

FABRICATION & GENERAL NOTES

- Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
- All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.
- Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021

REFERENCE INFORMATION

REFERENCE P&ID	18026-9100-1003-0103		
PIPE SPEC	HDPEFM200	HEAT TRACE	N
INSULATION TYPE	N	INSULATION THICKNESS	0 in
PROCESS LINE LIST	17180B-IHI-PR-LLS-0001	1	10/07/2019 RE-ISSUED FOR CONSTRUCTION
		0	06/21/2019 ISSUED FOR CONSTRUCTION
			REV. DATE
			REASON FOR ISSUE
			BY CHK APPR

PRAXAIR

IHI

IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77079
Tel 713.270.3100

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
ERCTION		
1 Pipe , IPS, ASTM F714, FM , CL200 , HDPE, ASTM D3350, PE4710, TF	12	27.3'
2 90 Deg Miter Bend-5S , IPS, ASTM F2206, FM , CL200 , TF , HDPE, ASTM D3350, PE4710, Fabricated, Tapered Ends		
3 Flg Face Adapter , IPS, ASTM F2880, FM , CL200 , Flared end, lap joint x TF , HDPE, ASTM D3350, PE4710	12	1
4 Non Metal Flat Gskt , ASME B16.21/B16.1 , CL150 , FF , Polytetrafluoroethylene (PTFE) , Garlock Gylon Style 3545, THK 1/16in (1.6 mm)	12	1
5 Stud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193 Grade B7 , w/ (2) A194-2H heavy hex nuts & washers, Xylan 1014 - 10 in. Length	7/8	12
6 Gate Vlv , AWWA C515 , 250 PSI , MJBLE , Bltd Bonnet , Indicator post , Ductile Iron , Bronze trim , UL/FM approved , GA13DF930	12	1
7 Backup Ring , IPS, FM approved , CL200 , FFLFE x TF , ASTM A536-65/45/12 , Drilling as per ASME B16.1/B16.5 Class 125/150, epoxy coated	12	1
		3

LEGEND:

- = SHOP WELD
- ✖ = FIELD WELD
- ▣ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
- = HEAT TRACING

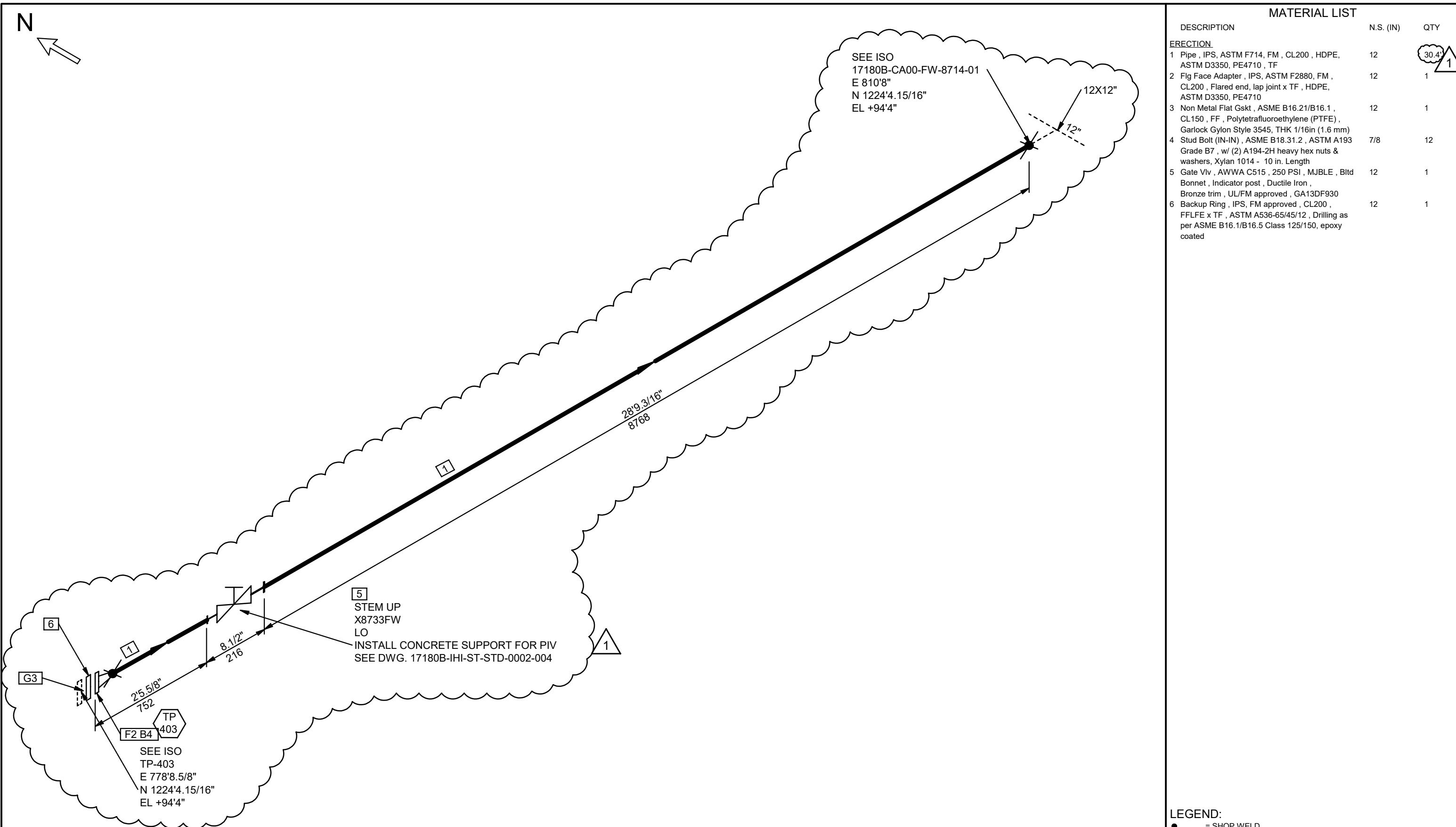
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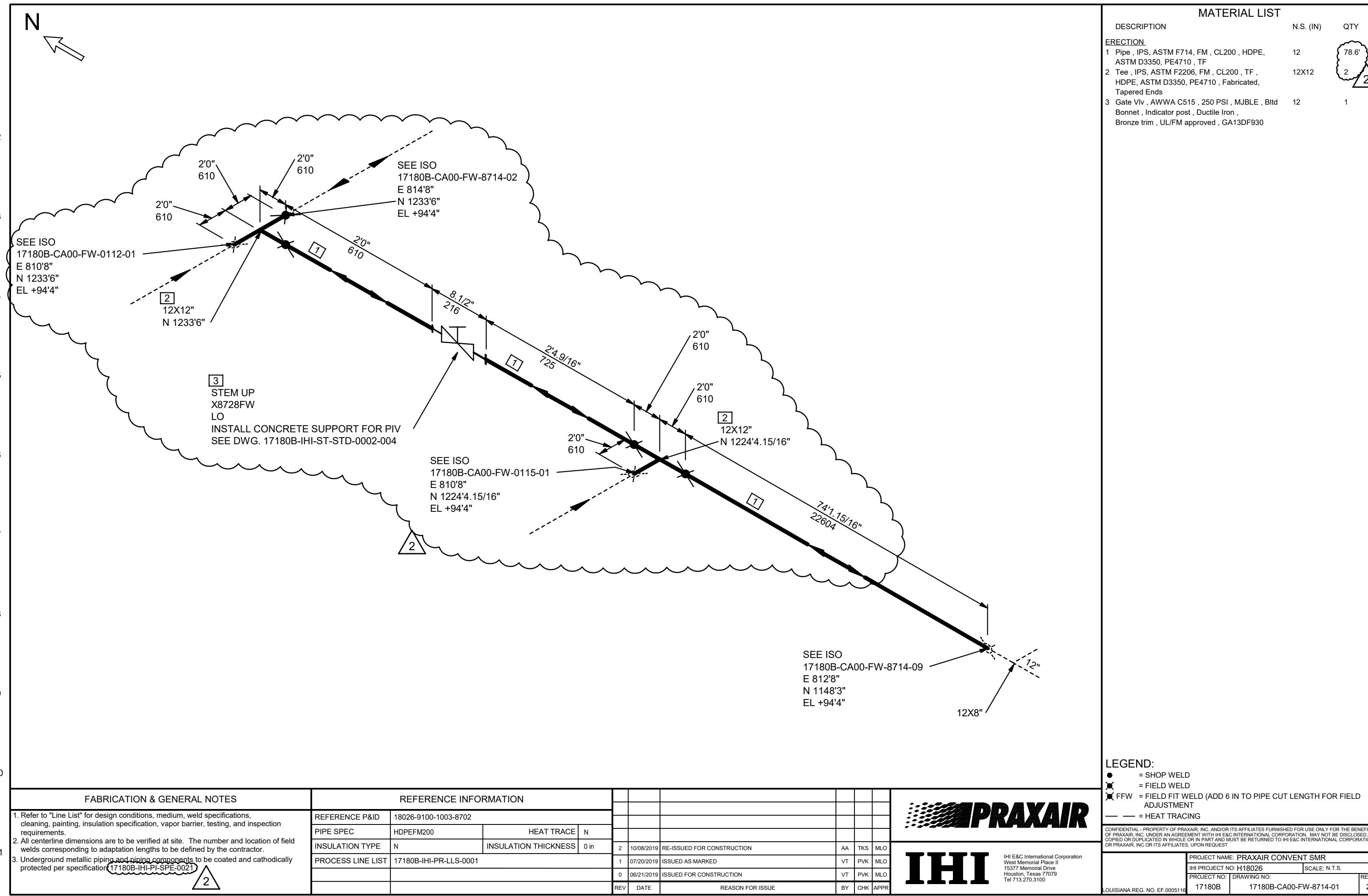
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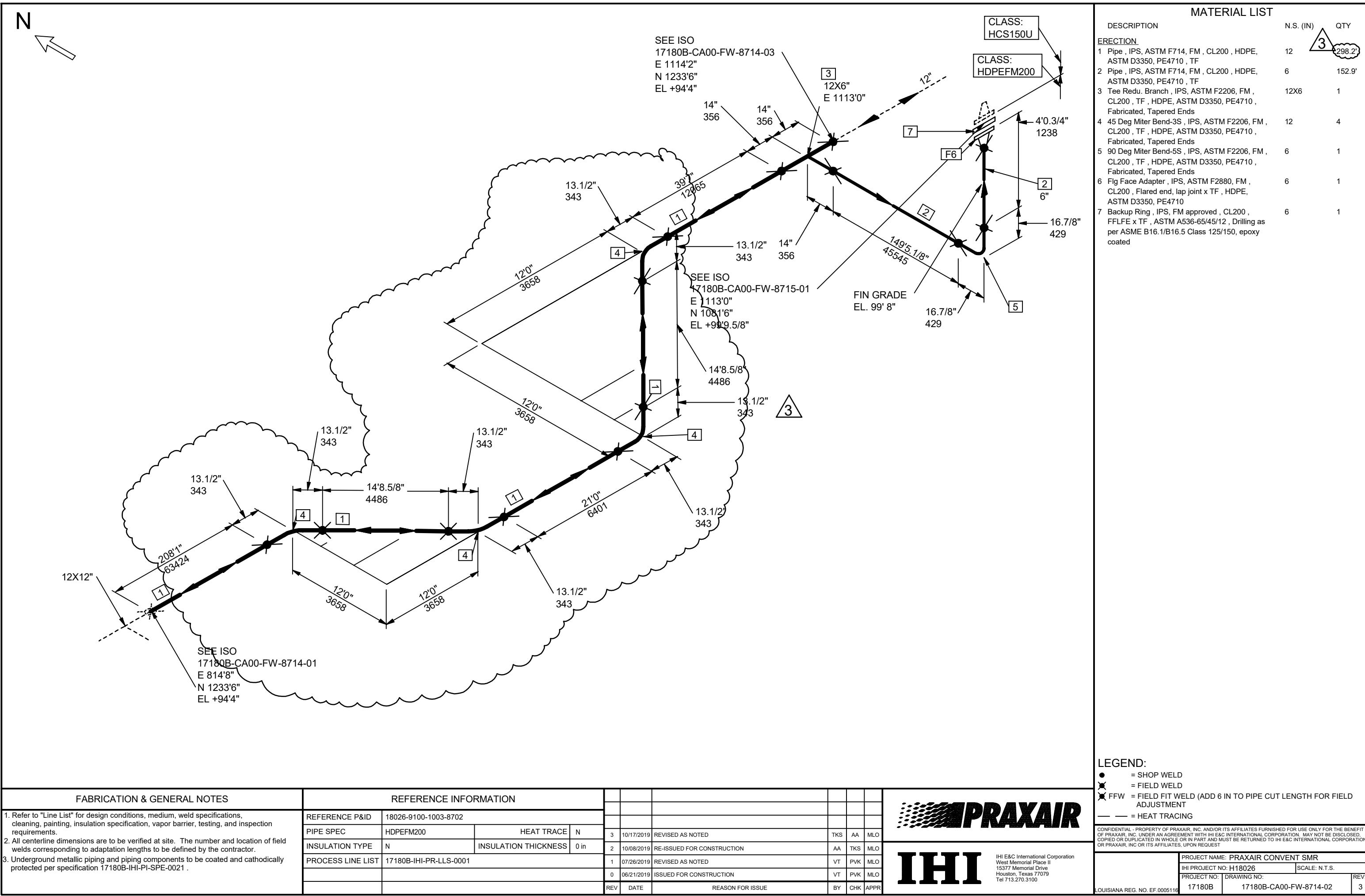
IHI PROJECT NO: H18026 SCALE: N.T.S.

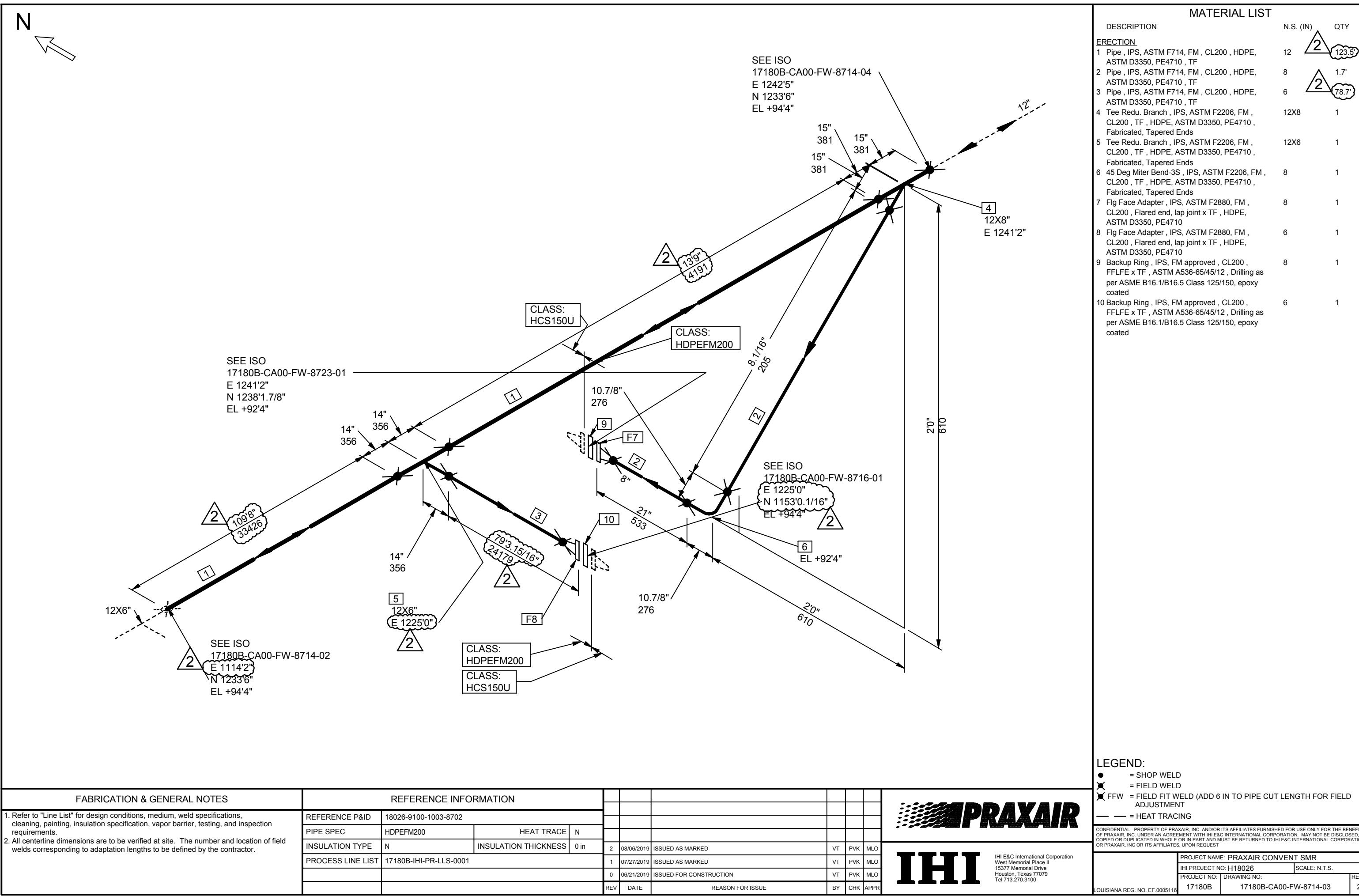
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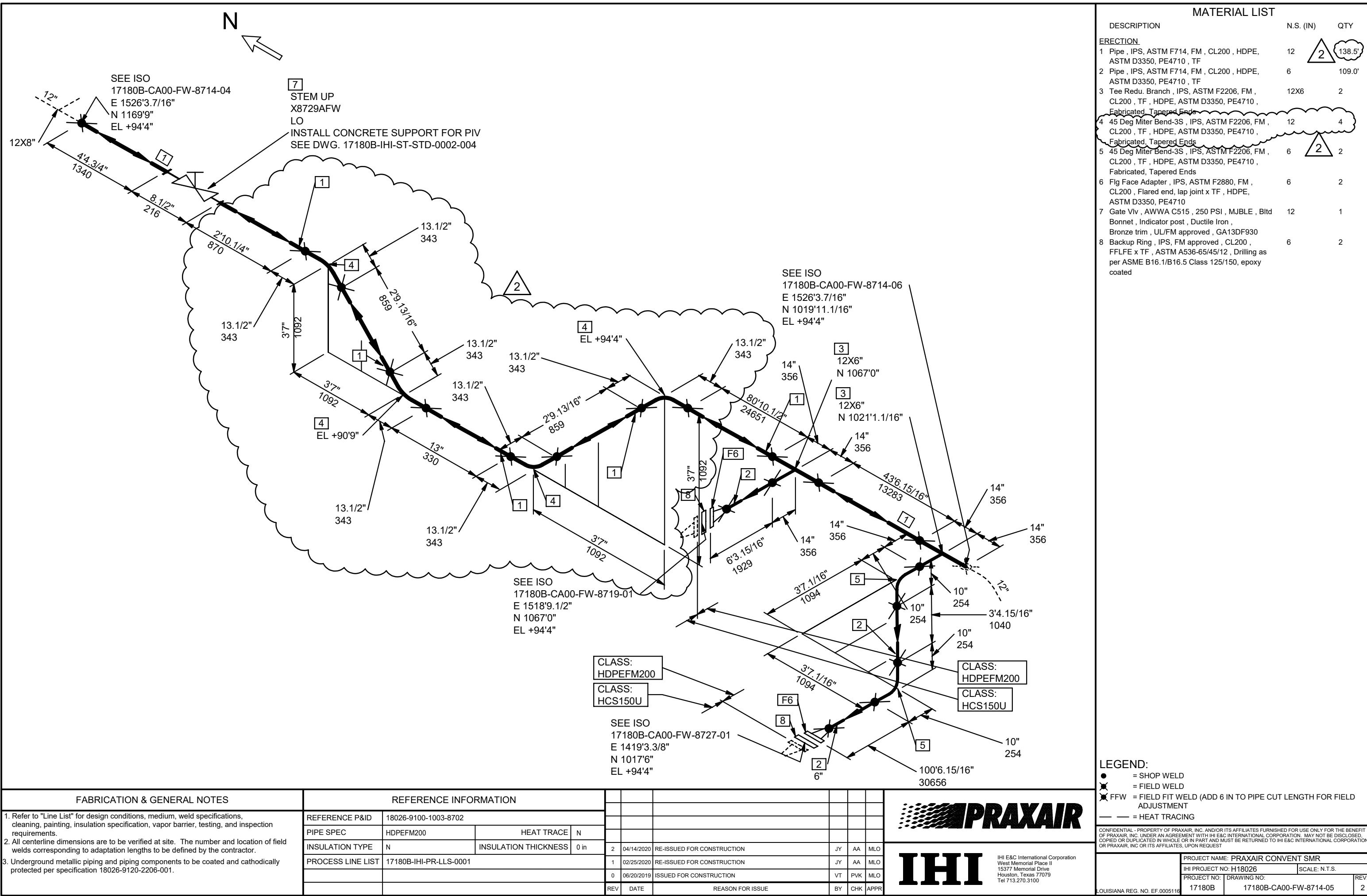
LOUISIANA REG. NO. EF.0005116 REV: 1

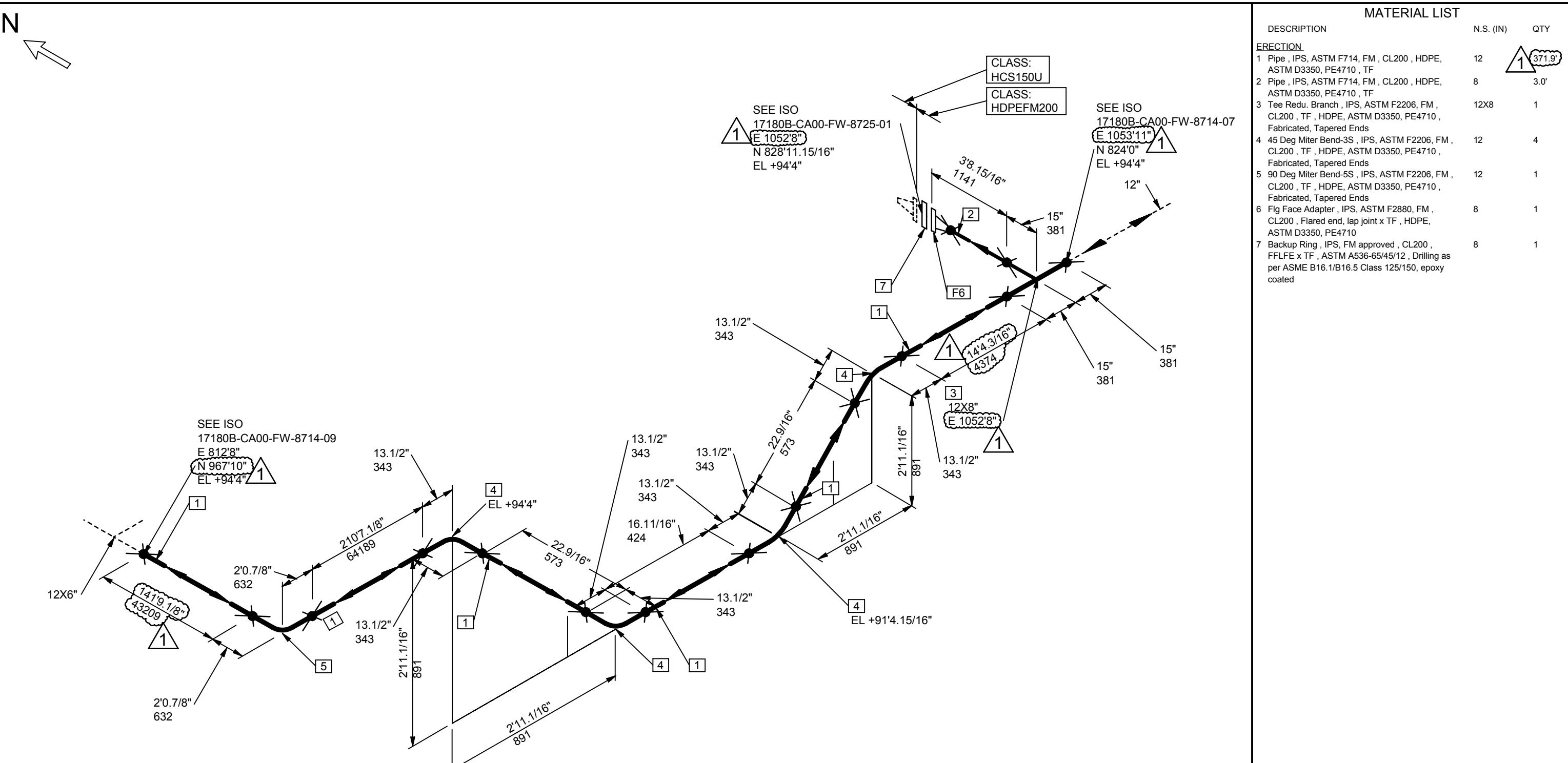












MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
ERCTION		
1 Pipe , IPS, ASTM F714, FM , CL200 , HDPE, ASTM D3350, PE4710 , TF	12	1
2 Pipe , IPS, ASTM F714, FM , CL200 , HDPE, ASTM D3350, PE4710 , TF	8	3.0'
3 Tee Redu. Branch , IPS, ASTM F2206, FM , CL200 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends	12X8	1
4 45 Deg Miter Bend-3S , IPS, ASTM F2206, FM , CL200 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends	12	4
5 90 Deg Miter Bend-5S , IPS, ASTM F2206, FM , CL200 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends	12	1
6 Flg Face Adapter , IPS, ASTM F2880, FM , CL200 , Flared end, lap joint x TF , HDPE, ASTM D3350, PE4710	8	1
7 Backup Ring , IPS, FM approved , CL200 , FFLFE x TF , ASTM A536-65/45/12 , Drilling as per ASME B16.1/B16.5 Class 125/150, epoxy coated	8	1

LEGEND:

- = SHOP WELD
- ✖ = FIELD WELD
- ☒ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
- = HEAT TRACING

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Houston, Texas 77079
Tel 713.270.3100

	PROJECT NAME: PRAXAIR CONVENT SMR
	IHI PROJECT NO: H18026
	SCALE: N.T.S.
	PROJECT NO: DRAWING NO: 17180B 17180B-CA00-FW-8714-08

FABRICATION & GENERAL NOTES

- Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
- All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

REFERENCE INFORMATION

REFERENCE P&ID 18026-9100-1003-8702

PIPE SPEC HDPEFM200

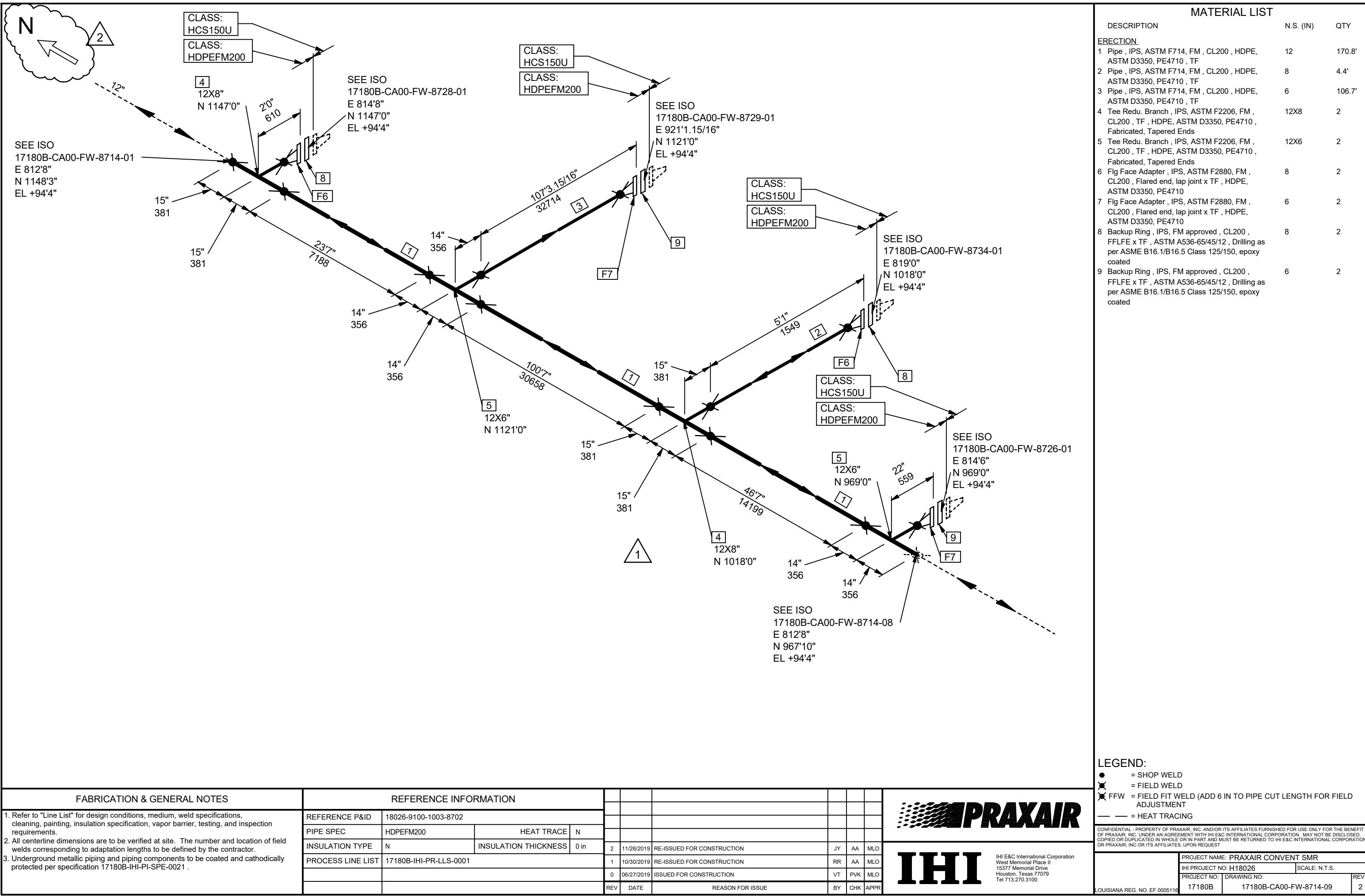
HEAT TRACE N

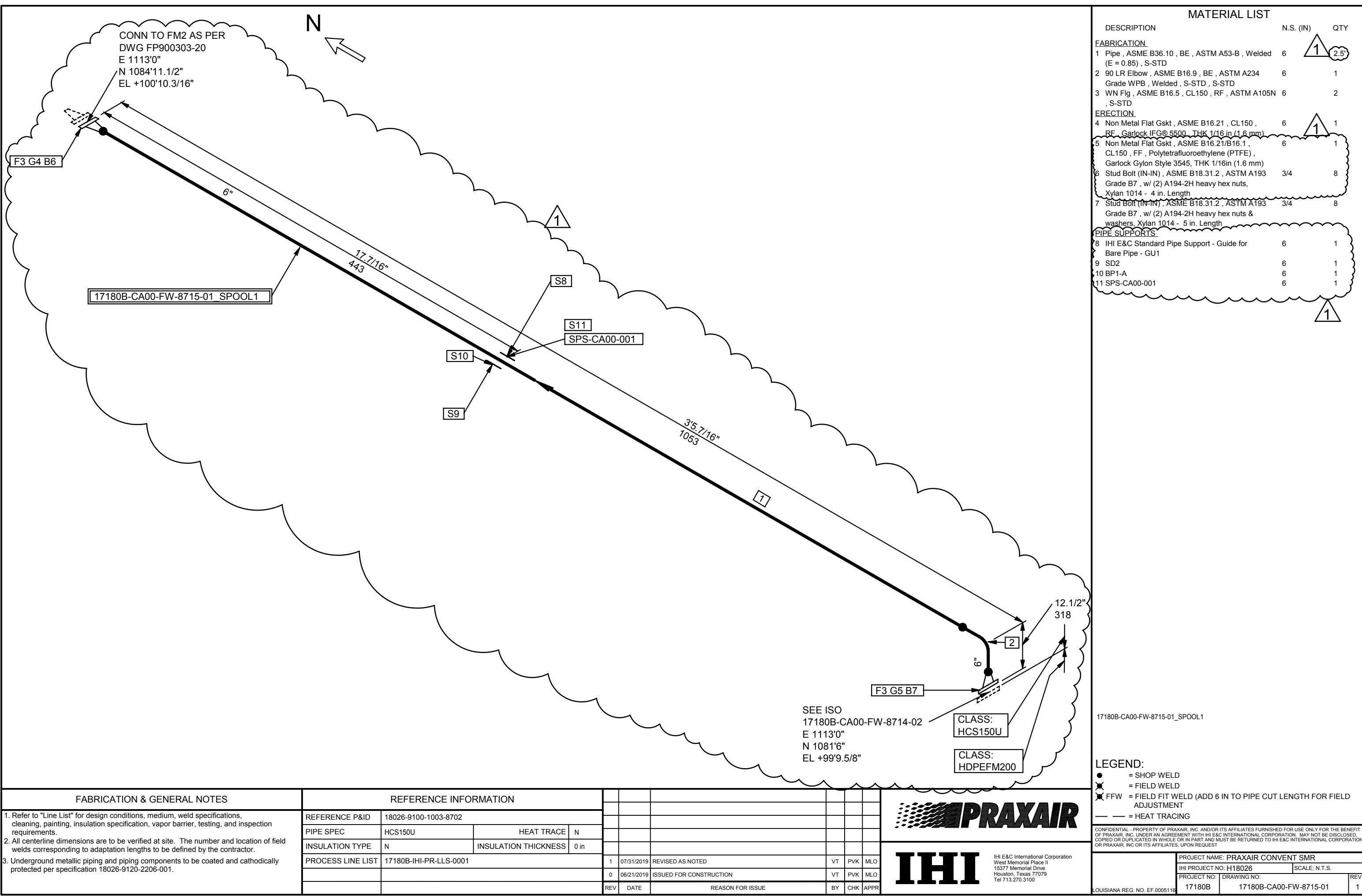
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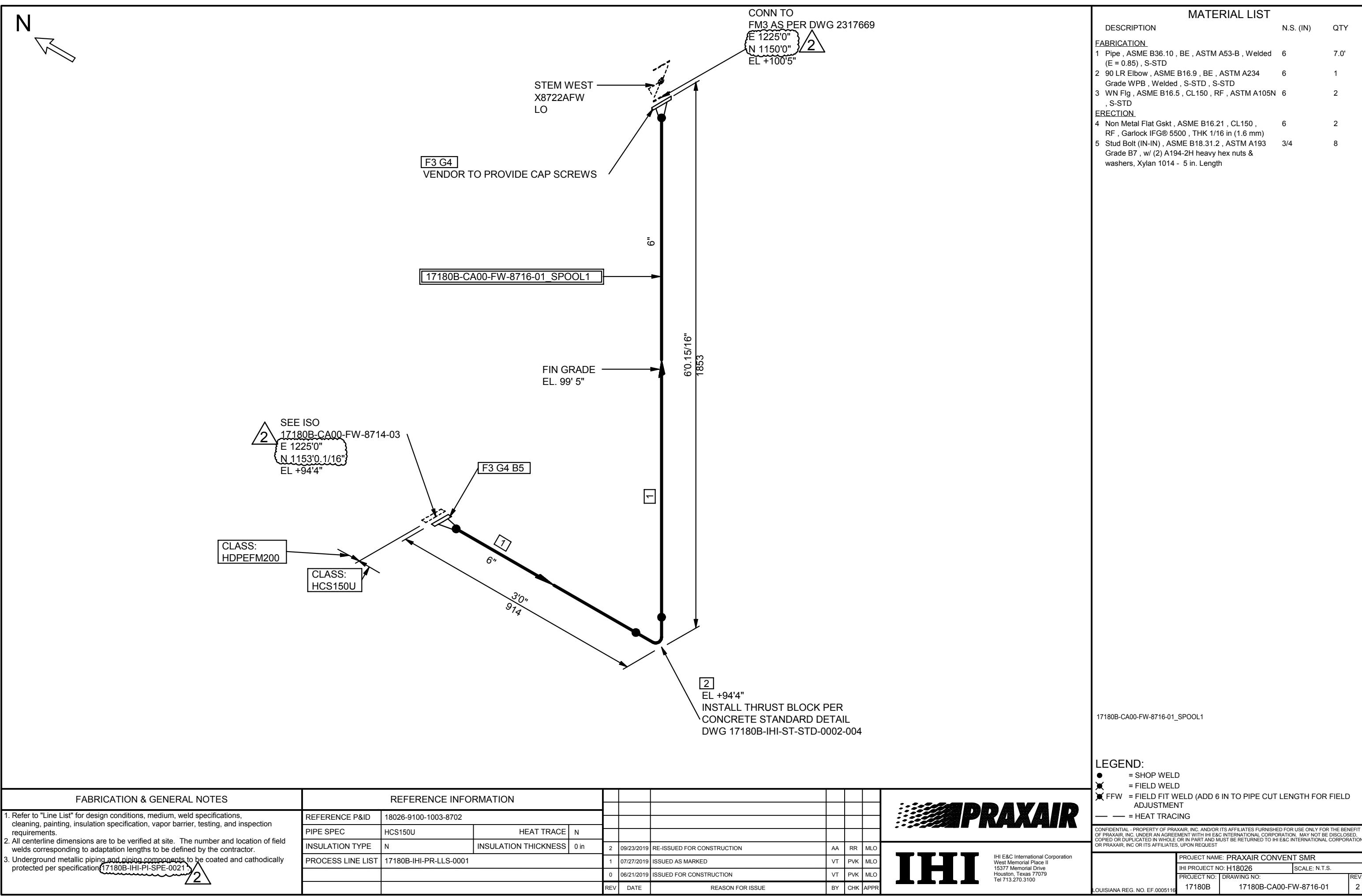
INSULATION THICKNESS 0 in

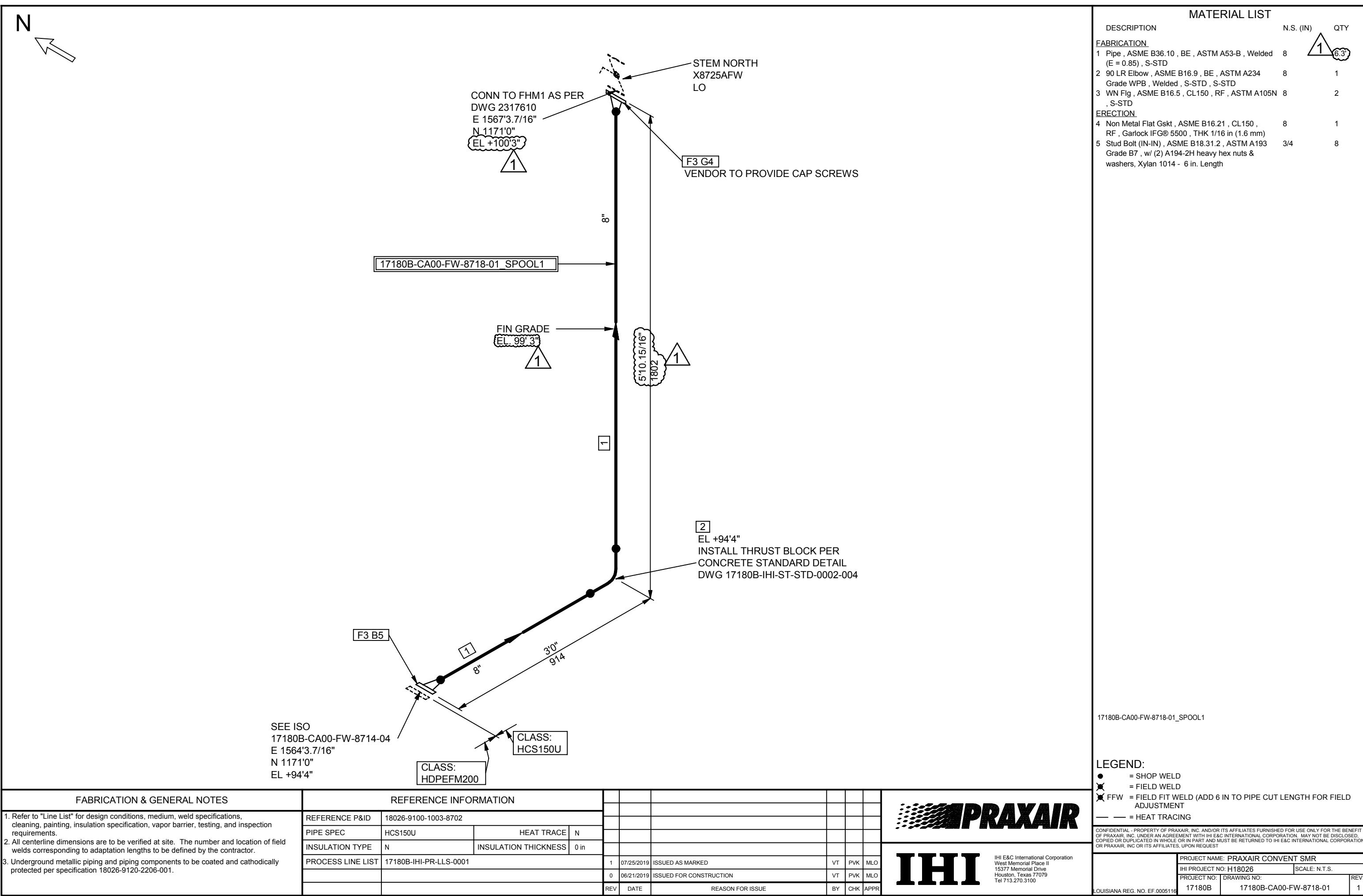
PROCESS LINE LIST 17180B-IHI-PR-LLS-0001

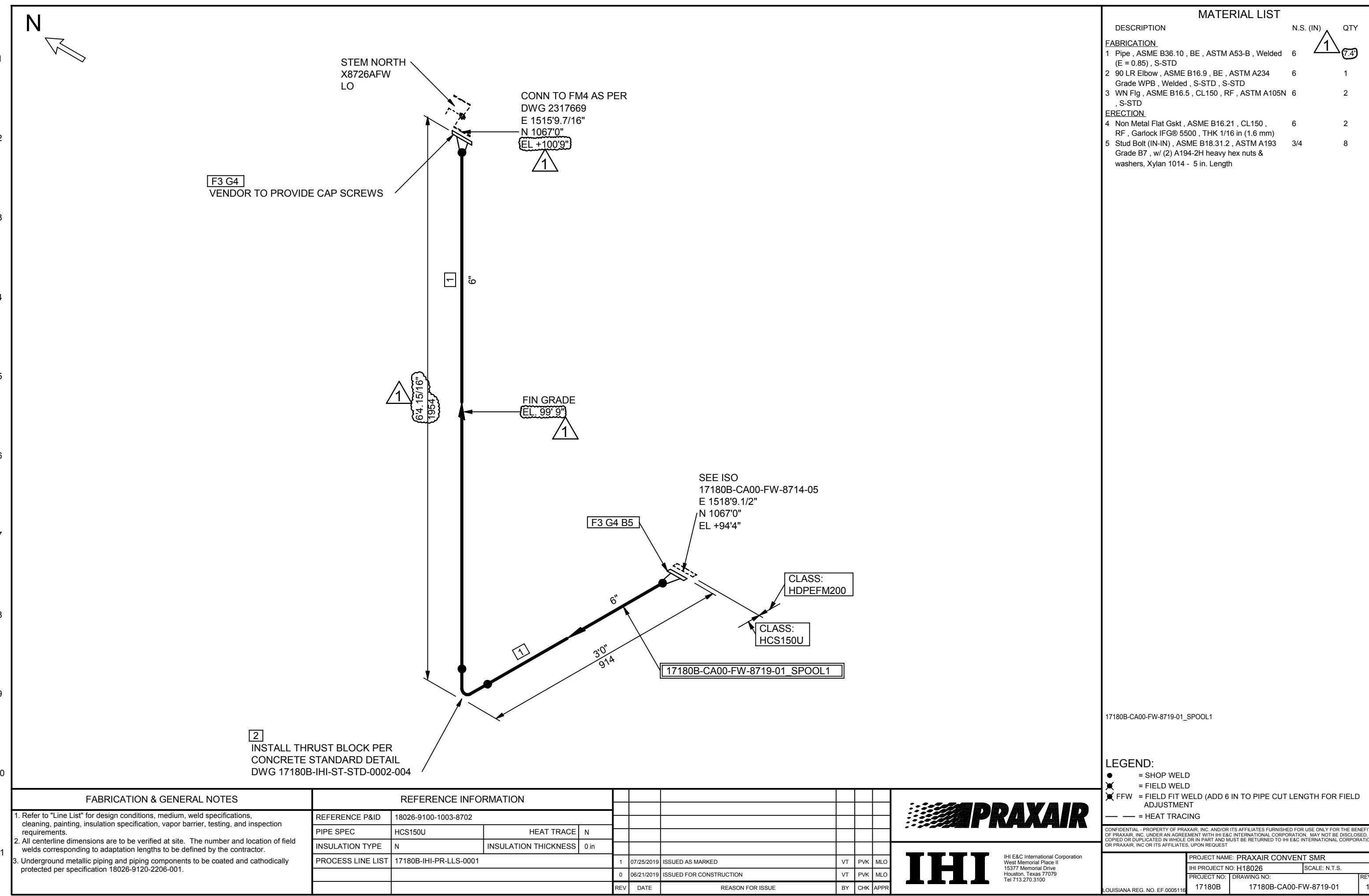
1	07/19/2019	ISSUED AS MARKED	VT	PVK	MLO
0	06/21/2019	ISSUED FOR CONSTRUCTION	VT	PVK	MLO
		REV DATE	BY	CHK	APPR

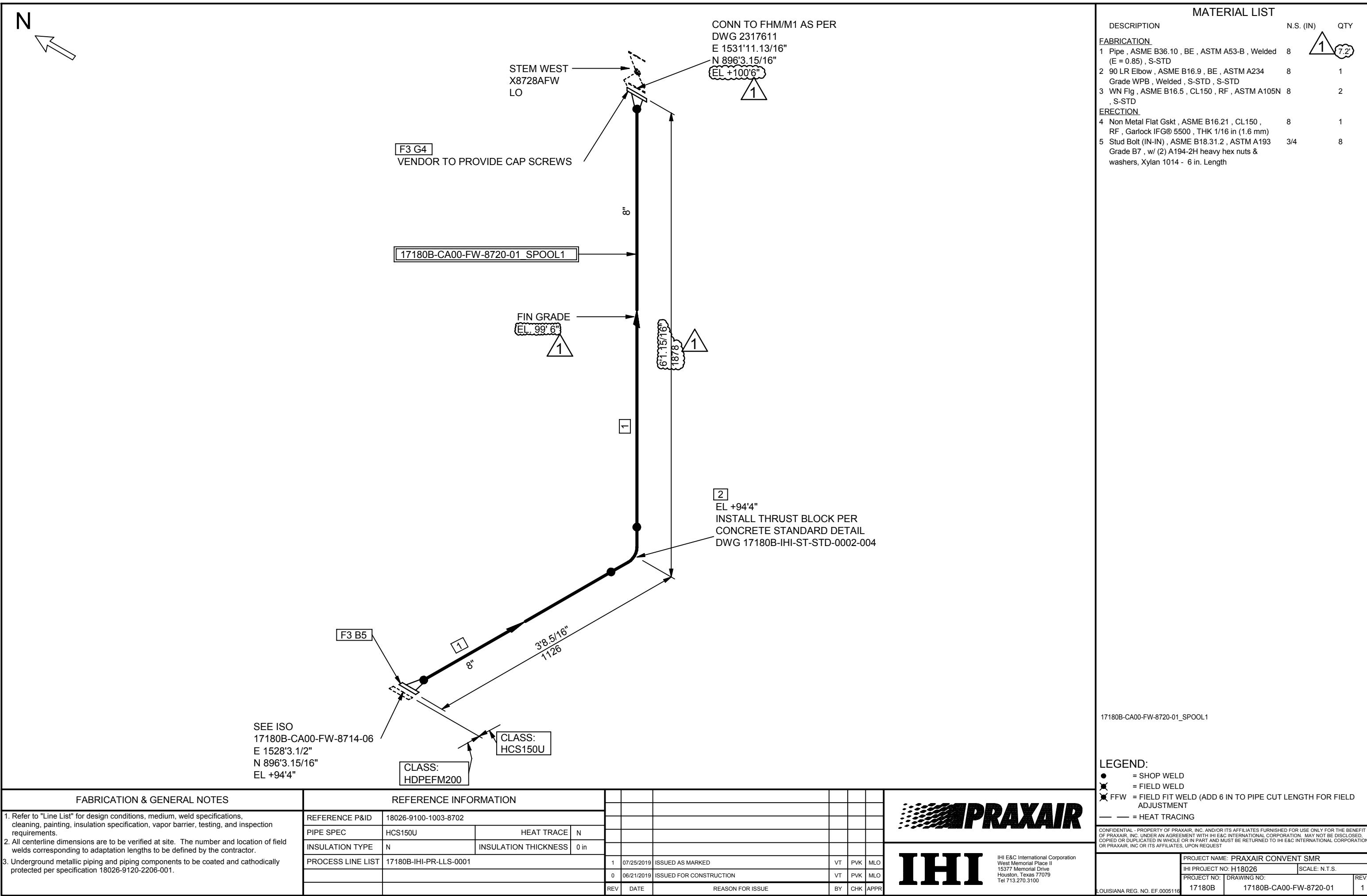


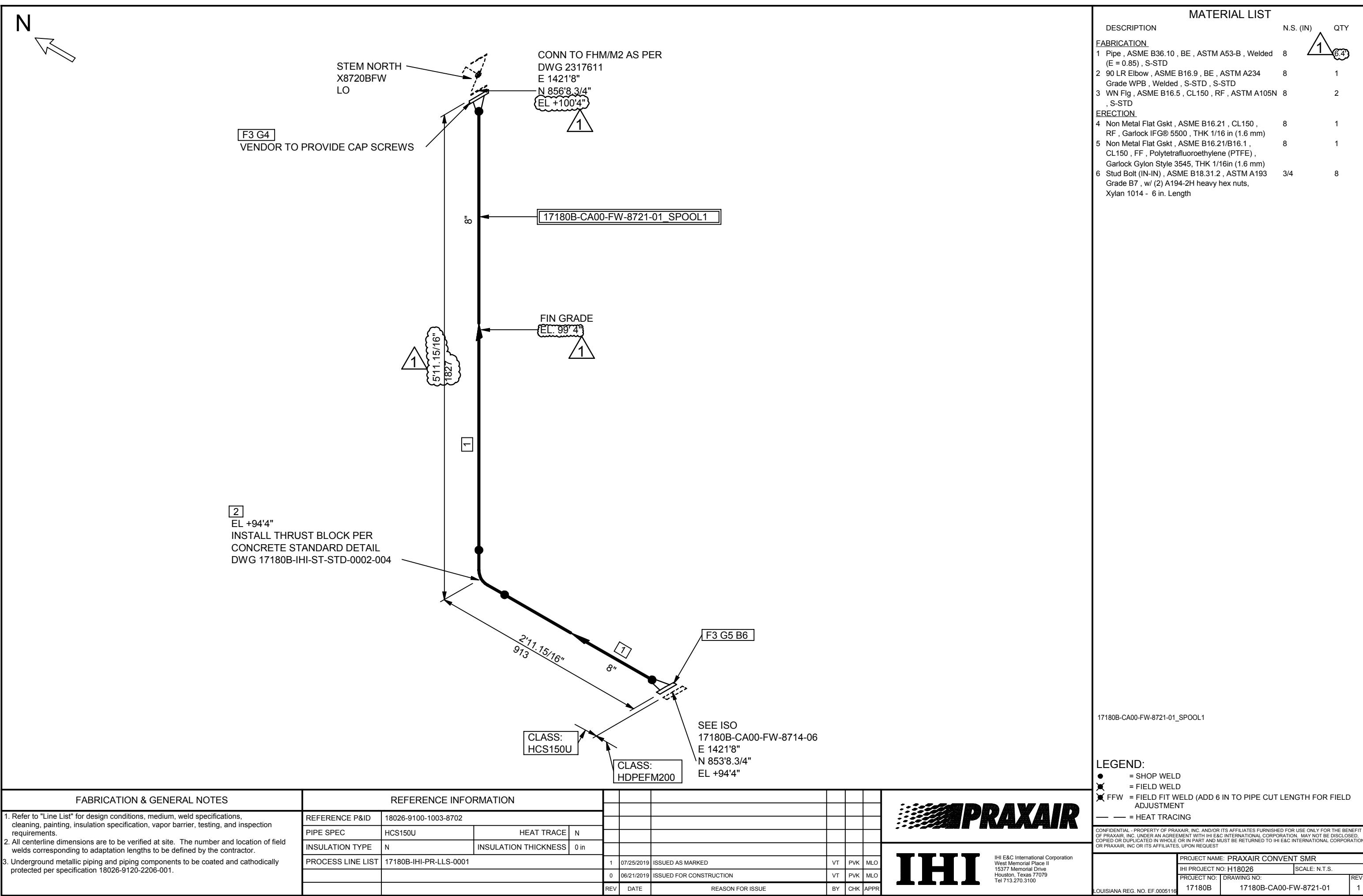


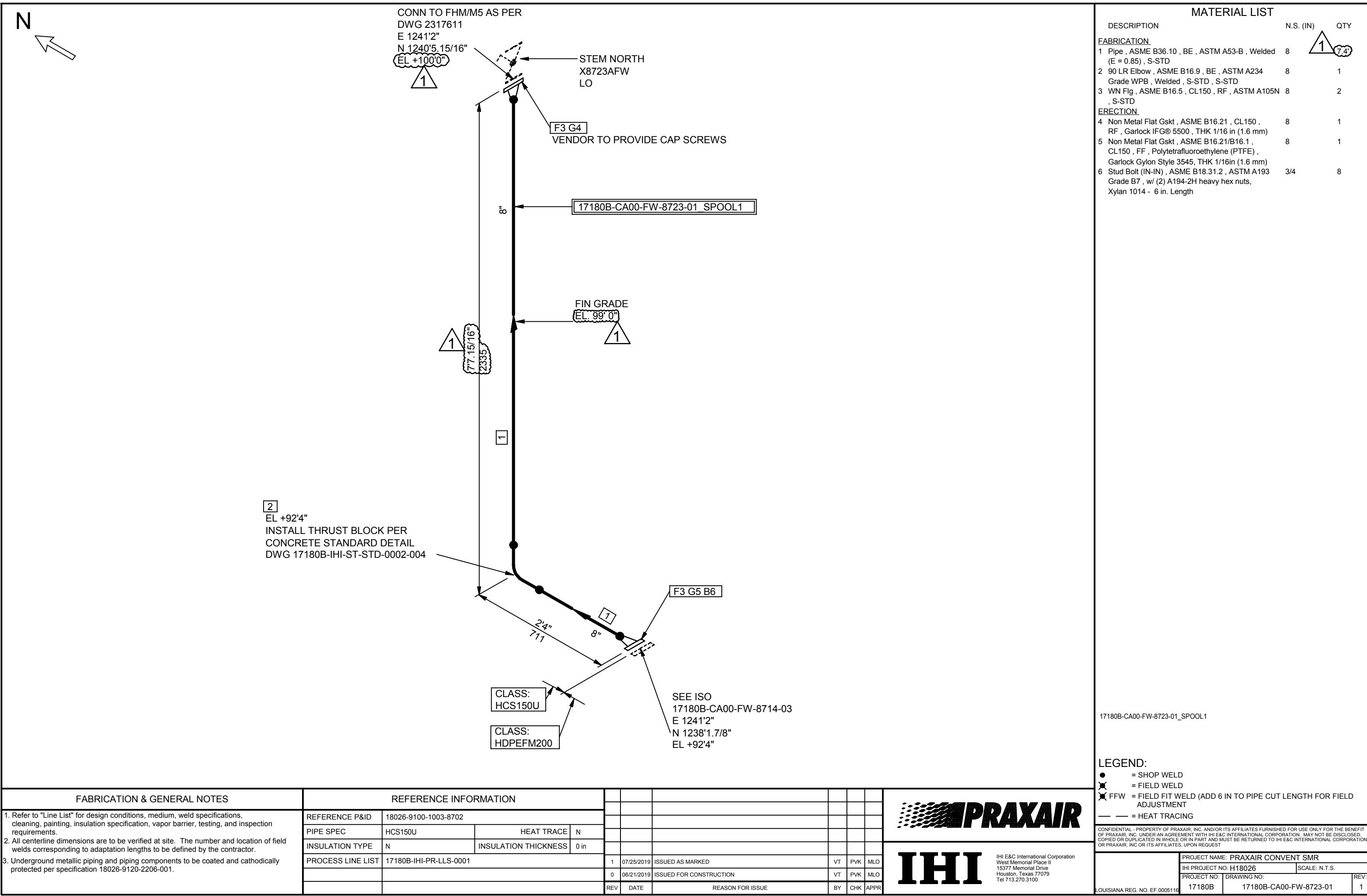


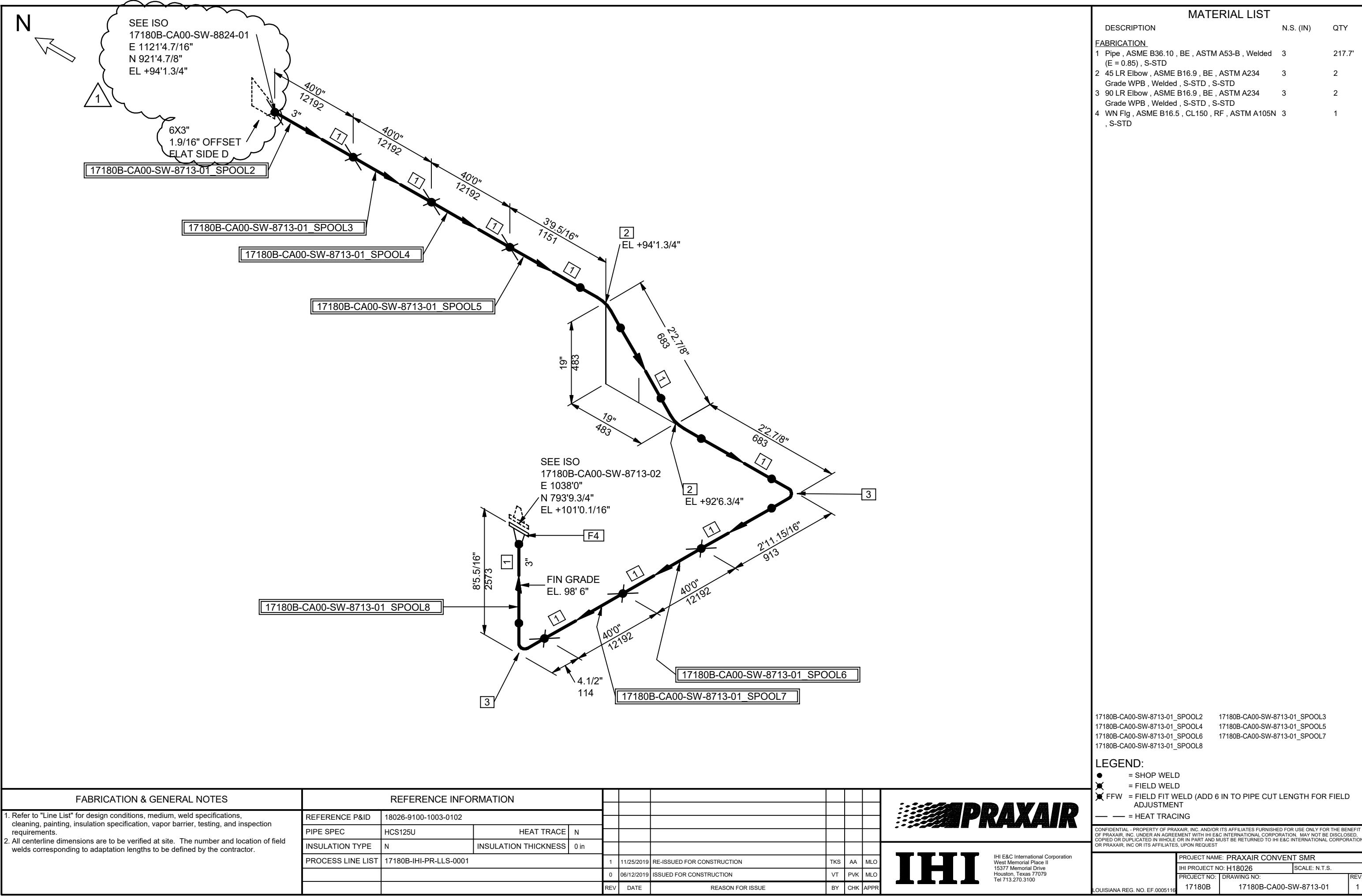


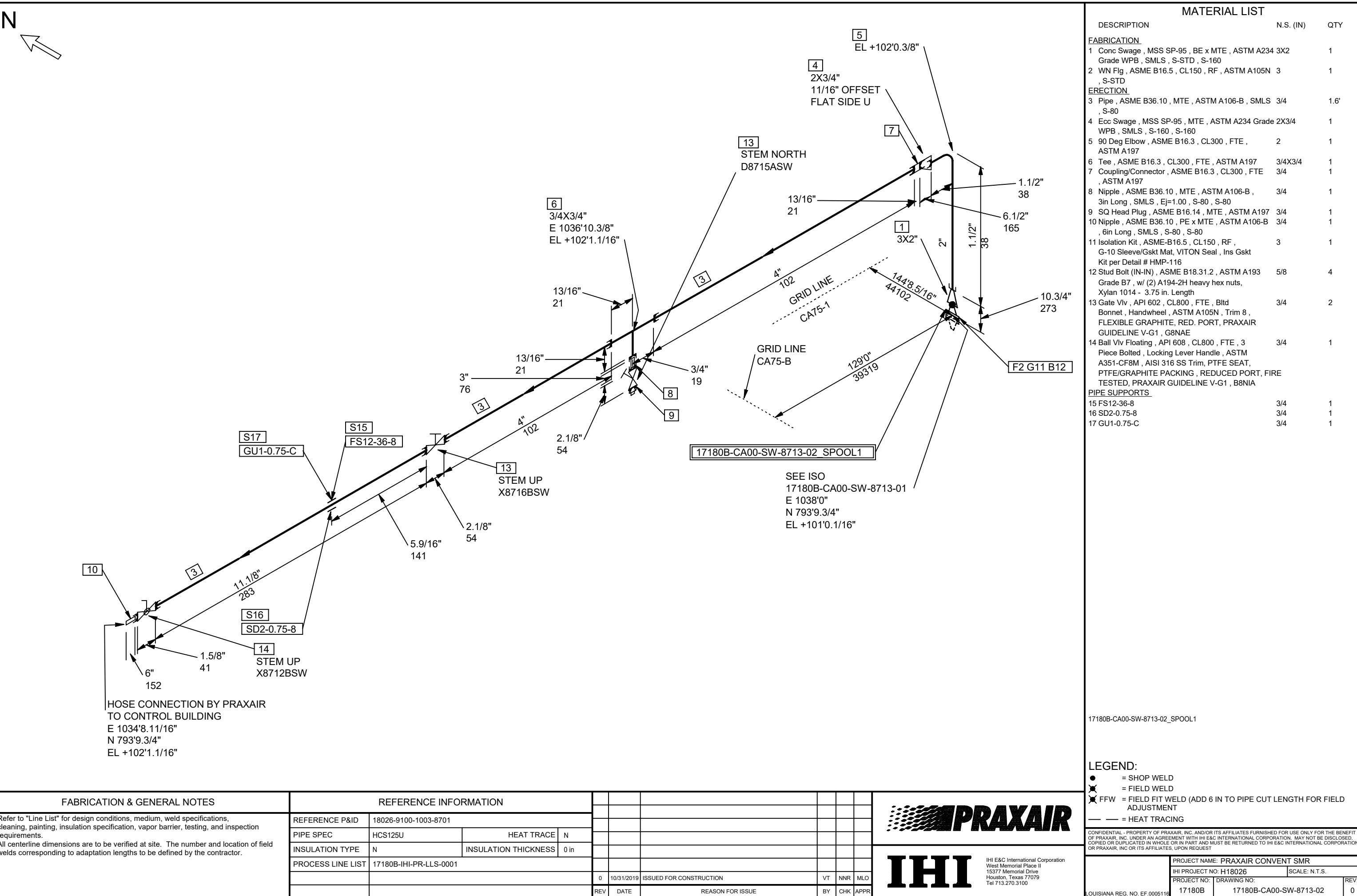


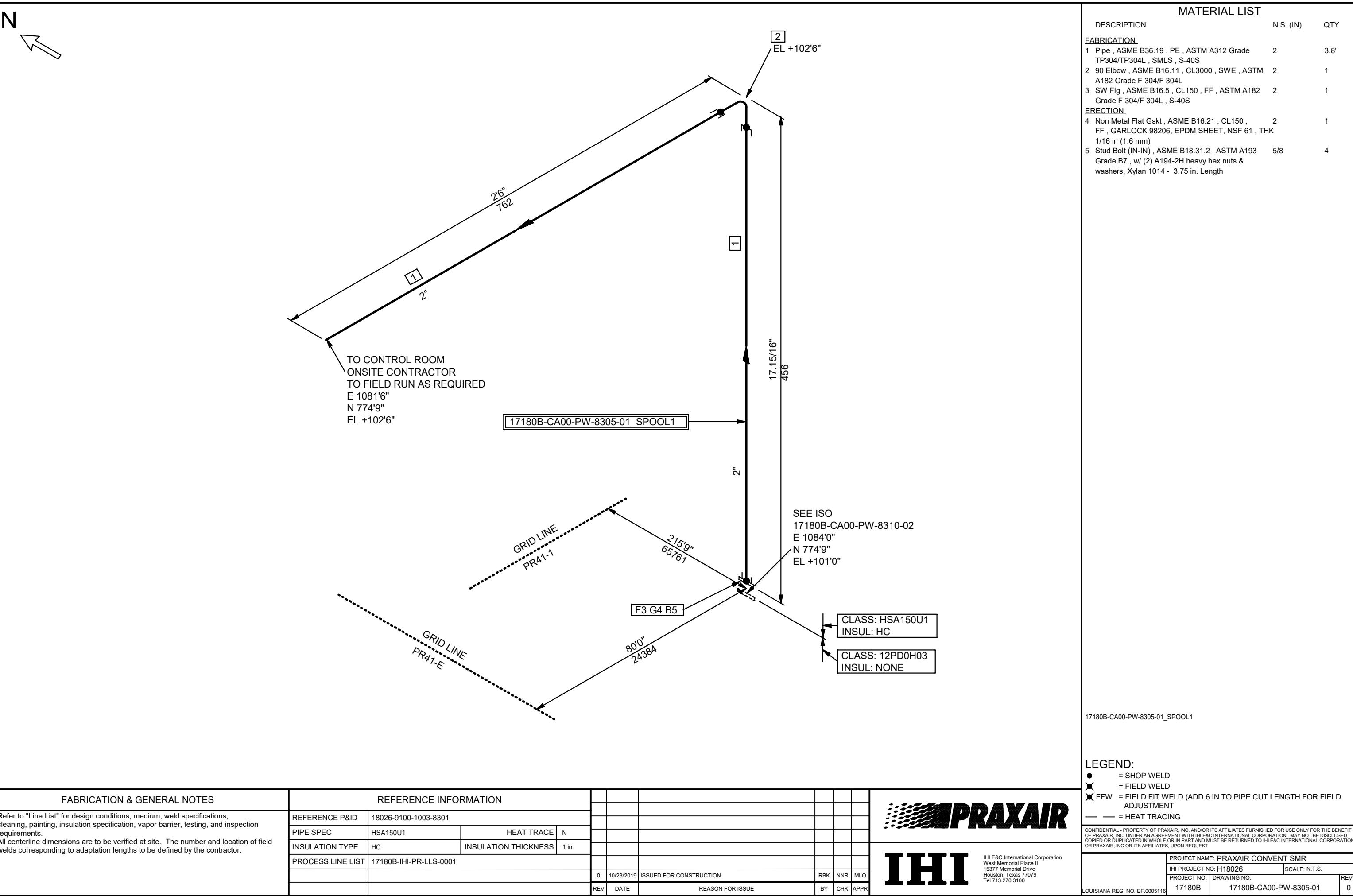


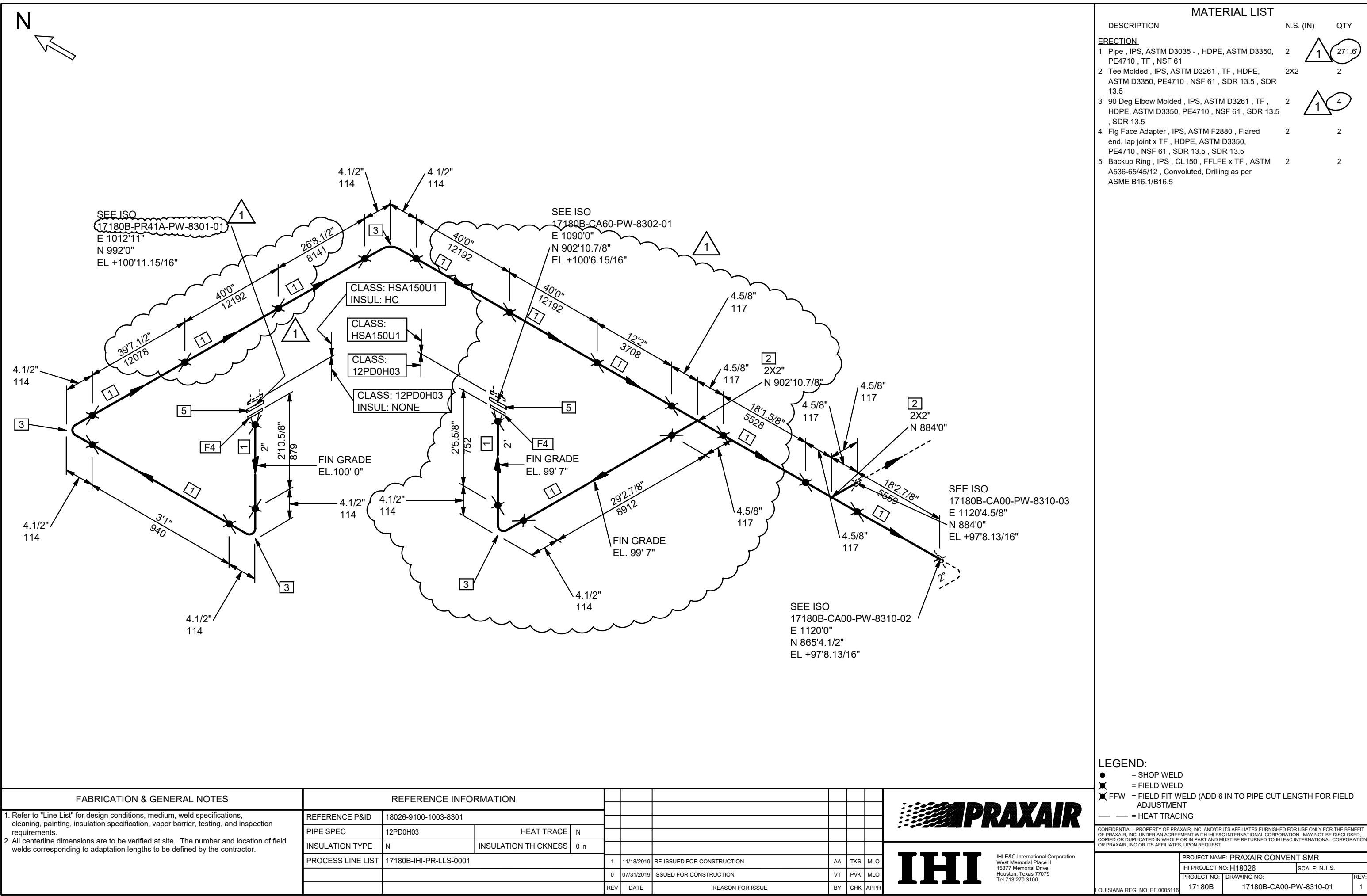


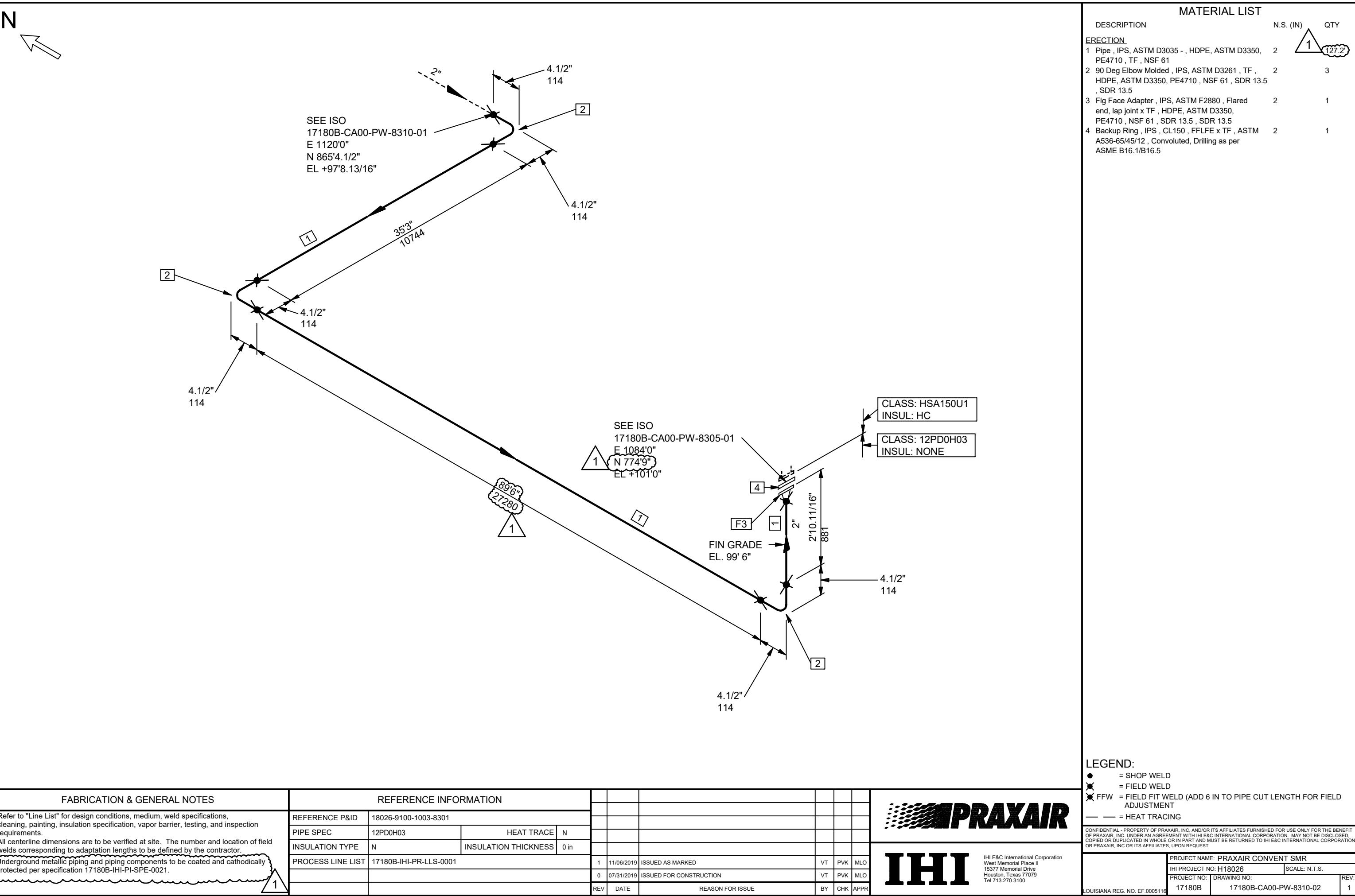


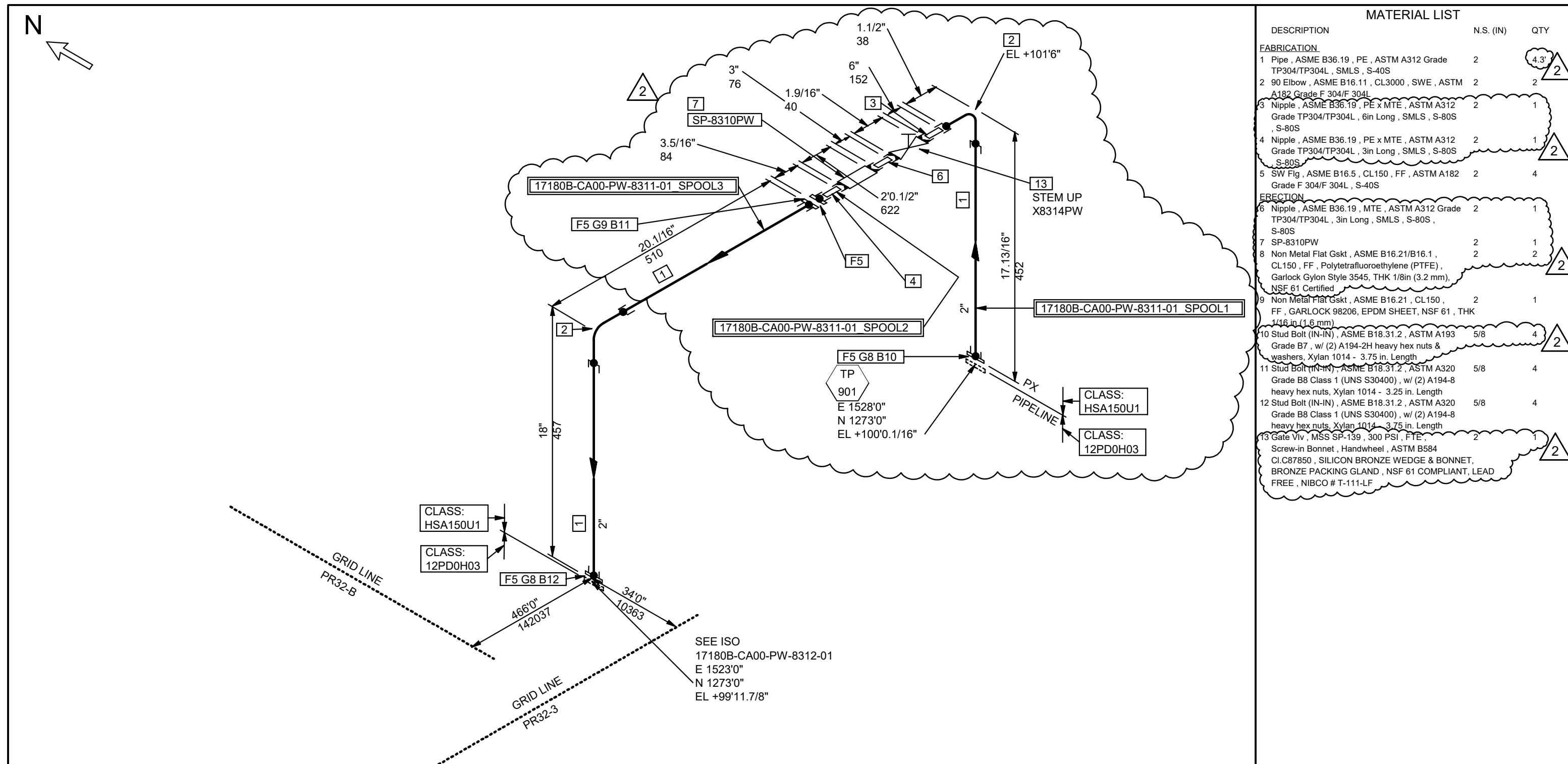












FABRICATION & GENERAL NOTES

1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

2 REFERENCE INFORMATION

REFERENCE P&ID

180269100-1003

PIPE SPEC HSA150U1

INSULATION TYPE N

PROCESS LINE LIST

PROCESS LINE LIST

Table 1. Summary of the main characteristics of the four groups of patients.

INFORMATION								
301								
	HEAT TRACE	N						
	INSULATION THICKNESS	0 in						
0001			2	06/08/2020	SAME AS REV1. RE-ISSUED TO MATCH PX CURRENT REVISION	JY	AA	MLO
			1	05/28/2020	RE-ISSUED FOR CONSTRUCTION	JY	AA	MLO
			0	11/07/2019	ISSUED FOR CONSTRUCTION	TKS	AA	MLO



UHI

I E&C International Corporation
West Memorial Place II
377 Memorial Drive

B-CA00-PW-8311-01_SPOOL1 17180B-CA00-PW-8311-01_SPOOL2
B-CA00-PW-8311-01_SPOOL3

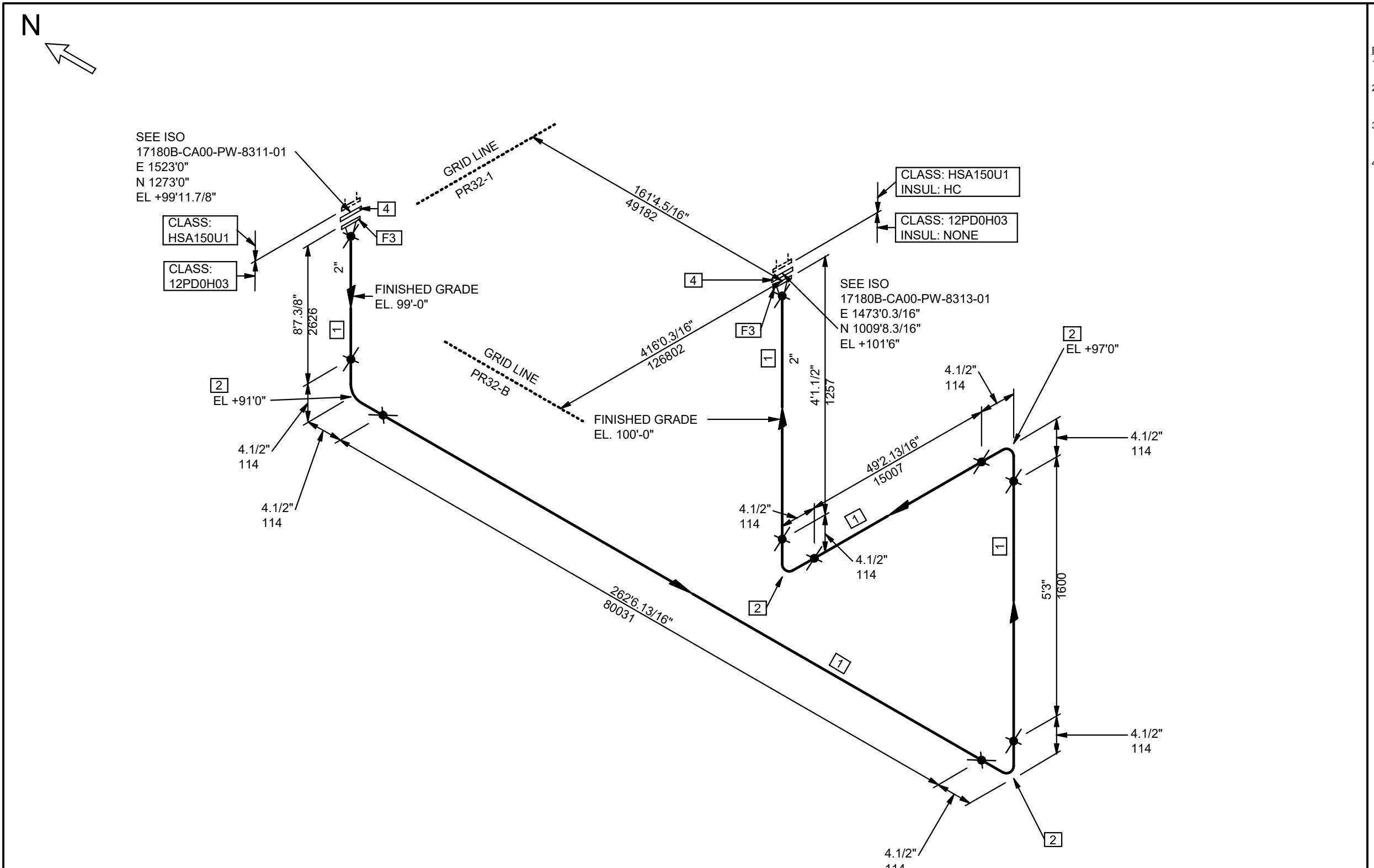
GEND:
= SHOP WELD
= FIELD WELD
TW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)

— = HEAT TRACING

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PROJECT NAME: PRAXAIR CONVENT SMR

IHI PROJECT NO: H18026	SCALE: N.T.S.	
PROJECT NO:	DRAWING NO:	REV:



FABRICATION & GENERAL NOTES		REFERENCE INFORMATION							
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.		REFERENCE P&ID 18026-9100-1003-8301							
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.		PIPE SPEC	12PD0H03	HEAT TRACE	N				
3. Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021 .		INSULATION TYPE	N	INSULATION THICKNESS	0 in				
		PROCESS LINE LIST	17180B-IHI-PR-LLS-0001						
						0	11/07/2019	ISSUED FOR CONSTRUCTION	TKS AA MLO
						REV	DATE	REASON FOR ISSUE	BY CHK APPR



IHI E
West
1537
House
Tel 7

&C International Corporation
Memorial Place II
7 Memorial Drive
Houston, Texas 77079
13-270-3100

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
<u>RECTION</u>		
Pipe , IPS, ASTM D3035 - , HDPE, ASTM D3350, PE4710 , TF , NSF 61	2	328.8'
90 Deg Elbow Molded , IPS, ASTM D3261 , TF , HDPE, ASTM D3350, PE4710 , NSF 61 , SDR 13.5 , SDR 13.5	2	4
Flg Face Adapter , IPS, ASTM F2880 , Flared end, lap joint x TF , HDPE, ASTM D3350, PE4710 , NSF 61 , SDR 13.5 , SDR 13.5	2	2
Backup Ring , IPS , CL150 , FFLFE x TF , ASTM A536-65/45/12 , Convoluted, Drilling as per ASME B16.1/B16.5	2	2

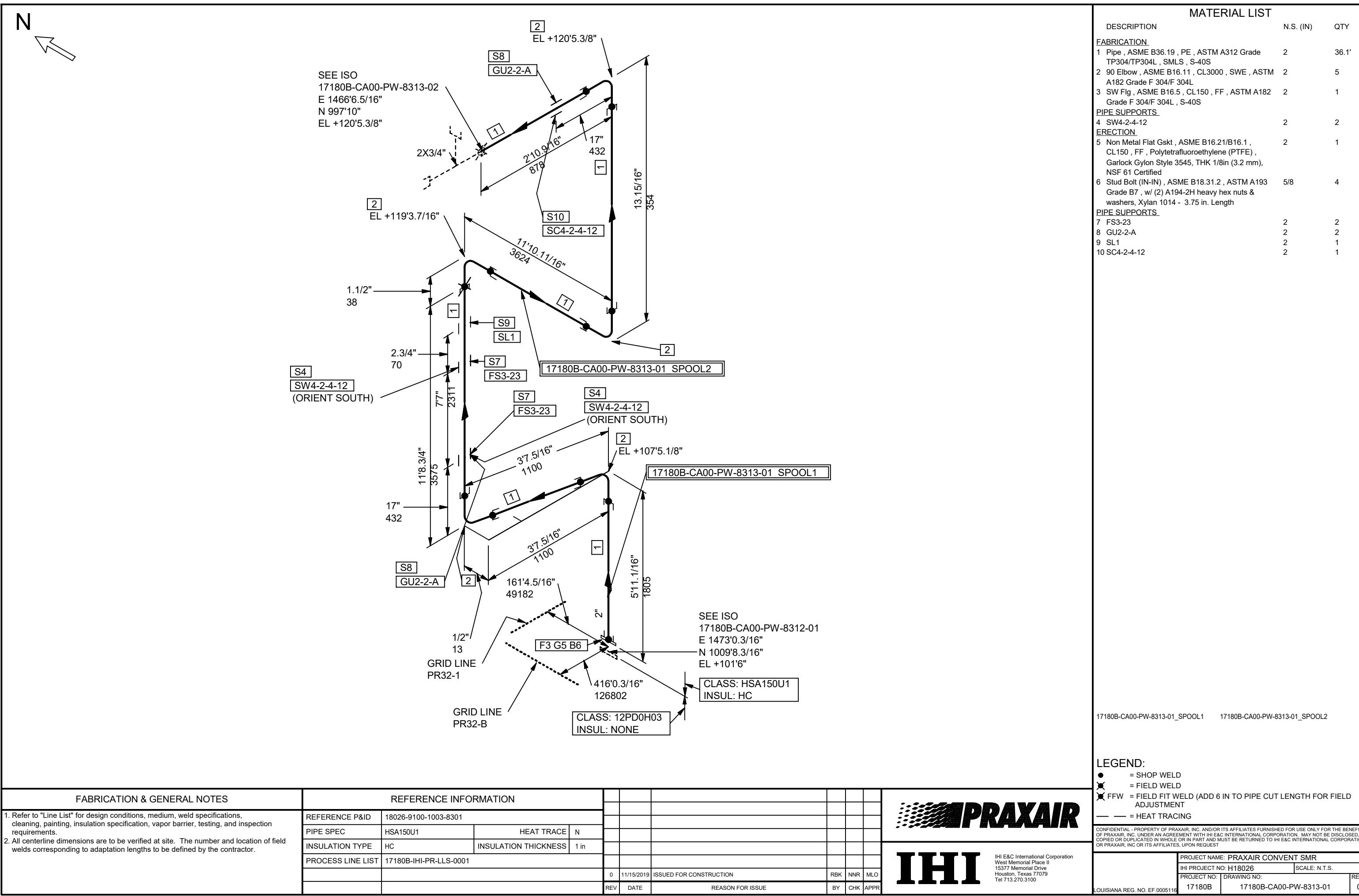
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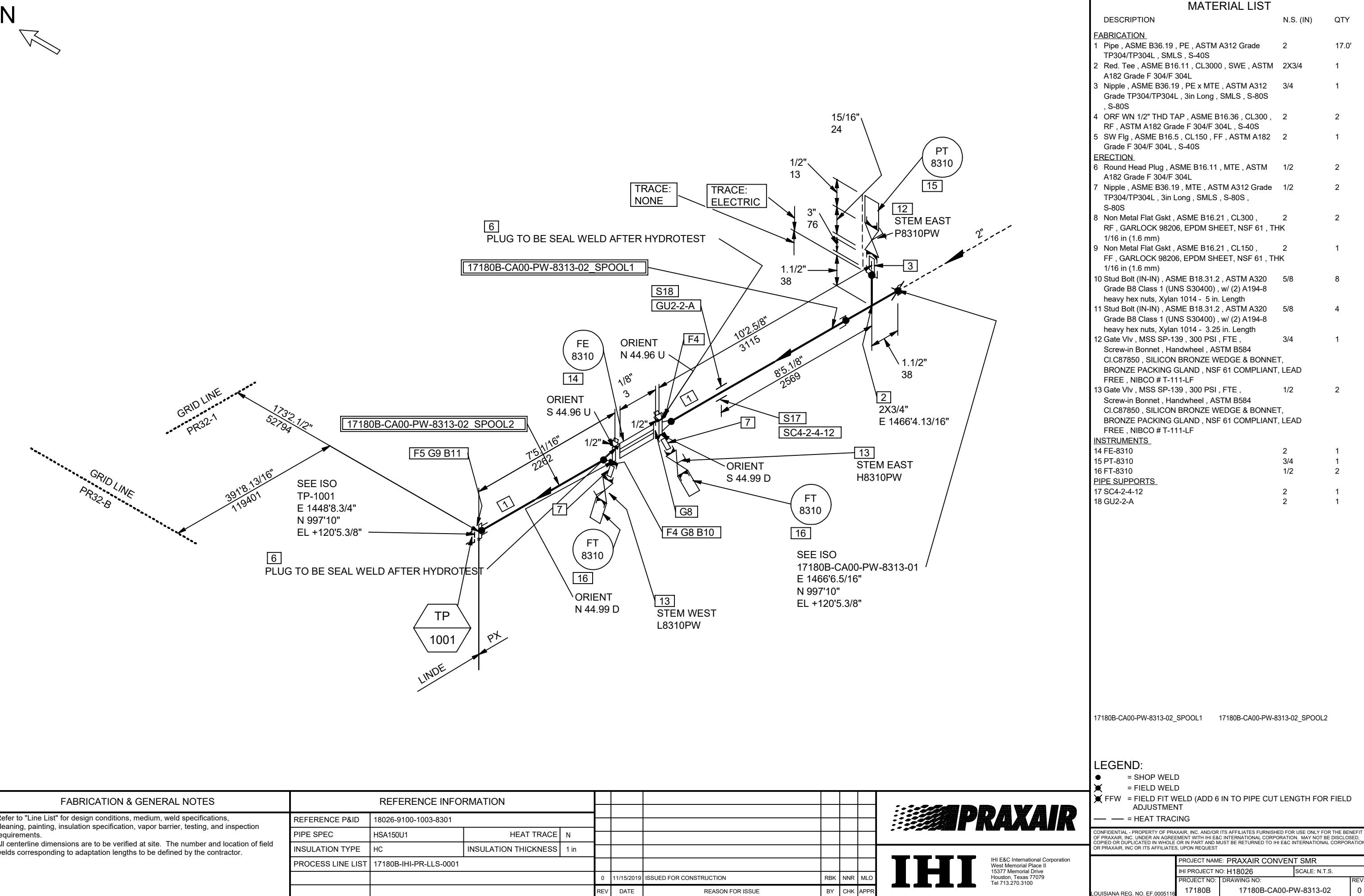
- WELD**
WELD
WELD (ADD 3 IN TO PIPE CUT LENGTH FOR FIELD)

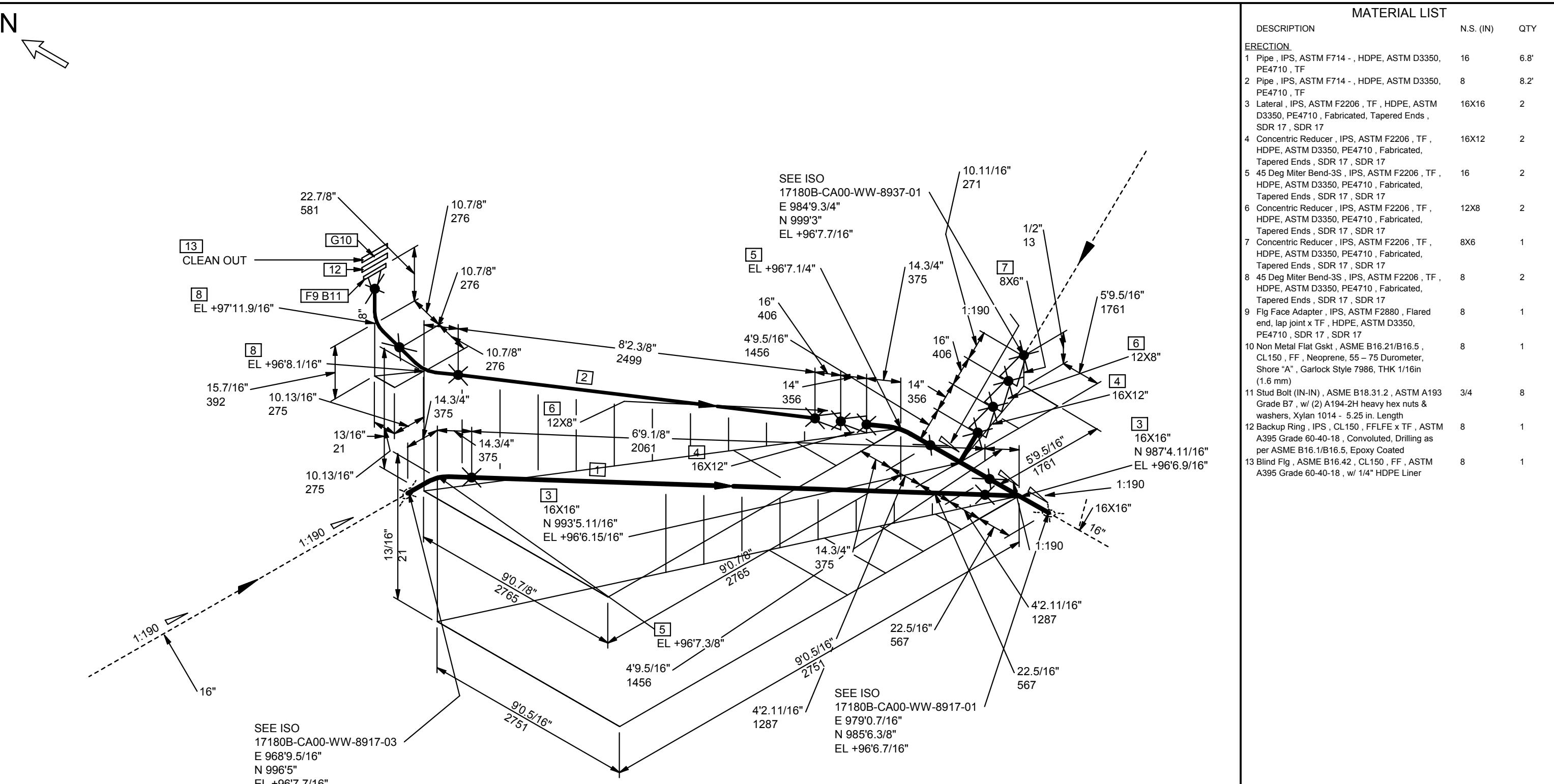
ADJUSTMENT
— — = HEAT TRACING

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PROJECT NAME: PRAXAIR CONVENT SMR		
IHI PROJECT NO: H18026 SCALE: N.T.S.		
PROJECT NO:	DRAWING NO:	REV:
17180B	17180B-CA00-PW-8312-01	0
SIANA REG. NO. EF_0005116		







MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
<u>ERECTION</u>		
1 Pipe , IPS, ASTM F714 - , HDPE, ASTM D3350, PE4710 , TF	16	6.8'
2 Pipe , IPS, ASTM F714 - , HDPE, ASTM D3350, PE4710 , TF	8	8.2'
3 Lateral , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	16X16	2
4 Concentric Reducer , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	16X12	2
5 45 Deg Miter Bend-3S , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	16	2
6 Concentric Reducer , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	12X8	2
7 Concentric Reducer , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	8X6	1
8 45 Deg Miter Bend-3S , IPS, ASTM F2206 , TF , HDPE, ASTM D3350, PE4710 , Fabricated, Tapered Ends , SDR 17 , SDR 17	8	2
9 Flg Face Adapter , IPS, ASTM F2880 , Flared end, lap joint x TF , HDPE, ASTM D3350, PE4710 , SDR 17 , SDR 17	8	1
10 Non Metal Flat Gskt , ASME B16.21/B16.5 , CL150 , FF , Neoprene, 55 – 75 Durometer, Shore "A" , Garlock Style 7986, THK 1/16in (1.6 mm)	8	1
11 Stud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193 Grade B7 , w/ (2) A194-2H heavy hex nuts & washers, Xylan 1014 - 5.25 in. Length	3/4	8
12 Backup Ring , IPS , CL150 , FFLFE x TF , ASTM A395 Grade 60-40-18 , Convoluted, Drilling as per ASME B16.1/B16.5, Epoxy Coated	8	1
13 Blind Flg , ASME B16.42 , CL150 , FF , ASTM A395 Grade 60-40-18 . w/ 1/4" HDPE Liner	8	1

END

- = FIELD FIT WELD (ADD 3 IN TO PIPE CUT LENGTH FOR FIELD)

ADJUSTMENT
— = HEAT TRACING



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West
1537
Hous
Tel 7

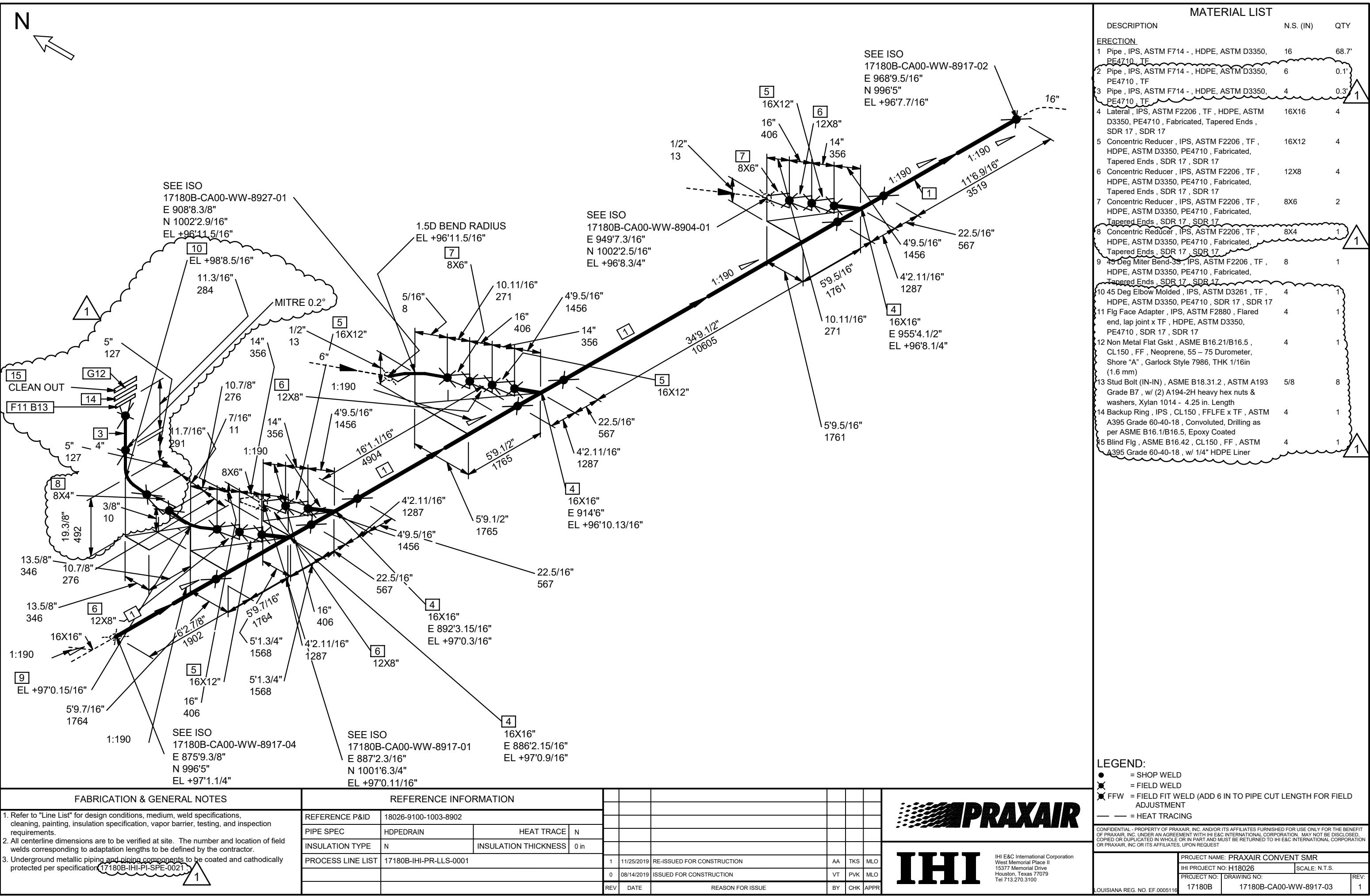
&C International Corporation
Memorial Place II
7 Memorial Drive
Dallas, Texas 75207

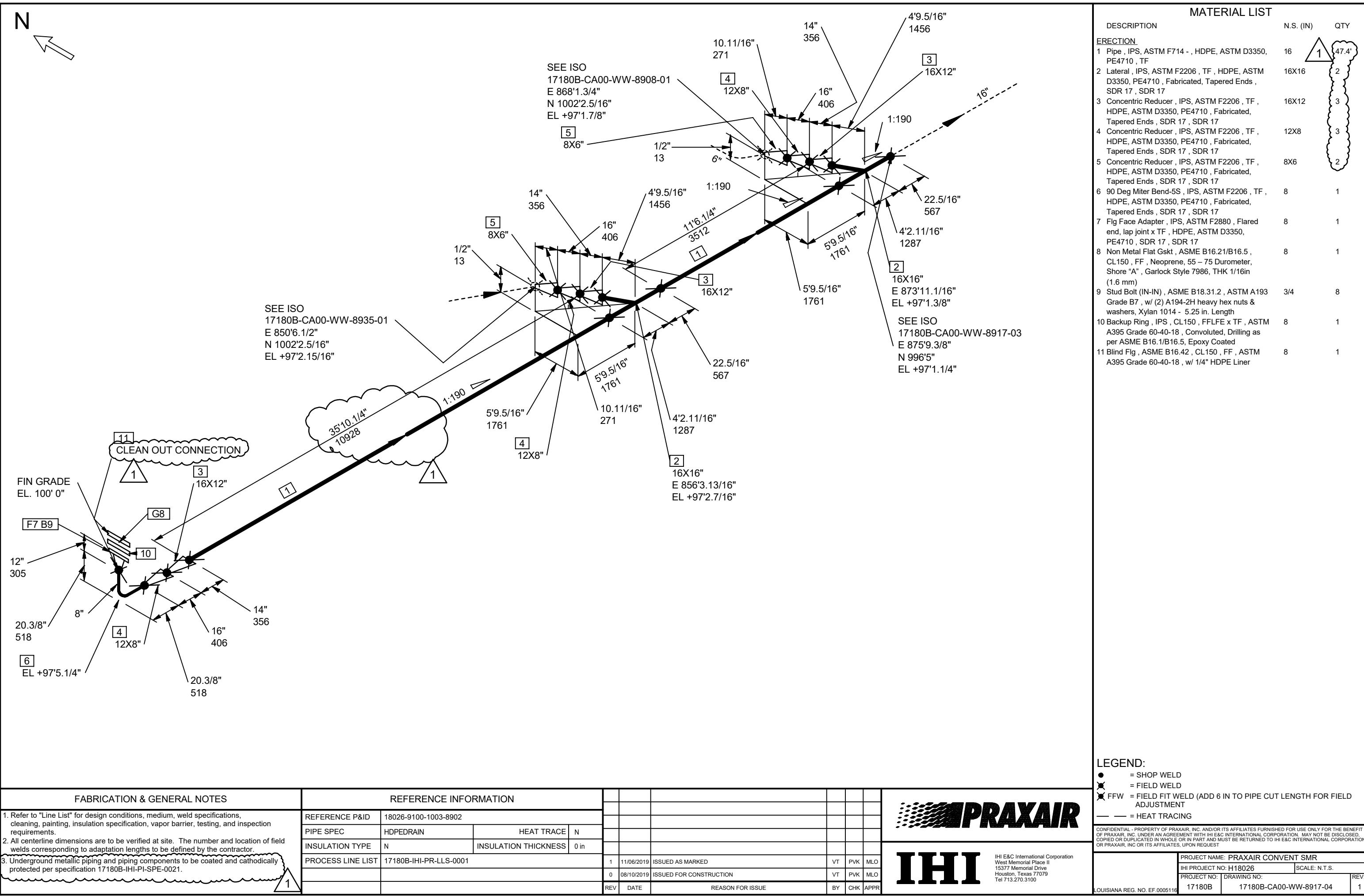
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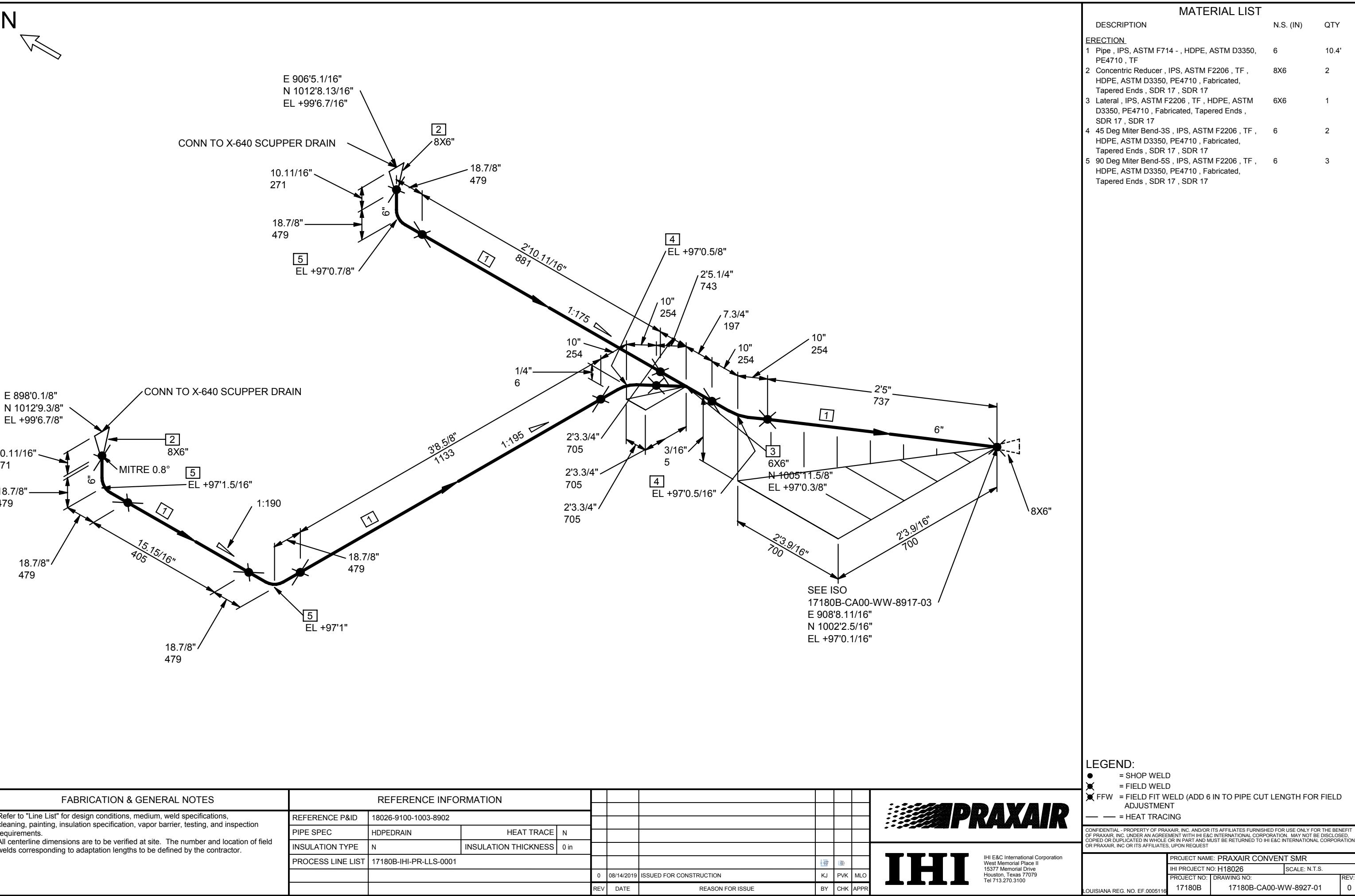
ME: PRAXAIR CONVENT SMR

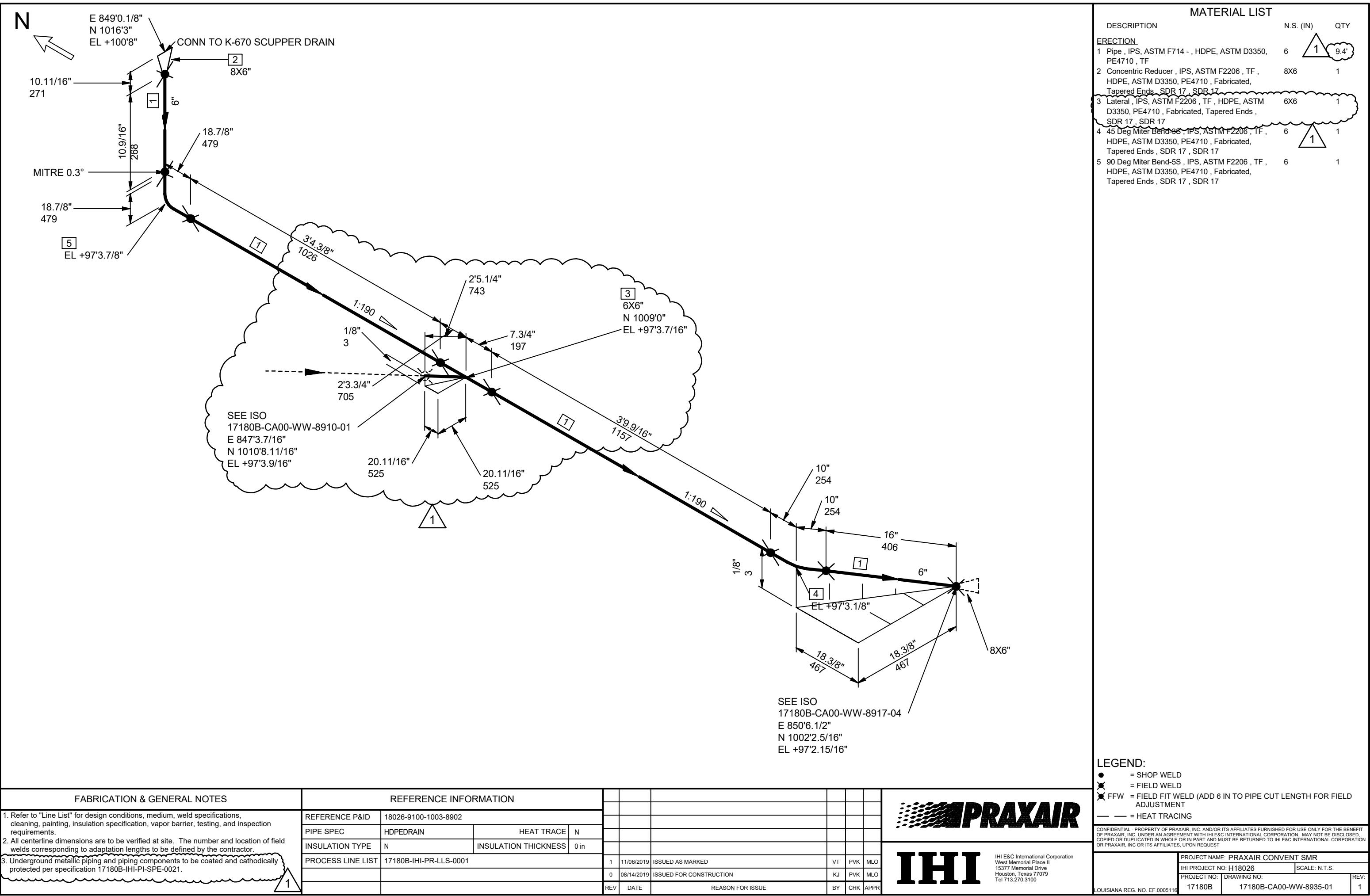
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PROJECT NO:	DRAWING NO:	REV:	
A REG. NO. EF.0005116	17180B	17180B-CA00-WW-8917-02	0

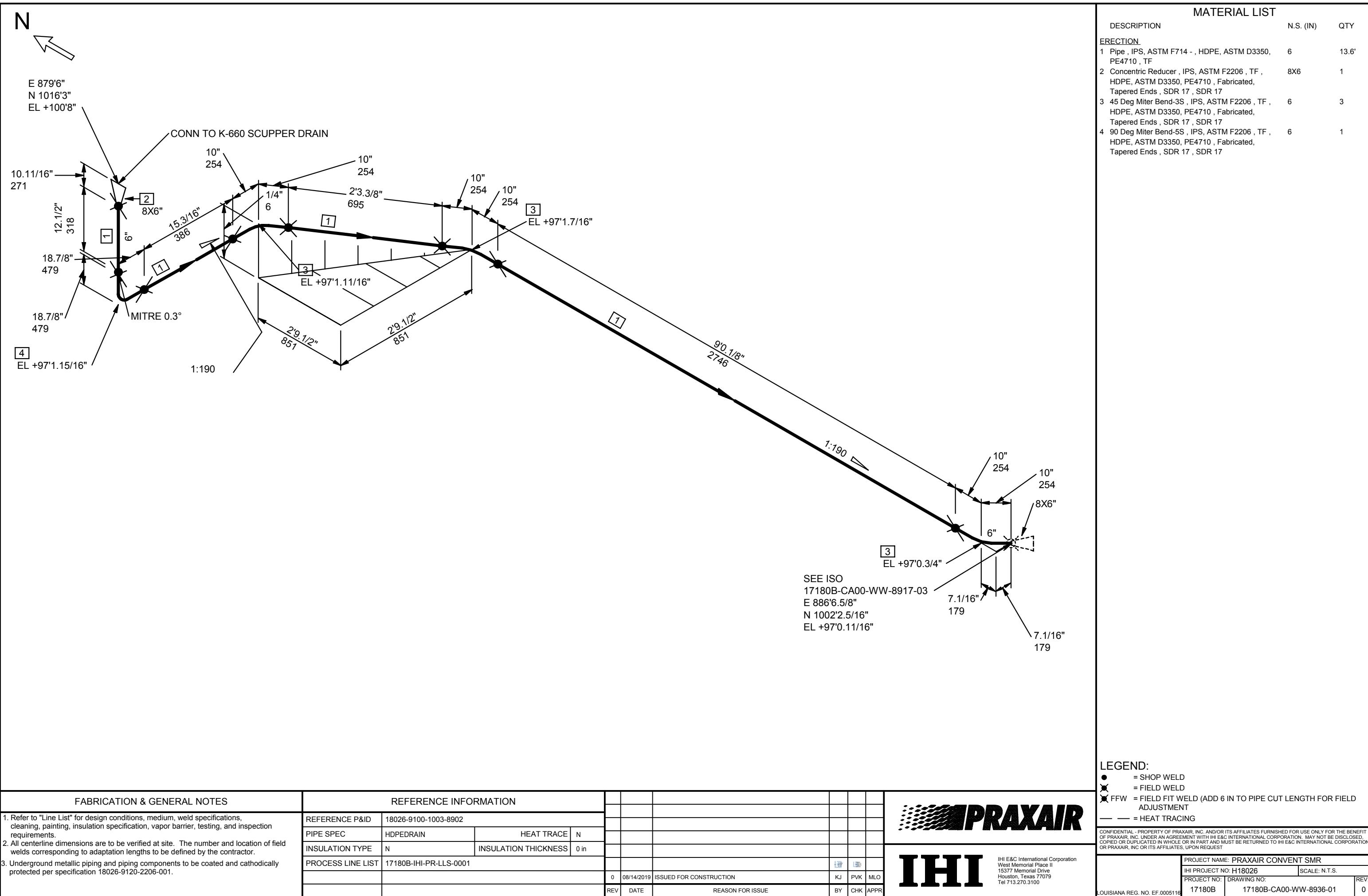
FABRICATION & GENERAL NOTES		REFERENCE INFORMATION							
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.		REFERENCE P&ID 18026-9100-1003-8902							
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.		PIPE SPEC HDPE DRAIN HEAT TRACE N							
3. Underground metallic piping and piping components to be coated and cathodically protected per specification 18026-9120-2206-001.		INSULATION TYPE N INSULATION THICKNESS 0 in							
		PROCESS LINE LIST 17180B-IHI-PR-LLS-0001				0	08/14/2019	ISSUED FOR CONSTRUCTION	VT PVK MLO
						REV	DATE	REASON FOR ISSUE	BY CHK APPR

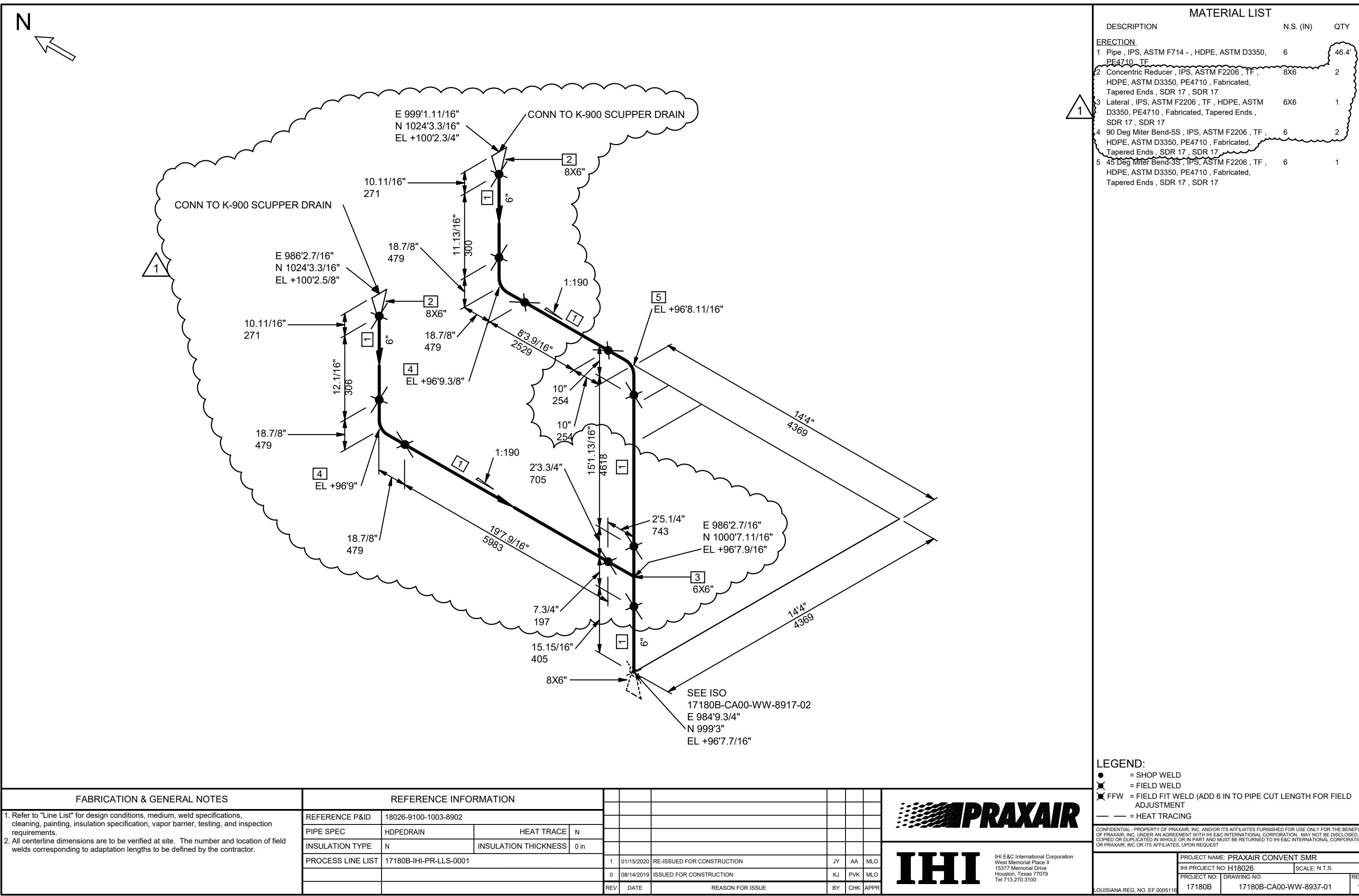


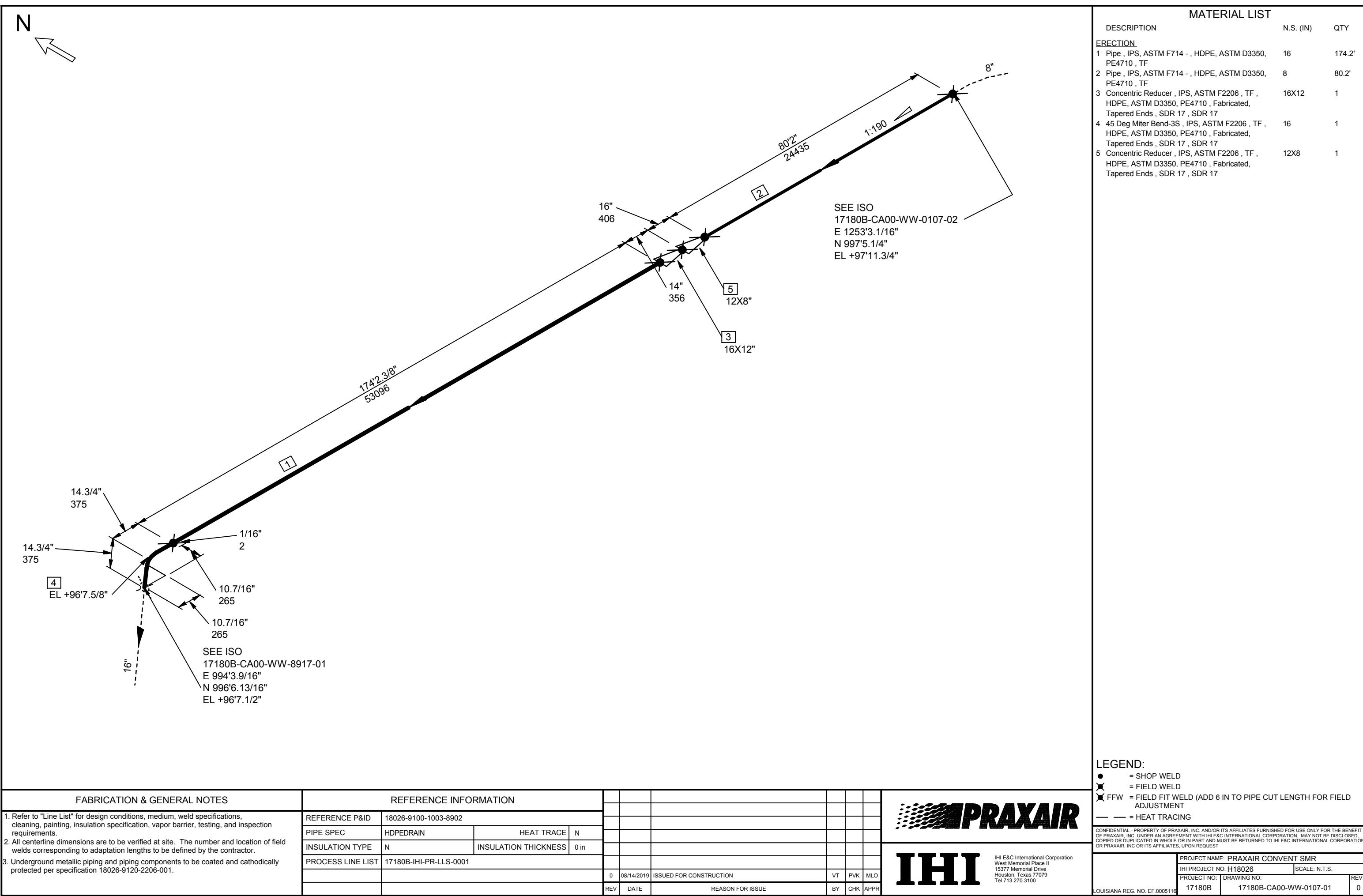


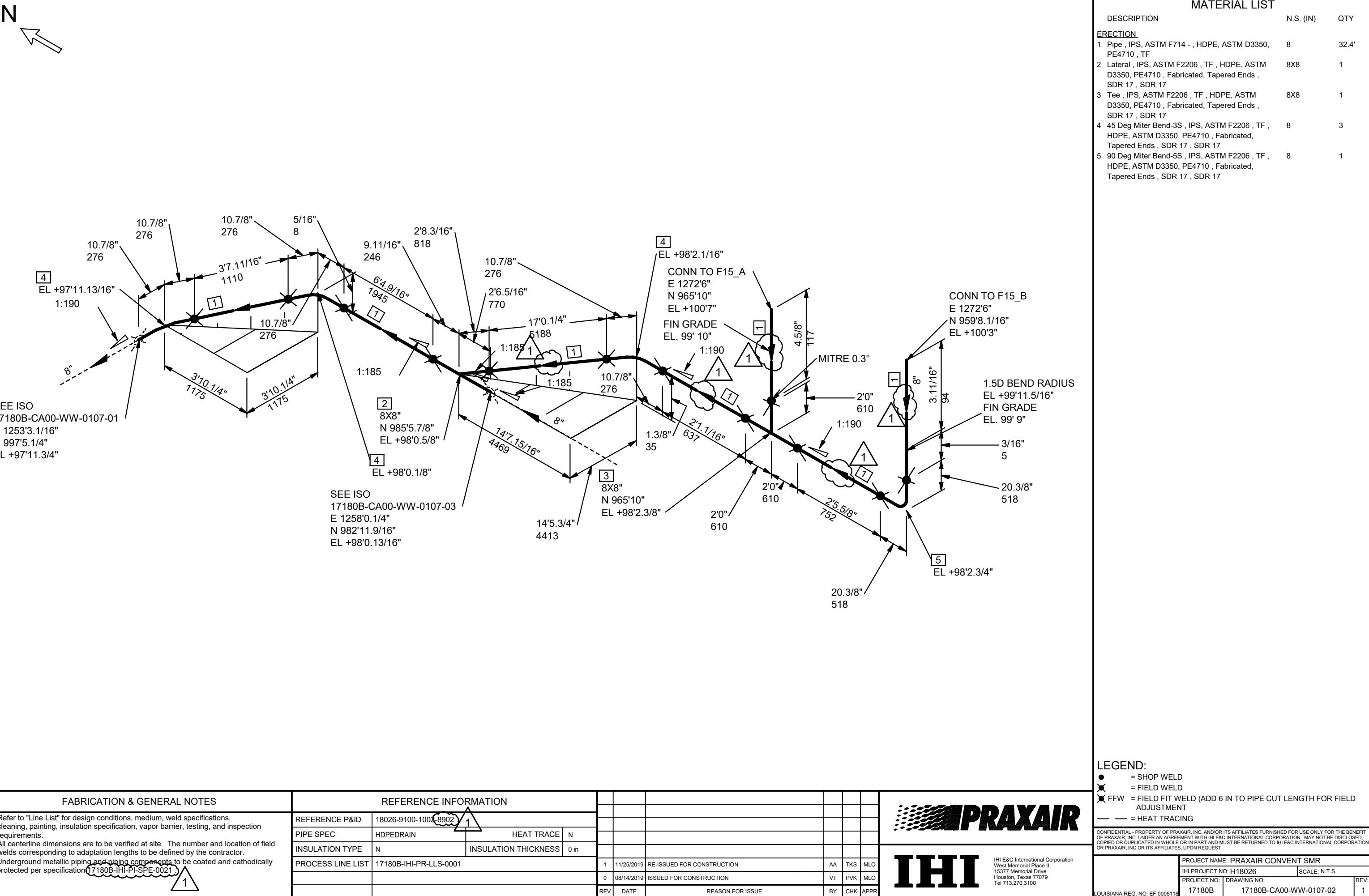


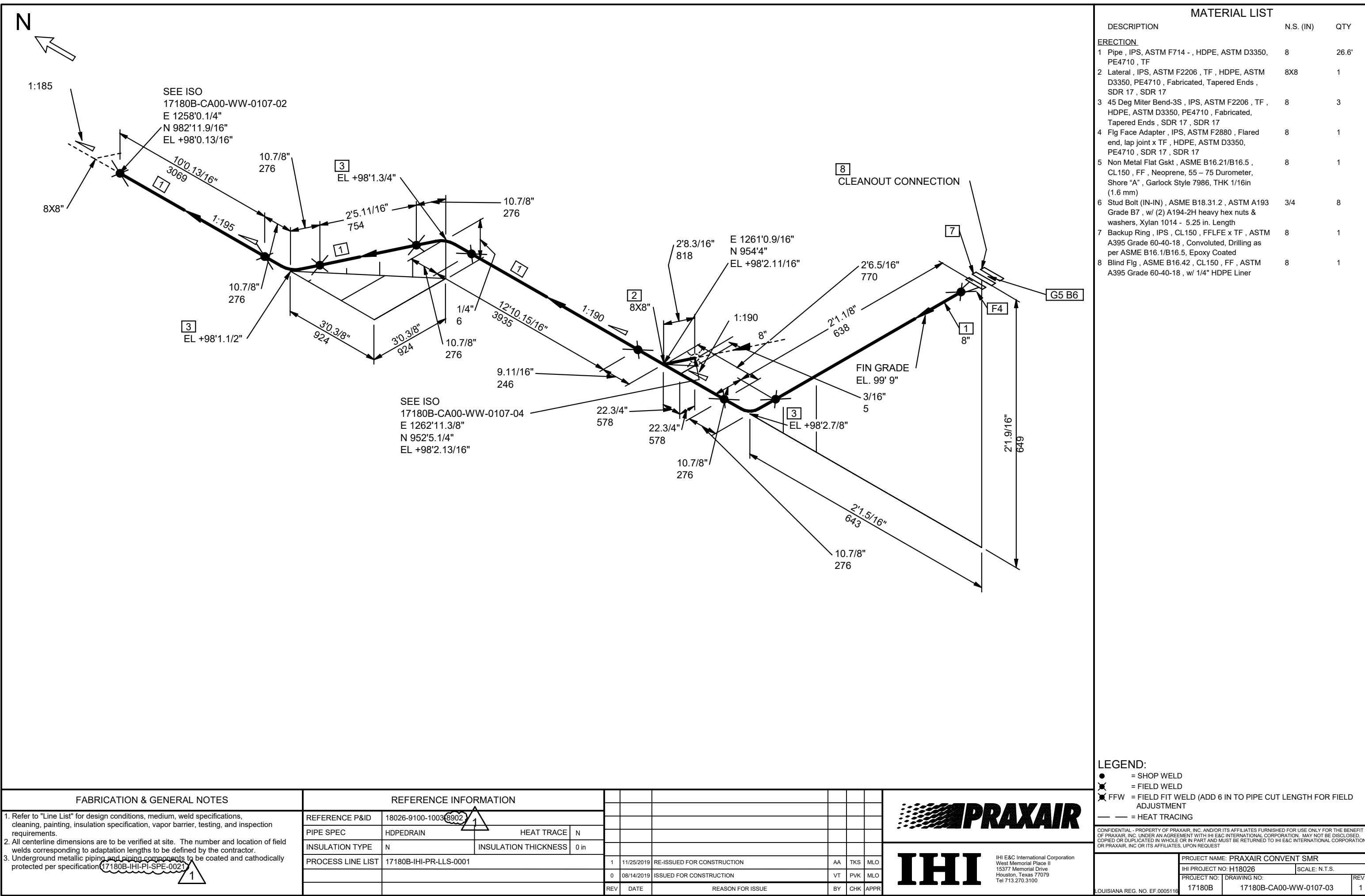


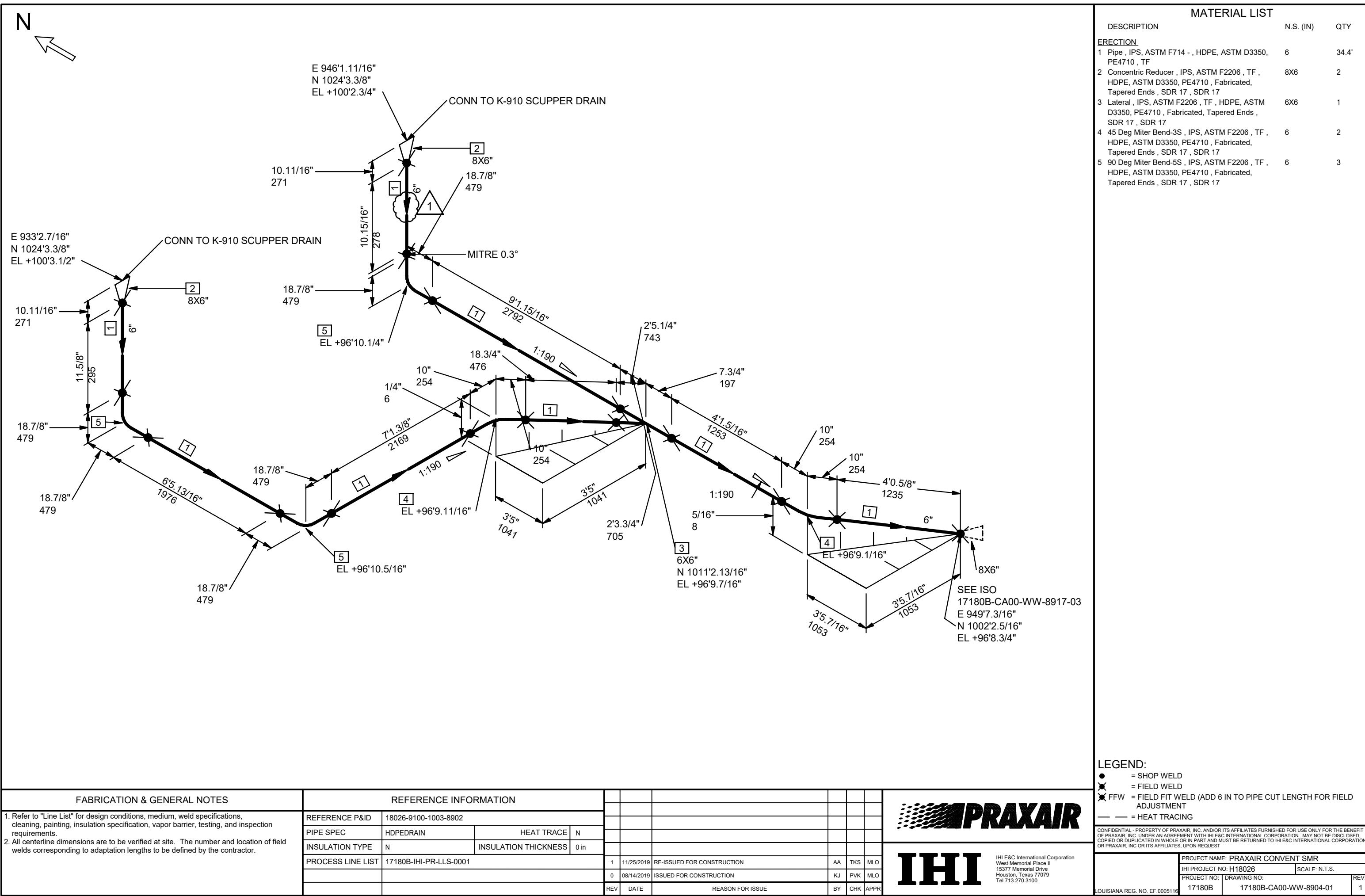


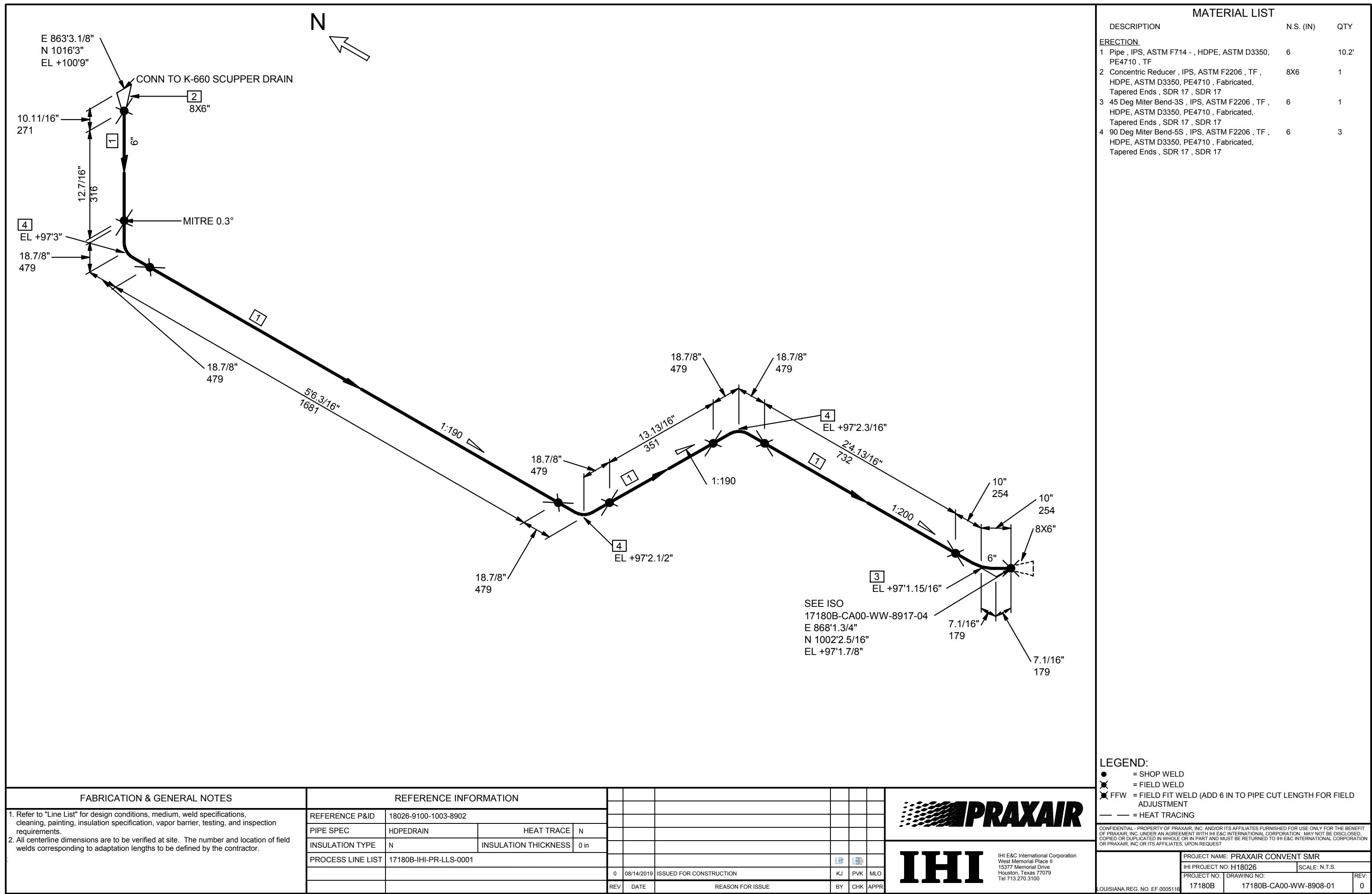


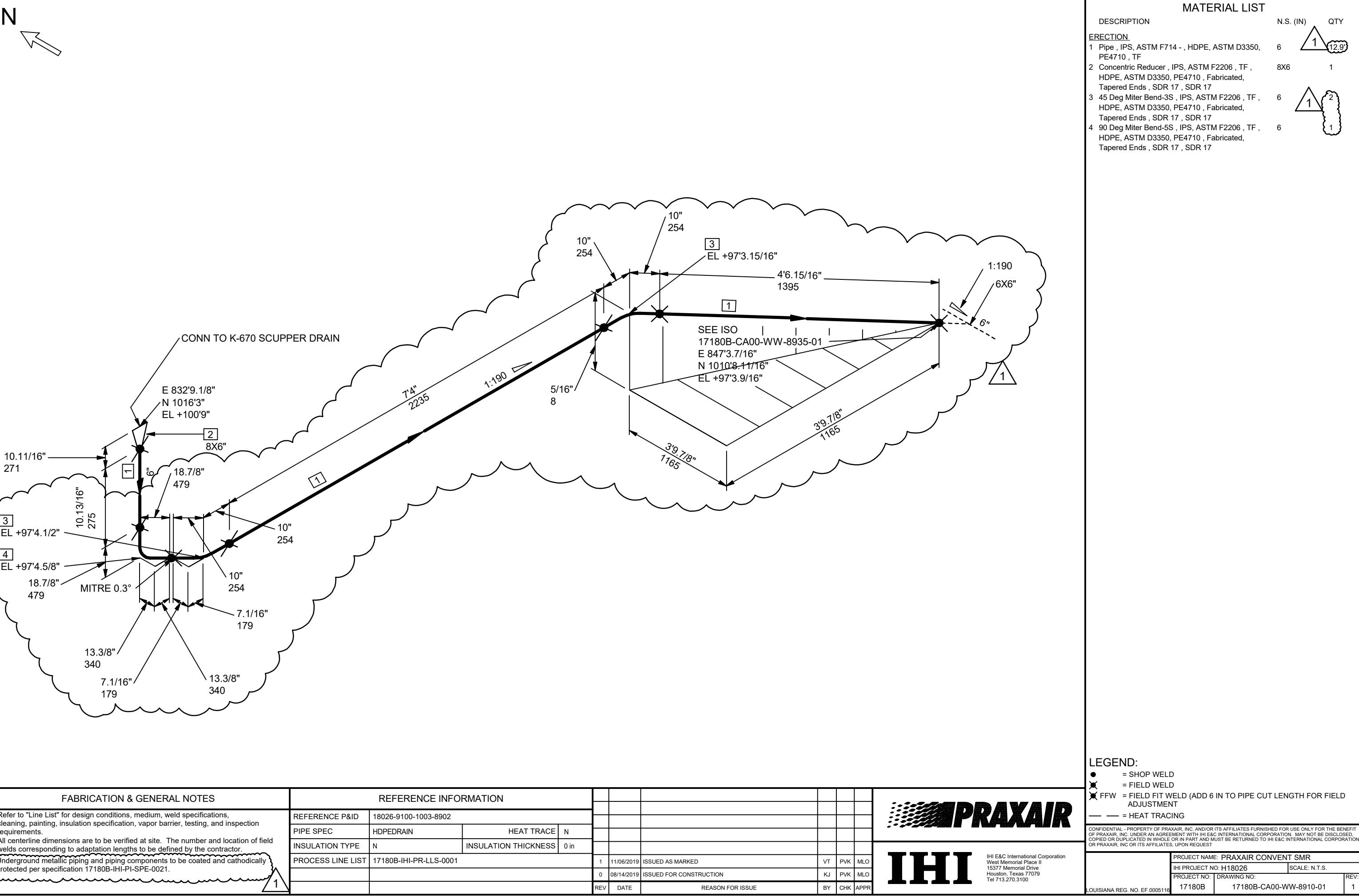


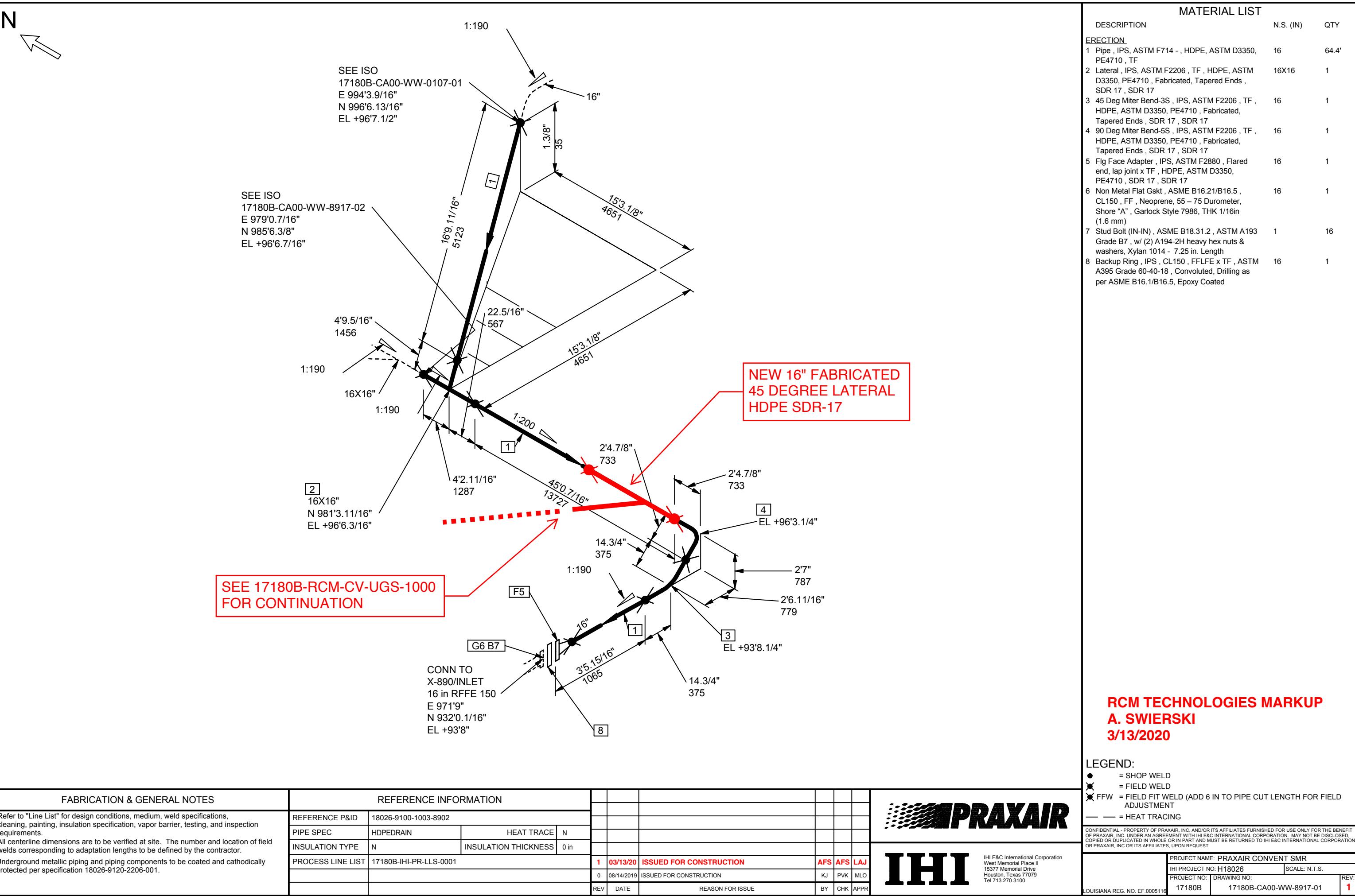












1

SEE ISO
17180B-CA60-CWS-8503-02
E 105°7'2.5/8"
N 97°7'0"
EL +101'3 15/16"

EE-113-F3.16.1

1

44.0.15/16
1243

— FIN GRADE
EL. 99' 11"

17180B-CA00-CWS-8503-01 SPOOL1

SEE ISO
17180B-CA00-CWS-8504-01
E 1057'2.5/8"
-N 977'0"
EL +97'3"

4X20"
24"

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
<u>FABRICATION</u>		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	20	4.1'
2 SO Flg , AWWA C207 , CL125 , FF , ASTM A105N , Class D	20	1

7180B-CA00-CWS-8503-01 SPO01 1

LEGEND:

- = SHOP WELD
- ✖ = FIELD WELD
- ✗ = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD)

ADJUSTMENT
— — = HEAT TRACING
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PROJECT NAME: PRAXAIR CONVENT SMR		
JHI PROJECT NO: H18026		SCALE: N.T.S.
PROJECT NO:	DRAWING NO:	REV:
17180B	17180B-CA00-CWS-8503-01	2
UISIANA REG. NO. EF.0005116		

PRAXAIR

IHI

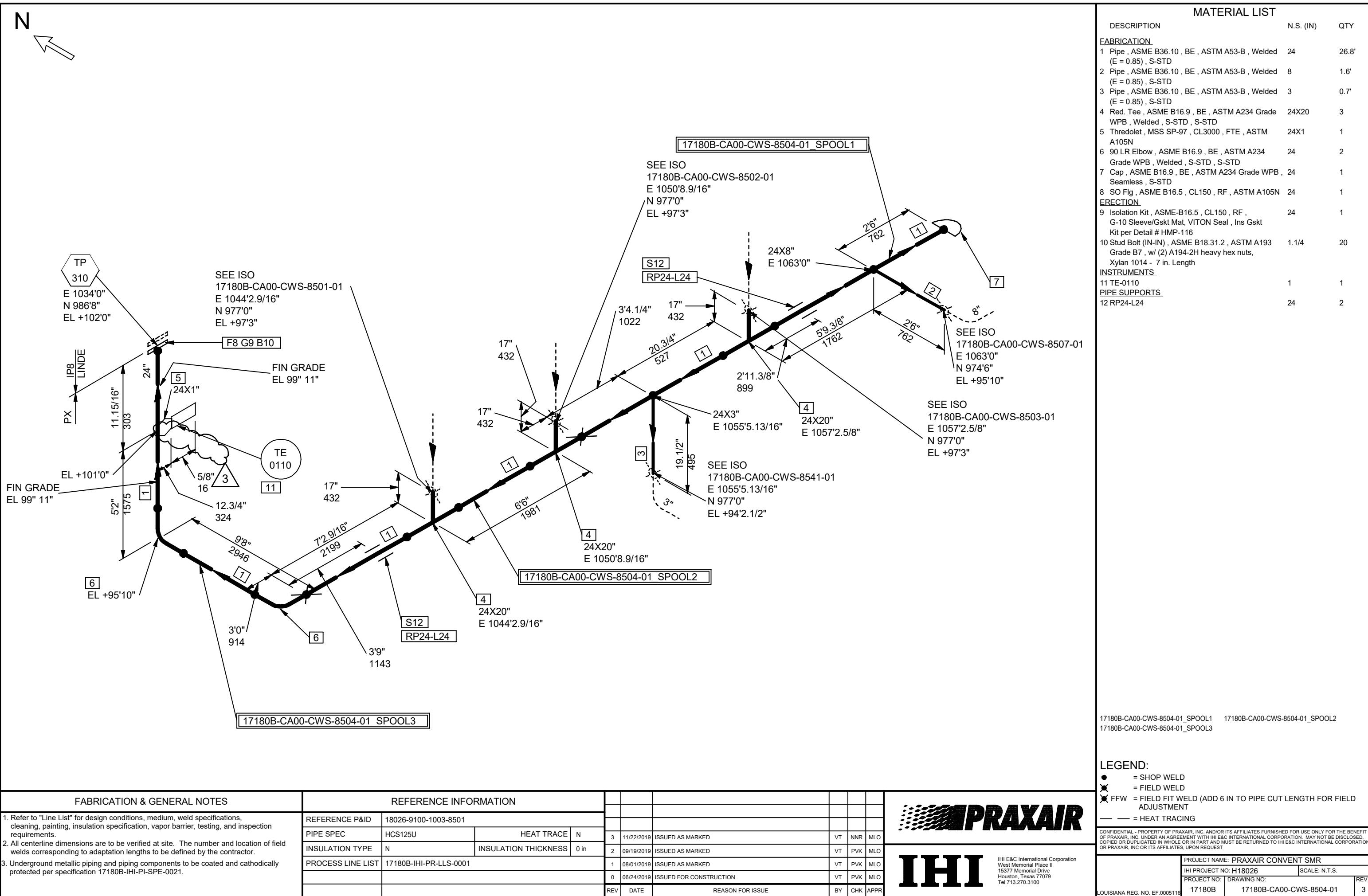
IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77070

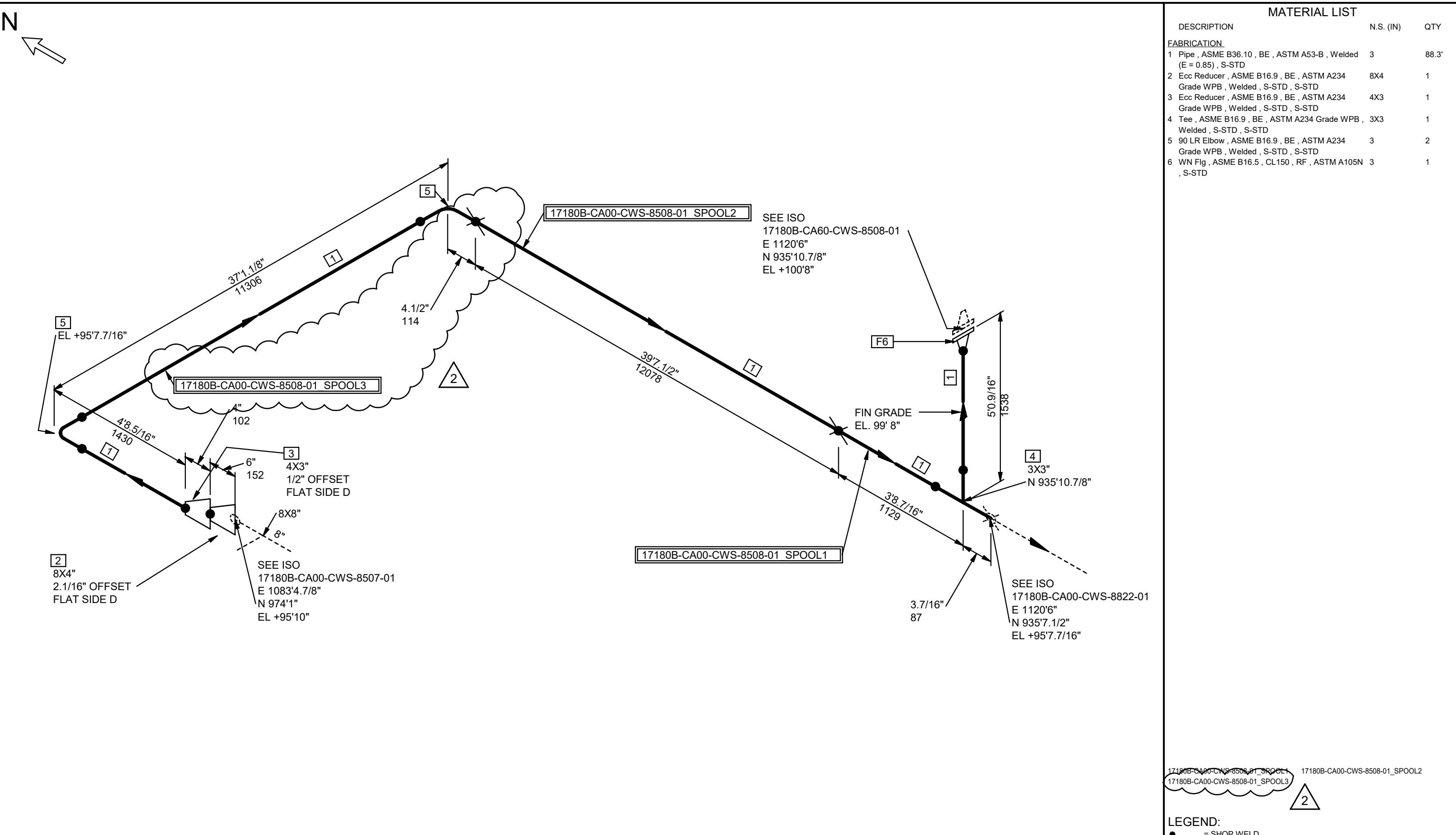
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	PROJECT NAME: PRAXAIR CONVENT SMR		
	IHI PROJECT NO: H18026	SCALE: N.T.S.	
	PROJECT NO:	DRAWING NO:	REV:
LOUISIANA REG. NO. EF.0005116	17180B	17180B-CA00-CWS-8503-01	2

FABRICATION & GENERAL NOTES

REFERENCE INFORMATION

FABRICATION & GENERAL NOTES		REFERENCE INFORMATION										
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements. 2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor. 3. Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021.		REFERENCE P&ID 18026-9100-1003-8501										
		PIPE SPEC	HCS125U	HEAT TRACE		N						
		INSULATION TYPE	N	INSULATION THICKNESS		0 in	2	11/25/2019	ISSUED AS MARKED	TKS AA MLO		
		PROCESS LINE LIST	17180B-IHI-PR-LLS-0001				1	07/20/2019	ISSUED AS MARKED	VT PVK MLO		
							0	06/12/2019	ISSUED FOR CONSTRUCTION	VT PVK MLO		
							REV	DATE	REASON FOR ISSUE	BY CHK APPF		





FABRICATION & GENERAL NOTES		REFERENCE INFORMATION												
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.		REFERENCE P&ID	18026-9100-1003-8501											
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.		PIPE SPEC	HCS125U		HEAT TRACE	N								
3. Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021.		INSULATION TYPE	N		INSULATION THICKNESS	0 in	2	11/15/2019	RE-ISSUED FOR CONSTRUCTION	RR	AA	MLO		
		PROCESS LINE LIST	17180B-IHI-PR-LLS-0001				1	10/30/2019	RE-ISSUED FOR CONSTRUCTION	RR	AA	MLO		
							0	08/21/2019	ISSUED FOR CONSTRUCTION	VT	PVK	MLO		
									REASON FOR ISSUE	BY	CHK	APPR		

PRAXAIR

IHI

IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77079
Tel 713.270.3100

17180B-CA00-CWS-8508-01_SPOOL1
17180B-CA00-CWS-8508-01_SPOOL3



LEGEND:
 ● = SHOP WELD
 ✕ = FIELD WELD
 □ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
 — = HEAT TRACING

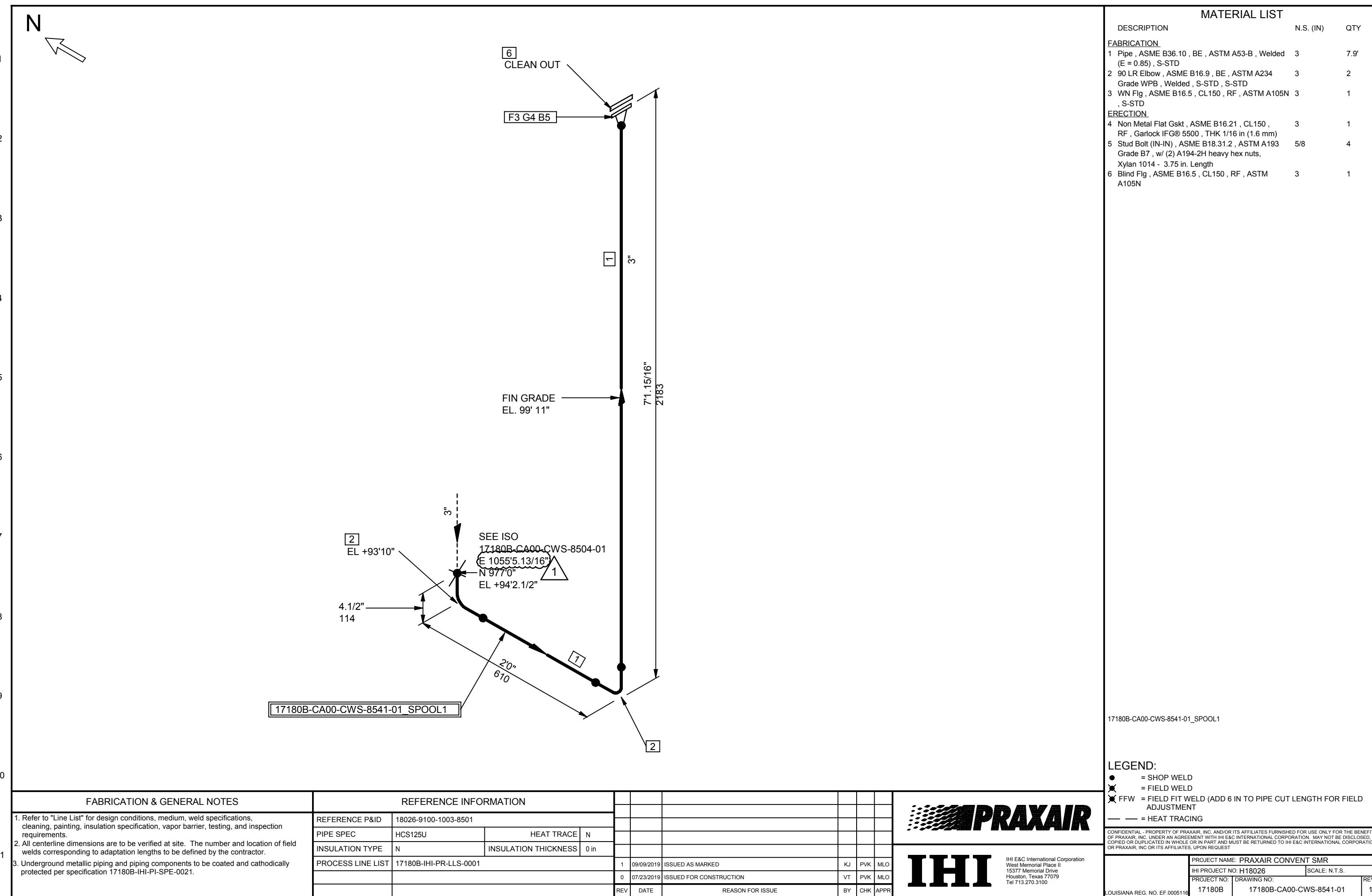
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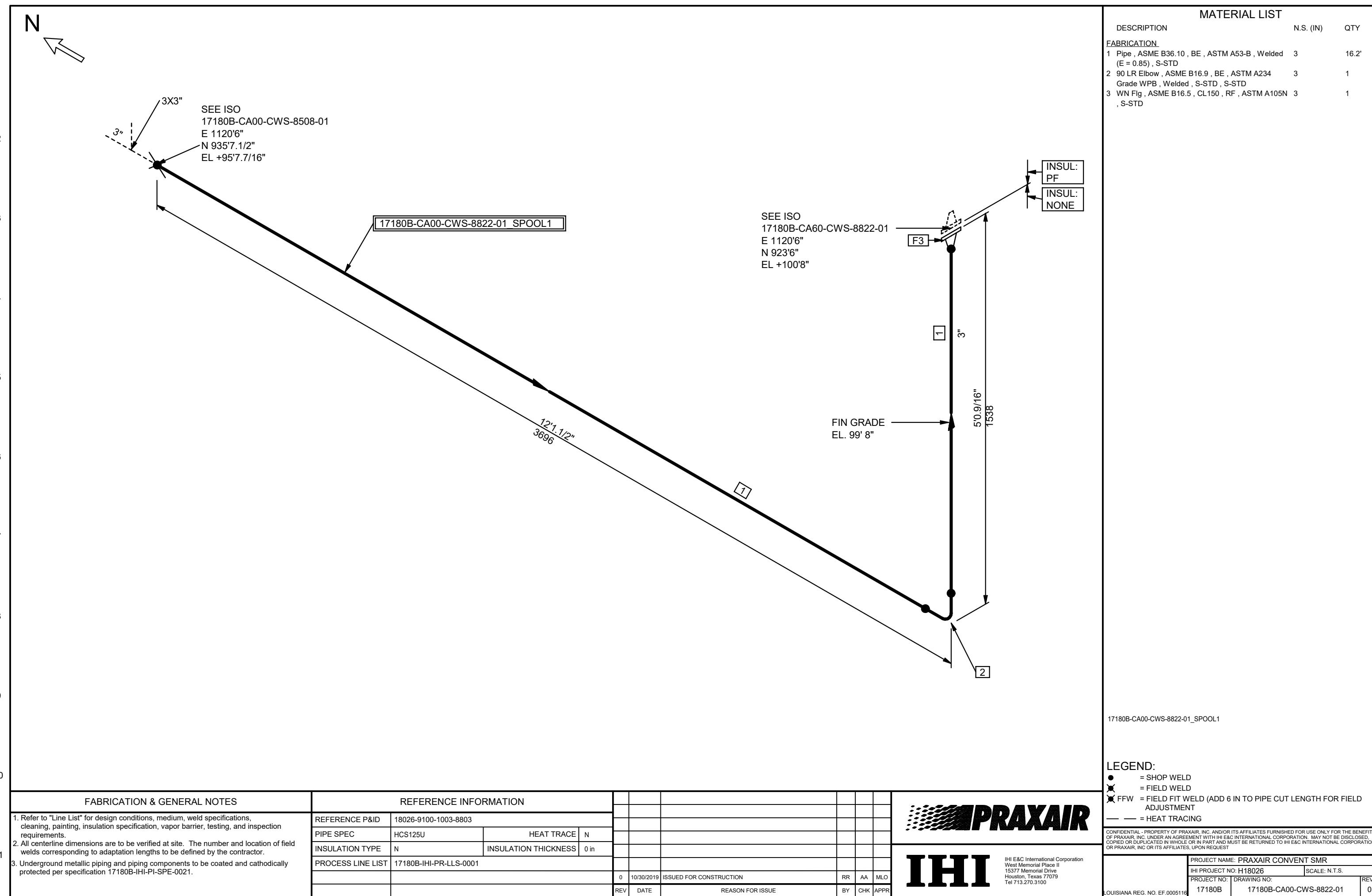
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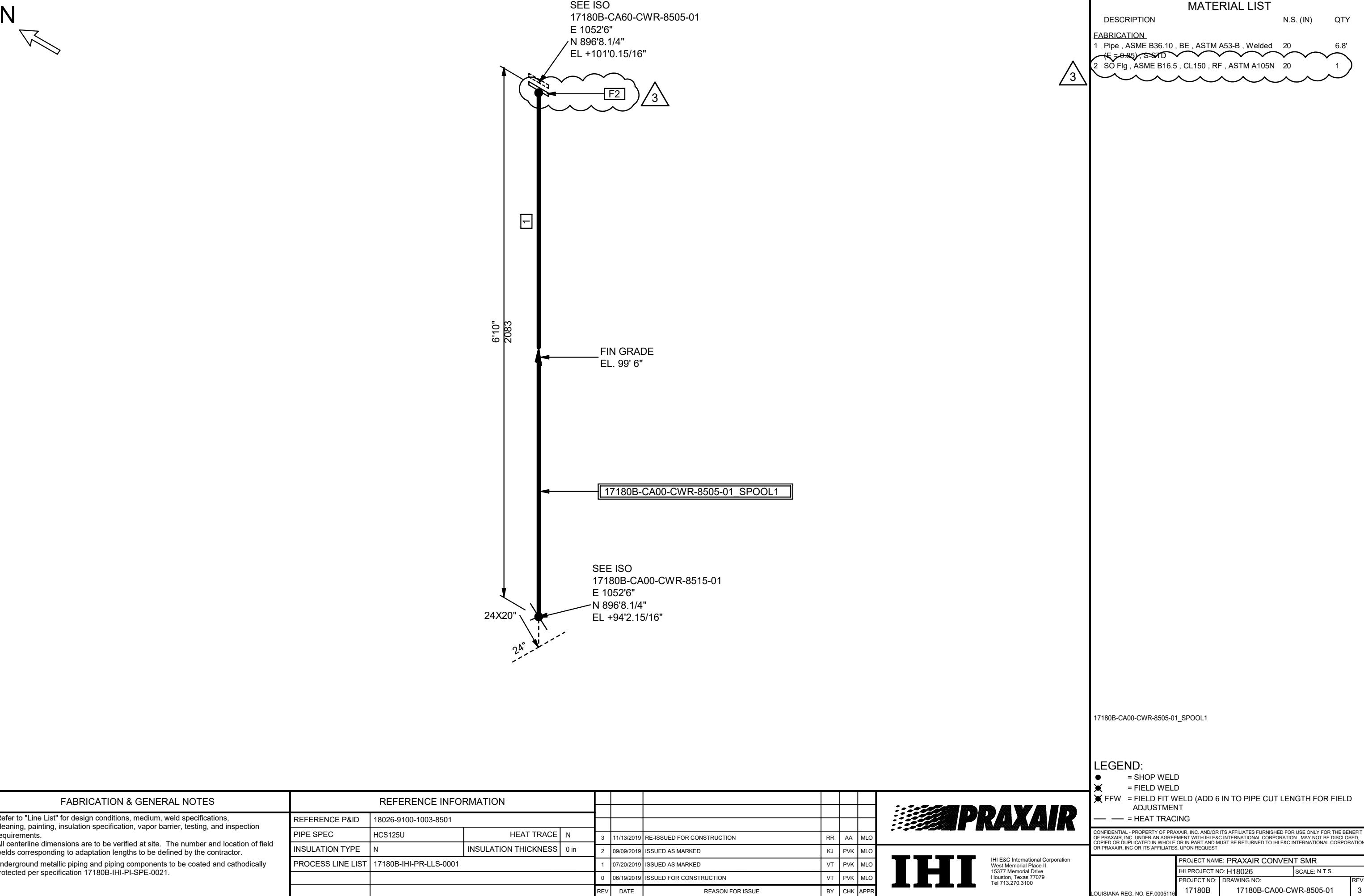
IHI PROJECT NO: H18026 SCALE: N.T.S.

PROJECT NO: DRAWING NO: 17180B 17180B-CA00-CWS-8508-01

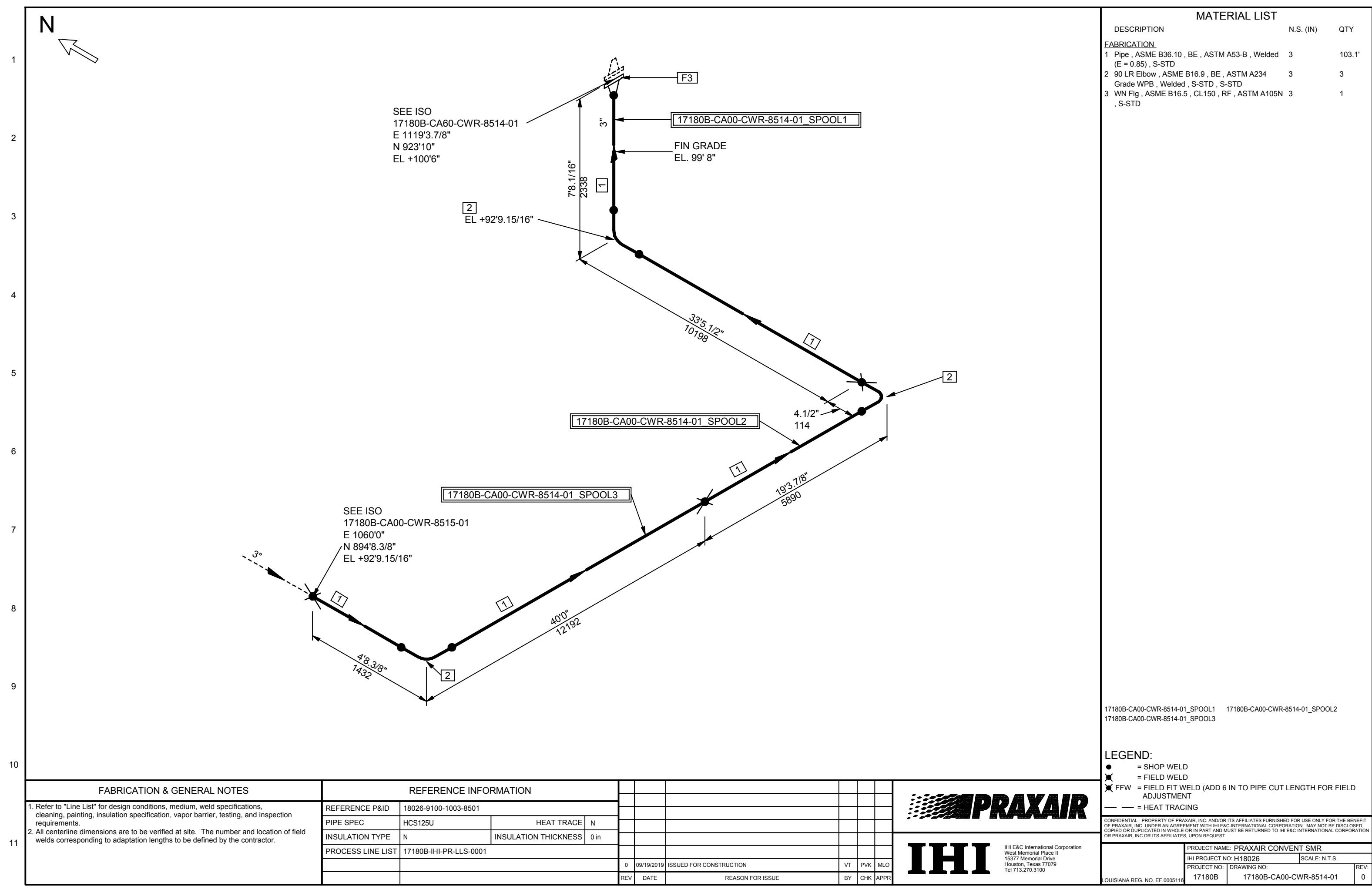
REV: 2 LOUISIANA REG. NO. EF.0005116

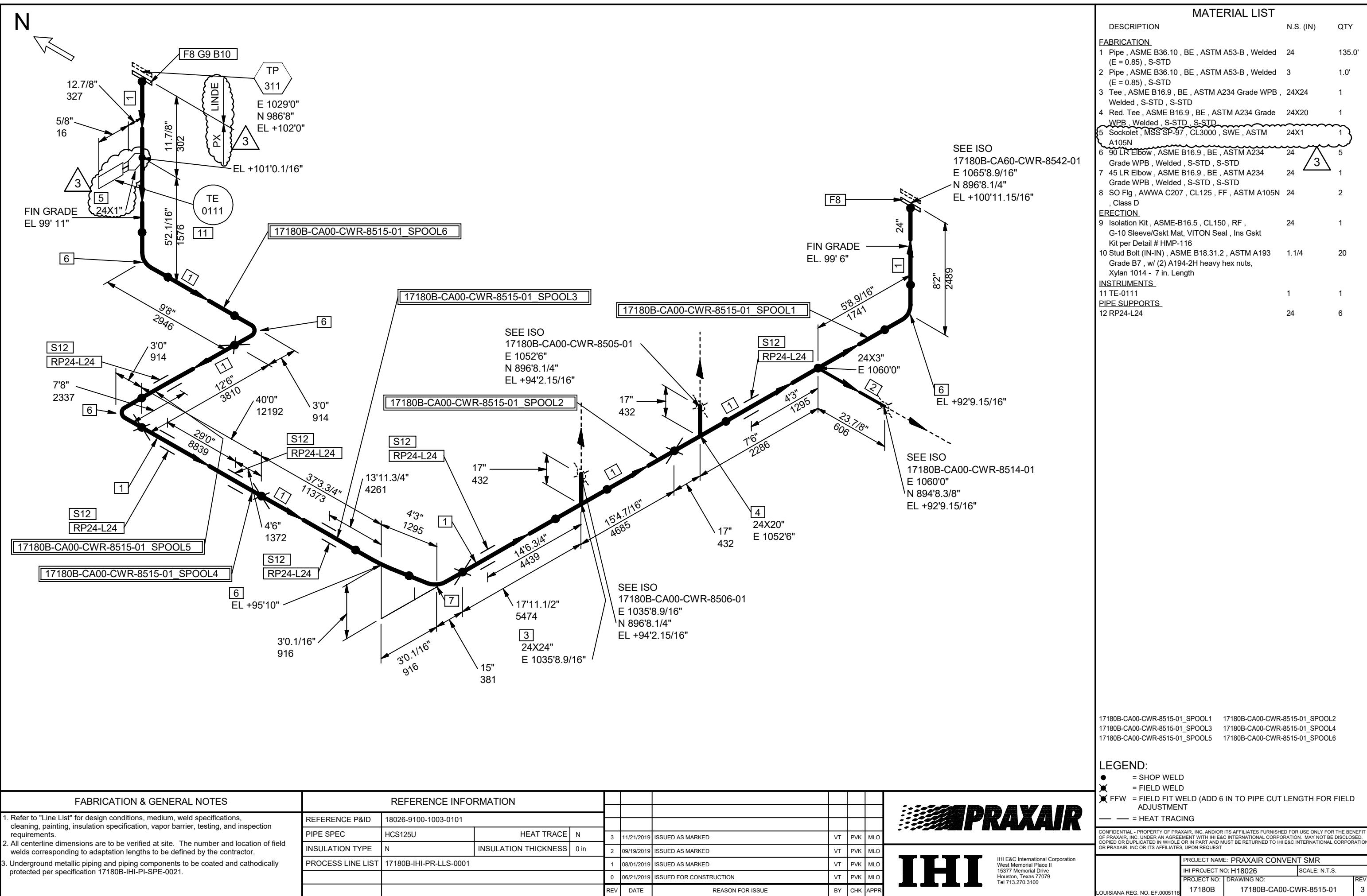






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N


SEE ISO
17180B-CA60-CWS-8501-02
E 1044'2.9/16"

N 977'0"
EL +101'6.15/16"

F2

1

FIN GRADE
EL. 99' 11"

17180B-CA00-CWS-8501-01_SPOOL1

SEE ISO
17180B-CA00-CWS-8504-01
E 1044'2.9/16"
N 977'0"
EL +97'3"

24X20"

24"

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
<u>FABRICATION</u>		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	20	4.3'
2 SO Flg , AWWA C207 , CL125 , FF , ASTM A105N , Class D	20	1

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PRAXAIR
IHI
 IHI E&C International Corporation
 West Memorial Place II
 15377 Memorial Drive
 Houston, Texas 77079
 Tel 713.270.3100

	PROJECT NAME: PRAXAIR CONVENT SMR
	IHI PROJECT NO: H18026
	SCALE: N.T.S.
	PROJECT NO: DRAWING NO:
Louisiana Reg. No. EF.0005116	17180B 17180B-CA00-CWS-8501-01
	REV: 2

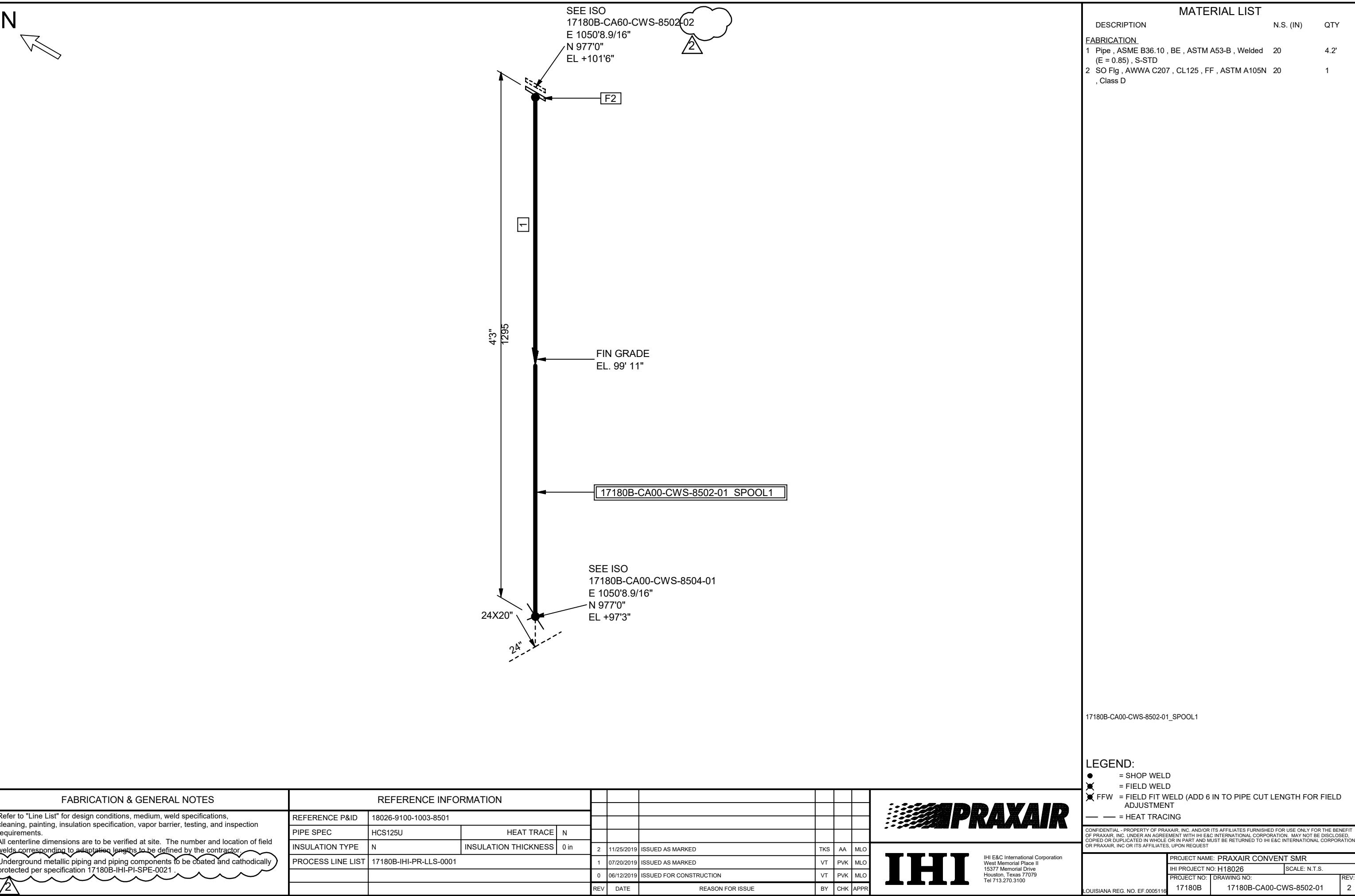
FABRICATION & GENERAL NOTES		REFERENCE INFORMATION		
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.		REFERENCE P&ID 18026-9100-1003-8501		
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.		PIPE SPEC	HCS125U	HEAT TRACE N
3. Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021 .		INSULATION TYPE	N	INSULATION THICKNESS 0 in
		PROCESS LINE LIST	17180B-IHI-PR-LLS-0001	
		REV	DATE	REASON FOR ISSUE BY CHK APPR

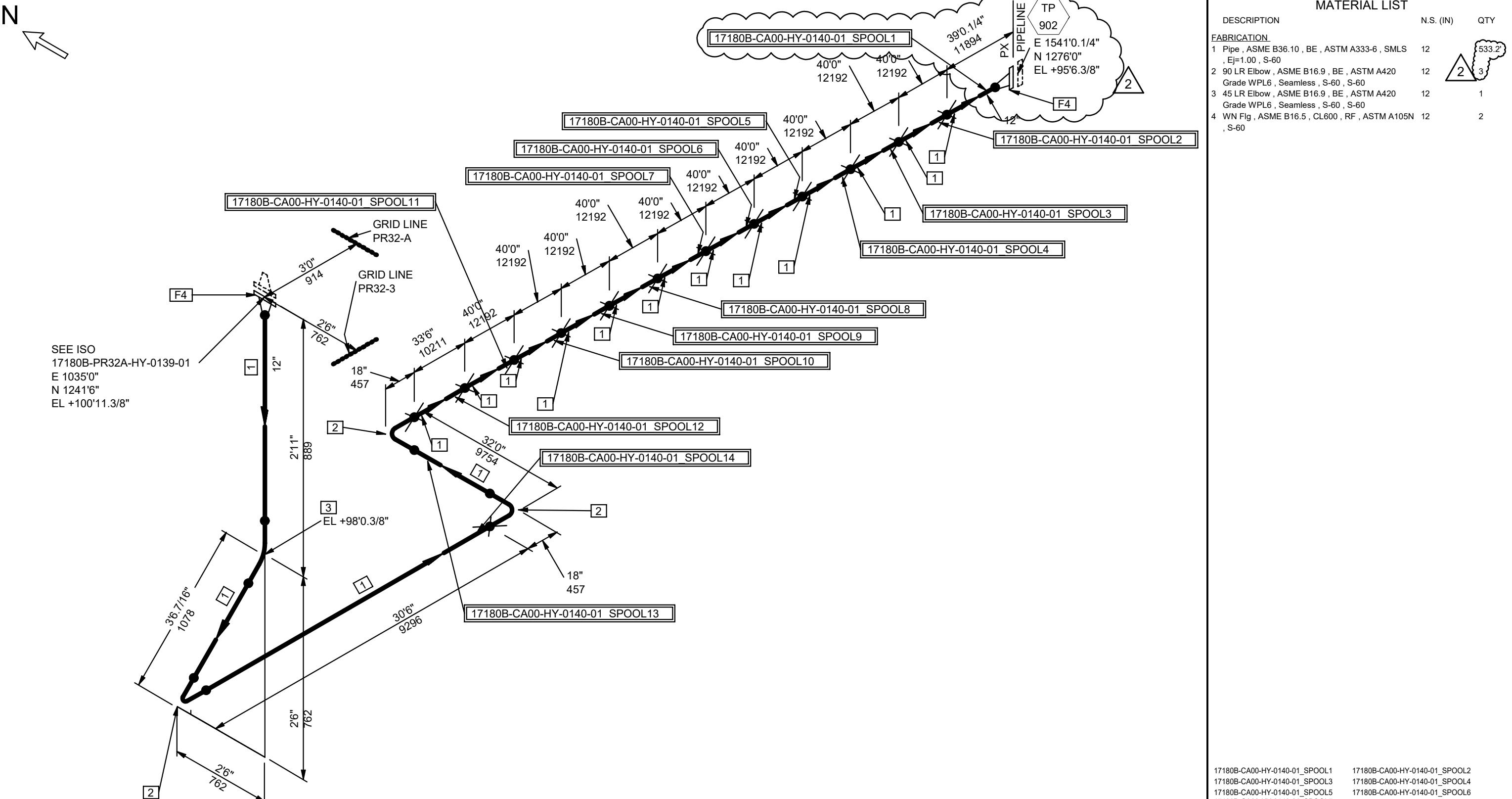
TEMPLATE: GE-215B ISO

A B C D E F G H I J K L M

N O P

1 2 3 4 5 6 7 8 9 10 11





FABRICATION & GENERAL NOTES

1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.

2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

REFERENCE INFORMATION

REFERENCE P&ID 18026-9100-1003-0103

PIPE SPEC HCS600P1

HEAT TRACE N

INSULATION TYPE N

INSULATION THICKNESS 0 in

PROCESS LINE LIST 17180B-IHI-PR-LLS-0001

REV DATE

REASON FOR ISSUE

JY

AA

MLO

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BY

CHK

APPR



IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77079
Tel 713.270.3100

17180B-CA00-HY-0140-01_SPOOL1 17180B-CA00-HY-0140-01_SPOOL2
17180B-CA00-HY-0140-01_SPOOL3 17180B-CA00-HY-0140-01_SPOOL4
17180B-CA00-HY-0140-01_SPOOL5 17180B-CA00-HY-0140-01_SPOOL6
17180B-CA00-HY-0140-01_SPOOL7 17180B-CA00-HY-0140-01_SPOOL8
17180B-CA00-HY-0140-01_SPOOL9 17180B-CA00-HY-0140-01_SPOOL10
17180B-CA00-HY-0140-01_SPOOL11 17180B-CA00-HY-0140-01_SPOOL12
17180B-CA00-HY-0140-01_SPOOL13 17180B-CA00-HY-0140-01_SPOOL14

LEGEND:
 ● = SHOP WELD
 ✕ = FIELD WELD
 ■ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
 — = HEAT TRACING

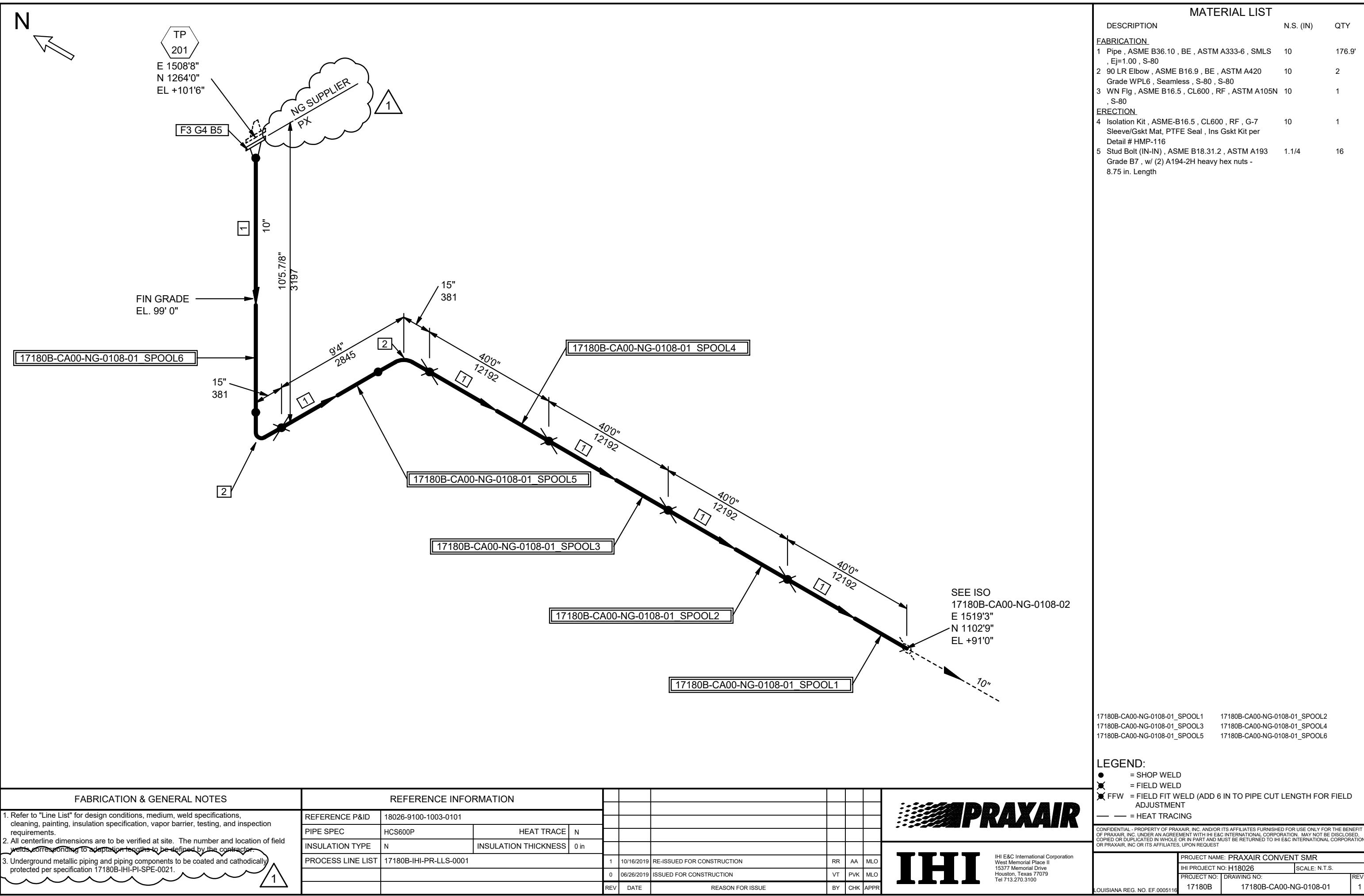
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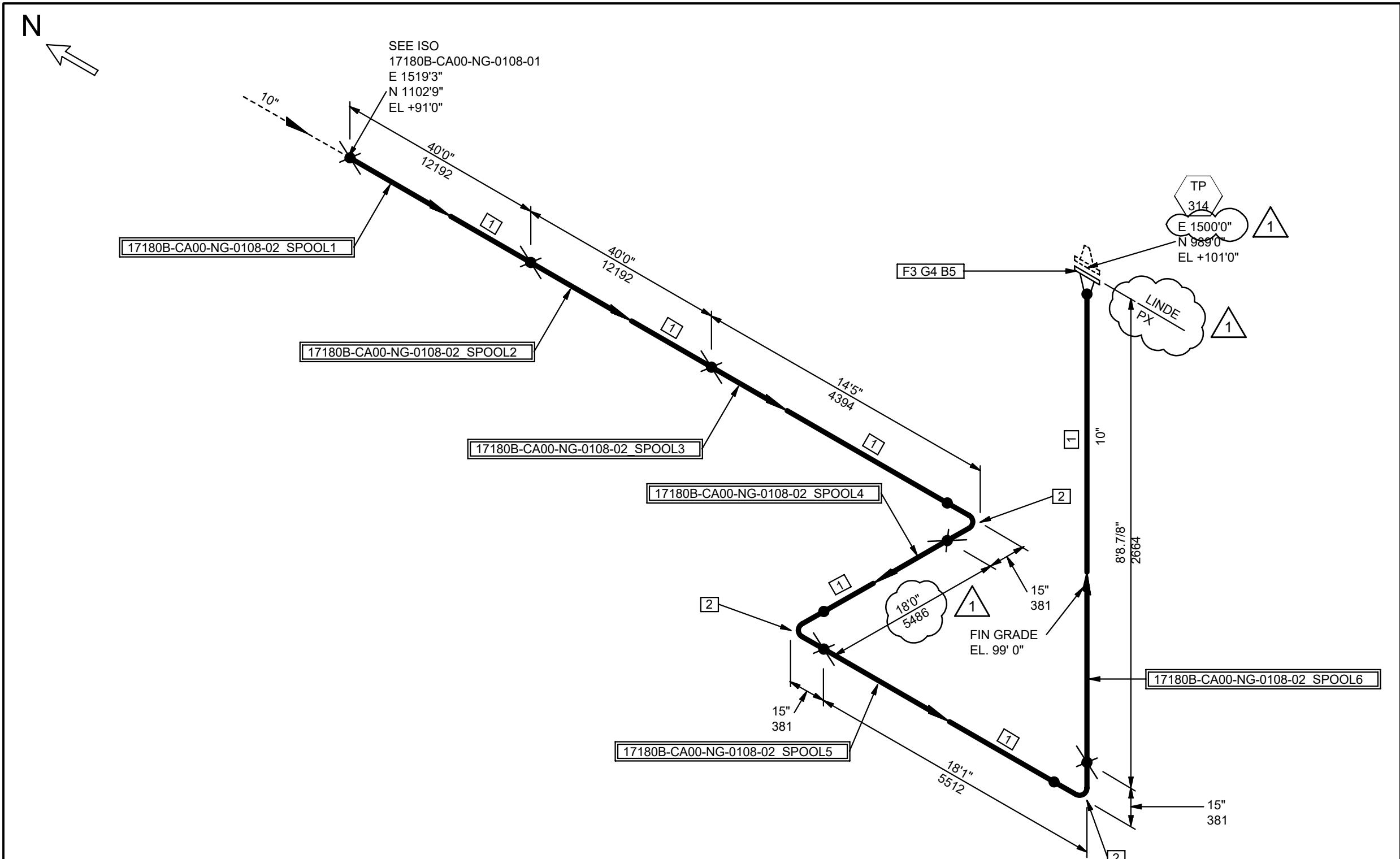
PROJECT NAME: PRAXAIR CONVENT SMR

IHI PROJECT NO: H18026 SCALE: N.T.S.

PROJECT NO: DRAWING NO: 17180B 17180B-CA00-HY-0140-01

REV: 2 LOUISIANA REG. NO. EF.0005116





DESCRIPTION	N.S. (IN)	QTY
<u>ICATION</u>		
ope , ASME B36.10 , BE , ASTM A333-6 , SMLS j=1.00 , S-80	10	135.0'  
LR Elbow , ASME B16.9 , BE , ASTM A420	10	3
ade WPL6 , Seamless , S-80 , S-80		
N Flg , ASME B16.5 , CL600 , RF , ASTM A105N	10	1
-80		
<u>CTION</u>		
olation Kit , ASME-B16.5 , CL600 , RF , G-7	10	1
eeve/Gskt Mat, PTFE Seal , Ins Gskt Kit per		
tail # HMP-116		
ud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193	1.1/4	16
ade B7 , w/ (2) A194-2H heavy hex nuts -		
7 in. Length		

B-CA00-NG-0108-02_SPOOL1 17180B-CA00-NG-0108-02_SPOOL2
B-CA00-NG-0108-02_SPOOL3 17180B-CA00-NG-0108-02_SPOOL4
B-CA00-NG-0108-02_SPOOL5 17180B-CA00-NG-0108-02_SPOOL6

GEND:
= SHOP WELD
= FIELD WELD
TW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)

— = HEAT TRACING

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OR DUPLICATED IN WHOLE OR IN PART AND MUST BE RETURNED TO IHI E&C INTERNATIONAL CORPORATION
AIR, INC OR ITS AFFILIATES, UPON REQUEST

PROJECT NAME: PRAXAIR CONVENT SMR

IHI PROJECT NO: H18026	SCALE: N.T.S.
PROJECT NO: DRAWING NO:	REV:

NA REG. NO. EF.0005116 17180B 17180B-CA00-NG-0108-02 1

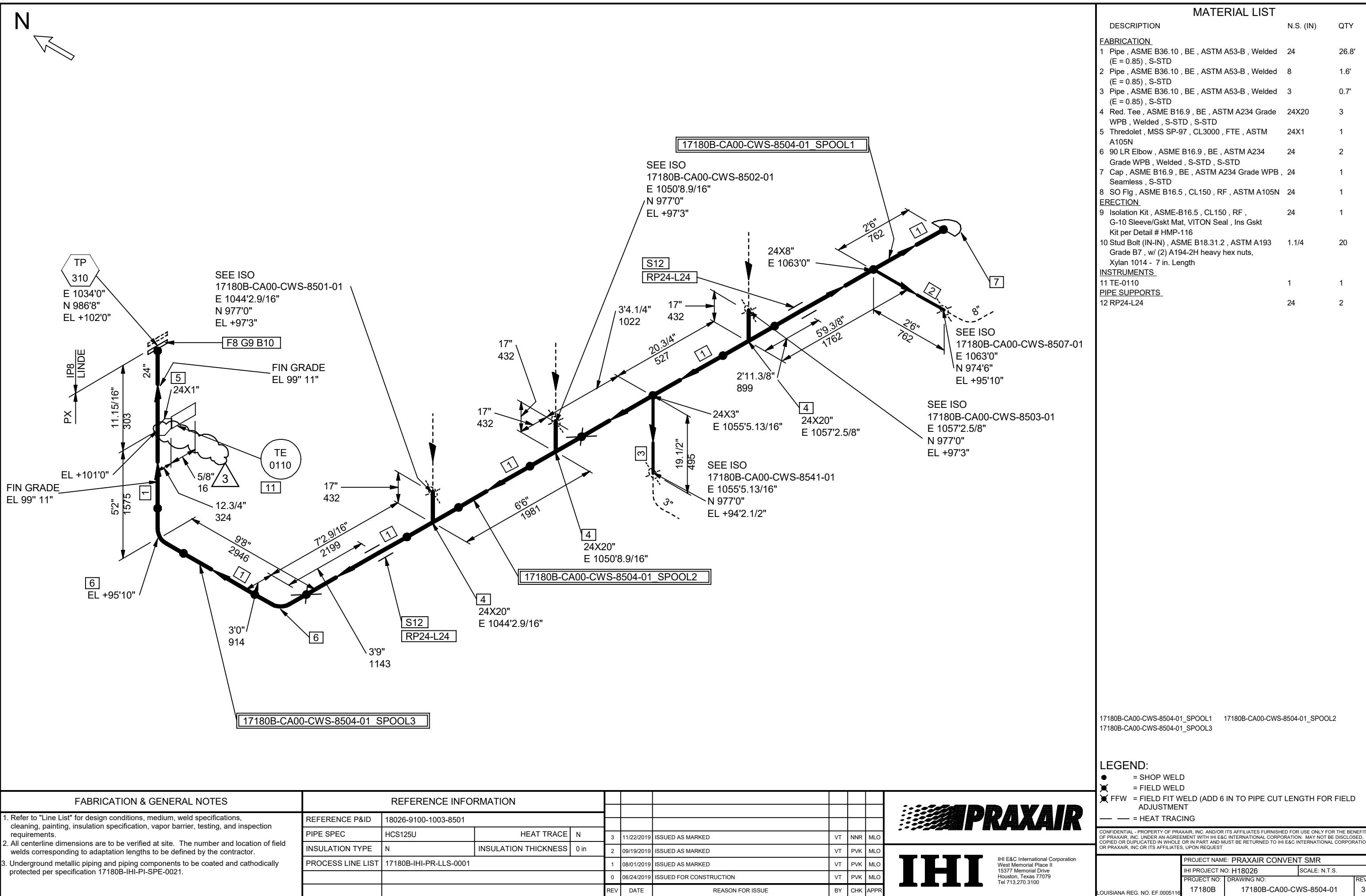
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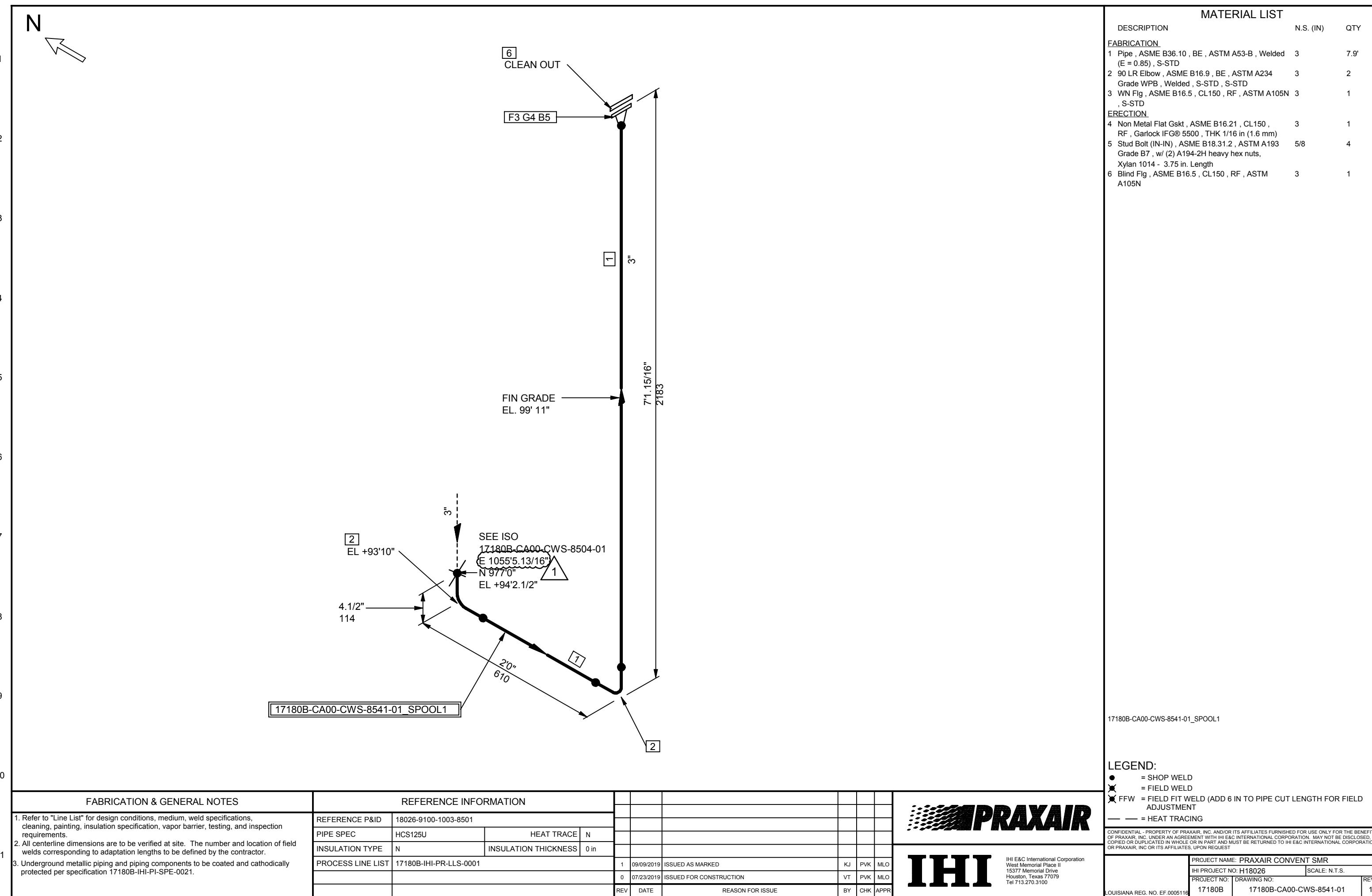
FABRICATION & GENERAL NOTES		REFERENCE INFORMATION						
1. Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.	REFERENCE P&ID	18026-9100-1003-0101						
2. All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.	PIPE SPEC	HCS600P	HEAT TRACE	N				
3. Underground metallic piping and piping components to be coated and cathodically protected per specification 17180B-IHI-PI-SPE-0021.	INSULATION TYPE	N	INSULATION THICKNESS	0 in				
	PROCESS LINE LIST	17180B-IHI-PR-LLS-0001				1 10/16/2019 RE-ISSUED FOR CONSTRUCTION	RR	AA MLO
						0 06/26/2019 ISSUED FOR CONSTRUCTION	VT PVK	MLO
						REV DATE	REASON FOR ISSUE	
1							BY CHK APPR	

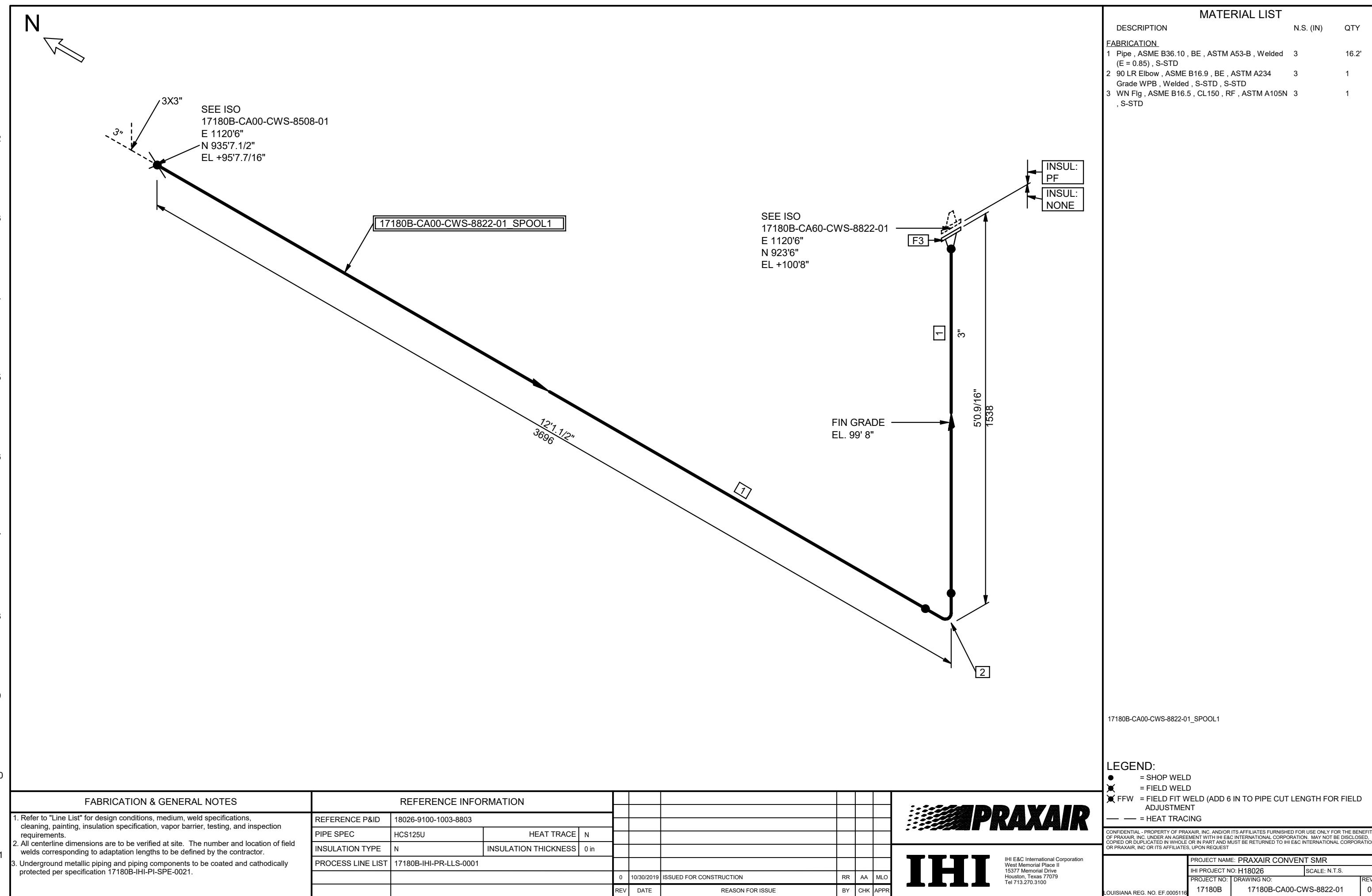


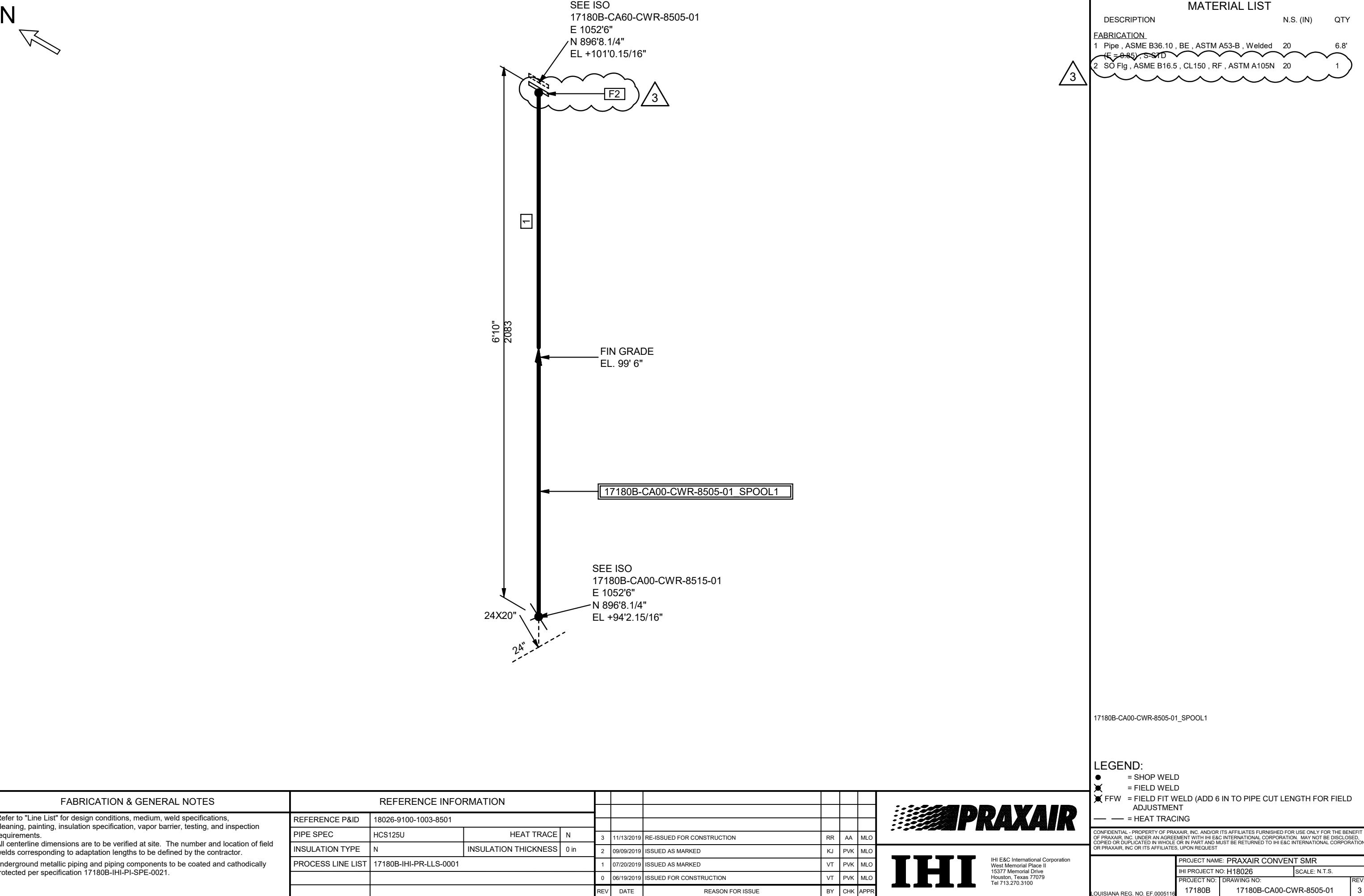
I E&C International Corporation
West Memorial Place II
3777 Memorial Drive
Houston, Texas 77070

TEMPLATE: GE-215B ISO

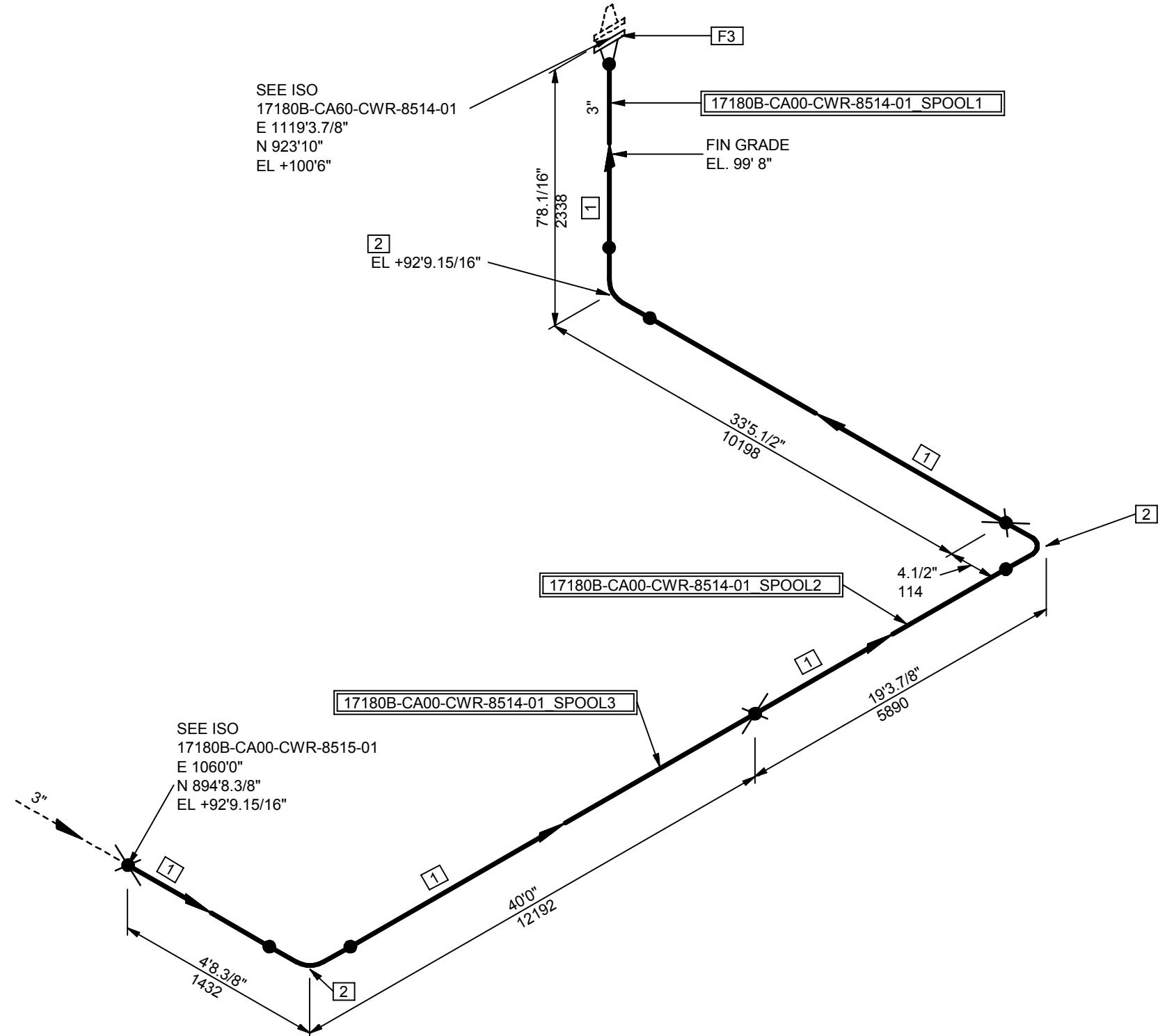








N



MATERIAL LIST		
DESCRIPTION	N.S. (IN)	QTY
FABRICATION		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	3	103.1'
2 90 LR Elbow , ASME B16.9 , BE , ASTM A234 Grade WPB , Welded , S-STD , S-STD	3	3
3 WN Flg , ASME B16.5 , CL150 , RF , ASTM A105N , S-STD	3	1

FABRICATION & GENERAL NOTES

- Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
- All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

REFERENCE INFORMATION

REFERENCE P&ID	18026-9100-1003-8501		
PIPE SPEC	HCS125U	HEAT TRACE	N
INSULATION TYPE	N	INSULATION THICKNESS	0 in
PROCESS LINE LIST	17180B-IHI-PR-LLS-0001		
	0	09/19/2019	ISSUED FOR CONSTRUCTION
	REV	DATE	REASON FOR ISSUE
			BY CHK APPR

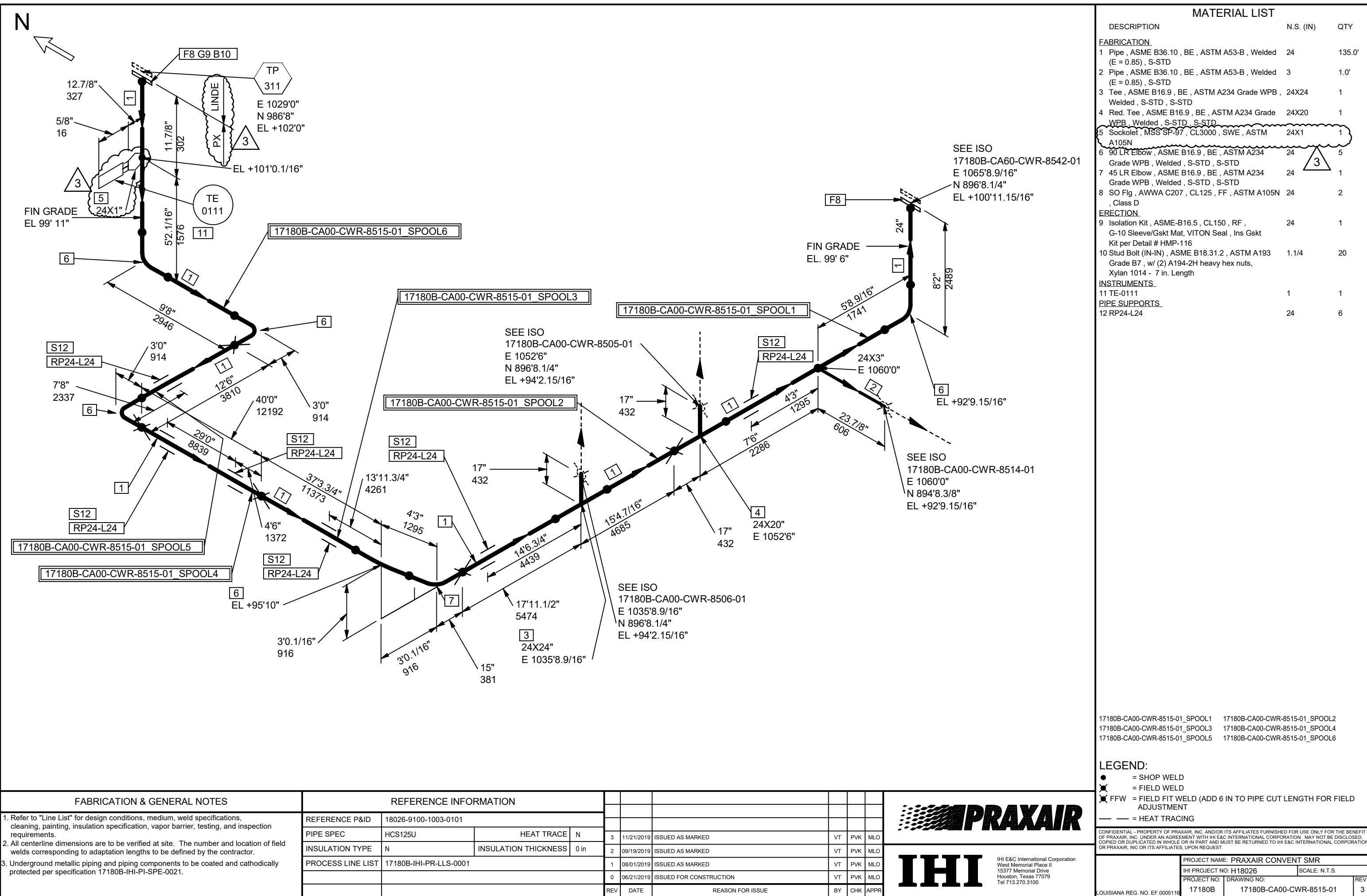
PRAXAIR**IHI**IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77079
Tel 713.270.310017180B-CA00-CWR-8514-01_SPOOL1 17180B-CA00-CWR-8514-01_SPOOL2
17180B-CA00-CWR-8514-01_SPOOL3

LEGEND:

- = SHOP WELD
- ✖ = FIELD WELD
- ✖ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
- = HEAT TRACING

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	PROJECT NAME: PRAXAIR CONVENT SMR
	IHI PROJECT NO: H18026 SCALE: N.T.S.
	PROJECT NO: DRAWING NO: 17180B 17180B-CA00-CWR-8514-01 REV: 0
Louisiana Reg. No. EF.0005116	



N


SEE ISO
17180B-CA60-CWS-8501-02
E 1044'2.9/16"
N 977'0"
EL +101'6.15/16"



F2

1

FIN GRADE
EL. 99' 11"

17180B-CA00-CWS-8501-01_SPOOL1

SEE ISO
17180B-CA00-CWS-8504-01
E 1044'2.9/16"
N 977'0"
EL +97'3"

24X20"

24"

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
<u>FABRICATION</u>		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	20	4.3'
2 SO Flg , AWWA C207 , CL125 , FF , ASTM A105N , Class D	20	1

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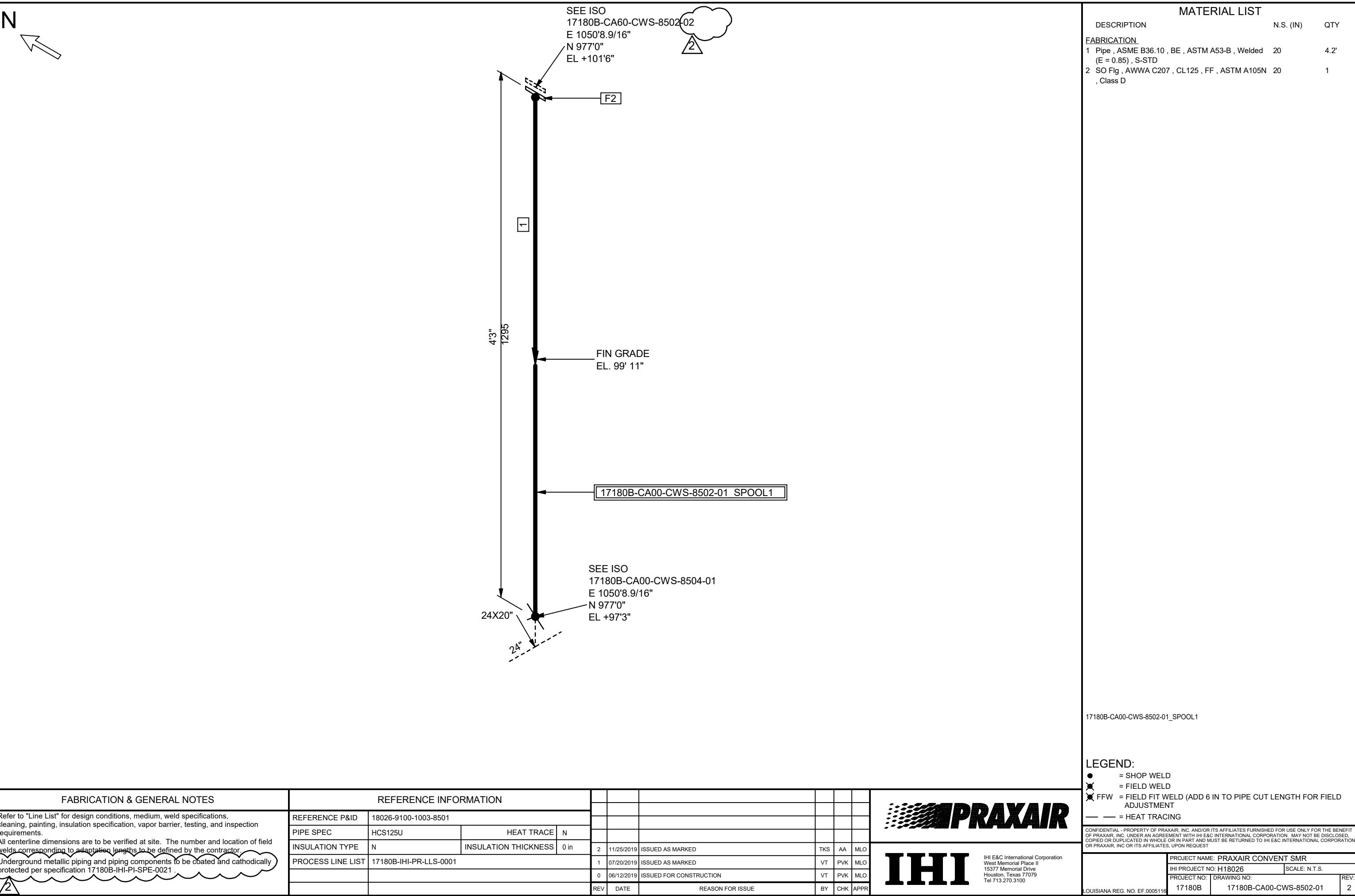
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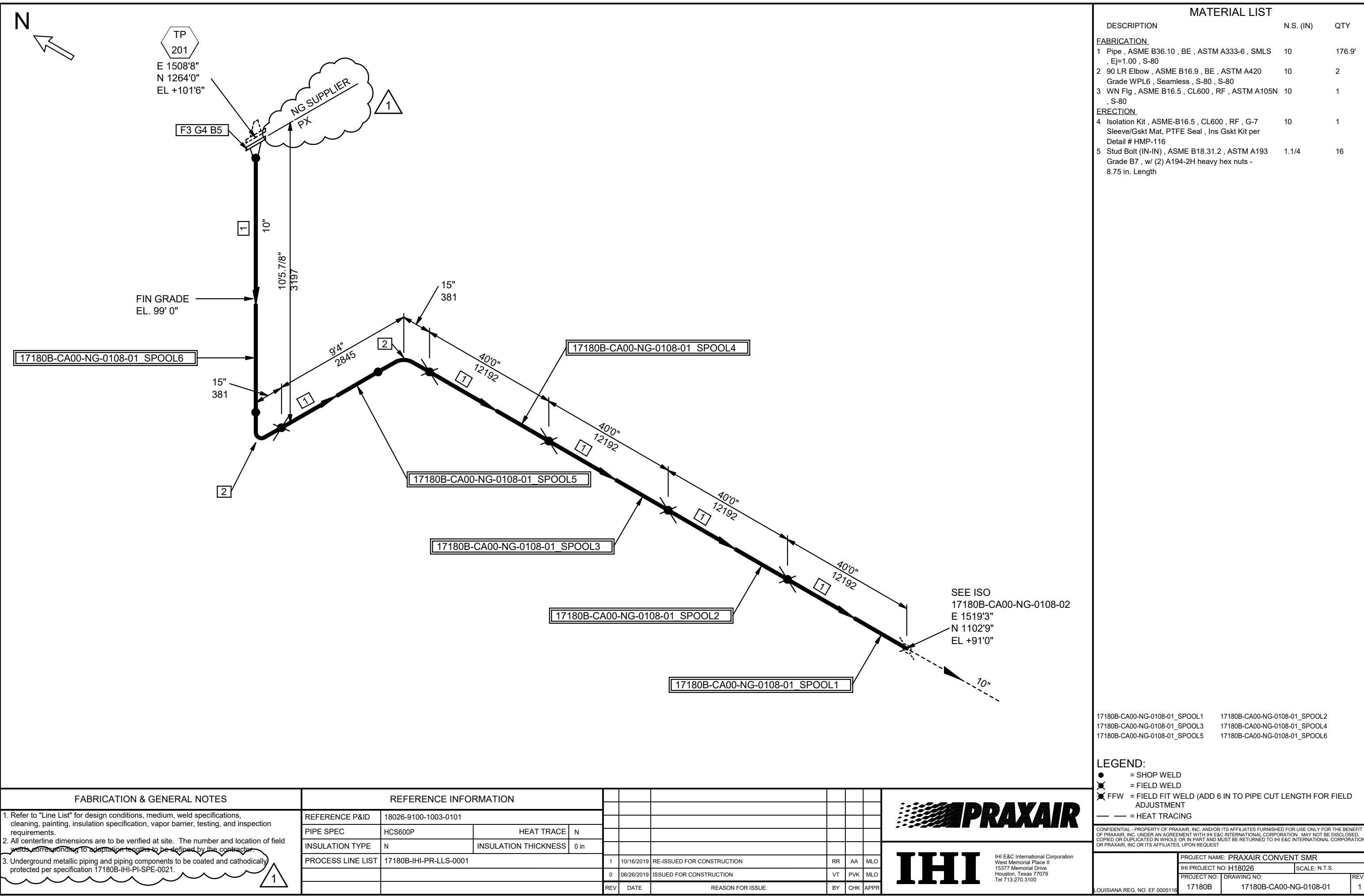
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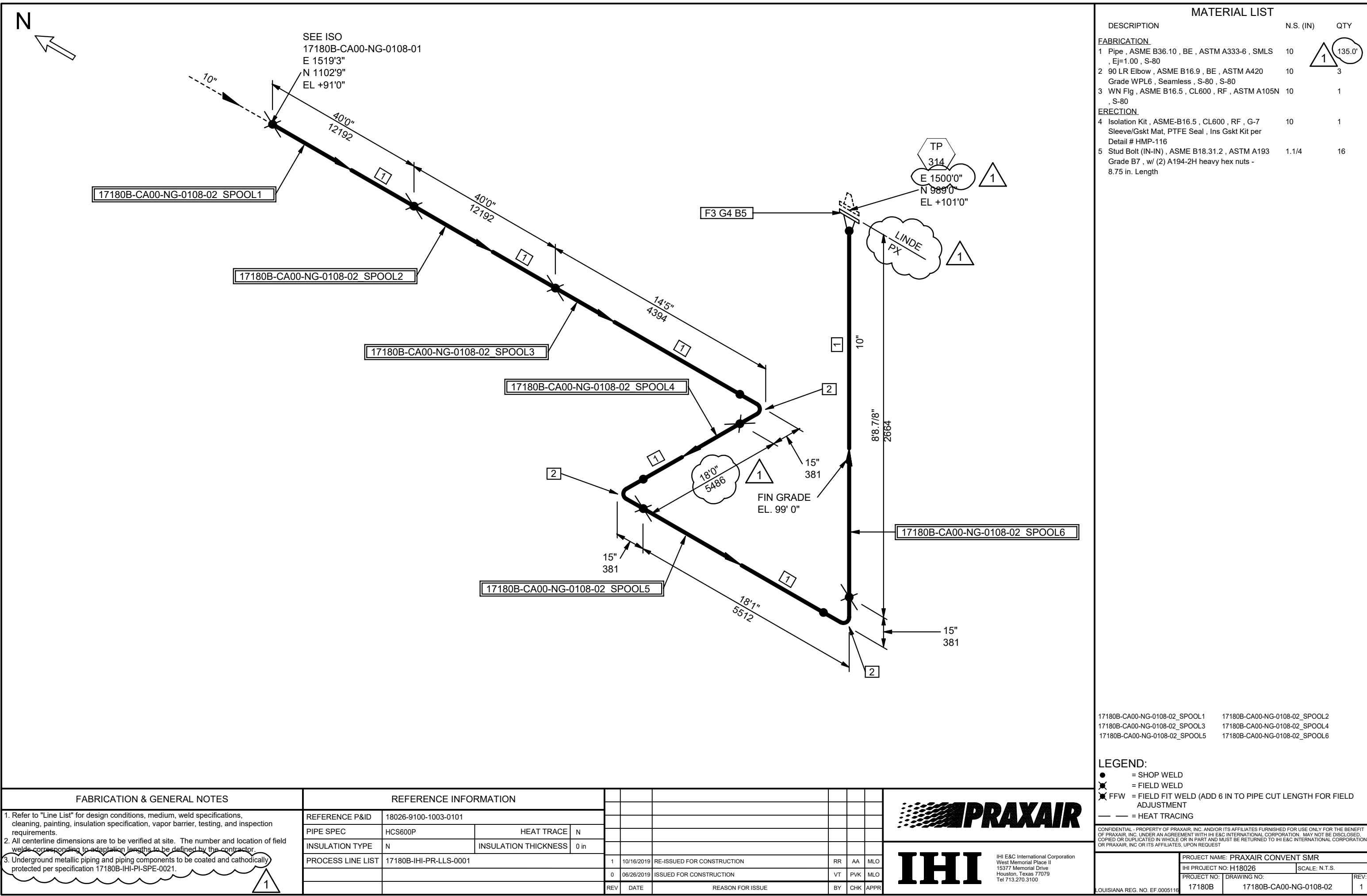
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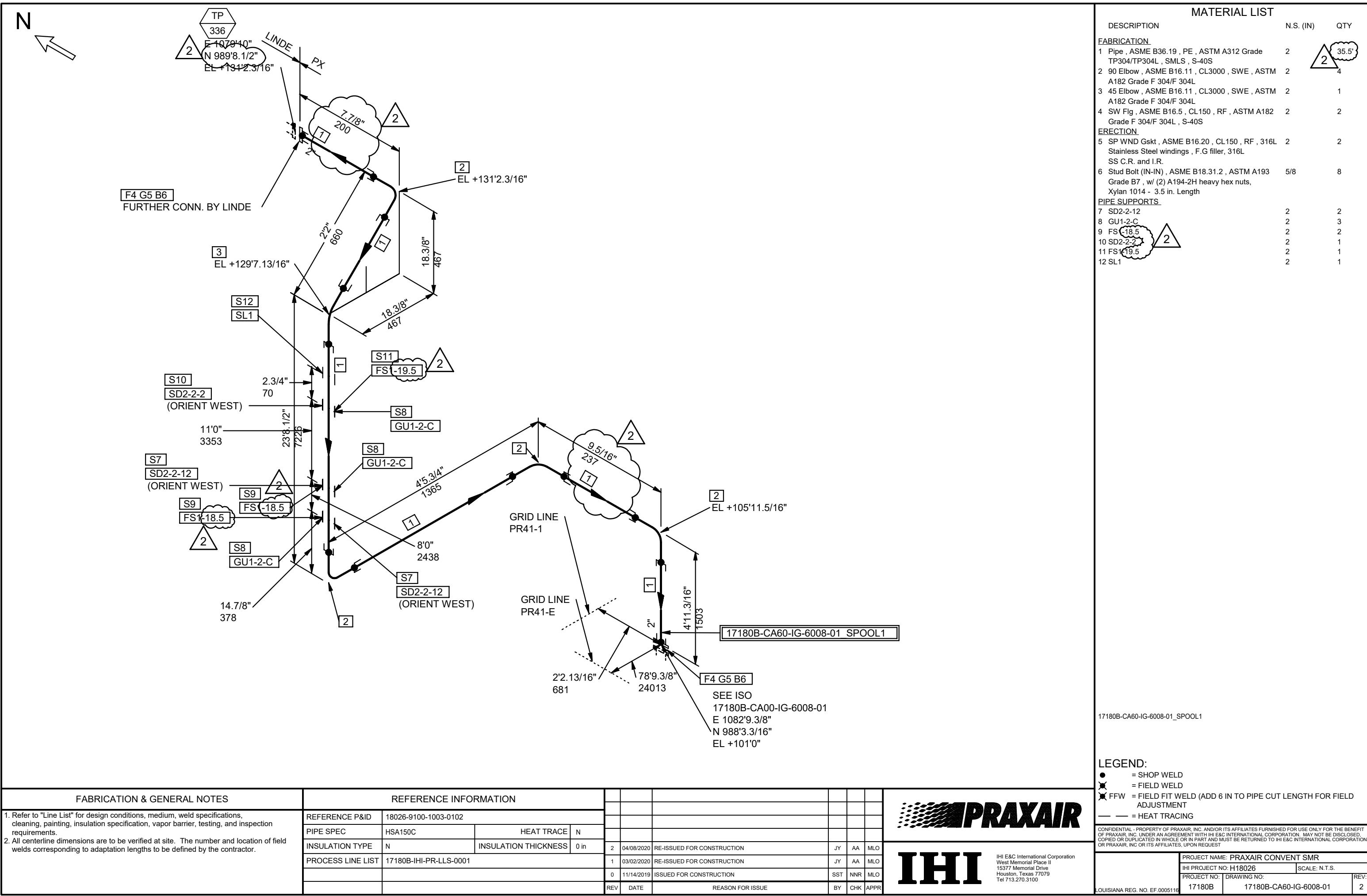
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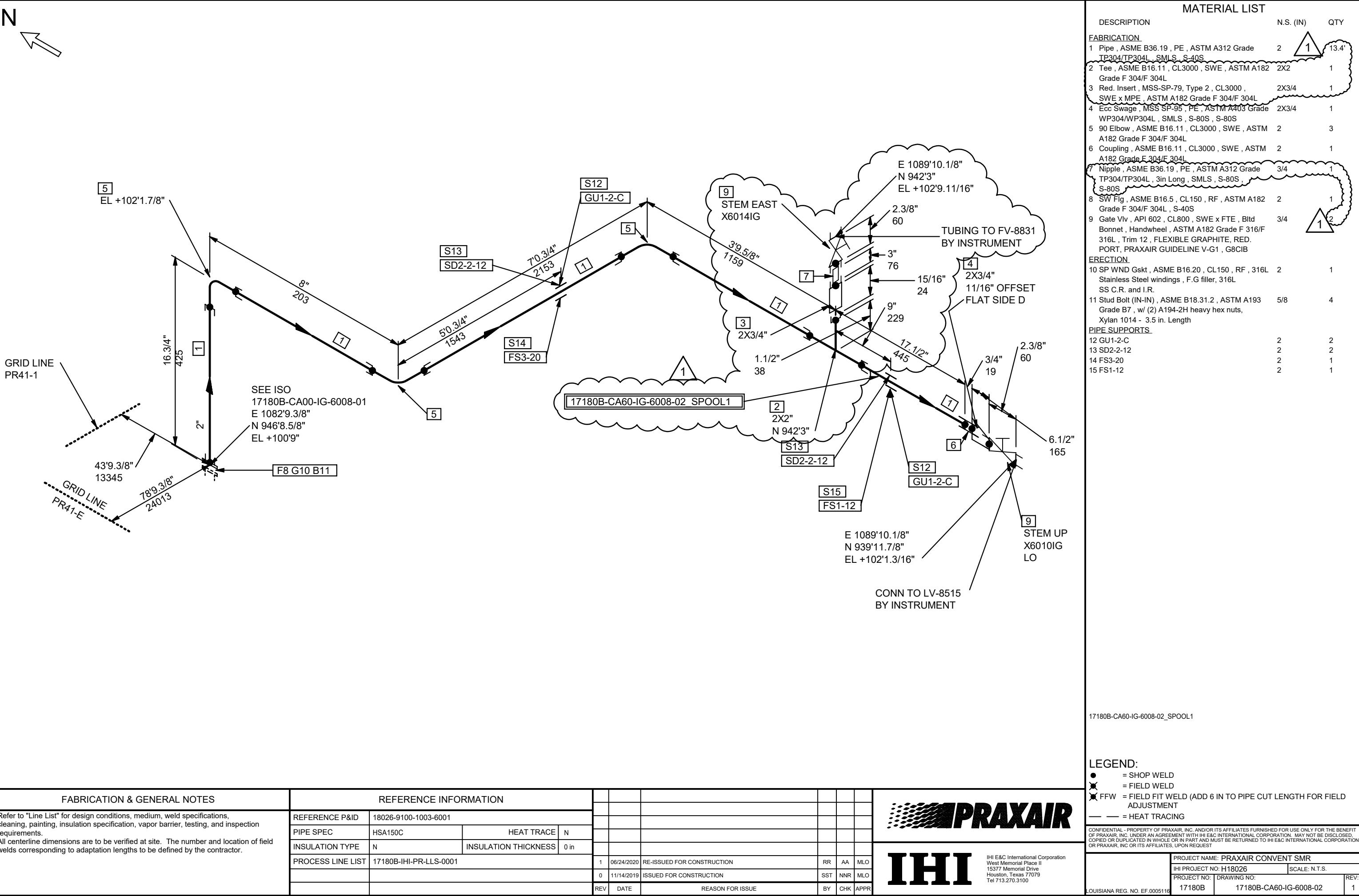
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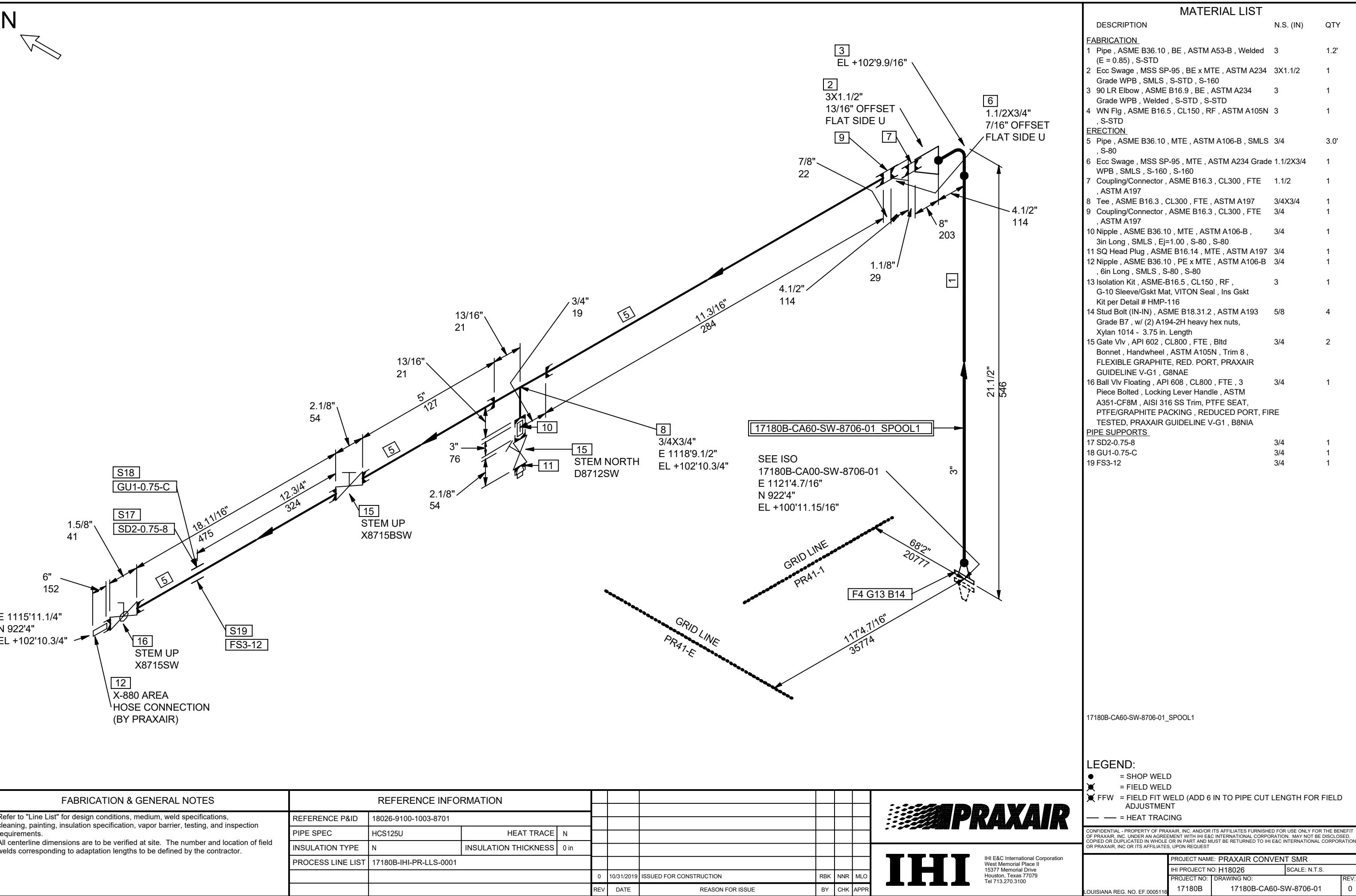




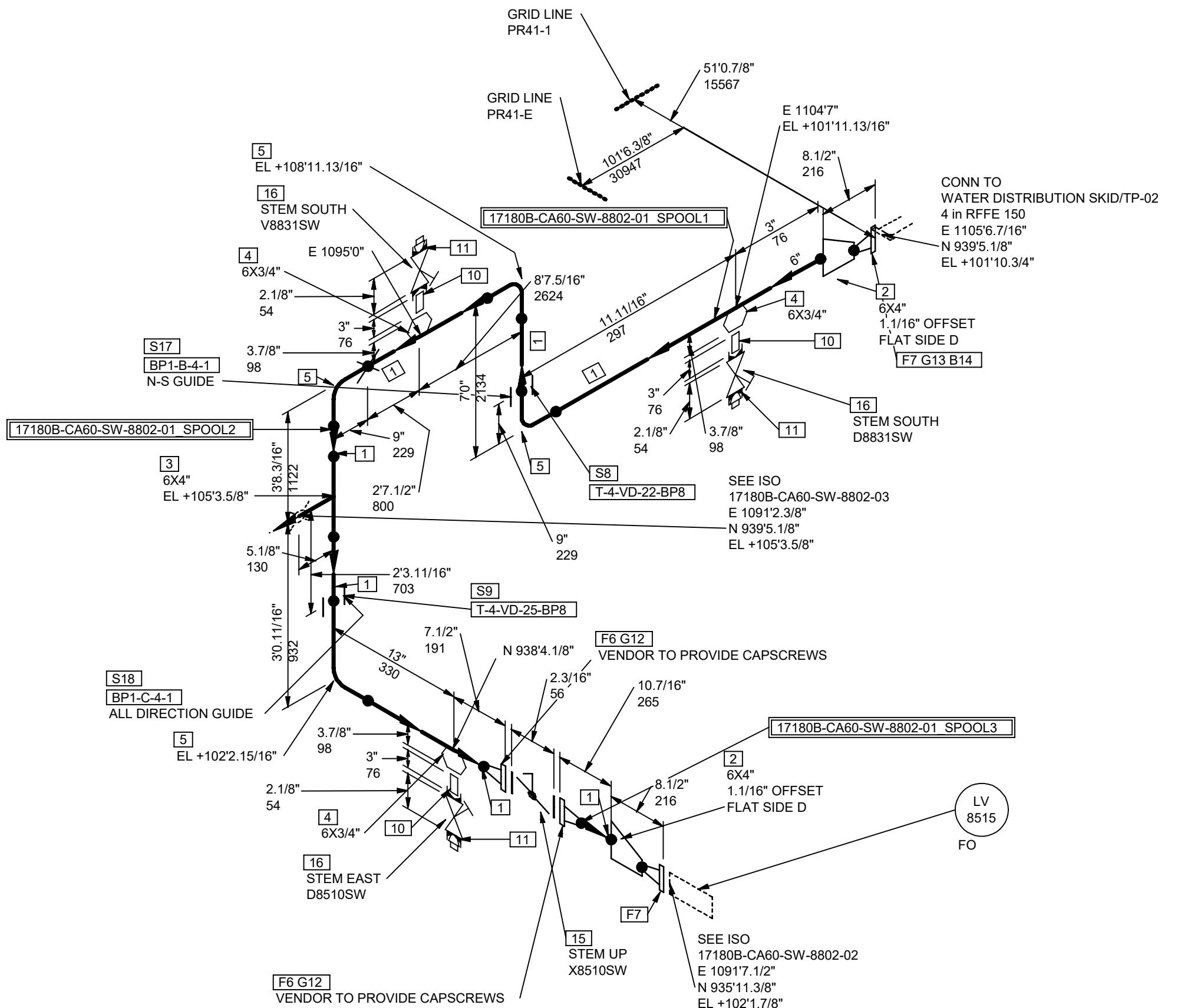








N

**MATERIAL LIST**

DESCRIPTION	N.S. (IN)	QTY
FABRICATION		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	6	22.1'
2 Ecc Reducer , ASME B16.9 , BE , ASTM A234 Grade WPB , Welded , S-STD , S-STD	6X4	2
3 Red. Tee , ASME B16.9 , BE , ASTM A234 Grade WPB , Welded , S-STD , S-STD	6X4	1
4 Threidolet , MSS SP-97 , CL3000 , FTE , ASTM A105N	6X3/4	3
5 90 LR Elbow , ASME B16.9 , BE , ASTM A234 Grade WPB , Welded , S-STD , S-STD	6	4
6 WN Flg , ASME B16.5 , CL150 , RF , ASTM A105N , S-STD	6	2
7 WN Flg , ASME B16.5 , CL150 , RF , ASTM A105N , S-STD	4	2
PIPE SUPPORTS		
8 T-4-VD-22-BP8	6	1
9 T-4-VD-25-BP8	6	1
ERCTION		
10 Nipple , ASME B36.10 , MTE , ASTM A106-B , 3in Long , SMLS , Ej=1.00 , S-80 , S-80	3/4	3
11 SQ Head Plug , ASME B16.14 , MTE , ASTM A197	3/4	3
12 Non Metal Flat Gskt , ASME B16.21 , CL150 , RF , Garlock IFG® 5500 , THK 1/16 in (1.6 mm)	6	2
13 Non Metal Flat Gskt , ASME B16.21 , CL150 , RF , Garlock IFG® 5500 , THK 1/16 in (1.6 mm)	4	1
14 Stud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193 Grade B7 , w/ (2) A194-2H heavy hex nuts, Xylan 1014 - 3.75 in. Length	5/8	8
15 Bfly Vlv Lugged , API 609 Category A , CL150 , RFLUG , Drive, gear operator , ASTM A126-B , NYLON COATED D.I. DISC, EPDM SEAT, SS STEM, NITRILE PACKING , PRAXAIR V-G1, (VENDOR TO PROVIDE CAPSCREWS) , W1LMC	6	1
16 Gate Vlv , API 602 , CL800 , FTE , Bltd Bonnet , Handwheel , ASTM A105N , Trim 8 , FLEXIBLE GRAPHITE, RED. PORT, PRAXAIR GUIDELINE V-G1 , G8NAE	3/4	3
PIPE SUPPORTS		
17 BP1-B-4-1	6	1
18 BP1-C-4-1	6	1

17180B-CA60-SW-8802-01_SPOOL1 17180B-CA60-SW-8802-01_SPOOL2
17180B-CA60-SW-8802-01_SPOOL3**LEGEND:**

● = SHOP WELD

× = FIELD WELD

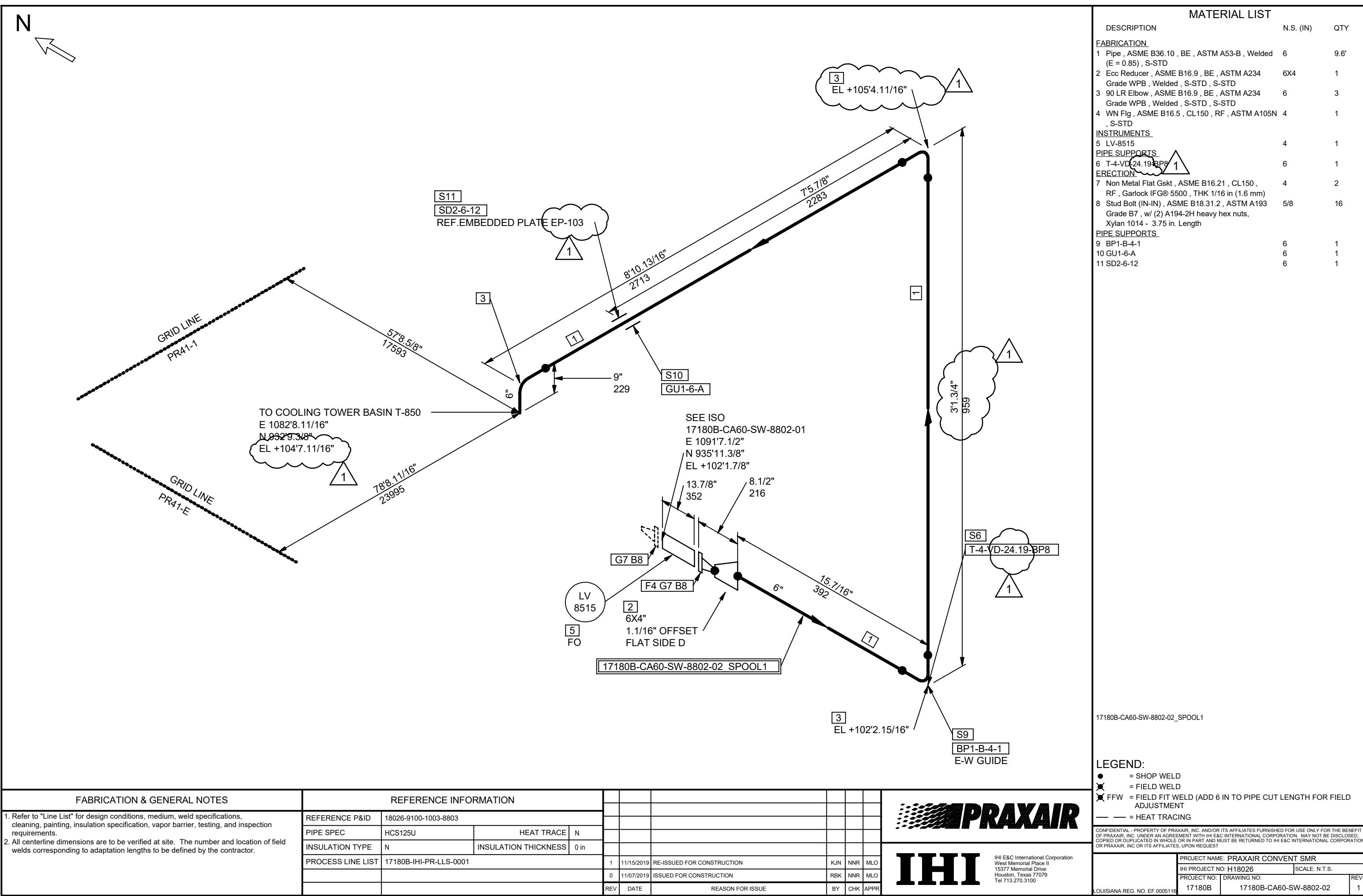
FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)

— = HEAT TRACING

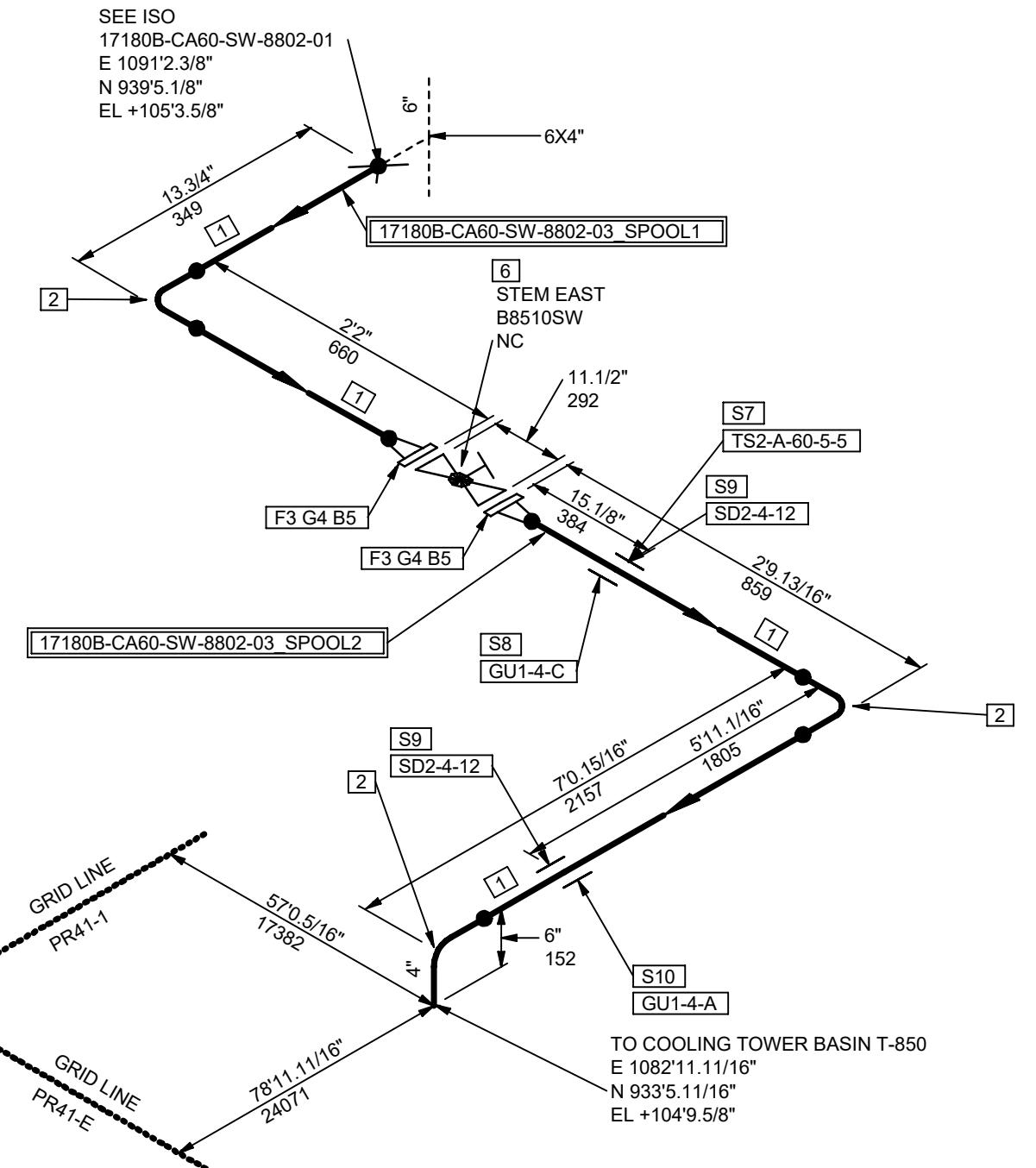
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PRAXAIR**IHI**IHI E&C International Corporation
West Memorial Place II
15377 Memorial Drive
Houston, Texas 77079
Tel 713.270.3100

PROJECT NAME: PRAXAIR CONVENT SMR	SCALE: N.T.S.
IHI PROJECT NO: H18026	
PROJECT NO: DRAWING NO: LOUISIANA REG. NO. EF.0005116	17180B-CA60-SW-8802-01



N



MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
FABRICATION		
1 Pipe , ASME B36.10 , BE , ASTM A53-B , Welded (E = 0.85) , S-STD	4	10.3'
2 90 LR Elbow , ASME B16.9 , BE , ASTM A234 Grade WPB , Welded , S-STD , S-STD	4	3
3 WN Flg , ASME B16.5 , CL150 , RF , ASTM A105N , S-STD	4	2
ERCTION		
4 Non Metal Flat Gskt , ASME B16.21 , CL150 , RF , Garlock IFG® 5500 , THK 1/16 in (1.6 mm)	4	2
5 Stud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193 Grade B7 , w/ (2) A194-2H heavy hex nuts, Xylan 1014 - 3.75 in. Length	5/8	16
6 Globe Vlv , ASME B16.34 , CL150 , RFFE - , Handwheel , ASTM A216-WCB , Trim 8 , FLEXIBLE GRAPHITE, PRAXAIR GUIDELINE V-G1 , T1FAE	4	1
PIPE SUPPORTS		
7 TS2-A-60-5-5	4	1
8 GU1-4-C	4	1
9 SD2-4-12	4	2
10 GU1-4-A	4	1

17180B-CA60-SW-8802-03_SPOOL1 17180B-CA60-SW-8802-03_SPOOL2

LEGEND:

- = SHOP WELD
- ✖ = FIELD WELD
- ☒ FFW = FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
- = HEAT TRACING



IHI

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	PROJECT NAME: PRAXAIR CONVENT SMR	SCALE: N.T.S.
	IHI PROJECT NO: H18026	
	PROJECT NO: DRAWING NO: 17180B 17180B-CA60-SW-8802-03	REV: 0
Louisiana Reg. No. EF.0005116		

FABRICATION & GENERAL NOTES

- Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
- All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

REFERENCE INFORMATION

REFERENCE P&ID 18026-9100-1003-8803

PIPE SPEC HCS125U

HEAT TRACE N

INSULATION TYPE N

INSULATION THICKNESS 0 in

PROCESS LINE LIST 17180B-IHI-PR-LLS-0001

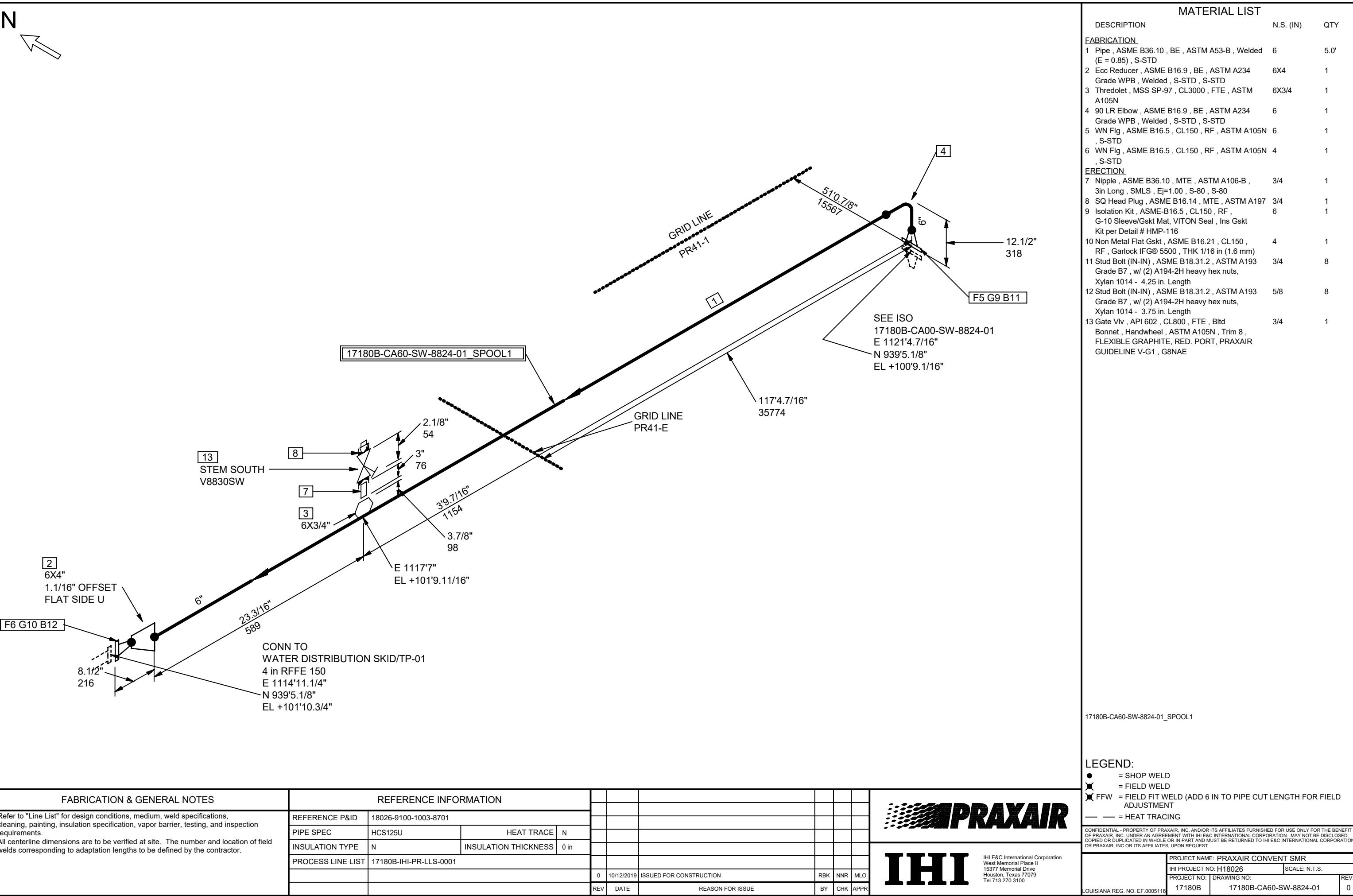
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RBK NNR MLO

REV DATE

REASON FOR ISSUE

BY CHK APPR



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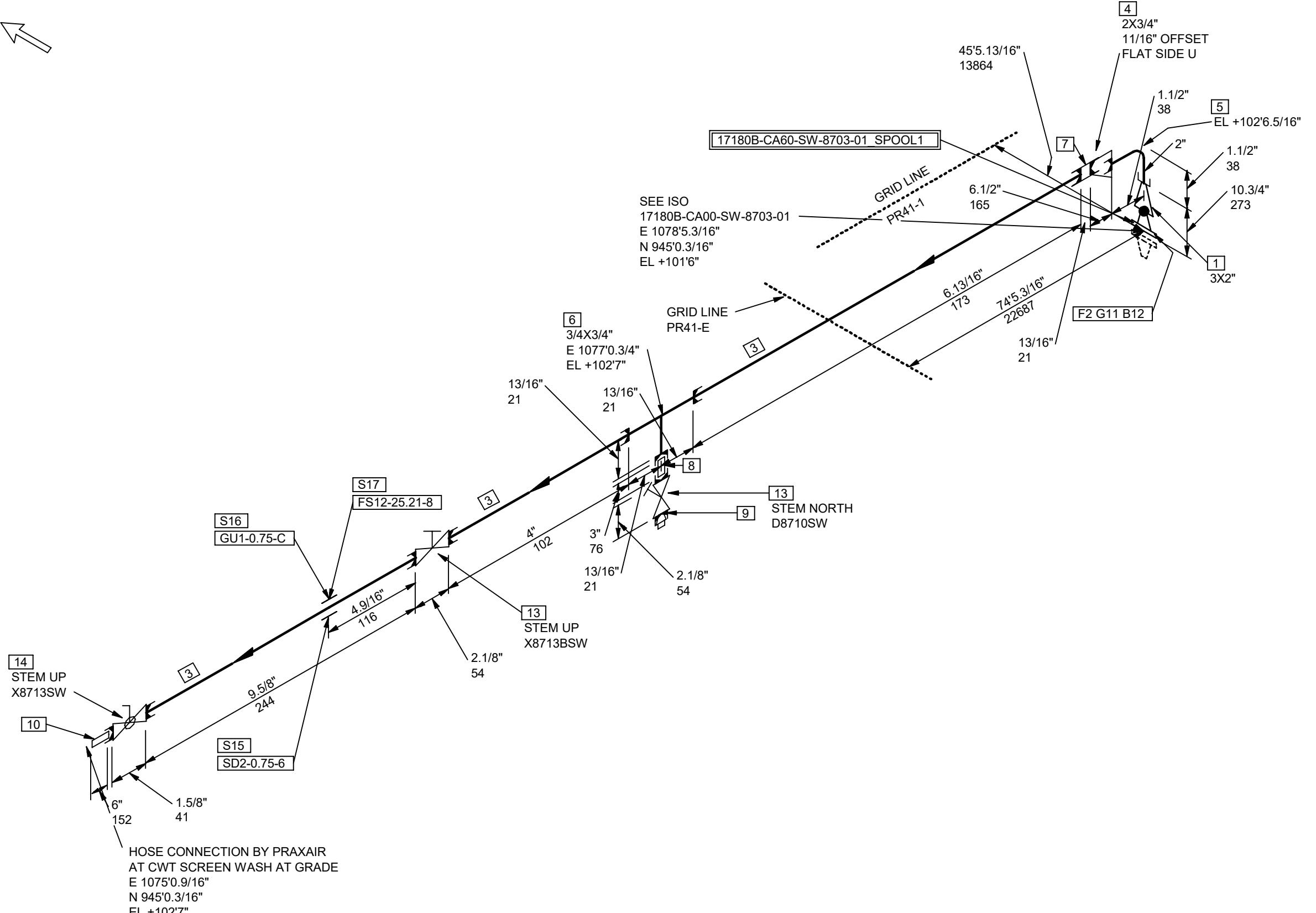
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P

MATERIAL LIST

DESCRIPTION	N.S. (IN)	QTY
FABRICATION		
1 Conc Swage , MSS SP-95 , BE x MTE , ASTM A234 3X2 Grade WPB , SMLS , S-STD , S-160		1
2 WN Flg , ASME B16.5 , CL150 , RF , ASTM A105N 3 , S-STD		1
ERCTION		
3 Pipe , ASME B36.10 , MTE , ASTM A106-B , SMLS 3/4 , S-80	1.8'	1
4 Ecc Swage , MSS SP-95 , MTE , ASTM A234 Grade 2X3/4 WPB , SMLS , S-160 , S-160		1
5 90 Deg Elbow , ASME B16.3 , CL300 , FTE , ASTM A197	2	1
6 Tee , ASME B16.3 , CL300 , FTE , ASTM A197	3/4X3/4	1
7 Coupling/Connector , ASME B16.3 , CL300 , FTE , ASTM A197	3/4	1
8 Nipple , ASME B36.10 , MTE , ASTM A106-B , 3in Long , SMLS , Ej=1.00 , S-80 , S-80	3/4	1
9 SQ Head Plug , ASME B16.14 , MTE , ASTM A197	3/4	1
10 Nipple , ASME B36.10 , PE x MTE , ASTM A106-B , 6in Long , SMLS , S-80 , S-80	3/4	1
11 Isolation Kit , ASME-B16.5 , CL150 , RF , G-10 Sleeve/Gskt Mat; VITON Seal , Ins Gskt Kit per Detail # HMP-116	3	1
12 Stud Bolt (IN-IN) , ASME B18.31.2 , ASTM A193 Grade B7 , w/ (2) A194-2H heavy hex nuts, Xylan 1014 - 3.75 in. Length	5/8	4
13 Gate Vlv , API 602 , CL800 , FTE , Bltd Bonnet , Handwheel , ASTM A105N , Trim 8 , FLEXIBLE GRAPHITE, RED. PORT, PRAXAIR GUIDELINE V-G1 , G8NAE	3/4	2
14 Ball Vlv Floating , API 608 , CL800 , FTE , 3 Piece Bolted , Locking Lever Handle , ASTM A351-CF8M , AISI 316 SS Trim, PTFE SEAT, PTFE/GRAPIHTE PACKING , REDUCED PORT, FIRE TESTED, PRAXAIR GUIDELINE V-G1 , B8NIA	3/4	1
PIPE SUPPORTS		
15 SD2-0.75-6	3/4	1
16 GU1-0.75-C	3/4	1
17 FS12-25.21-8	3/4	1



LEGEND:	
●	= SHOP WELD
×	= FIELD WELD
FFW	= FIELD FIT WELD (ADD 6 IN TO PIPE CUT LENGTH FOR FIELD ADJUSTMENT)
— = HEAT TRACING	
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  IHI E&C International Corporation West Memorial Place II 15377 Memorial Drive Houston, Texas 77079 Tel 713.270.3100	
PROJECT NAME: PRAXAIR CONVENT SMR IHI PROJECT NO: H18026 SCALE: N.T.S. PROJECT NO: DRAWING NO: LOUISIANA REG. NO. EF.0005116 17180B 17180B-CA60-SW-8703-01 0	

FABRICATION & GENERAL NOTES

- Refer to "Line List" for design conditions, medium, weld specifications, cleaning, painting, insulation specification, vapor barrier, testing, and inspection requirements.
- All centerline dimensions are to be verified at site. The number and location of field welds corresponding to adaptation lengths to be defined by the contractor.

REFERENCE INFORMATION

REFERENCE P&ID 18026-9100-1003-8701

PIPE SPEC HCS125U

HEAT TRACE

N

INSULATION TYPE N

INSULATION THICKNESS

0 in

PROCESS LINE LIST

17180B-IHI-PR-LLS-0001

0

10/25/2019

ISSUED FOR CONSTRUCTION

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REV

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REASON FOR ISSUE

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