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1 Introduction

1.1 Objective

This Terminal Handbook provides the Master of a vessel on hire to Woodside (and affiliated companies) with a clearly defined set of minimum expectations for operating their vessel within the Karratha Supply Facility (KSF).

1.2 Scope

This Terminal Handbook neither repeats nor prescribes the applicability of any regulatory or statutory requirements. Woodside-chartered vessels should always ensure compliance with all local and international legal requirements.

The Terminal Handbook supplements the Pilbara Ports Authority *Port of Dampier Handbook* and provides additional information specific to the KSF.

1.3 KSF Introduction

The KSF is located within the Port of Dampier at Latitude 20° 37.5' South and Longitude 116° 45' East. The KSF contains the King Bay Supply Base (KBSB) berths, the Burrup Materials Facility (BMF) berth, tug pens, and a small boat landing (see Figure 1). For the general layout of facilities, see Figure 2 and the appendices.

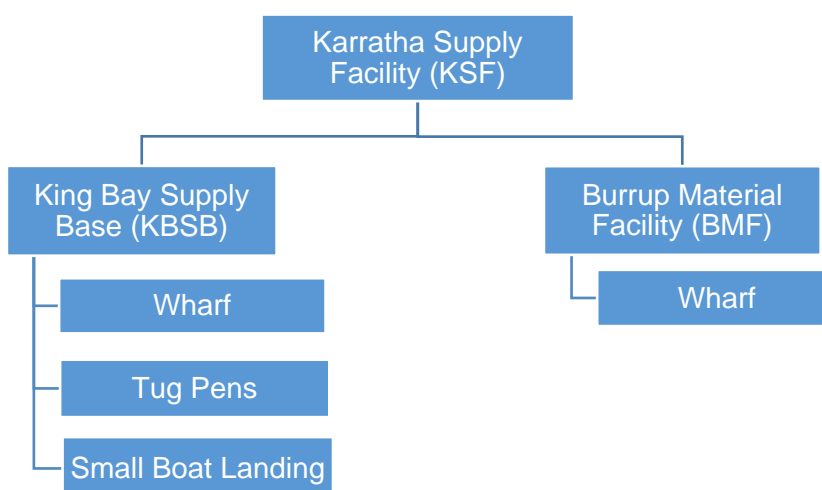


Figure 1: KSF Layout

The KBSB berths are a North West Shelf Venture (NWSV)-owned facility operated by Woodside Energy Limited (WEL) in support of NWSV operations and Woodside-operated ventures. The KBSB wharf is 230 m long and is a land-backed, concrete/steel pile wharf with timber/tyre fenders.

There are eight berths in the KBSB tug pens (see Figure 2). Contracted tugs primarily service the liquefied natural gas (LNG), liquified petroleum gas (LPG), and condensate tankers mooring and unmooring at the Karratha Gas Plant (KGP) and the Pluto Gas Plant (PGP).

The BMF berth is a PGP venture-owned facility operated by WEL in support of PGP operations and Woodside-operated ventures. The BMF berth is 110 m long and is a land-backed, slat-piled wharf.

Additional information about the Port of Dampier, including the Pilbara Ports Authority (PPA) and *Port of Dampier Handbook (PoDH)*, is available at the [PPA website](#).

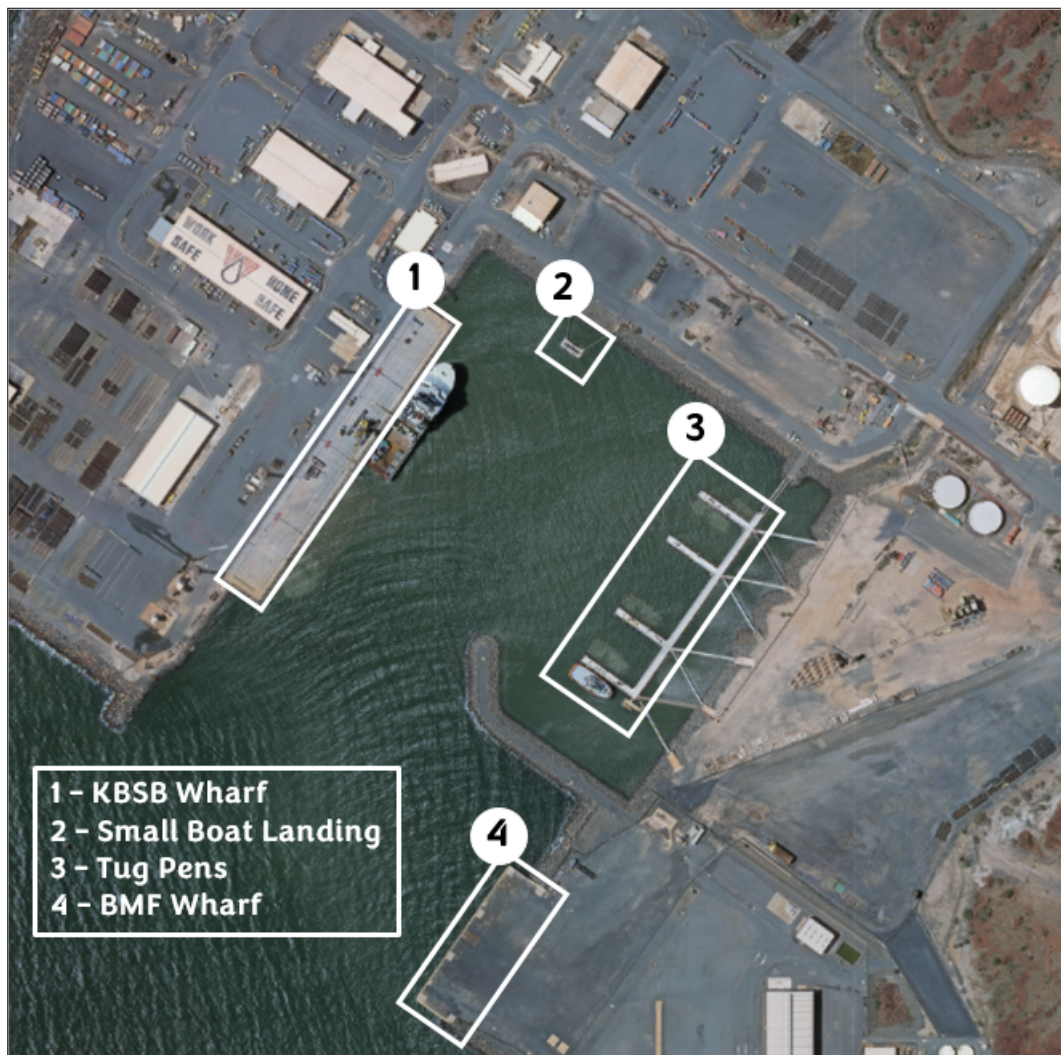


Figure 2: KSF Aerial Layout

The KSF refers to the area comprising the warehouses and wharves at both the King Bay Supply Base and the Burrup Materials Facility (BMF).

Sections 1 to 3 of this Handbook apply to all marine activities at the KSF, and Sections 4 to 5 apply to KBSB and BMF, respectively.

2 Point of Contact (POC) and Informed Matrix

2.1 POC for Vessels at KBSB

Legend	Marine Operations Coordinator	Marine Assurance	Project DLC / POC	KSF Duty Manager	KSF Security	PFSO	Logistics Superintendent	Vessel	KSF HSE Advisor	Industrial Relations (IR)	KBSB Wharf Coordinator
X = Point of Contact (POC)											
I = Required to be Informed											
Berth Scheduling Request	X		I		I		I	I			I
Vessel movements within KSF	I		I		I		I	I			X
Visitor / Contractor Access Approval	I		I		I			I			
Site Access / Induction	I		I		I			I			
Union Access	X		I		I		I	I		I	I
Crew Change	I		I		I			I			
Incident Notification	X		I	I	I		I	I	I		X
Base Mustering	I			X	I	I		I			
Vessel Maintenance	X		I				I	I			I

2.2 POC for Vessels at BMF

<u>Legend</u> X = Point of Contact (POC) I = Required to be Informed	Marine Operations Coordinator	Marine Assurance	Third Party Contractor POC	KSF Duty Manager	KSF Security	PFSO	Logistics Superintendent	Vessel	KSF HSE Advisor	Industrial Relations	KBSB Wharf Coordinator
Berth Schedule Request	X		I		I		I	I			I
Vessel movements within KSF Request	I		I		I		I	I			I
Visitor / Contractor Access Approval			X		I			I			
Site Access / Induction			X		I			I			
Union Access	X		I		I			I		I	
Crew Change			X		I			I			
Vessel / Mooring Assurance	I	X	I				I				
Incident Notification	I		X	I	I	I	I	I	I		I
Base Mustering	I		I	X	I	I		I			
Vessel Maintenance	I		X				I	I			I
Wharf Services – Stevedoring	I		X				I	I			I

APPROVED

3 General Information

3.1 Communication

In accordance with the *Port of Dampier Handbook (PoDH)*, Woodside Security monitors VHF Channels 82. The working channels for KBSB and BMF will be advised based on vessel operations:

- Mooring
- Lifting operations
- LNG bunkering
- Other, as directed by the Wharf Coordinator.

Woodside-chartered vessels (vessels on hire for a minimum of six months) will be issued a Tetra radio handset upon first port call. This handset and mobile phone contact with the Wharf Supervisor should be used as primary modes of communication prior to arrival and departure.

Focal point and emergency contact details are captured in APPENDIX A.

3.2 Berth Scheduling and Vessel Movements

Vessel berth scheduling is conducted by the Marine Operations Coordinator. This includes all production, drilling, and project vessels and tugs.

The berth schedule is issued daily, Monday to Friday, to the operational team. It is the Master's responsibility to check the time, tide, under keel clearance (UKC), and other movements prior to entering the channel.

All supply vessel movements within the KSF should be approved by the Marine Operations Coordinator. Tug movements, unplanned late requests, and overflow vessel movements can be approved by the Wharf Supervisor.

3.3 Entering and Departing KSF Channel

Prior to entering or departing the KSF Channel, contact should be made with the Wharf Supervisor and approval given.

Under no circumstances is more than one vessel (other than tugs) permitted to transit the KSF Channel at one time.

3.4 Tidal Restrictions

The Marine Operations Coordinator will schedule tie up and let go times after consideration of tide restrictions for every vessel. The Wharf Supervisor can approve unplanned late requests and overflow vessel movements.

The Master remains responsible for meeting the UKC requirements of the Port of Dampier and their company's requirements.

3.4.1 Under Keel Clearance in KSF

Minimum Static UKC in the KSF: 1 m.

Minimum Dynamic UKC for transiting to and from the supply base: 0.5 m (including allowance for squat roll pitch and heave). For KSF port entry, the vessel is to inform the Marine Operations Coordinator of their working draft, required UKC, and required tide for their arrival and departure.

Water depths in the KSF Channel, basin, and the KBSB/BMF berth pockets have been declared by the PPA (see APPENDIX G).

See the *Port of Dampier Handbook* for more details.

3.5 Arrival and Departure Requirements

Vessels should not enter the KSF Channel unless they have been allocated a berth by the Marine Operations Coordinator. All vessels should arrive and depart as scheduled, unless otherwise agreed by the Marine Operations Coordinator or Wharf Supervisor.

3.6 Port Security

The Dampier Port, including the KSF terminal, falls under a national Australian Maritime Security Regime and is subject to the [Maritime Transport and Offshore Facilities Security Act 2003](#) and its associated [regulations](#).

Some restriction of movement and activities can occur because of the [KGP Port Facility Security Procedure](#) specifications, particularly in relation to personnel.

Should a Declaration of Security (DoS) be required, contact the Port Facility Security Officer (PFSO) (see APPENDIX A for details).

Should anyone observe any suspicious acts, behaviours, or persons, they are obligated to report the situation to Security at the KBSB or BMF gatehouses (see APPENDIX A for contact details).

3.7 Security Gates

A security gate is operated at each of the road access points for KBSB and BMF. KBSB is staffed 24/7, whereas BMF is only operated on a day shift basis, unless otherwise scheduled. Out of hours, vessels at BMF will need to contact the KBSB security gate for emergency purposes only.

For all project vessels at BMF, additional security should be provided by an appropriate person (see Section 2.2) at the gated access point to the wharf.

3.8 Site Access

3.8.1 Visitor, Contractor, and Union Access

Visitor, contractor, and union access to site should be approved by an appropriate person (see Sections 2.1 and 2.2), and approval given at least 24 hours prior to entry.

Points to note:

- Visitors and non-inducted crew should always be escorted.
- Escorts are the vessel's responsibility to organise.
- Escorts should have a current maritime security identification card (MSIC).
- Union representatives should always be escorted by site security (or an escort approved by a Woodside Industrial Relations Advisor) while quayside.
- Non-inducted crew and visitors **cannot** perform "work" on site within the KSF, unless in accordance with Section 3.8.3 (work can be conducted on the vessel under the vessel's permit to work system).

3.8.2 Vessel Crew Changes

The Master should ensure that all crew changes, including names of all personnel joining and leaving, are provided with 24 hours' notice to the Wharf Supervisor and the KSF security gatehouse. A valid pass is also required. This can be a fully inducted swipe card or a paper crew card.

If transiting on a fully inducted swipe card, crew members should always have their MSIC visible. If they are being escorted, they should also provide an acceptable form of identification, which includes a photograph. This identification includes:

- MSIC
- passport
- driver's licence.

3.8.3 Vessel Crew Working Quayside

While based out of the KSF, the following activities are permitted quayside and are vessel works:

- Checking draft marks
- Connecting hoses
- Hull inspections
- Assistance with vessel stores and food provisions
- Other vessel operations that are to be completed from the quayside approved by the Wharf Supervisor.

Points to note:

- Personal protective equipment (PPE) should be worn (long sleeve and long pant hi-vis, steel cap boots, Australian standard safety glasses, hard hat, and gloves, if necessary), unless inside a vehicle transiting (i.e. crew change).
- A personal flotation device (PFD) should be worn:
 - when on the grating of the KBSB wharf
 - when within 1.5 m of edge of BMF wharf
 - when entering ramp of tug pens and small boat landing (pilot boat landing).
- Riding of bikes on site is not permitted.

3.8.4 Site Inductions

For vessel charters, full site inductions for crew members can be arranged. To be fully inducted, crew members **should** hold a valid MSIC. Contact your company representative for more information on this.

3.8.5 Transport

Transport is the responsibility of the vessel and should be arranged through the ship's agent.

Taxis are not permitted to enter the KSF.

3.9 Incident Reporting

While vessels are moored alongside any wharf within the KSF, all incidents should be immediately reported, in accordance with the matrixes in Sections 2.1 and 2.2, by a radio or phone call. This does not remove the requirement for any other reporting requirement the vessel should undertake.

3.10 Emergency Muster Procedures

3.10.1 Emergency Signals

The emergency signal consists of an oscillating tone on the wharf and a building public address (PA) system.

The all clear is a continuous tone, using the same PA system.

3.10.2 Base Mustering

In the event of a muster alarm, a representative from the Incident Management Team (IMT) will contact all vessels alongside. Ship crew located on board, or adjacent to, the vessel at the time of an emergency signal to muster, should remain on their vessel. If not on the vessel, ship crew are to muster at a shore muster station and ensure they

- swipe on at the muster point
- make themselves known to the muster checker.

Vessels should prepare engines and be ready to depart if required or requested.

All vessel crew, including standby crew, who are not intending to muster on the facility, are to swipe off prior to boarding the vessel.

Note: The site muster alarm is tested each Tuesday morning at 9:00 am and no action is required from the vessel.

3.10.3 Man Overboard (MOB) Procedure

In the event of man overboard, the following procedure applies:

1. A spotter should have their eyes on the MOB until retrieval is complete.
2. Throw a life ring near the person (not at them, as this can cause injury).
3. Raise the alarm. Call emergency on phone (08) 9158 7151 or use the radio emergency channel.
4. Clearly give all details of the incident and request medical assistance.
5. The person who raises the alarm is to take lead until a supervisor arrives.
6. Notify vessels and tugs – phone 0428 288 627 Port Ops Superintendent within KSF of MOB and advise whether assistance is required and that there are no vessel movements in the area.
7. Retrieve MOB by the most practical means available (e.g. responder 7, pilot vessel, ladders, tugs, fast rescue craft (FRC), life buoy, or stretcher).

3.11 Pilotage

Pilotage is compulsory when entering or departing the KSF terminal for all vessels in the following circumstances:

- The Master is not a Dampier Port Pilot Exempt Master.
- Where the vessel's overall length exceeds 100 m.
- Any vessel that requires tug assistance.
- Any non-self-propelled vessels.

Ship Masters are responsible for arranging a pilot to meet their berthing schedule.

3.12 Vessel Condition at the Berth

A vessel should not be immobilised without authorisation from Woodside while alongside KSF wharves.

4 King Bay Supply Base

4.1 KBSB Wharf

The KBSB Wharf consists of a concrete topped wharf, approximately 230 m in length, aligned in an approximately NE/SW direction. The berth face is fitted with tyre fenders. There are 50 t safe working load (SWL) bollards on the wharf at regular intervals, in addition to four 100 t bollards.

KBSB has adequate night lighting and firefighting systems to cover the interface activities with the vessel.

The Marine Operations Coordinator Berths schedules the vessels servicing production facilities.

The height of the wharf at the highest astronomical tide (HAT) is 3.4 m. At the lowest, the astronomical tide (LAT) is 8.5 m.

Note: A minor build-up of silt in extremity of NE end of pocket exists. Masters are to ensure their vessel extremities do not proceed past perpendicular line of end yellow bollard (see APPENDIX C).

4.2 Standard Berth Layout

The berths are usually assigned North, Middle, and South. Final positioning will be advised by the mooring crew (see APPENDIX C).

4.3 KBSB Safety Management

KBSB operates using the Woodside Golden Safety Rules (GSRs). These rules apply on all wharf and all supply base areas.

Copies of the GSR can be made available from the KSF Logistics HS Advisor.

4.4 Mooring

4.4.1 Mooring and Unmooring

Shore-side labour will be provided for mooring and unmooring activities. KBSB Logistics Operators will tie up and let go vessels as scheduled, including KBSB-supplied gangway attachment and removal. The ship's crew should not tie up or let ships go.

4.5 Working Hours

KBSB is manned from 0700 hrs. to 1900 hrs. seven days a week. All lifting operations will be executed in this time. Any exceptions will need to be agreed to by the Wharf Supervisor.

Call out crews for out-of-hours mooring and unmooring are scheduled by the Marine Operations Coordinator and are highlighted on the wharf schedule. Call out crews are not permitted to perform any cargo lifting operations.

4.6 Cargo Operations

Cargo operations are generally conducted by a suitable crane provided by KBSB. In limited circumstances, and with prior KBSB approval, the vessel's crane can be used for cargo operations.

4.7 Ship's Stores

Ship's stores are permitted to be lifted onto the vessel by the ship's own crane. KBSB cranes can assist if vessels do not have lifting capability, or if the ship's crane is unavailable. If assistance to the vessel is required, ensure 24 hours' notice is provided to the Wharf Supervisor for resource planning purposes.

4.8 Bunkering Services

Vessel bunkering services are requested through email to the Marine Operations Coordinator (MOPlanner@woodside.com) on a timely basis. Failure to provide timely notification (24 hours minimum) can result in the non-provision of services whilst quayside.

4.8.1 Fuel Bunkering

Fuel is available at a standard rate of 100 m³ each hour at each KBSB berth. Times and volumes for receiving fuel are included on the *KBSB Wharf Schedule*. Vessels are to ensure the recording of receipt time and volume in the Kabal (WELS Operator) reporting system. Confirmation emails will be sent to vessels, confirming date and start time and volumes ordered.

All fuel transfers are required to use dry break connections.

4.8.2 LNG Fuel Bunkering

LNG fuel can be provided for vessels requiring this service. However, this is at the discretion of the KBSB operations team.

4.8.3 Potable Water Bunkering

Water is available at a standard rate of 100 m³ each hour at each KBSB berth. Times and volumes for taking potable water are included on the KBSB Wharf Schedule, and vessels are required to connect and take their allocated water in accordance with the schedule. Vessels should seek confirmation and approval from the Wharf Supervisor prior to commencing transfer.

Additionally, vessel crews are **not permitted** to adjust the flow rate manually. Vessels are to ensure recording of receipt time and volume in the Kabal (WELS Operator) reporting system. It is the vessel's responsibility to ensure that only the allocated amount is taken as scheduled, and additional water should not be taken on. Taking more water than scheduled can result in other vessels' allocations being cut short.

Vessels are required to supply their own water hose for transfer, with a 4" male camlock connection (lay flat hose recommended).

Ensure valves are closed post transfer and caps put on any open connections.

5 Burrup Materials Facility

5.1 BMF Wharf

The BMF Wharf consists of approximately 110 m of land-backed wharf. The wharf face is corrugated sheet pile, and pneumatic rubber fenders are provided at regular intervals.

Six 50-tonne bollards are available on the wharf itself. To the north, there are two additional mooring bollards with preinstalled mooring ropes to provide additional moorings.

The height of the wharf at HAT is 2.57 m, and at LAT is 7.89 m.

Minimal lighting and no fire hydrants are located on the landside restricted zone (LRZ). This should be considered in all risk assessments for tasks being conducted.

5.2 Load Pressure and Exclusion Zones

Load pressure and exclusion zones at the wharf's edges are currently in place at the BMF (in addition to general maximum bearing pressure limits). Please consult with your responsible person as to what is currently in place and to confirm how they can affect any lifting operations.

5.3 Vessel Requirements

All vessels using the berth require prior approval from WEL Marine Assurance. The approval process should be commenced as soon as practicable, noting that this process can take several weeks to complete.

Double berthing of vessels is not allowed at the BMF; tugs can be subject to approval.

The mooring plan should be provided to the Pilot and Vessel Master pre-berthing, and agreement should be obtained that the ship meets the mooring plan requirements.

5.3.1 Vessels Exceeding 110 m Length (LOA)

Where vessels exceed 110 m length overall (LOA), they also require the following to be provided to WEL Marine Assurance as part of the Marine Assurance process prior to berthing:

- Mooring analysis specific to the BMF berth design criteria to be provided (see APPENDIX F).
- Confirmation from the Vessel Master that the ship's mooring lines and mooring equipment are in serviceable condition.
- The vessel is to provide a mooring line management plan describing how lines are to be tended or adjusted during time alongside in response to tidal and draft changes. This should be in line with the practice of good seamanship.
- Confirmation with the pilotage provider of concurrence to berth the vessel.
- The WEL approved mooring plan is required to be endorsed by the PPA Harbour Master.

5.4 Mooring and Unmooring

Contract stevedores are used and will tie up and let go vessels as scheduled. Gangways are supplied and attached and removed by the contracting stevedores. The ship's crew should not tie up or let ships go. There are currently no fenders in situ at BMF and these will be required to be supplied by either the vessel or organised by your responsible person.

5.5 Cargo Operations

Contract stevedores are used for lifts on the BMF wharf and should be organised in advance of berthing. Contact your responsible person for more assistance on this.

5.6 Ship's Stores

Ship's stores are permitted to be lifted onto the vessel by the ship's own crane. Where this is not possible, alternative crane services will need to be organised by the user. Contact your responsible person for more assistance on this.

5.7 Wharf Services

No wharf services (e.g. potable water or diesel fuel) are available at the BMF.

5.8 Third Party Access Protocol

Access to the BMF wharf by a third-party vessel or operator is captured by the process shown in Figure 3 and has been accepted by stakeholders and the PPA Harbour Master. This process, when followed, will require the standard WEL Marine Assurance acceptance.

6 Tug Pens

Eight tug pens are dedicated to the exclusive use of the towage service provider. These pens are subject to siltation in the pen pocket extremities. An active UKC policy is in place between the towage service provider and Woodside to manage the loss of dredged depth.

Individual tug pen depths are as shown in Table 1.

Table 1: Individual Tug Pen Depths

Tug Pen	Normal Tie Up	Cyclone Tie Up (PPA-declared Depth)
1	6.0 m	5.8 m
2	6.0 m	5.3 m
3	6.0 m	5.7 m
4	6.0 m	5.7 m
5	5.7 m	5.5 m
6	5.9 m	5.7 m
7	6.0 m	5.7 m
8	5.8 m	5.8 m

(Source: [2020 Dampier Marine Asset – Limiting Depths Summary File Note Rev 2.](#))

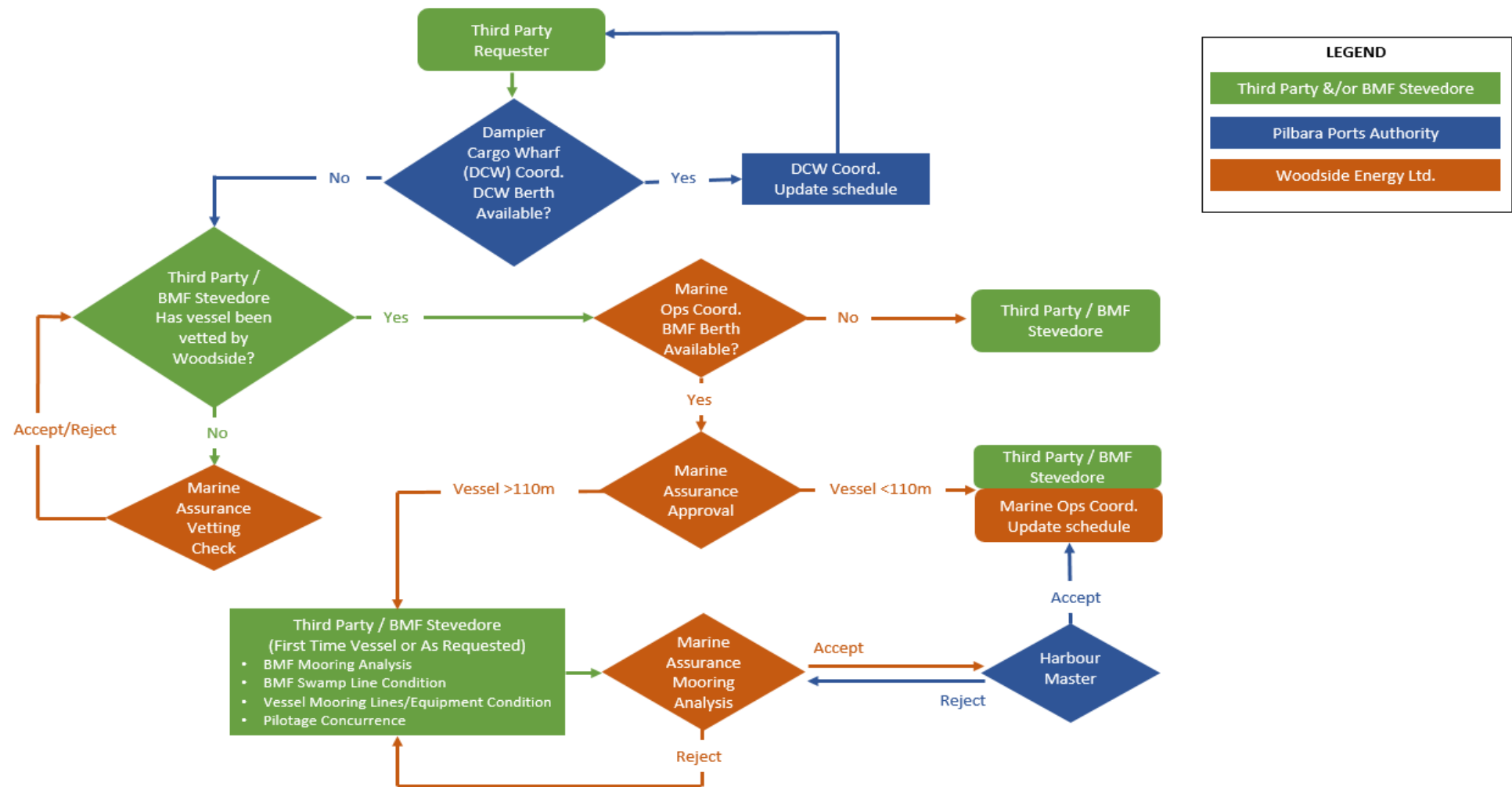


Figure 3: KSF Third Party Access Protocol

(Source: [Terminal Handbook King Bay Supply Facility 1400346732 Referenced Diagrams](#))

REFERENCES

Title	Reference
2020 Dampier Marine Assets - Limiting Depths Summary - File Note - Rev2	1401572345
BMF Mooring General Arrangement	1401508463
KBSB Wharf Gangway Details	Link
KBSB Wharf Gangway Plan	Link
KBSB Wharf General Arrangement	Link
KGP Port Facility Security Procedure	Link
Maritime Transport and Offshore Facilities Security Act 2003	Link
Maritime Transport and Offshore Facilities Security Regulations 2003	Link
Pilbara Ports Authority (PPA) website	Link
Terminal Handbook King Bay Supply Facility 1400346732 Referenced Diagrams	Link

ABBREVIATIONS

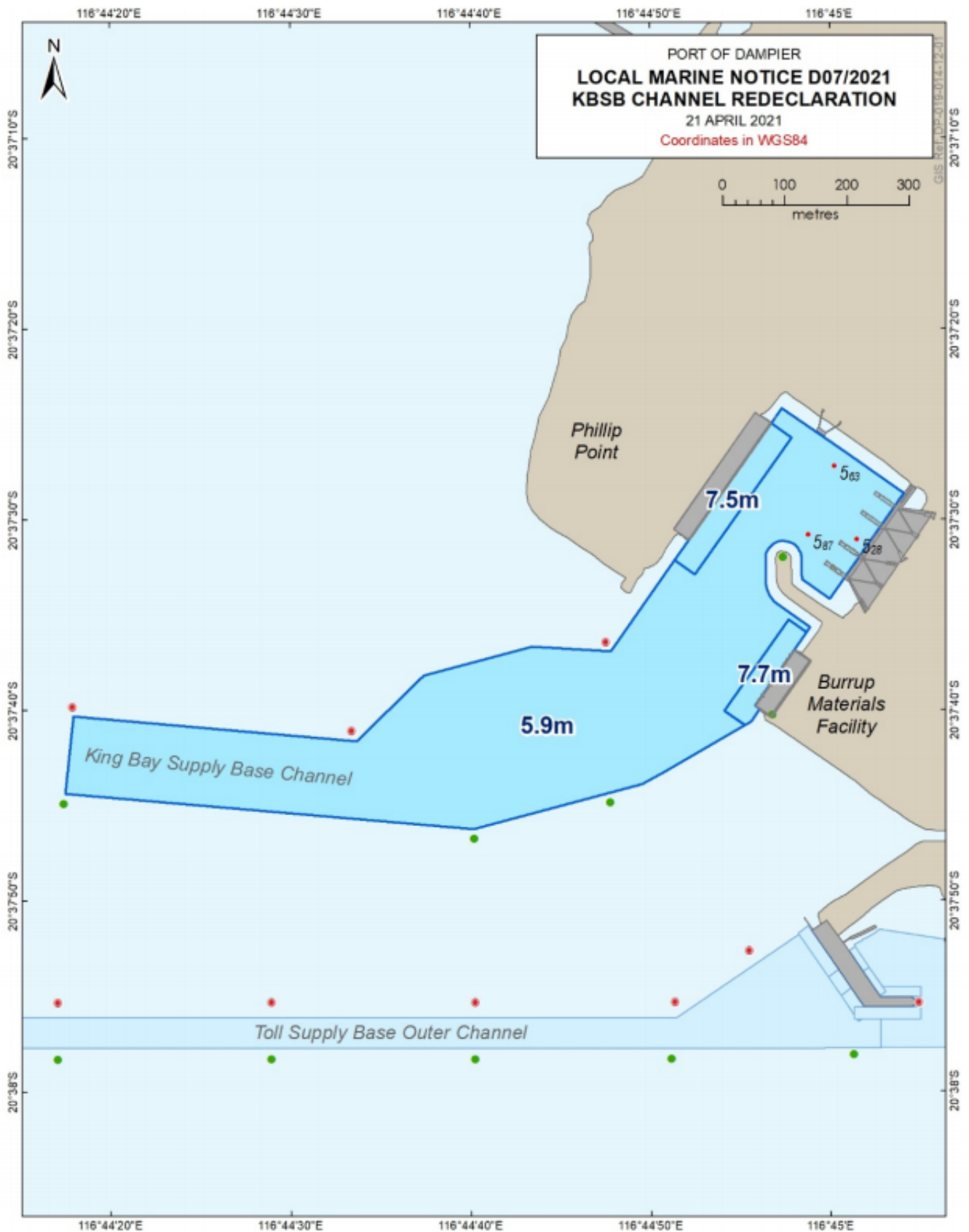
Abbreviation	Term
BMF	Burrup Materials Facility
DLC	Drilling Logistics Coordinator
DoS	Declaration of Security
FRC	Fast Rescue Craft
GSR	Golden Safety Rule
HAT	Highest Astronomical Tide
HMPE	High Modulus Polyethylene
HSE	Health Safety Environment
IMT	Incident Management Team
IR	Industrial Relations
KBSB	King Bay Supply Base
KBSF	King Bay Supply Facility
KGP	Karratha Gas Plant
KSF	Karratha Supply Facility
LAT	Lowest Astronomical Tide

Abbreviation	Term
LNG	Liquefied Natural Gas
LOA	Length Overall
LPG	Liquefied Petroleum Gas
LRZ	Landside Restricted Zone
MBL	Mean Breaking Load
MEG	Mooring Equipment Guidelines
MOB	Man Overboard
MSIC	Maritime Security Identification Card
NE	North East
NWS	North West Shelf
NWSV	North West Shelf Venture
OCIMF	Oil Companies International Marine Forum
PA	Public Address
PFD	Personal Floatation Device
PFSO	Port Facility Security Officer
PGP	Pluto Gas Plant
POC	Point of Contact
PoDH	Port of Dampier Handbook
PPA	Pilbara Ports Authority
PPE	Personal Protective Equipment
SBM	Synthetic based mud
SW	South West
SWL	Safe Working Load
UKC	Under Keel Clearance
VTs	Vessel Traffic Services
WBM	Water-based Mud
WEL	Woodside Energy Ltd

APPENDIX A Contact Details

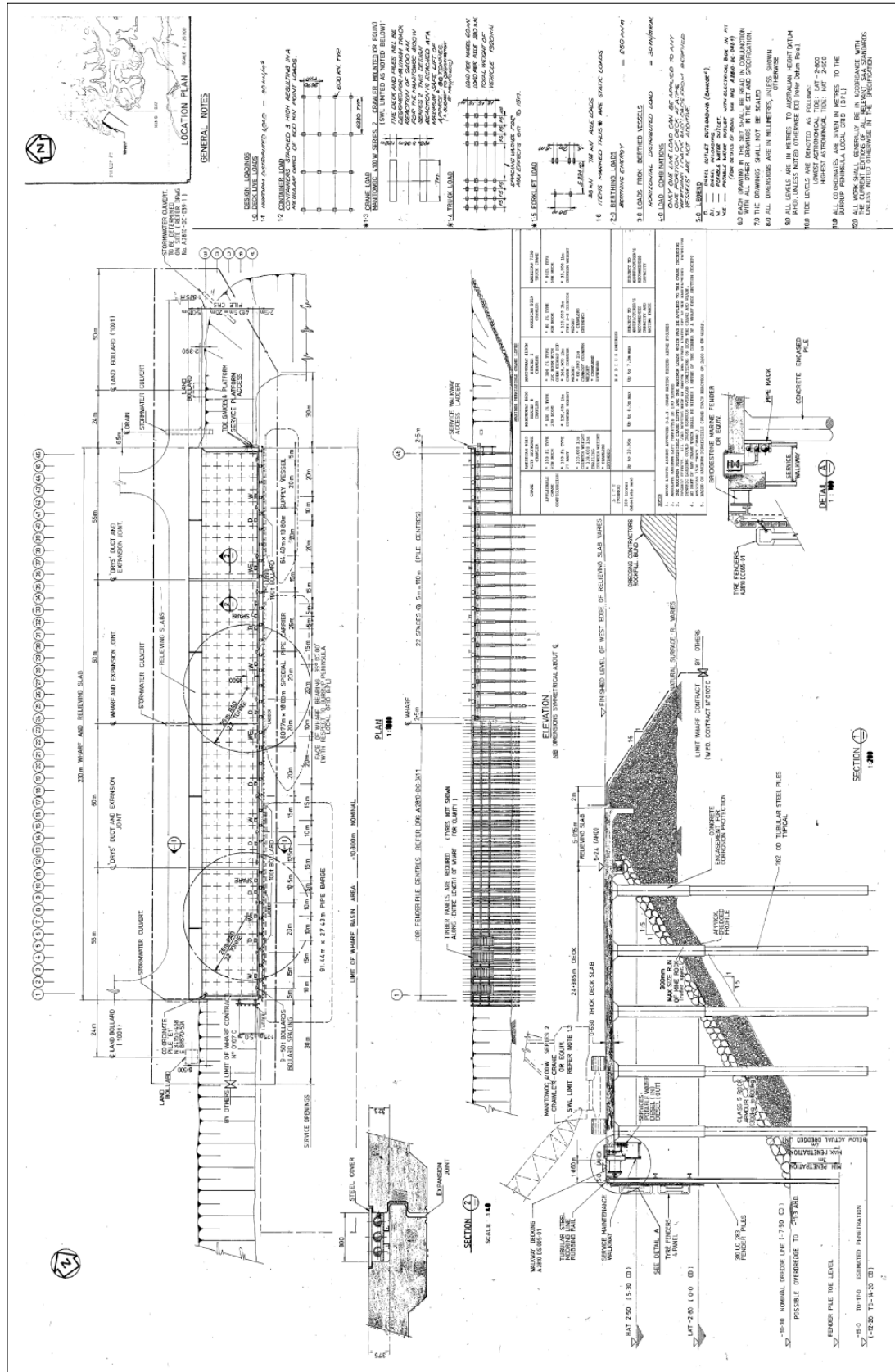
Woodside		
Title	Contact	Details
Asset Manager KSF	Wayne Watson	T: +61 8 9158 7101 E: wayne.watson@woodside.com
Logistics Superintendent	Tara Martanovic	T: +61 456 688 331 E: tara.martanovic@woodside.com
Marine Operations Coordinator	Caroline Rose-Meyer	T: +61 487 194 425 E: MOPlanner@woodside.com
KSF Logistics HS Advisor	Charlotte Boyes	T: +61 406 612 250 E: charlotte.boyes@woodside.com
Marine Assurance		E: MarineAssurance@woodside.com
KBSB Wharf Coordinator	Rob Telfer	T: +61 437 534 982 E: Robert.telfer@woodside.com
KBSB Wharf Supervisor	Lachie Mitchell/Shannon Bayliss	T: +61 419 958 683 E: KBSB.Wharf@woodside.com
KBF Security Gatehouse	G4S Integrated Services	T: +61 8 9158 7150 E: SecuritySBG@woodside.com
Woodside Industrial Relations Advisor		E: IndustrialRelations@woodside.com
External Contacts		Contact Details
Radio Frequencies, Dampier VTS		VHF 11, VHF 16
Pilot Duty Number (Auriga Marine)		T: +61418 753 796
Emergency Contacts		
<i>These contacts should be used strictly for the purpose of notifying genuine emergency situations when utilising the facilities of Woodside Offshore within the confines of the Woodside Offshore Supply Base, in order of priority.</i>		
KSF Security Gatehouse		T: +61 9158 7151
Duty Manager KSF		T: +61 419 954 829
Asset Manager KSF		T: +61 409 434 393
KBSB Wharf Supervisor		T: +61 419 958 683
Port Facility Security Officer		T: +61 421 203 009

APPENDIX B KSF Water Depth Declaration



(See most recent marine notice issued by PPA and Dampier Port Handbook for most accurate details.)

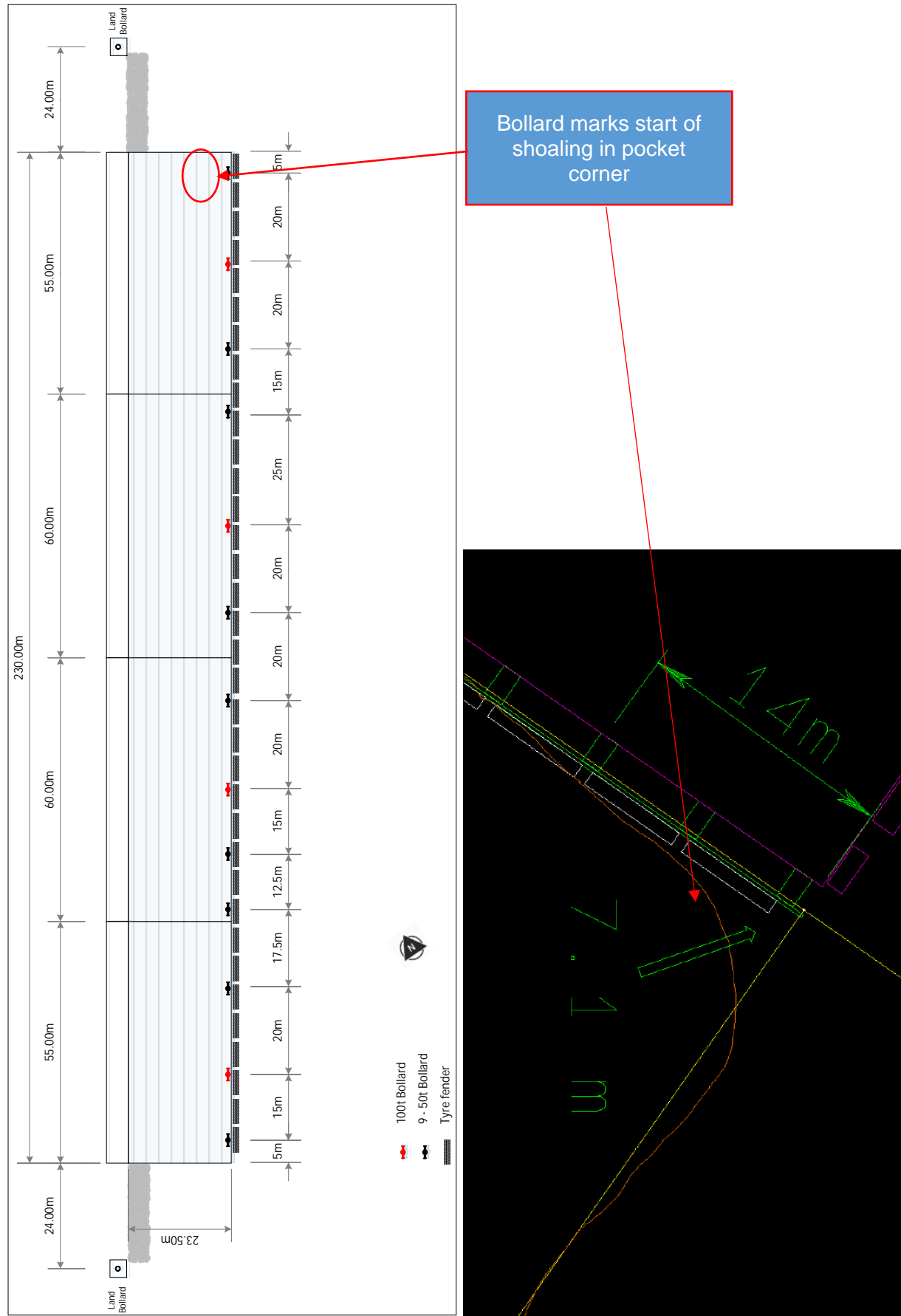
APPENDIX C KBSB Wharf General Arrangement



(Source: KBSB Wharf General Arrangement)

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APPENDIX D KBSB Wharf Bollard Arrangement



APPENDIX G KBSB Additional Data

Lo/cation		Vessel Berths	
Lat:	20°37'34" S	In order of approach: South, Middle, North	
Long:	116°44'49" E		
Water Depth:	Channel 5.9m Berth 7.5 m		
Tides:	-0.2 m – 5.3 m		
Crane Details			
Harbour Mobile Crane - Liebherr LHM 280			
Max lift: 25.4 t @ 40 m			
Load Capacity on the ropes			
MAX. ALLOWED WINDSPEED 24 m/s = 86 km/h			
RADIUS (m)	LOAD CURVE 75% NL (t)	RADIUS (m)	LOAD CURVE 75% NL (t)
10	64,0	26	51,3
11	64,0	27	48,6
12	64,0	28	45,8
13	64,0	29	43,5
14	64,0	30	41,2
15	64,0	31	39,2
16	64,0	32	37,2
17	64,0	33	35,5
18	64,0	34	33,9
19	64,0	35	32,4
20	64,0	36	30,8
21	64,0	37	29,5
22	64,0	38	28,3
23	61,8	39	26,8
24	57,8	40	25,4
25	54,6		
Hose Connections			
<ul style="list-style-type: none">Fuel – 4" Dry Break FemaleWater – 4" Camlock Male (vessel to supply own water hose)Wet Bulks (Glycol, Brine, Water-based Mud (WBM), Synthetic-based Mud (SBM), Base Oil) – 4" Dry Break FemaleDry Bulks (Cement, Barite, Gel) – 4" Camlock Male			
Gangway Information			
<ul style="list-style-type: none">Height of wharf at lowest astronomical tide: 8.5 mHeight of wharf at highest astronomical tide: 3.4 m			

Other Vessel Considerations

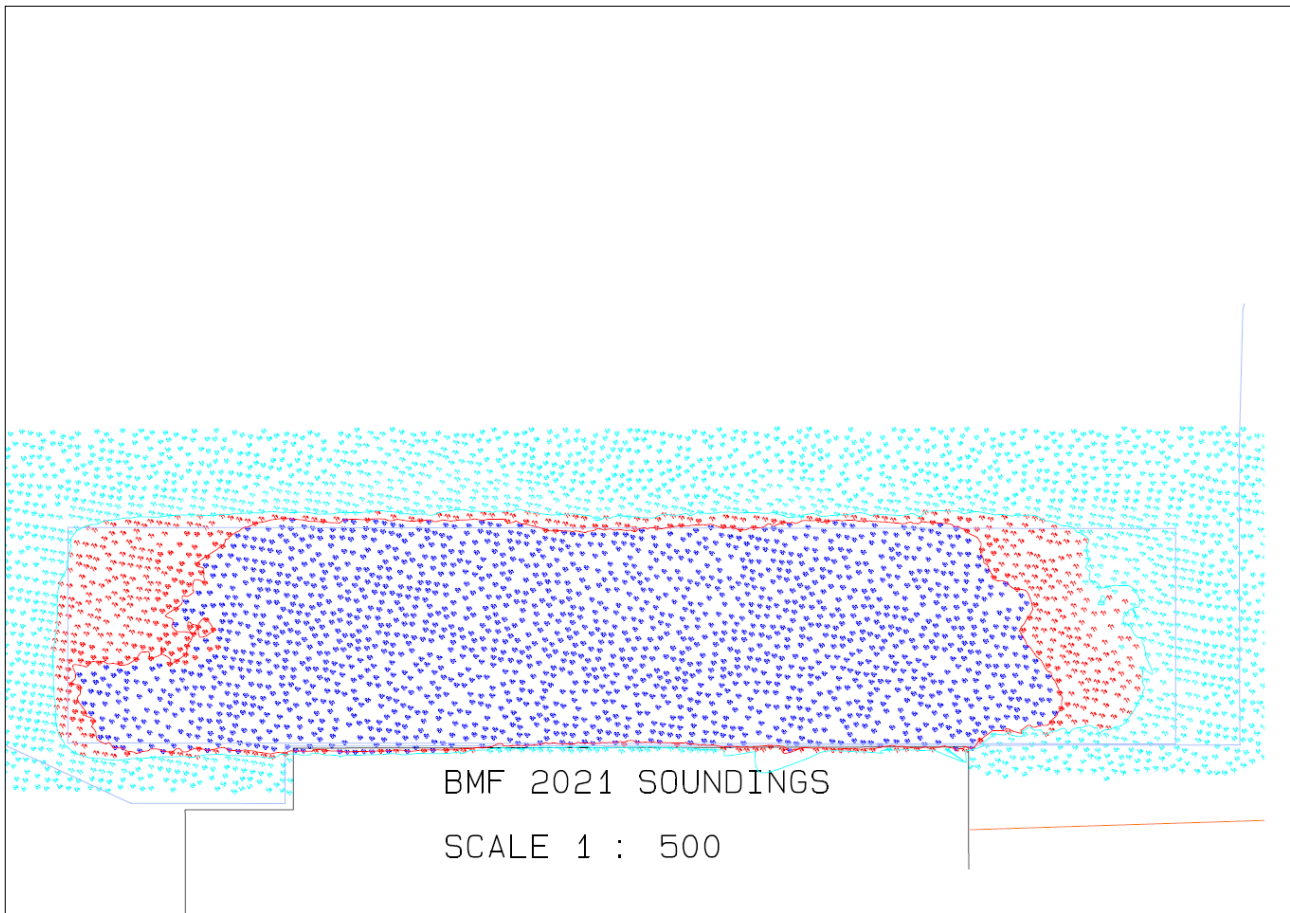
- Cargo securing equipment
- Wedges / chocks for tubular loading
- Adequate pipe stanchions
- Material to cover skid plate
- Reefer connection compatibility (3Phase 440V, fitted with Australian Standard 4 Pin 32 Amp) and extensions if needed

APPENDIX H BMF Wharf General Arrangement



(Source: [BMF Mooring General Arrangement](#))

APPENDIX I BMF Berth Pocket



(Source: Marine Assurance)

APPENDIX J BMF Static Mooring Analysis

Where a static mooring analysis is required, a report should be prepared for approval by the Woodside Marine Assurance team and, where relevant, other parties (e.g. Port Authority).


Where inhouse capability to conduct static mooring analysis is not available, a suitable consultancy company familiar with mooring analysis can be required to prepare this document.

The mooring analysis report should include the details listed in Table 2.

Table 2: Mooring Analysis Report

#	Area	Description
1.	Berth Data	<p>Berth data is provided in the handbook and includes:</p> <ul style="list-style-type: none"> • Description of berth (i.e. land backed) • Berth face dimensions – length and height • Location and SWL of all fittings • Available depth, breadth, and length of berthing pocket • Mooring line exclusion zones – noting the location of the firewater pump • Characteristics of fenders. Fenders to be specified and supplied by vessel or wharf contractor • Dyneema SK78 12 strand, 44mm, 170te breaking strength lines are supplied and to be used from Bollards 7 and 8 (on the Northeast breakwater). Remaining lines to be vessel supplied.
2.	Ship Data	<ul style="list-style-type: none"> • Mooring line details (characteristics – materials, size, length, minimum designed break load) • Mooring tail lines – materials, size, length, minimum design break load • Note: Where wire or HMPE lines are used they should not normally be used without tail lines. • Fitting mean breaking load (MBL) of all ship hardware used including (but not limited to): <ul style="list-style-type: none"> - Winches - Bollards/ bitts - Fairleads - Vertical pedestals • Mooring winch details, winch brake render set points – including the date of last winch brake test and set point (OCIMF MEG 4 recommends 60% of line MBL) • Vessel windage area (i.e. above ballast waterline).
3.	Mooring Plan	<ul style="list-style-type: none"> • A mooring arrangement plan (disposition of mooring lines) and position of the ship should be provided in the <i>Mooring Analysis Report</i>. • The mooring plan should be in line with the practice of good seamanship including: <ul style="list-style-type: none"> - a balanced arrangement, use of spring lines, head and stern lines and breast lines as appropriate - avoidance of chafe points and where this is not feasible a plan to manage chafe points. • No ship lines should be run to bollards on the breakwater to the Northwest of the end of the berth. Wharf supplied dynema lines should be used. • The berth pocket should be shown on the plan. • Lines should be run clear of the wharf – fire water pump and associated equipment.

#	Area	Description																	
4.	Static Mooring Analysis	<ul style="list-style-type: none">A static mooring analysis should be conducted for four conditions and the mooring line loads for each line should be calculated.The initial line tensions should be approximately 10% of the line MBL. <table><tr><th>Condition No.</th><th>Tide</th><th>Current</th><th>Wind</th></tr><tr><td>1.</td><td>HAT</td><td>1 knot onto the berth</td><td rowspan="4">43 Knots – all directions at 10-degree intervals</td></tr><tr><td>2.</td><td>LAT</td><td>1 knot onto the berth</td></tr><tr><td>3.</td><td>HAT</td><td>1 knot off the berth</td></tr><tr><td>4.</td><td>LAT</td><td>1 knot off the berth</td></tr></table> <p>Note: 43-knot wind speed is based on a 20-second gust. Where ship mooring system response time is significantly different to this, Woodside Marine Assurance should be contacted.</p> <ul style="list-style-type: none">Line loads should be recorded as a percentage of the line MBLs, which can be in addition to recording as tonnes.The limiting line (i.e. one of maximum % tension) should be identified for each condition.The fender loads should be determined and reported, including comparison to the fender characteristics.Maximum movement (fore/aft, athwartships).	Condition No.	Tide	Current	Wind	1.	HAT	1 knot onto the berth	43 Knots – all directions at 10-degree intervals	2.	LAT	1 knot onto the berth	3.	HAT	1 knot off the berth	4.	LAT	1 knot off the berth
Condition No.	Tide	Current	Wind																
1.	HAT	1 knot onto the berth	43 Knots – all directions at 10-degree intervals																
2.	LAT	1 knot onto the berth																	
3.	HAT	1 knot off the berth																	
4.	LAT	1 knot off the berth																	
5.	Conclusion	<ul style="list-style-type: none">Adequacy of the moorings including all mooring components ship and berth. Use OCIMF MEG 4 guidance.Adequacy of the fenders.Starting conditions (line tension). Description of how lines are to be tendered/adjusted during time along in response to tide and draft changes.Berth pocket fit, including motions generated by the conditions.																	

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Name		Signature	Date
Prepared by:	Kerry Jankowski		
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Concurrence: <i>Agreeer – Agreement that must be obtained if an item is prepared external to, but impacts, a department or division. If concurrence is required, it must be noted within the body of the item.</i>			

Revision History				
Revision	Description	Date	Prepared by	Approved by
7	Addition of appendices relative to the BMF wharf. Removal of references to Port Call Notice. Updates to contact's table.	25/07/2022	Kerry Jankowski	Eric Barron
8	<ul style="list-style-type: none"> Addition of gangway diagrams and update to wharf general arrangement diagram. Updated the document title and distribution table. Document updated. Minor content changes made. 	19/10/2023	Kerry Jankowski	John Jenkin
9	<ul style="list-style-type: none"> Corrected revision history. Updated Section 3.10. 	06/11/2023	Kerry Jankowski	Ian Polglase

About this Revision		
Section No	Change Type	Brief Explanation
All	Amend	Corrected revision history and updated Section 3.10.
This document supersedes (if applicable):		

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