

# ANNEXURE G

**TRANSNET**



delivering on our commitment *to you*

*national ports  
authority*

**PROJECT NO. 507343**

**CONTRACT NUMBER: TNPA 789**

**DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN**

## **BOOK OF DRAWINGS**

**ISSUED BY:**

**PORT ENGINEER**  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL. 021 449 6173  
FAX. 021 449 6171

**COMPILED BY:**

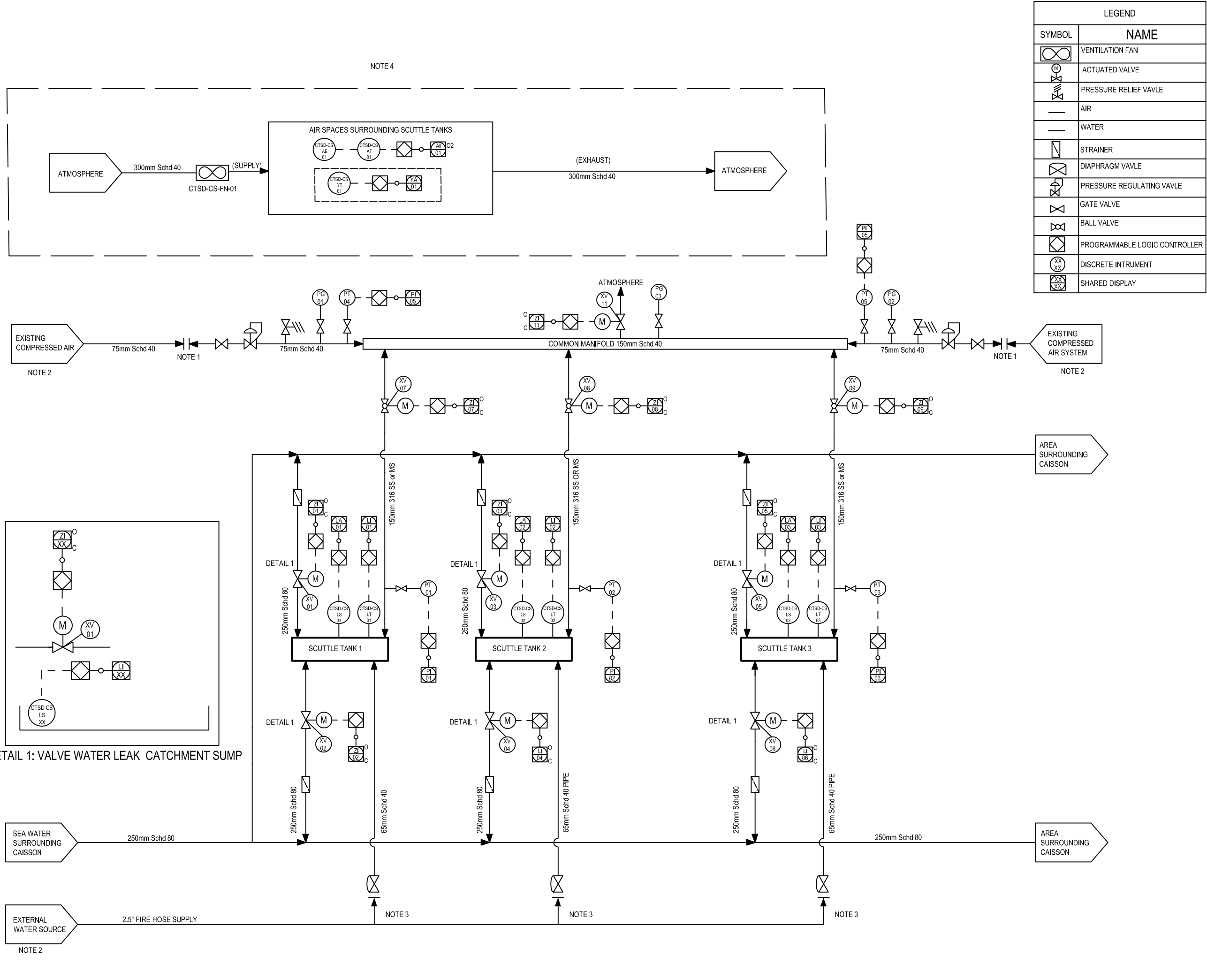
**AURECON SOUTH AFRICA  
(PTY) LTD**  
Aurecon Centre  
1 Century City Drive  
Waterford Precinct  
Century City  
Cape Town  
7441

JUNE 2020

# DRAWING REGISTER

PROJECT NO. 507343 : DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STURROCK DRY DOCK, PORT OF CAPE TOWN

DRAWING No.	DRAWING TITLE	REV No.
<b>MECHANICAL</b>		
507343-0000-DRG-PP-001	OVERALL CAISSON PIPING & INSTRUMENTATION DIAGRAM	T0
<b>ELECTRICAL</b>		
507343-0000-DRG-EE-001	SINGLE LINE DIAGRAM SYMBOL SHEET	T0
507343-0000-DRG-EE-002	SINGLE LINE DIAGRAM	T0
507343-0000-DRG-EE-003	DB-CAISSON GENERAL ARRANGEMENT	T0
507343-0000-DRG-EE-004	LIGHTING LAYOUT	T0
507343-0000-DRG-EE-005	POWER LAYOUT	T0
507343-0000-DRG-EE-006	CABLE ROUTING LAYOUT	T0
<b>ELECTRONIC</b>		
507343-0000-DRG-II-001	CONTROL ARCHITECTURE NETWORK DIAGRAM	T0
507343-0000-DRG-II-002	CONTROL NETWORK LAYOUT DIAGRAM	T0
507343-0000-DRG-II-003	CONTROL CONSOLE GENERAL ARRANGMENT	T0
<b>STRUCTURAL</b>		
507343-0000-DRG-SS-101-1	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-2	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-3	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-4	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-5	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-6	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-7	CAISSON STRUCTURE	D
507343-0000-DRG-SS-101-8	CAISSON STRUCTURE	D
507343-0000-DRG-SS-102	KEEL DETAILS	C
507343-0000-DRG-SS-103	MANHOLE DETAILS	B
507343-0000-DRG-SS-104	DOCKING PLUG	B
507343-0000-DRG-SS-105-1	W.T. DOOR	B
507343-0000-DRG-SS-105-2	W.T. DOOR	B
507343-0000-DRG-SS-106	ROAD DECK HATCH	D
507343-0000-DRG-SS-107	MUSHROOM VENT DETAILS	A
507343-0000-DRG-SS-108-1	DOCKING PLINTH DETAILS	C
507343-0000-DRG-SS-108-2	DOCKING PLINTH DETAILS	B
507343-0000-DRG-SS-109-1	HANDRAIL AND STAIRS	C
507343-0000-DRG-SS-109-2	HANDRAIL AND STAIRS	C
507343-0000-DRG-SS-109-3	PIPING AND VENTILATION DETAILS	C
507343-0000-DRG-SS-109-4	PIPING AND VENTILATION DETAILS	C
507343-0000-DRG-SS-110	FENDER, BOLLARD AND FAIRLEAD DETAILS	A
507343-0000-DRG-SS-111	CABLE DUCT	B
507343-0000-DRG-SS-112	CRAWL BEAM	B
507343-0000-DRG-SS-113	CATHODIC PROTECTION	B
507343-0000-DRG-SS-115	GENERAL ARRANGEMENT	B
507343-0000-DRG-SS-116	SAFETY PLAN	B
507343-0000-DRG-SS-117-1	CUTTING TEMPLATES	B
507343-0000-DRG-SS-117-2	CUTTING TEMPLATES	B
507343-0000-DRG-SS-117-3	CUTTING TEMPLATES	B
507343-0000-DRG-SS-117-4	CUTTING TEMPLATES	B



LEGEND	
SYMBOL	NAME
	VENTILATION FAN
	ACTUATED VALVE
	PRESSURE RELIEF VALVE
	AIR
	WATER
	STRAINER
	DIAPHRAGM VALVE
	PRESSURE REGULATING VALVE
	GATE VALVE
	BALL VALVE
	PROGRAMMABLE LOGIC CONTROLLER
	DISCRETE INSTRUMENT
	SHARED DISPLAY

- NOTES**
- CONNECTION POINTS ON EITHER END OF CAISSON GATE
  - BY TNPA
  - FIRE HOSE CONNECTION AT VALVE
  - THERE ARE 8 DRY AIR SPACES WITH IDENTICAL VENTILATION SYSTEMS, OXYGEN SENSORS AND FIRE DETECTION WITH SEQUENTIAL TAGS
- LIST OF ABBREVIATIONS:
- FS FLOW SWITCH
  - FA FLOW ALARM
  - LS LEVEL SWITCH
  - LT LEVEL TRANSMITTER
  - LI LEVEL INDICATION
  - LG LEVEL GAUGE
  - AE ANALYSER ELEMENT
  - AT ANALYSER TRANSMITTER
  - AI ANALYSER INDICATION
  - PT PRESSURE TRANSMITTER
  - PI PRESSURE INDICATION
  - PG PRESSURE GAUGE
  - XV CONTROL VALVE
  - ZI POSITION INDICATION
  - YF FIRE DETECTION
  - YD SIREN/BEACON

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	28/01/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR REVIEW	E.BIESENBACH

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

**PORT ENGINEER**  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
8000  
TEL. 021 449 6173  
FAX. 021 449 6171



PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
OVERALL CAISSON PIPING & INSTRUMENTATION DIAGRAM

DRAWN	CD.GOLDING	CHECKED	H.RIES
SCALE	N.T.S.	DESIGN	M.LEOTLELA
No.		SHEET 1	
DATE	17/04/2020	FILE REF	
CAD. REF	507343-0000-PP-001	AMENDMENT T0	

SWITCHGEAR AND BUSBARS OF SWITCHBOARD / ASSEMBLIES	CONTROL AND INDICATION DEVICES	POWER CABLES AND CONDUCTORS	PROTECTION RELAYS AND DEVICES	# ANSI
CIRCUIT BREAKER	OPERATED BY A LEVER	CABLE JOINT	FUSE	-
CIRCUIT BREAKER (WITHDRAWABLE)	OPERATED BY A KEY	<u>CONDUCTORS IN A WIREWAY:</u> No. OF PHASE CONDUCTORS	SURGE ARRESTOR	-
No. OF POLES (1/2/3/4) - FOR ALL LV SWITCHGEAR LV CIRCUIT BREAKER SUITABLE FOR ISOLATION • ACB = AIR CIRCUIT BREAKER • MA = MAGNETIC TRIP ONLY • MCCB = MOULDED CASE CIRCUIT BREAKER • MCSD = MOULDED CASE SWITCH DISCONNECTOR	OPERATED BY ELECTROMAGNETIC ACTUATOR	NEUTRAL CONDUCTOR	OVERCURRENT RELAY	50/51
SWITCH - DISCONNECTOR	TEST POINT INDICATOR	PROTECTIVE EARTH CONDUCTOR	ARC	50ARC
SWITCH - DISCONNECTOR & EARTH SWITCH COMBINATION	MAKE CONTACT	CABLE AND EARTH CONTINUITY CONDUCTOR WITH No. OF CORES AND SIZES INDICATED	EARTH FAULT RELAY	50N
SWITCH - DISCONNECTOR - FUSE	BREAK CONTACT		SUSTAINED (TIME DELAY) EARTH FAULT RELAY	51N
SWITCH - DISCONNECTOR & EARTH SWITCH COMBINATION	CHANGE-OVER CONTACT WITH OFF-POSITION IN CENTRE	<b>CURRENT TRANSFORMERS AND VOLTAGE TRANSFORMERS</b>	BUCHHOLZ PROTECTIVE DEVICE (GAS RELAY)	63
SWITCH - DISCONNECTOR - FUSE	FLEETING CONTACT (PASSING MAKE CONTACT) CLOSING MOMENTARILY WHEN ITS OPERATING DEVICE IS ACTUATED OR RELEASED	VOLTAGE TRANSFORMER WITH No. OF PHASES INDICATED (FIXED)	AUTO-RECLOSE DEVICE	79
FUSE SWITCH - DISCONNECTOR	MANUALLY OPERATED SWITCH	VOLTAGE TRANSFORMER WITH No. OF PHASES INDICATED (WITHDRAWABLE)	MOTOR PROTECTION RELAY	-
FUSE - DISCONNECTOR (DROP-OUT FUSES ON OHL)	PUSH-BUTTON SWITCH MAKE CONTACT AND AUTOMATIC RETURN	CURRENT TRANSFORMER / VOLTAGE TRANSFORMER METERING UNIT (USED WITH OHL)	CAPACITOR PROTECTION RELAY	-
DISCONNECTOR	EMERGENCY SWITCH (MUSHROOM HEAD SAFETY FEATURE)	CURRENT TRANSFORMER WITH THREE CORES (i.e. ONE PER PHASE) AND ONE SECONDARY WINDING PER CORE	MASTER TRIP RELAY	86
DISCONNECTOR & EARTH SWITCH COMBINATION	INDICATION LAMP	CURRENT TRANSFORMER WITH THREE CORES AND TWO SECONDARY WINDINGS PER CORE	NER MONITOR	50GS/51GS
CENTER ROTATING DISCONNECTOR	MOTOR OPERATED SWITCH WITH OPEN & CLOSE COILS	SUMMATION CURRENT TRANSFORMER	UNDERCURRENT RELAY	37
EARTHING SWITCH	SCADA / CONTROL DESK		UNDERVOLTAGE RELAY	27
CONTACTOR	REMOTE CONTROL TRIP / CLOSE		DIRECTIONAL OVERCURRENT RELAY	67
CONTACTOR (WITHDRAWABLE)	LOCAL CONTROL		DIRECTIONAL EARTH FAULT RELAY	67N
RESIDUAL CURRENT DEVICE LV SWITCH DISCONNECTOR	EXTENSION CORD CONTROL TRIP / CLOSE (PENDANT CONTROL)		CURRENT DIFFERENTIAL RELAY	87
RESIDUAL CURRENT DEVICE LV CIRCUIT BREAKER	NEON CABLE LIVE INDICATORS		TEST BLOCK	-
<b>***</b> BUSBAR: *** : No. AND RATINGS INDICATED	<b>TRANSFORMERS AND NEUTRAL EARTHING EQUIPMENT</b>	<b>MEASURING INSTRUMENTS</b>	<b>MOTORS, STARTERS AND GENERATORS</b>	
MECHANICAL INTERLOCK	DISTRIBUTION / POWER TRANSFORMER	AMMETER	MOTOR STARTER; XXX INDICATES THE FOLLOWING: DOL : DIRECT ON LINE SS : SOFT STARTER VFC : VARIABLE FREQUENCY CONVERTER R : REACTOR AT : AUTO-TRANSFORMER	
KEY INTERLOCK	EARTHING CONNECTION	AMMETER WITH MAXIMUM DEMAND INDICATION	3 PHASE CAGE INDUCTION MOTOR	
ELECTRICAL INTERLOCK	NEUTRAL EARTHING RESISTOR	VOLT METER	3 PHASE GENERATOR	
	NEUTRAL EARTHING COMPENSATOR OR • NECR : WITH COMBINED NER • NECRT : WITH COMBINED NER AND AUXILIARY TRANSFORMER	VARMETER	<b>POWER FACTOR CORRECTION AND HARMONIC FILTERS</b>	
		RUN-HOUR METER	PFC POWER FACTOR CORRECTION CAPACITOR UNIT / BANK	
		WATT-HOUR METER WITH MAXIMUM DEMAND RECORDER	HARMONIC FILTER WITH ORDER INDICATED	
		SELECTOR SWITCH	PFC POWER FACTOR CONTROLLER	
		AUTO CHANGEOVER CONTROLLER		
		GENERATOR CONTROL UNIT		
		POWER METER		

NOTES	
1.	THESE SYMBOLS ARE BASED ON NRS 002 (2000) WHICH ARE IN LINE WITH IEC 60617.
2.	SYMBOLS MARKED WITH "*" ARE NOT 100% BASED ON NRS 002 DUE TO LACK OF SYMBOLS.
3.	ANSI LEGEND (MARKED WITH "#") INCLUDED FOR CLARITY / EASE OF USE.

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	28/01/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	31/03/20	ISSUED FOR REVIEW	E.BIESENBACH
TO	12/06/20	ISSUED FOR TENDER	E.BIESENBACH

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

**PORT ENGINEER**  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171

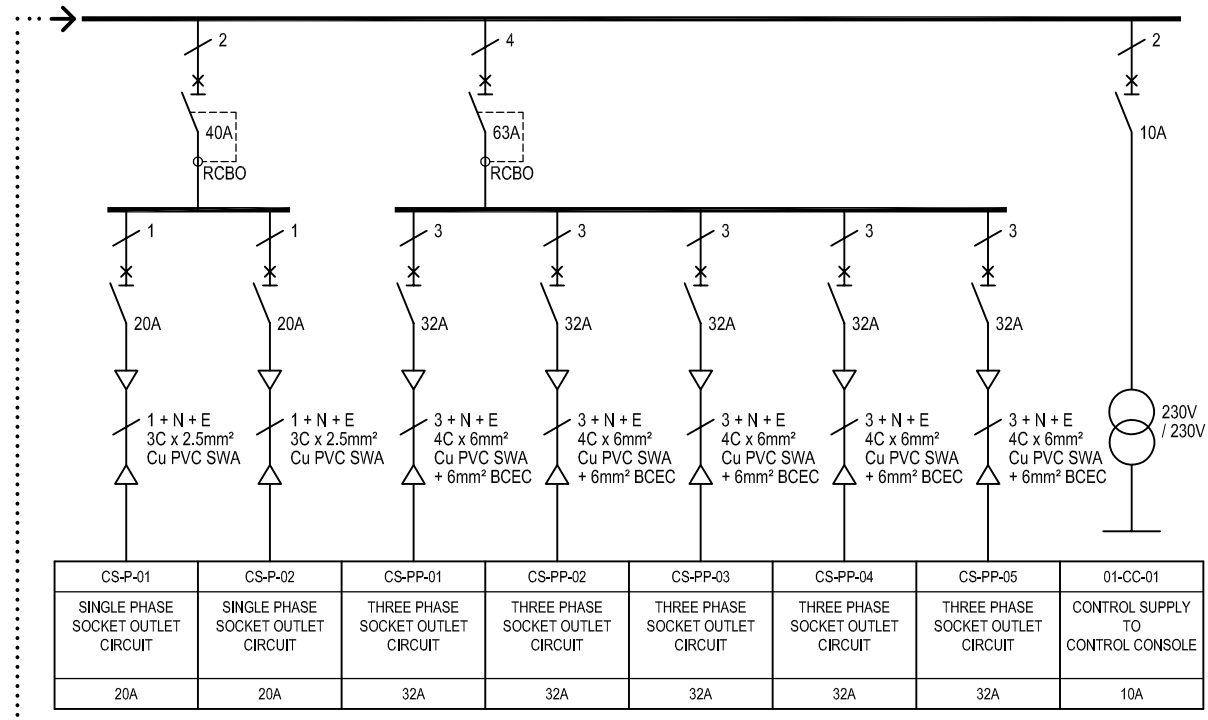
**TRANSNEF**  
national parts authority  
delivering on our commitment to you

PORT OF CAPE TOWN

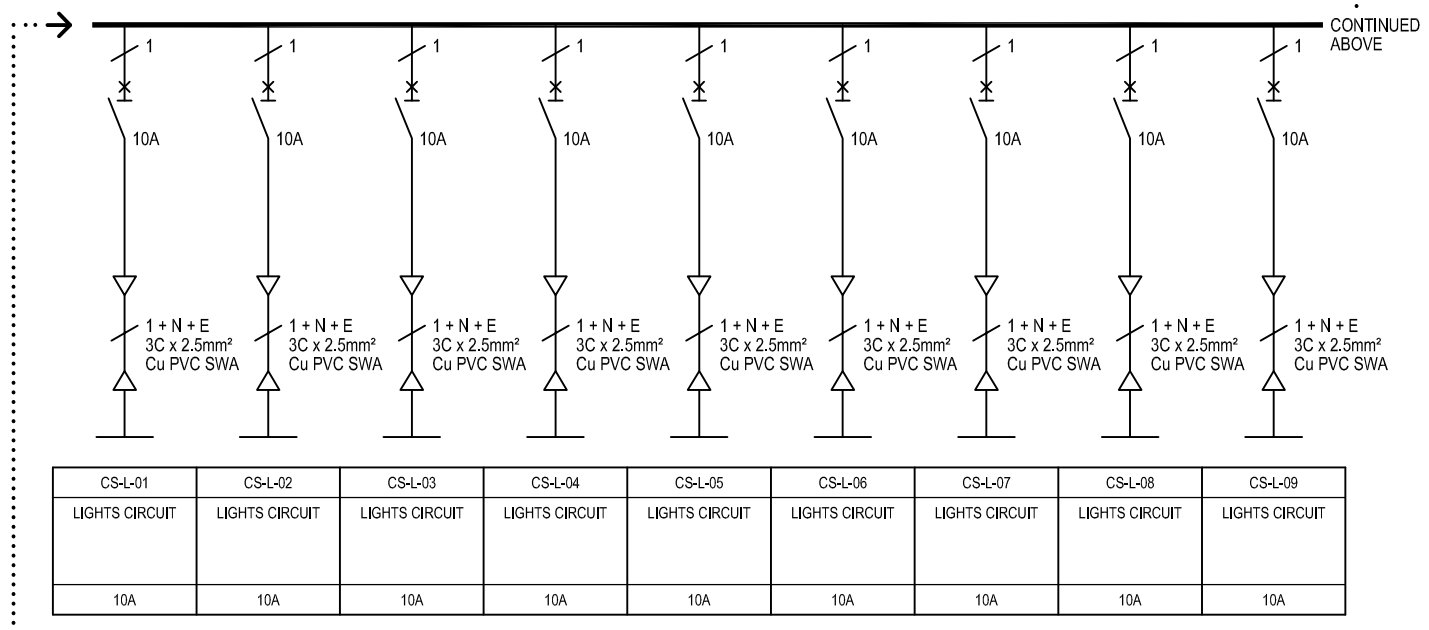
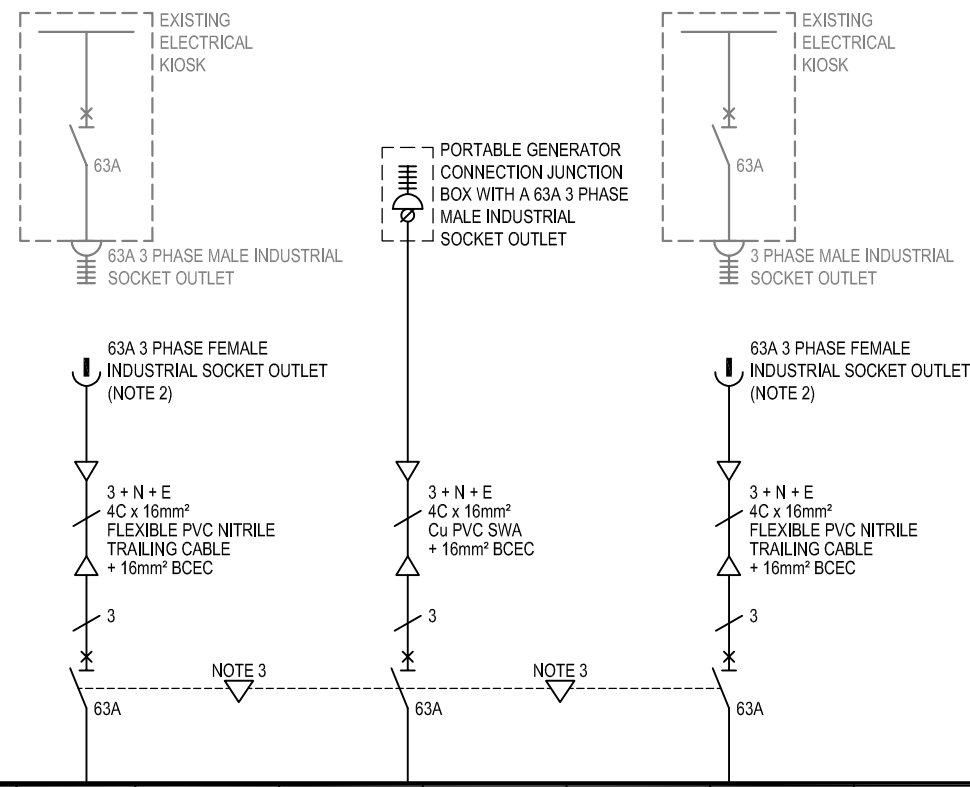
CONTRACT NUMBER: TNPA 789

DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
SINGLE LINE DIAGRAM  
SYMBOL SHEET

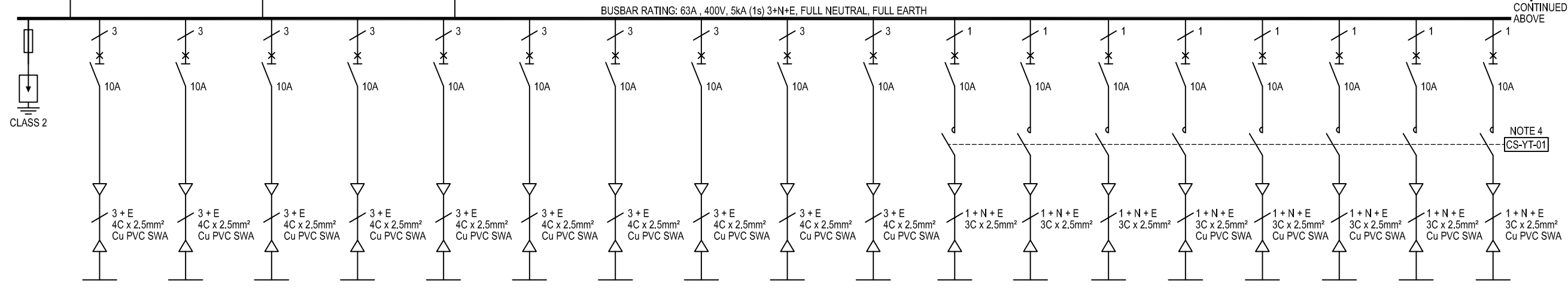
DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTLELA
No.			
DATE	31/03/2020	SHEET	1
CAD. REF	507343-0000-DRG-EE-001	AMENDMENT	TO
FILE REF			



CS-P-01	CS-P-02	CS-PP-01	CS-PP-02	CS-PP-03	CS-PP-04	CS-PP-05	01-CC-01
SINGLE PHASE SOCKET OUTLET CIRCUIT	SINGLE PHASE SOCKET OUTLET CIRCUIT	THREE PHASE SOCKET OUTLET CIRCUIT	THREE PHASE SOCKET OUTLET CIRCUIT	THREE PHASE SOCKET OUTLET CIRCUIT	THREE PHASE SOCKET OUTLET CIRCUIT	THREE PHASE SOCKET OUTLET CIRCUIT	CONTROL SUPPLY TO CONTROL CONSOLE
20A	20A	32A	32A	32A	32A	32A	10A



CS-L-01	CS-L-02	CS-L-03	CS-L-04	CS-L-05	CS-L-06	CS-L-07	CS-L-08	CS-L-09
LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT	LIGHTS CIRCUIT
10A	10A	10A	10A	10A	10A	10A	10A	10A



TAG No.	CS-XV-01	CS-XV-02	CS-XV-03	CS-XV-04	CS-XV-05	CS-XV-06	CS-XV-07	CS-XV-08	CS-XV-09	CS-XV-10	CS-FN-01	CS-FN-02	CS-FN-03	CS-FN-04	CS-FN-05	CS-FN-06	CS-FN-07	CS-FN-08
DESCRIPTION	SCUTTLE TANK 1 INLET / OUTLET MODULATING CONTROL VALVES 1	SCUTTLE TANK 1 INLET / OUTLET MODULATING CONTROL VALVES 2	SCUTTLE TANK 2 INLET / OUTLET MODULATING CONTROL VALVES 1	SCUTTLE TANK 2 INLET / OUTLET MODULATING CONTROL VALVES 2	SCUTTLE TANK 3 INLET / OUTLET MODULATING CONTROL VALVES 1	SCUTTLE TANK 3 INLET / OUTLET MODULATING CONTROL VALVES 2	SCUTTLE TANK 1 AIR INLET / OUTLET ACTUATED VALVES	SCUTTLE TANK 2 AIR INLET / OUTLET ACTUATED VALVES	SCUTTLE TANK 3 AIR INLET / OUTLET ACTUATED VALVES	SCUTTLE TANK 3 AIR INLET / OUTLET ACTUATED VALVES	VENTILATION FAN 1	VENTILATION FAN 2	VENTILATION FAN 3	VENTILATION FAN 4	VENTILATION FAN 5	VENTILATION FAN 6	VENTILATION FAN 7	VENTILATION FAN 8
RATING	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	1.5 kW	0.1 kW	0.1 kW	0.1 kW	0.1 kW	0.1 kW	0.1 kW	0.1 kW	0.1 kW

**LEGEND**

— EXISTING

— NEW

**NOTES**

- REFER TO DRAWING 507343-0000-DRG-EE-001 FOR SYMBOL SHEET.
- NEW 3 PHASE INDUSTRIAL FEMALE SOCKET OUTLETS TO BE COMPATIBLE TO EXISTING 3 PHASE INDUSTRIAL MALE SOCKET OUTLETS.
- MECHANICALLY INTERLOCKED TO USE ONE INCOMER AT A TIME.
- SMOKE AND FIRE DETECTION ALARM SYSTEM TO AUTOMATICALLY SWITCH THE VENTILATION FANS OFF WHEN SMOKE OR FIRE IS DETECTED.

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	28/01/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

**PORT ENGINEER**  
 ROOM 705  
 NPA HOUSE  
 PORT OF CAPE TOWN  
 P.O. BOX 4245  
 8000  
 TEL: 021 449 6173  
 FAX: 021 449 6171



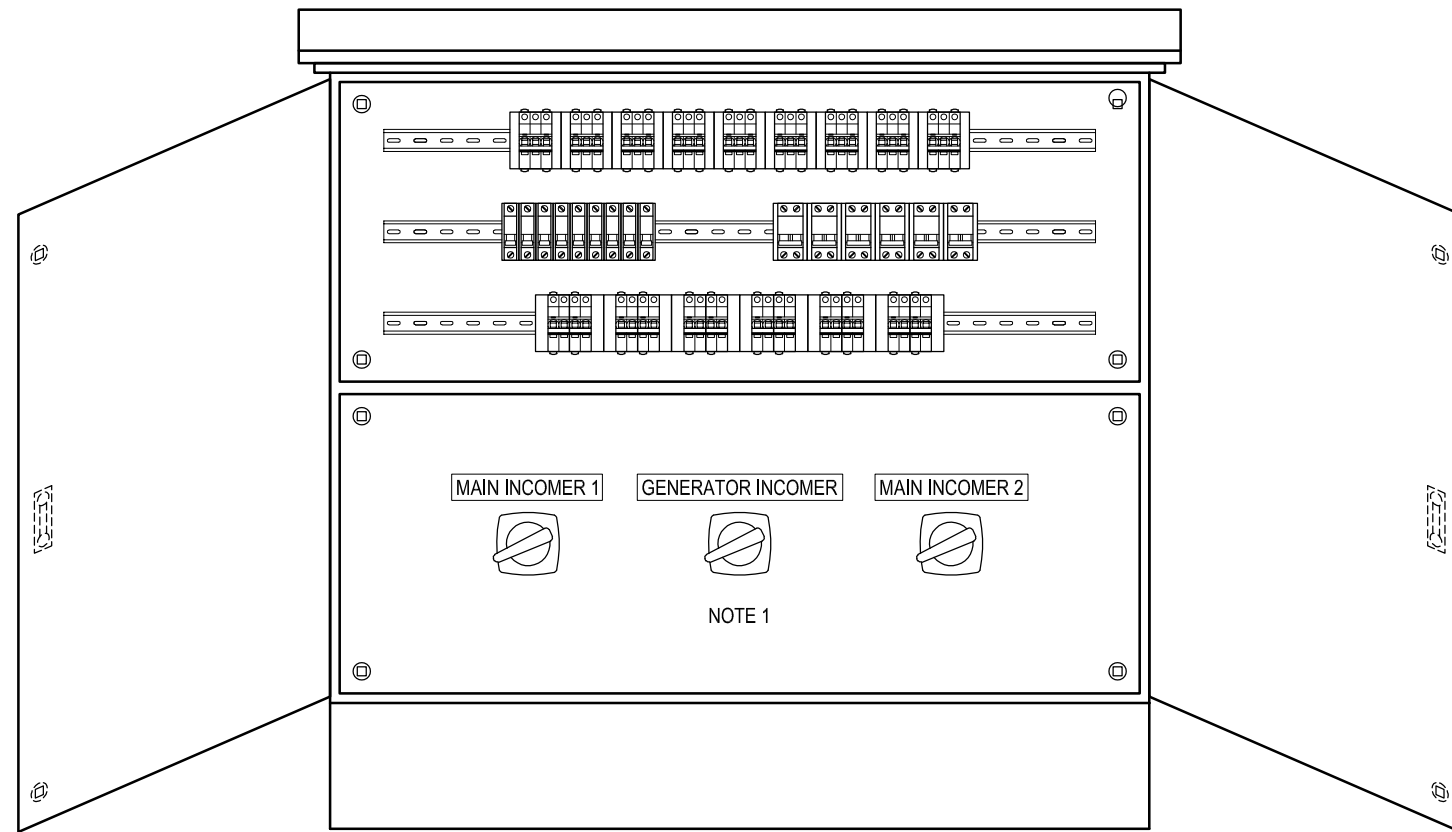
PORT OF CAPE TOWN

CONTRACT NUMBER: TNPA 789

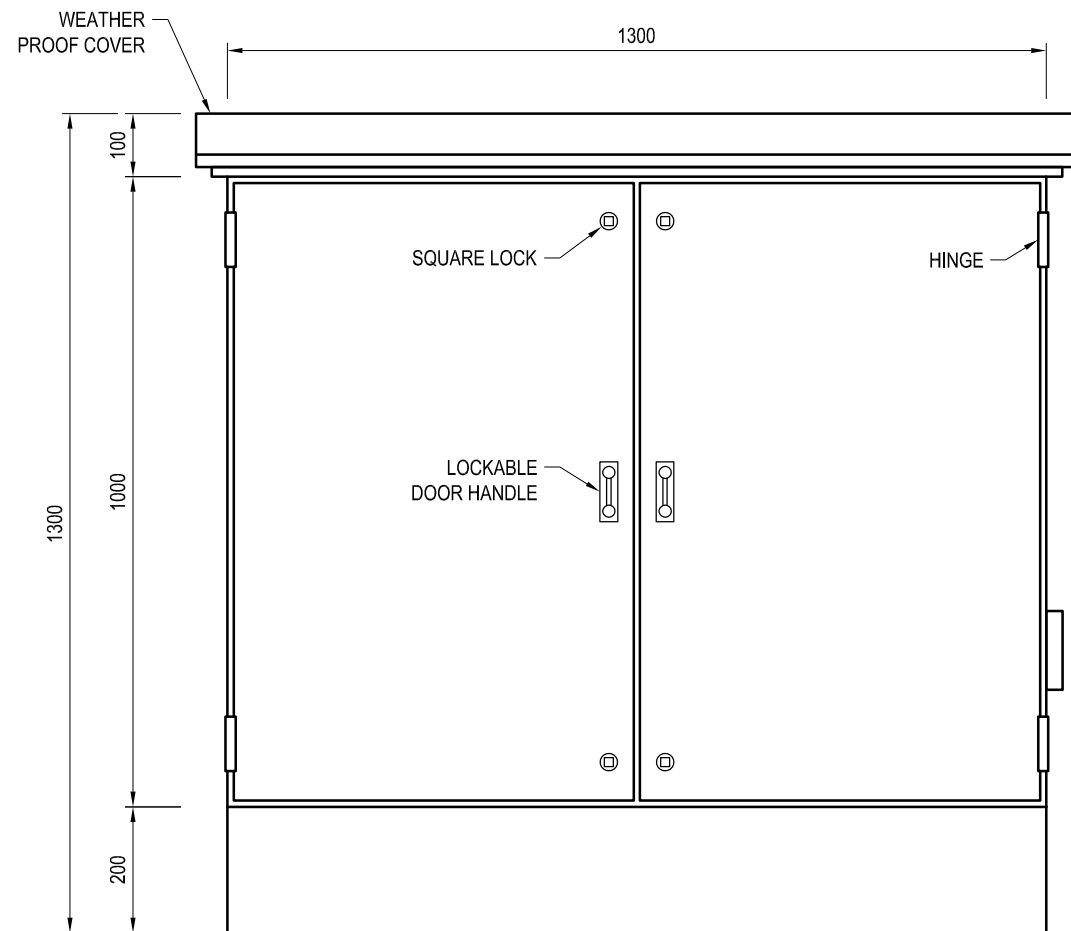
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STURROCK DRY DOCK, PORT OF CAPE TOWN

SINGLE LINE DIAGRAM

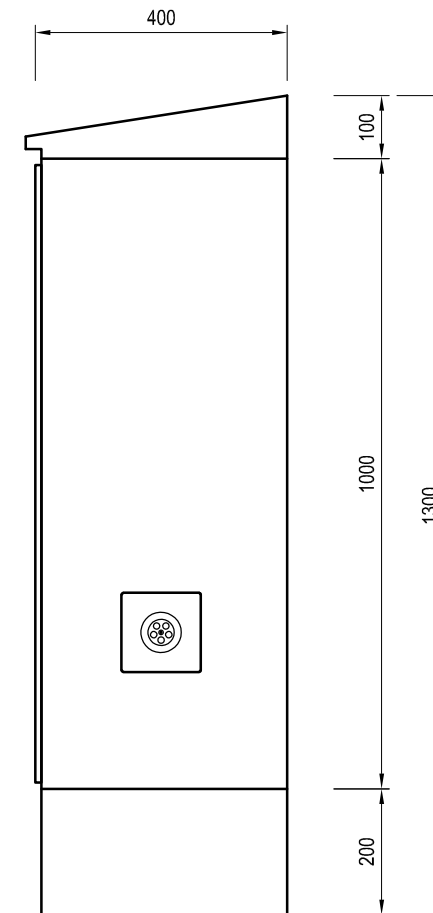
DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTELA
No.			
DATE	31/03/2020	SHEET	1
CAD. REF	507343-0000-DRG-EE-002	AMENDMENT	TO
FILE REF			



FRONT VIEW - FLOOR STANDING DB  
WITH OUTER DOORS OPEN  
N.T.S.



FRONT VIEW - FLOOR STANDING DB  
WITH OUTER DOORS CLOSED  
N.T.S.



SIDE VIEW  
FLOOR STANDING DB  
N.T.S.

NOTES

- MECHANICALLY INTERLOCKED CIRCUIT BREAKERS SUCH THAT ONLY 1 CIRCUIT BREAKER IS ON AT A TIME, BUT ALL 3 CIRCUIT BREAKERS CAN BE OFF AT A TIME.

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	14/02/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL. 021 449 6173  
FAX. 021 449 6171

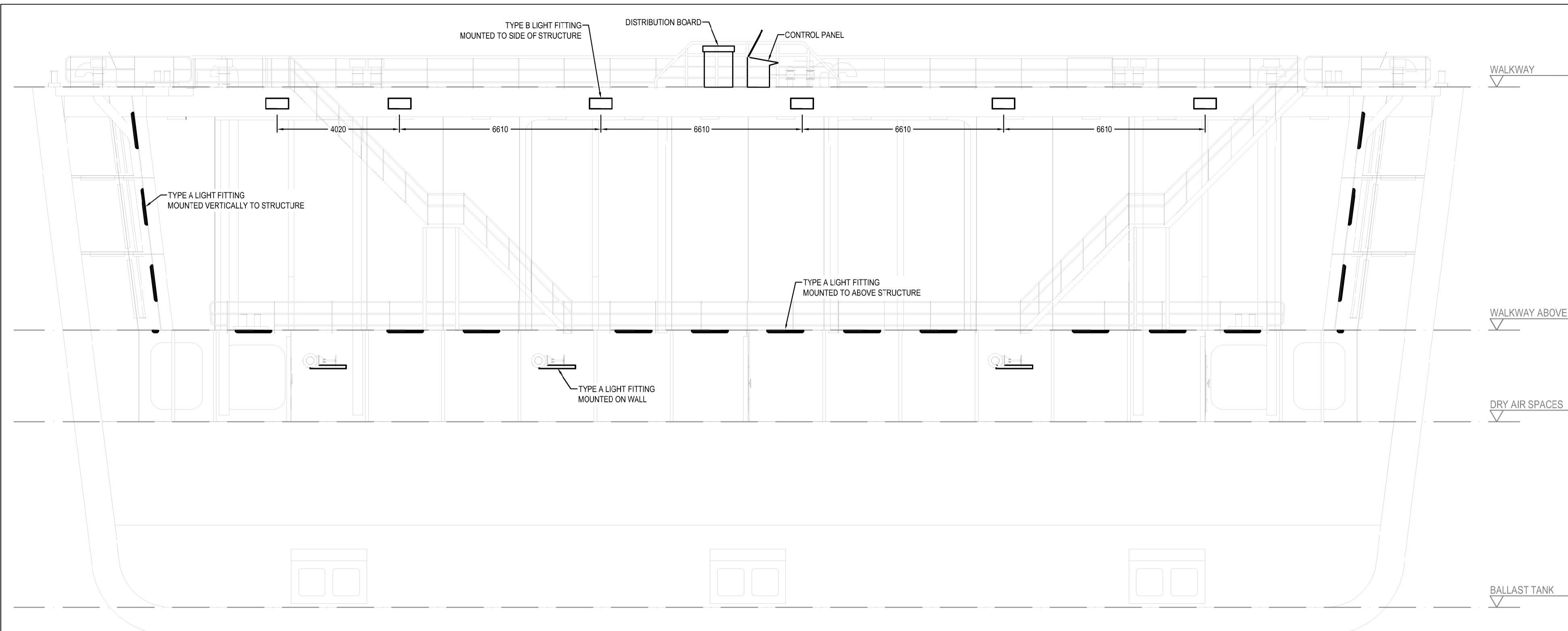


PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
DB-CAISSON  
GENERAL ARRANGEMENT

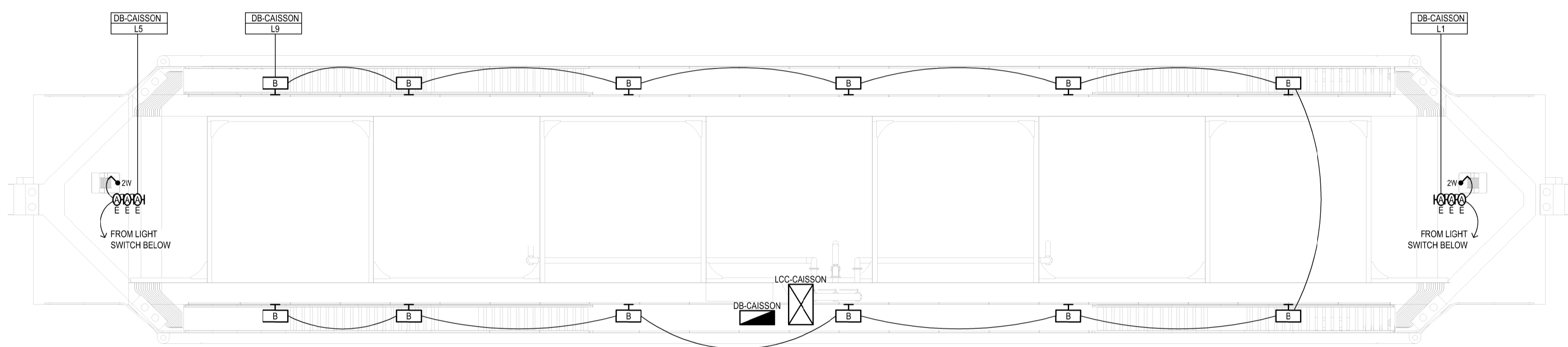
DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTLELA

No.	
DATE	31/03/2020
CAD. REF	507343-0000-DRG-EE-003
FILE REF	

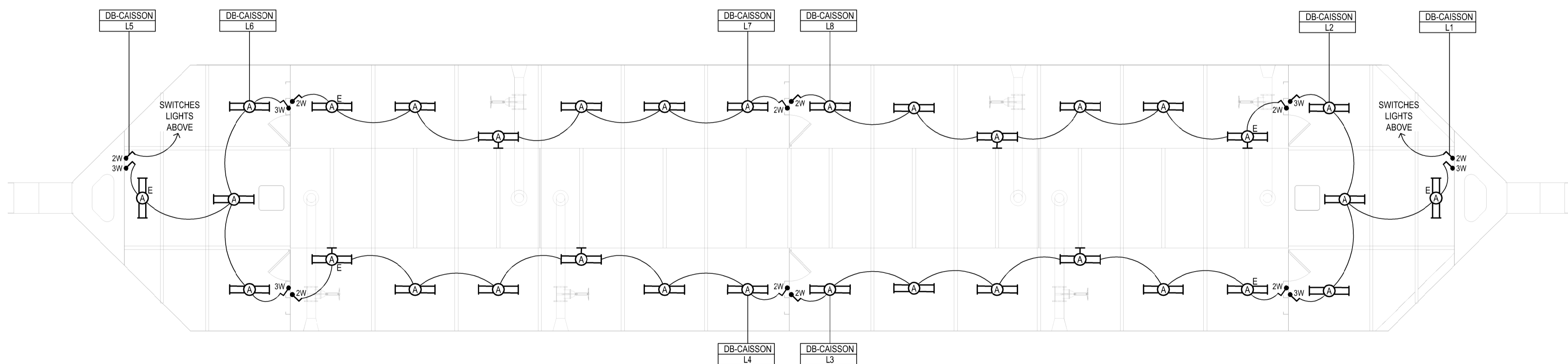
SHEET 1	
AMENDMENT	T0



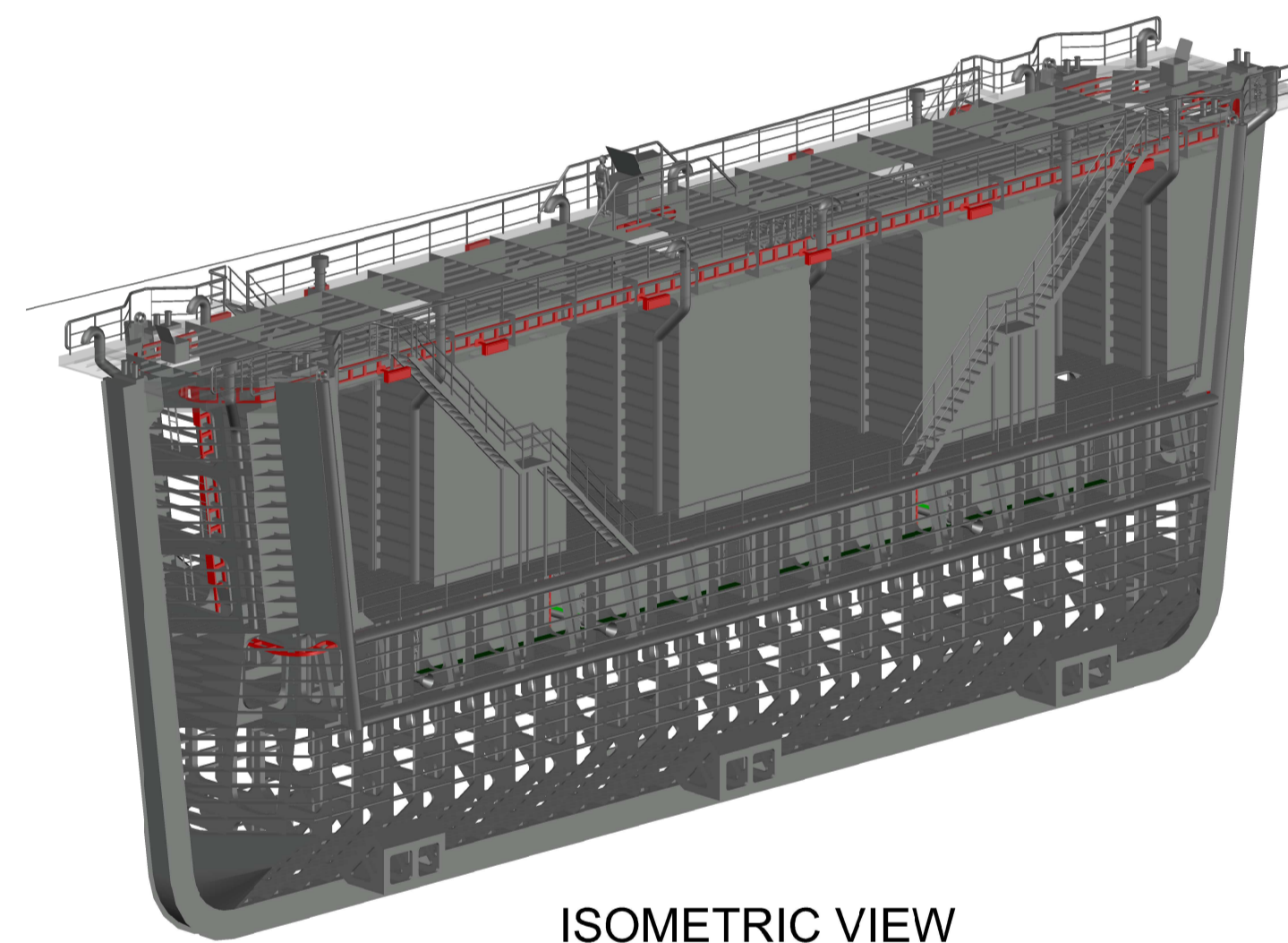
SECTION VIEW  
1:100



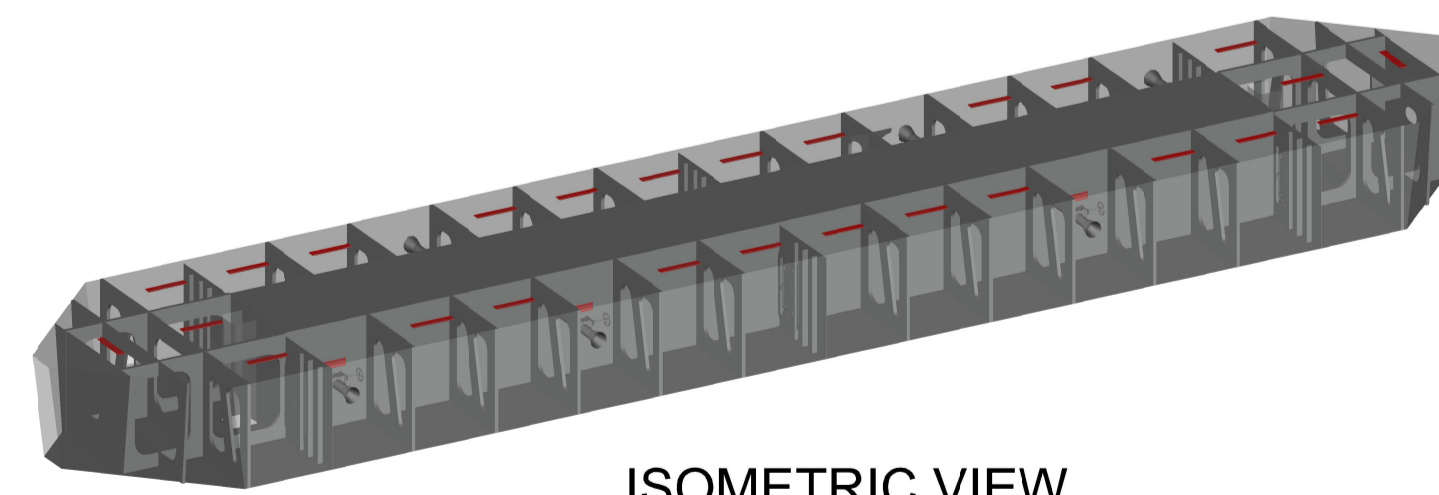
WALKWAY FLOOR PLAN  
1:100



DRY AIR SPACES FLOOR PLAN  
1:100



ISOMETRIC VIEW  
N.T.S.



ISOMETRIC VIEW  
OF DRY AIR SPACES  
N.T.S.

**LEGEND**

- TYPE A - IP66 RATED, 41W LED VAPOUR PROOF LIGHT FITTING MOUNTED TO SURFACE ABOVE
- TYPE A - IP66 RATED, 41W LED VAPOUR PROOF LIGHT FITTING MOUNTED TO SIDE OF WALL / STRUCTURE (AT A HORIZONTAL ANGLE)
- TYPE A - IP66 RATED, 41W LED VAPOUR PROOF LIGHT FITTING MOUNTED TO SIDE OF WALL / STRUCTURE (AT A VERTICAL ANGLE)
- TYPE B - IP66 RATED, 19W LED FLOODLIGHT FITTING MOUNTED TO SIDE OF STRUCTURE WITH 75mm BRACKET
- IP66 RATED, SINGLE LEVER LIGHT SWITCH WHERE xx INDICATES NUMBER OF WAYS
- DENOTES EMERGENCY LIGHT FITTING
- IP66 RATED, ELECTRICAL DISTRIBUTION BOARD
- IP65 RATED, CONTROL CONSOLE

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	17/02/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4046  
6000  
TEL: 021 489 6173  
FAX: 021 489 6171

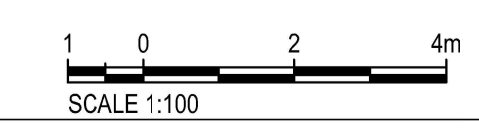


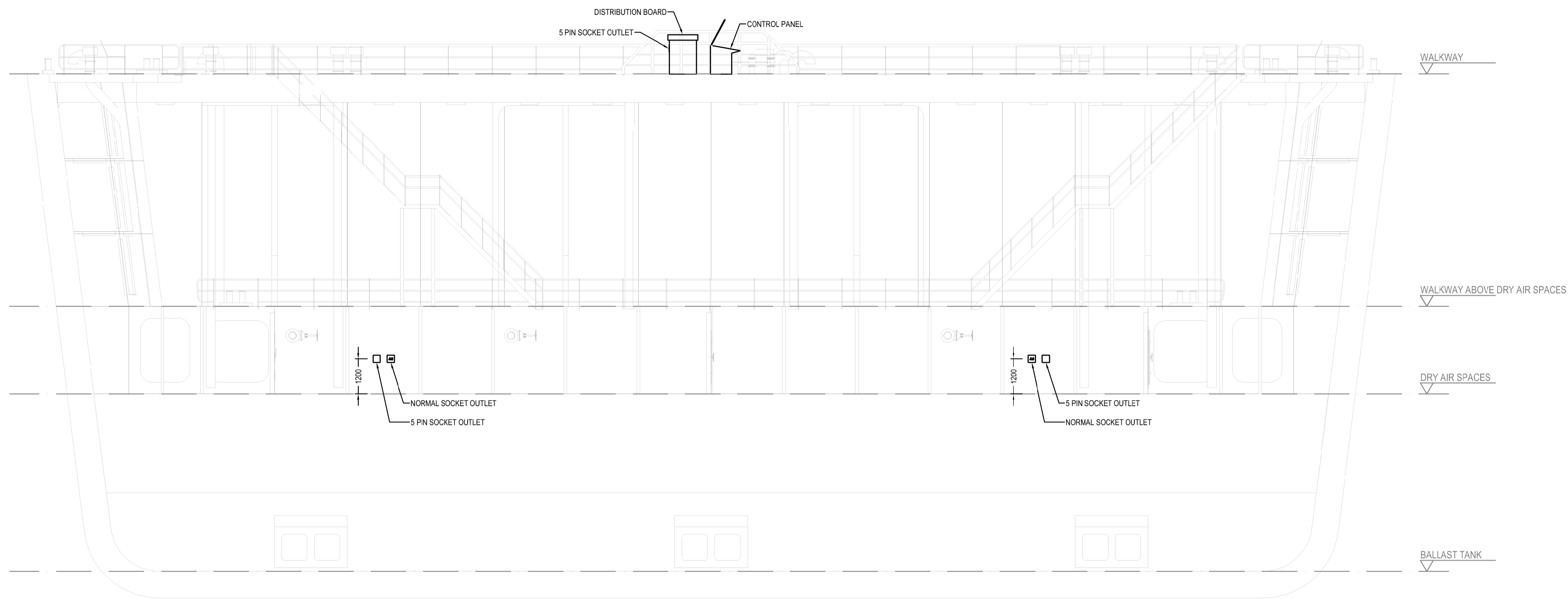
PORT OF CAPE TOWN

CONTRACT NUMBER: TNPA 789

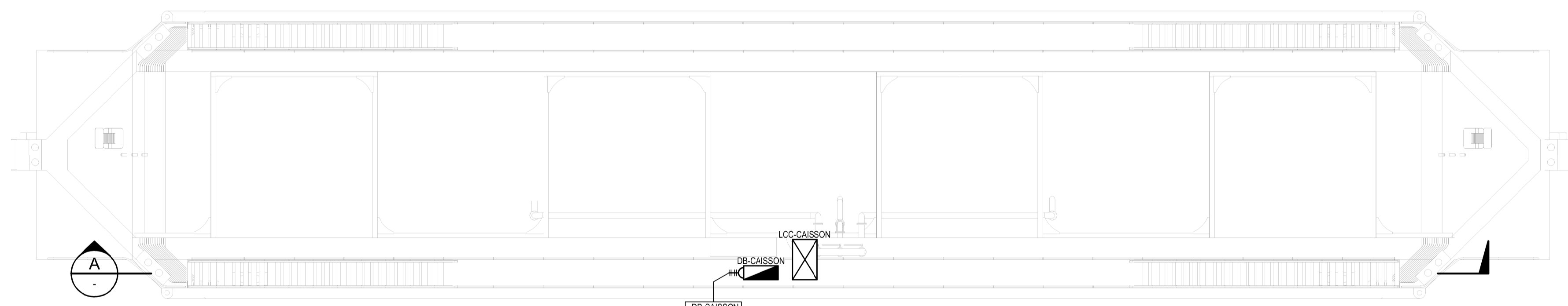
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
LIGHTING LAYOUT

DRAWN	D.STYNDER	CHECKED	M.LEOTLELA
SCALE	AS SHOWN	DESIGN	H.RIES
No.			
DATE	31/03/2020	SHEET 1 OF 1	
CAD. REF	507343-000-DRG-EE-004		
FILE REF		AMENDMENT	T0

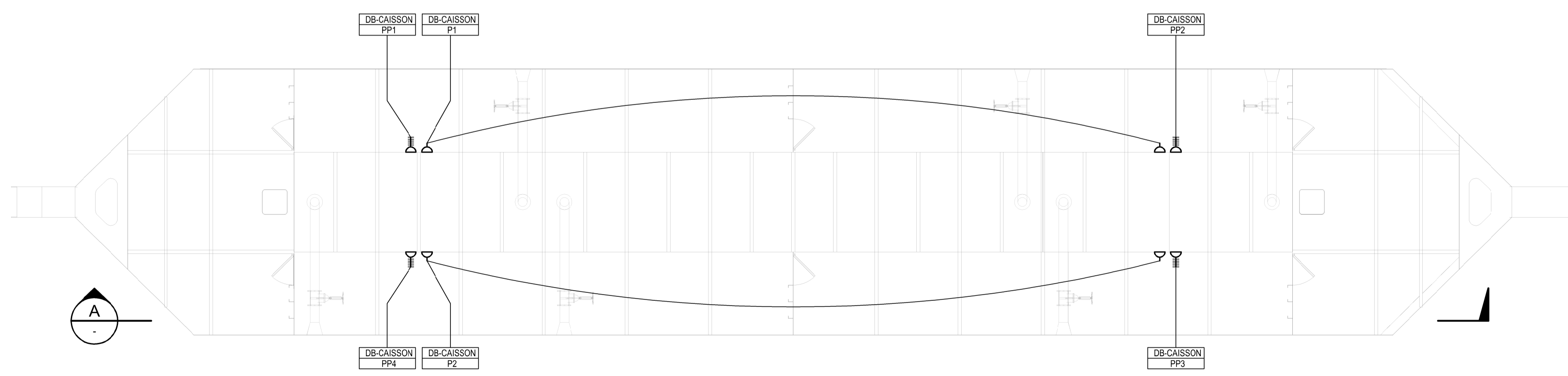




SECTION A  
1:100



WALKWAY FLOOR PLAN  
1:100



DRY AIR SPACES FLOOR PLAN  
1:100

**LEGEND**

	IP66 RATED, SINGLE PHASE, SINGLE NORMAL SWITCHED SOCKET OUTLET MOUNTED AT 1200mm AFFL
	IP66 RATED, THREE PHASE, 5 PIN SOCKET OUTLET MOUNTED AT 1200mm AFFL
	IP65 RATED, ELECTRICAL DISTRIBUTION BOARD
	IP65 RATED, CONTROL CONSOLE

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	17/02/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



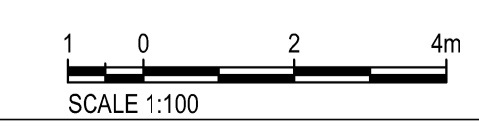
TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
6000  
TEL: 021 489 6173  
FAX: 021 489 6171

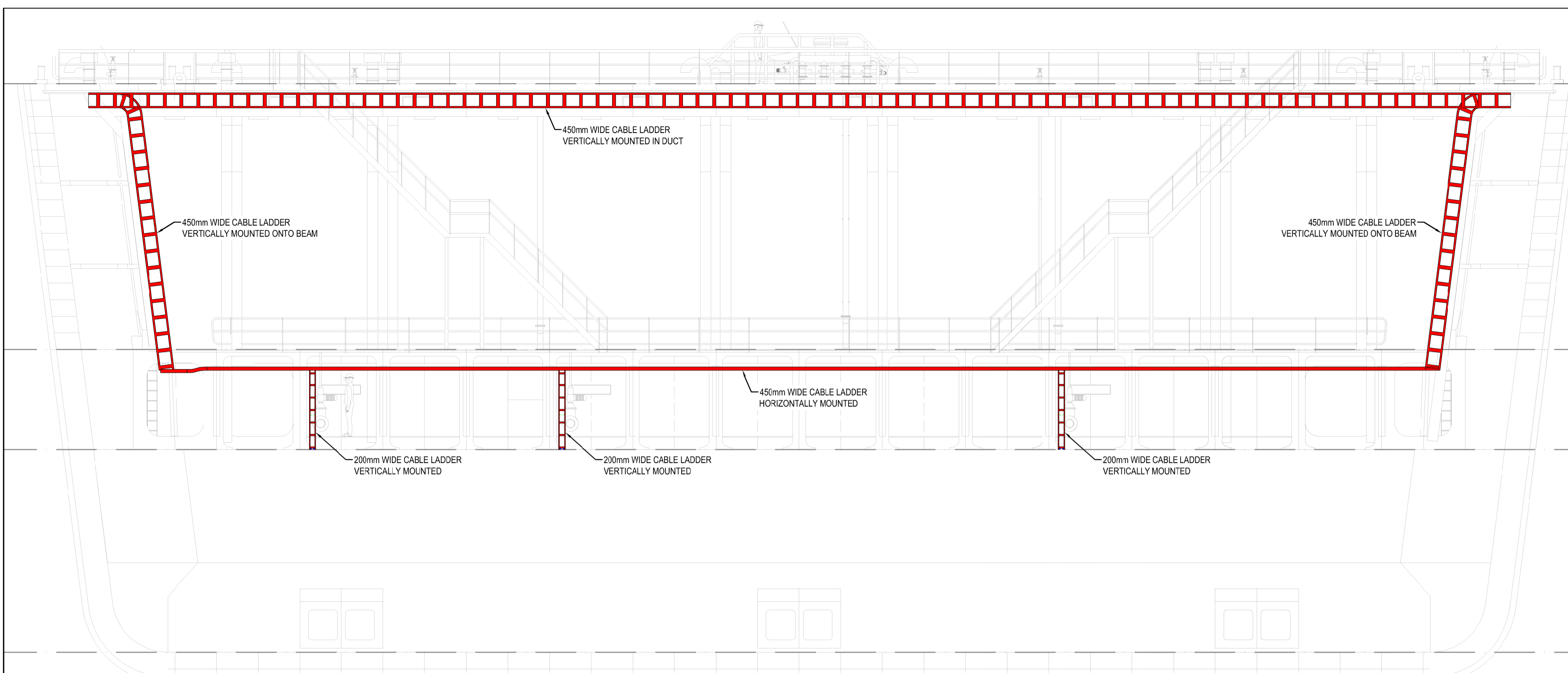
**TRANSNET**  
national parts authority  
delivering on our commitment to you

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
POWER LAYOUT

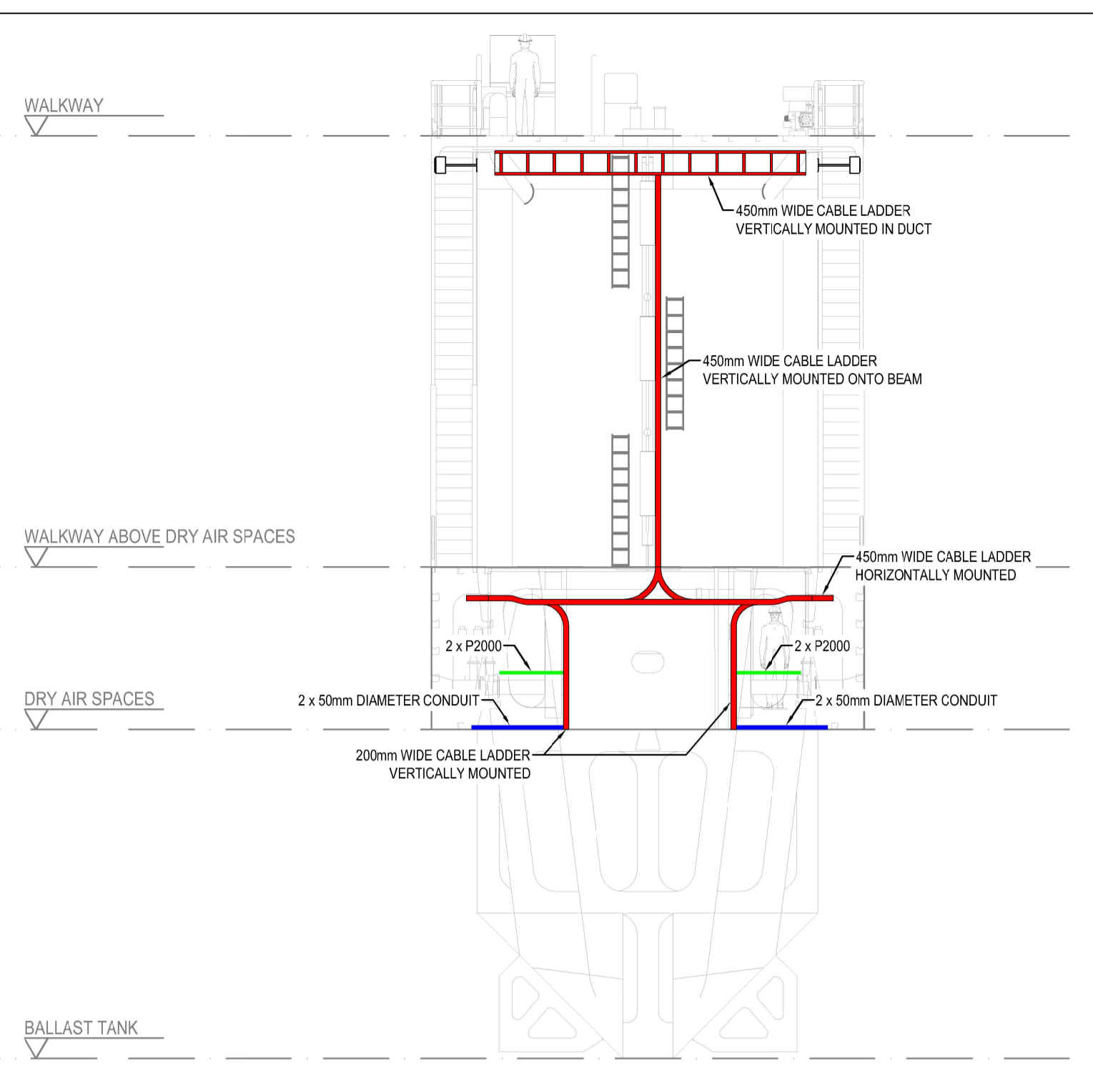
DRAWN	D.STYNDER	CHECKED	H.RIES
SCALE	1:100	DESIGN	M.LEOTLELA
No.			
DATE	31/03/2020	SHEET 1 OF 1	
CAD. REF	507343-000-DRG-EE-005		
FILE REF		AMENDMENT	T0



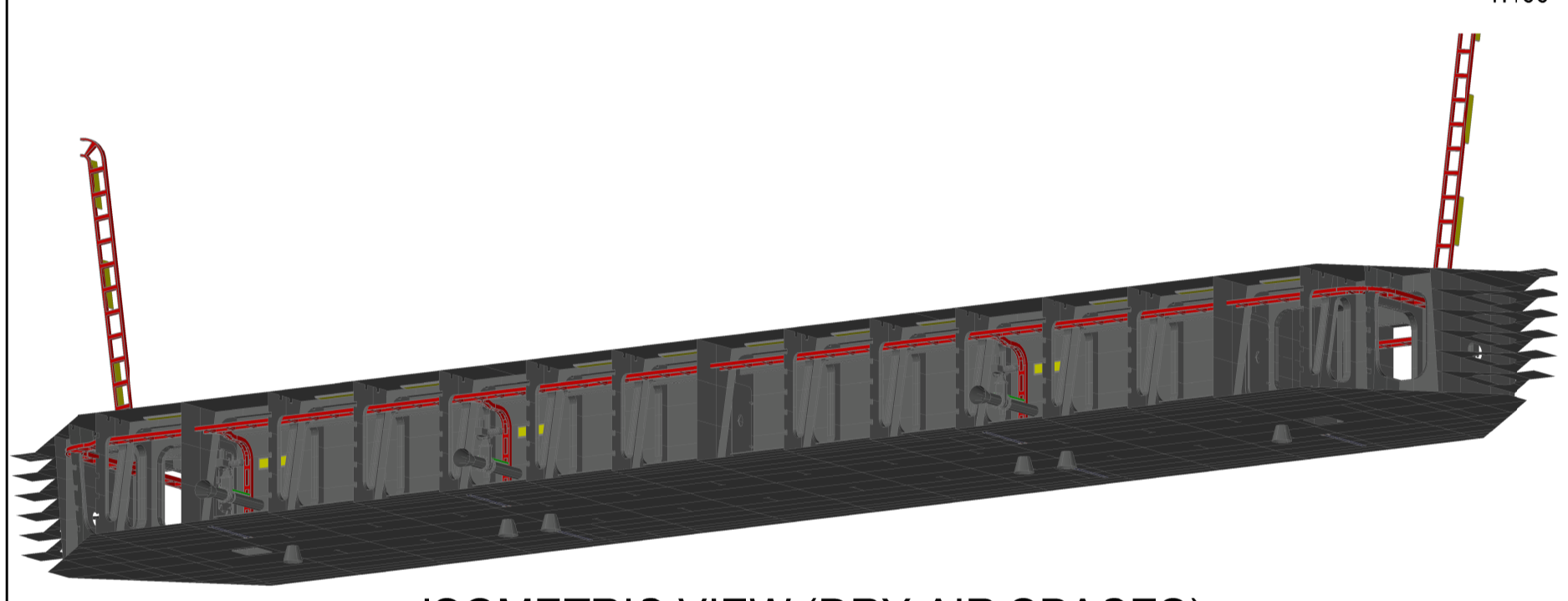




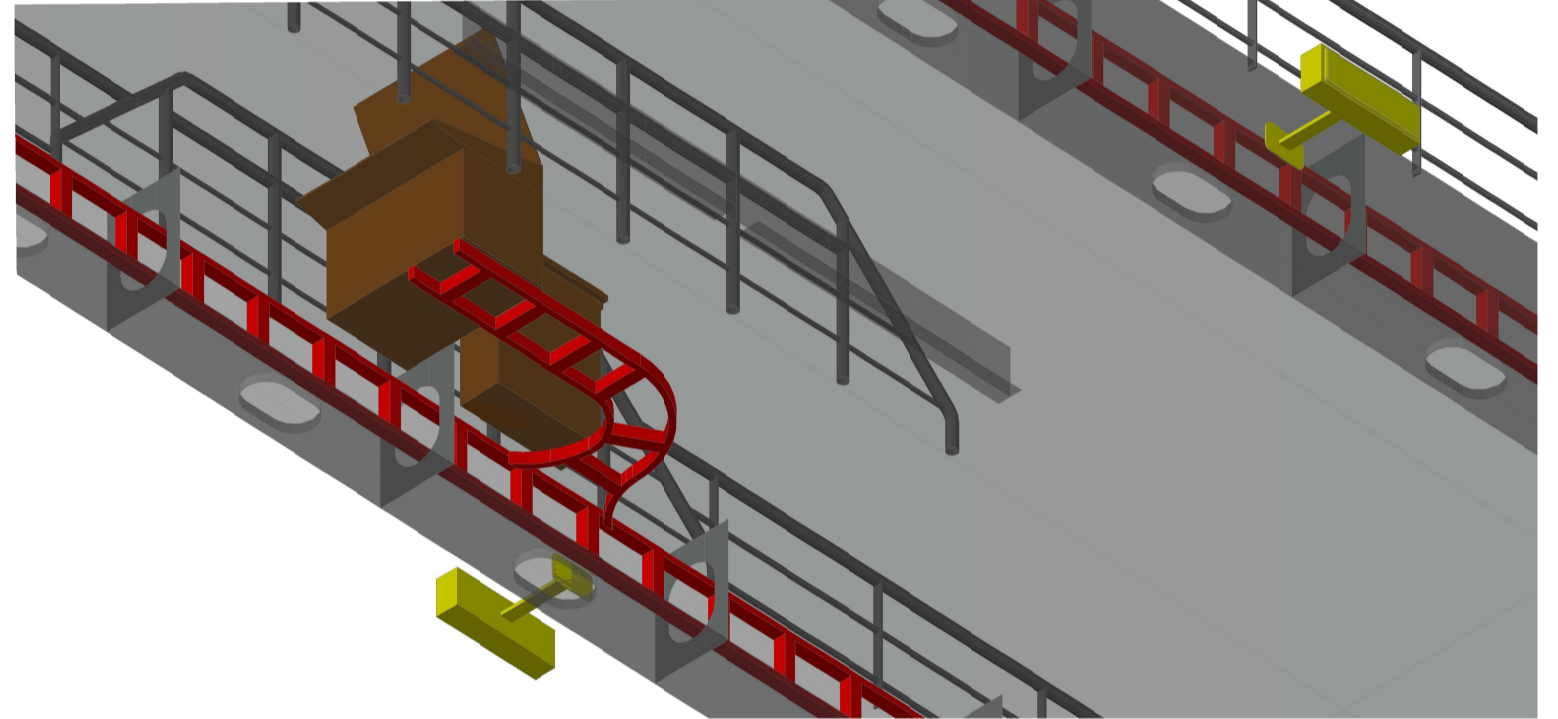
SECTION VIEW  
1:100



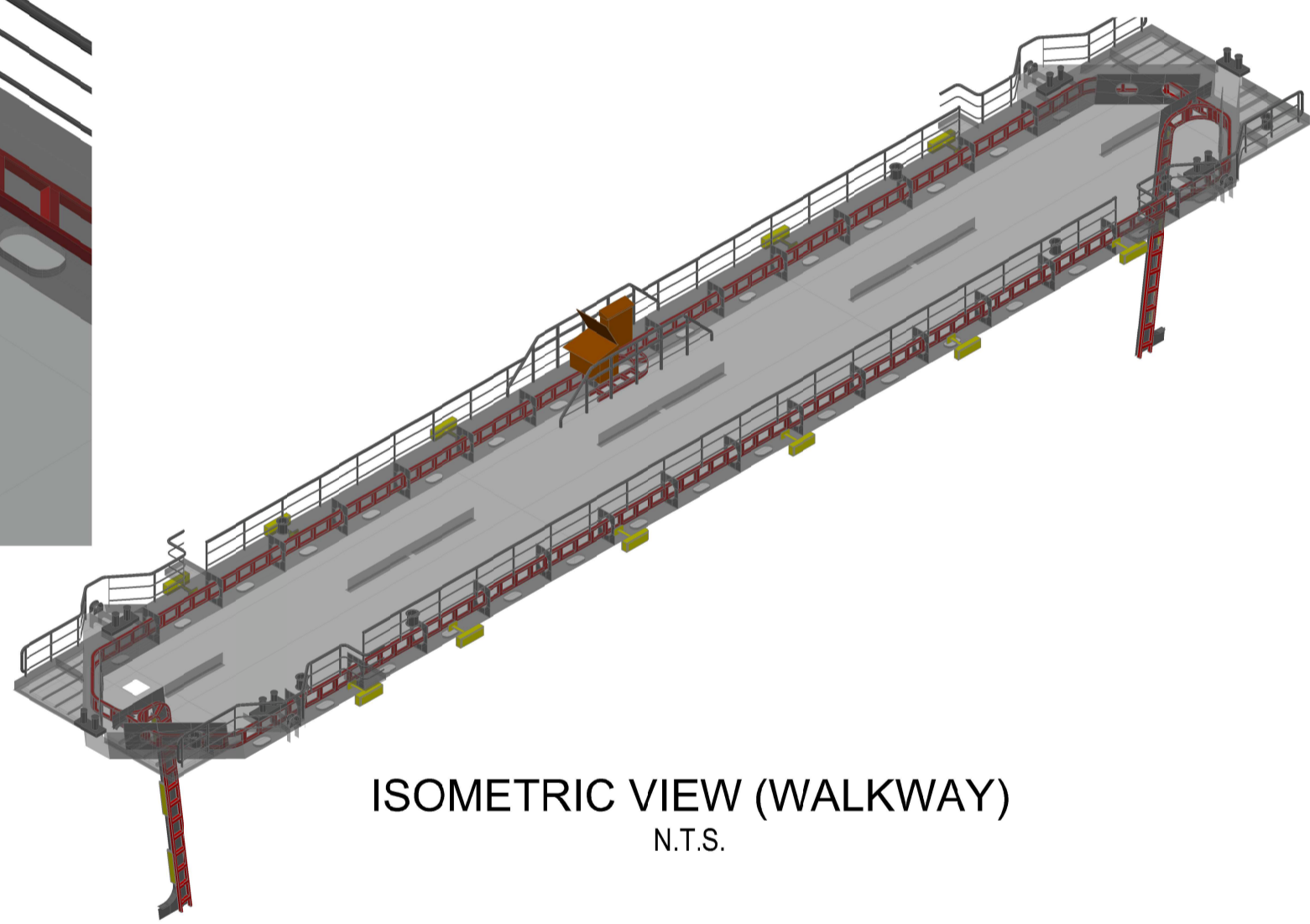
SECTION VIEW  
1:100



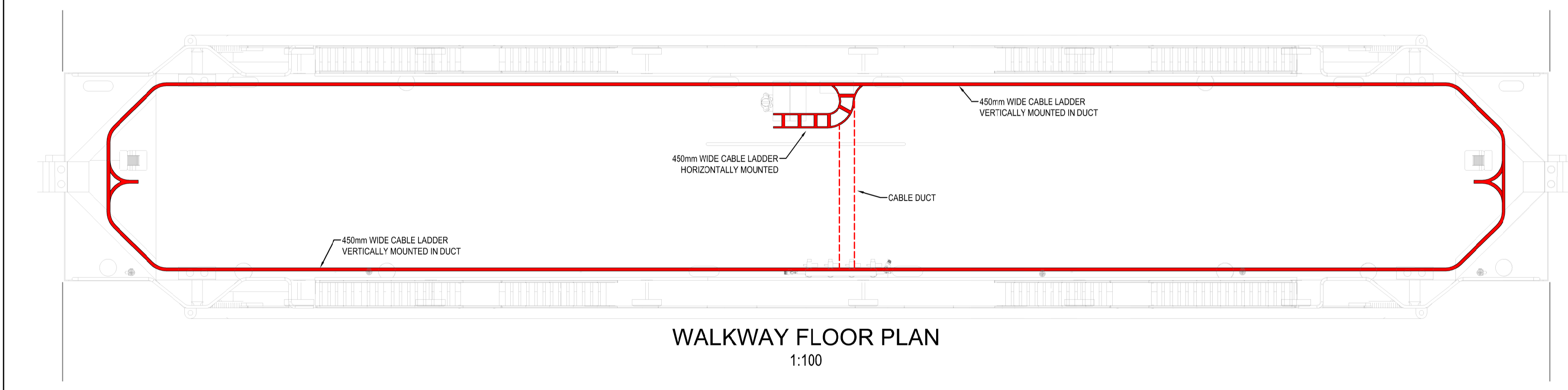
ISOMETRIC VIEW (DRY AIR SPACES)  
N.T.S.



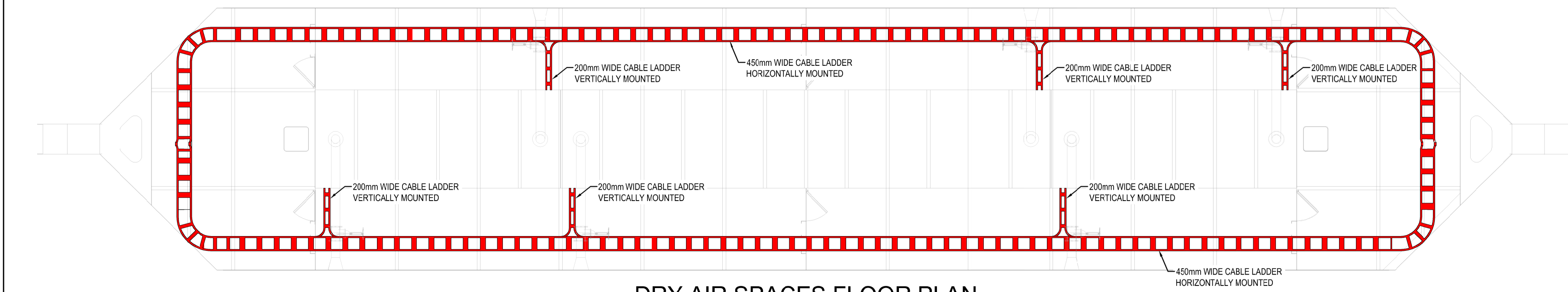
ISOMETRIC VIEW (BELOW CONTROL PANEL)  
N.T.S.



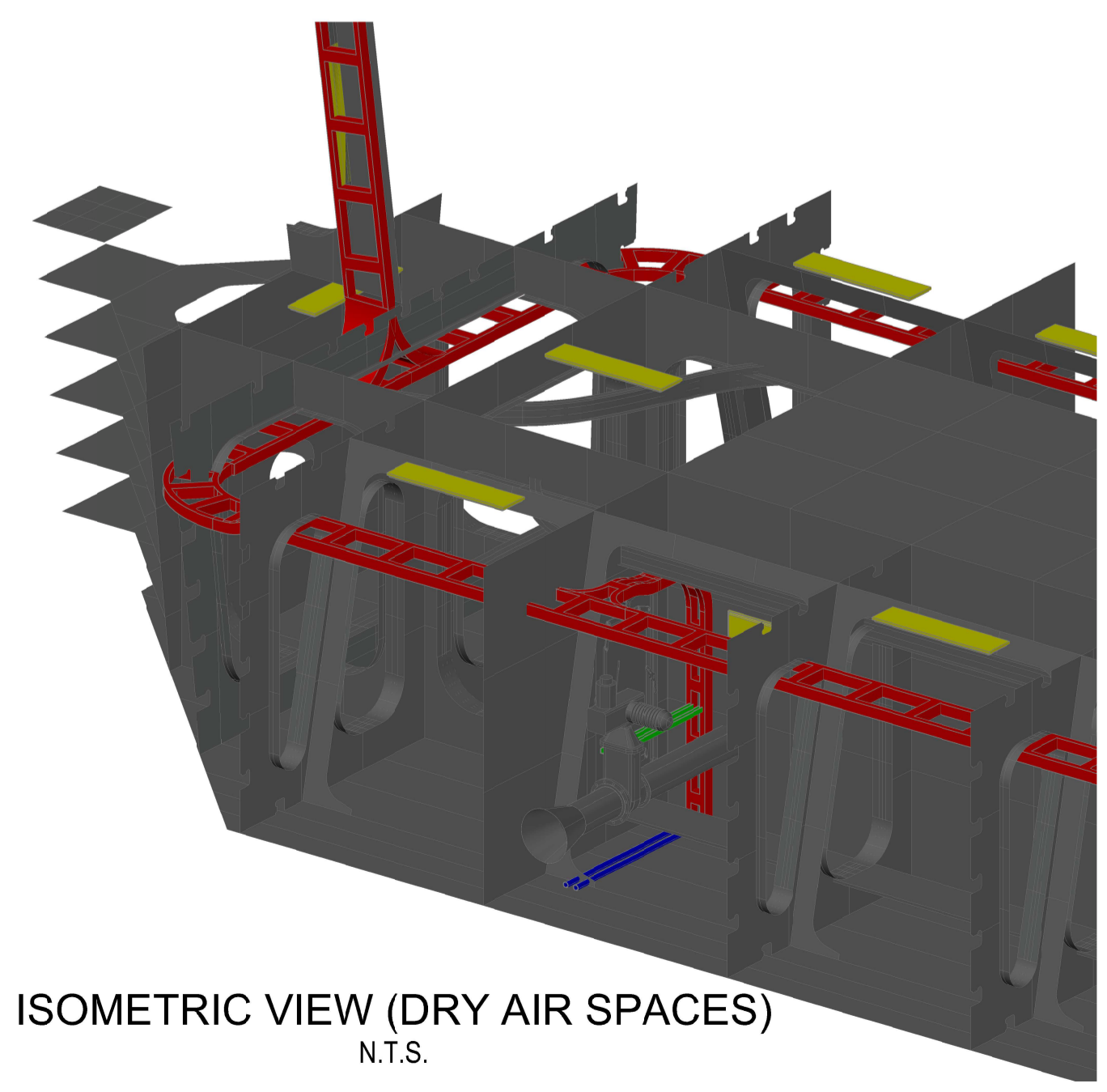
ISOMETRIC VIEW (WALKWAY)  
N.T.S.



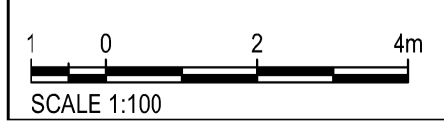
WALKWAY FLOOR PLAN  
1:100



DRY AIR SPACES FLOOR PLAN  
1:100



ISOMETRIC VIEW (DRY AIR SPACES)  
N.T.S.



**LEGEND**

	CABLE LADDER - SIZE INDICATED ON DRAWING
	CABLE CONDUIT (50mmØ)
	P2000
	CABLE DUCT THROUGH STEEL


**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

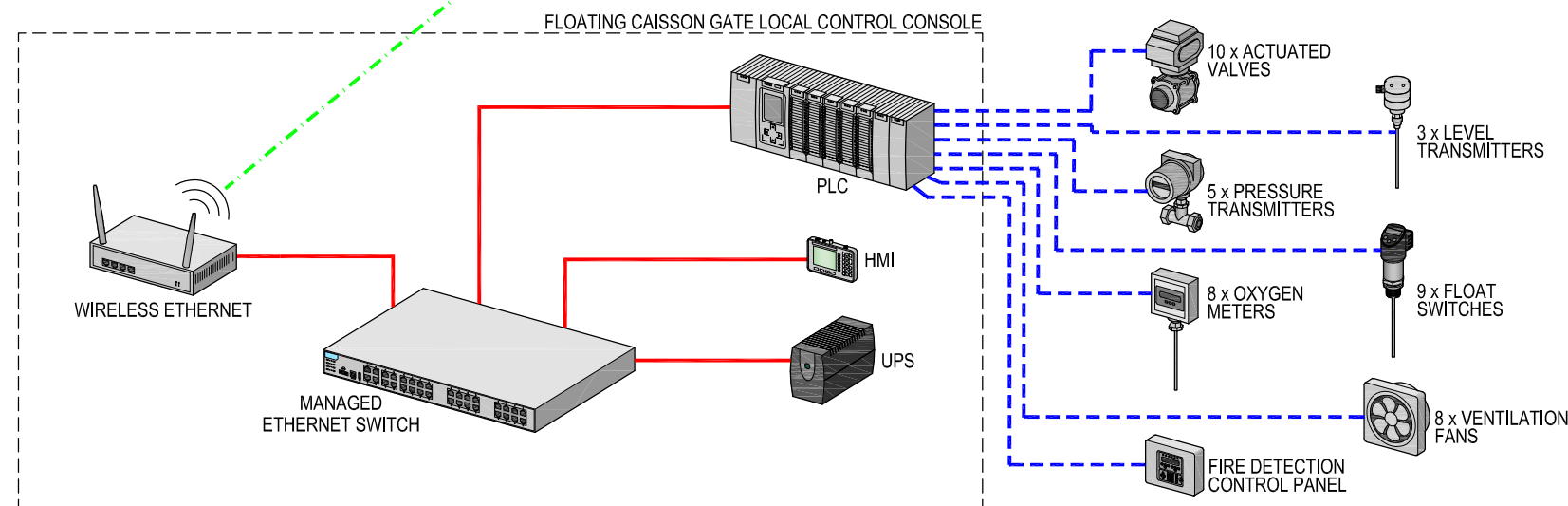
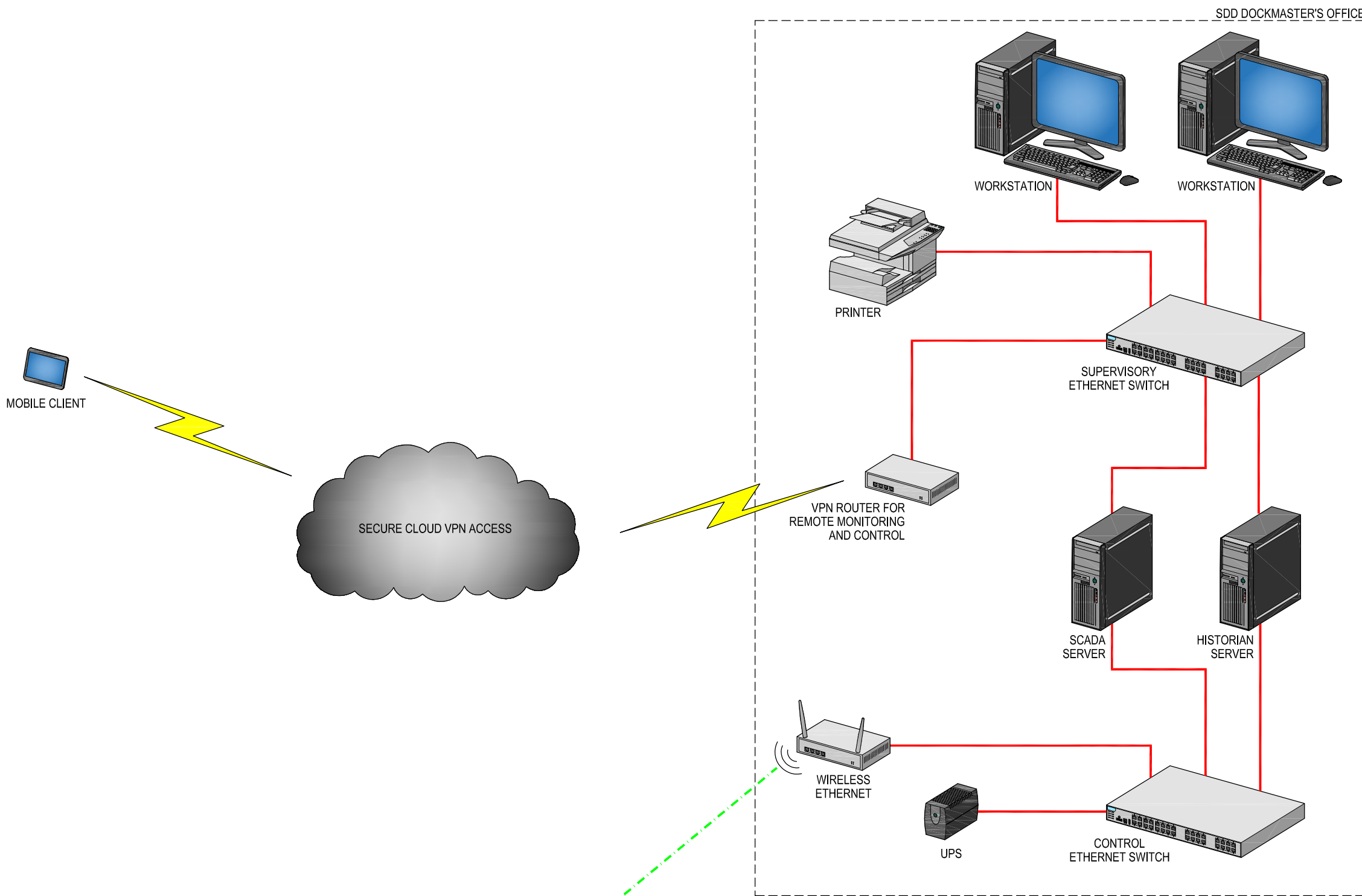
PORT ENGINEER  
ROOM 105  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL. 021 449 6173  
FAX. 021 449 6171



delivering on our commitment to you national ports authority

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
PROPOSED CABLE ROUTE

DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	AS SHOWN	DESIGN	M.LEDTLELA
No.			
DATE	31/03/2020	SHEET 1 OF 1	
CAD. REF	507343-0000-DRG-EE-006	AMENDMENT	TO
FILE REF			



**LEGEND**

- ETHERNET Cu CABLE
- - - UHF RADIO SIGNAL
- - - CONVENTIONAL I/O WIRING

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	29/10/19	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

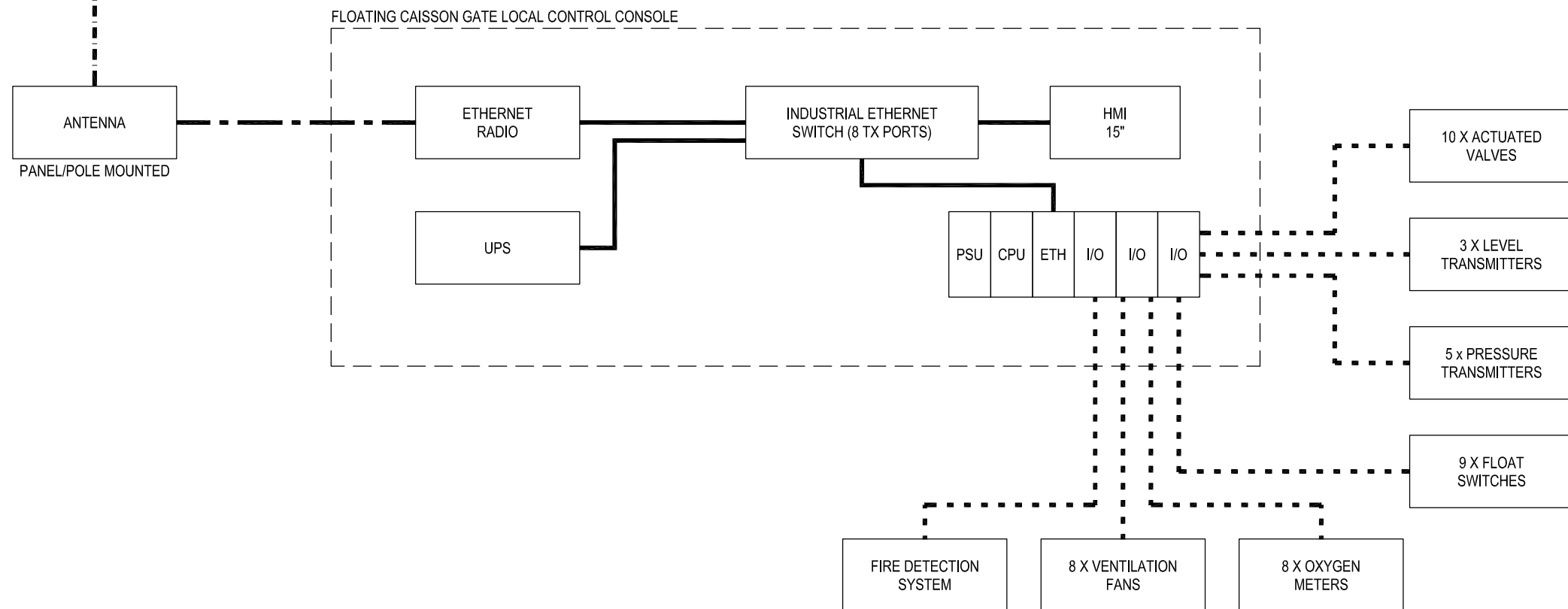
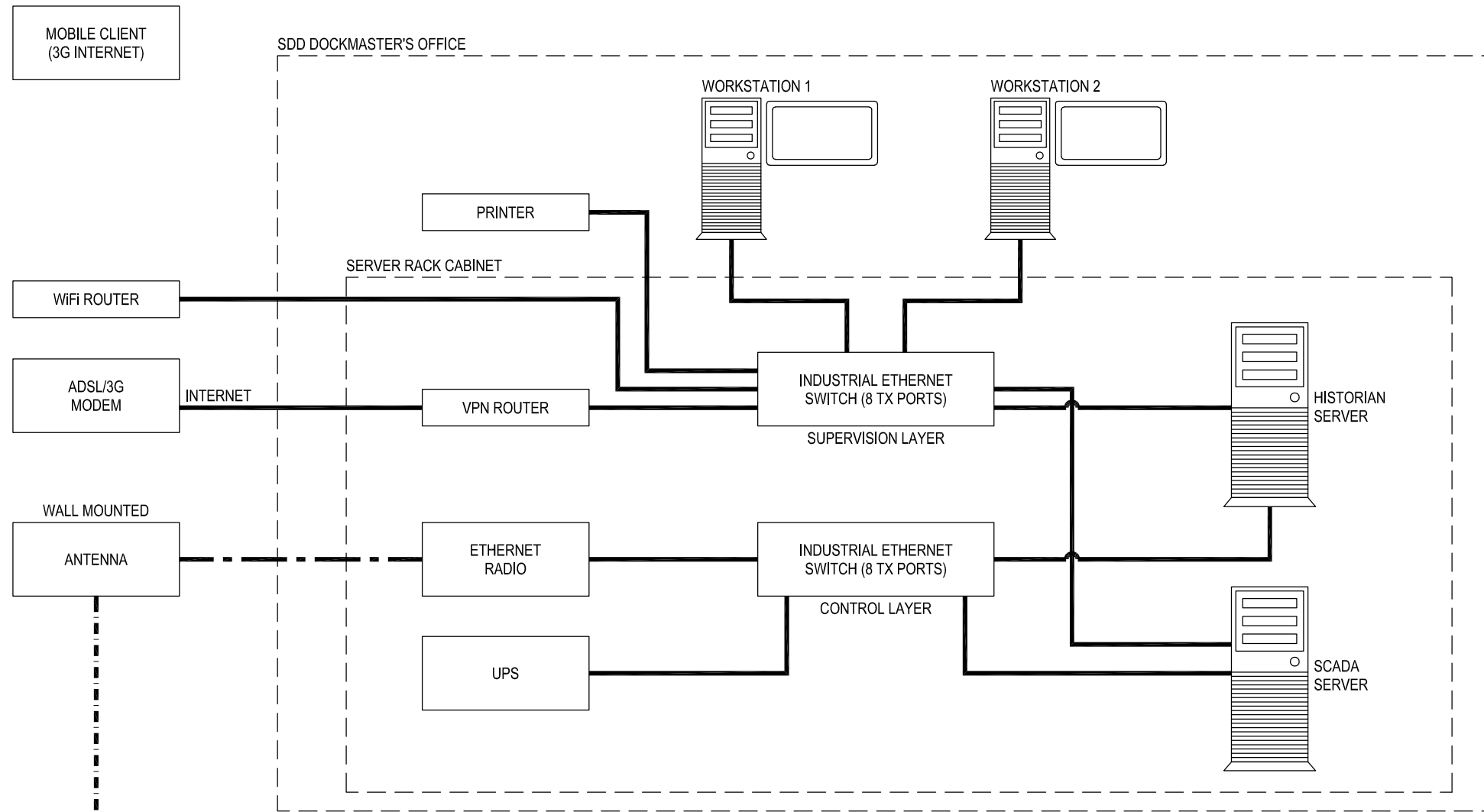
**PORT ENGINEER**  
 ROOM 705  
 NPA HOUSE  
 PORT OF CAPE TOWN  
 P.O.BOX 4245  
 8000  
 TEL: 021 449 6173  
 FAX: 021 449 6171



**PORT OF CAPE TOWN**  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CONTROL ARCHITECTURE NETWORK DIAGRAM

DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTLELA

<b>No.</b>	
DATE	29/10/2019
CAD. REF	507343-0000-DRG-4I-001
FILE REF	
SHEET	1
AMENDMENT	T0



**LEGEND**

- CAT6 F/UTP ETHERNET CABLE
- UHF RADIO SIGNAL
- COAX ANTENNA CABLE
- CONVENTIONAL I/O WIRING

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
T0	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



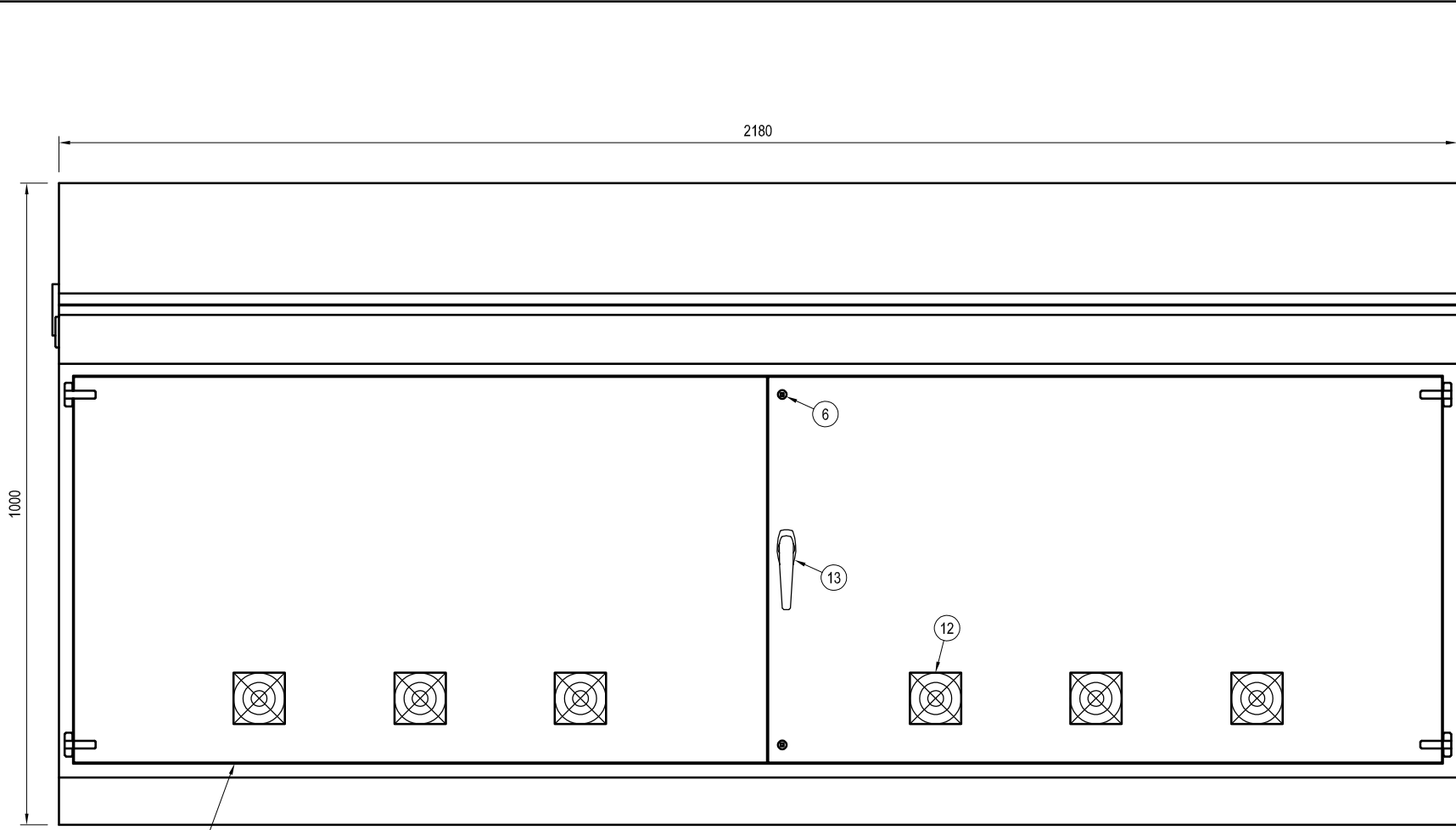
TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

**PORT ENGINEER**  
 ROOM 705  
 NPA HOUSE  
 PORT OF CAPE TOWN  
 P.O.BOX 4245  
 8000  
 TEL. 021 449 6173  
 FAX. 021 449 6171

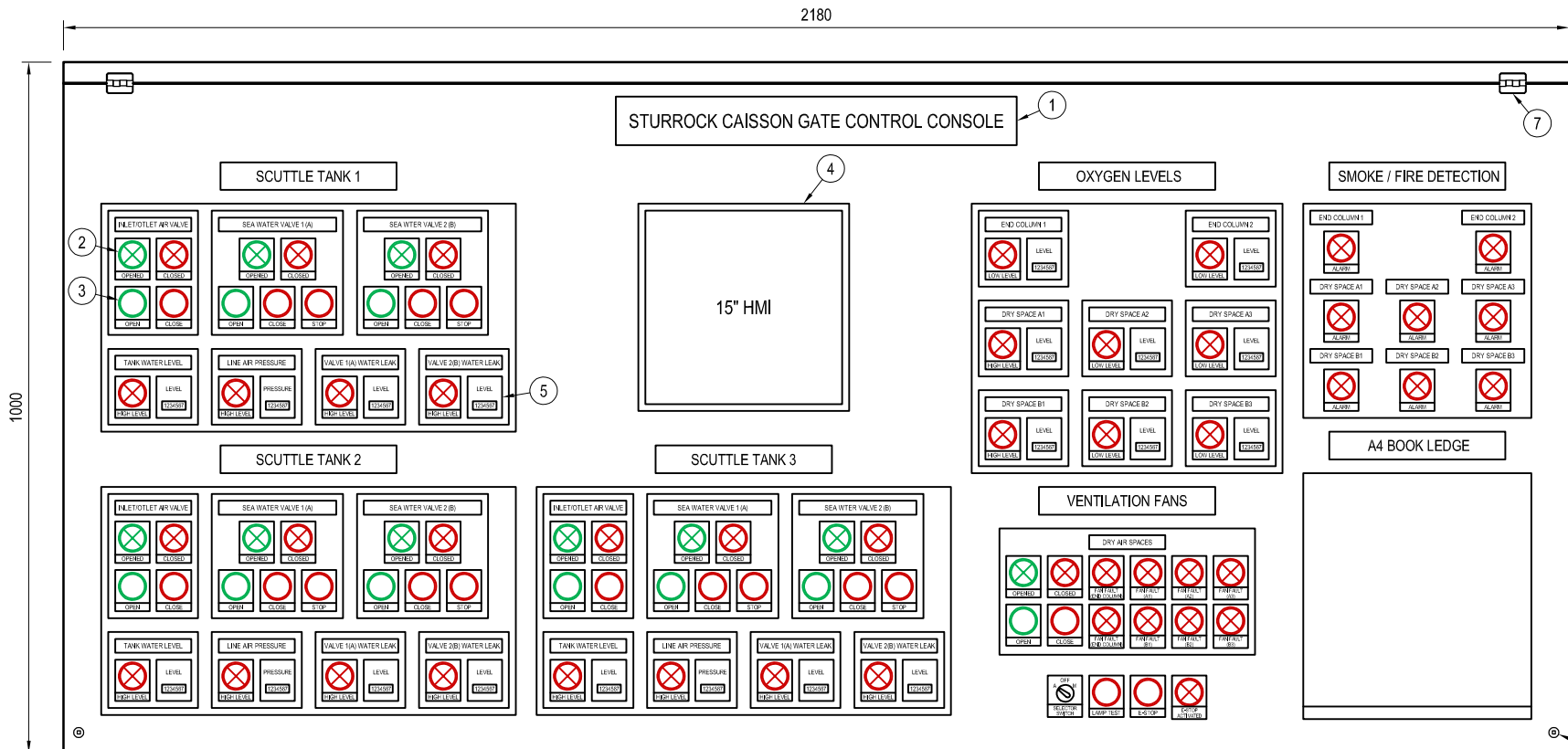


**PORT OF CAPE TOWN**  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CONTROL NETWORK LAYOUT  
 DIAGRAM

DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTLELA
<b>No.</b>			
DATE	31/03/2020	SHEET	1
CAD. REF	507343-0000-DRG-JL-002	AMENDMENT	T0
FILE REF			

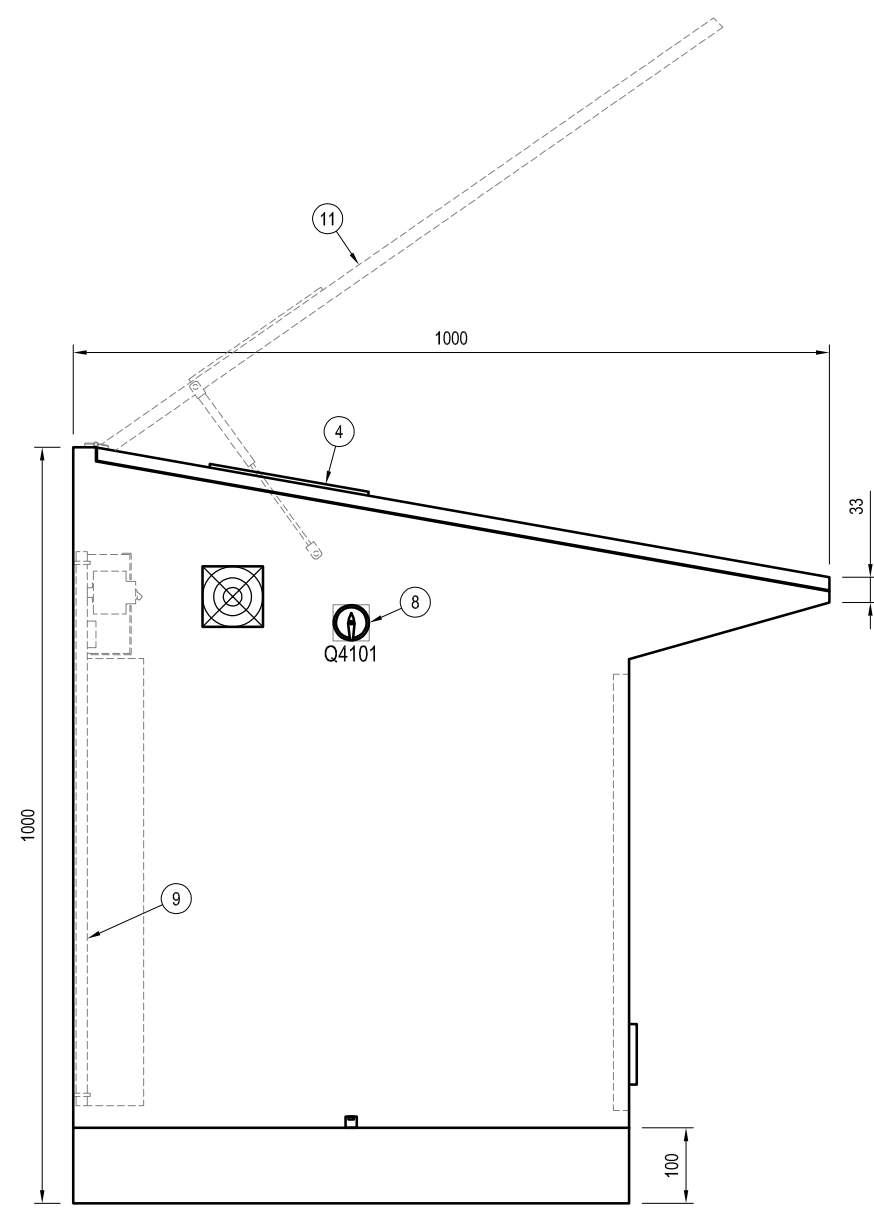


FRONT VIEW



TOP VIEW

LEGEND			
1	LABEL IN HOODED LABEL HOLDER	8	SWITCH DISCONNECTOR
2	INDICATOR LAMPS	9	MOUNTING PLATE
3	PUSH BUTTONS	10	DOUBLE DOORS
4	15\"/>		
5	7-SEGMENT DISPLAY	12	INTAKE FILTERS
6	LOCKABLE SQUARE KEYLOCK	13	LOCKABLE DOOR HANDLE
7	PIN HINGE		



SIDE VIEW

- NOTES**
- ALL MEASUREMENTS ARE IN MILLIMETERS. DIMENSIONS ARE SUBJECT TO CONTRACTOR'S DESIGN.
  - REFER ALSO TO THE DETAILED SPECIFICATIONS FOR COLOURS OF INDICATOR LAMPS AND PUSHBUTTONS.

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	28/01/20	ISSUED FOR INFORMATION	E.BIESENBACH
B	17/04/20	ISSUED FOR REVIEW	E.BIESENBACH
TO	12/06/20	ISSUED FOR TENDER	E.BIESENBACH



TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

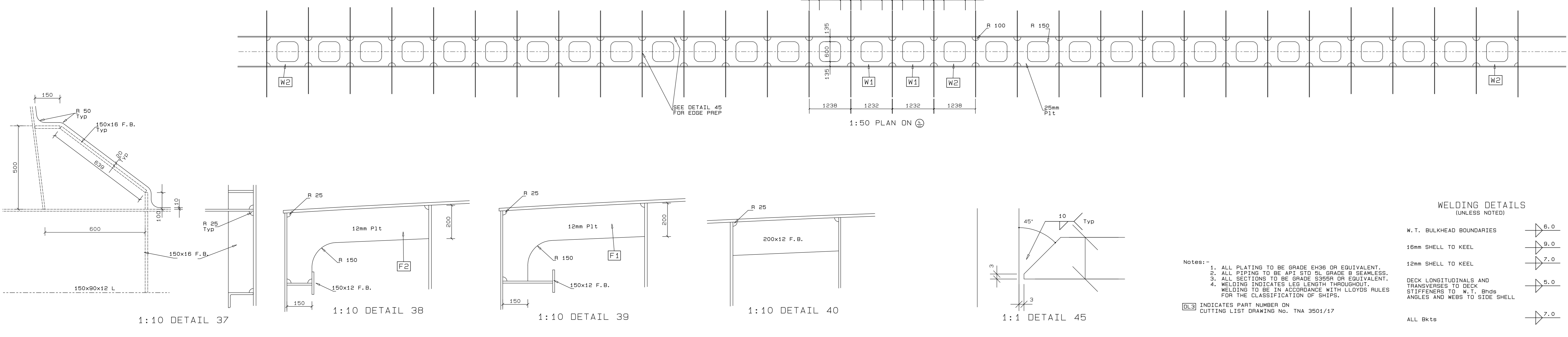
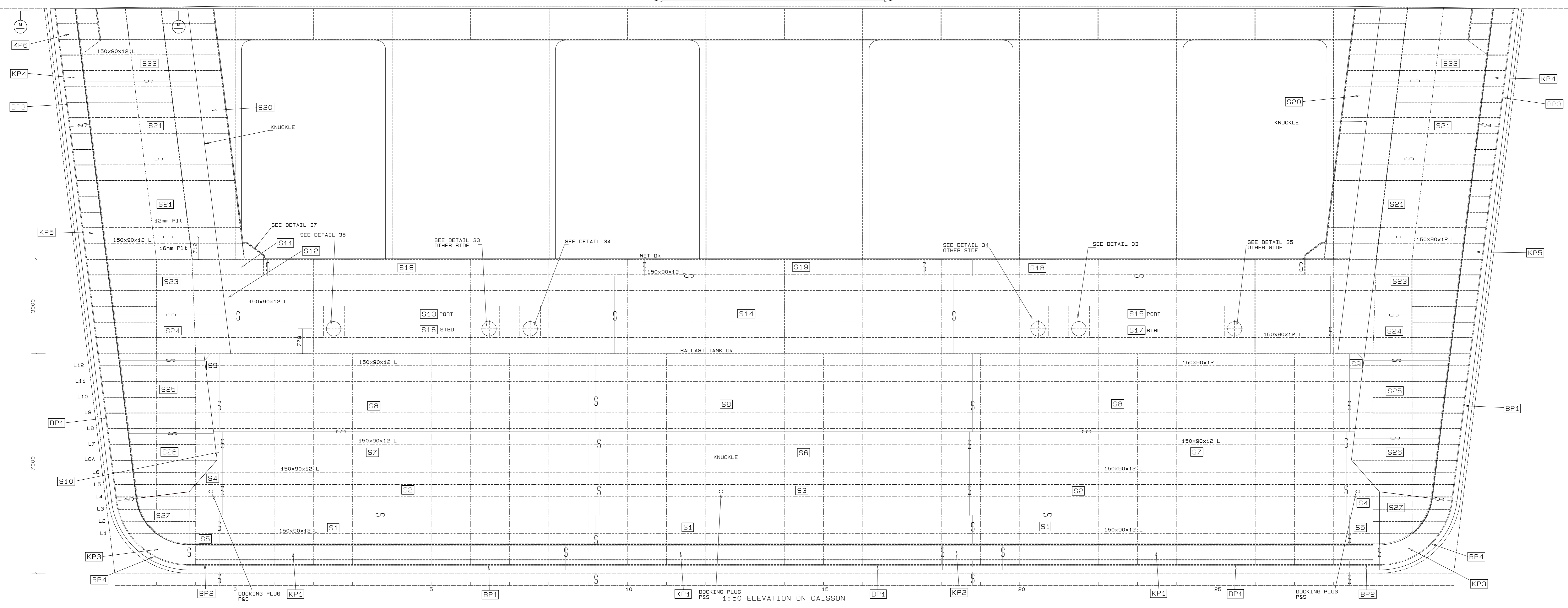
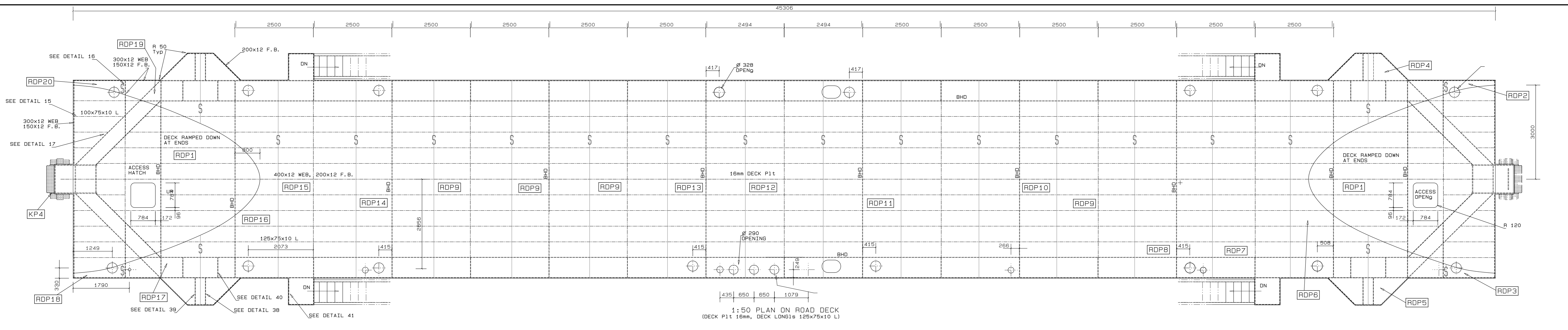
**PORT ENGINEER**  
 ROOM 705  
 NPA HOUSE  
 PORT OF CAPE TOWN  
 P.O. BOX 4245  
 8000  
 TEL: 021 449 6173  
 FAX: 021 449 6171



PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CONTROL CONSOLE  
 GENERAL ARRANGEMENT

DRAWN	D.STYNDER	CHECKED	E.BIESENBACH
SCALE	N.T.S.	DESIGN	M.LEOTLELA

<b>No.</b>	
DATE	31/03/2020
CAD. REF	507343-0000-DRG-JL-003
FILE REF	
SHEET	1
AMENDMENT	TO

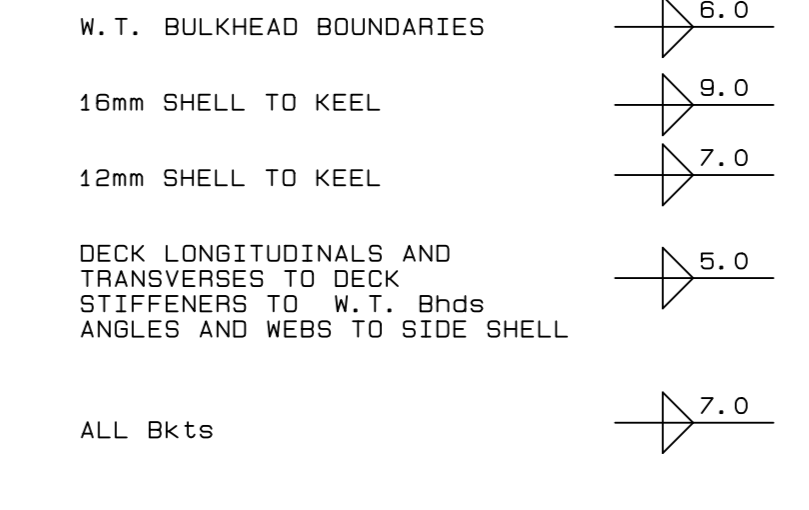


**MATERIAL LIST**

ITEM	QUANTITY
25mm P1t	94.5 Sq.m
20mm P1t	63.5 Sq.m
16mm P1t	1349.7 Sq.m
12mm P1t	3035.9 Sq.m
10mm P1t	2.04 Sq.m
150x90x15 L	154 m
150x90x12 L	1650.7 m
150x90x10 L	1637.2 m
125x75x12 L	808 m
125x75x10 L	336 m
100x75x10 L	23.6 m
90x90x10 L	13.0 m
200x16 FB	812.5 m
200x12 FB	196.8 m
200x12 FB	483.5 m
150x12 FB	281.8 m
130x20 FB	119 m
80x12 FB	17.7 m
80x10 FB	51.2 m

TOTAL STRUCTURAL WEIGHT = 719 Tonnes

**WELDING DETAILS**  
(UNLESS NOTED)



- Notes:-
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  2. ALL PIPING TO BE APT 510 GRADE 9 SEAMLESS.
  3. ALL SECTIONS TO BE GRADE S355JR OR EQUIVALENT.
  4. WELDING INDICATES LEG LENGTH THROUGHOUT. WELDING TO BE IN ACCORDANCE WITH LLOYD'S RULES FOR THE CLASSIFICATION OF SHIPS.
- DL3 INDICATES PART NUMBER ON CUTTING LIST DRAWING NO. TNA 3501/17

**NOTES**

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	23/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	23/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

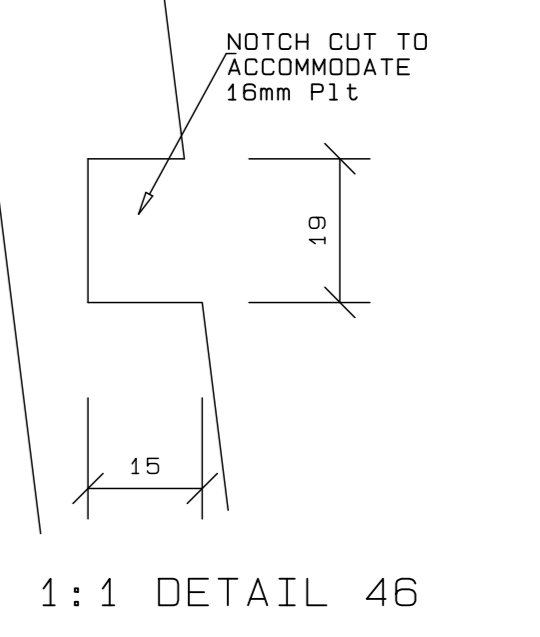
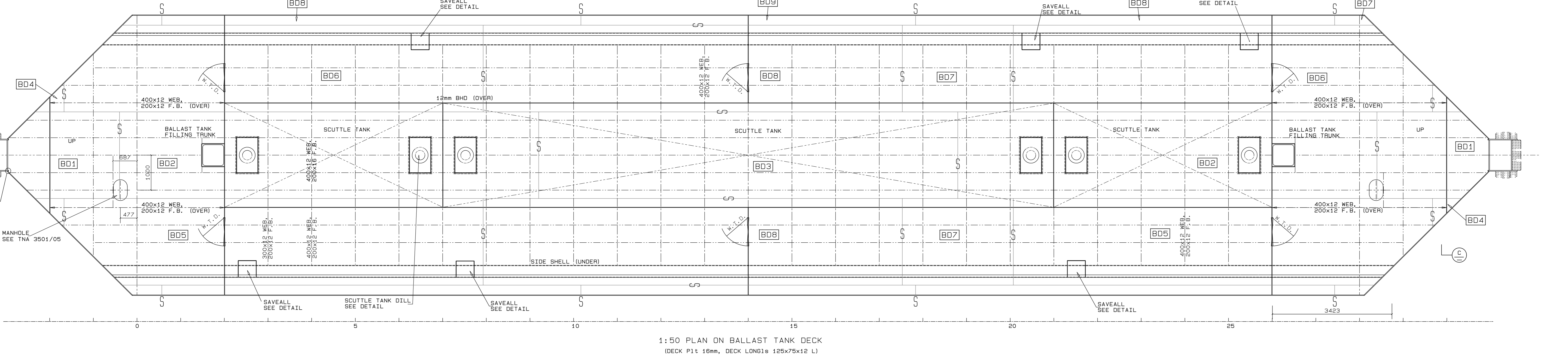
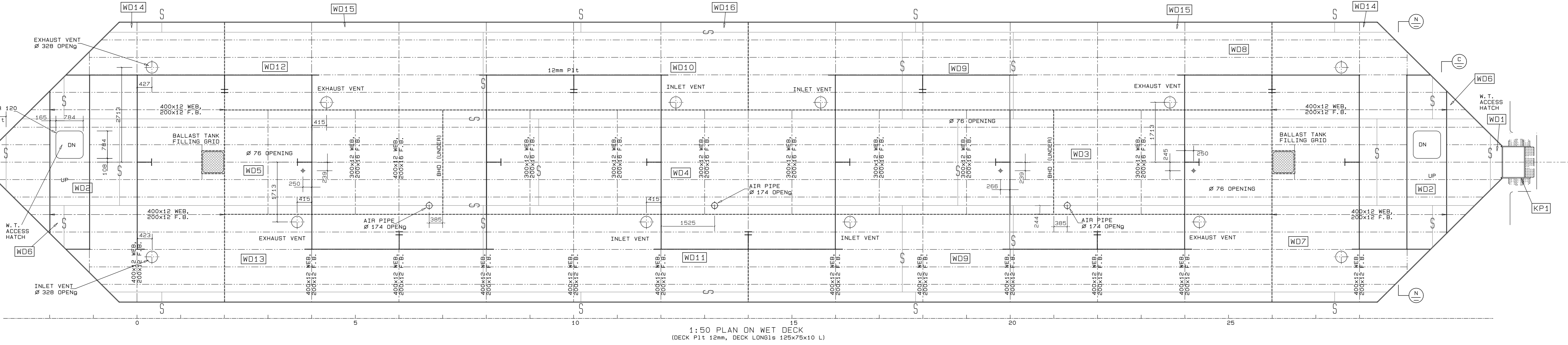
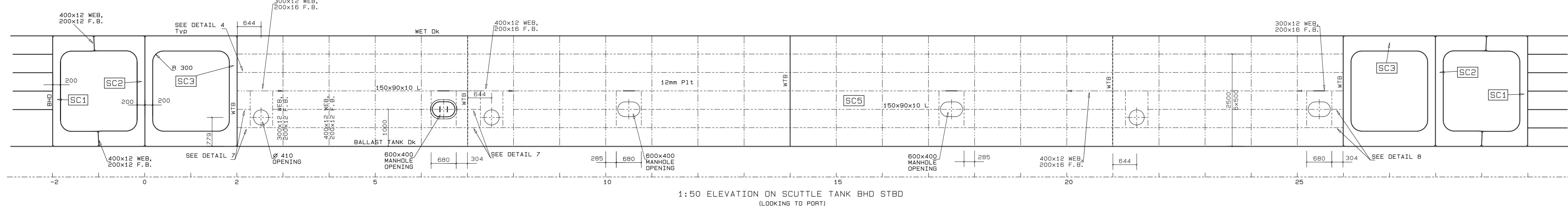
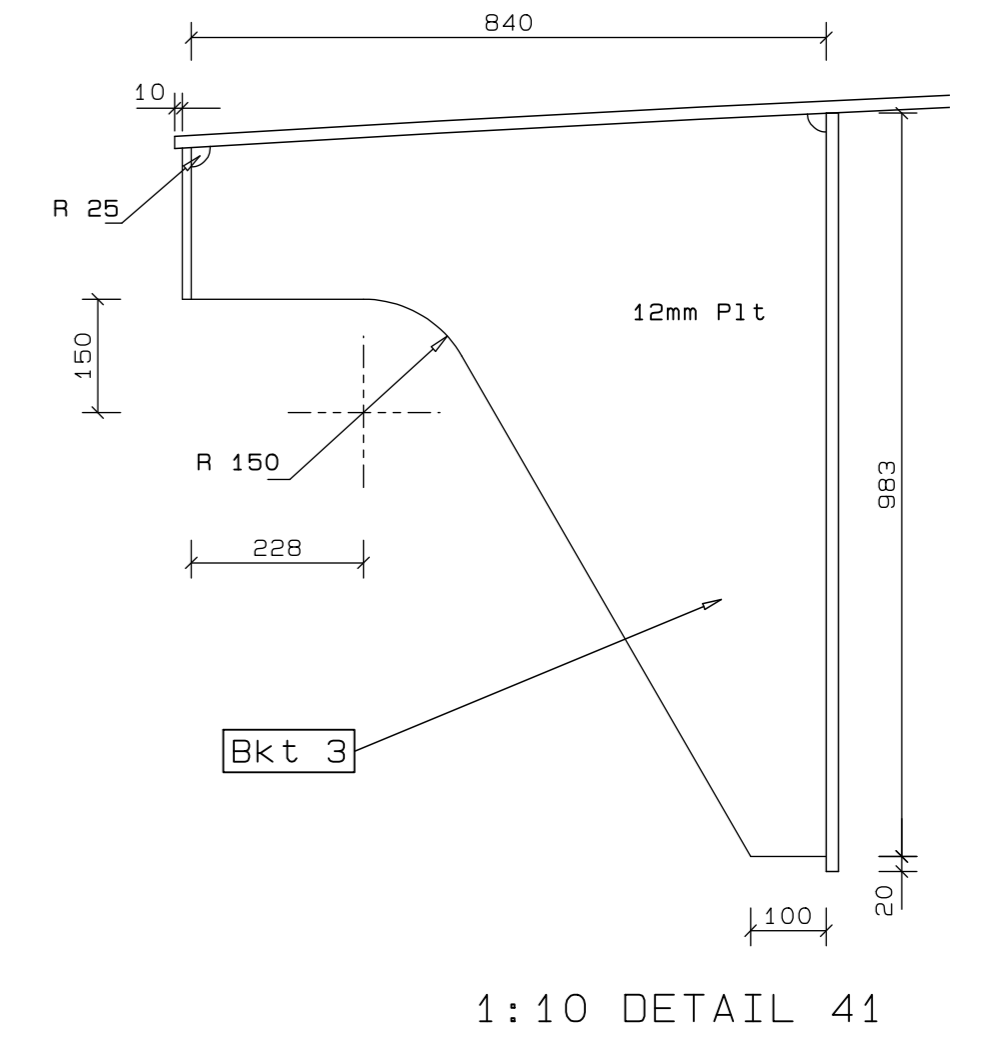
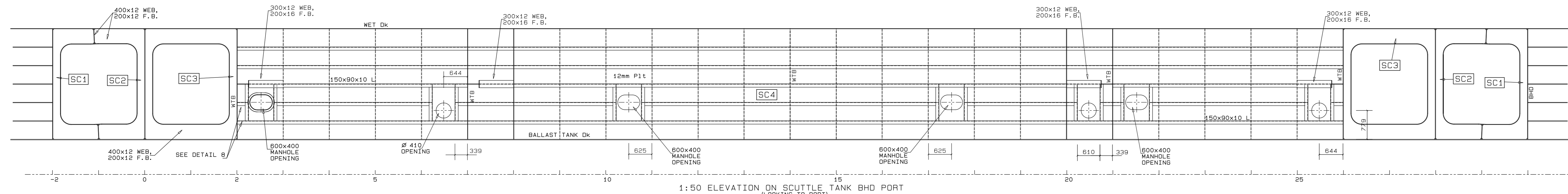
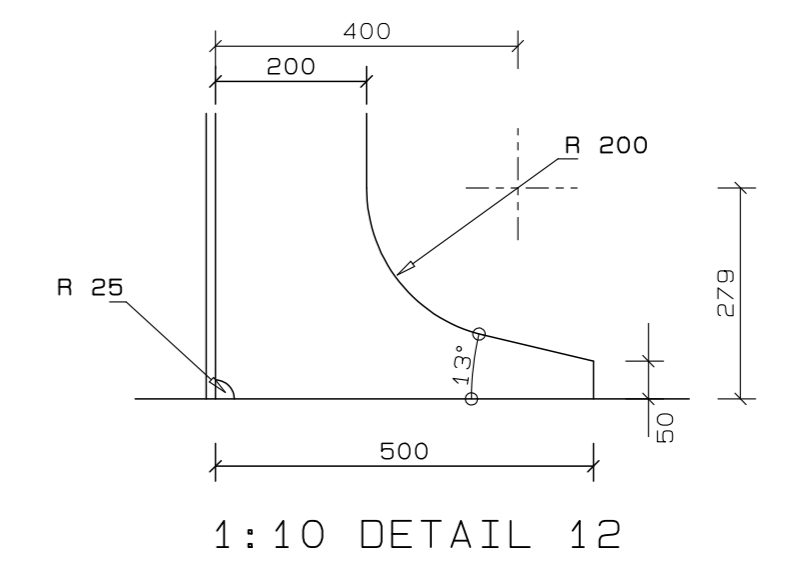
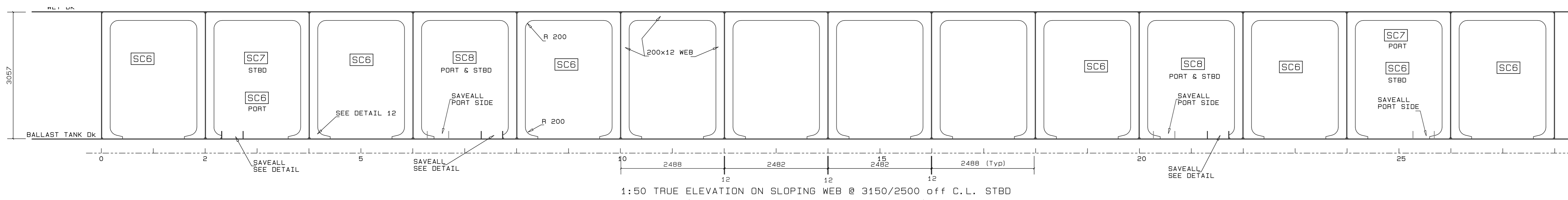


Contract Number: TNA 3501-03-D Sht 1 of 8

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

**PORT OF CAPE TOWN**  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
ROAD DK PLAN, PROFILE AND PLAN ON KEEL PLATES

DESIGN: D. McCONNELL	CHECKED: G.S. 3881
SCALE: AS SHOWN	AS SHOWN
No. 507343-0000-DRG-SS-101-1	
DATE: 16/03/20	SHEET 1 OF 8
CAD: MPP	2017-03-20
FILE REF: 507343-0000-DRG-SS-101-1	AMENDMENT: D



REVISION SCHEDULE		
REV	DATE	REVISION DETAILS
A	16/03/20	ISSUED FOR INFORMATION
B	08/04/20	ISSUED FOR REVIEW
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED
D	11/06/20	ISSUED FOR CONSTRUCTION



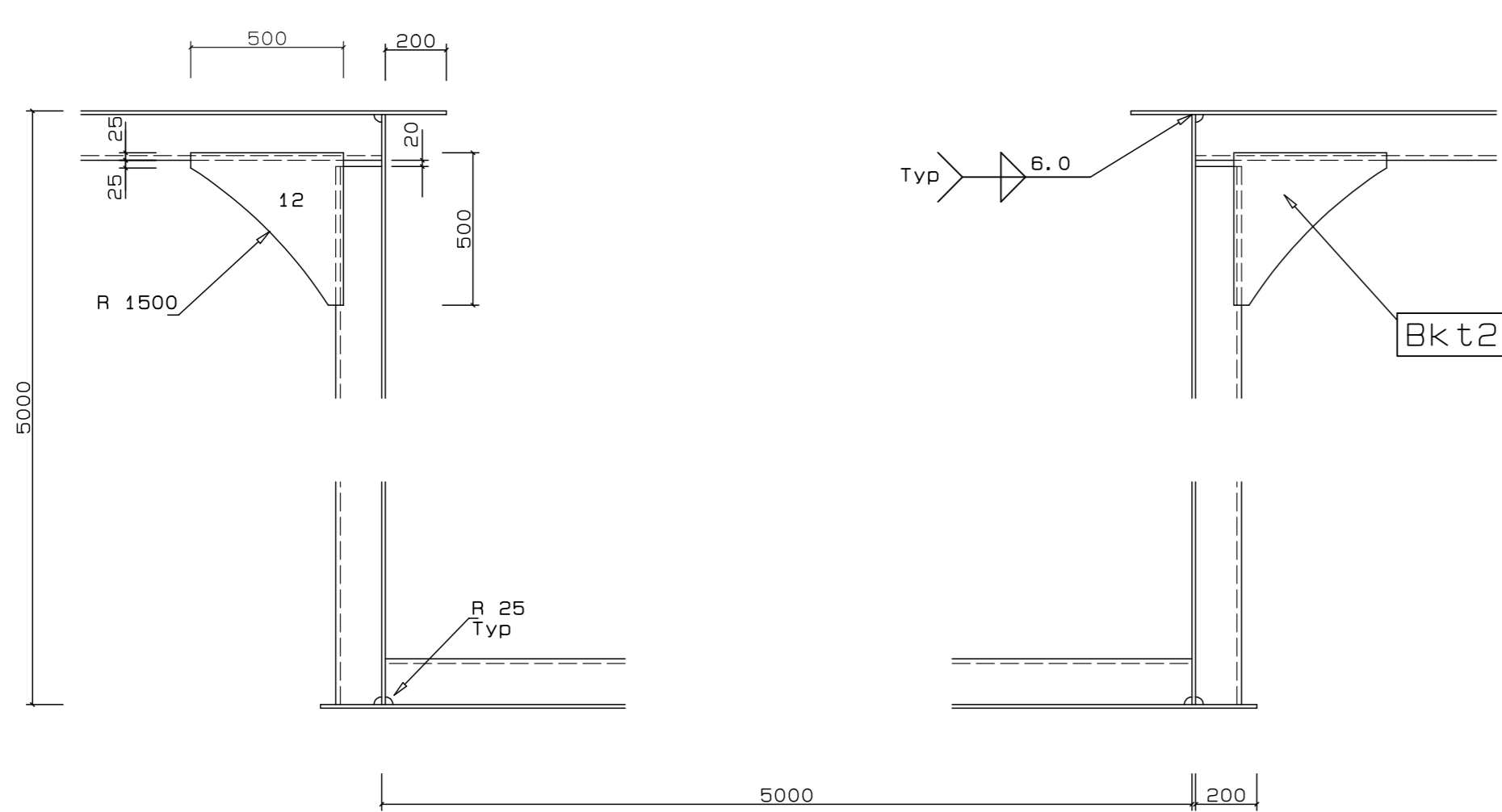
Dr. No. TNA 3501-03-2-D Sht 2 of 8

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP DESIGN MANAGER	
PORT ENGINEER	

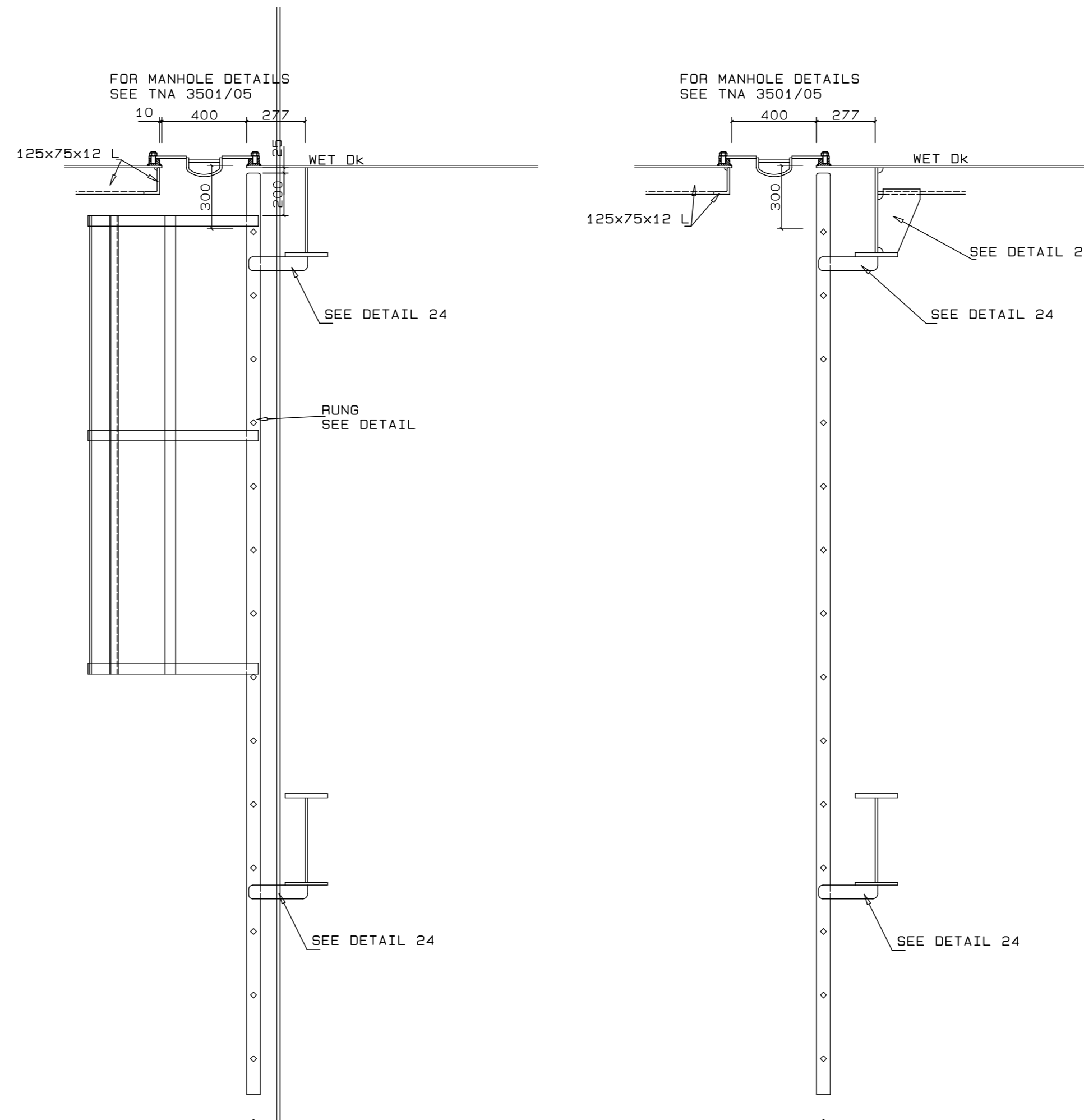
PORT ENGINEER	ROOM NO.
TECHNICAL MANAGER	PORT OF CAPE TOWN
PROJECT ENGINEER	PROJECT NO.
PROJECT MANAGER	NO.
SHIP DESIGN MANAGER	DATE
PORT ENGINEER	SCALE

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
CAISSON STRUCTURE  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
PLAN ON BALLAST TANK AND WET DK.  
SCUTTLE TANK LONGITUDINAL BHDS

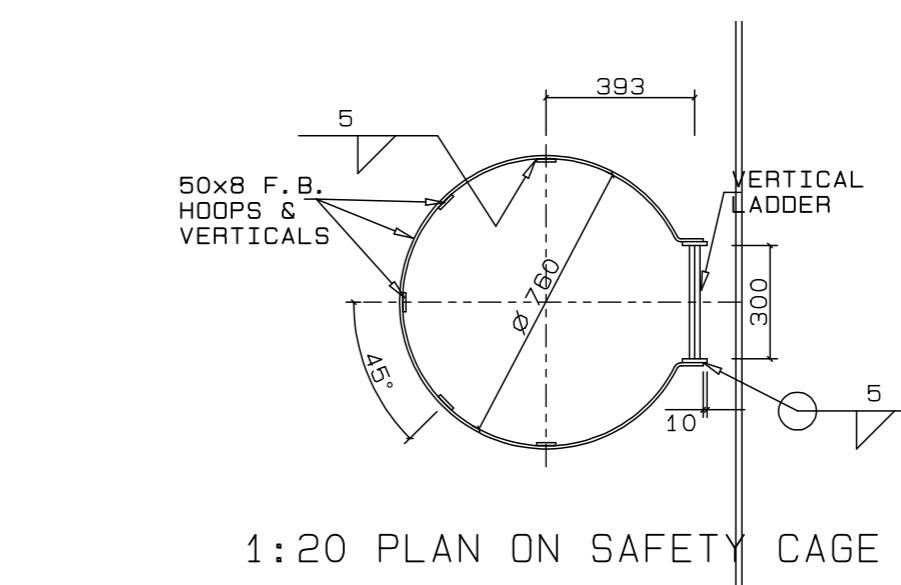
DESIGN	D. McNeill	CHECKED	C.S. Burt
SCALE	AS SHOWN	DESIGN	R.P. KINGWILL
No. 507343-0000-DRG-SS-101-2		SHEET 2 OF 8	
DATE	16/03/20	FILE REF	3501-03-2-D



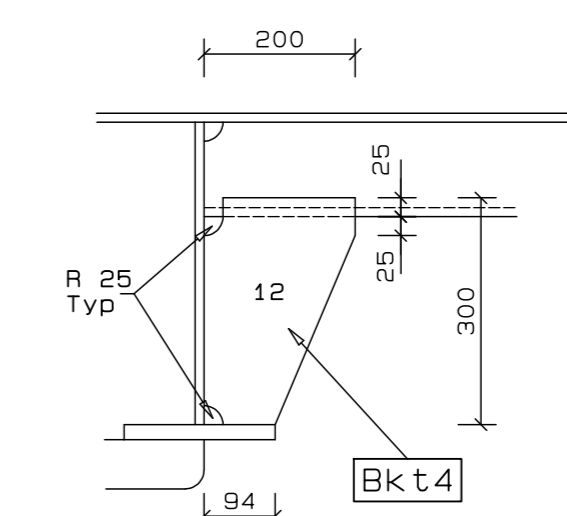
1:20 PLAN ON (TYPICAL)



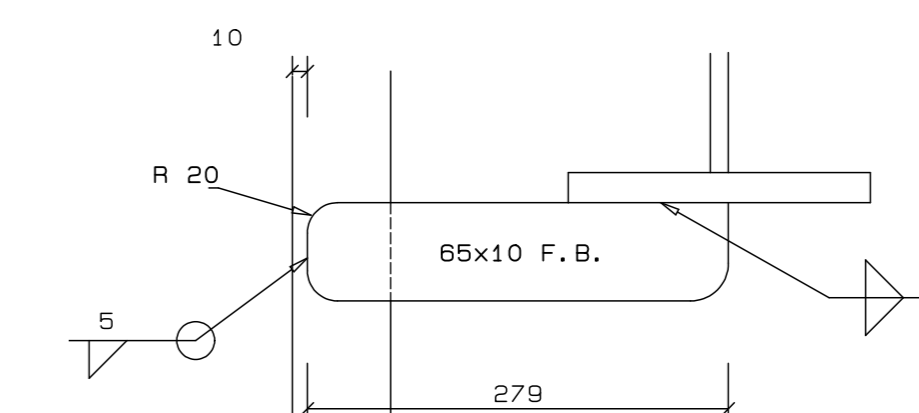
1:20 ELEVATION IN WAY OF BALLAST TANK ACCESS



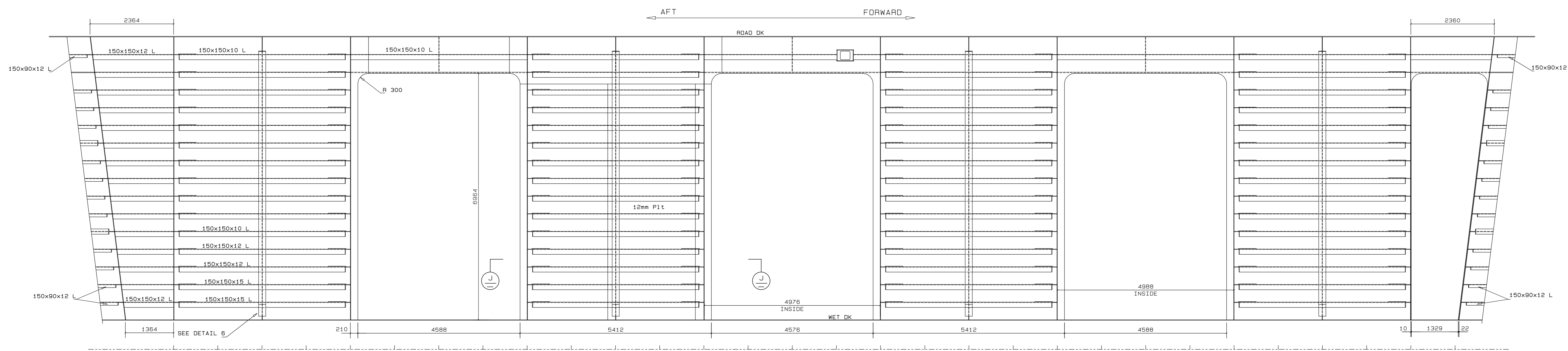
1:20 PLAN ON SAFETY CAGE



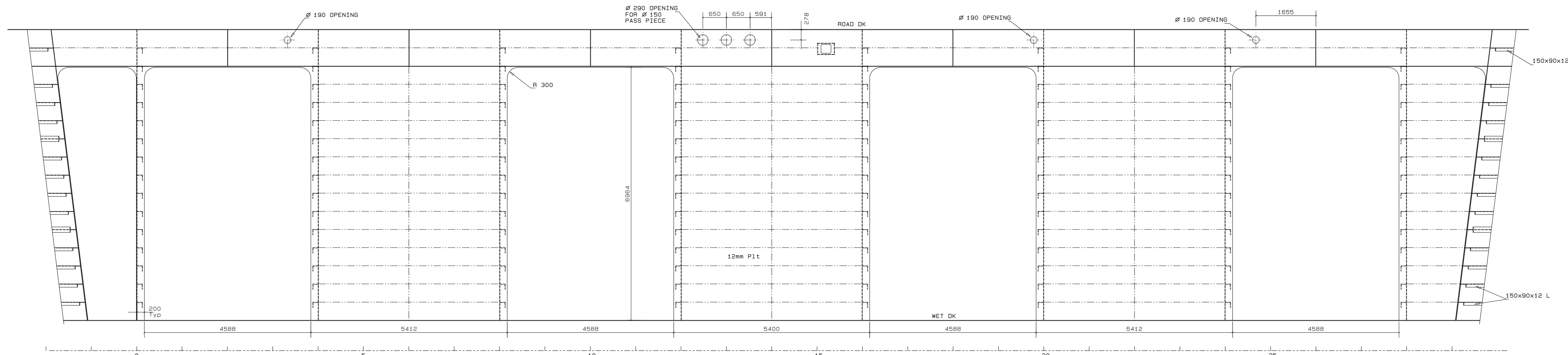
1:10 DETAIL 25



1:5 DETAIL 24



1:50 ELEVATION ON BHD 2500 off CENTRELINE PORT (R66) (LOOKING TO PORT)



1:50 ELEVATION ON BHD 2500 off CENTRELINE STBD (R67) (LOOKING TO PORT)

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	18/04/20	ISSUED FOR REVIEW	B Kingwill
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-03-3-D Sht 3 of 8

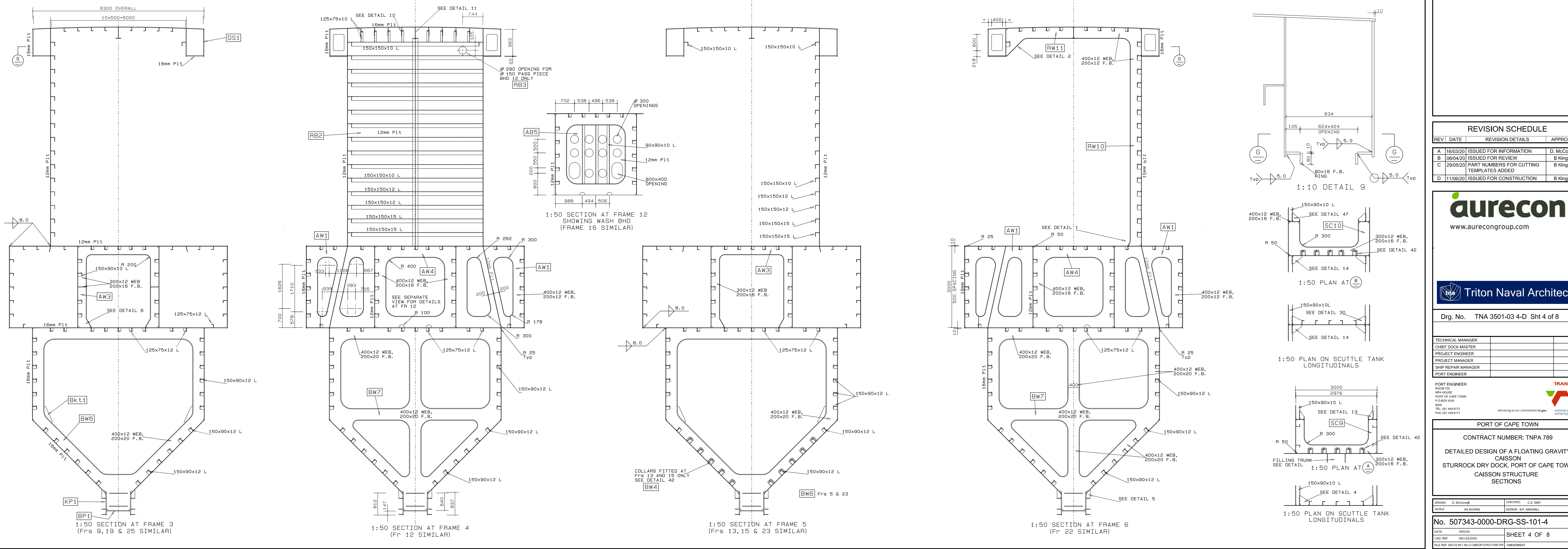
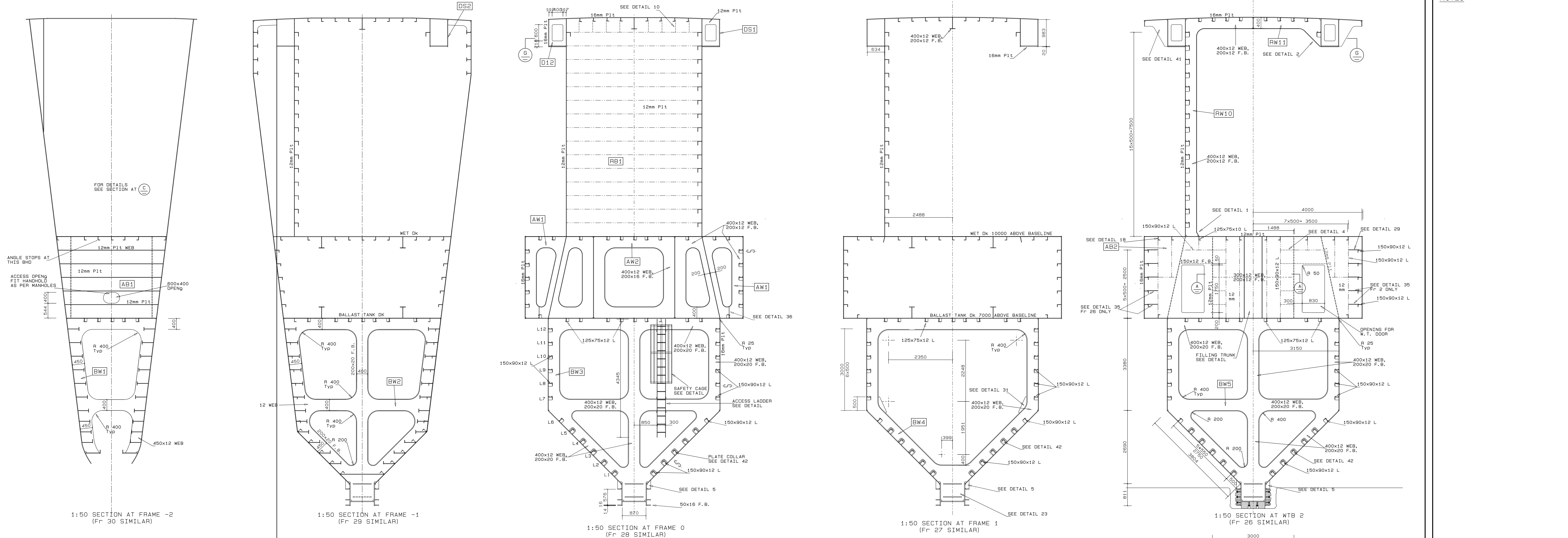
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM NO.  
MAN HOIST  
PORT OF CAPE TOWN  
P.O. BOX 406  
800  
TEL: 021 489 8373  
FAX: 021 489 8371



PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
SWEDGE BHDs AND BALLAST  
TANK ACCESS

DESIGN: D. McConnell	CHECKED: C.S. BURT
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 19/03/20	SHEET 3 OF 8
CAD REF: 3601-01-DWG	FILE REF: 3601-03-3-D



**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B. Kingwill
C	28/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B. Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B. Kingwill



Drg. No. TNA 3501-03-4-D Sht 4 of 8

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

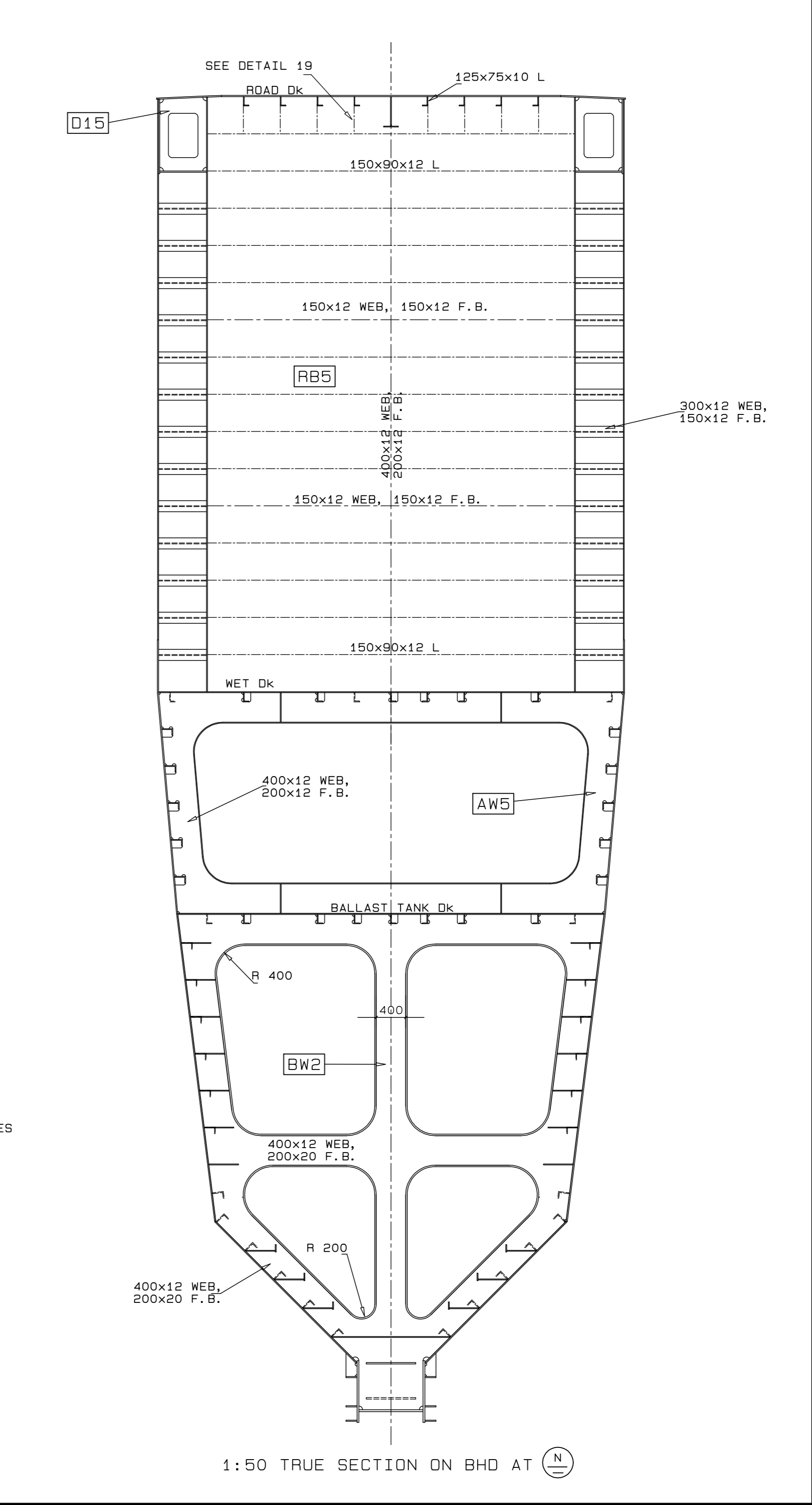
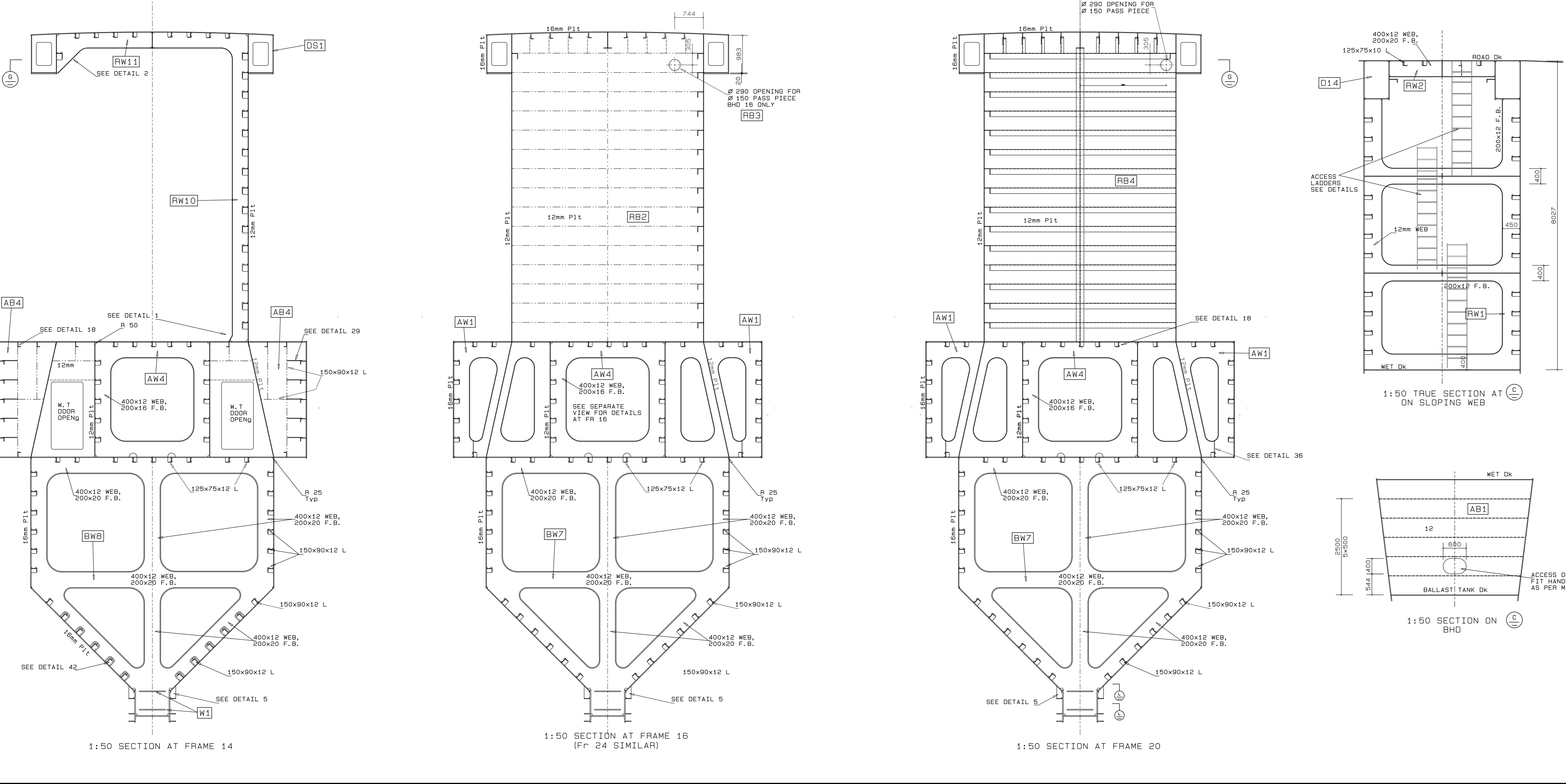
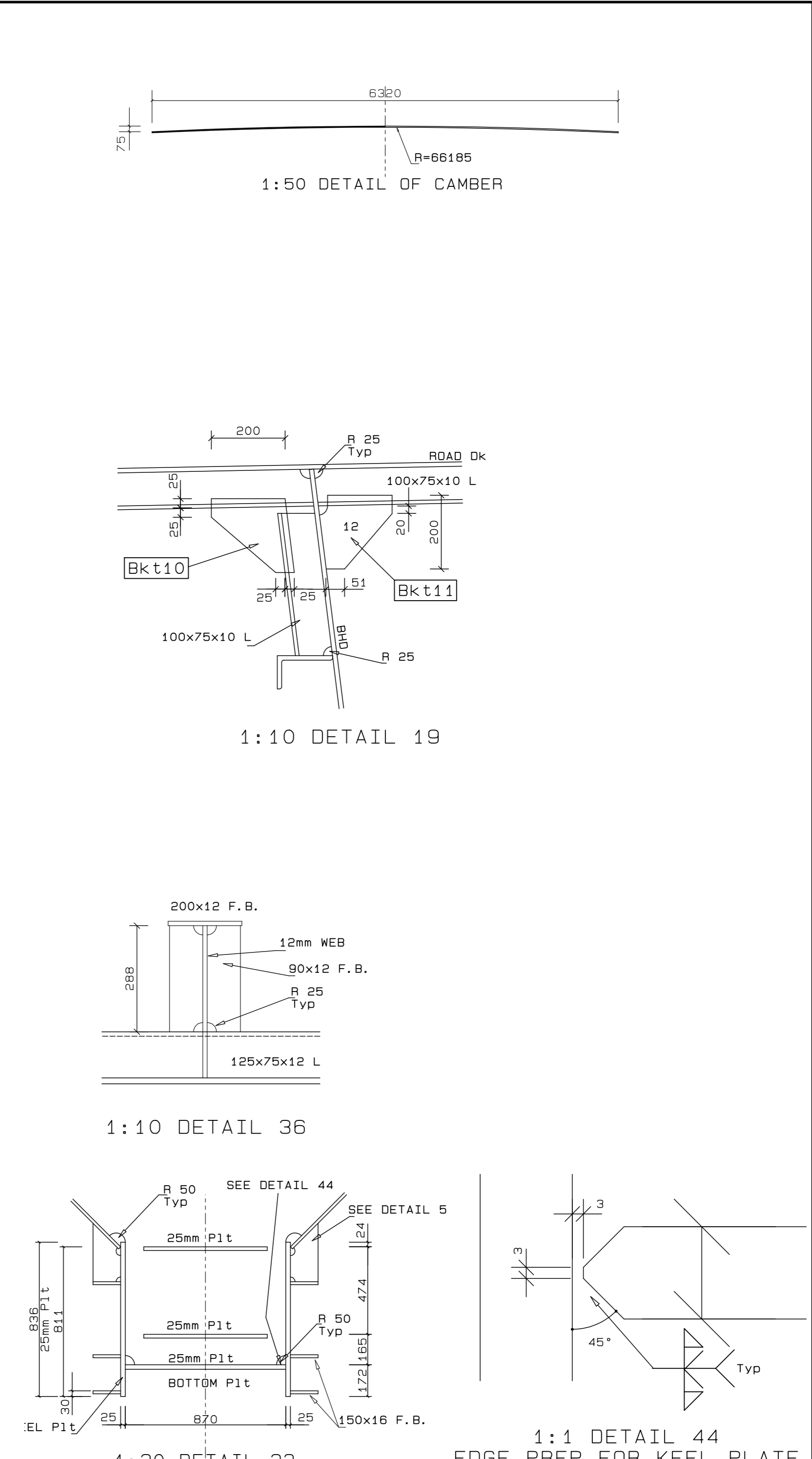
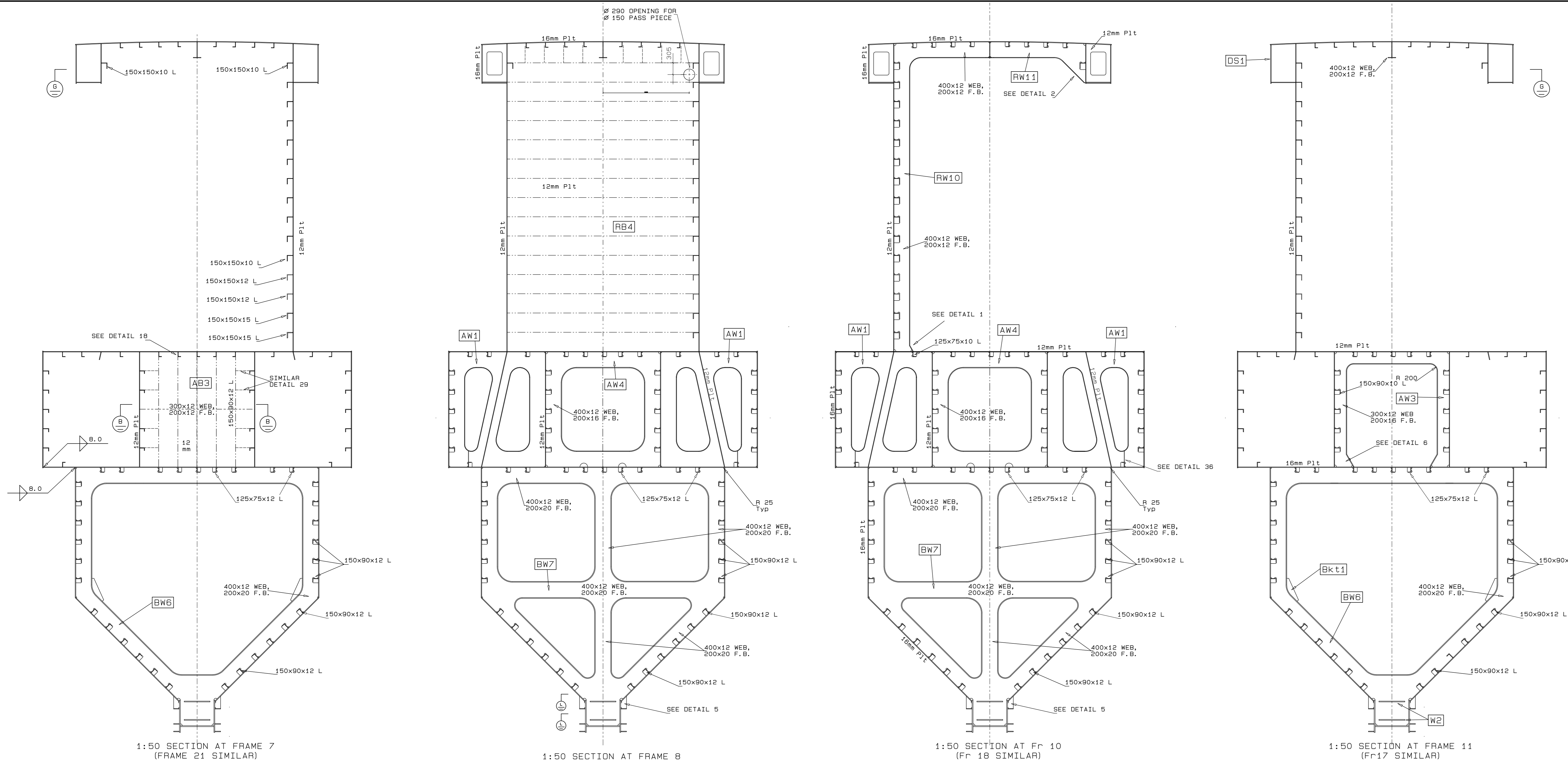
PORT ENGINEER  
ROOM 705  
SEA HOUSE  
PORT OF CAPE TOWN  
PO BOX 405  
600  
TEL: 021 448 8173  
FAX: 021 448 8171

**PORT OF CAPE TOWN**  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE SECTIONS

DESIGNER	D. McConnell	CHECKED	C.B. SMIT
SCALE	AS SHOWN	DESIGN	B.P. KINGWILL
DATE	16/03/20		
CAD REF	3501-03-000		
FILE REF	3501-03-011-FIN-CISSON-STRUCTURE-PPF	AMENDMENT	D

No. 507343-0000-DRG-SS-101-4  
SHEET 4 OF 8



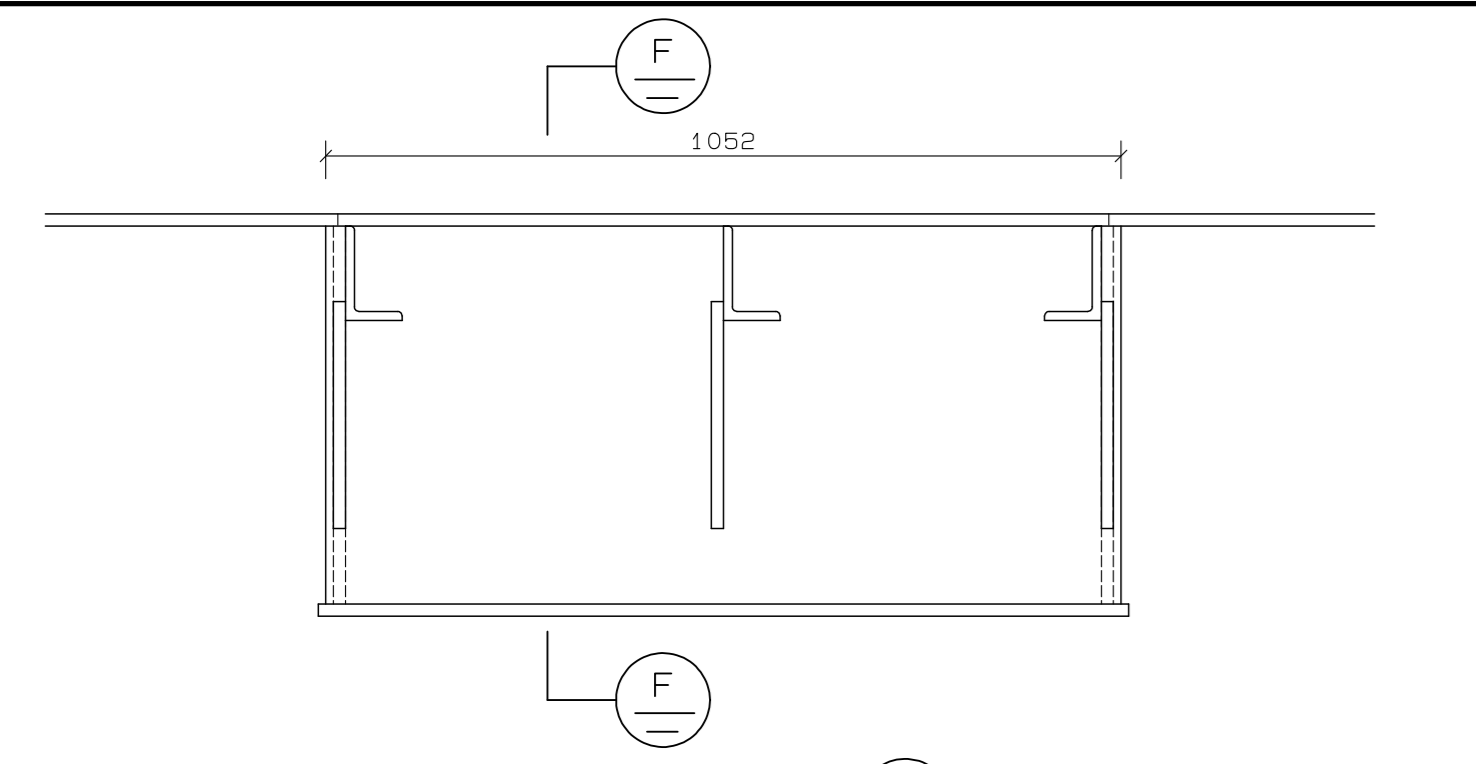


NOTES

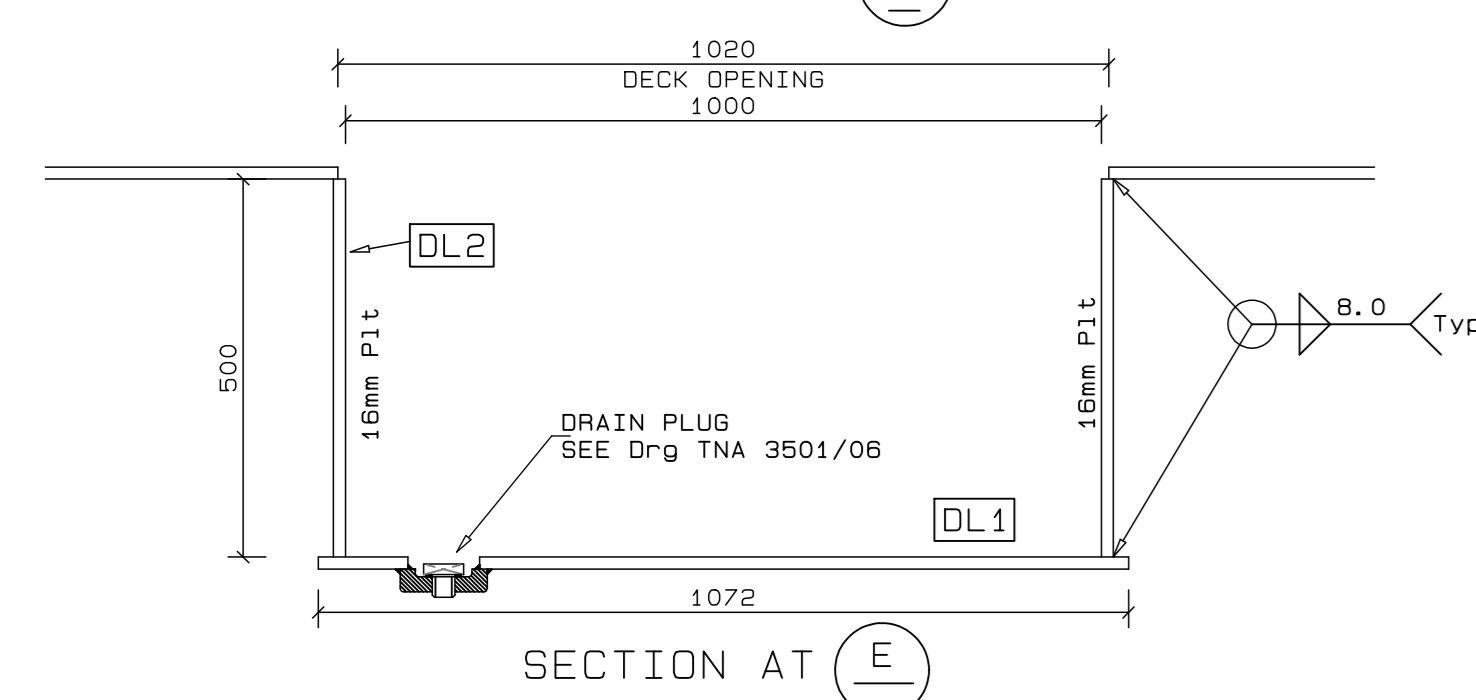
REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

**PORT OF CAPE TOWN**  
 CONTRACT NUMBER: TNPA 789  
**DETAILED DESIGN OF A FLOATING GRAVITY CAISSON**  
**STURROCK DRY DOCK, PORT OF CAPE TOWN**  
**CAISSON STRUCTURE SECTIONS**

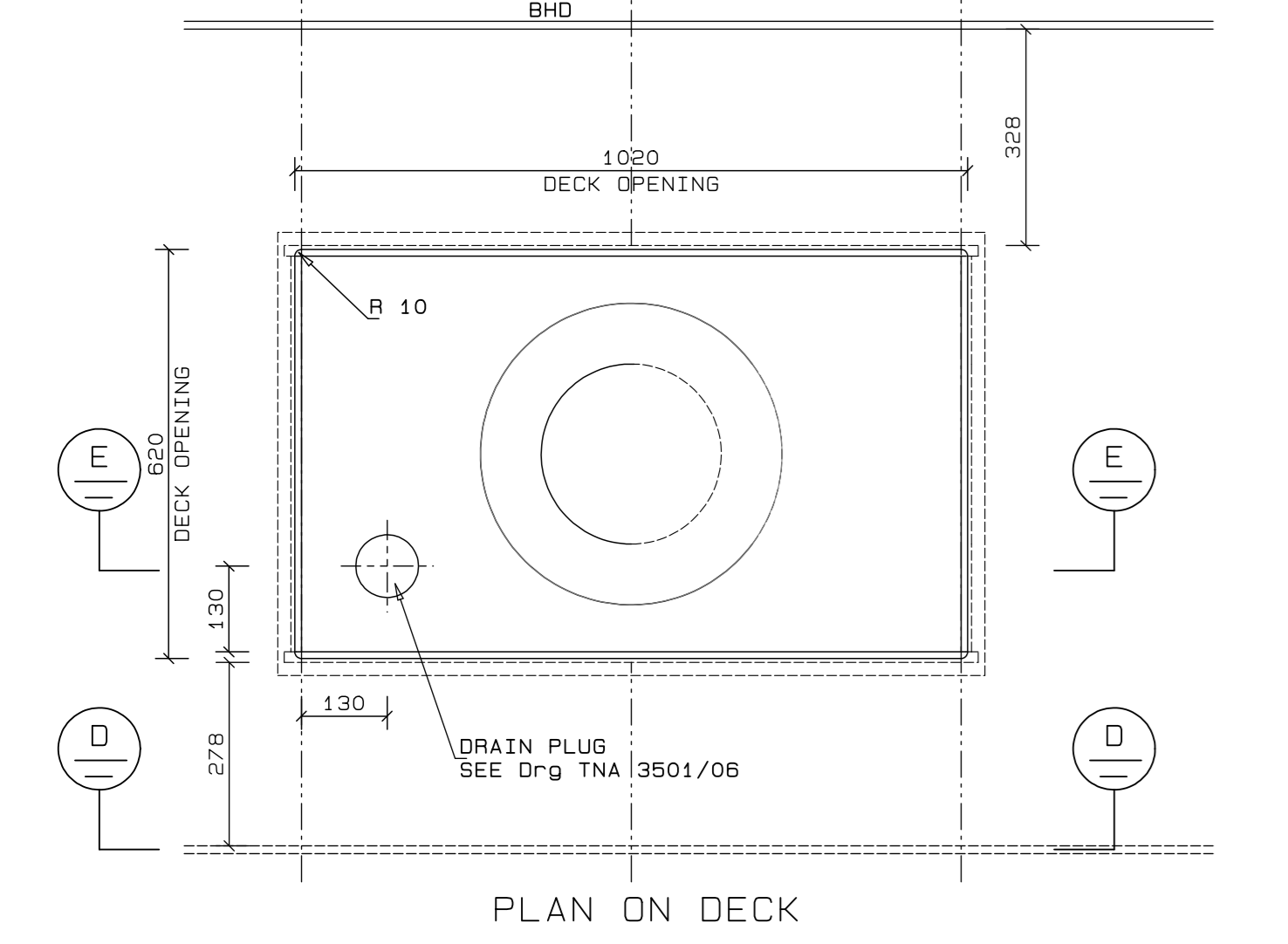
DESIGN: D. McConnell	CHECKED: G.S. BRET
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 19/03/20	SHEET: 5 OF 8
FILE REF: 2013-03-03-000-DRG-SS-101-5	AMENDMENT: D



SECTION AT D

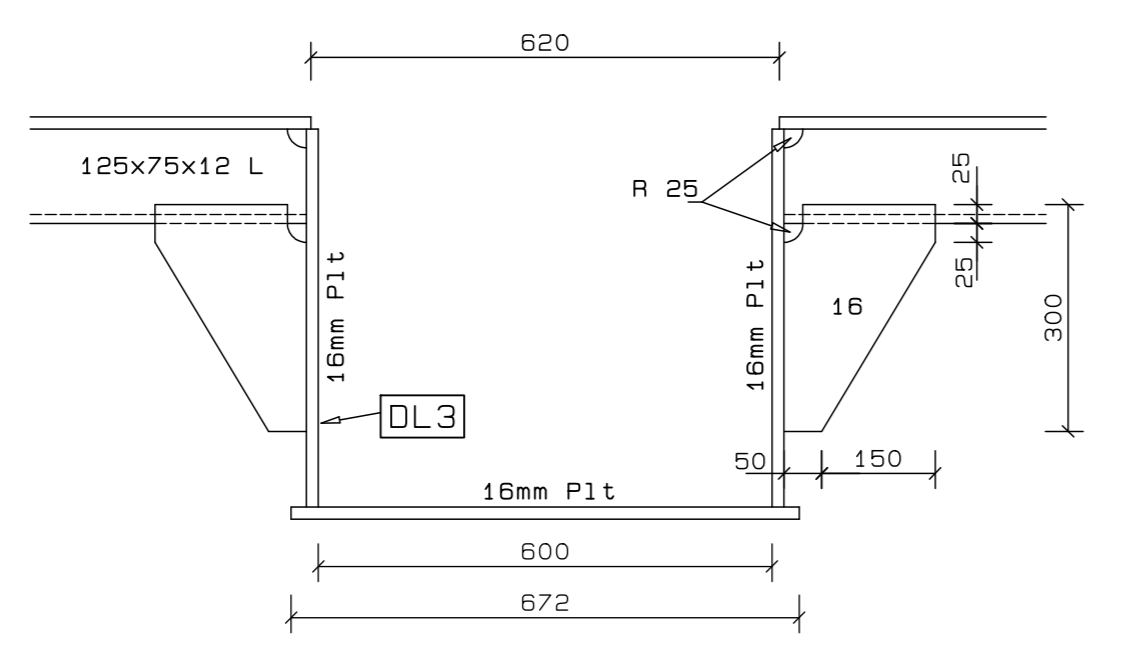


SECTION AT E

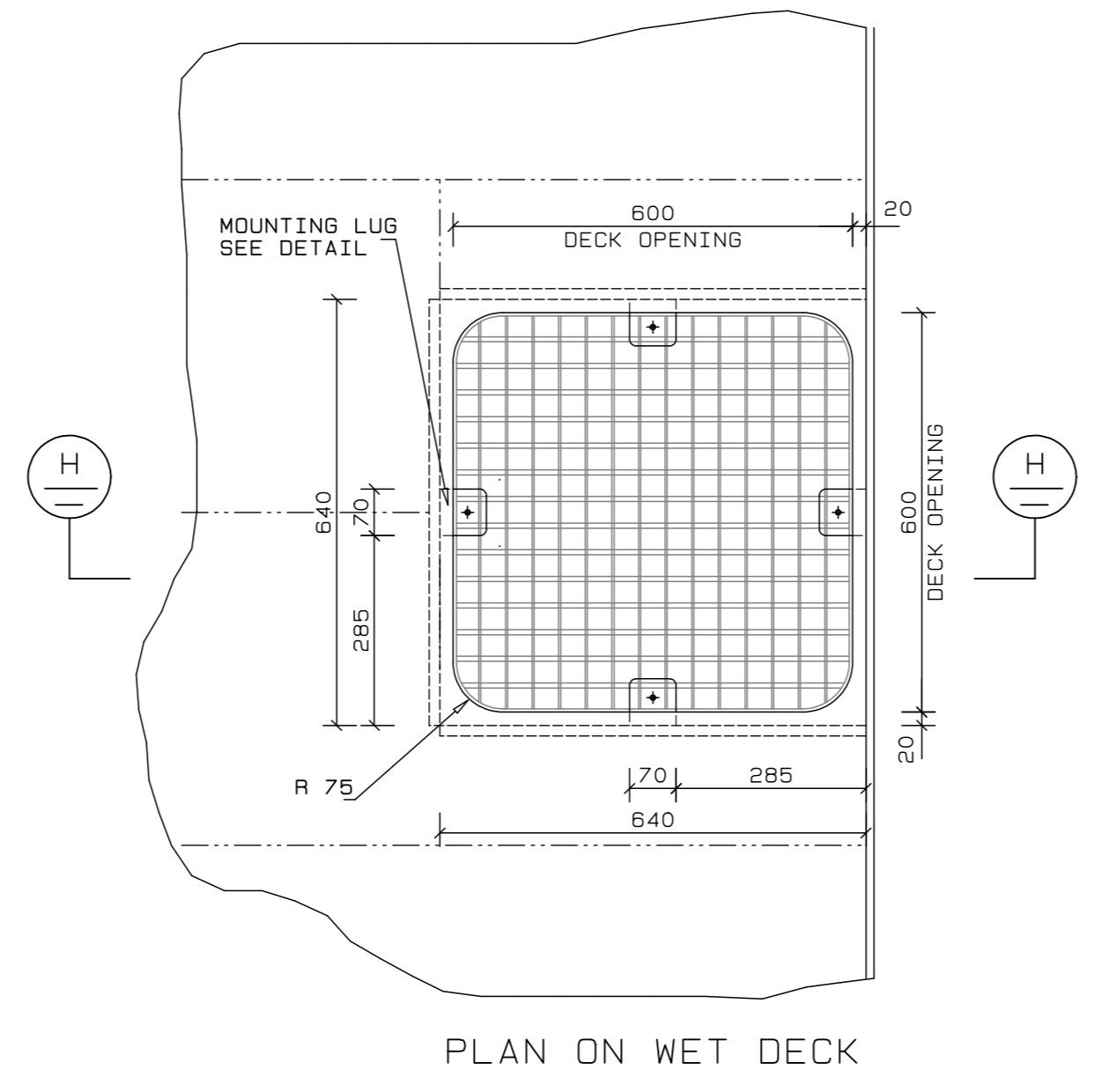


PLAN ON DECK

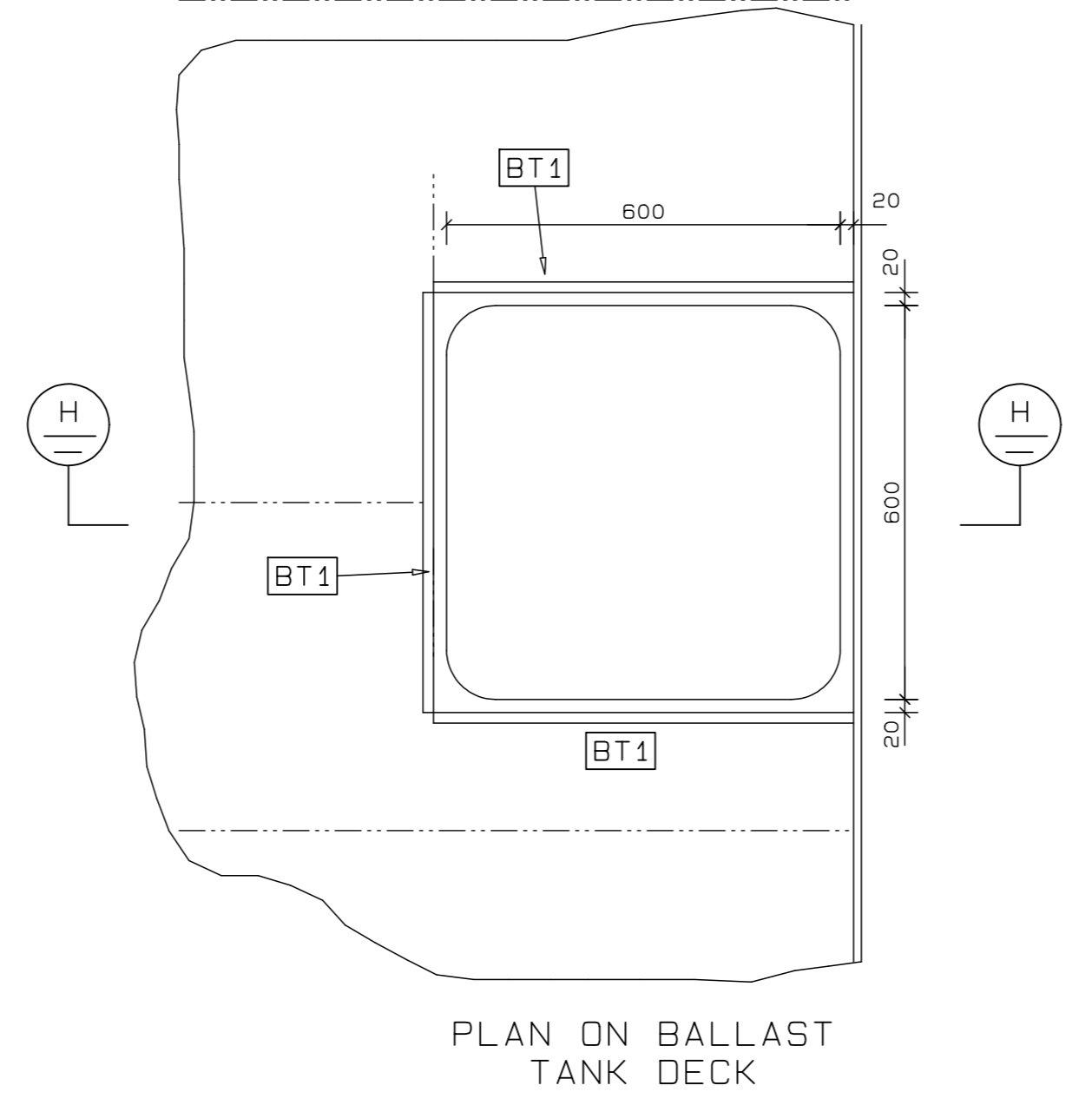
1:10 DETAIL OF DILL IN SCUTTLE TANK (6 PLACES)



ELEVATION AT F (3 PLACES TYPICAL)

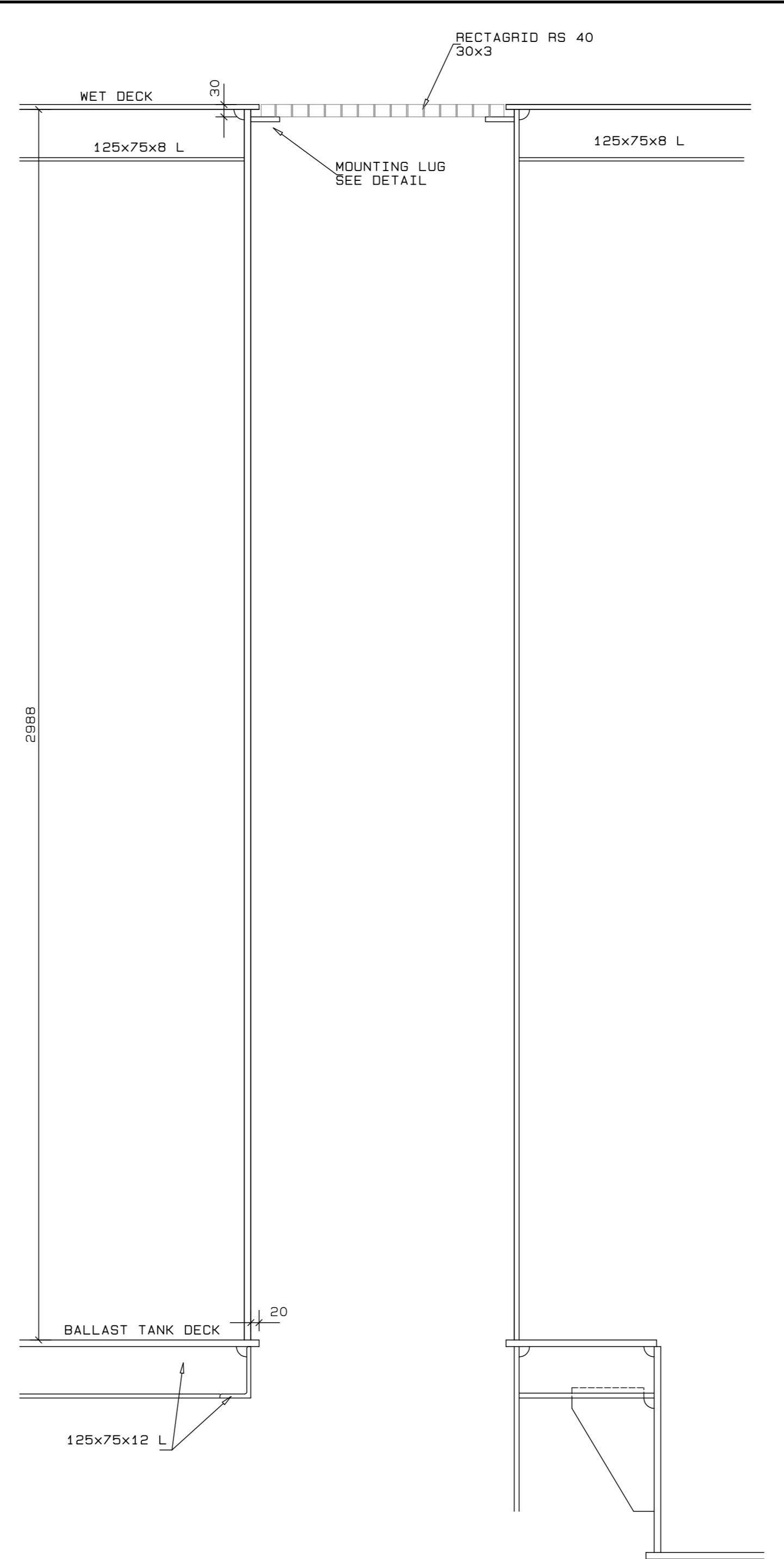


PLAN ON WET DECK

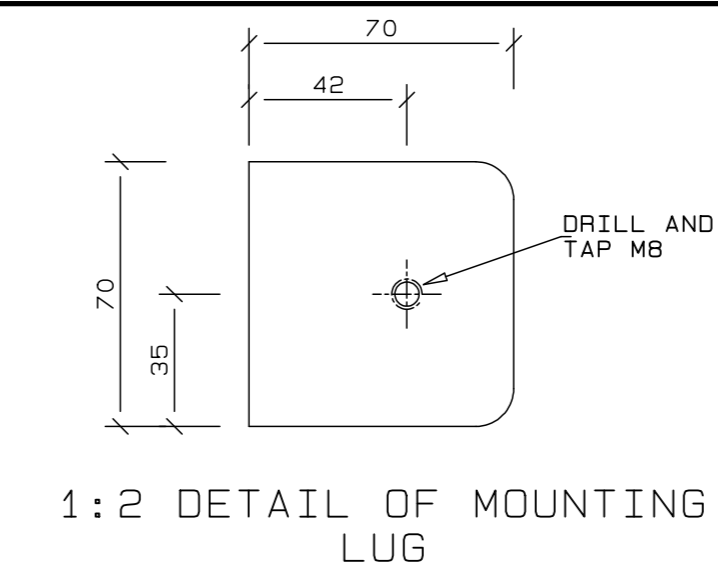


PLAN ON BALLAST TANK DECK

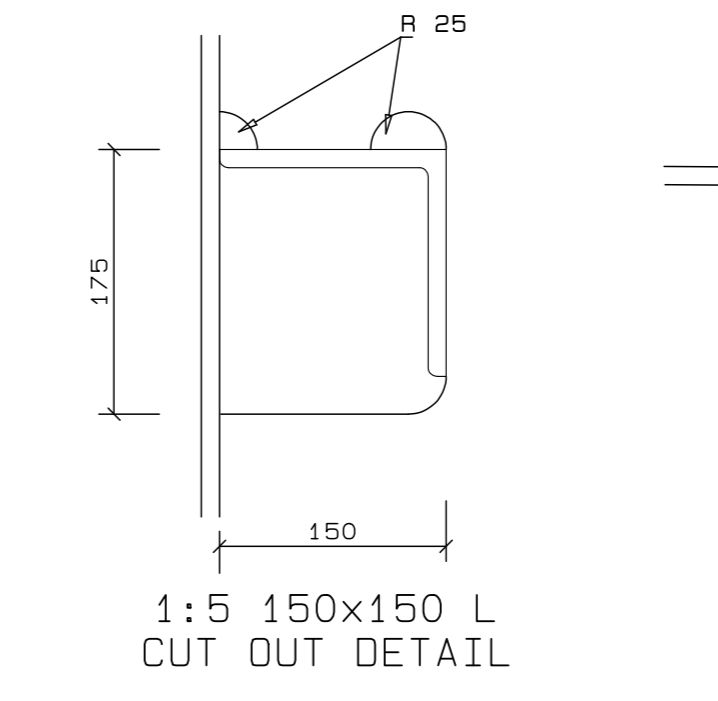
1:10 DETAIL OF BALLAST TANK FILLING TRUNK



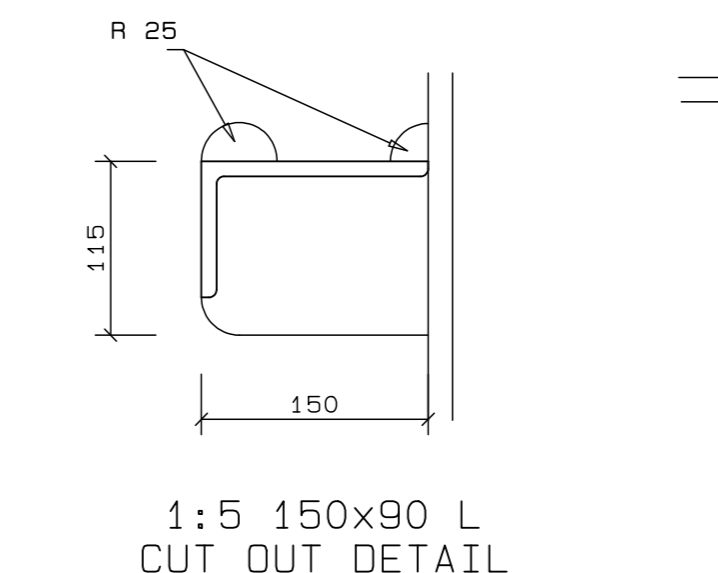
ELEVATION AT H



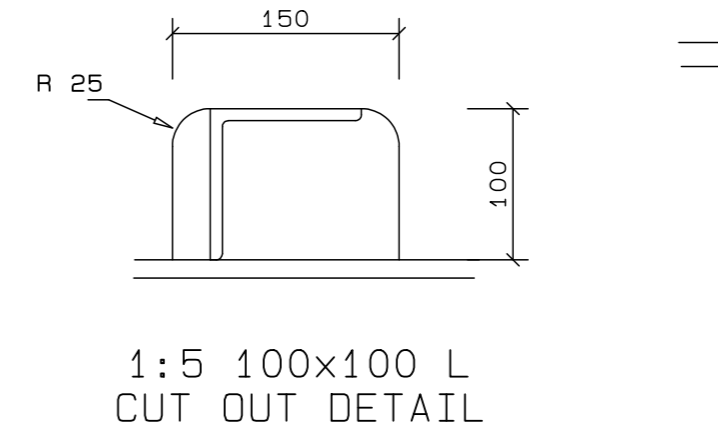
1:2 DETAIL OF MOUNTING LUG (8 IN No. Req. d.)



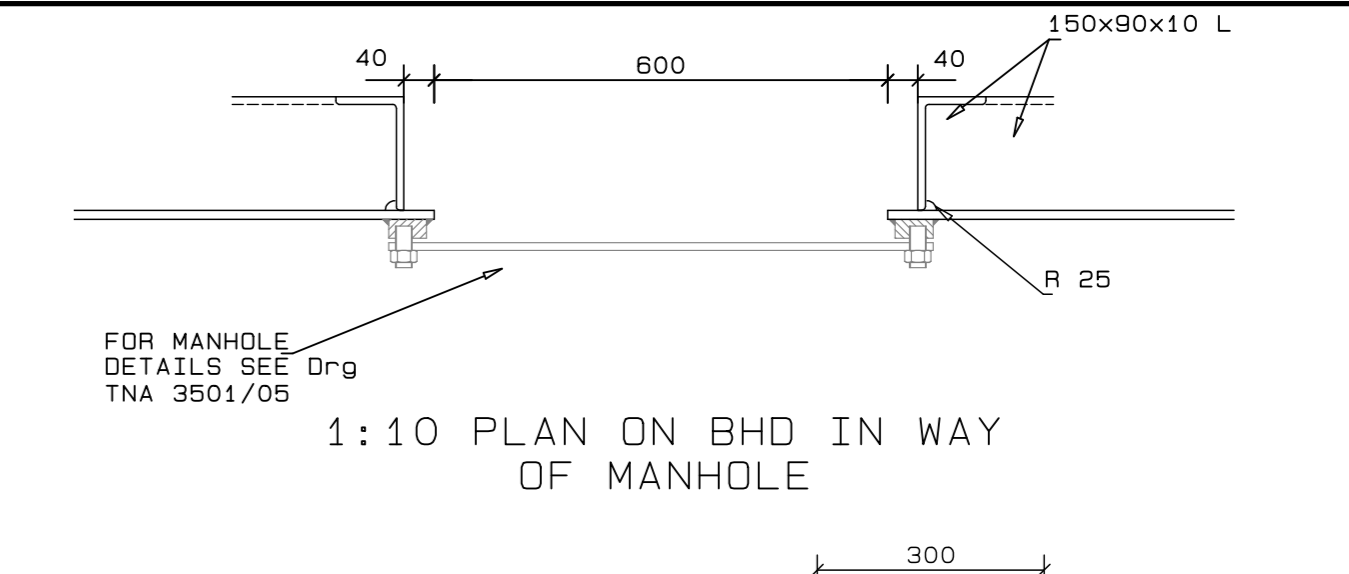
1:5 150x150 L CUT OUT DETAIL



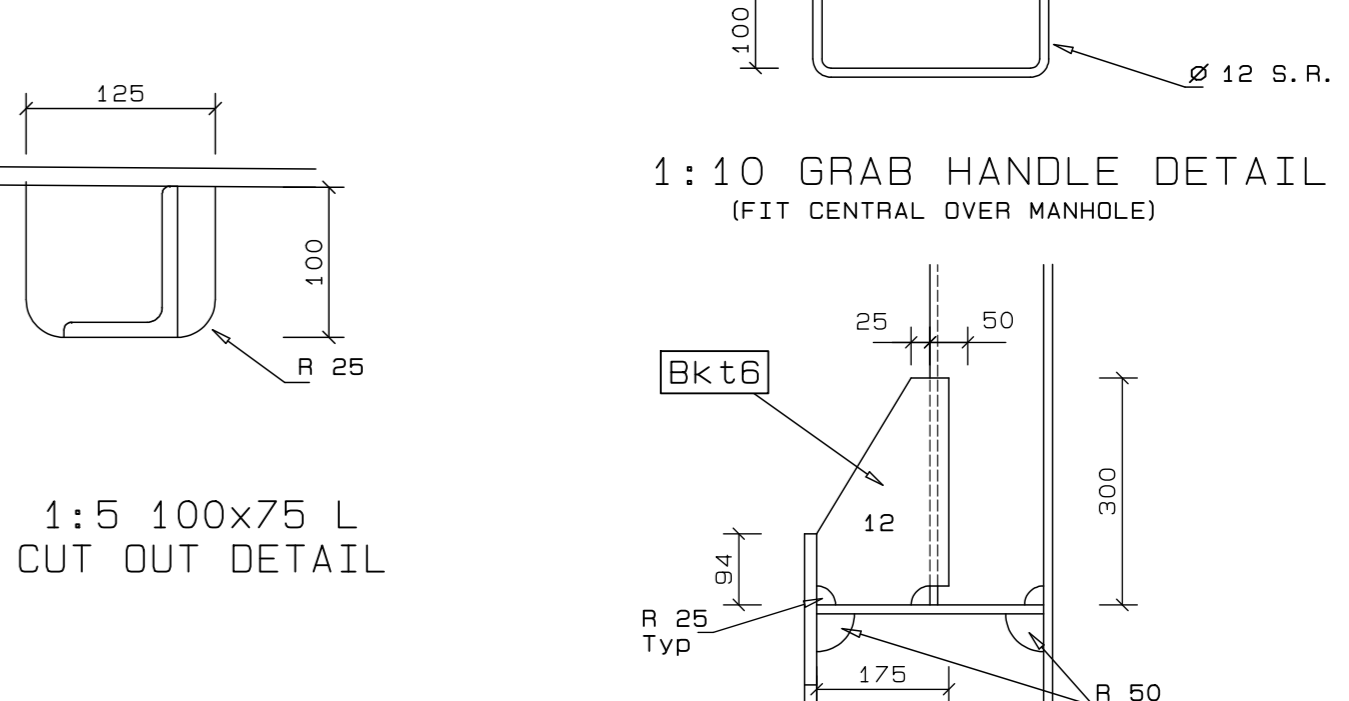
1:5 150x90 L CUT OUT DETAIL



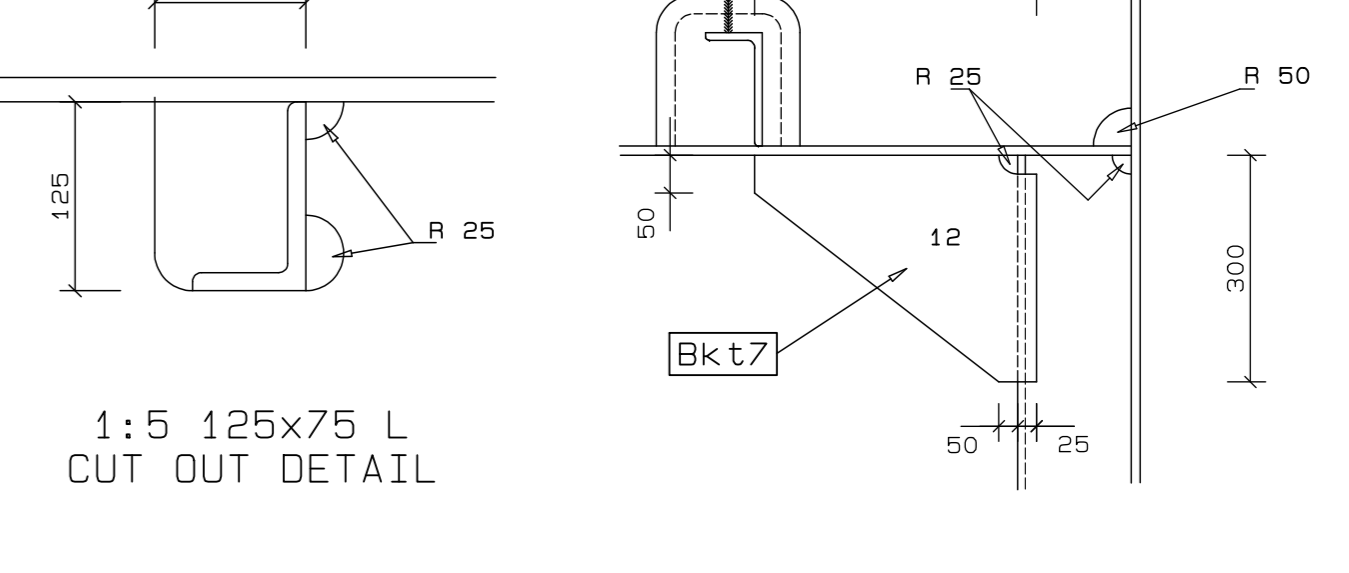
1:5 100x100 L CUT OUT DETAIL



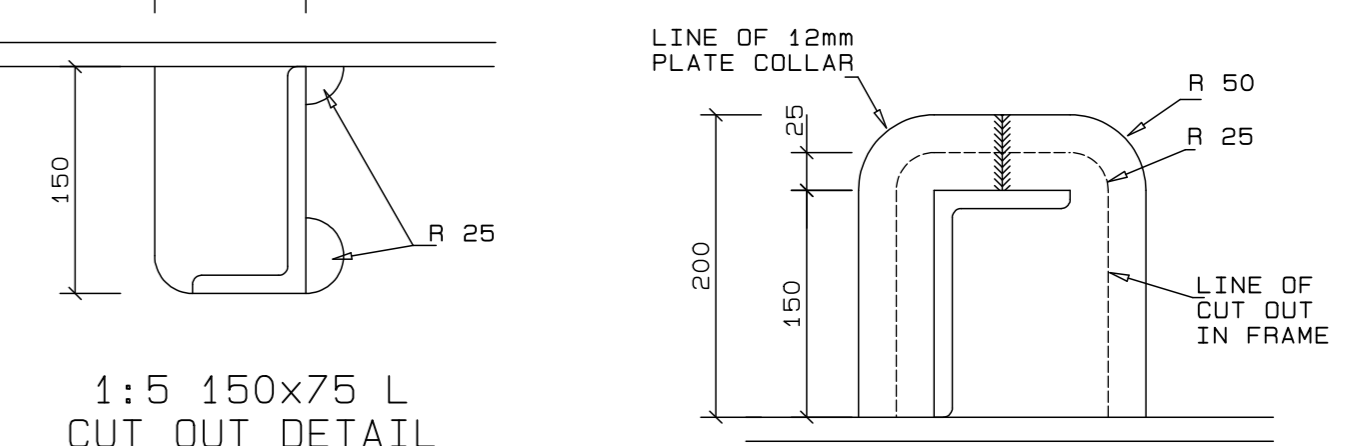
1:10 PLAN ON BHD IN WAY OF MANHOLE



1:5 100x75 L CUT OUT DETAIL

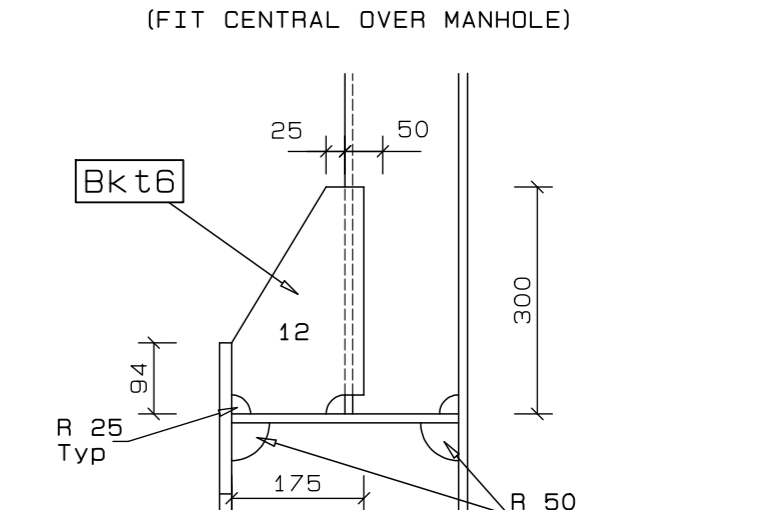


1:5 125x75 L CUT OUT DETAIL

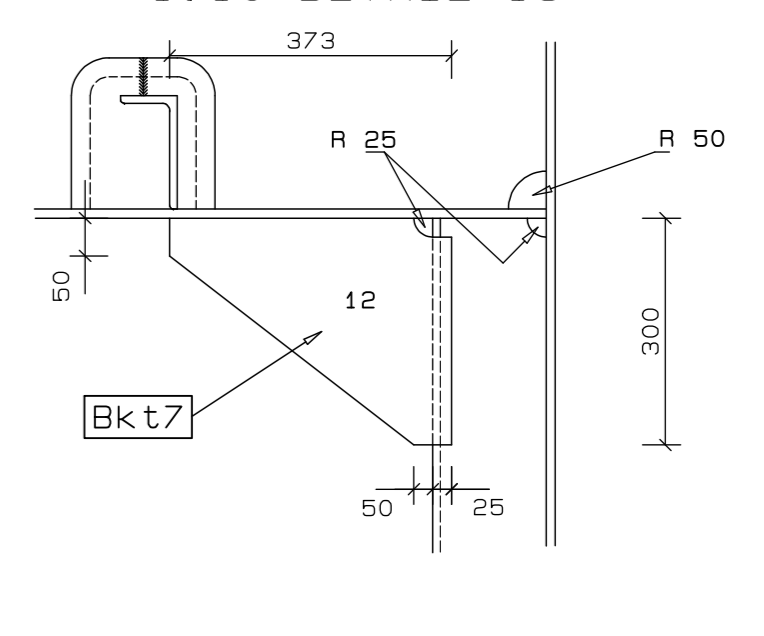


1:5 150x75 L CUT OUT DETAIL

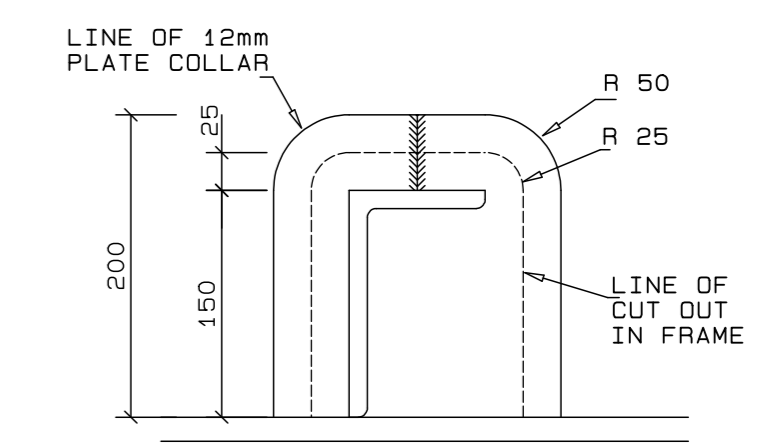
1:10 GRAB HANDLE DETAIL (FIT CENTRAL OVER MANHOLE)



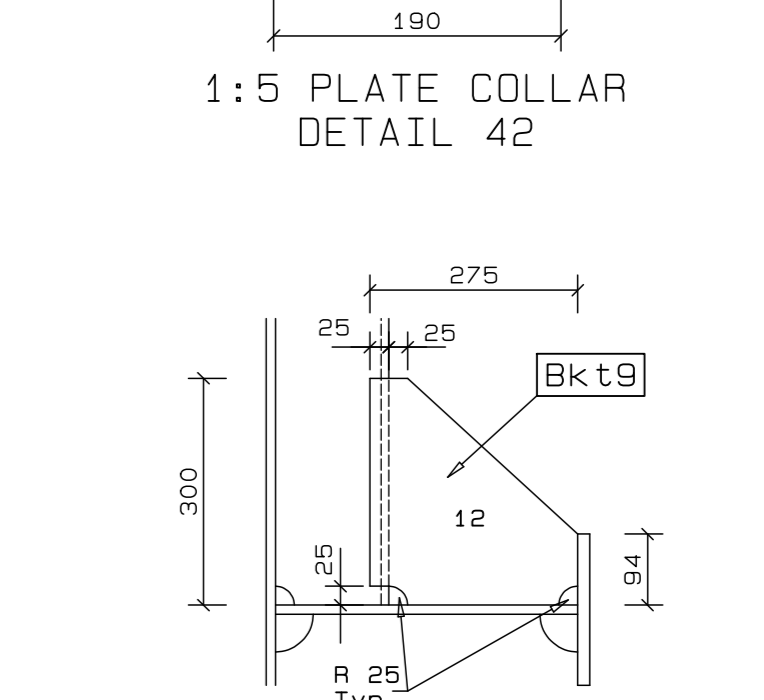
1:10 DETAIL 13



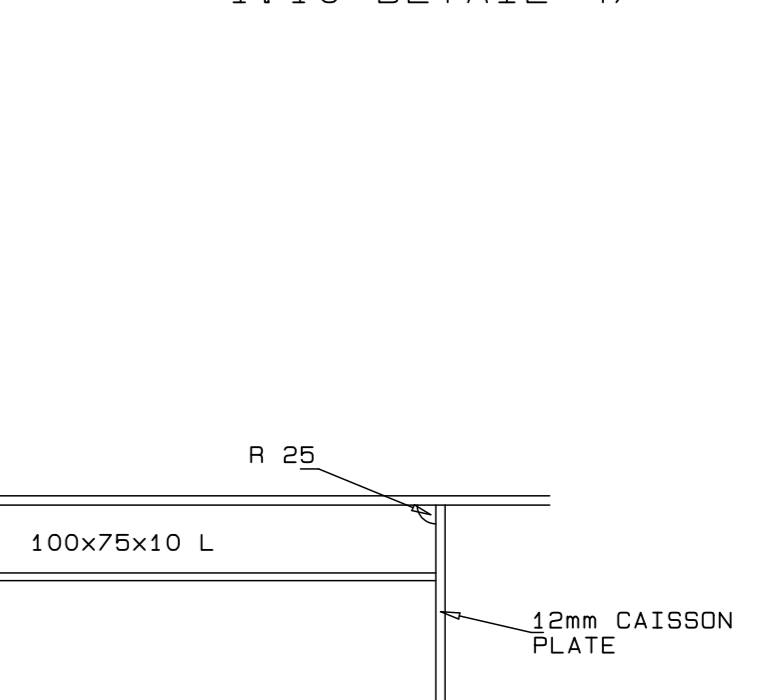
1:10 DETAIL 14



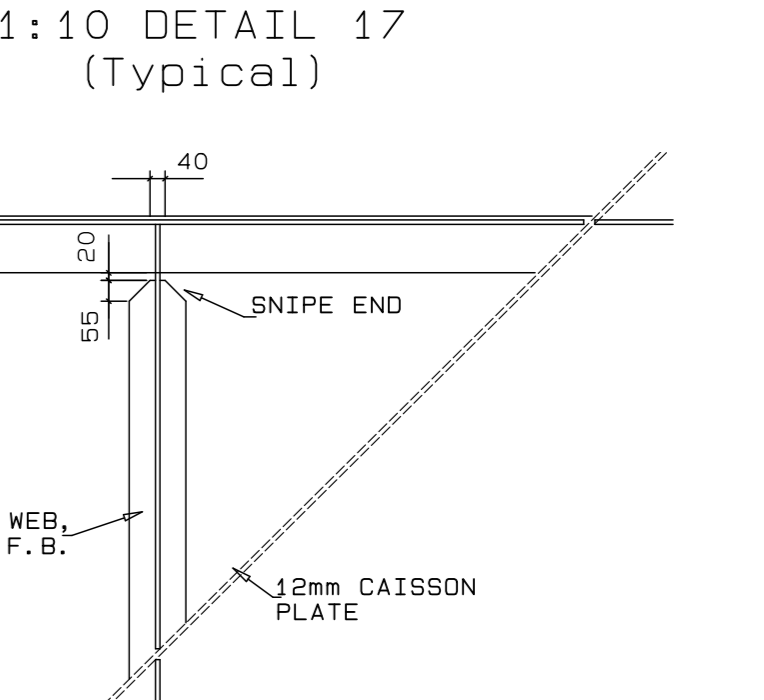
1:5 PLATE COLLAR DETAIL 42



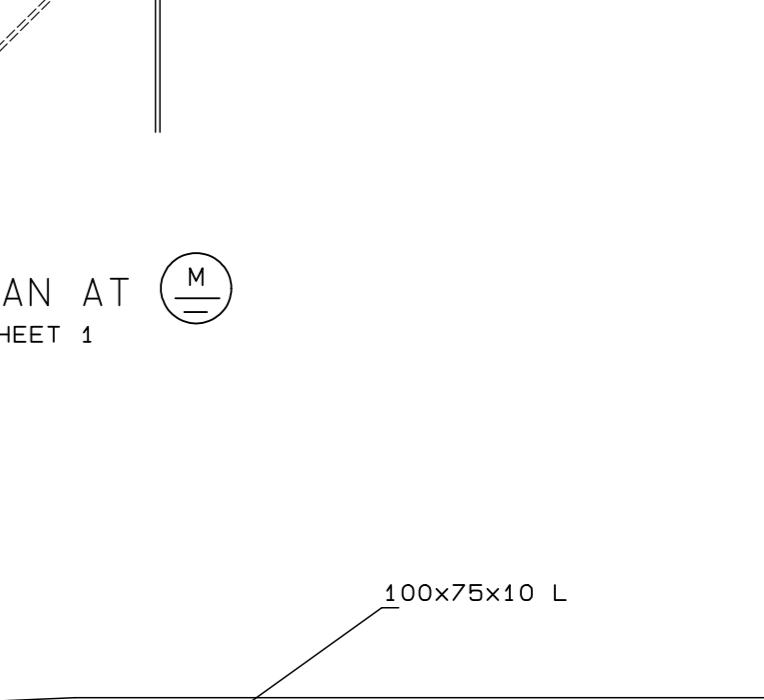
1:10 DETAIL 17 (Typical)



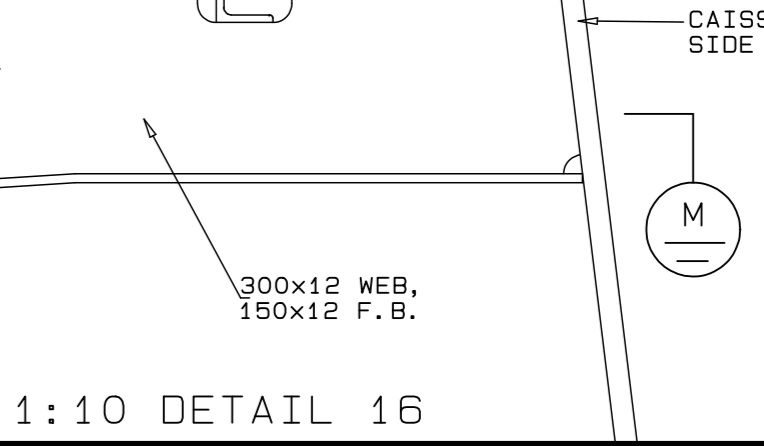
1:10 DETAIL 47



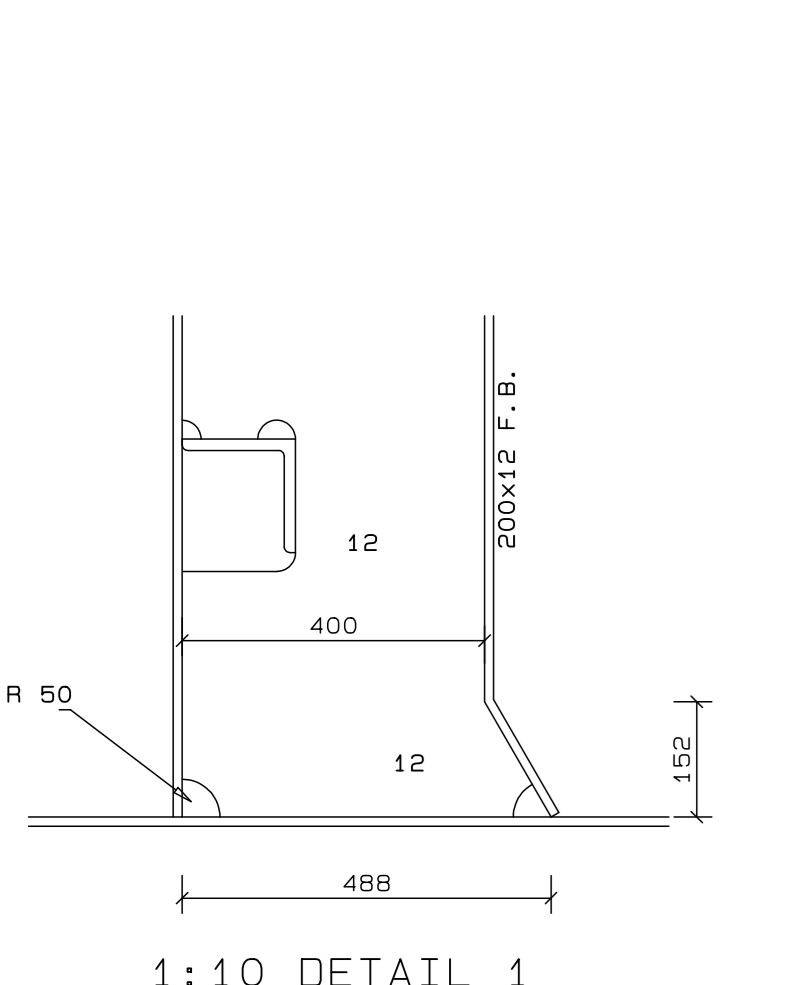
1:10 DETAIL 10



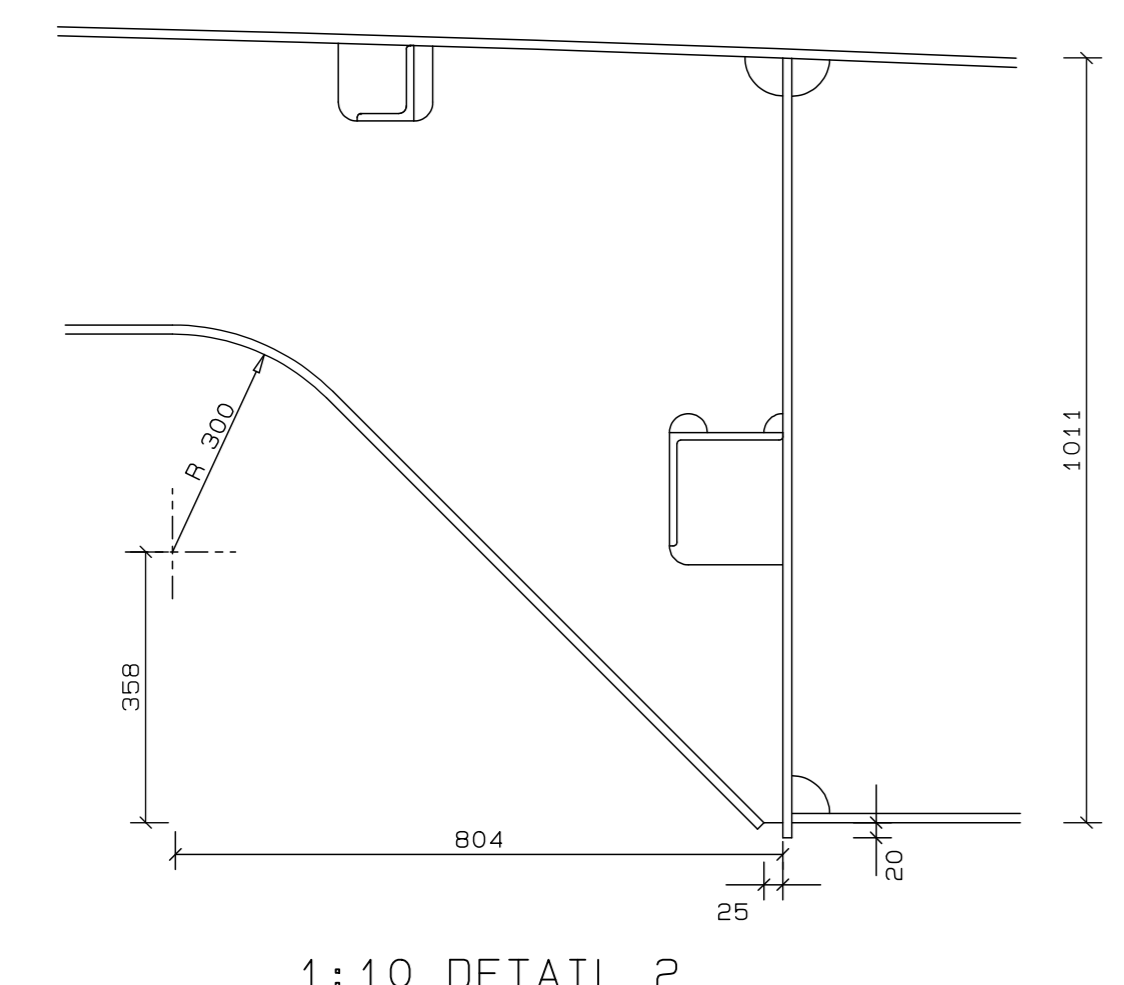
1:10 DETAIL 18



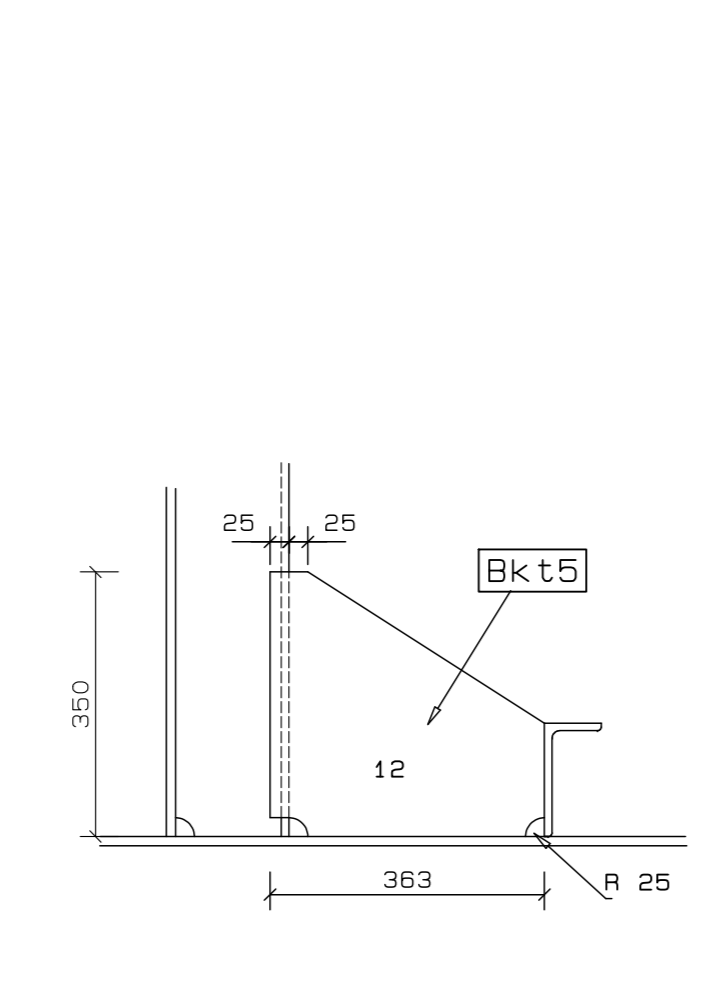
1:10 DETAIL 17



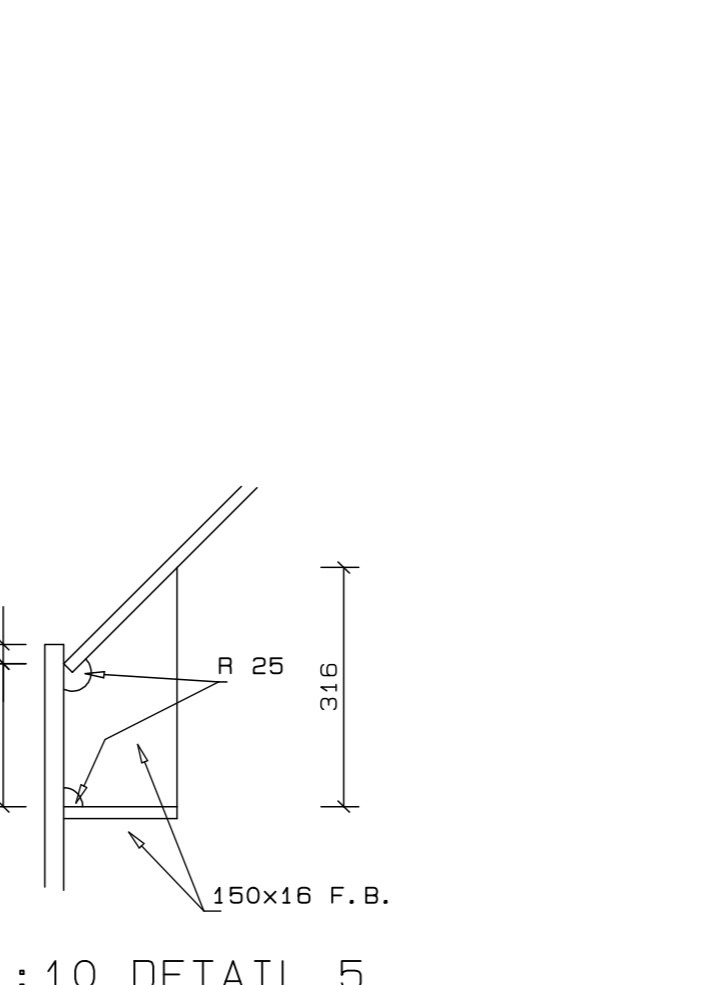
1:10 DETAIL 1



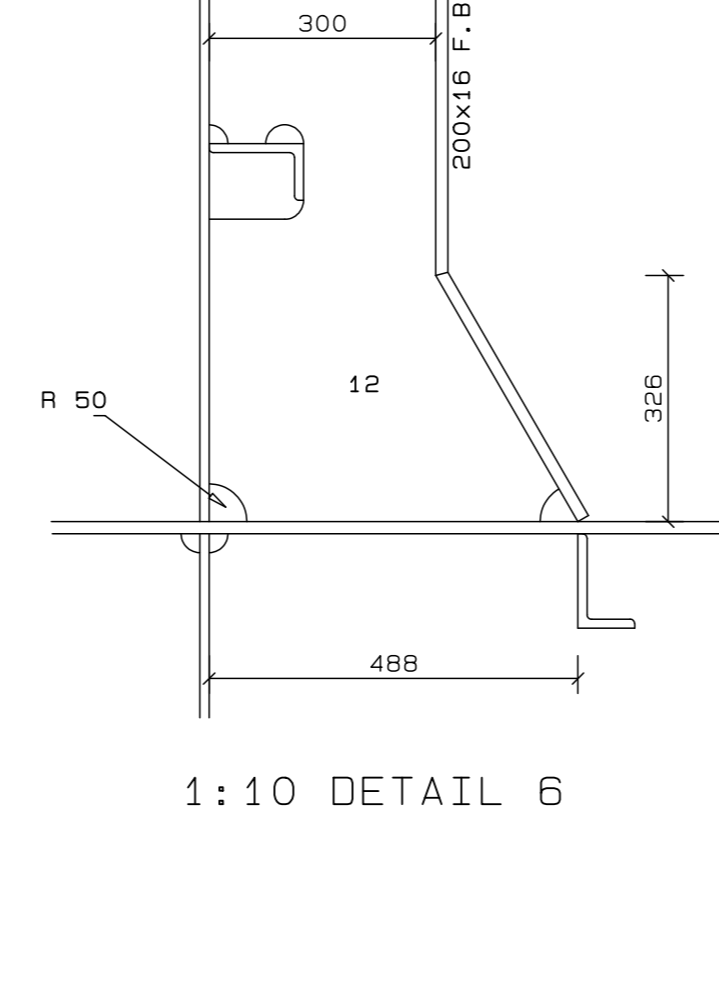
1:10 DETAIL 2



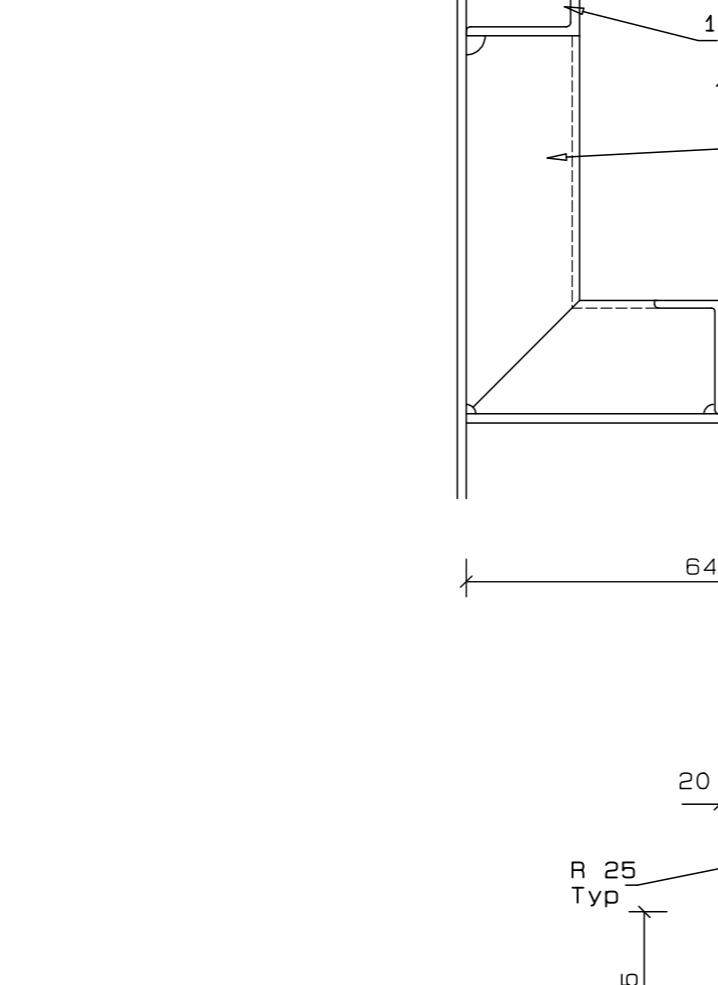
1:10 DETAIL 4



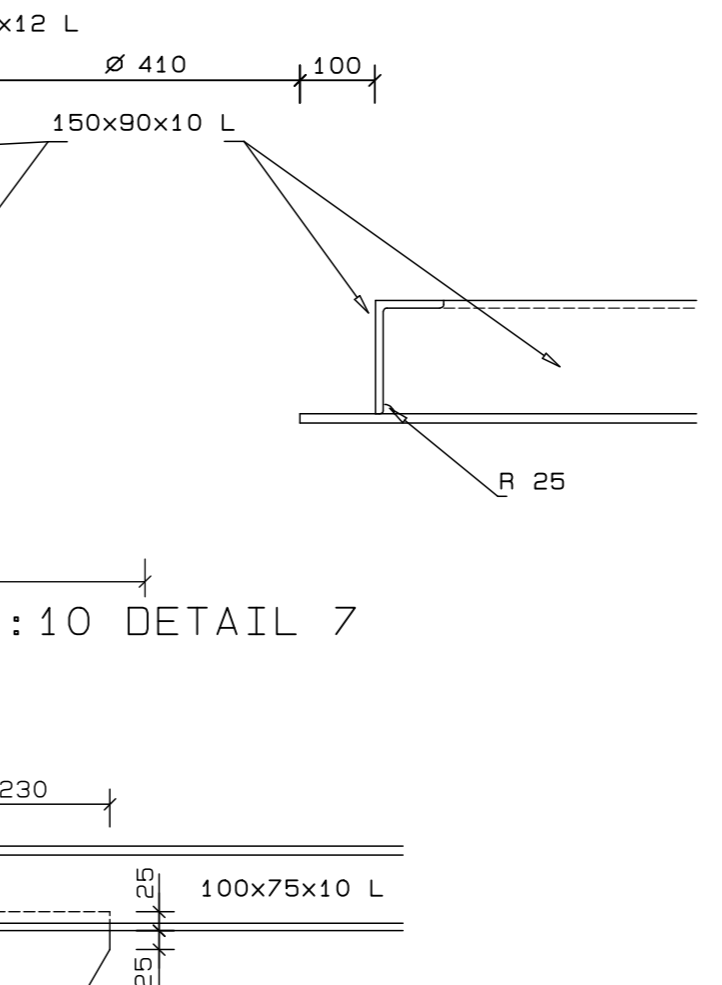
1:10 DETAIL 5



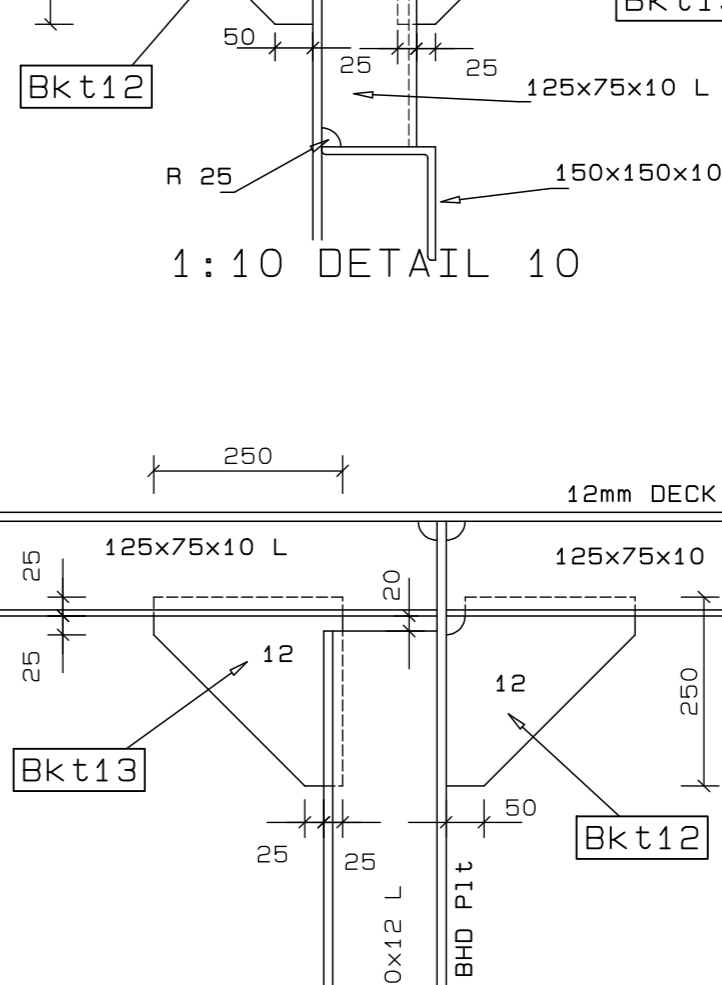
1:10 DETAIL 6



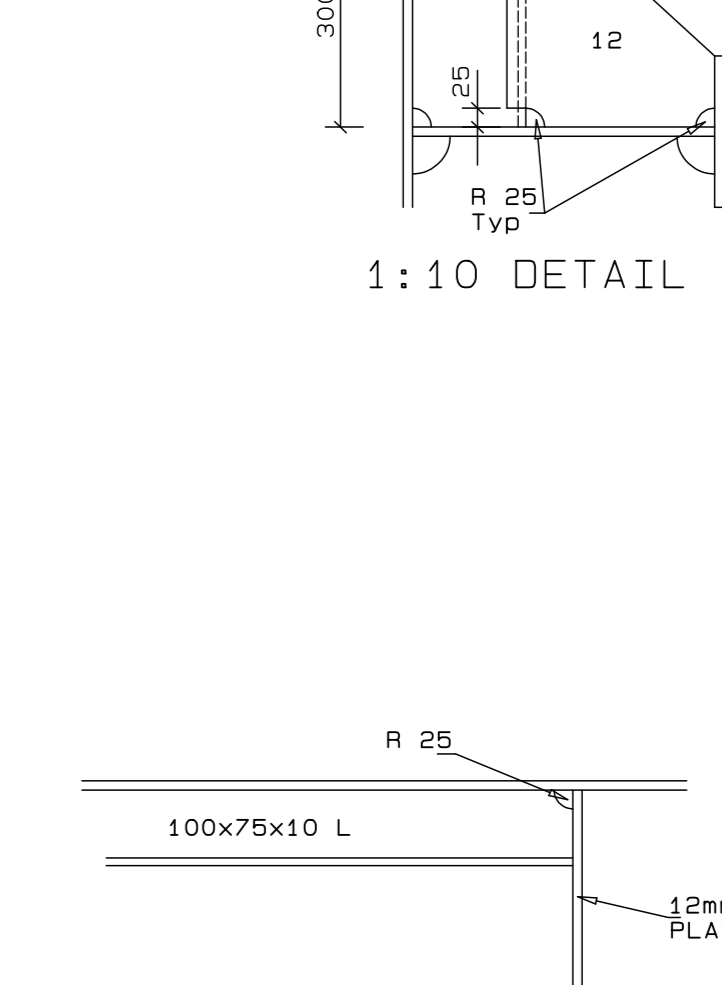
1:10 DETAIL 7



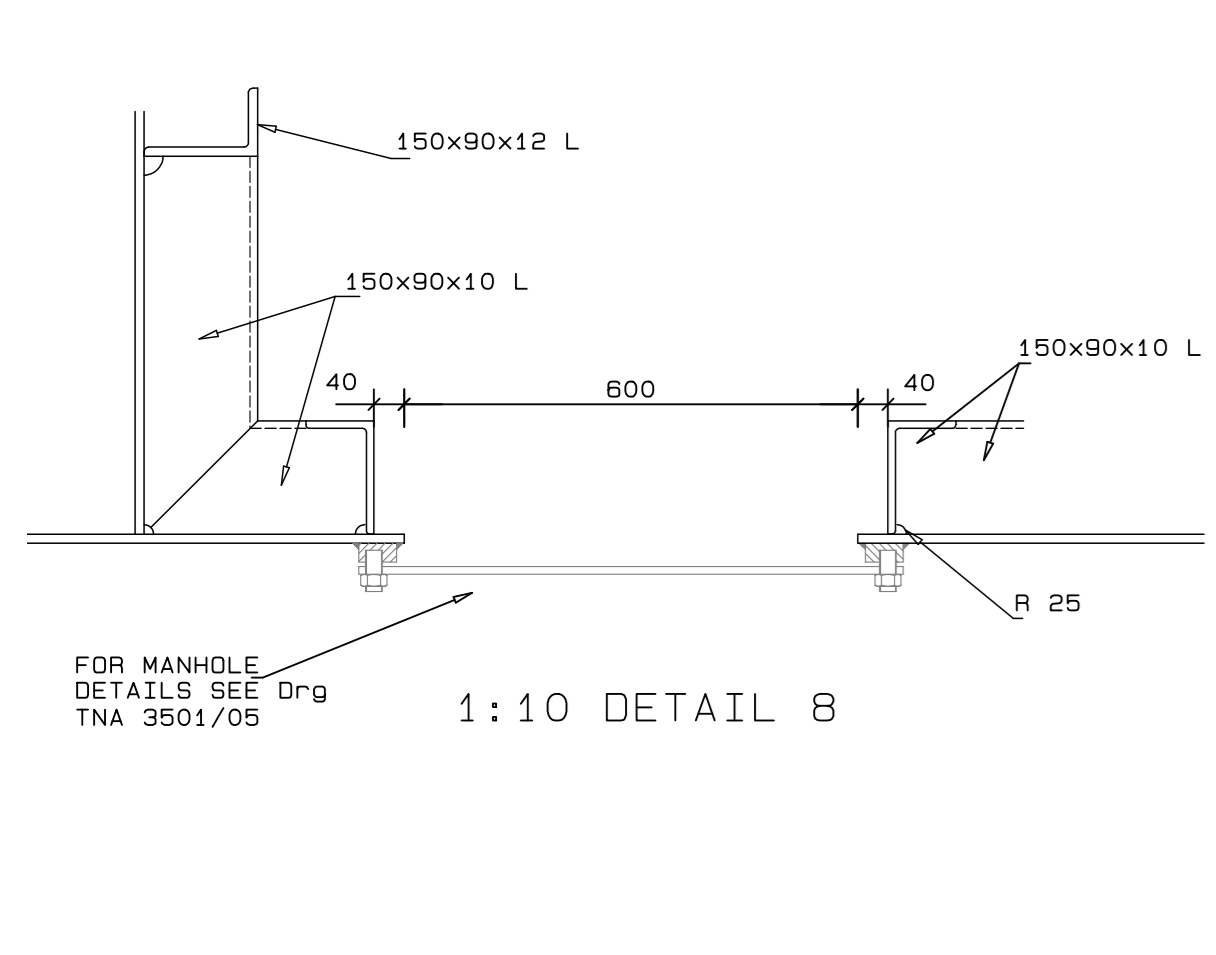
1:10 DETAIL 15 (Typical)



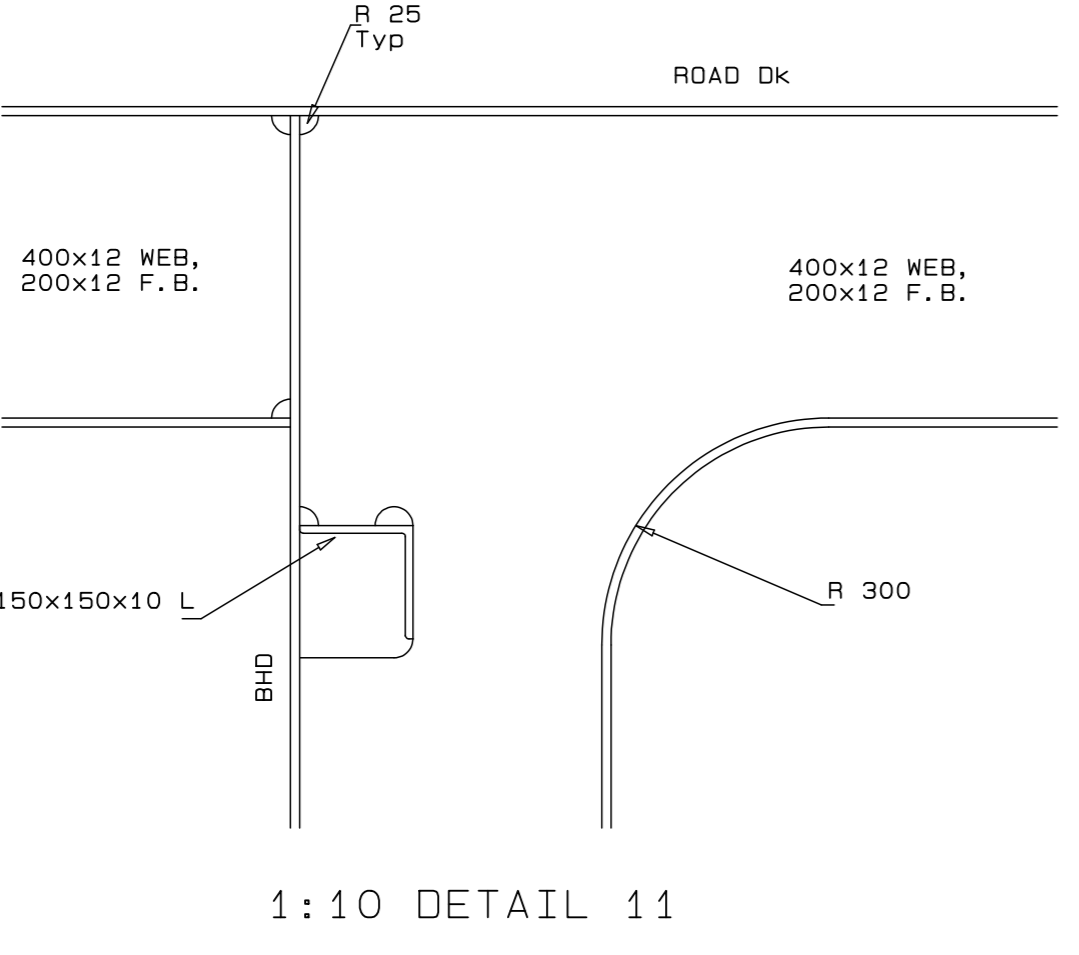
1:10 DETAIL 10



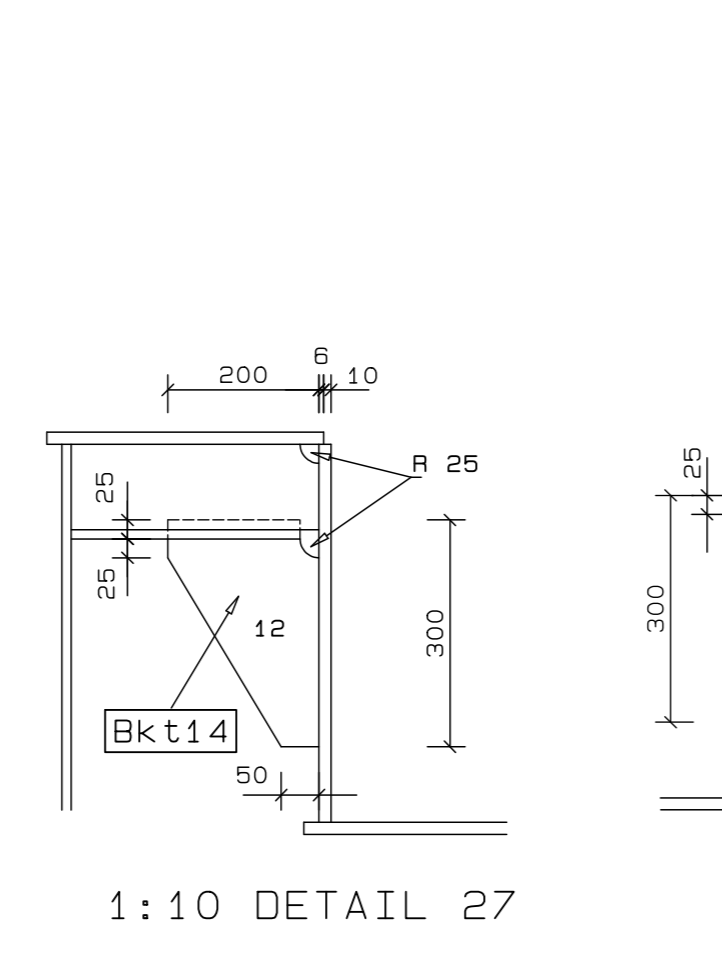
1:10 DETAIL 17 (Typical)



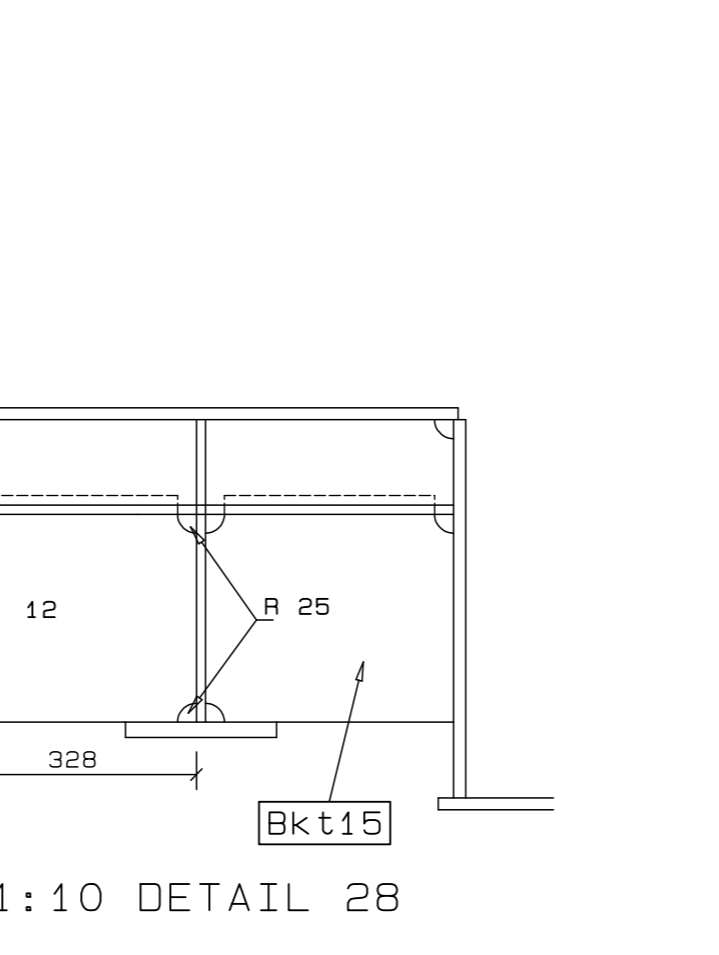
1:10 DETAIL 8



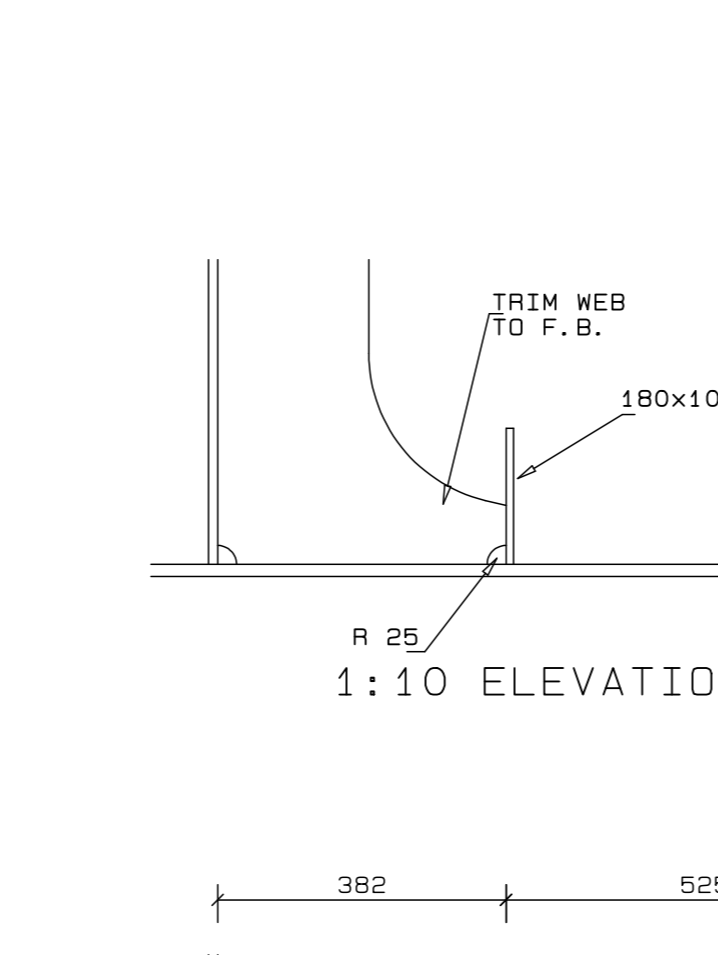
1:10 DETAIL 11



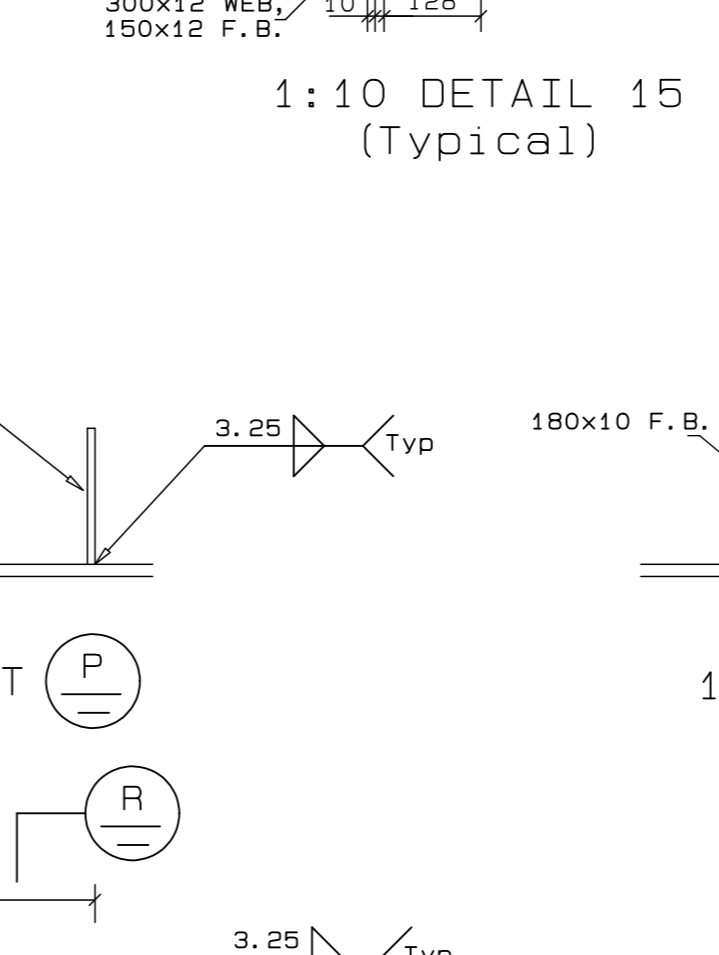
1:10 DETAIL 27



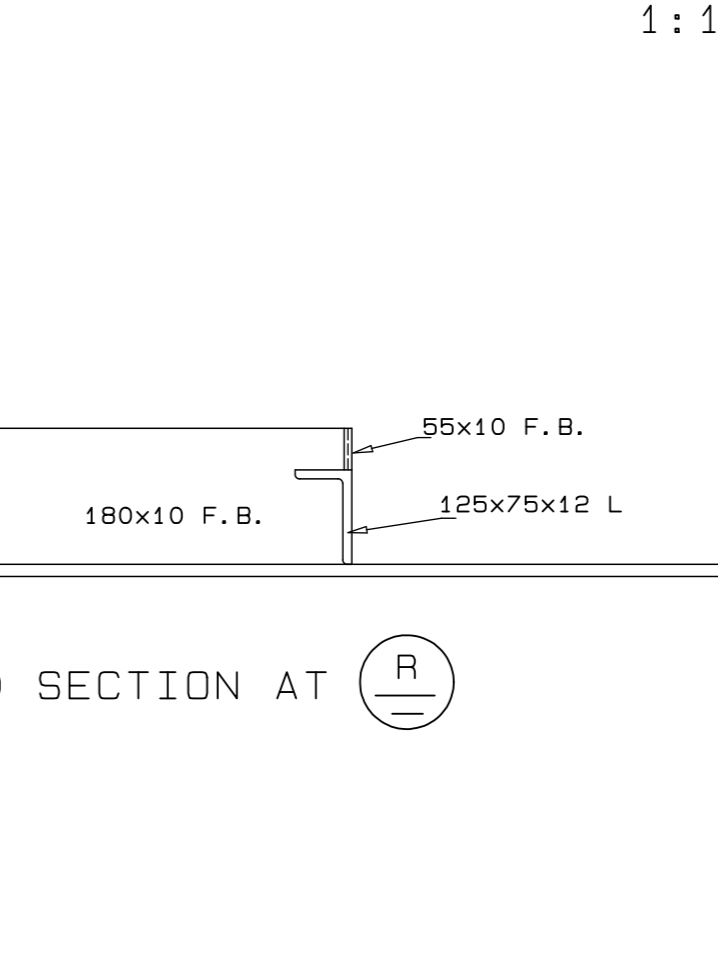
1:10 DETAIL 28



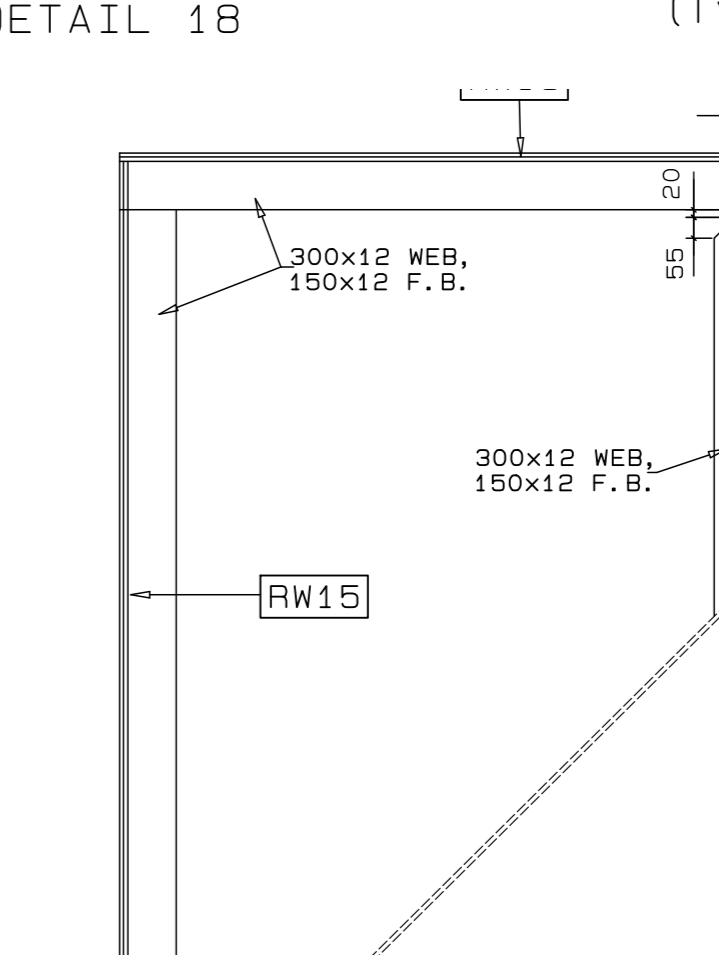
1:10 ELEVATION AT P



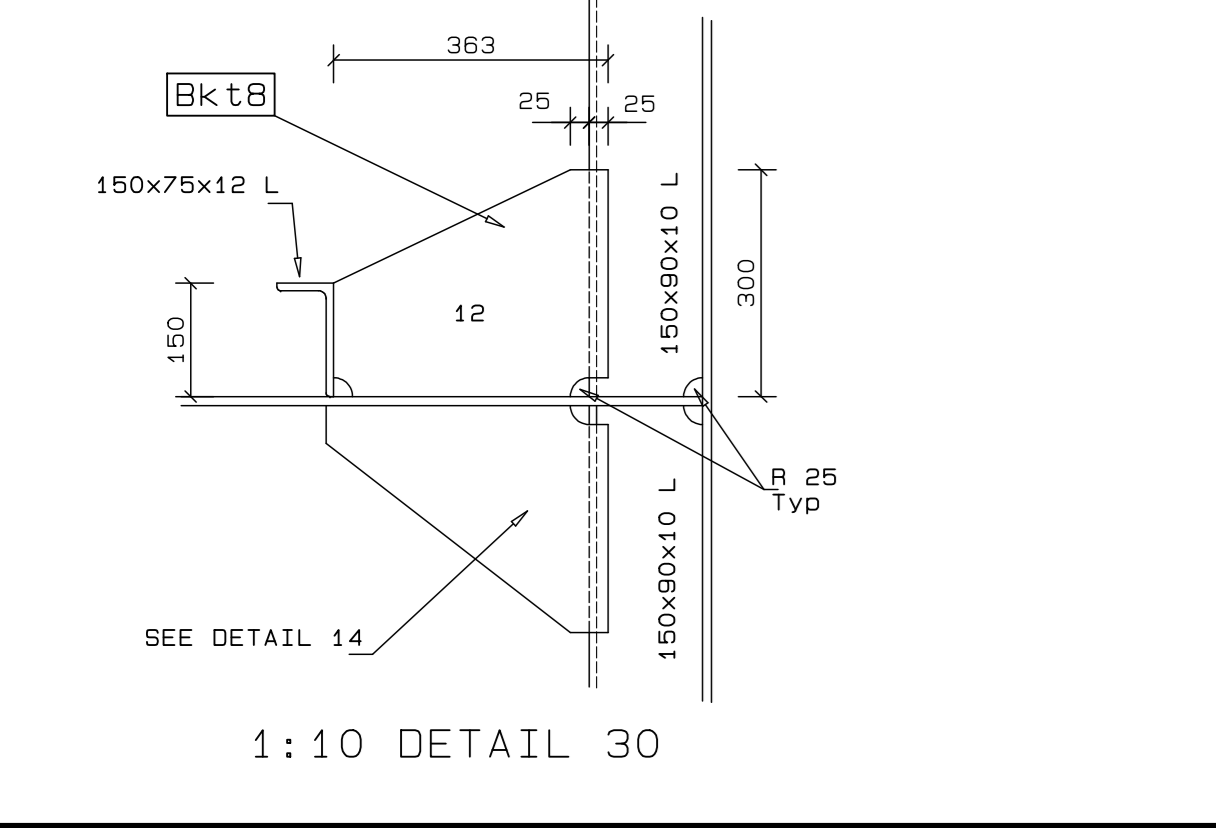
1:10 SECTION AT R



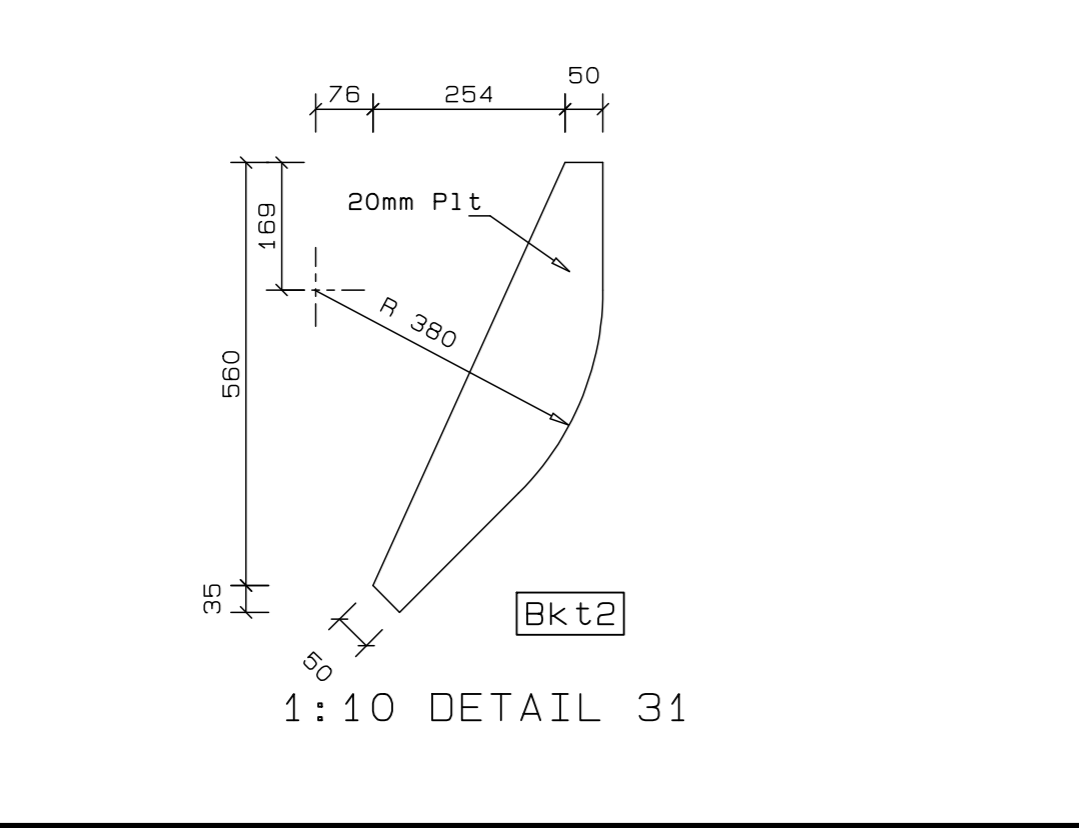
1:10 SECTION AT R



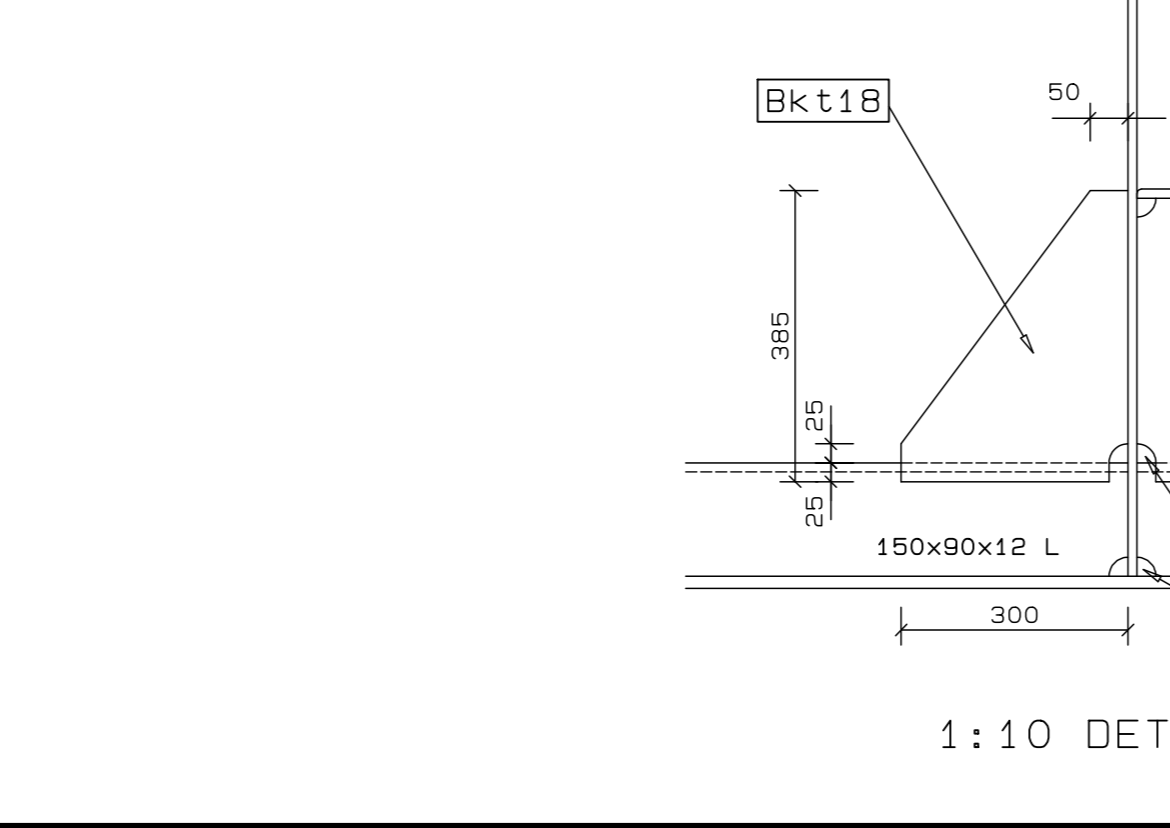
1:20 PLAN AT M SHEET 1



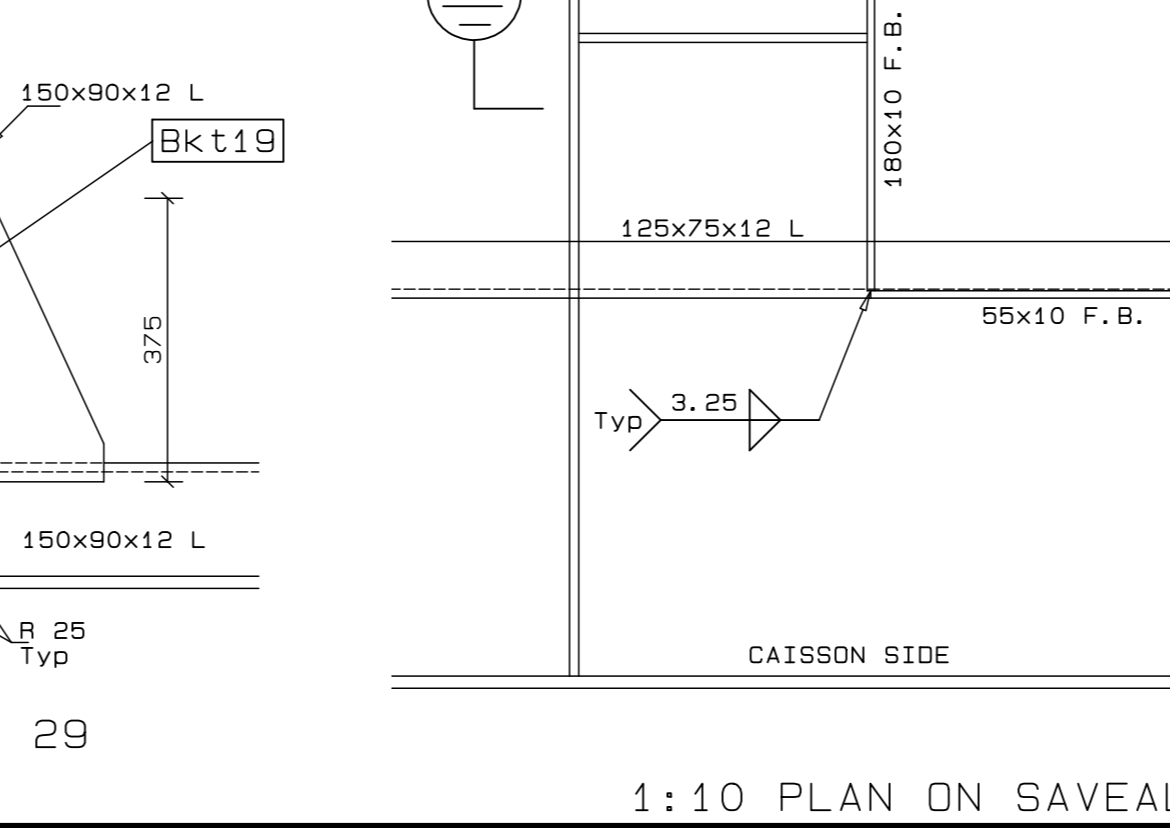
1:10 DETAIL 30



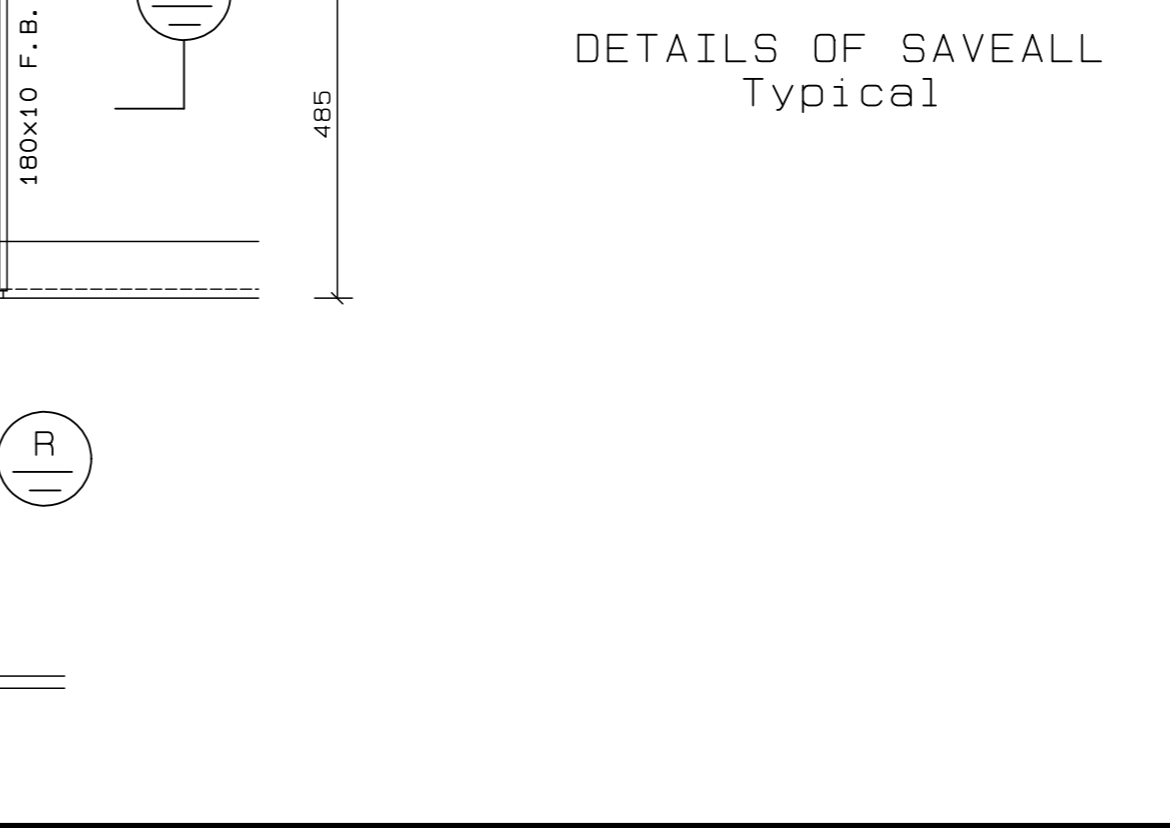
1:10 DETAIL 31



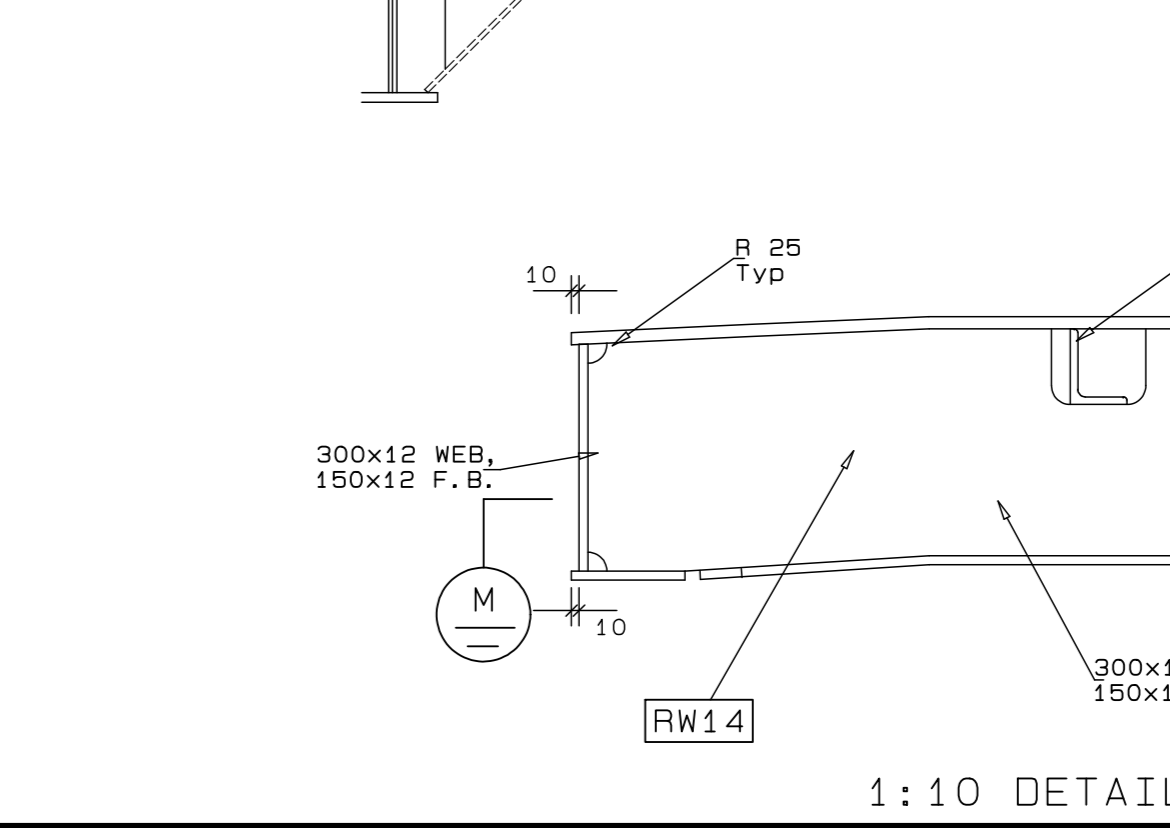
1:10 DETAIL 29



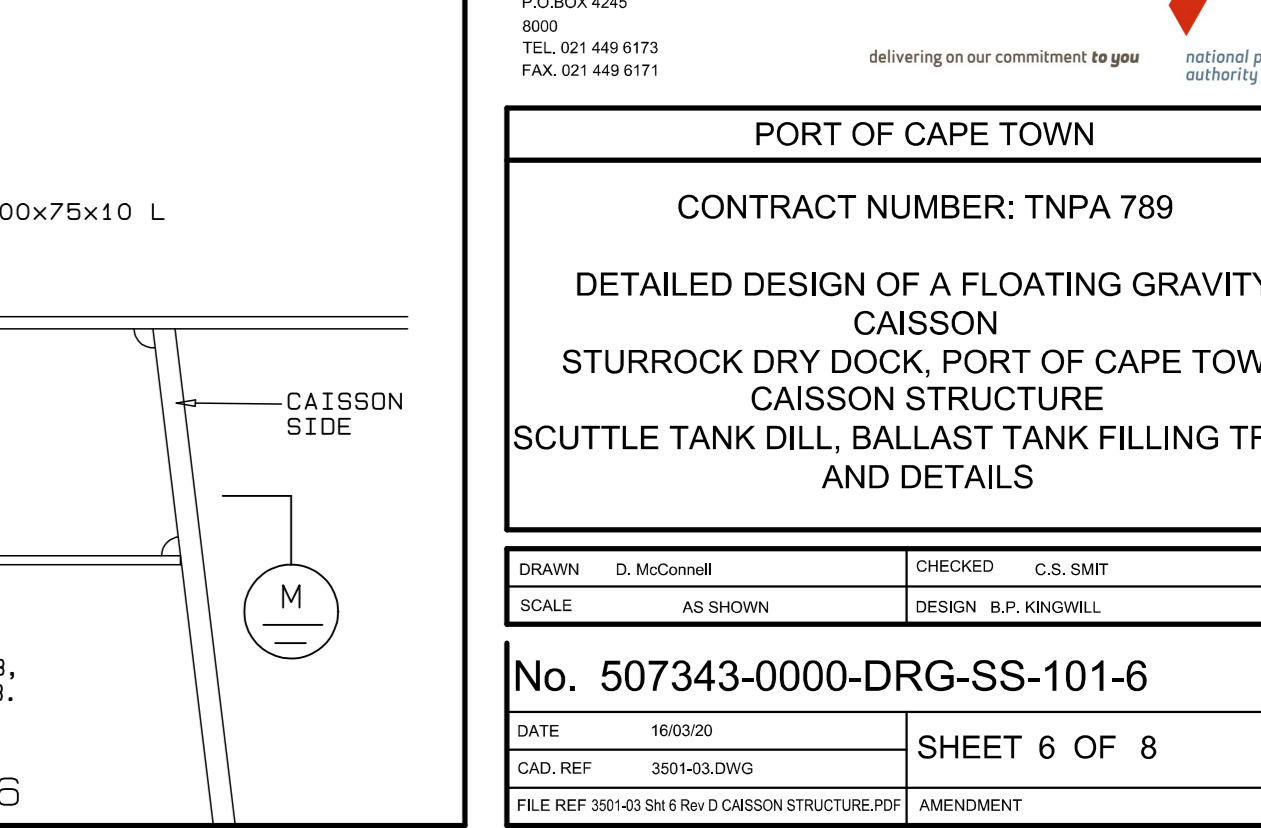
1:10 PLAN ON SAVEALL



DETAILS OF SAVEALL Typical



1:10 DETAIL 16



1:10 DETAIL 16

NOTES

REVISION SCHEDULE		
REV	DATE	REVISION DETAILS
A	16/03/20	ISSUED FOR INFORMATION
B	09/04/20	ISSUED FOR REVIEW
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED
D	11/06/20	ISSUED FOR CONSTRUCTION

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

Drg. No. TNA 3501-03-6-D Sht 6 of 8

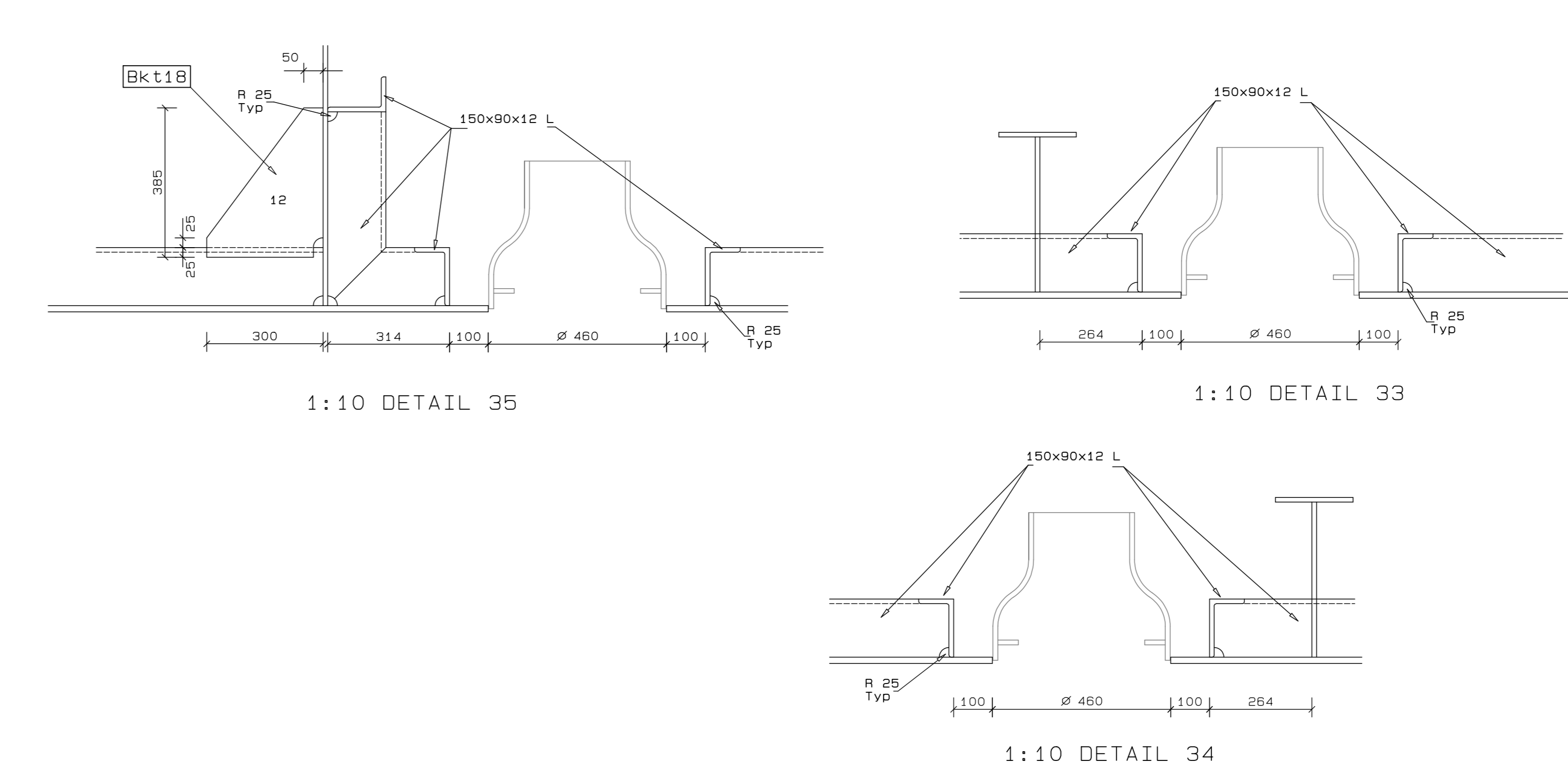
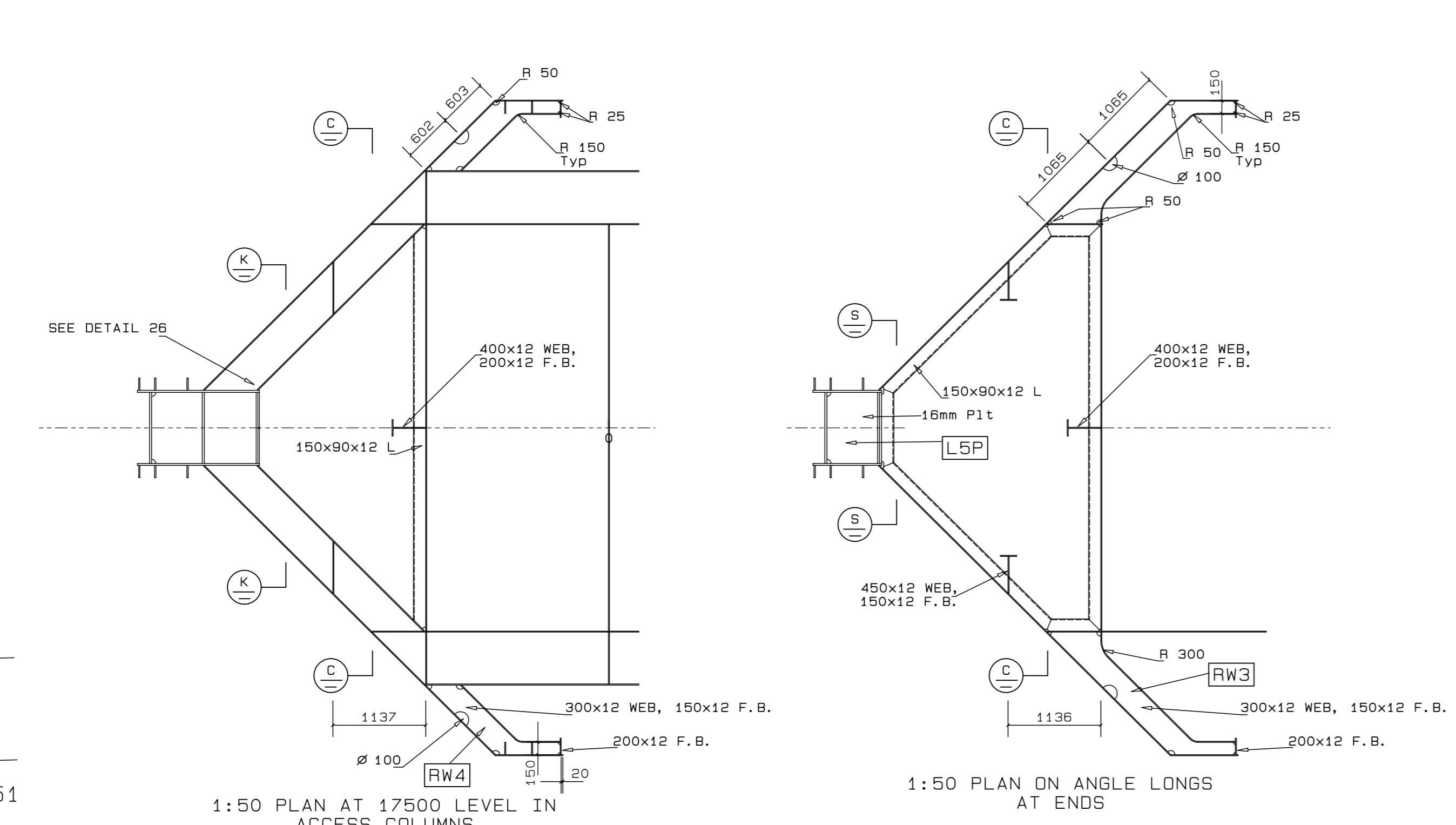
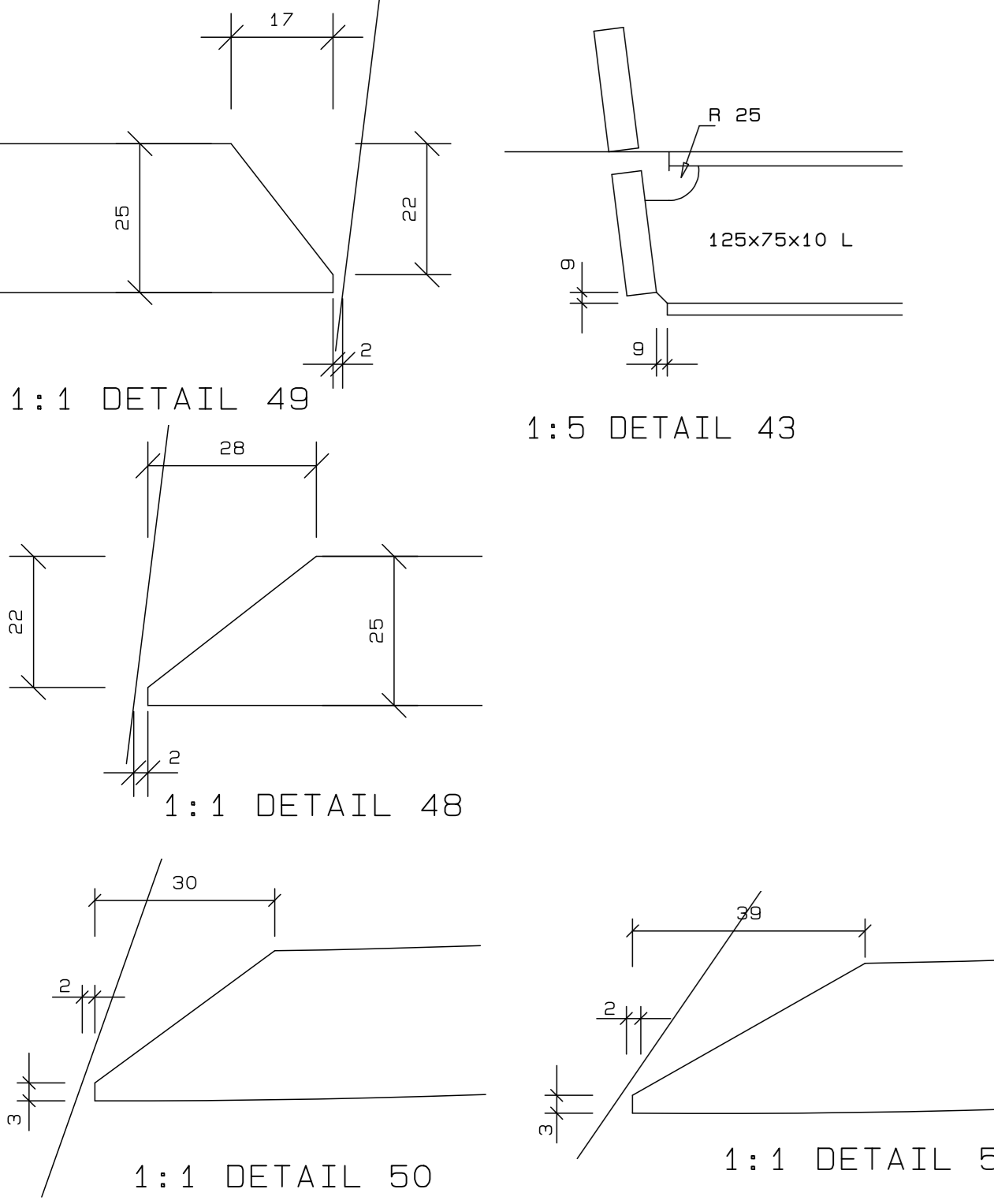
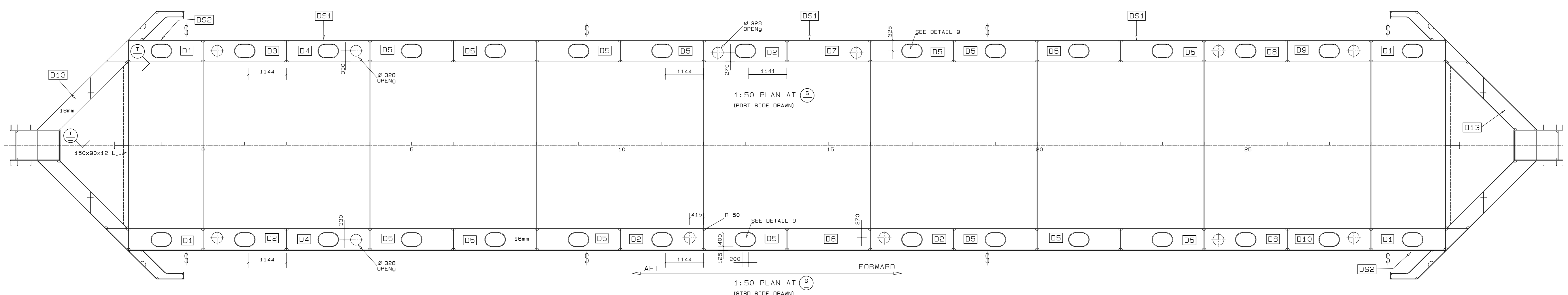
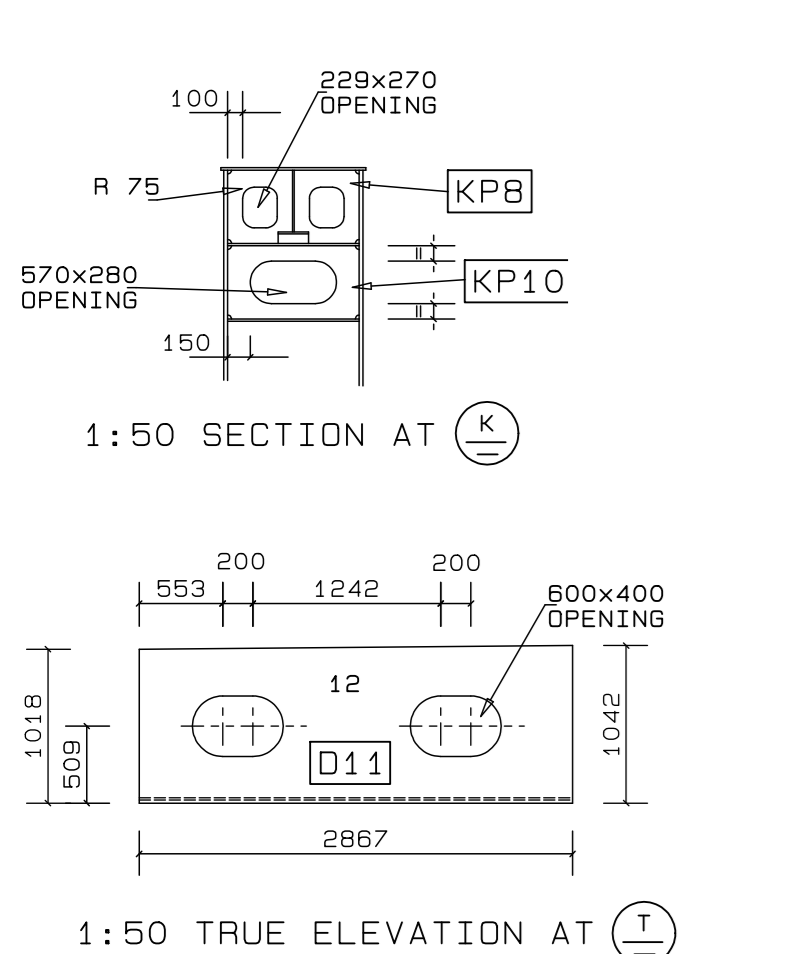
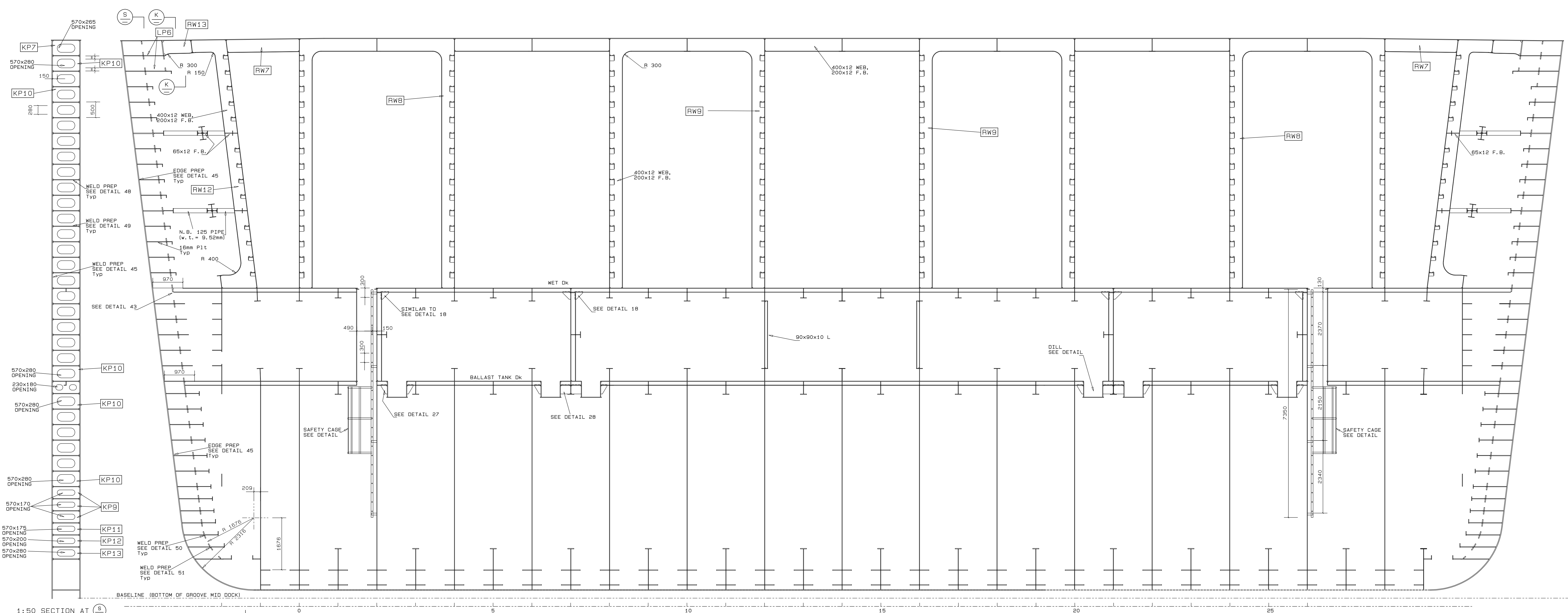
TECHNICAL MANAGER  
CHIEF DOCK MASTER  
PROJECT ENGINEER  
PROJECT MANAGER  
SHIP REPAIR MANAGER  
PORT ENGINEER

PORT ENGINEER  
ROOM 708  
NEW BRIDGE  
PORT OF CAPE TOWN  
60200 CAPE  
8000  
TEL: 021 448 9170  
FAX: 021 448 9171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
SCUTTLE TANK DILL, BALLAST TANK FILLING TRUNK AND DETAILS

SCALE: AS SHOWN  
DESIGN: B.P. KINGWILL  
DWG

No. 507343-0000-DRG-SS-101-6  
DATE: 16/03/20  
CAD REF: 3501-03-090  
FILE REF: 3501-03-090-0-CAISSON STRUCTURE-DRG-AMENDMENT  
SHEET 6 OF 8



REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConville
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

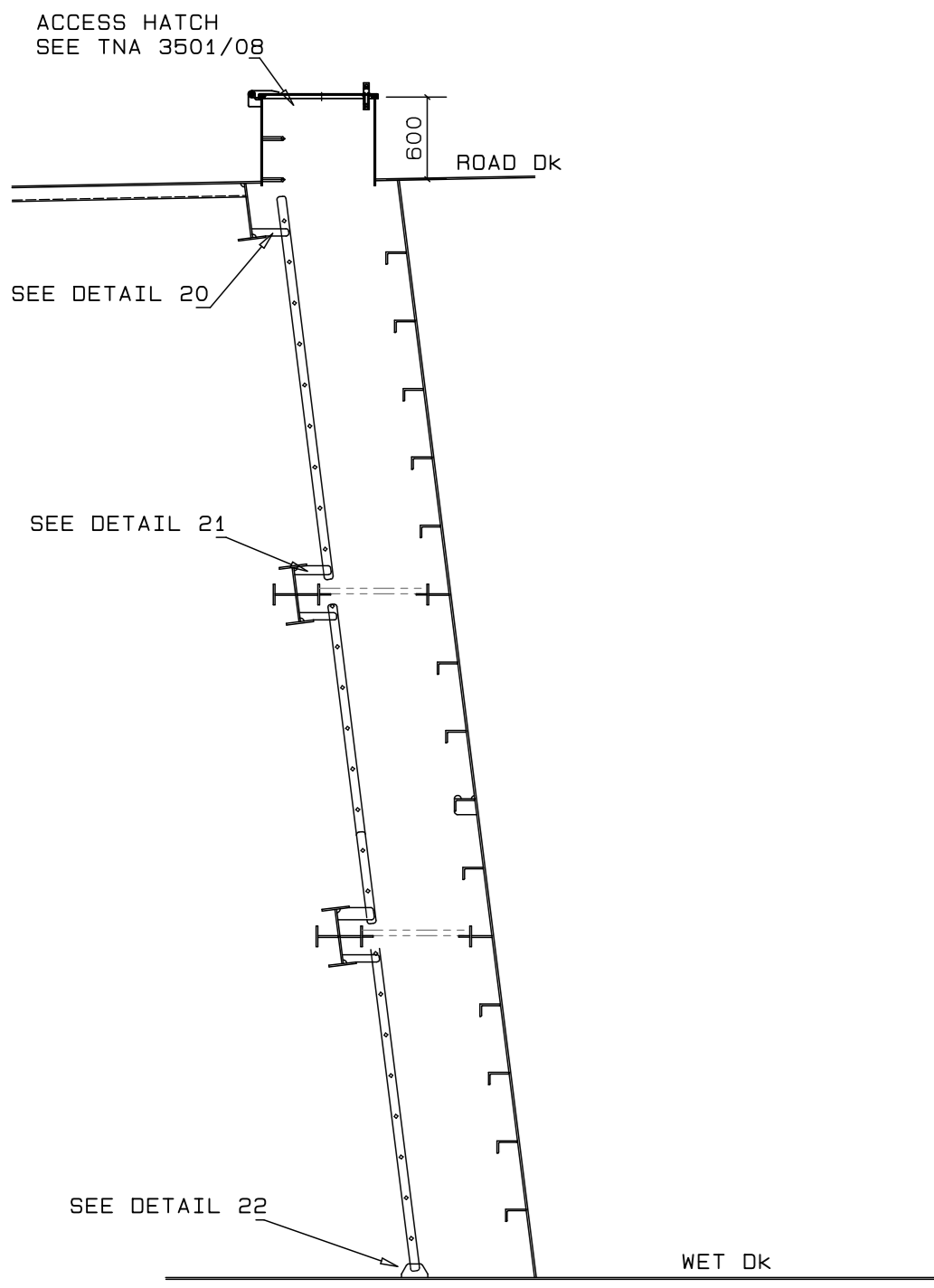


Drq. No. TNA 3501-03-7-D Sht 7 of 8

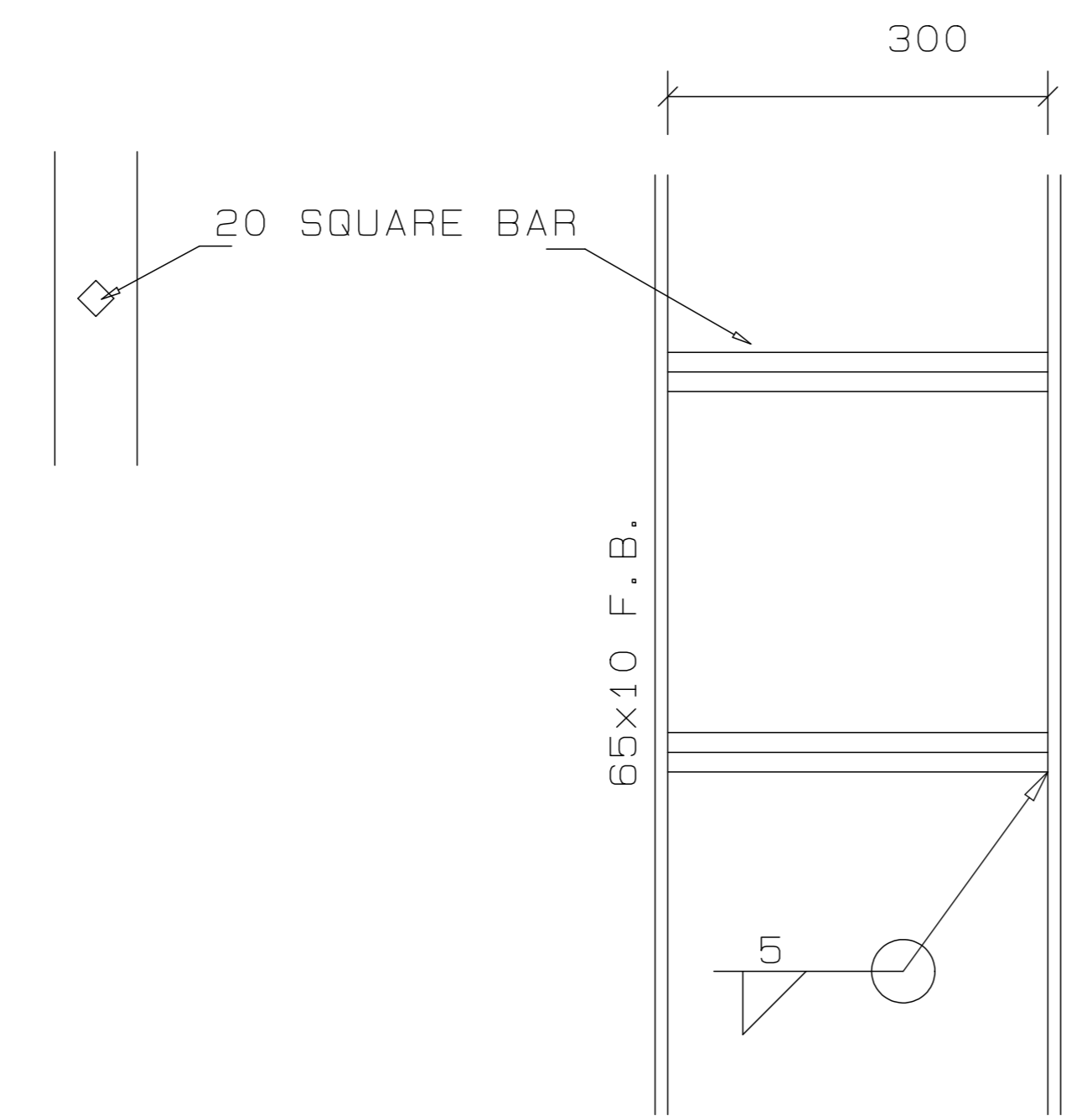
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM NO.  
WORKHOUSE  
PORT OF CAPE TOWN  
P.O. BOX 416  
800  
150, 01 449 6173  
FAX: 01 449 6171

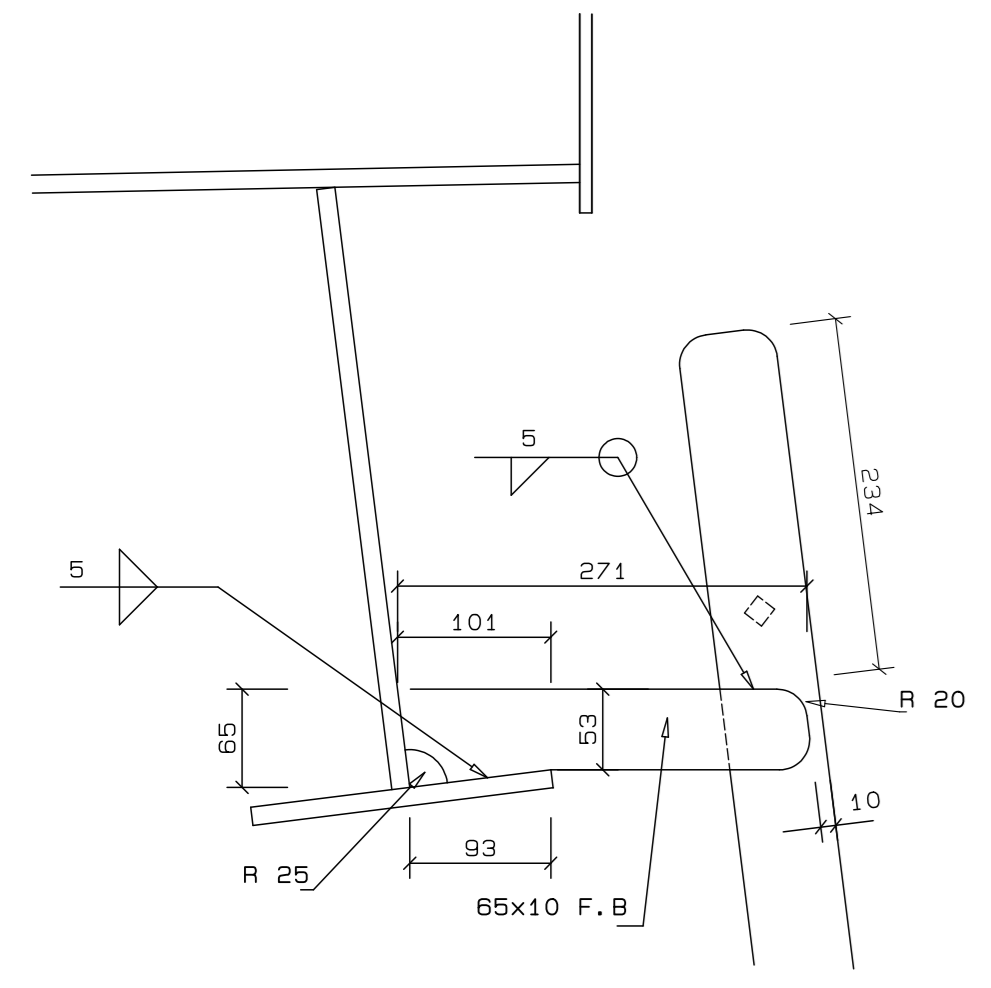
PORT OF CAPE TOWN			
CONTRACT NUMBER: TNPA 789			
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STRUCTURE			
SCUTTLE TANK DILL BALLAST TANK FILLING TRUNK AND DETAILS			
DRAWN	D. McConville	CHECKED	C.S. BART
SCALE	AS SHOWN	DESIGN	R.P. KINGWILL
DATE	19/03/20		
CAD REF	190140290		
FILE REF	30148111-1-5 CAISSON STRUCTURE	AMENDMENT	D



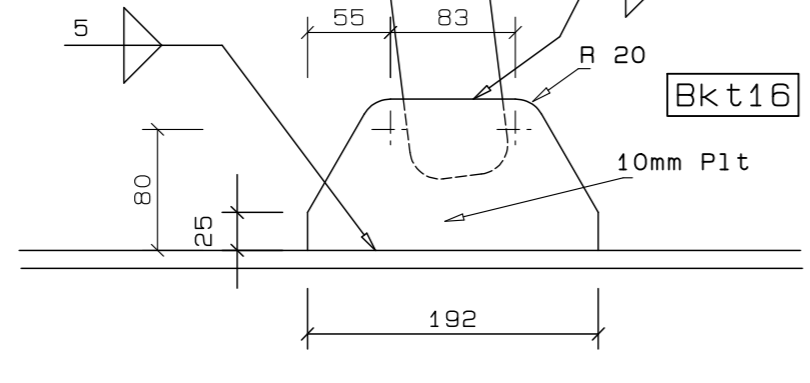
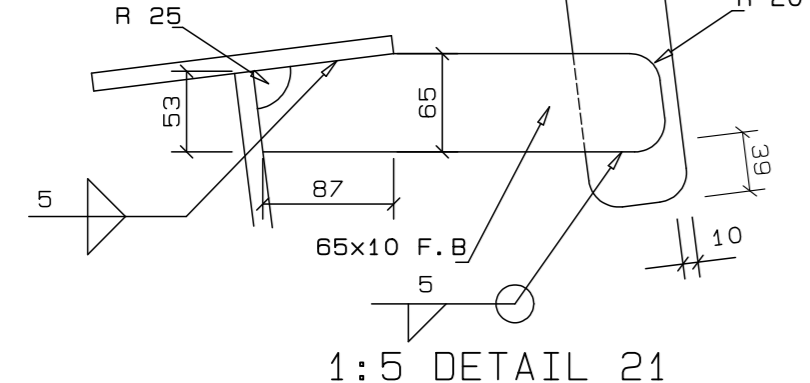
1:50 ELEVATION AT ACCESS HATCH



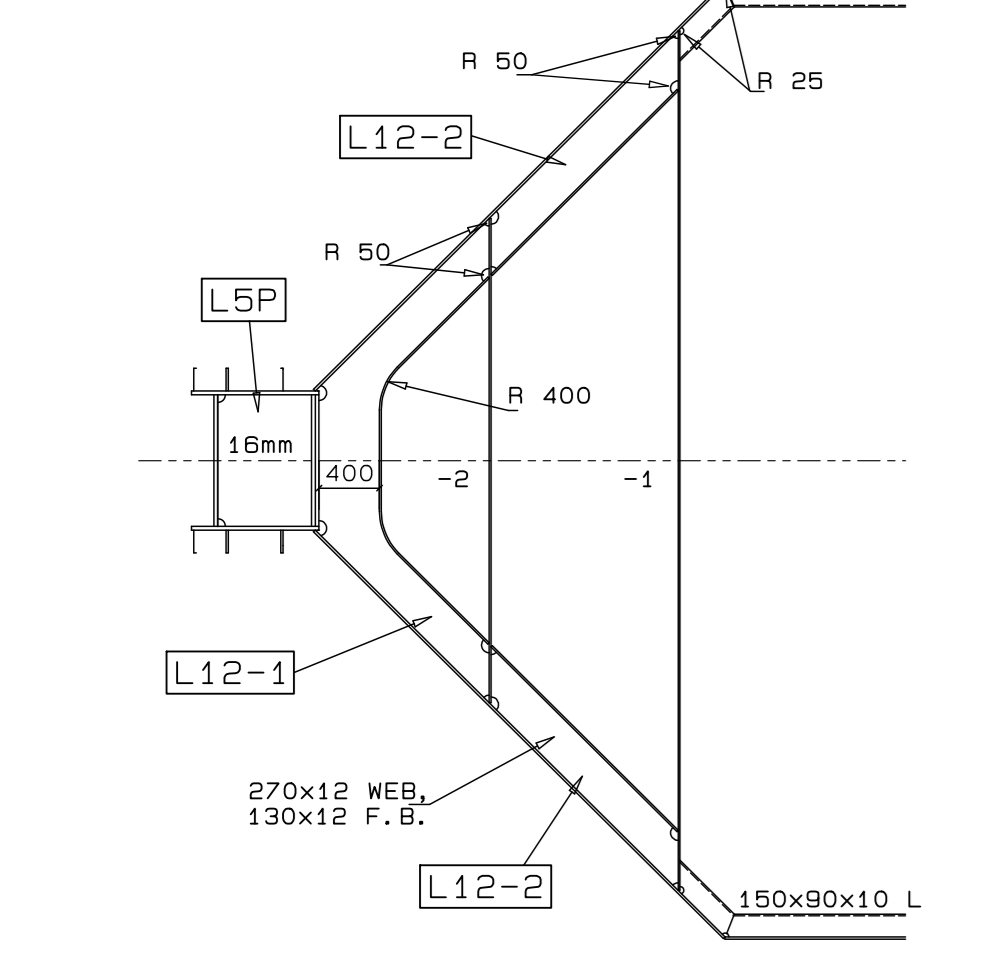
RUNG DETAIL



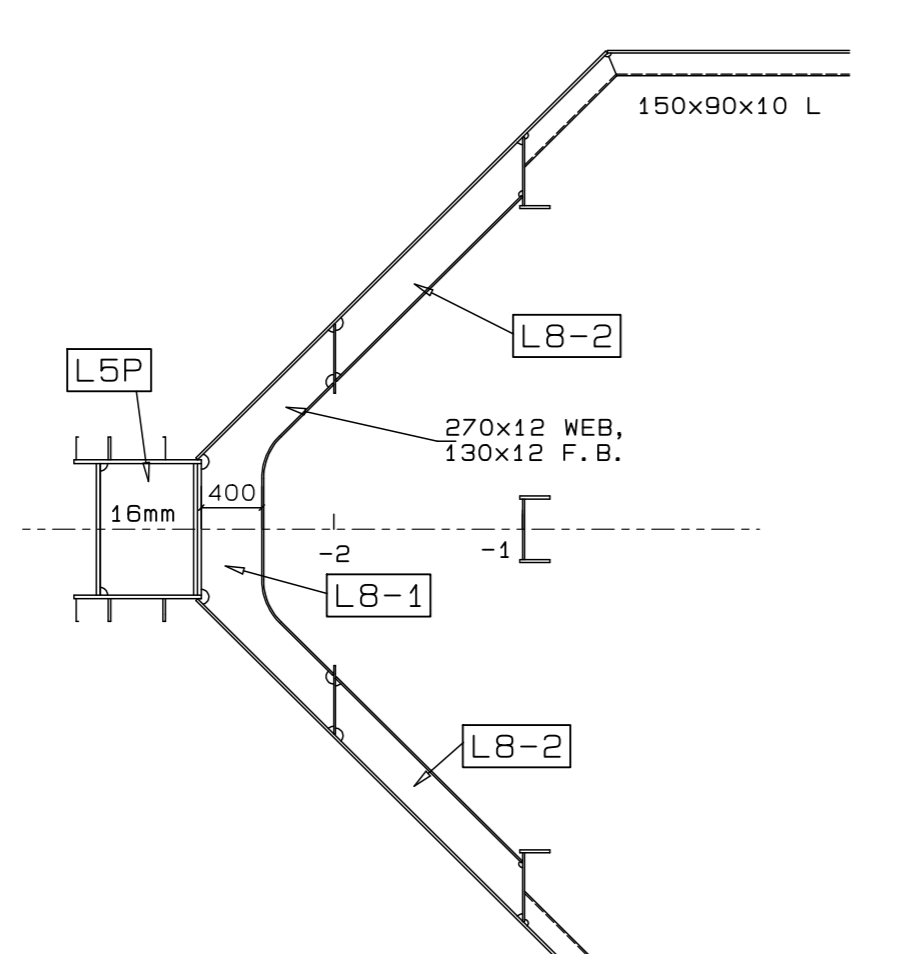
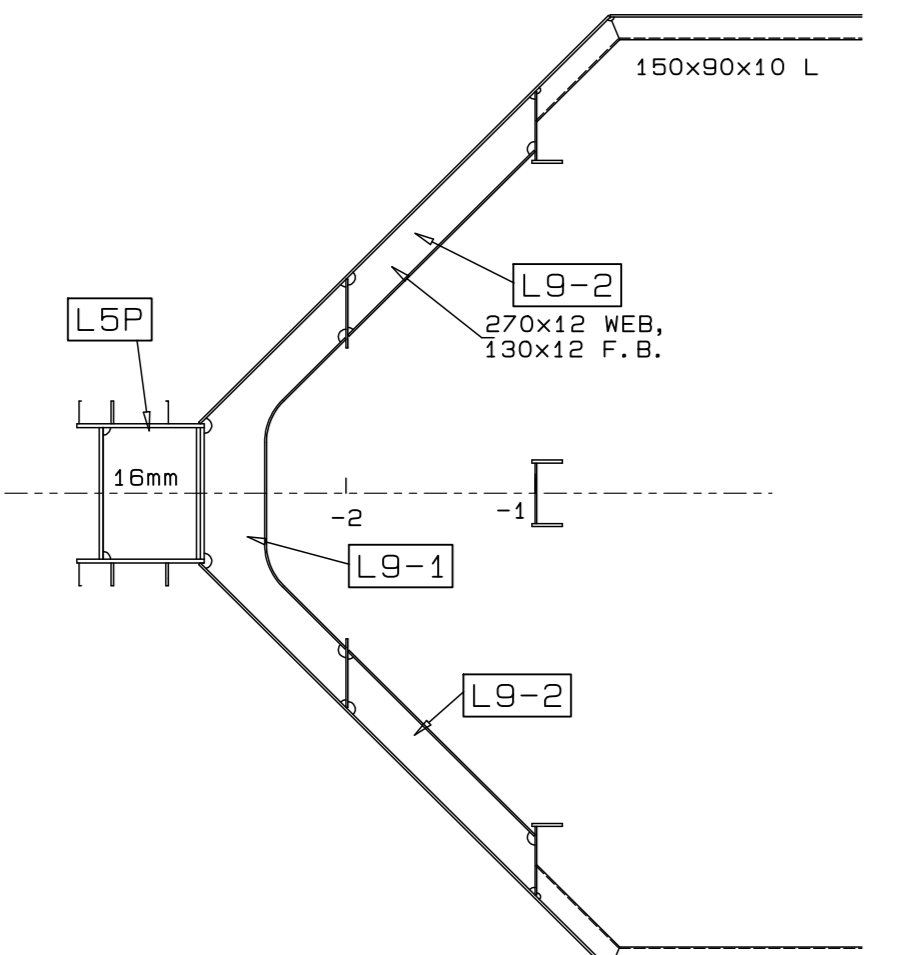
1:50 ELEVATION ON BOTTOM STAIR  
1:50 ELEVATION ON MIDDLE STAIR



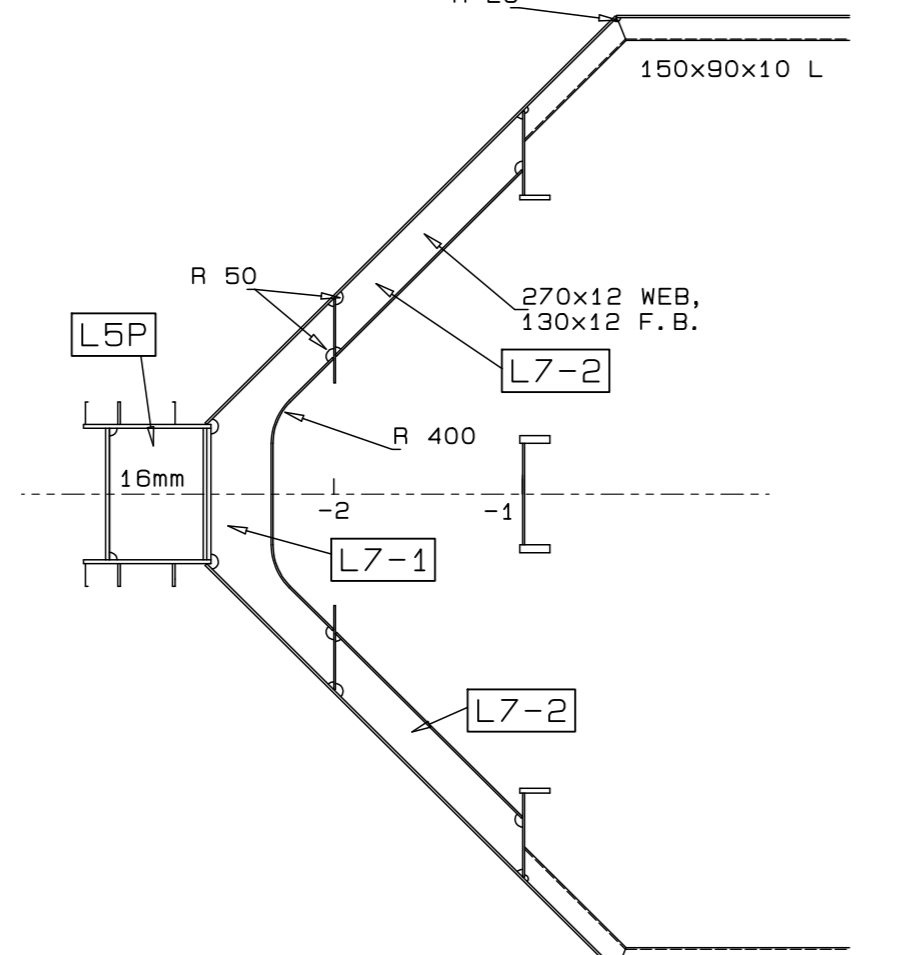
1:10 DETAIL OF F.B. LEVELS 5 TO 12



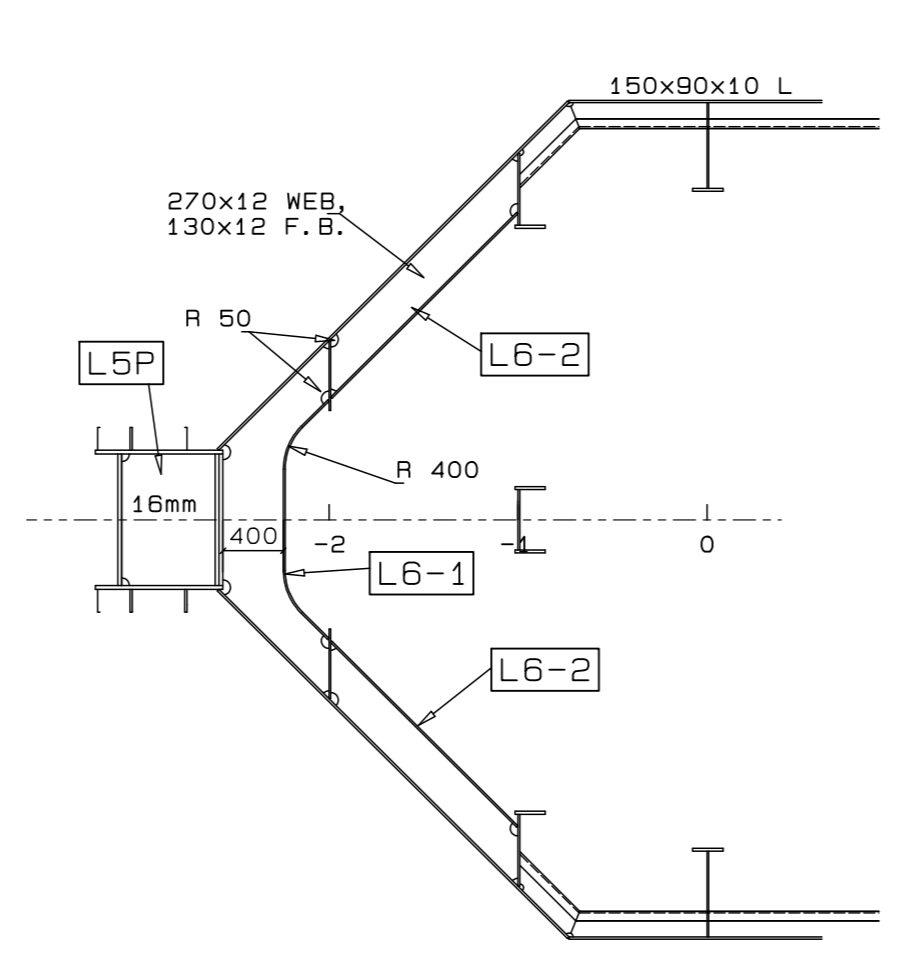
1:50 PLAN ON L10



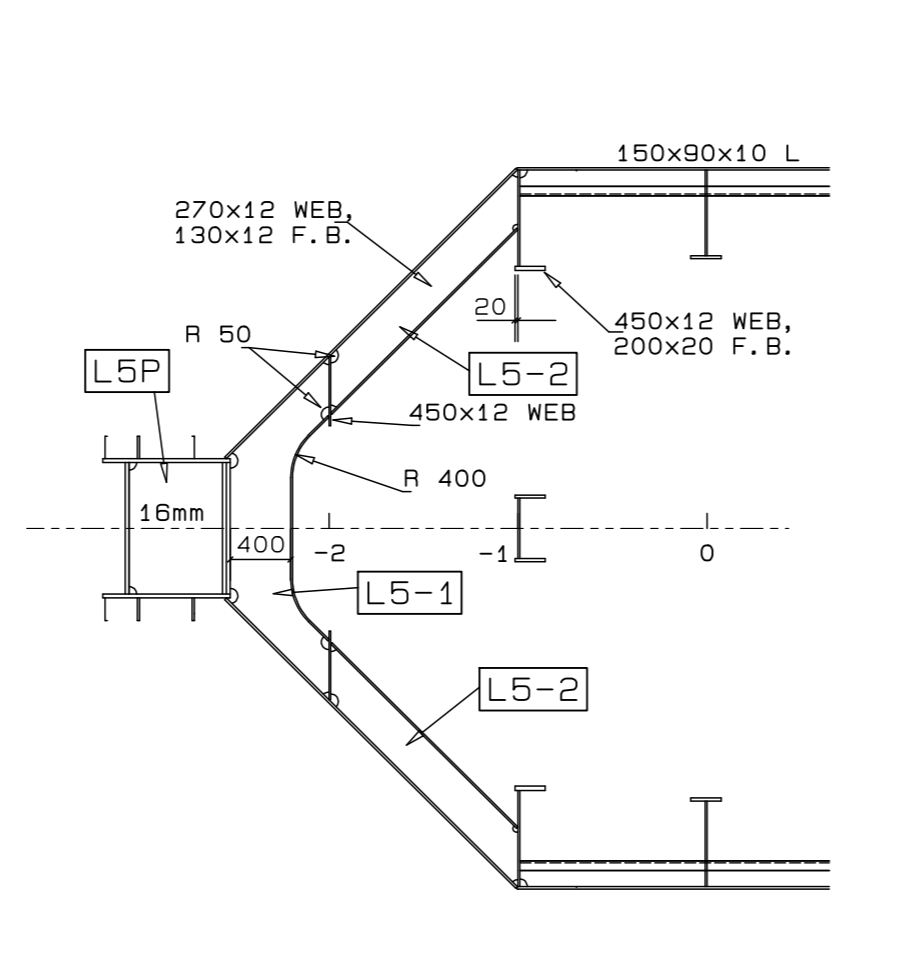
1:50 PLAN ON L8



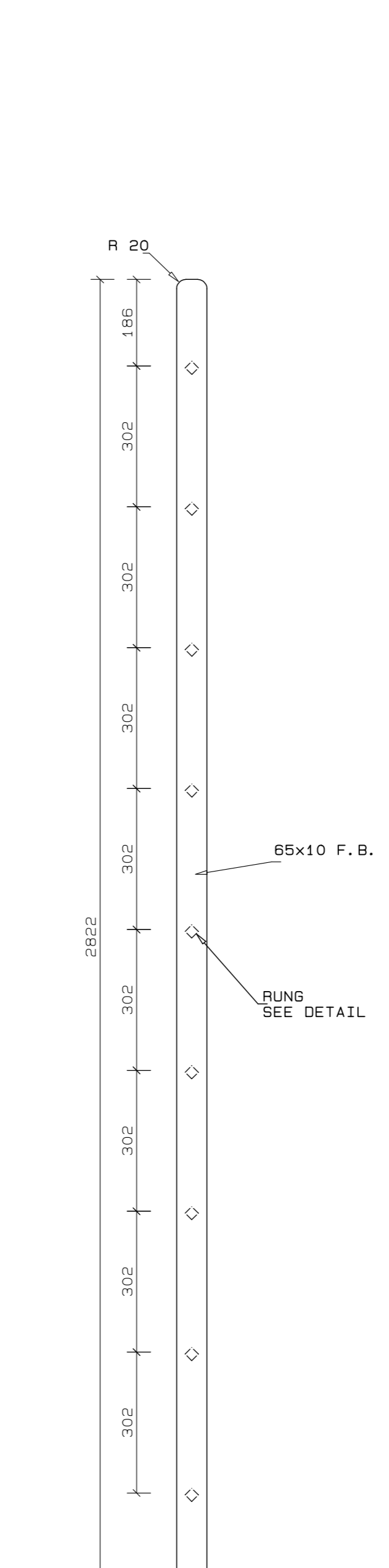
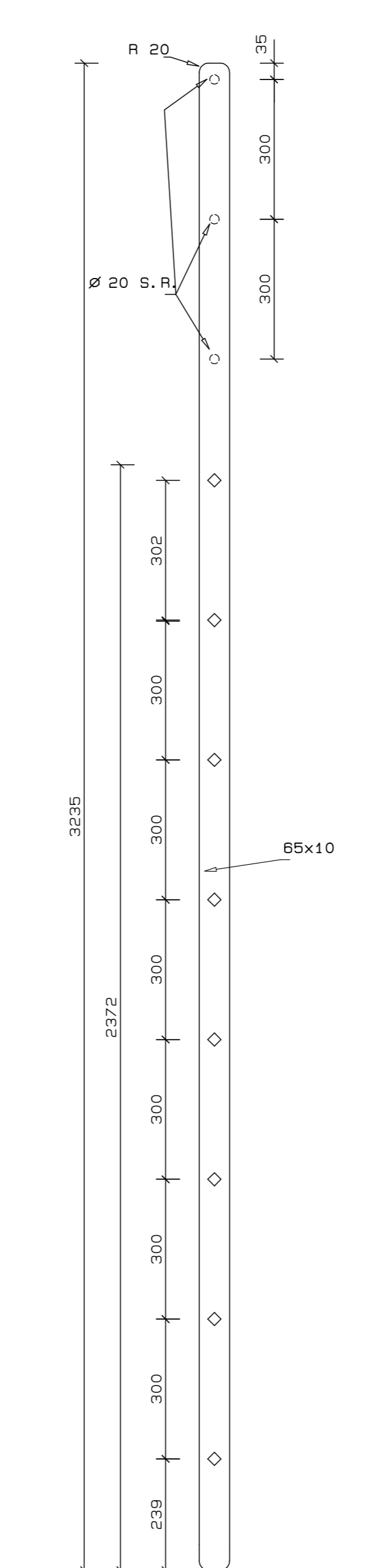
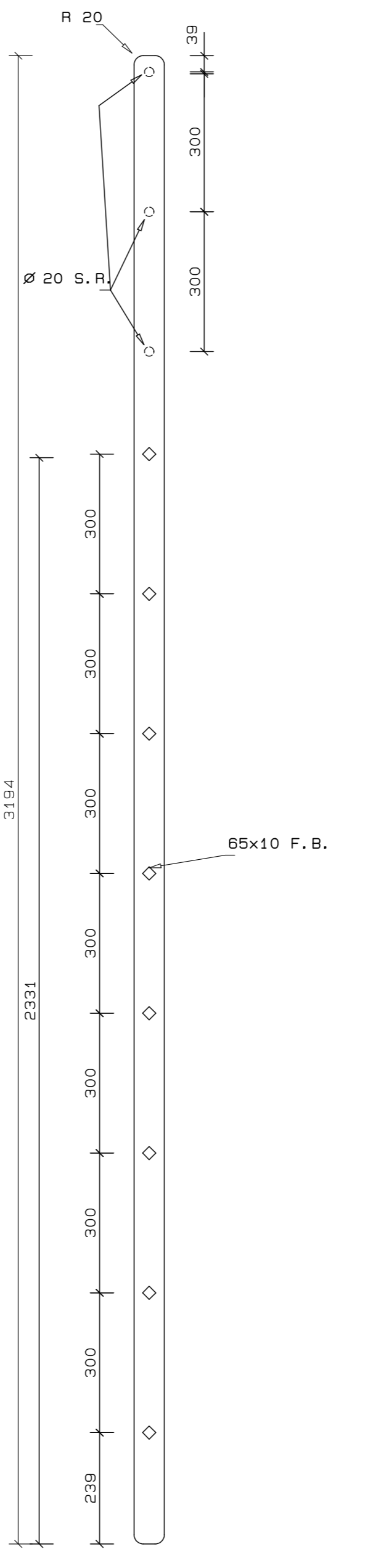
1:50 PLAN ON L7



1:50 PLAN ON L6



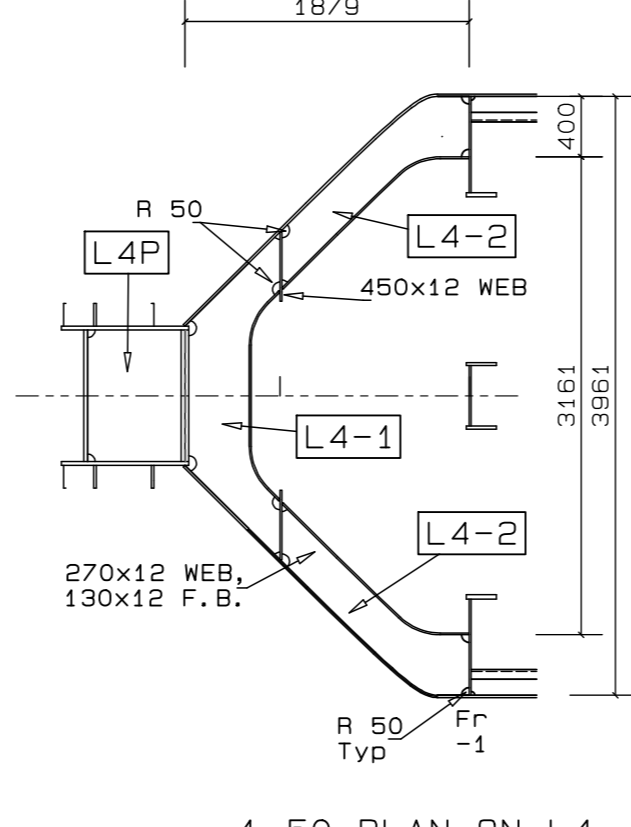
1:50 PLAN ON L5



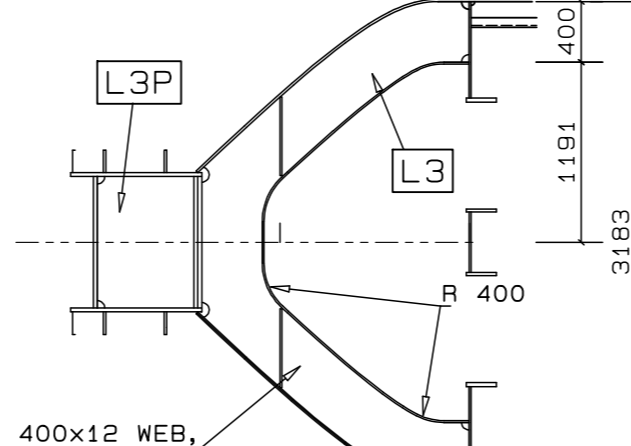
1:10 MIDDLE LADDER  
(4 IN No. Req'd.)

1:10 LOWER LADDER  
(4 IN No. Req'd.)

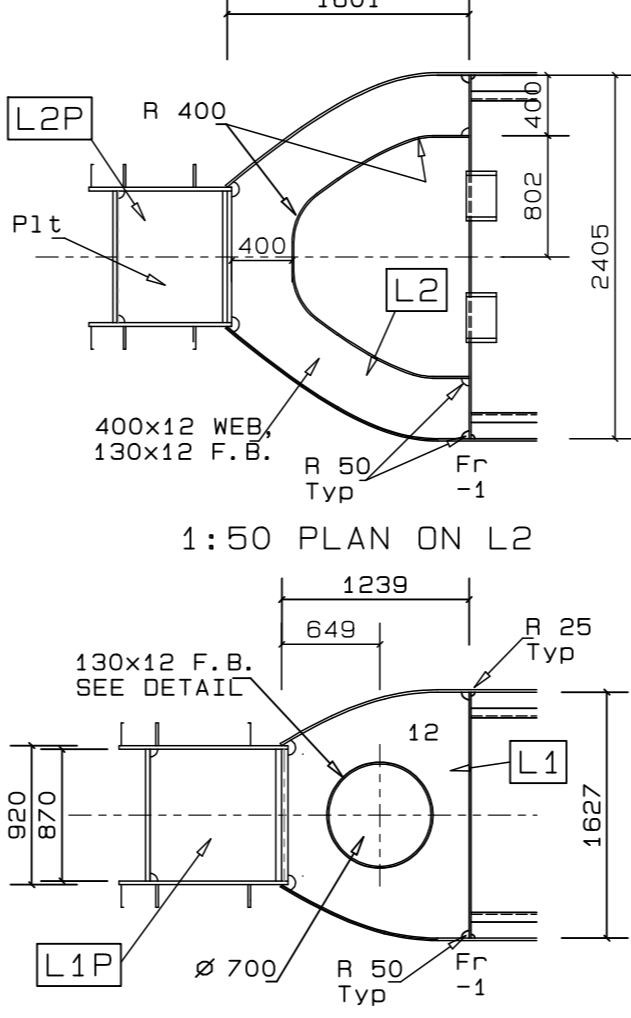
1:10 UPPER LADDER  
(4 IN No. Req'd.)



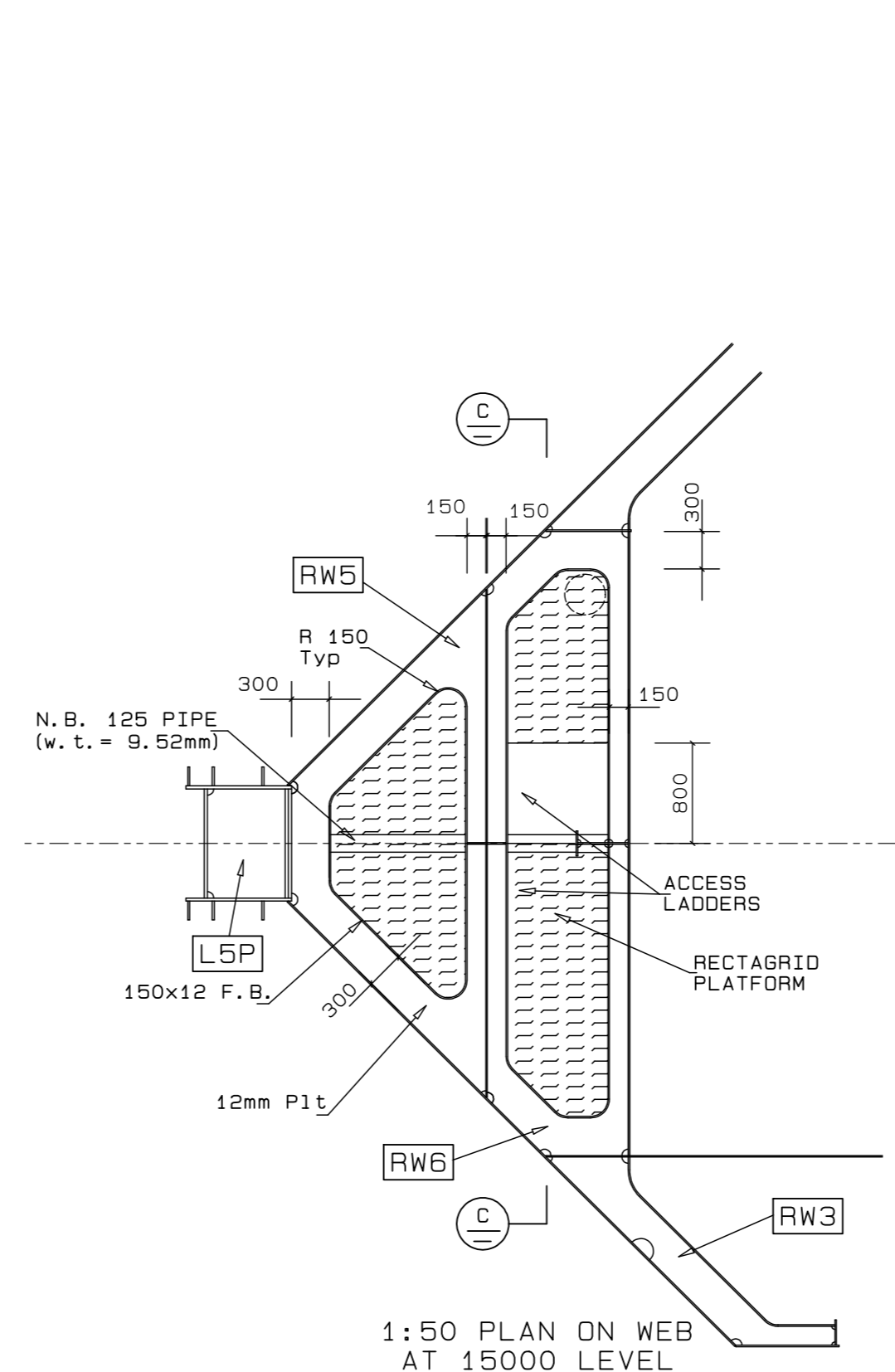
1:50 PLAN ON L4



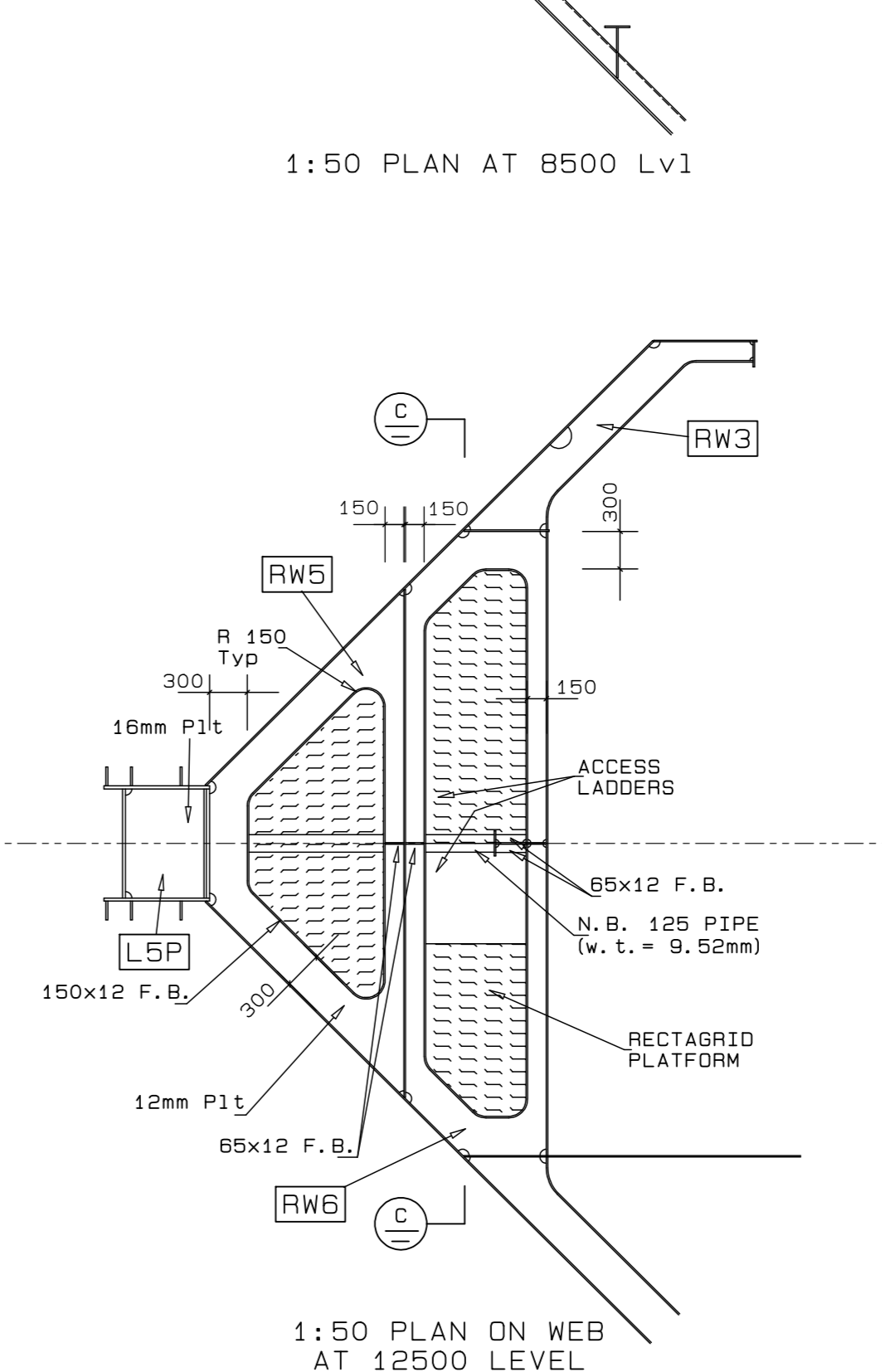
1:50 PLAN ON L3



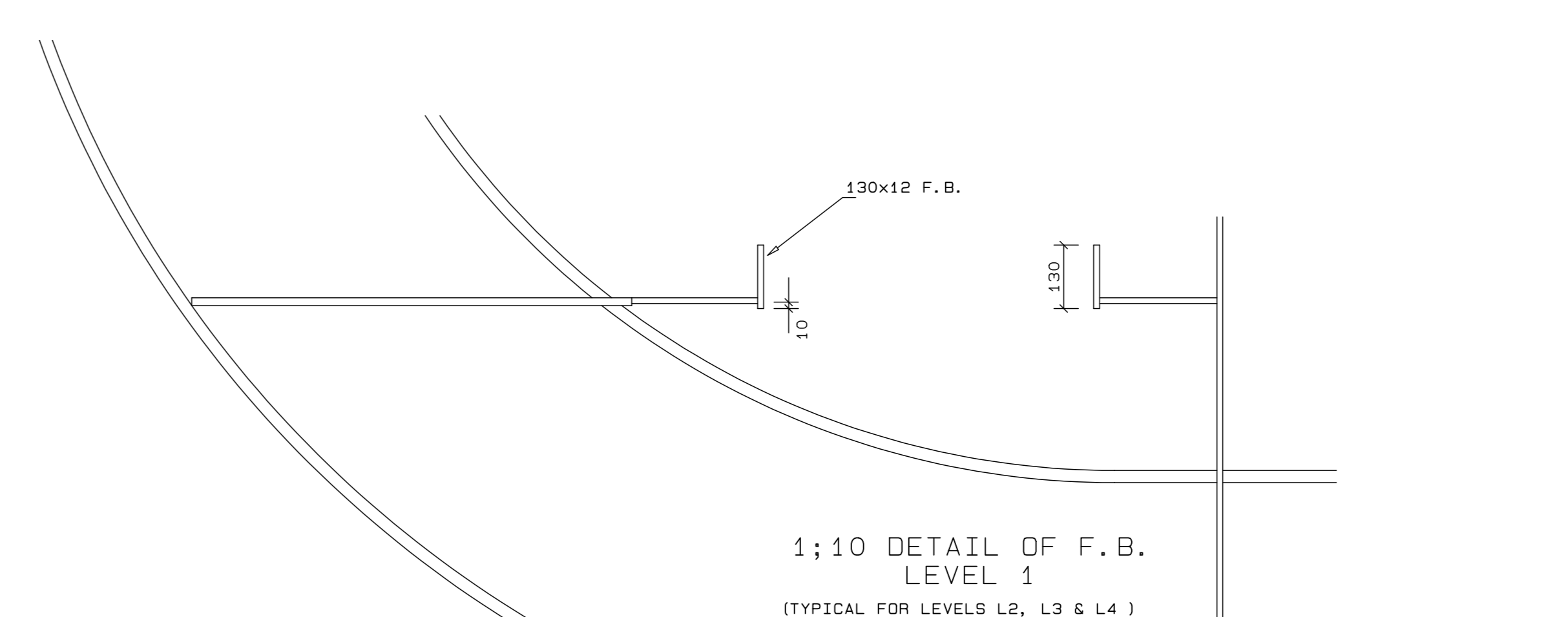
1:50 PLAN ON L2



1:50 PLAN ON WEB  
AT 15000 LEVEL



1:50 PLAN ON WEB  
AT 12500 LEVEL



1:10 DETAIL OF F.B.  
LEVEL 1  
(TYPICAL FOR LEVELS L2, L3 & L4)

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	29/05/20	PART NUMBERS FOR CUTTING TEMPLATES ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

aurecon  
www.aurecongroup.com

Triton Naval Architects

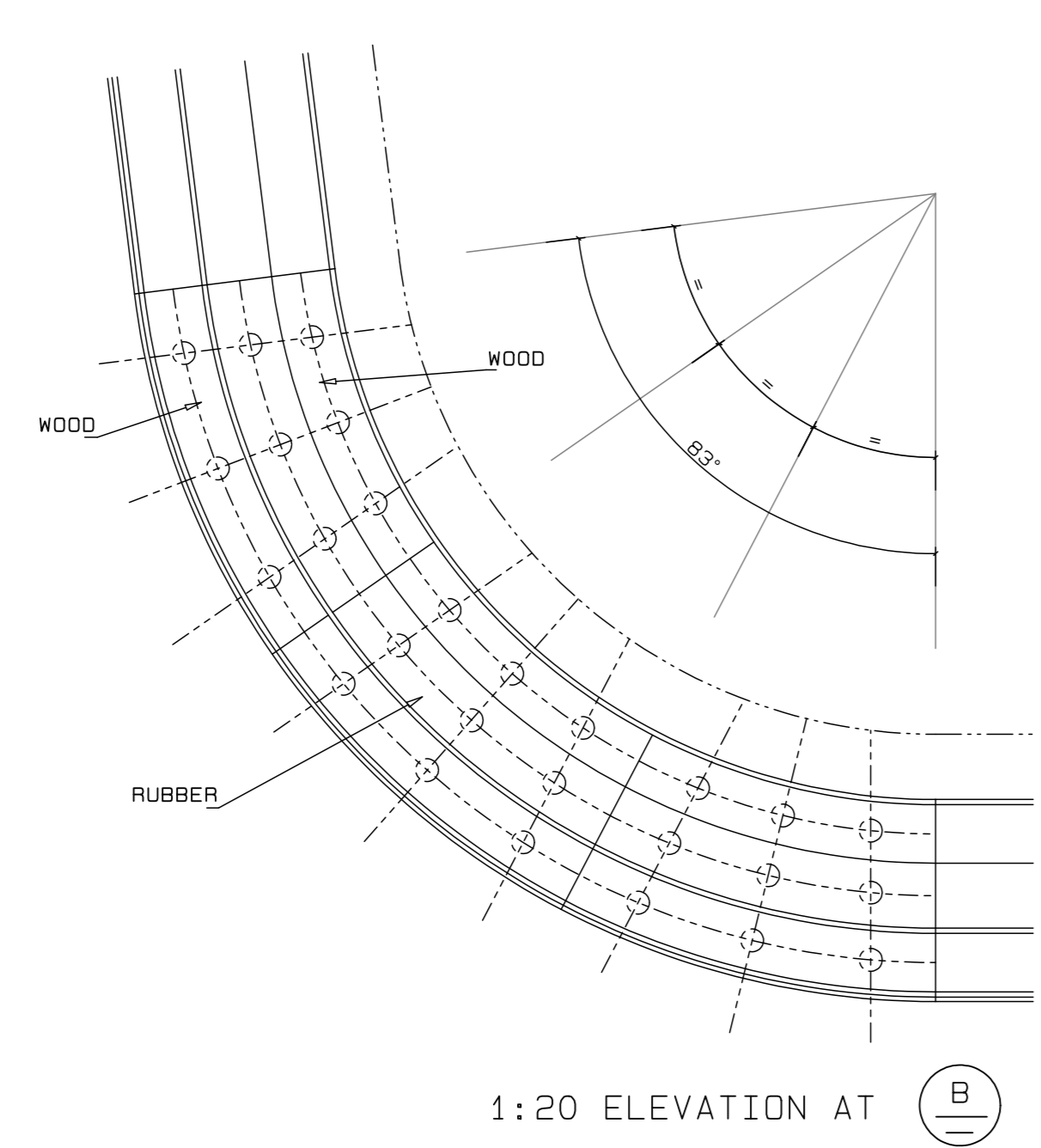
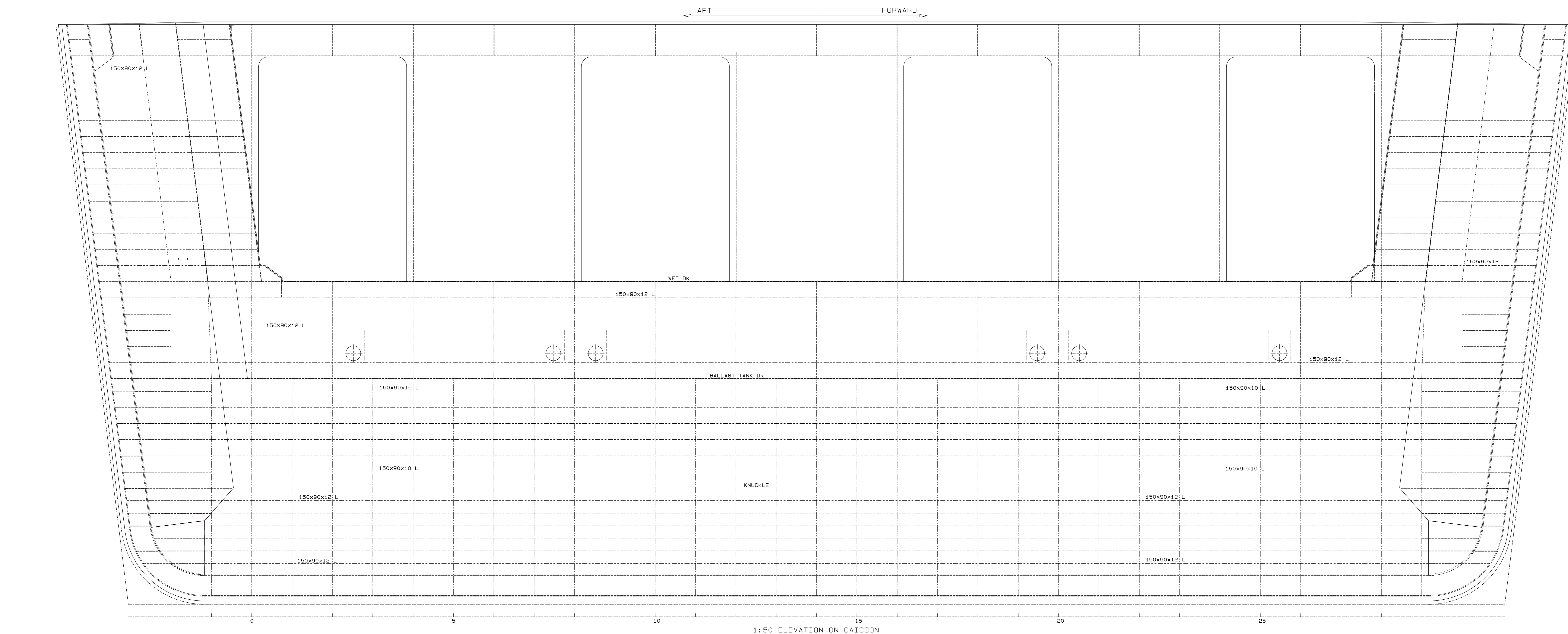
Drg. No. TNA 3501-03-B-D Sht 8 of 8

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

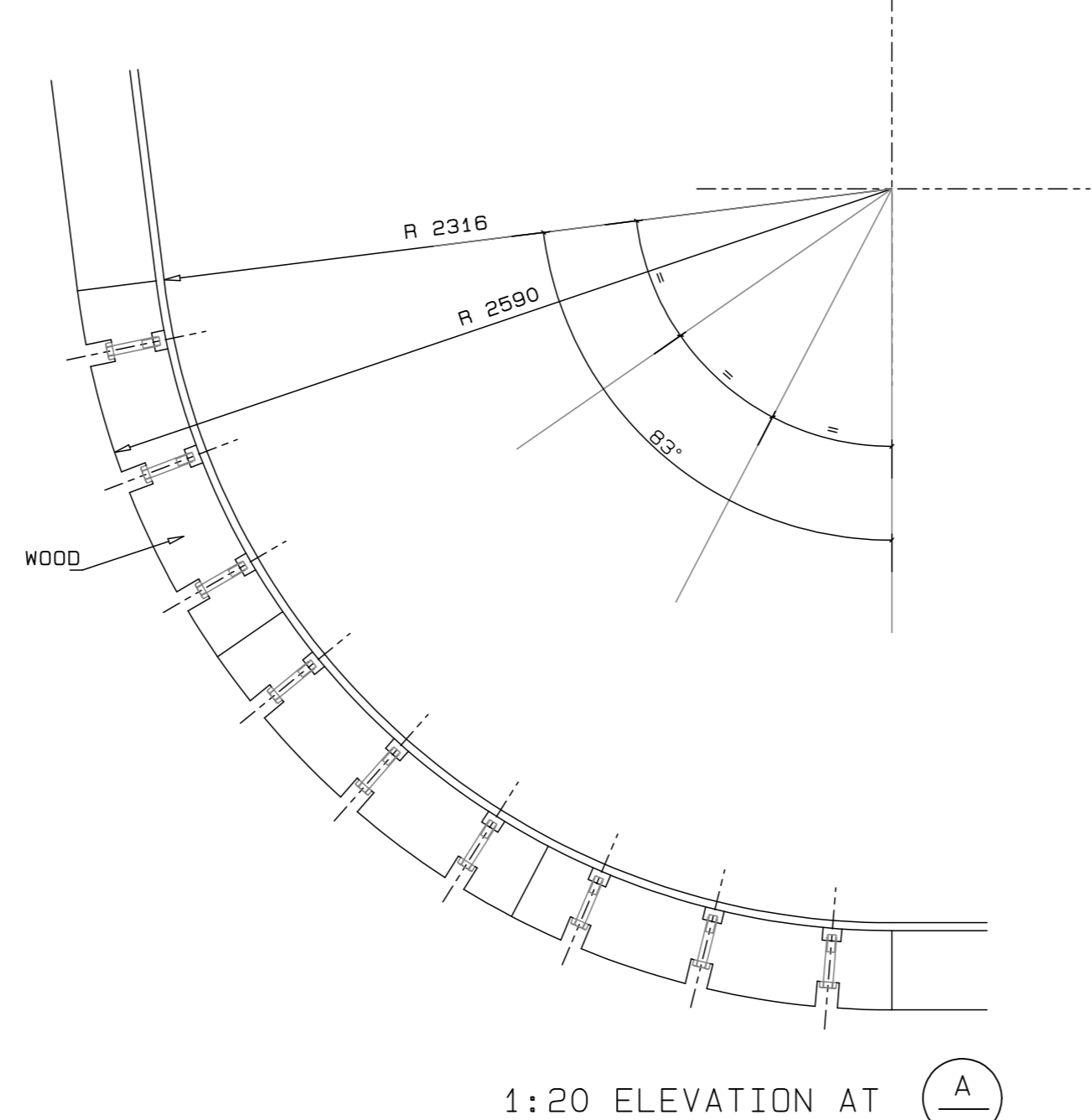
TRANSNET

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNP A 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
PLANS ON LONGITUDINALS AT ENDS  
AND ACCESS LADDER DETAILS

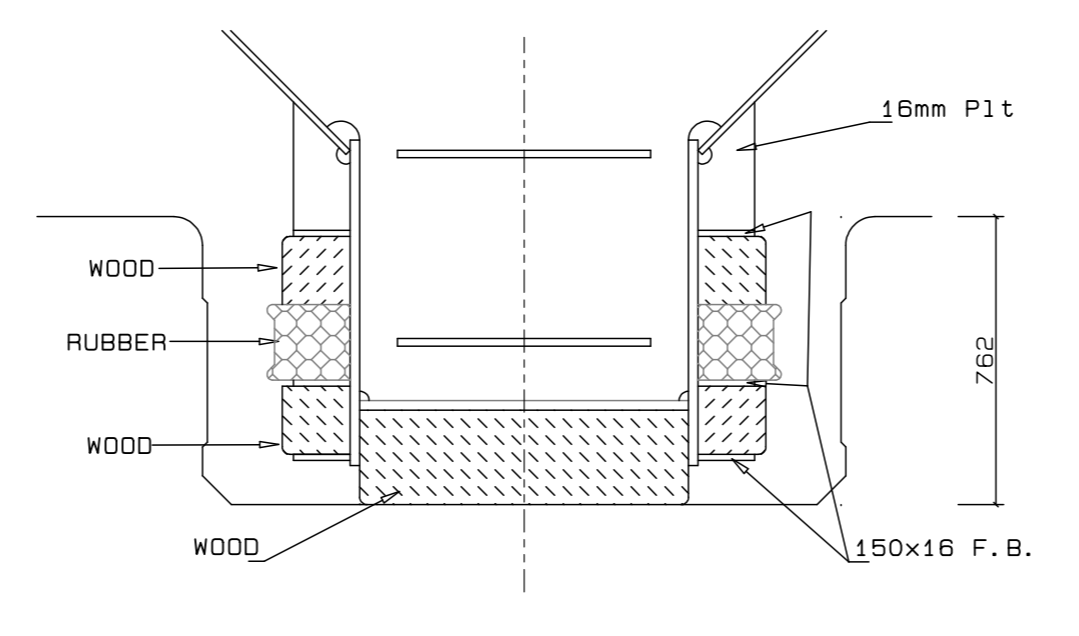
DRAWN	D. McCullough	CHECKED	C.S. SMIT
SCALE	AS SHOWN	DESIGN	B.J. ANDERSON
No. 507343-0000-DRG-SS-101-8			
DATE	19/03/20	SHEET 8 OF 8	
CAD REF	3501-03-DWG		
FILE REF	3501-03-DWG-CAISSON-STRUCTURE-CAISSON		



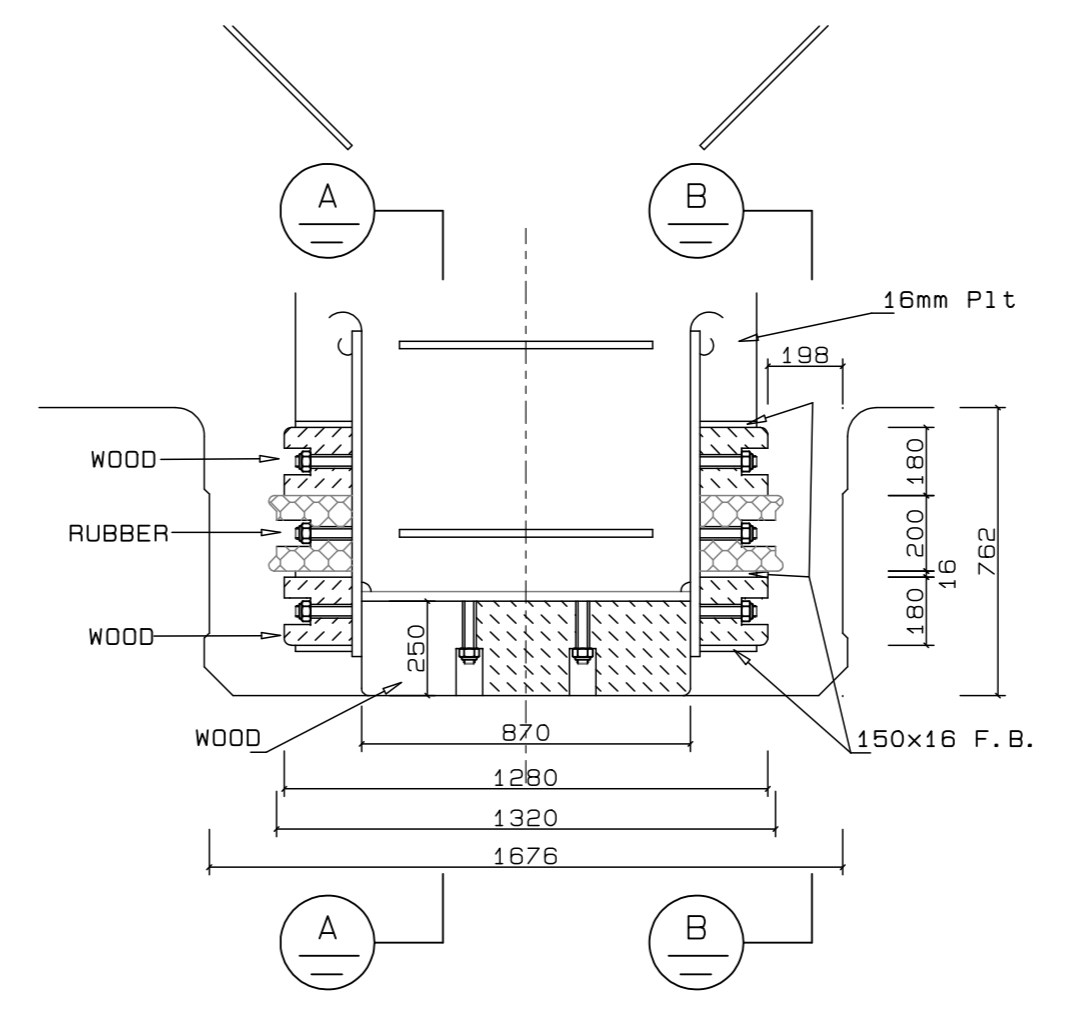
1:20 ELEVATION AT B



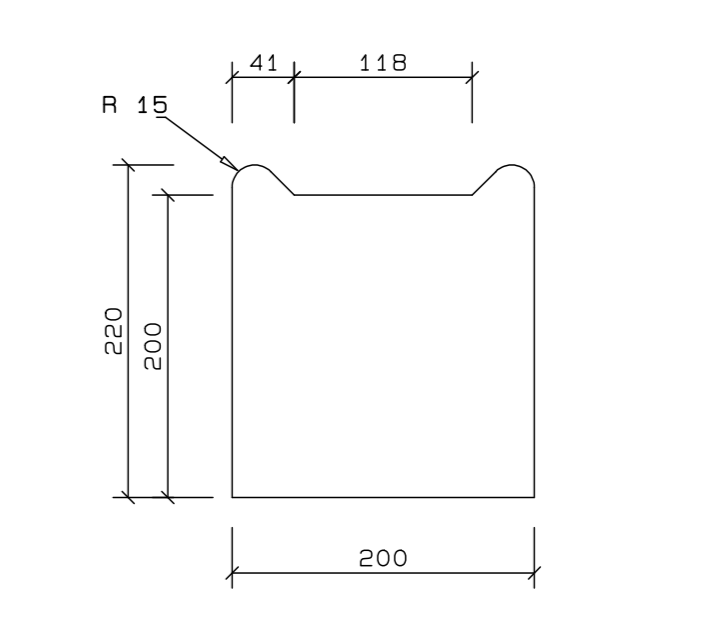
1:20 ELEVATION AT A



1:20 PROPOSED KEEL ARRANGEMENT (CLEAR OF FIXING POINTS, STEM SIMILAR)



1:20 PROPOSED KEEL ARRANGEMENT (STEM SIMILAR)



1:5 DETAIL OF RUBBER SEAL

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
TO	08/04/20	ISSUED FOR TENDER	B Kingwill
B	18/05/20	RUBBER SEAL MODIFIED	B Kingwill
C	11/08/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drg. No. TNA 3501-04-1-C Sht 1 of 1

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

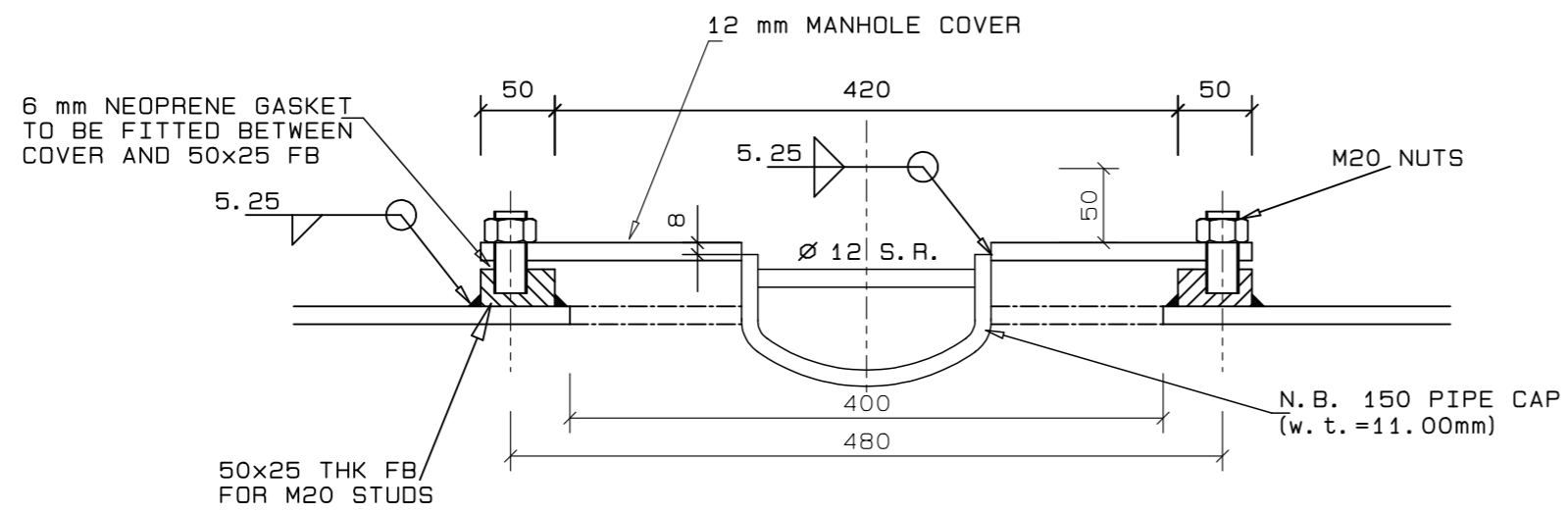
PORT ENGINEER  
 5000130  
 5/14/2016  
 PORT OF CAPE TOWN  
 P.O. BOX 428  
 8000  
 TEL: 021 448 8170  
 FAX: 021 448 8171



PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 KEEL DETAILS

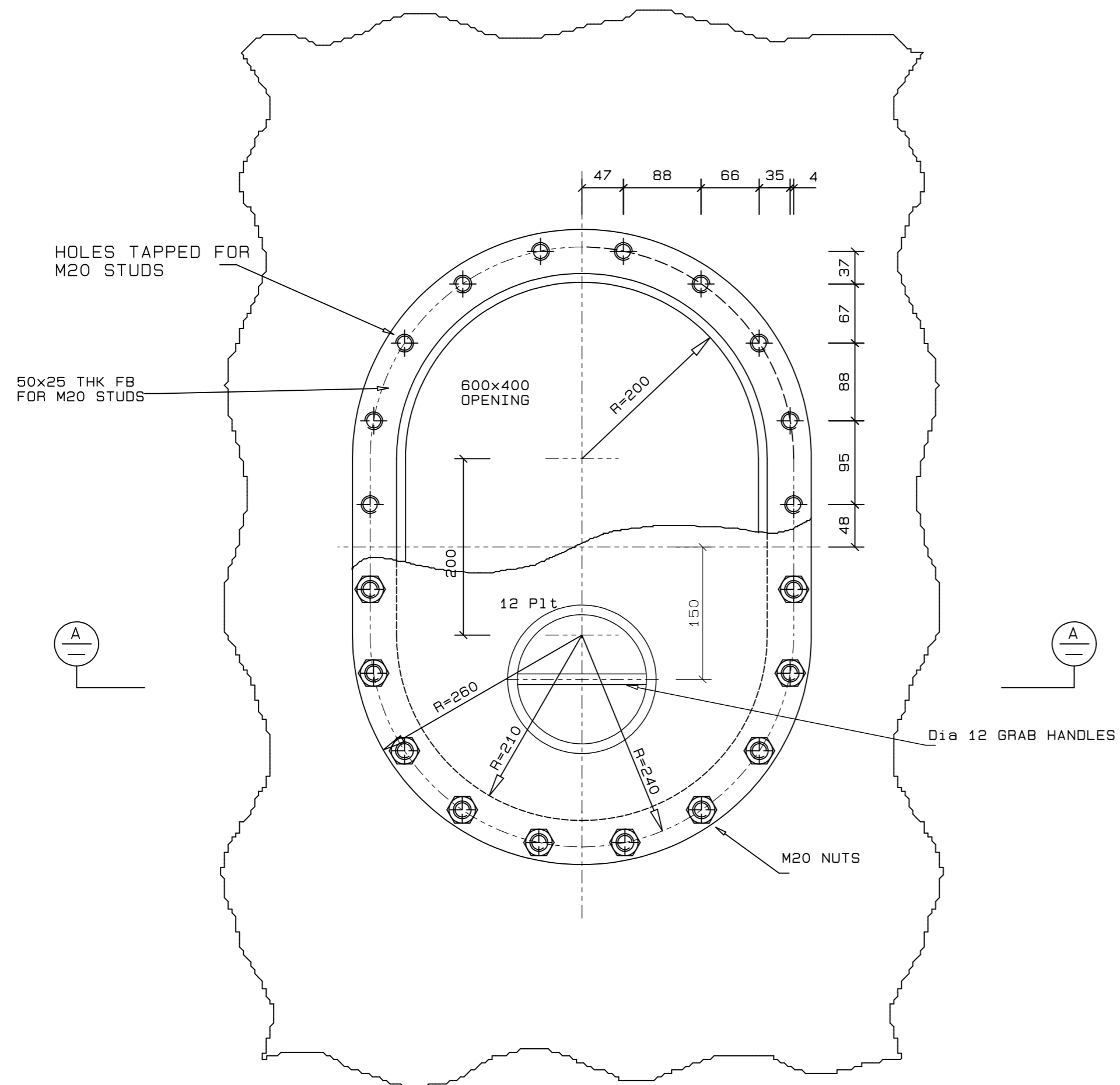
DRAWN	D. McConnell	CHECKED	C. S. SMIT
SCALE		DESIGN	BY: KINGWILL

No. 507343-0000-DRG-SS-102	
DATE	16/03/20
CALC REF	391-04-0195
FILE REF	391-04-0195 (TRN) CAISSON DETAILS.PDF
SHEET 1 OF 1	AMENDMENT



1:5 SECTION AT  $\text{\textcircled{A}}$   
(SHOWING A VIEW THROUGH THE MANHOLE STRUCTURE)

600x400 MANHOLE



1:5 MANHOLE DETAIL

- Notes:-
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  2. ALL SECTIONS TO BE GRADE S355R.
  3. WELDING INDICATES LEG LENGTH.

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
TO	04/08/20	ISSUED FOR TENDER	B.P. KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

Drg. No. TNA 3501-05-1-B Sht 1 of 1

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171

**TRANSNET**  
national ports authority  
delivering on our commitment to you

PORT OF CAPE TOWN

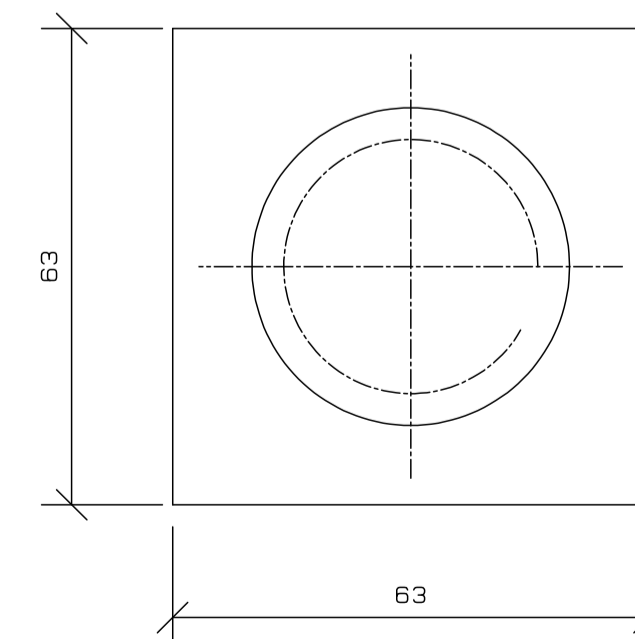
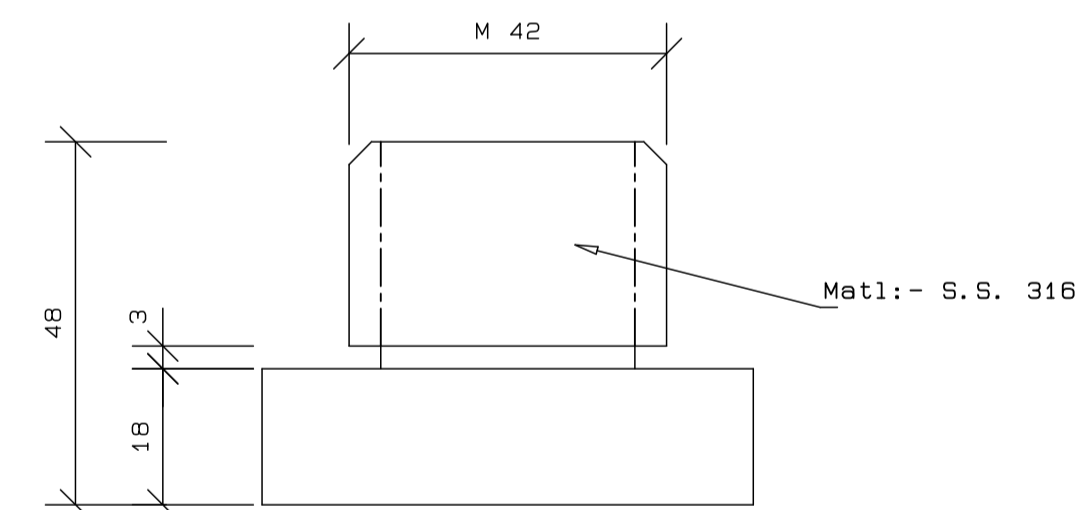
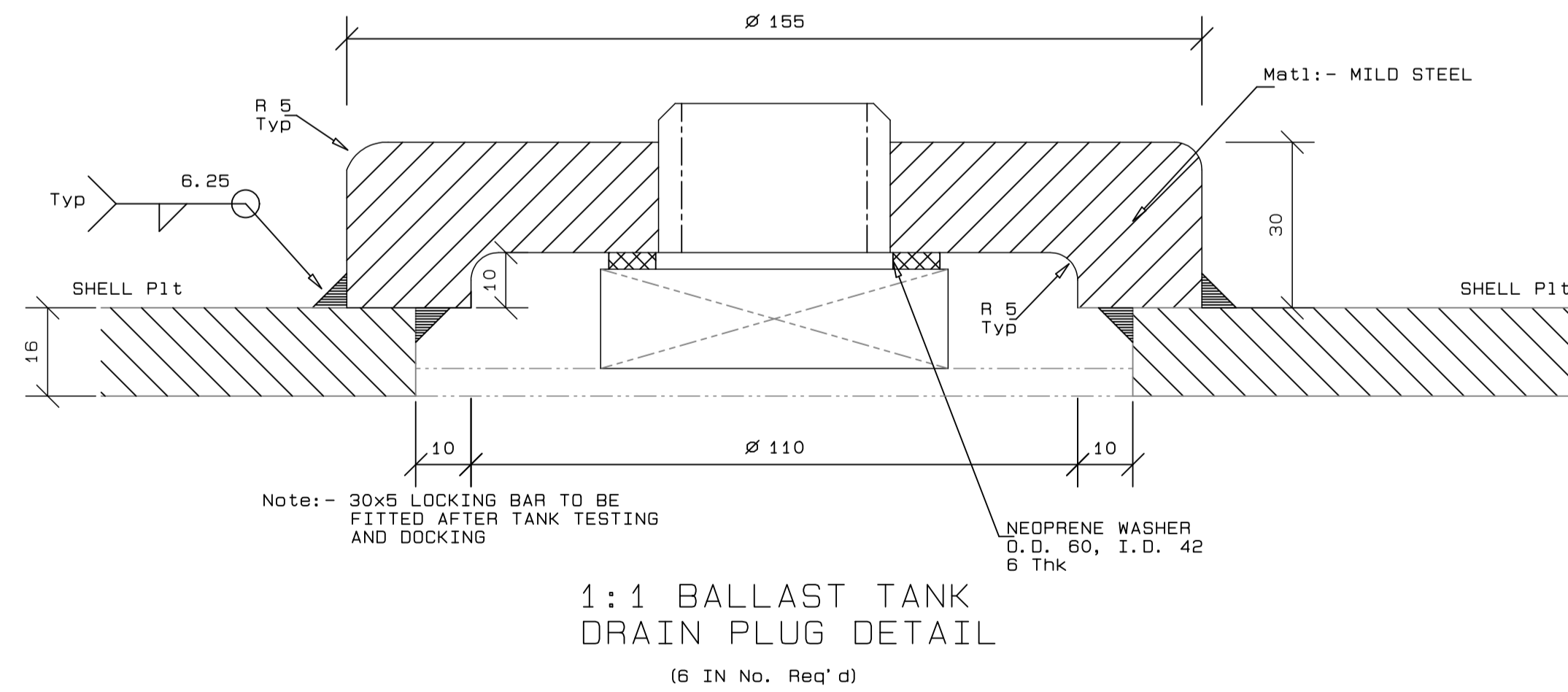
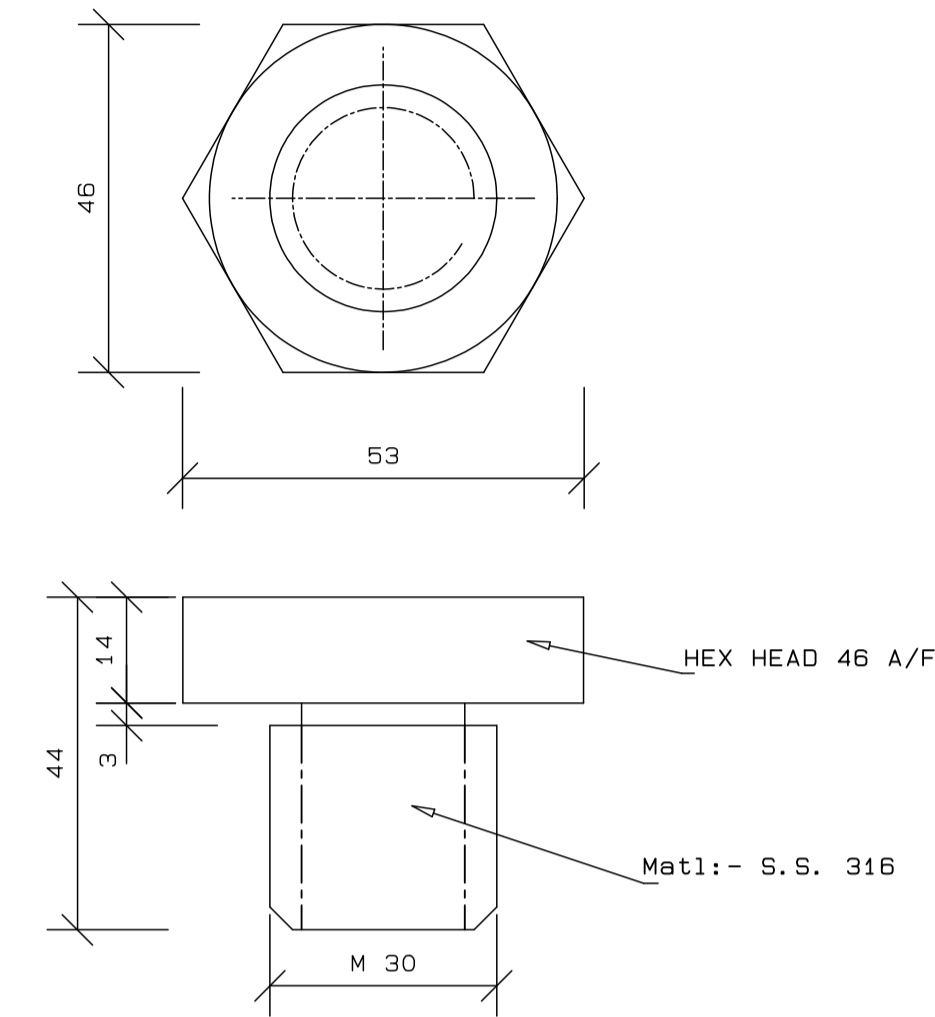
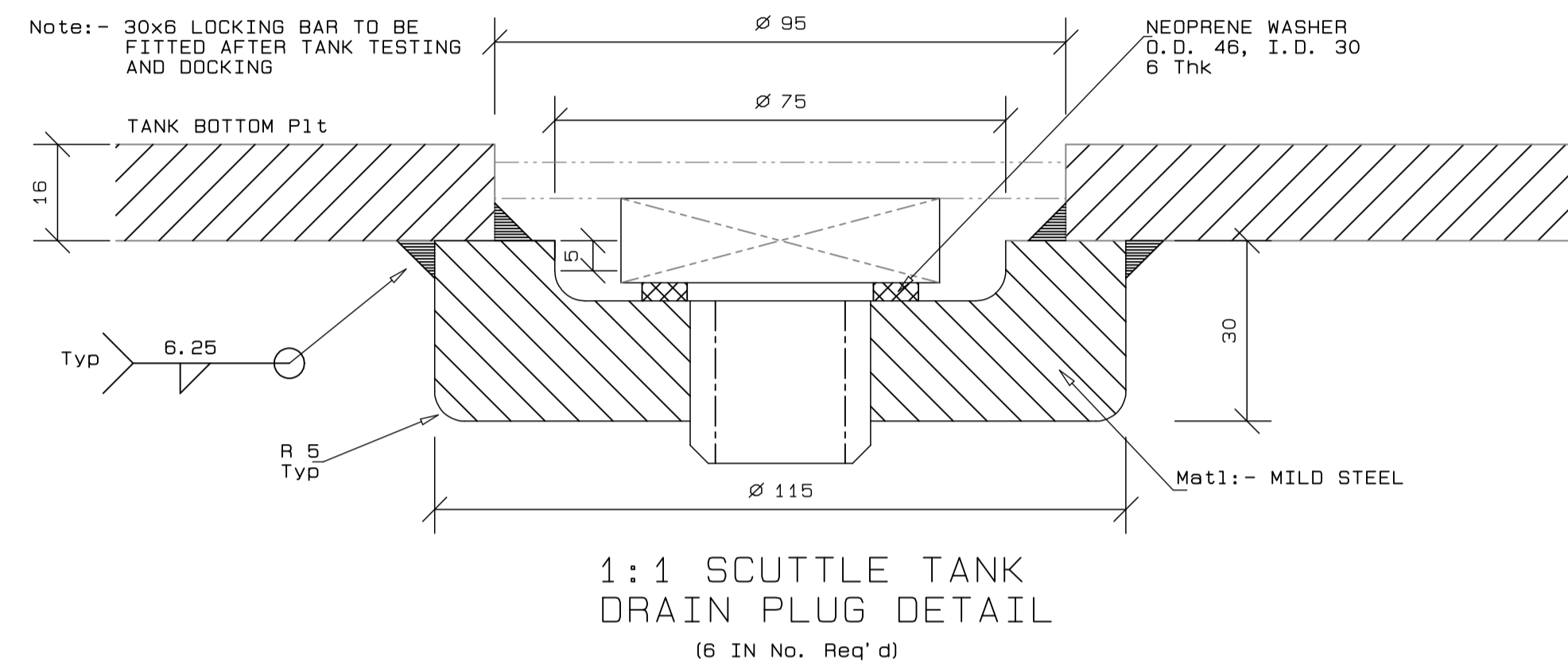
CONTRACT NUMBER: TNPA 789

DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
MANHOLE DETAILS

DRAWN: D. McConnell	CHECKED: C.S. SMIT
SCALE: AS SHOWN	DESIGN: B.P. KINGWILL

No. 507343-0000-DRG-SS-109-3

DATE: 16/03/20	SHEET 1 OF 1
CAD. REF: 3501-05.DWG	
FILE REF: 3501-05-1-B MANHOLE DETAILS.PDF	AMENDMENT: B



- Notes: -
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  2. ALL SECTIONS TO BE GRADE S355R OR EQUIVALENT.
  3. WELDING INDICATES LEG LENGTH THROUGHOUT.

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
TO	08/04/20	ISSUED FOR TENDER	B.P. KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drg. No. TNA 3501-06-1-B Sht 1 of 1

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
8000



PORT OF CAPE TOWN

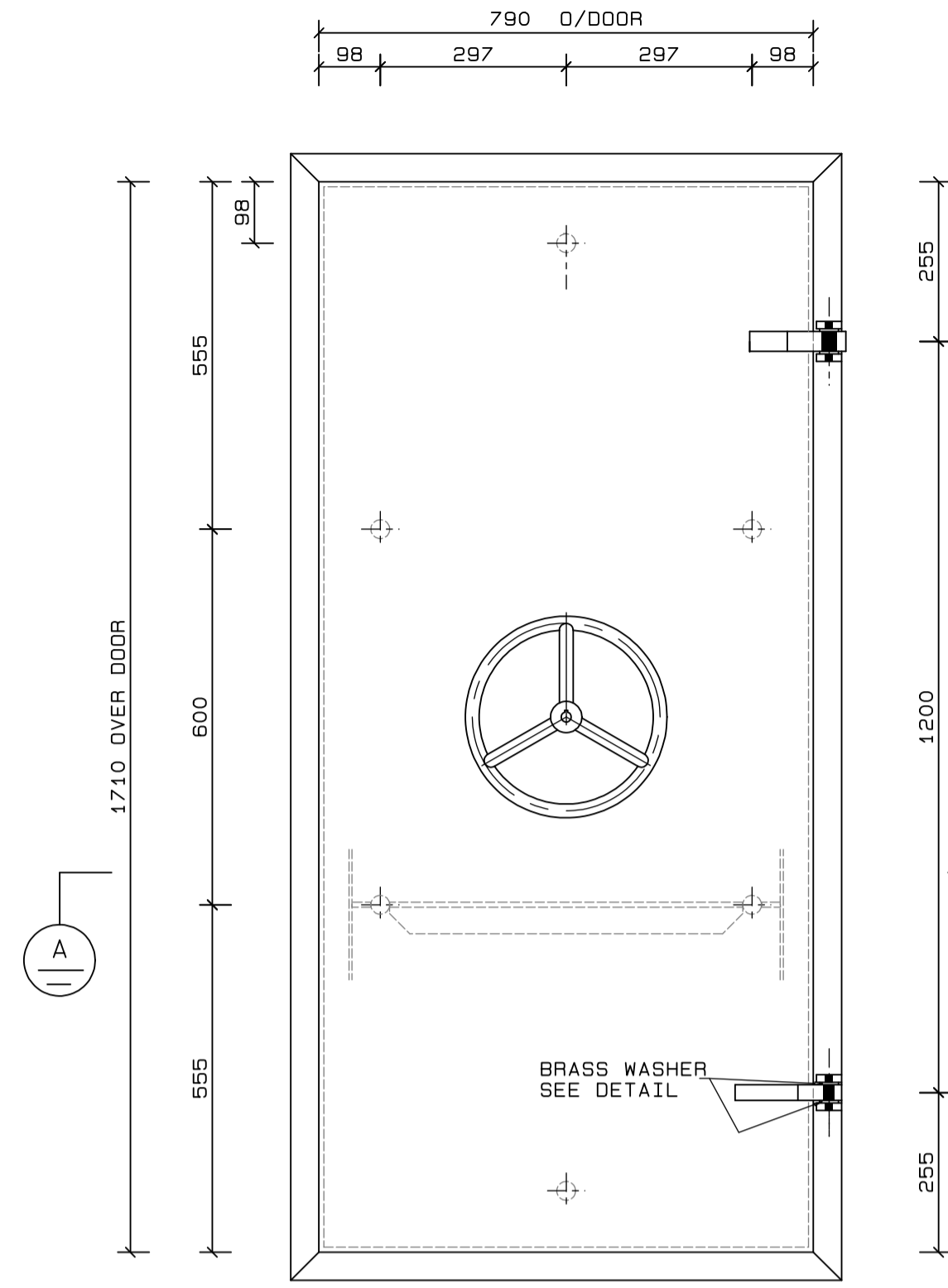
CONTRACT NUMBER: TNPA 789

DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STURROCK DRY DOCK, PORT OF CAPE TOWN DOCKING PLUGS

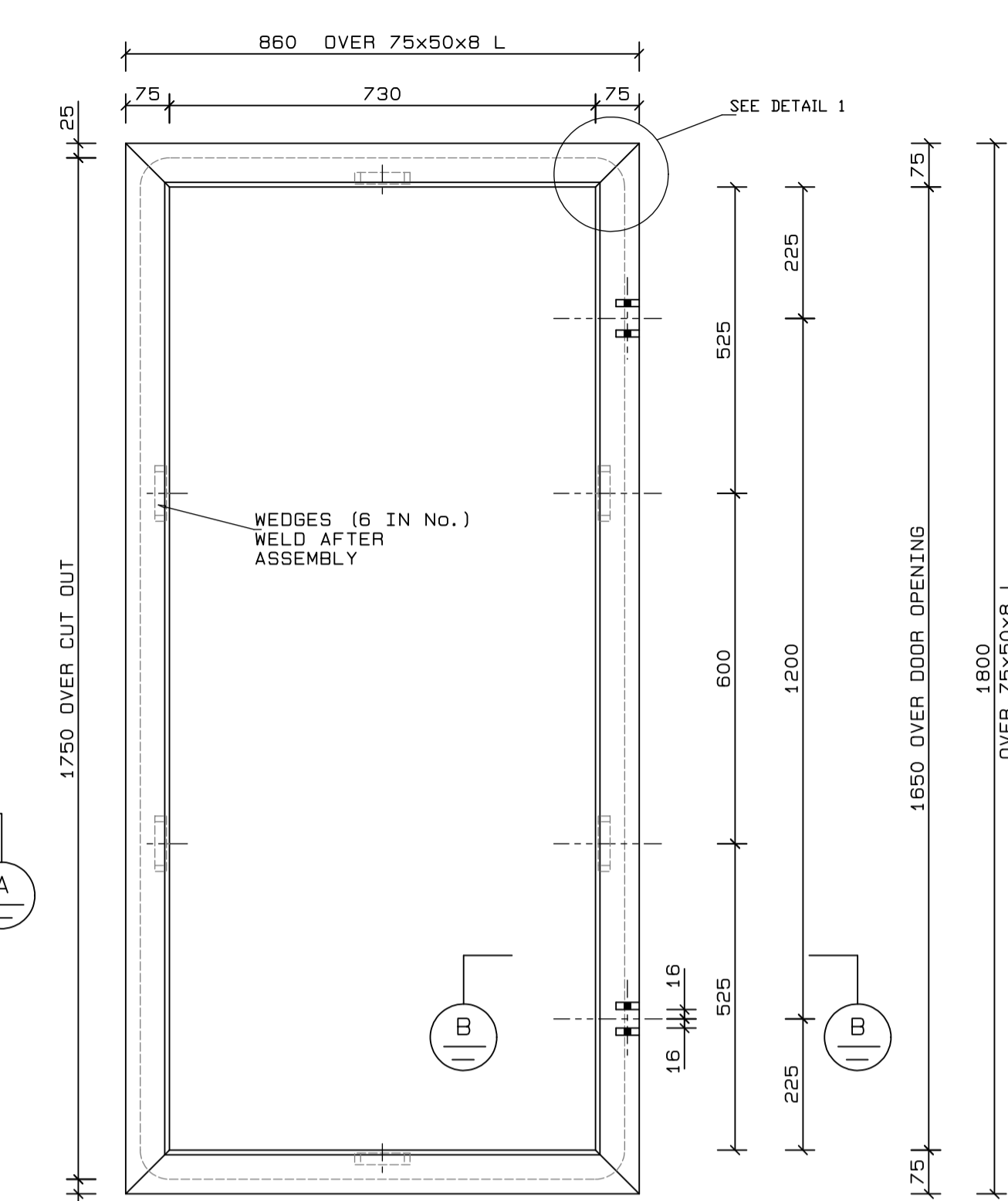
DRAWN	D. McConnell	CHECKED	C.S. SMT
SCALE	AS SHOWN	DESIGN	B.P. KINGWILL
			DMC

No. 507343-0000-DRG-SS-104

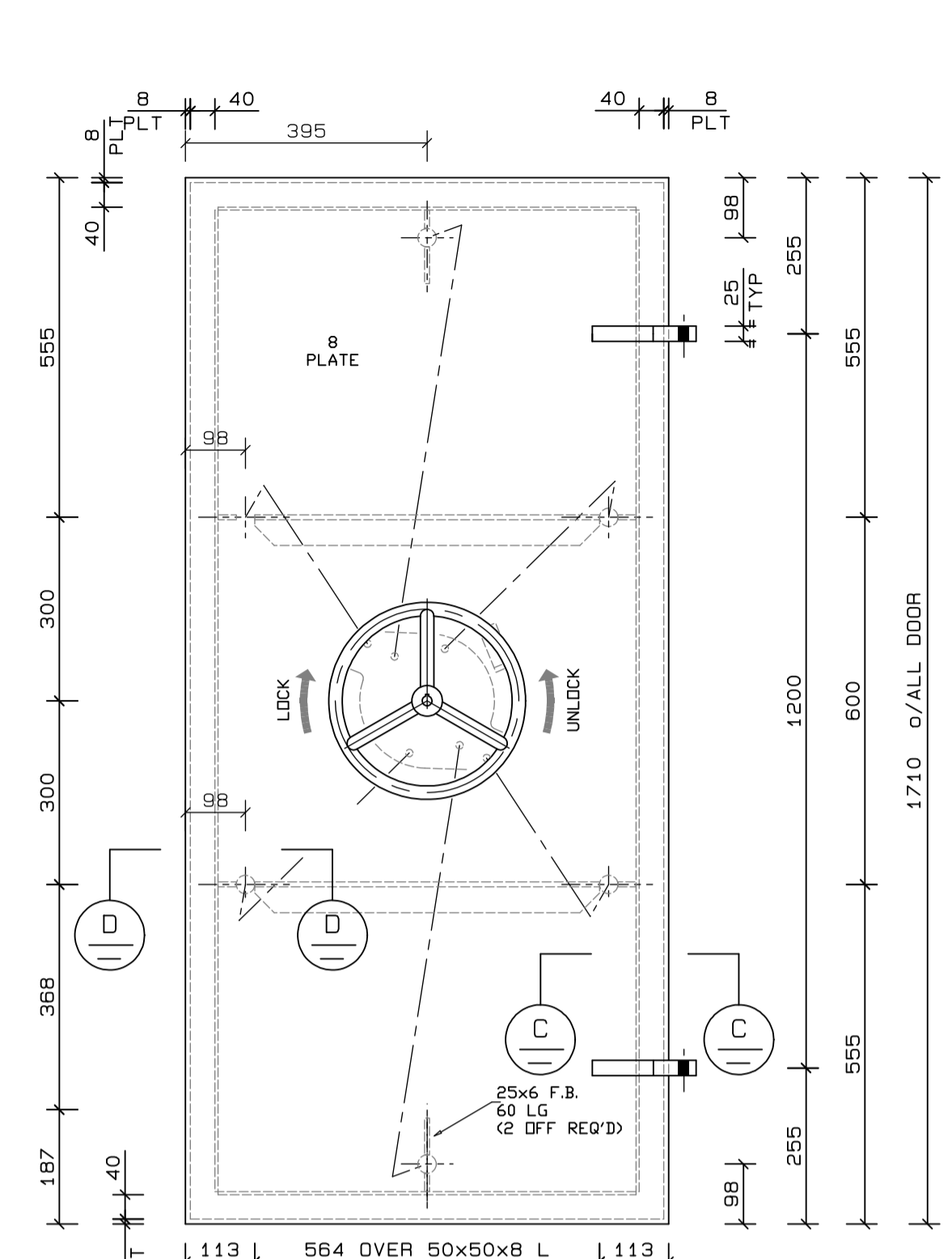
DATE	16/03/20	SHEET	1 OF 1
CAD. REF	3501-06.DWG	AMENDMENT	B
FILE REF	3501-06 SH 1 Rev B DOCKING PLUGS.PDF		



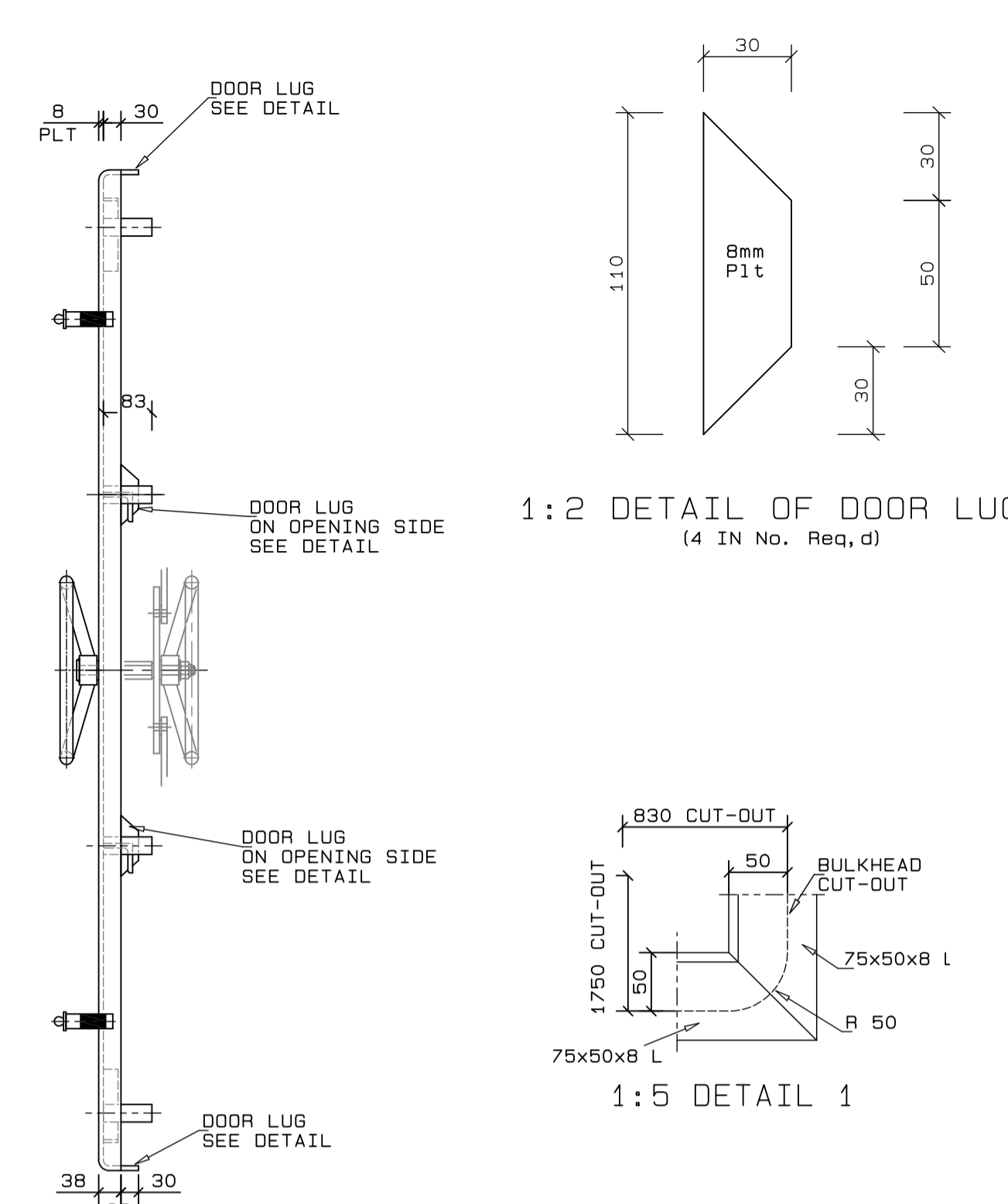
1:10 ELEVATION ON DOOR



1:10 ELEVATION ON DOOR FRAME

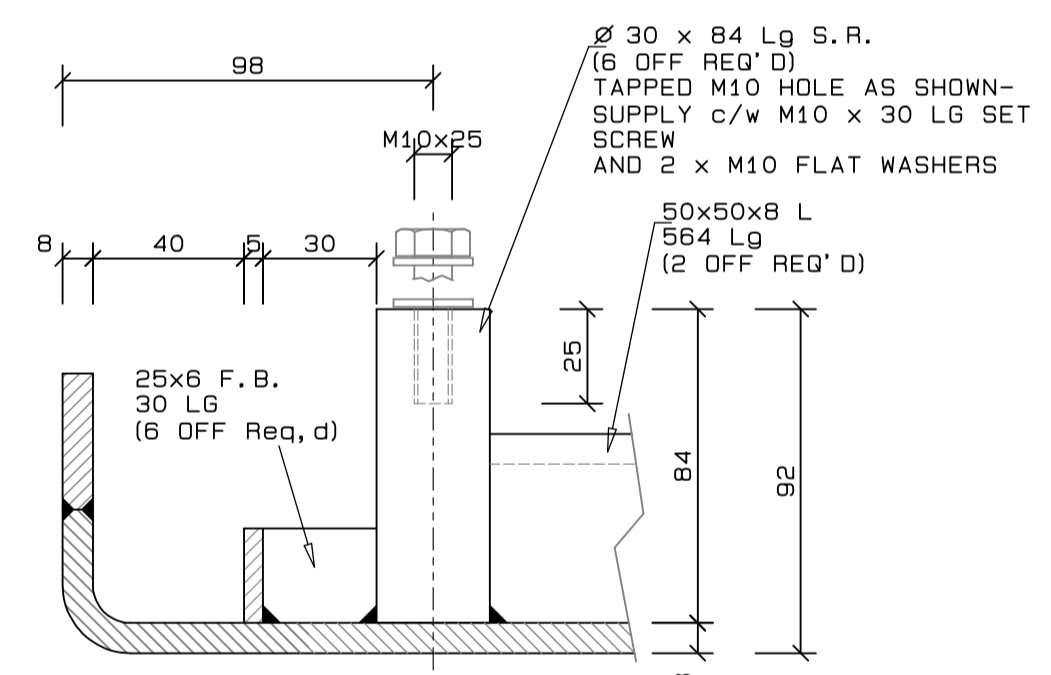
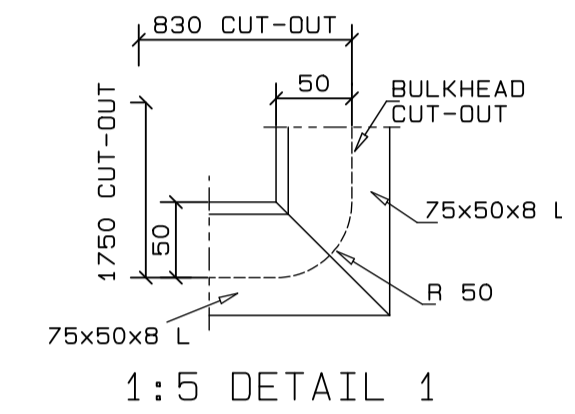
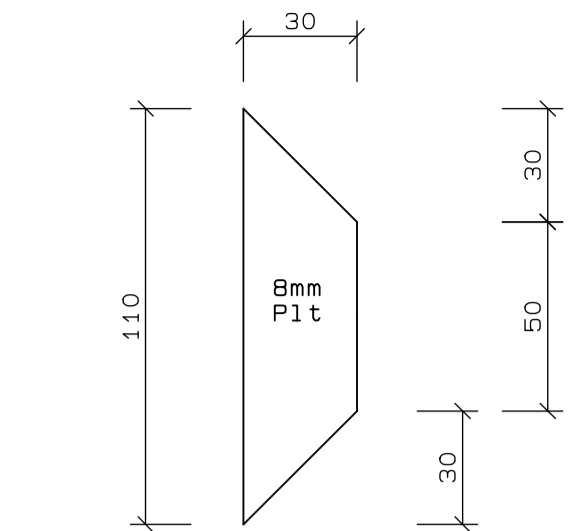


1:10 ELEVATION ON DOOR (SHOWING OPERATING MECHANISM)

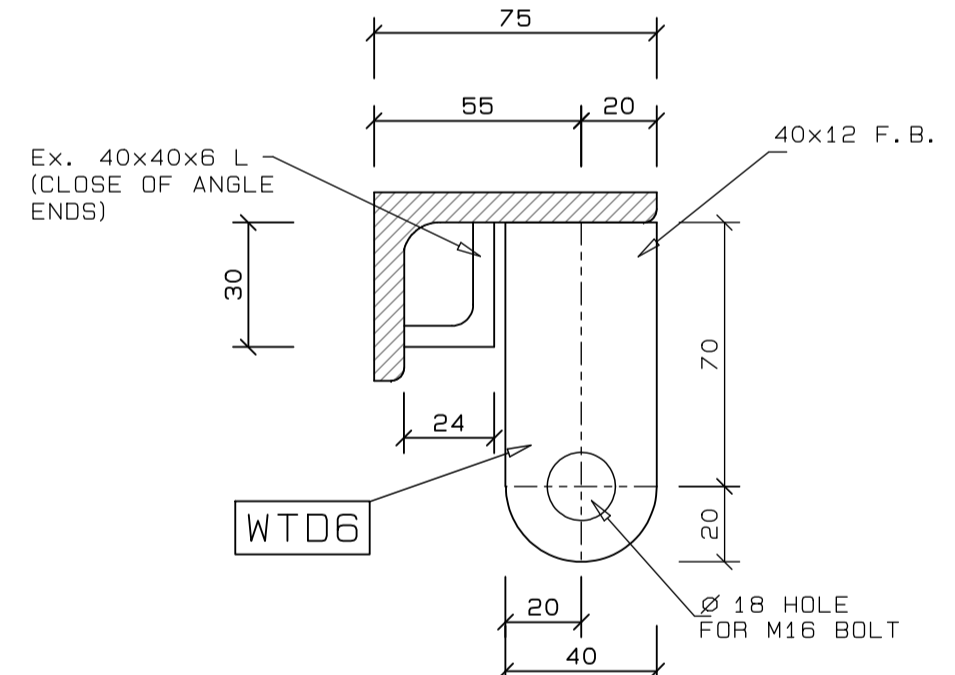


1:10 SECTION ON DOOR

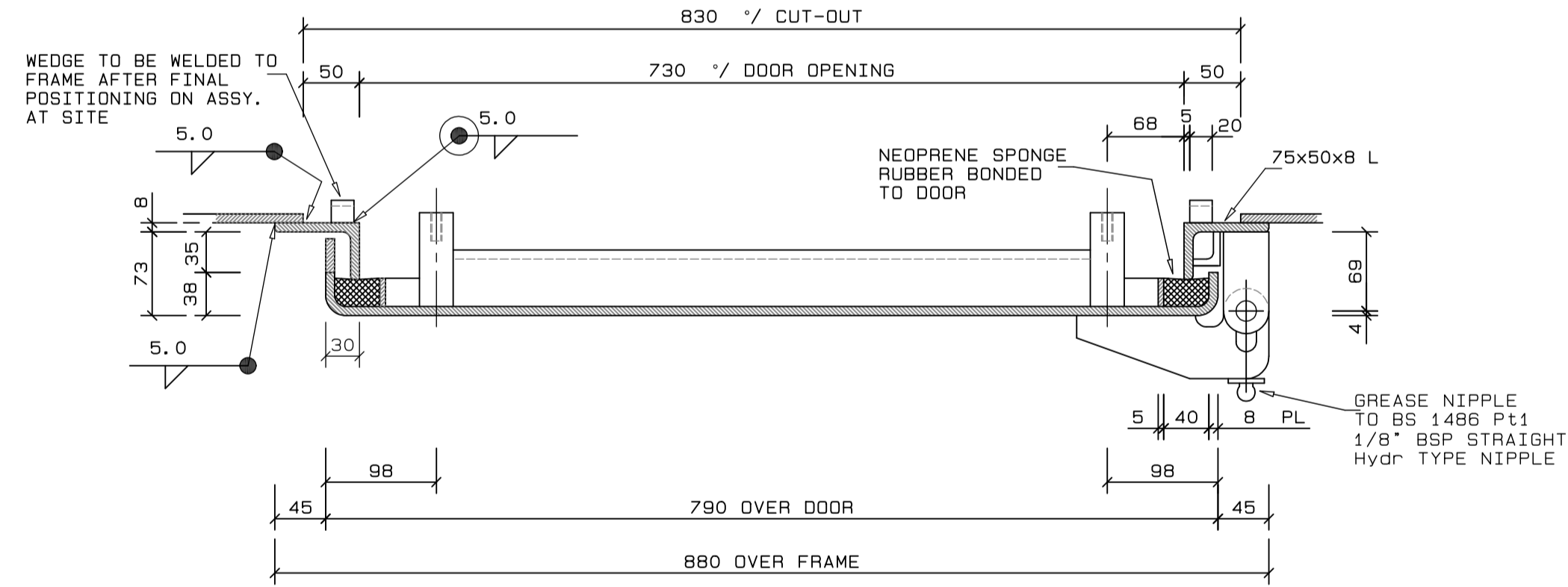
1:2 DETAIL OF DOOR LUG (4 IN No. Req'd)



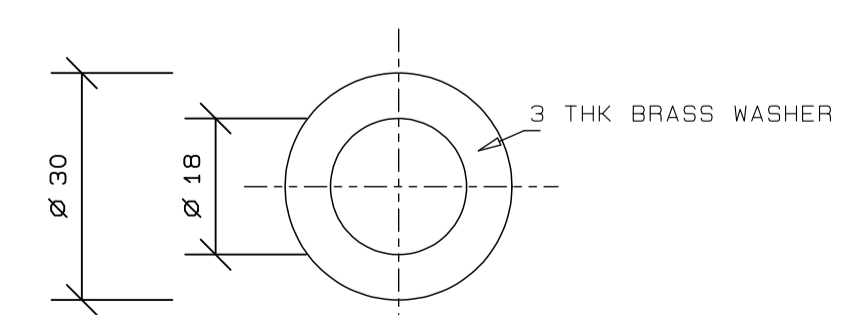
1:2 SECTION AT D



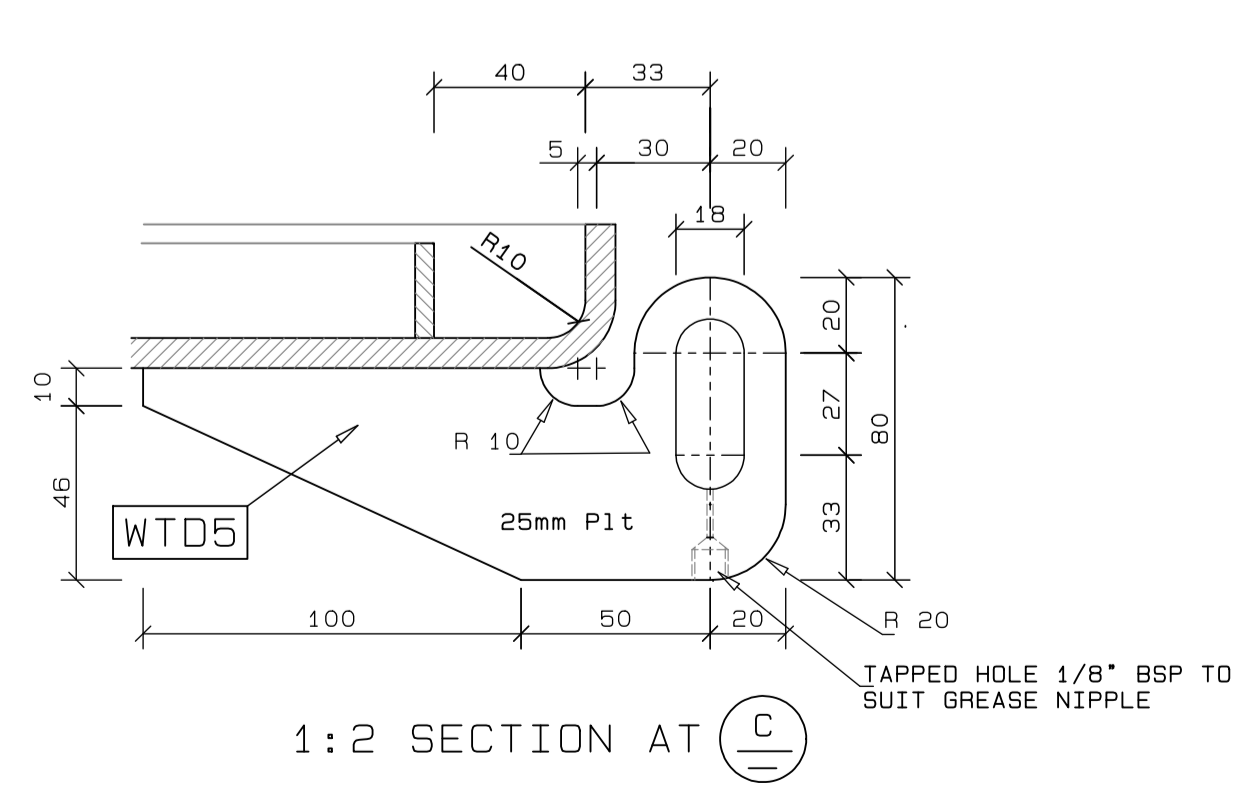
1:2 SECTION AT B



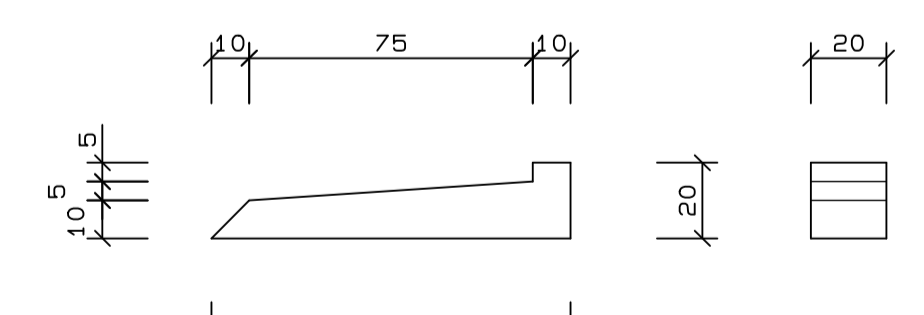
1:5 SECTION AT A



1:1 DETAIL OF WASHER (4-OFF REQ'D.)



1:2 SECTION AT C



1:2 DETAIL OF WEDGE (6-OFF REQ'D.)

- Notes:-
- ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  - ALL SECTIONS TO BE GRADE S355R.
  - WELDING INDICATES LEG LENGTH.
- 6 IN NUMBER DOORS REQUIRED

**NOTES**

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
TO	08/04/20	ISSUED FOR TENDER	B.P.KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

www.aurecongroup.com

Drg. No. TNA 3501-07-1-B Sht 1 of 2

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
8000  
TEL 021 449 6173  
FAX 021 449 6171

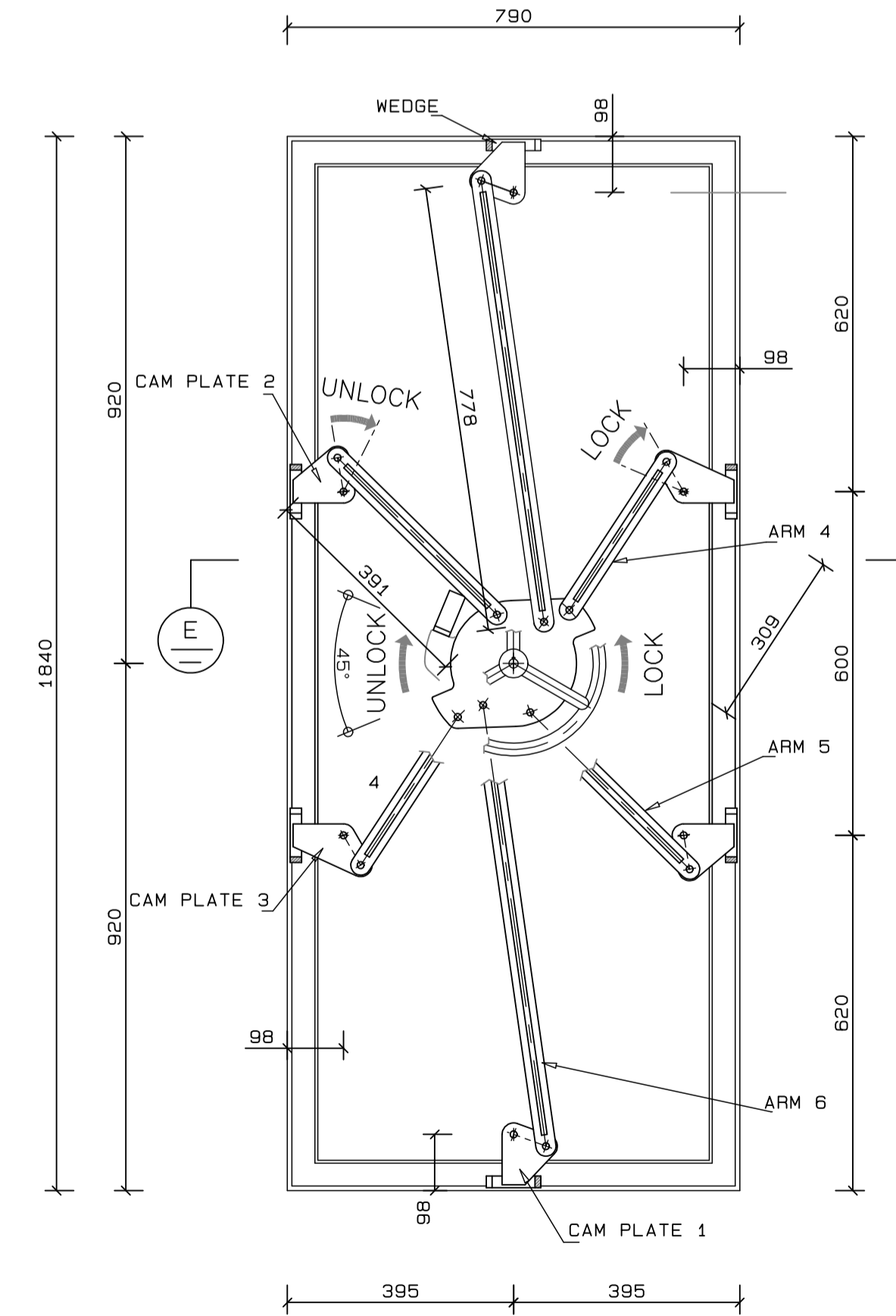
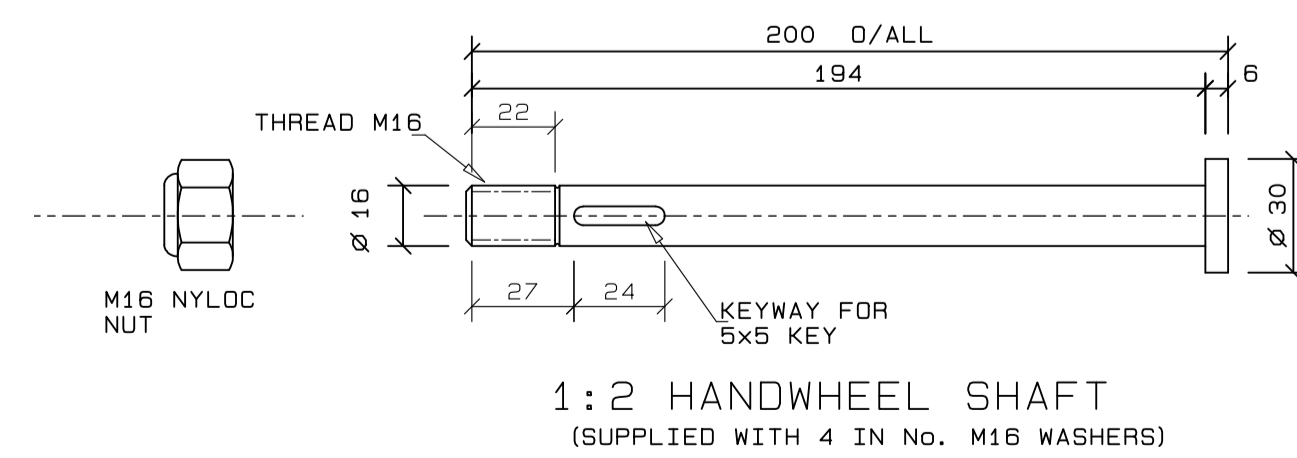
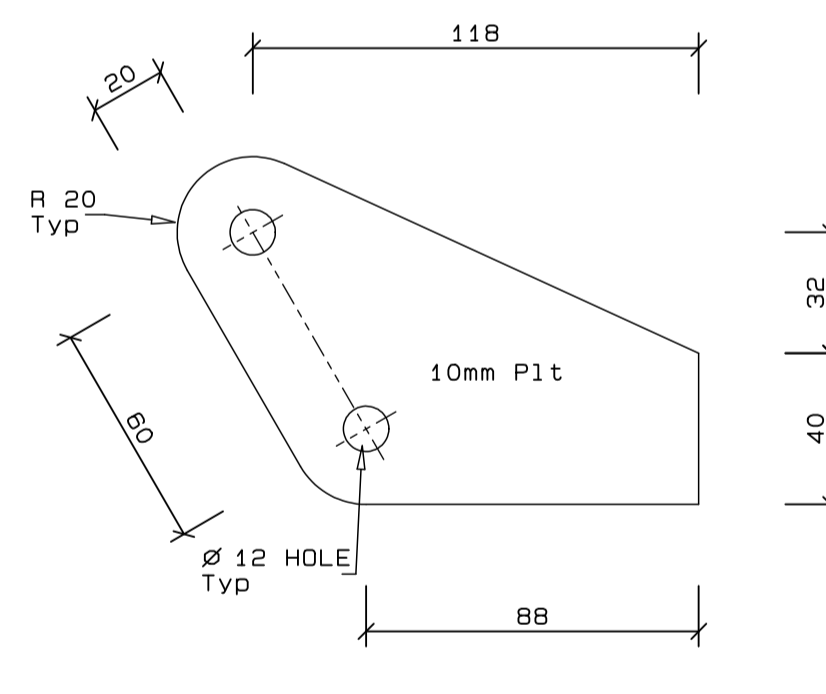
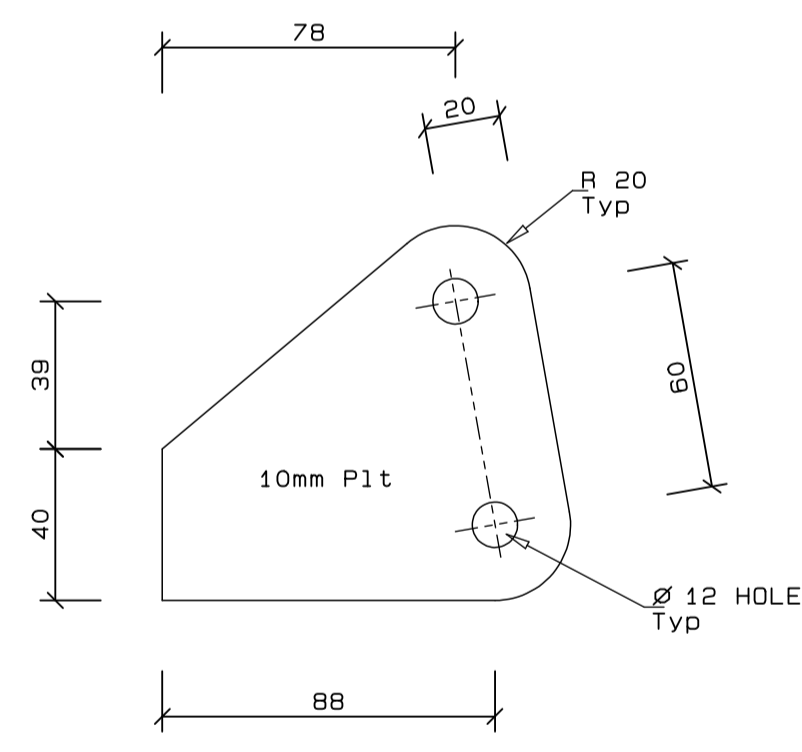
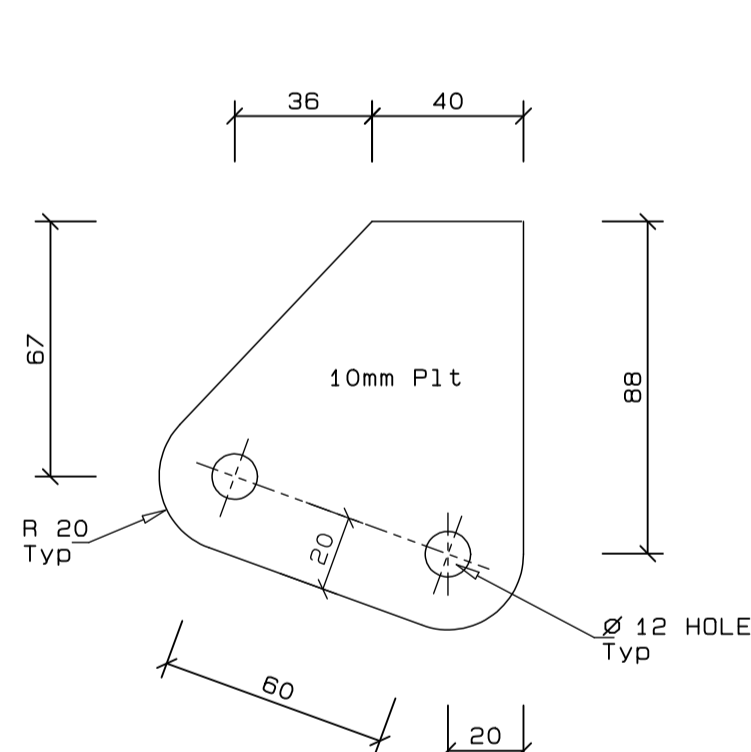
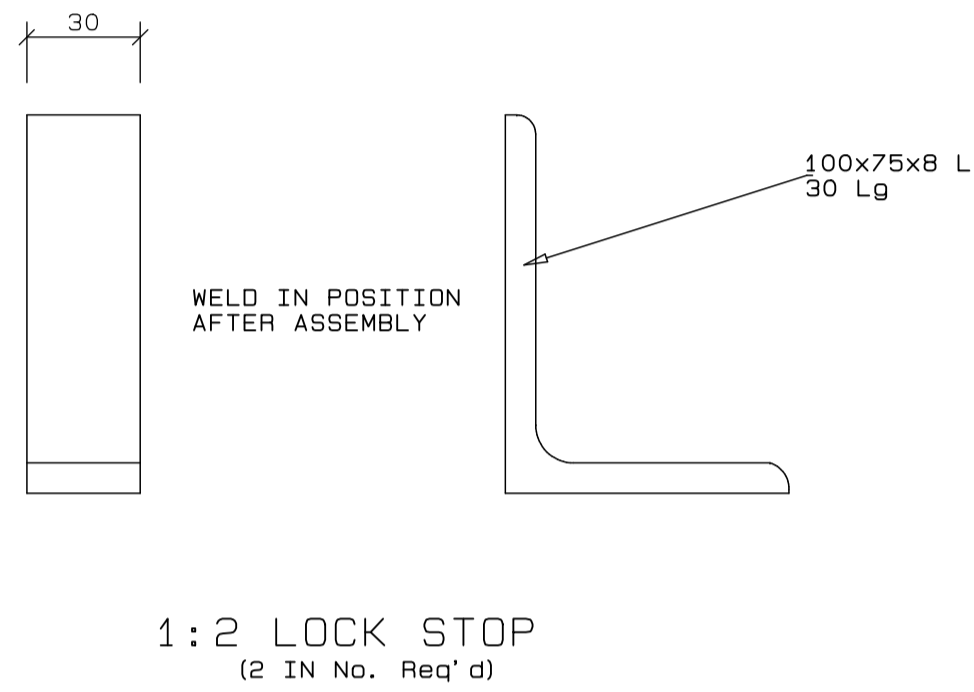
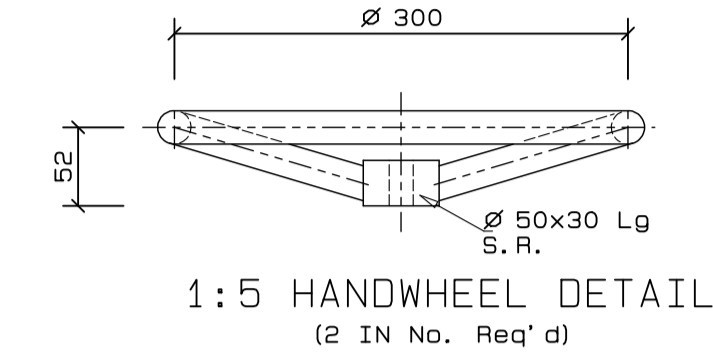
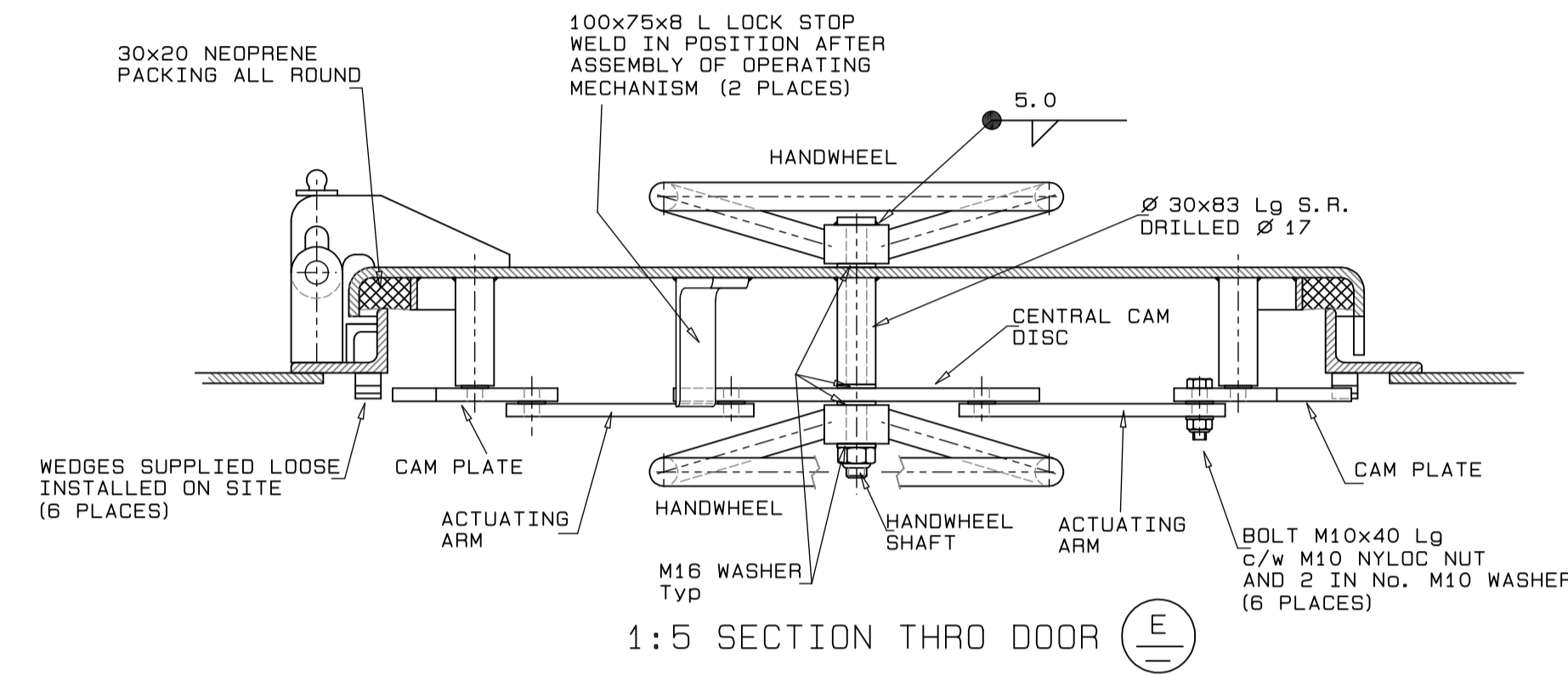
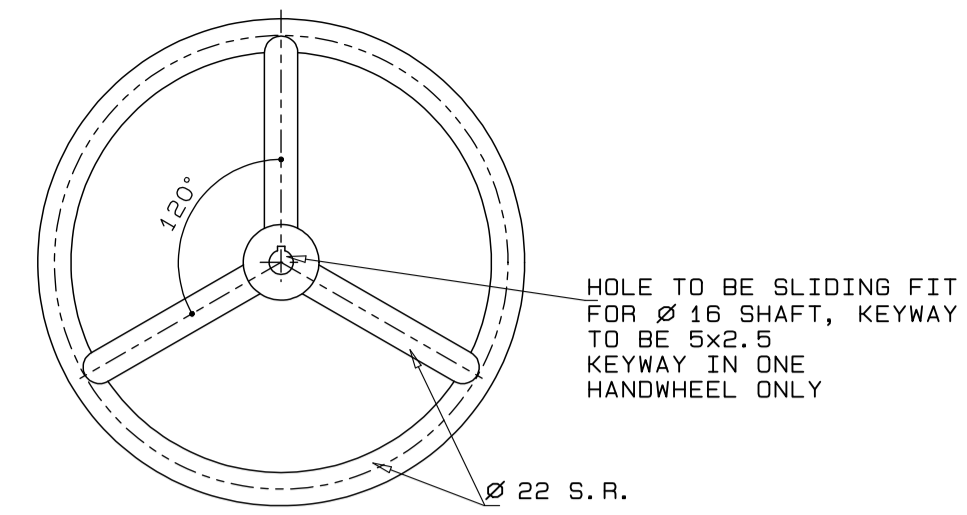
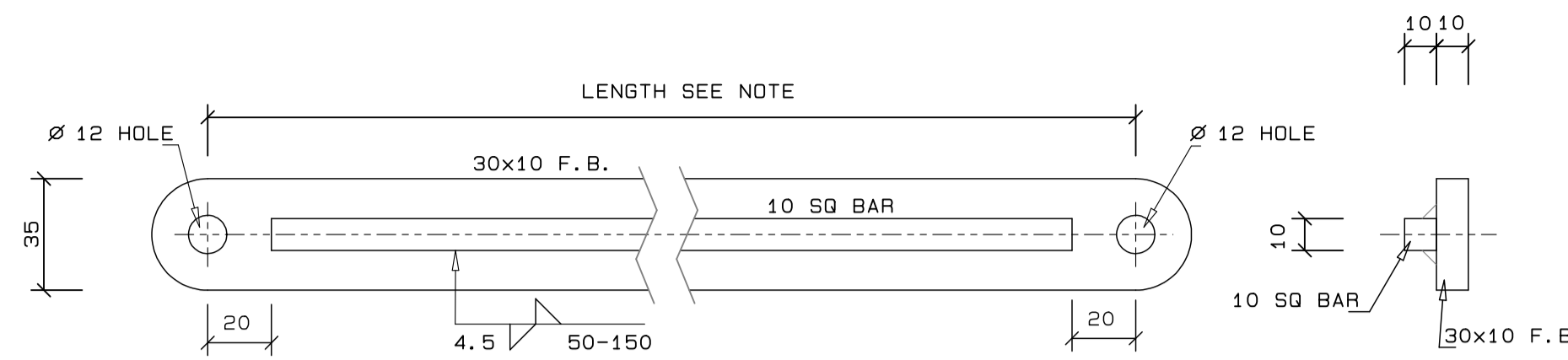
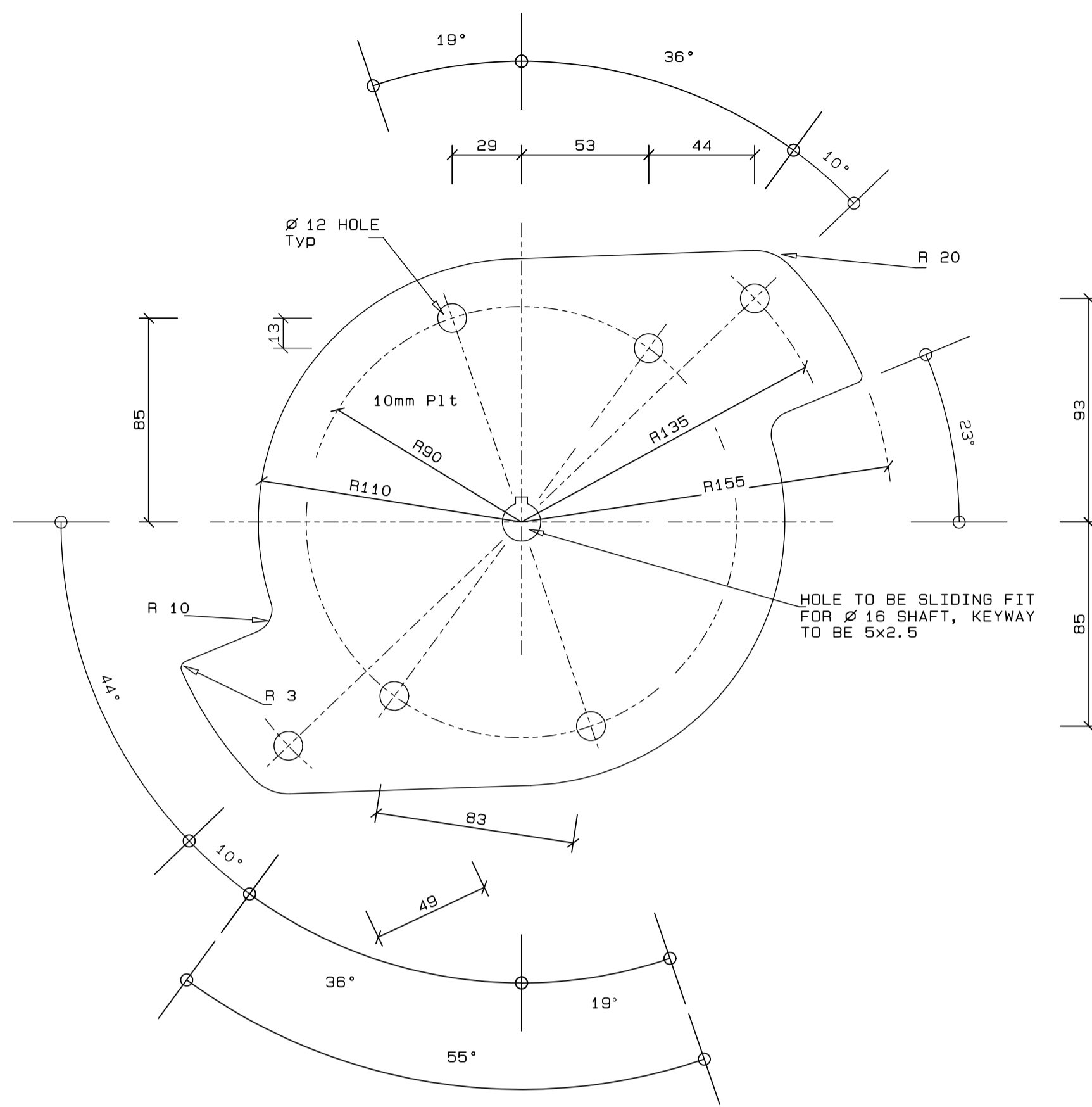
PORT OF CAPE TOWN

CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY CAISSON STURROCK DRY DOCK, PORT OF CAPE TOWN W.T. DOOR

DRAWN	D. McConnell	CHECKED	C.S. SMT
SCALE	AS SHOWN	DESIGN	B.P. KINGWILL
			DMC

No. 507343-0000-DRG-SS-105-1	
DATE	16/03/20
CAD. REF	3501-07.DWG
FILE REF	3501-07 SH 1 Rev B W.T. DOOR.PDF
SHEET 1 OF 2	AMENDMENT
	B





### REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
TO	08/04/20	ISSUED FOR TENDER	B.P.KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

Drg. No. TNA 3501-07-2-B Sht 2 of 2

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171

**TRANSNET**  
delivering on our commitment to you national ports authority

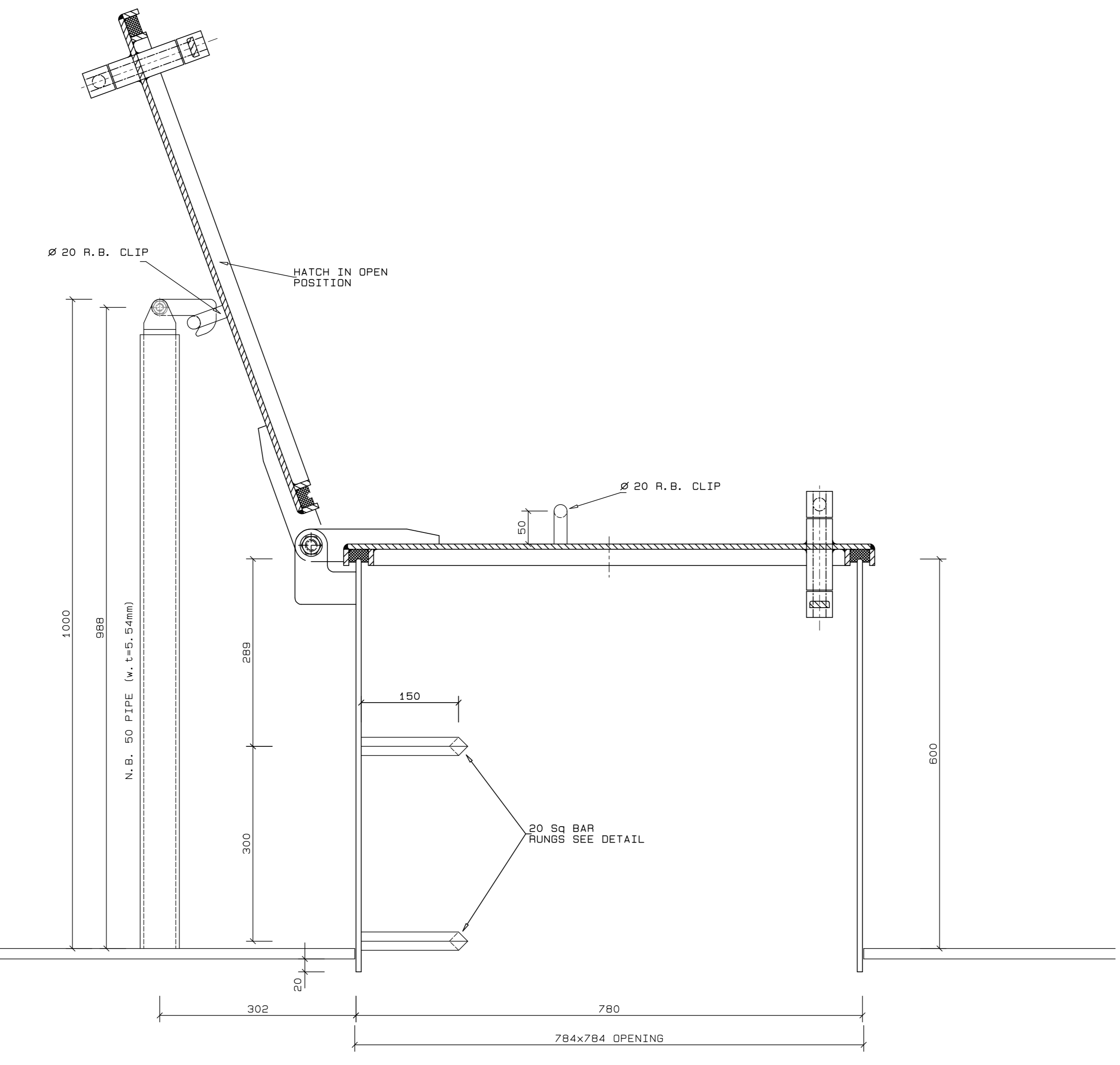
PORT OF CAPE TOWN

CONTRACT NUMBER: TNPA 789

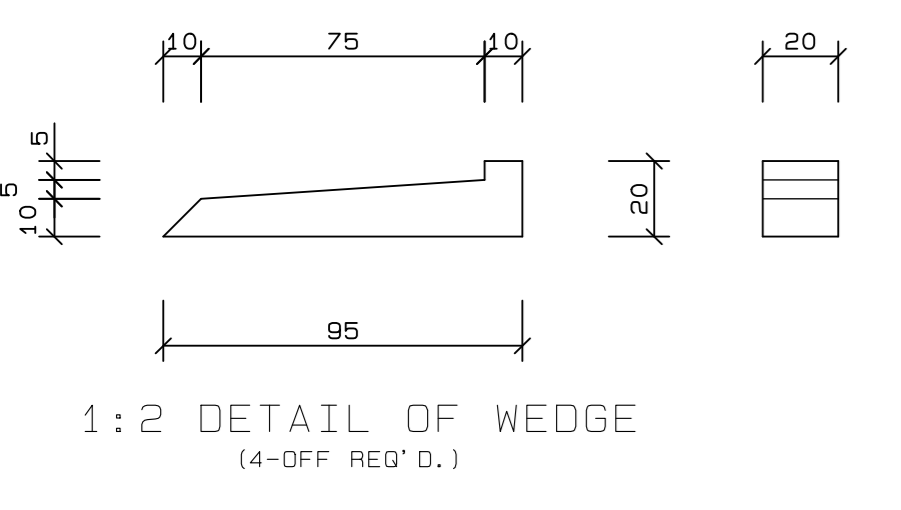
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
W.T. DOOR

DRAWN	D. McConnell	CHECKED	C.S. SMT
SCALE	AS SHOWN	DESIGN	B.P. KINGWILL

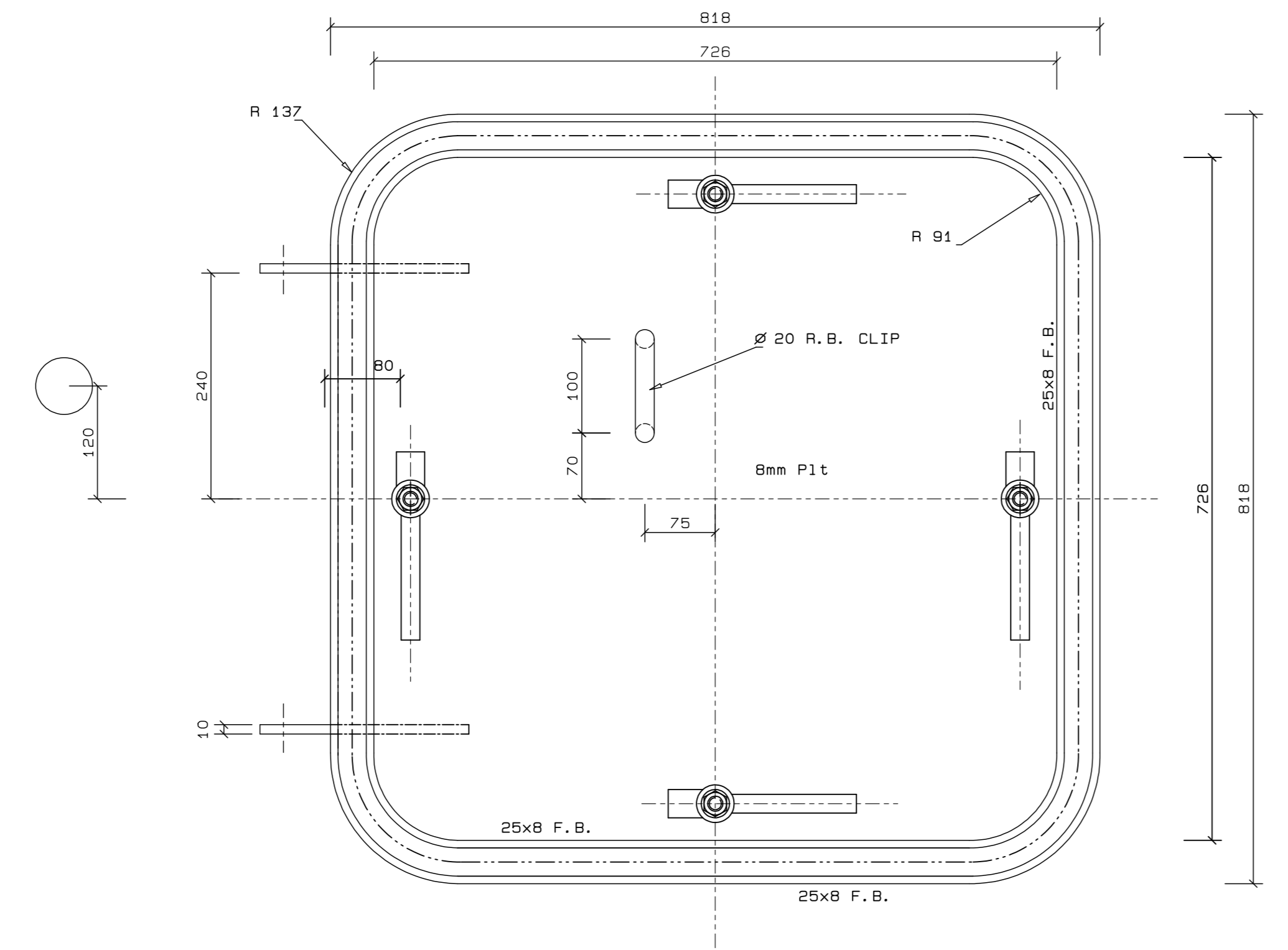
No. 507343-0000-DRG-SS-105-2	
DATE	16/03/20
CAD. REF	3501-07.DWG
FILE REF	3501-07 SH 2 Rev B W.T. DOOR.PDF
SHEET	2 OF 2
AMENDMENT	B



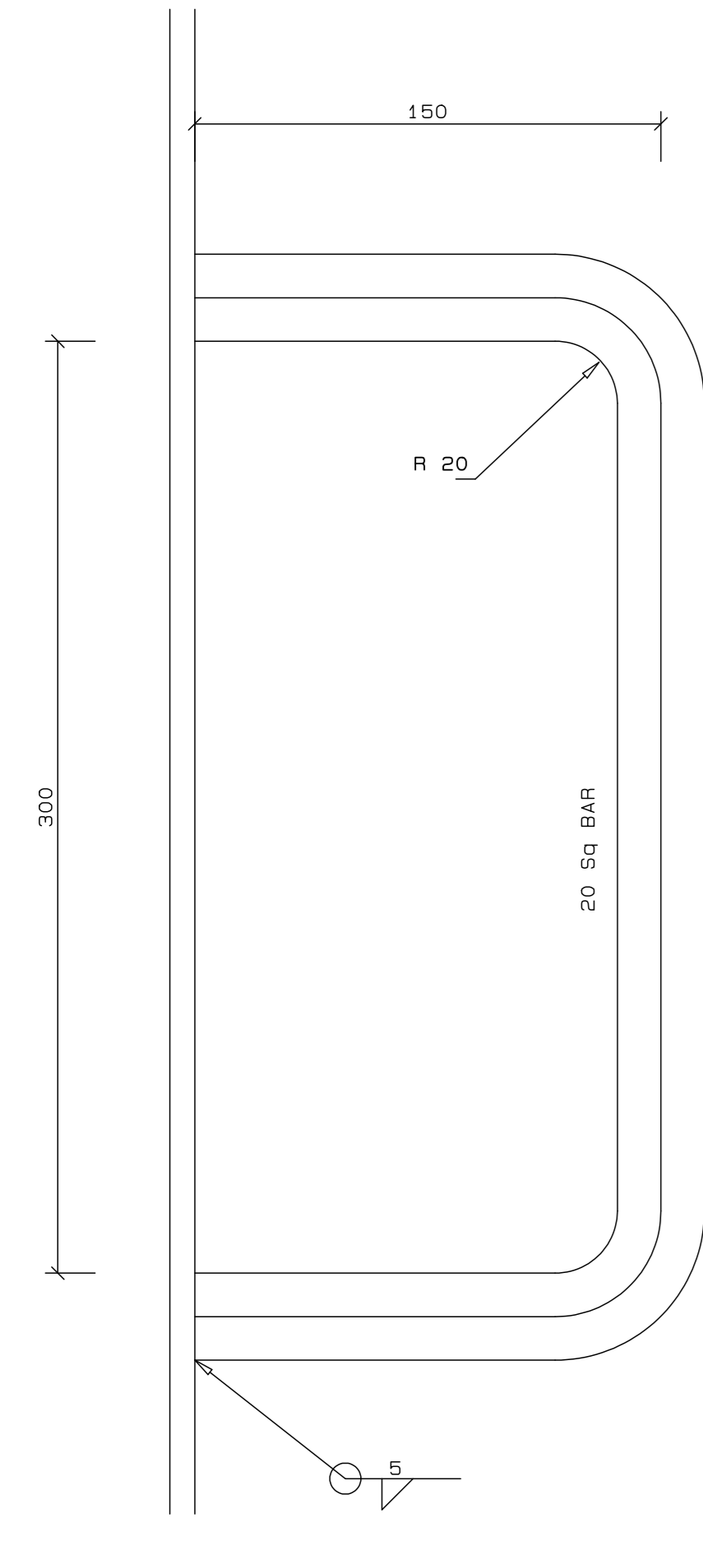
1:5 SECTION THRO HATCH AT A



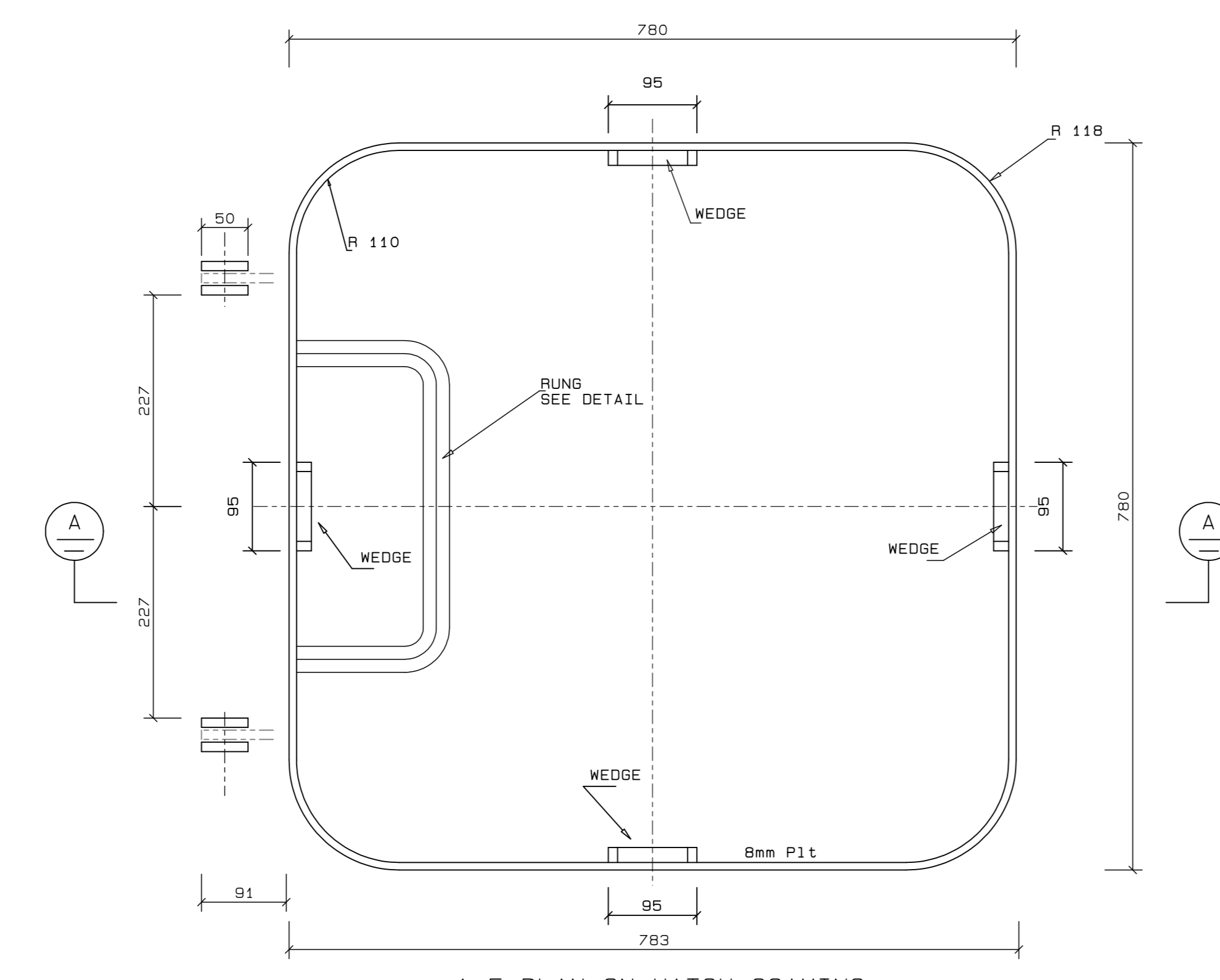
1:2 DETAIL OF WEDGE (4-OFF REQ'D.)



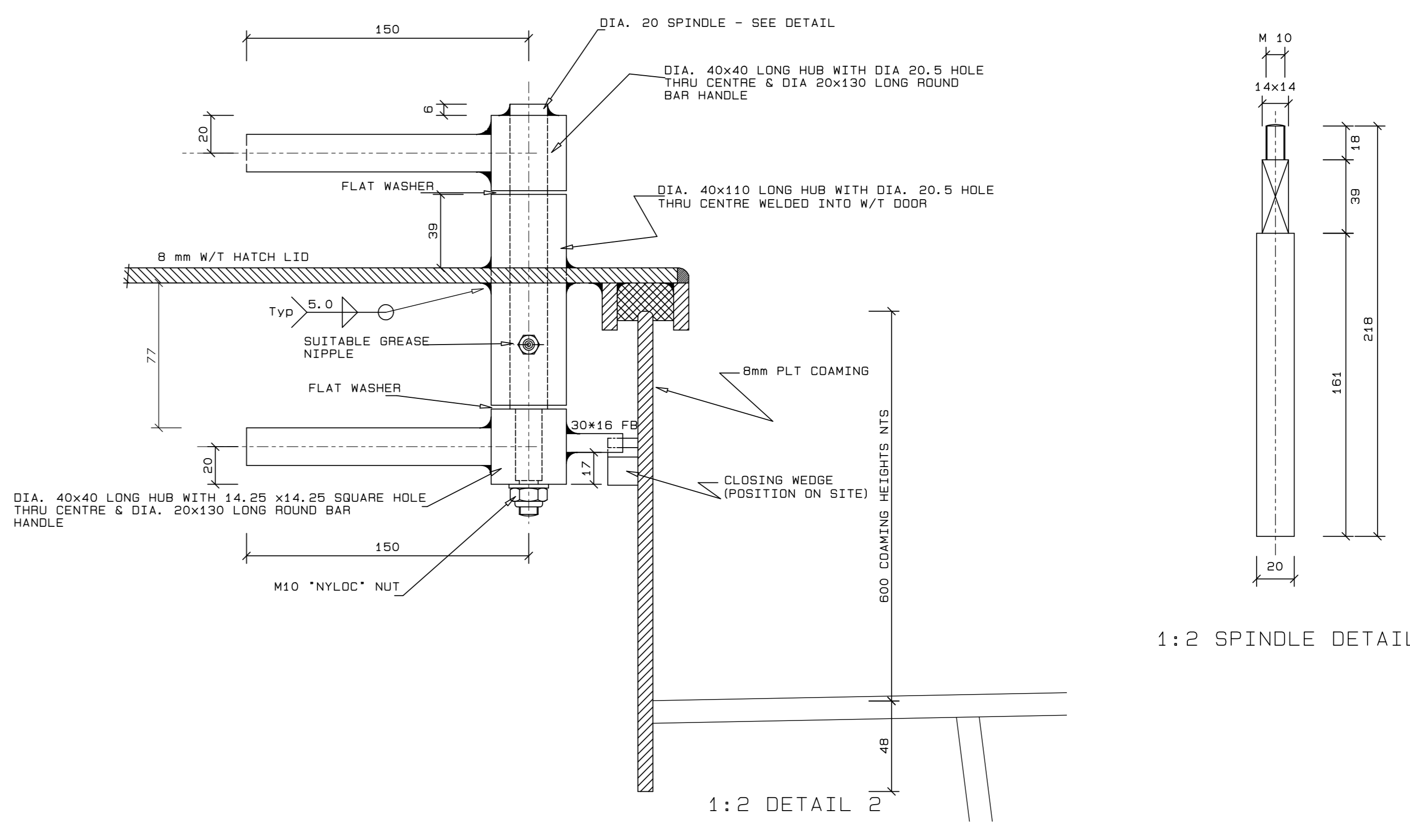
1:5 ELEVATION ON W/T HATCH (VIEW ON UNDERSIDE OF THE HATCH COVER)



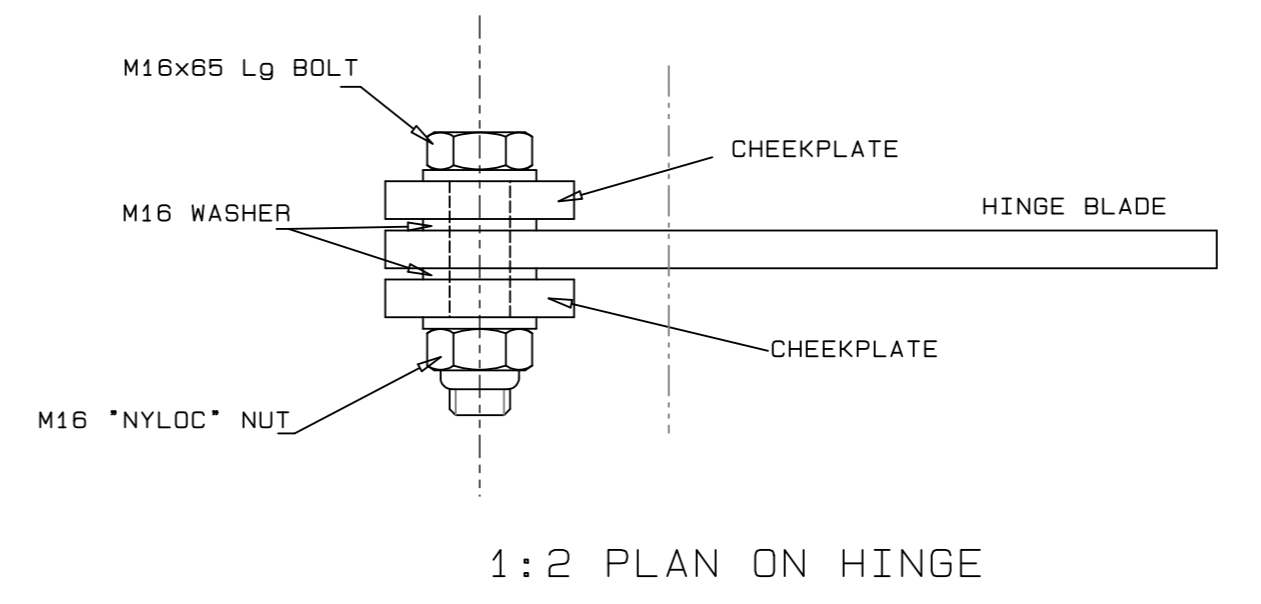
1:2 DETAIL OF RUNGS



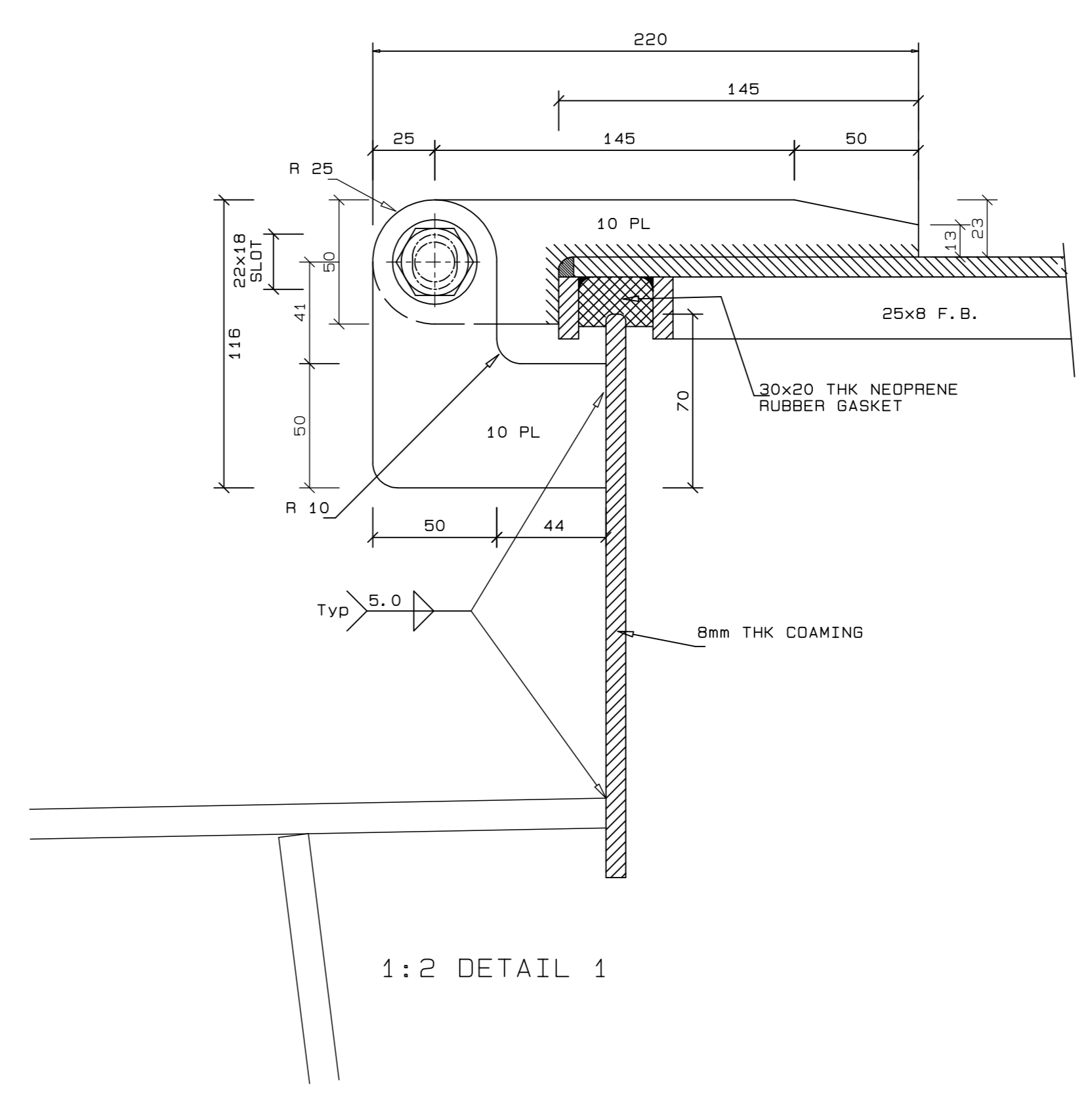
1:5 PLAN ON HATCH COAMING



1:2 SPINDLE DETAIL



1:2 PLAN ON HINGE



1:2 DETAIL 1

Notes: -  
 1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.  
 2. ALL SECTIONS TO BE GRADE S355JR OR EQUIVALENT.  
 3. WELDING INDICATES LEG LENGTH THROUGHOUT. WELDING TO BE IN ACCORDANCE WITH LLOYD'S RULES FOR THE CLASSIFICATION OF SHIPS.  
 HATCH POSITIONS  
 4 IN NUMBER HATCHES ARE REQUIRED  
 1 FORWARD AND AFT ON ROAD DECK  
 1 FORWARD AND AFT ON NET DECK  
 IN ACCESS SPACE

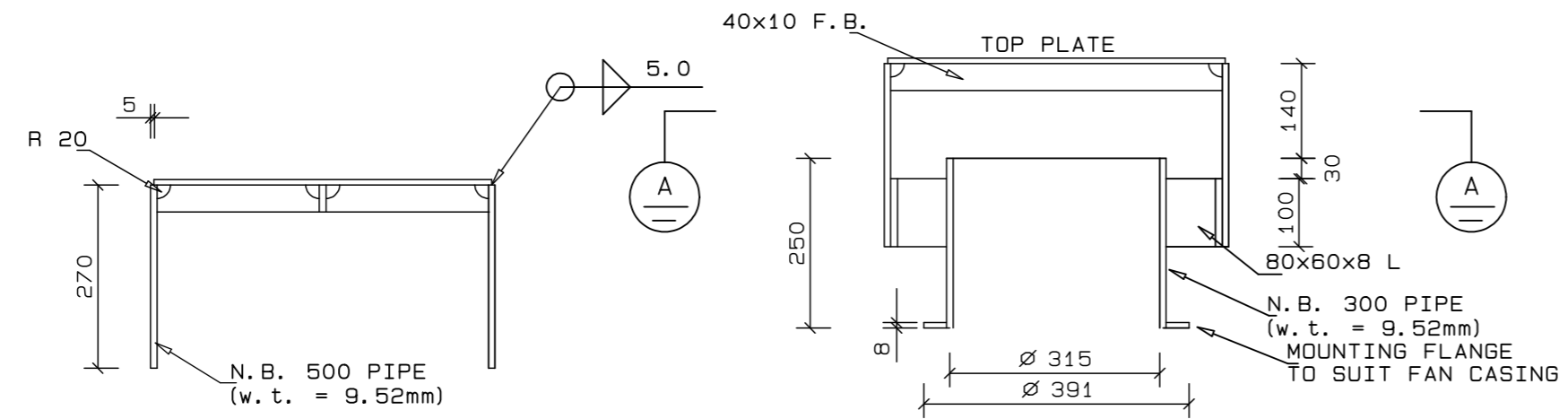
REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	15/05/20	TITLE CHANGED LOCATIONS ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Dr. No. TNA 3501-08-1-D Sht 1 of 1	
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
SHIP REPAIR MANAGER	
PORT ENGINEER	
PORT ENGINEER ROOM NO.	
MR. HOUSE	
PORT OF CAPE TOWN	
PLANNING	
800	
TEL: 021 489 8373	
FAX: 021 489 8371	

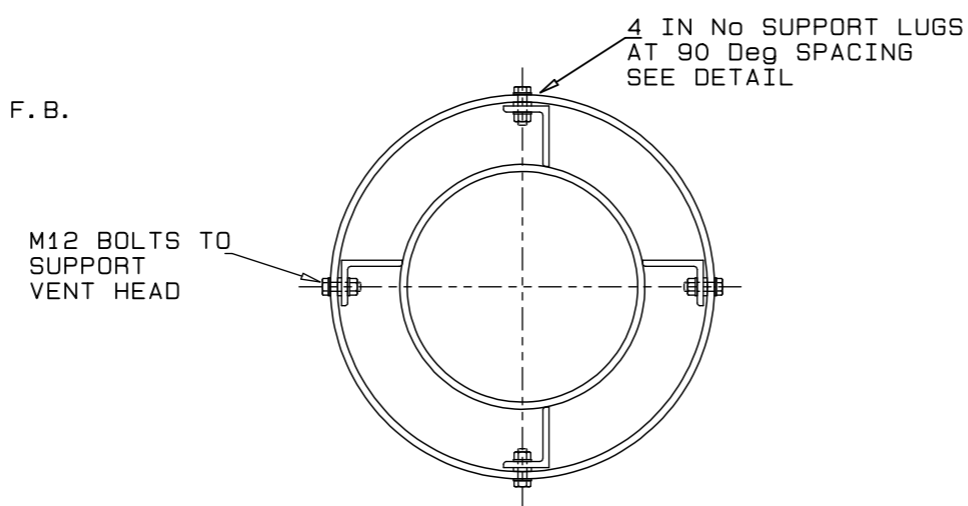
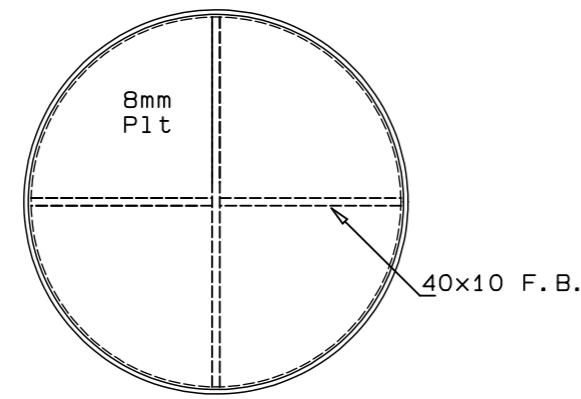
PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 ACCESS HATCH

DESIGN: D. McConnell	CHECKED: C.S. BRET
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 16/03/20	SHEET 1 OF 1
CAD REF: 3014-DRG01	FILE REF: 3014-DRG-SS-1 Rev 0 ACCESS HATCH P&P

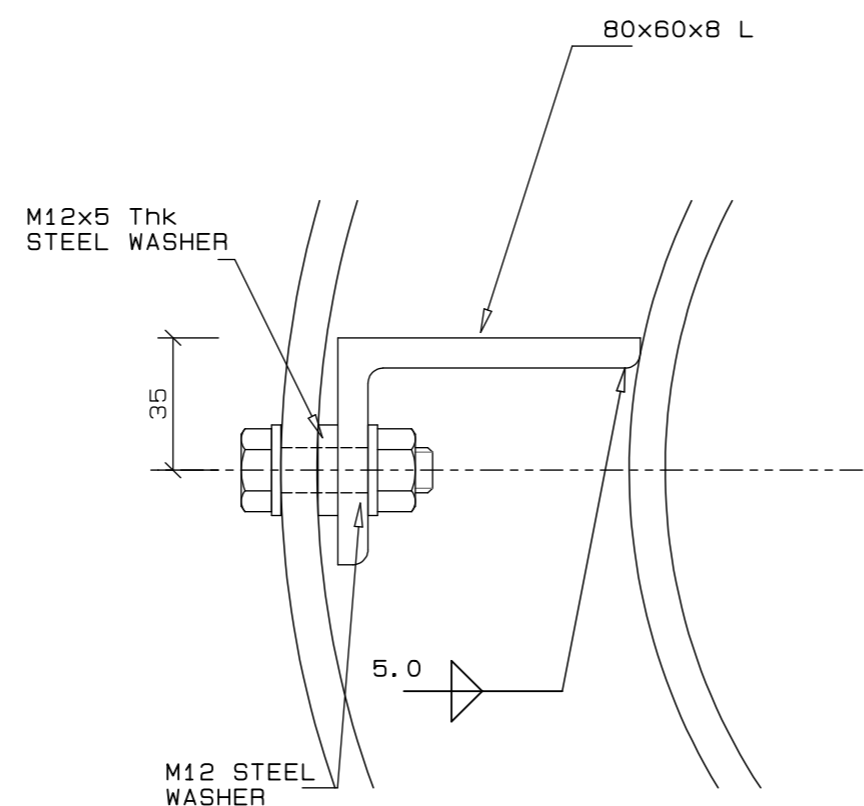


1:10 DETAIL OF TOP PLATE

1:10 SECTION THRO MUSHROOM VENT



1:10 PLAN AT (A)



1:2 DETAIL OF SUPPORT LUG

Notes:-

1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
2. ALL PIPING TO BE API STD 5L GRADE B SEAMLESS.
3. ALL SECTIONS TO BE GRADE S355R OR EQUIVALENT.
4. WELDING INDICATES LEG LENGTH THROUGHOUT.

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
TO	08/08/20	ISSUED FOR TENDER	B.P.KINGWILL
A	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drg. No. TNA 3501-09-1-A Sht 1 of 1

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
MPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171



PORT OF CAPE TOWN

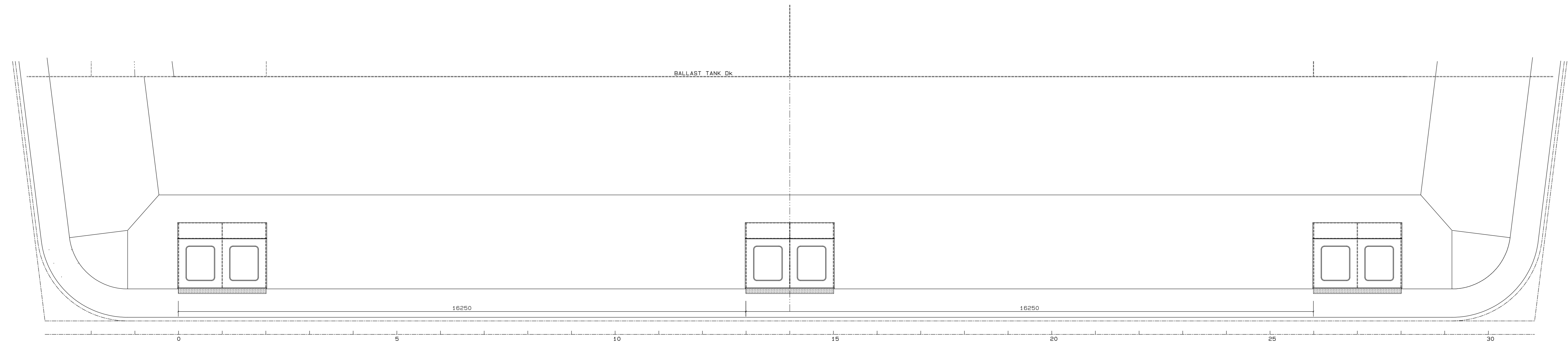
CONTRACT NUMBER: TNPA 789

DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
MUSHROOM VENT

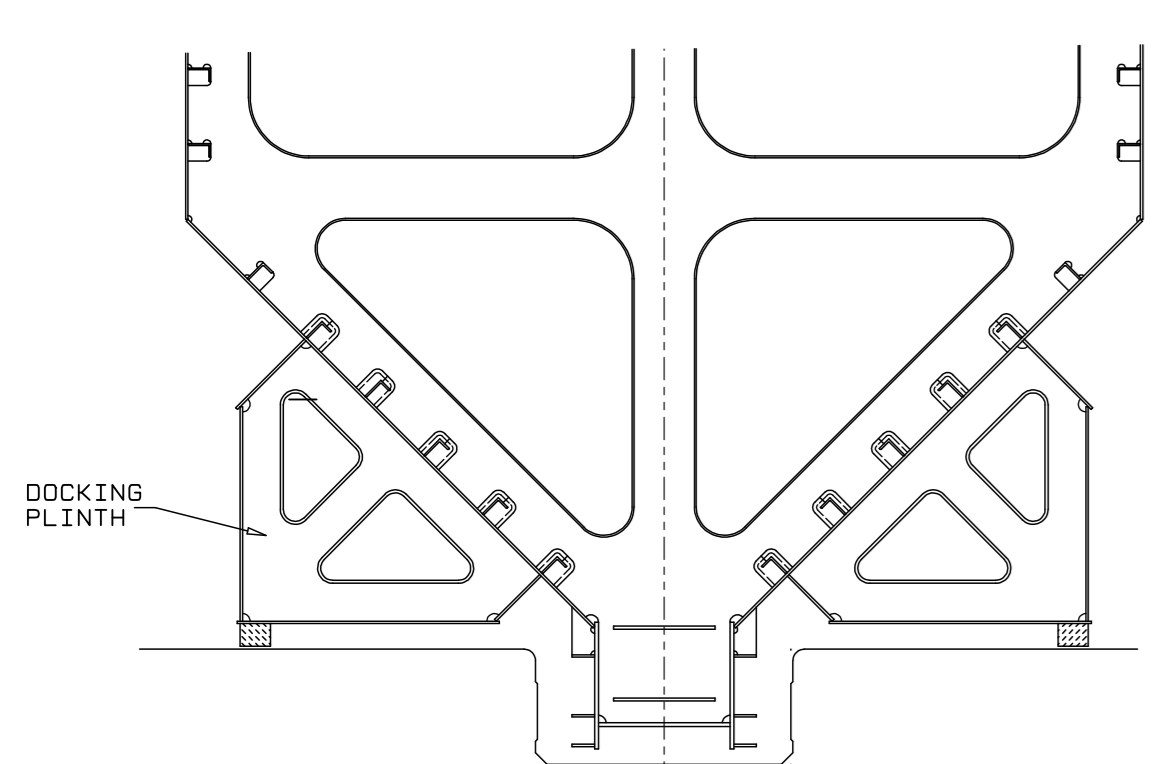
DRAWN: D. McConnell	CHECKED: C.S. SMIT
SCALE: AS SHOWN	DESIGN: B.P. KINGWILL
	DMC

No. 507343-0000-DRG-SS-107

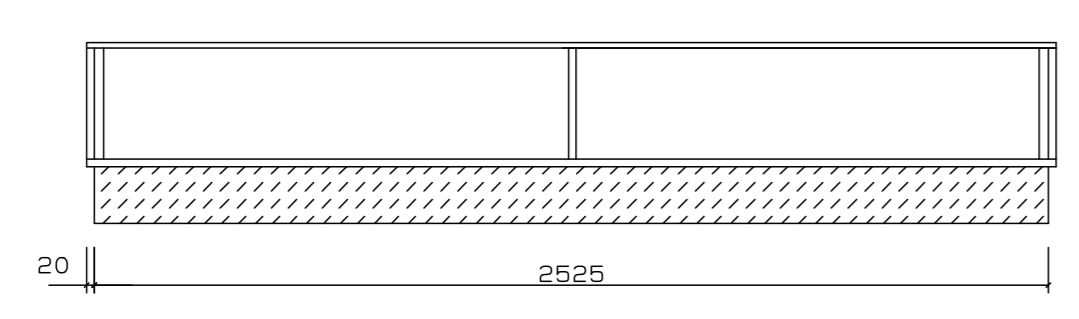
DATE: 16/03/20	SHEET 1 OF 1
CAD. REF: 3501-09.DWG	
FILE REF: 3501-09-DRG-1 Rev A MUSHROOM VENT.PDF	AMENDMENT: A



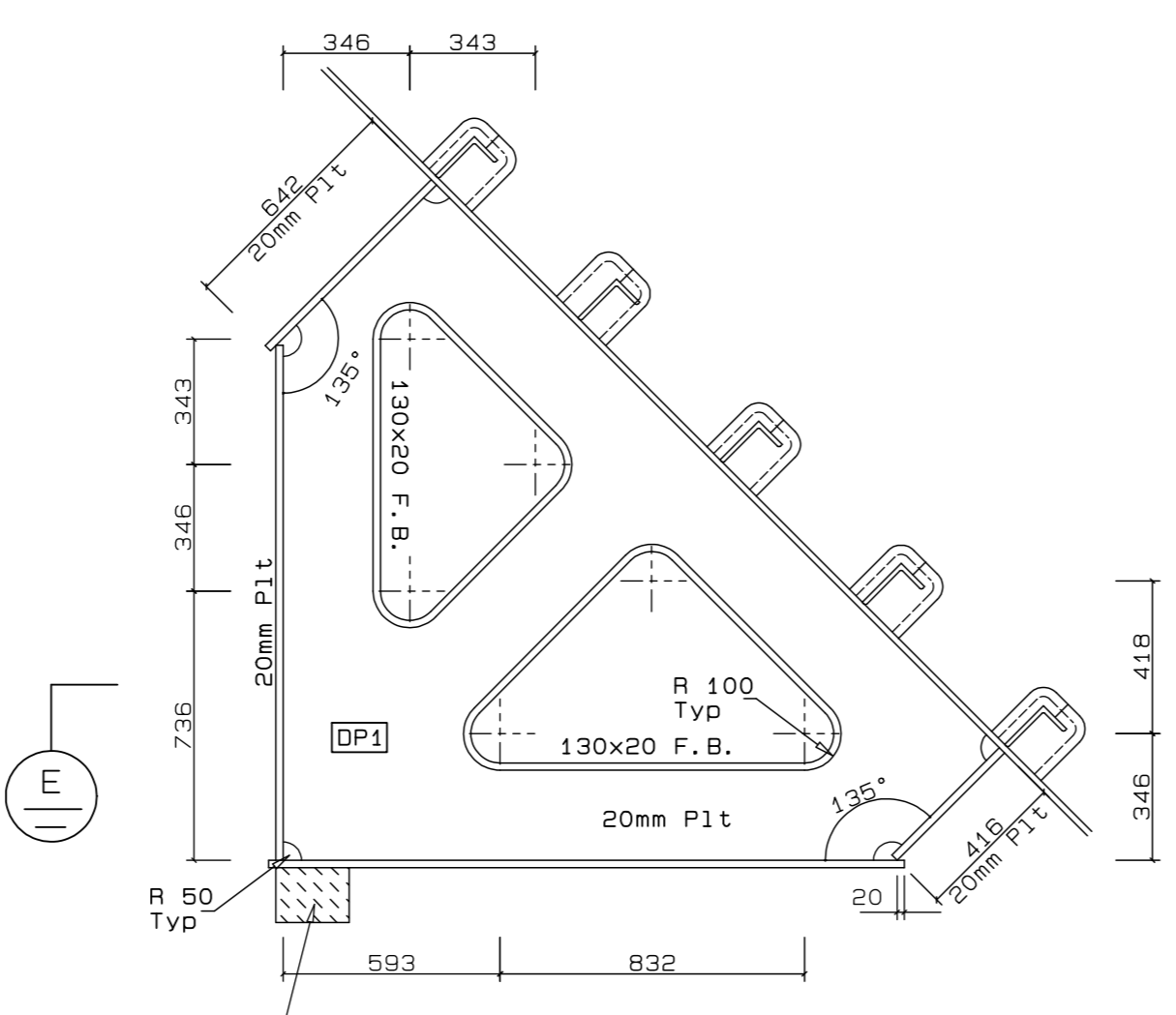
1:50 ELEVATION ON CAISSON SHOWING DOCKING PLINTHS



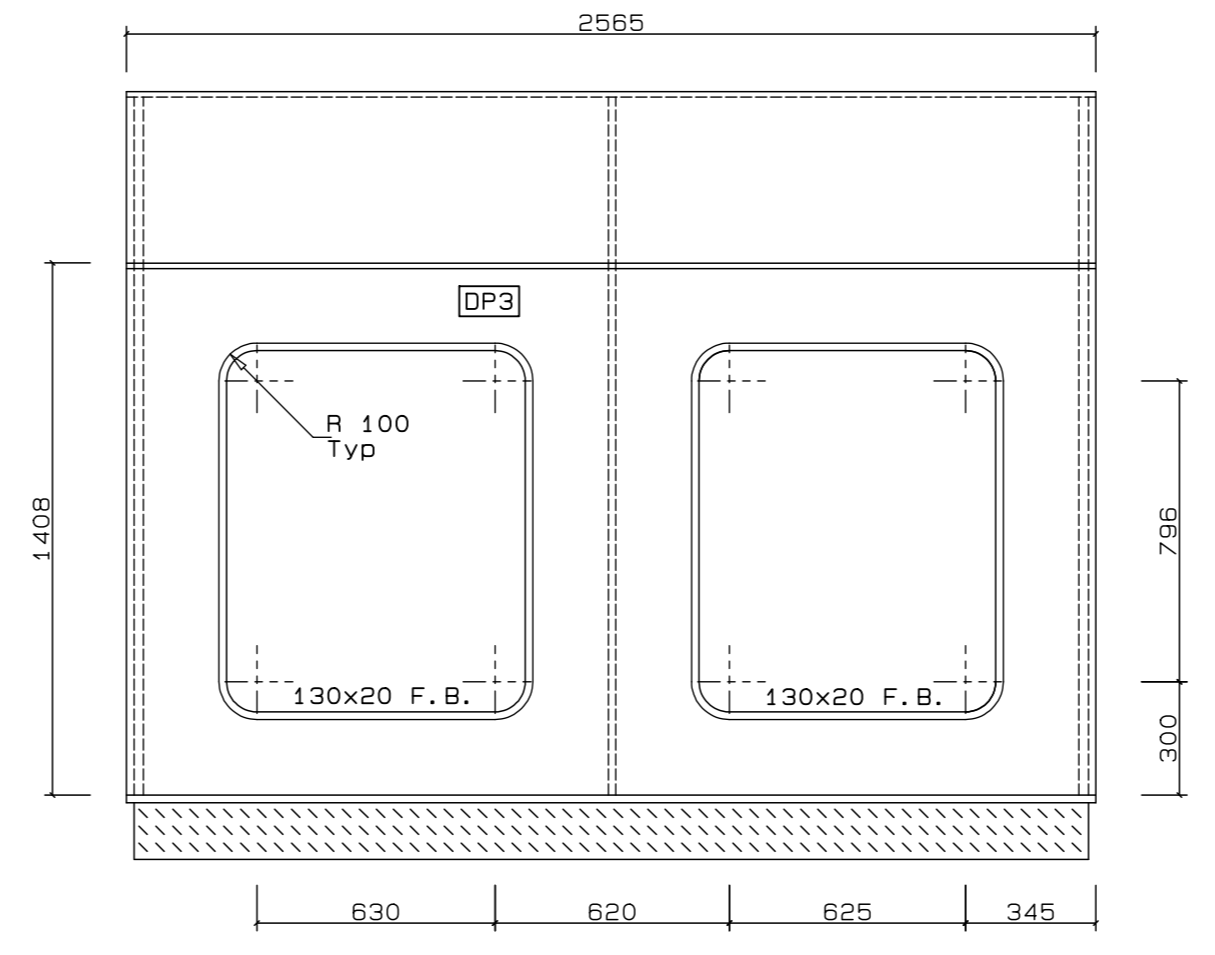
1:50 SECTION IN WAY OF DOCKING PLINTHS (TYPICAL)



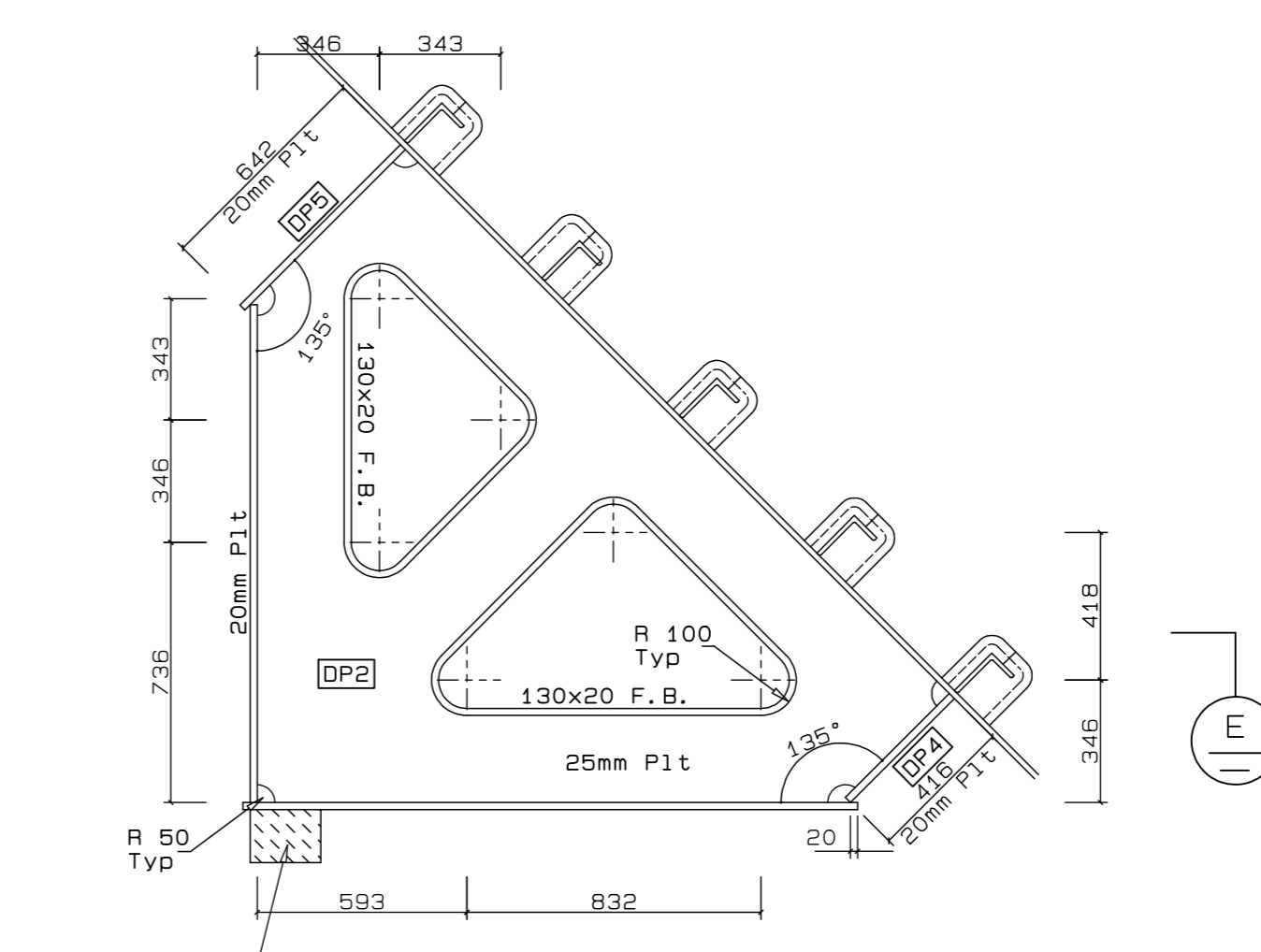
1:20 ELEVATION AT C-C



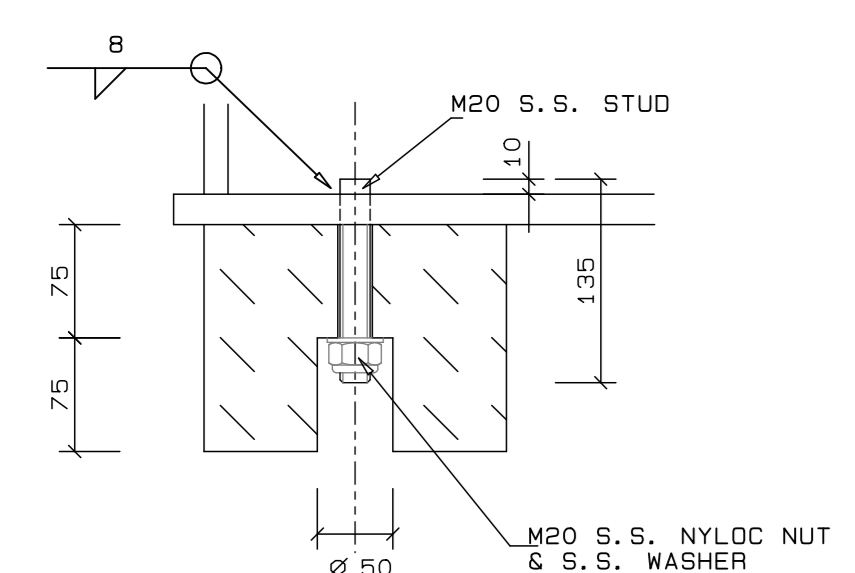
1:20 SECTION AT A-A



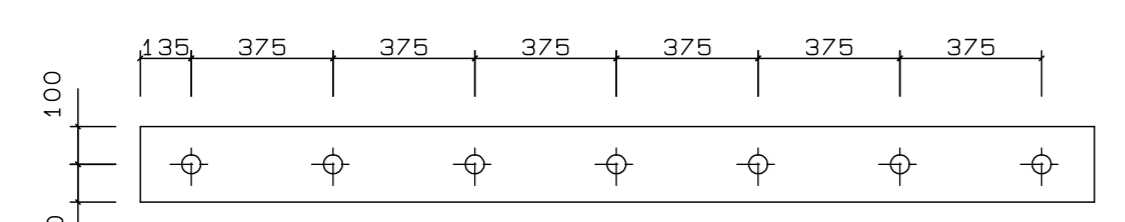
1:20 ELEVATION AT B-B



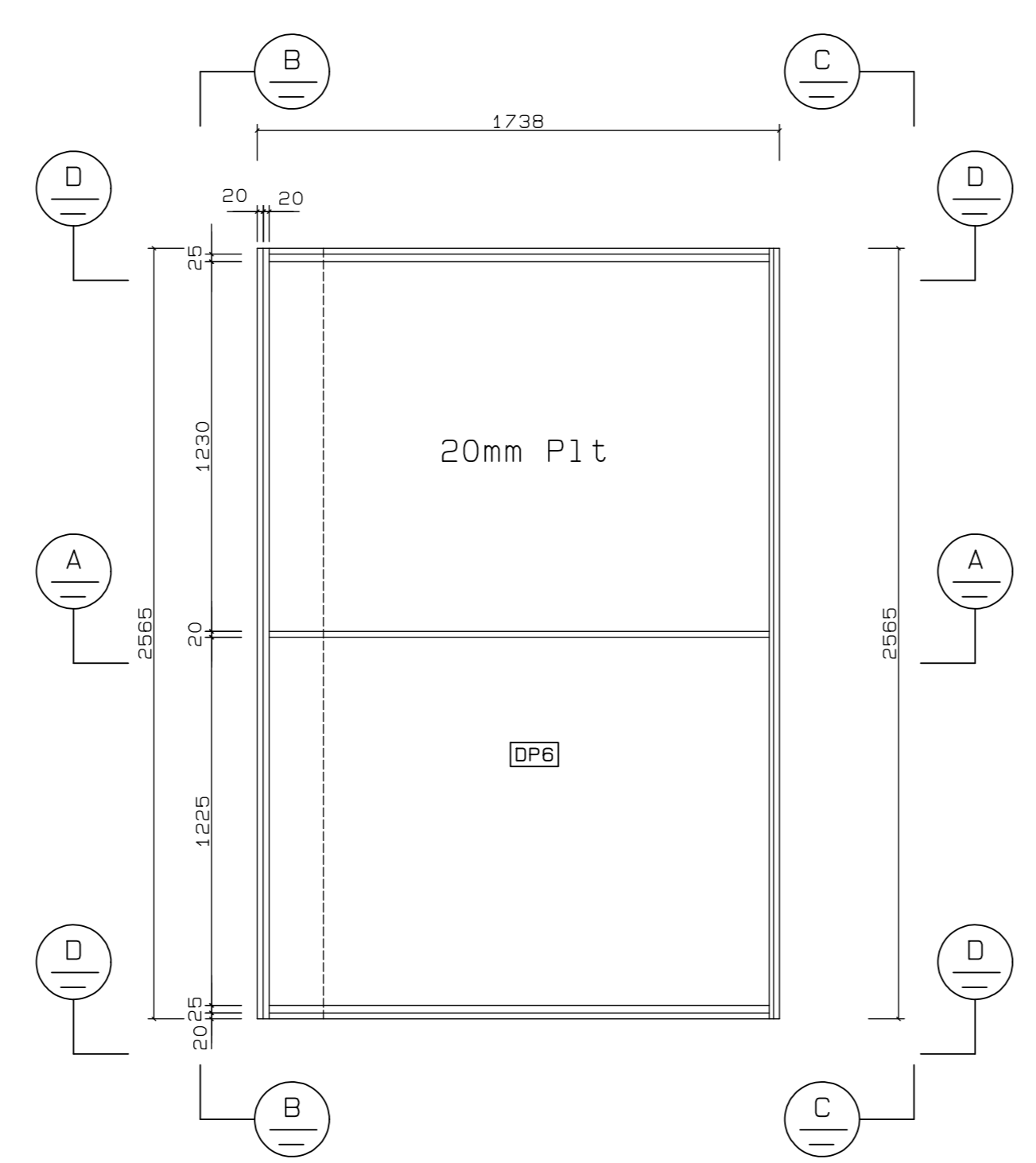
1:20 SECTION AT D-D



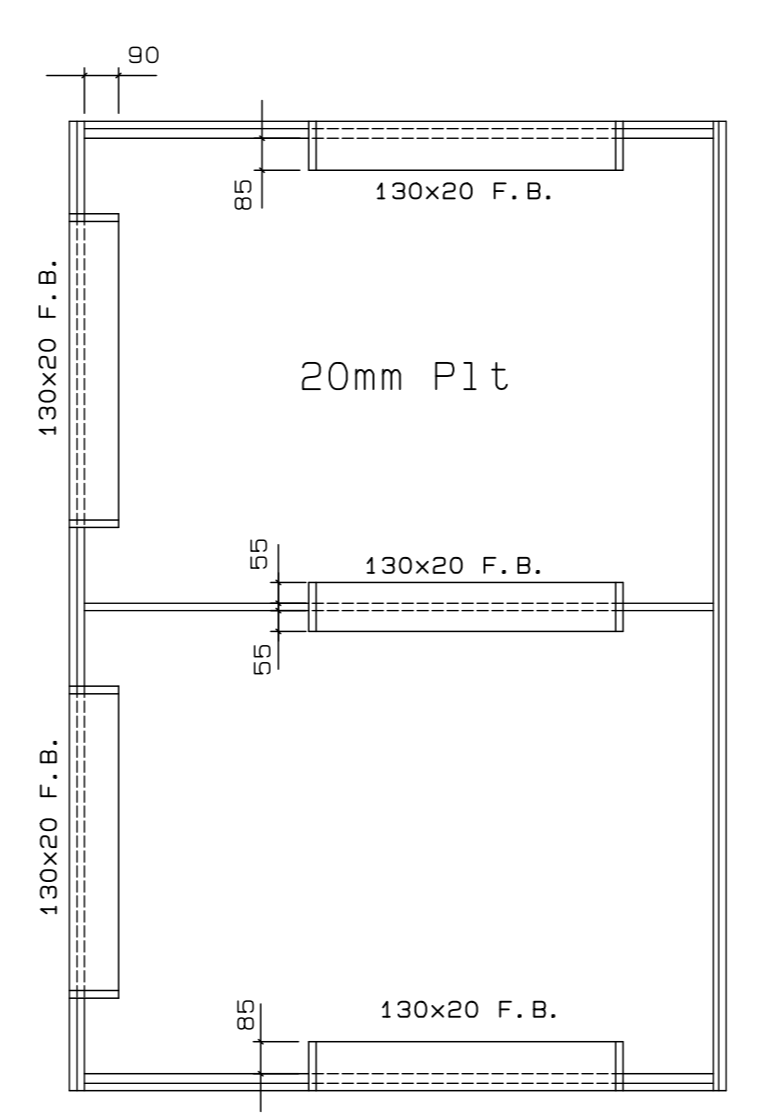
1:5 SECTION IN WAY OF MOUNTING ARRANGEMENT



1:20 PLAN ON HDPE BLOCK SHOWING MOUNTING POSITIONS



1:20 PLAN ON DOCKING PLINTH BOTTOM PLATE



1:20 PLAN AT E-E

- Notes:-
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  2. ALL SECTIONS TO BE GRADE S355R OR EQUIVALENT.
  3. ALL WELDING TO BE DOUBLE CONTINUOUS FILLET WELD 8mm LEG LENGTH THROUGHOUT.
  4. WELDING TO BE IN ACCORDANCE WITH LLOYDS RULES FOR THE CLASSIFICATION OF SHIPS.
- DP# INDICATES PART NUMBER ON CUTTING LIST SEE SHEET 2

REVISION SCHEDULE			
REV/	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR TENDER	B Kingwill
C	25/05/20	SHEET 2 ADDED	B Kingwill
D	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-10-1-C Sht 1 of 2

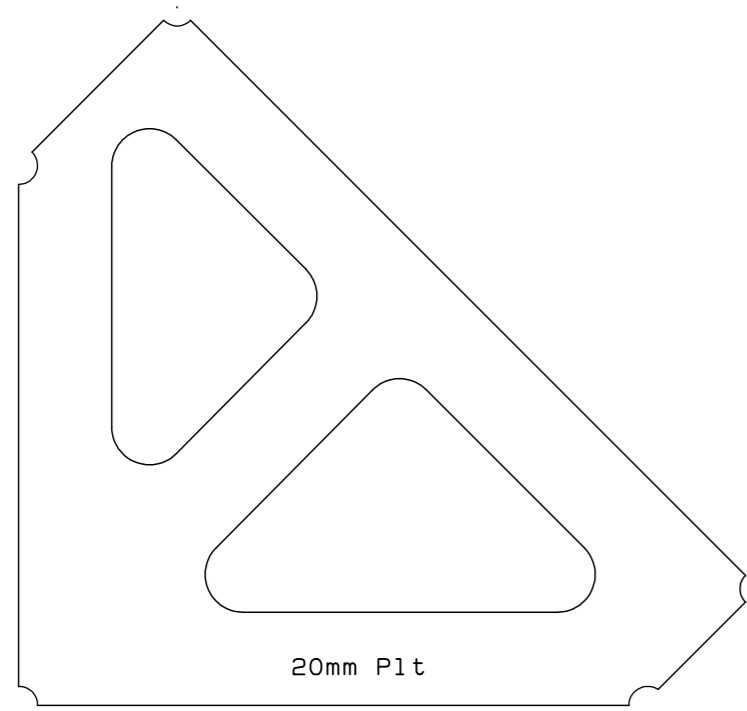
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
 ROMAN TOL  
 MPA HOUSE  
 PORT OF CAPE TOWN  
 FALCON AVENUE  
 800  
 TEL: 021 449 8373  
 FAX: 021 449 8171

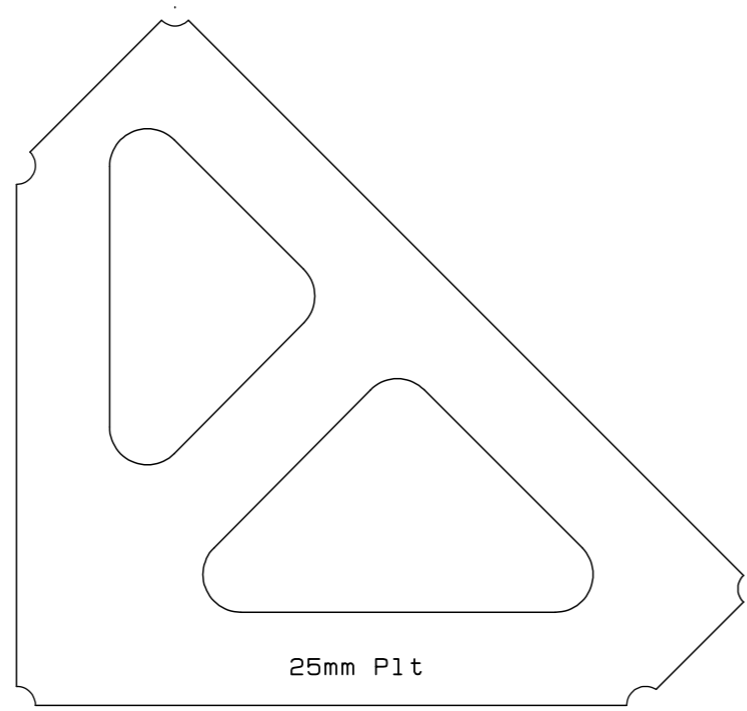
PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 DOCKING PLINTHS  
 STRUCTURAL DETAILS

DESIGN	D. McConnell	CHECKED	C.S. BRET
SCALE	AS SHOWN	DESIGNED BY	R.P. KINGWILL
DATE	19/03/20	AMENDMENT	C
DATE	19/03/20		
DATE	19/03/20		
DATE	19/03/20		

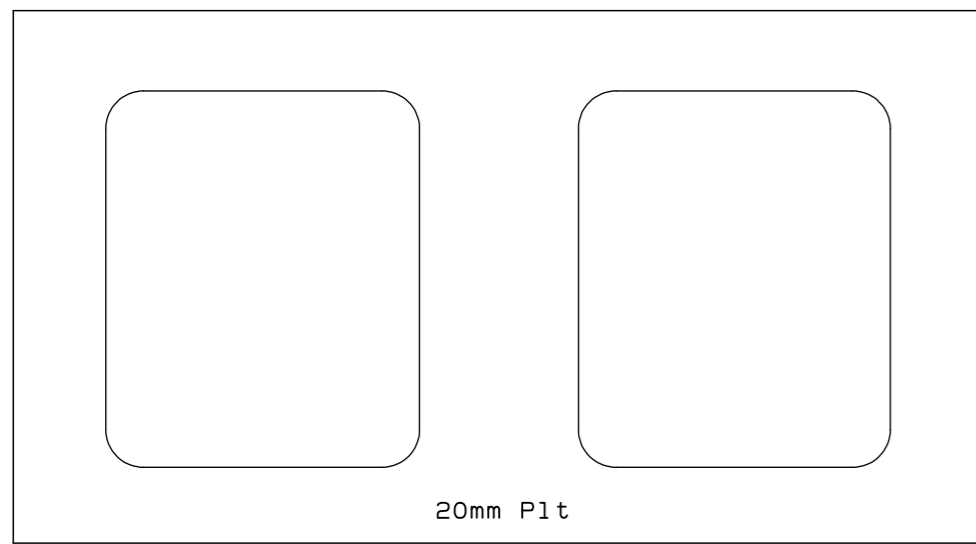
No. 507343-0000-DRG-SS-108-1  
 SHEET 1 OF 2



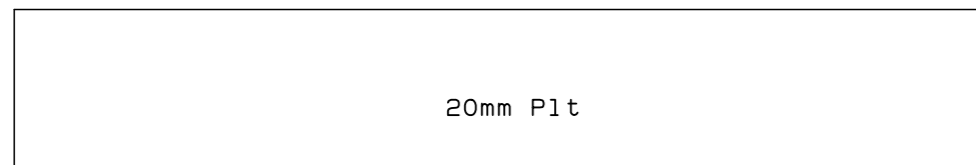
ITEM DP1  
(6 IN NUMBER)



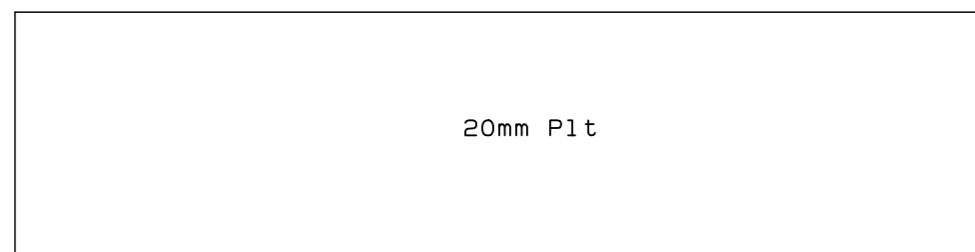
ITEM DP2  
(12 IN NUMBER)



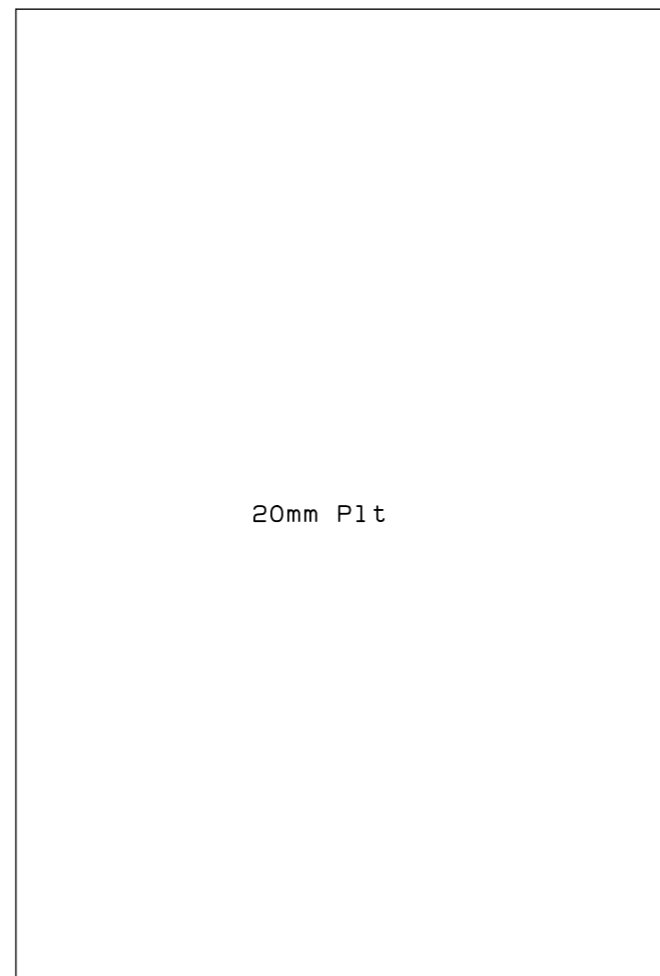
ITEM DP3  
(6 IN NUMBER)



ITEM DP4  
(6 IN NUMBER)



ITEM DP5  
(6 IN NUMBER)



ITEM DP6  
(6 IN NUMBER)

NOTES

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	25/05/20	ISSUED	B Kingwill
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drg. No. TNA 3501-10-2-B Sht 2 of 2

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

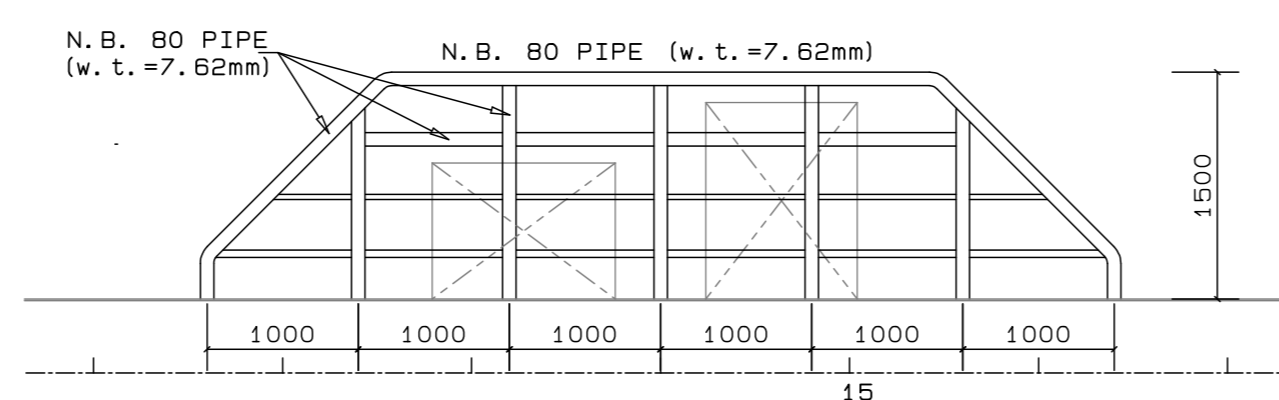
PORT ENGINEER  
ROOM 705  
MPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171



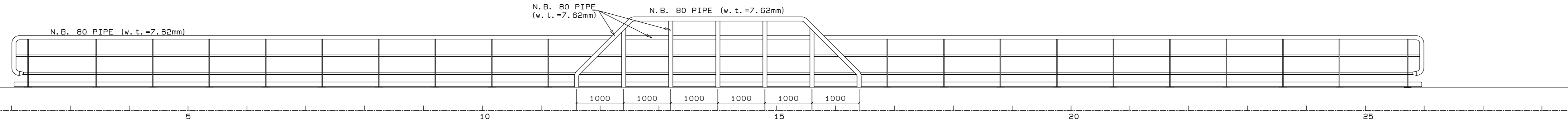
PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
DOCKING PLINTHS  
CUTTING TEMPLATES

DRAWN: D. McConnell	CHECKED: C.S. SMIT
SCALE: AS SHOWN	DESIGN: B.P. KINGWILL

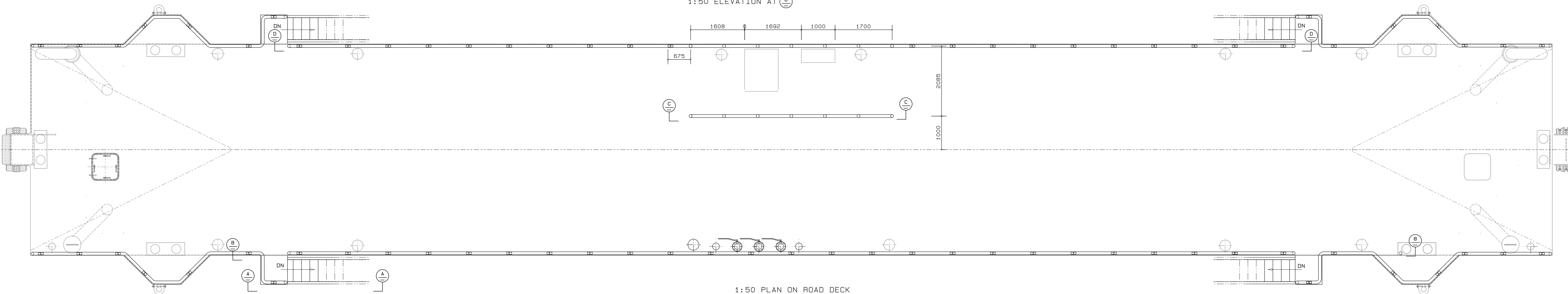
No. 507343-0000-DRG-SS-108-2	
DATE: 25/05/20	SHEET 2 OF 2
CAD. REF: 3501-10.DWG	
FILE REF: 3501-10-SY-2 Rev B DOCKING PLINTHS FOR AMENDMENT	B



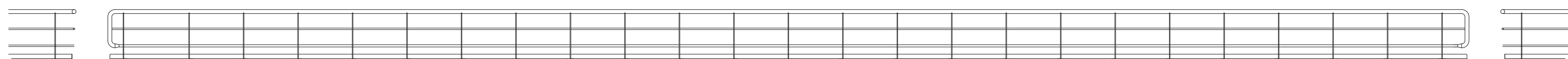
1:50 ELEVATION AT C-C



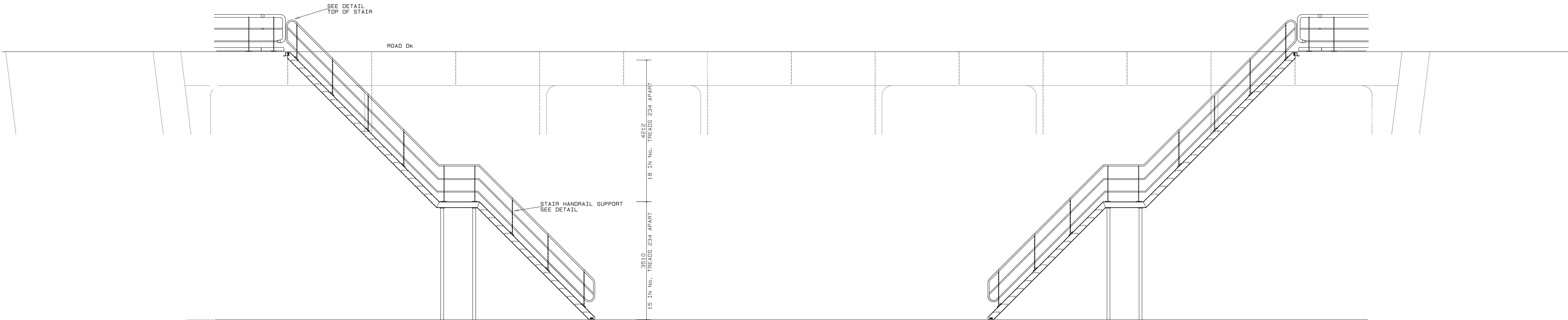
1:50 ELEVATION AT D-D



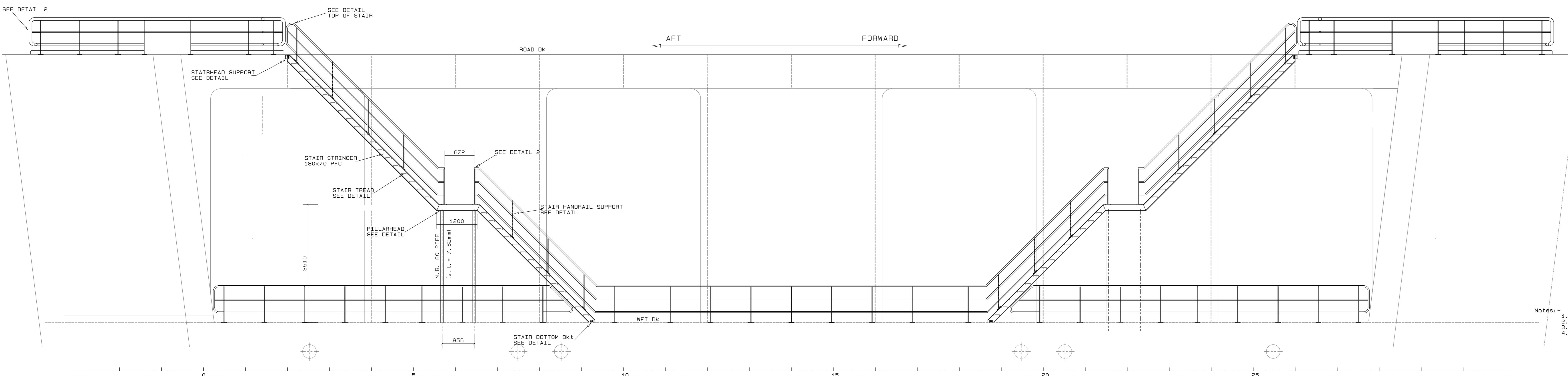
1:50 PLAN ON ROAD DECK



1:50 ELEVATION AT E-E



1:50 ELEVATION AT F-F



1:50 ELEVATION ON CAISSON

- Notes:
1. ALL PLATING TO BE GRADE CH36 OR EQUIVALENT.
  2. ALL PIPING TO BE API STD 60 GRADE B SEAMLESS.
  3. ALL SECTIONS TO BE GRADE S355R OR EQUIVALENT.
  4. WELDING INDICATES LEG LENGTH THROUGHOUT. WELDING TO BE IN ACCORDANCE WITH LLOYDS RULES FOR THE CLASSIFICATION OF SHIPS.

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	11/08/20	ISSUED FOR CONSTRUCTION	B Kingwill



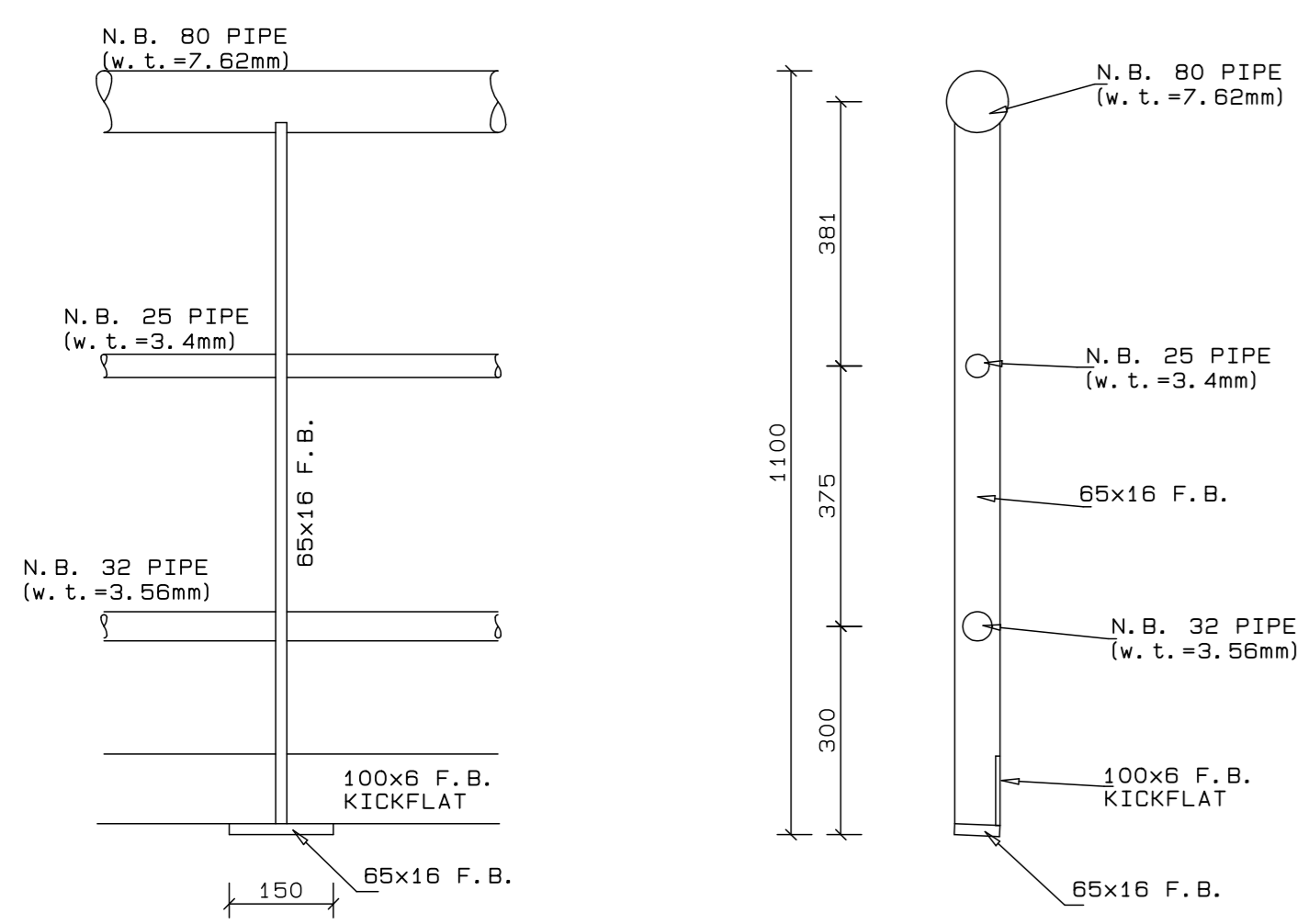
Drg. No. TNA 3501-11-1-C Sht 1 of 2

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

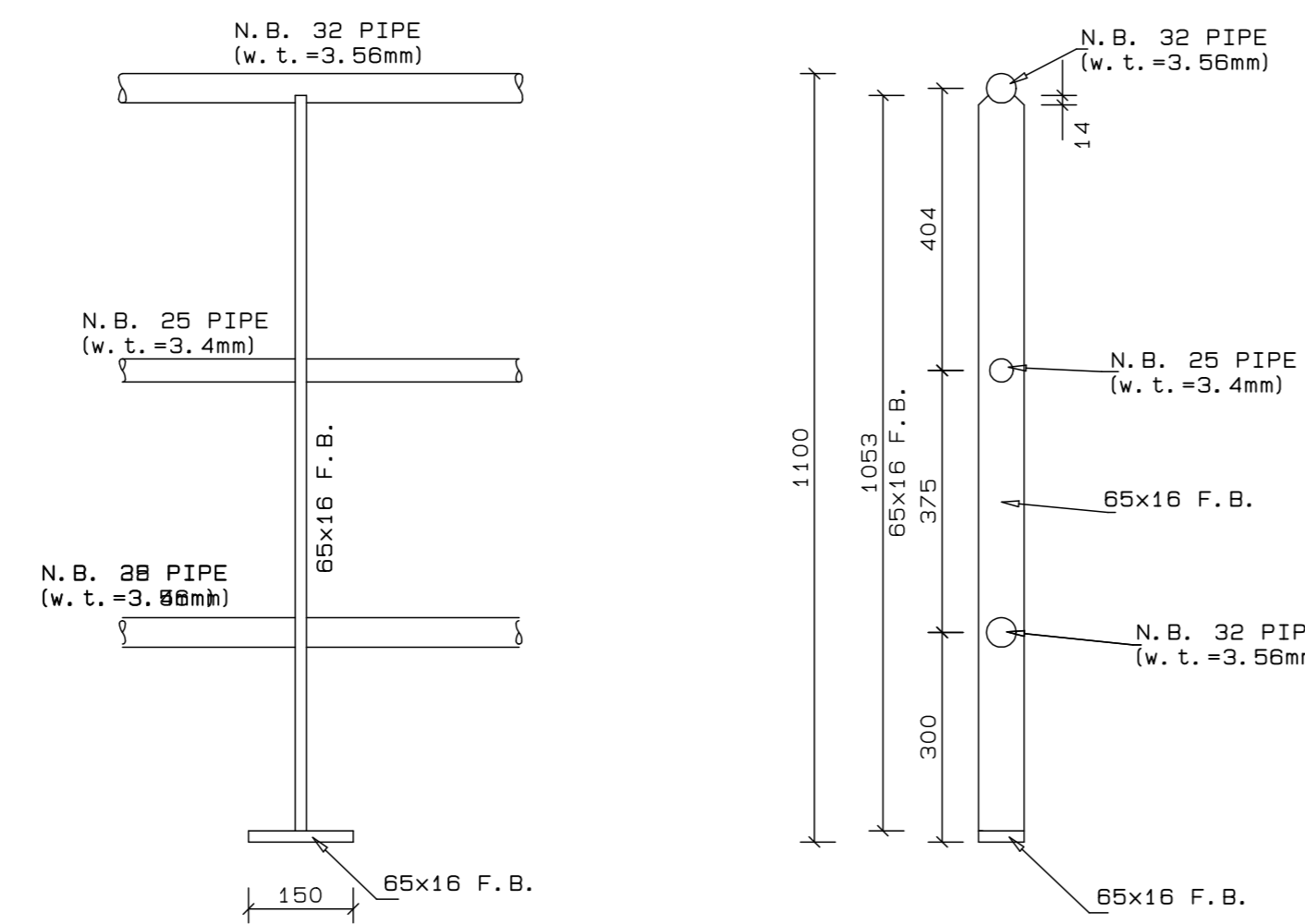
PORT ENGINEER  
 8500130  
 10/11/2016  
 PORT OF CAPE TOWN  
 P.O. BOX 4243  
 8000  
 TEL: 021 448 8173  
 FAX: 021 448 8171

PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 GUARDRAILS AND STAIRS  
 ROAD DECK PLAN AND ELEVATIONS

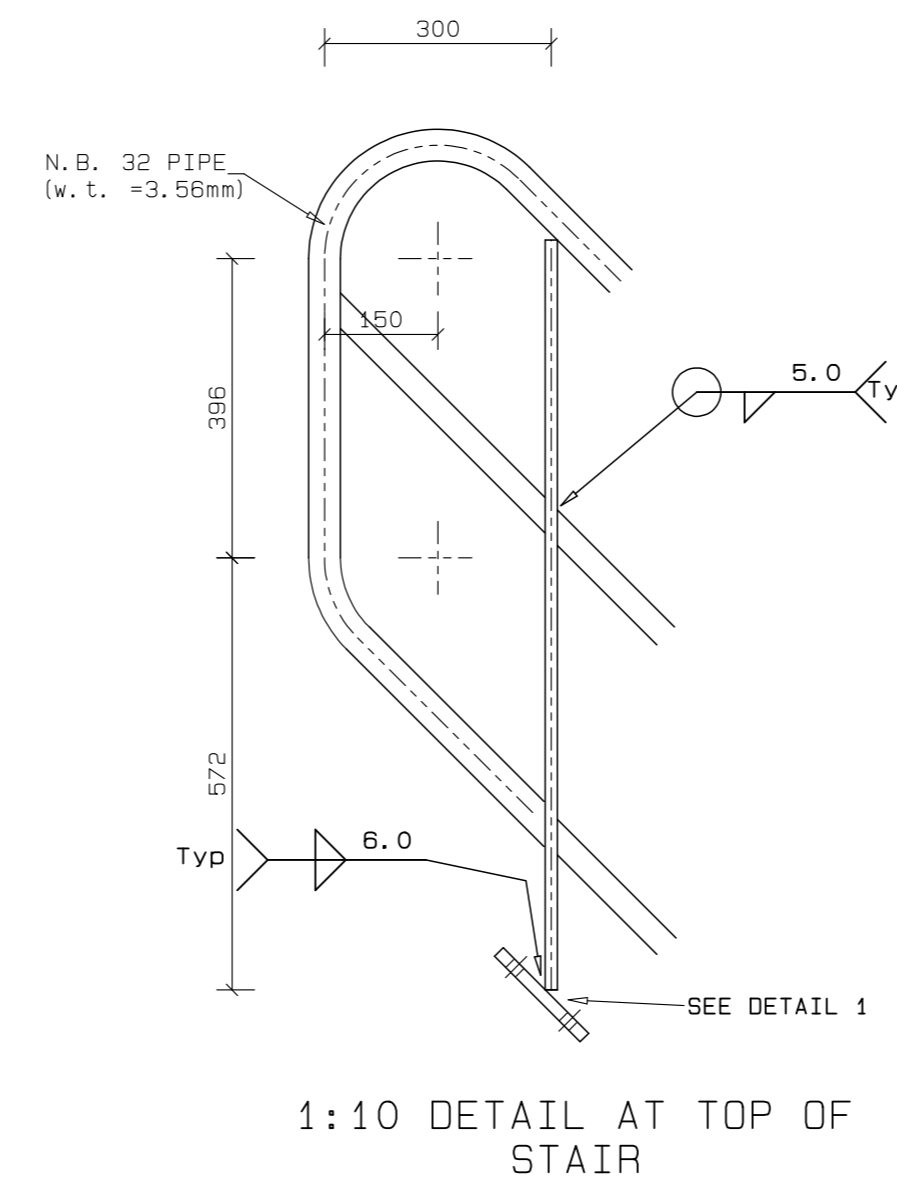
DRAWN: D. McCorvey	CHECKED: C. S. SMIT
SCALE: AS SHOWN	DESIGN: TNA ARCHITECTS
No. 507343-0000-DRG-SS-109-1	
DATE: 16/03/20	SHEET 1 OF 2
CALC REF: 3501-11-0105	APPROVED: C
FILE NO: 3501-11-0105-01	APPENDIX: C



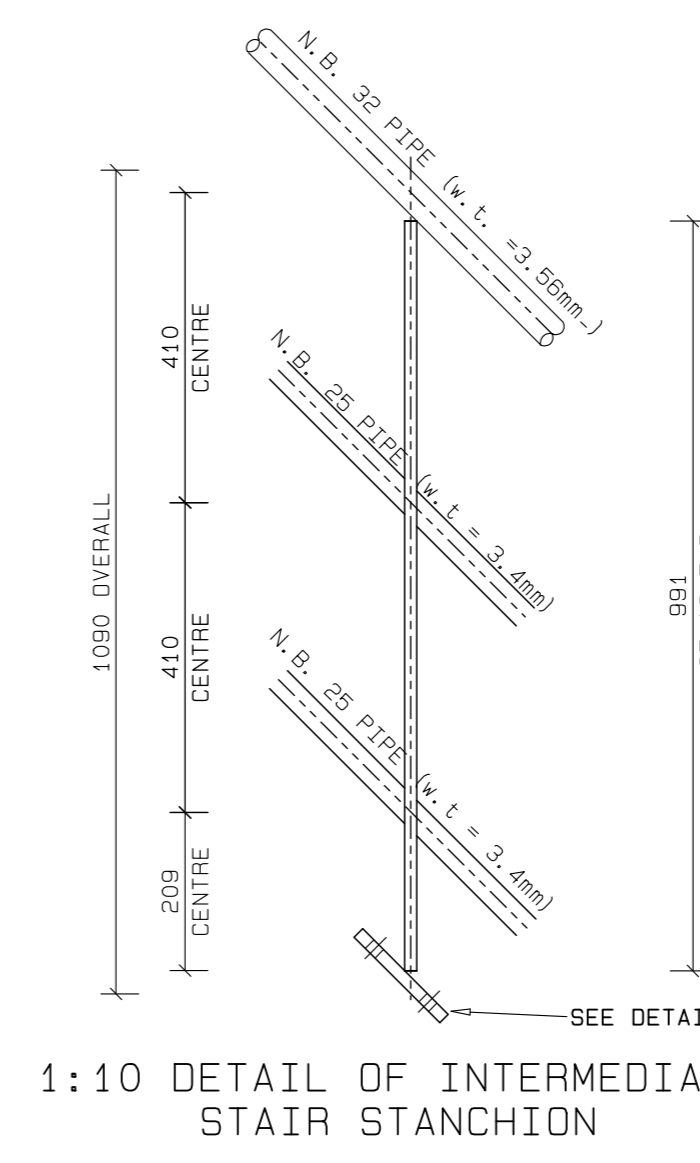
1:10 STANDARD GUARDRAIL DETAIL FOR ROAD DECK (STANDARD SPACING 1200mm)



1:10 STANDARD GUARDRAIL DETAIL FOR WET DECK (STANDARD SPACING 1200mm)

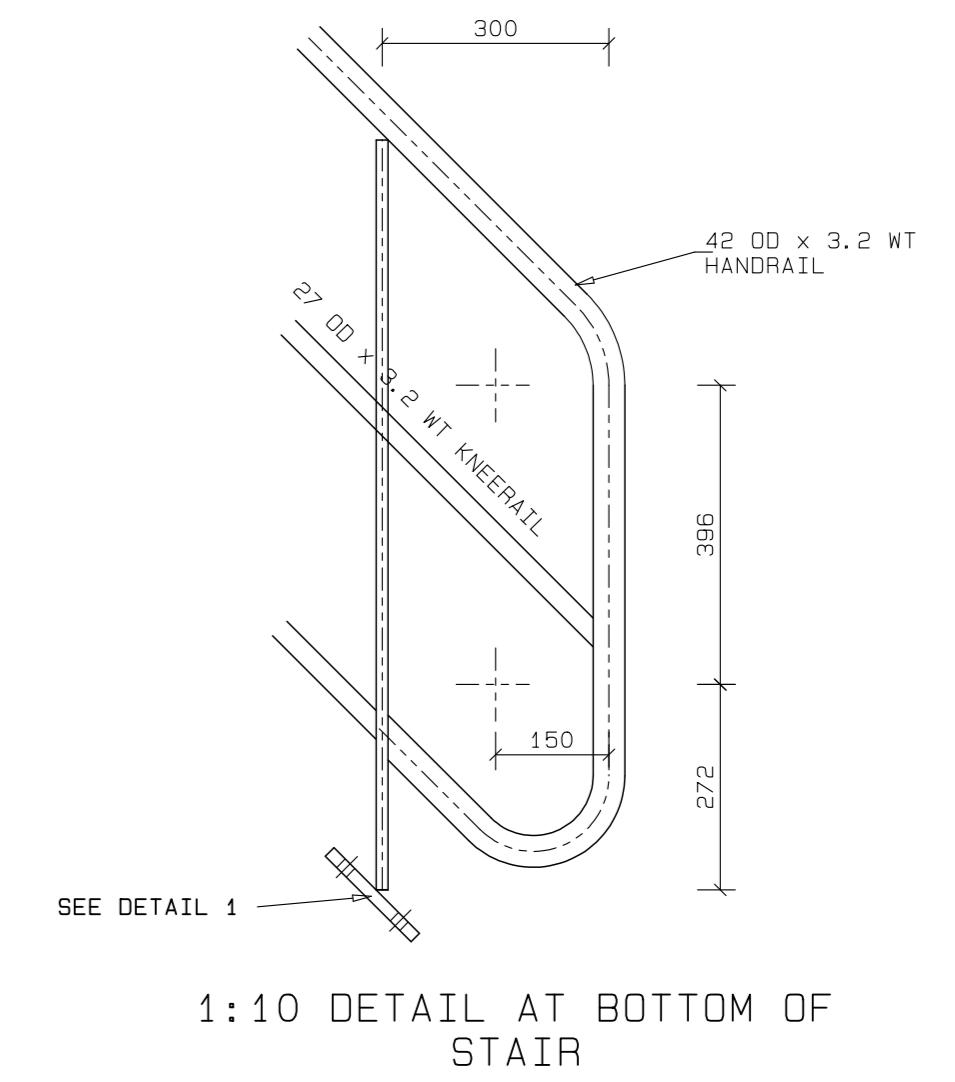


1:10 DETAIL AT TOP OF STAIR

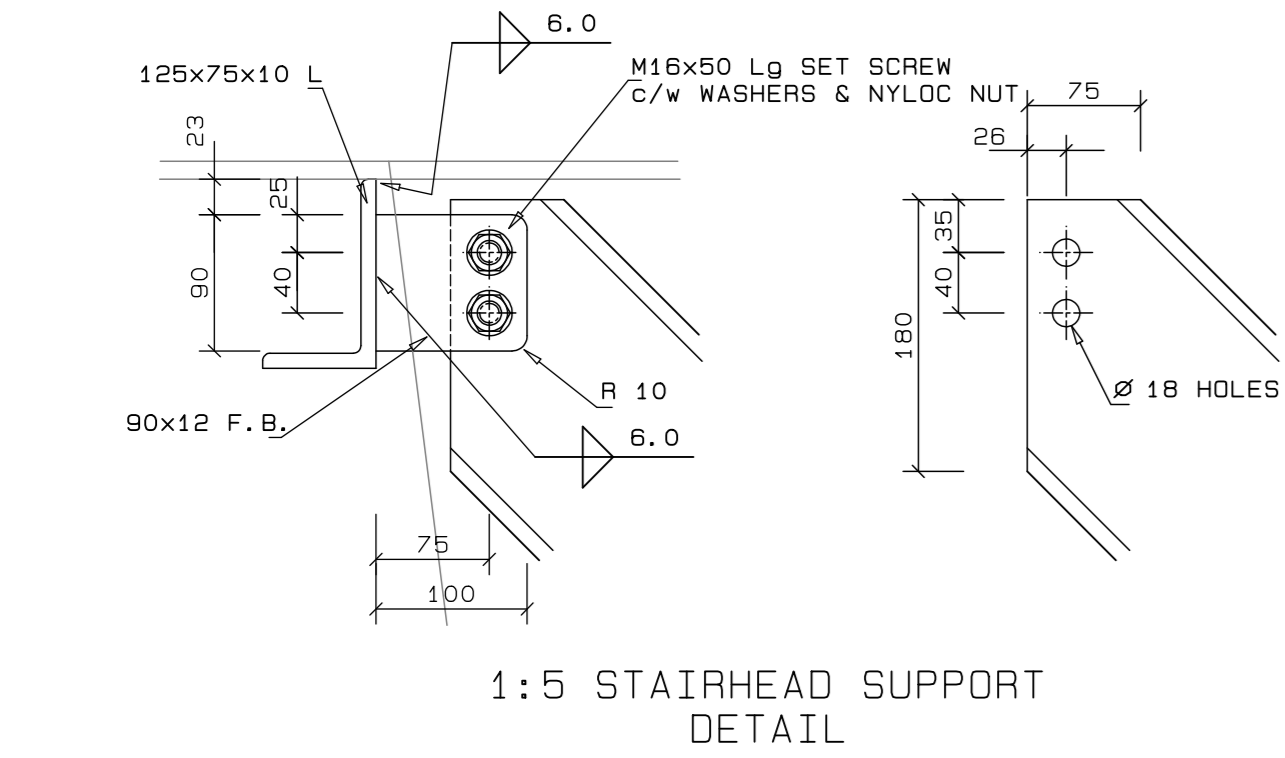


1:10 DETAIL OF INTERMEDIATE STAIR STANCHION

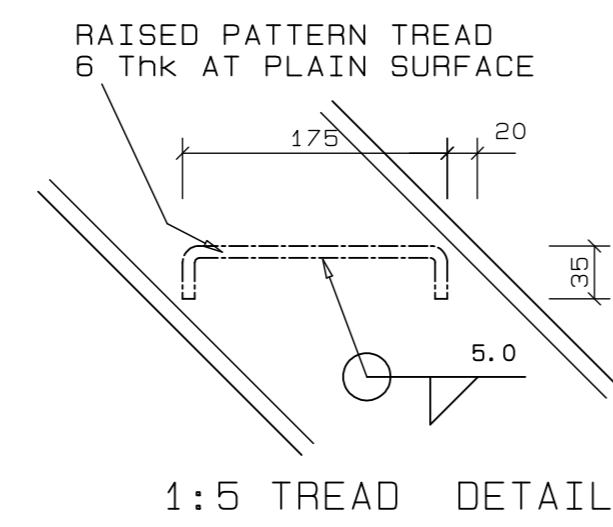
Notes:-  
1. ALL BOLTS TO BE M16 GRADE 8.8  
2. ALL WELDS TO DOUBLE CONTINUOUS FILLET WELDS, 6mm LEG LENGTH.



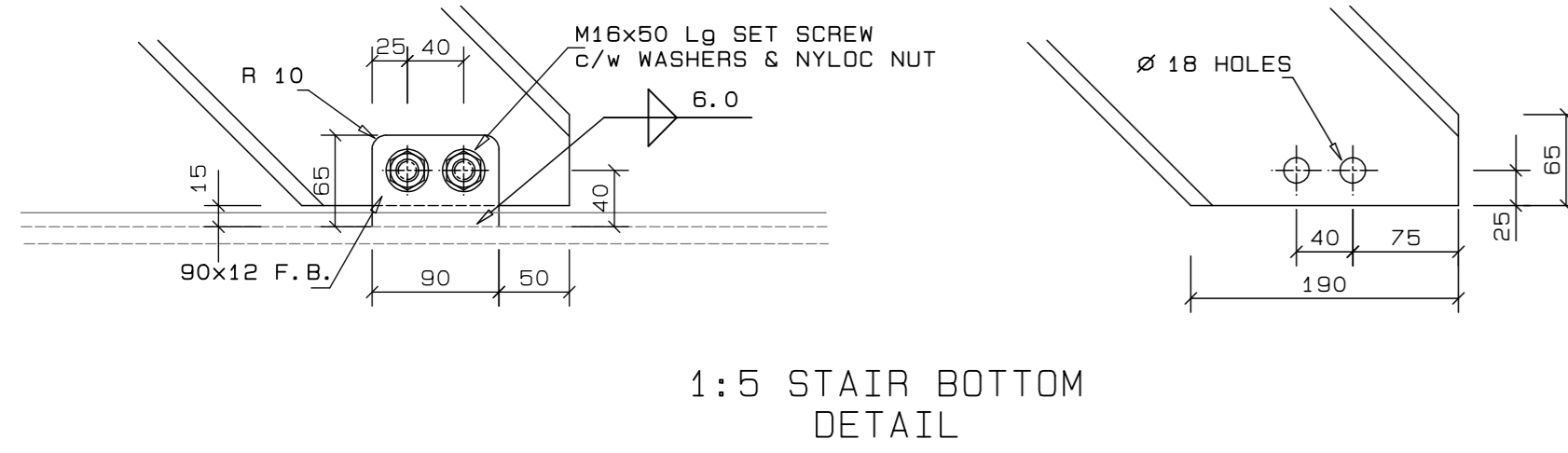
1:10 DETAIL AT BOTTOM OF STAIR



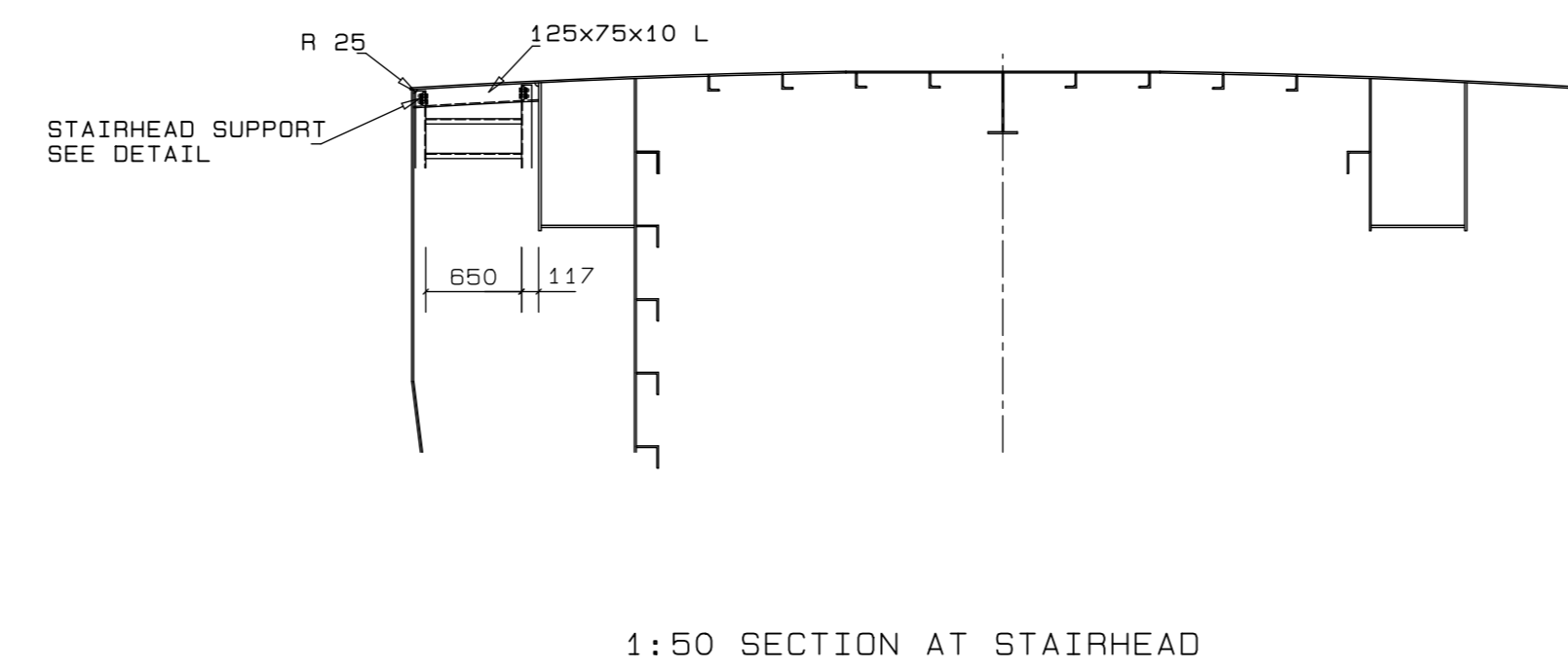
1:5 STAIRHEAD SUPPORT DETAIL



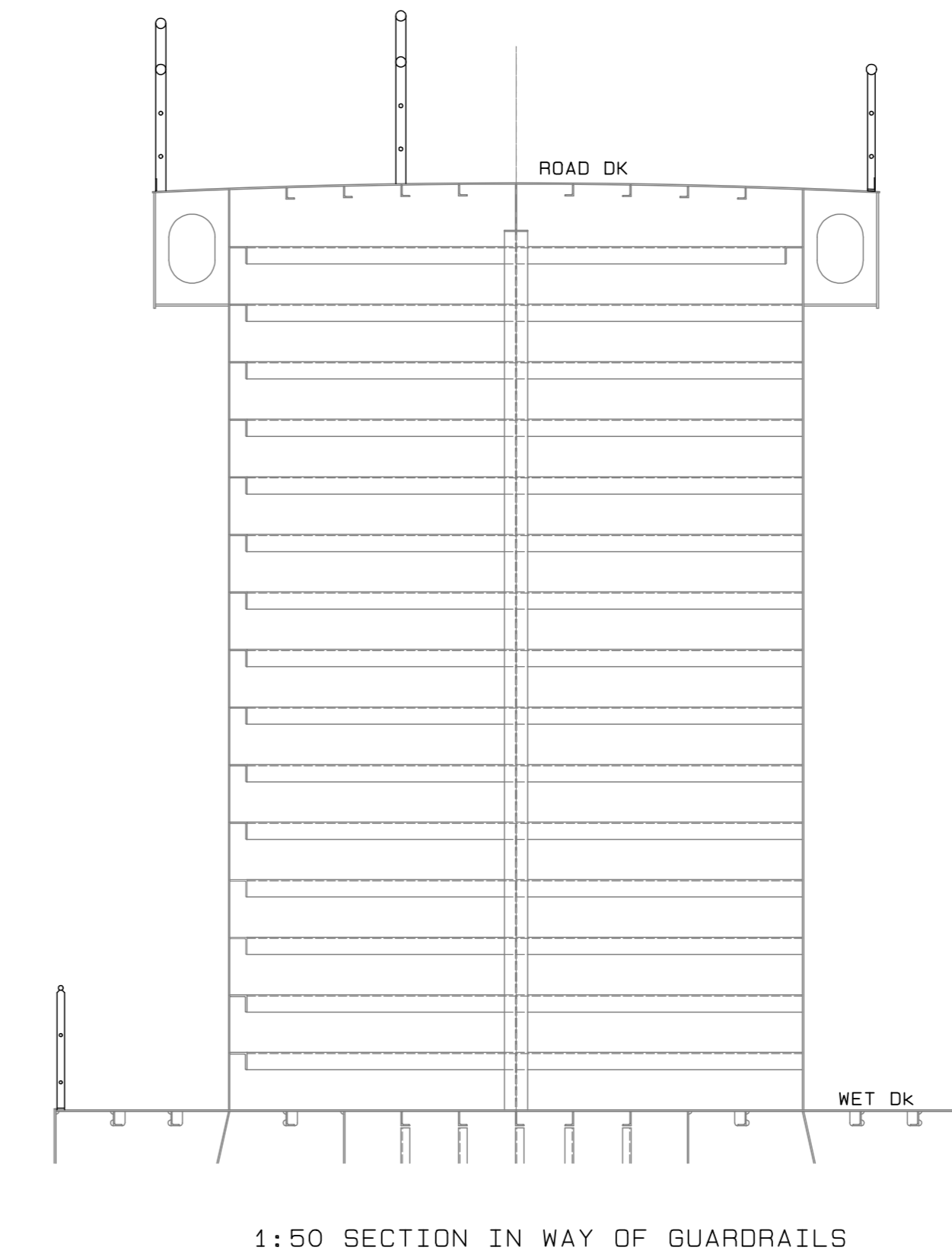
1:5 TREAD DETAIL



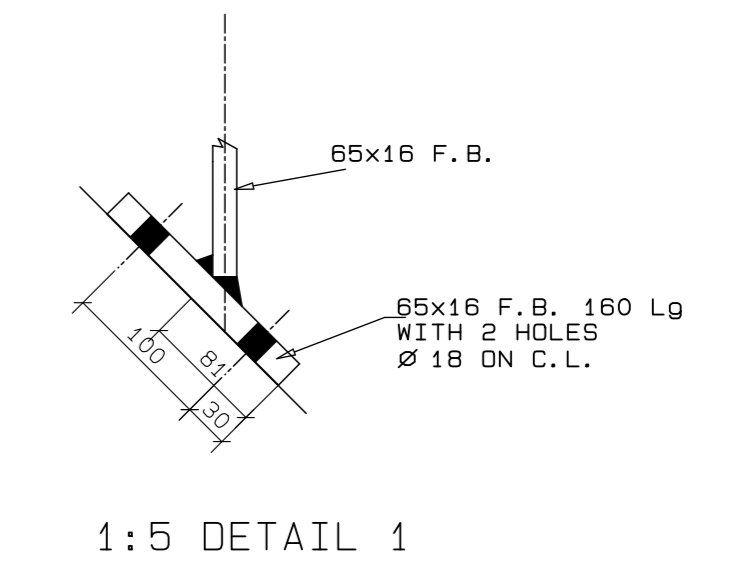
1:5 STAIR BOTTOM DETAIL



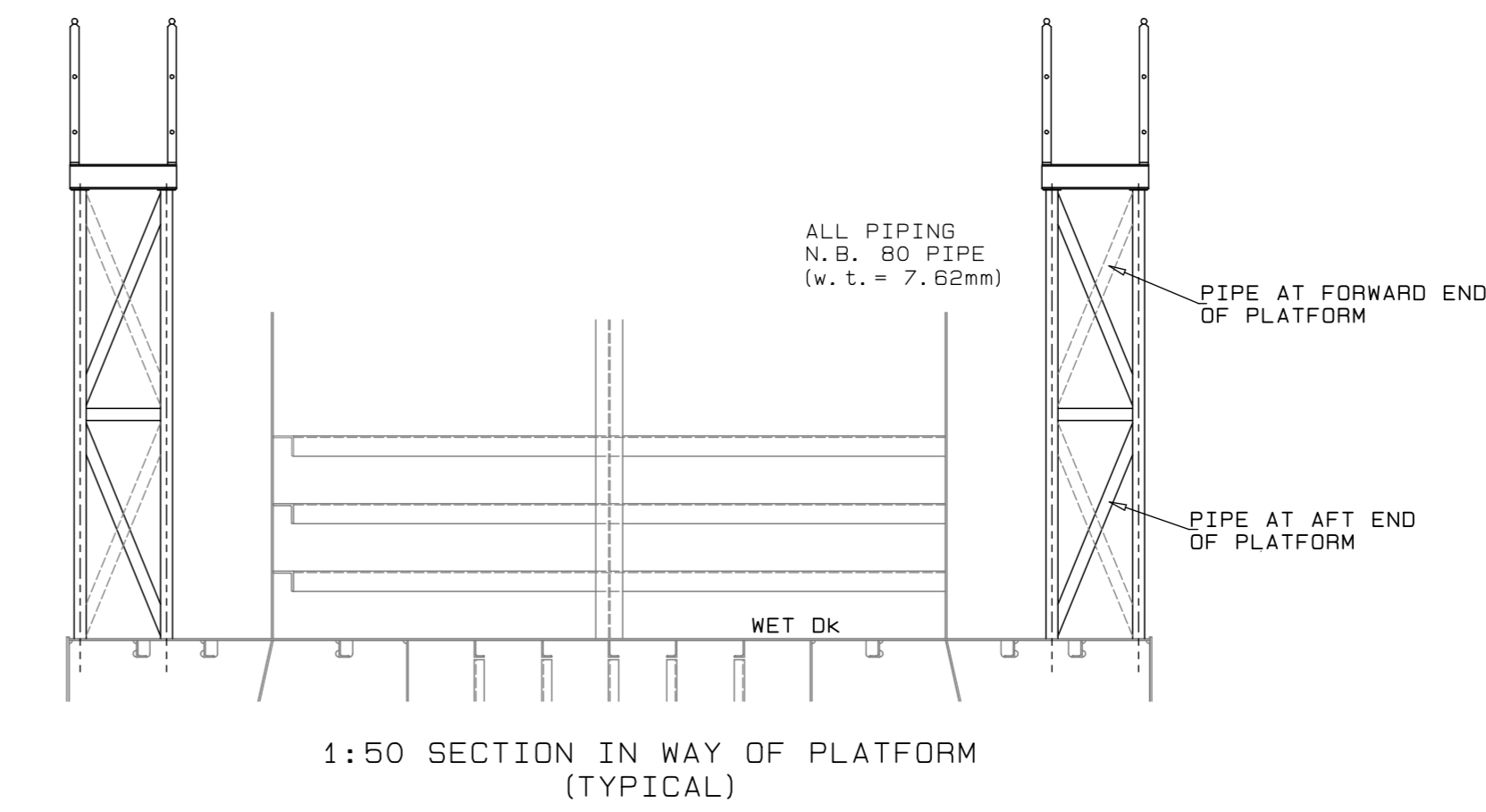
1:50 SECTION AT STAIRHEAD



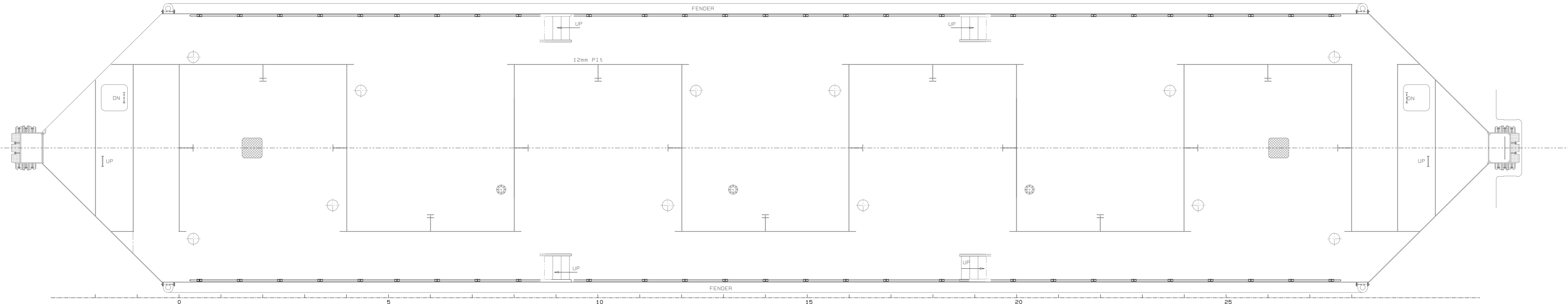
1:50 SECTION IN WAY OF GUARDRAILS



1:5 DETAIL 1



1:50 SECTION IN WAY OF PLATFORM (TYPICAL)



1:50 PLAN ON WET DECK (DECK P15 12mm, DECK LONG16 120x75x10 L)

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	16/03/20	ISSUED FOR INFORMATION	D. McConnell
B	08/04/20	ISSUED FOR REVIEW	B Kingwill
C	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drg. No. TNA 3501-11-2-C Sht 2 of 2

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

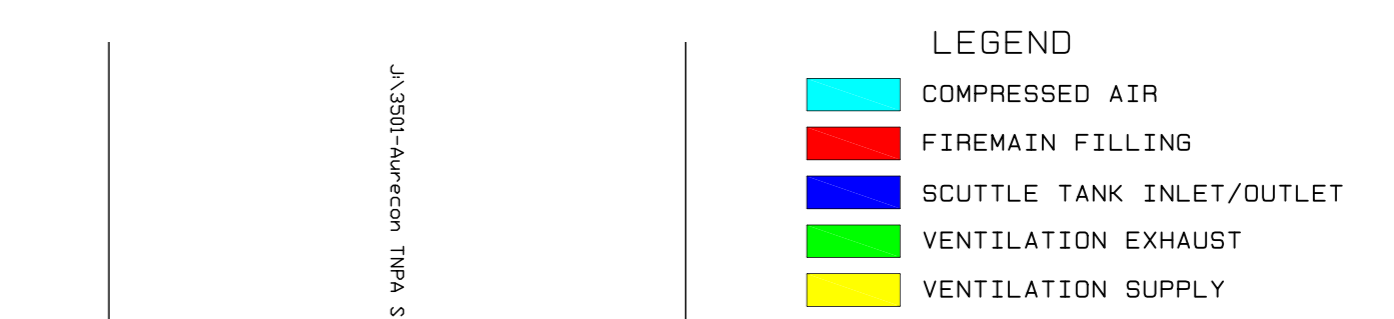
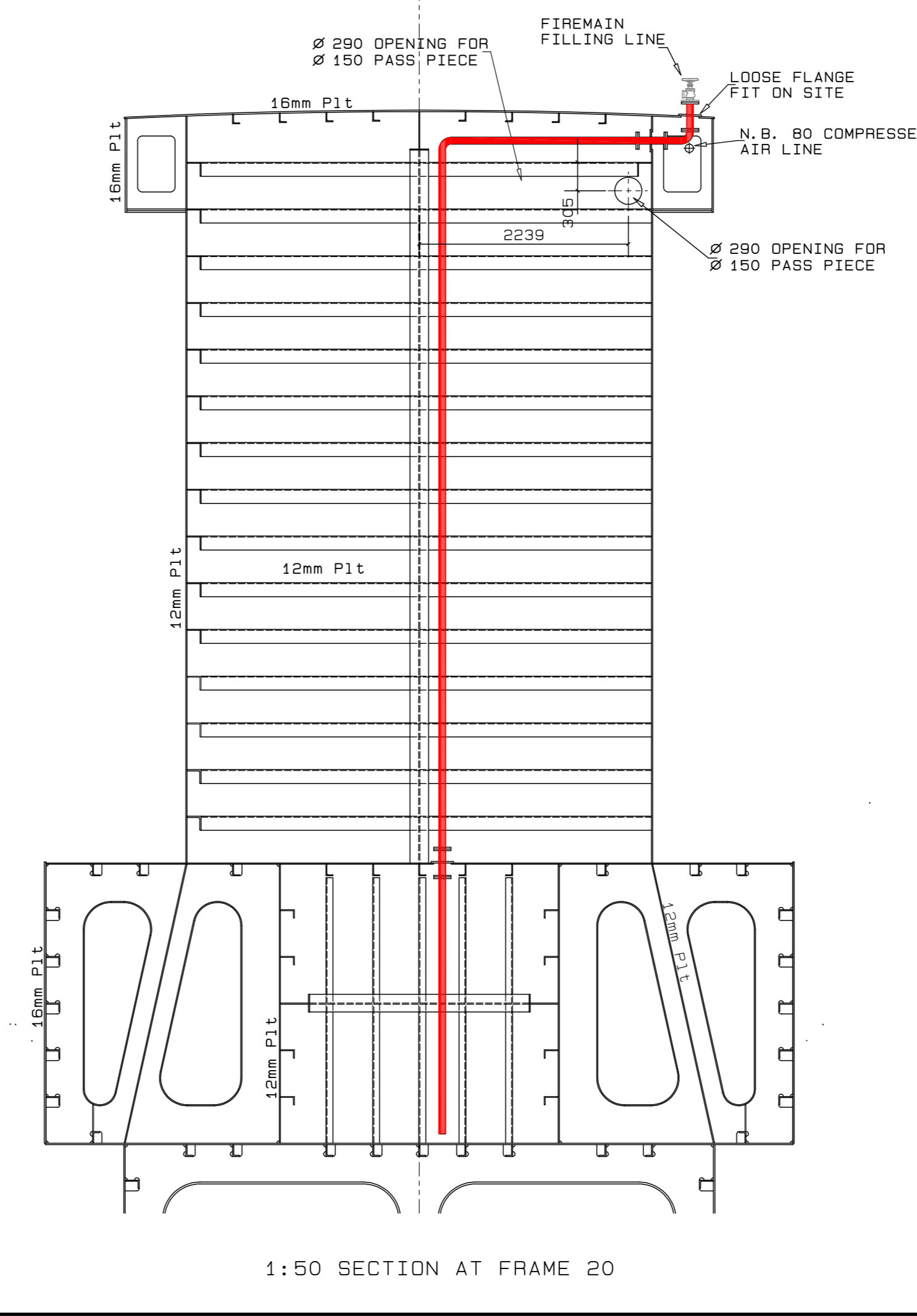
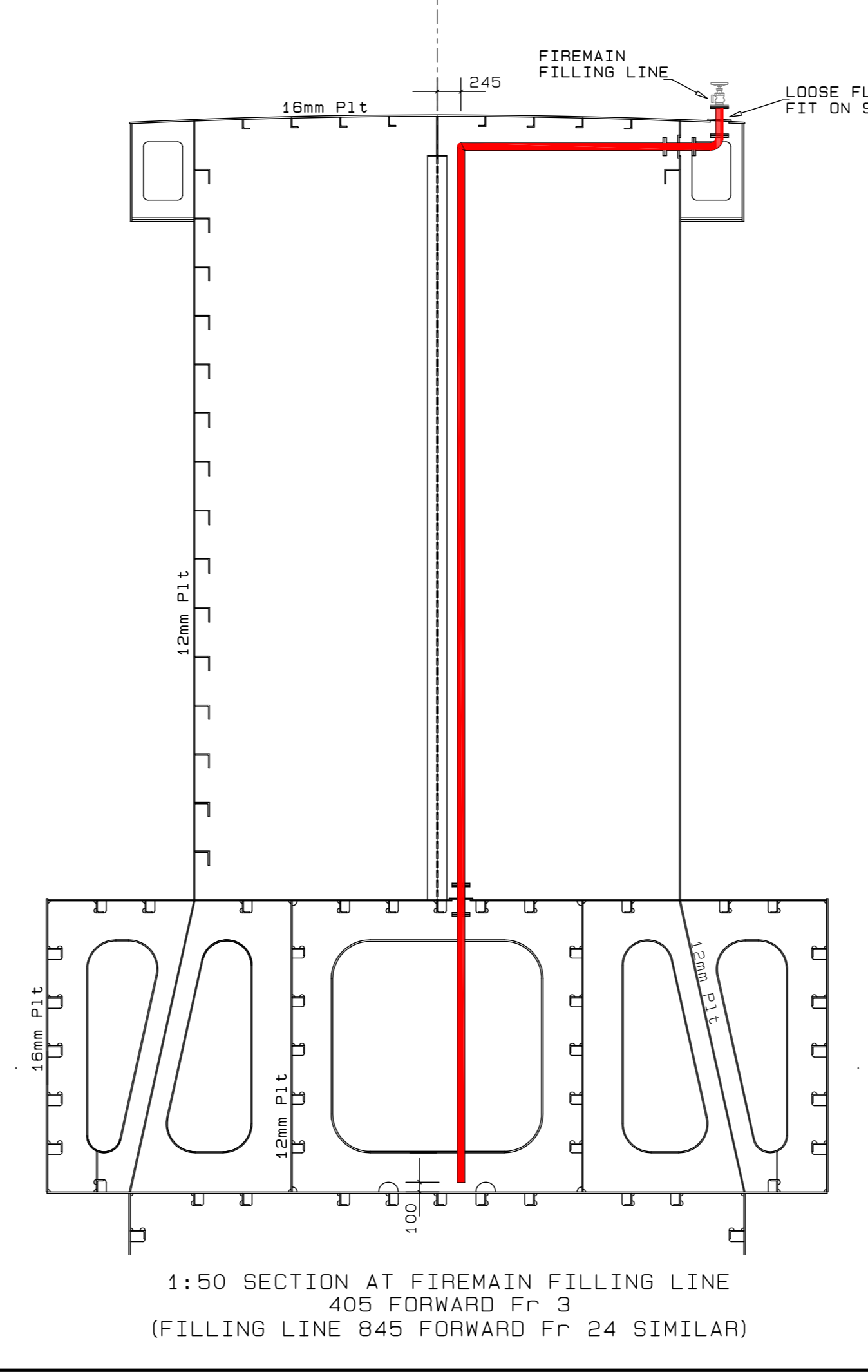
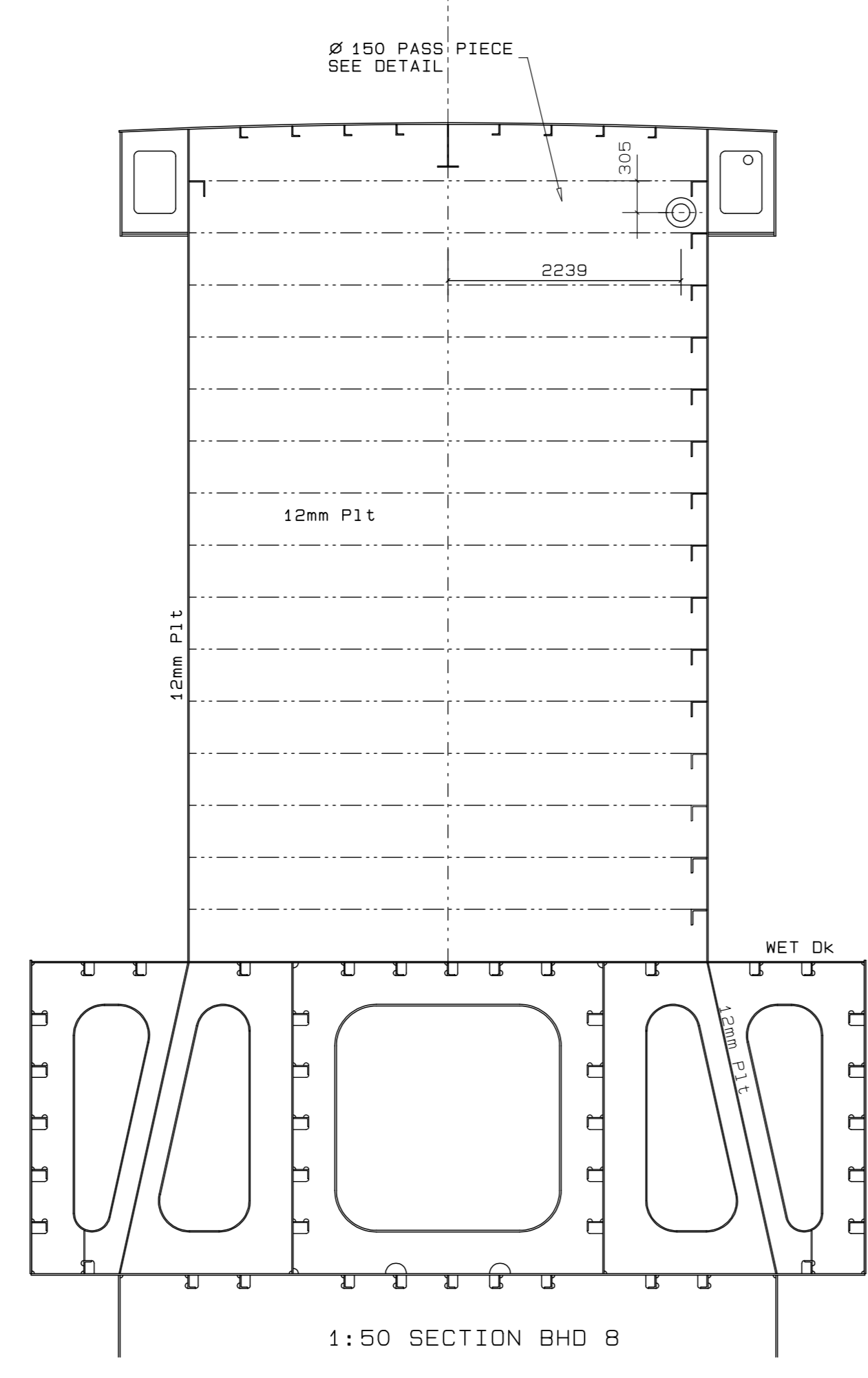
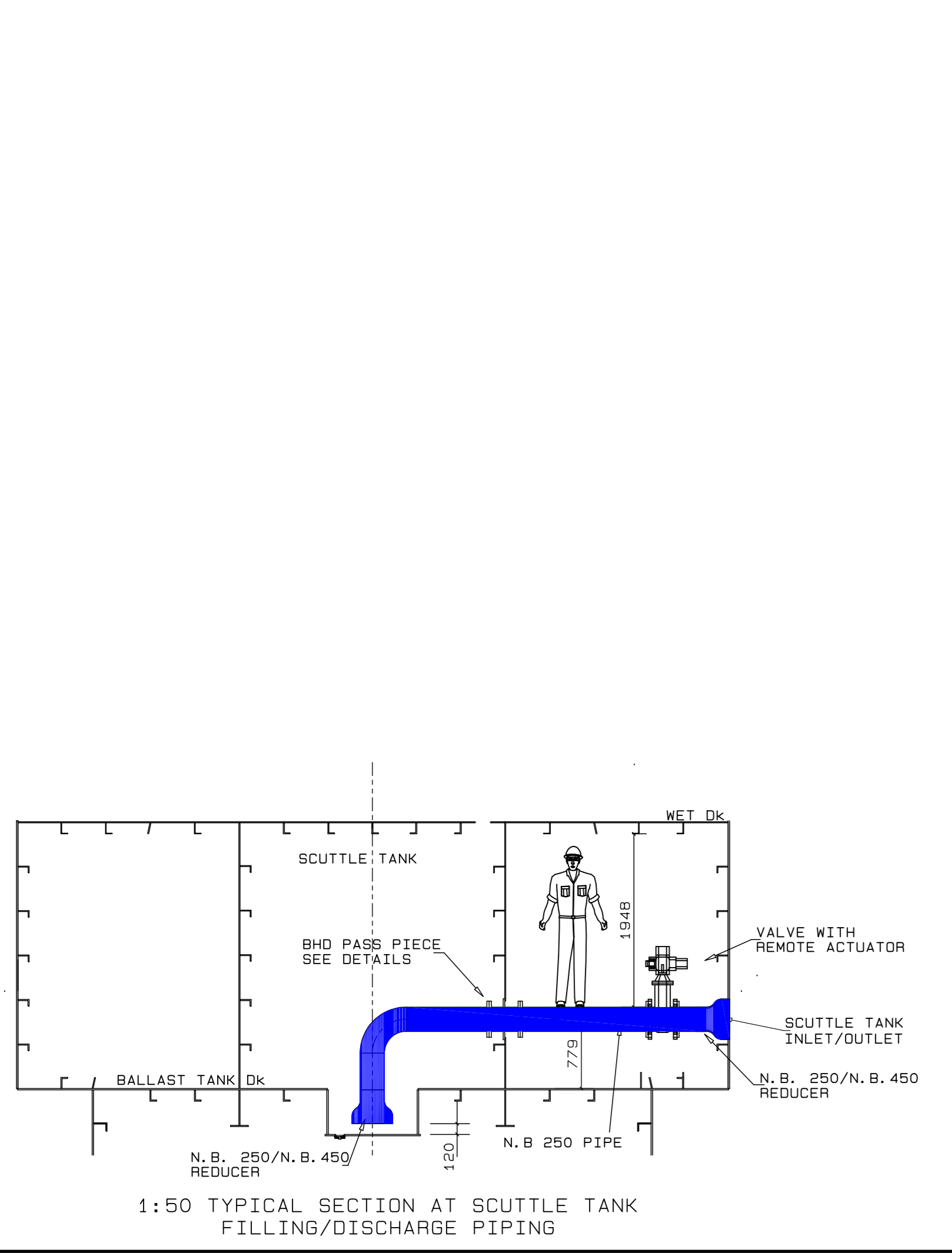
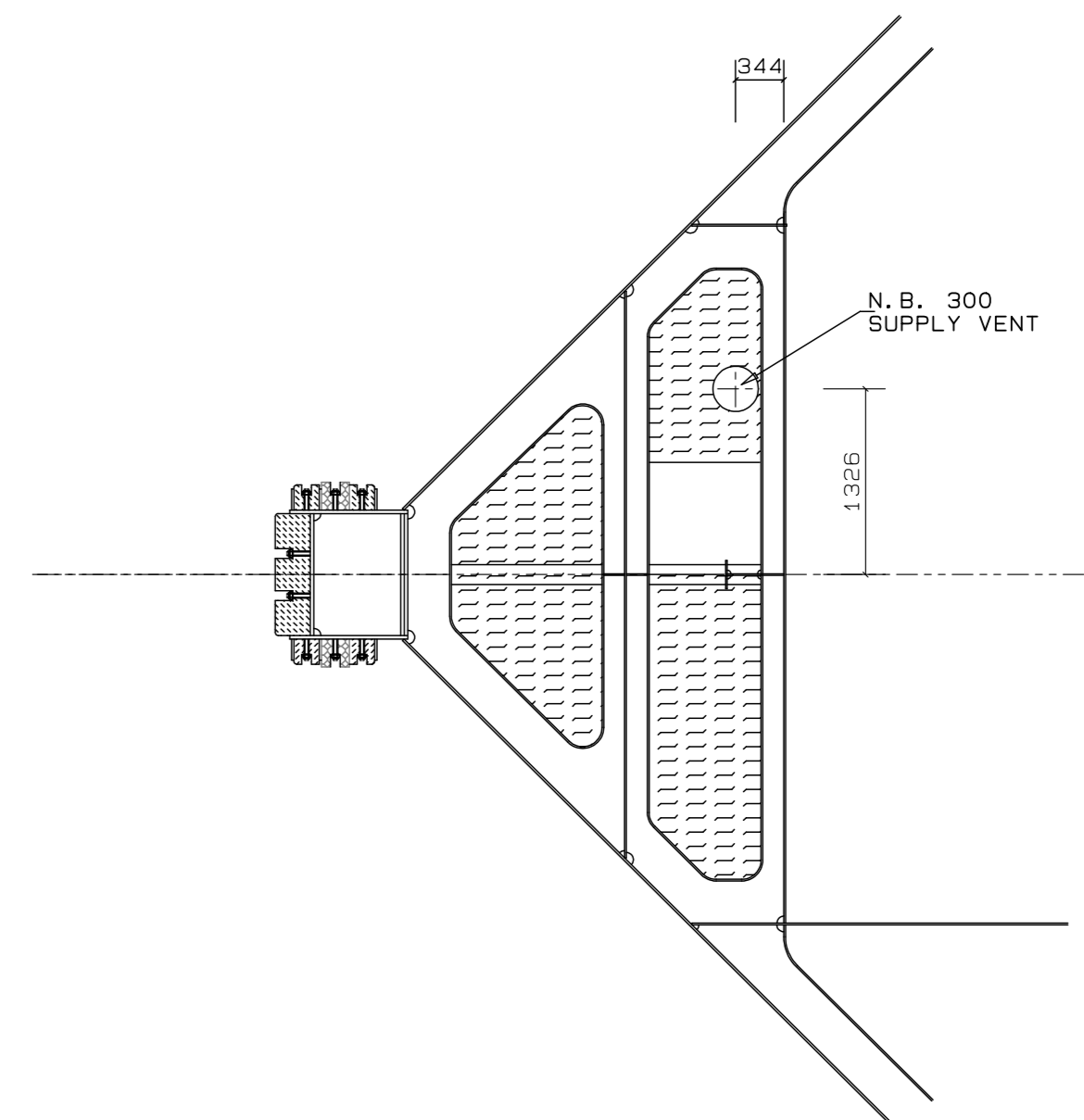
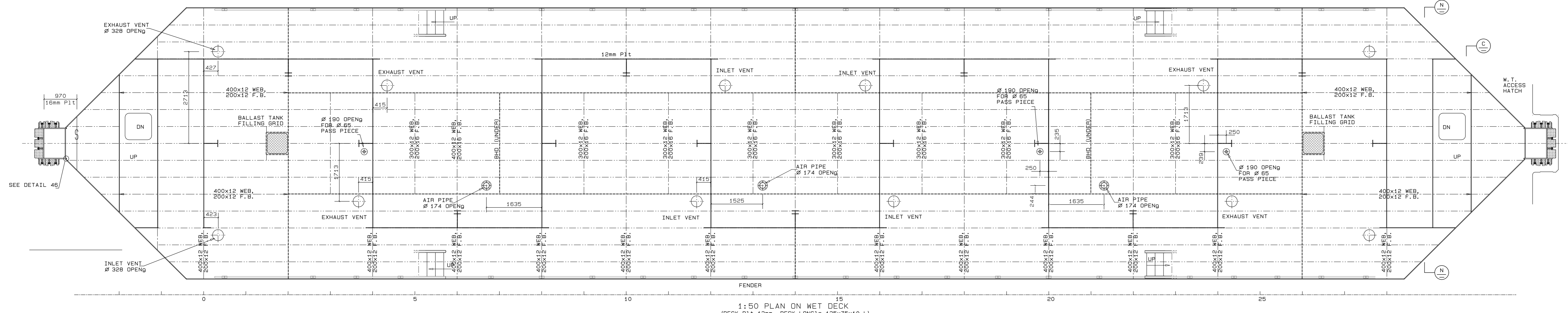
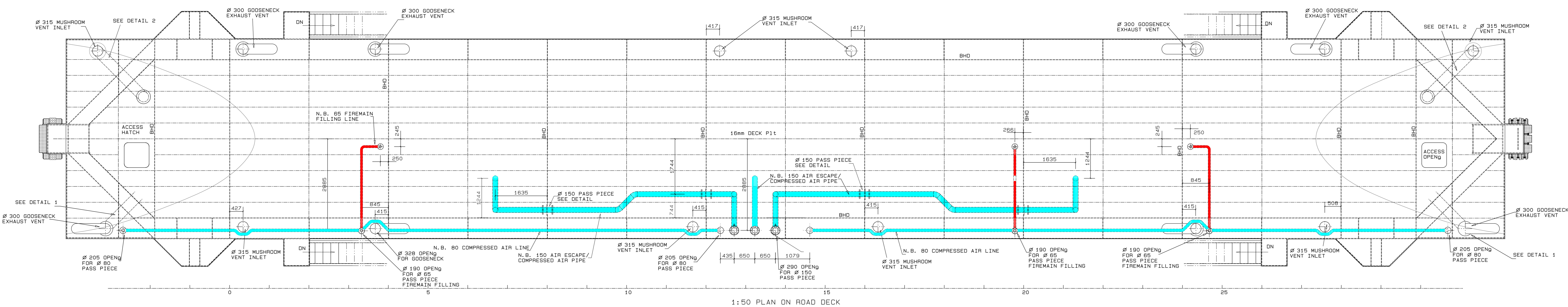
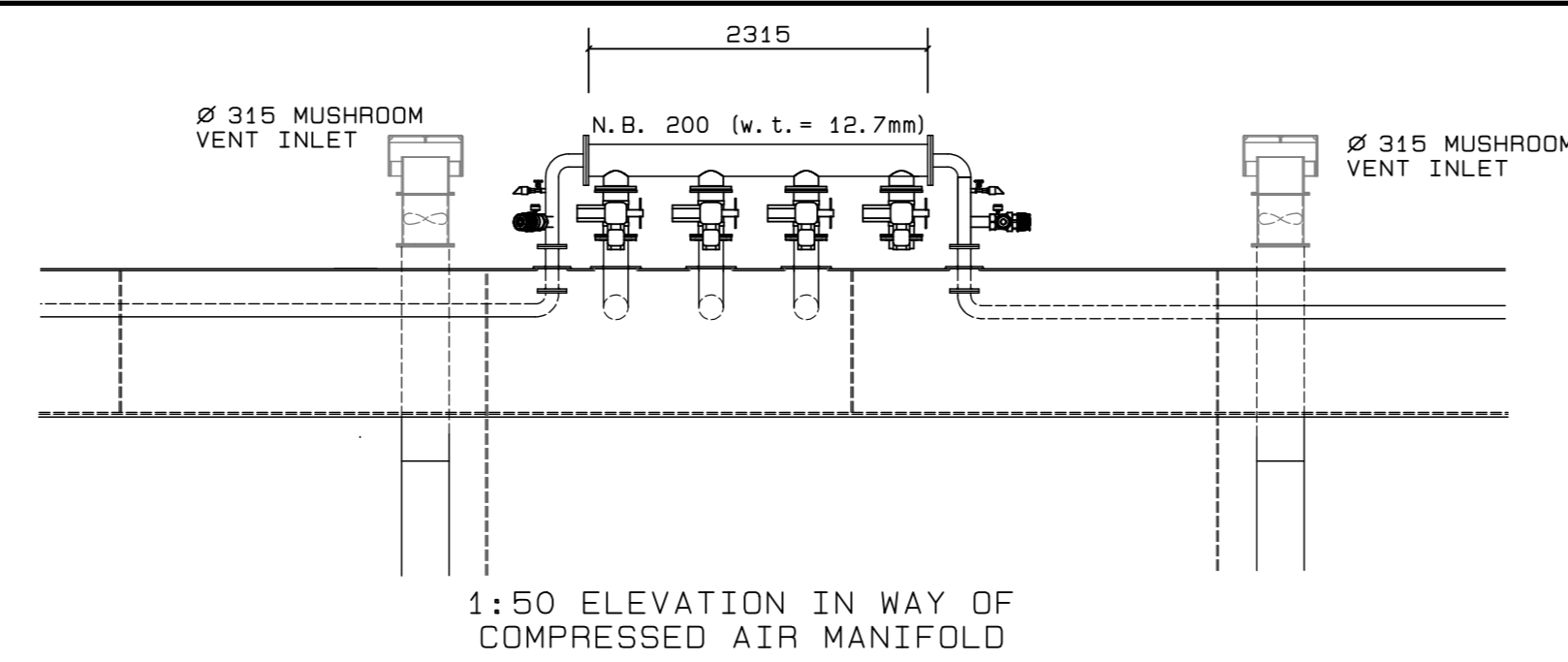
PORT ENGINEER  
800M 55E  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 4345  
6001  
TEL: 021 448 8773  
FAX: 021 448 8774



PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK PORT OF CAPE TOWN  
GUARDRAILS AND STAIRS  
WET DECK PLAN SECTIONS AND DETAILS

DESIGNER: D. McConnell	CHECKED: C.S. SMIT
SCALE: AS SHOWN	DESIGNER: B.P. KRUGERS

No. 507343-0000-DRG-SS-109-2  
DATE: 16/03/20  
CAD. REF: 900-11-DWG  
FILE REF: 507343-0000-DRG-SS-109-2  
SHEET 2 OF 2  
AMENDMENT: C



NOTES:

- ALL WELDING INDICATES LEG LENGTH, WELDING TO BE IN ACCORDANCE WITH LLOYD'S RULES FOR THE CLASSIFICATION OF SHIPS.
- ALL PIPING TO BE APT STD SL GRADE B SEAMLESS.
- PIPE FLANGES ARE TO BE SABS 11C3 1600 MPa.

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	10/04/20	ISSUED FOR REVIEW	B Kingwill
B	28/05/20	STRUCTURE UPDATED	B Kingwill
C	11/08/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-12-1-C Sht 1 of 2

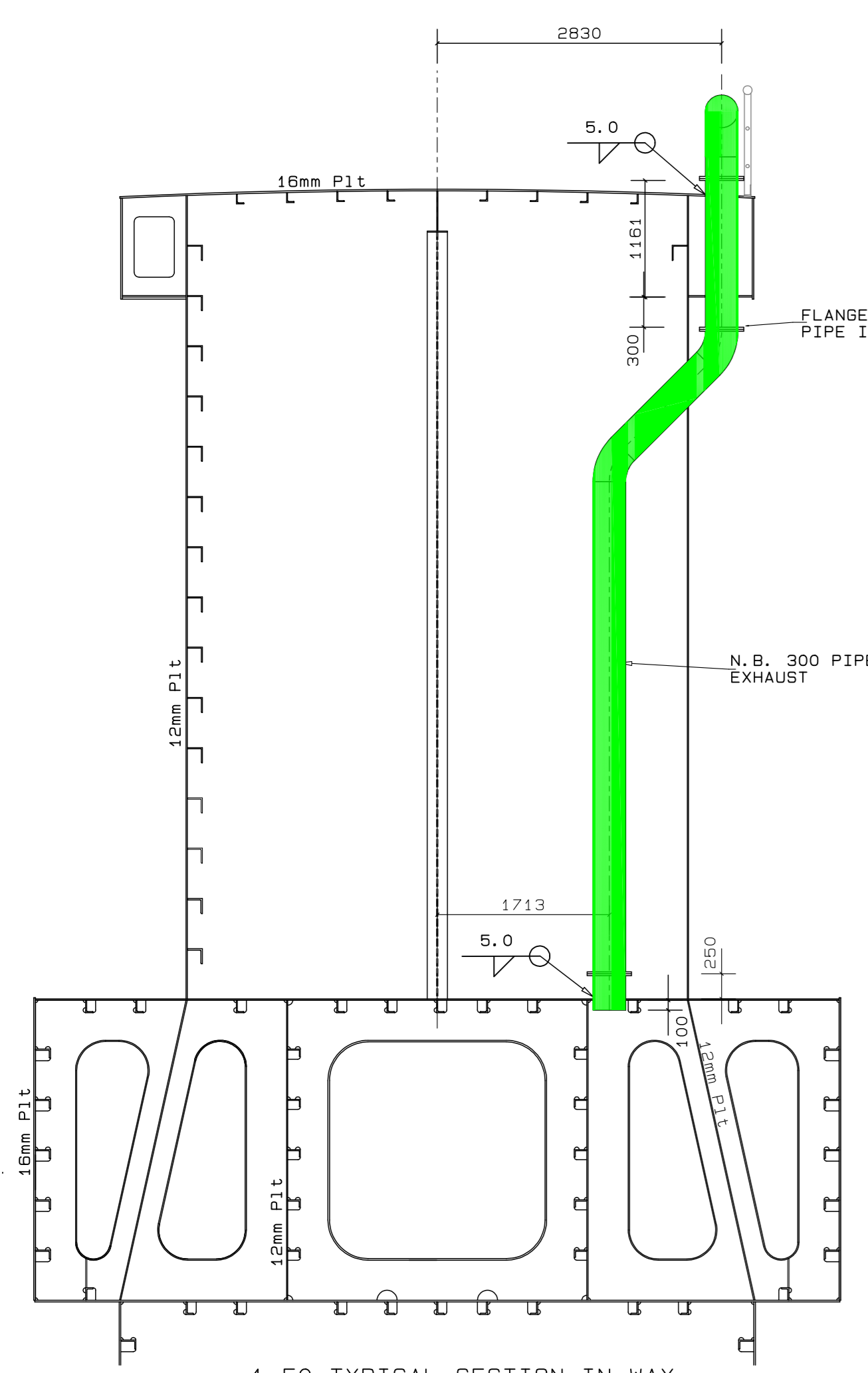
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PORT ENGINEER	

PORT ENGINEER  
 650M TON  
 4000 H.P.  
 PORT OF CAPE TOWN  
 P.O. BOX 404  
 800  
 TEL: 021 449 8373  
 FAX: 021 449 8371

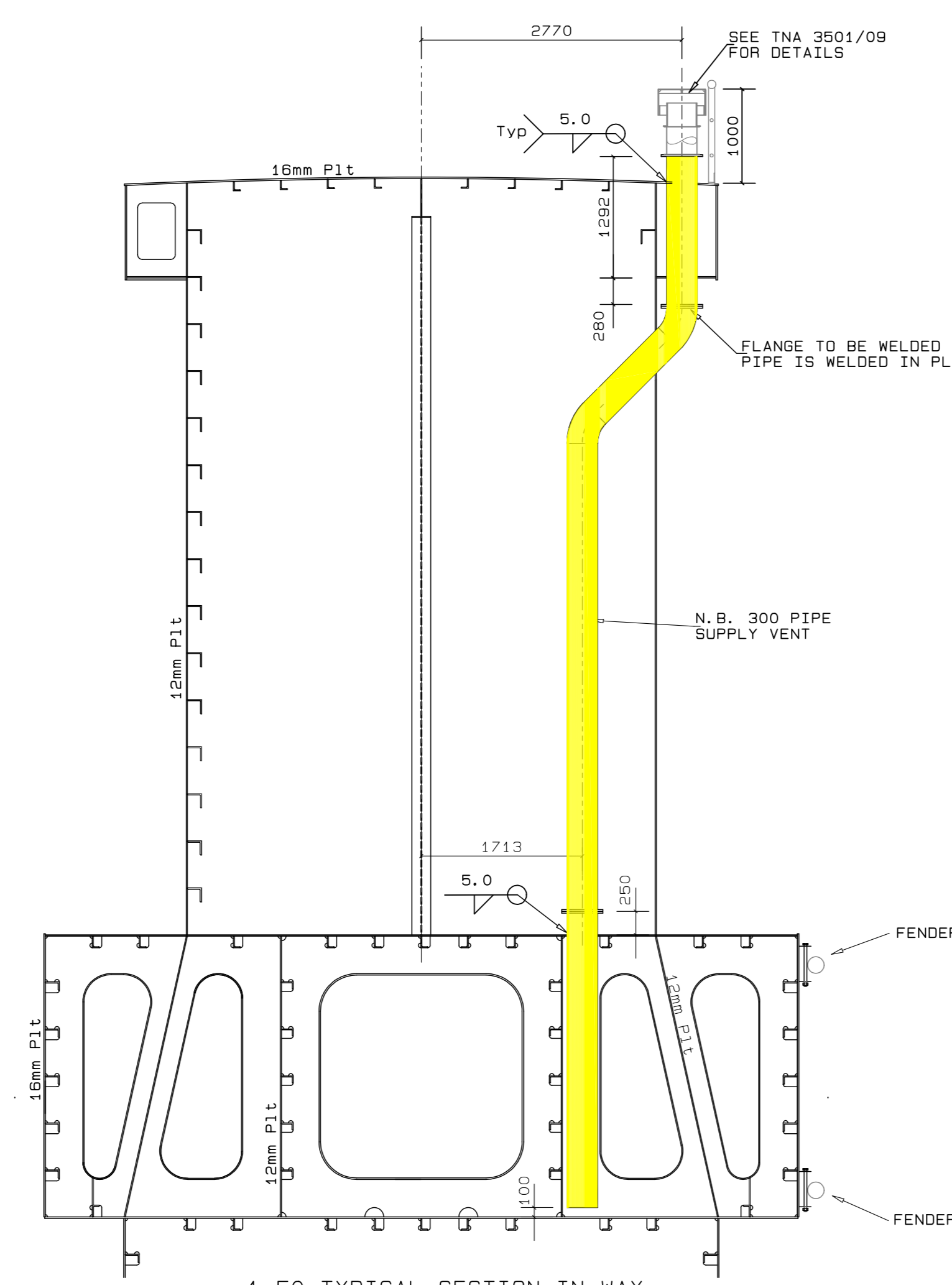
PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 PIPE AND VENT DETAILS

DESIGN: D. McCallum	CHECKED: C.S. BART
SCALE: AS SHOWN	DESIGN: R.P. KINGWILL
DATE: 16/03/20	SHEET 1 OF 2
CAD REF: 3601-12-010	AMENDMENT: C

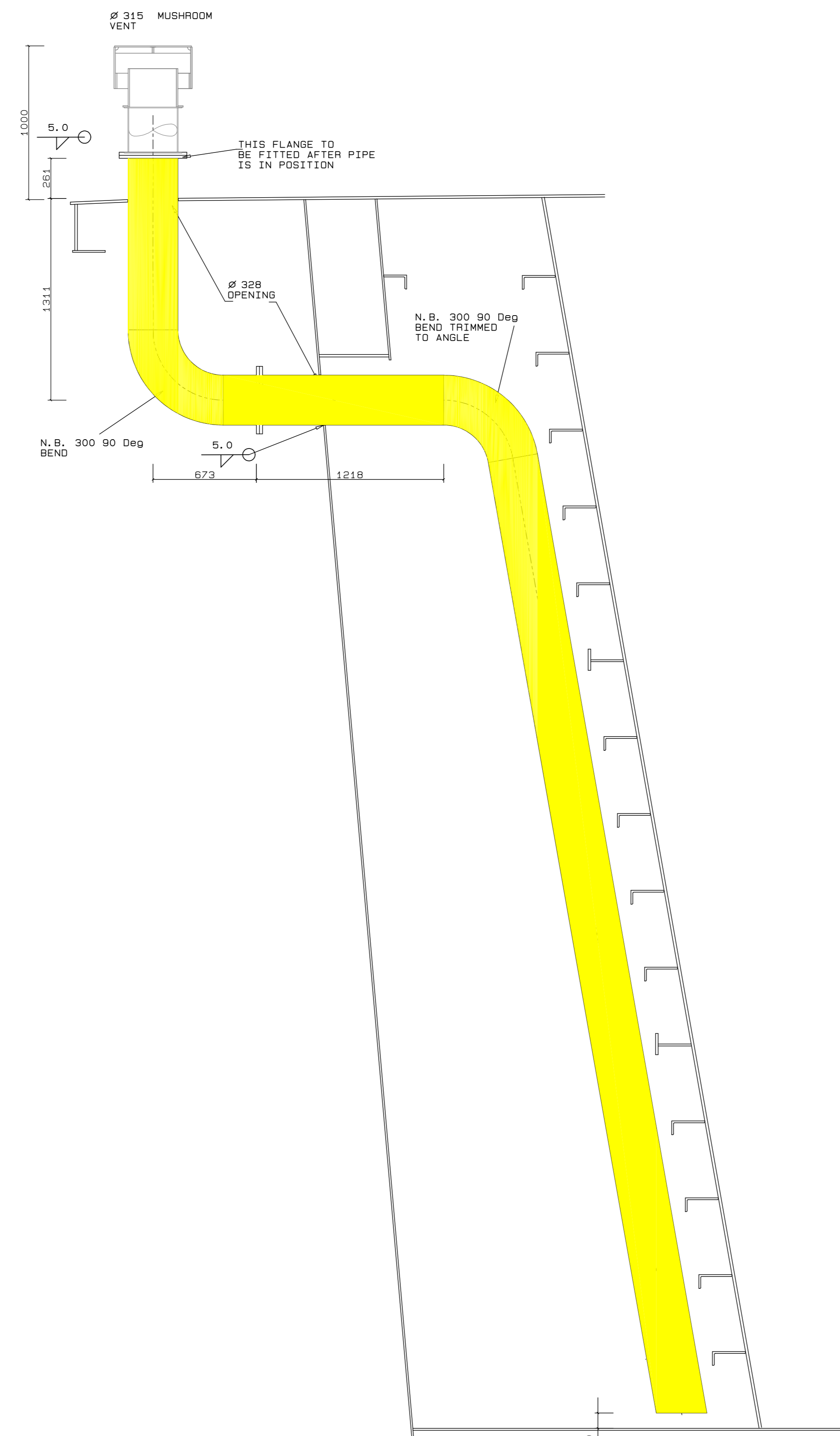




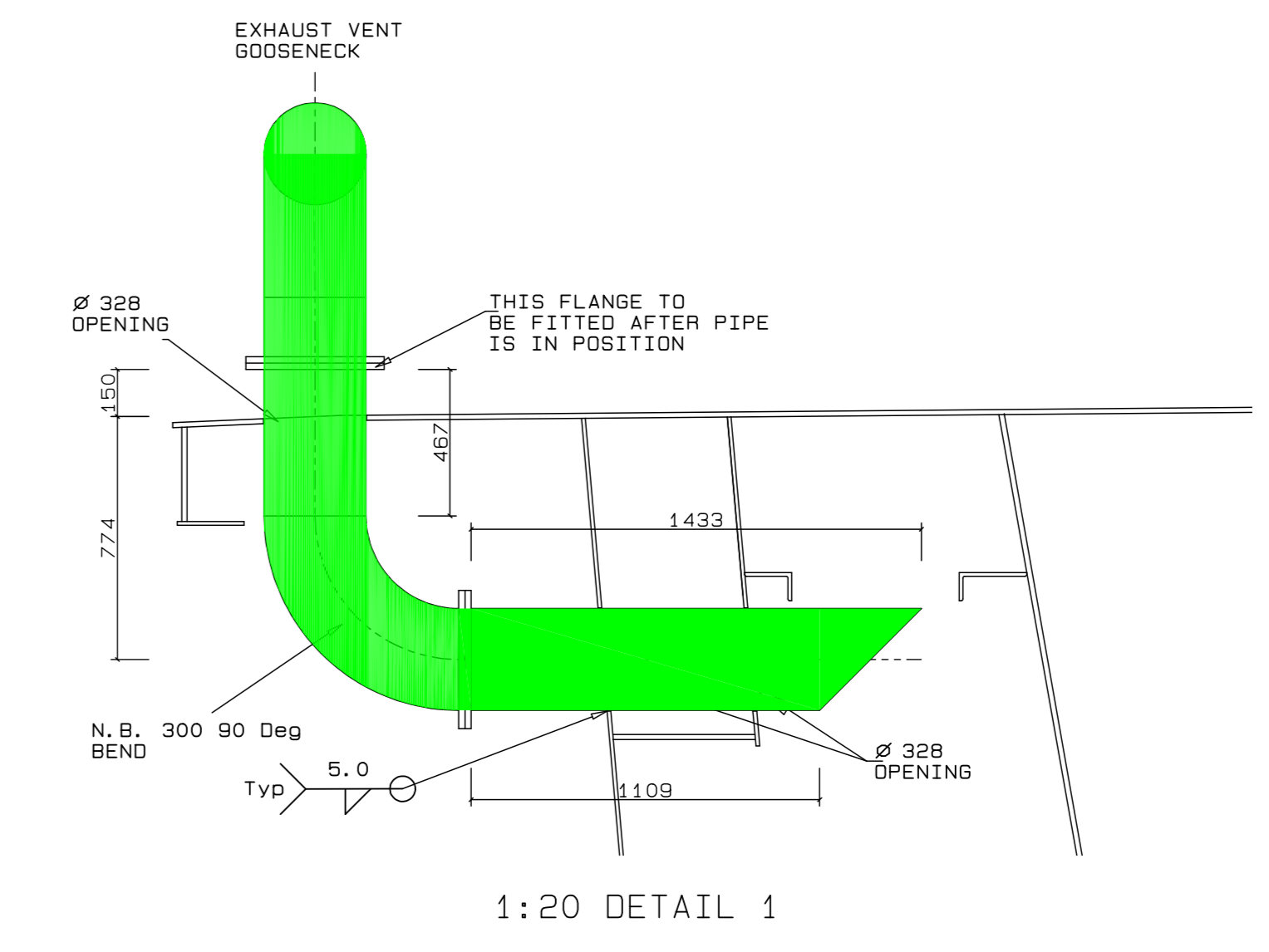
1:50 TYPICAL SECTION IN WAY OF EXHAUST VENTS



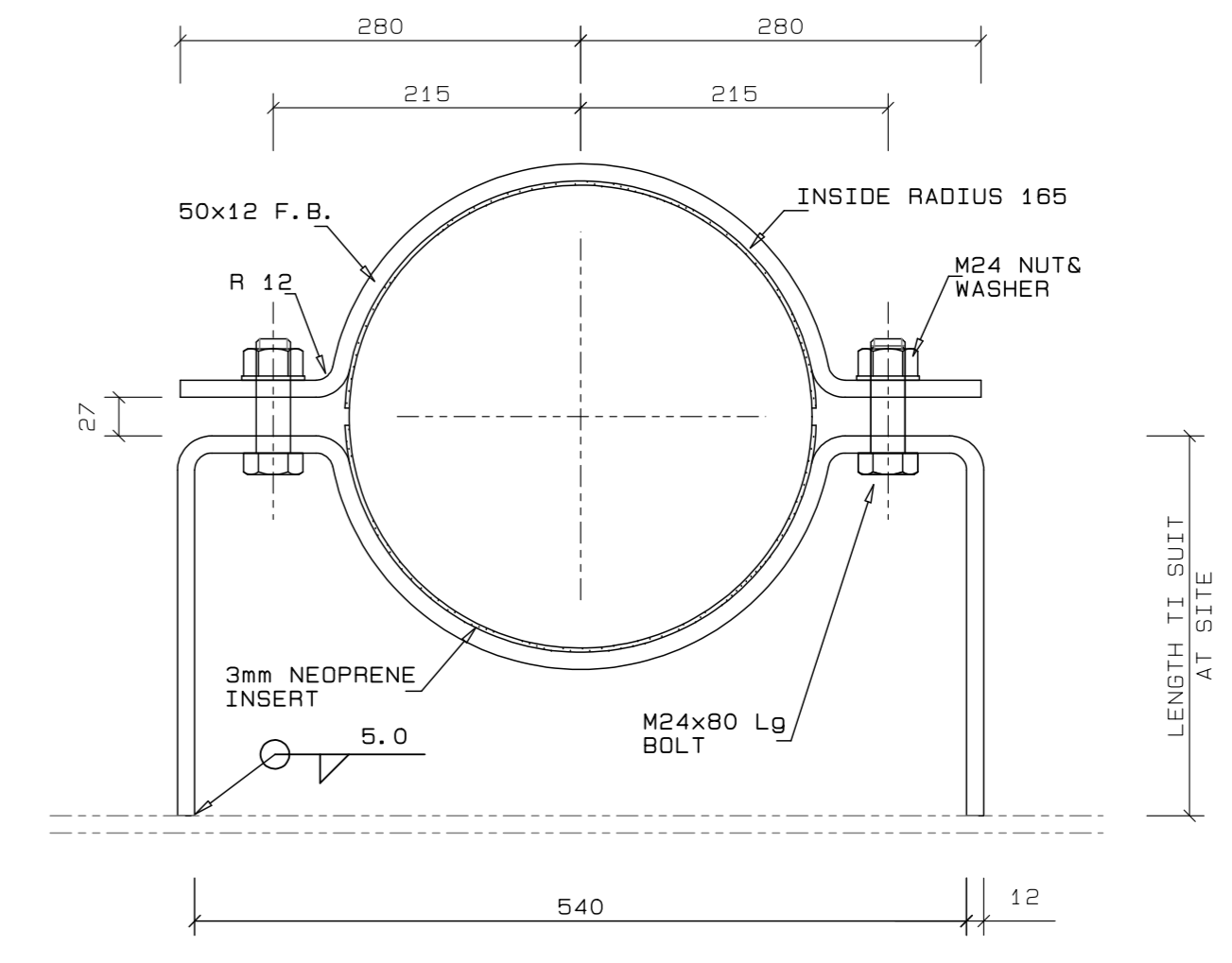
1:50 TYPICAL SECTION IN WAY OF SUPPLY VENTS



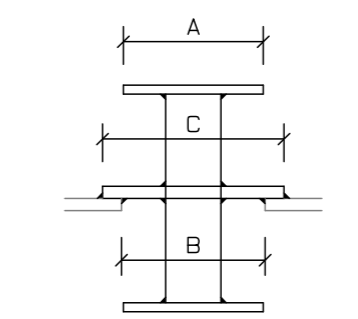
1:20 DETAIL 2



1:20 DETAIL 1

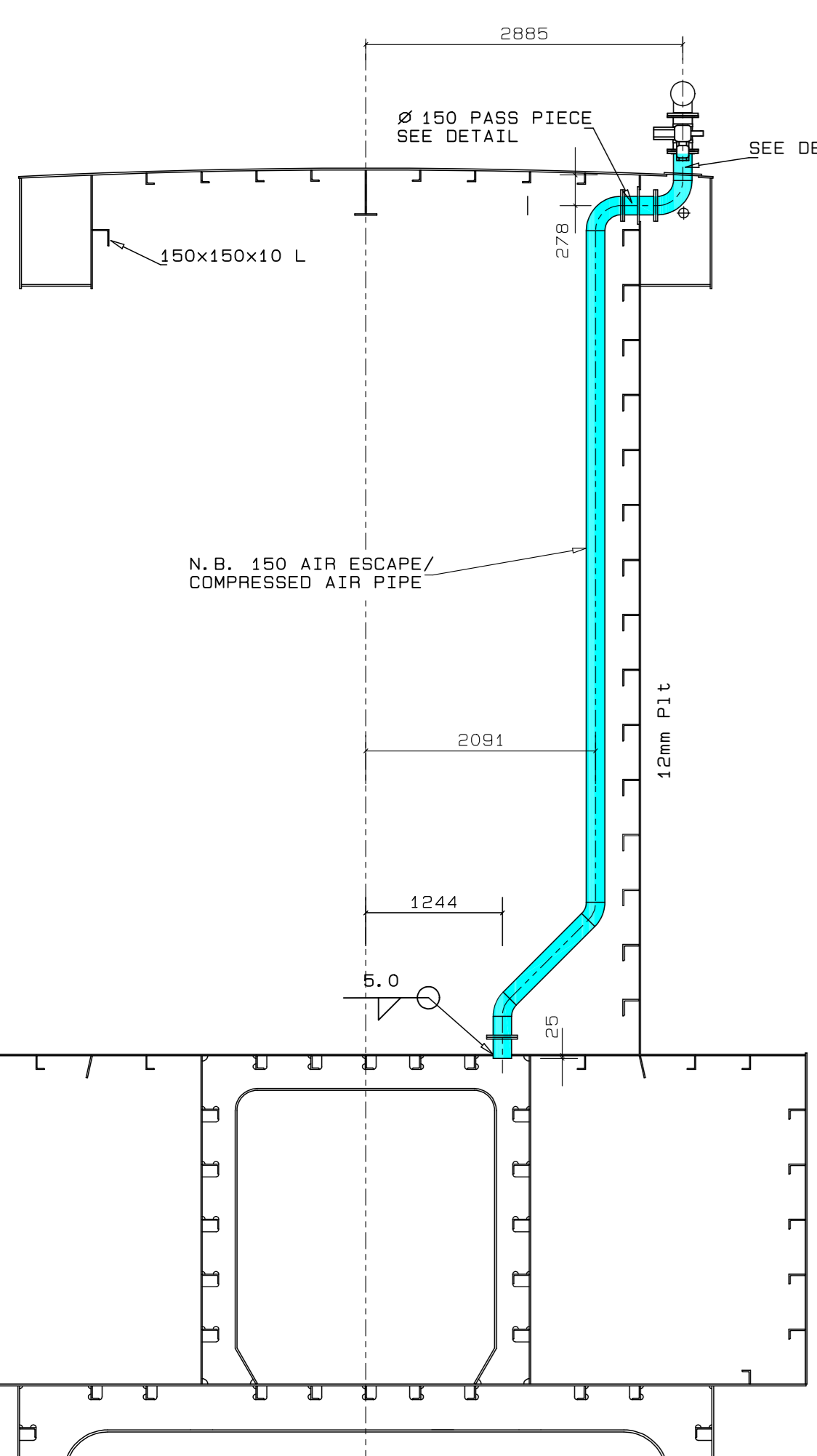


N.B. 300 PIPE SUPPORT

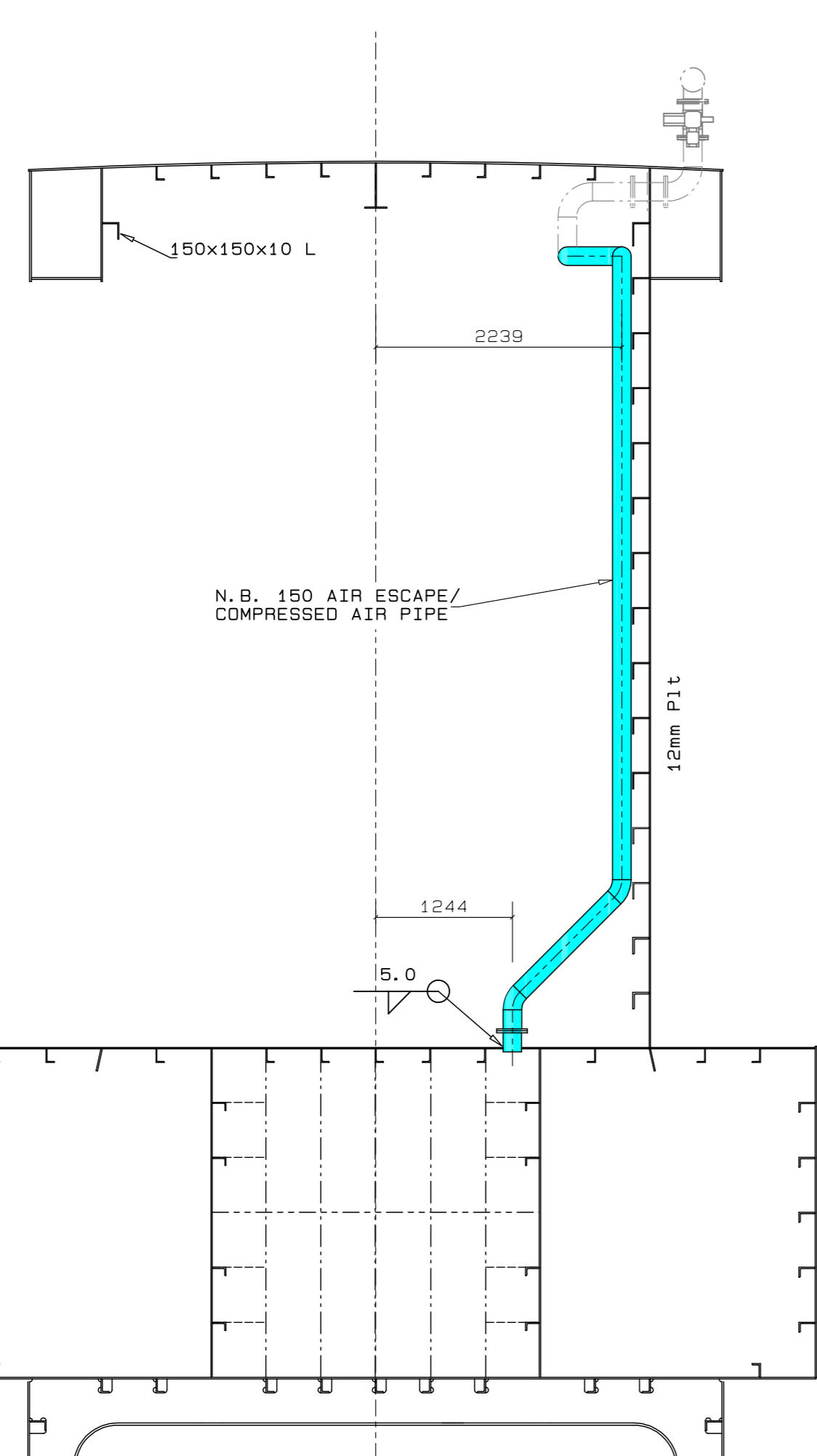


DETAIL OF PASS PIECE

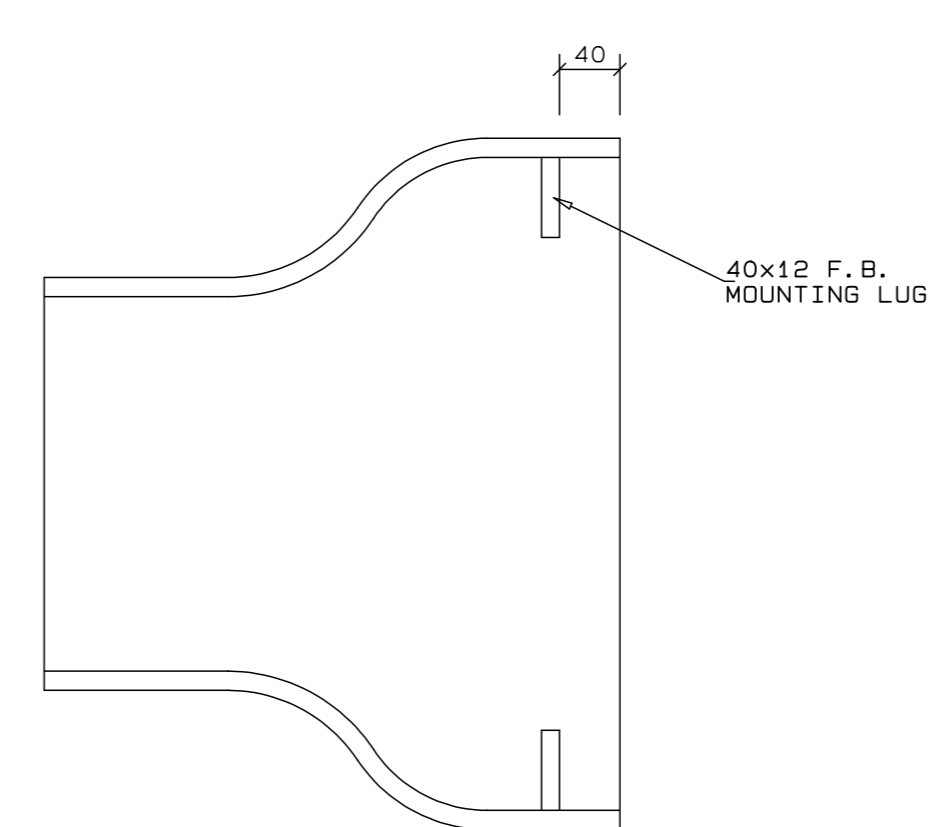
PIPE SIZE	FLANGE A	HOLE B	CENTRE FLANGE C
60	185	190	240x16 Thk
80	200	205	250x16 Thk
150	285	290	340x16 Thk
250	405	410	460x16 Thk



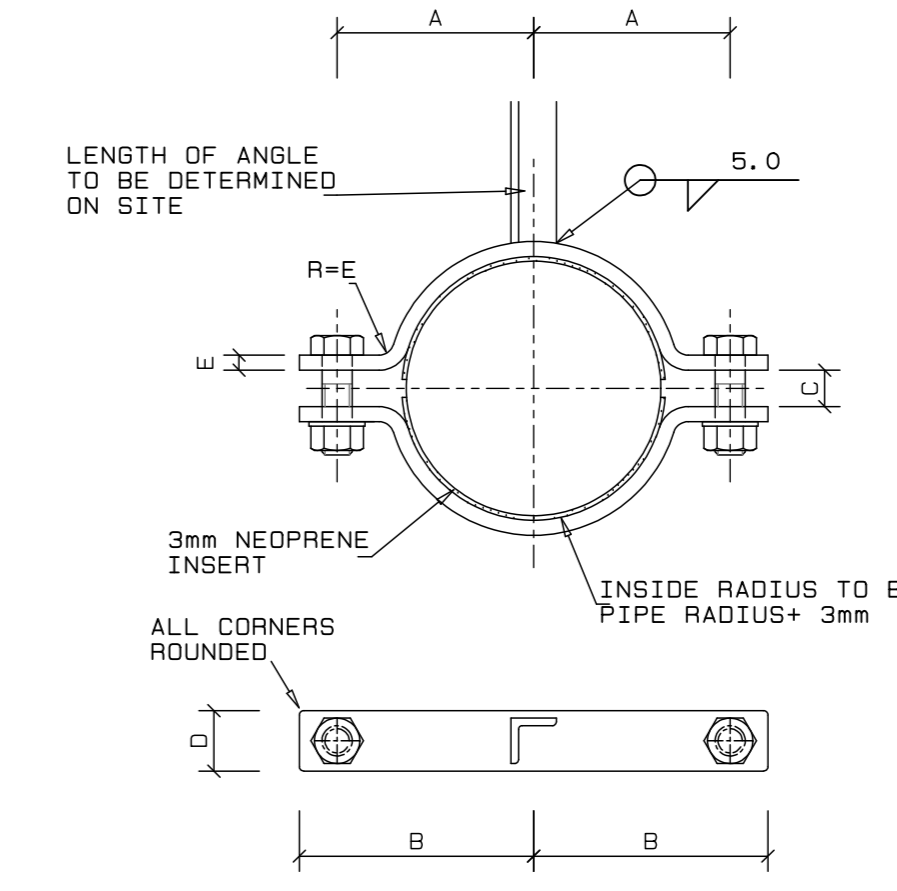
1:50 SECTION AT FRAME Fr 13



1:50 SECTION AT FRAME Fr 7



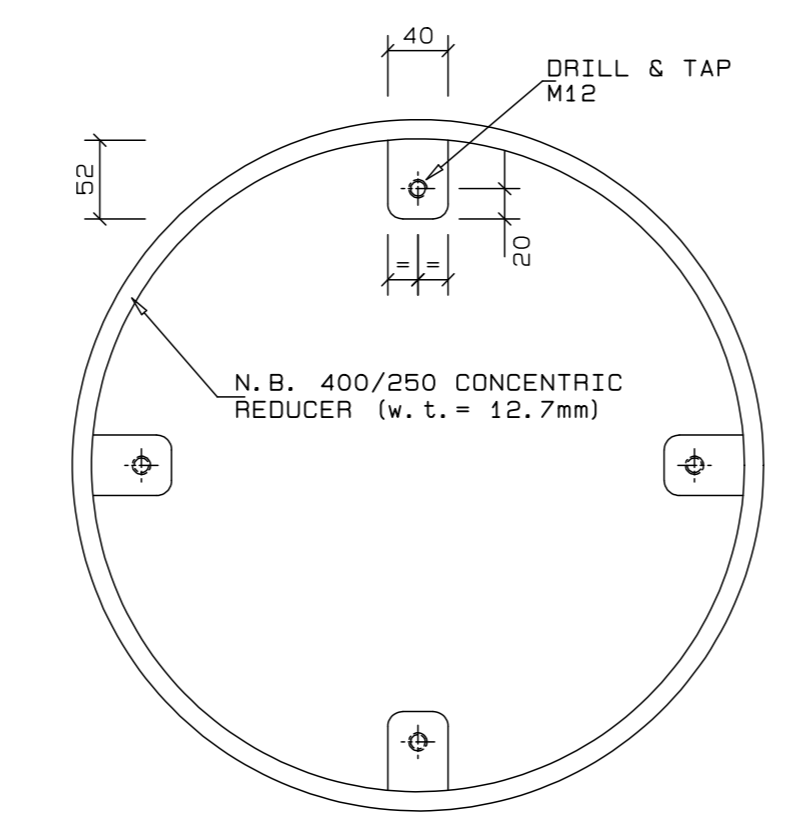
1:5 SECTION ON CONCENTRIC REDUCER



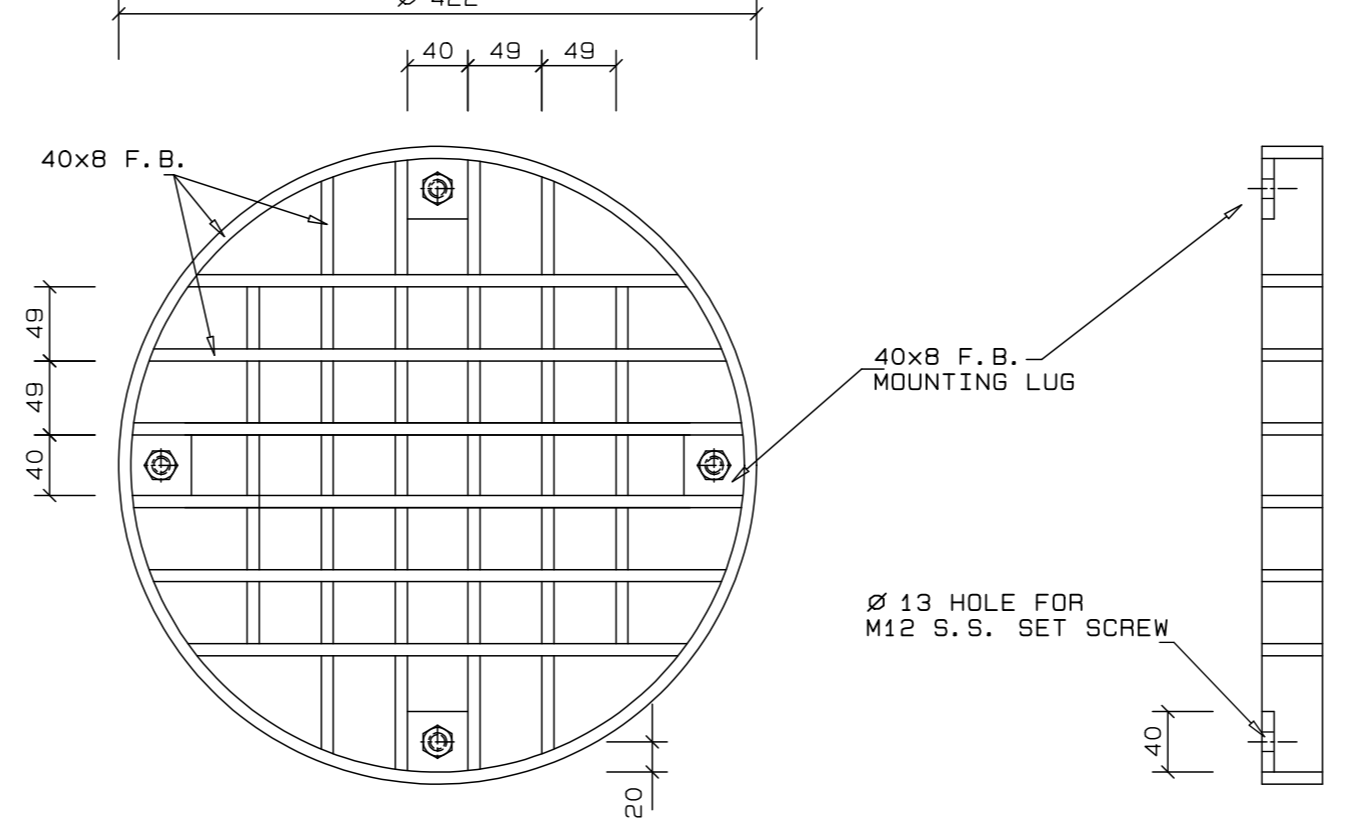
1:50 ELEVATION ON EXHAUST VENT GOOSENECK

NOM PIPE SIZE	PIPE O.D.	A	B	C	D	E	BOLT SIZE	ANGLE SIZE
80	88.9	80	100	16	30	5	M12x45	30x30x5
150	168.3	130	155	24	40	10	M20x70	30x30x5

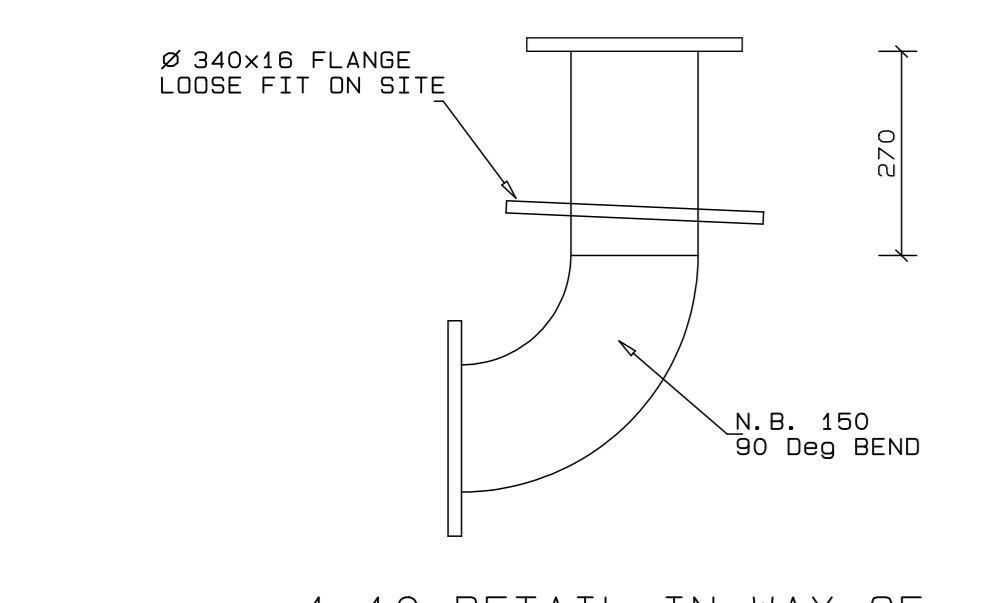
MAXIMUM DISTANCE BETWEEN PIPE SUPPORTS AS FOLLOWS  
 N.B. 80 DISTANCE 3.0 M  
 N.B. 150 DISTANCE 4.0 M



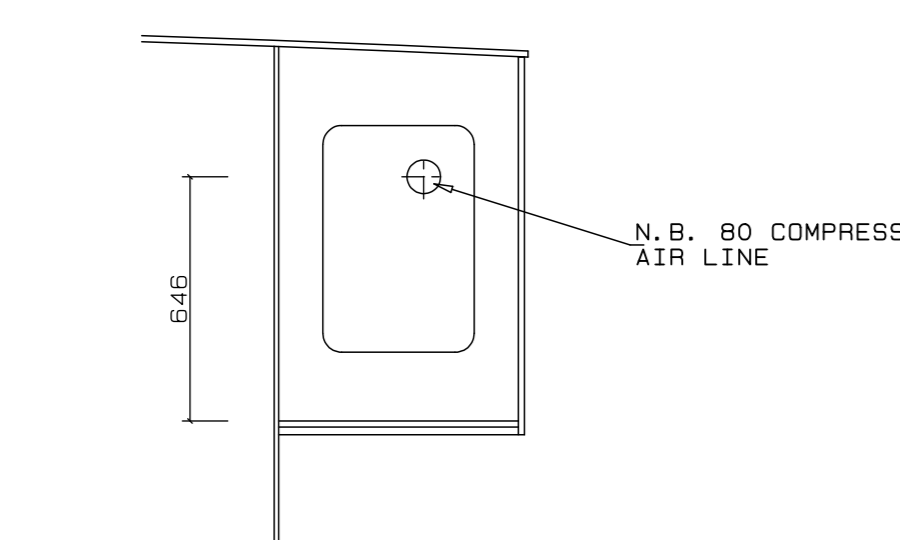
1:5 ELEVATION ON MOUNTING LUGS



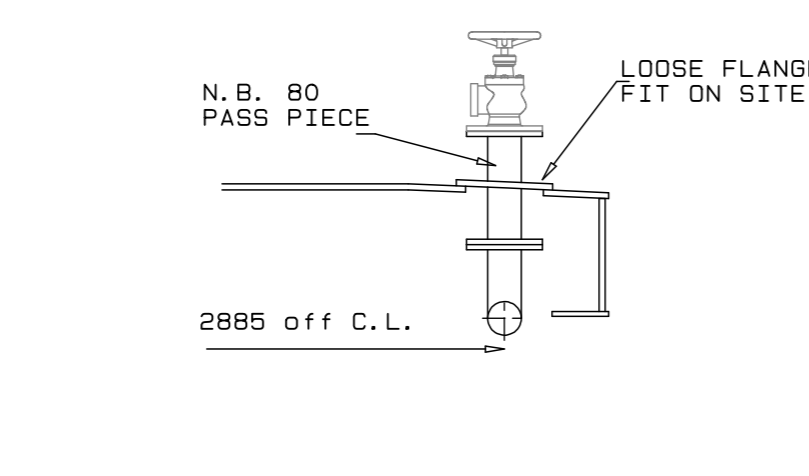
1:5 ELEVATION ON GRID  
 1:5 DETAILS OF INLET/OUTLET GRID



1:10 DETAIL IN WAY OF COMPRESSED AIR/AIR ESCAPE PIPING AT ROAD DECK



1:20 TYPICAL SECTION IN WAY OF COMPRESSED AIR LINE



1:20 SECTION AT COMPRESSED AIR CONNECTION POINT

NOTES

REVISION SCHEDULE		
REV	DATE	REVISION DETAILS
A	10/04/20	ISSUED FOR REVIEW
B	28/05/20	STRUCTURE UPDATED
C	11/06/20	ISSUED FOR CONSTRUCTION



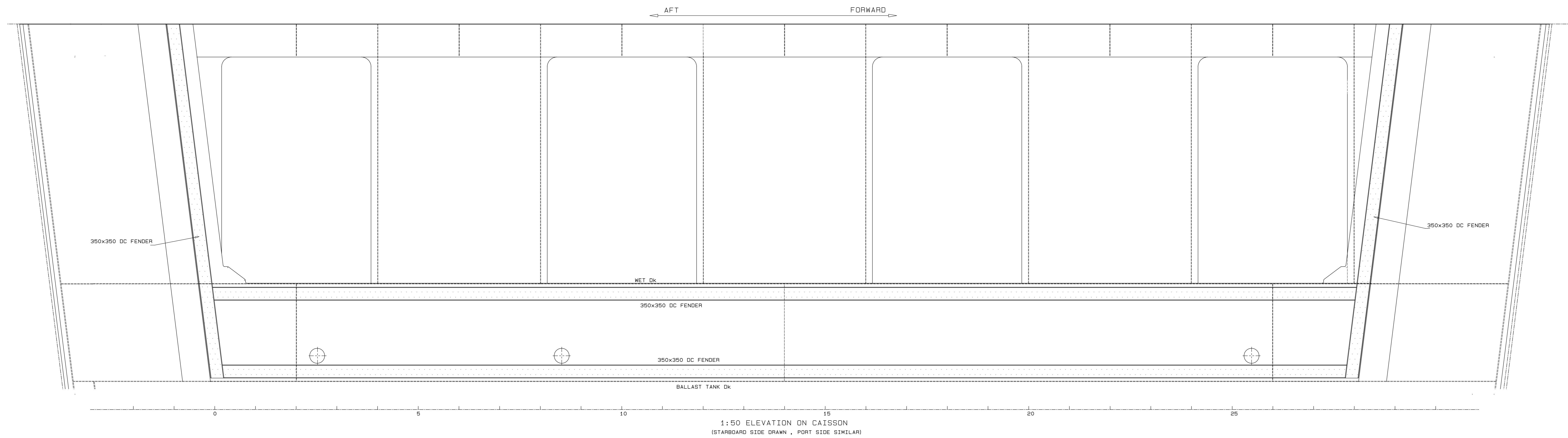
Drq. No. TNA 3501-12-2-C Sht 2 of 2

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

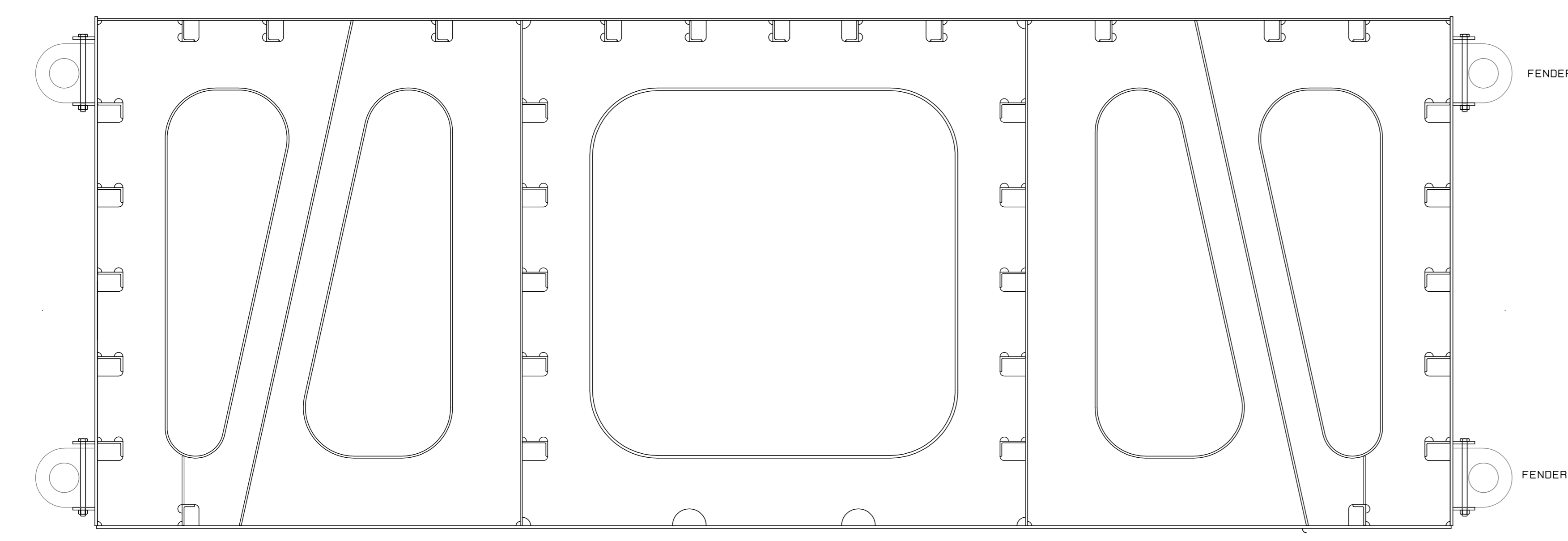
PORT ENGINEER  
 ROOM FOR  
 MEASUREMENT  
 PORT OF CAPE TOWN  
 FLOOR 4/5  
 800  
 TEL: 021 449 8173  
 FAX: 021 449 8171

PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 PIPE AND VENT DETAILS

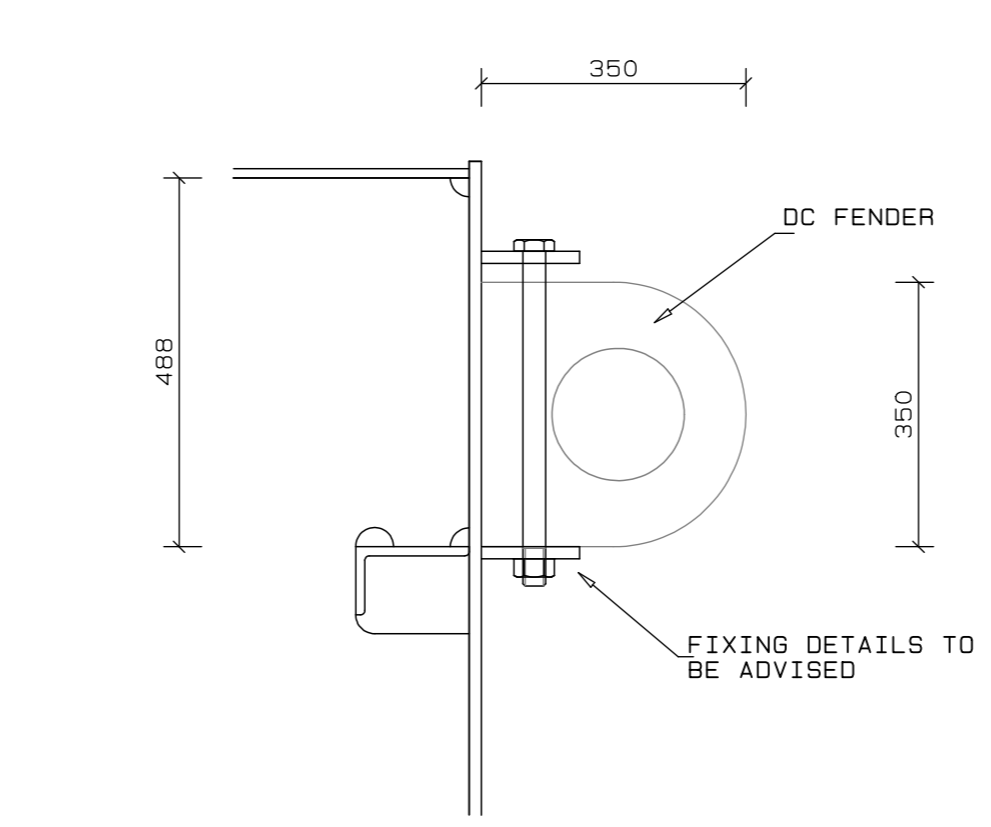
DESIGN: D. McCannell	CHECKED: C.S. Burt
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 19/02/20	SHEET 2 OF 2
FILE REF: 3501-12-2-C-PIPE AND VENT DETAILS.PDF	AMENDMENT: C



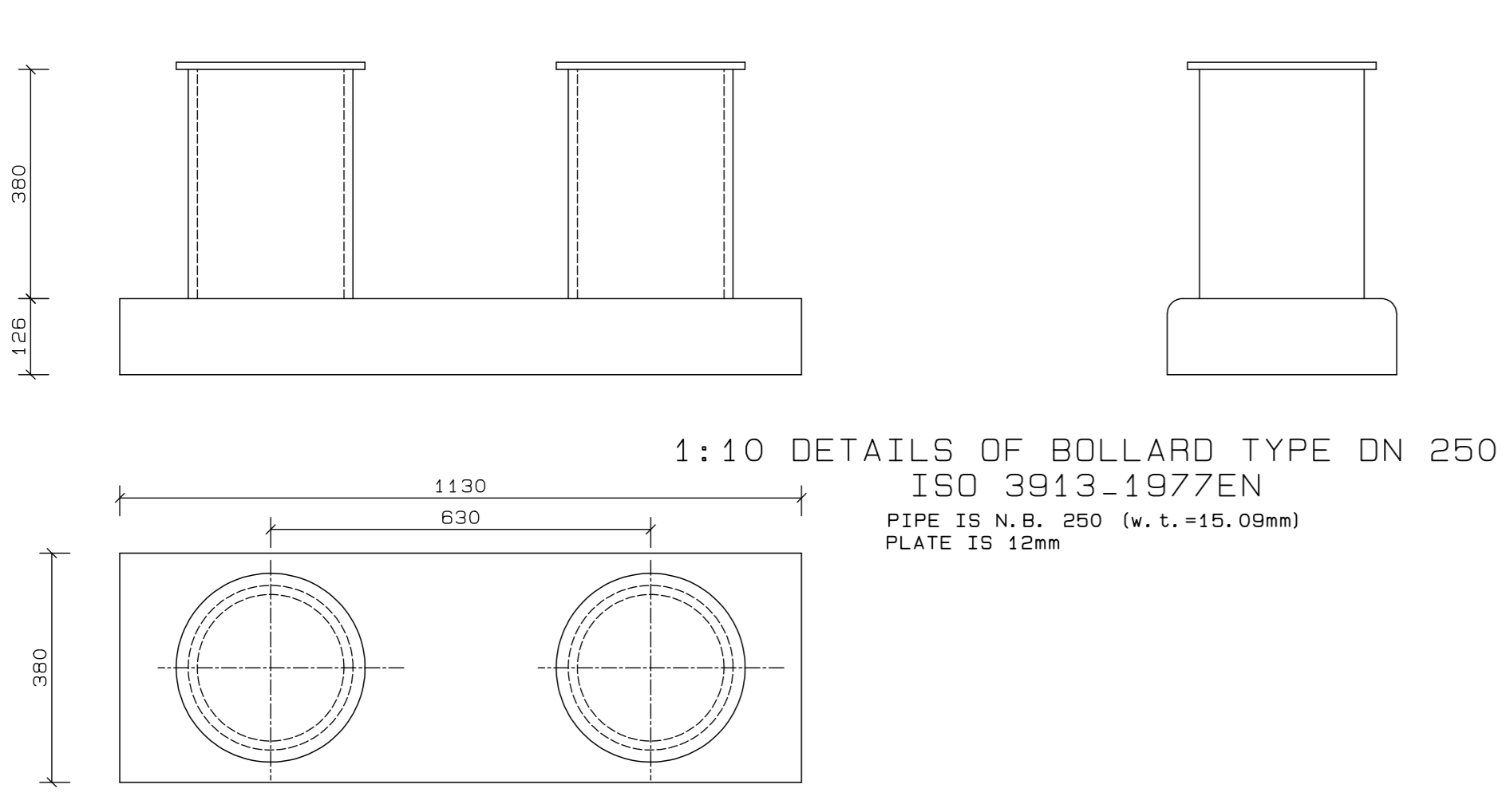
1:50 ELEVATION ON CAISSON  
(STARBOARD SIDE DRAWN , PORT SIDE SIMILAR)



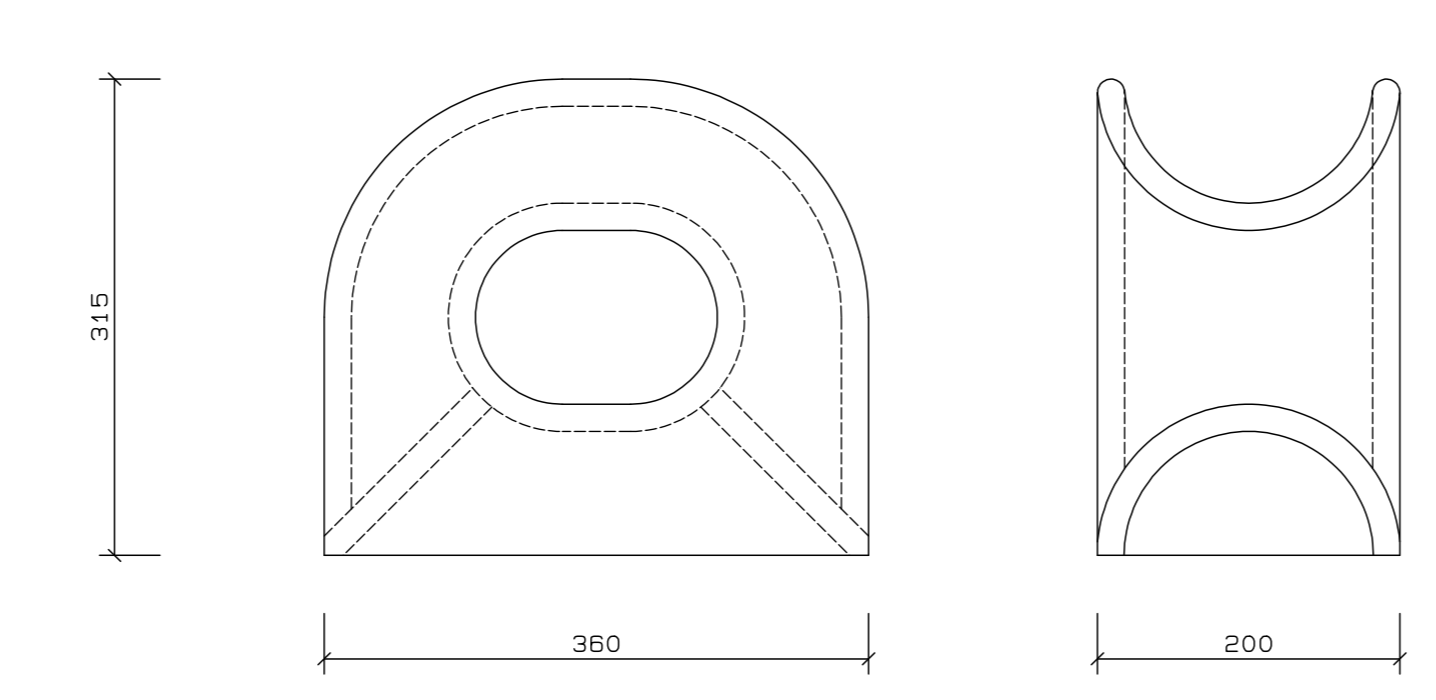
1:20 SECTION IN WAY OF FENDER  
(TYPICAL)



1:10 DETAIL AT FENDER  
(HORIZONTAL FENDER SHOWN , VERTICAL FENDER SIMILAR)



1:10 DETAILS OF BOLLARD TYPE DN 250  
ISO 3913-1977EN  
PIPE IS N.B. 250 (w.t. = 15.09mm)  
PLATE IS 12mm



1:5 DECK MOUNTED PANAMA  
FAIRLEAD

NOTES:-  
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.  
2. ALL PIPING TO BE API 570 5L GRADE B SEAMLESS.

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
TO	17/04/20	ISSUED FOR TENDER	B Kingwill
A	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



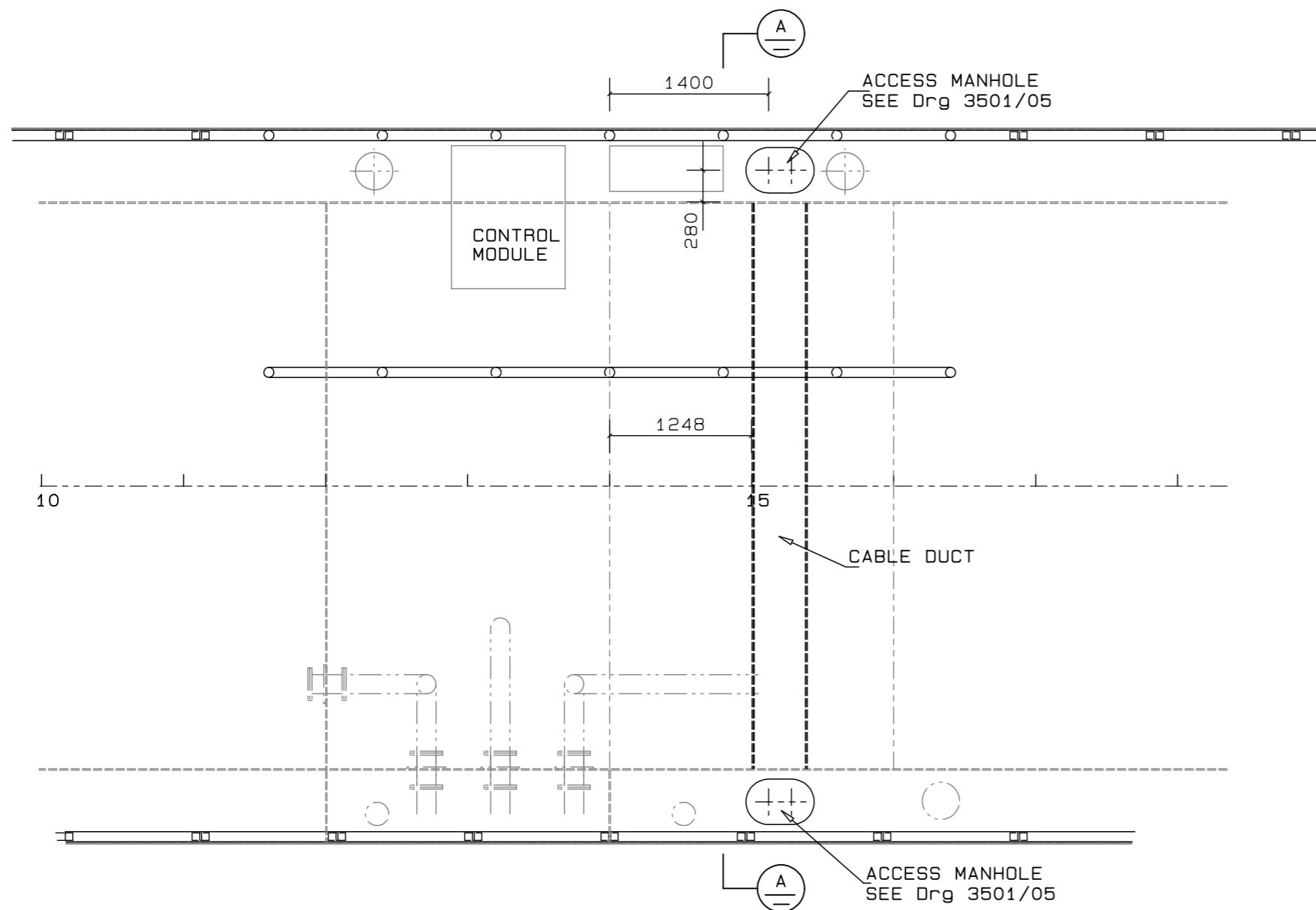
Drg. No. TNA 3501-13-1-A Sht 1 of 1

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

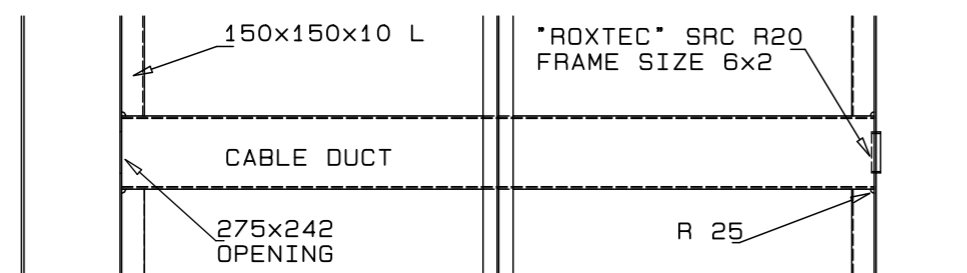
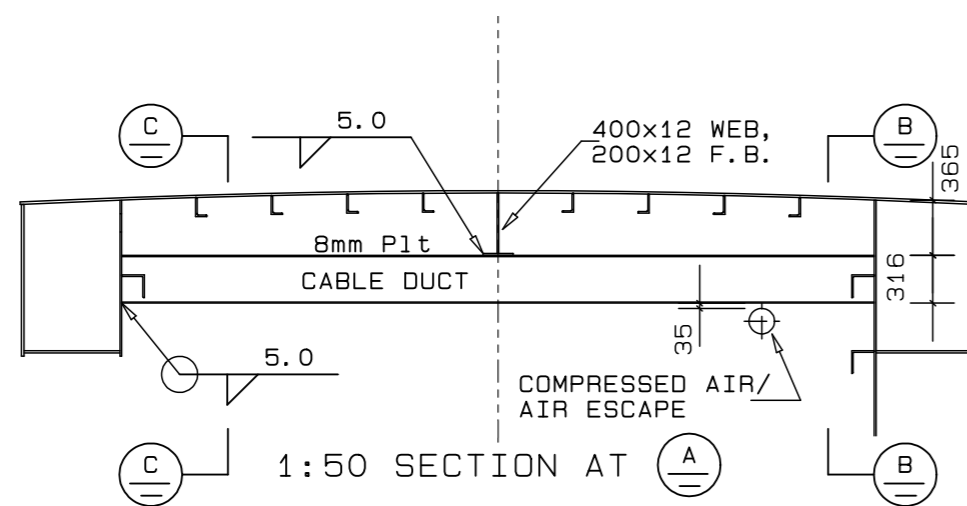
PORT ENGINEER  
ROOM NO.  
AREA NO.  
PORT OF CAPE TOWN  
PLANNING  
800  
TEL: 021 449 8173  
FAX: 021 449 8171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
FENDER, BOLLARD AND FAIRLEAD DETAILS

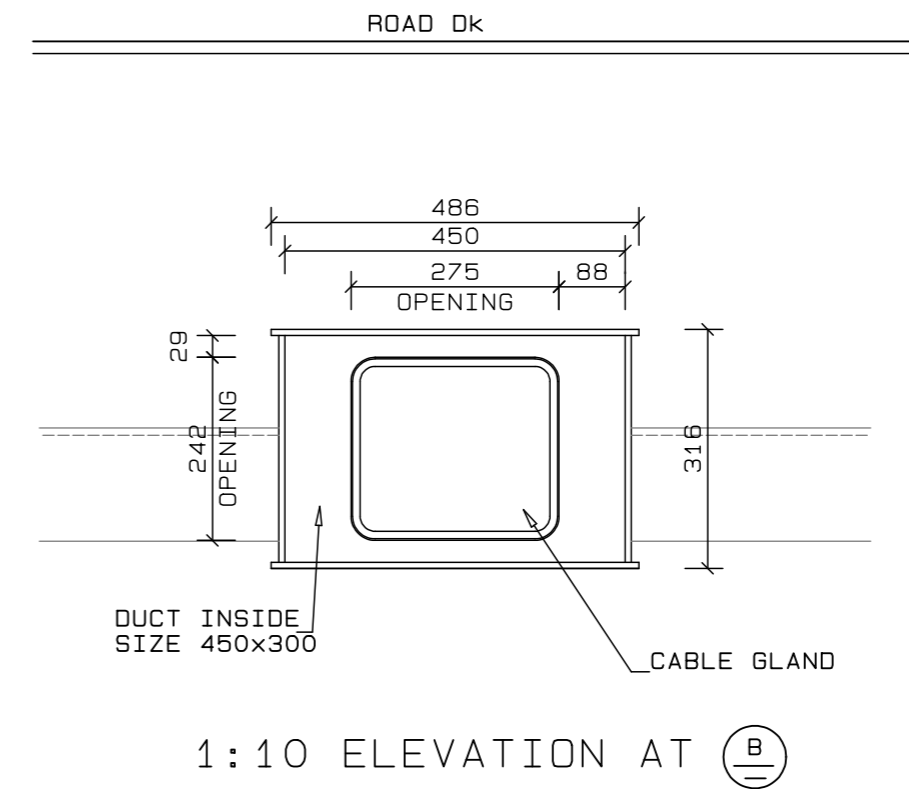
DESIGN: D. McNeill	CHECKED: C.S. BRET
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 17/04/2020	AMENDMENT: A
CAD REF: 3501-13-1-A	SHEET 1 OF 1
FILE REF: 3501-13-1-A FENDER DETAILS	



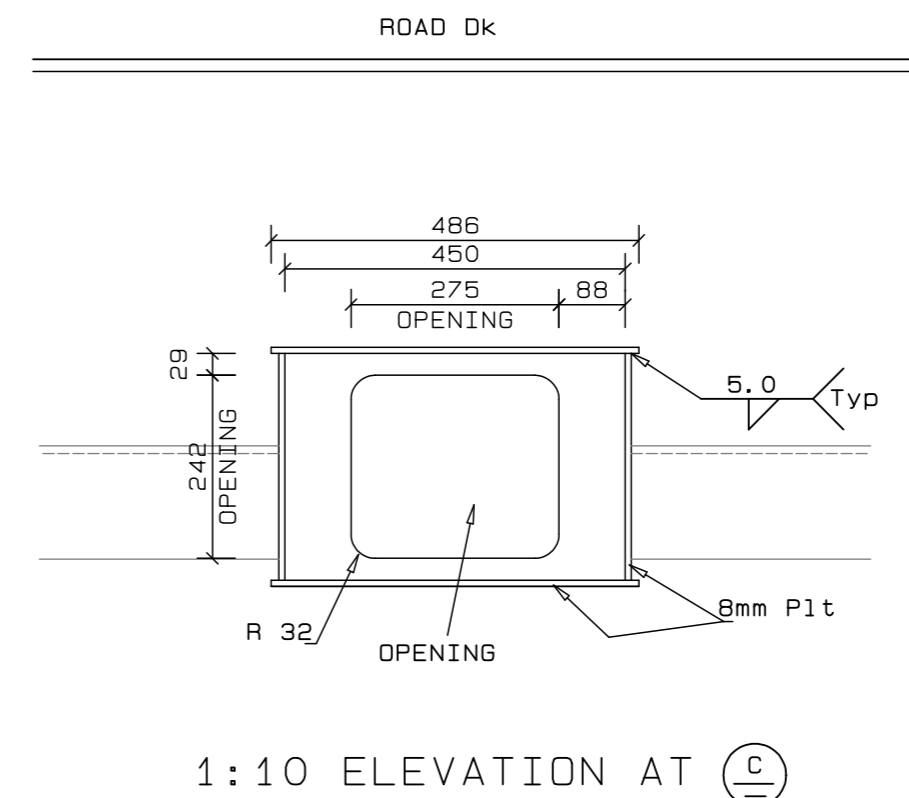
1:50 PLAN ON ROAD DECK



1:50 PLAN ON CABLE DUCT



DUCT AND OPENING BASED ON A "ROXTEC"  
CABLE GLAND TYPE SRC R20 SIZE 6x2  
SUITABLE ALTERNATIVE BULKHEAD PENETRATION GLANDS  
CAN BE USED, BUT THE CUT-OUT SIZING MIGHT  
HAVE TO BE ALTERED ACCORDINGLY



- Notes:-
1. ALL PLATING TO BE GRADE EH36 OR EQUIVALENT.
  2. WELDING INDICATES LEG LENGTH THROUGHOUT. WELDING TO BE IN ACCORDANCE WITH LLOYDS RULES FOR THE CLASSIFICATION OF SHIPS.

NOTES

REVISION SCHEDULE

REV	DATE	REVISION DETAILS	APPROVED
A	15/05/20	ISSUED FOR REVIEW	B.P. Kingwill
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

Drg. No. TNA 3501-14-1-B Sht 1 of 1

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
ROOM 705  
NPA HOUSE  
PORT OF CAPE TOWN  
P.O.BOX 4245  
8000  
TEL: 021 449 6173  
FAX: 021 449 6171

**TRANSNET**  
national ports authority  
delivering on our commitment to you

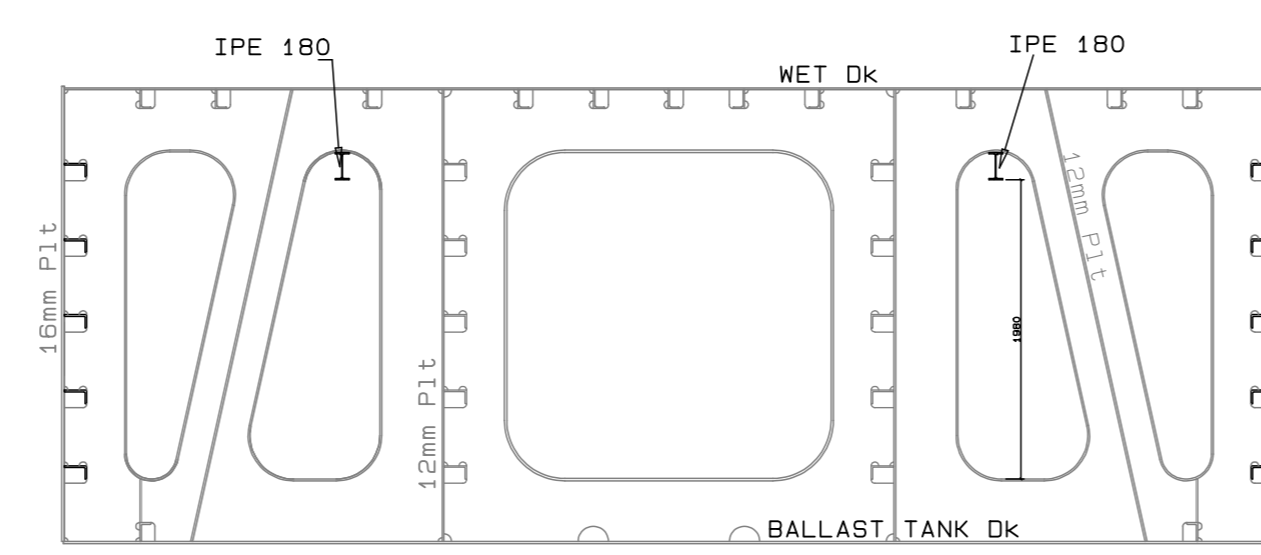
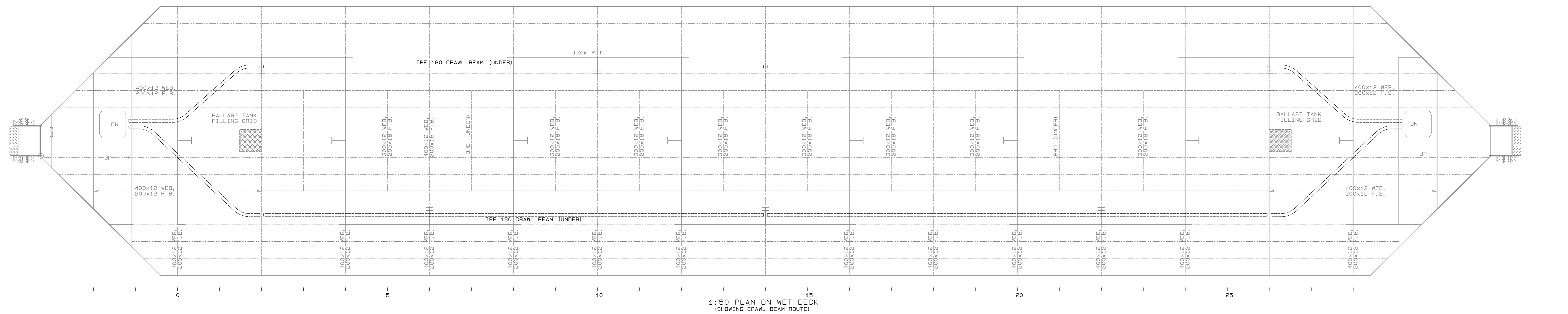
PORT OF CAPE TOWN

CONTRACT NUMBER: TNPA 789

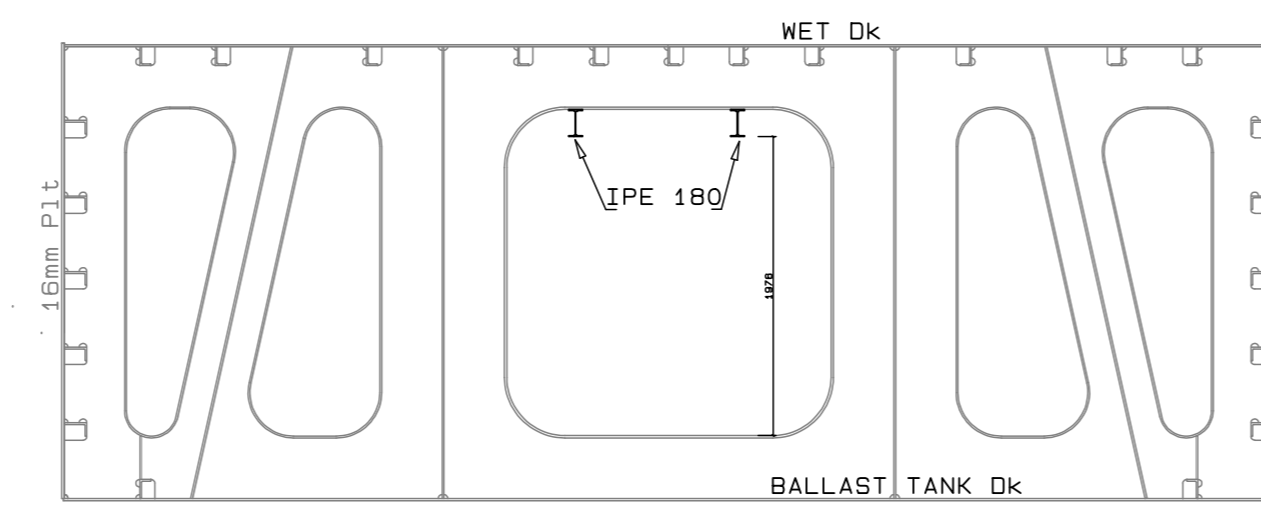
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
CABLE DUCT BELOW ROAD DECK

DRAWN D. McConnell	CHECKED C.S. SMIT
SCALE AS SHOWN	DESIGN B.P. KINGWILL DMC

No.	
DATE 11/05/20	SHEET 1 OF 1
CAD. REF 3501-14.DWG	
FILE REF 3501-14 Rev B CABLE DUCT BELOW ROAD DECK.DWG	AMENDMENT B



1:50 SECTION IN WAY OF FRAMES IN AIR SPACE (TYPICAL)



1:50 SECTION AT FRAME 0 (Fr 28 SIMILAR)

**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	18/05/20	ISSUED FOR REVIEW	B.P. KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-15-1-B Sht 1 of 1

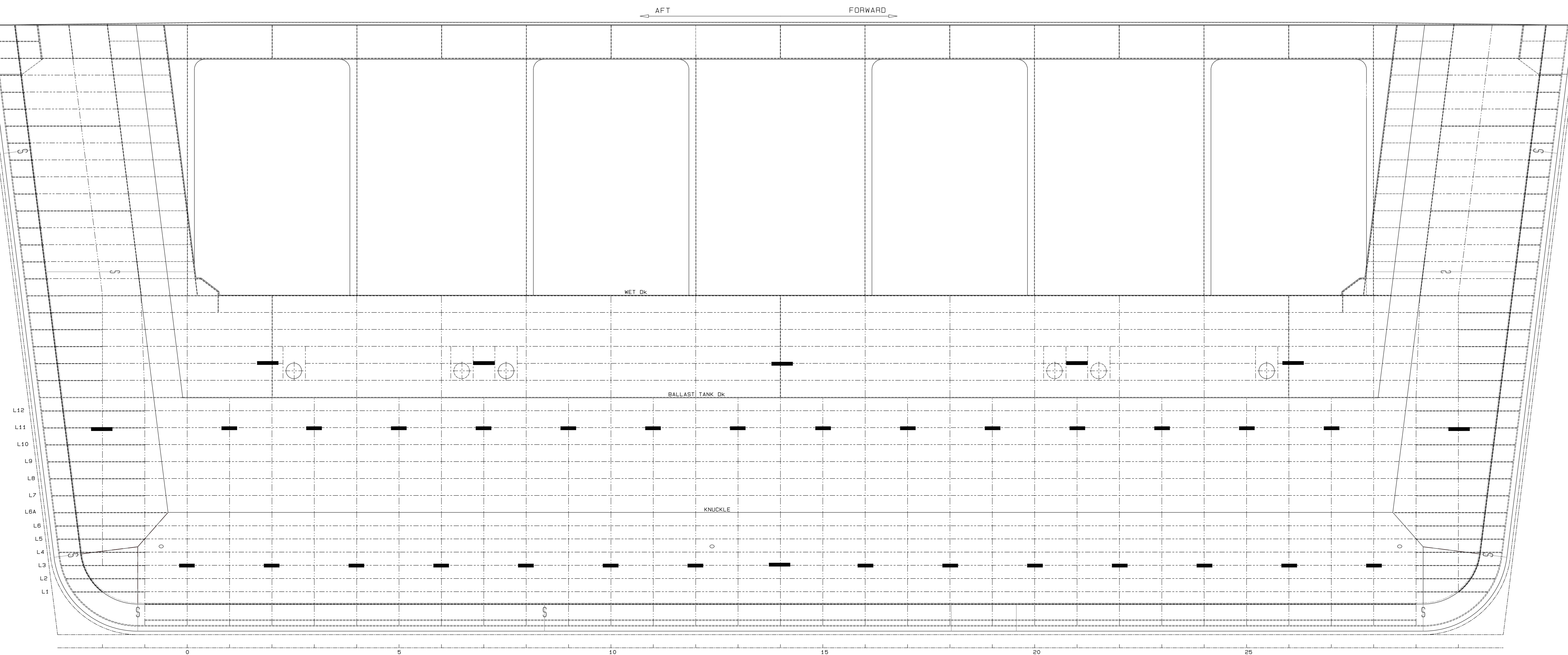
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
 ROMAN TOL  
 MPA HOUSE  
 PORT OF CAPE TOWN  
 FALSBURGH  
 800  
 TEL: 021 449 8373  
 FAX: 021 449 8171

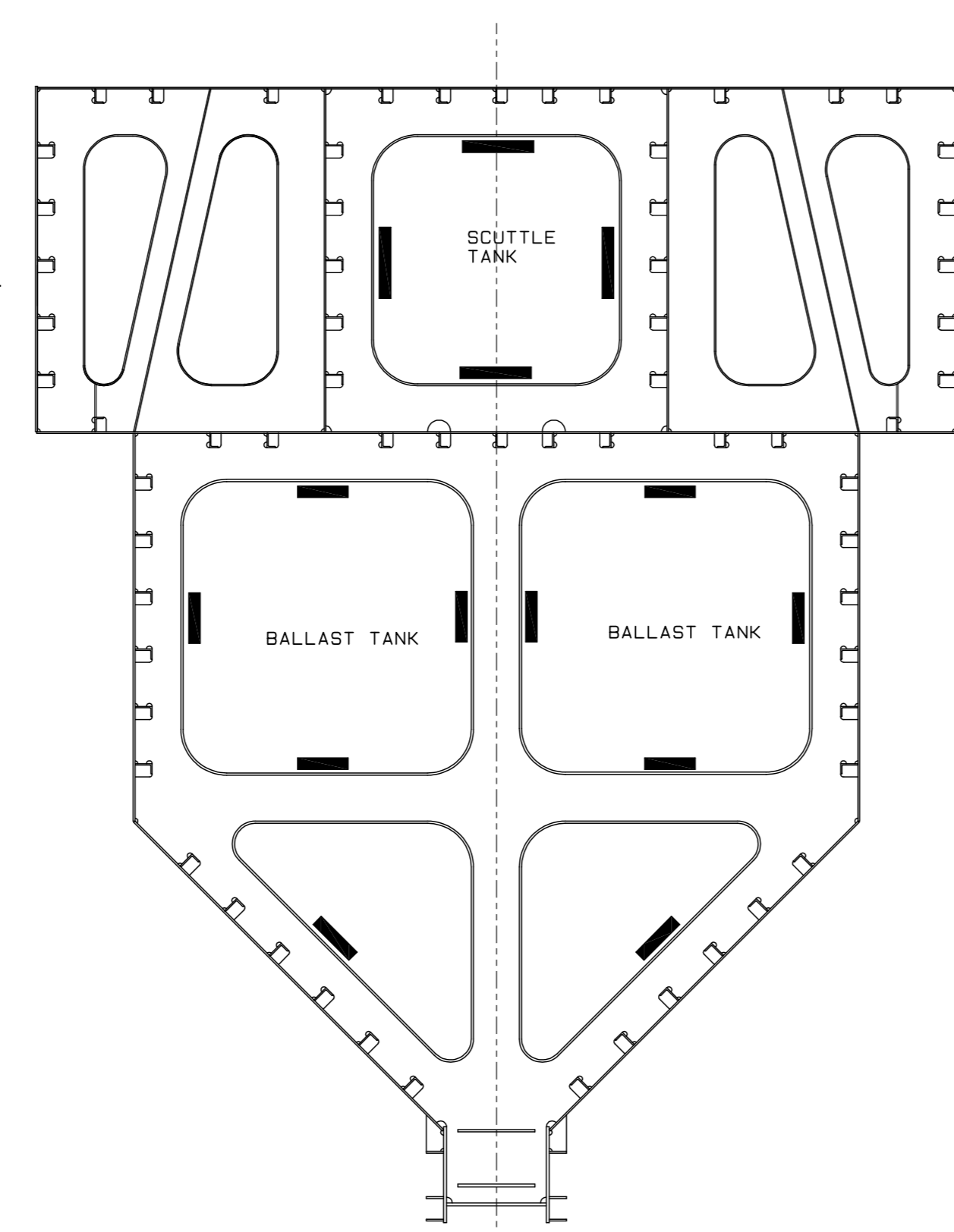
PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CAISSON STRUCTURE  
 CRAWL BEAM

DRAWN: D. McCannell	CHECKED: C.S. BRET
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
	DATE: 08/02/20

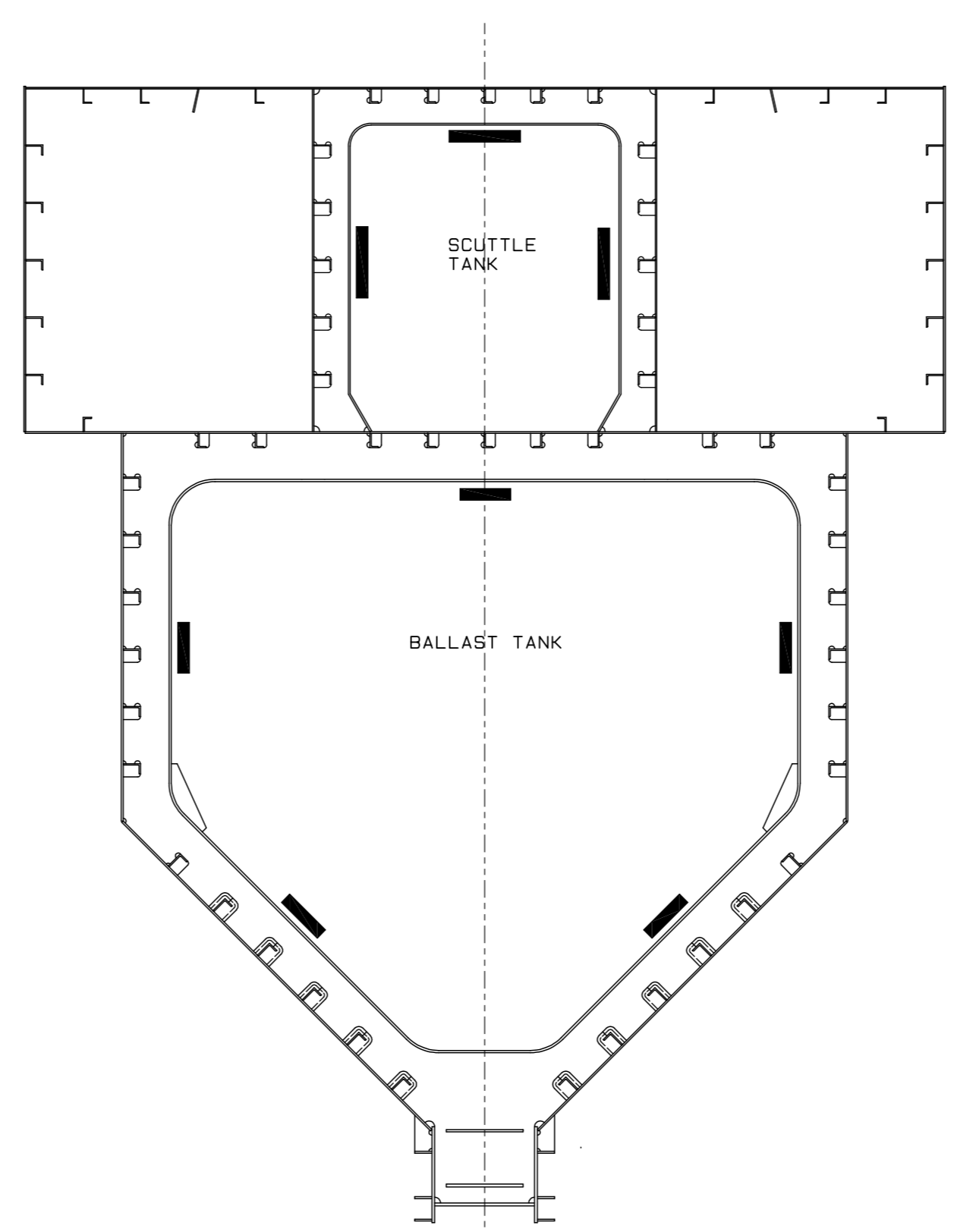
No. 507343-0000-DRG-SS-112  
 SHEET 1 OF 1  
 FILE REF: 30215 SH 1 Rev B CRAWL BEAM FOR AMENDMENT B



1:50 ELEVATION ON CAISSON  
(STARBORD SIDE DRAWN, PORT SIDE SIMILAR)



1:50 TYPICAL SECTION IN WAY OF  
CLOSED WEBS IN BALLAST AND SCUTTLE TANKS



1:50 TYPICAL SECTION IN WAY OF  
OPEN WEBS IN BALLAST AND SCUTTLE TANKS

- TYPE BN5 850x100x80 - 19 kg BULLDOSE TYPE ANODES WITH MOUNTING STRAPS WELDED TO CAISSON SIDE AND FRAME FLANGES IN SCUTTLE TANKS ANODES MOUNTED BOLT ON 8 IN NUMBER PER CAISSON SIDE AND 70 IN NUMBER IN SCUTTLE TANKS TOTAL REQUIRED 58
- TYPE BN4 480x100x50 - 14 kg BULLDOSE TYPE ANODES WITH MOUNTING STRAPS WELDED TO CAISSON SIDE AND ANODES MOUNTED BOLT ON 28 IN NUMBER PER SIDE TOTAL REQUIRED 56
- TYPE BN3 440x100x40 - 10 kg BULLDOSE TYPE ANODES WITH MOUNTING STRAPS WELDED TO FRAME FLANGES IN BALLAST TANKS ANODES MOUNTED BOLT ON 240 IN NUMBER IN BALLAST TANKS TOTAL REQUIRED 240

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	18/03/20	ISSUED FOR REVIEW	B.P. KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-16-1-B Sht 1 of 1

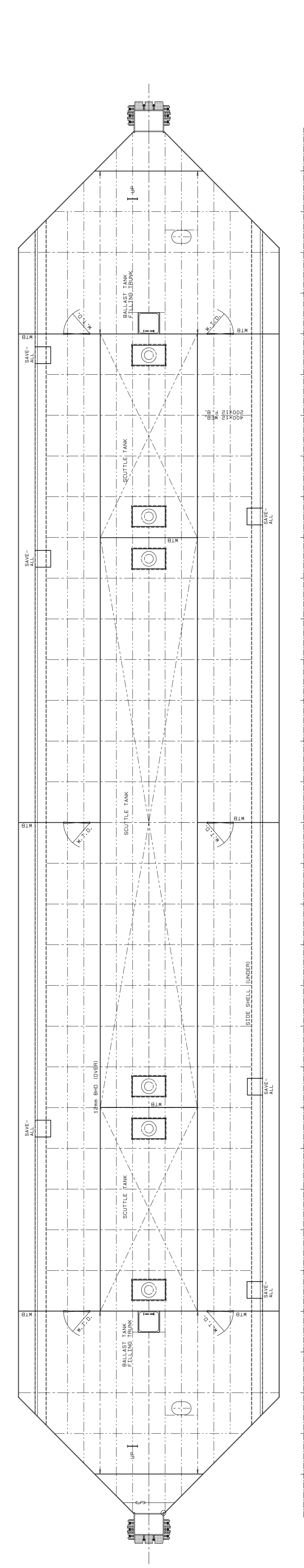
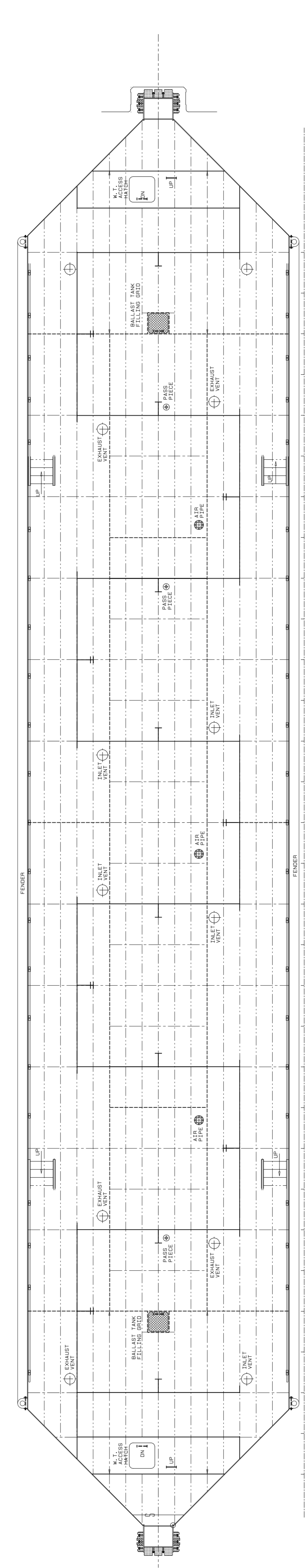
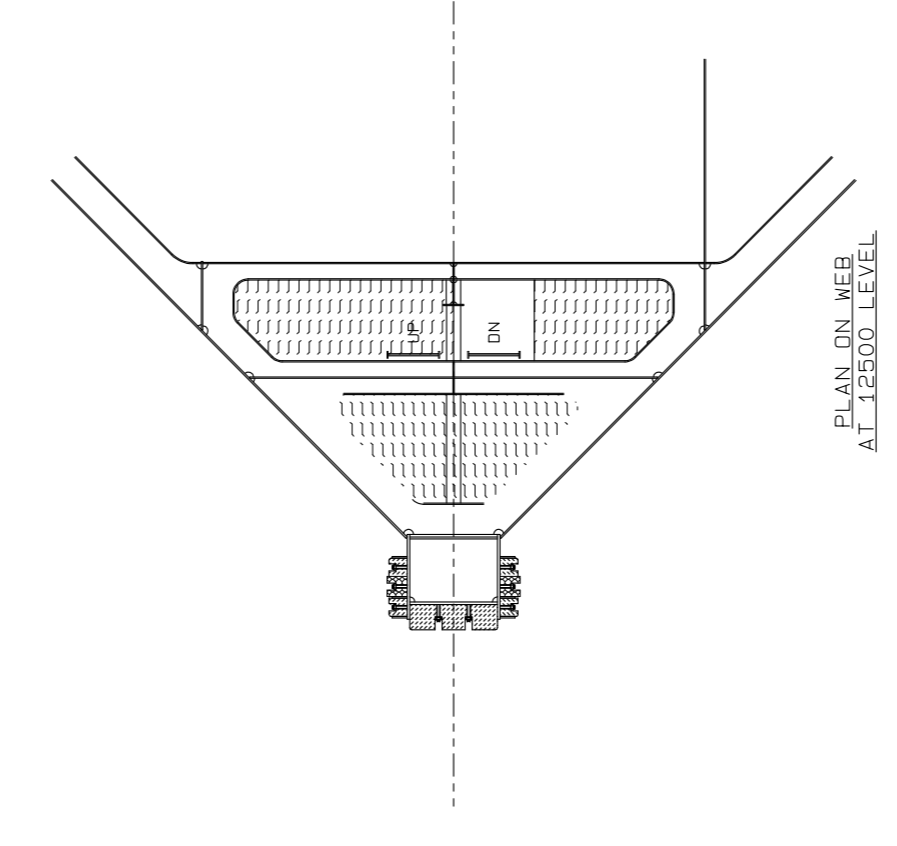
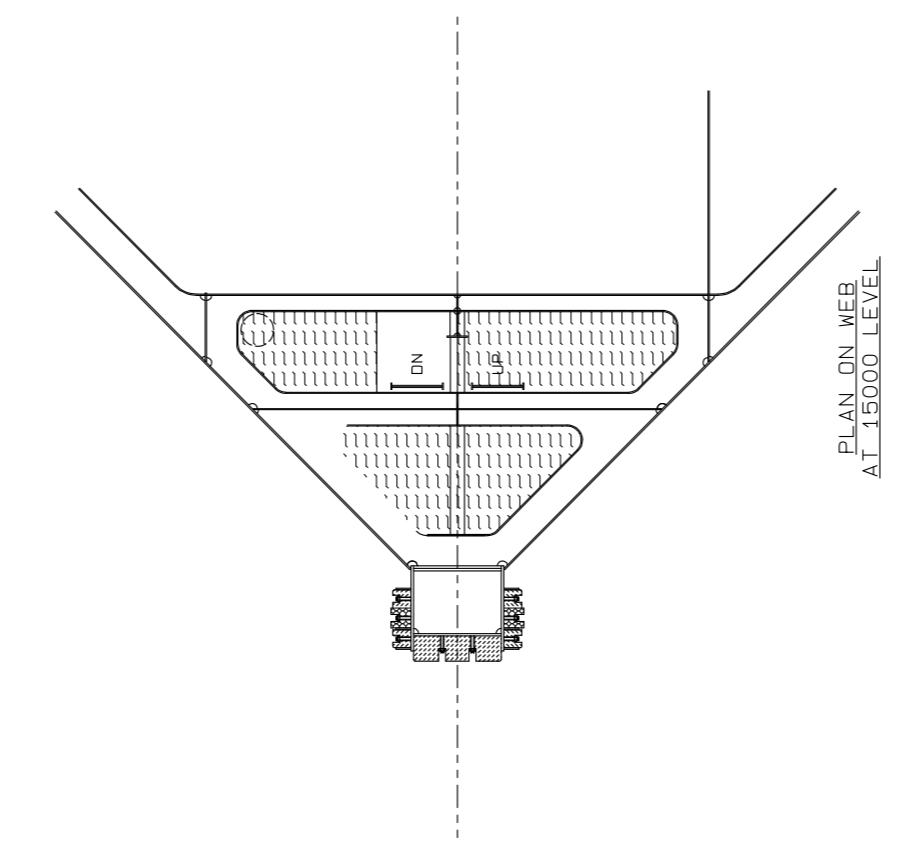
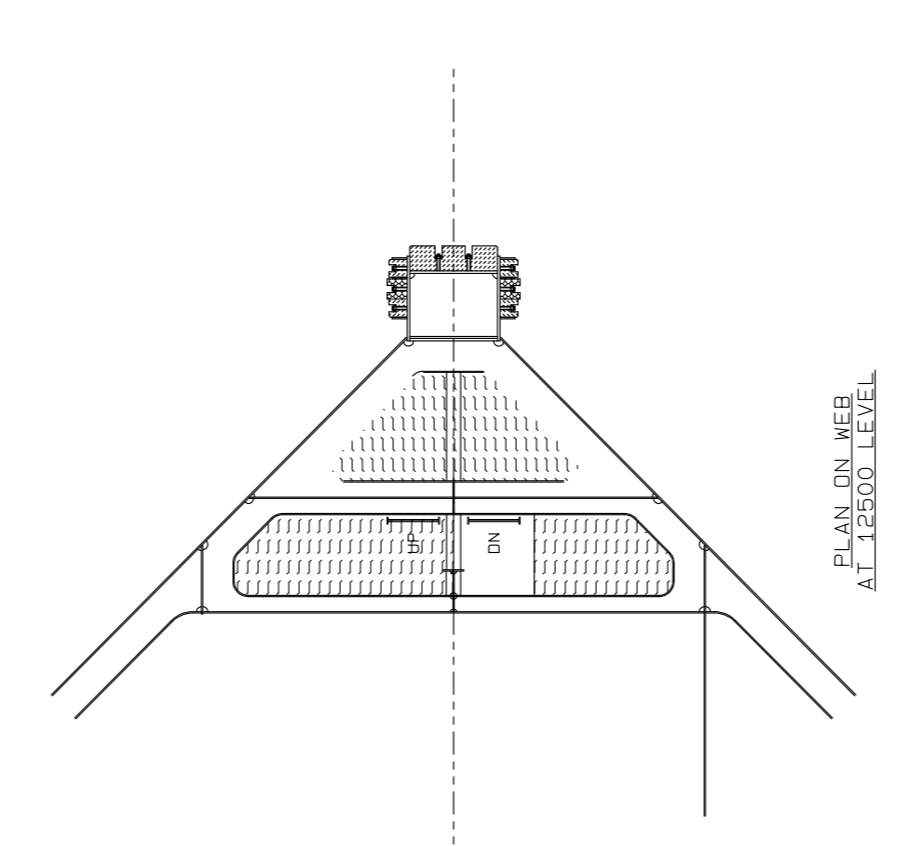
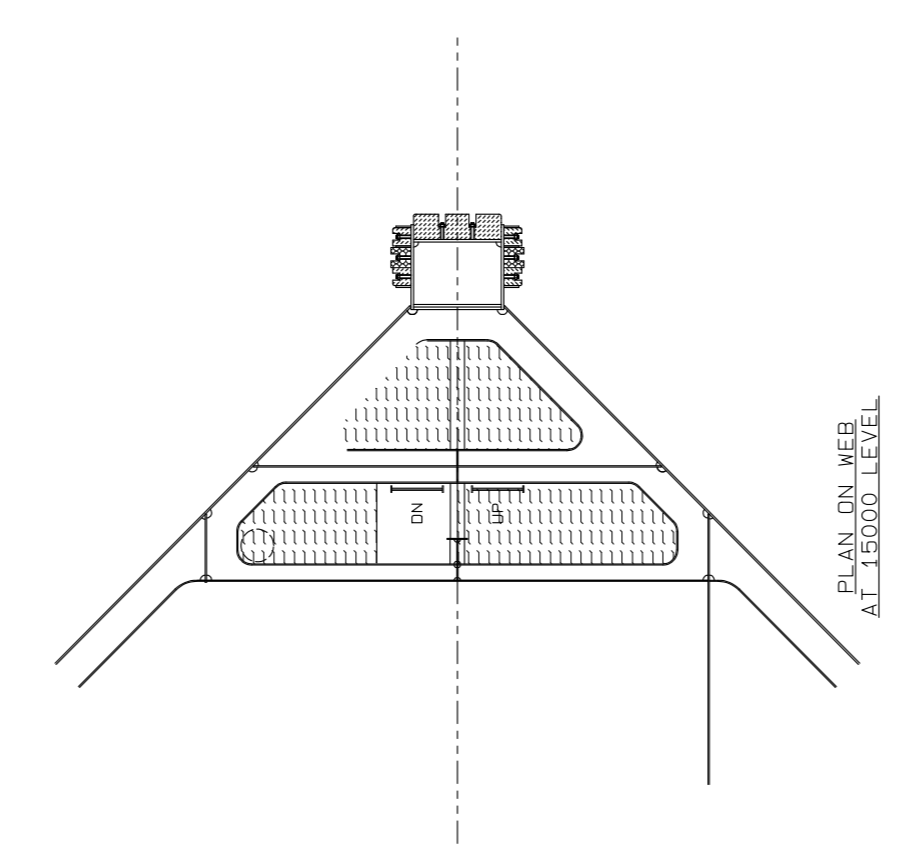
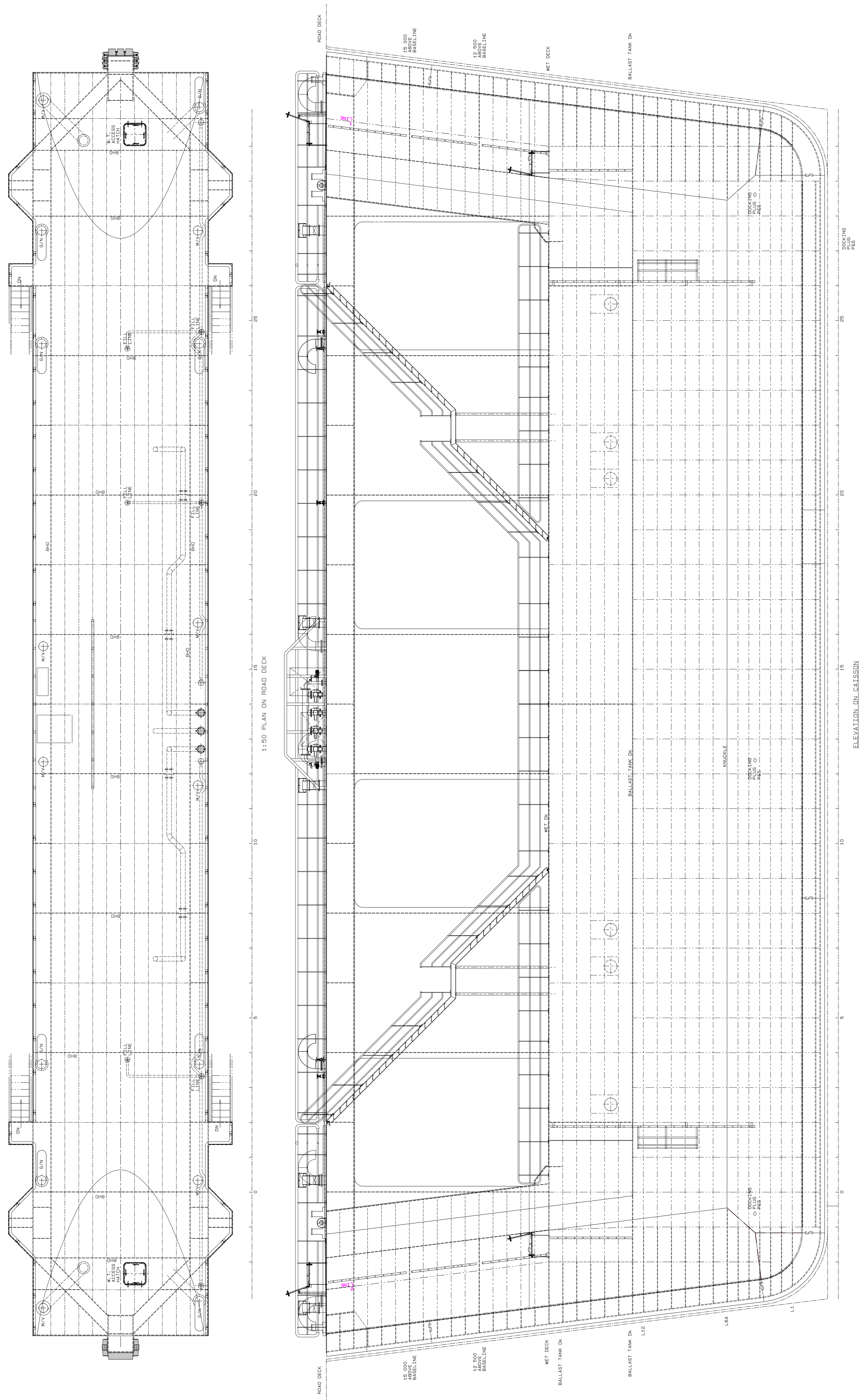
TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
FROM THE  
REVISIONS  
PORT OF CAPE TOWN  
P.O. BOX 416  
800  
TEL: 021 449 8173  
FAX: 021 449 8171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
CATHODIC PROTECTION PLAN

DESIGN: D. McNeill	CHECKED: C.S. BURT
SCALE: AS SHOWN	DESIGN: B.P. KINGWILL
	DATE: 08/03/20

No. 507343-0000-DRG-SS-113  
SHEET 1 OF 1



**REVISION SCHEDULE**

REV	DATE	REVISION DETAILS	APPROVED
A	28/05/20	ISSUED	B Kingwill
B	10/06/20	ISSUED FOR CONSTRUCTION	



Drng. No. TNA 3501-18-1-B Sht 1 of 1

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

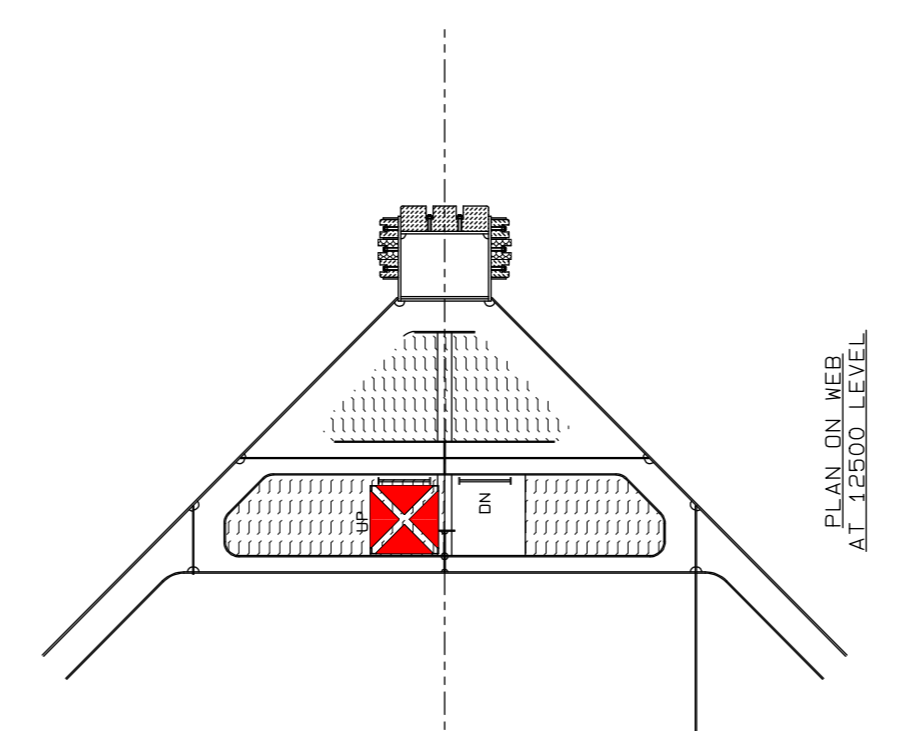
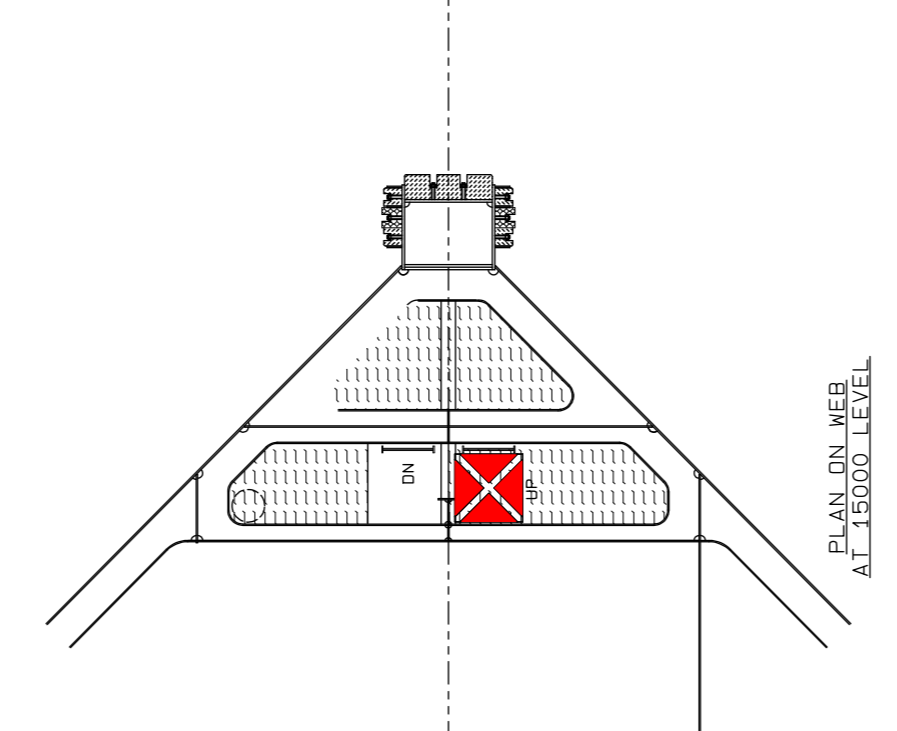
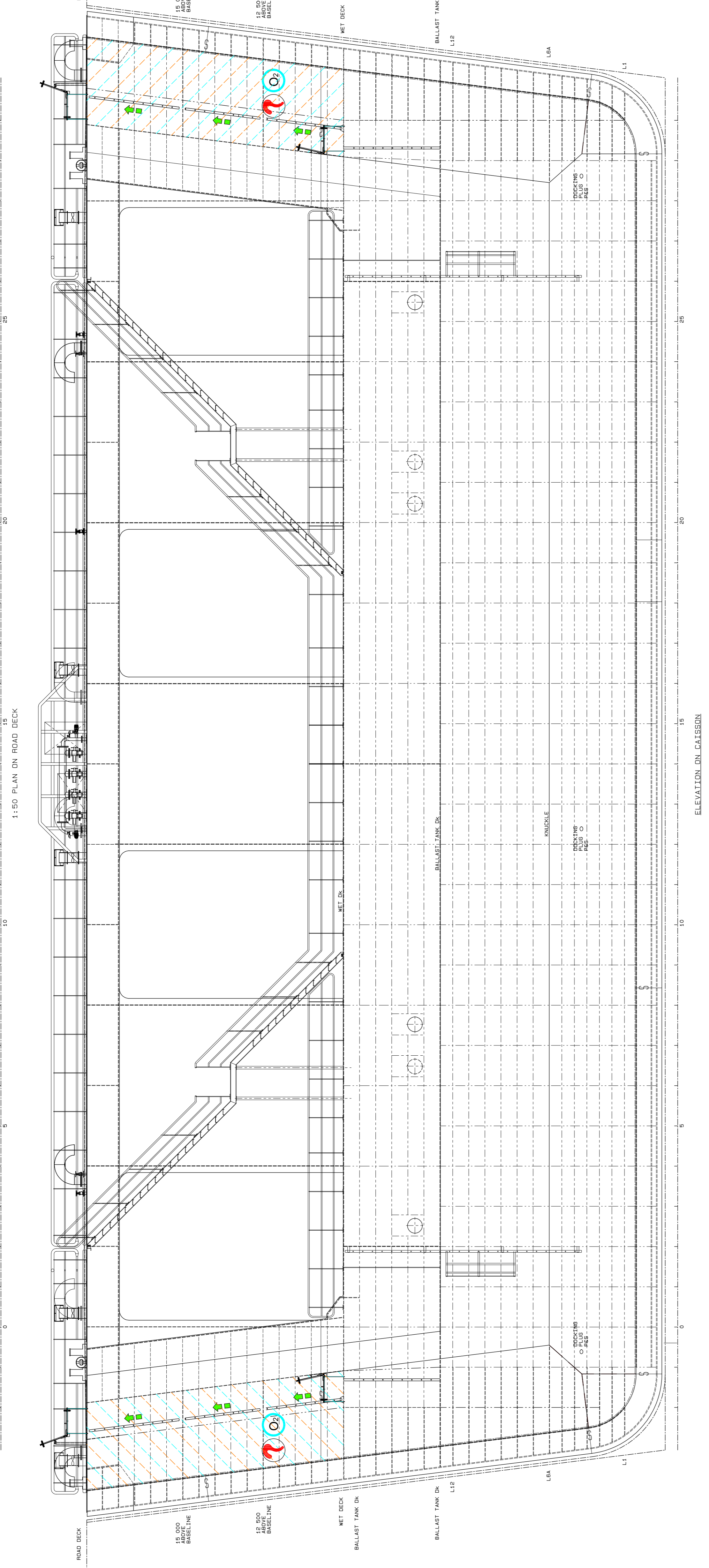
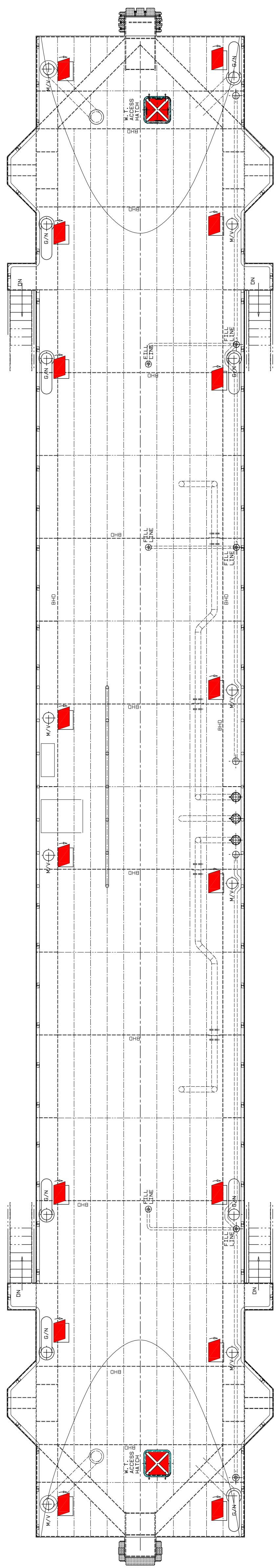
PORT ENGINEER  
ROOM NO.  
MBA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 400  
800  
TEL: 021 489 8173  
FAX: 021 489 8171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
GENERAL ARRANGEMENT

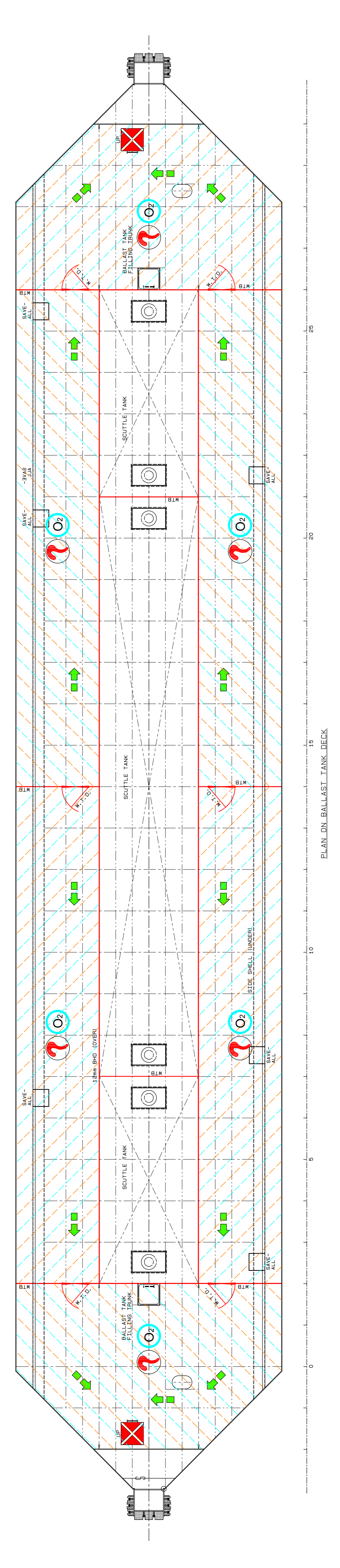
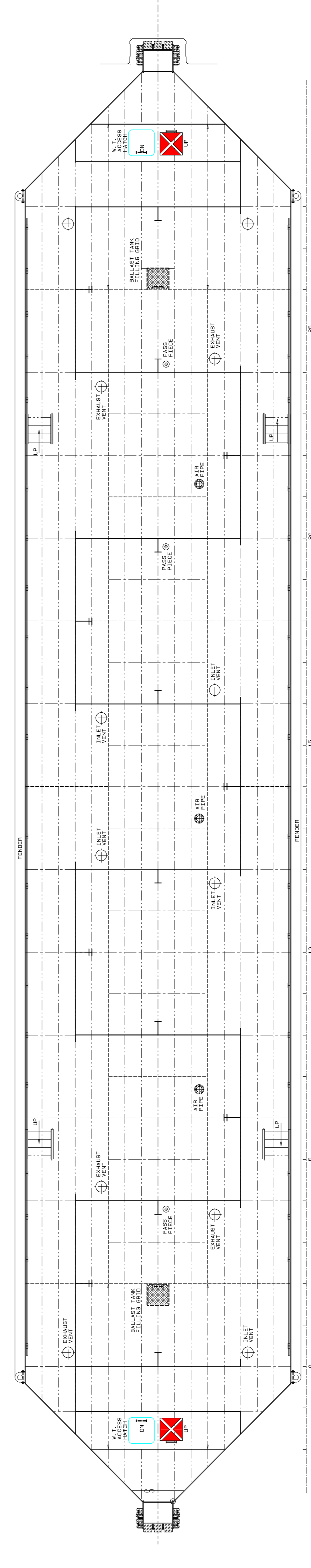
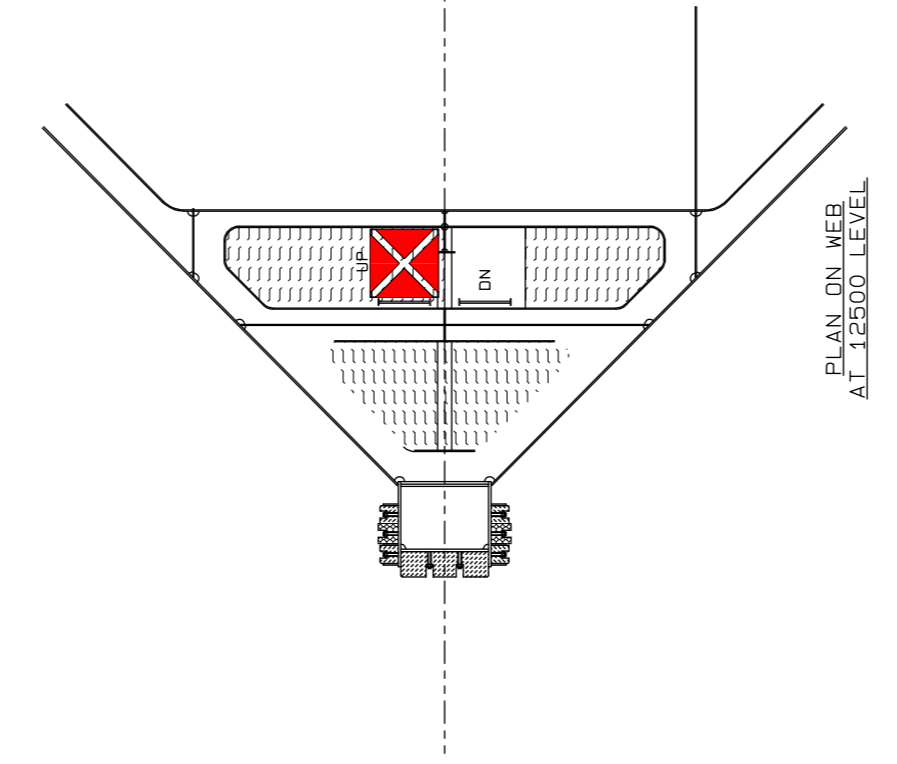
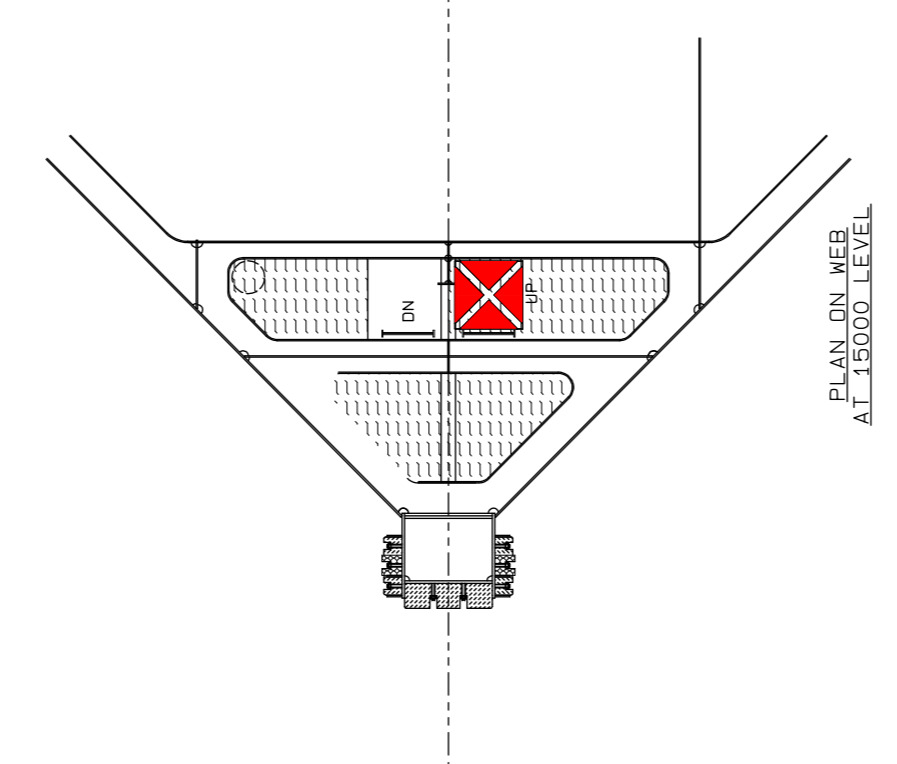
DRAWN	P. Phipps	CHECKED	C.S. SMIT
SCALE	1:75	DESIGN	SFAK
			SAC

No. 507343-0000-DRG-SS-115  
DATE: 202007  
CAD REF: 3601-18-DWG  
FILE REF: 3601-18-DWG  
SHEET 1 OF 1  
AMENDMENT: B





SYMBOL	TOT.	DESCRIPTION
	8	WATERTIGHT BULKHEAD
	6	WATERTIGHT DOORS
	16	VENTILATION INLET OR OUTLET
	2	EMERGENCY EXIT
	20	EMERGENCY EXIT WAYS
	4	WATERTIGHT HATCHES
	8	PROTECTED BY SWAGER SENSORS & SMOKE DETECTORS
	8	SMOKE DETECTORS
	8	OXYGEN SENSOR



REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	20/05/20	ISSUED	B Kingwill
B	10/06/20	ISSUED FOR CONSTRUCTION	



Drng. No. TNA 3501-19-1-B Sht 1 of 1

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

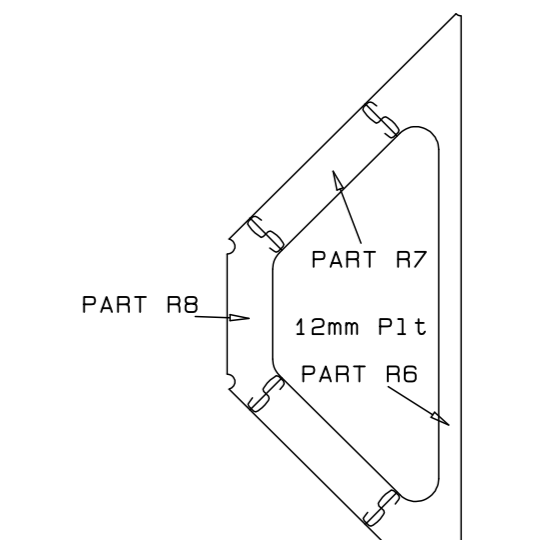
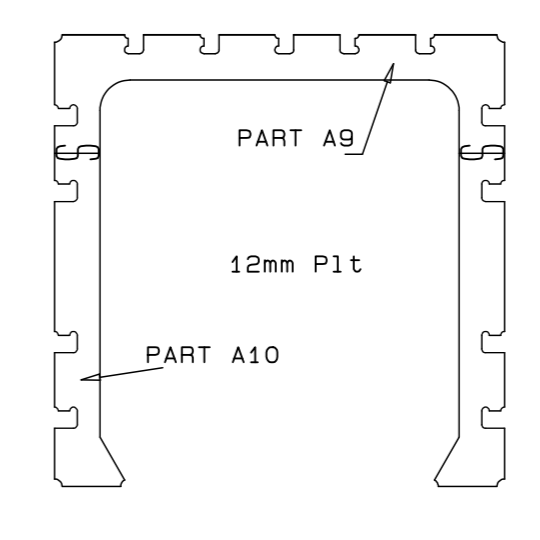
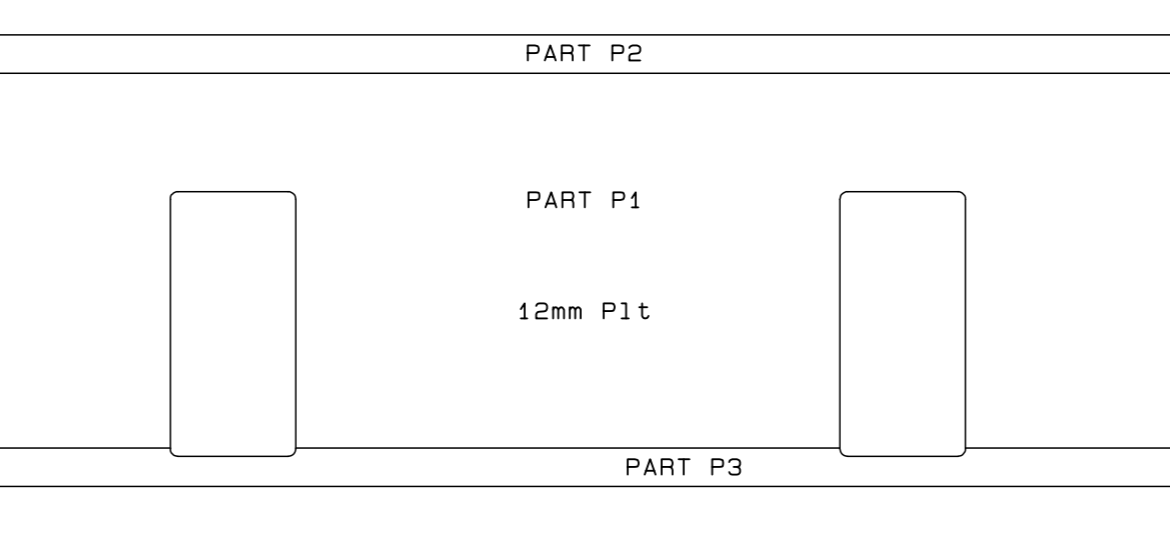
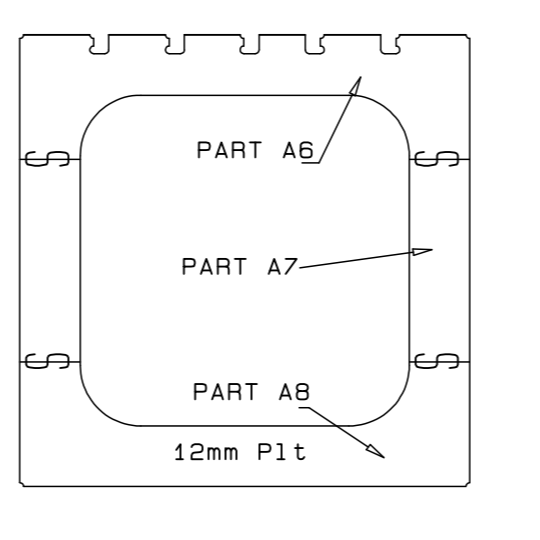
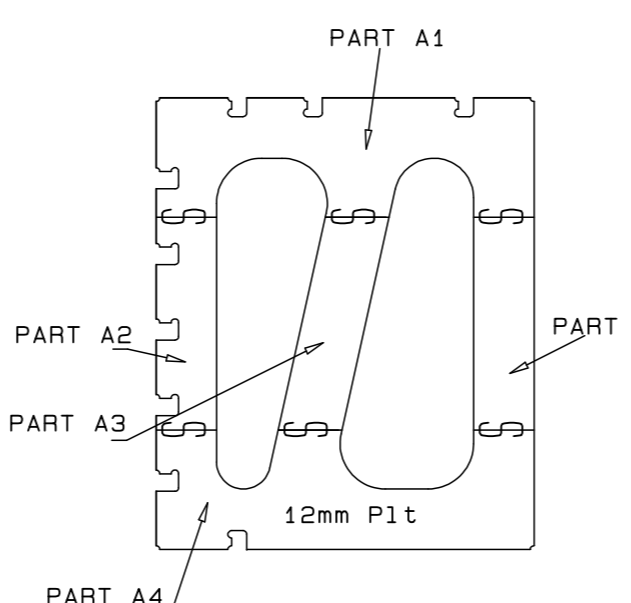
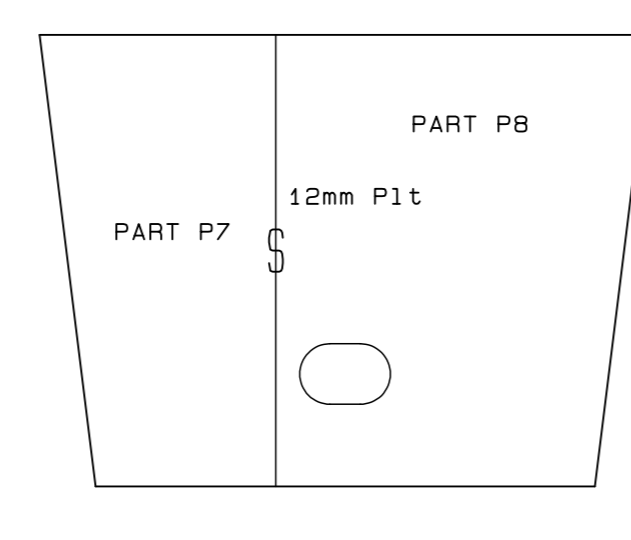
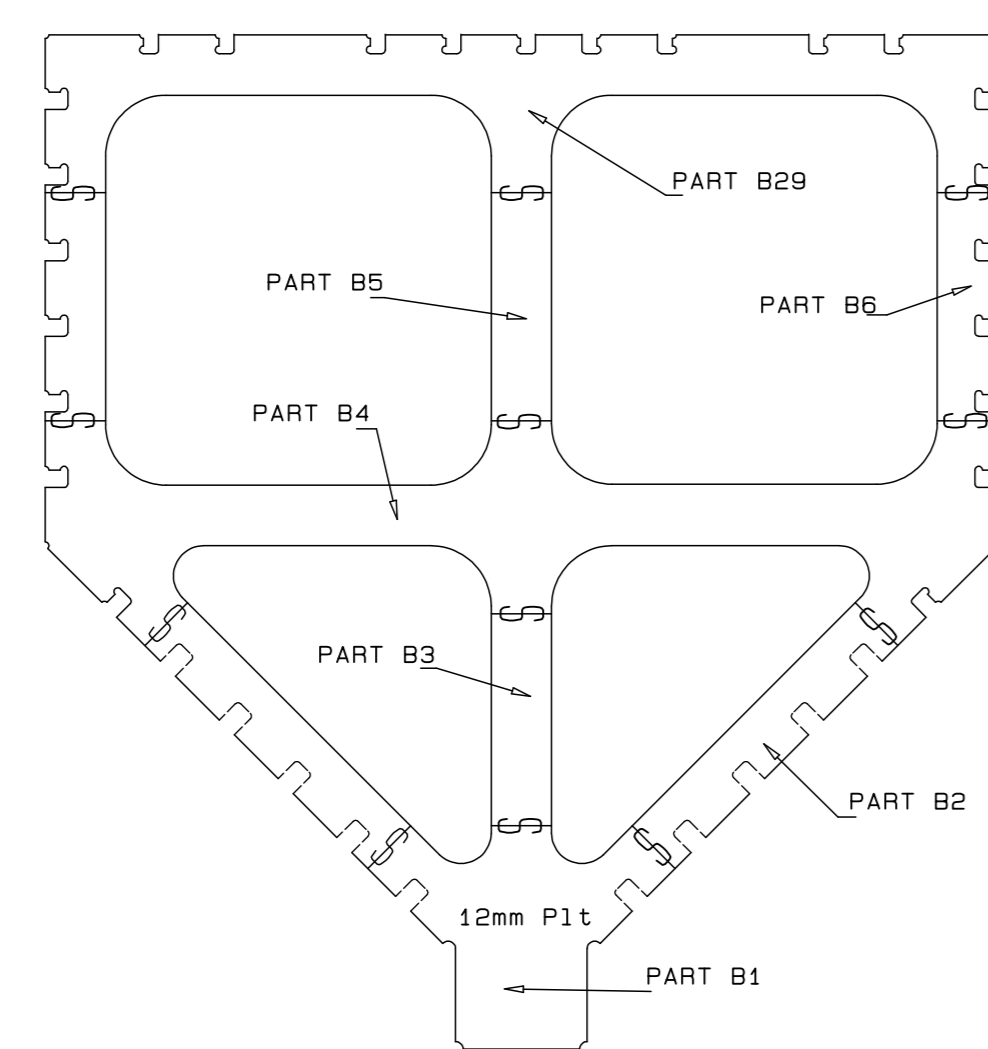
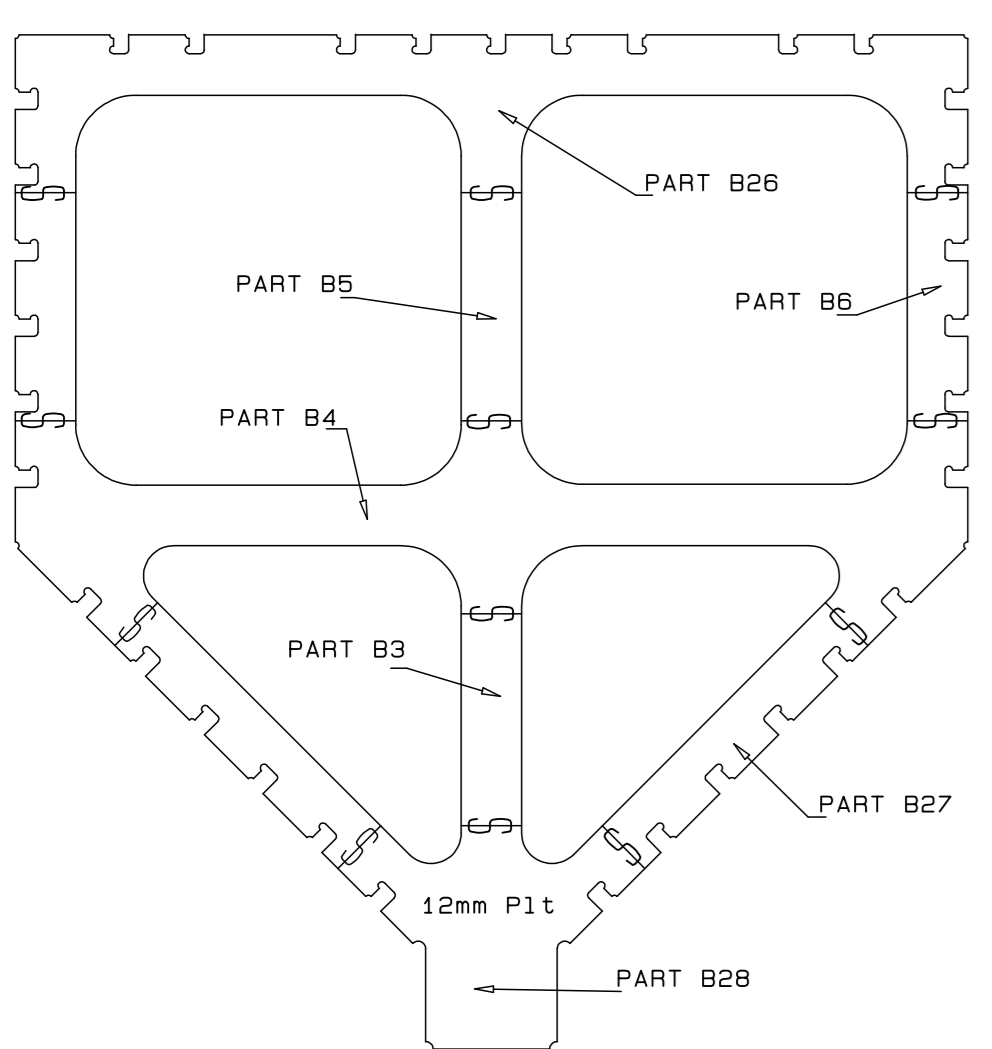
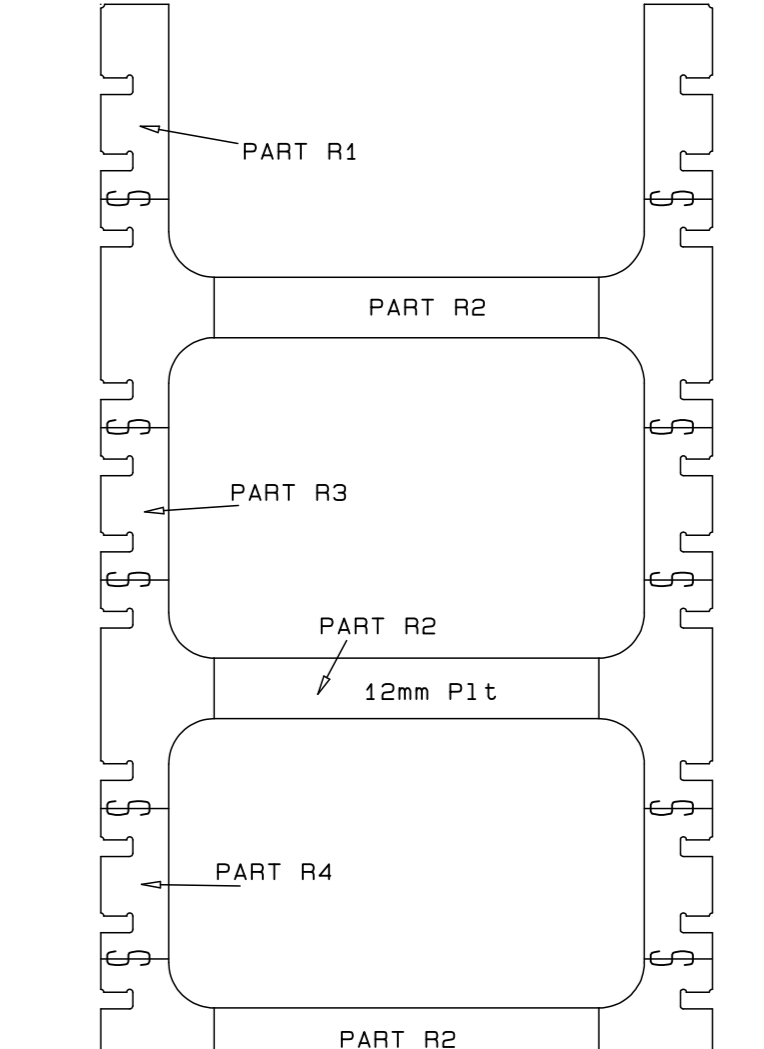
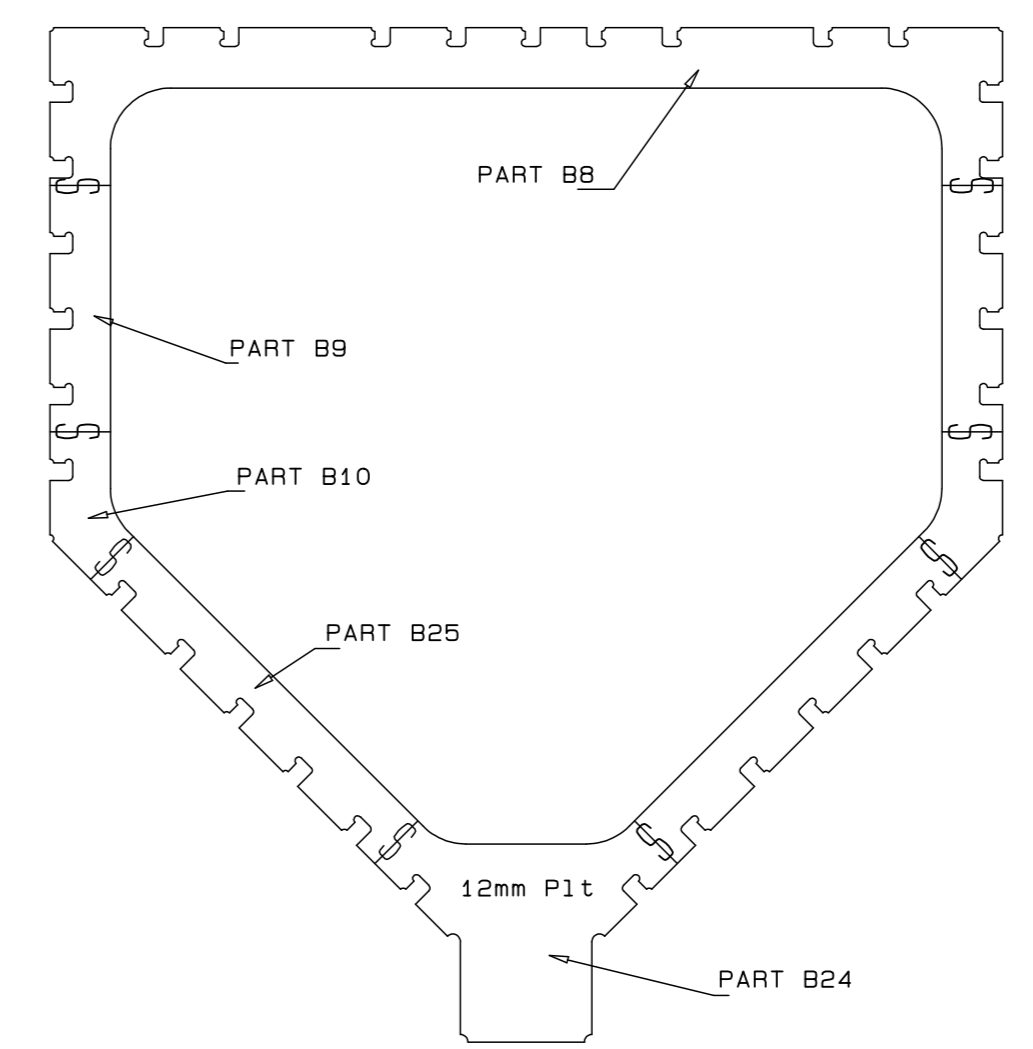
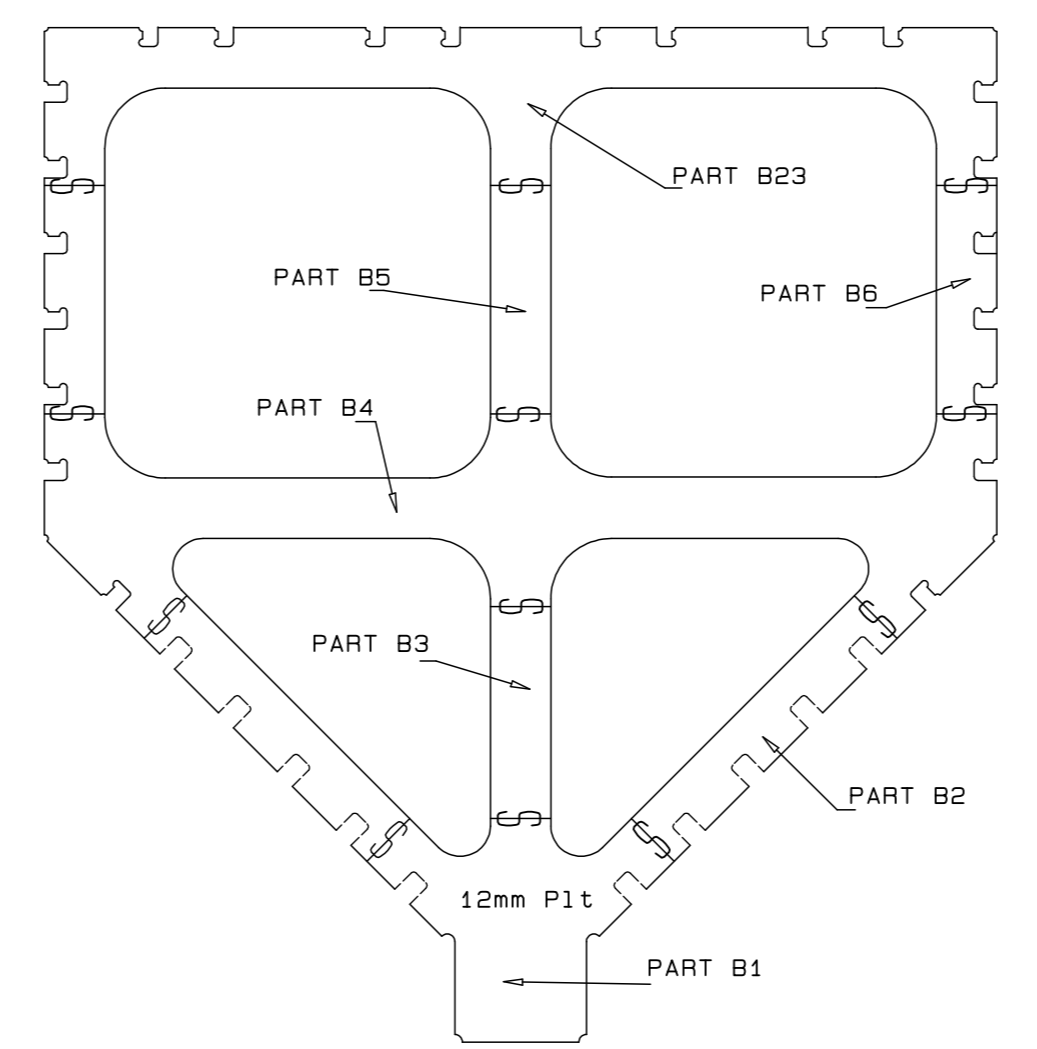
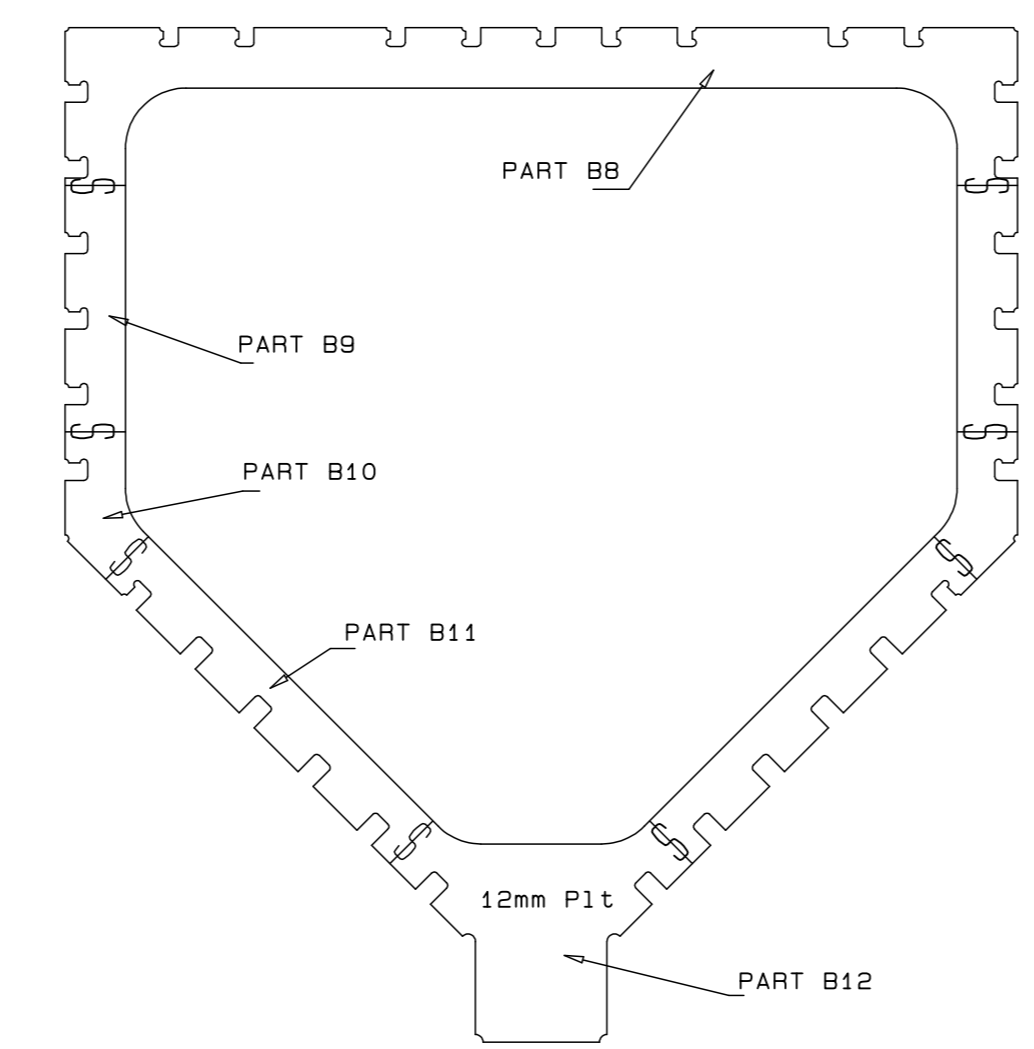
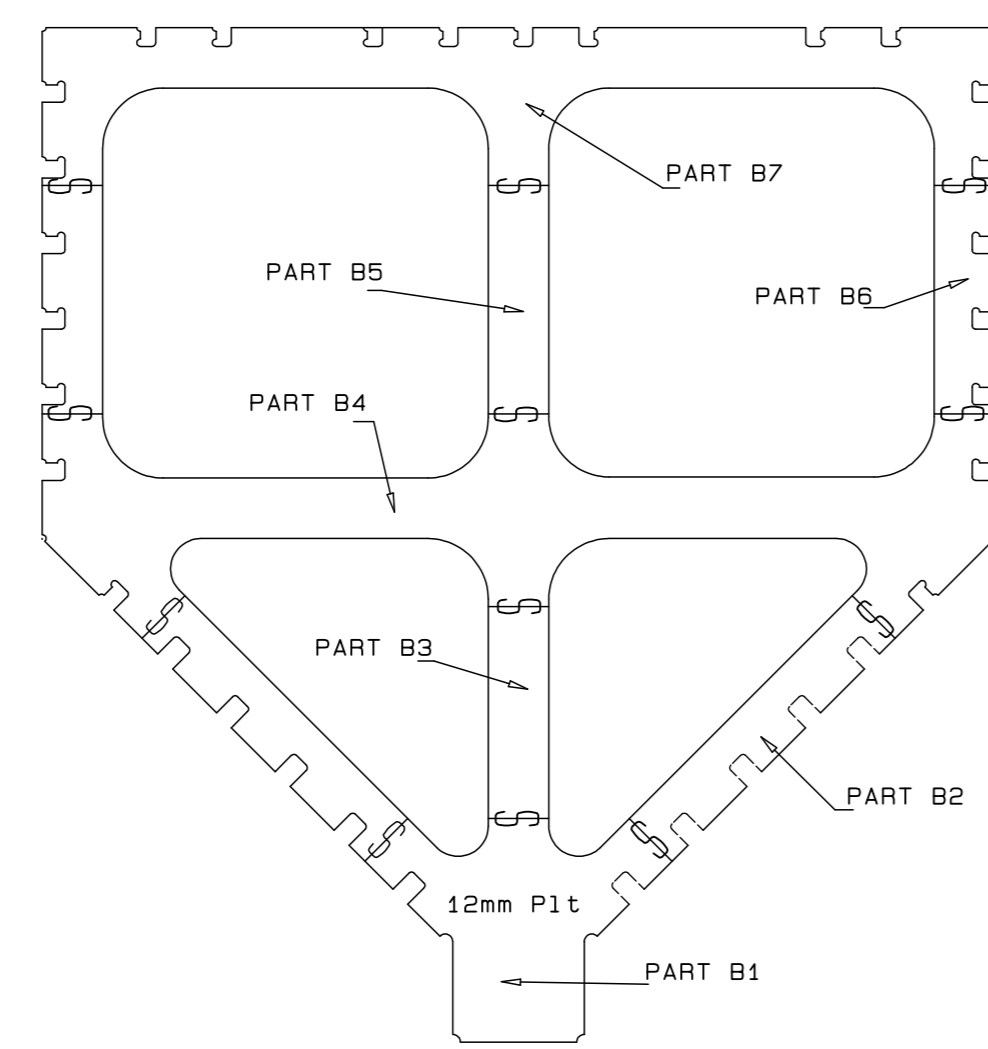
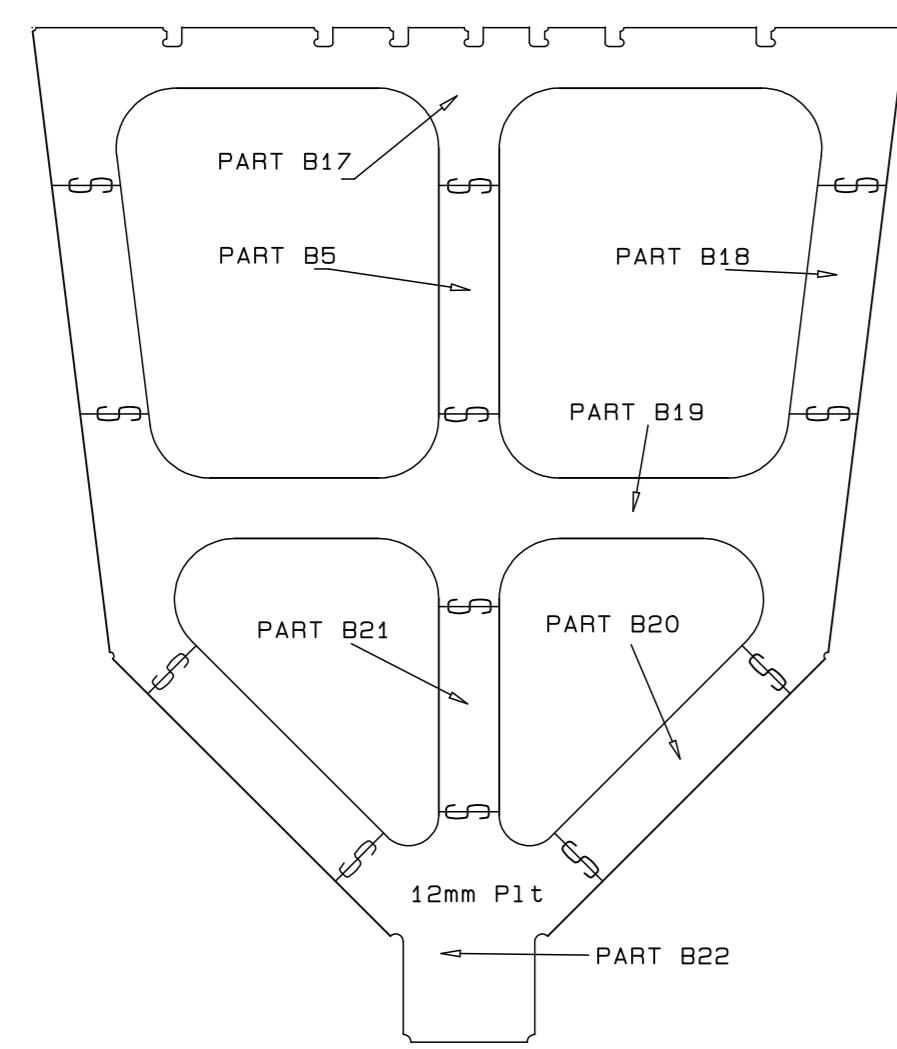
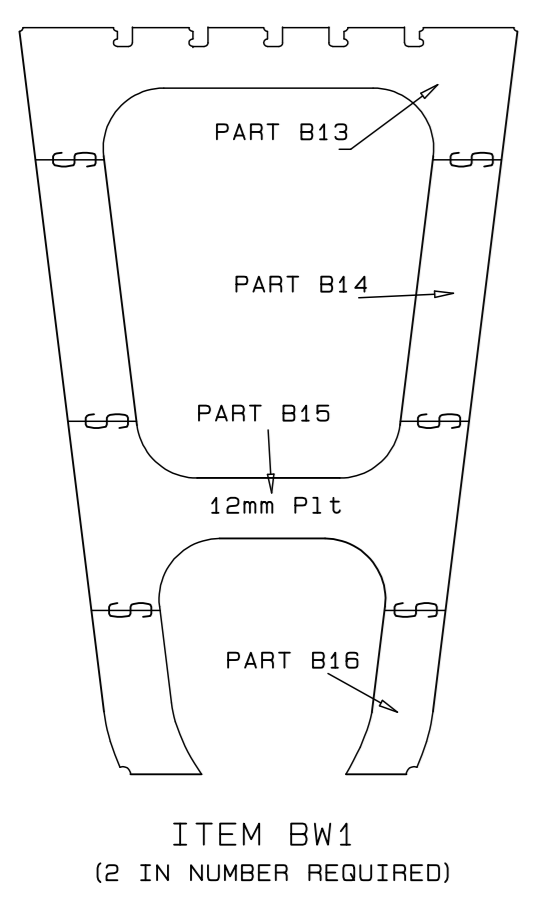
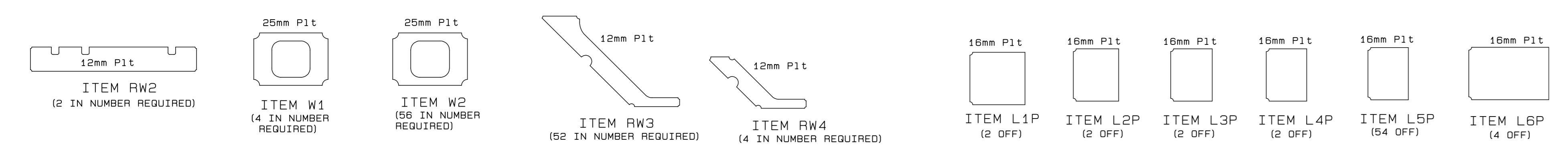
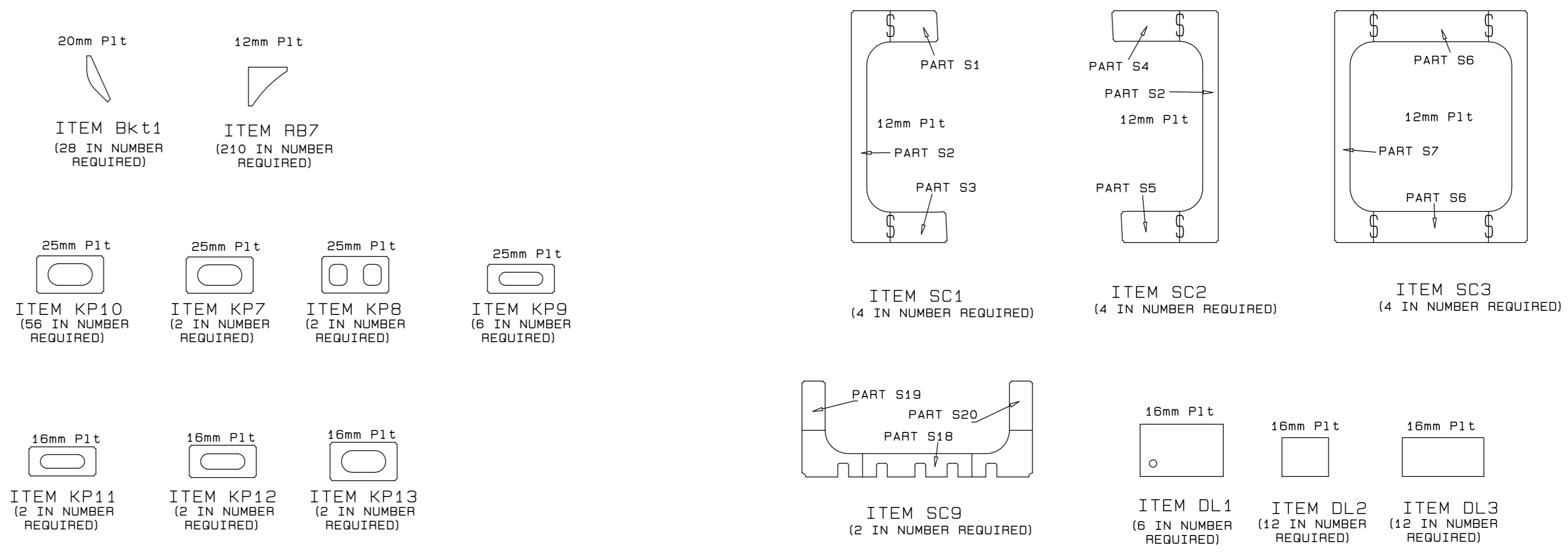
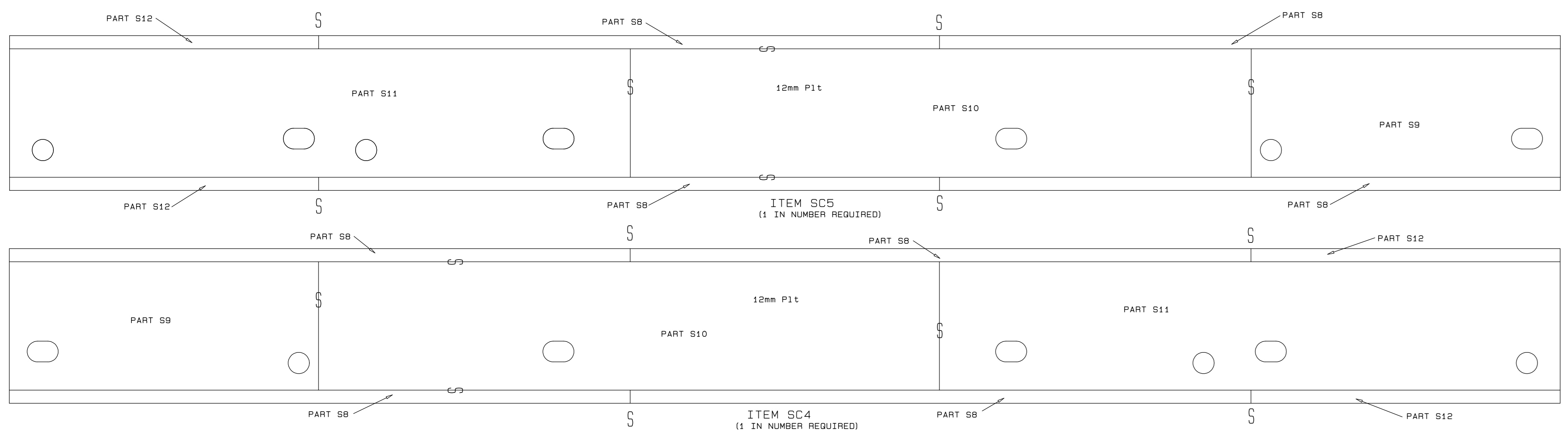
PORT ENGINEER  
ROOM NO.  
MBA HOUSE  
PORT OF CAPE TOWN  
P.O. BOX 400  
800  
TEL: 021 449 8373  
FAX: 021 449 8371

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
SAFETY PLAN

DRAWN	P. Phiso	CHECKED	C.S. SWIT
SCALE	1:75	DESIGN	SFAK

No. 507343-0000-DRG-SS-116  
DATE: 20/05/20  
CAG. REF: 3601-19-000  
SHEET 1 OF 1  
FILE REF: 202-H-SHT 1 REV B SAFETY PLAN/2020 AMENDMENT B





ITEM BW7 (10 IN NUMBER REQUIRED)

ITEM BW8 (1 IN NUMBER REQUIRED)

ITEM AB1 (2 IN NUMBER REQUIRED)

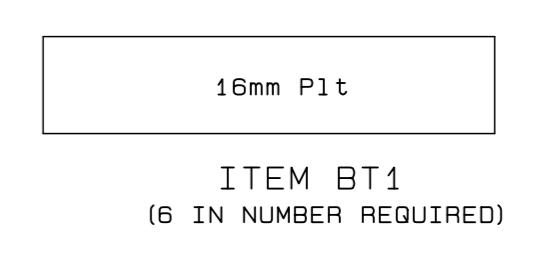
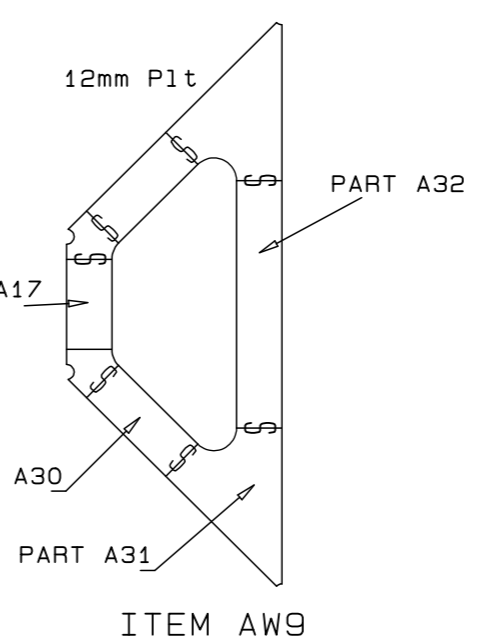
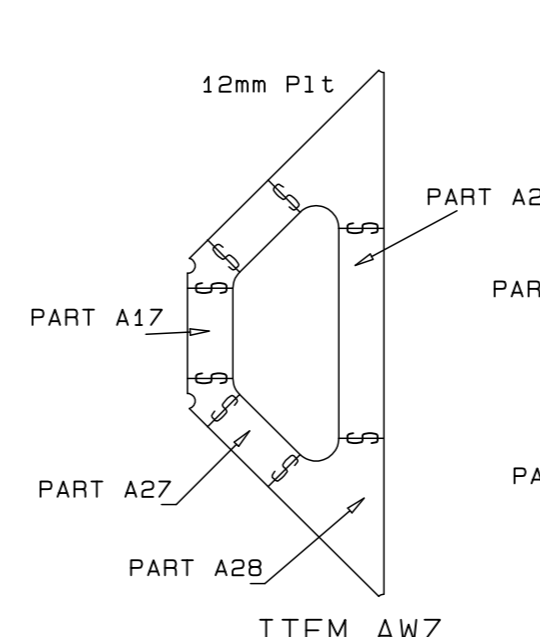
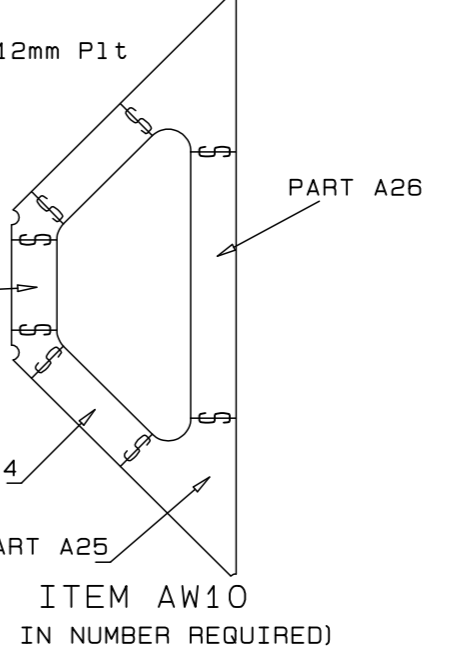
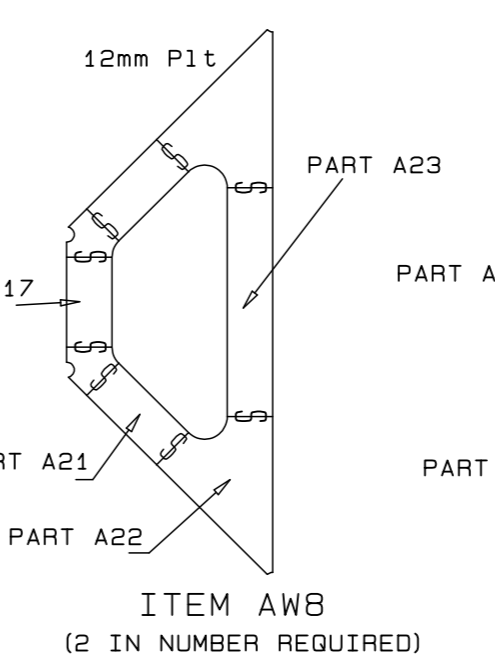
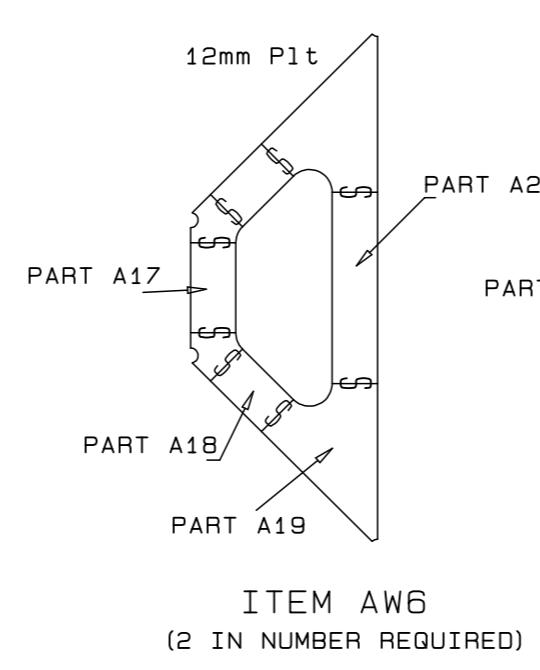
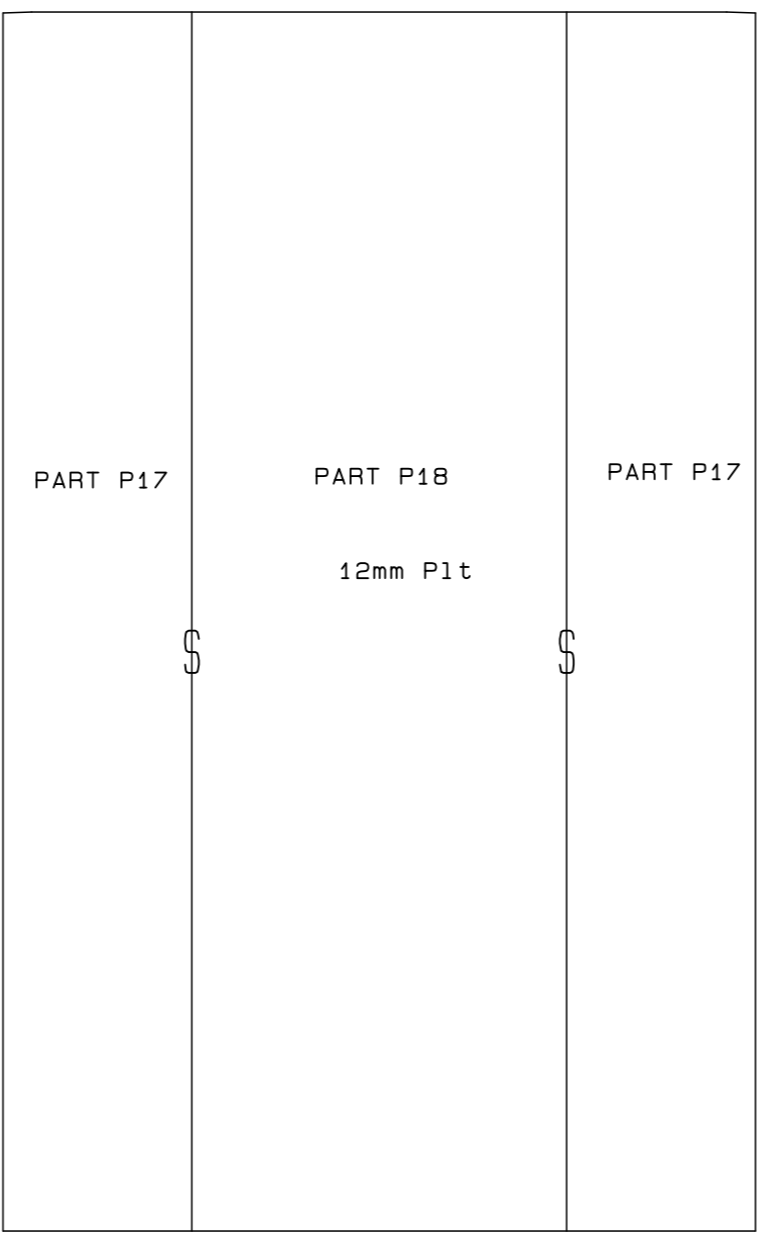
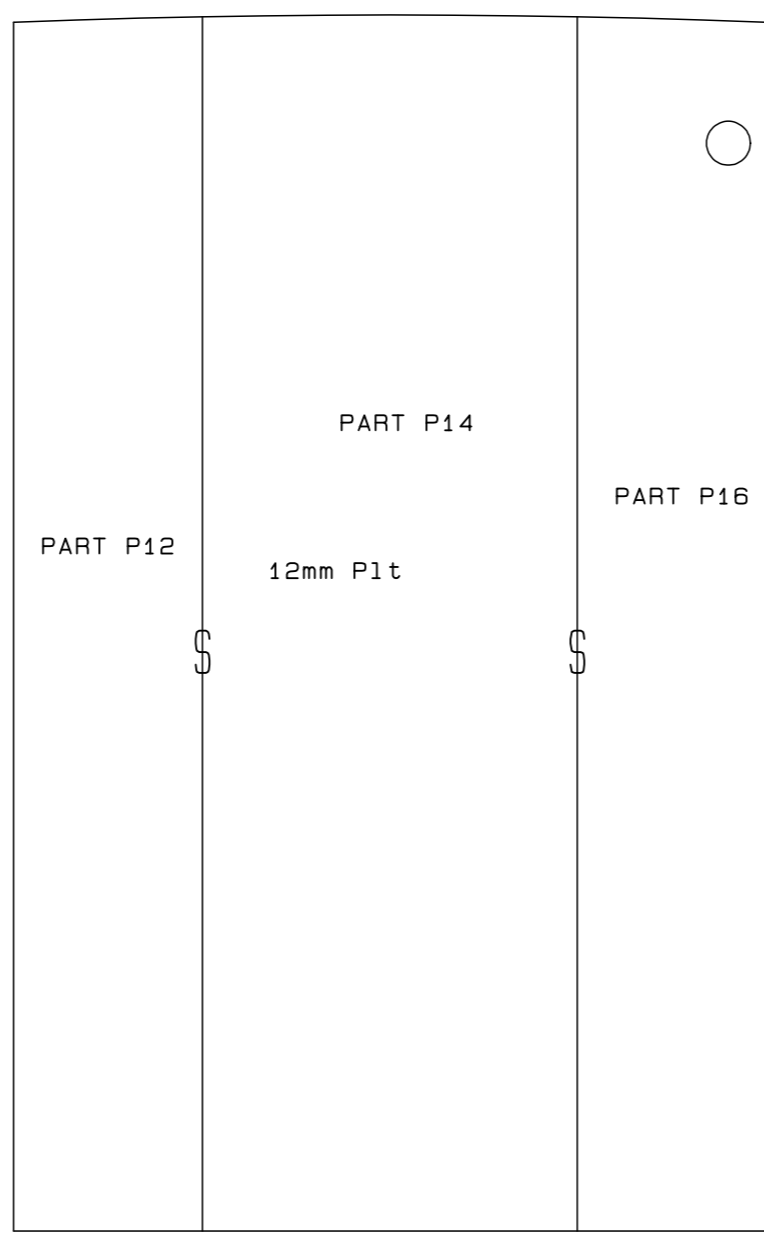
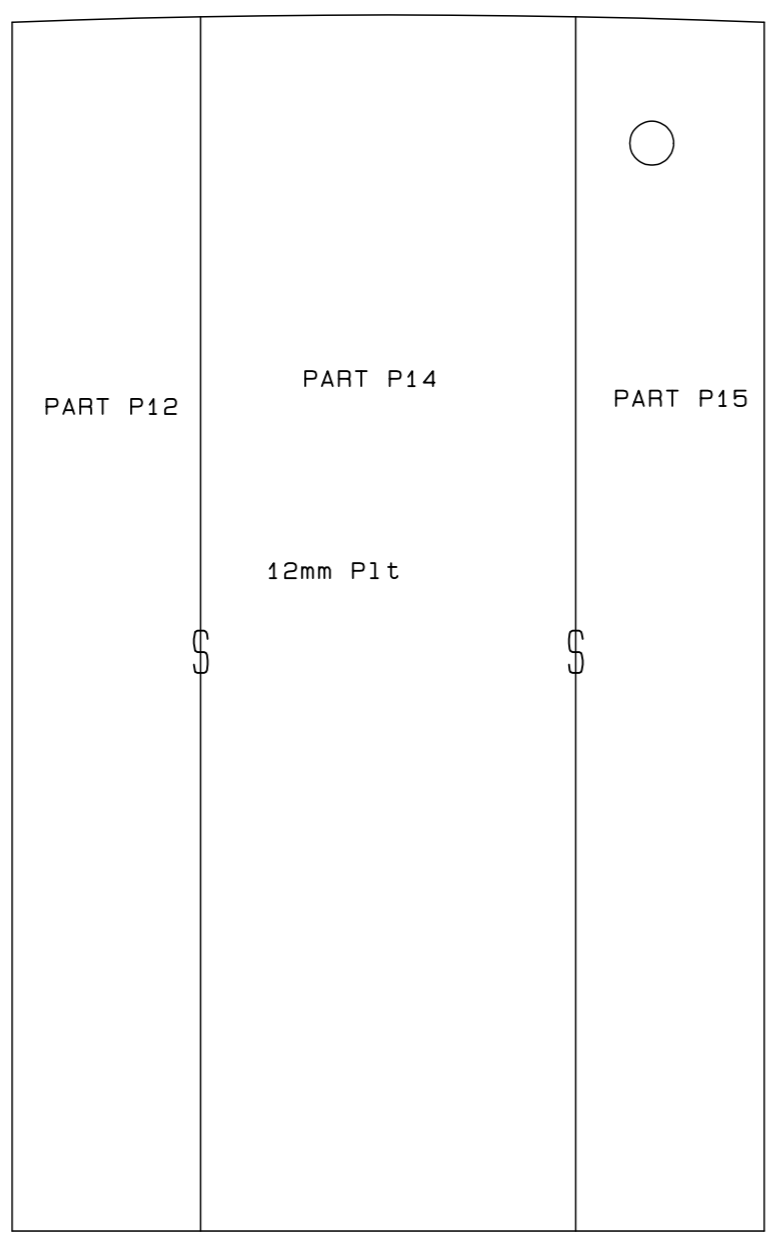
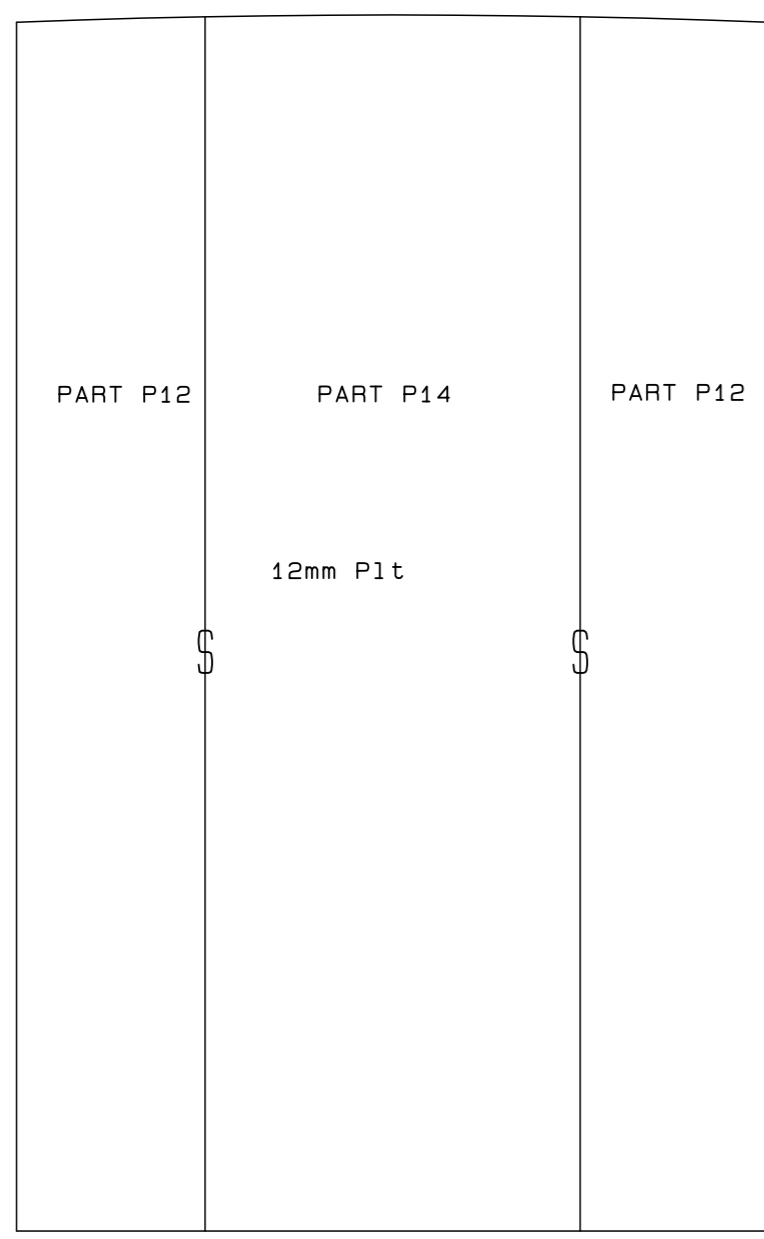
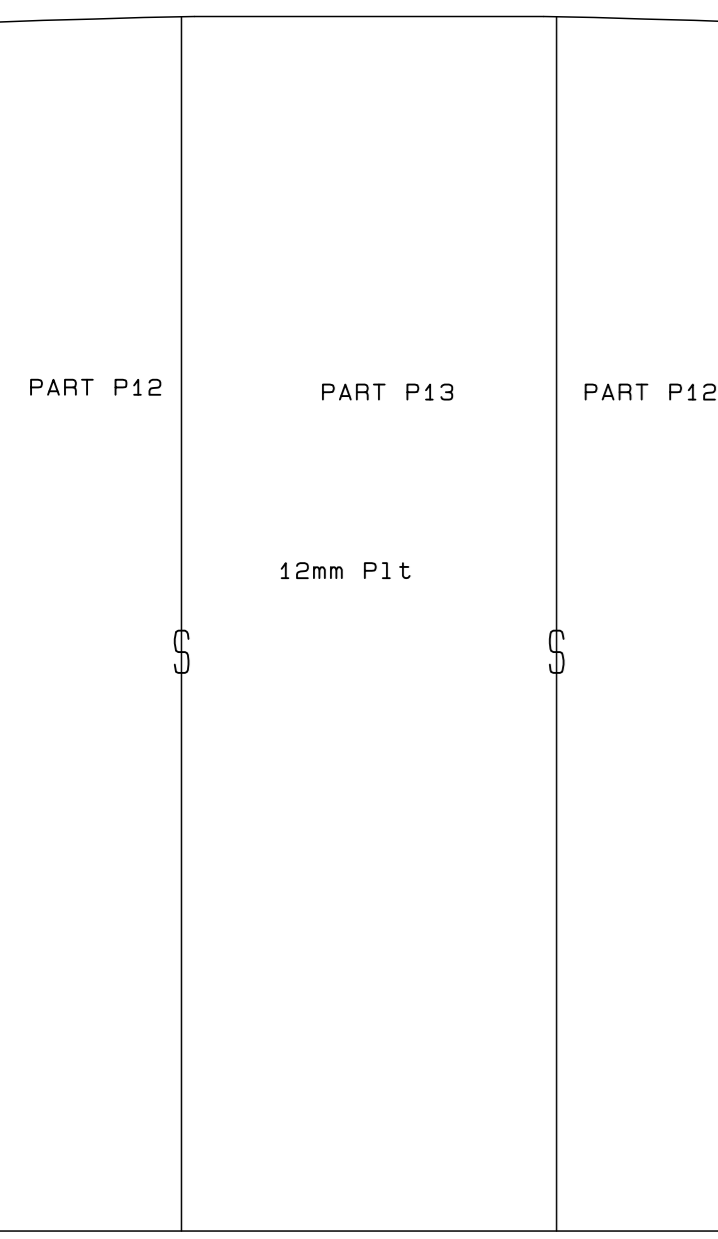
ITEM AW1 (24 IN NUMBER REQUIRED)

ITEM AW2 (2 IN NUMBER REQUIRED)

ITEM AB2 (2 IN NUMBER REQUIRED)

ITEM AW3 (10 IN NUMBER REQUIRED)

ITEM RW5 (4 IN NUMBER REQUIRED)



ITEM RB1 (2 IN NUMBER REQUIRED)

ITEM RB2 (2 IN NUMBER REQUIRED)

ITEM RB3 (2 IN NUMBER REQUIRED)

ITEM RB4 (2 IN NUMBER REQUIRED)

ITEM RB5 (2 IN NUMBER REQUIRED)

ITEM AW6 (2 IN NUMBER REQUIRED)

ITEM AW8 (2 IN NUMBER REQUIRED)

ITEM BT1 (6 IN NUMBER REQUIRED)

NOTES

REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	12/05/20	ISSUED	B Kingwill
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-17-1-B Sht 1 of 4

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

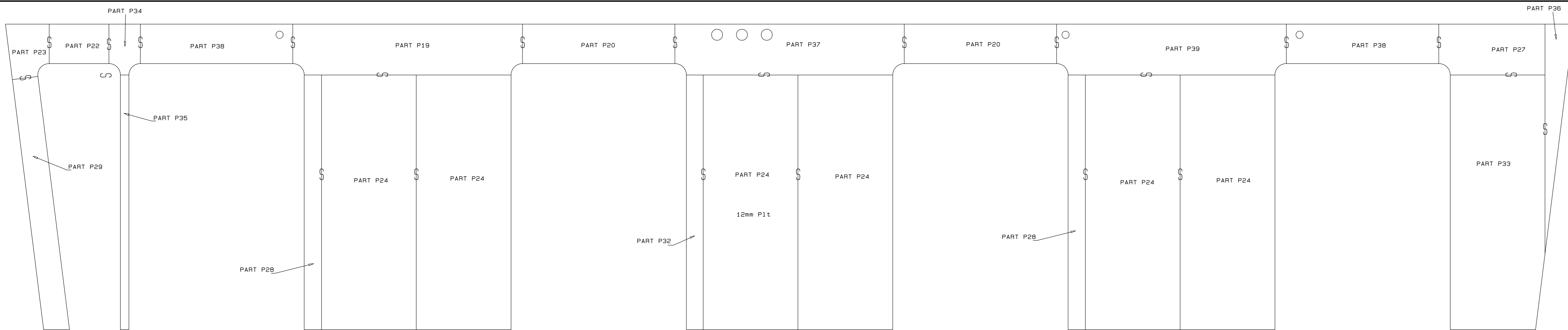
PORT ENGINEER  
ROOM 702  
M&P OFFICE  
PORT OF CAPE TOWN  
FLOOR 4/05  
800  
TEL: 021 449 8173  
FAX: 021 449 8171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
CUTTING TEMPLATES

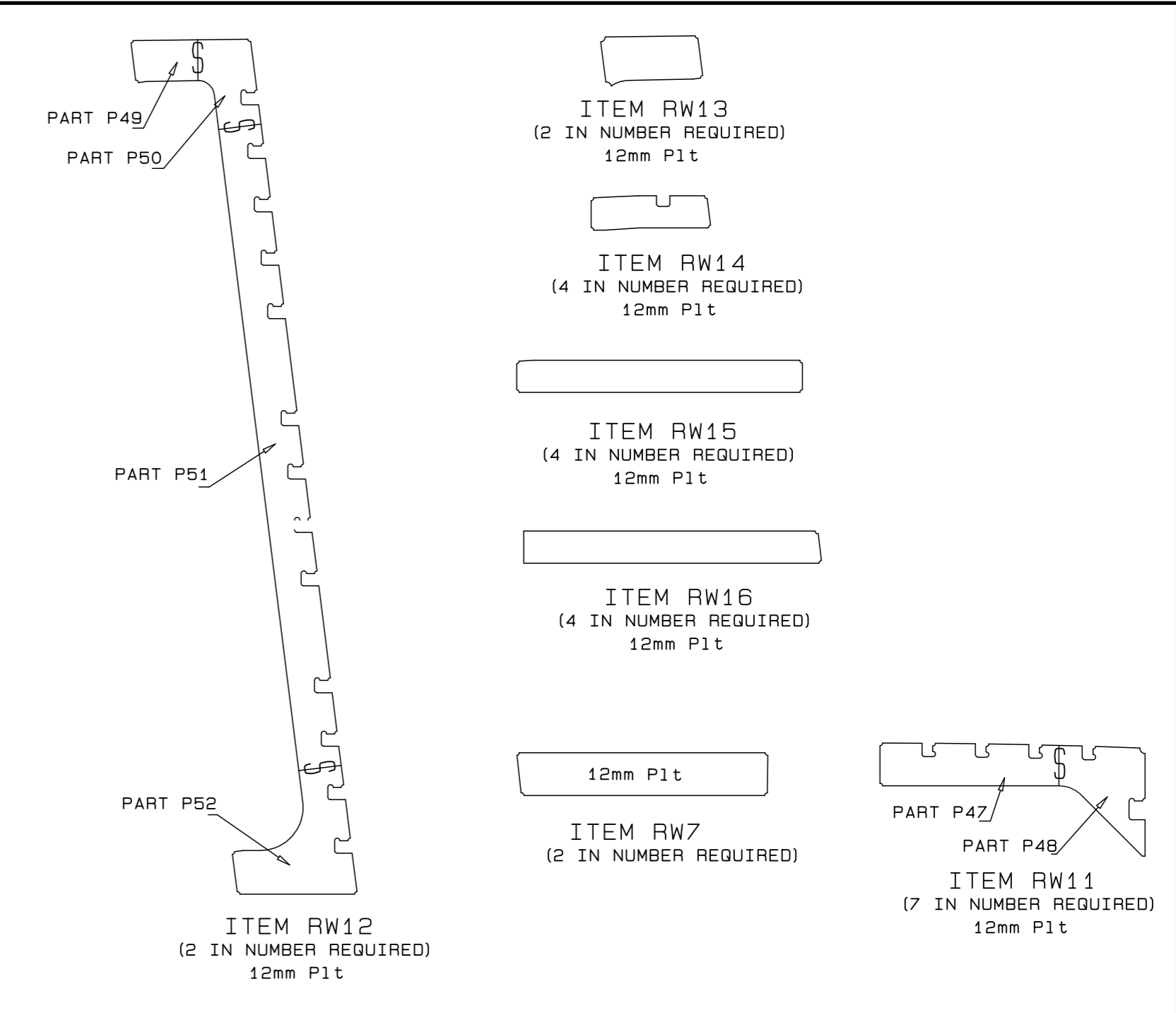
DESIGN: D. McNeill	CHECKED: C.S. Burt
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 2020/05	SHEET 1 OF 4
CAD REF: 3501-17-2/03	FILE REF: 3501-17-1-B CUTTING TEMPLATES

DRAWING TO READ IN CONJUNCTION WITH TNA 3501/03 CAISSON STRUCTURE

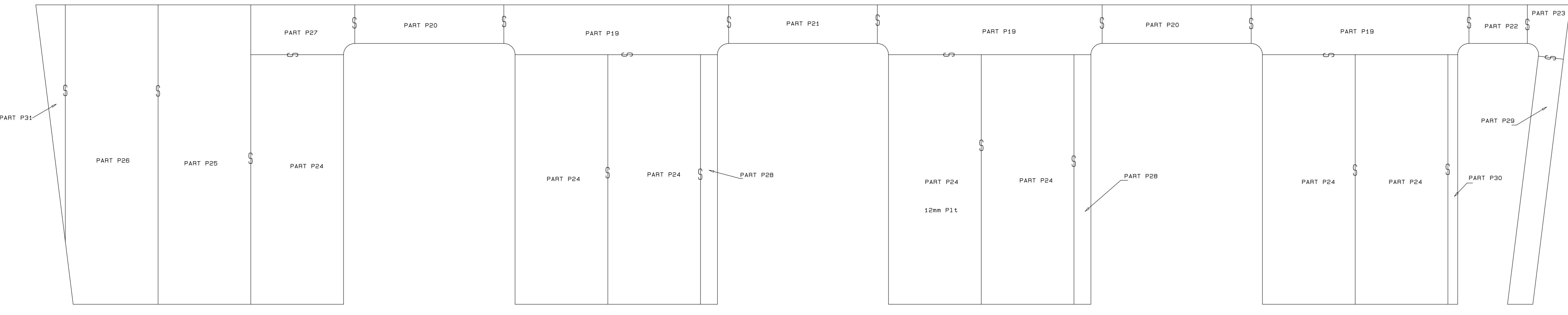




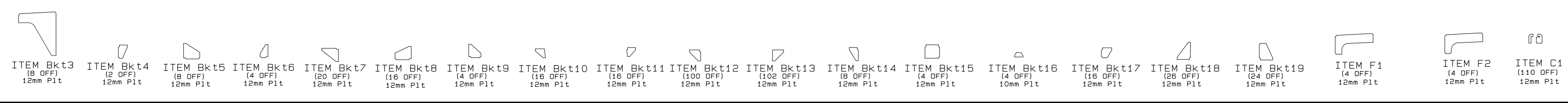
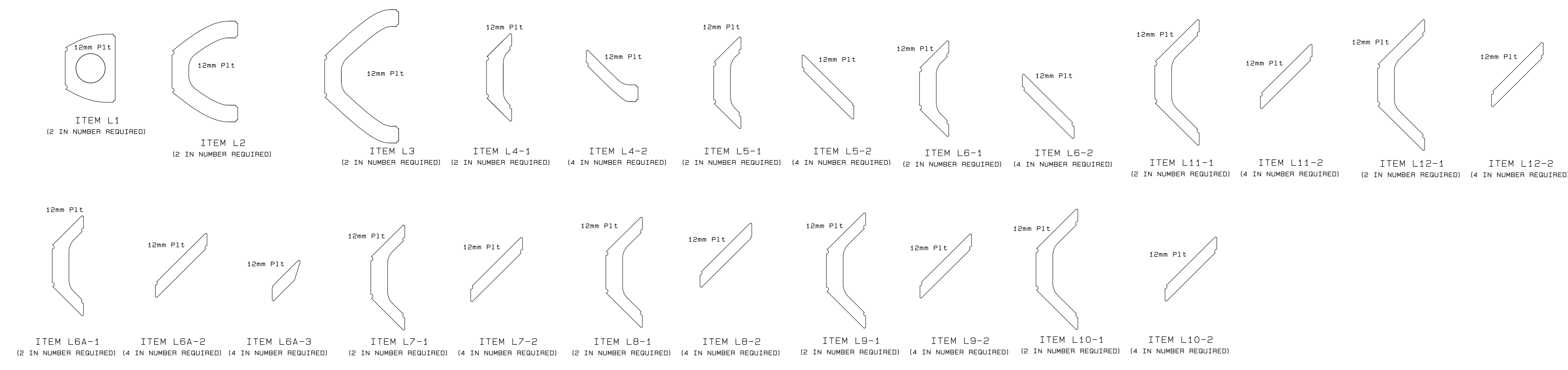
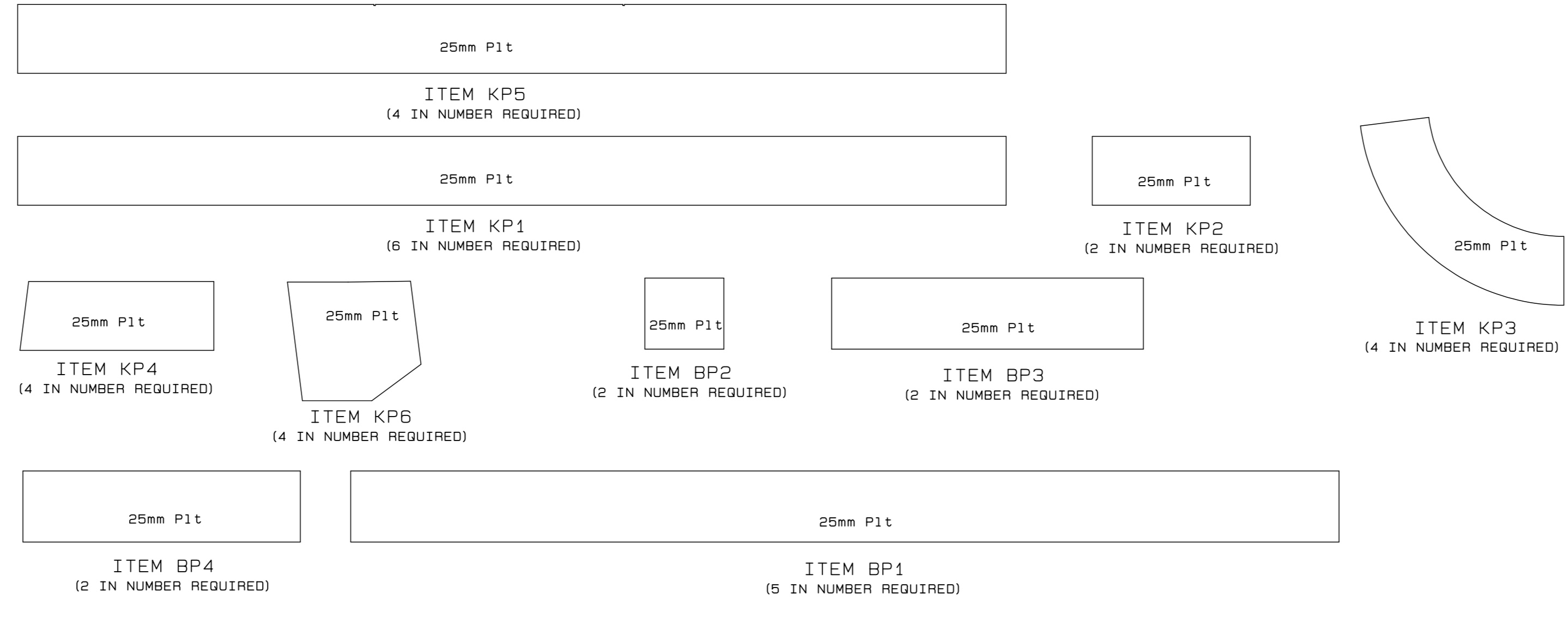
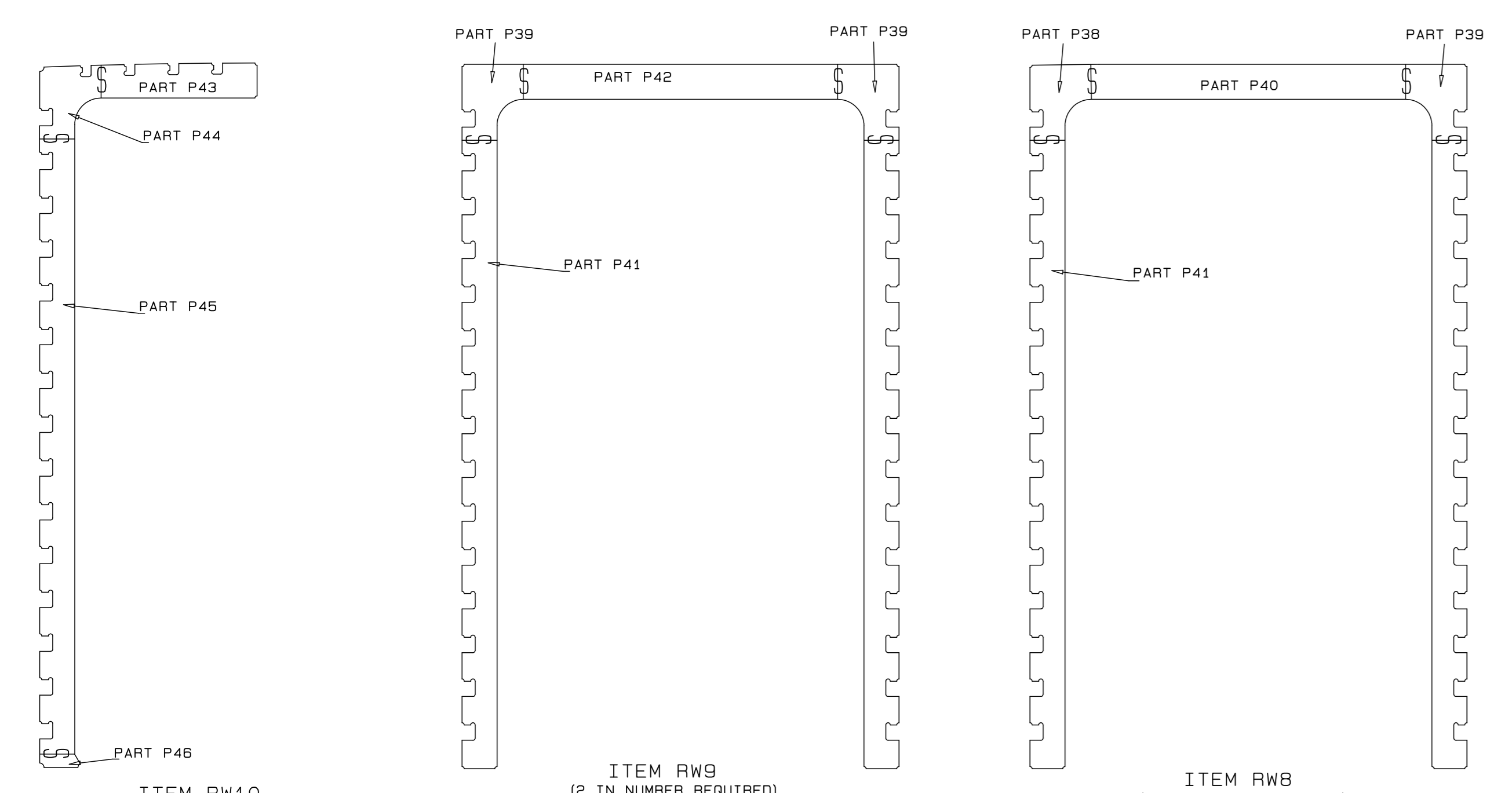
ITEM RB7  
(1 IN NUMBER REQUIRED)



ITEM RW13 (2 IN NUMBER REQUIRED) 12mm P1t  
 ITEM RW14 (4 IN NUMBER REQUIRED) 12mm P1t  
 ITEM RW15 (4 IN NUMBER REQUIRED) 12mm P1t  
 ITEM RW16 (4 IN NUMBER REQUIRED) 12mm P1t  
 12mm P1t  
 ITEM RW7 (2 IN NUMBER REQUIRED)  
 ITEM RW12 (2 IN NUMBER REQUIRED) 12mm P1t  
 ITEM W1 (4 IN NUMBER REQUIRED) 25mm P1t  
 ITEM W2 (50 IN NUMBER REQUIRED) 25mm P1t



ITEM RB6  
(1 IN NUMBER REQUIRED)



REVISION SCHEDULE			
REV/	DATE	REVISION DETAILS	APPROVED
A	29/05/20	ISSUED	SP. KINGWILL
B	11/06/20	ISSUED FOR CONSTRUCTION	B KINGWILL

**aurecon**  
www.aurecongroup.com

**Triton Naval Architects**

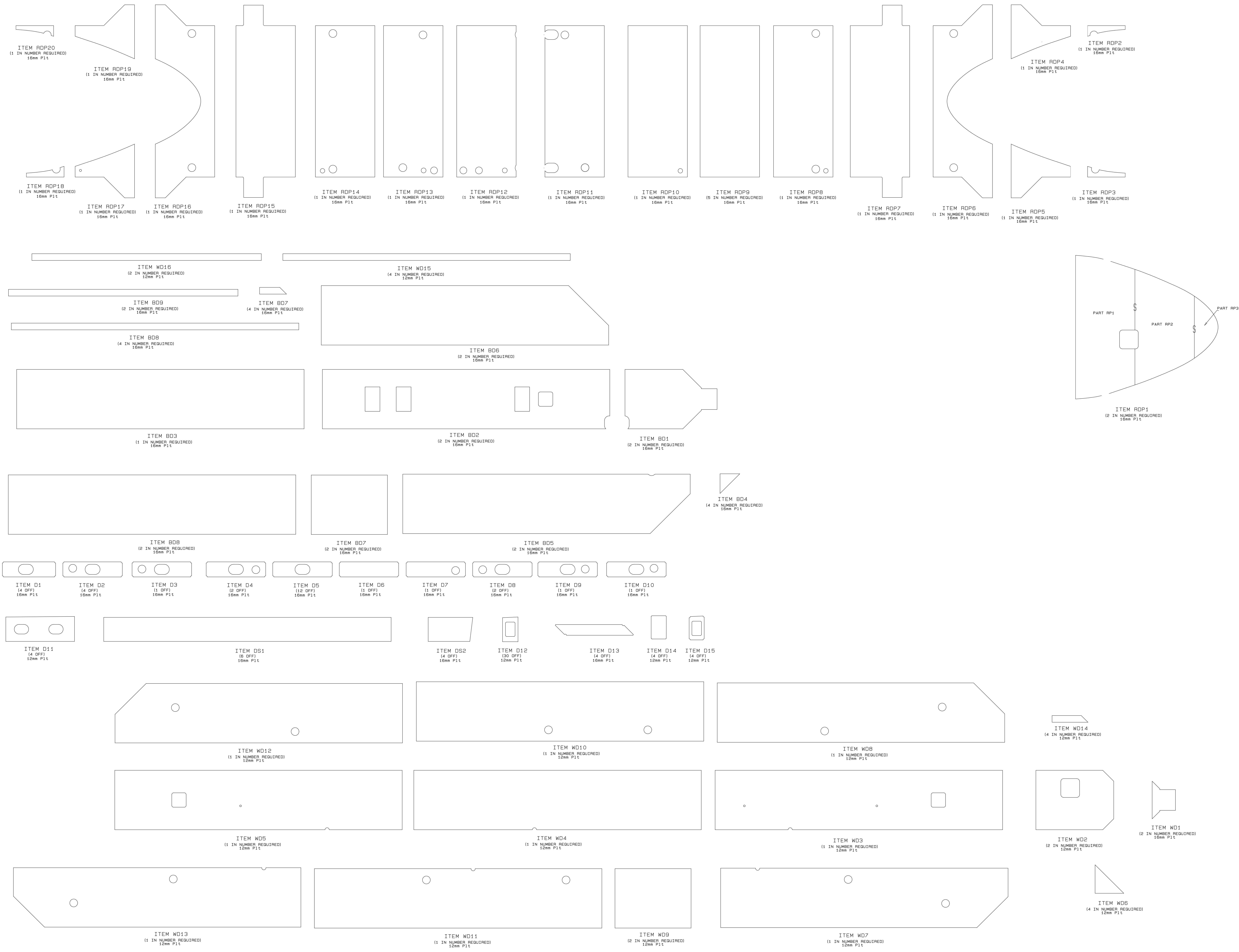
Drng. No. TNA 3501-17-1-B Sht 2 of 4

TECHNICAL MANAGER	
CHIEF DOCK MASTER	
PROJECT ENGINEER	
PROJECT MANAGER	
SHIP REPAIR MANAGER	
PORT ENGINEER	

PORT ENGINEER  
ROOM 215  
NEW BRIDGE  
PORT OF CAPE TOWN  
FLOOR 4/5E  
800  
TEL: 021 448 8173  
FAX: 021 448 8171

PORT OF CAPE TOWN  
CONTRACT NUMBER: TNPA 789  
DETAILED DESIGN OF A FLOATING GRAVITY  
CAISSON  
STURROCK DRY DOCK, PORT OF CAPE TOWN  
CAISSON STRUCTURE  
CUTTING TEMPLATES

DRAWN: D. McConnell	CHECKED: C.S. BURT
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 29/05/20	SHEET 2 OF 4
CAD. REF: 3601-17-2/00	AMENDMENT: B



REVISION SCHEDULE			
REV	DATE	REVISION DETAILS	APPROVED
A	28/05/20	ISSUED	B.P. Kingwill
B	11/06/20	ISSUED FOR CONSTRUCTION	B Kingwill



Drng. No. TNA 3501-17-1-B Sht 3 of 4

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
 ROOM NO.  
 AREA NO.  
 PORT OF CAPE TOWN  
 P.O. BOX 400  
 800  
 TEL: 021 449 8173  
 FAX: 021 449 8171

PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CAISSON STRUCTURE  
 CUTTING TEMPLATES

DESIGN: D. McNeill	CHECKED: C.S. Burt
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 28/05/20	SHEET 3 OF 4
CAD REF: 3601-17-200	FILE REF: 3601-17-1-B CUTTING TEMPLATES



NOTES

REVISION SCHEDULE		
REV	DATE	REVISION DETAILS
A	28/05/20	ISSUED
B	11/06/20	ISSUED FOR CONSTRUCTION



Drng. No. TNA 3501-17-1-B Sht 4 of 4

TECHNICAL MANAGER		
CHIEF DOCK MASTER		
PROJECT ENGINEER		
PROJECT MANAGER		
SHIP REPAIR MANAGER		
PORT ENGINEER		

PORT ENGINEER  
 ROOM NO.  
 AREA NO.  
 PORT OF CAPE TOWN  
 P.O. BOX 400  
 800  
 TEL: 021 449 8173  
 FAX: 021 449 8171

PORT OF CAPE TOWN  
 CONTRACT NUMBER: TNPA 789  
 DETAILED DESIGN OF A FLOATING GRAVITY  
 CAISSON  
 STURROCK DRY DOCK, PORT OF CAPE TOWN  
 CAISSON STRUCTURE  
 CUTTING TEMPLATES

DESIGN: D. McNeill	CHECKED: C.S. BRET
SCALE: AS SHOWN	DESIGN: S.P. KINGWILL
DATE: 28/05/20	SHEET 4 OF 4
FILE REF: 507343-0000-DRG-SS-117-4	AMENDMENT: B