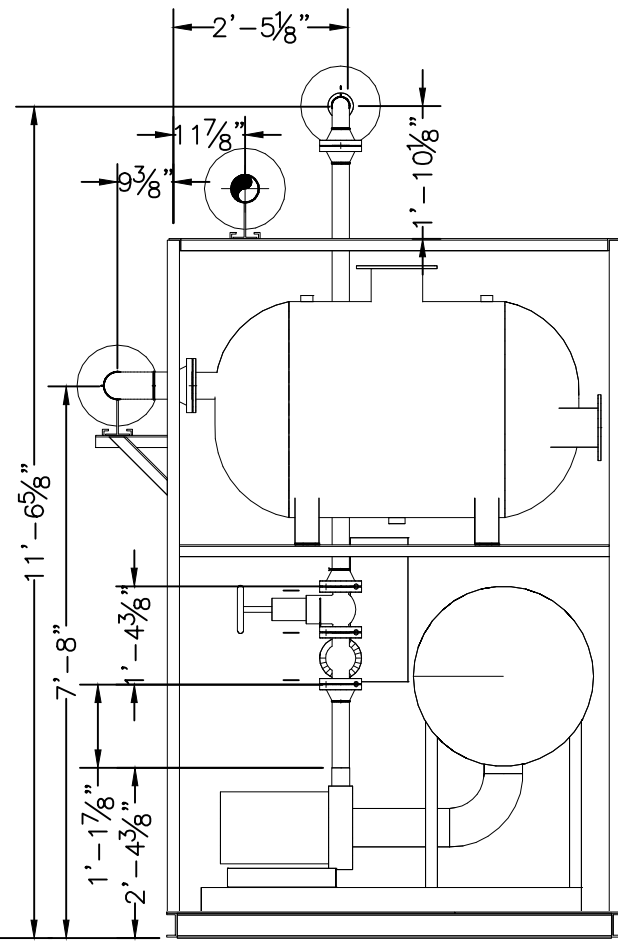
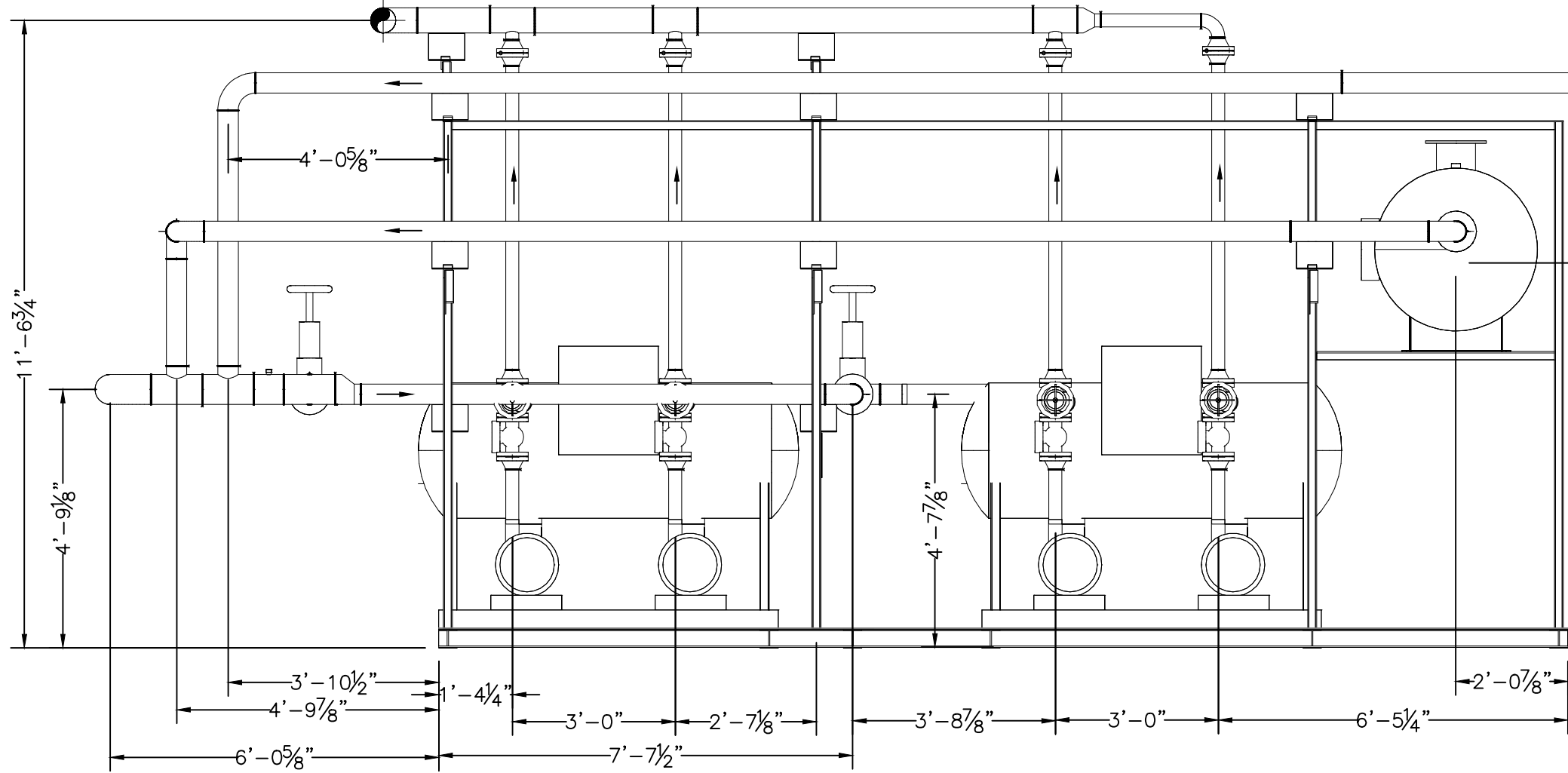
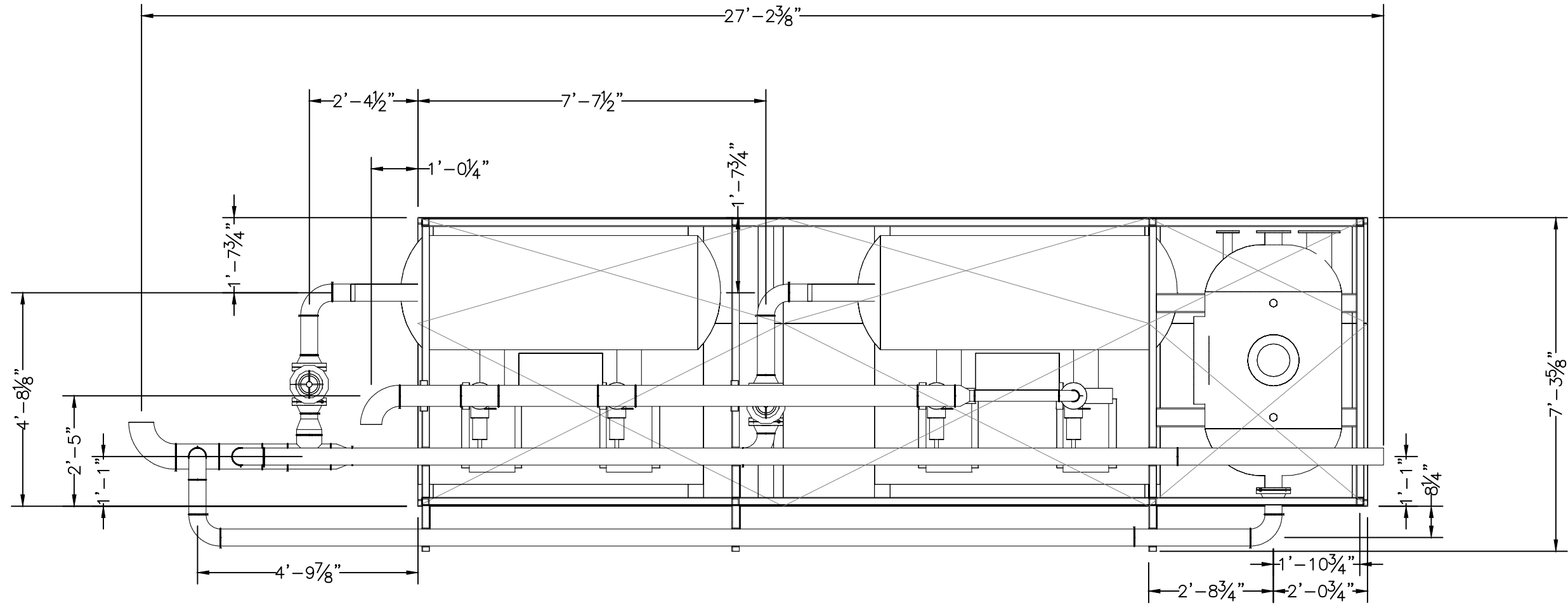
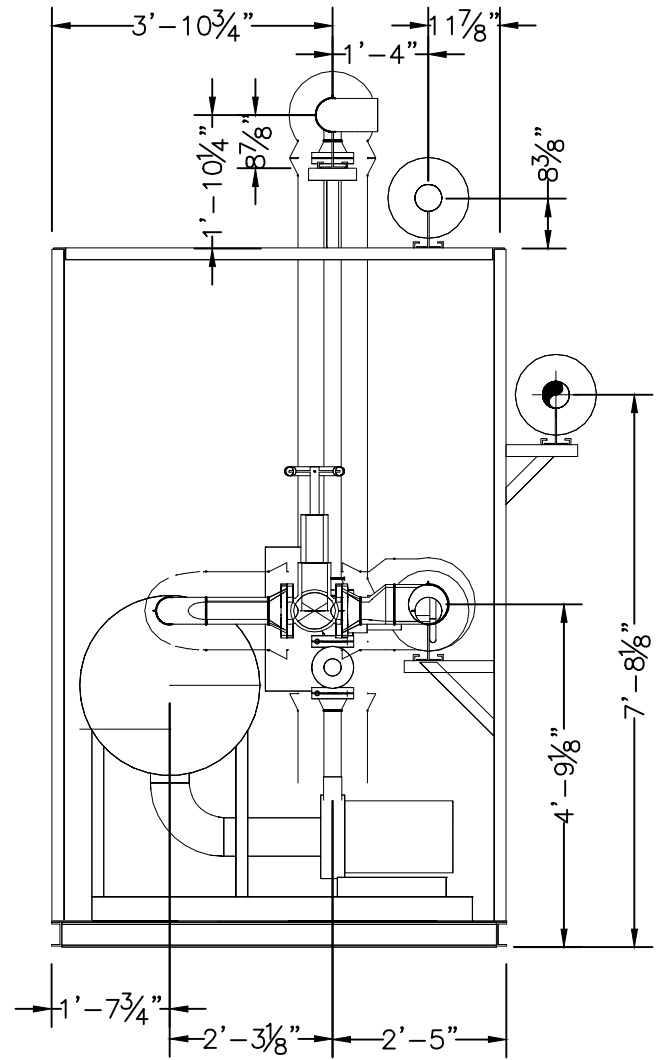


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210140-WUSM Research Building NRB16.dwg 210140-A008.dwg
03/05/2021 - 9:25am
jmurphy

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GAL'V	<input type="checkbox"/>

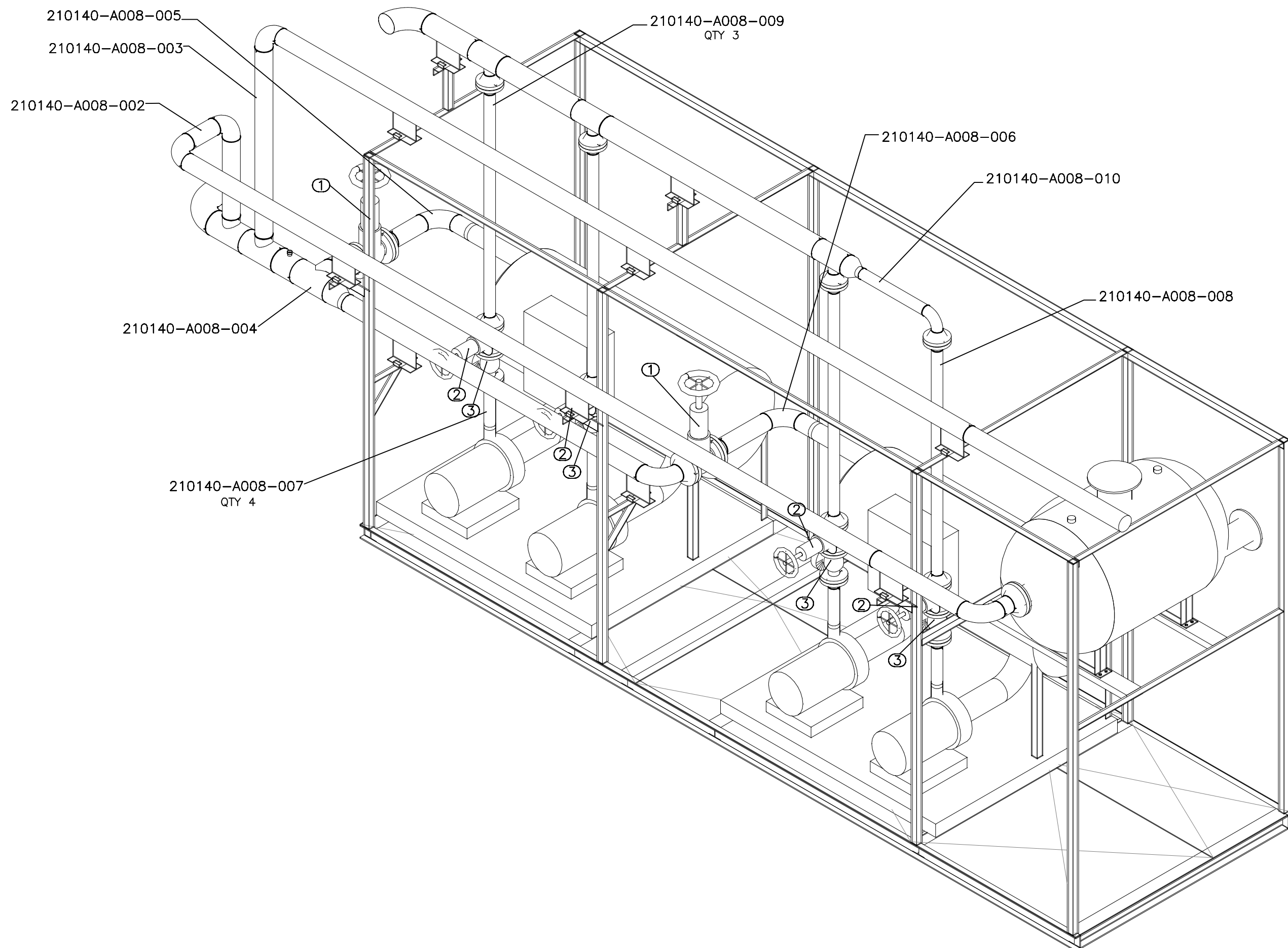


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CHK			NRB		WELD MAP		
APP			CRU-1/2 FLASH TANK SKID		SPECIAL NDE	SHIP LOOSE MATERIAL	
JOB NO.	210140				WELD GAP	VT	COMPLETION DATE
REF.DWG.			CONDENSATE		ASME	X-RAY	COMMENTS
DRAWING NO./TRACKING NO.		QTY.	SHT/NO	REV	NA	NA	NA
210140-A008		1	1 of 4	0	NA	NA	MURPHY WPS#
					DATE	DESCRIPTION	DRN
							CHK
							APP

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COATINGS	
PRIMER	<input checked="" type="checkbox"/>
COLOR: GRAY	
PAINT	<input type="checkbox"/>
COLOR: N/A	
GAL'V	<input type="checkbox"/>

Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	4	F-617-0 Gate Valve					2-1/2
1	2	F-617-0 Gate Valve					4
3	4	F-918-B Swing Check					2-1/2
6	6	150# 304 Spiral Wound StyleCG 1-8					4
7	6	150# 304 Spiral Wound StyleCG 1-8					2 1/2"
9	10	150# Bolt up					4 (5/8x3-3/4)
10	6	150# Bolt up					2-1/2 (5/8x3-3/4)
11	2	XYLEM CONDENSATE PUMPS					
12	1	WHEELER TANK FLASH TANK					



DRN JMM	1/27/21	WUSM RESEARCH BUILDING									
CHK		NRB									
APP		CRU-1/2 FLASH TANK SKID									
JOB NO.	210140	SERVICE NAME									
REF.DWG.		CONDENSATE									
DRAWING NO./TRACKING NO.		QTY.	SHT./NO	REV							
210140-A008		1	2 OF 4	0							
		REV	DATE	DESCRIPTION							
		0									
		SPEC.	ASME	X-RAY	HYDRO	TEST	PWHT	COMMENTS			
			NA	NA	NA	NA	NA	MURPHY WPS#			
		DUE DATE		QC	TACK	CUT					
		WELD INCHES		WELD MAP							
		SPOOL WEIGHT		SPECIAL INDE		SHIP LOOSE MATERIAL					
		WELD GAP		VT		COMPLETION DATE					

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10000 740 W USM Research Building NRG16-lab/pipeline/210140-A008.dwg
 10/26/2015 9:55am
 jmk@kately

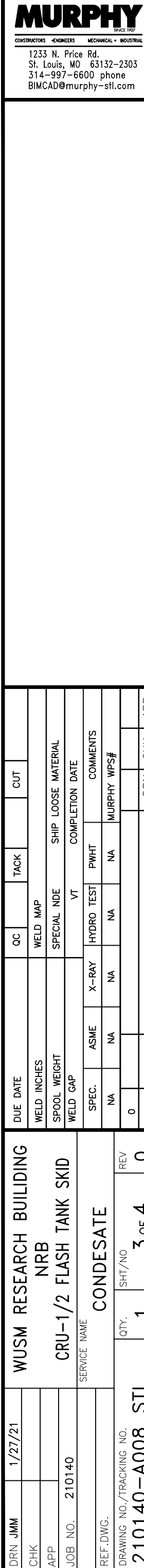
Technical drawing of a rectangular frame structure, likely a tank or container, showing dimensions and mounting details.

Dimensions:

- Overall width: $20' - 9\frac{5}{8}"$
- Overall height: $6' - 3\frac{7}{8}"$
- Top horizontal dimensions (from left to right):
 - $6' - 9\frac{1}{2}"$
 - $8"$
 - $9' - 1\frac{5}{8}"$
 - $5' - 11"$
 - $4' - 6\frac{1}{2}"$
 - $4' - 4\frac{1}{2}"$
 - $2' - 4\frac{1}{4}"$
 - $1' - 7\frac{1}{4}"$
 - $2"$
- Right vertical dimensions (from top to bottom):
 - $1' - 10\frac{1}{2}"$
 - $2' - 6"$
 - $1' - 11\frac{3}{8}"$
- Internal horizontal dimensions (from left to right):
 - $10\frac{1}{2}"$
 - $2' - 6\frac{5}{8}"$
 - $5' - 11"$
 - $1' - 7\frac{3}{4}"$
 - $4' - 10"$
 - $10\frac{3}{4}"$
- Internal vertical dimensions (from top to bottom):
 - $2"$
 - $1\frac{1}{2}"$
 - $2"$
 - $1\frac{1}{2}"$

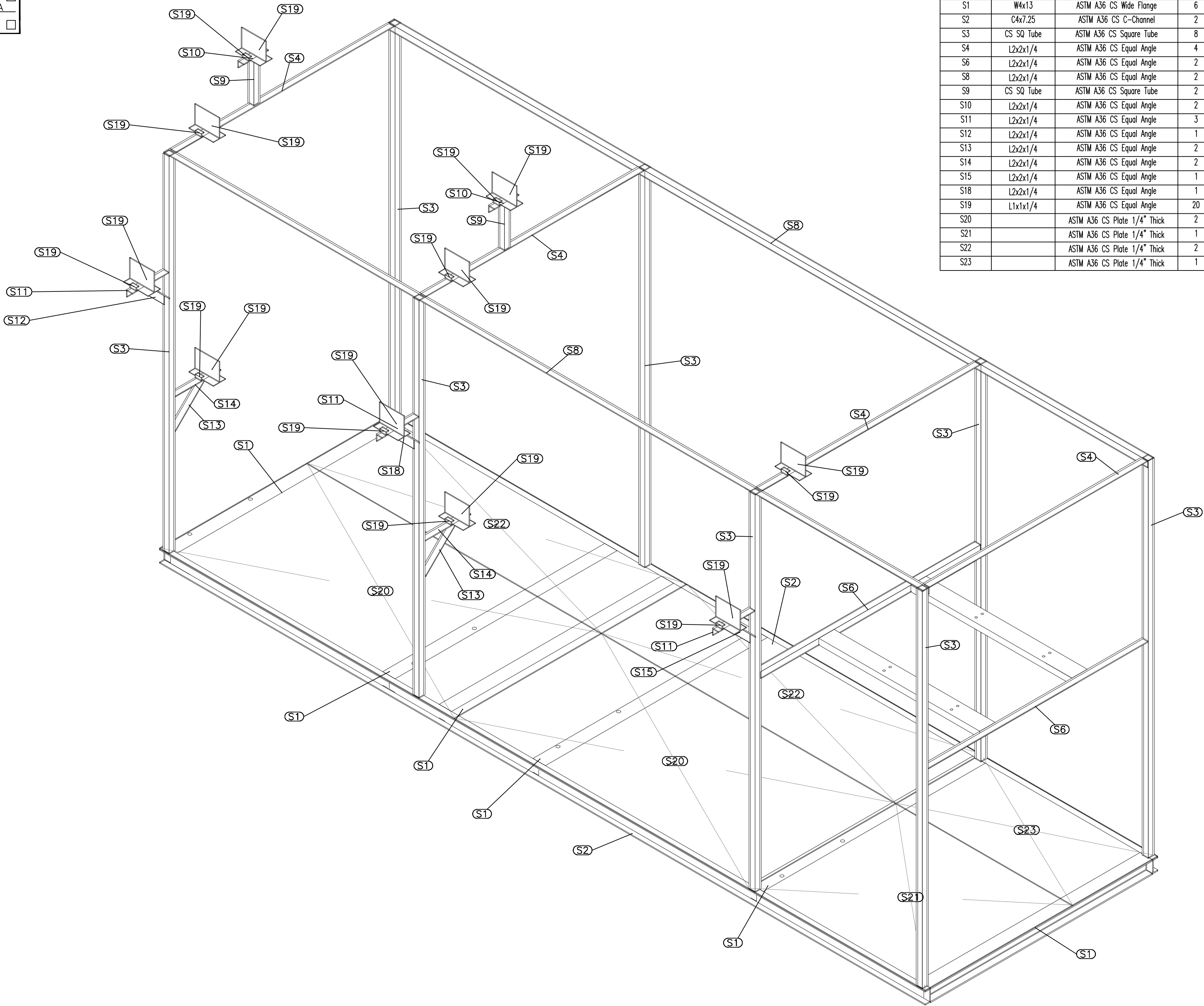
Annotations:

- $5/8" \phi$ DRILLED HOLES FOR FLASH TANK MOUNTING (8 TYP.)



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4130140-WUSM Research Building NRB1616a.dwg 210140-A008.dwg
03/05/2016 9:33am jmcadney

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PAIN	<input type="checkbox"/>
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GAL'V	<input type="checkbox"/>



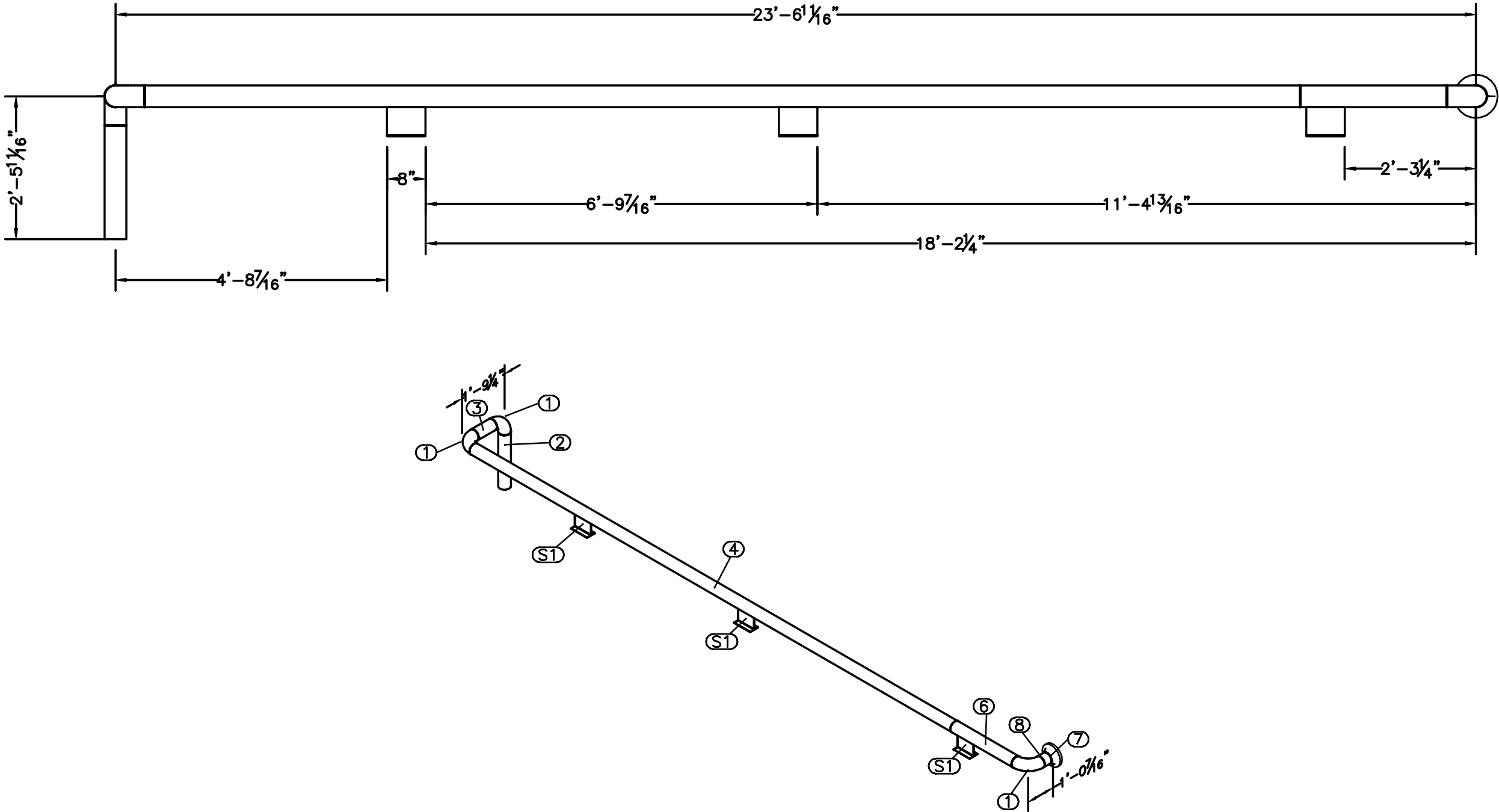
BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
13	WT6x7		11		8"
13	C5x9	ASTM A36 CS C-Channel	2	C5x9	52 1/2"
S1	W4x13	ASTM A36 CS Wide Flange	6	W4x13	72 1/2"
S2	C4x7.25	ASTM A36 CS C-Channel	2	C4x7.25	249 1/2"
S3	CS SQ Tube	ASTM A36 CS Square Tube	8	SQ2x2x1/4	112 1/4"
S4	L2x2x1/4	ASTM A36 CS Equal Angle	4	L2x2x1/4	71 1/4"
S6	L2x2x1/4	ASTM A36 CS Equal Angle	2	L2x2x1/4	71 3/4"
S8	L2x2x1/4	ASTM A36 CS Equal Angle	2	L2x2x1/4	247 1/2"
S9	CS SQ Tube	ASTM A36 CS Square Tube	2	SQ2x2x1/4	13"
S10	L2x2x1/4	ASTM A36 CS Equal Angle	2	L2x2x1/4	8"
S11	L2x2x1/4	ASTM A36 CS Equal Angle	3	L2x2x1/4	12"
S12	L2x2x1/4	ASTM A36 CS Equal Angle	1	L2x2x1/4	13 3/4"
S13	L2x2x1/4	ASTM A36 CS Equal Angle	2	L2x2x1/4	17 1/2"
S14	L2x2x1/4	ASTM A36 CS Equal Angle	2	L2x2x1/4	15"
S15	L2x2x1/4	ASTM A36 CS Equal Angle	1	L2x2x1/4	13 3/4"
S18	L2x2x1/4	ASTM A36 CS Equal Angle	1	L2x2x1/4	13 3/4"
S19	L1x1x1/4	ASTM A36 CS Equal Angle	20	L1x1x1/4	2"
S20		ASTM A36 CS Plate 1/4" Thick	2	1/4	48"x96"
S21		ASTM A36 CS Plate 1/4" Thick	1	1/4	48"x57 9/16"
S22		ASTM A36 CS Plate 1/4" Thick	2	1/4	27 3/4"x96"
S23		ASTM A36 CS Plate 1/4" Thick	1	1/4	27 3/4"x57 9/16"

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DUE DATE		QC	WELD MAP	TACK	CUT
WELD INCHES		SPECIAL NDE		SHIP LOOSE MATERIAL	
SPOOL WEIGHT		WELD GAP		COMPLETION DATE	
SPEC.	ASME	X-RAY	HYDRO	VT	PWHT
	NA	NA	NA	NA	NA
REV		DATE	DESCRIPTION		DRN
0					CHK
APP					

WUSM RESEARCH BUILDING		CONDENSATE	
NRB		SERVICE NAME	
CRU-1/2 FLASH TANK SKID		SHT/NO	
JOB NO. 210140		4 OF 4	
REF.DWG.		QTY.	
DRAWING NO./TRACKING NO.		1	
210140-A008 STL ISO		0	



Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
S1	3	WT6x7			8.00		8"
7	1	150lb RF XH Bore SA105 CS WN FLG					4
1	3	XH SA234 WPB CS BW LR 90 Deg EI					4
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	1'-11 9/16"	23.568	4
3	1	XH SA-53B CS SMLS Pipe	BEV	BEV	9"	9.000	4
4	1	XH SA-53B CS SMLS Pipe	BEV	BEV	19'-11 15/16"	239.938	4
6	1	XH SA-53B CS SMLS Pipe	BEV	BEV	2'-6 3/8"	30.386	4
8	1	XH SA-53B CS SMLS Pipe	BEV	BEV	3 3/16"	3.187	4

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☐

FLANGE WEIGHT/ORIENTATION

☐

FITTING ORIENTATION

☐

BOLTS/CPLG'S/TH'D TIGHT

☐

SPOOL IDENTIFICATION

QA/QC ACCEPT

SPEC.

NA

0

ASME

NA

REV

X-RAY

NA

DATE

HYDRO TEST

NA

PWHT

NA

COMMENTS

MURPHY WPS#

WUSM RESEARCH BUILDING

NRB

SERVICE NAME

210140-A008

DRAWING NO./TRACKING NO.

210140-A008-002

QTY.

1

SHT/NO

1 of 1

REV

0

DRN

JMM

2/19/2021

CHK

APP

JOB NO.

210140

REF.DWG.

FLANGE WEIGHT/ORIENTATION

FITTING ORIENTATION

BOLTS/CPLG'S/TH'D TIGHT

SPOOL IDENTIFICATION

QA/QC ACCEPT

SPEC.

NA

0

ASME

NA

REV

X-RAY

NA

DATE

HYDRO TEST

NA

PWHT

NA

COMMENTS

MURPHY WPS#

WUSM RESEARCH BUILDING

NRB

SERVICE NAME

210140-A008

DRAWING NO./TRACKING NO.

210140-A008-002

QTY.

1

SHT/NO

1 of 1

REV

0

DRN

JMM

2/19/2021

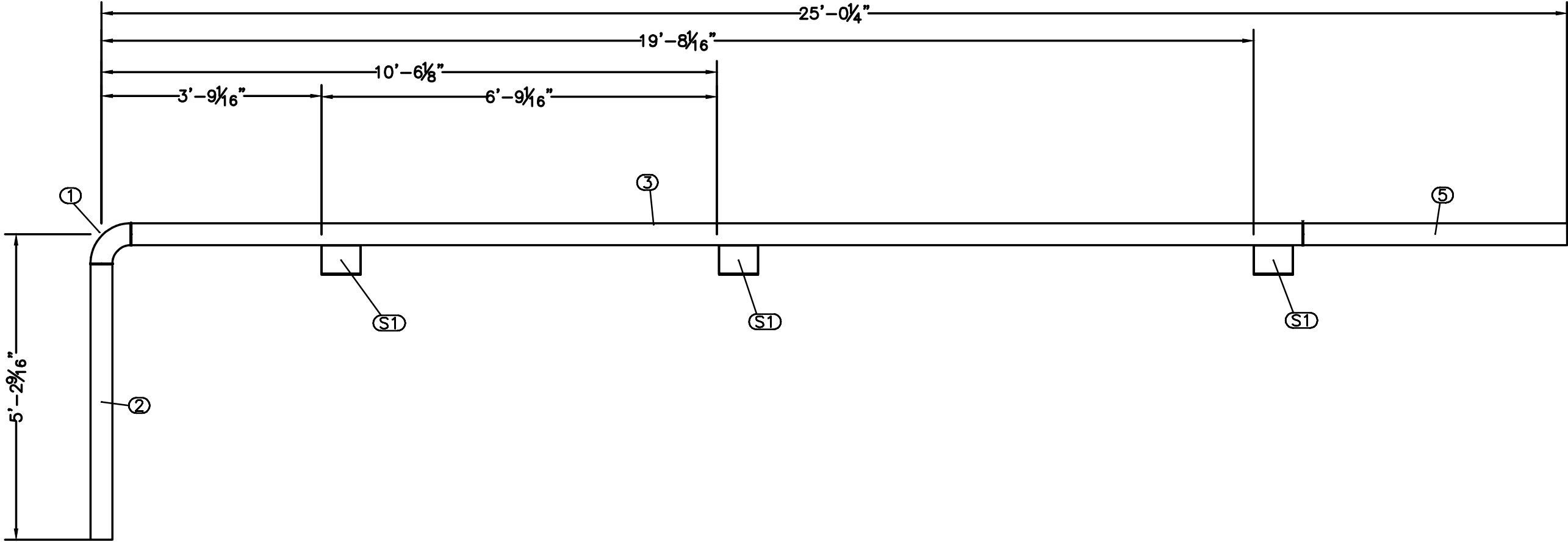
CHK

APP

JOB NO.

210140

REF.DWG.



Murphy—PFFS—SPOOL—BOM						
Mark	Qty	Description	End 1	End 2	Lft	Size
S1	3	WT6x7			8.00	8"
1	1	XH SA234 WPB CS BW LR 90 Deg El				4
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	4'-8 7/16"	56.437
3	1	XH SA-53B CS SMLS Pipe	BEV	BEV	19'-11 15/16"	239.938
5	1	XH SA-53B CS SMLS Pipe	BEV	BEV	4'-6 1/16"	54.079

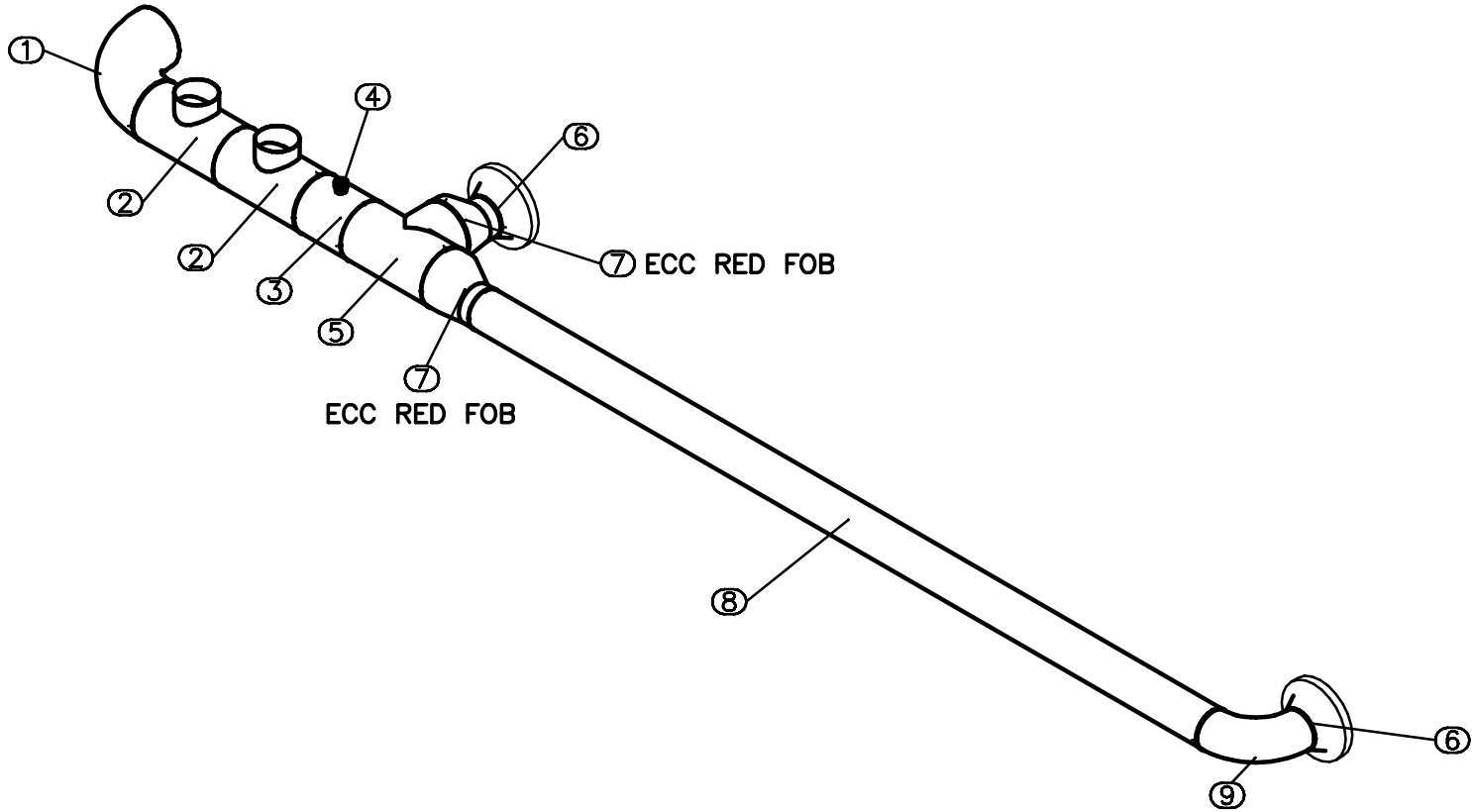
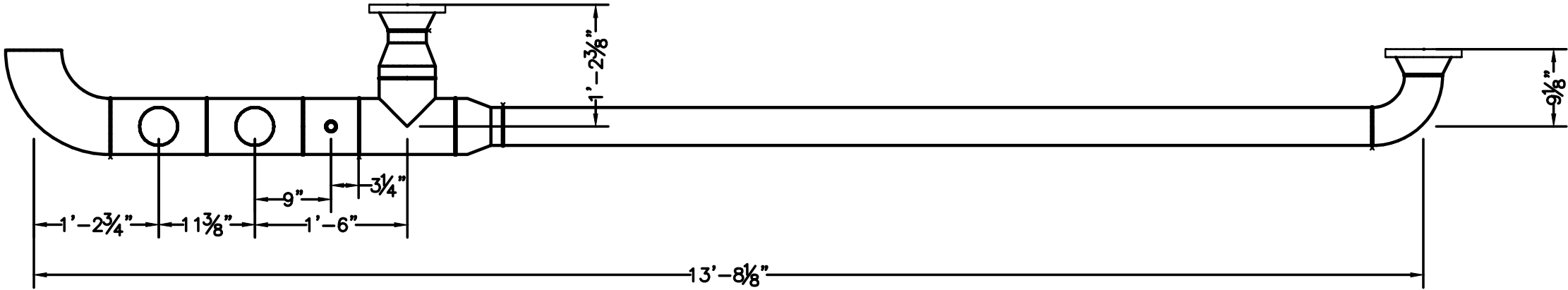
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<input type="checkbox"/>	FLANGE WEIGHT/ORIENTATION
<input type="checkbox"/>	FITTING ORIENTATION
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<input type="checkbox"/>	SPOOL IDENTIFICATION

QA/QC ACCEPT		X-RAY		ASME	HYDRO TEST	PWHT		COMMENTS	
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0	REV	DATE	DESCRIPTION		DRN	CHK	APP		

DRN JMM	2/19/2021	WUSM RESEARCH BUILDING					
CHK		NRB					
APP							
JOB NO.	210140	SERVICE NAME					
REF.DWG.		210140-A008					
DRAWING NO./TRACKING NO.	210140-A008-003	QTY.	1	SHT/NO	1 of 1	REV	0



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	2	XH SA234 WPB CS BW RED TEE					6x4
5	1	XH SA234 WPB CS BW TEE					6
6	2	150lb RF XH Bore SA105 CS WN FLG					4
7	2	XH SA234 WPB CS BW ECC RED					6x4
9	1	XH SA234 WPB CS BW LR 90 Deg El					4
1	1	XH SA234 WPB CS BW LR 90 Deg El					6
4	1	3000# FS Thread-O-Let			1 1/16"	1.063	3/4x6
8	1	XH SA-53B CS SMLS Pipe	BEV	BEV	8'-6 1/2"	102.505	4
3	1	XH SA-53B CS SMLS Pipe	BEV	BEV	6 1/2"	6.510	6

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☐ FLANGE WEIGHT/ORIENTATION
☐ FITTING ORIENTATION
☐ BOLTS/CPLG'S/TH'D TIGHT
☐ SPOOL IDENTIFICATION

QA/QC ACCEPT

SPEC.

NA

0

ASME

NA

REV

X-RAY

NA

DATE

HYDRO TEST

NA

PWHT

NA

COMMENTS

MURPHY WPS#

DESCRIPTION

DRN

CHK

APP

WUSM RESEARCH BUILDING
NRB

2/19/2021

210140

210140-A008

210140-A008-004

1

1 of 1

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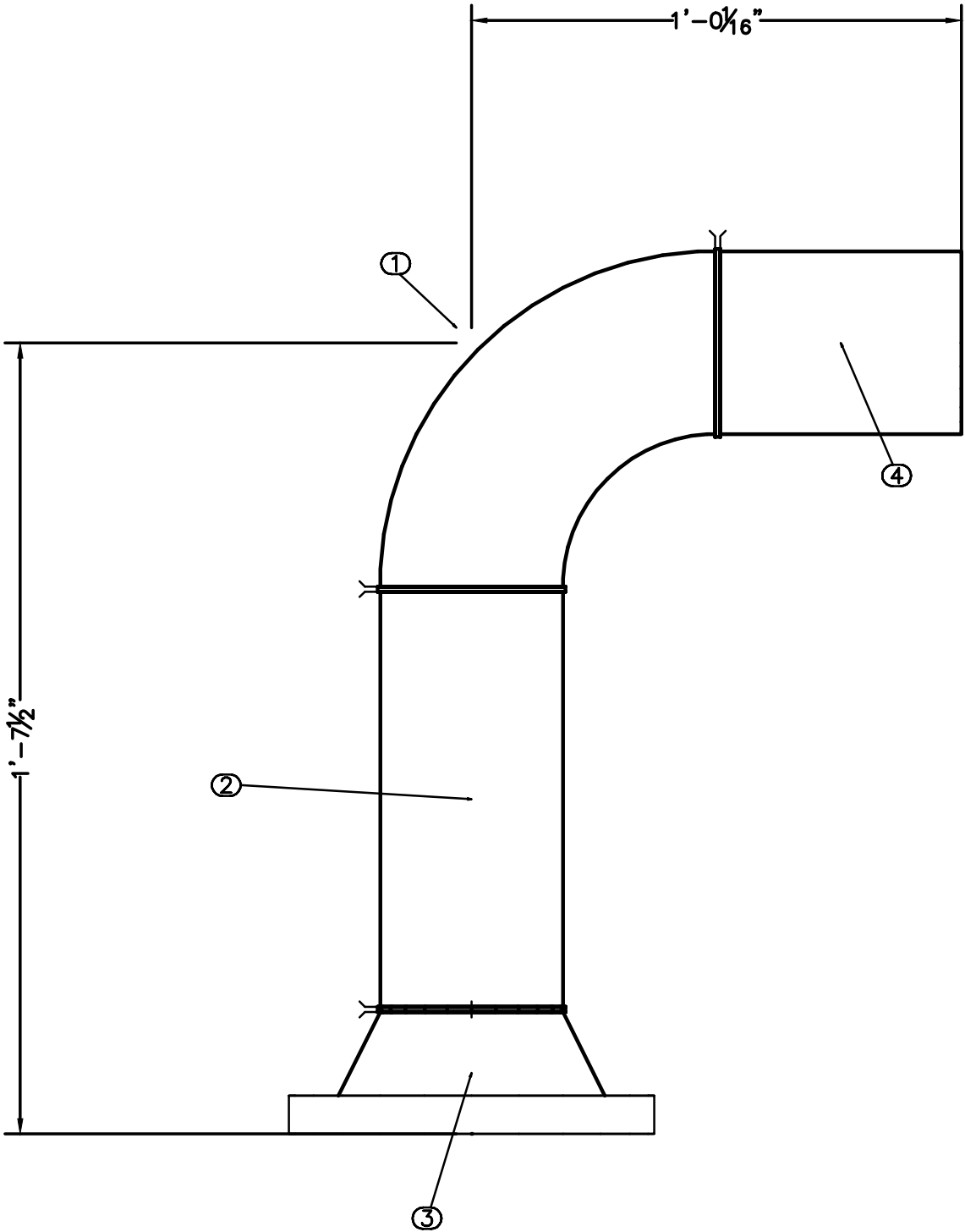
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DRAWING NO./TRACKING NO.

QTY.

SHT/NO

REV



MPT

Murphy—PFFS—SPOOL—BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	1	150lb RF XH Bore SA105 CS WN FLG					4
1	1	XH SA234 WPB CS BW LR 90 Deg El					4
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	10 1/4"	10.224	4
4	1	XH SA-53B CS SMLS Pipe	MPT	BEV	5 15/16"	5.938	4

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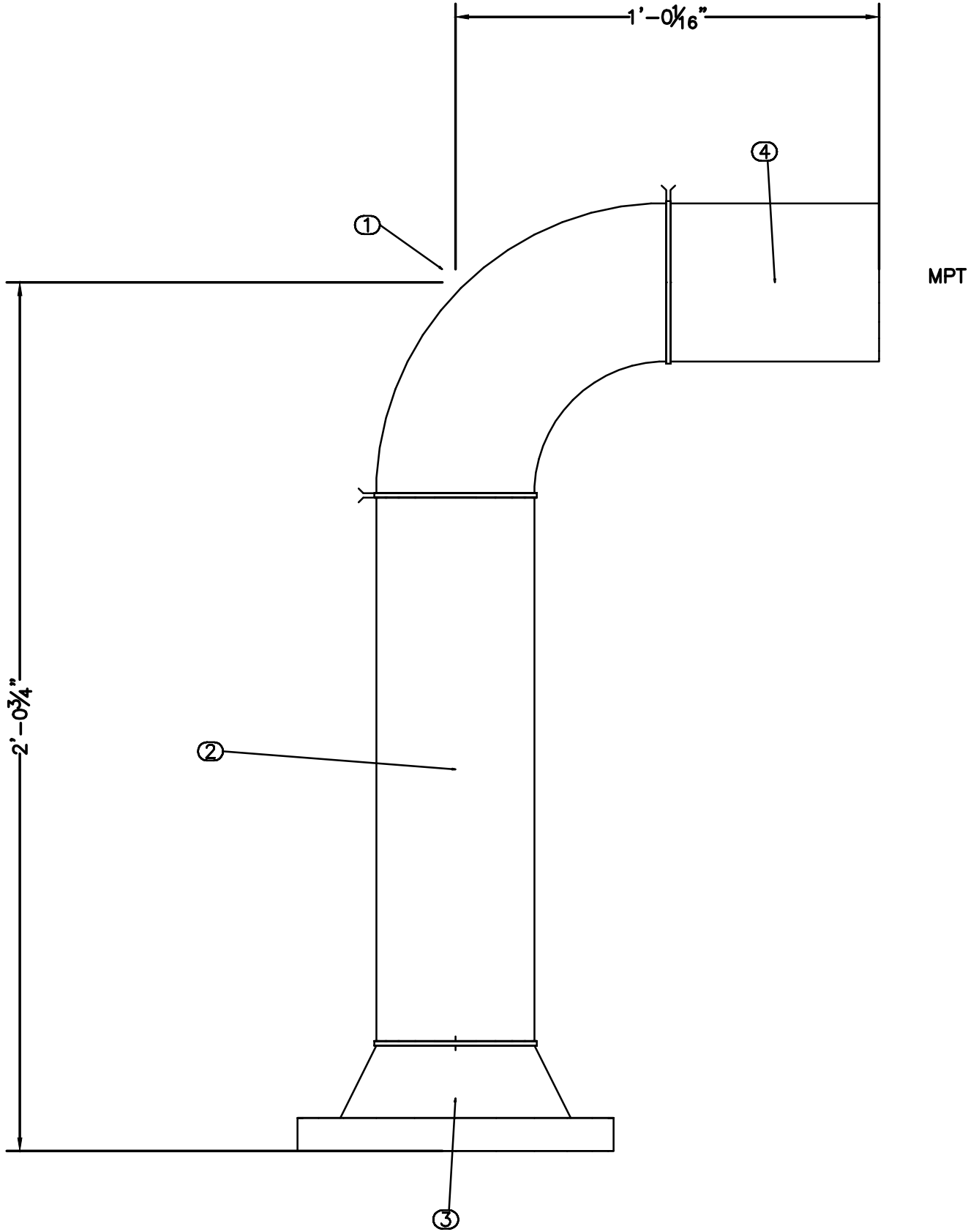
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QA/QC ACCEPT		X-RAY		ASME		HYDRO TEST		PWHT		COMMENTS	
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CHK				NRB					
APP									
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REF.DWG.				210140-A008					
DRAWING NO./TRACKING NO.		210140-A008-005		QTY.		SHT/NO		REV	
				1		1 of 1		0	



Murphy—PFFS—SPOOL—BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	1	150lb RF XH Bore SA105 CS WN FLG					4
1	1	XH SA234 WPB CS BW LR 90 Deg Ell					4
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	1'-3 1/2"	15.469	4
4	1	XH SA-53B CS SMLS Pipe	MPT	BEV	5 15/16"	5.938	4

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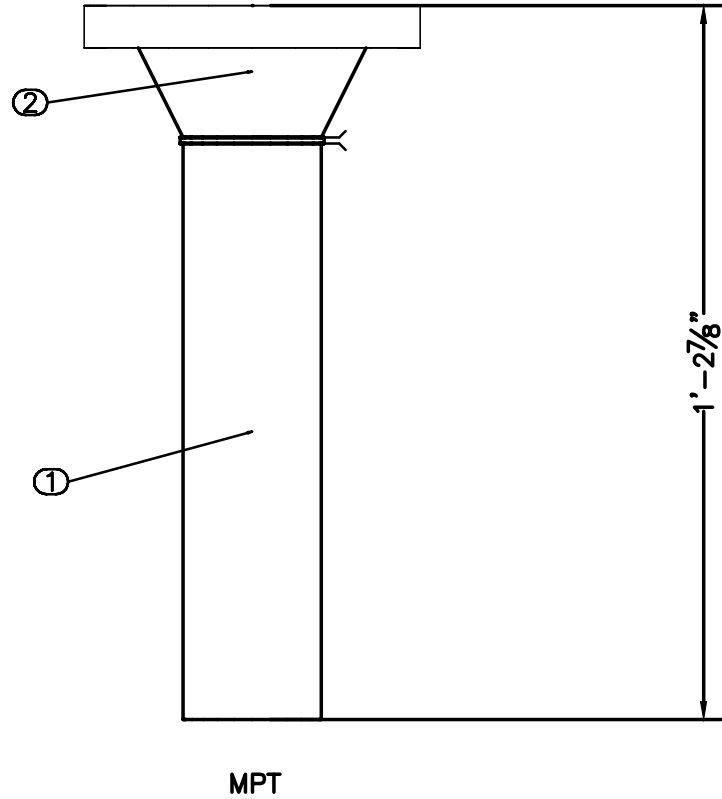
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QA/QC ACCEPT		X-RAY		ASME	HYDRO TEST	PWHT		COMMENTS	
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0	REV	DATE							
			DESCRIPTION		DRN	CHK	APP		

DRN JMM	2/19/2021	WUSM RESEARCH BUILDING					
CHK		NRB					
APP							
JOB NO.	210140	SERVICE NAME					
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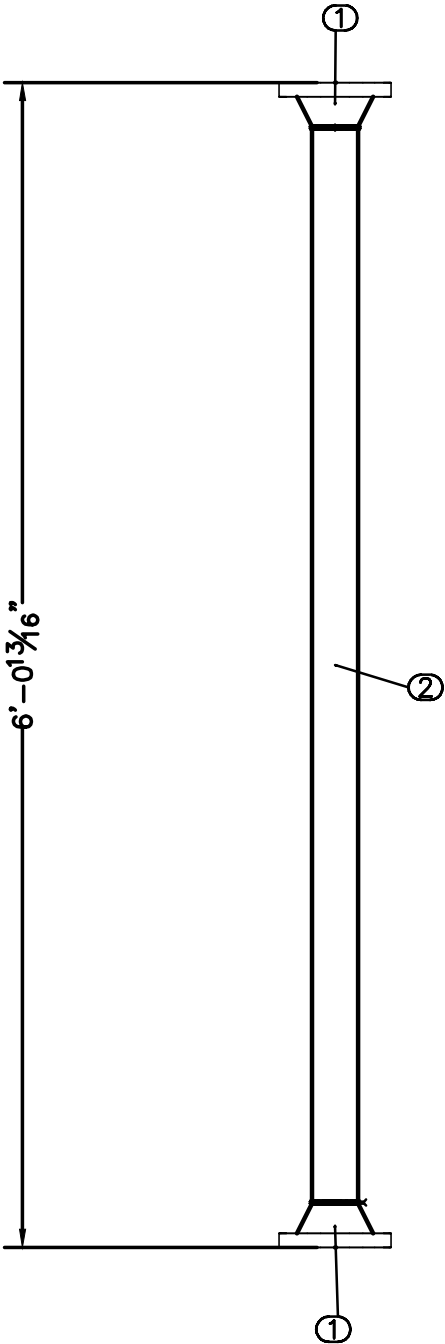


QTY 4

Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	4	150lb RF XH Bore SA105 CS WN FLG					2-1/2
1	4	XH SA-53B CS SMLS Pipe	MPT	BEV	1'-0"	12.000	2-1/2

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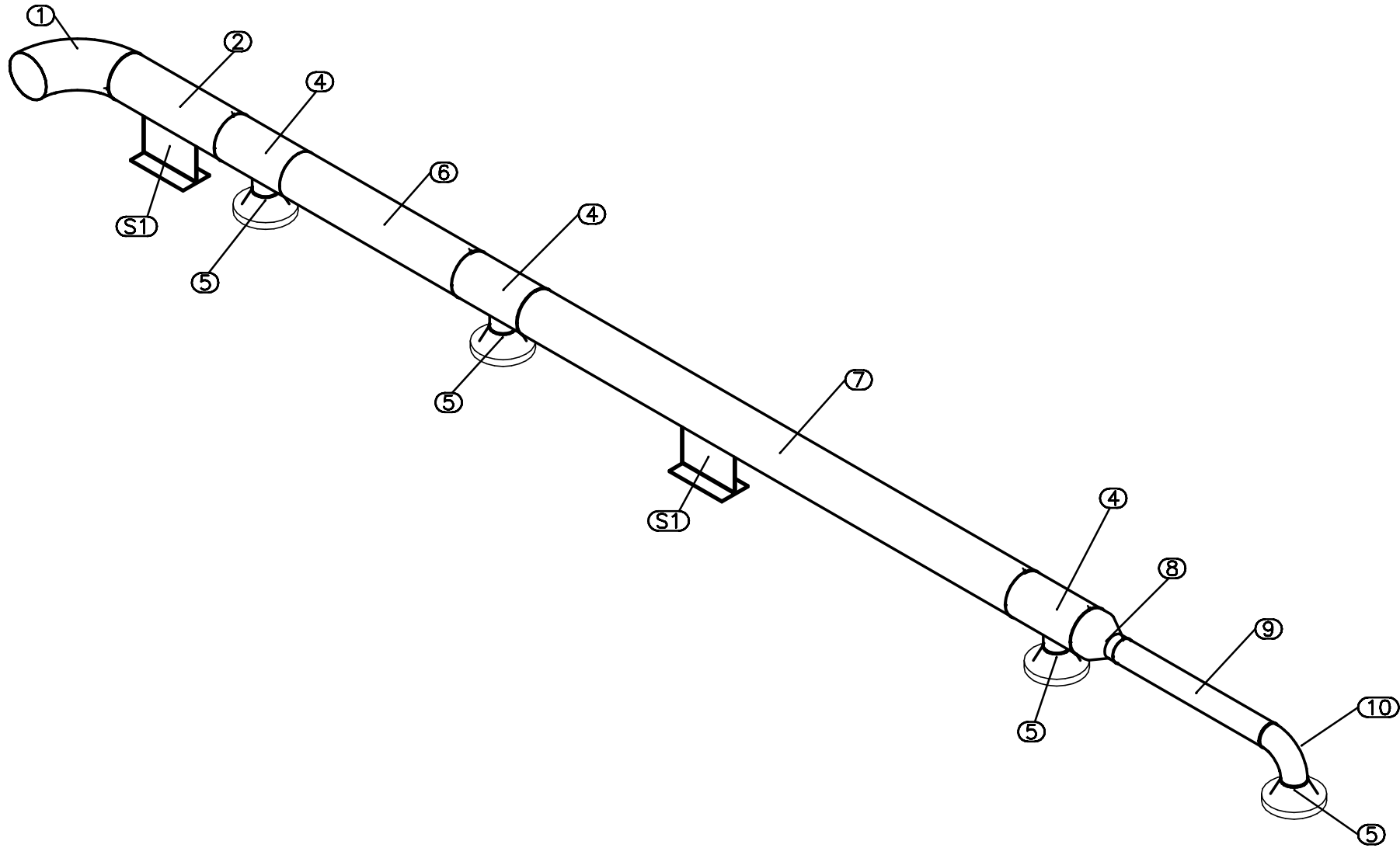
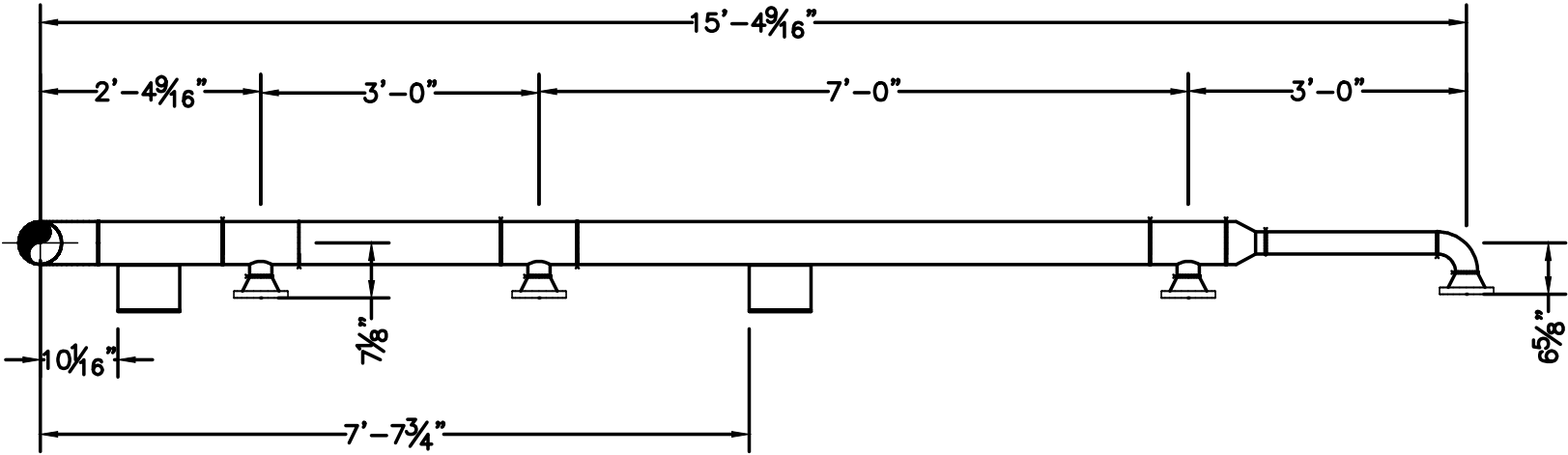
QTY 3

Murphy—PFFS—SPOOL—BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
1	6	150lb RF XH Bore SA105 CS WN FLG					2-1/2
2	3	XH SA-53B CS SMLS Pipe	BEV	BEV	5'-7 1/16"	67.055	2-1/2

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DRN JMM CHK APP JOB NO. 210140 REF.DWG. DRAWING NO./TRACKING NO. 210140-A008-009	2/19/2021		WUSM RESEARCH BUILDING NRB			QA/QC ACCEPT		<div><input type="checkbox"/> FLANGE WEIGHT/ORIENTATION</div> <div><input type="checkbox"/> FITTING ORIENTATION</div> <div><input type="checkbox"/> BOLTS/CPLG'S/TH'D TIGHT</div> <div><input type="checkbox"/> SPOOL IDENTIFICATION</div>							
	SERVICE NAME 210140-A008		ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS								
	QTY. 3		NA	NA	NA	NA	MURPHY WPS#								
	SHT/NO 1 of 1		REV 0	DATE	DESCRIPTION			DRN	CHK	APP					



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
S1	2	WT6x7			8.00		8"
4	3	XH SA234 WPB CS BW RED TEE					5x2-1/2
8	1	XH SA234 WPB CS BW CONC RED					5x2-1/2
5	4	150lb RF XH Bore SA105 CS WN FLG					2-1/2
10	1	XH SA234 WPB CS BW LR 90 Deg EI					2-1/2
1	1	XH SA234 WPB CS BW LR 90 Deg EI					5
9	1	XH SA-53B CS SMLS Pipe	BEV	BEV	1'-10 1/16"	22.057	2-1/2
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	1'-3 15/16"	15.966	5
6	1	XH SA-53B CS SMLS Pipe	BEV	BEV	2'-2"	25.990	5
7	1	XH SA-53B CS SMLS Pipe	BEV	BEV	6'-2"	73.990	5

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QA/QC ACCEPT				FLANGE WEIGHT/ORIENTATION				<input type="checkbox"/>									
				FITTING ORIENTATION				<input type="checkbox"/>									
				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	2/19/2021	WUSM RESEARCH BUILDING				SERVICE NAME			
CHK			NRB				210140-A008			
APP										
JOB NO.	210140									
REF.DWG.										
DRAWING NO./TRACKING NO.	210140-A008-010	QTY.	1	SHT/NO	1 of 1	REV	0			