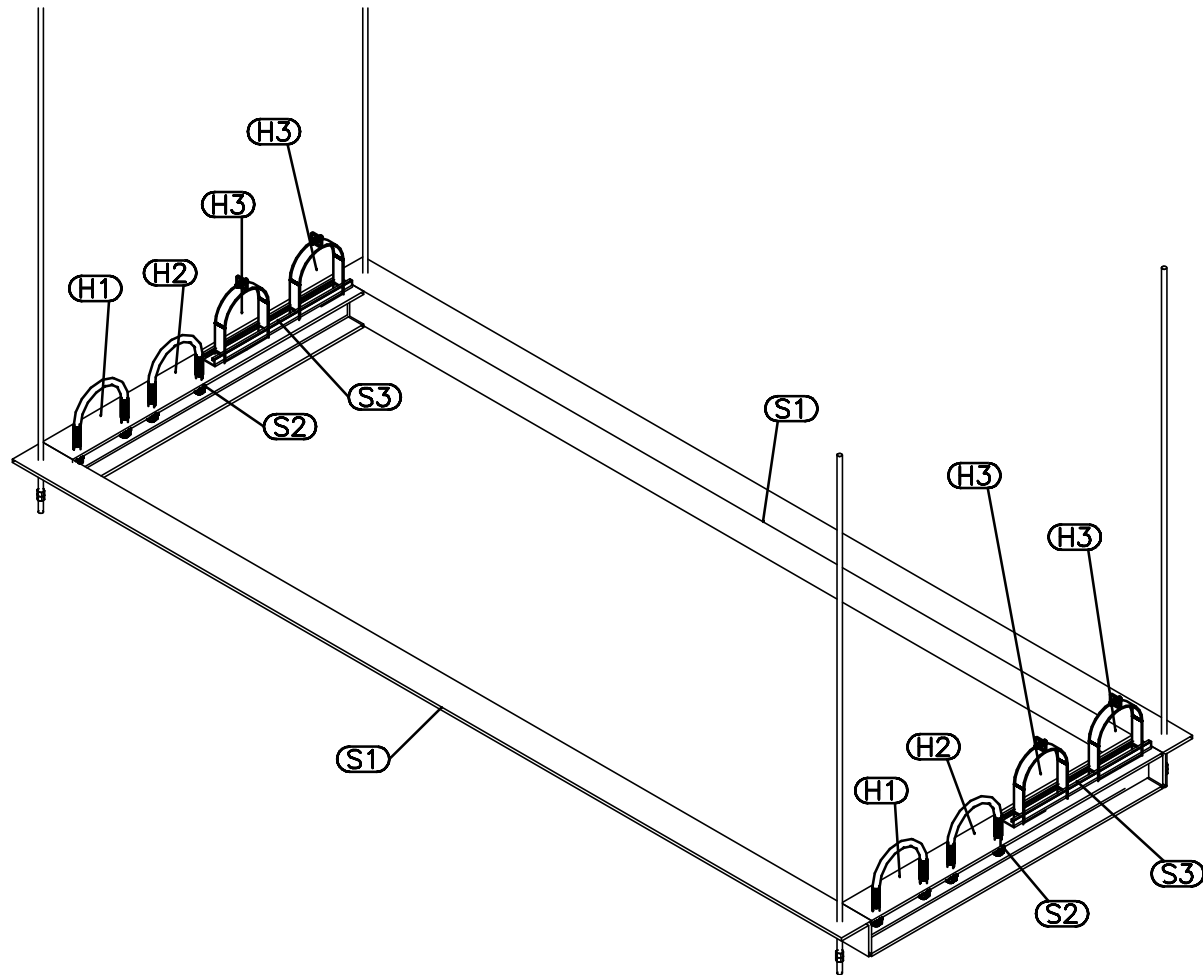
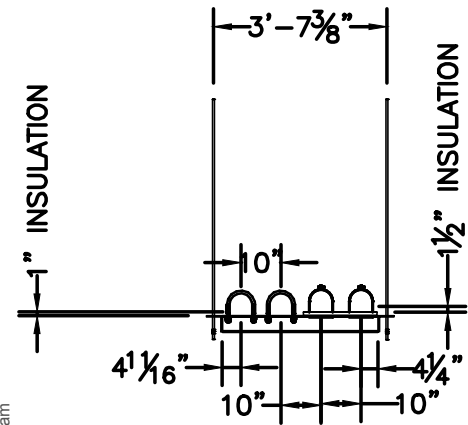


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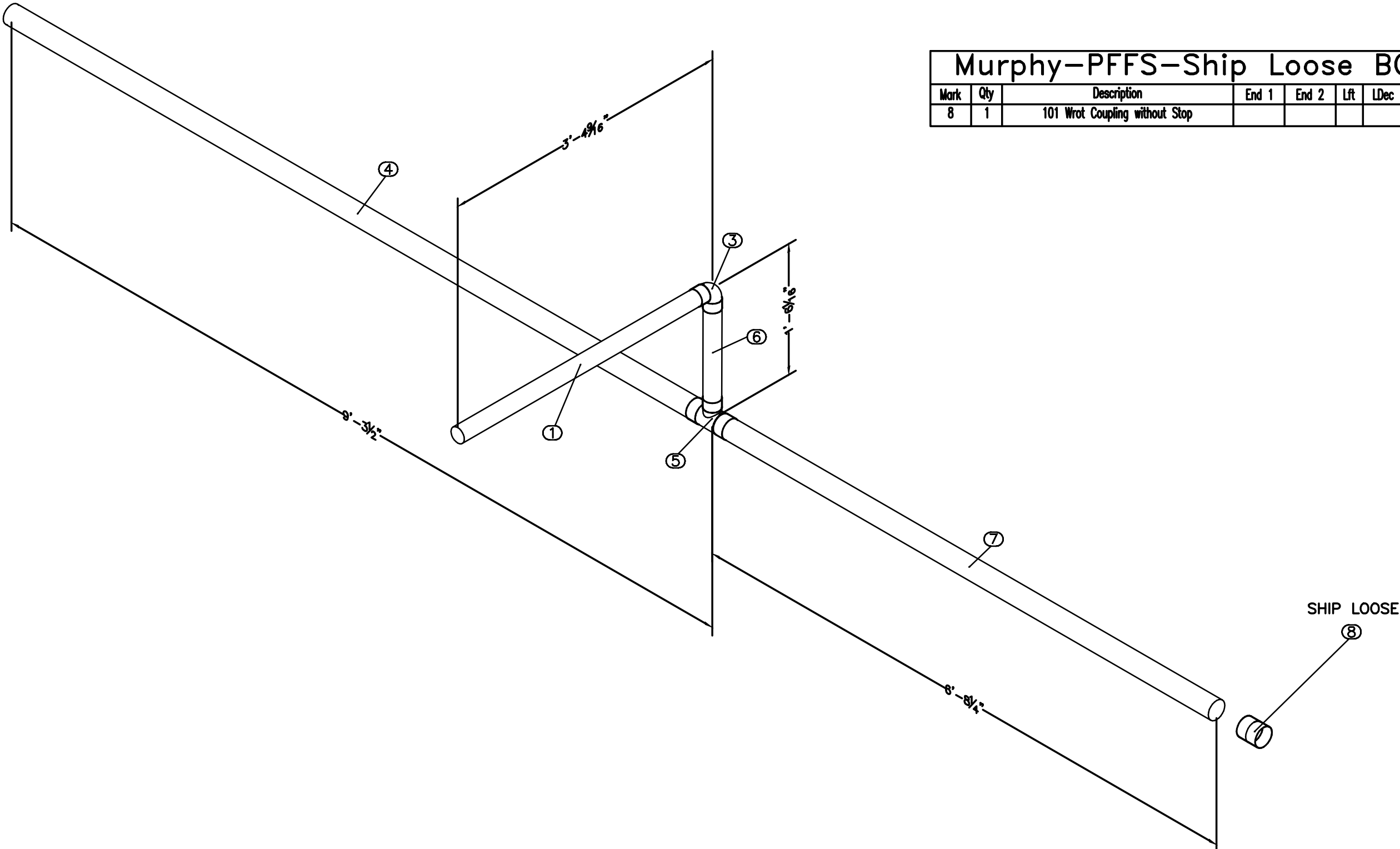
1233 N. Price Rd.  
St. Louis, MO 63132-2303  
314-997-6600 phone  
BIMCAD@murphy-stl.com

DRN JMM	3/11/2021	WUSM RESEARCH BUILDING			QA/QC ACCEPT			FLANGE WEIGHT/ORIENTATION				<input type="checkbox"/>
CHK		NRB CUP			FITTING ORIENTATION				<input type="checkbox"/>			
APP		PIPE RACKS			BOLTS/CPLG'S/TH'D TIGHT				<input type="checkbox"/>			
JOB NO.	210140	SERVICE NAME			SPOOL IDENTIFICATION				<input type="checkbox"/>			
REF.DWG.		CUP LEVEL 02			SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS		
DRAWING NO./TRACKING NO.	210140-A-UPL2-1E	QTY.	1	SHT/NO	NA	NA	NA	NA	NA	MURPHY WPS#		
					0							
		REV	0	1 of 2	REV	DATE	DESCRIPTION			DRN	CHK	APP



BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel
H1	Fig137	Fig.137 U-Bolt (4)-Nut Black	2	5	
H2	Fig137	Fig.137 U-Bolt (4)-Nut Black	2	5	
H3	929262	Klo-Shure Strut Clamp 1-1/2in Insul Cply - Fiberglass_CTS	4	2-1/2	
S1	L4x4x3/8	ASTM A36 CS Equal Angle	2	L4x4x3/8	110 3
S2	W4x13	ASTM A36 CS Wide Flange	2	W4x13	39°
S3	B52 GRN	1FT GREEN 12GA CHANNEL	2	1-5/8x13/16	18 1/

DRN JMM		3/11/2021		WUSM RESEARCH BUILDING										QA/QC ACCEPT										FLANGE WEIGHT/ORIENTATION										IS									
CHK				NRB CUP																				FITTING ORIENTATION										□									
APP				PIPE RACKS																				BOLTS/CPLG'S/TH'D TIGHT										□									
JOB NO.		210140																						SPOOL IDENTIFICATION										□									
REF.DWG.				SERVICE NAME										CUP LEVEL 02										SPEC.										ASME		X-RAY		HYDRO TEST		PWHT		COMMENTS	
DRAWING NO./TRACKING NO.				QTY.										SHT/NO		REV		NA										NA		NA		NA		MURPHY WPS#									
210140-A-UPL2-1E				1										2 of 2		0		0																									
																		REV										DATE		DESCRIPTION		DRN		CHK		APP							



Murphy–PFFS–SPOOL–BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
5	1	Wrot 611R CxCxC Reducing Tee					2-1/2x2
3	1	Wrot 607 90 Deg Ell CxC					2
1	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	3'-3 1/8"	39.138	2
6	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-3 1/16"	15.033	2
4	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	9'-2 1/8"	110.096	2-1/2
7	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	6'-6 3/4"	78.753	2-1/2

Murphy–PFFS–Ship Loose BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
8	1	101 Wrot Coupling without Stop					2-1/2

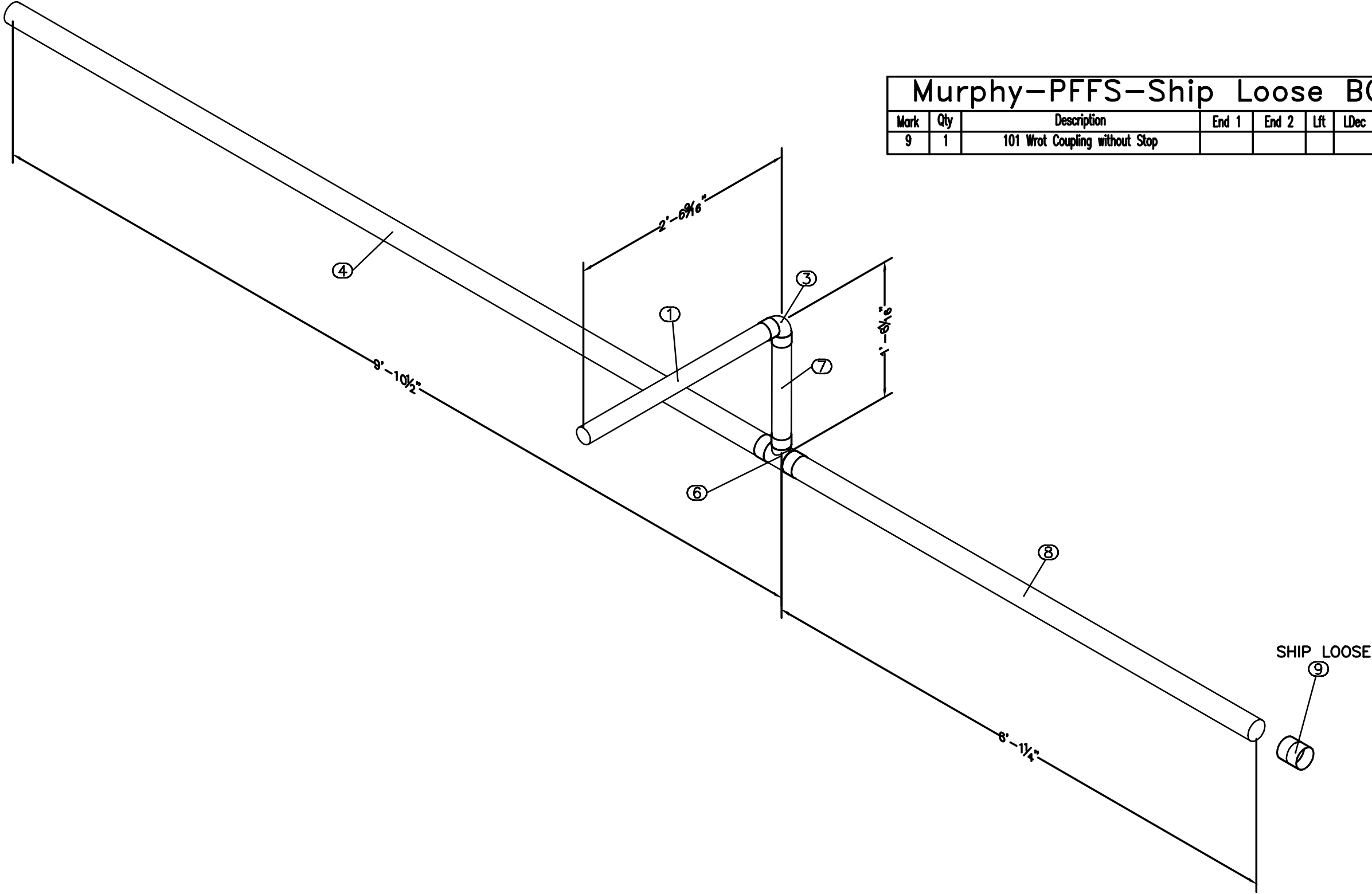
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<input type="checkbox"/> FLANGE WEIGHT/ORIENTATION		<input type="checkbox"/> FITTING ORIENTATION		<input type="checkbox"/> BOLTS/CPLG'S/TH'D TIGHT		<input type="checkbox"/> SPOOL IDENTIFICATION	
QA/QC ACCEPT		X-RAY		ASME		HYDRO TEST	
SPEC.		NA		NA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

DRN JMM	3/29/2021	WUSM RESEARCH BUILDING	
CHK		NRB CUP	
APP		PIPE RACKS	
JOB NO.	210140	SERVICE NAME	
REF.DWG.		UPL2-1E RACK	
DRAWING NO./TRACKING NO.	210140-A-UPL2-1E-01	QTY.	REV
		1	0
		1 of 1	



Murphy–PFFS–SPOOL–BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
6	1	Wrot 611R CxCxC Reducing Tee					2-1/2x2
3	1	Wrot 607 90 Deg Ell CxC					2
1	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	2'-5 1/8"	29.147	2
7	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-3 1/16"	15.033	2
4	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	9'-9 1/8"	117.096	2-1/2
8	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	5'-11 3/4"	71.753	2-1/2

Murphy–PFFS–Ship Loose BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
9	1	101 Wrot Coupling without Stop					2-1/2

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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	
NA		NA		NA		NA	
0		HYDRO TEST		PWHT		COMMENTS	
REV		DATE		NA		MURPHY WPS#	
DESCRIPTION		DRN		CHK		APP	

DRN	JMM	3/29/2021	WUSM RESEARCH BUILDING		
CHK			NRB CUP		
APP			PIPE RACKS		
JOB NO.	210140	SERVICE NAME	UPL2-1E RACK		
REF.DWG.		QTY.	1	SHT/NO	1 OF 1
DRAWING NO./TRACKING NO.	210140-A-UPL2-1E-02	REV	0		



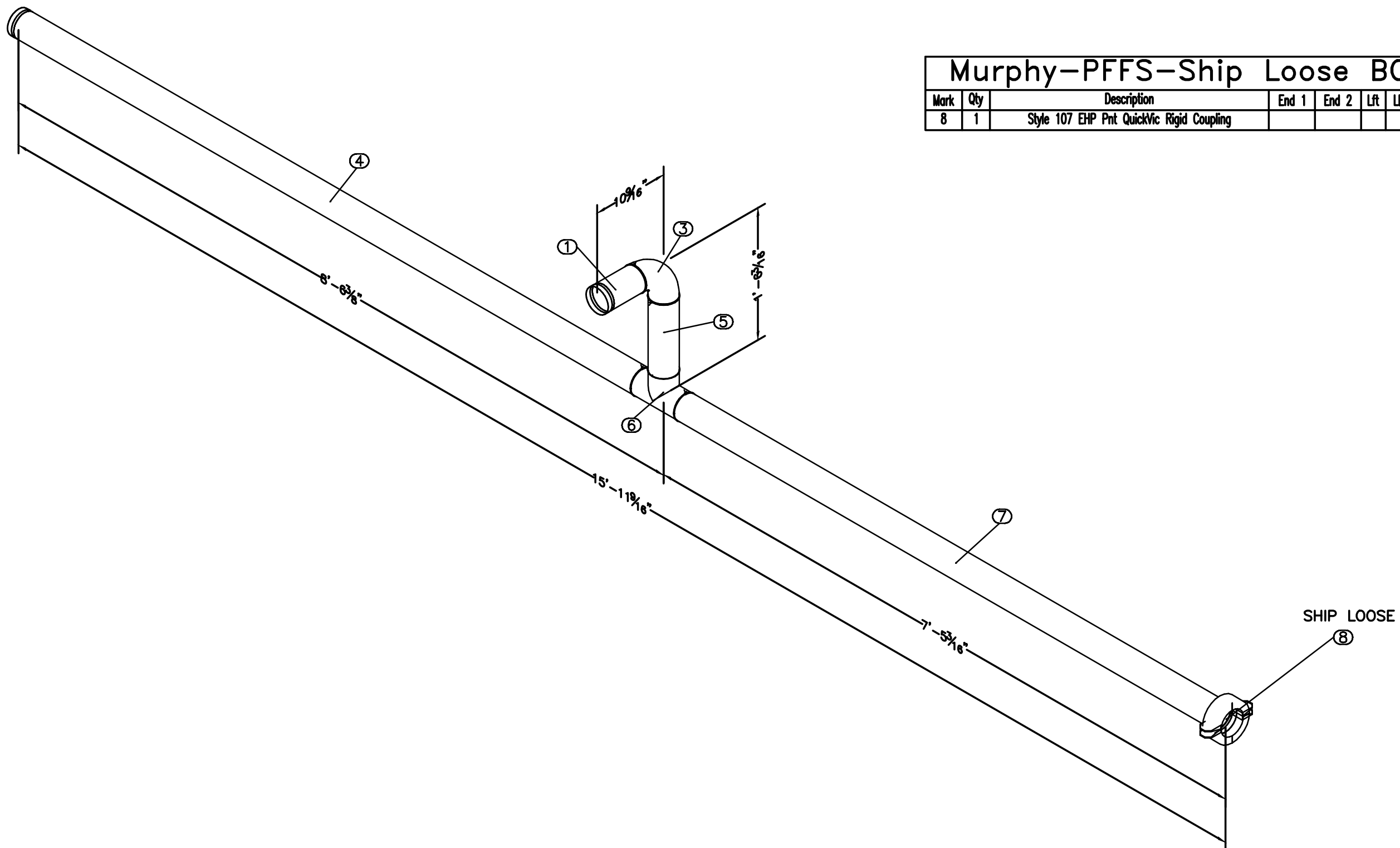
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
5	1	Std Wt SA234 WPB CS BW TEE					3
3	1	Std Wt SA234 WPB CS BW LR 90 Deg El					3
6	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	BEV	10"	10.029	3
1	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	1'-3 15/16"	15.925	3
7	1	Sch 40 SA-53B CS ERW Pipe GRV	Shop Weld	Grooved Pipe End	7'-9 11/16"	93.691	3
4	1	Sch 40 SA-53B CS ERW Pipe GRV	Grooved Pipe End	Shop Weld	7'-6 7/8"	90.886	3

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
8	1	Style 107N QuickVic EHP Pnt Rigid Cpl					3



QA/QC ACCEPT				<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			
SPEC.		ASME	X-RAY	HYDRO	TEST	PWHT	COMMENTS
NA		NA	NA	NA	NA	NA	MURPHY WPS#
0							
REV	DATE	DESCRIPTION					
							DRN CHK APP

DRN JMM	3/29/2021	WUSM RESEARCH BUILDING	
CHK		NRB CUP	
APP		PIPE RACKS	
JOB NO.	210140	SERVICE NAME	
REF.DWG.		UPL2-1E RACK	
DRAWING NO./TRACKING NO.		QTY.	SHT/NO
210140-A-UPL2-1E-03		1	1 of 1
		REV	0




# Murphy-PFFS-SP00L-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
6	1	Std Wt SA234 WPB CS BW TEE					3
3	1	Std Wt SA234 WPB CS BW LR 90 Deg El					3
5	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	BEV	10"	10.029	3
7	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	7'-1 11/16"	85.691	3
1	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	5 15/16"	5.925	3
4	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	8'-2 7/8"	98.886	3

## Murphy-PFFS-Ship Loose BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
8	1	Style 107 EHP Pnt QuickVic Rigid Coupling					3

					
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<b>WUSM RESEARCH BUILDING</b> <b>NRB CUP</b> <b>PIPE RACKS</b>					
DRN JMM CHK APP JOB NO. 210140	3/29/2021    210140				
SERVICE NAME <b>UPL2-1E RACK</b>					
REF.DWG. DRAWING NO./TRACKING NO. <b>210140-A-UPL2-1E-04</b>	QTY. 1    SHT/NO 1 of 1    REV 0				
QA/QC ACCEPT _____					
<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					
SPEC. NA	ASME NA	X-RAY NA	HYDRO TEST NA	PWHT NA	COMMENTS MURPHY WPS#
0	DATE	DESCRIPTION			
REV	DATE	DRN	CHK	APP	APP