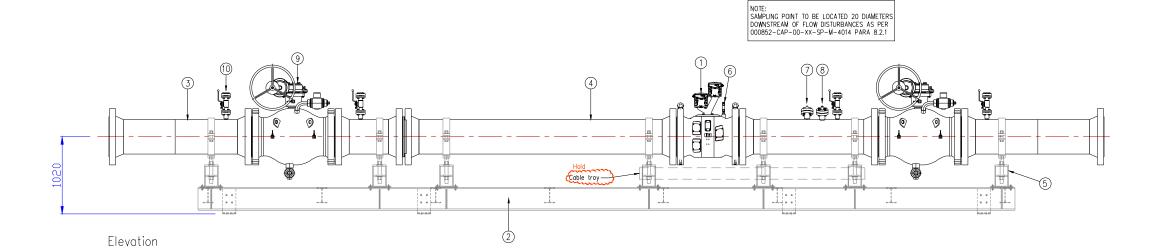
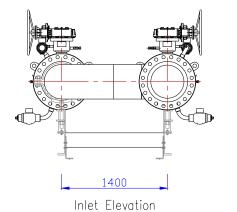


Plan of Meter Skid





HEM	UIT	DESCRIP HON	DETAIL	
1	2	18" ULTRASONIC FLOW METER	FLOWSIC600-XT	
2	1	SKID FRAME	300x100X46 PFC & 203x133X25 UB	
3	2	18" NB HEADER SPOOLS		
4	6	18" NB PIPE SPOOLS		
5	14	PIPE SUPPORTS		
6	2	PRESSURE TRANSMITTER TAPING		
7	2	1.5" WELDOFLANGE	FOR THERMOWELL & TEMP TRANSMITTER	
8	2	1.5" WELDOFLANGE	FOR THERMOWELL	
9	4	18" NB 600# BALL VALVE	SGN/SP/V/6	
10	8	1" NB 600# BALL VALVE	SGN/SP/V/6	

ITEM OTV

NOTES: 1. DESIGN:

IGEM/GM/4 Ed. 2 T/SP/ME/1 SGN/SP/PW/11

2. PIPEWORK: WELDING: SGN/SP/W/8

SGN/SEB/732

Galvanised to BS EN 14713 and

painted

T/SP/PA/10, BS4800 00A05 11, PAINTING: Goosewing Grey

HAZARDOUS AREA CLASSIFICATION: ZONE 2

CONNECTIONS

18" ANSI 600# WNRF 18" ANSI 600# WNRF INLET: OUTLET:

DESIGN & OPERATING CONDITIONS:
1. DESIGN PRESSURE:
2. MAX. OPERATING PRESSURE:

27 BARG 70 BARG 45 BARG 127.1 BARG -20/+50'C 885,833 SCMH 3. MIN. INLET PRESSURE: 4. TEST PRESSURE: 5. DESIGN TEMPERATURE: 6. MAXIMUM FLOW:

ESTIMATED WEIGHT:
PIPEWORK & FITTINGS = 17,500kg
FRAMEWORK = 2,270kg
= 19,770kg



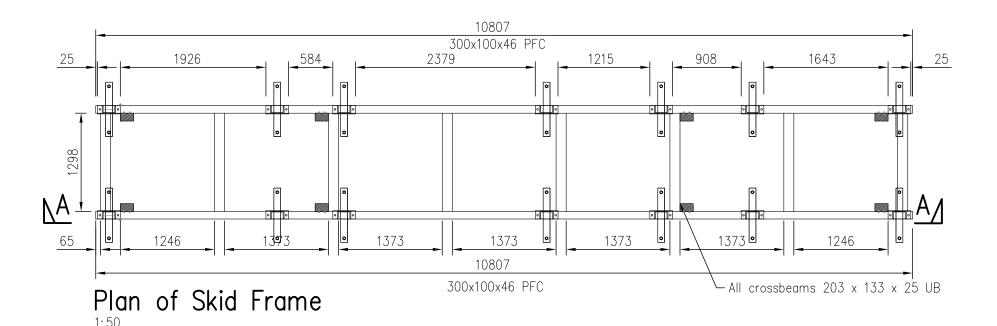
DRAWING NO.		46	1639-5004-01			rssue C2
				L		
04/12/18	Мн	ŅΗ	TI	C2	FRAME DESIGN UPDATED	
10/08/18	Мн	ŅΗ	TI	C1	FOR COMMENT	
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION	

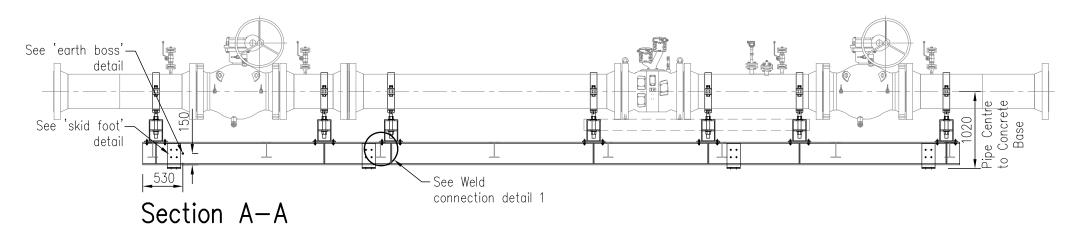


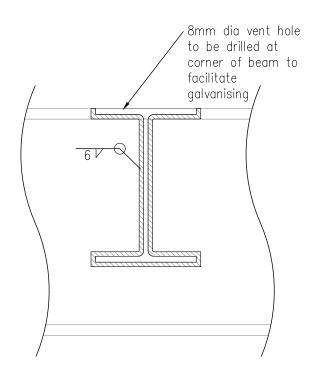
METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID GENERAL ARRANGEMENT

THIS DRAWING IS ISSUED BY THYSON TECHNOLOGY PROJECT MANAGEMENT ON BEHALF OF THE ABOVE CLIENT SUBJECT TO THE CONDITIONS THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART, OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WITTEN A

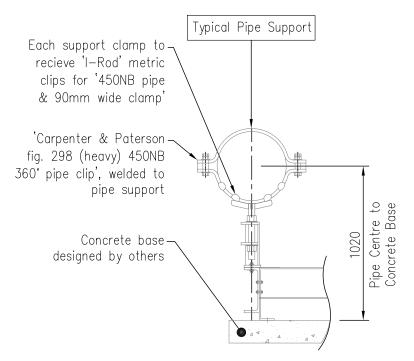
SCALE	1:50	MASTER SIZE A 3
CLIENT DRAWING NO.		ISSUE



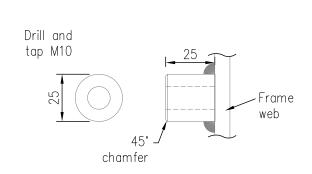




Weld Connection Detail 1 16No. required



Typical Support Section View
Pipe & fittings details added on for clarity
1:25



Earth Boss Detail
2No. required, each one located at diametrically opposite frame corners
1:2

## NOTES

- 1. Do not scale, work to figured dimensions only.
- 2. All dimensions in mm unless noted otherwise.
- Contractor is responsible for checking all levels and dimensions prior to commencement of work.
- Workmanship materials and quality control to be in accordance with SGN specification SGN/SP/CE/ 1 to 4 : 2011.

### Stee

- 5. All steel material requirements & fabrication details are to be in accordance with SGN specification SGN/SP/CE/4 (Steelwork)
- 6. Steel to conform to following BS 4—1 grades: —

Plates & Flats = \$355 J2 PFC & U-Beams = \$355 J0

- Delivery of all steels to be in accordance with BS EN
- All steels are galvanised to BS EN ISO 14713 and painted to T/SP/PA/10 BS 4800 00A05 Goosewing
- All burrs, sharp edges and corners to be remove and to be dressed for a good finish.
- All welding to be 6mm continuous fillet. Visual inspection of welds to be carried out in accordance with BS EN ISO 17637: 2011.



DRAWING NO.		463	9-50	05	5-01 ISSUE C1		
27/11/18	RCS	JR	RCS	C1	FOR CONSTRUCTION		
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION		



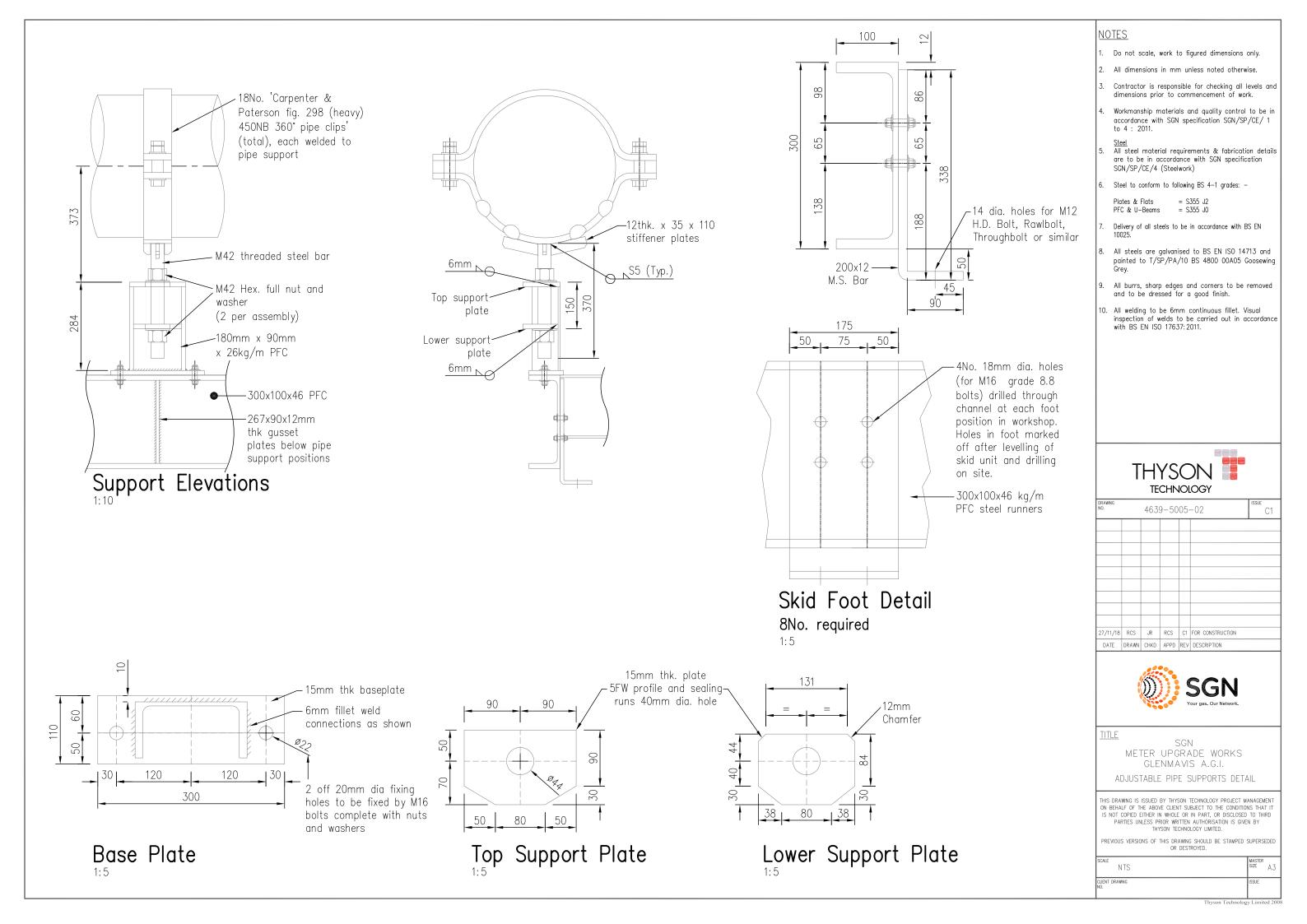
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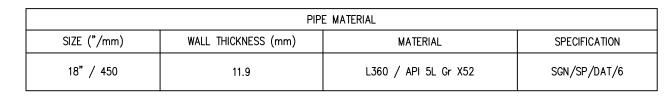
SGN
METER UPGRADE WORKS
GLENMAVIS A.G.I.

18 INCH U.S.M. SKID FRAME DETAILS

THIS DRAWING IS ISSUED BY THYSON TECHNOLOGY PROJECT MANAGEMENT ON BEHALF OF THE ABOVE CLIENT SUBJECT TO THE CONDITIONS THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART, OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN BY THYSON TECHNOLOGY LIMITED.

scale NTS	MASTER SIZE A3
CLIENT DRAWING NO.	ISSUE





	WELDED PIPE FITTINGS						
ITEM NO	SIZE ("/mm)	DESCRIPTION	MATERIAL	SPECIFICATION			
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1			
405	1.5" / 40	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1			
406	1" / 25	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1			

	WELDED PIPE FITTINGS						
ITEM NO	SIZE ("/mm)	DESCRIPTION	MATERIAL	SPECIFICATION			
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1			
405	1.5" / 40	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1			
406	1" / 25	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1			



- Do not scale, work to figured dimensions only.
- 2. All dimensions in mm unless noted otherwise
  3. Welding in accordance with
- SGN/SP/W/8. NDT in accordance with
- T/PR/NDT/1 and T/SP/NDT/2.

  4. Each spool to be marked with the DRG. No. and the SPOOL No. via a weatherproof label wired on to the spool.
- 5. Hydrotest in accordance with SGN/WI/PT/1: 127.1 BAR for 30 minutes (77 BAR × 1.5 + 10%)
- 6. Painting in accordance with T/SP/PA/10, BS4800 00A05 Goosewing Grey.
- Fabrication generally in accordance with SGN/SP/PW/11.
- 8. Pipework to be clean of swarf and
- debris prior to delivery.
  9. Flanges to be greased and supplied with suitable protection for shipping.
- 10. All flange bolt holes positioned about centrelines as shown below.





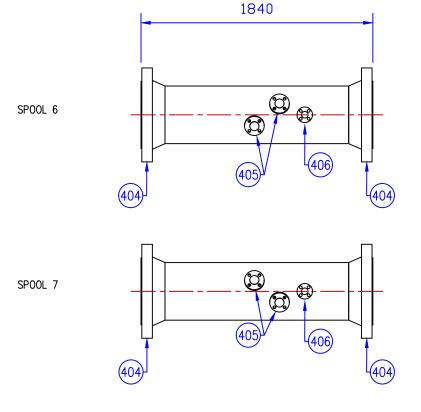
DRAWING NO.	4639-5006-04						
				H			
21/11/18	NH	NH	TI	C2	NOTES UPDATED		
21/09/18	NH	NH	TI	C1	FOR APPROVAL		
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION		

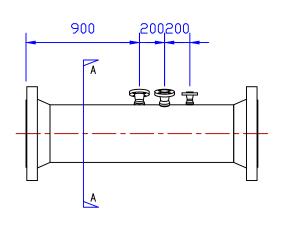


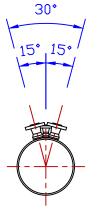
SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID SPOOL FABRICATION

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SCALE	1: 30	MASTER SIZE A3
CLIENT DRAWING NO.		ISSUE



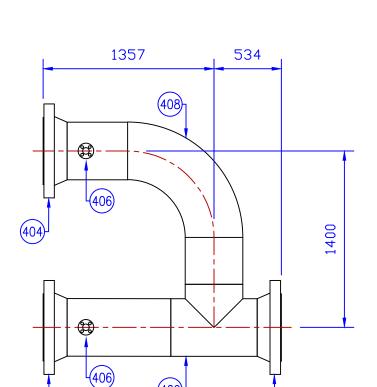




SECTION A-A



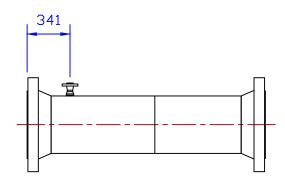


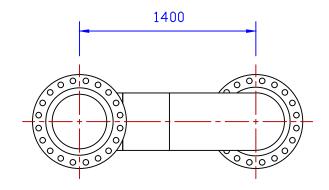


PIPE MATERIAL						
SIZE ("/mm)	WALL THICKNESS (mm)	MATERIAL	SPECIFICATION			
18" / 450	11.9	L360 / API 5L Gr X52	SGN/SP/DAT/6			

	WELDED PIPE FITTINGS							
ITEM NO	SIZE ("/mm)	DESCRIPTION	MATERIAL	SPECIFICATION				
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1				
406	1" / 25	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1				
408	18" / 450	BUTT WELD ELBOW, 457mm OD x 14.9 mm NOM W/T	L360 / API 5L Gr X52	SGN/SP/B/12				
409	18" / 450	"103 BAR" BUTT WELD TEE, 457mm OD x 23.5mm MIN W/T	L360 / API 5L Gr X52	SGN/SP/B/12				

NOTE: THIS DESIGN UTILISES SHORT PATTERN TEES. SGN/SP/B/12 CONTAINS CONTRADICTIONS ABOUT THE USE OF SHORT PATTERN TEES AT 18"/450MM.









SP00L 8

- Do not scale, work to figured dimensions only.
- All dimensions in mm unless noted otherwise
- 3. Welding in accordance with SGN/SP/W/8. NDT in accordance with
- T/PR/NDT/1 and T/SP/NDT/2.

  4. Each spool to be marked with the DRG. No. and the SPOOL No. via a weatherproof label wired on to the
- 5. Hydrotest in accordance with SGN/WI/PT/1: 127.1 BAR for 30 minutes (77 BAR × 1.5 + 10%)
- 6. Painting in accordance with T/SP/PA/10, BS4800
- 00A05 Goosewing Grey.
  7. Fabrication generally in accordance with SGN/SP/PW/11.
- 8. Pipework to be clean of swarf and
- debris prior to delivery.
  9. Flanges to be greased and supplied with suitable protection for shipping.
- 10. All flange bolt holes positioned about centrelines as shown below.





DRAWING NO.		46	539–	500	006-05 C2		
21/11/18	NH	NH	TI	C2	NOTES UPDATED		
21/09/18	NH	NH	TI	-	FOR APPROVAL		
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION		



SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID SPOOL FABRICATION

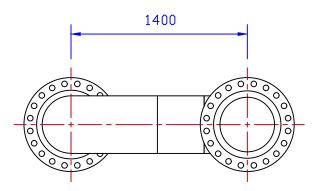
THIS DRAWING IS ISSUED BY THYSON TECHNOLOGY PROJECT MANAGEMENT ON BEHALF OF THE ABOVE CLIENT SUBJECT TO THE CONDITIONS THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART, OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WITTEN AUTHORISATION IS GIVEN BY THYSON TECHNOLOGY LIMITED.

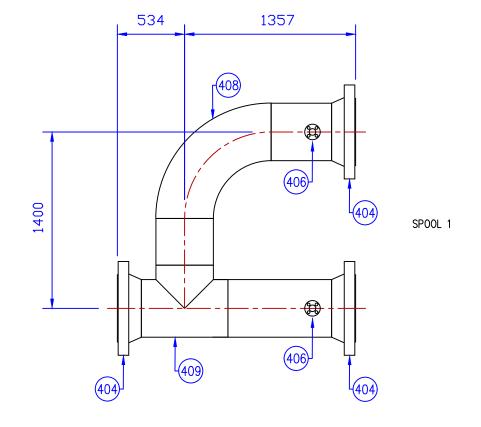
SCALE	1: 30	MASTER SIZE	А3
CLIENT DRAWING NO.		ISSUE	

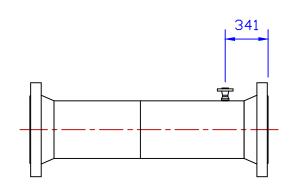
PIPE MATERIAL					
SIZE ("/mm) WALL THICKNESS (mm) MATERIAL SPECIFICATION					
18" / 450	11.9	L360 / API 5L Gr X52	SGN/SP/DAT/6		

	WELDED PIPE FITTINGS							
ITEM NO	SIZE ("/mm)	DESCRIPTION	MATERIAL	SPECIFICATION				
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1				
406	1" / 25	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1				
408	18" / 450	BUTT WELD ELBOW, 457mm OD x 14.9 mm NOM W/T	L360 / API 5L Gr X52	SGN/SP/B/12				
409	18" / 450	"103 BAR" BUTT WELD TEE, 457mm OD x 23.5mm MIN W/T	L360 / API 5L Gr X52	SGN/SP/B/12				

THIS DESIGN UTILISES SHORT PATTERN TEES. SGN/SP/B/12 CONTAINS CONTRADICTIONS ABOUT THE USE OF SHORT PATTERN TEES AT 18"/450MM.

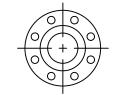






- Do not scale, work to figured dimensions only.
- 2. All dimensions in mm unless noted otherwise
- 3. Welding in accordance with SGN/SP/W/8. NDT in accordance with
- T/PR/NDT/1 and T/SP/NDT/2.

  4. Each spool to be marked with the DRG. No. and the SPOOL No. via a weatherproof label wired on to the spool.
- 5. Hydrotest in accordance with SGN/WI/PT/1: 127.1 BAR for 30 minutes (77 BAR × 1.5 + 10%)
- 6. Painting in accordance with T/SP/PA/10, BS4800 00A05 Goosewing Grey.
- Fabrication generally in accordance with SGN/SP/PW/11.
- 8. Pipework to be clean of swarf and
- debris prior to delivery.
  9. Flanges to be greased and supplied with suitable protection for shipping.
- 10. All flange bolt holes positioned about centrelines as shown below.





DRAWING NO.		46	539–	500	06-01 SSUE C2		
				L			
4 4				ļ.,			
21/11/18	NH	NH	TI	C2	NOTES UPDATED		
21/09/18	NH	NH	TI	C1	FOR APPROVAL		
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION		



SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID SPOOL FABRICATION

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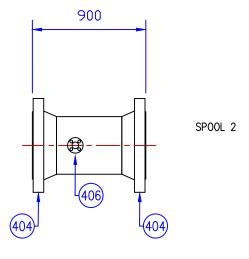
SCALE	1: 30	MASTER SIZE A
CLIENT DRAWING NO.		ISSUE

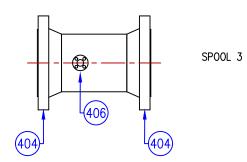


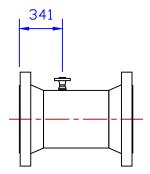


PIPE MATERIAL					
SIZE ("/mm) WALL THICKNESS (mm) MATERIAL SPECIFICATION					
18" / 450	11.9	L360 / API 5L Gr X52	SGN/SP/DAT/6		

	WELDED PIPE FITTINGS						
ITEM NO	SIZE ("/mm)	DESCRIPTION	MATERIAL	SPECIFICATION			
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1			
406	1" / 25	RAISED FACE WELDED FLANGED OUTLET FITTING (WELDOFLANGE) TO SUIT 457mm RUN SIZE	L360 / API 5L Gr X52	SGN/SP/F/1			





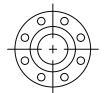


- Do not scale, work to figured dimensions only.
- 2. All dimensions in mm unless noted otherwise
  3. Welding in accordance with
  - SGN/SP/W/8. NDT in accordance with
- T/PR/NDT/1 and T/SP/NDT/2.

  4. Each spool to be marked with the DRG. No. and the SPOOL No. via a weatherproof label wired on to the spool.
- 5. Hydrotest in accordance with SGN/WI/PT/1: 127.1 BAR for 30
- minutes (77 BAR × 1.5 + 10%)
  6. Painting in accordance with T/SP/PA/10, BS4800
- 00A05 Goosewing Grey.
  7. Fabrication generally in accordance with SGN/SP/PW/11.
- 8. Pipework to be clean of swarf and
- debris prior to delivery.

  9. Flanges to be greased and supplied with suitable protection for shipping.

  10. All flange bolt holes positioned about
- centrelines as shown below.





DRAWING NO.		46	539–	500	006-02 C2		
				L			
4 4				ļ.,			
21/11/18	NH	NH	TI	C2	NOTES UPDATED		
21/09/18	NH	NH	TI	C1	FOR APPROVAL		
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION		



SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID SPOOL FABRICATION

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SCALE	1: 30	MASTER SIZE	А3
CLIENT DRAWING NO.		ISSUE	

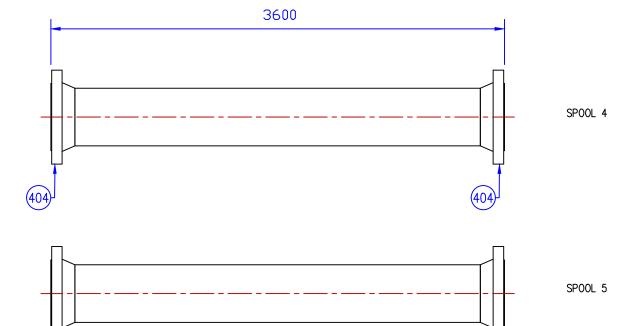


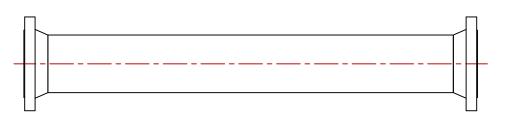


PIPE MATERIAL					
SIZE ("/mm) WALL THICKNESS (mm) MATERIAL SPECIFICATION					
18" / 450	11.9	L360 / API 5L Gr X52	SGN/SP/DAT/6		

	WELDED PIPE FITTINGS						
ITEM NO							
404	18" / 450	RAISED FACE WELDING NECK FLANGE TO SUIT 457mm OD x 11.9mm W/T	L360 / API 5L Gr X52	SGN/SP/F/1			

404









- Do not scale, work to figured dimensions only.
- 2. All dimensions in mm unless noted otherwise
  3. Welding in accordance with
  - SGN/SP/W/8. NDT in accordance with
- T/PR/NDT/1 and T/SP/NDT/2.

  4. Each spool to be marked with the DRG. No. and the SPOOL No. via a weatherproof label wired on to the spool.
- 5. Hydrotest in accordance with SGN/WI/PT/1: 127.1 BAR for 30
- minutes (77 BAR  $\times$  1.5 = 10%) 6. Painting in accordance with T/SP/PA/10, BS4800
- 00A05 Goosewing Grey. Fabrication generally in accordance with SGN/SP/PW/11.
- 8. Pipework to be clean of swarf and
- debris prior to delivery.

  9. Flanges to be greased and supplied with suitable protection for shipping.
- 10. All flange bolt holes positioned about centrelines as shown below.





DRAWING NO.	4639-5006-03					C2
21/11/18	NH	NH	TI	C2	NOTES UPDATED	
21/09/18	NH	NH	TI	C1	FOR APPROVAL	
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION	



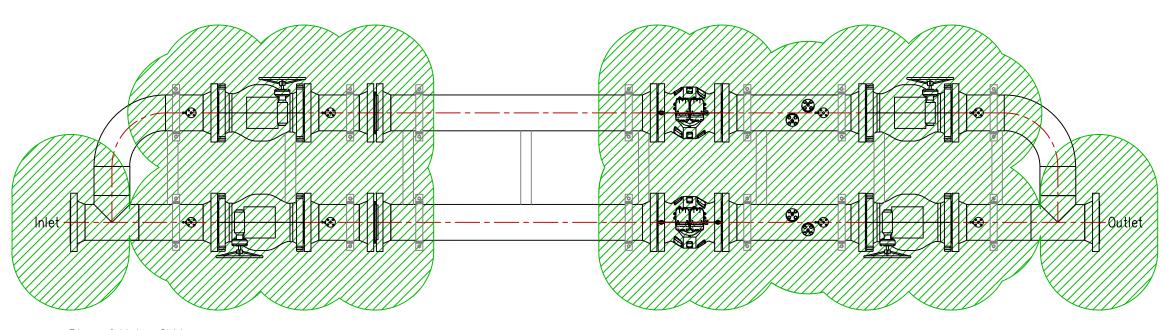
METER SPOOL:

INTERNAL ROOT WELDS TO BE GROUND SMOOTH

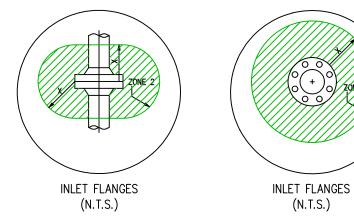
> SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID SPOOL FABRICATION

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SCALE	1:30	MASTER SIZE	А3
CLIENT DRAWING NO.		ISSUE	



Plan of Meter Skid



X = 1.5m for 75bar MOP HP Pipework

## GENERAL NOTES

- 1 HAZARD AREA CLASSIFICATION IN ACCORDANCE WITH IGEM/SR/25 ED2
- 2 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE
- 3 ALL ZONES ARE IN THREE DIMENSIONAL
- 4 RADII INDICATED REFER TO SPATIAL CONFIGURATION FROM SOURCE OF RELEASE
- 5 ZONES FOR CONTROLLED VENTING OPERATIONS CARRIED OUT DURING MAINTENANCE WORK ARE NOT SHOWN. (SEE CODE OF PRACTICE)

# KEY TO AREA CLASSIFICATION ZONES.



INDICATES A ZONE O HAZARDOUS AREA



INDICATES A ZONE 1 HAZARDOUS AREA



INDICATES A ZONE 2 HAZARDOUS AREA



DRAWING NO.	4639-5007-01					
04/12/18	RCS	NH	TI	C1	FIRST ISSUE	
DATE	DRAWN	CHKD	APPD	REV	DESCRIPTION	



TITLE:

SGN METER UPGRADE WORKS GLENMAVIS AGI 18 INCH USM SKID HAZARDOUS AREA ZONES

THIS DRAWING IS ISSUED BY THYSON TECHNOLOGY PROJECT MANAGEMENT ON BEHALF OF THE ABOVE CLIENT SUBJECT TO THE CONDITIONS THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART, OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN BY THYSON TECHNOLOGY LIMITED.

PREVIOUS VERSIONS OF THIS DRAWING SHOULD BE STAMPED SUPERSEDED OR DESTROYED.

SCALE 1:50 MASTER SIZE A3

CLIENT DRAWING ISSUE

yson Technology Limited 200

