Annexure M

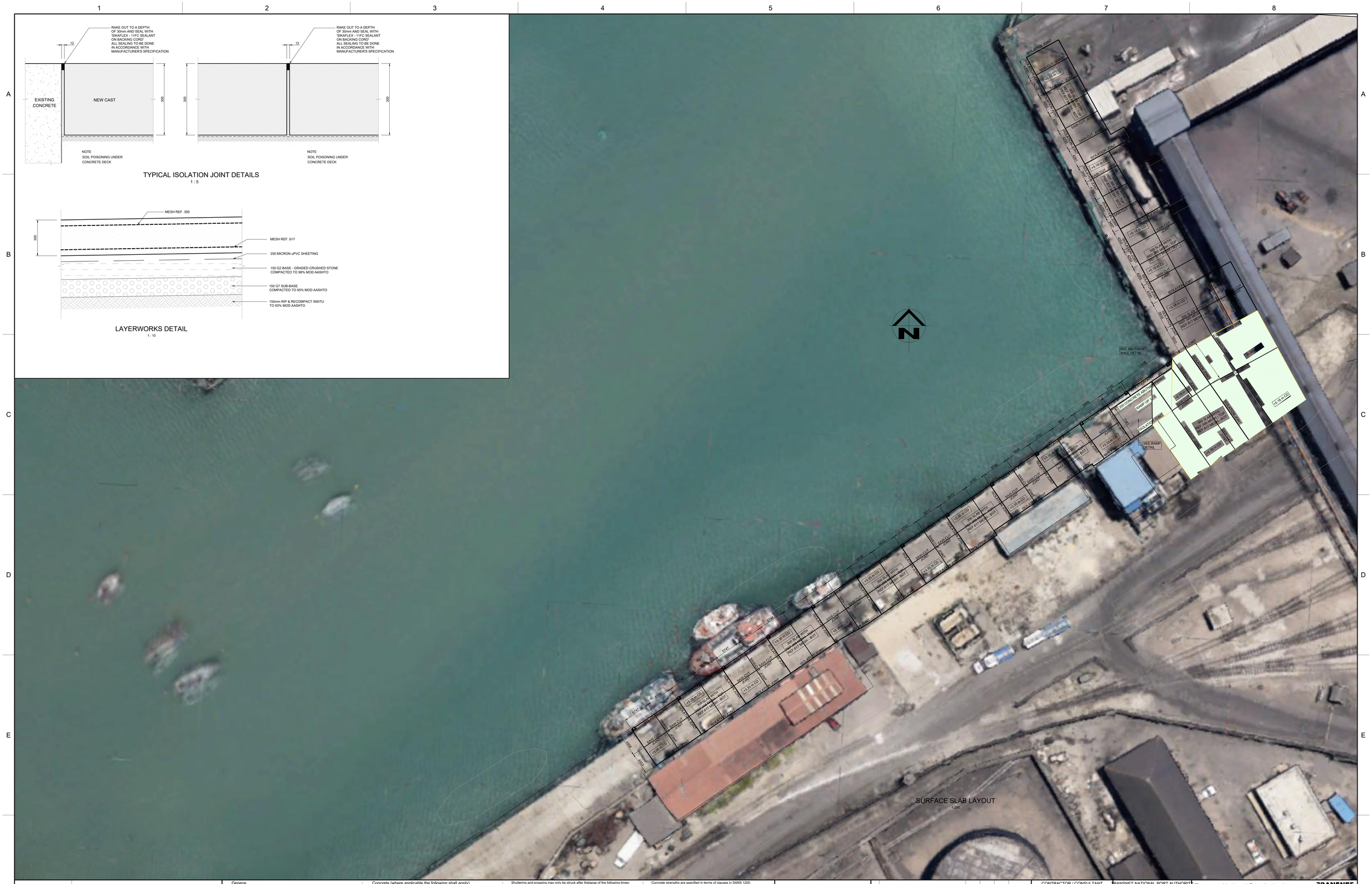
Marine Structural Drawings

TYPICAL ISOLATION JOINT DETAILS

1 : 5

LAYERWORKS DETAIL

1 : 10



SURFACE SLAB LAYOUT

1:250

General

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Symbols:
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Beam soffits without removal of props	7
Props unloaded slabs	10
Props unloaded beams	14

Beams and slabs must be poured with the following cambers.

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Other beams and slabs	Span/400

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Live Load	XXX

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Pilecap (bottom)	- 75	Beams	- 50
Ground beams	- 50	Slab (top steel)	- 50
Retaining walls (earth face)	- 50	Slab (bottom steel)	- 50

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
.1	ISSUED FOR CONSTRUCTION	EM	ML	ML	2026-04-13

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TRANSNET NATIONAL PORT AUTHORITY			
TITLE	NAME	SIGN	DATE
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CHECKED	ML		13 04 26
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	-		. . .

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NAME	M. LETSIE	DATE
SIGNATURE		13 04 26
REG. NUMBER	201270051	
SCALE :	NOTED	A0

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TRANSNET

PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

SURFACE SLAB (HIGHLIGHTED IN YELLOW LINE)

LAYOUT AND DETAILS

PROJECT NUMBER																OD	FBS	DIS	TYPE	DRAWING NO.						SHEET		REV	ID
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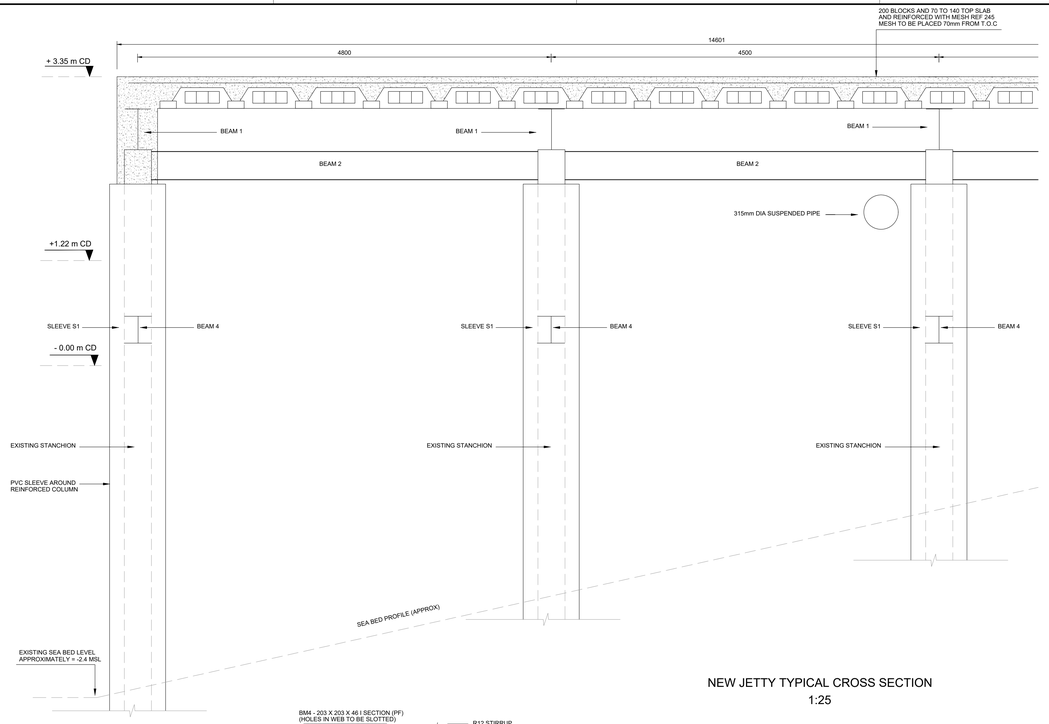
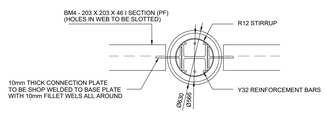
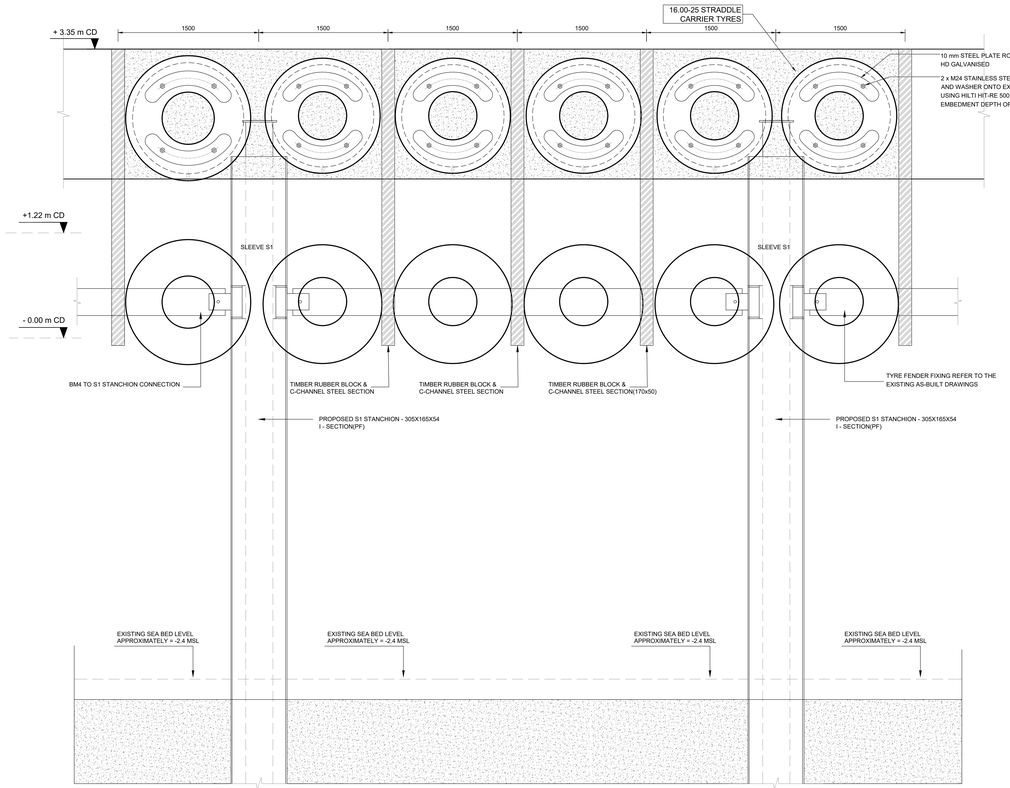


NEW JETTY TYPICAL CROSS SECTION
1:25



EXISTING BEAM 3 AND STANCHION CONNECTION
1:25

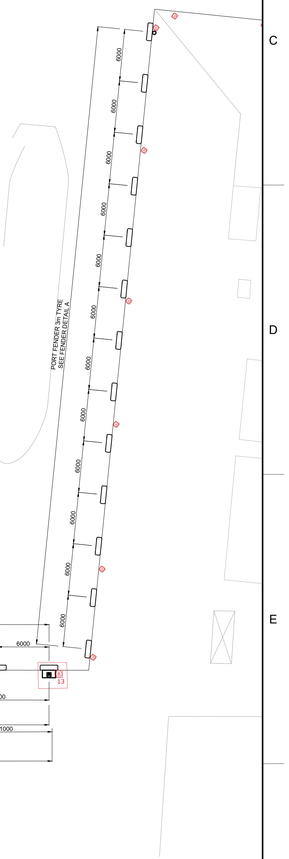


EXISTING PILE ELEVATION
1:25

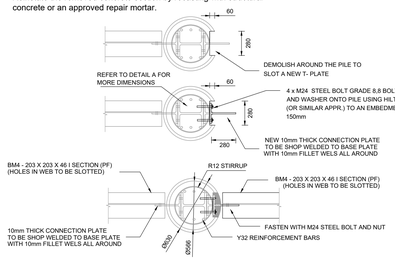
EXISTING PILE ELEVATION
1:25

NOTES PERTAINING TO STRUCTURAL STEELWORK

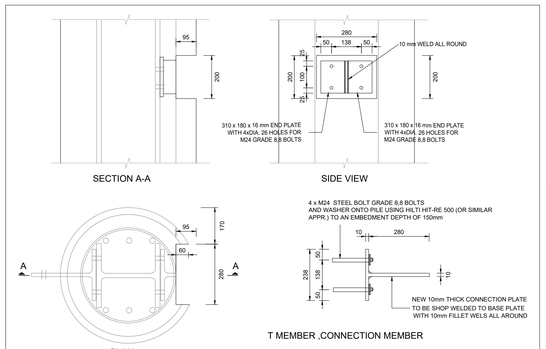
1. All structural steelwork shall comply to SANS 2001: CS1 and SANS 1200 H: 1990
2. All structural steel to be Grade S355JR according to SANS 1431:2007 Ultimate tensile strength 450Mpa, minimum yield stress
3. Unless otherwise noted all welds shall be 6mm fillet welds (full penetration), all round where possible.
4. All structural steel shall be hot-dip galvanised to SANS 121:2000 / ISO 1461
5. All metal surface defects such as laminations and welding spatter shall be removed by grinding and sharp edges, burrs, etc, shall be rounded before galvanising
6. The contractor must ensure adequate structural stability of the structure for the full duration of erection.
7. The contractor must confirm all dimensions on site. Discrepancies must be reported to the Engineer immediately.
8. No holes may be formed/widened with the use of a cutting torch.
9. All painting to be done to Portnet's specification HE/9/2/B and the manufacturer's instructions. Architect/owner to to verify colour.
10. Gritblasting to be in accordance with SANS 10064 grade SA 2.5.
11. All steel is to be thoroughly cleaned down in accordance with SANS code of practice 10064 of all rust, scale, oil or grease.
12. All bolts to Class 8.8 hot-dip galvanised.
13. The contractor is responsible for preparing shop details. Contractor to supply shop drawings to engineer fo approval before commencing with fabrication. the contractor shall satisfy himself that the engineer's drawings contain all the information required for the preparation of shop details as soon as possible. Two copies of the shop details together with supporting calculations shall be submitted to the engineer for approval at least one month prior to fabrication.



Disconnect Beam 1.
Break out approximately 70 mm of the surrounding concrete.
Cut and remove the existing welded base plate and trim as required.
Install a new base plate using steel bolts and chemical anchors.
Reinstate the removed concrete section by recasting with structural concrete or an approved repair mortar.



PROPOSED NEW CONNECTION
ONLY IF THE CONNECTION IS DAMAGED OR BROKEN
1:25



T MEMBER ,CONNECTION MEMBER

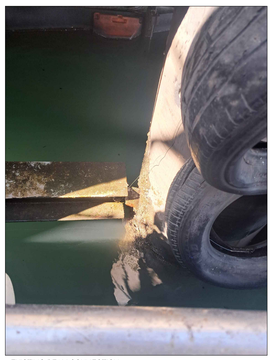
DETAIL A
1:10

MEMBER & SIZE	REFERENCE DRAWING	TOTAL NO	RECOMMENDATION /ACTION
CB1	CONCRETE DECK PROPOSAL PROSED STEEL LAYOUT PLANS AND FRONT ELEVATION -1233-03-01	52	REPLACE (RUSTED CONDITION)
BM4	CONCRETE DECK PROPOSAL PROSED STEEL LAYOUT PLANS AND FRONT ELEVATION -1233-03-01	TBC	Inspect all members and either refurbish for reuse or replace. Approximately 7 units are anticipated to require replacement.
TIMBER	CONCRETE DECK PROPOSAL - SECTION AND DETAILS -1233-05-01 CONCRETE DECK PROPOSAL - CONNECTION DETAILS -1233-09-01	52	Reuse serviceable timber rubbing blocks (150x225) where condition permits; replace damaged or deteriorated units.
D- FENDER	CONCRETE DECK PROPOSAL - CONNECTION DETAILS -1233-09-01	52	Supply and install new 150 × 180 mm rubber D-fenders.
ANGLE CLEATS	CONCRETE DECK PROPOSAL - SECTION AND DETAILS -1233-09-01	17	Fabricate and weld new cleats to CB1 members and secure to BM4 in accordance with the approved detail drawings.

NB1: All timber rubbing blocks and rubber fenders shall be installed in accordance with Drawing No. 1233-09-01 – Concrete Deck Proposal, Section and Details.

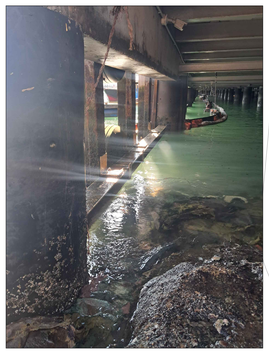
NB2: The bottom tyre fender fixing arrangement shall be installed in accordance with Drawing No. 1233-09-01 – Concrete Deck Proposal, Section and Details.

NB3: The top tyre fender fixing arrangement shall be designed and installed to match the the Old Don Pedro Section.

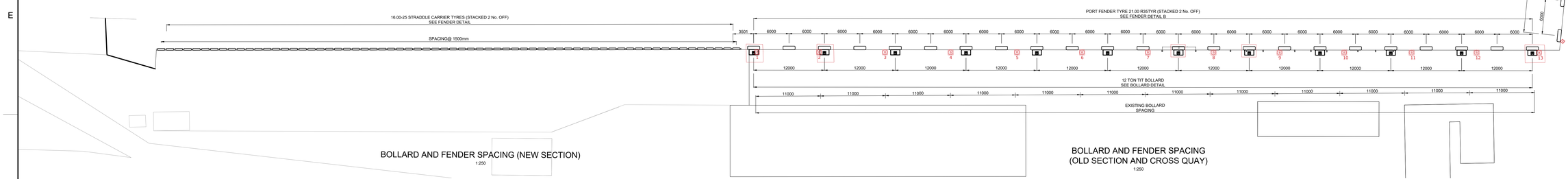


EXISTING BEAM CONNECTION

FRONT VIEW CONDITION



BACK VIEW CONDITION



BOLLARD AND FENDER SPACING (NEW SECTION)
1:250

BOLLARD AND FENDER SPACING
(OLD SECTION AND CROSS QUAY)
1:250

DRAWING NO.	REFERENCE
1233-09-01	CONCRETE DECK PROPOSAL CONNECTION DETAILS AND SECTIONS
1233-09-03	CONCRETE DECK PROPOSAL : PROPOSED STEEL LAYOUT PLANS & FRONT ELEVATION
1233-09-05	CONCRETE DECK PROPOSAL : SECTIONS AND DETAILS
1233-09-09	CONCRETE DECK PROPOSAL : SECTIONS AND DETAILS

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NO.	DESCRIPTION	BY	CHKD	APPD	DATE
01	ISSUED FOR TENDER	SE	ML	ML	17-03-2025

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OPERATING DIVISIONS			
TITLE	NAME	SIGN	DATE

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TITLE	NAME	SIGN	DATE
DRAWN	EM		03 09 26
CHECKED	ML		03 09 26
DESIGNED	EM		18 06 24
CHECKED	ML		18 06 24
PR.ENG. / PR TECH./PR. ARCH			
NAME	M LEE		DATE
SIGNATURE			02 09 26
REG. NUMBER	201270051		
SCALE :	NOTED		

Transnet National Ports Authority
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DURBAN
P.O. BOX 1073, DURBAN
TEL: 031 361 1696
FAX: 0866 770815

PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

NEW SECTION

FENDER DETAILS

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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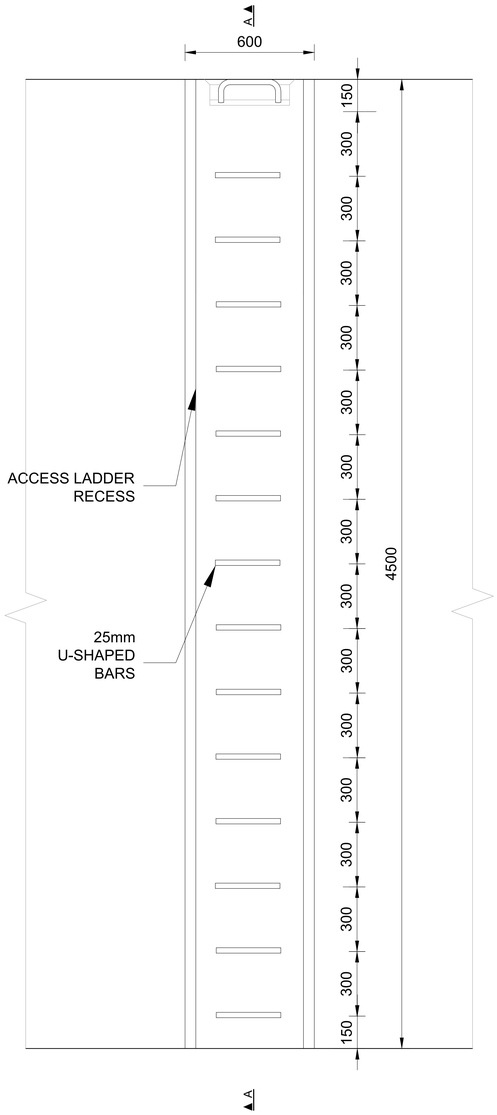
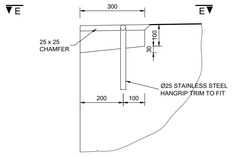
A0



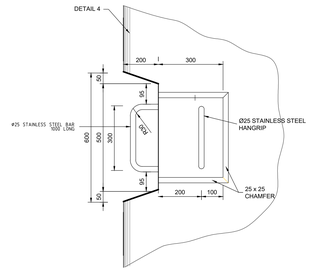
ELEVATION

SCALE 1:10



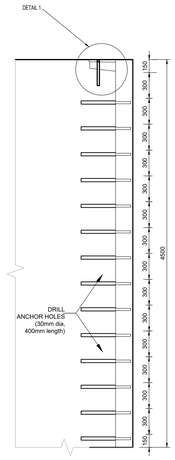
DETAIL 1

SCALE 1:10



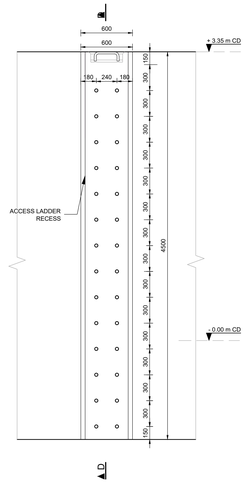
PLAN E-E(CROSS QUAY)

SCALE 1:10



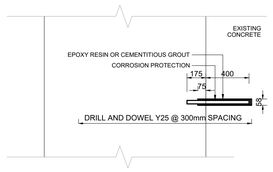
FENDER PANEL SECTION A-A

SCALE 1:25



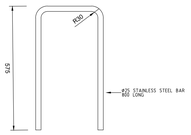
FRONT LADDER ANCHOR HOLES

SCALE 1:25



TYPICAL ANCHOR BAR

1:20



STAINLESS STEEL HANDGRIP (45 OFF(15 PER LADDER))

SCALE 1:10

STAINLESS STEEL NOTES:

1. ALL STEEL TO BE GRADE 316L STAINLESS STEEL.
2. ALL WELDING FILLER MATERIAL TO BE GRADE 316L STAINLESS STEEL.
3. ALL ROUGH SURFACES/FINISHES, SURFACE DAMAGE AND WELD SPATTER TO BE GROUND DOWN, BUFFED, PICKLED AND PASSIVATED.
4. ALL WELDS ARE TO BE 5mm CONTINUOUS FILLET WELDS U.N.O.
5. ALL WELDERS MUST BE SUITABLY QUALIFIED TO WELD STAINLESS STEEL.
6. ALL CORNERS TO HAVE A MINIMUM RADIUS OF 3mm.
7. S/S MUST BE CLEAN AT ALL TIMES DURING THE WELDING PROCESS TO PREVENT CARBON CONTAMINATION.
8. HIGH QUALITY WORKING STANDARDS REQUIRED WHEN WORKING WITH S/S MUST BE ADHERED TO AT ALL TIMES.
9. WELD PREPARATION SURFACES ARE TO BE SMOOTH AND FREE FROM TEARS, CRACKS AND NICKS.
10. ALL WELDS SHALL COMPLY WITH BS 5135.

DRAWING NO.	REFERENCE
-	-

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NO.	DESCRIPTION	BY	CHKD	APPD	DATE
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CHECKED	ML		12 07 23
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NAME	M.LETSIE		DATE
SIGNATURE			14 07 23
REG. NUMBER	201010051		
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FAX: 086 677 0815

PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

CROSS QUAY

LADDER DETAILS(3 NO OFF)

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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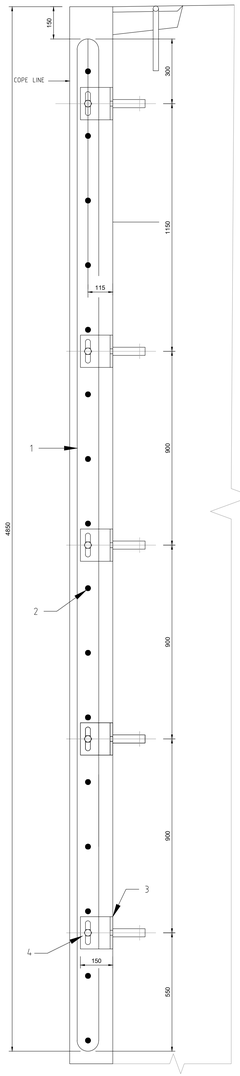
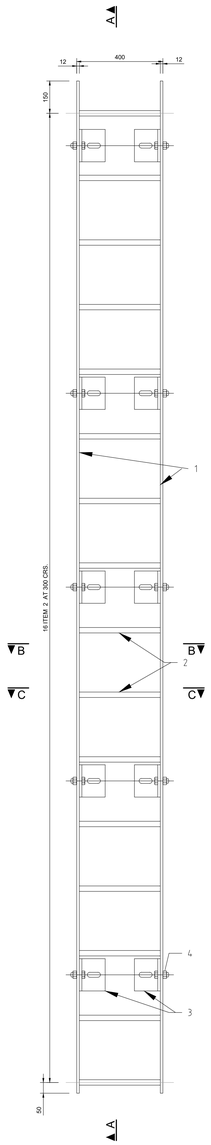


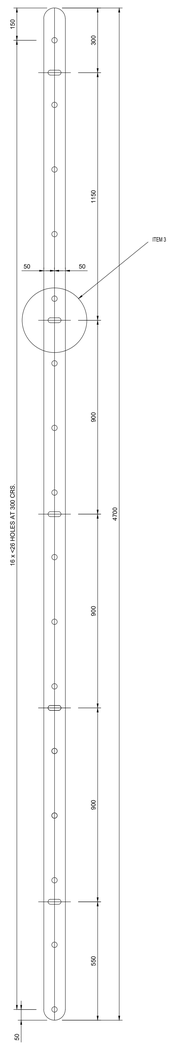
SECTION D-D

SCALE 1:10



ELEVATION

SCALE 1:10



ITEM 1

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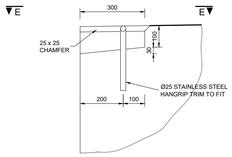

DETAIL 1

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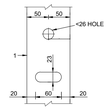
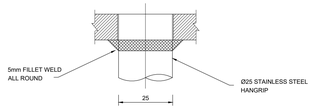


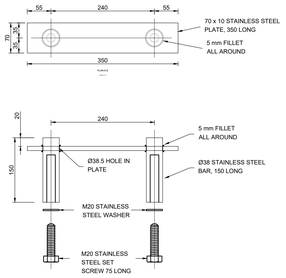
DETAIL 3

SCALE 1:5



ITEM 2

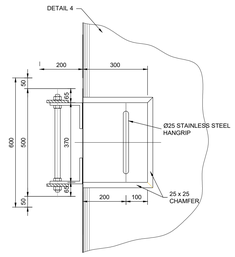
SCALE 1:1



PLAN

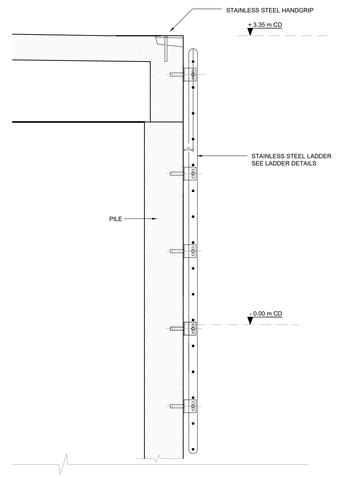
SCALE 1:5

STAINLESS STEEL ANCHOR PLUG (30 OFF)



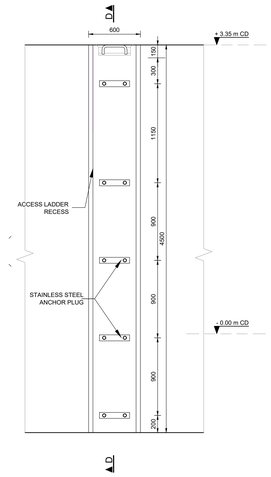
PLAN E-E(NEW SECTION AND OLD SECTION)

SCALE 1:10



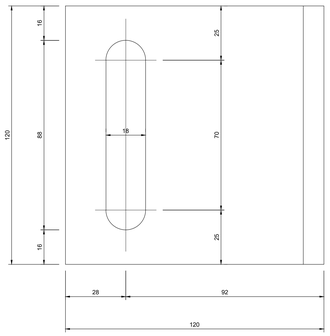
LADDER CROSS SECTION (NEW SECTION)

1 : 10

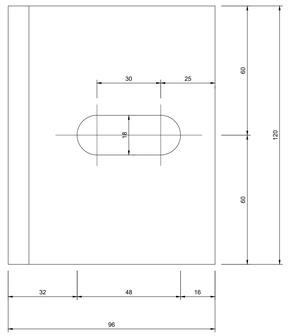


FRONT LADDER ELEVATION

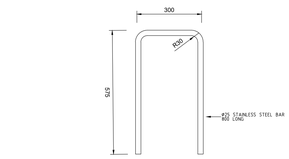
SCALE 1:25



SIDE VIEW

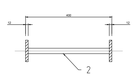


ELEVATION



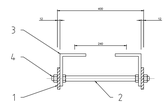
Ø25 STAINLESS STEEL HANDGRIP (7 OFF)

SCALE 1:10



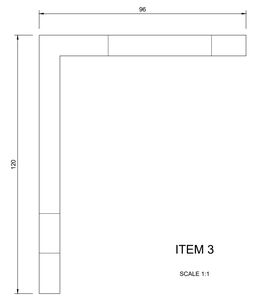
SECTION B-B

SCALE 1:10



SECTION C-C

SCALE 1:10



ITEM 3

SCALE 1:1

PLAN

QUANTITIES - STAINLESS STEEL ANCHOR PLUG

DESCRIPTION	No OFF	
	PER RECESS	TOTAL
STAINLESS STEEL ANCHOR PLUG	10	30
M20 STAINLESS STEEL WASHER	10	30
M20 STAINLESS STEEL SET SCREW, 75 LONG	10	30

STAINLESS STEEL NOTES:

1. ALL STEEL TO BE GRADE 316L STAINLESS STEEL.
2. ALL WELDING FILLER MATERIAL TO BE GRADE 316L STAINLESS STEEL.
3. ALL ROUGH SURFACES/FINISHES, SURFACE DAMAGE AND WELD SPATTER TO BE GROUND DOWN, BUFFED, PICKLED AND PASSIVATED.
4. ALL WELDS ARE TO BE 5mm CONTINUOUS FILLET WELDS U.N.O.
5. ALL WELDERS MUST BE SUITABLY QUALIFIED TO WELD STAINLESS STEEL.
6. ALL CORNERS TO HAVE A MINIMUM RADIUS OF 3mm.
7. S/S MUST BE CLEAN AT ALL TIMES DURING THE WELDING PROCESS TO PREVENT CARBON CONTAMINATION.
8. HIGH QUALITY WORKING STANDARDS REQUIRED WHEN WORKING WITH S/S MUST BE ADHERED TO AT ALL TIMES.
9. WELD PREPARATION SURFACES ARE TO BE SMOOTH AND FREE FROM TEARS, CRACKS AND NICKS.
10. ALL WELDS SHALL COMPLY WITH BS 5135.

DRAWING NO.	REFERENCE

REFERENCE DRAWINGS

General

This drawing to be read in conjunction with all relevant architects and engineers drawings.

Dimensions must not be scaled or assumed. After notification, discrepancies or missing dimensions will be corrected in writing by the engineer.

Levels shown to foundations are provisional and will be finalised by the engineer on site.

Foundations have been designed for a permissible bearing pressure of 100 KN/m²

Reinforcement shall comply with SANS 920 and be bent to SANS 282.

Symbols :
R = Mild steel bars with characteristic strength of 250 MPa.
Y = Hot rolled or cold worked high yield steel bars with characteristic strength of 450 MPa.
(Only reinforcement fabricated under the SANS mark shall be deemed to comply with SANS requirements).

Concrete (where applicable the following shall apply)

All concrete work shall conform with the latest amended issue of :
SANS 1200 : Standard Specification for concrete and
SANS 0100 : The structural use of concrete.

A set of six cubes must be made for every fifty cubic meter (or portion thereof) of concrete poured on a specific day, 3 of the cubes must be tested at seven days, and the balance must be available for testing at 28 days.
The test results are to be submitted to the engineers immediately and should any problems be anticipated no shuttering is to be stripped until further notice from the engineer.

All concrete shall be vibrated according to specification. All concrete must be cured continuously for seven days after pouring and effectively protected against dehydration.

Shuttering and propping may only be struck after thelapse of the following times:
(Ordinary Portland Cement in normal weather conditions)

Position of Shuttering Props	Striking Time Days
Beam side walls & unloaded columns	2
Slab soffits without removal of slab props	4
Beam soffits without removal of props	7
Props unloaded slabs	10
Props unloaded beams	14

Beams and slabs must be poured with the following cambers.

Beam or Slab Element	Camber
Cantilever beams and slabs	Span/150
Other beams and slabs	Span/400

Concrete strengths are specified in terms of clauses in SANS 1200.
For the various elements they are as follows

Structural Element	Concrete Grade
Blinding	15
Bases/footings	30
Beams / Slabs	30
Walls	30
Columns	30

The structure has been designed for the following imposed floor loads:

Structure	Loading(kN/m²)
Live Load	XXX

Concrete cover to reinforcement (in mm) - Unless Otherwise Specified

Bases/footings	- 50	Strap beams	- 50
Pilecap (top and sides)	- 50	Columns	- 50
Pilecap (bottom)	- 75	Beams	- 50
Ground beams	- 50	Slab (top slab)	- 50
Retaining walls (earth face)	- 50	Slab (bottom slab)	- 50

NO.	DESCRIPTION	BY	CHKD	APPD	DATE
0A	ISSUED FOR TENDER	EM	ML	ML	2023-07-14

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TITLE	NAME	SIGN	DATE
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TRANSNET NATIONAL PORT AUTHORITY

TITLE	NAME	SIGN	DATE
DRAWN	EM		14 07 23
CHECKED	EM		14 07 23
DESIGNED	ML		12 07 23
CHECKED	ML		12 07 23
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PR.ENG. / PR.TECH./PR. ARCH

NAME	M.LETSE	DATE
SIGNATURE		14 07 23
REG. NUMBER	201270051	
SCALE :	NOTED	A0

Transnet National Port Authority TRANSNET LTD
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337 MAHATMA GANDHI ROAD
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BOX 21683, DURBAN
TEL. 031 361 1696
FAX: 086 677 0818

TRANSNET

PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

NEW SECTION AND OLD SECTION

LADDER DETAILS(7 NO OFF)

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
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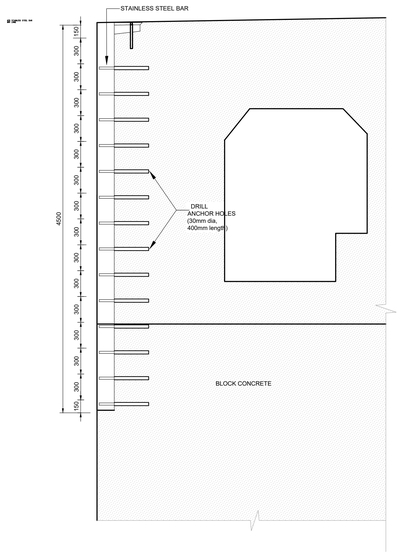
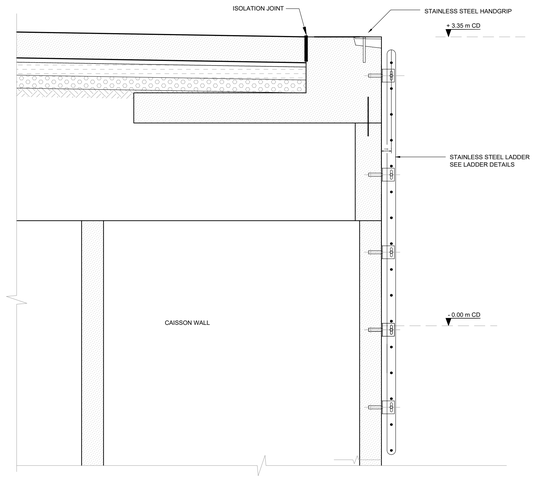


LADDER CROSS SECTION (CROSS QUAY SECTION)
1 : 10



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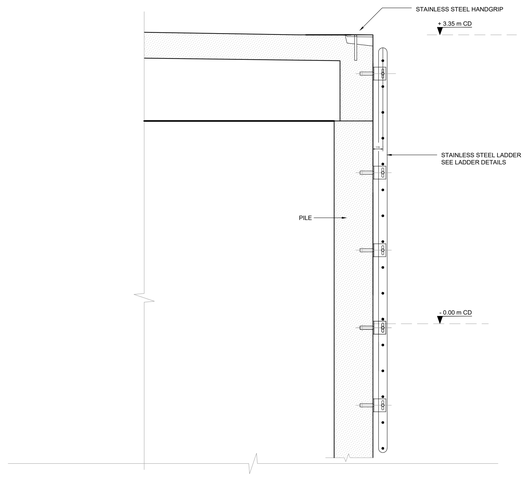

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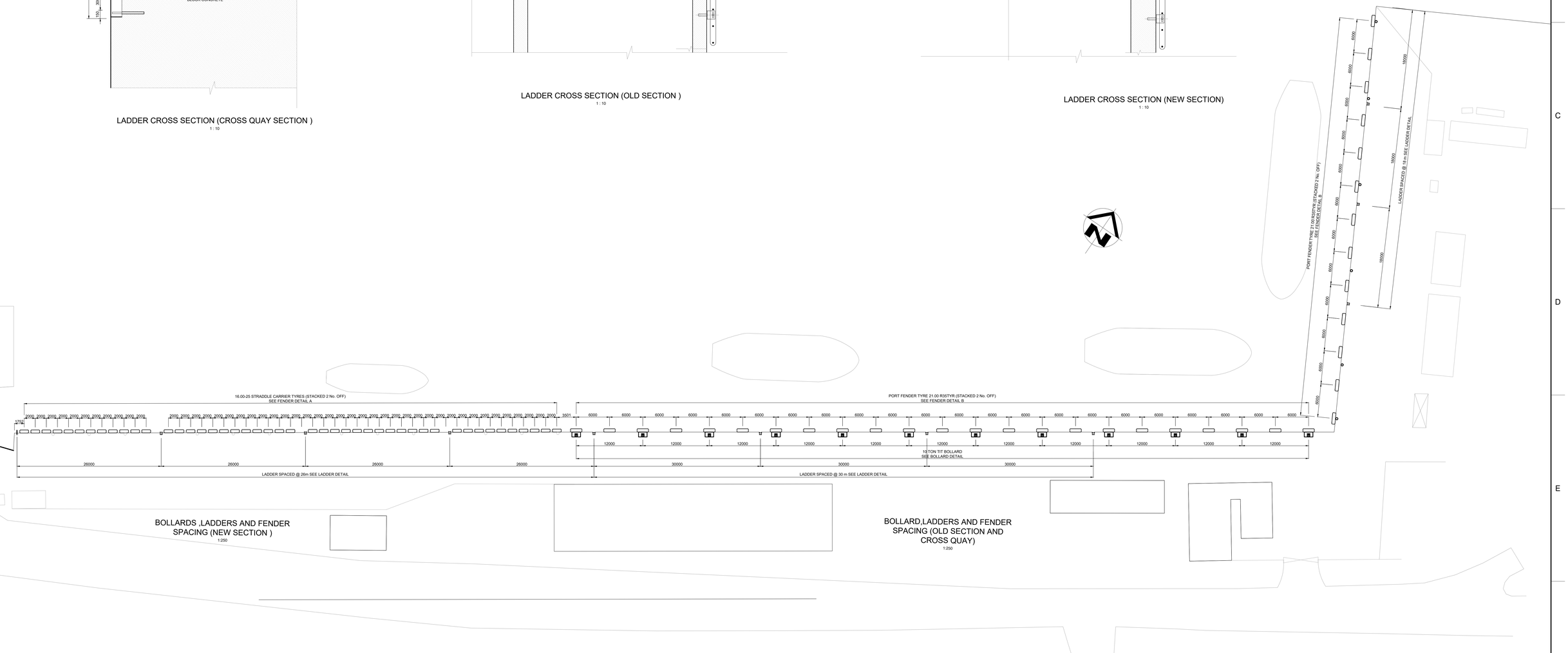

BOLLARDS ,LADDERS AND FENDER SPACING (NEW SECTION)
1:250

BOLLARD,LADDERS AND FENDER SPACING (OLD SECTION AND CROSS QUAY)
1:250

DRAWING NO.	REFERENCE

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SCALE :	NOTED	A0

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207 MAHATMA GANDHI ROAD
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BOX 31683, DURBAN
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PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

NEW SECTION, OLD SECTION AND CROSS QUAY

BOLLARD, LADDERS AND FENDER LAYOUT

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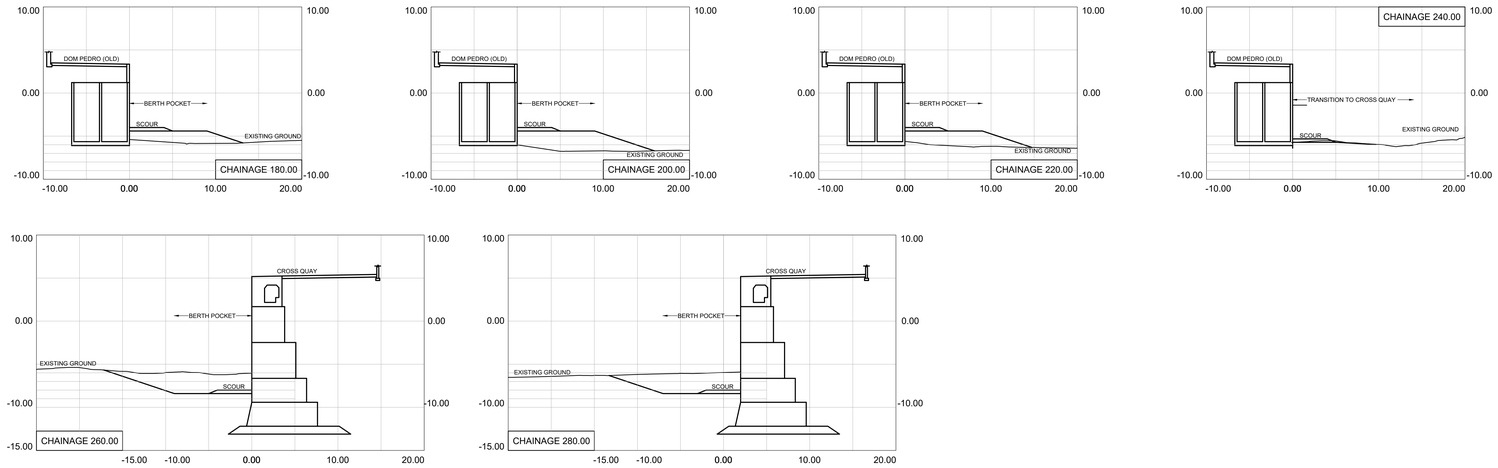
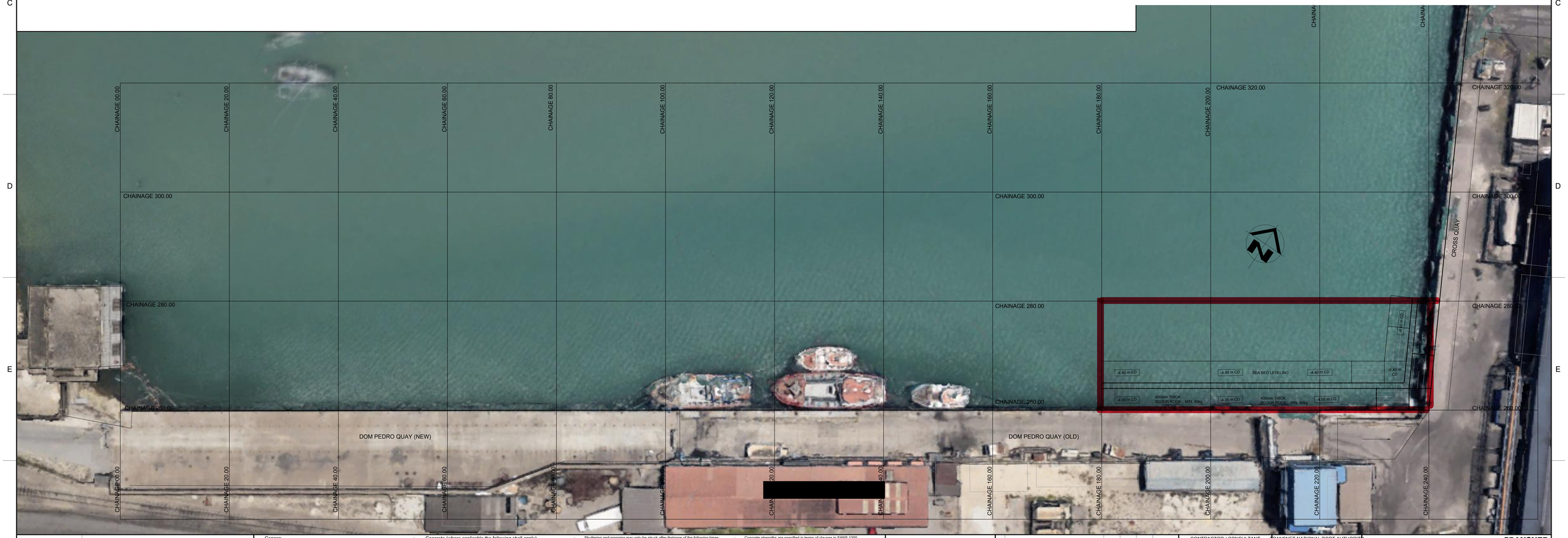


CROSS SECTIONS AT DOM PEDRO QUAY AND CROSS QUAY

1:250



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OPERATING DIVISIONS

TITLE	NAME	SIGN	DATE

TRANSNET NATIONAL PORT AUTHORITY

TITLE	NAME	SIGN	DATE
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CHECKED	EM		13 07 23
DESIGNED	EM		12 07 23
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PR.ENG. / PR.TECH./PR. ARCH

NAME M.LETSE DATE
SIGNATURE 14 07 23
REG. NUMBER 201270051
SCALE : NOTED A0

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FAX 086 677 0815

PORT OF PORT ELIZABETH

DOM PEDRO QUAY REFURBISHMENT

SCOUR PROTECTION

LAYOUT AND SECTIONS

PROJECT NUMBER	OD	FBS	DIS	TYPE	DRAWING NO.	SHEET	REV	ID
XPE0017	1	000	S	LA	0008	01	0A	EM