5	B22 GRN	1-5/8 GRN 12GA 2in Slotted Unistrut	2	1-5/8x1-5/8	18 1/2°
S6	B22 GRN	1-5/8 GRN 12GA 2in Slotted Unistrut	1	1-5/8x1-5/8	10°

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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		WUSM RESEARCH BUILDING		NRB	
	SPEC.	ASME	X-RAY	HYDRO TEST	PMHT	COMMENTS
	NA	NA	NA	NA	NA	MURPHY WPS#
	0	REV	DATE	DESCRIPTION	DRN	CHK
JOB NO. 210140			SERVICE NAME		REF.DWG.	
DRAWING NO./TRACKING NO. 210140-A-UPL1-5			QTY. 1	SHT/NO 2 OF 2	REV 0	



Murphy—PFFS—SPOOL—BOM						
Mark	Qty	Description	End 1	End 2	Lft	Size
5	1	Style W07 Rigid Coupling				14
1	1	Std Wt SA234 WPB CS BW LR 90 Deg El				14
3	1	Std Wt SA-53B CS ERW Pipe PE	Grooved End	BEV	29'-10 1/2"	14 358.500
4	1	Std Wt SA-53B CS ERW Pipe PE	BEV	Grooved End	1'-0"	12.000 14

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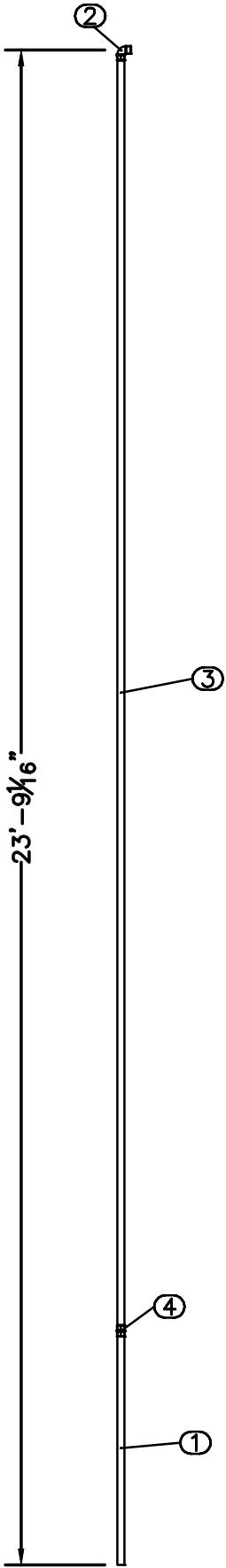
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<input type="checkbox"/>	FLANGE WEIGHT/ORIENTATION
<input type="checkbox"/>	FITTING ORIENTATION
<input type="checkbox"/>	BOLTS/CPLG'S/TH'D TIGHT
<input type="checkbox"/>	SPOOL IDENTIFICATION

QA/QC ACCEPT			
SPEC.	ASME	X-RAY	HYDRO TEST
NA	NA	NA	NA
0			
REV	DATE	DESCRIPTION	DRN
			CHK
			APP

DRN JMM	3/22/2021	WUSM RESEARCH BUILDING			
CHK		NRB			
APP					
JOB NO.	210140	SERVICE NAME			
REF.DWG.		UPL1-5 RACK			
DRAWING NO./TRACKING NO.	210140-A-UPL1-5-01	QTY.	1	SHT/NO	1 of 1
				REV	0



Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
5	2	Solder Joint					1-1/4
4	1	Wrot 600 Dimpled Stop Coupling CxC					1-1/4
2	1	Wrot 607 90 Deg Ell CxC					1-1/4
1	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	3'-8"	43.976	1-1/4
3	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	20'-0"	240.000	1-1/4

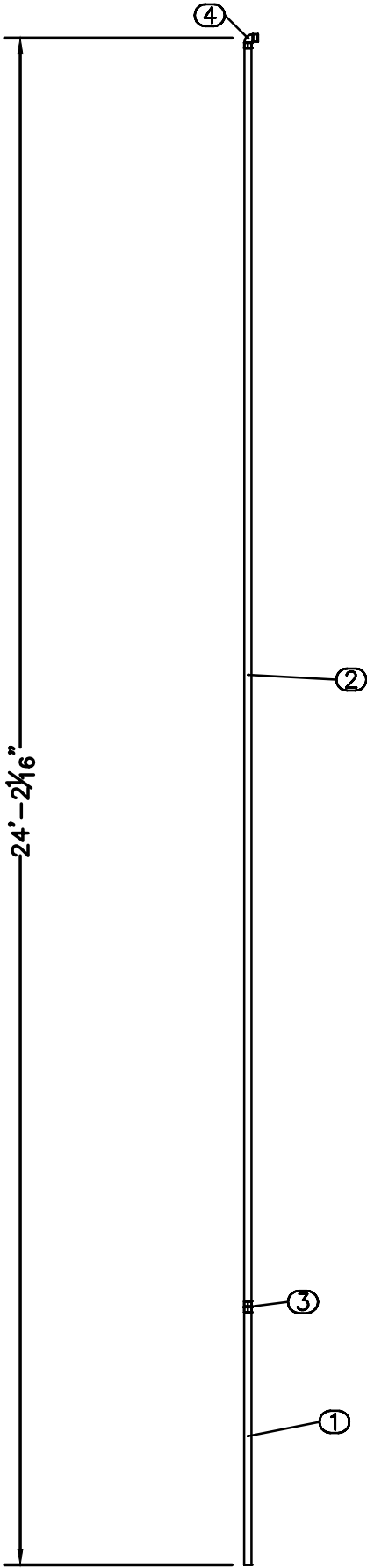
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QA/QC ACCEPT						<input type="checkbox"/>
						FLANGE WEIGHT/ORIENTATION
						FITTING ORIENTATION
						BOLTS/CPLG'S/TH'D TIGHT
						SPOOL IDENTIFICATION
SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS	
NA	NA	NA	NA	NA	MURPHY WPS#	
0						
REV	DATE	DESCRIPTION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

DRN JMM	4/14/2021	WUSM RESEARCH BUILDING NRB		
CHK				
APP				
JOB NO.	210140			
REF.DWG.		SERVICE NAME	UPL1-5 RACK	
DRAWING NO./TRACKING NO.	210140-A-UPL1-5-03	QTY.	SHT/NO	REV
		1	1 of 1	0



Murphy—PFFS—SPOOL—BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
5	1	Solder Joint					1-1/4
3	1	Wrot 600 Dimpled Stop Coupling CxC					1-1/4
4	1	Wrot 607 90 Deg Ell CxC					1-1/4
1	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	4'-1"	48.975	1-1/4
2	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	20'-0"	240.000	1-1/4

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QA/QC ACCEPT		FLANGE WEIGHT/ORIENTATION		FITTING ORIENTATION		BOLTS/CPLG'S/TH'D TIGHT		SPOOL IDENTIFICATION	
		SPEC.		X-RAY		ASME		HYDRO TEST	
		NA		NA		NA		NA	
		0							
REV		DATE		DESCRIPTION		DRN		CHK	
APP									

WUSM RESEARCH BUILDING

NRB

SERVICE NAME

UPL1-5 RACK

QTY.

1

SHT/NO

1 of 1

REV

0

DRN JMM

4/14/2021

CHK

APP

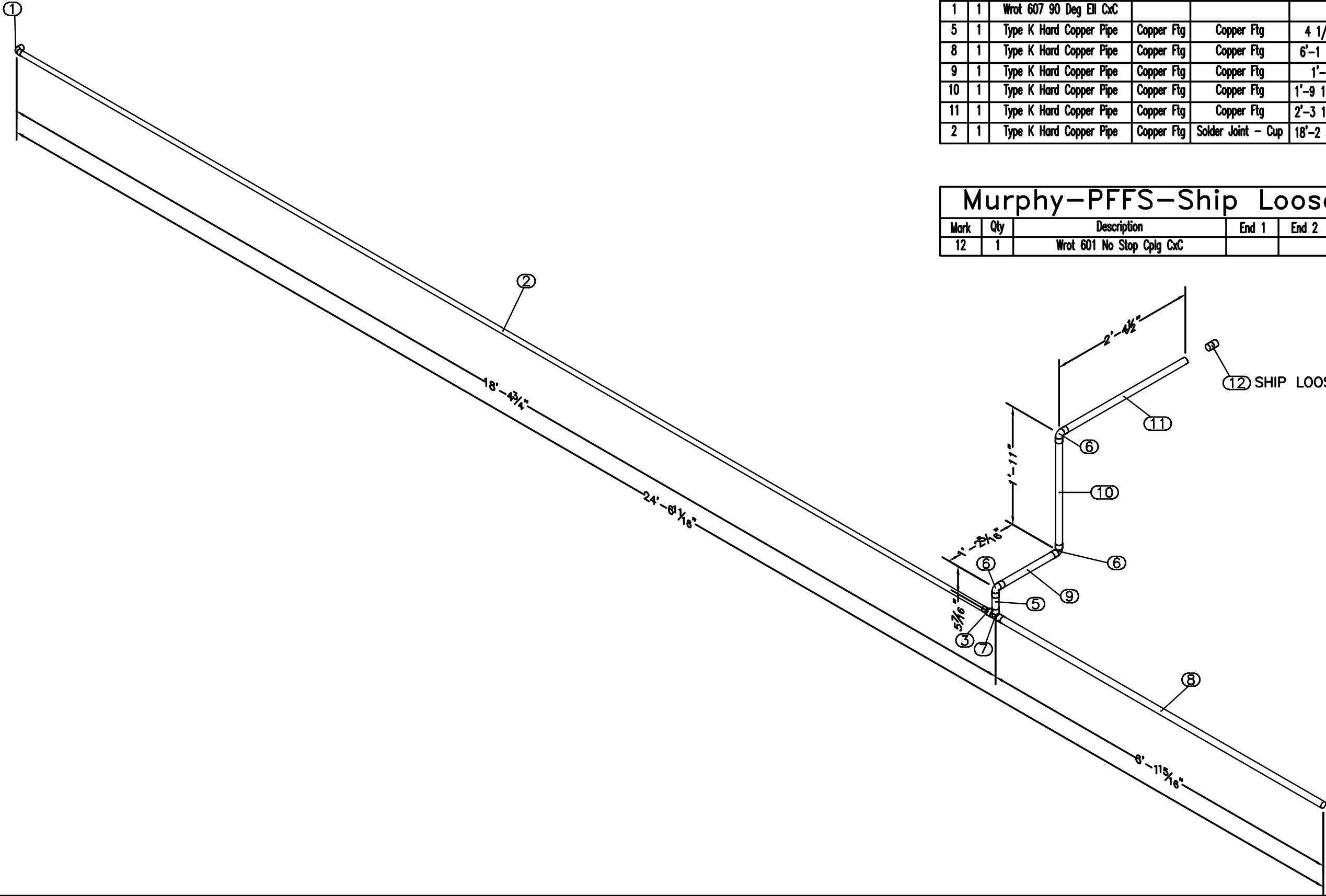
JOB NO.

210140

REF.DWG.

DRAWING NO./TRACKING NO.

210140-A-UPL1-5-04



Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
7	1	Wrot 611 CxC Tee					1
3	1	Wrot 600-2 Ftg Red FTGxC					1x3/4
6	3	Wrot 607 90 Deg Ell CxC					1
1	1	Wrot 607 90 Deg Ell CxC					3/4
5	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	4 1/16"	4.093	1
8	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	6'-1 1/4"	73.224	1
9	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-1"	12.995	1
10	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-9 11/16"	21.680	1
11	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	2'-3 13/16"	27.829	1
2	1	Type K Hard Copper Pipe	Copper Ftg	Solder Joint - Cup	18'-2 5/16"	218.343	3/4

Murphy-PFFS-Ship Loose BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
12	1	Wrot 601 No Stop Cplg CxC					1

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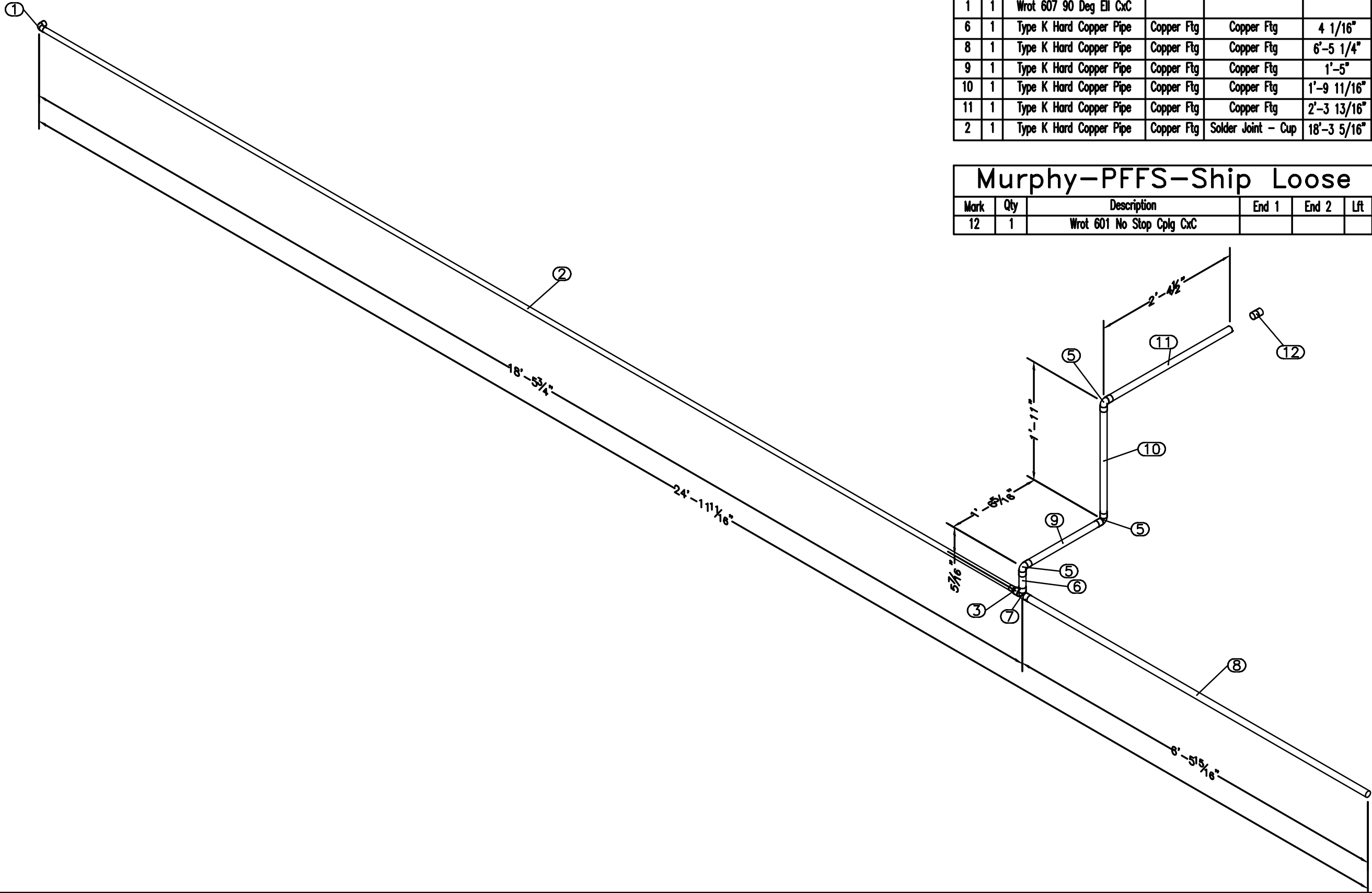
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<input type="checkbox"/> FLANGE WEIGHT/ORIENTATION		<input type="checkbox"/> FITTING ORIENTATION		<input type="checkbox"/> BOLTS/CPLGS/TH'D TIGHT		<input type="checkbox"/> SPOOL IDENTIFICATION	
QA/QC ACCEPT		SPEC.		ASME		X-RAY	
		NA		NA		NA	
		0		REV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

WUSM RESEARCH BUILDING		UPL1-5 RACK	
NRB			
SERVICE NAME		UPL1-5 RACK	
REF.DWG.			
DRAWING NO./TRACKING NO.		QTY.	
210140-A-UPL1-5-05		1	
		SHT/NO	
		1 OF 1	
		REV	
		0	



Murphy—PFFS—SPOOL—BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
7	1	Wrot 611 CxCxC Tee					1
3	1	Wrot 600-2 Ftg Red FTGxC					1x3/4
5	3	Wrot 607 90 Deg Ell CxC					1
1	1	Wrot 607 90 Deg Ell CxC					3/4
6	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	4 1/16"	4.093	1
8	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	6"-5 1/4"	77.227	1
9	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-5"	16.995	1
10	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-9 11/16"	21.681	1
11	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	2'-3 13/16"	27.820	1
2	1	Type K Hard Copper Pipe	Copper Ftg	Solder Joint - Cup	18'-3 5/16"	219.343	3/4

Murphy-PFFS-Ship Loose BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
12	1	Wrot 601 No Stop Cplg CxC					1

[illegible]