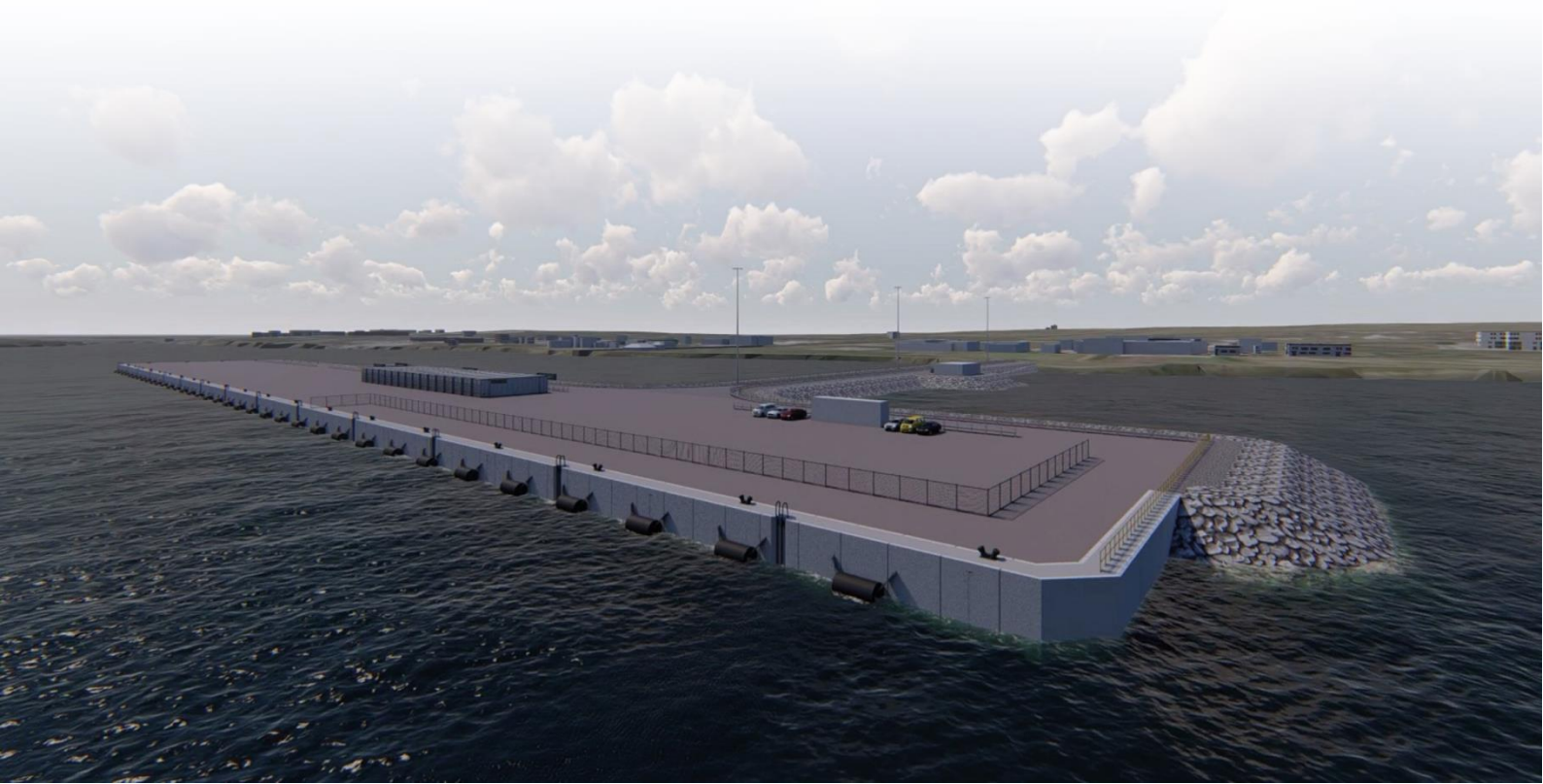
New Port Facility at the Falkland Islands

Use of Repurposed FIPASS Barges for Construction - Technical Note on Navigation Issues

Revision	Date	Description	Prep	Check	App
P06	29/07/2022	Addressing comments received via DS-353 / CRS-318	JV	RCBP	RCBP

	Contract No:	Doc No:	Status	Revision
BAM	BAS2051	BAS2051- RHD-MA-ZZ-FN-ME-5075	B	P06
RHDHV	PB7829	PB7829-RHD-MA-ZZ-FN-ME-5075	B1	P06



Hold Record

Hold No.	Section	Description of Hold

Revision Tracking

Revision	Description of Revision
P01	Issue to BAM for Review and first FIG review
P02	Revised based on BAM comments made to P01 and on meeting with FIG Harbour Master and modified construction phase drawings and programme.
P03	Minor revisions based on further BAM comments
P04	Updated with revised scuttling sequence amendments (moving roro and amended use of working barges), PD comments and MDI report coordination
P05	BAM comments addressed. For Issue to FIG
P06	For Acceptance addressing observations made via DS-353 / CRS-318

Contents:

A1.0 Introduction

A1.1 Project Summary

The economy of the Falkland Islands depends upon a Port and the Falkland Interim Port and Storage System (FIPASS) has been in operation since 1984. This is the current main commercial Port facility for the Falkland Islands. The system is nearing the end of its operational life.

Investigative work conducted between 2017 and 2019 has revealed a deteriorating condition of FIPASS.

New Port facilities are now required to serve the needs of the traditional industries and support economic growth by the early 2020s.

The purpose of this Project is to deliver a new Port to serve the Falkland Islands.

A1.2 Report Purpose

The Planning Application has been approved for building the quay wall using plant positioned on a rockfill bund to the south of the new quay wall. This has limited impact on navigation to and from the FIPASS and this is covered in the Environmental Impact Statement (EIS).

BAM now consider that there are programme savings (and therefore cost savings) if the New Port Facility can be built using floating plant. The purpose of this technical note is to look at the navigation issues associated with using the existing FIPASS barges as working platforms from which to build the piled quay walls of the New Port Facility and how working from this will impact on navigation to FIPASS during the construction phase.

A1.3 Scope of Report

The scope of this note covers the various construction phases and steps as proposed by BAM to build the quay walls. See Appendix A for further details. It is based on barge use as defined by MDI in its structural condition reports (A3.1.2 item ref.5).

A2.0 Definition of Important Terms, Acronyms and Abbreviations

This report makes reference to terms, acronyms and abbreviations which are defined in the following document:

Ref	Title
PB7829-RHD-ZZ-ZZ-RP-Z-0053	Definition of Important Terms, Acronyms and Abbreviations

A3.0 Reference Documents

A3.1.1 Background Documents

Ref	Title	Doc No:
1	FIPASS Berthing & Revenue Reports Jan 2015 to Aug 2020	N/a
2	FIG Notice to Mariners No 08/2019 – FIPASS Temporary Pilotage Direction	N/a
3	BAM Nuttall/ Enviros - Survey Results Report, September 2020	ENV-20056-BAM-SRR / BAS.2050/4000180418
4	Admiralty Chart 1614 – Stanley Harbour and Approaches	N/a

A3.1.2 Project Documents

Ref	Title	RHDHV Doc No:
1	Basis of Design	PB7829-RHD-ZZ-ZZ-RP-S-0010
2	Stakeholder Engagement Report	PB7829-RHD-ZZ-ZZ-RP-PM-0058
3	Navigation Study	PB7829-RHD-MA-ZZ-RP-ME-0047
4	Construction Phasing Drawings (included in Appendix A)	BAS2051-BNL-CE-QS-SK-W-0015_P04_Barge Navigational Locations Phase 1_ Sheet 1 of 2; BAS2051-BNL-CE-QS-SK-W-0016_P04_Barge Navigational Locations Phase 1_ Sheet 2 of 2; BAS2051-BNL-CE-QS-SK-W-0017_P04_Barge Navigational Locations Phase 2; BAS2051-BNL-CE-QS-SK-W-0027_P02 Barge Navigational Locations Dismantle of Causeway_Sheet 1 of 2; BAS2051-BNL-CE-QS-SK-W-0033_P02 Barge Navigational Locations Dismantle of Causeway_Sheet 2 of 2
5	MDI Reports	SW CRANE BARGE STABILITY INFORMATION ISSUE D 23/06/2022; South West Deck Loading Capability for Design of Matting BAS2051-MDI-ZZ-YYY-RP-CC-0205:

		South Centre Deck Loading for Stowed Material BAS2051-MDI-ZZ-YYY-RP-CC-0218; South Centre Stability Check for Pile Storage BAS2051-MDI-ZZ-YYY-RP-CC-0219
6	Zonal Control Drawings for Phase 2	SURFACING PLAN FOR PHASE 2 INTERFACE BAS2051-BNL-CE-QS-SK-W-0031; ZONAL WORKING DIAGRAMS SCENARIOS 1 & 2 BAS2051-BNL-CE-QS-SK-W-0026 S4 P02; ZONAL WORKING DIAGRAMS SCENARIOS 3 & 4 BAS2051-BNL-CE-QS-SK-W-0029 S4 P02;
7	File: 070622 Stage 2 Construction Program Title: NEW PORT FACILITY AT FALKLAND ISLANDS - STAGE 2 CONSTRUCTION WORKS	BAS2051_010622-1

A4.0 Berthing at FIPASS

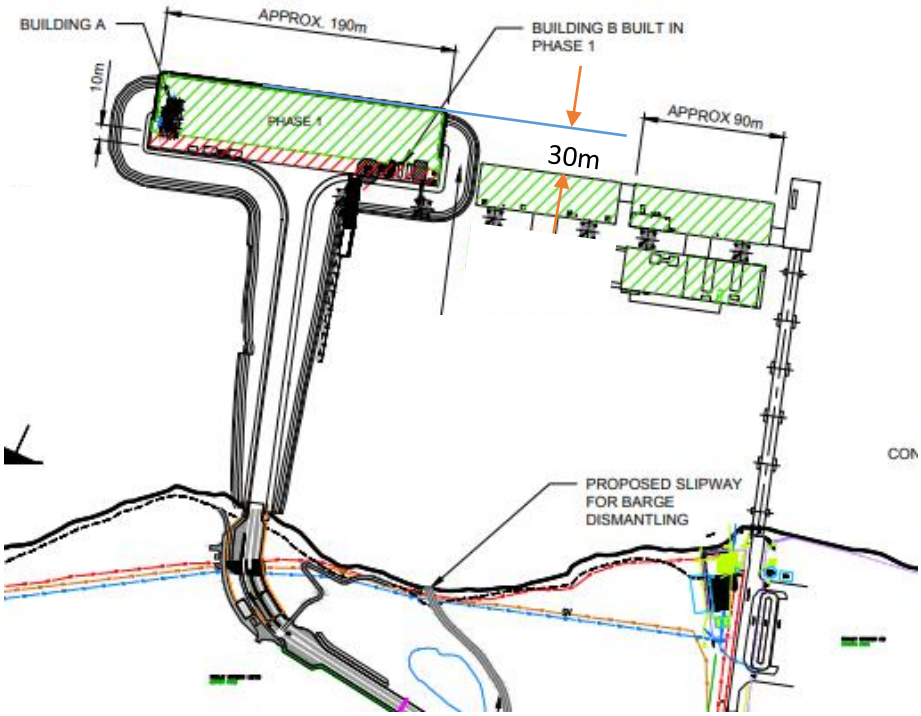
Bringing a vessel alongside FIPASS is not an easy berthing operation. Berthing is made difficult by a number of factors including:

- The variability and strength of the prevailing winds;
- The lack of manoeuvrability of certain of the vessels (predominantly the older fishing fleet vessels);
- The presence of the Ro-Ro pontoon that hampers the approach from the east;
- A small number of vessels can only berth starboard side to; meaning that they approach from the west to berth at FIPASS. This is an issue as the prevailing winds are from the west so the vessels berth with the wind from astern which is not preferred practice;
- For deeper drafted vessels, the available water depth in the approach from The Narrows to the FIPASS hampers manoeuvring;
- The relatively short length of available quay;
- The presence of other vessels already alongside;
- The lack of a proper designed fender system;
- Experience of vessel captain and crew.

The above factors have varying influence on the safe berthing of vessels at FIPASS. During the stakeholder engagement exercise in September 2020, the lack of a harbour tug was raised by a number of the stakeholders including the fishing industry, Stanley Services and some IAATO members. There have been a number of incidents where vessels have collided with FIPASS causing damage to the FIPASS barges and to the vessels concerned. The presence of a tug to assist in berthing will certainly help to mitigate the prevalence of such incidents and will generally lead to safer berthing for many of the vessels using the port.

A5.0 Construction of the New Port Facility

During the construction of the proposed new port facility, construction work will be ongoing alongside the continued use of the FIPASS. There will therefore need to be a high degree of cooperation between the Port Manager, the Harbour Master and the Contractor (BAM) to enable the two operations to work in parallel. Notices to Mariners will need to be issued regularly as the works progress and navigational issues change. There will inevitably be a degree of disruption to the normal operation of the FIPASS. The new quay line is northwards of the existing quay line by 30m as shown in the image below.



The two westernmost FIPASS barges will initially be removed along with the south-central (SC) barge. Construction of the new port will generally work from west to east along the main quay wall with the backfilling running on behind the quay wall piling works. Whether the piling work is undertaken from a bund to the south of the quay wall or from a barge moored to the north of the quay wall there will be some navigation disruption and challenges.

The Planning Application has been approved for building the quay wall using plant positioned on a rockfill bund to the south of the new quay wall. This has limited impact on navigation to and from the FIPASS but is covered in the EIS. The following sections of this report consider an alternative method of construction and the associated navigational issues generated.

A6.0 Use of Barges During Construction

For construction of the new facilities the intention is to use a number of the existing FIPASS barges as working platforms to support the piling plant and to act as storage for the steel tubular piles. The use and movement of the barges is illustrated in the following drawings (See Appendix A):

Title	Doc No:
BARGE POSITION PHASE 1: SHEET 1 OF 2	BAS2051-BNL-CE-QS-SK-W-0015
BARGE POSITION PHASE 1: SHEET 2 OF 2	BAS2051-BNL-CE-QS-SK-W-0016
BARGE LOCATIONS PHASE 2	BAS2051-BNL-CE-QS-SK-W-0017
BARGE POSITIONS DISMANTLING OF CAUSEWAY SHEET 1 OF 2	BAS2051-BNL-CE-QS-SK-W-0027
BARGE POSITIONS DISMANTLING OF CAUSEWAY SHEET 2 OF 2	BAS2051-BNL-CE-QS-SK-W-0033

The construction of the New Port Facility is split into two phases:

- Phase 1, for realising 190m of operational quay and the causeway;

- Phase 2, for the remaining 110m of the main quay, the relocation of the pontoons (Sulivan), and the removal of the dolphins, the roro pontoon and the ramps and bridges.

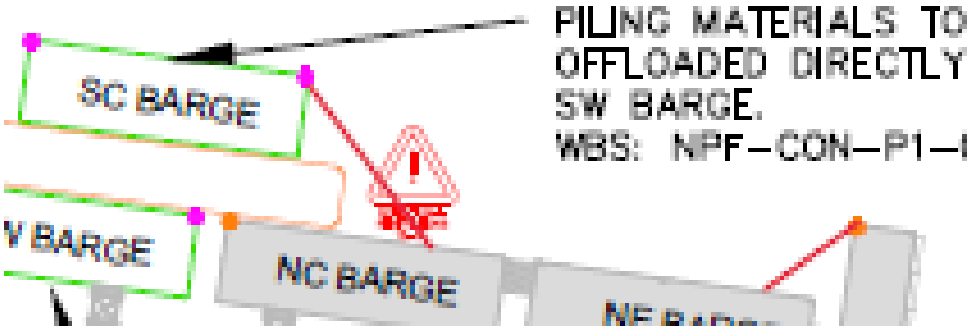
During some of the activities and stages of the Phase 1 of construction as proposed the use of the remaining berths of the existing FIPASS will become compromised to some extent. These stages are assessed in the following sections.

Before the start of Phase 2, port operations will move to the new quay. Piling work will then progress eastwards with the remaining FIPASS barges being removed as required. There is also some impact on navigation of vessels and the use of the new section of quay during Phase 2 but this is considered to be far less than in Phase 1. BAM has developed a zonal plan to cover the limitations on the quay itself during this phase (A3.1.2 Ref. 6).

A6.1 Total berth length vs effective berth length

The effective berth length that remains operationally available during the construction period is difficult to capture in exact meters. It is depending on the local conditions at the time and the possibilities of the vessels and their crews.

As a rule of thumb, the effective berth length is the length that is available between the lines from the (temporary) obstacles at 45 degrees angles with the berthing line as shown below.



The exact length available for berthing remains flexible and is at the judgement of the Harbour Master depending on the actual situation and conditions.

The NW Barge is in the present situation already not available for berthing.

The total berthing length in the tables below is maximum structural length available and includes the link bridges between the barges in the available length figure. This is compared with the effective available length when the 45 degree angles to the berthing face are considered. The vessels may require local movement based on existing obstructions.

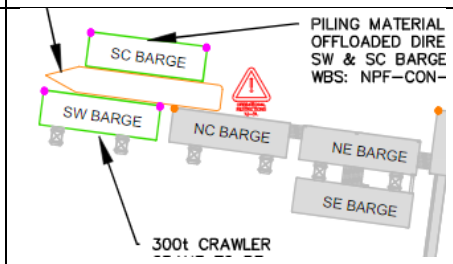
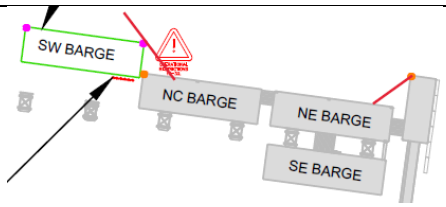
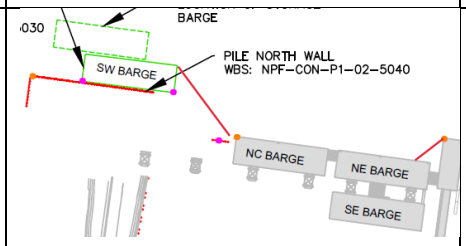
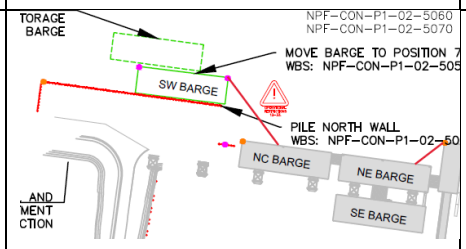
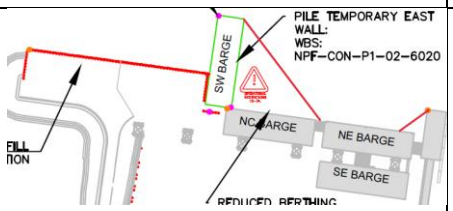
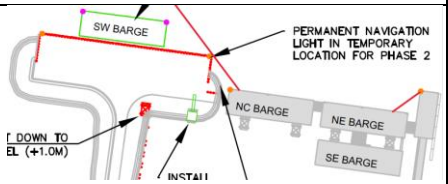
A6.2 Sulivans vessels passage

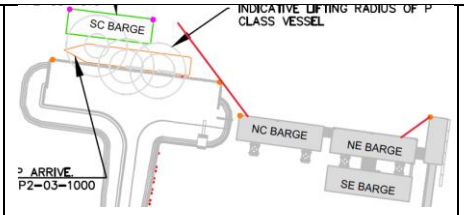
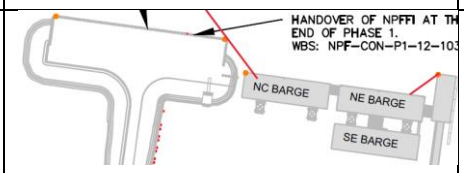
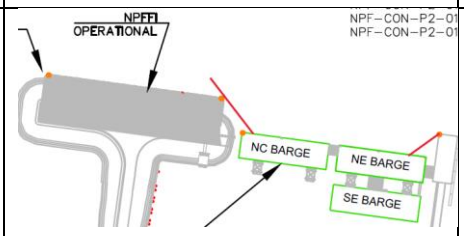
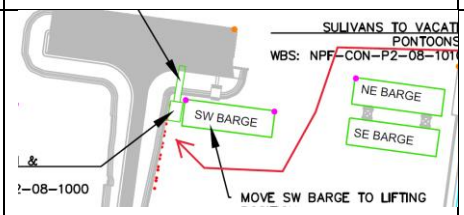
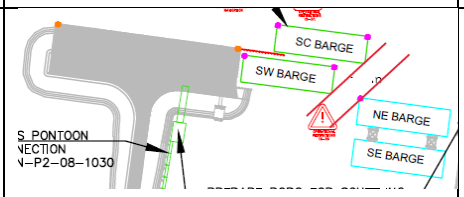
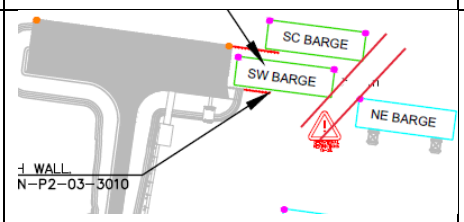
Sulivans vessels berth at the Sulivans pontoons. During the construction period the pontoons are moved to their new location, to the south of the new port area. Construction activities do continue to take place in the access route of the Sulivans vessels. The largest vessel has a width of 5.5m. If a passage is available of over 3B wide, say conservatively 20m, this is adequate.

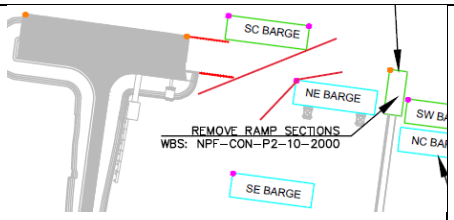
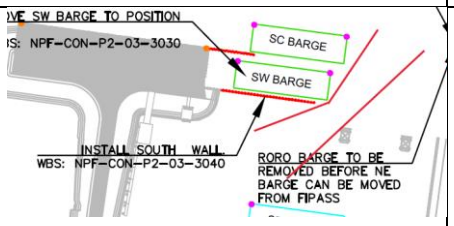
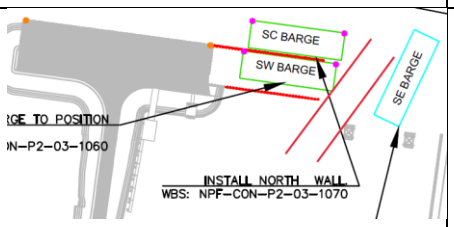
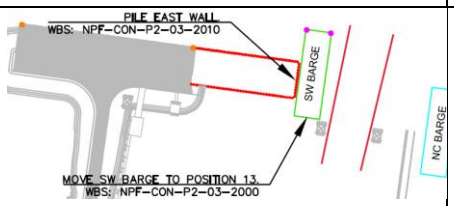
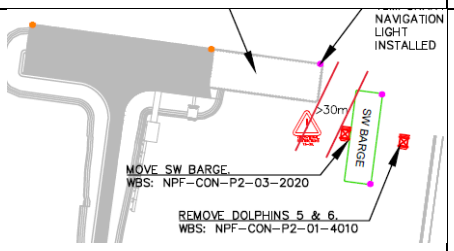
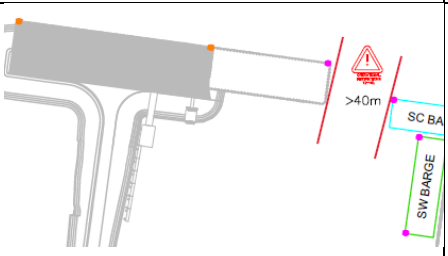
A7.0 Operational impact - Summary

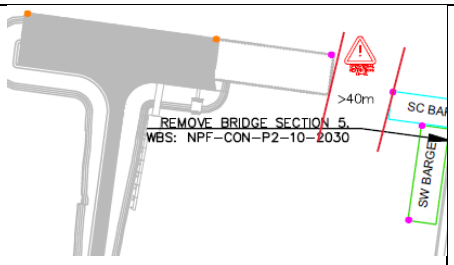
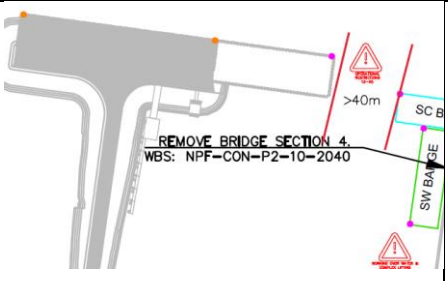
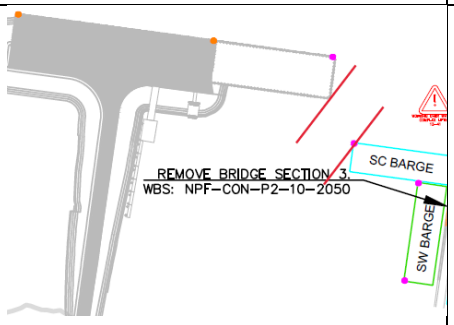
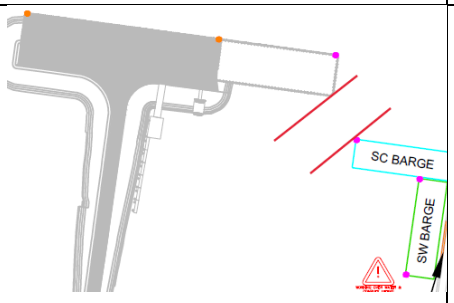
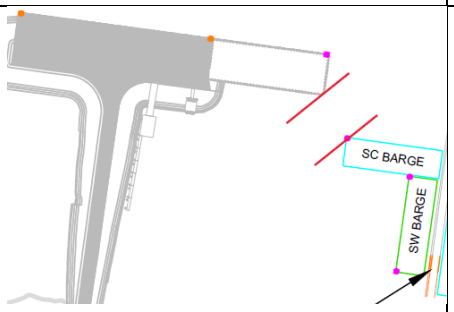
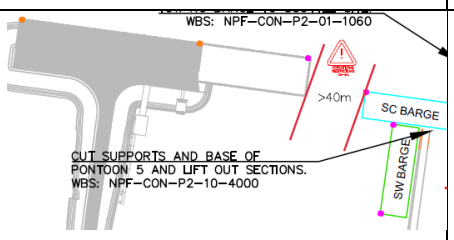
The following construction stages have been considered in this study based on the information provided by BAM.

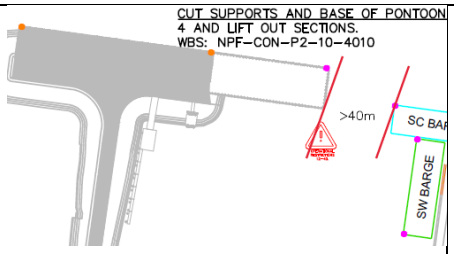
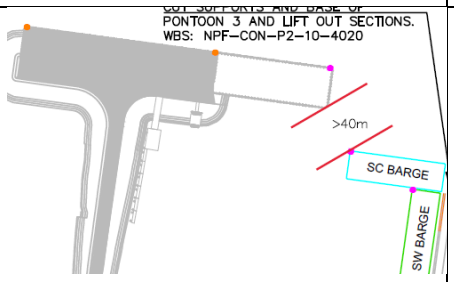
The table below summarises the impact on vessels using FIPASS during the construction stage of the project. For detail on the barge positions, please refer to the construction phasing drawings (Ref A3.1.2, item 4). The duration days are taken from Ref.7.

WBS Ref.	Name	Image (for details refer to Ref A3.1.2 – 4)	Duration (days) per WBS ref.	Total possible berth length vs effective berth length (See A6.1 above)
Phase 1				
WBS REFERENCES: NPF–CON–P1–02–1000 NPF–CON–P1–02–1010 NPF–CON–P1–02–1020 NPF–CON–P1–02–1030	BARGE OFFLOADING: SC BARGE LOADING		1 16 4 0	155m vs 110m.
WBS REFERENCES: NPF–CON–P1–02–2000 NPF–CON–P1–02–2010	BARGE POSITION 1: INSTALL SOUTH WALL PILES		1 7	190m vs 150m
WBS REFERENCE: NPF–CON–P1–02–5030 NPF–CON–P1–02–5040	BARGE POSITION 6: INSTALL NORTH PILES		1 20	190m vs 180m, Comparable to present situation
WBS REFERENCE: NPF–CON–P1–02–5050 NPF–CON–P1–02–5060 NPF–CON–P1–02–5070	BARGE POSITION 7: INSTALL NORTH PILES		1 21 1	190m vs 140m
WBS REFERENCE: NPF–CON–P1–02–6000 NPF–CON–P1–02–6020	BARGE POSITION 8: INSTALL TEMPORARY EAST WALL		1 13	185m vs 85m
	STORAGE OF BARGES DURING REMAINDER OF PHASE 1		7.5 months	190m vs 170m

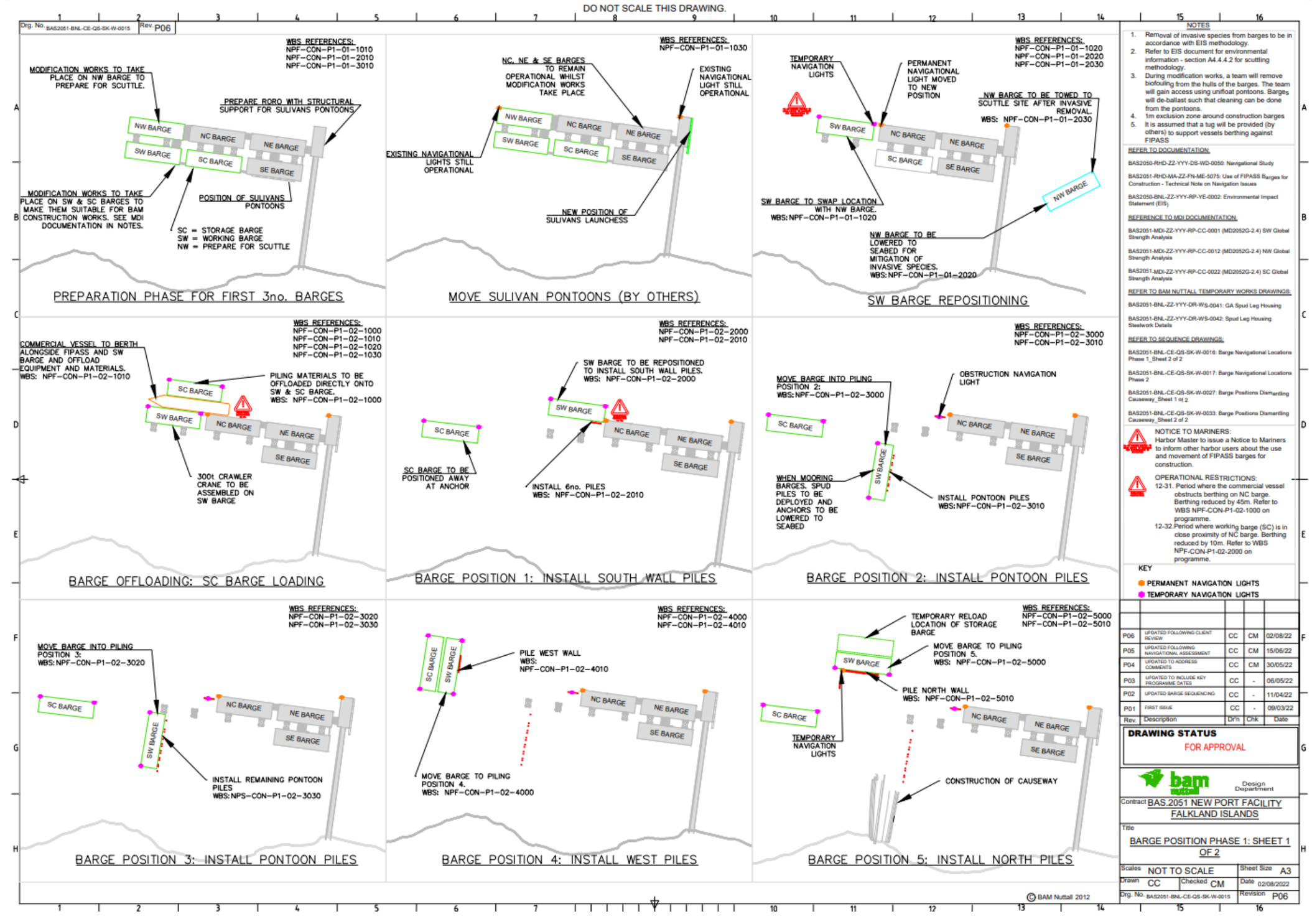
WBS REFERENCE: NPF–CON–P2–03–1000 NPF–CON–P2–03–1010	OFFLOAD COMMERCIAL SHIP 2		1 7	190m vs 170m
WBS REFERENCE: NPF–CON–P1–12–1010 NPF–CON–P1–12–1020 NPF–CON–P1–12–1030	COMPLETION OF PHASE 1		0 0 6	190m vs 170m
Phase 2				
WBS REFERENCE: NPF–CON–P2–01–1020 NPF–CON–P2–01–2010 NPF–CON–P2–01–3010	START OF PHASE 2: PREPARE NC, NE & SE BARGES		18 40 52	New quay operational. Barges no longer used. 190m vs 190m
WBS REFERENCE: NPF–CON–P2–01–1030 NPF–CON–P2–03–1040 NPF–CON–P2–08–1000 NPF–CON–P2–08–1010 NPF–CON–P2–08–1020	INSTALL LINKSPAN BRIDGE & PONTOON		1 2 5 1 13	Sulivans pontoons to be moved to new location, linkspan bridge, installed and tested
WBS REFERENCE: NPF–CON–P2–03–1050 NPF–CON–P2–08–1030 NPF–CON–P2–08–1050 NPF–CON–P2–08–1130 NPF–CON–P2–10–3000	BARGE POSITION 9:PILE NORTH PILES		18 10 2 5 23	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–01–2020 NPF–CON–P2–03–3000 NPF–CON–P2–03–3010	BARGE POSITION 10:PILE SOUTH PILES		6 1 25	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate

WBS REFERENCE: NPF–CON–P2–03–3020 NPF–CON–P2–10–2000	REMOVE RORO BARGE LINKSPAN		1 5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–01–3015 NPF–CON–P2–03–3030 NPF–CON–P2–03–3040 NPF–CON–P2–10–3010	BARGE POSITION 11: INSTALL SOUTH PILES		6 1 6 8	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–01–2040 NPF–CON–P2–01–3030 NPF–CON–P2–03–1060 NPF–CON–P2–03–1070	BARGE POSITION 12:INSTALL NORTH PILES		7 7 1 20	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–03–2000 NPF–CON–P2–03–2010	BARGE POSITION 13:INSTALL EAST PILES		1 9	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–03–2020 NPF–CON–P2–01–4010	REMOVE DOLPHIN PILES 5 & 6.		- 10	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–2020	REMOVE RAMP & LINKSPAN		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate

WBS REFERENCE: NPF–CON–P2–10–2030	REMOVE BRIDGE SECTION 5		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–2040	REMOVE BRIDGE SECTION 4		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–2050	REMOVE BRIDGE SECTION 3		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–2060	REMOVE BRIDGE SECTION 2		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–2070	REMOVE BRIDGE SECTION 1		5	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–01–1060 NPF–CON–P2–10–4000	REMOVE CAISSON SECTION 5		7 7	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate

WBS REFERENCE: NPF–CON–P2–10–4010	REMOVE CAISSON SECTION 4		7	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate
WBS REFERENCE: NPF–CON–P2–10–4020 WBS REFERENCE: NPF–CON–P2–10–4030 WBS REFERENCE: NPF–CON–P2–10–4040	REMOVE CAISSON SECTION 3, SECTION 2, SECTION 1		7 7 7	New quay 190m vs 190m Passage for Sulivans >20m wide. Adequate

Appendix A – Construction Phasing Drawings



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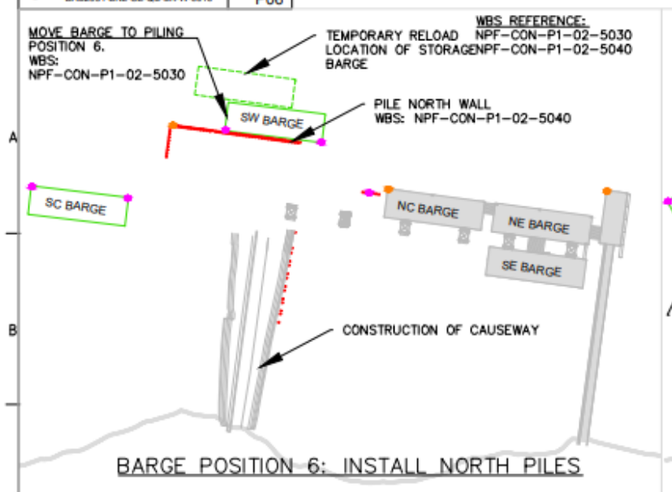
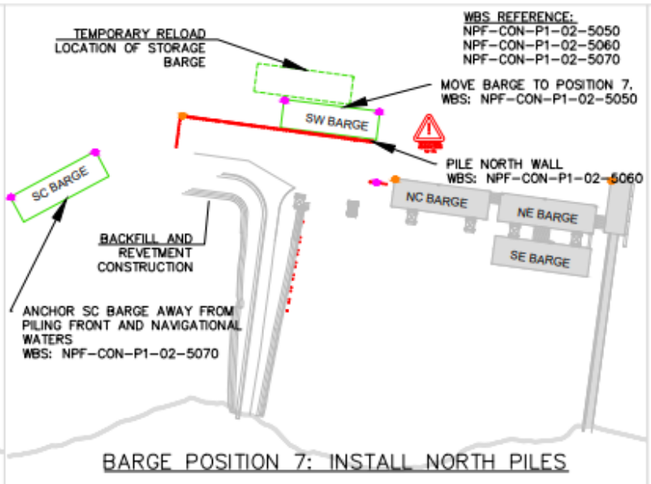
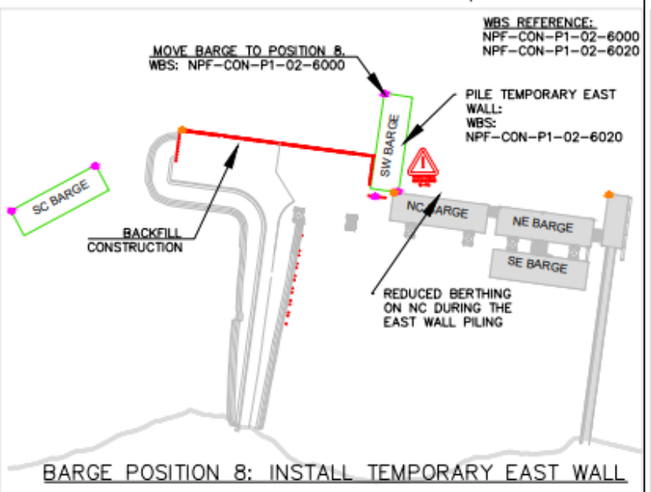
Drg. No. BAS2051-BNL-CE-QS-SK-W-0016 Rev. P06



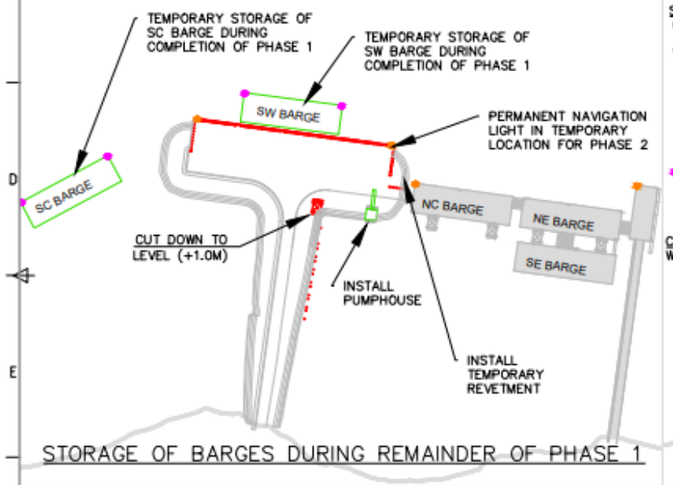
BARGE POSITION 6: INSTALL NORTH PILES



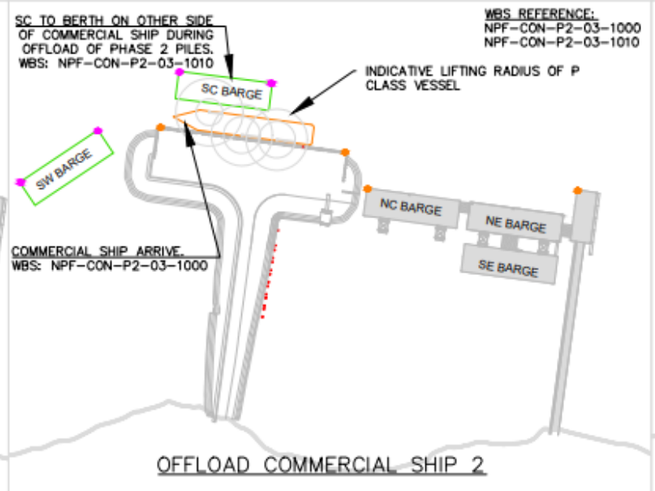
BARGE POSITION 7: INSTALL NORTH PILES



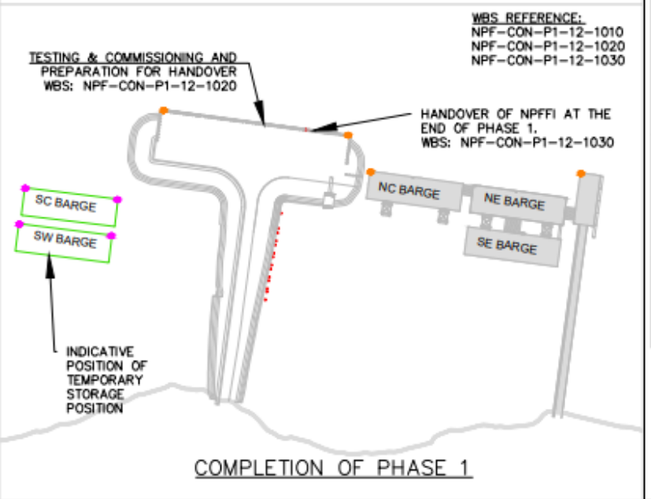
BARGE POSITION 8: INSTALL TEMPORARY EAST WALL



STORAGE OF BARGES DURING REMAINDER OF PHASE 1



OFFLOAD COMMERCIAL SHIP 2



COMPLETION OF PHASE 1

NOTES

1. Removal of invasive species from barges to be in accordance with EIS methodology.
2. Refer to EIS document for environmental information - section A4.4.4.2 for scuttling methodology.
3. During modification works, a team will remove biofouling from the hulls of the barges. The team will gain access using unifloat pontoons. Barges will de-ballast such that cleaning can be done from the pontoons.
4. 1m exclusion zone around construction barges
5. It is assumed that a tug will be provided (by others) to support vessels berthing against FIPASS

REFER TO DOCUMENTATION:

BAS2050-RHD-ZZ-YYY-DS-WD-0050: Navigational Study

BAS2051-RHD-MA-ZZ-FN-ME-5075: Use of FIPASS Barges for Construction - Technical Note on Navigation Issues

BAS2051-RHD-MA-ZZ-FN-ME-5075: Use of FIPASS Barges for Construction - Technical Note on Navigation Issues

BAS2050-BNL-ZZ-YYY-RP-YE-0002: Environmental Impact Statement (EIS)

REFER TO BAM NUTTALL TEMPORARY WORKS DRAWINGS:

BAS2051-BNL-ZZ-YYY-DR-WS-0041: GA Spud Leg Housing

BAS2051-BNL-ZZ-YYY-DR-WS-0042: Spud Leg Housing Steelwork Details

REFER TO SEQUENCE DRAWINGS:

BAS2051-BNL-CE-QS-SK-W-0015: Barge Navigational Locations Phase 1_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0017: Barge Navigational Locations Phase 2

BAS2051-BNL-CE-QS-SK-W-0027: Barge Positions Dismantling Causeway_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0033: Barge Positions Dismantling Causeway_Sheet 2 of 2

OPERATIONAL RESTRICTIONS:
12-33. Period where the working barge partly obstructs the vessels leaving FIPASS.

12-34. Period where the working barge obstructs berthing on NC barge. Berthing reduced by 10m. Refer to WBS NPF-CON-P1-02-6020 on programme.

KEY
- PERMANENT NAVIGATION LIGHTS
- TEMPORARY NAVIGATION LIGHTS

Rev.	Description	Dr'n	Chk	Date
P06	UPDATED FOLLOWING CLIENT REVIEW	CC	CM	02/08/22
P05	UPDATED FOLLOWING NAVIGATIONAL ASSESSMENT	CC	CM	15/06/22
P04	UPDATED TO ADDRESS COMMENTS	CC	CM	30/05/22
P03	UPDATED TO INCLUDE KEY PROGRAMME DATES	CC	-	06/05/22
P02	UPDATED BARGE SEQUENCING	CC	-	11/04/22
P01	FIRST ISSUE	CC	-	09/03/22

DRAWING STATUS
FOR APPROVAL

bam Nuttall Design Department

Contract BAS.2051 NEW PORT FACILITY FALKLAND ISLANDS

Title BARGE POSITIONS PHASE 1: SHEET 2 OF 2

Scales	NOT TO SCALE	Sheet Size	A3
Drawn	CC	Checked	CM
Date	02/08/2022		
Drg. No.	BAS2051-BNL-CE-QS-SK-W-0016	Revision	P06

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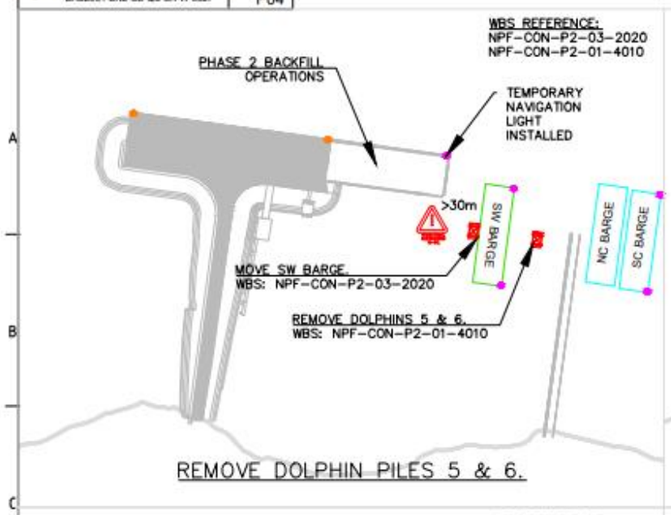

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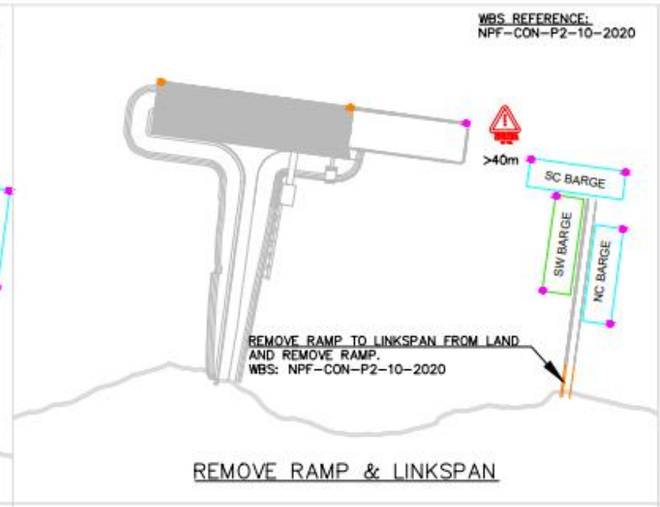

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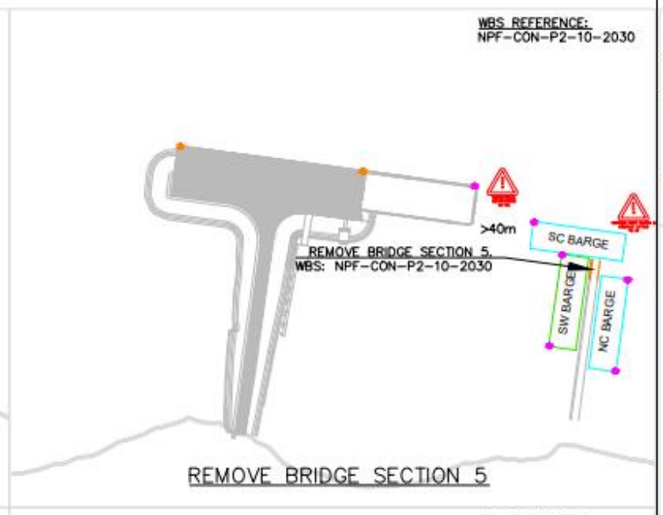

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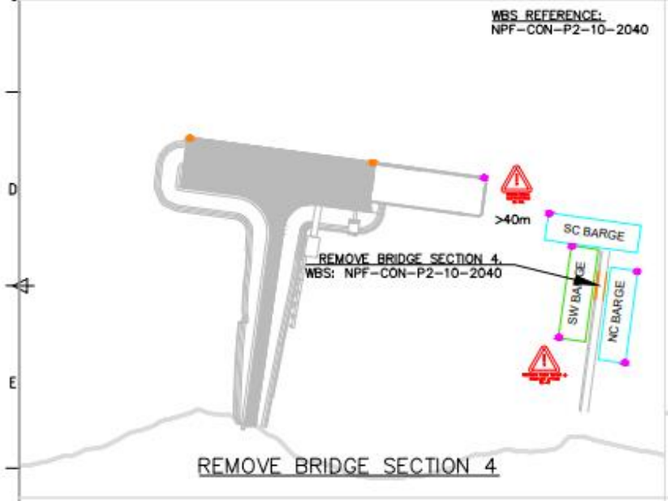

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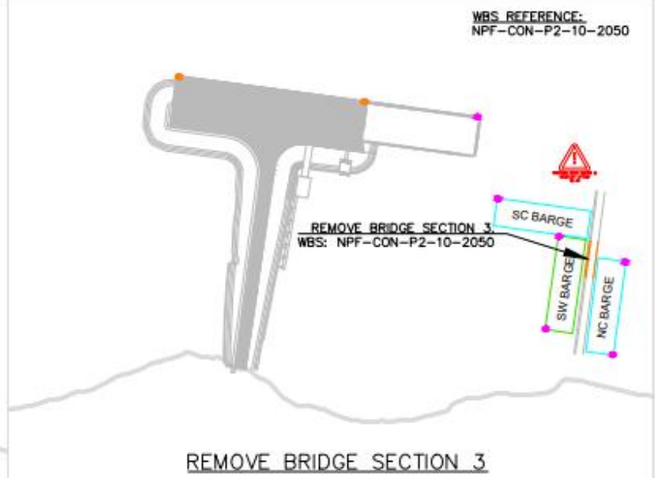

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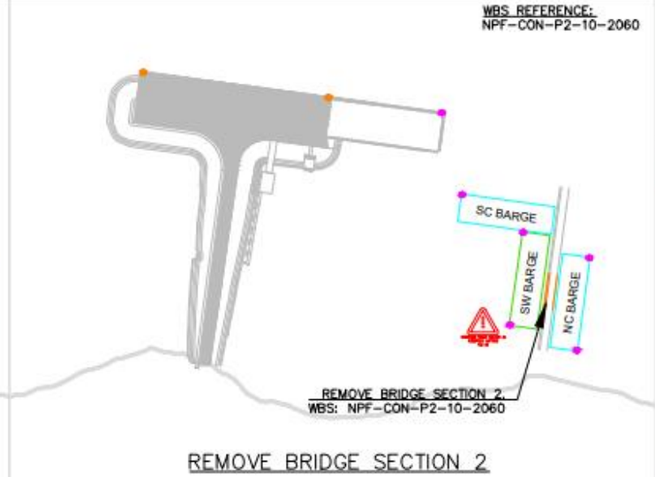

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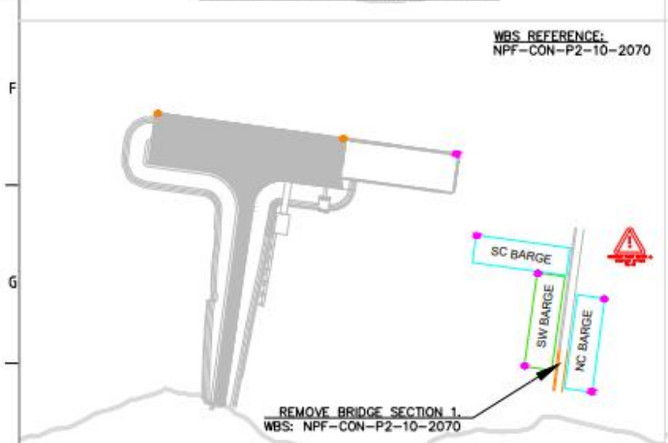

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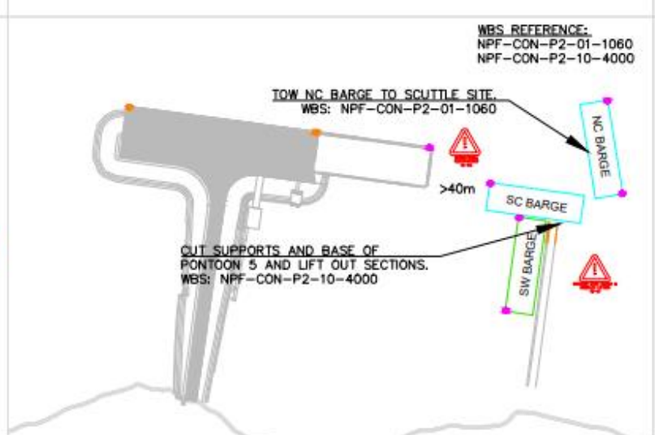

REMOVE CAISSON SECTION 5

REMOVE CAISSON SECTION 4

NOTES

1. Removal of invasive species from barges to be in accordance with EIS methodology.
2. Refer to EIS document for environmental information - section A4.4.4.2 for scuttling methodology.
3. During modification works, a team will remove biofouling from the hulls of the barges. The team will gain access using unifloat pontoons. Barges will de-ballast such that cleaning can be done from the pontoons.
4. 1m exclusion zone around construction barges
5. It is assumed that a tug will be provided (by others) to support vessels berthing against FIPASS

REFER TO DOCUMENTATION:

BAS2050-RHD-ZZ-YYY-DS-WD-0050: Navigational Study

BAS2051-RHD-MA-ZZ-FN-ME-5075: Use of FIPASS Barges for Construction - Technical Note on Navigation Issues

BAS2050-BNL-ZZ-YYY-RP-YE-0002: Environmental Impact Statement (EIS)

REFERENCE TO MDI DOCUMENTATION:

BAS2051-MDI-ZZ-YYY-RP-CC-0088 (MD2052G-2.10) Causeway Pontoon Lift Point Definition

BAS2051-MDI-ZZ-YYY-RP-CC-0072 (MD2052G-2.1.2) Causeway Pontoon Preparation for Lifting

BAS2051-MDI-ZZ-YYY-RP-CC-0071 (MD2052G-2.1.1) Causeway Pontoon Deballasting

REFER TO SEQUENCE DRAWINGS:

BAS2051-BNL-CE-QS-SK-W-0015: Barge Navigational Locations Phase 1_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0016: Barge Navigational Locations Phase 1_Sheet 2 of 2

BAS2051-BNL-CE-QS-SK-W-0017: Barge Navigational Locations Phase 2

BAS2051-BNL-CE-QS-SK-W-0033: Barge Positions Dismantling Causeway_Sheet 2 of 2

OPERATIONAL RESTRICTIONS:
12.39 Period where access to resupply pontoons will be restricted/ not possible. Navigational width during dismantling of dolphin piles 5 & 6 reduced to 15m. See NPF-CON-P2-01-4010.
12-40 Period where access to resupply pontoons will be restricted to 30m.
12-41 Complex lifting of bridge units and caissons from working barge.

KEY
- PERMANENT NAVIGATION LIGHTS
- TEMPORARY NAVIGATION LIGHTS

Rev.	Description	Dr'n	Chk	Date
P04	UPDATED FOLLOWING CLIENT REVIEW	CC	CM	02/08/22
P03	UPDATED FOLLOWING NAVIGATIONAL ASSESSMENT	CC	CM	15/06/22
P02	UPDATED FOLLOWING COMMENTS	CC	-	30/05/22
P01	FIRST ISSUE	CC	-	09/03/22

DRAWING STATUS
FOR APPROVAL

bam nuttall Design Department

Contract BAS.2051 NEW PORT FACILITY FALKLAND ISLANDS

Title
BARGE POSITIONS DISMANTLING OF CAUSEWAY SHEET 1 OF 2

Scales NOT TO SCALE | Sheet Size A3
Drawn CC | Checked CM | Date 02/08/2022
Drg. No. BAS2051-BNL-CE-QS-SK-W-0027 | Revision P04

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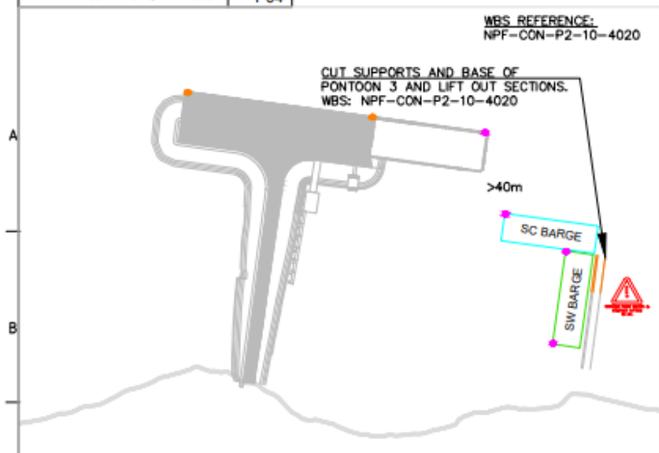
Drg. No. BAS2051-BNL-CE-QS-SK-W-0033 Rev. P04



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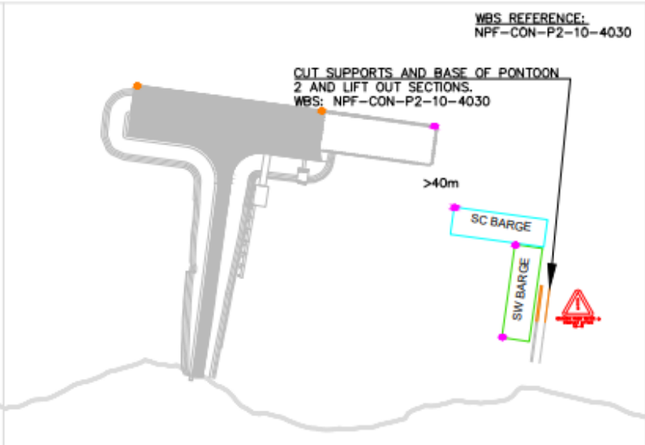

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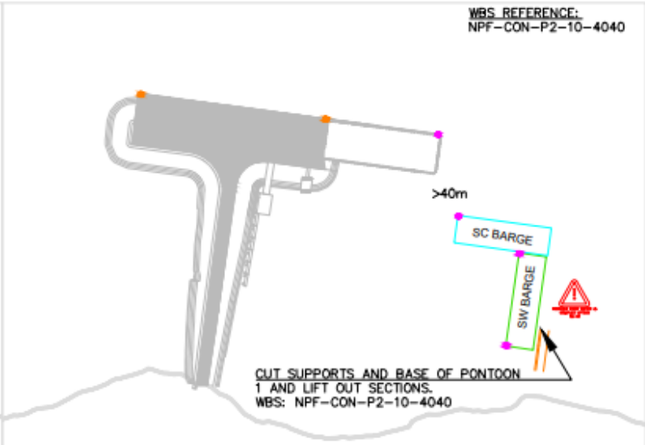

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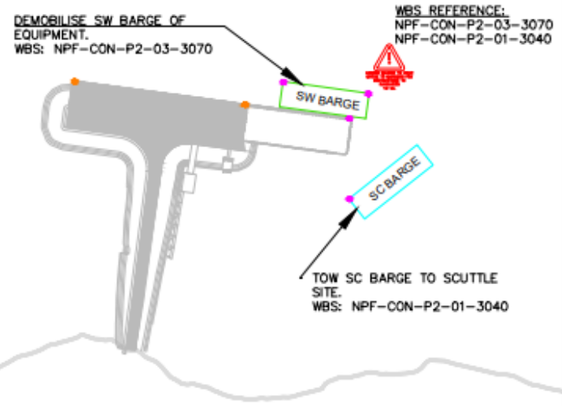
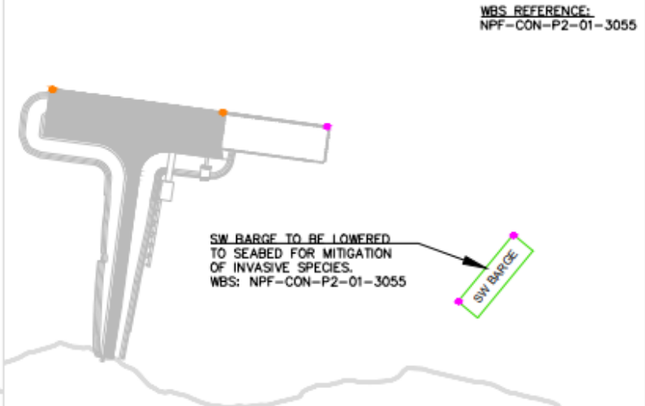
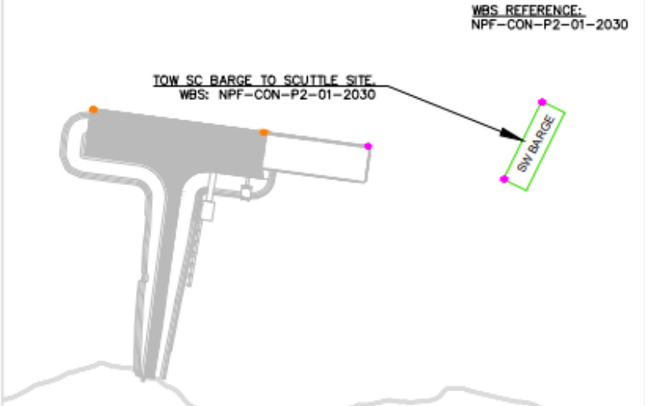


DEMOBILISE WORKING BARGE



PREPARE SW BARGE FOR SCUTTLING



SCUTTLE SW BARGE

NOTES

1. Removal of invasive species from barges to be in accordance with EIS methodology.
2. Refer to EIS document for environmental information - section A4.4.4.2 for scuttling methodology.
3. During modification works, a team will remove biofouling from the hulls of the barges. The team will gain access using unifloat pontoons. Barges will de-ballast such that cleaning can be done from the pontoons.
4. 1m exclusion zone around construction barges
5. It is assumed that a tug will be provided (by others) to support vessels berthing against FIPASS

REFER TO DOCUMENTATION:

BAS2050-RHD-ZZ-YYY-DS-WD-0050: Navigational Study

BAS2051-RHD-MA-ZZ-FN-ME-5075: Use of FIPASS Barges for Construction - Technical Note on Navigation Issues

BAS2050-BNL-ZZ-YYY-RP-YE-0002: Environmental Impact Statement (EIS)

REFERENCE TO MDI DOCUMENTATION:

BAS2051-MDI-ZZ-YYY-RP-CC-0088 (MD2052G-2.10) Causeway Pontoon Lift Point Definition

BAS2051-MDI-ZZ-YYY-RP-CC-0072 (MD2052G-2.1.2) Causeway Pontoon Preparation for Lifting

BAS2051-MDI-ZZ-YYY-RP-CC-0071 (MD2052G-2.1.1) Causeway Pontoon Deballasting

REFER TO SEQUENCE DRAWINGS:

BAS2051-BNL-CE-QS-SK-W-0015: Barge Navigational Locations Phase 1_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0016: Barge Navigational Locations Phase 1_Sheet 2 of 2

BAS2051-BNL-CE-QS-SK-W-0017: Barge Navigational Locations Phase 2

BAS2051-BNL-CE-QS-SK-W-0027: Barge Positions Dismantling Causeway_Sheet 1 of 2

NOTICE TO MARINERS:
Harbour Master to issue a Notice to Mariners to inform other harbor users about the mooring of the working barge against the north wall.

WORKING OVER WATER & COMPLEX LIFTING
Complex lifting of caissons from working barge.

KEY
- PERMANENT NAVIGATION LIGHTS
- TEMPORARY NAVIGATION LIGHTS

Rev.	Description	Dr'n	Chk	Date
P04	UPDATED FOLLOWING CLIENT REVIEW	CC	CM	02/08/22
P03	UPDATED FOLLOWING NAVIGATIONAL ASSESSMENT	CC	CM	15/06/22
P02	UPDATED FOLLOWING COMMENTS	WJ	CM	30/05/22
P01	FIRST ISSUE	CC	-	09/03/22

DRAWING STATUS
FOR APPROVAL

bam nuttall Design Department

Contract BAS.2051 NEW PORT FACILITY FALKLAND ISLANDS

Title
BARGE POSITIONS DISMANTLING OF CAUSEWAY SHEET 2 OF 2

Scales NOT TO SCALE			Sheet Size A3
Drawn CC	Checked CM		Date 02/08/2022
Drg. No. BAS2051-BNL-CE-QS-SK-W-0033			Revision P04

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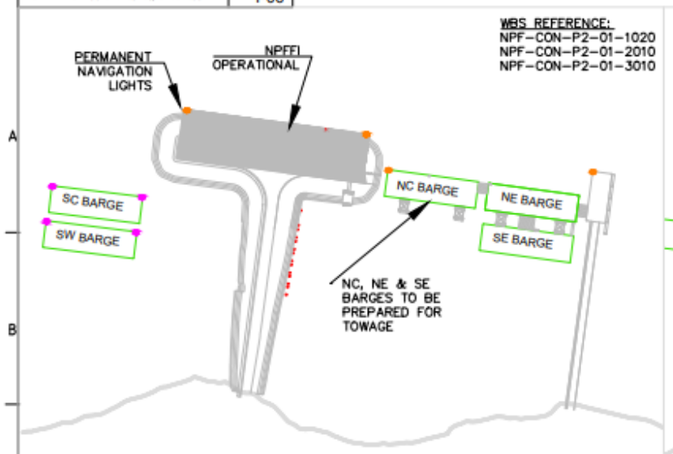
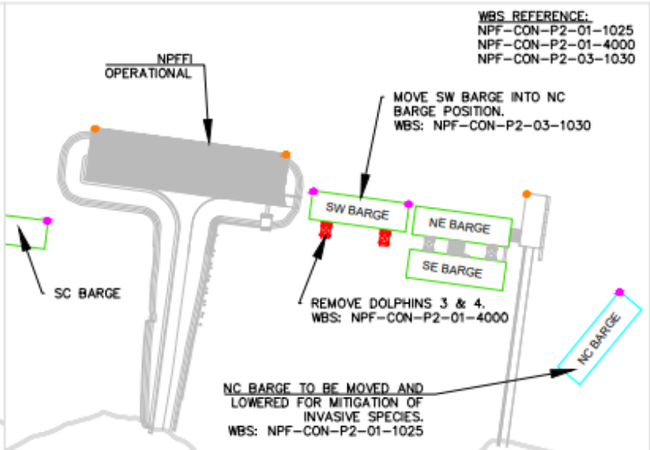
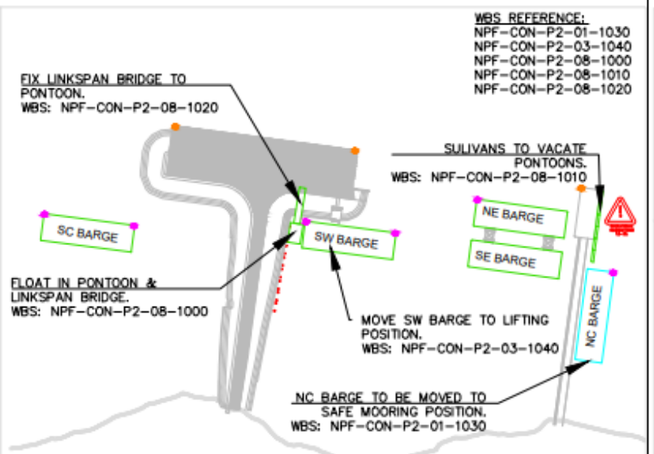
Drg. No. BAS2051-BNL-CE-QS-SK-W-0017 Rev. P06



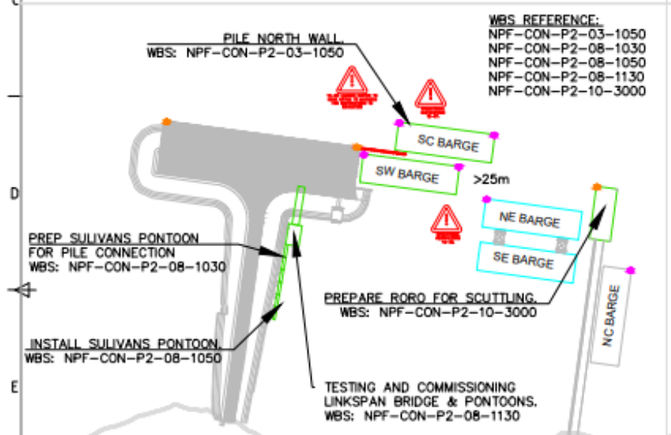
START OF PHASE 2: PREPARE NC, NE & SE BARGES



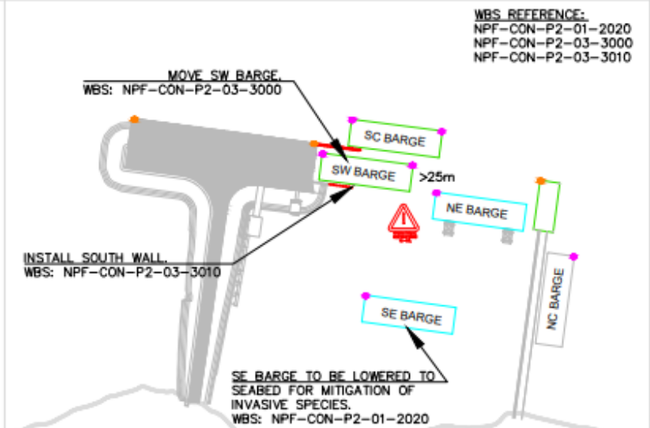
REMOVE NC BARGE FROM FIPASS



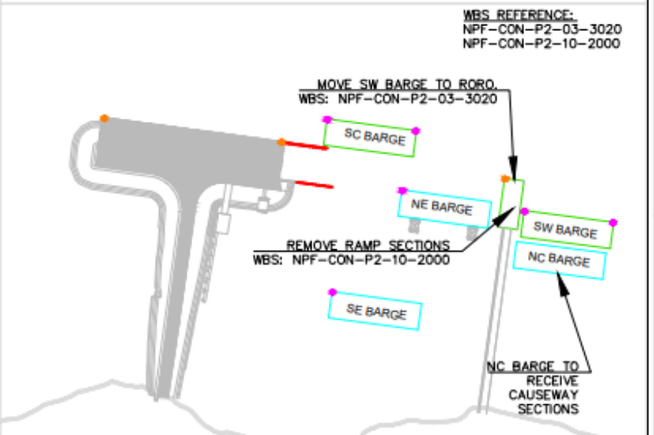
INSTALL LINKSPAN BRIDGE & PONTOON



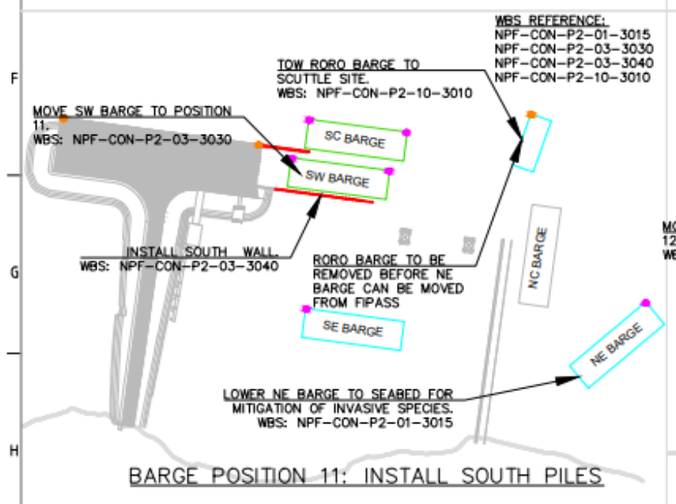
BARGE POSITION 9: PILE NORTH PILES



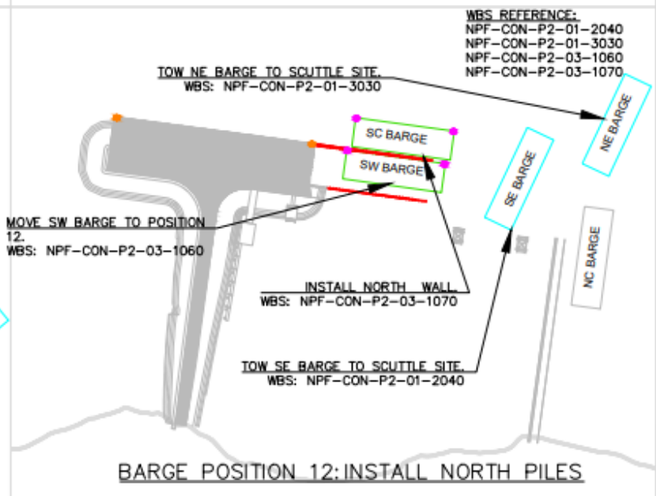
BARGE POSITION 10: PILE SOUTH PILES



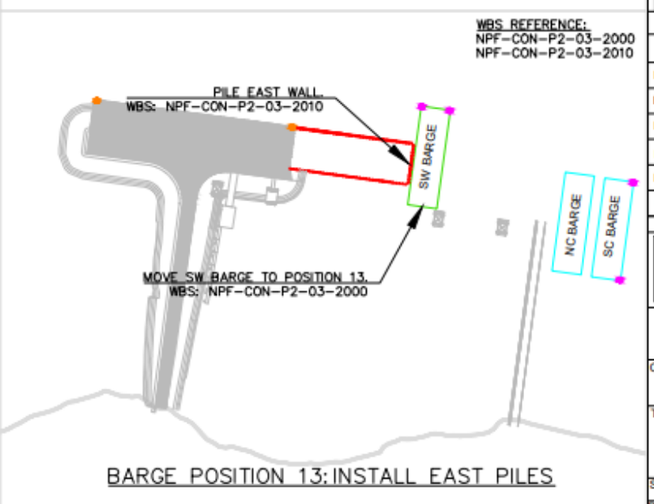
REMOVE RORO BARGE LINKSPAN



BARGE POSITION 11: INSTALL SOUTH PILES



BARGE POSITION 12: INSTALL NORTH PILES



BARGE POSITION 13: INSTALL EAST PILES

NOTES

1. Removal of invasive species from barges to be in accordance with EIS methodology.
2. Refer to EIS document for environmental information - section A4.4.4.2 for scuttling methodology.
3. During modification works, a team will remove biofouling from the hulls of the barges. The team will gain access using unifloat pontoons. Barges will be de-ballast such that cleaning can be done from the pontoons.
4. 1m exclusion zone around construction barges
5. It is assumed that a tug will be provided (by others) to support vessels berthing against FIPASS

REFER TO DOCUMENTATION:

BAS2050-RHD-ZZ-YYY-DS-WD-0050: Navigational Study

BAS2051-RHD-MA-ZZ-FN-ME-5075: Use of FIPASS Barges for Construction - Technical Note on Navigation Issues

BAS2050-BNL-ZZ-YYY-RP-YE-0002: Environmental Impact Statement (EIS)

REFERENCE TO MDI DOCUMENTATION:

BAS2051-MDI-ZZ-YYY-RP-CC-0032 (MD2052G-2.4) NC Global Strength Analysis

BAS2051-MDI-ZZ-YYY-RP-CC-0052 (MD2052G-2.4) NE Global Strength Analysis

BAS2051-MDI-ZZ-YYY-RP-CC-0042 (MD2052G-2.4) SE Global Strength Analysis

REFER TO BAM NUTTALL TEMPORARY WORKS DRAWINGS:

BAS2051-BNL-ZZ-YYY-DR-WS-0041: QA Spud Leg Housing

BAS2051-BNL-ZZ-YYY-DR-WS-0042: Spud Leg Housing Steelwork Details

REFER TO SEQUENCE DRAWINGS:

BAS2051-BNL-CE-QS-SK-W-0015: Barge Navigational Locations Phase 1_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0016: Barge Navigational Locations Phase 1_Sheet 2 of 2

BAS2051-BNL-CE-QS-SK-W-0027: Barge Positions Dismantling Causeway_Sheet 1 of 2

BAS2051-BNL-CE-QS-SK-W-0033: Barge Positions Dismantling Causeway_Sheet 2 of 2

NOTICE TO MARINERS:
Harbor Master to issue a Notice to Mariners to inform other harbor users about the use and movement of FIPASS barges for construction.

OPERATIONAL RESTRICTIONS:
12-35. Period where Sulivans will not have access to their pontoon during transition to NPFFI. Refer to NPF-CON-P2-08-1010 and NPF-CON-P2-08-1130 on the programme.
12-37. Period where the storage barge (SC) obstructs berthing on NPFFI Berthing reduced by 10m. Refer to WBS NPF-CON-P2-03-1050 on the programme.
12-38. Reduced access width for Sulivans vessels during this period. Refer to WBS NPF-CON-P2-03-3010 on the programme.

KEY
- PERMANENT NAVIGATION LIGHTS
- TEMPORARY NAVIGATION LIGHTS

Rev.	Description	Dr'n	Chk	Date
P06	UPDATED FOLLOWING CLIENT REVIEW	CC	CM	02/08/22
P05	UPDATED FOLLOWING NAVIGATIONAL ASSESSMENT	CC	CM	15/06/22
P04	UPDATED TO ADDRESS COMMENTS	CC	CM	30/05/22
P03	UPDATED TO INCLUDE KEY PROGRAMME DATES	CC	-	06/05/22
P02	UPDATED BARGE SEQUENCING	CC	-	11/04/22
P01	FIRST ISSUE	CC	-	09/03/22

DRAWING STATUS
FOR APPROVAL

bam NUTTALL Design Department

Contract BAS.2051 NEW PORT FACILITY FALKLAND ISLANDS

Title
BARGE LOCATIONS PHASE 2

Scales	NOT TO SCALE	Sheet Size	A3
Drawn	CC	Checked	CM
Date	02/08/2022		
Drg. No.	BAS2051-BNL-CE-QS-SK-W-0017	Revision	P06