



COMMONWEALTH OF AUSTRALIA

Section 708

Offshore Petroleum and Greenhouse Gas Storage Act 2006

**APPLICATION FOR GRANT OF A PIPELINE LICENCE – BAROSSA NEARSHORE
GAS EXPORT PIPELINE**

I, **STEVEN ROBERT TAYLOR**, the Delegate of the National Offshore Petroleum Titles Administrator, on behalf of the Commonwealth–Northern Territory Offshore Petroleum Joint Authority hereby give notice pursuant to section 708 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* that an application has been received from

Santos NA Barossa Pty Ltd
(ACN 109 974 932)

Santos Offshore Pty Ltd
(ACN 005 475 589)

SK E&S Australia Pty Ltd
(ACN 158 702 071)

JERA Barossa Pty Ltd
(ACN 654 004 387)

for the grant of a pipeline licence for the conveyance of petroleum in the offshore area of Northern Territory, as set out below.

A person may make a written submission to the Titles Administrator about this application within 30 days from the date of this notice.

This notice takes effect on the day in which it appears in the
Australian Government Gazette.

Made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*
of the Commonwealth of Australia.

STEVEN ROBERT TAYLOR
DELEGATE OF THE TITLES ADMINISTRATOR
ON BEHALF OF THE COMMONWEALTH-NORTHERN TERRITORY
OFFSHORE PETROLEUM JOINT AUTHORITY

ROUTE OF THE PIPELINE

The pipeline route is described in the table hereunder and displayed in the attached map (Attachment 1), commencing at the tie-in spool at the face of the PLET Hub (PLET B) on the Barossa Gas Export Pipeline (Pipeline Licence NT/PL5) to the Commonwealth and NT Coastal Waters. Coordinates are based on Geodetic Datum of Australia (GDA94)/MGA Zone 52.

Feature Name	KP	Easting (mE)	Northing (mN)	Bend Radius (m)
Tie-in Spool at Face of PLET Hub* (PLET B)	262.215	598 781.5	8 670 772.5	
Face of PLET C Hub	0	598 748.4	8 670 737.9	
TP1A	5.154	601 806.6	8 666 588.7	
IP1	—	602 349.3	8 665 852.4	3000
TP1B	6.930	603 210.4	8 665 544.1	
TP2A	17.561	613 219.7	8 661 961.1	
IP2	—	614 445.8	8 661 522.1	10000
TP2B	20.151	615 743.4	8 661 411.9	
Commonwealth/NT Coastal Water Boundary	23.194	618 775.4	8 661 154.3	

*PLET Hub (PLET B) feature licenced under Pipeline Licence NT/PL5.

SPECIFICATIONS

Design and Construction

The offshore pipeline must be designed and constructed in accordance with Offshore Standard DNV-ST-F101 – Submarine Pipeline Systems (Offshore Pipeline), which is incorporated in its entirety in Australian Standard AS2885.4 – Pipelines, Gas and Liquid Petroleum (Part 4: Submarine Pipelines). Specifically, the design and construction phase of the pipeline must comply with DNVGL-ST-F101.

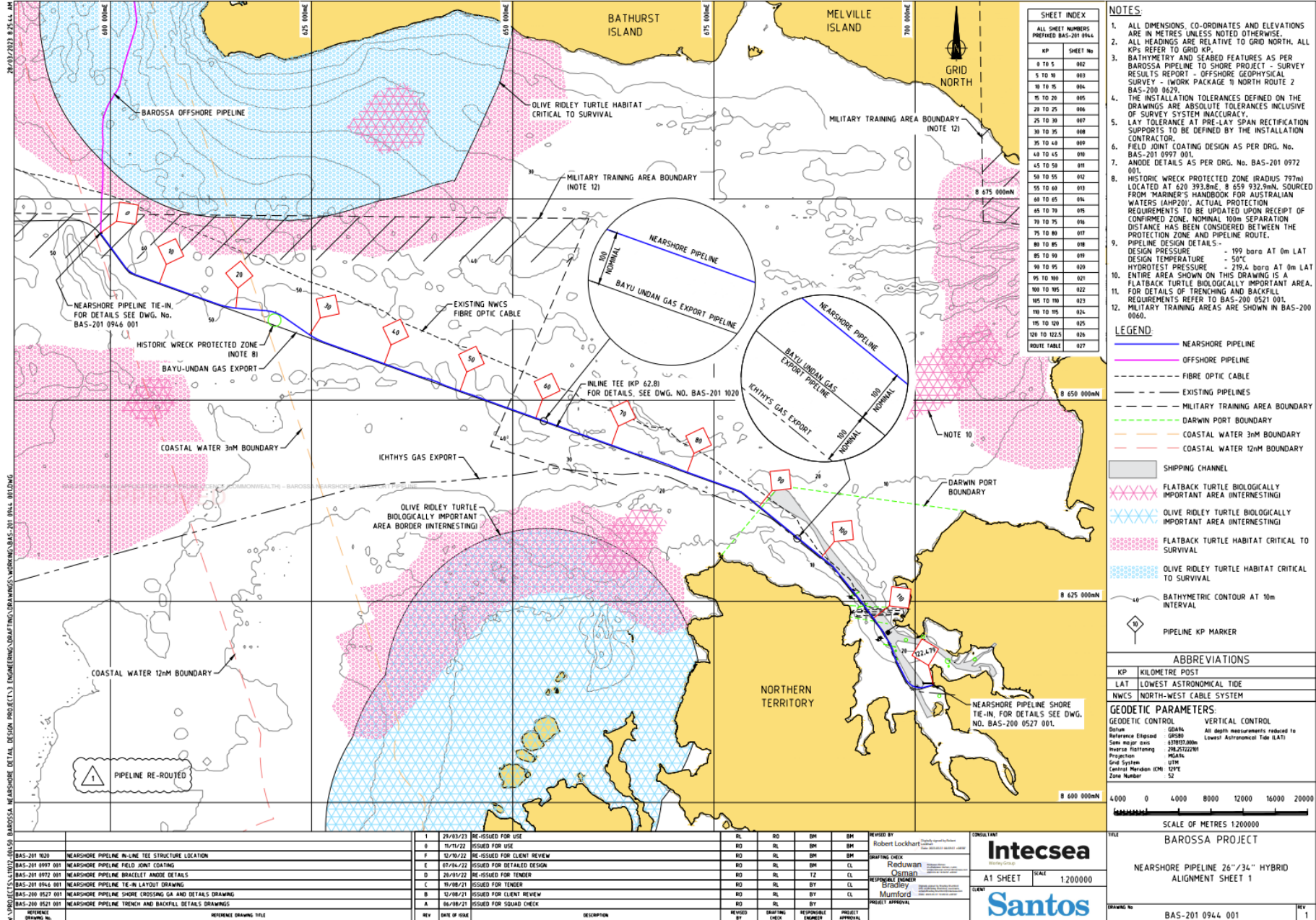
Basis of Design

The pipeline design is based on the following parameters:

Item	Item Description	Details
1	Outside diameter of pipe	26 inches (nominal)
2	Wall thickness of pipe	Tie-in Spool & PLET C: 23.6 mm and 26.0 mm Nearshore GEP: 19.9 mm
3	Length	Tie-in Spool and PLET C: 118m (approximate) Nearshore GEP: 23 km to Coastal Waters Boundary (approximate)
4	Design life	25 years (approximate)
5	Pipeline Material	Steel

6	Pipeline Steel Grade	DNV-ST-F101 Grade 450
7	Pipeline Specification	Tie-in Spool & PLET C: DNV SAWL 450 F D S U Nearshore GEP: DNV SAWL 450 F D S
8	Minimum yield strength of pipe steel	450 MPa
9	Maximum Allowable Incidental Pressure	20.8 MPa
10	Design Capacity	730 MMscf/d
11	Maximum Design Temperature	50°C
12	Minimum Design Temperature	0°C
13	Characteristics of substance proposed to be conveyed	Dehydrated natural gas
14	General plans and descriptions of pump stations, tank stations or valve stations and their equipment	N/A
15	General plans and description of pigging facilities	<p>The pipeline is designed to enable operational inspection pigging to be performed, which is required based on a risk-based inspection regime.</p> <p>The riser base manifold is equipped with a full-bore connection point, isolated by two (2) 26" valves, to facilitate the installation and removal of a subsea pig launcher by diverless means.</p> <p>The riser base manifold, PLETs, spools and pipeline sections are designed to facilitate through pigging to onshore pig receipt facilities at DLNG.</p>
16	Cathodic Protection	Aluminium-Zinc-Indium Anodes DNV-RP-F103 Tie-in Spool & PLET C: Bracelet anodes Nearshore GEP: Typically spaced at 1 anode every six (6) pipe joints.
17	Hydrate Management	Hydrate management in the gas export pipeline is not required as the pipeline is classified as a dry gas pipeline.

NEARSHORE GAS EXPORT PIPELINE ROUTE



SHEET INDEX	
KP	SHEET No
8 TO 5	002
5 TO 10	003
10 TO 15	004
15 TO 20	005
20 TO 25	006
25 TO 30	007
30 TO 35	008
35 TO 40	009
40 TO 45	010
45 TO 50	011
50 TO 55	012
55 TO 60	013
60 TO 65	014
65 TO 70	015
70 TO 75	016
75 TO 80	017
80 TO 85	018
85 TO 90	019
90 TO 95	020
95 TO 100	021
100 TO 105	022
105 TO 110	023
110 TO 115	024
115 TO 120	025
120 TO 122.5	026
ROUTE TABLE	027

- NOTES:**
- ALL DIMENSIONS, CO-ORDINATES AND ELEVATIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 - ALL HEADINGS ARE RELATIVE TO GRID NORTH. ALL KPS REFER TO GRID KP.
 - BATHYMETRY AND SEABED FEATURES AS PER BAROSSA PIPELINE TO SHORE PROJECT - SURVEY RESULTS REPORT - OFFSHORE GEOPHYSICAL SURVEY - (WORK PACKAGE 1) NORTH ROUTE 2 BAS-200 0629.
 - THE INSTALLATION TOLERANCES DEFINED ON THE DRAWINGS ARE ABSOLUTE TOLERANCES INCLUSIVE OF SURVEY SYSTEM INACCURACY.
 - LAY TOLERANCE AT PRE-LAY SPAN RECTIFICATION SUPPORTS TO BE DEFINED BY THE INSTALLATION CONTRACTOR.
 - FIELD JOINT COATING DESIGN AS PER DRG. NO. BAS-201 0997 001.
 - ANODE DETAILS AS PER DRG. NO. BAS-201 0972 001.
 - HISTORIC WRECK PROTECTED ZONE (RADIUS 797m) LOCATED AT 620 393.8mE, 8 659 932.9mN, SOURCED FROM 'MARINER'S HANDBOOK FOR AUSTRALIAN WATERS (AHP20)'; ACTUAL PROTECTION REQUIREMENTS TO BE UPDATED UPON RECEIPT OF CONFIRMED ZONE, NOMINAL 100m SEPARATION DISTANCE HAS BEEN CONSIDERED BETWEEN THE PROTECTION ZONE AND PIPELINE ROUTE.
 - PIPELINE DESIGN DETAILS:-
DESIGN PRESSURE - 199 bara AT 0m LAT
DESIGN TEMPERATURE - 50°C
HYDROTEST PRESSURE - 219.4 bara AT 0m LAT
ENTIRE AREA SHOWN ON THIS DRAWING IS A FLATBACK TURTLE BIOLOGICALLY IMPORTANT AREA.
11. FOR DETAILS OF TRENCHING AND BACKFILL REQUIREMENTS REFER TO BAS-200 0521 001.
12. MILITARY TRAINING AREAS ARE SHOWN IN BAS-200 0060.

- LEGEND:**
- NEARSHORE PIPELINE
 - OFFSHORE PIPELINE
 - FIBRE OPTIC CABLE
 - EXISTING PIPELINES
 - MILITARY TRAINING AREA BOUNDARY
 - DARWIN PORT BOUNDARY
 - COASTAL WATER 3m BOUNDARY
 - COASTAL WATER 12m BOUNDARY
 - SHIPPING CHANNEL
 - FLATBACK TURTLE BIOLOGICALLY IMPORTANT AREA (INTERESTING)
 - OLIVE RIDLEY TURTLE BIOLOGICALLY IMPORTANT AREA (INTERESTING)
 - FLATBACK TURTLE HABITAT CRITICAL TO SURVIVAL
 - OLIVE RIDLEY TURTLE HABITAT CRITICAL TO SURVIVAL
 - BATHYMETRIC CONTOUR AT 10m INTERVAL
 - PIPELINE KP MARKER

ABBREVIATIONS

KP	KILOMETRE POST
LAT	LOWEST ASTRONOMICAL TIDE
NWCS	NORTH-WEST CABLE SYSTEM

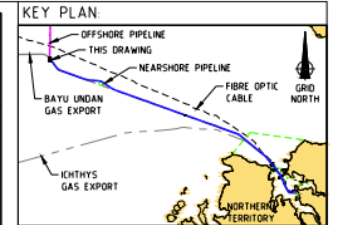
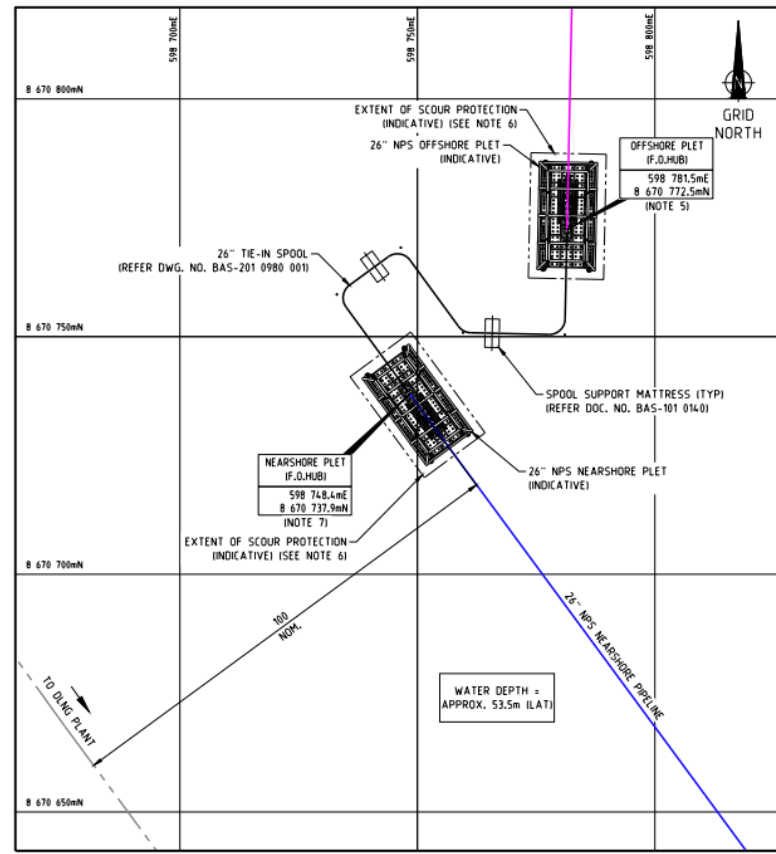
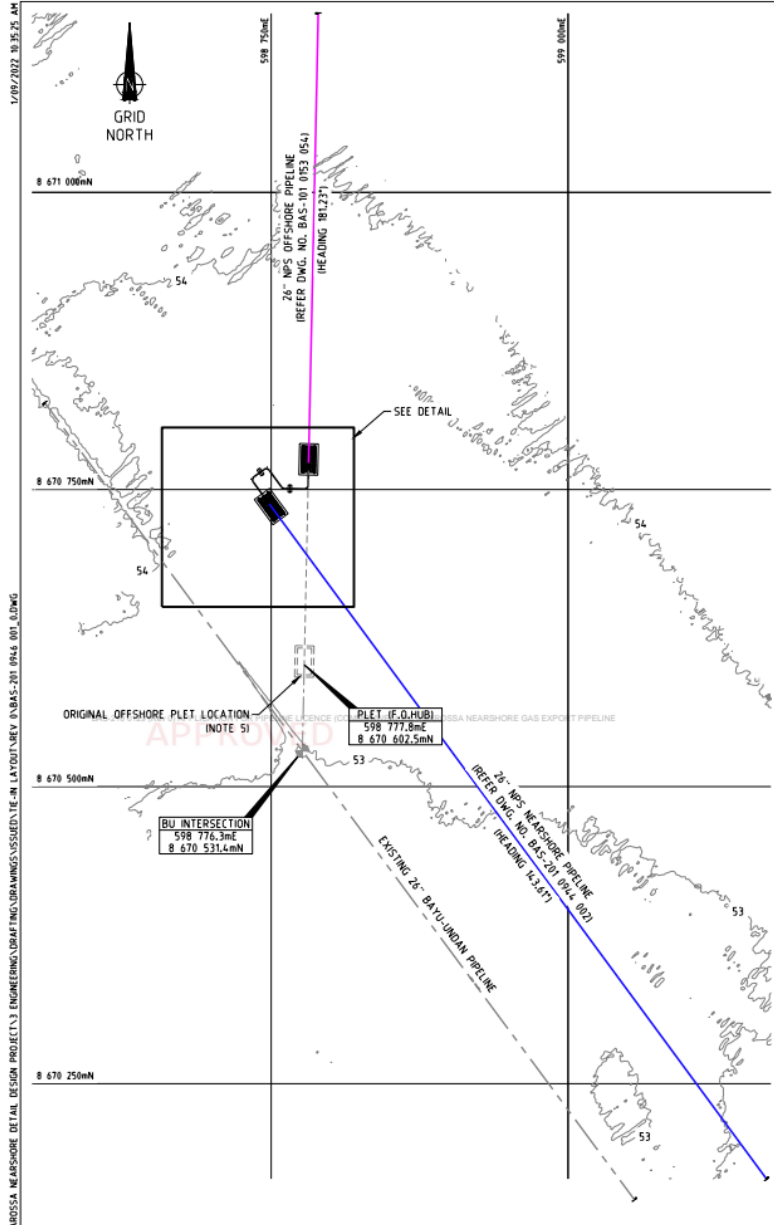
GEODEIC PARAMETERS:

Geodetic Control	GDA94	Vertical Control	All depth measurements reduced to Lowest Astronomical Tide (LAT)
Datum	GD58		
Reference Ellipsoid	Spheroid		
Sea wgs 84 zone	57R157.000m		
Inverse Heighting	28.02522281		
Projection	MGDA		
Grid System	UTM		
Central Meridian (CM)	127E		
Zone Number	52		

4000 0 4000 8000 12000 16000 20000

SCALE OF METRES 1:20000

<p>1 28/03/23 RE-ISSUED FOR USE</p> <p>2 16/11/22 ISSUED FOR USE</p> <p>3 12/10/22 RE-ISSUED FOR CLIENT REVIEW</p> <p>4 07/06/22 RE-ISSUED FOR DETAILED DESIGN</p> <p>5 20/01/22 RE-ISSUED FOR TENDER</p> <p>6 10/08/21 ISSUED FOR TENDER</p> <p>7 12/08/21 ISSUED FOR CLIENT REVIEW</p> <p>8 06/08/21 ISSUED FOR SQUAD CHECK</p>		<p>RL</p> <p>RD</p> <p>BH</p> <p>BM</p> <p>REVISOR</p> <p>ROBERT LOCKHART</p> <p>PROJECT ENGINEER</p>	<p>REVIEWED BY</p> <p>OSMAN</p> <p>PROJECT APPROVAL</p>	<p>CONSULTANT</p> <p>Intecsea</p> <p>A1 SHEET</p> <p>SCALE 1:20000</p>	<p>CLIENT</p> <p>Santos</p>	<p>TITLE</p> <p>BAROSSA PROJECT</p> <p>NEARSHORE PIPELINE 26"/34" HYBRID ALIGNMENT SHEET 1</p>	<p>DRAWING No</p> <p>BAS-201 0944 001</p>	<p>REV</p> <p>1</p>
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- NOTES:**
1. ALL DIMENSIONS, CO-ORDINATES AND ELEVATIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 2. ALL HEADINGS ARE RELATIVE TO GRID NORTH.
 3. STRUCTURES SHOWN ARE INDICATIVE ONLY.
 4. INSTALLATION TOLERANCES FOR THE OFFSHORE PLET HUB FACE AND NEARSHORE PLET HUB FACE AS PER BAS-101 0214.
 5. OFFSHORE PLET MOVED 170.1m ALONG THE SAME HEADING FROM ORIGINAL DESIGN LOCATION.
 6. INSTALLATION CONTRACTOR TO PROPOSE TYPE AND EXTENT OF SCOUR PROTECTION FOR COMPANY APPROVAL.
 7. NEARSHORE PLET TO BE INSTALLED RELATIVE TO THE GEP OFFSHORE PLET. NEARSHORE PLET F.O. HUB CO-ORDINATES ARE INDICATIVE ONLY; FINAL NEARSHORE PLET F.O. HUB CO-ORDINATES SHALL BE DETERMINED FROM THE OFFSHORE PLET AS-INSTALLED F.O. HUB LOCATION AND CONSIDERING NOMINAL SPOOL GEOMETRY. TARGET F.O. HUB INSTALLATION CO-ORDINATES SHALL BE CONFIRMED WITH COMPANY.

ABBREVIATIONS

BU	BAYU UNDAN
DLNG	DARWIN LIQUIFIED NATURAL GAS
F.O.	FACE OF
GEP	GAS EXPORT PIPELINE
LAT	LOWEST ASTRONOMICAL TIDE
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
PLET	PIPELINE END TERMINATION
TYP	TYPICAL
UND	UNLESS NOTED OTHERWISE

LEGEND:

	NEARSHORE PIPELINE
	EXPORT PIPELINE SPOOL
	OFFSHORE PIPELINE
	BAYU UNDAN PIPELINE TO DLNG
	BATHYMETRIC CONTOUR AT 1m INTERVAL

GEODETTIC PARAMETERS:

GEODETTIC CONTROL		VERTICAL CONTROL
Datum	GDA98	All depth measurements reduced to Lowest Astronomical Tide (LAT)
Reference Ellipsoid	GRS80	
Semi major axis	6378137.000m	
Inverse Flattening	298.257222101	
Projection	MERCATOR	
Grid System	UTM	
Central Meridian (CM)	121°E	
Zone Number	52	

Scale of metres 1:2000

REV	DATE OF ISSUE	DESCRIPTION	DESIGNED BY	CHECKED BY	RESPONSIBLE ENGINEER	PROJECT APPROVAL
B	01/09/22	ISSUED FOR USE	RL	RD	BH	CL
F	29/02/22	RE-ISSUED FOR CLIENT REVIEW	RD	RL	BH	CL
E	31/03/22	ISSUED FOR DETAILED DESIGN	RD	RL	BH	CL
D	21/01/22	RE-ISSUED FOR TENDER	RD	RL	TZ	CL
C	19/08/21	ISSUED FOR TENDER	RD	RL	CL	CL
B	30/07/21	ISSUED FOR CLIENT REVIEW	RD	RL	TZ	CL
A	22/07/21	ISSUED FOR SQUAD CHECK	RD	RL	TZ	-

CONSUULTANT: **Intecsea**

A1 SHEET SCALE 1:2000 UND

CLIENT: **Santos**

TITLE: BORASSA PROJECT

NEARSHORE PIPELINE TIE-IN LAYOUT

DRAWING NO: BAS-201 0946 001

REV: 0