LODEMANN
EST. 2015

QUALITY MANAGEMENT SYSTEM

# DRAWING REGISTER

FILING

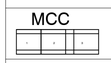
| | | | |
|---|---|---|---|
| **Project Title** | **RDD CAISSON** | **Project Number** | **1002-007** |
| **Client** | **TNPA** | **Date** | **02/10/2019** |
| **Consultant** | **LODEMANN HOLDINGS** | **Date** | **15/11/2023** |
| **Contractor** | | **Date** | |

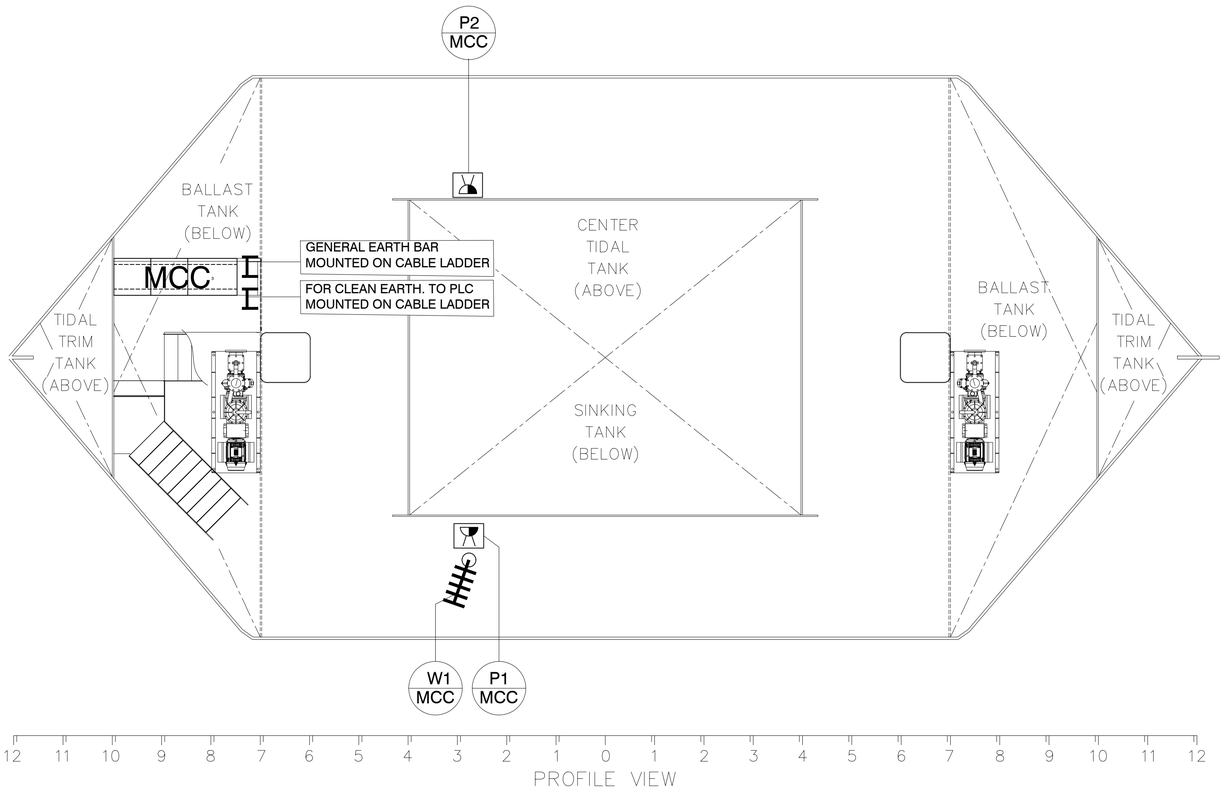
| Drawing No. | Client / Vendor Drg. No | Status of Document/ Drawing | Rev No. | Paper Size | Quantity | Date Rec: | Description | Transmittal number |
|---|---|---|---|---|---|---|---|---|
| **ELECTRICAL** | | | | | | | | |
| 1002-007-3000 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | POWER LAYOUT PLAN ON DECK B | |
| 1002-007-3001 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | POWER LAYOUT PLAN ON DECK A | |
| 1002-007-3002 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | LIGHTING LAYOUT PLAN ON DECK B | |
| 1002-007-3003 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | LIGHTING LAYOUT PLAN ON DECK A | |
| 1002-007-3004 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | MCC SINGLE LINE DIAGRAM | |
| 1002-007-3005 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | SITE PLAN RETICULATION LAYOUT 1 | |
| 1002-007-3006 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | SITE PLAN RETICULATION LAYOUT 2 | |
| 1002-007-3007 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | TYPICAL CONTROL STATION DIAGRAM | |
| 1002-007-3008 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CONTROL ROOM 1 POWER LAYOUT PLAN | |
| 1002-007-3009 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CONTROL ROOM 1 LIGHTING LAYOUT PLAN | |
| 1002-007-3010 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | CONTROL ROOM 1 DB-1 SINGLE LINE DIAGRAM | |
| 1002-007-3011 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CONTROL ROOM 2 CAISSON DECK C POWER LAYOUT PLAN | |
| 1002-007-3012 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CONTROL ROOM 2 CAISSON DECK C LIGHTING LAYOUT PLAN | |
| 1002-007-3013 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CONTROL ROOM 2 CAISSON DECK C DB-A SINGLE LINE DIAGRAM | |
| 1002-007-3014 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CAISSON CABLE LADDER LAYOUT | |
| 1002-007-3015 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | DOL STARTER SECTION 1 | |
| 1002-007-3016 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | DOL STARTER SECTION 2 | |
| 1002-007-3017 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | KIOSK 1, CAISSON KIOSK 2 & GENERATOR SINGLE LINE DIAGRAM | |
| 1002-007-3018 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | CAISSON KIOSK 3 SINGLE LINE DIAGRAM | |
| 1002-007-3019 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | MCC PANEL DETAIL | |
| 1002-007-3020 | N/A | ISSED FOR CONSTRUCTION | A | A1 | 1 | | TYPICAL DETAIL DRAWING | |

| Drawing No. | Client / Vendor Drg. No | Status of Document/ Drawing | Rev No. | Paper Size | Quantity | Date Rec: | Description | Transmittal number |
|---|---|---|---|---|---|---|---|---|
| | | | | | | **MECHANICAL** | | |
| 1002-007-4000 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - GENERAL ARRANGEMENT | |
| 1002-007-4001 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - BILGE LAYOUT | |
| 1002-007-4002 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - CONSTRUCTION DETAILS (FRAMES) | |
| 1002-007-4003 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - CONSTRUCTION DETAILS | |
| 1002-007-4004 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - CONSTRUCTION PARTS | |
| 1002-007-4005 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | DOCKING POINTS | |
| 1002-007-4006 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | PUMP FOUNDATION | |
| 1002-007-4007 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | STAINER FOUNDATION | |
| 1002-007-4008 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | CONTROL ROOM | |
| 1002-007-4009 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | STAIR CASE ENTRANCE | |
| 1002-007-4010 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | TANK SOUNDING | |
| 1002-007-4011 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | STAIR CASE | |
| 1002-007-4012 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | LADDER DETAILS | |
| 1002-007-4013 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | HATCHES | |
| 1002-007-4014 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | MANHOLE DETAILS | |
| 1002-007-4015 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | BOLLARD DETAILS | |
| 1002-007-4016 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RAILINGS | |
| 1002-007-4017 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | DRAFT SOUNDING AND SENSORS | |
| 5+ | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - BILGE - SUCTION | |
| 1002-007-4020 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - BILGE - DISCHARGE | |
| 1002-007-4021 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - BILGE - VENTS | |
| 1002-007-4022 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | RDDC - BILGE - TANK FILLING | |
| 1002-007-4023 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | ANODE PLAN | |
| 1002-007-4024 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | SEALING FACE | |
| 1002-007-4025 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | FENDER DETAILS | |
| 1002-007-4026 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | ACCESS LADDERS | |
| 1002-007-4027 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | SHELL BOLLARD FOUNDATION | |
| 1002-007-4028 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | CONTROL ROOM PARTS | |
| 1002-007-4029 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | ENTRANCE PARTS | |
| 1002-007-4030 | N/A | ISSED FOR INFORMATION | A | A0 | 1 | | SHELL PLATING | |
| 1002-007-4031 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | SUPPLY FRESH AIR | |
| 1002-007-4032 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | SUPPLY FRESH AIR SUPPORT | |
| 1002-007-4033 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | EXTRACTION AIR | |
| 1002-007-4034 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | EXTRACTION AIR SUPPORT | |

| Drawing No. | Client / Vendor Drg. No | Status of Document/ Drawing | Rev No. | Paper Size | Quantity | Date Rec: | Description | Transmittal number |
|---|---|---|---|---|---|---|---|---|
| **INSTRUMENTATION** | | | | | | | | |
| 1002-007-5000 | N/A | ISSED FOR CONSTRUCTION | A | A0 | 1 | | BILGE DIAGRAM | |
| 1002-007-5001 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL TIDAL TANK AFT LOOP | |
| 1002-007-5002 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL TIDAL TANK FWD LOOP | |
| 1002-007-5003 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL BALLAST TANK FWD LOOP | |
| 1002-007-5004 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL BALLAST TANK AFT LOOP | |
| 1002-007-5005 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL TIDALT TANK CENTER LOOP | |
| 1002-007-5006 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL SINKING TANK LOOP | |
| 1002-007-5007 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL DRY DOCK LOOP | |
| 1002-007-5008 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | LEVEL BARBOUR LOOP | |
| 1002-007-5009 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | PUMP 1 DISCHARGE FLOW LOOP | |
| 1002-007-5010 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | PUMP 2 DISCHARGE FLOW LOOP | |
| 1002-007-5011 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | 065 AFT TRIM LEVEL MEASREMENT | |
| 1002-007-5012 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | 066 FWD TRIM LEVEL MEASREMENT | |
| 1002-007-5013 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | 067 PORT HEEL LEVEL MEASREMENT | |
| 1002-007-5014 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | 068 STARBOARD HEEL LEVEL MEASREMENT | |
| 1002-007-5015 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | CAISSON FLOOD DETECTION SWITCH | |
| 1002-007-5016 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | HATCH ENTRY RESTRICTIONS | |
| 1002-007-5017 | N/A | ISSED FOR CONSTRUCTION | A | A3 | 1 | | PLC NETWORKS | |

| | | | | |
|---|---|---|---|---|
| **Drawing Register** | | | Rev B | Page : 1 of 1 |
| | **ISSUED BY :-** | LUNGA MKHIZE | | |
| | **DESIGNATION:-** | **SENIOR DRAUGHTSMAN** | **DATE :-** | **15/11/2023** |
| | **RECEIVED BY :-** | | | |
| | **DESIGNATION:-** | | **DATE :-** | |

| LEGEND: | |
|---|---|
| | 63A 5 PIN WELDING POINT, 400V, 50HZ SURFACE MOUNTED IP66 1200mm ABOVE FLOOR LEVEL. |
| | SURFACE MOUNTED WATERPROOF DOUBLE SWITCH SOCKET OUTLET, 3PIN, 230V, MOUNTED 1200mm ABOVE FLOOR LEVEL |
|   | MOTOR CONTROL CENTTRE FLOOR STANDING WITH IP66 RATING |
| | COPPER EARTH BAR 500mm X 40mm X 4mm WITH 10 OFF, 6mm DIAMETER HOLES PRE– DRILLED SURFACE FIXED ON INSULATORS MOUNTED 300mm A.F.F.L |




## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
4. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 4 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 3 | MCC SIZE REVISED | LM | TM | MM | 09-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 04-04-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

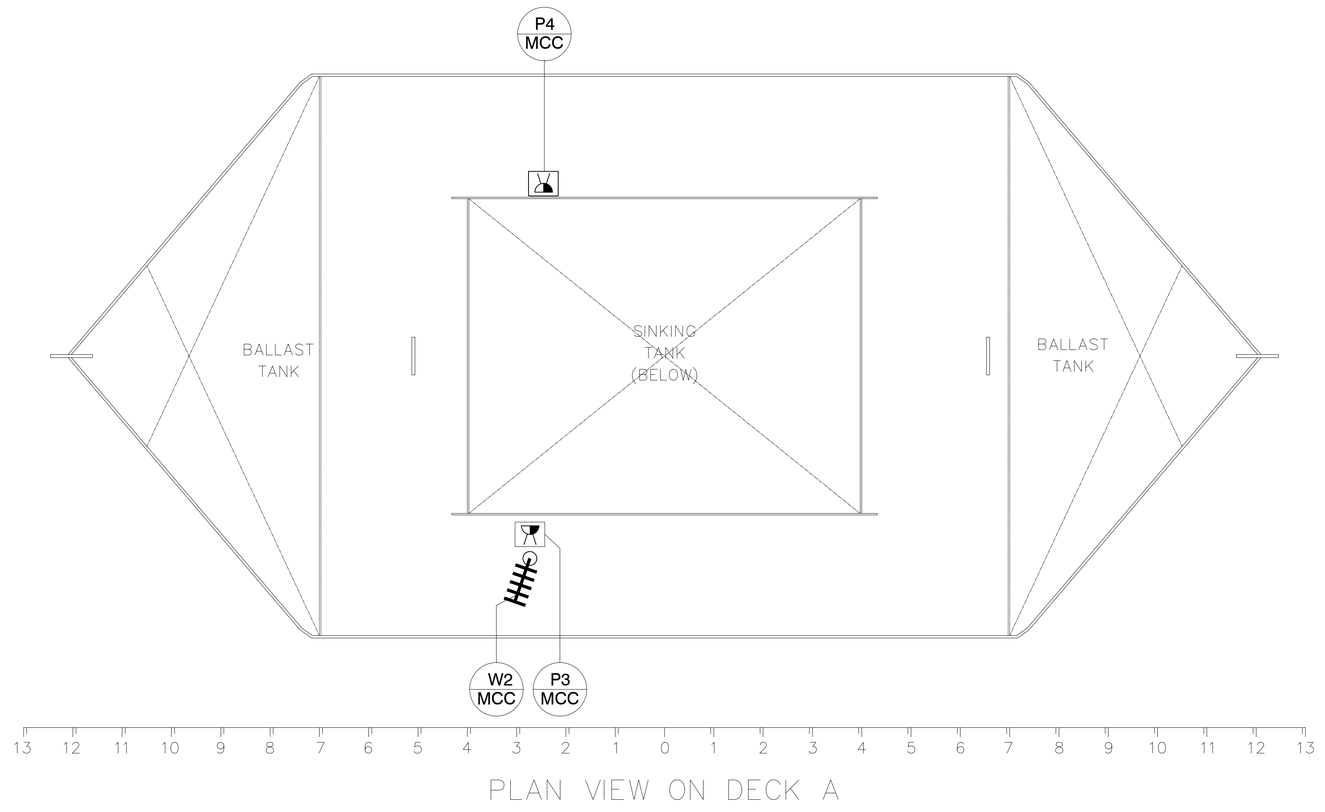
LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON POWER LAYOUT PLAN ON DECK B

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 04-04-19 | 1002-007-3000 | | A | A1 | ISSUED FOR CONSTRUCTION |

| LEGEND: | |
|---|---|
| | 63A 5 PIN WELDING POINT, 400V, 50HZ SURFACE MOUNTED IP66 1200mm ABOVE FLOOR LEVEL. |
| | SURFACE MOUNTED WATERPROOF DOUBLE SWITCH SOCKET OUTLET, 3PIN, 230V, MOUNTED 1200mm ABOVE FLOOR LEVEL |
| MCC | MOTOR CONTROL CENTTRE FLOOR STANDING WITH IP66 RATING |
| | COPPER EARTH BAR 500mm X 40mm X 4mm WITH 10 OFF, 6mm DIAMETER HOLES PRE- DRILLED SURFACE FIXED ON INSULATORS MOUNTED 300mm A.F.F.L |




PLAN VIEW ON DECK A

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 13-05-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

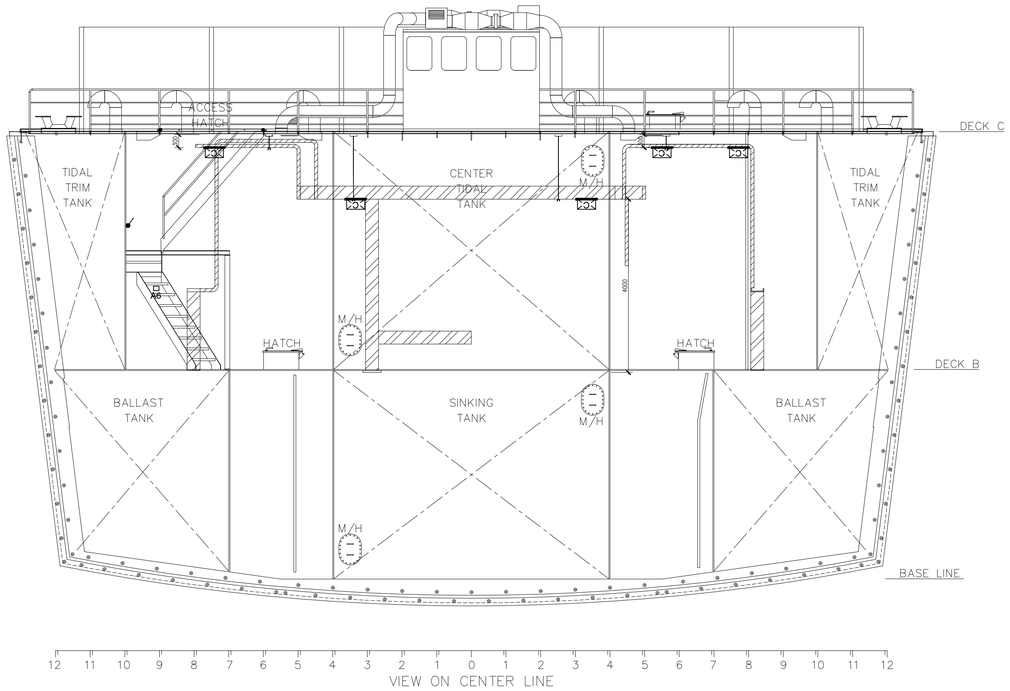
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

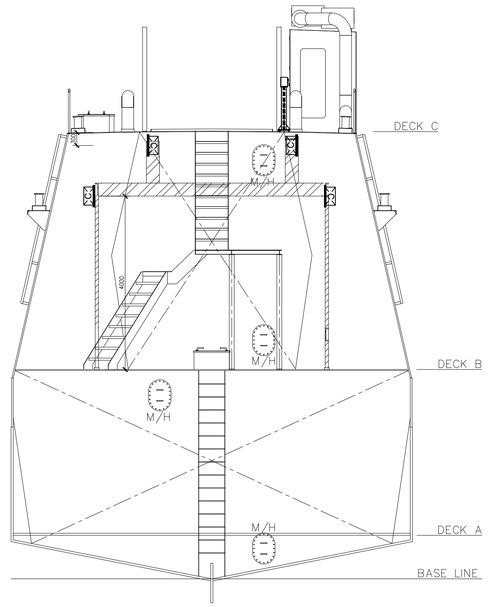
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON POWER LAYOUT PLAN ON DECK A

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 13-05-19 | 1002-007-3001 | | A | A1 | ISSUED FOR CONSTRUCTION |




VIEW ON CENTER LINE

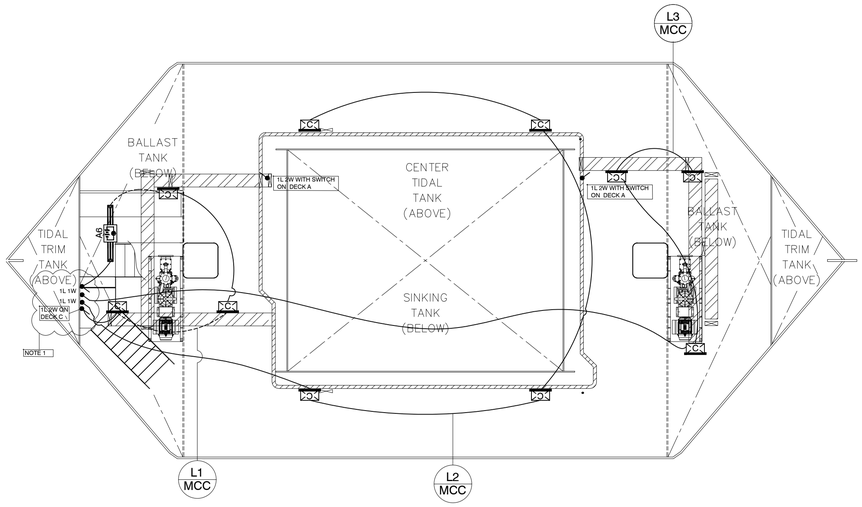



SECTION VIEW FR 5
LOOKING AFT

| LEGEND: | |
|---|---|
| | SPOT-LIGHT/ FLOOD LIGHTS 32LED/75W OPTIC 1700 WITH 1 HOUR EMERGENCY BATTERY |
| A6 | SURFACE MOUNTED 40w LED VAPOUR PROOF LIGHTING FITTING WITH 1 HOUR EMERGENCY BATTERY |
| 1L 1W | 1 LEVER 1 WAY LIGHT SWITCH |
| 1L 2W | 1 LEVER 2 WAY LIGHT SWITCH |
| | 300mm X 75mm CABLE LADDER (SIDE VIEW) |
| | 300mm X 75mm CABLE LADDER (TOP VIEW) |
| | 300mm X 75mm CABLE LADDER RISER (BEND) |

NOTES:

1. FINAL LIGHT SWITCH POSITION TO BE FINALISED ON SITE




PROFILE VIEW DECK B

## GENERAL NOTES

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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3020 | TYPICAL DETAIL DRAWING |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 4 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 3 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 04-04-2019 |

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| **CHECKED** | | |
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| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

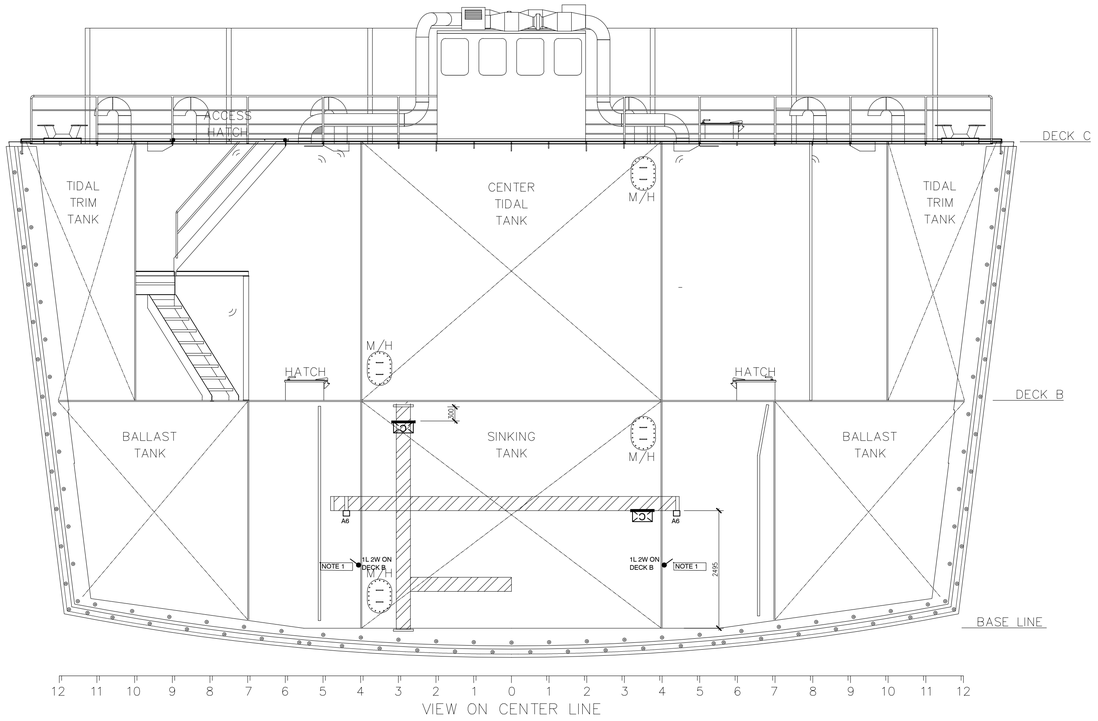
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

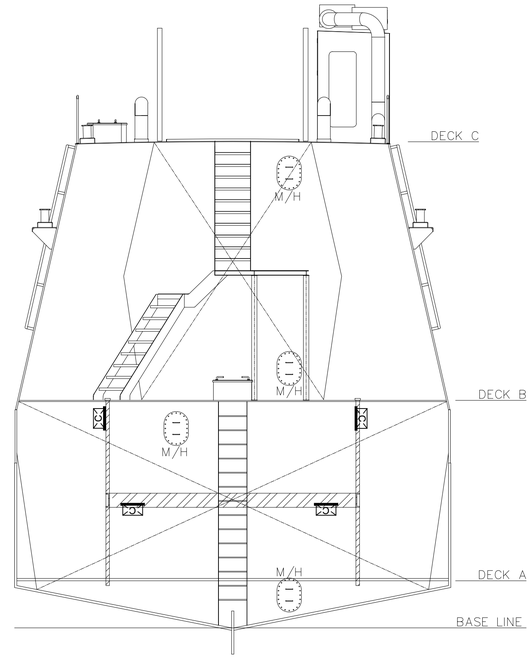
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## LIGHTING LAYOUT PLAN ON DECK B

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 04-04-19 | 1002-007-3002 | | A | A1 | ISSUED FOR CONSTRUCTION |




VIEW ON CENTER LINE

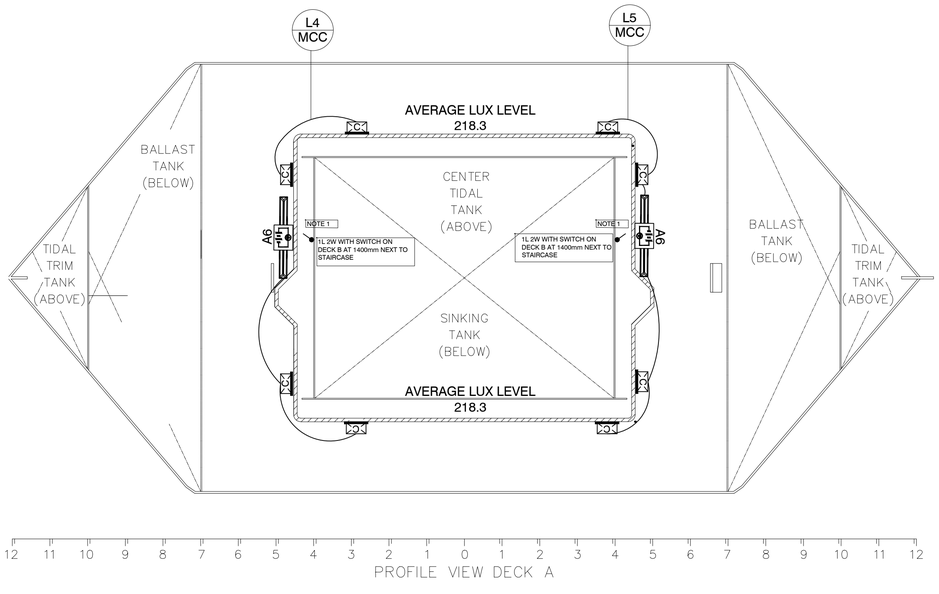



SECTION VIEW FR 5
LOOKING AFT

| LEGEND: | |
|---|---|
| | SPOT-LIGHT/ FLOOD LIGHTS 32LED/75W OPTIC 1700 WITH 1 HOUR EMERGENCY BATTERY |
| A6 | SURFACE MOUNTED 40w LED VAPOUR PROOF LIGHTING FITTING WITH 1 HOUR EMERGENCY BATTERY |
| 1L-1W | 1 LEVER 1 WAY LIGHT SWITCH |
| 1L-2W | 1 LEVER 2 WAY LIGHT SWITCH |
| | 300mm X 75mm CABLE LADDER (SIDE VIEW) |
| | 300mm X 75mm CABLE LADDER (TOP VIEW) |
| | 300mm X 75mm CABLE LADDER RISER (BEND) |

NOTES:

1. FINAL LIGHT SWITCH POSITION TO BE FINALISED ON SITE




PROFILE VIEW DECK A

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
4. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3020 | TYPICAL DETAIL DRAWING |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 4 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 3 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 04-04-2019 |

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| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

| APPROVED BY | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

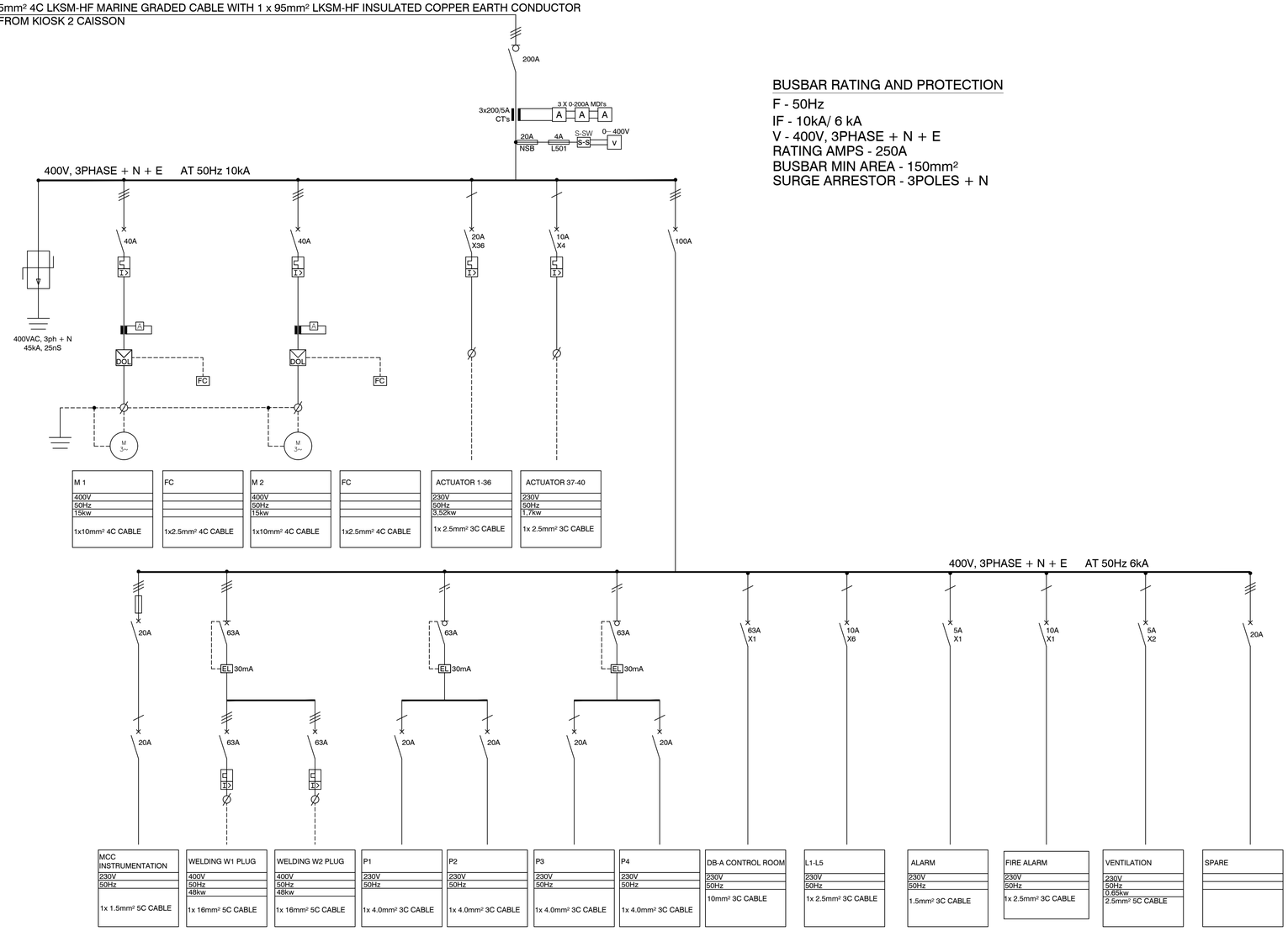
## LIGHTING LAYOUT PLAN ON DECK A

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 04-04-19 | 1002-007-3003 | | A | A1 | ISSUED FOR CONSTRUCTION |

250A, 5-PIN
IP66 ISOLATOR

1 x 120mm² 4C HO7RN-F FLEXI RUBBER CABLE

1 x 95mm² 4C LKSM-HF MARINE GRADED CABLE WITH 1 x 95mm² LKSM-HF INSULATED COPPER EARTH CONDUCTOR
FED FROM KIOSK 2 CAISSON




## BUSBAR RATING AND PROTECTION

F - 50Hz
IF - 10kA/ 6 kA
V - 400V, 3PHASE + N + E
RATING AMPS - 250A
BUSBAR MIN AREA - 150mm²
SURGE ARRESTOR - 3POLES + N

| LEGEND | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | 1 POLE ISOLATOR |
| | 3 POLE FUSE BREAKER |
| | 2 POLE FUSE BREAKER |
| | 1 POLE FUSE BREAKER |
| | FUSE |
| A | AMETTER |
| S-S | SELECTOR SWITCH |
| | NEUTRAL LINK |
| YD | START DELTA |
| DOL | DIRECT ONLINE STARTER |
| M 3~ | 3 PHASE MOTOR |
| | EARTHING |
| PC | PHOTO ELECTRIC CELL |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| EL | 3 POLE EARTH LEAKAGE UNIT |
| | SURGE ARRESTER |
| | TERMINATION POINT |
| FC | FIELD CONTROL |

### ADDITIONAL NOTES

1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.
2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.
3. CASCADING CIRCUIT BREAKERS MUST BE USED.
4. PROVIDE 20% SPARE SPACE.
5. MATERIAL SHALL BE 2,0mm STAINLESS STEEL GR316L.ORANGE BOARD WITH RED PLATE
6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR.
7. NO MIX OF BRANDS.
8. ALL MOTOR CIRCUIT BREAKERS TO BE CURVE-D/ CURVE 1 (LONG CURVE DELAY)
9. REFER TO WORK INFORMATION FOR A DETAILED CABLE SPECIFICATION
10. TYPE 2 CO-ORDINATED FORM 3B
11. ALL CABLE WITHIN THE CAISSON SHALL BE LKSM-HF SCREENED HALOGEN FREE COPPER CABLE

### BOARD INFORMATION

NAME OF DB : MCC
LOCATION : CAISSON GATE
MOUNTING : FLOOR STANDING
IP CLASS : 66
CABLE ENTRY : BOTTOM FEEDERS & BOTTOM EXIT
DOOR REQUIRED : YES

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3019 | PANEL DETAIL |
| 1002-007-3016 | DOL STARTER SECTION 2 |
| 1002-007-3015 | DOL STARTER SECTION 1 |
| 1002-007-3013 | CONTROL ROOM 2 SINGLE LINE DIAGRAM |
| 1002-007-3003 | LIGHTING LAYOUT PLAN ON DECK A |
| 1002-007-3002 | LIGHTING LAYOUT PLAN ON DECK B |
| 1002-007-3001 | POWER LAYOUT PLAN ON DECK A |
| 1002-007-3000 | POWER LAYOUT PLAN ON DECK B |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | MAIN CABLE SIZE & AMPS RATING REVISED | LM | TM | MM | 13-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 04-04-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

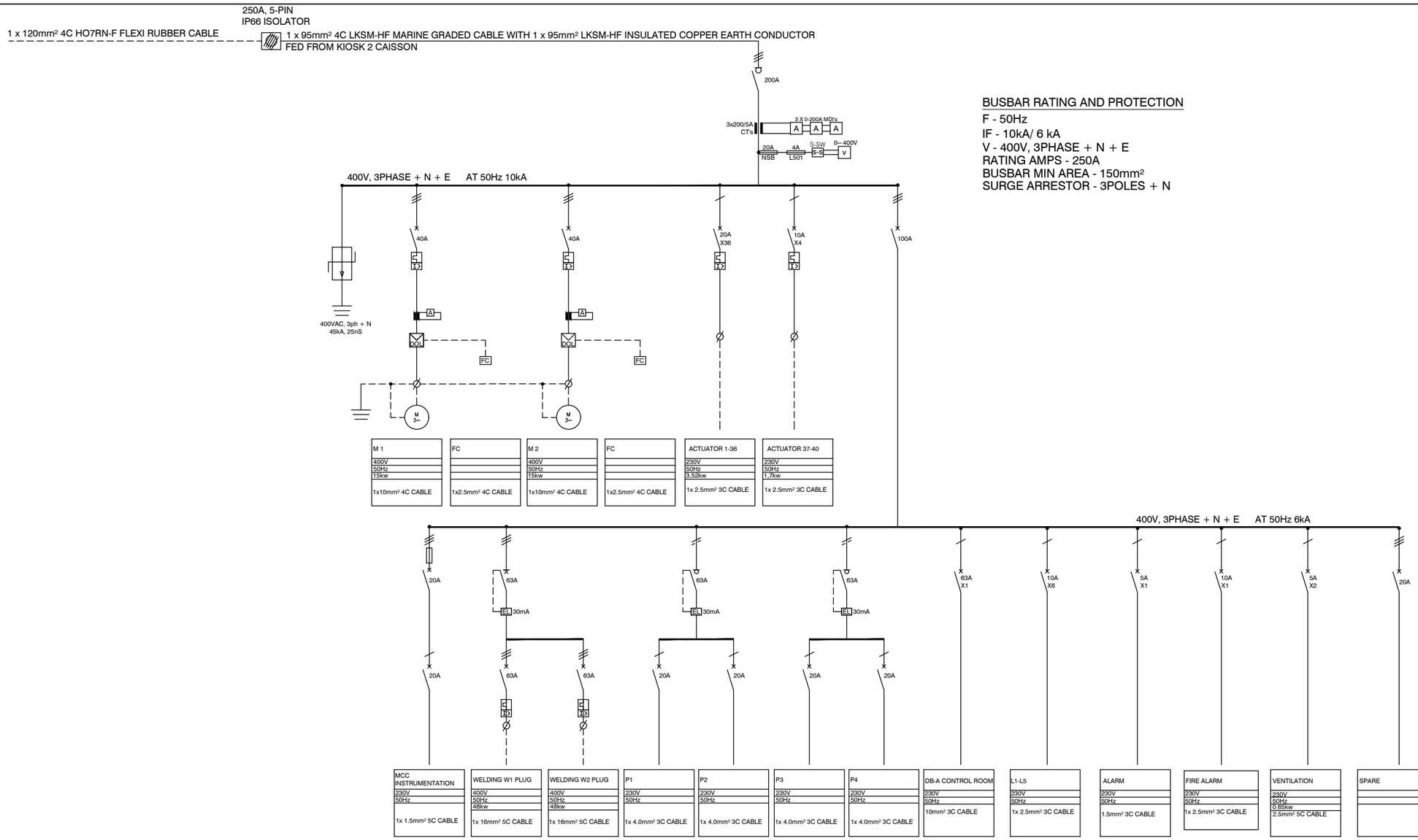
| | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## MCC 1 SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 04-04-19 | 1002-007-3004 | | A | A1 | ISSUED FOR CONSTRUCTION |




## BUSBAR RATING AND PROTECTION

F - 50Hz
IF - 10kA/ 6 kA
V - 400V, 3PHASE + N + E
RATING AMPS - 250A
BUSBAR MIN AREA - 150mm²
SURGE ARRESTOR - 3POLES + N

| LEGEND | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | 1 POLE ISOLATOR |
| | 3 POLE FUSE BREAKER |
| | 2 POLE FUSE BREAKER |
| | 1 POLE FUSE BREAKER |
| | FUSE |
| A | AMETTER |
| S-S | SELECTOR SWITCH |
| | NEUTRAL LINK |
| SD | START DELTA |
| DOL | DIRECT ONLINE STARTER |
| M 3~ | 3 PHASE MOTOR |
| | EARTHING |
| FC | PHOTO ELECTRIC CELL |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| EL | 3 POLE EARTH LEAKAGE UNIT |
| | SURGE ARRESTER |
| | TERMINATION POINT |
| FC | FIELD CONTROL |

### ADDITIONAL NOTES

1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.
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10. TYPE 2 CO-ORDINATED FORM 3B
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### BOARD INFORMATION

| | |
|---|---|
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| LOCATION | : CAISSON GATE |
| MOUNTING | : FLOOR STANDING |
| IP CLASS | : 66 |
| CABLE ENTRY | : BOTTOM FEEDERS & BOTTOM EXIT |
| DOOR REQUIRED | : YES |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
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| 1002-007-3003 | LIGHTING LAYOUT PLAN ON DECK A |
| 1002-007-3002 | LIGHTING LAYOUT PLAN ON DECK B |
| 1002-007-3001 | POWER LAYOUT PLAN ON DECK A |
| 1002-007-3000 | POWER LAYOUT PLAN ON DECK B |

## REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | MAIN CABLE SIZE & AMPS RATING REVISED | LM | TM | MM | 13-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 04-04-2019 |

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## MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA / L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

## APPROVED BY

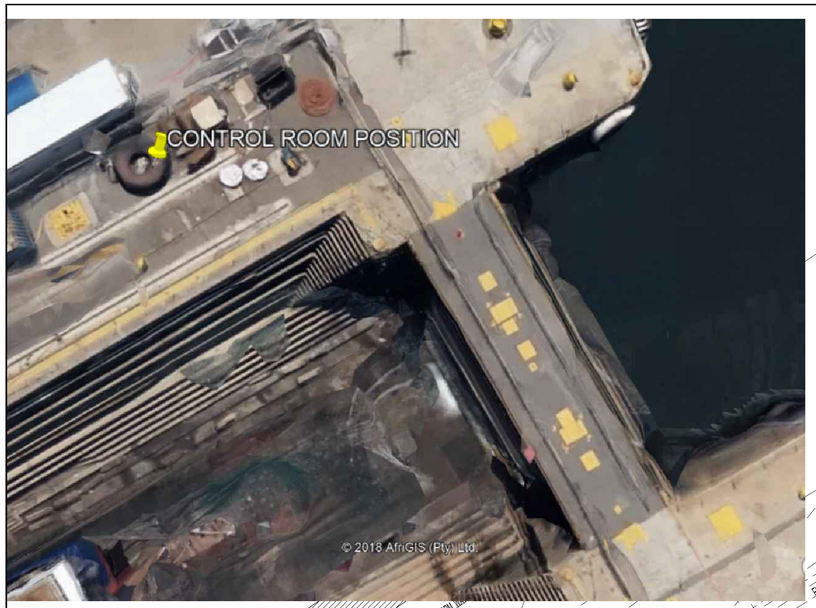
| | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## MCC 1 SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 04-04-19 | 1002-007-3004 | | A | A3 | ISSUED FOR CONSTRUCTION |




| LEGEND: | |
|---|---|
| F | LEDLUME MINI 16 LED 55W OPTIC 5244 ON 6m MOUNTING HEIGHT FIBREGLASS POLE |
| | WEATHER PROOF IP66, ISOLATOR 5PIN – 400V |
| | CABLE |
| K | KIOSK – STAINLESS STEEL GRL316 |

10mm² - 2C PVC/SWA/PVC ECC Cu CABLE FROM KIOSK 2

150mm² - 4C XLPE PVC/SWA/PVC ECC Cu CABLE

120mm² - 4C HO7RN-F FLEXI- RUBBER CABLE WITH 2x 95mm² EARTH HO7RN-F FLEXI CONDUCTOR 100mm LONG

150mm² - 4C XLPE PVC/SWA/PVC ECC Cu CABLE

160KVA GEN

CONTROL ROOM

10mm² - 2C PVC/SWA/PVC ECC Cu CABLE

250A ISOLATOR IP66

10mm² - 3C COPPER CABLE FROM DB-A

10mm² - 2C PVC/SWA/PVC ECC Cu CABLE FROM KIOSK 3

120mm² - 4C HO7RN-F FLEXI- RUBBER CABLE WITH 2x 95mm² EARTH HO7RN-F FLEXI CONDUCTOR 100mm LONG

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3018 | KIOSK 3 SINGLE LINE DIAGRAM |
| 1002-007-3017 | KIOSK 1, 2 & GENERATOR SINGLE LINE DIAGRAM |
| 1002-007-3010 | CONTROL ROOM SINGLE LINE DIAGRAM |
| 1002-007-3009 | CONTROL ROOM LIGHTING LAYOUT PLAN |
| 1002-007-3008 | CONTROL ROOM POWER LAYOUT PLAN |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 4 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 3 | KIOSK 1 & 2 ADDED. | LM | TM | MM | 09-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 29-03-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

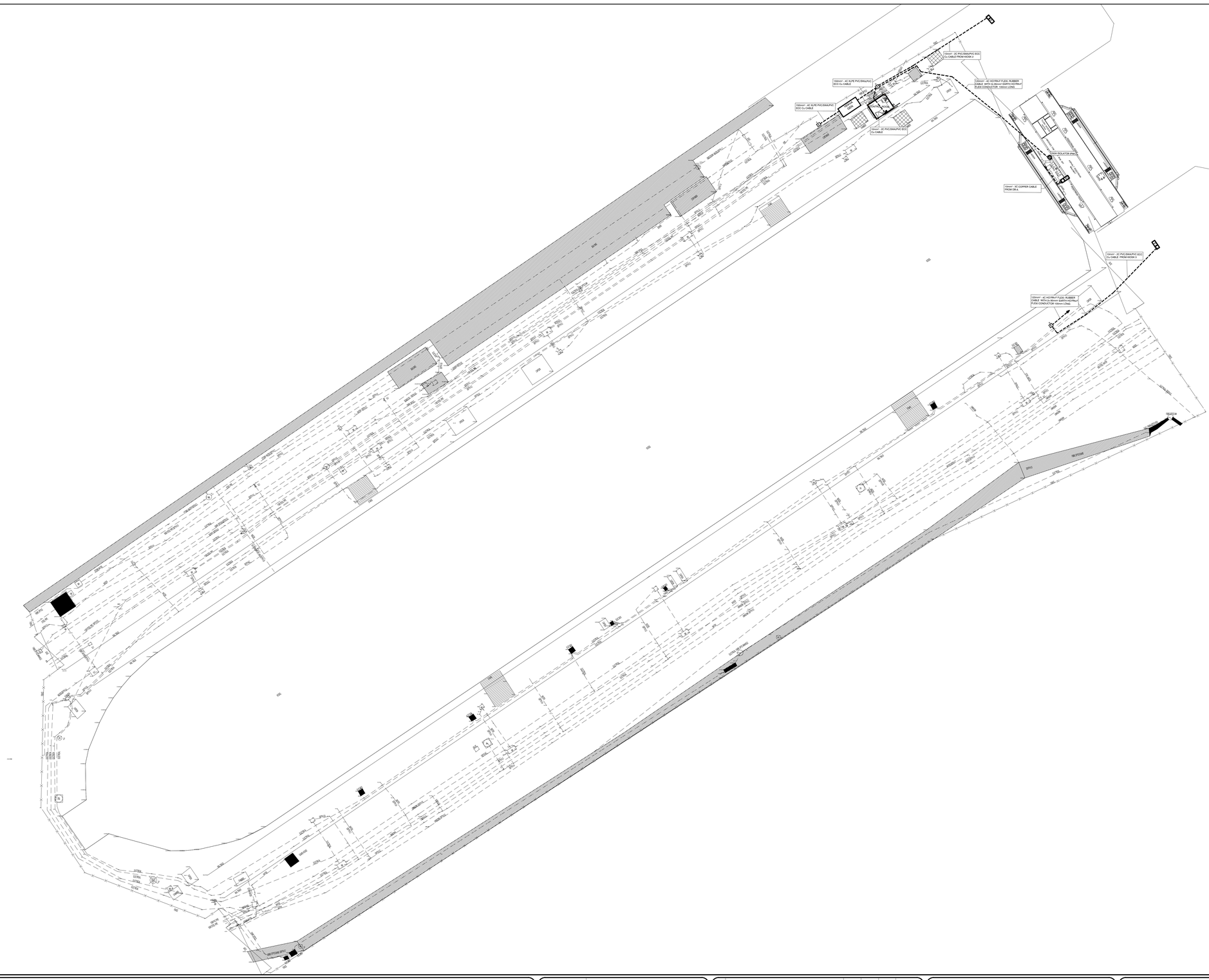
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

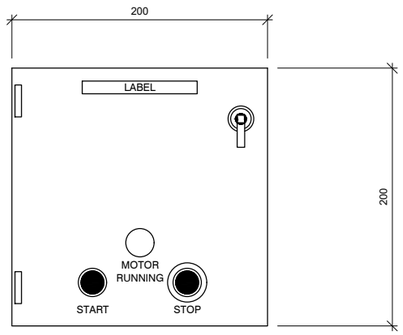
## SITE PLAN RETICULATION LAYOUT

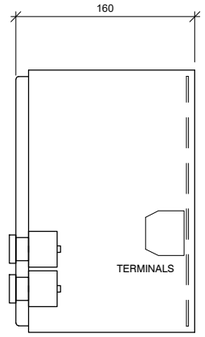
| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:100 | 04-04-19 | 1002-007-3005 | | A | A1 | ISSUED FOR CONSTRUCTION |


LEGEND:
LF
LEDLUME MINI 16 LED 55W OPTIC 5244 ON 6m MOUNTING HEIGHT FIBREGLASS POLE
WEATHER PROOF IP66, ISOLATOR SPIN = 400V
CABLE
K
KIOSK
LEGEND:
FIRE HYDRANT
TREE
GATE
LAMP POLE
WATER METER
ELECTRICAL
SEWER
STORM WATER
TELECOMMUNICATIONS
PIPE LINE
UNKNOWN SERVICE
BUILDING
ROAD KERB
150mm² - 4C XLPE PVC/SWA/PVC ECC Cu CABLE
150mm² - 4C XLPE PVC/SWA/PVC ECC Cu CABLE
150mm² - 2C PVC/SWA/PVC ECC Cu CABLE
120mm² - 4C HOTRN-F FLEXI RUBBER CABLE WITH 2x 95mm EARTH HOTRN-F FLEXI CONDUCTOR 100mm LONG
120mm² - 2C PVC/SWA/PVC ECC Cu CABLE FROM KIOSK 2
120mm² - 4C HOTRN-F FLEXI RUBBER CABLE WITH 2x 95mm² EARTH HOTRN-F FLEXI CONDUCTOR 100mm LONG
120mm² - 2C PVC/SWA/PVC ECC Cu CABLE FROM KIOSK 1
16mm² - 3C COPPER CABLE FROM DB-A
400V ISOLATOR IP66
DB-A
K1
K2
BERTHS 201
BERTHS 202
BERTHS 203
BERTHS 204
BERTHS 205
BERTHS 206
BERTHS 207
BERTHS 208
BERTHS 209
BERTHS 210
BERTHS 211
BERTHS 212
BERTHS 213
BERTHS 214
BERTHS 215
BERTHS 216
BERTHS 217
BERTHS 218
BERTHS 219
BERTHS 220
BERTHS

NOTES:

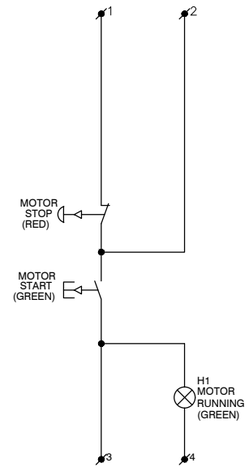
1. ALL NUTS AND BOLTS TO BE STAINLESS STEEL.



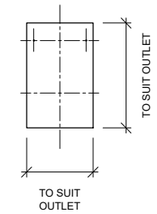




## PUMP START/STOP STATION

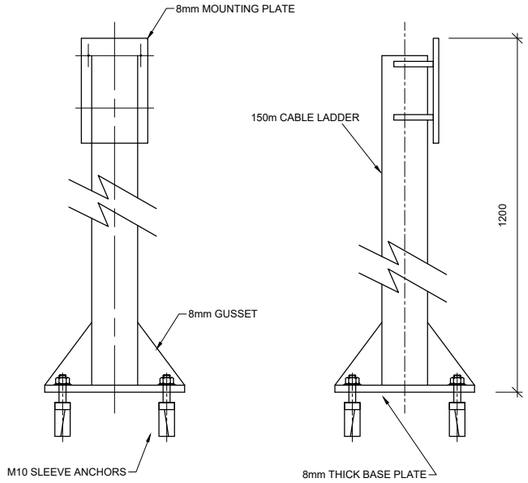
3CR12 CONSTRUCTION, HINGED DOOR AND
PAINTED ELECTRICAL ORANGE (IP66)
TYPICAL SIZE: 200x200x160mm (HxWxD)




## TYPICAL LOCAL START/STOP STATION SCHEMATIC DIAGRAM

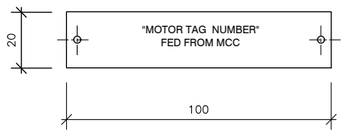



## MOUNTING PLATE
8mm THICK

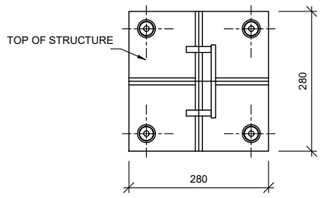









## TRAFOLITE LABLE




## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
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5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 2 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |
| 1 | PRELIMINARY | LM | TM | MM | 08-04-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

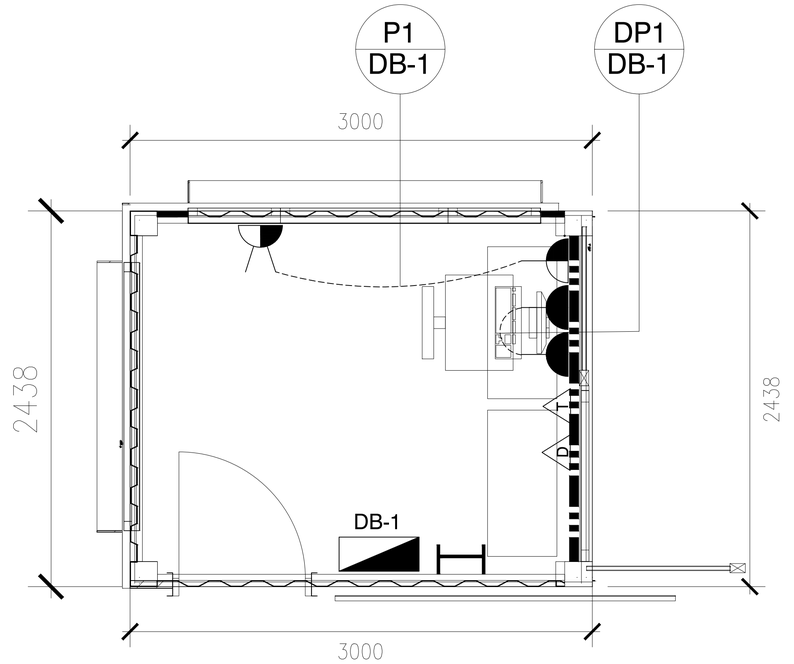
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

TYPICAL CONTROL STATION DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 08-04-19 | 1002-007-3007 | | A | A3 | ISSUED FOR CONSTRUCTION |




## LEGEND

| | |
|---|---|
| | DISTRIBUTION BOARD |
| | NEW 16amp STANDARD SOCKET 3 PIN SWITCH SOCKET OUTLETS BEARING THE SABS MARK.<br>16amp NORMAL SSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE 2.5mm²BCEW IN POWER SKIRTING. 20amp SP 5kg CB IN DISTRIBUTION BOARD FOR PROTECTION. |
| | NEW 16amp RED DEDICATED 3 PIN SWITCH SOCKET OUTLETS BEARING THE SABS MARK - ISOLATED EARTH PIN SHAVED AT 90°.<br>1. 16amp 3 PIN SHAVED SSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE & 2.5mm² PVC GREEN INSULATED EARTH IN POWER SKIRTING .<br>2. NO EARTH LEAKAGE FOR THIS CIRCUIT. |
| | NEW 16amp STANDARD 3 PIN DOUBLE SWITCH SOCKET OUTLETS BEARING THE SABS MARK.16amp NORMAL DSSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE 2.5mm²BCEW ON WALL. 20mm PVC CONDUIT IS TO BE INSTALLED TO ALL POINTS ON 100mm x 100mm STEEL DRAW BOX ON WALL. 20amp SP 5kg CB IN DISTRIBUTION BOARD FOR PROTECTION. |
| | 2 COMPARTMENT POWER SKIRTING |
| T | TELEPHONE OUTLET RJ 11 MOUNTED ON POWER SKIRTING |
| D | DATA OUTLET RJ 45 MOUNTED ON POWER SKIRTING |
| | COPPER EARTH BAR 500mm X 40mm X 4mm WITH 10 OFF, 6mm DIAMETER HOLES PRE -DRILLED SURFACE FIXED ON INSULATORS MOUNTED 300mm A.F.F.L |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3010 | CONTROL ROOM SINGLE LINE DIAGRAM |

### REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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### MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

### APPROVED BY

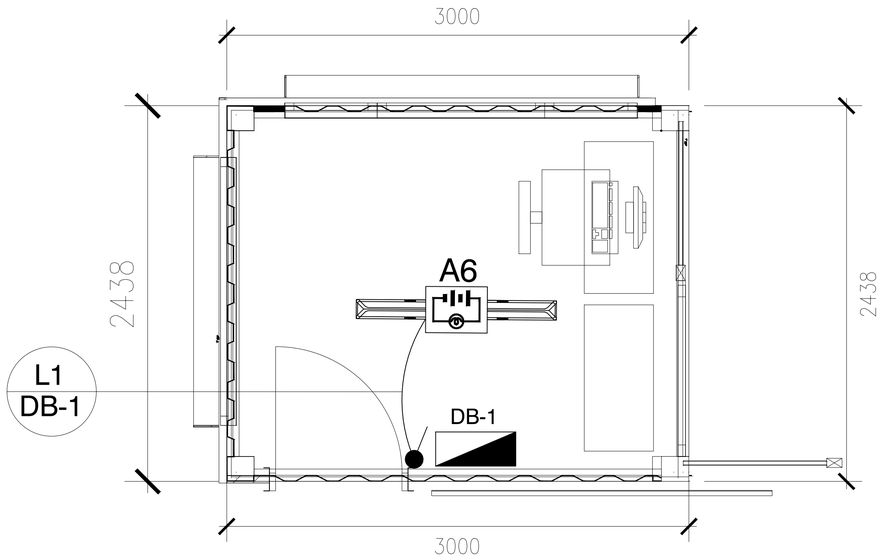
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 1 POWER LAYOUT

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:20 | 09-05-19 | 1002-007-3008 | | A | A1 | ISSUED FOR CONSTRUCTION |




| LEGEND: | |
|---|---|
| | DISTRIBUTION BOARD |
| A6 | SURFACE MOUNTED 40w LED VAPOUR PROOF RATED IP65 LIGHTING FITTING COMPLETE ACRYLIC DIFFUSER WITH 1 HOUR EMERGENCY BATTERY |
| | 1 LEVER 1 WAY LIGHT SWITCH ON A 100mmX50mm STEEL DRAW BOX MOUNTED 1400mm A.F.F.L |

## GENERAL NOTES

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2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3010 | CONTROL ROOM SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
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| STRUCT. ENG. | | |
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| INSTRU. ENG. | | |
| PROC. ENG. | | |

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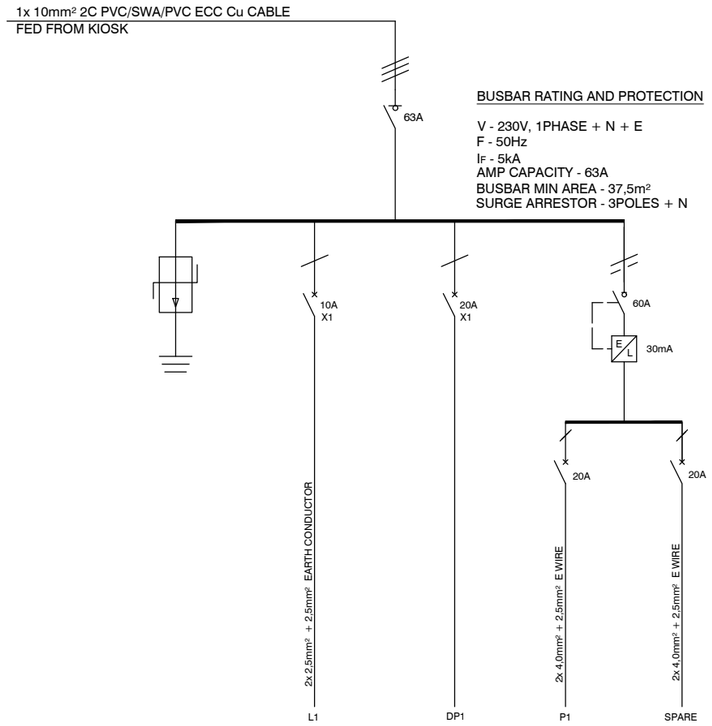
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 1 LIGHTING LAYOUT

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:20 | 09-05-19 | 1002-007-3009 | | A | A1 | ISSUED FOR CONSTRUCTION |




| LEGEND | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |

| ADDITIONAL NOTES | DISTRIBUTION BOARD INFORMATION |
|---|---|
| 1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.<br>2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.<br>3. CASCADING CIRCUIT BREAKERS MUST USED.<br>4. PROVIDE 20% SPARE SPACE.<br>5. MATERIAL SHALL BE 1,6mm STAINLESS STEEL GR316L, WITH WHITE COVER AND WHITE BOARD.<br>6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR. | NAME OF DB : DB 1<br>LOCATION : CONTROL ROOM 1<br>MOUNTING : SURFACE MOUNTED<br>IP CLASS : 54<br>CABLE ENTRY : TOP FEEDERS<br>DOOR REQUIRED : YES, BUT MAIN BREAKER TO PRO-TRUDE |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3009 | CONTROL ROOM LIGHTING LAYOUT PLAN |
| 1002-007-3008 | CONTROL ROOM POWER LAYOUT PLAN |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

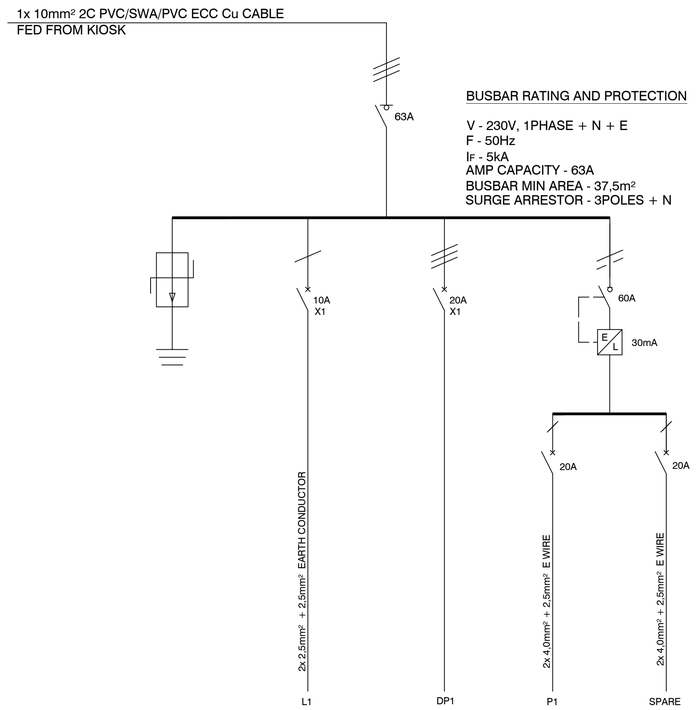
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 1 DB-1 SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 09-05-19 | 1002-007-3010 | | A | A3 | ISSUED FOR CONSTRUCTION |




## LEGEND

| | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |

| ADDITIONAL NOTES | DISTRIBUTION BOARD INFORMATION |
|---|---|
| 1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.<br>2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.<br>3. CASCADING CIRCUIT BREAKERS MUST USED.<br>4. PROVIDE 20% SPARE SPACE.<br>5. MATERIAL SHALL BE 1,6mm STAINLESS STEEL GR316L, WITH WHITE COVER AND WHITE BOARD.<br>6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR. | NAME OF DB : DB 1<br>LOCATION : CONTROL ROOM 1<br>MOUNTING : SURFACE MOUNTED<br>IP CLASS : 54<br>CABLE ENTRY : TOP FEEDERS<br>DOOR REQUIRED : YES, BUT MAIN BREAKER TO PRO-TRUDE |

## GENERAL NOTES

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## REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3009 | CONTROL ROOM LIGHTING LAYOUT PLAN |
| 1002-007-3008 | CONTROL ROOM POWER LAYOUT PLAN |

## REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 04-06-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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## MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

## APPROVED BY

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

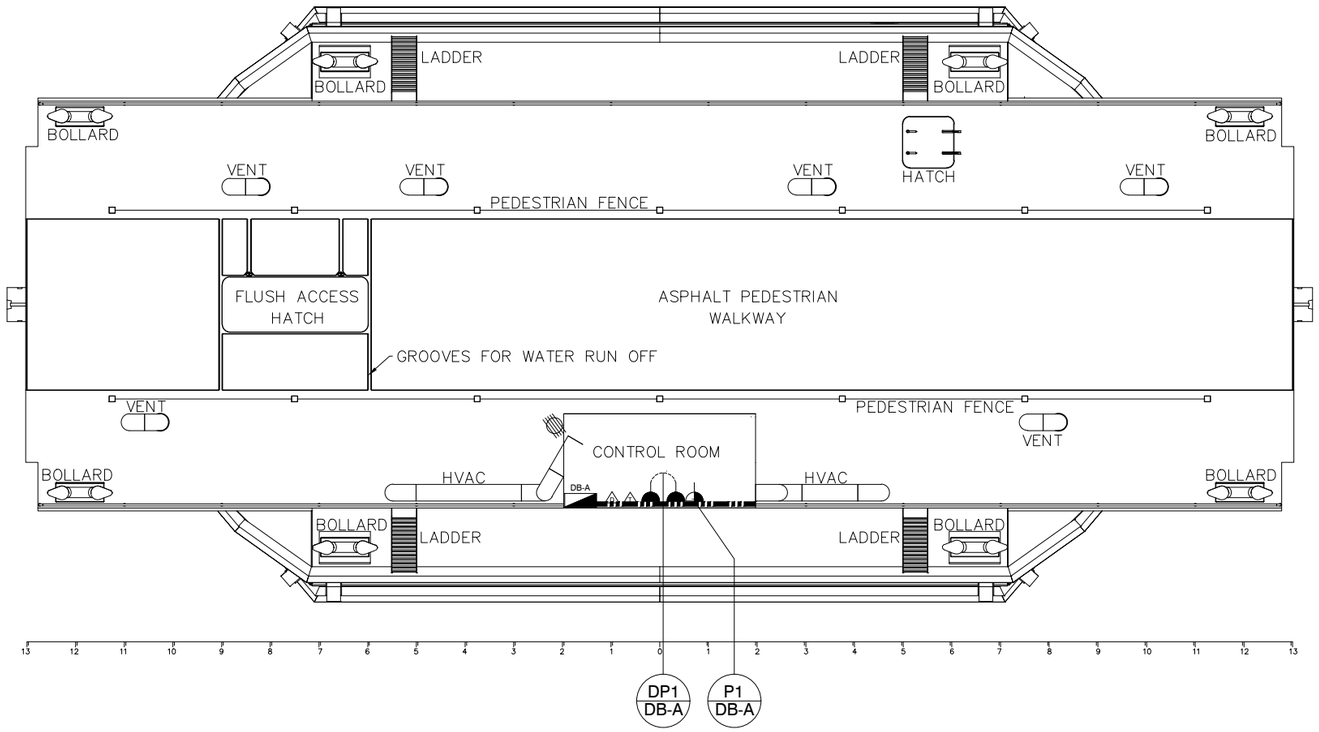
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 1 DB-1 SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 09-05-19 | 1002-007-3010 | | A | A1 | ISSUED FOR CONSTRUCTION |

## LEGEND

| | |
|---|---|
| | DISTRIBUTION BOARD |
| | NEW 16amp STANDARD SOCKET 3 PIN SWITCH SOCKET OUTLETS BEARING THE SABS MARK.<br>16amp NORMAL SSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE 2.5mm²BCEW IN POWER SKIRTING. 20amp SP 5kg CB IN DISTRIBUTION BOARD FOR PROTECTION. |
| | NEW 16amp RED DEDICATED 3 PIN SWITCH SOCKET OUTLETS BEARING THE SABS MARK - ISOLATED EARTH PIN SHAVED AT 90°.<br>1. 16amp 3 PIN SHAVED SSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE & 2.5mm² PVC GREEN INSULATED EARTH IN POWER SKIRTING .<br>2. NO EARTH LEAKAGE FOR THIS CIRCUIT. |
| | NEW 16amp STANDARD 3 PIN DOUBLE SWITCH SOCKET OUTLETS BEARING THE SABS MARK.16amp NORMAL DSSO's TO BE WIRED WITH 2 x 4.0mm² (L+N) PVC WIRE 2.5mm²BCEW ON WALL. 20mm PVC CONDUIT IS TO BE INSTALLED TO ALL POINTS ON 100mm x 100mm STEEL DRAW BOX ON WALL. 20amp SP 5kg CB IN DISTRIBUTION BOARD FOR PROTECTION. |
| | 2 COMPARTMENT POWER SKIRTING |
| T | TELEPHONE OUTLET RJ 11 MOUNTED ON POWER SKIRTING |
| D | DATA OUTLET RJ 45 MOUNTED ON POWER SKIRTING |
| | WEATHER PROOF IP66, ISOLATOR 5PIN - 400V FOR MAIN POWER |




## GENERAL NOTES

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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3013 | CONTROL ROOM 2DECK C SINGLE LINE DIAGRAM |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

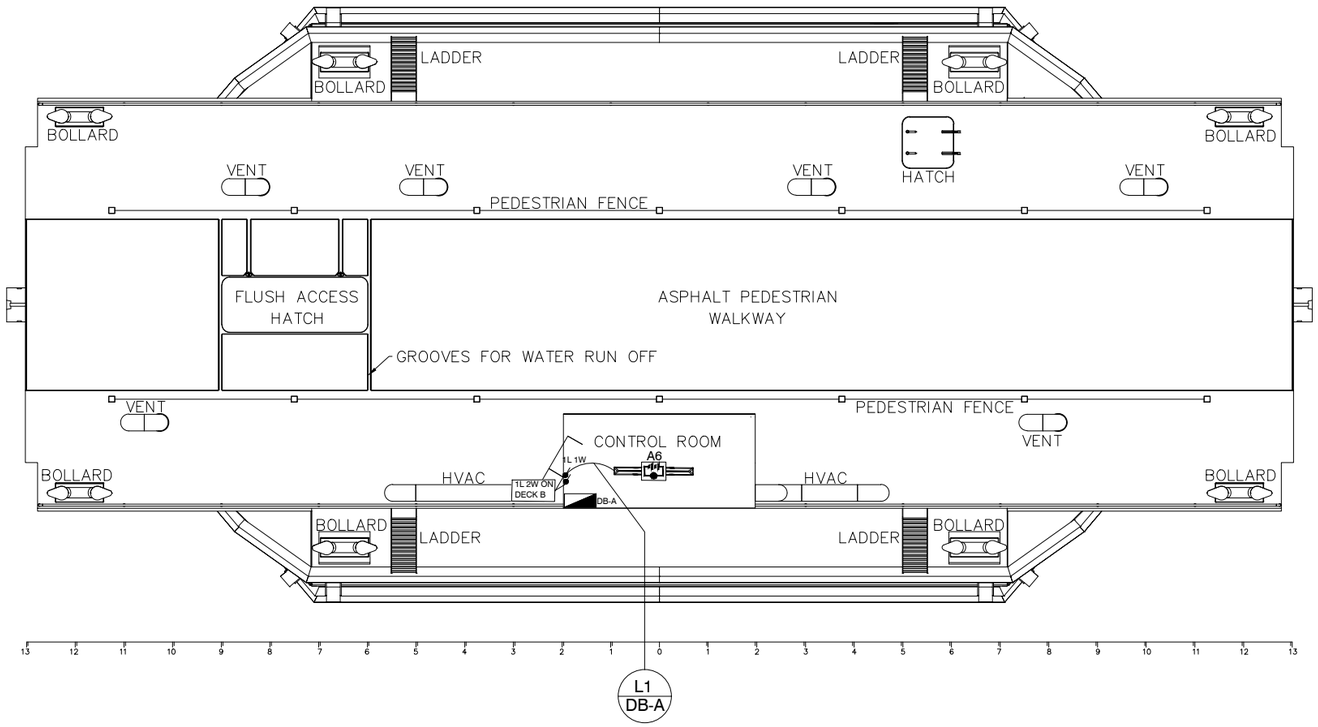
LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 2 DECK C POWER LAYOUT

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 09-05-19 | 1002-007-3011 | | A | A1 | ISSUED FOR CONSTRUCTION |

| LEGEND: | |
|---|---|
| | DISTRIBUTION BOARD |
| A6 | SURFACE MOUNTED 40w LED VAPOUR PROOF LIGHTING FITTING WITH 1 HOUR EMERGENCY BATTERY |
| 1L 2W | 1 LEVER 2 WAY LIGHT SWITCH ON A 100mmX50mm STEEL DRAW BOX MOUNTED 1400mm A.F.F.L |
| 2L 2W | 2 LEVER 2 WAY LIGHT SWITCH ON A 100mmX50mm STEEL DRAW BOX MOUNTED 1400mm A.F.F.L |
| B | SURFACE MOUNTED BULKHEAD LED 20W |
| B | WALL MOUNTED BULKHEAD LED 20W |




## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3013 | CONTROL ROOM 2 DECK C SINGLE LINE DIAGRAM |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
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| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

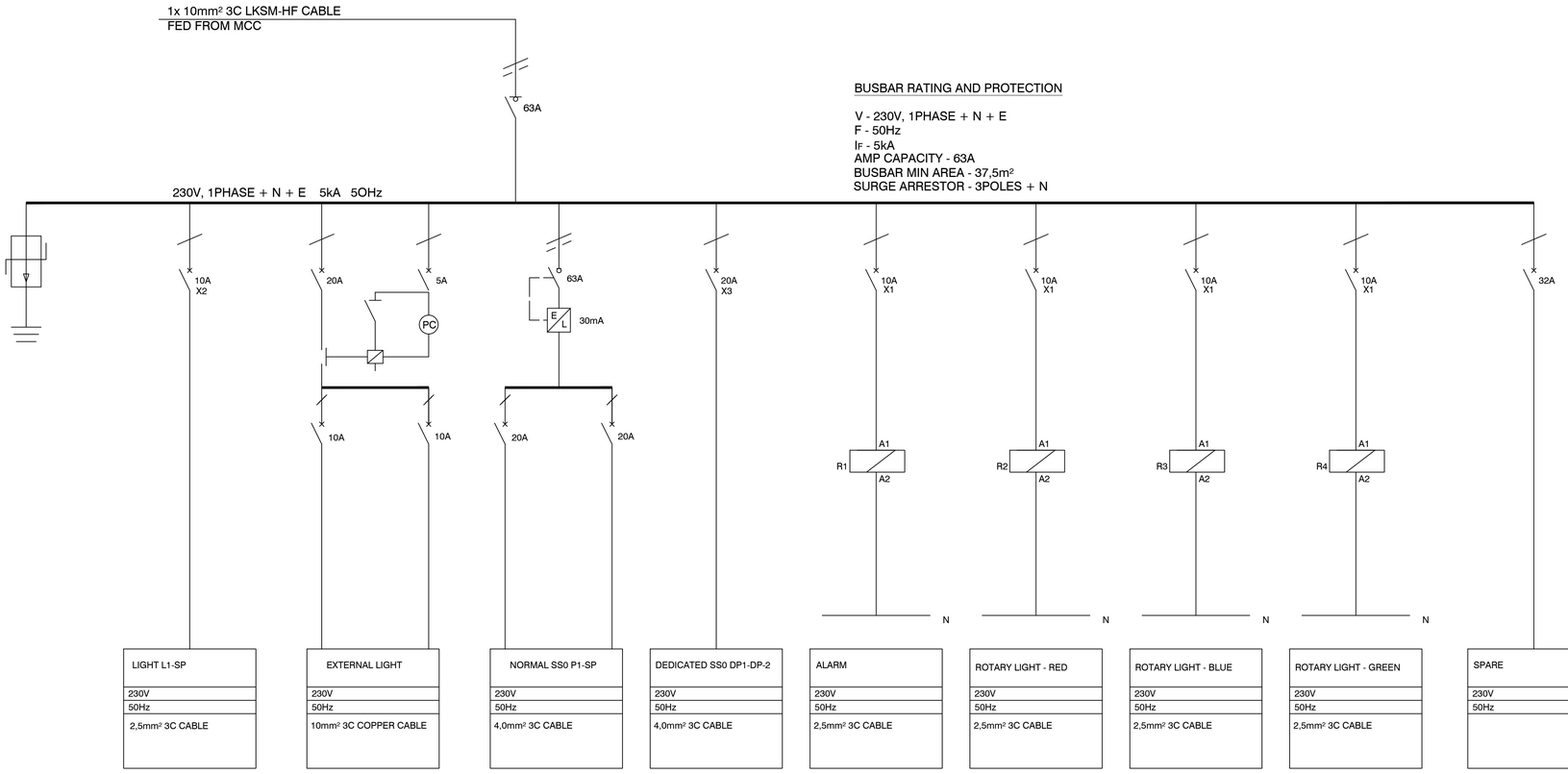
| | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONTROL ROOM 2 DECK C LIGHTING LAYOUT

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 09-05-19 | 1002-007-3012 | | A | A1 | ISSUED FOR CONSTRUCTION |




## LEGEND

| | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| A1 R1 A2 | RELAY |

| ADDITIONAL NOTES | DISTRIBUTION BOARD INFORMATION |
|---|---|
| 1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.<br>2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.<br>3. CASCADING CIRCUIT BREAKERS MUST USED.<br>4. PROVIDE 20% SPARE SPACE.<br>5. MATERIAL SHALL BE 2mm STAINLESS STEEL GR316L WITH RED COVER AND WHITE BOARD.<br>6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR.<br>7. ALL CABLES WITHIN THE CAISSON SHALL BE LKSM-HF SCREENED HALOGEN FREE COPPER CABLE | NAME OF DB : DB A<br>LOCATION : CAISSON CONTROL ROOM<br>MOUNTING : SURFACE MOUNTED<br>IP CLASS : 54<br>CABLE ENTRY : BOTTOM FEEDERS<br>DOOR REQUIRED : YES |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
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| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3012 | CONTROL ROOM 2 DECK C LIGHTING LAYOUT PLAN |
| 1002-007-3011 | CONTROL ROOM 2 DECK C POWER LAYOUT PLAN |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | SINGLE LINE DIAGRAM REVISED | LM | TM | MM | 18-09-2019 |
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

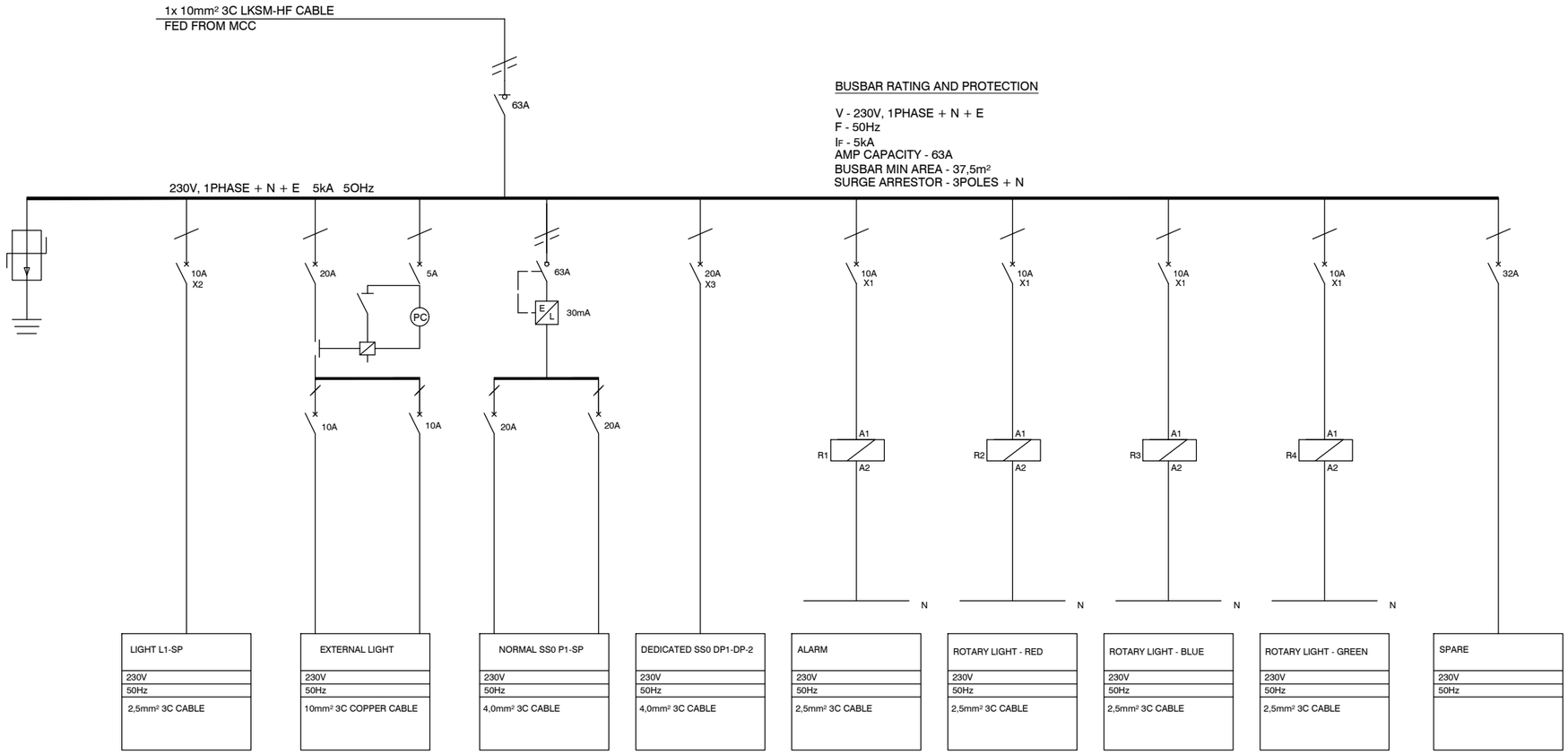
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON CONTROL CAISSON DECK C DB-A SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 09-05-19 | 1002-007-3013 | | A | A1 | ISSUED FOR CONSTRUCTION |




## LEGEND

| | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| A1 R1 A2 | RELAY |

### ADDITIONAL NOTES

1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.
2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.
3. CASCADING CIRCUIT BREAKERS MUST USED.
4. PROVIDE 20% SPARE SPACE.
5. MATERIAL SHALL BE 2mm STAINLESS STEEL GR316L WITH RED COVER AND WHITE BOARD.
6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR.
7. ALL CABLES WITHIN THE CAISSON SHALL BE LKSM-HF SCREENED HALOGEN FREE CABLE

### D I S T R I B U T I O N B O A R D INFORMATION

NAME OF DB : DB A
LOCATION : CAISSON CONTROL ROOM
MOUNTING : SURFACE MOUNTED
IP CLASS : 54
CABLE ENTRY : BOTTOM FEEDERS
DOOR REQUIRED : YES

### GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
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### REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3012 | CONTROL ROOM 2 DECK C LIGHTING LAYOUT PLAN |
| 1002-007-3011 | CONTROL ROOM 2 DECK C POWER LAYOUT PLAN |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

### REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | SINGLE LINE DIAGRAM REVISED | LM | TM | MM | 18-09-2019 |
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### MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
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| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

### APPROVED BY

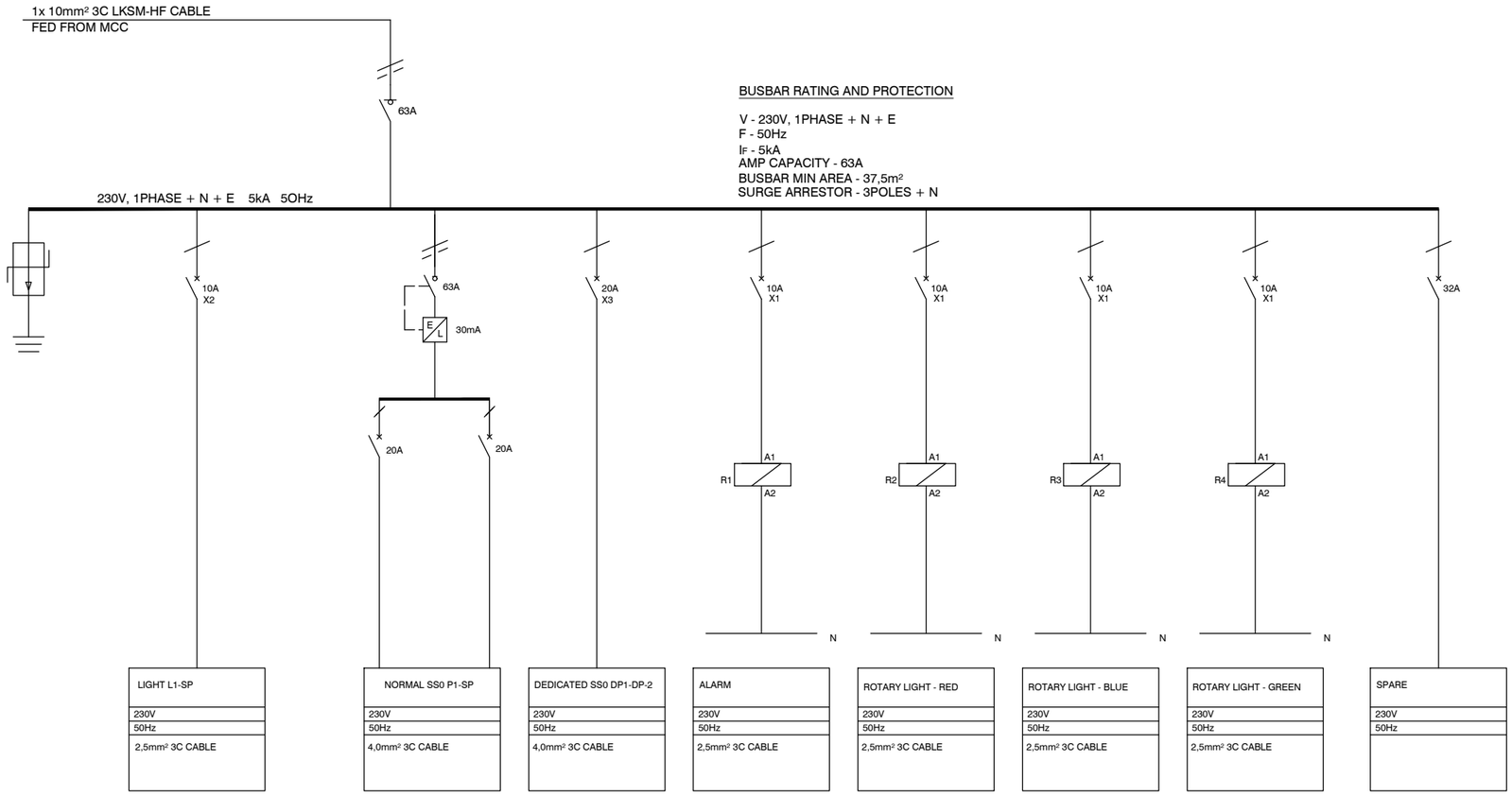
| | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON CONTROL CAISSON DECK C DB-A SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 09-05-19 | 1002-007-3013 | | A | A3 | ISSUED FOR CONSTRUCTION |




## LEGEND

| | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| A1 R1 A2 | RELAY |

## ADDITIONAL NOTES

1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.
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## DISTRIBUTION BOARD INFORMATION

NAME OF DB : DB A
LOCATION : CAISSON CONTROL ROOM
MOUNTING : SURFACE MOUNTED
IP CLASS : 54
CABLE ENTRY : BOTTOM FEEDERS
DOOR REQUIRED : YES

## GENERAL NOTES

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## MAIN CONSULTANT

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| DRAWN | L. MKHIZE | |
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| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

## APPROVED BY

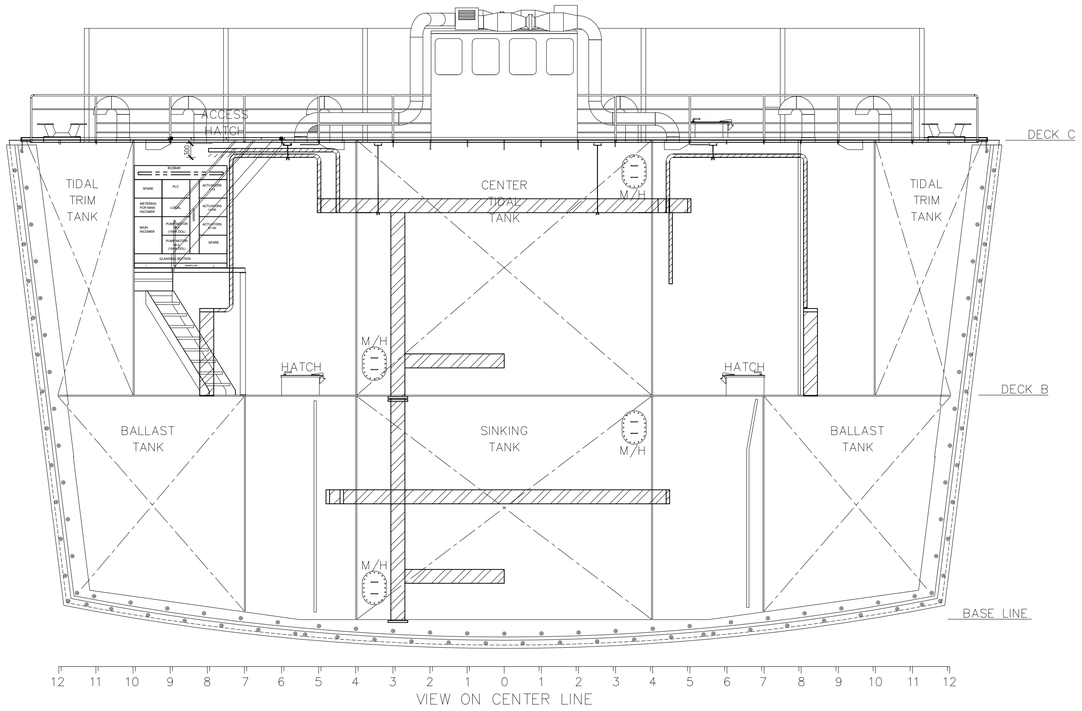
| | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

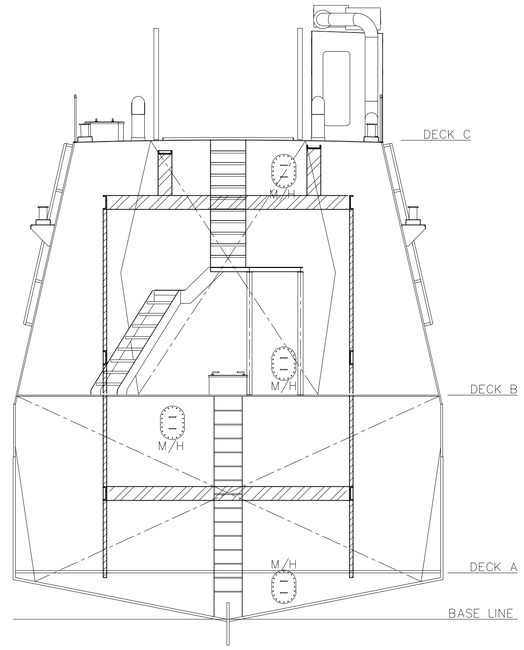
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON CONTROL ROOM 2 DECK C SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 09-05-19 | 1002-007-3013 | | A | A3 | ISSUED FOR CONSTRUCTION |




VIEW ON CENTER LINE

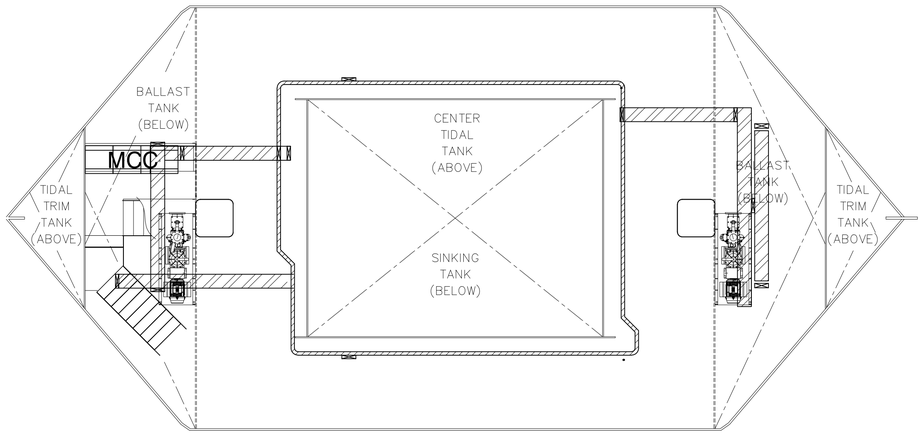



SECTION VIEW FR 5
LOOKING AFT

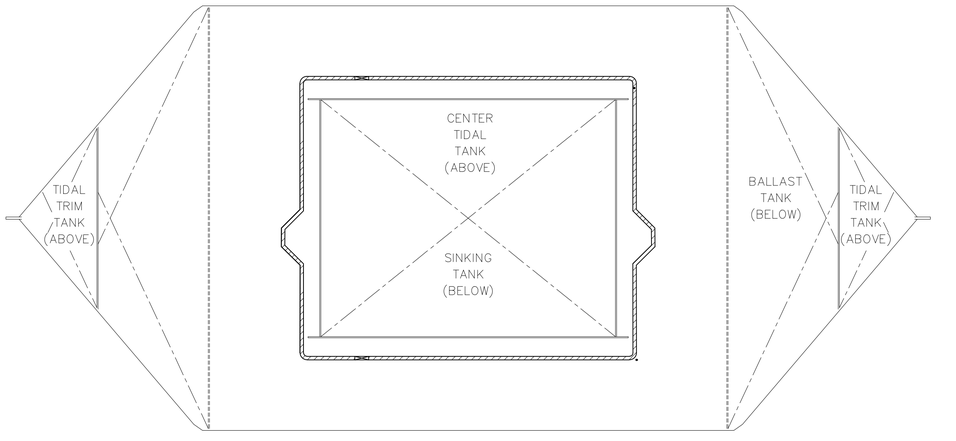
| LEGEND: | |
|---|---|
| MCC | MCC PANEL |
| | 300mm X 75mm CABLE LADDER (SIDE VIEW) |
| | 300mm X 75mm CABLE LADDER (TOP VIEW) |
| | 300mm X 75mm CABLE LADDER RISER (BEND) |
| | |

**NOTES:**

1. ACTUATORS ARE FED FROM MCC AND TERMINATED DIRECTLY.
2. CABLE LADDER SHALL BE STAINLESS STEEL GR316L




PROFILE VIEW DECK B




PLAN VIEW ON DECK A

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
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| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 3 | GATE LAYOUT REVISED | LM | TM | MM | 18-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 07-05-2019 |

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| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

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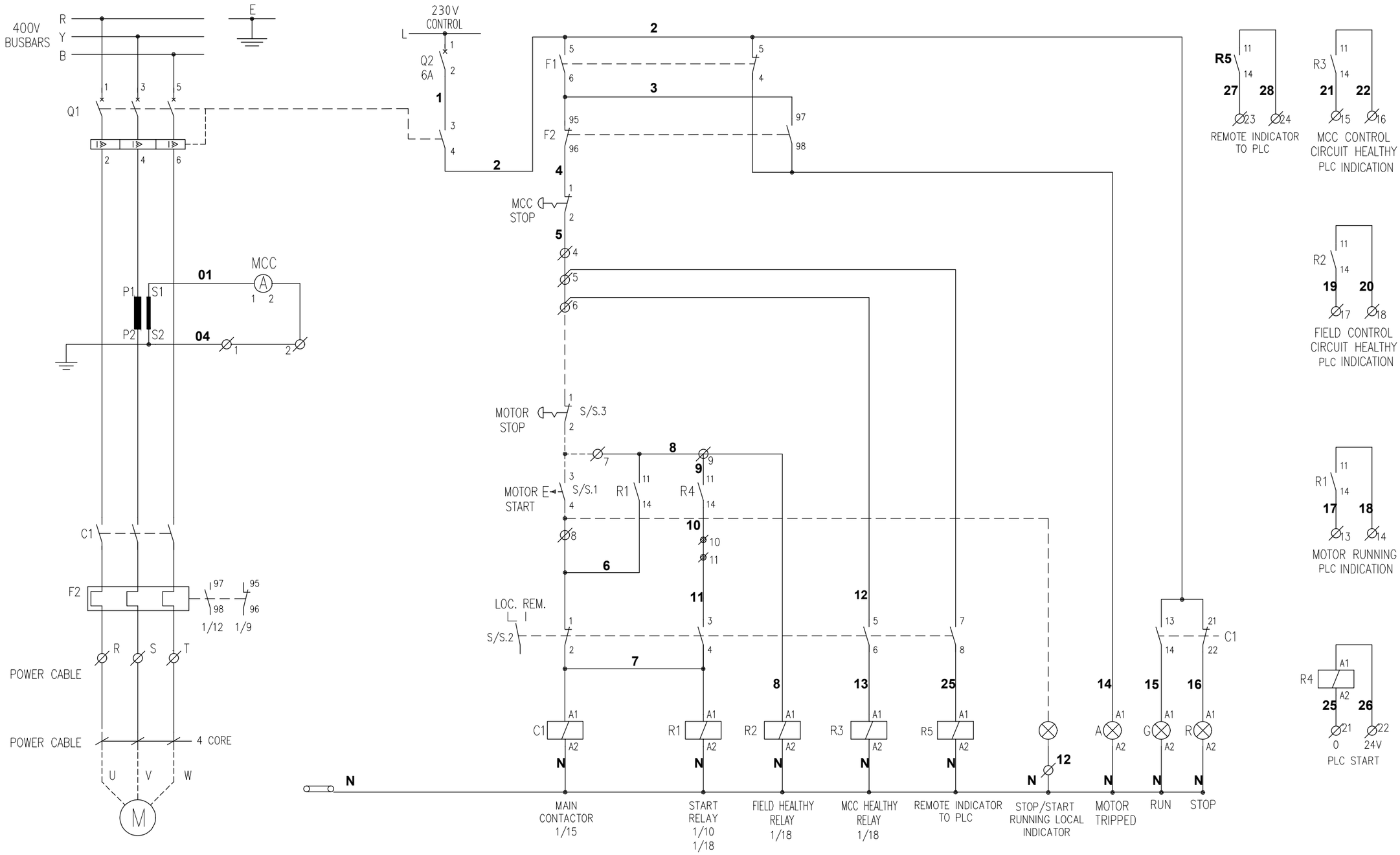
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CABLE LADDER LAYOUT ON DECK A & DECK B

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3014 | | A | A1 | ISSUED FOR CONSTRUCTION |




## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
4. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

## REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |
| 1002-007-3016 | DOL STARTER SECTION 2 |

## REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | TM | 09-05-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |

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| DRAWN | L. MKHIZE | |
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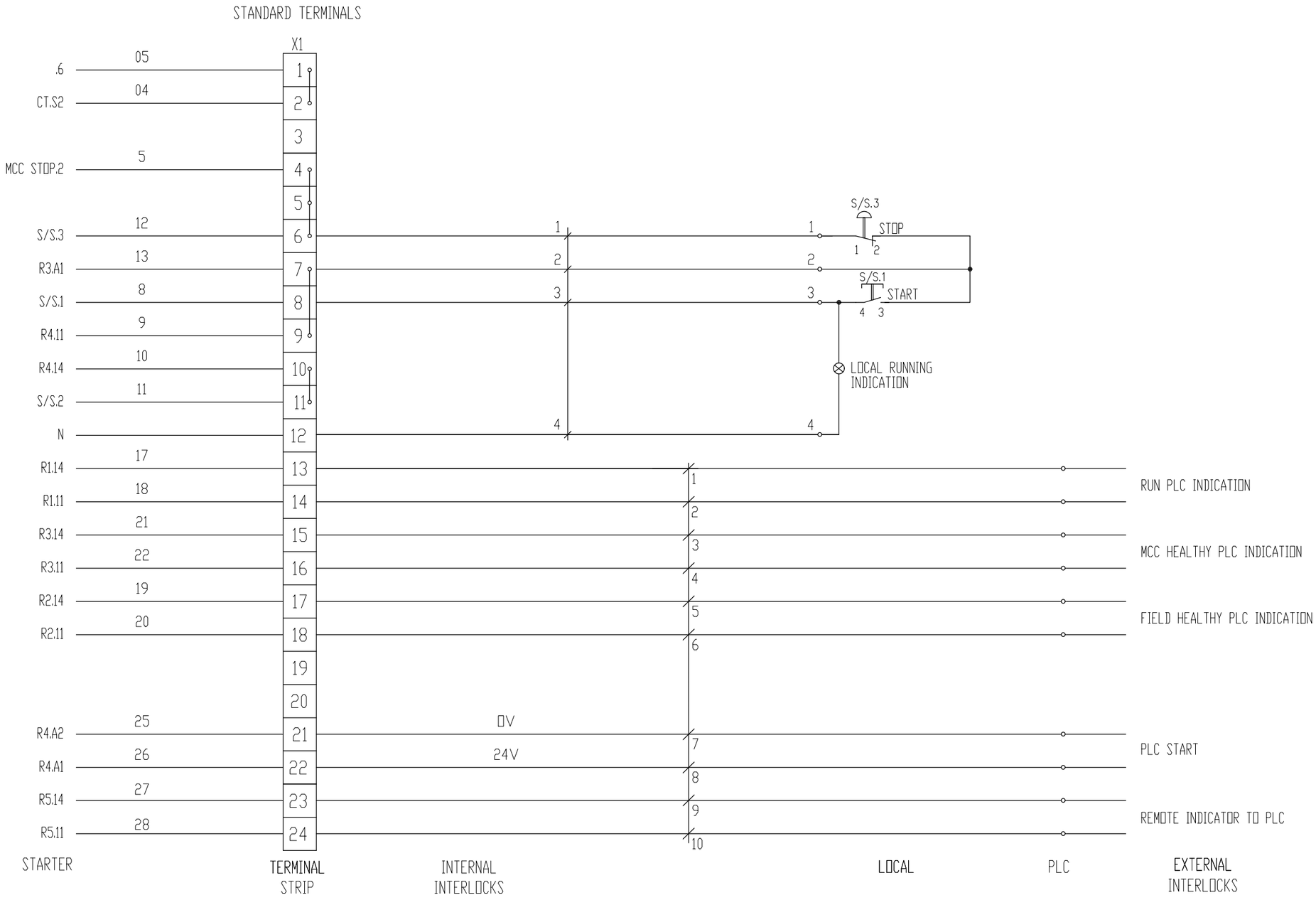
LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON CONTROL ROOM DOL STARTER SECTION 1

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3015 | | A | A3 | ISSUED FOR CONSTRUCTION |




## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
4. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3015 | DOL STARTER SECTION 1 |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | DRAWING NUMBER (SHEET NUMBER) REVISED | LM | TM | MM | 13-05-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 09-05-2019 |

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| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| CHECKED | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
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| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

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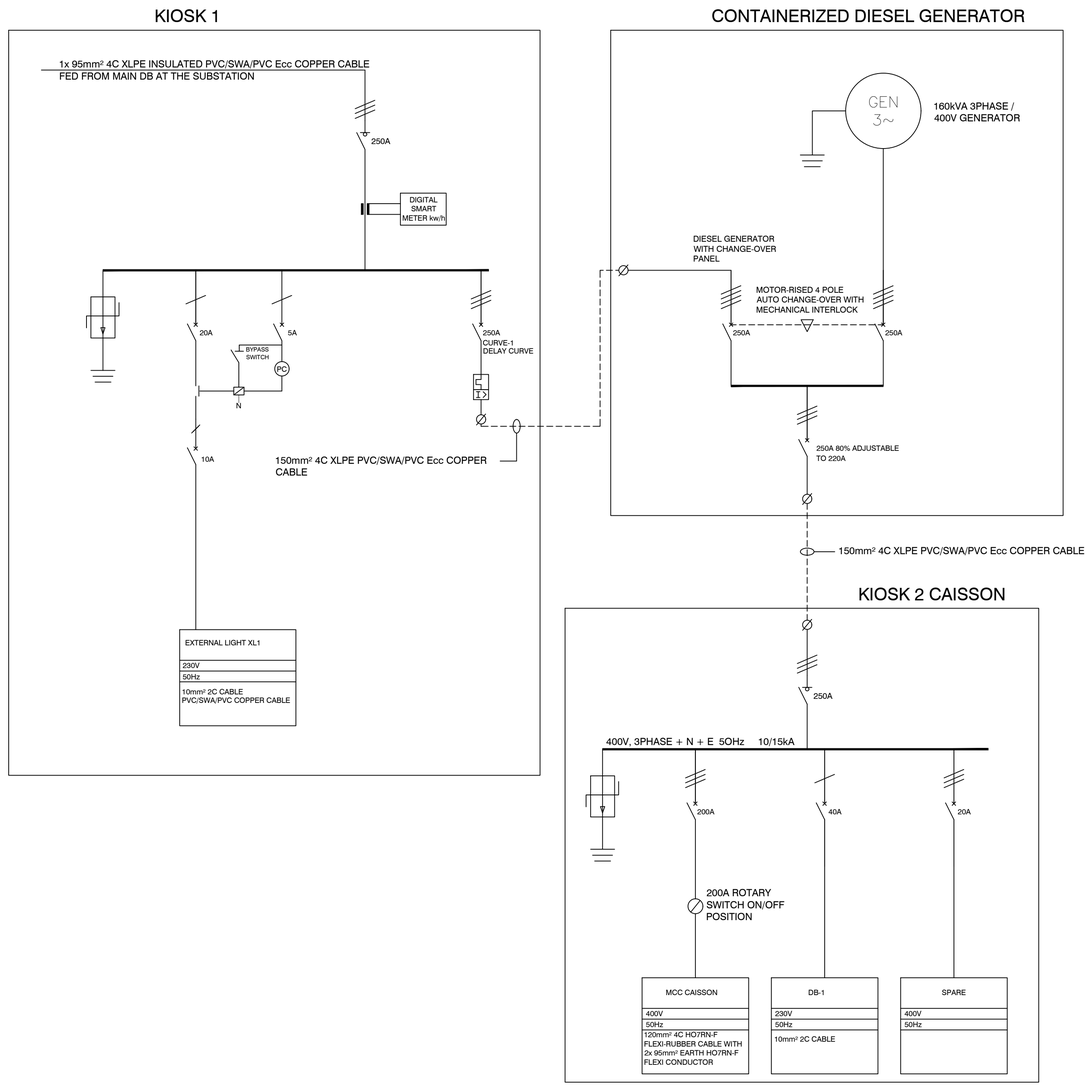
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CAISSON CONTROL ROOM DOL STARTER SECTION 2

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3016 | | A | A3 | ISSUED FOR CONSTRUCTION |




| LEGEND | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| ∅ | TERMINATION POINT |

| ADDITIONAL NOTES |
|---|
| 1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER. |
| 2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS. |
| 3. CASCADING CIRCUIT BREAKERS MUST USED. |
| 4. PROVIDE 20% SPARE SPACE. |
| 5. MATERIAL SHALL BE 2,0mm STAINLESS STEEL GR316L, WITH RED COVER PLATE AND ELECTRIC ORANGE BOARD. |
| 6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR. |
| 7. KIOSK 2 CAISSON SHALL HAVE ROTARY SWITCH 200A 400V WITH ON & OFF POSITION FOR MCC CAISSON FEEDING CABLE |

| ELECTRICAL PANEL INFORMATION | | |
|---|---|---|
| NAME OF DB : KIOSK 1 | NAME OF PANEL : 160kVA, 400VAC DIESEL GENERATOR | NAME OF DB : KIOSK 2 CAISSON |
| LOCATION : DRY DOCK | LOCATION : DRY DOCK (CONTAINERIZED) | LOCATION : DRY DOCK |
| MOUNTING : FLOOR STANDING | MOUNTING : FLOOR STANDING | MOUNTING : FLOOR STANDING |
| IP CLASS : 65 | IP CLASS : 65 | IP CLASS : 65 |
| CABLE ENTRY : BOTTOM FEEDERS | CABLE ENTRY : BOTTOM FEEDERS | CABLE ENTRY : BOTTOM FEEDERS |
| DOOR REQUIRED : YES | DOOR REQUIRED : YES | DOOR REQUIRED : YES |
| COLOR : ELECTRIC ORANGE | | |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
4. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3006 | RETICULATION 2 LAYOUT |
| 1002-007-3005 | RETICULATION 1 LAYOUT |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |
| 2 | CABLE TYPE CHANGED | LM | TM | MM | 18-09-2019 |
| 1 | ISSUED FOR CLIENT REVIEW | LM | TM | MM | 13-05-2019 |

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|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

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|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

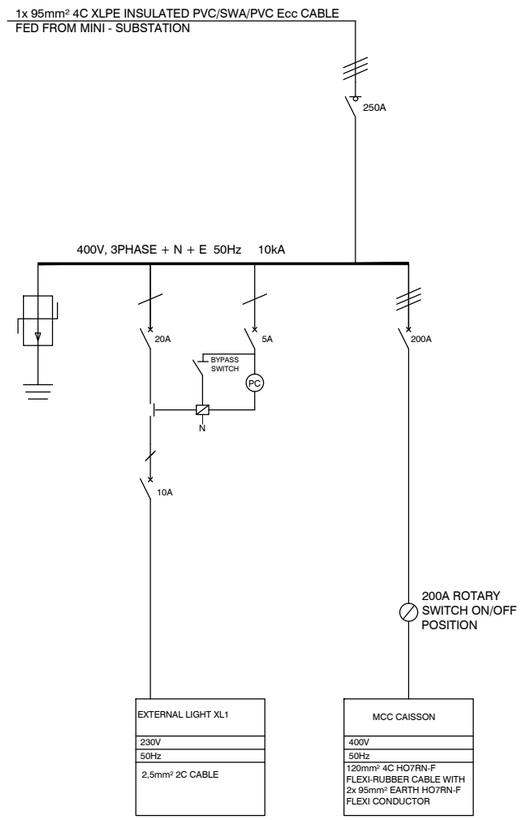
LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## KIOSK 1, KIOSK 2 CAISSON & 160kVA GENERATOR SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3017 | | A | A1 | ISSUED FOR CONSTRUCTION |

# KIOSK 3




## LEGEND

| | |
|---|---|
| | 3 POLE CIRCUIT BREAKER |
| | 1 POLE CIRCUIT BREAKER |
| | 3 POLE ISOLATOR |
| | EARTHING |
| | CABLE ON/ TO FIELD |
| L1/ P1 | CIRCUIT NUMBERING |
| | SURGE ARRESTER |
| EL | 2 POLE (L+N) EARTH LEAKAGE UNIT |
| ∅ | TERMINATION POINT |

| ADDITIONAL NOTES | ELECTRICAL PANEL INFORMATION |
|---|---|
| 1. THIS DB SHALL COMPLY WITH SANS 1973/61439 AND SHALL BE DESIGNED AND MANUFACTURED BY A SPECIALIST SWITCHBOARD MANUFACTURER.<br>2. ALL EQUIPMENT SHALL COMPLY TO THE RELEVANT SANS STANDARDS.<br>3. CASCADING CIRCUIT BREAKERS MUST USED.<br>4. PROVIDE 30% SPARE SPACE.<br>5. MATERIAL SHALL BE 2,0mm STAINLESS STEEL GR316L, WITH WHITE COVER PLATE AND ELECTRIC ORANGE BOARD.<br>6. NEUTRAL AND EARTH BAR MUST BE EQUAL TO PHASE BAR.<br>7. KIOSK 3 CAISSON SHALL HAVE ROTARY SWITCH 200A 400V WITH ON & OFF POSITION FOR MCC CAISSON FEEDING CABLE | NAME OF DB : KIOSK 3<br>LOCATION : DRY DOCK<br>MOUNTING : FLOOR STANDING<br>IP CLASS : 65<br>CABLE ENTRY : BOTTOM FEEDERS<br>DOOR REQUIRED : YES<br>COLOR : ELECTRIC ORANGE |

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1 AND LLOYD'S STANDARD ELECTRICAL REGULATION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
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6. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3006 | RETICULATION 2 LAYOUT |
| 1002-007-3005 | RETICULATION 1 LAYOUT |
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
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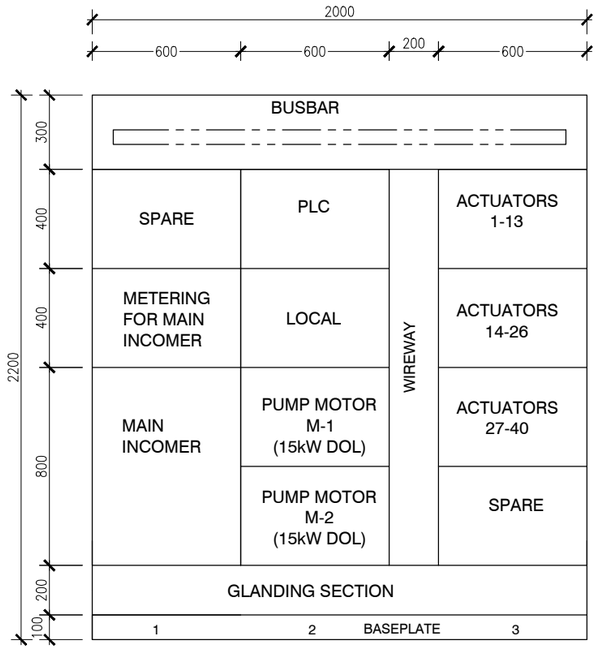
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

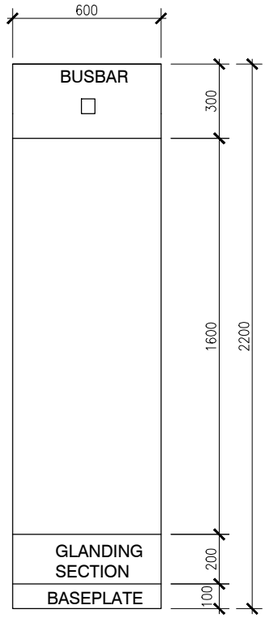
DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

KIOSK 3
SINGLE LINE DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3018 | | A | A3 | ISSUED FOR CONSTRUCTION |



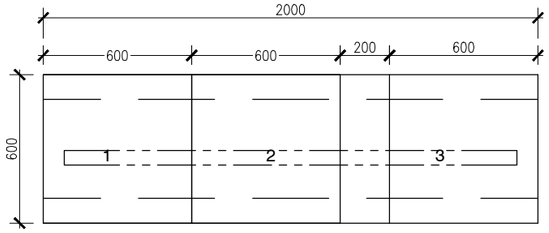

PROPOSED GENERAL ARRANGEMENT




SECTION

NOTES:

1. MATERIAL SHALL BE A MINIMUM OF 2,0mm STAINLESS STEEL GR316L.
2. EPOXY POWDER FINISH ELECTRIC ORANGE WITH RED COVER PLATES.
3. BASE PLATE SHALL BE BLACK COLOR.
4. BUSBAR TO BE COLOR CODED TO SUIT PHASE, NEUTRAL AND EARTH.
5. LABELLING WITH IRVONE BLACK IRVORENE LABEL WRITTEN IN WHITE.




TOP VIEW

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1, LLOYD'S STANDARD ELECTRICAL REGULATION AND SANS 1973.
2. MATERIAL TO BE 3CR12, ELECTRIC ORANGE.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
4. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
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## REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3004 | MCC SINGLE LINE DIAGRAM |

## REVISIONS / ISSUE AUTHORIZATION

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| TITLE | NAME | DATE |
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| **CHECKED** | | |
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| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

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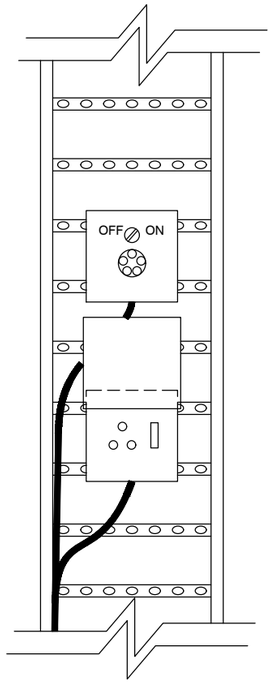
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

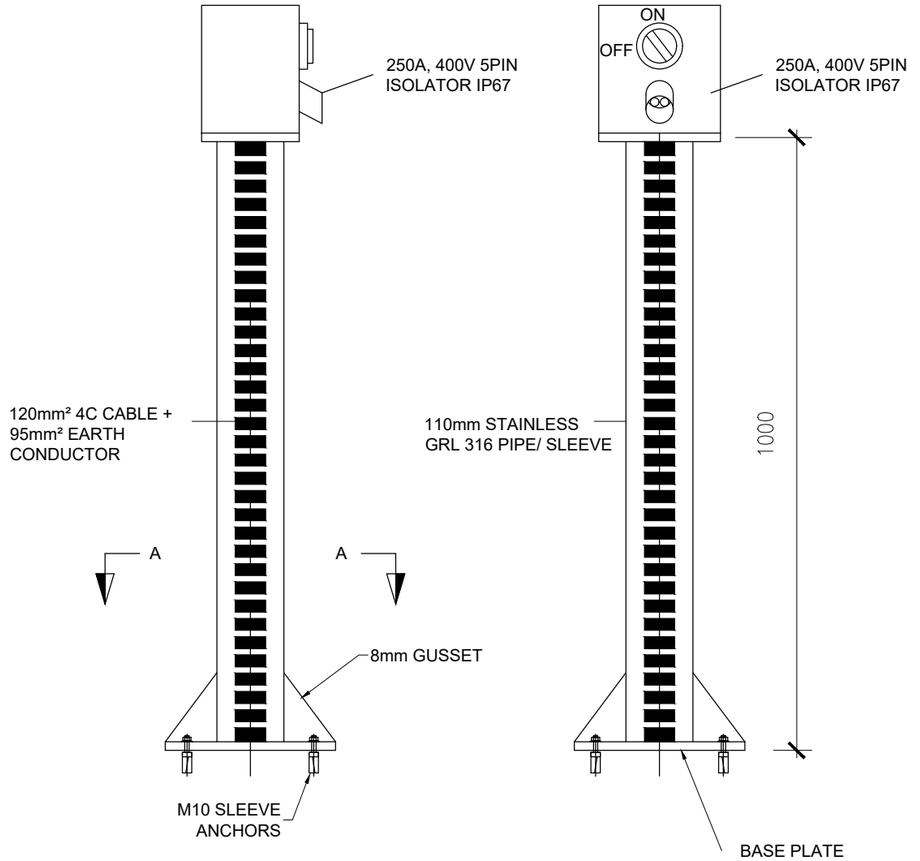
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

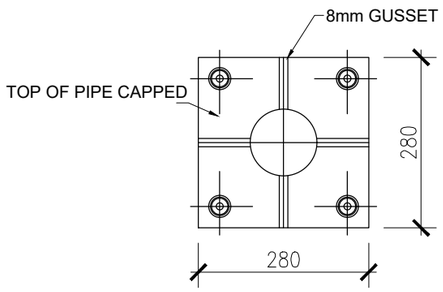
## MCC PANEL DETAIL

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3019 | | A | A3 | ISSUED FOR CONSTRUCTION |




SURFACE MOUNTED
SWITCHED SOCKET
OUTLET AND
ISOLATOR




SECTION A-A

## GENERAL NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH SANS 10142-1, LLOYD'S STANDARD ELECTRICAL REGULATION AND SANS 1973.
2. MATERIAL TO BE 3CR12, ELECTRIC ORANGE.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS RELATING TO EXISTING CONDITIONS BY MAKING FIELD SURVEYS AND MEASUREMENTS PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION.
4. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION METHODS USED WILL NOT CAUSE DAMAGE TO CAISSON
5. THE GENERAL CONTRACTOR SHALL OBTAIN COPIES OF THE LATEST CONTRACT DOCUMENTS,INCLUDING ALL ADDENDA, AND PROVIDE THE RELEVANT PORTIONS TO ALL SUB-CONTRACTORS AND SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS.
6. THE GENERAL CONTRACTOR SHALL COMPARE AND COORDINATE THE DRAWINGS OF ALL DISCIPLINES AND REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS TO ENGINEER.
7. DETAILS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SEE DETAIL TITLES FOR APPLICABILITY OF A PARTICULAR DETAIL. TYPICAL DETAILS SHALL APPLY WHETHER OR NOT THEY ARE SPECIFICALLY KEYED AT EACH LOCATION. THE ENGINEER SHALL HAVE FINAL AUTHORITY TO DETERMINE APPLICABILITY OF TYPICAL DETAILS.

## REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|
| 1002-007-3011 | CONTROL ROOM 2 POWER LAYOUT |
| 1002-007-3005 | RETICULATION LAYOUT |
| 1002-007-3003 | PROFILE VIEW & UPPER LOWER DECK A LIGHTING |
| 1002-007-3002 | PROFILE VIEW & UPPER LEVEL DECK B LIGHTING |

## REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | ISSUED FOR CONSTRUCTION | LM | TM | MM | 20-09-2019 |

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TRANSNET national ports authority

## CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

## MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | T. MBATHA/ L. NYONI | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

## APPROVED BY

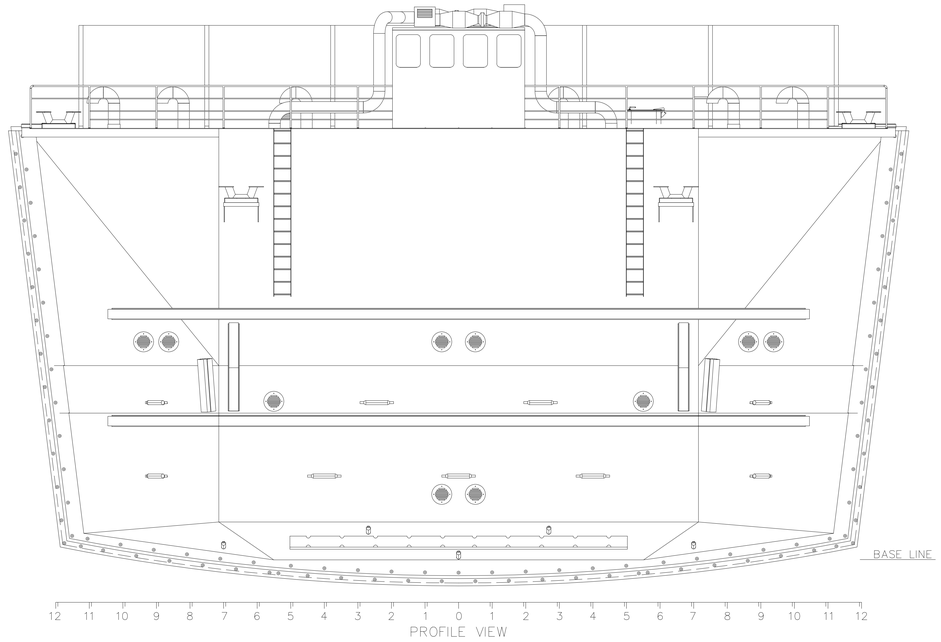
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

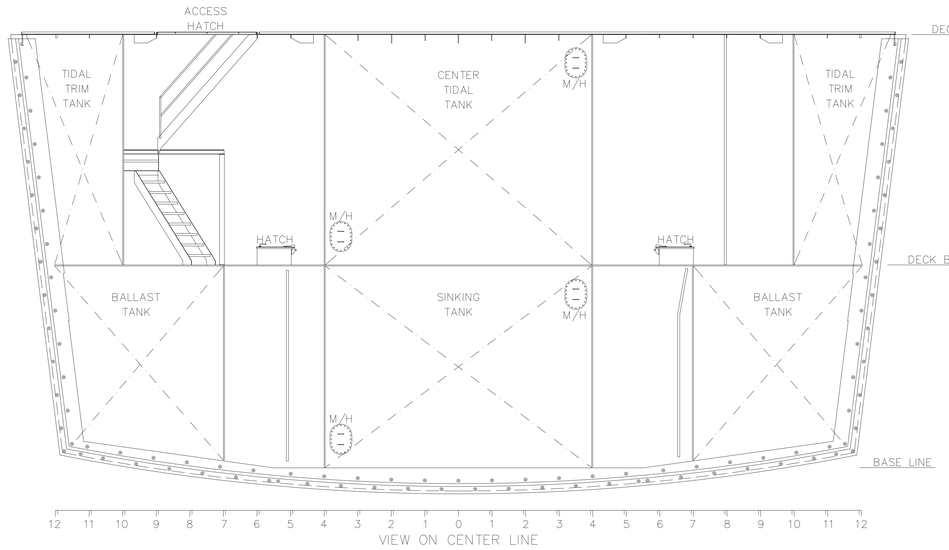
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

TYPICAL DETAIL DRAWING

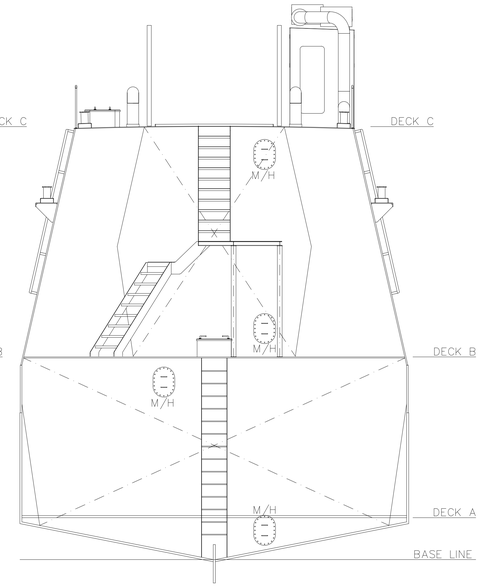
| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 07-05-19 | 1002-007-3020 | | A | A3 | ISSUED FOR CONSTRUCTION |



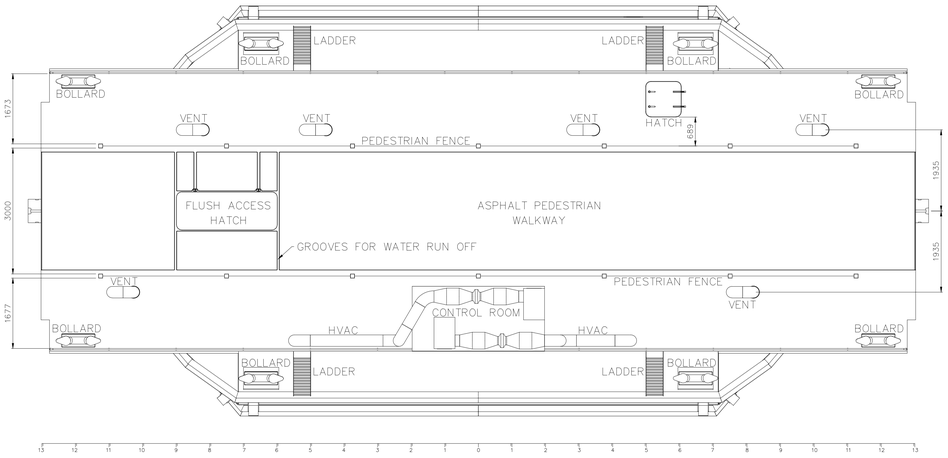

PROFILE VIEW

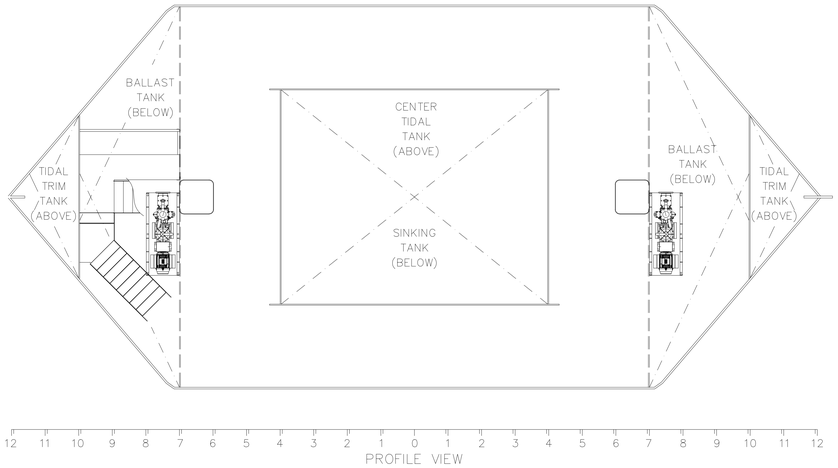



VIEW ON CENTER LINE




SECTION VIEW FR 5
LOOKING AFT




PROFILE VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| B | NEW WALKWAY DECK LAYOUT | B.B | | | |
| A | UPDATED TO CONSTRUCTION DRAWINGS | B.B | | | |

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national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

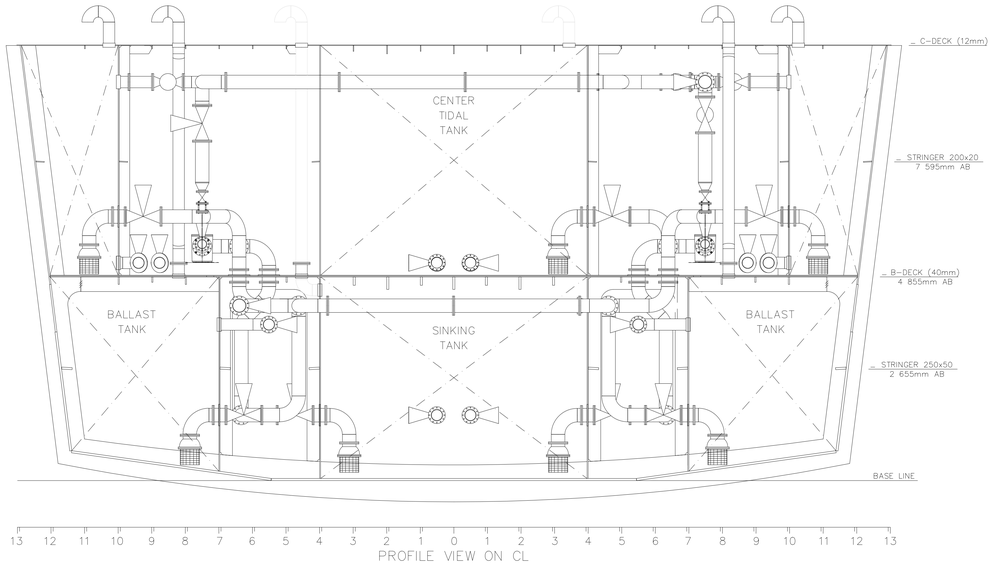
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

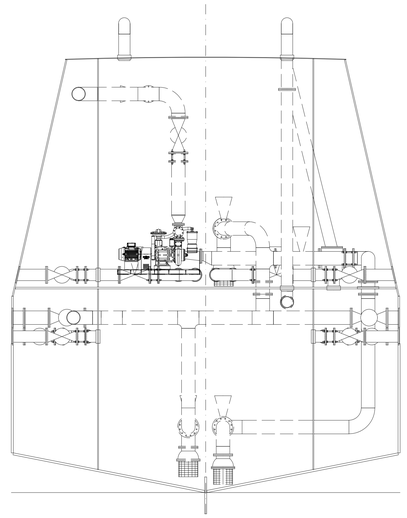
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

GENERAL ARRANGEMENT

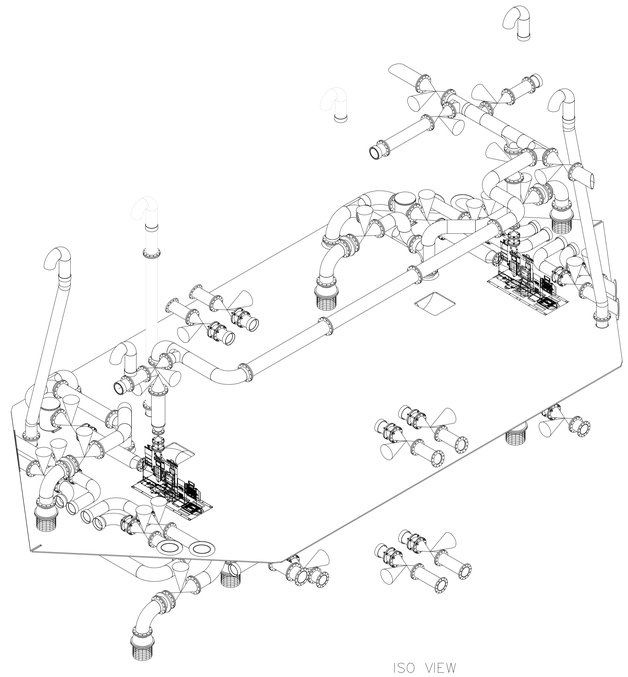
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 24/04/19 | 1002-007-4000 | | B | A0 | ISSUED FOR INFORMATION |



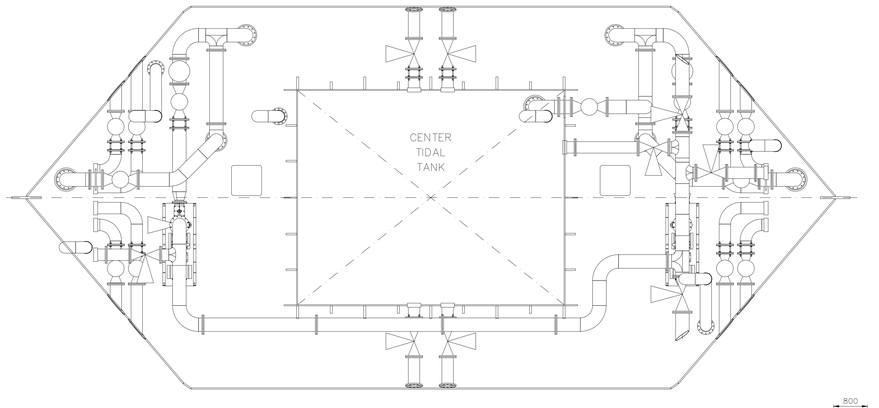

PROFILE VIEW ON CL



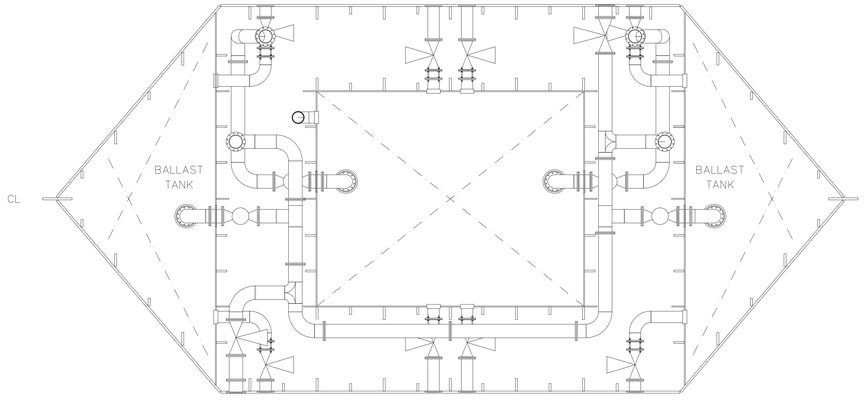
SECTION FR 4 LOOKING AFT



ISO VIEW




PLAN VIEW ON B–DECK




PLAN VIEW BELOW B–DECK

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | LAYOUT UPDATED | B.B | | | |

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

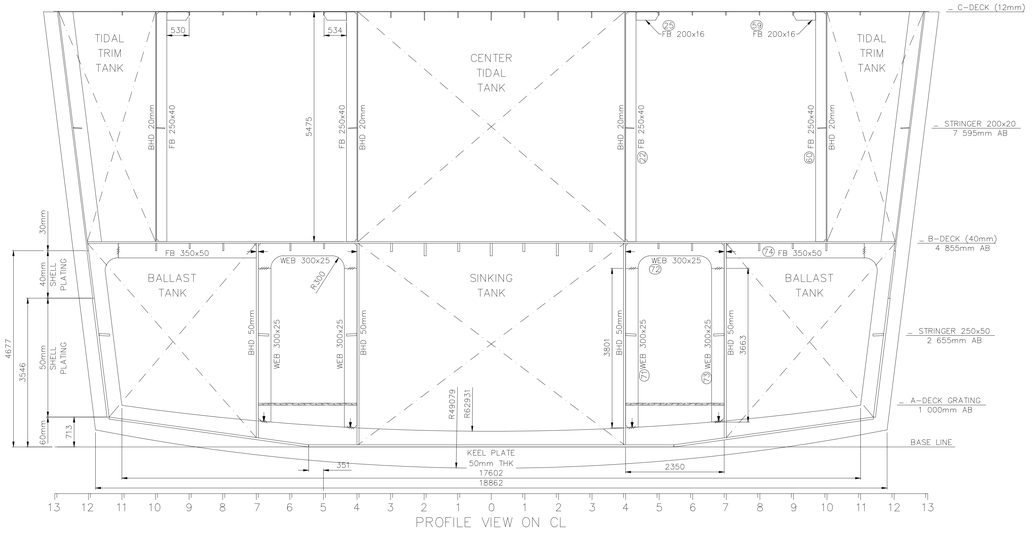
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

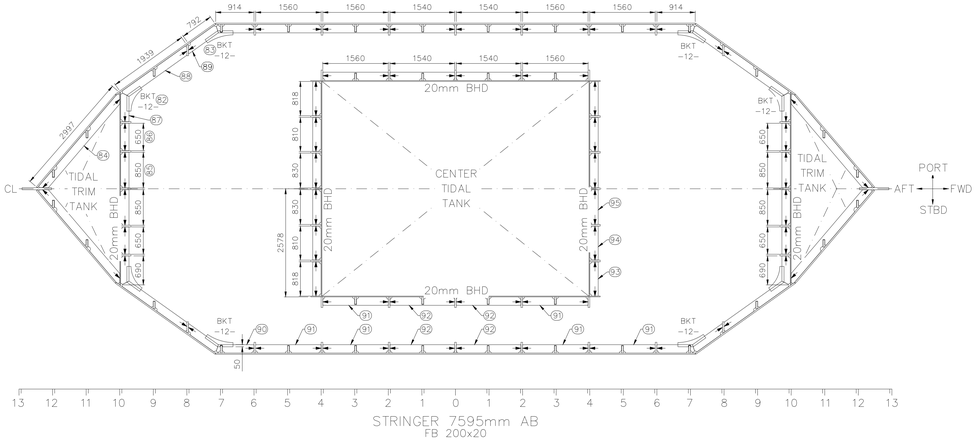
LODEMANN EST. 2015

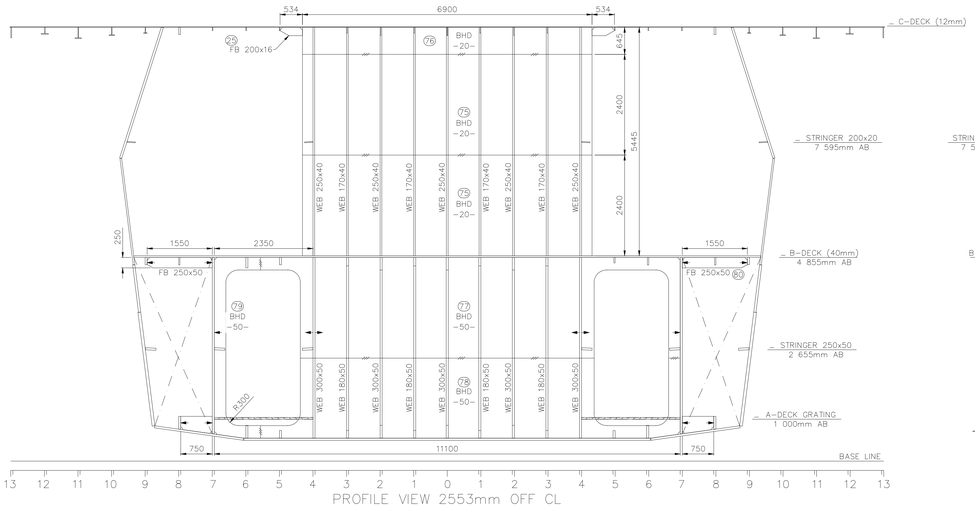
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

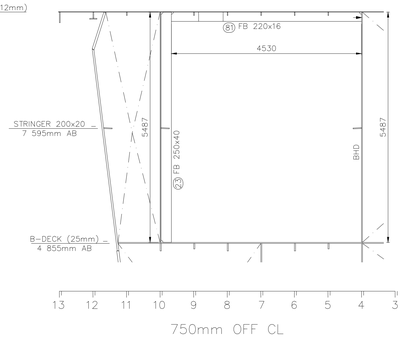
BILGE LAYOUT

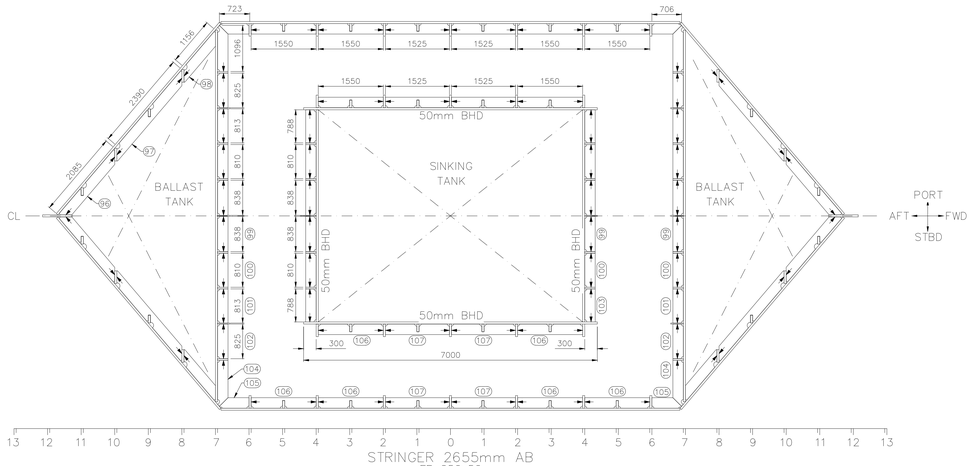
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 09/05/19 | 1002-007-4001 | | A | A0 | ISSUED FOR INFORMATION |

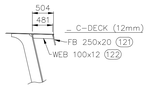


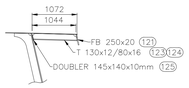



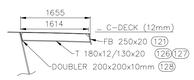



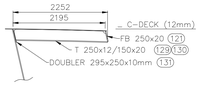



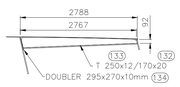



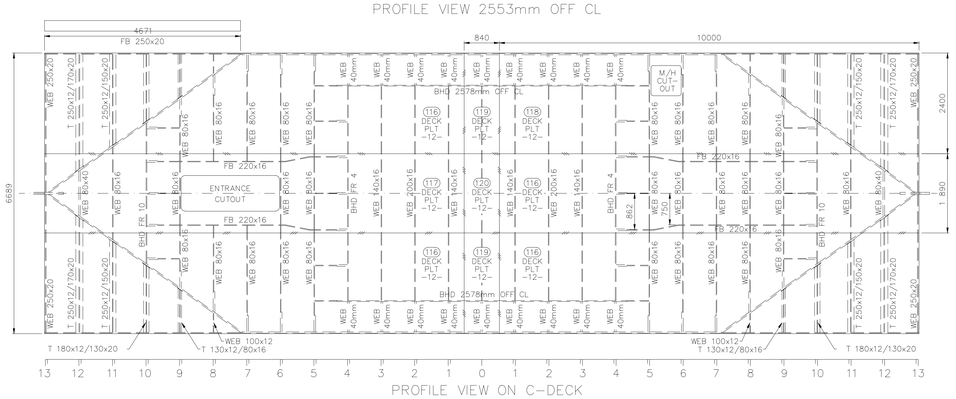



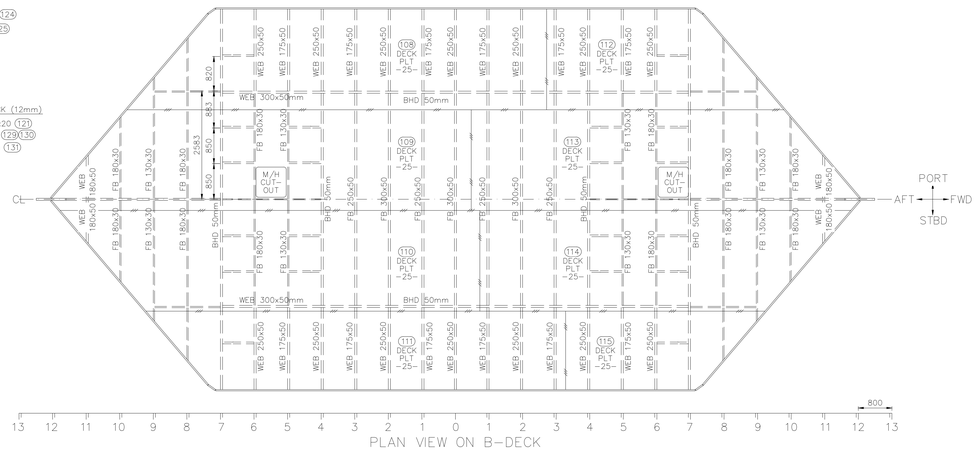




## GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A. | HATCH CUT-OUT MOVED | B.B | | | |

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

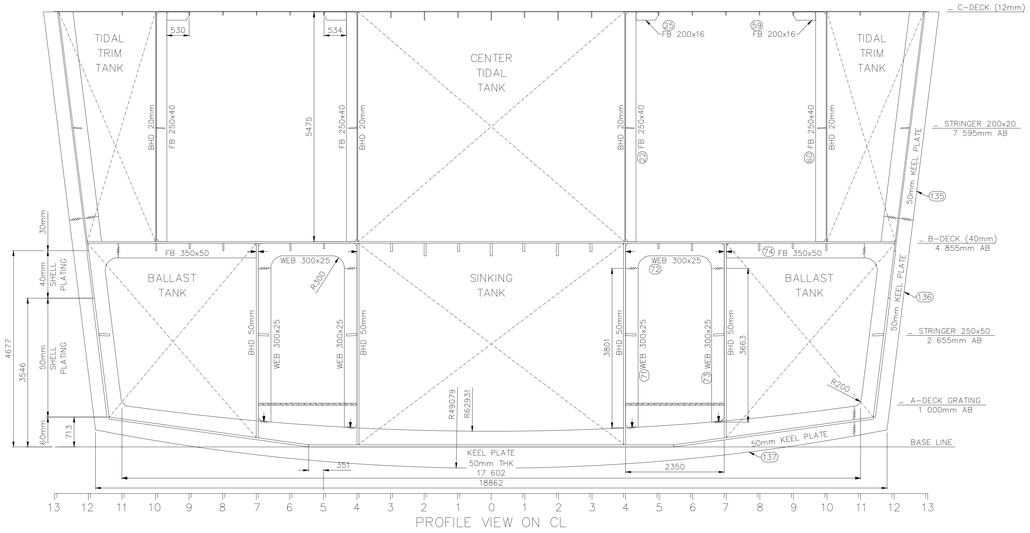
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

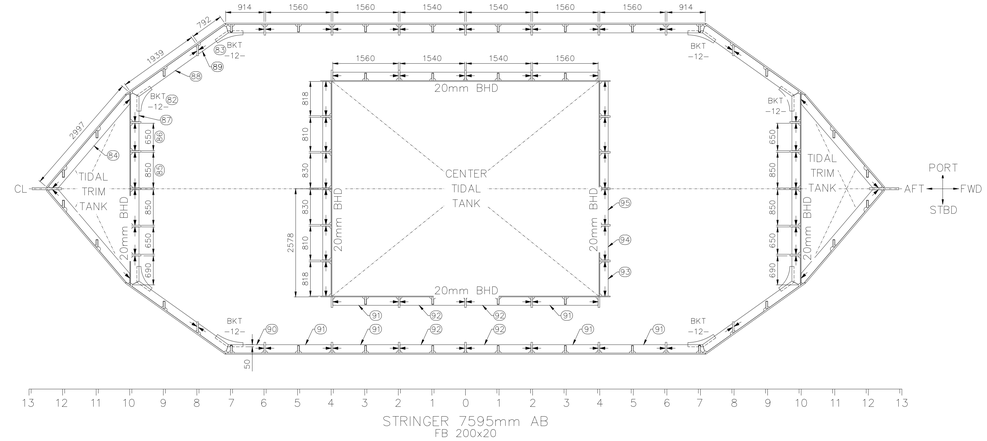
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## CONSTRUCTION DETAILS

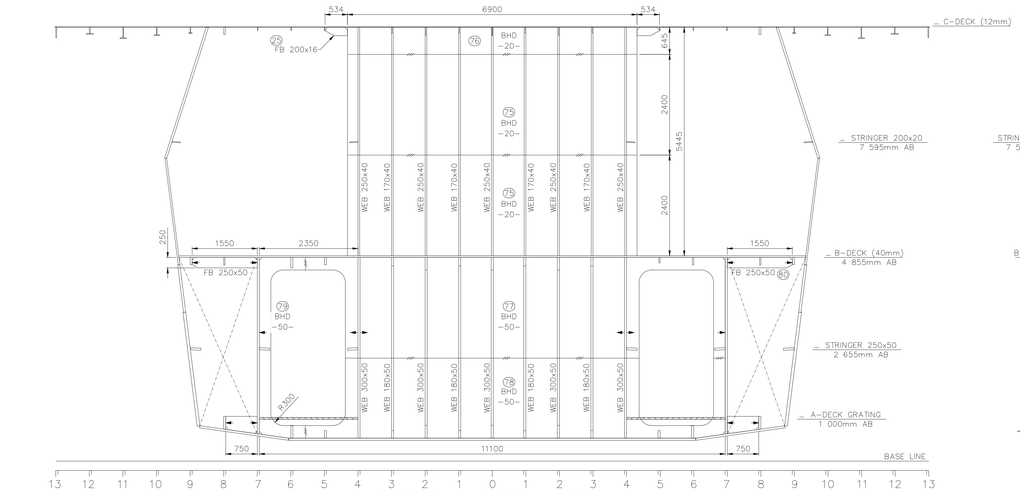
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 30/05/19 | 1002-007-4002 | | A | A0 | ISSUED FOR INFORMATION |



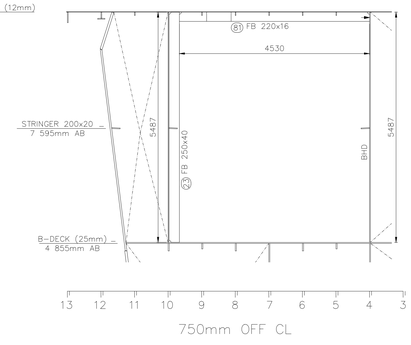

PROFILE VIEW ON CL



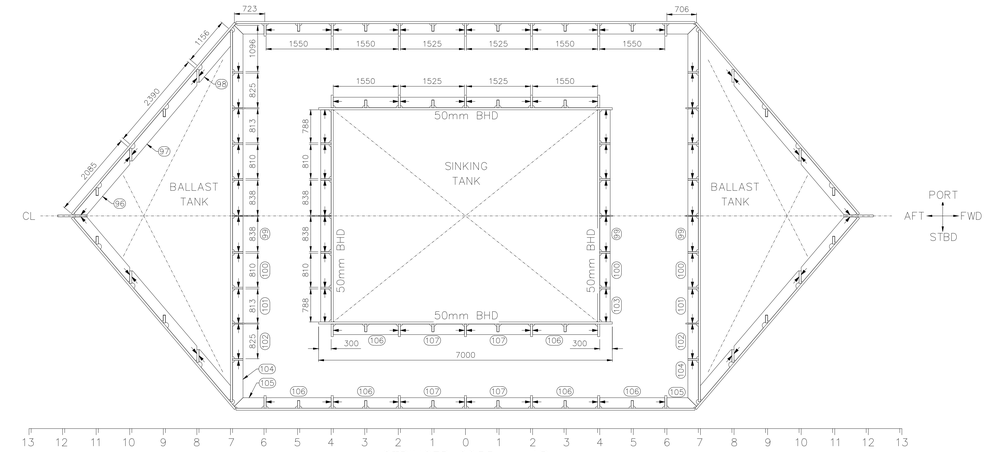

STRINGER 7595mm AB
FB 200x20



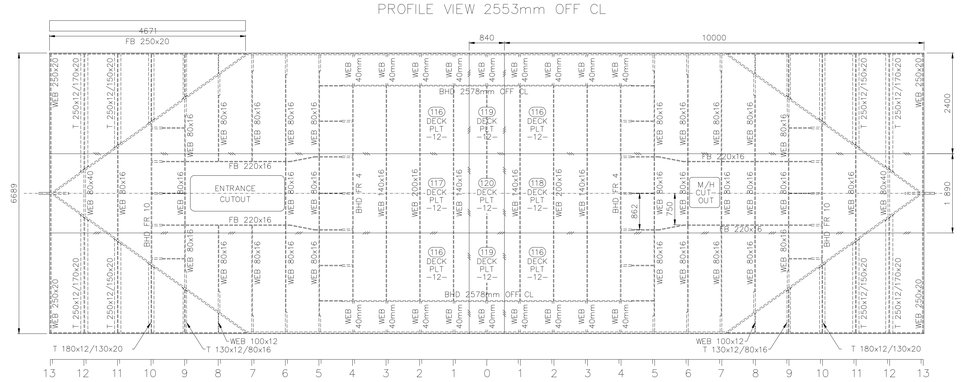

PROFILE VIEW 2553mm OFF CL



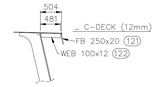

750mm OFF CL



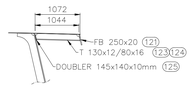

STRINGER 2655mm AB
FB 250x50



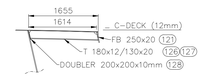

PROFILE VIEW ON C-DECK



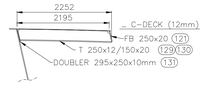

SECTIO FR 8




SECTIO FR 9

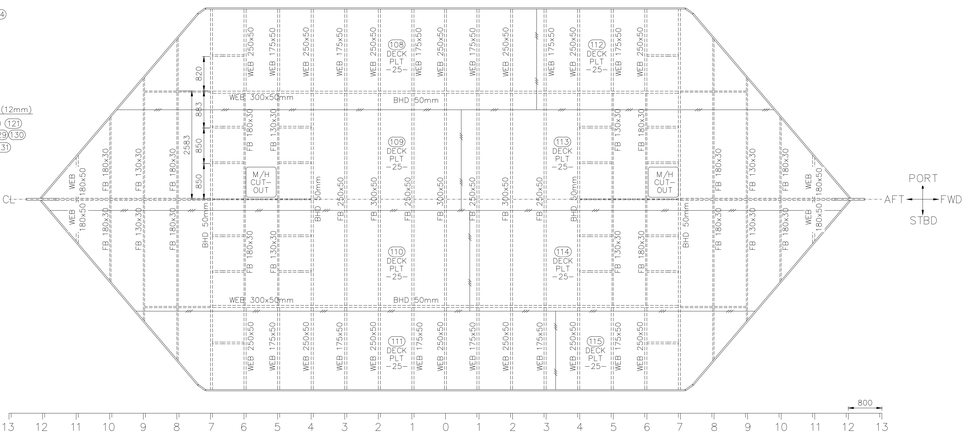



SECTIO FR 10




SECTIO FR 11

SECTIO FR 12




PLAN VIEW ON B-DECK

GENERAL NOTES

REFERENCE DRAWINGS

| DRAWING NO. | REFERENCE |
|---|---|

REVISIONS / ISSUE AUTHORIZATION

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT

| TITLE | NAME | DATE |
|---|---|---|

MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

APPROVED BY

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

CONSTRUCTION DETAILS - ELEVATION

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 04/06/19 | 1002-007-4003 | | 0 | A0 | ISSUED FOR INFORMATION |

## 10mm PLATE

DOUBLER 145x140x10mm (125)

DOUBLER 200x200x10mm (128)

DOUBLER 295x250x10mm (131)

DOUBLER 295x270x10mm (134)

## 30mm PLATE

(32) FB 130x30

(33) FB 180x30

(53) FB 130x30

(48) FB 180x30

## 12mm PLATE

(116) DECK PLT -12-

(117) DECK PLT -12-

(118) DECK PLT -12-

(119) DECK PLT -12-

(120) DECK PLT -12-

(116) DECK PLT -12-

(116) DECK PLT -12-

(119) DECK PLT -12-

(116) DECK PLT -12-

BKT -12- (82)

(83) BKT -12-

(122) WEB 100x12

(123) T-WEB 130x12

(126) T-WEB 180x12

(129) T-WEB 250x12

(132) T-WEB 250x12

## 25mm PLATE

(72) WEB 300x25

(72) WEB 300x25

(71) WEB 300x25

(71) WEB 300x25

(77) WEB 300x25

(77) WEB 300x25

(112) DECK PLT -25-

(113) DECK PLT -25-

(114) DECK PLT -25-

(115) DECK PLT -25-

(108) DECK PLT -25-

(109) DECK PLT -25-

(110) DECK PLT -25-

(111) DECK PLT -25-

## 40mm PLATE

(2) WEB 250x40

(11) WEB 170x40

(12) WEB 170x40

(12) WEB 170x40

(31) WEB 170x40

(39) WEB 250x40

(24) FB 250x40

(25) FB 250x40

(26) FB 250x40

(45) FB 250x40

(4) WEB 250x40

(43) FB 250x40

(27) FB 250x40

(28) FB 250x40

(46) FB 250x40

(44) FB 250x40

(52) WEB 180x40

(60) FB 250x40

(61) FB 250x40

(62) FB 250x40

(67) WEB 170x40

(68) WEB 170x40

(78) WEB 170x40

(70) WEB 170x40

## 50mm PLATE

(4) FB 300x50

(5) FB 300x50

(8) WEB 300x50

(9) WEB 300x50

(6) WEB 250x50

(7) WEB 300x50

(15) WEB 175x50

(33) WEB 175x50

(14) WEB 180x50

(76) WEB 250x50

(13) FB 200x50

(18) WEB 180x50

(17) WEB 180x50

(69) WEB 180x50

(49) WEB 175x50

(36) WEB 300x50

(37) WEB 300x50

(50) WEB 300x50

(64) WEB 300x50

(65) WEB 300x50

(79) BHD -50-

(77) BHD -50-

(78) BHD -50-

(29) BHD -50-

(41) BHD -50-

(21) BHD -50-

(42) BHD -50-

(106) FB 250x50

(107) FB 250x50

(54) WEB 180x50

(58) WEB 180x50

(74) FB 350x50

(97) FB 250x50

(96) FB 250x50

(98) FB 250x50

(99) FB 250x50

(100) FB 250x50

(101) FB 250x50

(102) FB 250x50

(103) FB 250x50

(104) FB 250x50

(105) FB 250x50

(16) WEB 175x50

## 20mm PLATE

(19) BHD -20-

(18) BHD -20-

(56) BHD -20-

(57) BHD -20-

(59) BHD -20-

(121) FB 250x20

(127) FB 130x20

(130) FB 130x20

(132) FB 170x20

(91) FB 200x20

(92) FB 200x20

(87) FB 200x20

(88) FB 200x20

(89) FB 200x20

(93) FB 200x20

(94) FB 200x20

(95) FB 200x20

(76) BHD -20-

(75) BHD -20-

(64) FB 200x20

## 16mm PLATE

(1) WEB 200x16

(10) WEB 140x16

(28) WEB 80x16

(32) WEB 80x16

(38) WEB 80x16

(40) WEB 80x16

(51) WEB 80x16

(29) FB 220x16

(124) FB 80x16

(23) Bracket 534x200x16

(59) Bracket 530x200x16

(42) Bracket 500x200x16

GENERAL NOTES:
SEE PARTS LIST

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

CONSTRUCTION PARTS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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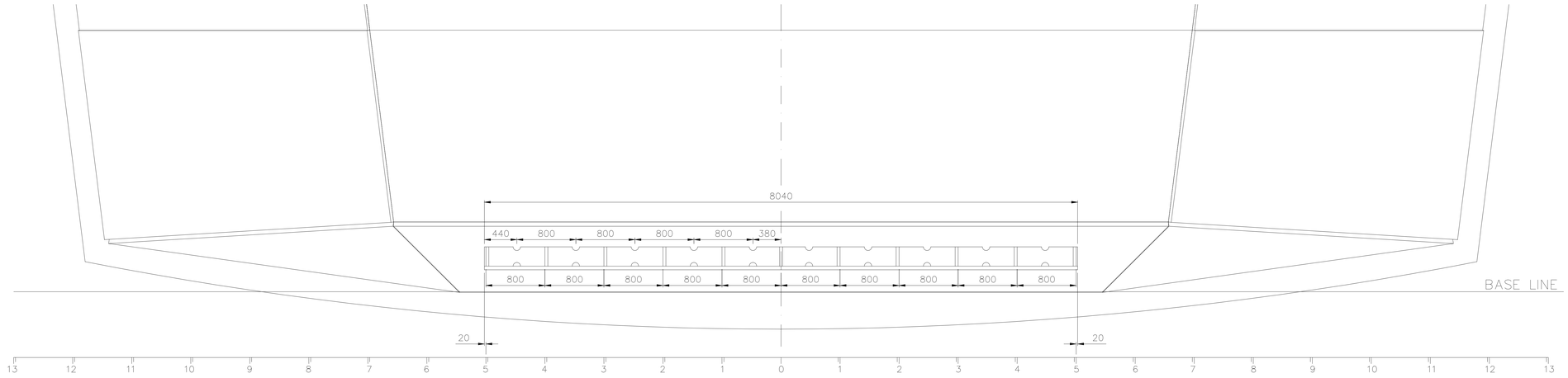
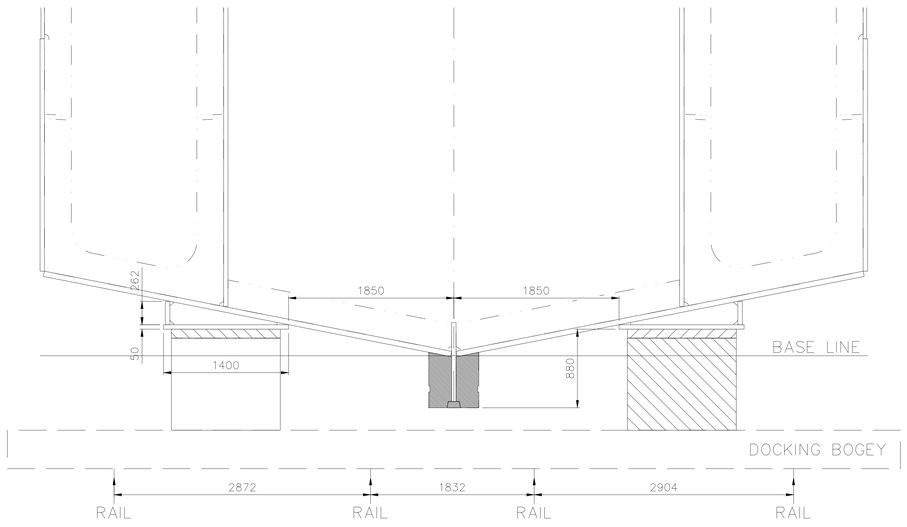
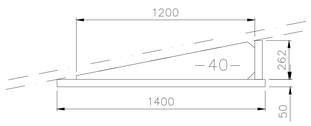


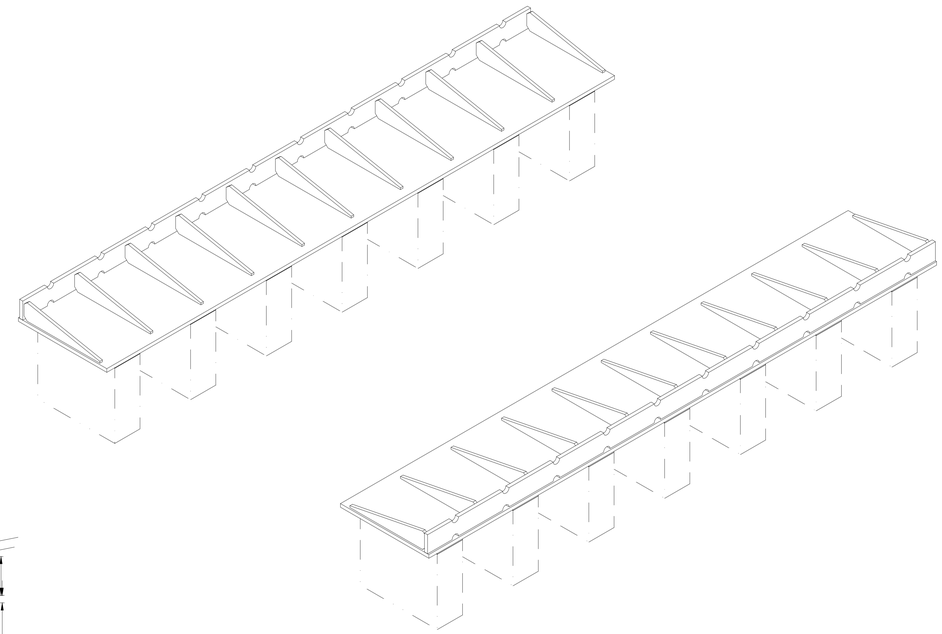

PROFILE VIEW




SECTION VIEW




BRACKET DETAIL



ISO VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| | | | | | |

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|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 25/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

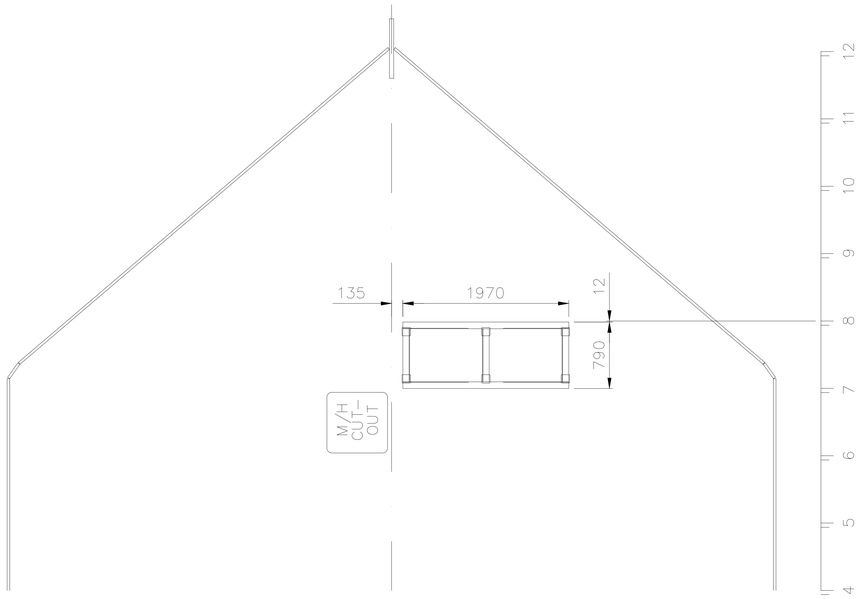
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

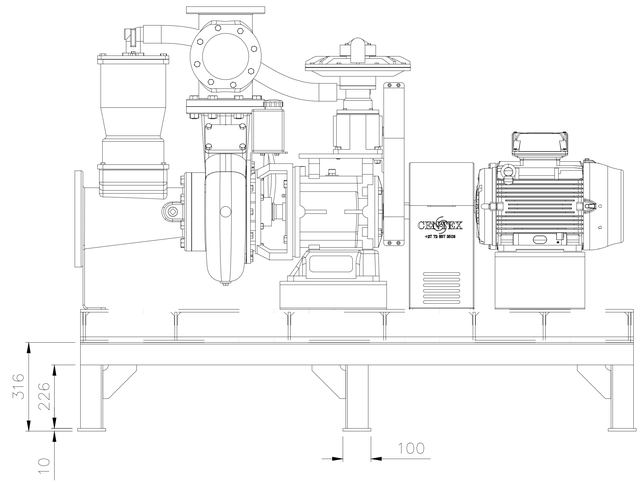
LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

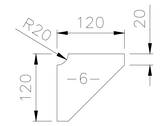
DOCKING POINTS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:33.3 | 25/06/19 | 1002-007-4005 | | 0 | A0 | ISSUED FOR INFORMATION |

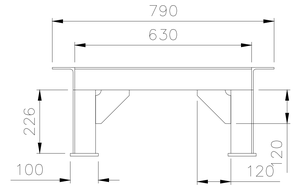


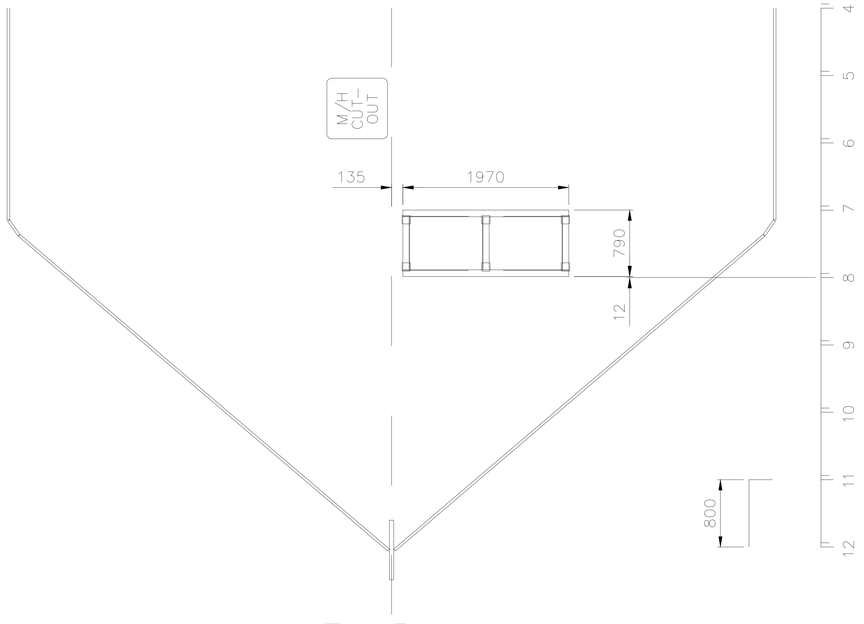

PROFILE VIEW




BRACKET DETAIL

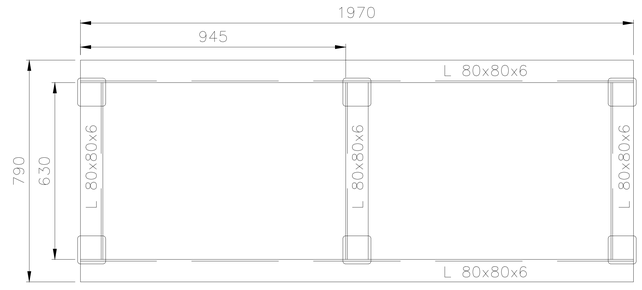



SIDE VIEW

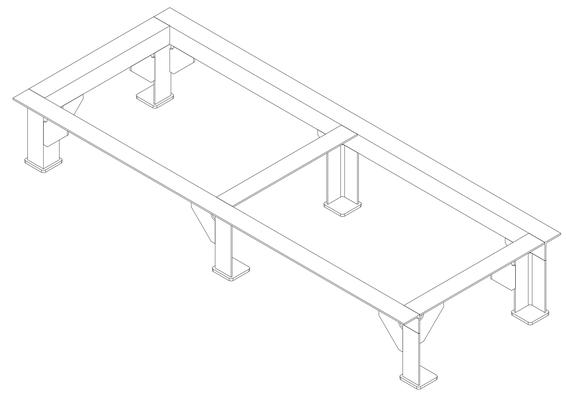



KEY PLAN

INNER DECK SCALE 1:50




PLAN VIEW



ISO VIEW

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| | | | | | |

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CLIENT

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|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 25/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

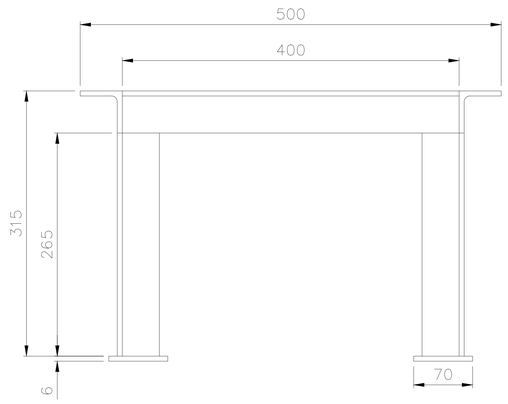
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

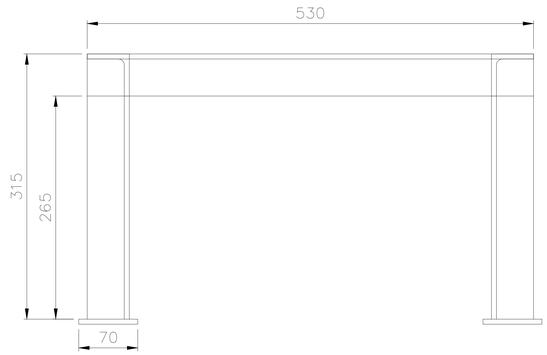
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

PUMP FOUNDATION

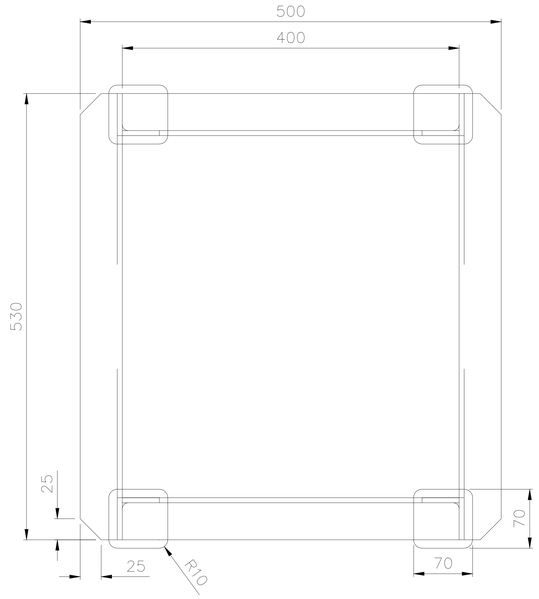
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:15 | 25/06/19 | 1002-007-4006 | | 0 | A0 | ISSUED FOR INFORMATION |



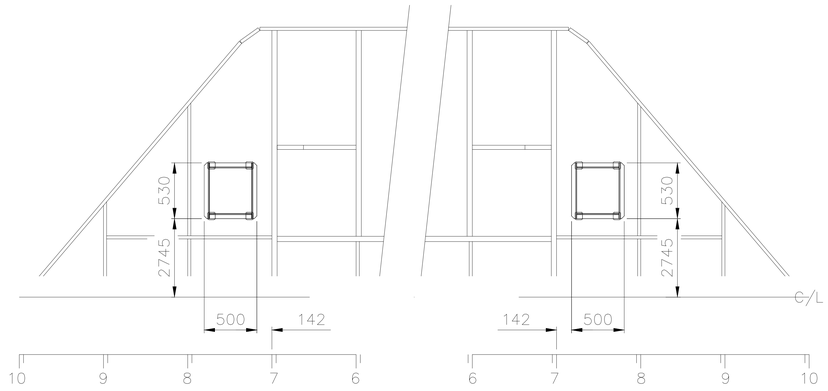

PROFILE VIEW



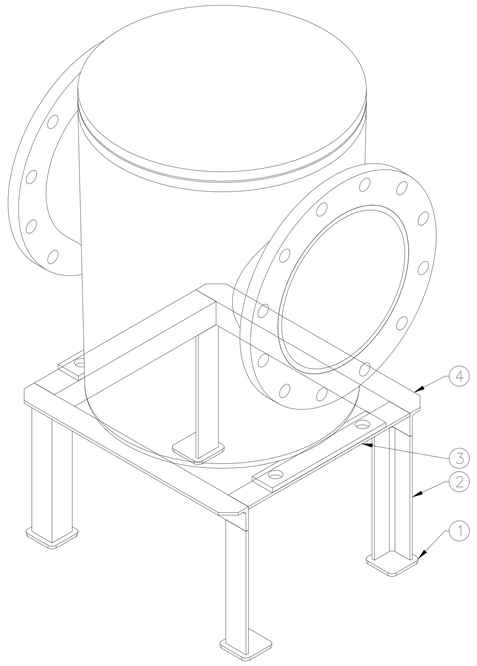

SIDE VIEW




PLAN VIEW




KEY PLAN




ISO VIEW

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| | | | | | |

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|---|---|---|
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 10/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

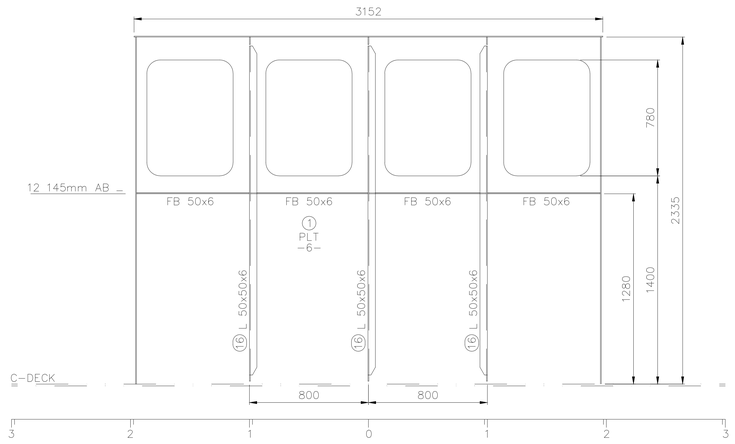
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

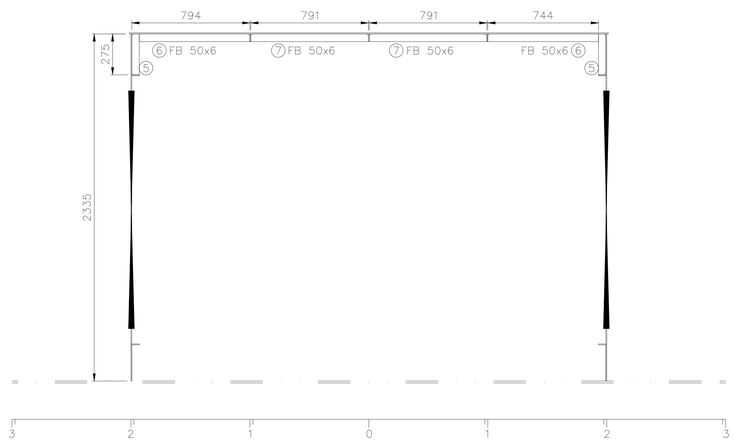
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

STRAINER FOUNDATION

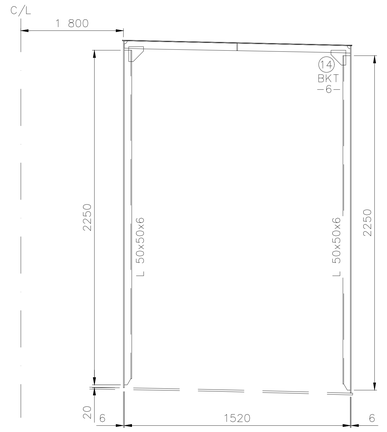
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:5 | 10/06/19 | 1002-007-4007 | | 0 | A0 | ISSUED FOR INFORMATION |



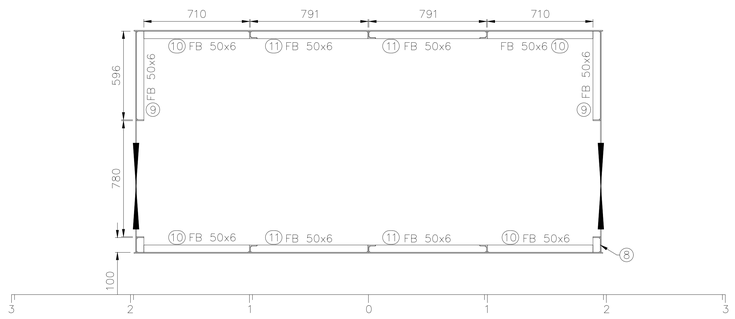

SECTION 1800mm OFF CL



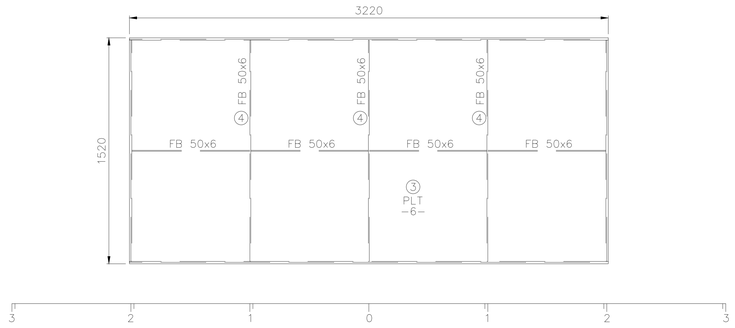

SECTION ON CL



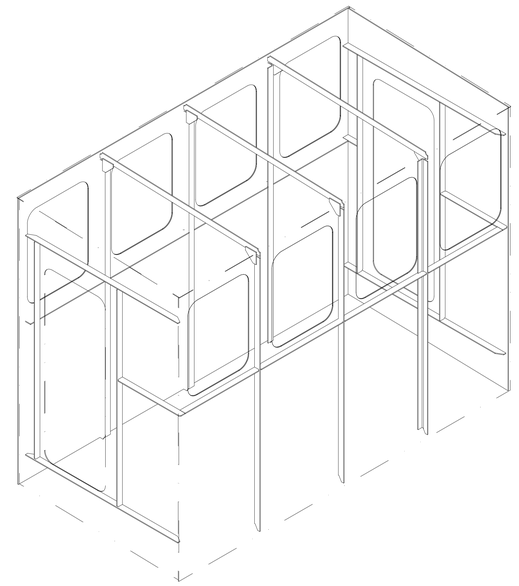

TYPICAL FRAME DETAIL



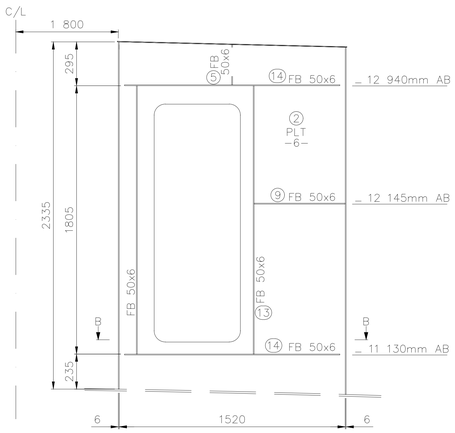

STRINGER 12 230mm AB



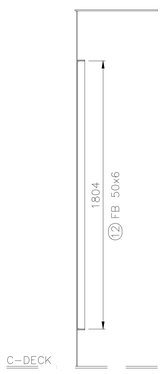

ROOF DETAIL



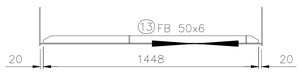
ISO VIEW




TYPICAL FRAME DETAIL




SECTION A-A




SECTION B-B

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | UPDATED TO NEW LAYOUT | B.B | | | |

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TRANSNET national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

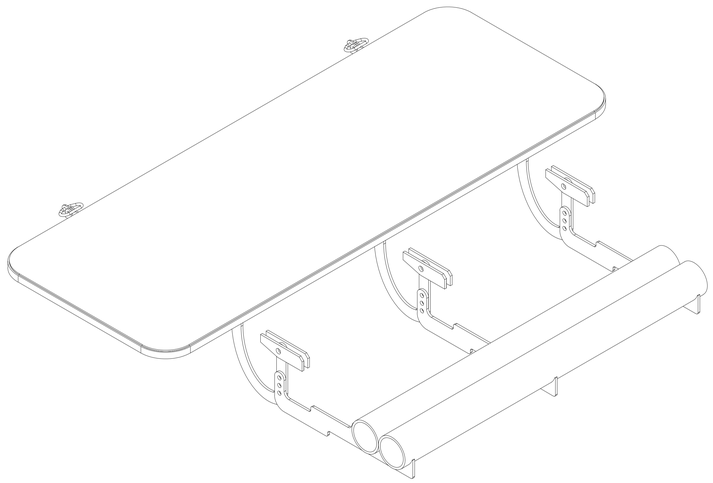
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

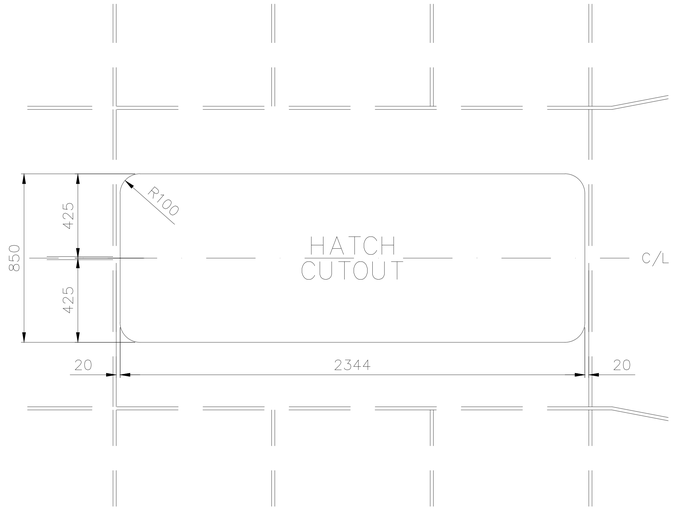
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

CONTROL ROOM

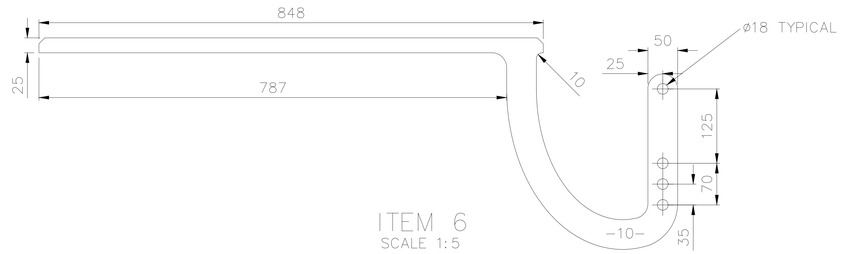
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:20 | 04/06/19 | 1002-007-4008 | | A | A0 | ISSUED FOR INFORMATION |



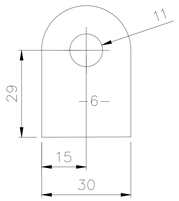
ISO VIEW
N.T.S



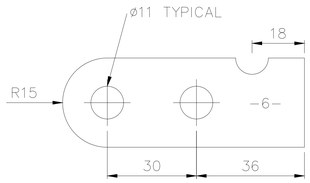

PLAN VIEW



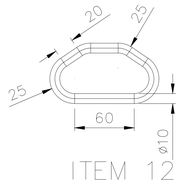

ITEM 6
SCALE 1:5



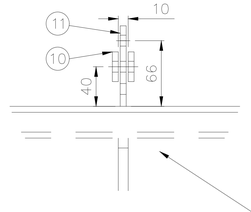

ITEM 10
SCALE 1:1

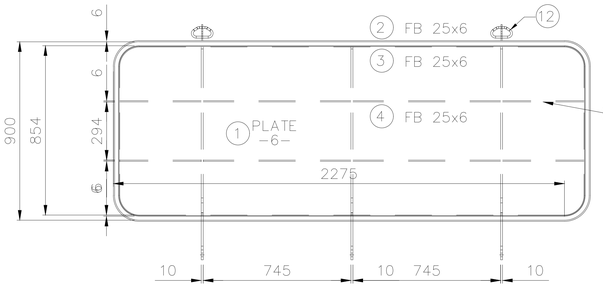



ITEM 11
SCALE 1:1

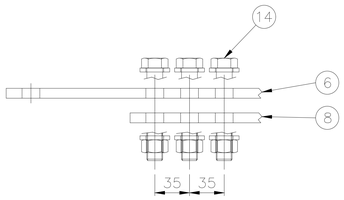



ITEM 12
SCALE 1:3

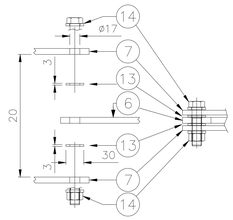


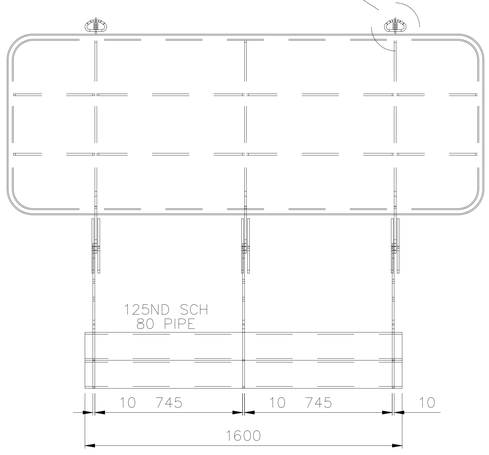

HATCH DETAIL



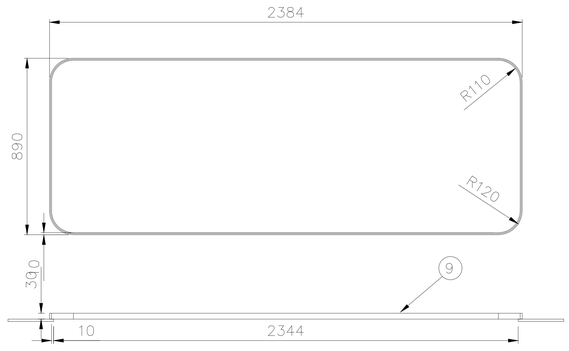

EXPLODED ARM BOLTED DETAIL
SCALE 1:3



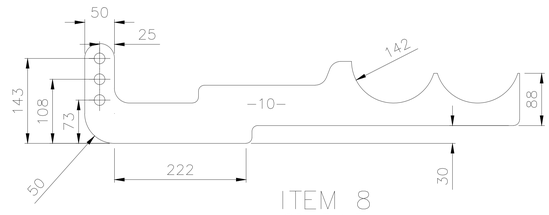

EXPLODED HINGE BOLTED DETAIL
SCALE 1:5



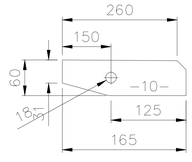

COUNTER WEIGHT DETAIL




COMING DETAIL




ITEM 8
SCALE 1:5




ITEM 7
SCALE 1:5

GENERAL NOTES:

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | UPDATED TO NEW LAYOUT | B.B | | | |

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TRANSNET
national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|

MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 11/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

APPROVED BY

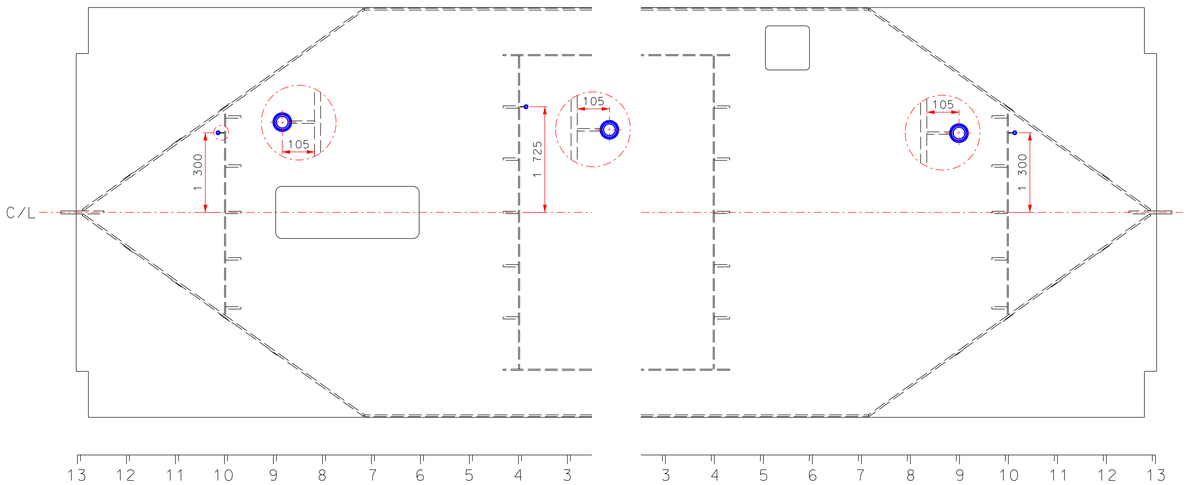
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

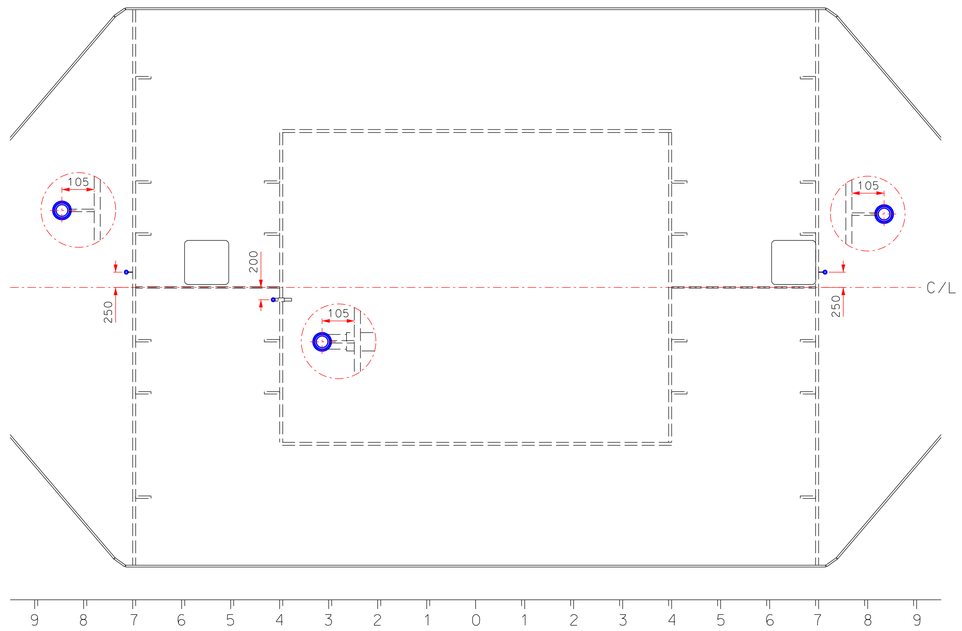
STAIR CASE ENTRANCE HATCH

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status |
|---|---|---|---|---|---|---|
| 1:15 | 11/06/19 | 1002-007-4009 | | A | A0 | ISSUED FOR INFORMATION |

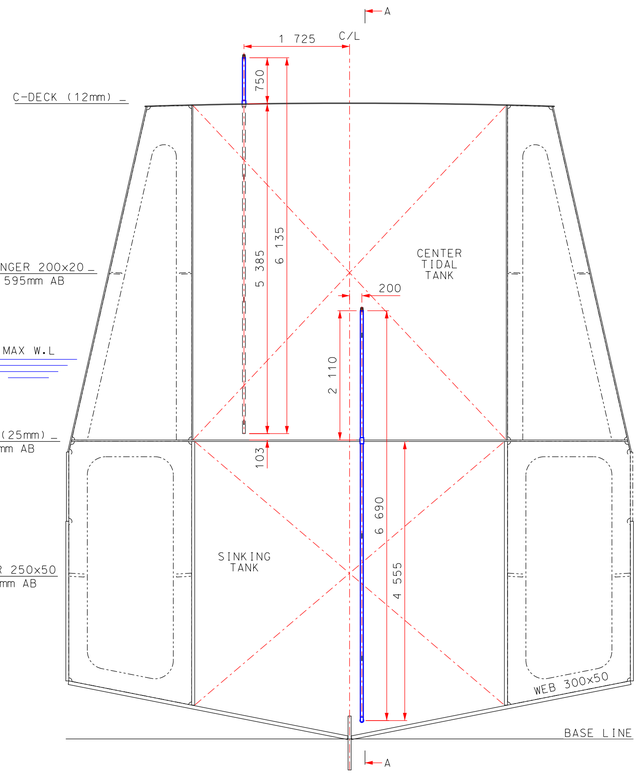



PROFILE VIEW ON C-DECK

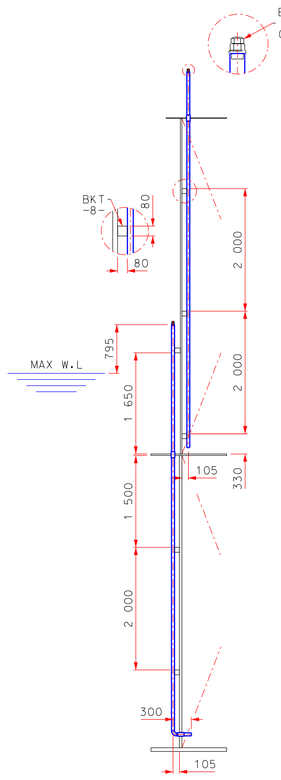
PORT
AFT FWD
STBD



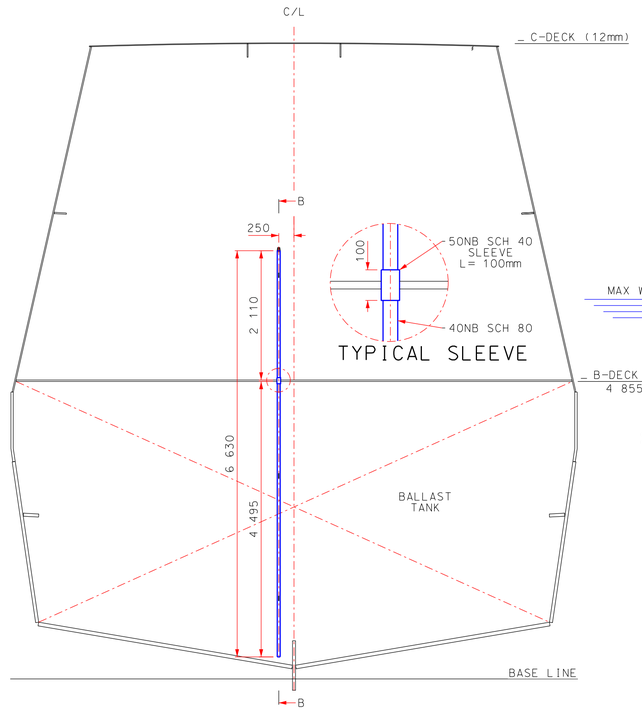

PLAN VIEW ON B-DECK




SECTION FR 4
LOOKING TO FR 0

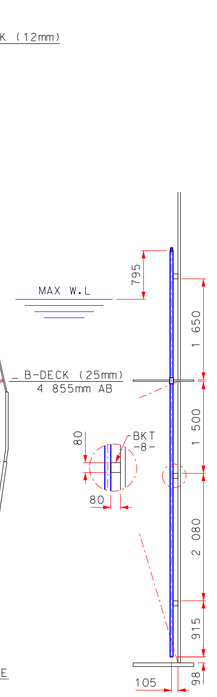



SECTION A-A

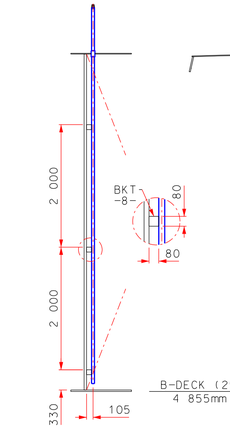



TYPICAL SLEEVE

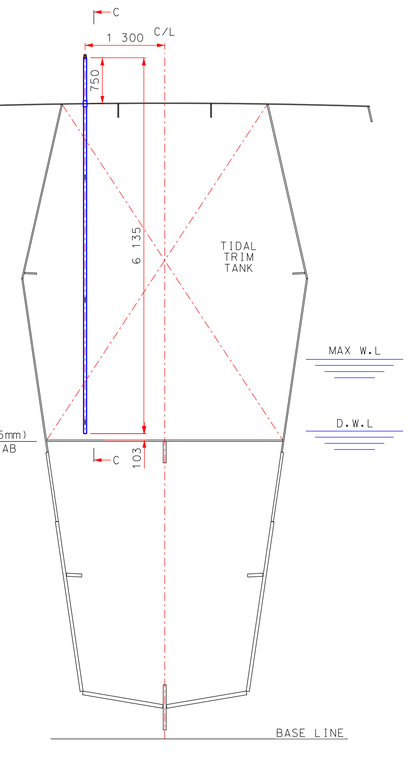
SECTION FR 7
LOOKING FROM FR 0




SECTION B-B




SECTION C-C




SECTION FR 10
LOOKING FROM FR 0

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT LOGO

TRANSNET
national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

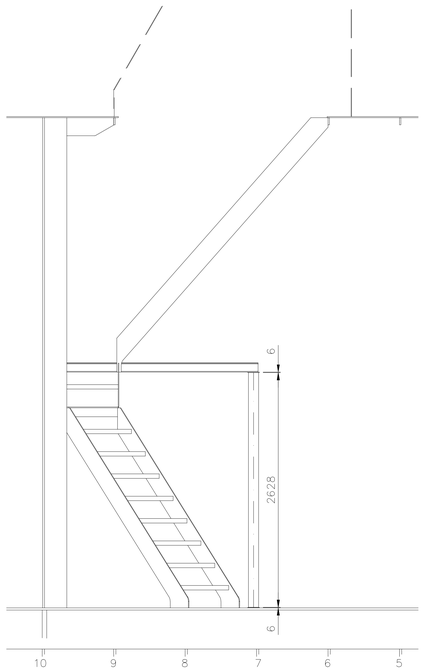
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

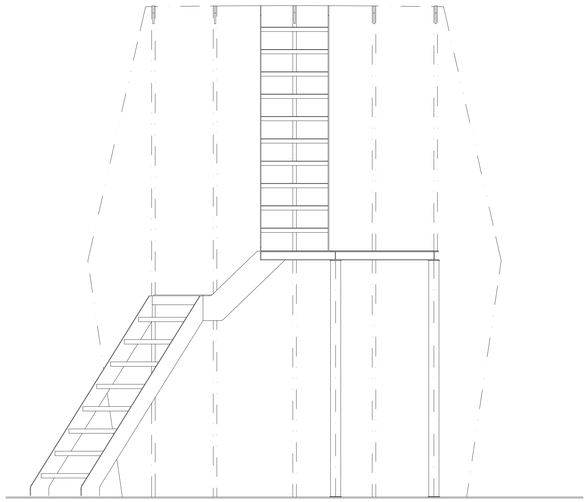
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

TANK SOUNDING

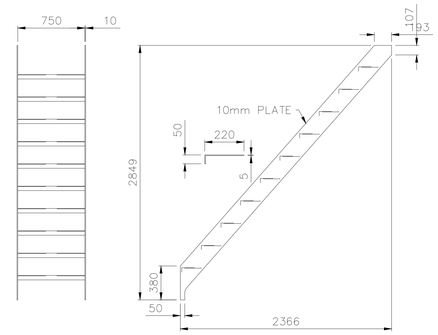
| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status |
|---|---|---|---|---|---|---|
| 1:50 | 09/19/19 | 1002-007-4010 | | 0 | A1 | ISSUED FOR REVIEW |



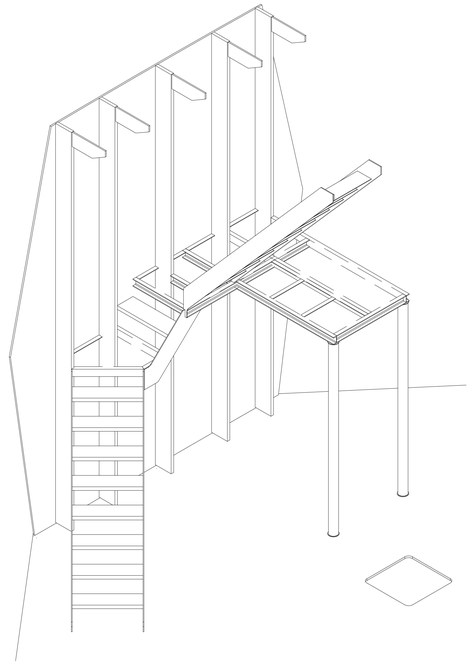

PROFILE VIEW



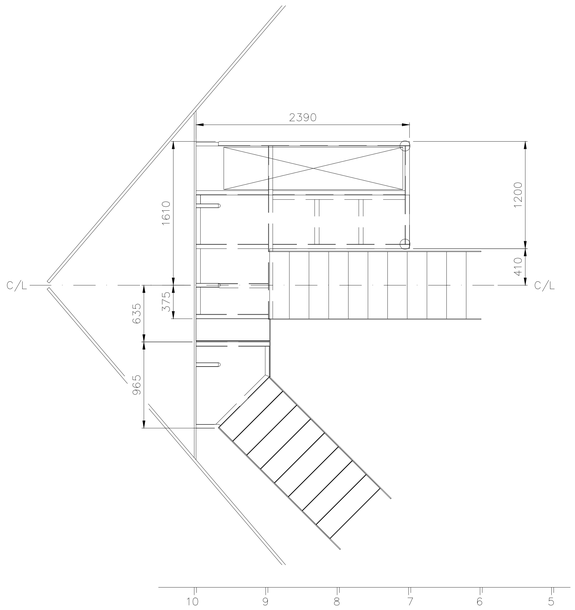
SECTION VIEW
LOOKING AFT



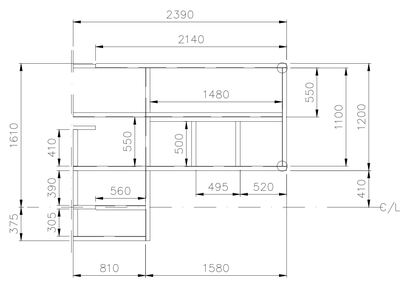

UPPER STAIR CASE



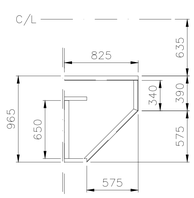
ISO VIEW
N.T.S



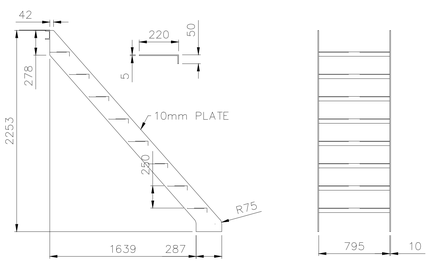

PLAN VIEW




PLATFORM DETAIL




PLATFORM DETAIL




LOWER STAIR CASE

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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TRANSNET national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 05/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

STAIR CASE DETAIL

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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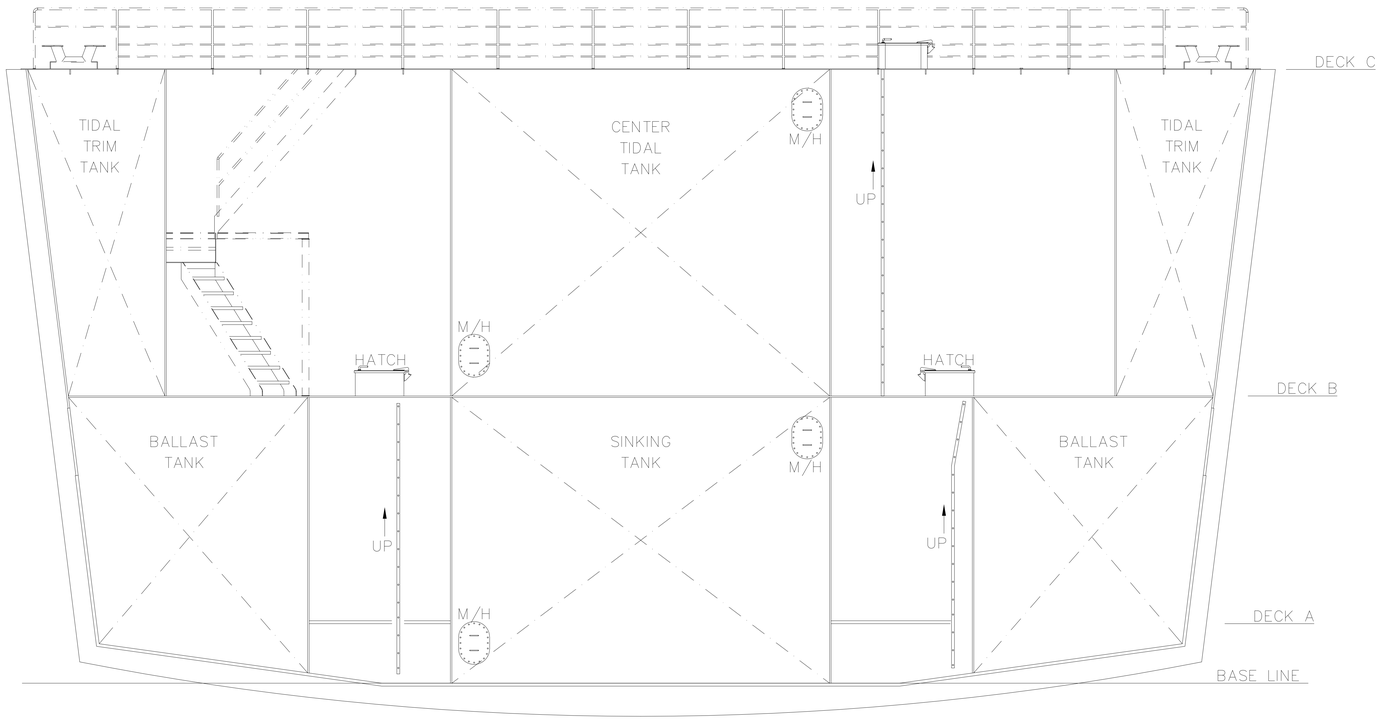
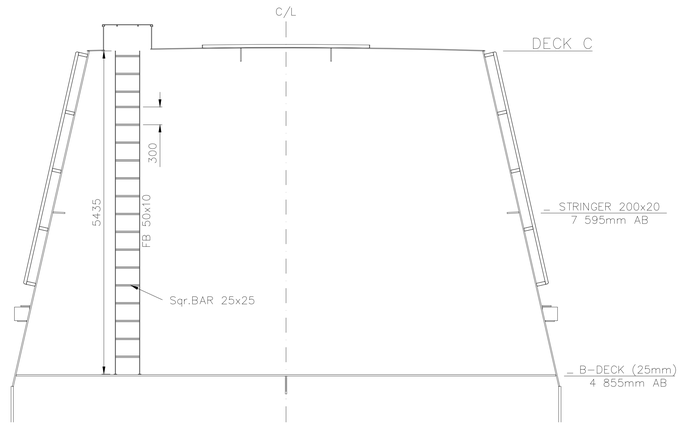
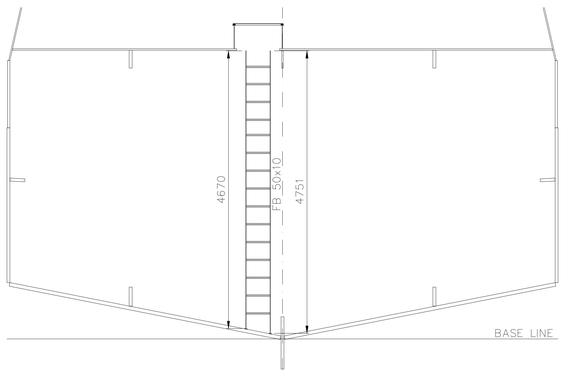


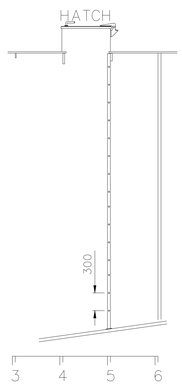
PROFILE VIEW



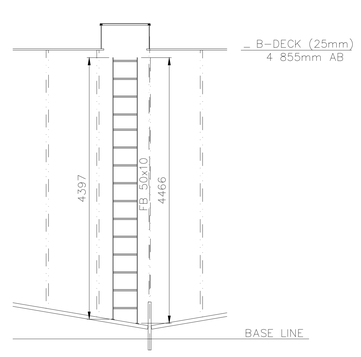

PROFILE VIEW



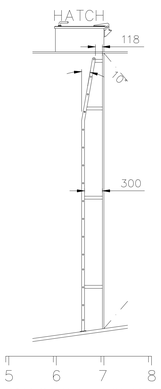

FR 5
LOOKING FWD




PROFILE VIEW




FR 7
LOOKING FWD




PROFILE VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A. | HATCH POSITION MOVED | B.B | | | |

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TRANSNET national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 13/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

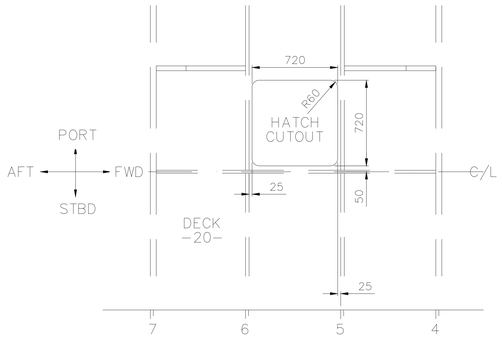
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

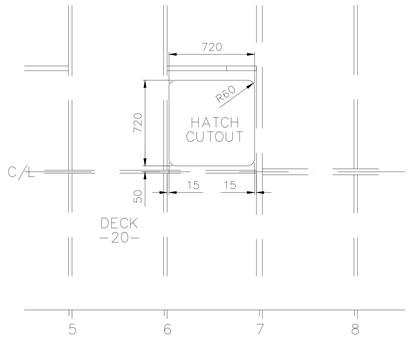
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LADDER DETAILS

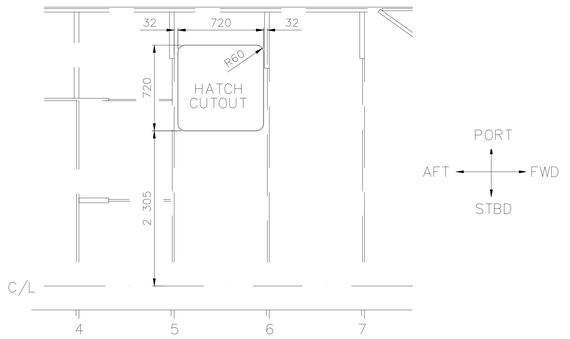
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 13/06/19 | 1002-007-4012 | | A | A0 | ISSUED FOR INFORMATION |



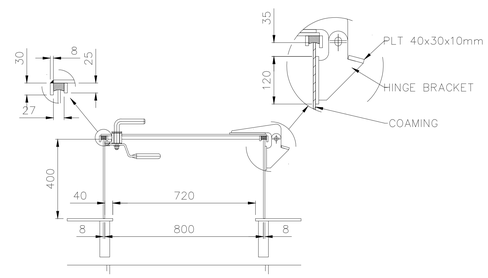

B-DECK PLAN VIEW
AFT HATCH KEY PLAN



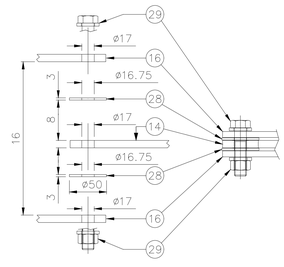

B-DECK PLAN VIEW
FWD HATCH KEY PLAN



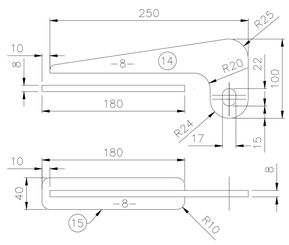

C-DECK PLAN VIEW
FWD HATCH KEY PLAN



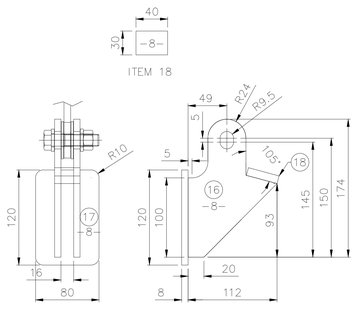

PROFILE VIEW



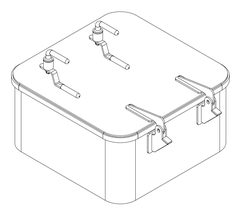

EXPLODED BOLTING DETAIL
SCALED x3



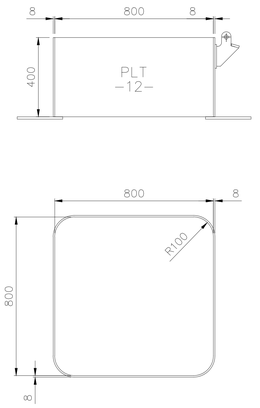

HINGE DETAIL
SCALED x4



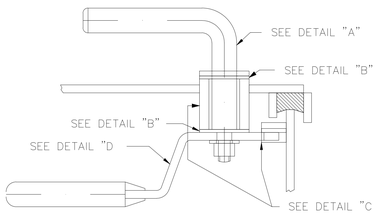

HINGE BRACKET DETAIL
SCALED x4



ISO VIEW
N.T.S

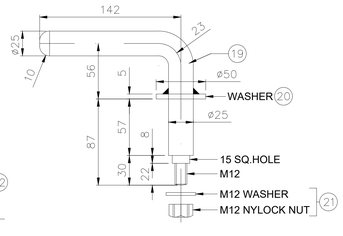



COMING DETAIL

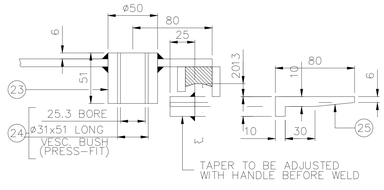



SECTION A-A
SCALED x5

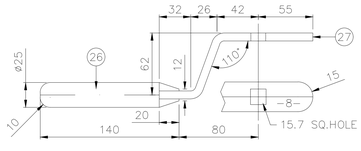
DETAIL "B"
2 OFF PER LOCK



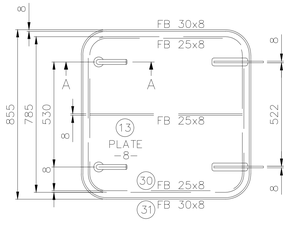

DETAIL "A"
SCALED x5




DETAIL "C"
SCALED x5




DETAIL "D"
SCALED x5




HATCH COVER DETAIL

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | HATCH POSITION UPDATED | B.B | | | |

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CLIENT LOGO

TRANSNET
national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 11/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

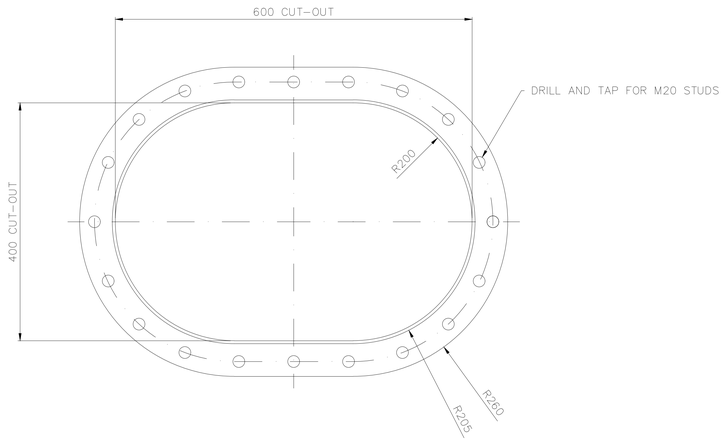
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

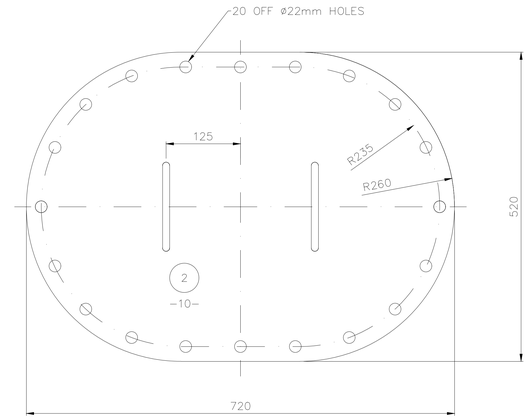
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

HATCH DETAILS

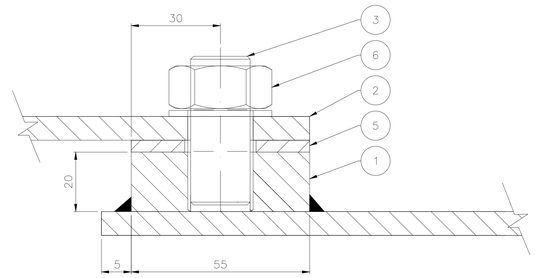
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:15 | 11/06/19 | 1002-007-4013 | | A | A0 | ISSUED FOR INFORMATION |



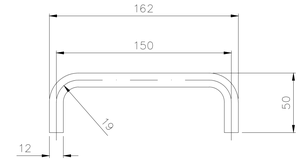

CUT-OUT DETAIL




LID DETAIL
10mm PLATE

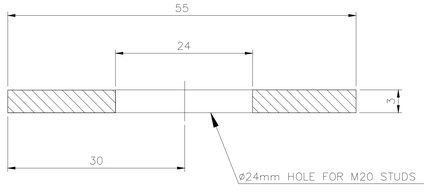



BOLTING DETAIL

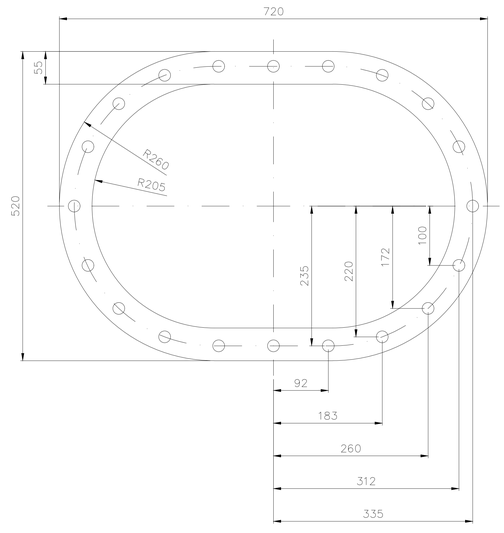



HANDLE DETAIL
ø12mm ROUNDBAR

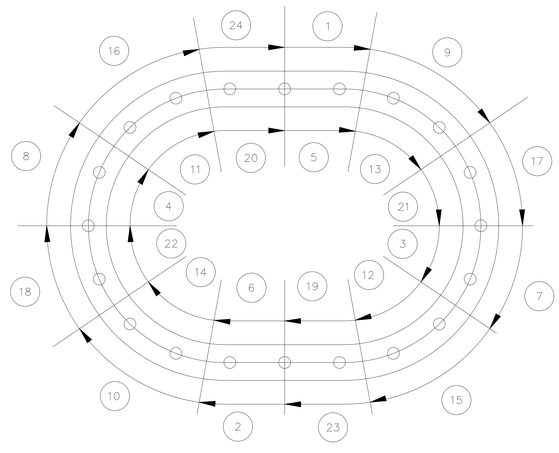
Details and tightness
of manholes to
Surveyors satisfaction




SECTION THRU GASKET




1 BOLTING RING
20mm PLATE




WELD SEQUENCE

Note: Welding sequence is two lengths on the outside, alternating with two lengths on the inside, two lengths on the outside, etc.

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| | | | | | |

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TRANSNET
national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| CHECKED | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

APPROVED BY

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

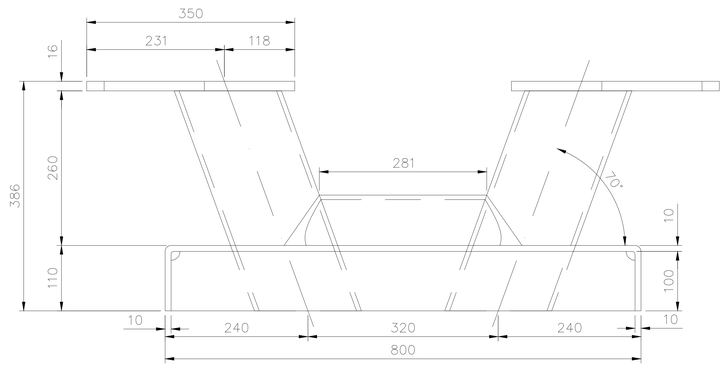
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

TYPICAL MANHOLE DETAIL

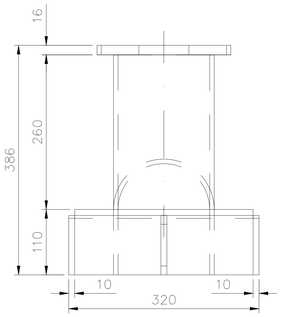
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status |
|---|---|---|---|---|---|---|
| 1:5 | 04/06/19 | 1002-007-4014 | | 0 | A0 | ISSUED FOR INFORMATION |

| ITEM | QTY. | DESCRIPTION | MATERIAL |
|---|---|---|---|
| 1 | 2 | 150NB PIPE SCH.80 , L= 394mm | A106 GR.B |
| 2 | 1 | 150NB PIPE SCH.80 , L= 400mm | A106 GR.B |
| 3 | 1 | BASE PLATE 1000x300x10mm Thk. | GRADE A |
| 4 | 2 | SIDE PLATE 780x100x10mm Thk. | GRADE A |
| 5 | 2 | PLATE 350x225x16mm Thk. | GRADE A |
| 6 | 1 | FLAT BAR 780x100x10mm Thk. | GRADE A |
| ESTIMATED WEIGHT INCLUDING 4% WELDING ALLOWANCE | | | 82KG |

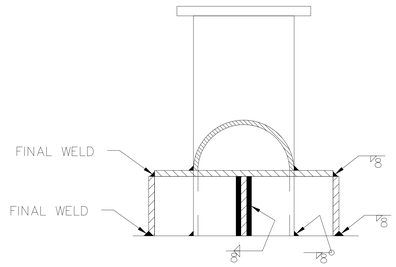
NOTES:
1) ALL WELDING TO BE CONTINUOUS U.N.O.
2) ALL WELDING TO SURVEYORS SATISFACTION.



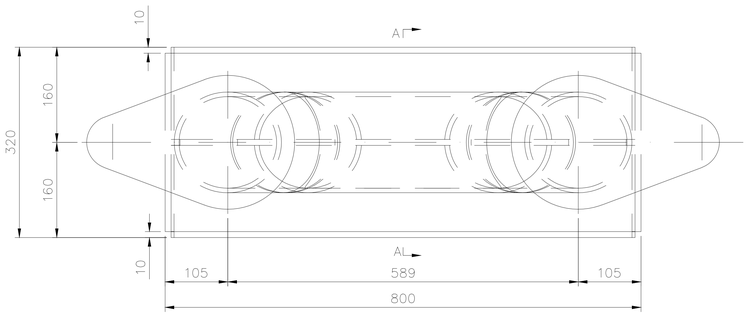

PROFILE VIEW



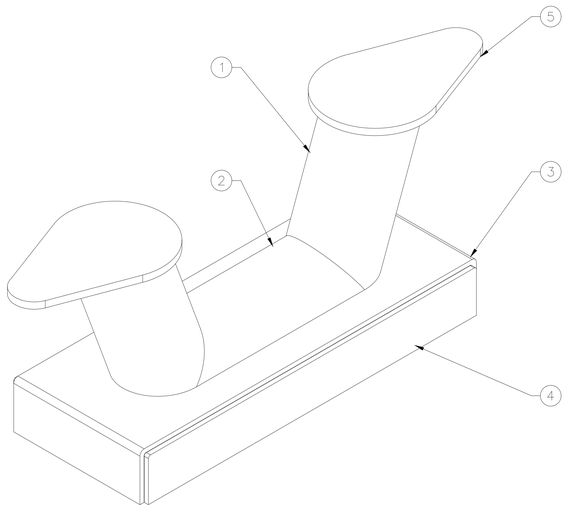

SIDE ELEVATION



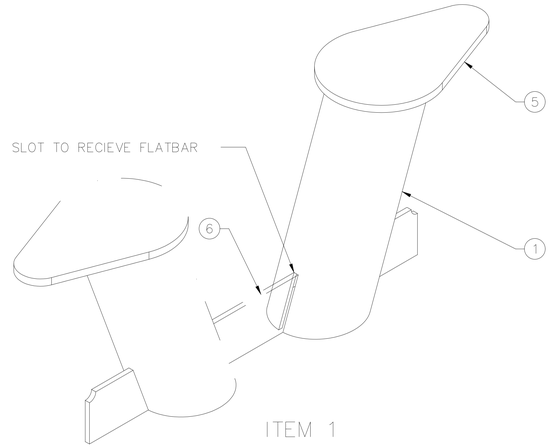

SECTION A–A
WELD TYPICAL



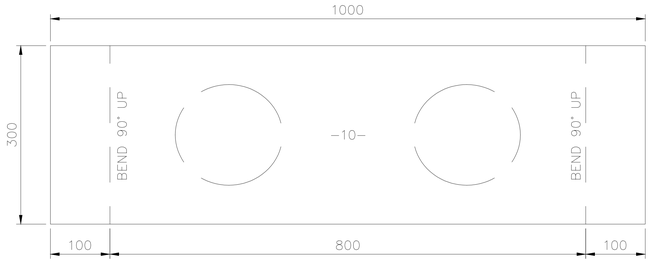

PLAN VIEW




ISOMETRIC VIEW

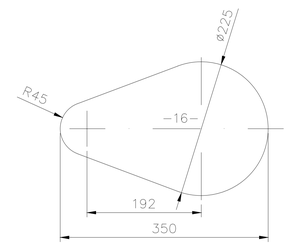



ITEM 1




ITEM 3

ITEM 4

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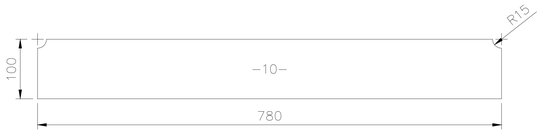


ITEM 6

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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TRANSNET national ports authority

CLIENT

| TITLE | NAME | DATE |
|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | LMSN | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

BOLLARD DETAIL

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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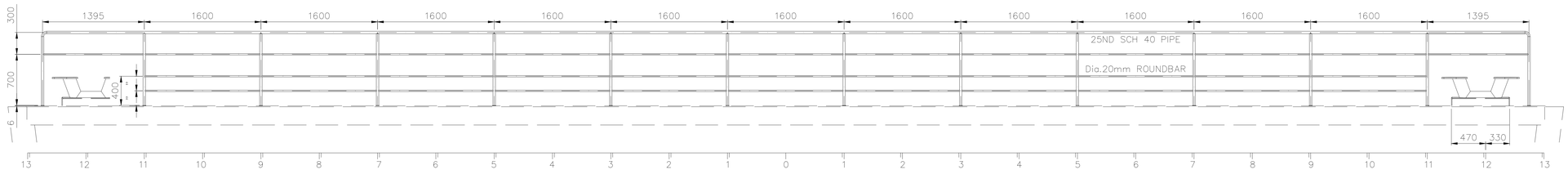
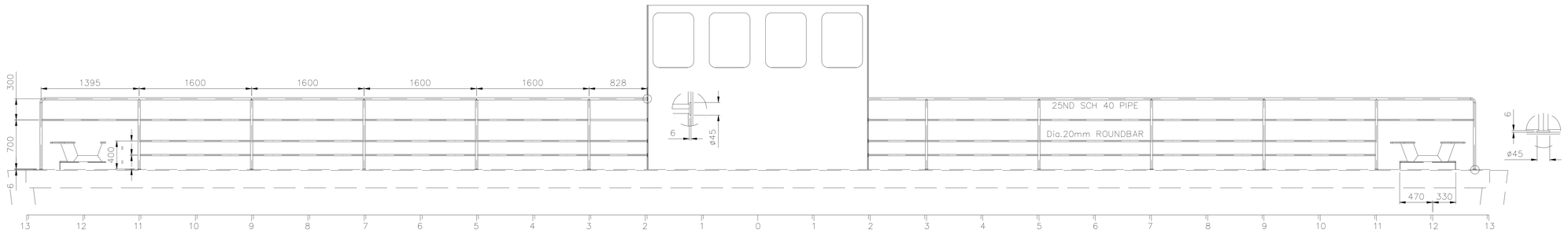
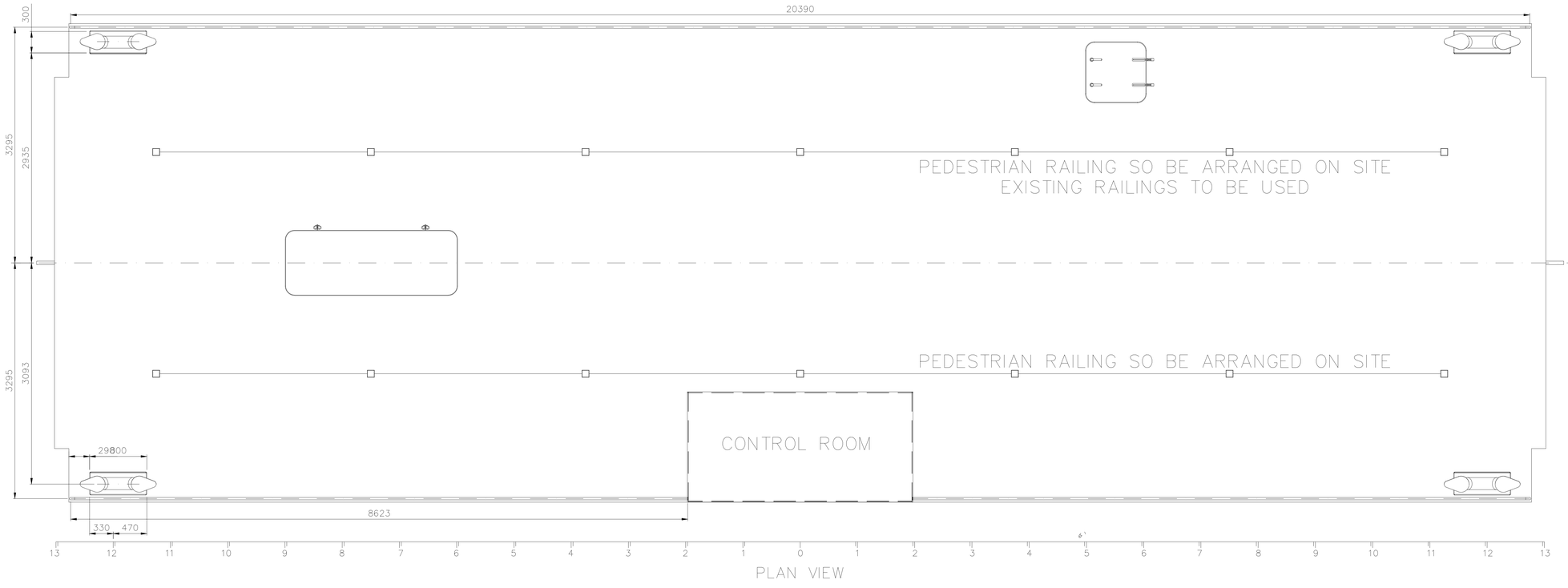



PROFILE VIEW
OUTBOARD RAILINGS




PROFILE VIEW
CONTROL ROOM SIDE




PLAN VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | UPDATED TO NEW LAYOUT | B.B | | | |

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CLIENT

| TITLE | NAME | DATE |
|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 05/06/19 |
| CHECKED | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

RAILINGS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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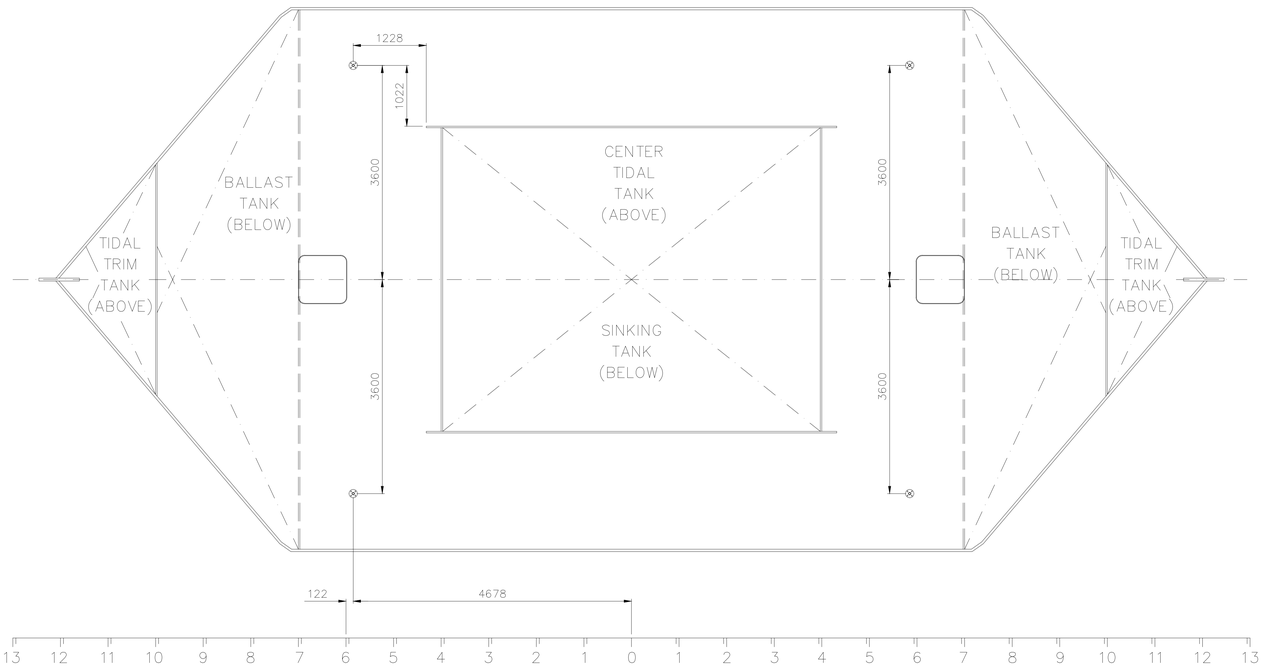
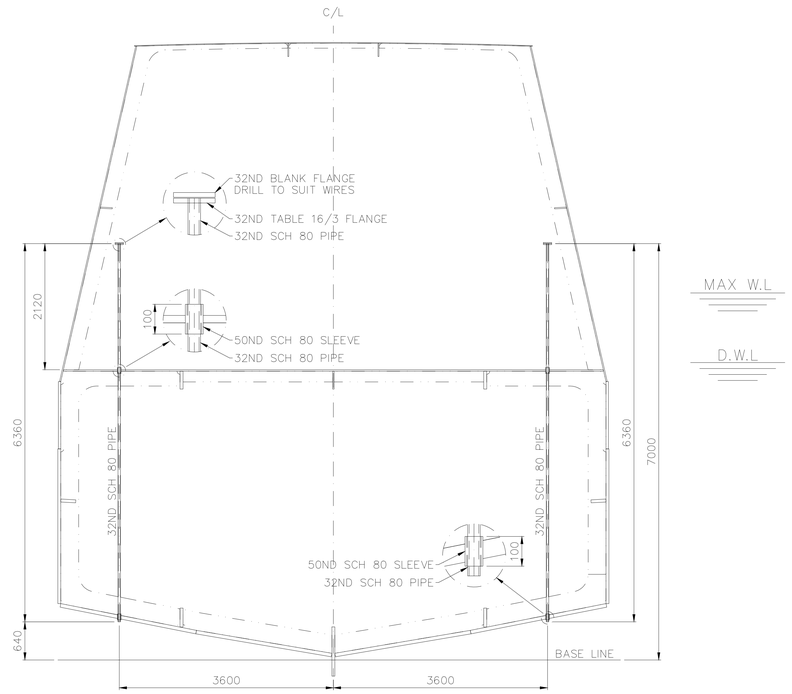



PLAN VIEW ON DECK B




SECTION VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
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**MAIN CONSULTANT**

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|---|---|---|
| DRAWN | B.B | 26/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D:2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

DRAFT SOUNDING AND SENSORS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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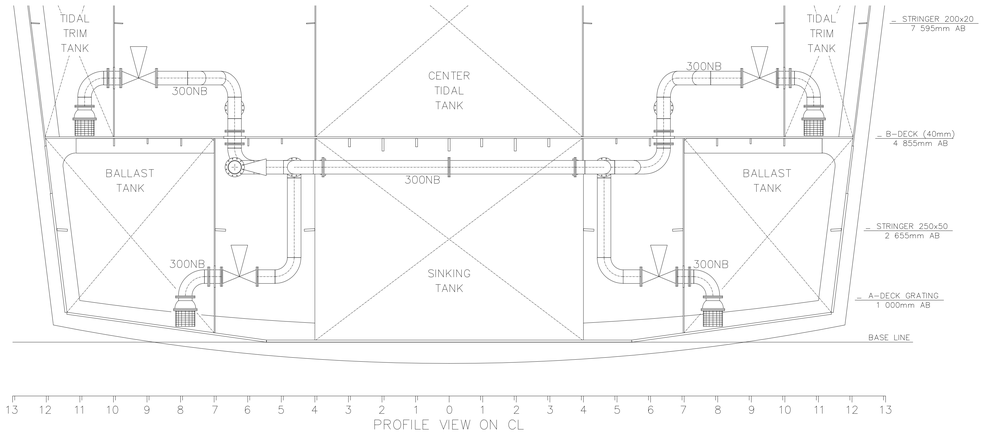
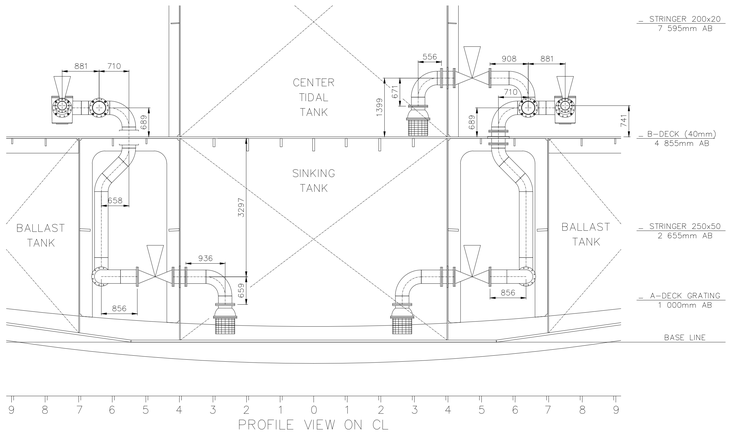
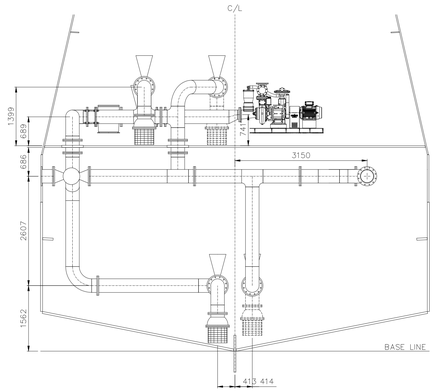


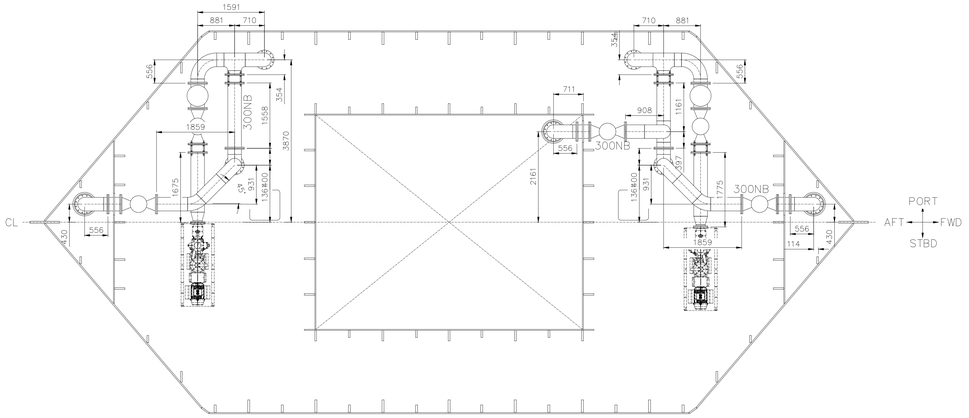

PROFILE VIEW ON CL



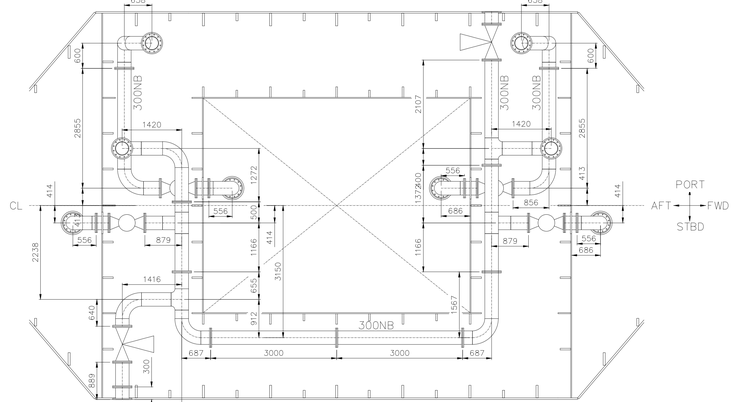

PROFILE VIEW ON CL



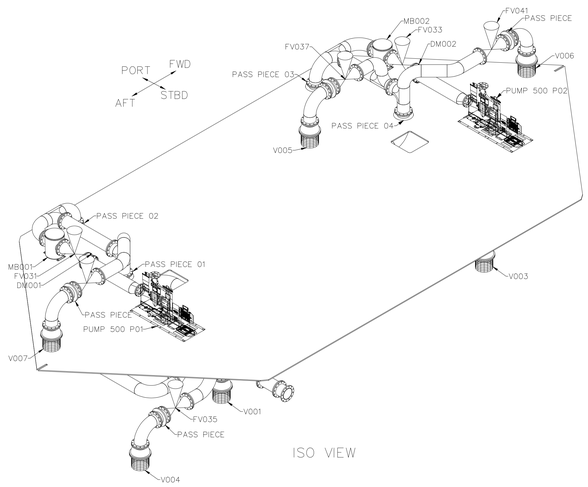

SECTION VEW FR 2
LOOKING FWD



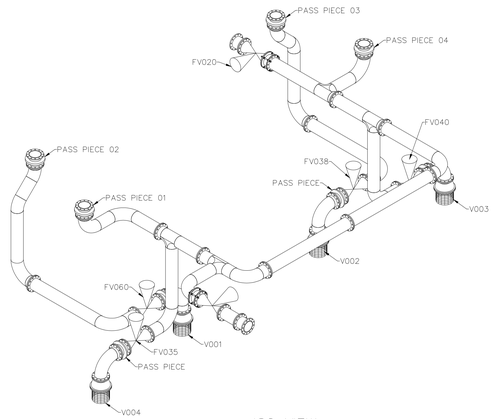

PLAN VIEW ON B-DECK



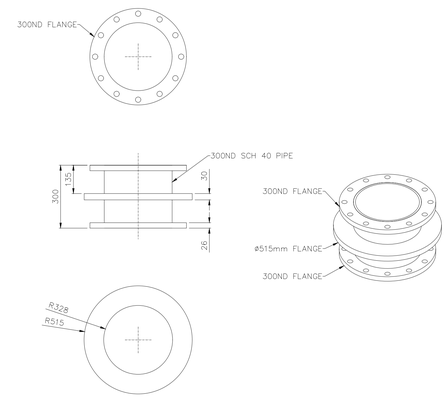

PLAN VIEW BELOW B-DECK




ISO VIEW




ISO VIEW




PASS PIECE DETAIL

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

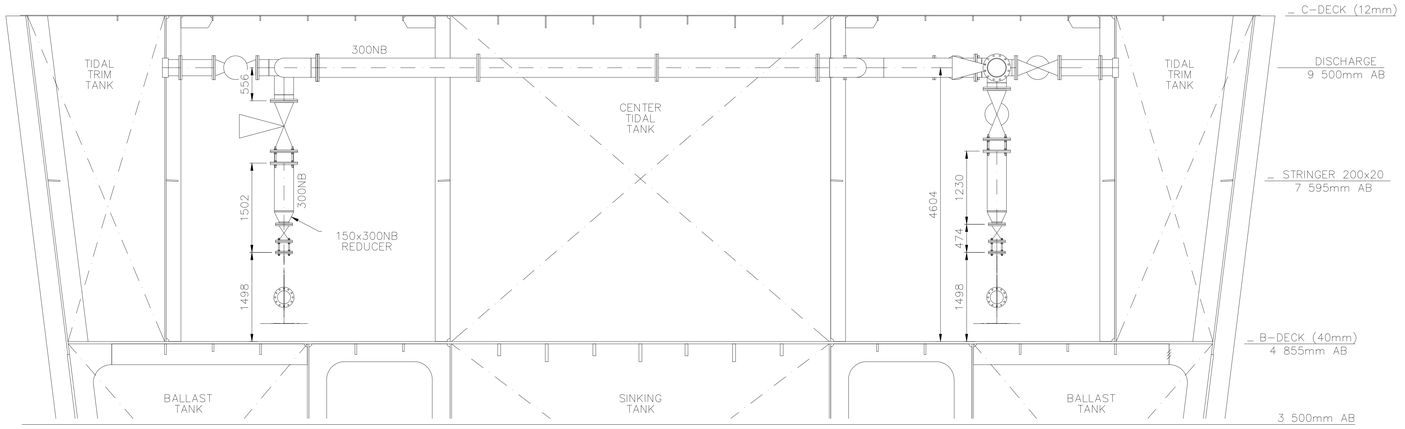
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/24/04/2017 | |

LODEMANN EST. 2015

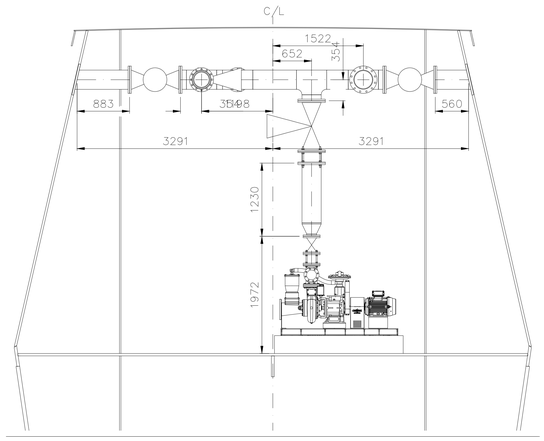
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

BILGE SUCTION

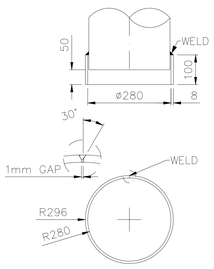
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 09/05/19 | 1002-007-4019 | | 0 | A0 | ISSUED FOR INFORMATION |



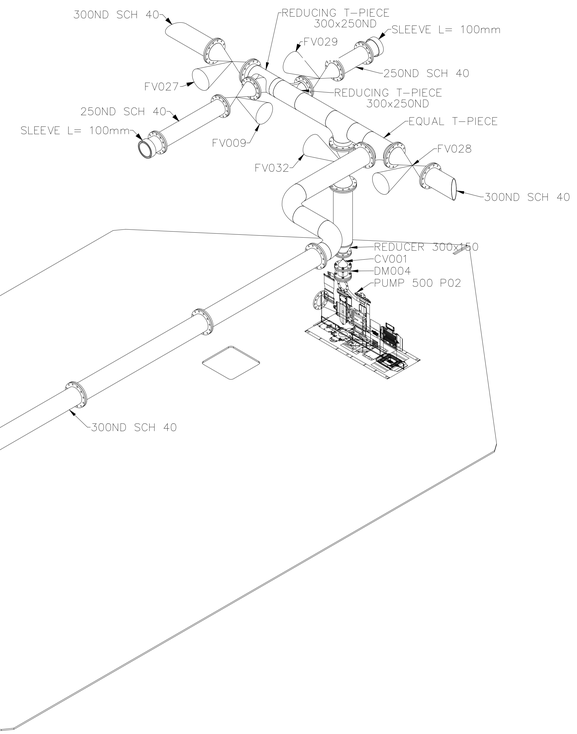

PROFILE VIEW



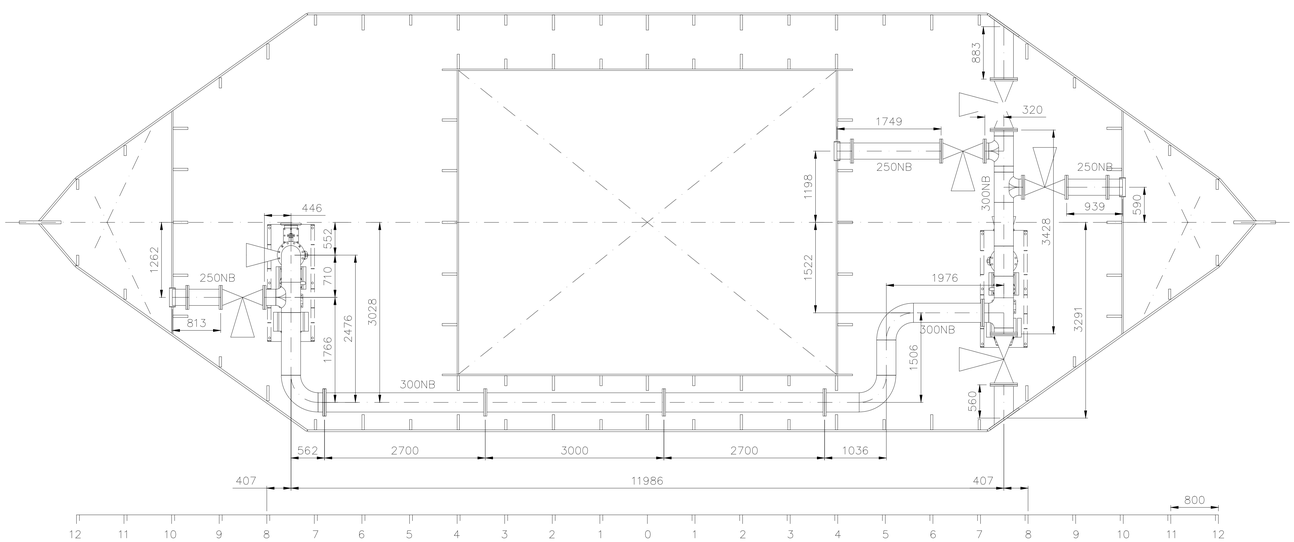

SECTION FR 7
FWD SIDE ONLY




SLEEVE DETAIL
ROLLED FB 100x8 L= 904mm




ISO VIEW




PLAN VIEW ON B-DECK

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | UPDATED TO CONSTRUCTION DRAWINGS | B.B | | | |

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CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

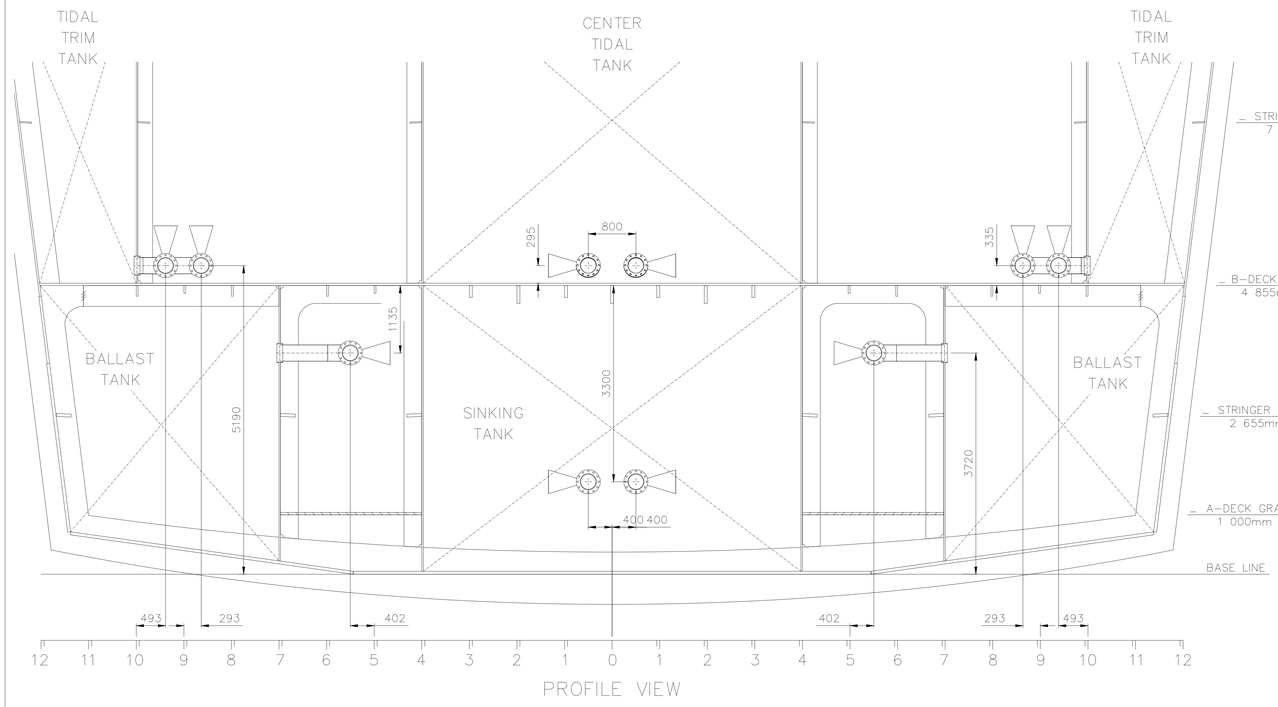
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

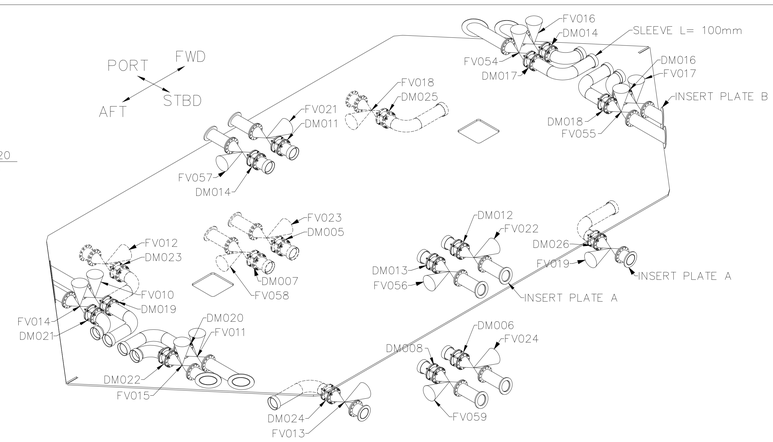
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

BILGE DISCHARGE & OVB

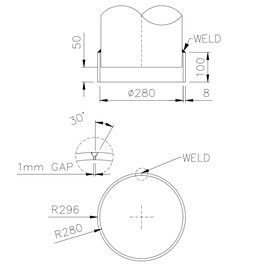
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 09/05/19 | 1002-007-4020 | | A | A0 | ISSUED FOR INFORMATION |




PROFILE VIEW

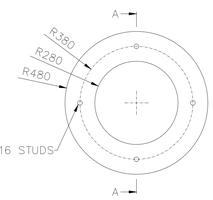



ISO VIEW



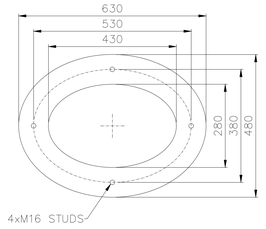

SLEEVE DETAIL

ROLLED FB 100x8 L= 904mm



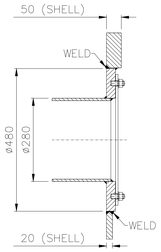

INSERT PLATE A

30mm PLATE

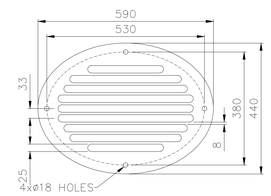



INSERT PLATE B

30mm PLATE

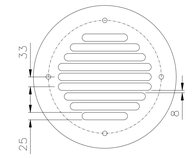



SECTION A-A



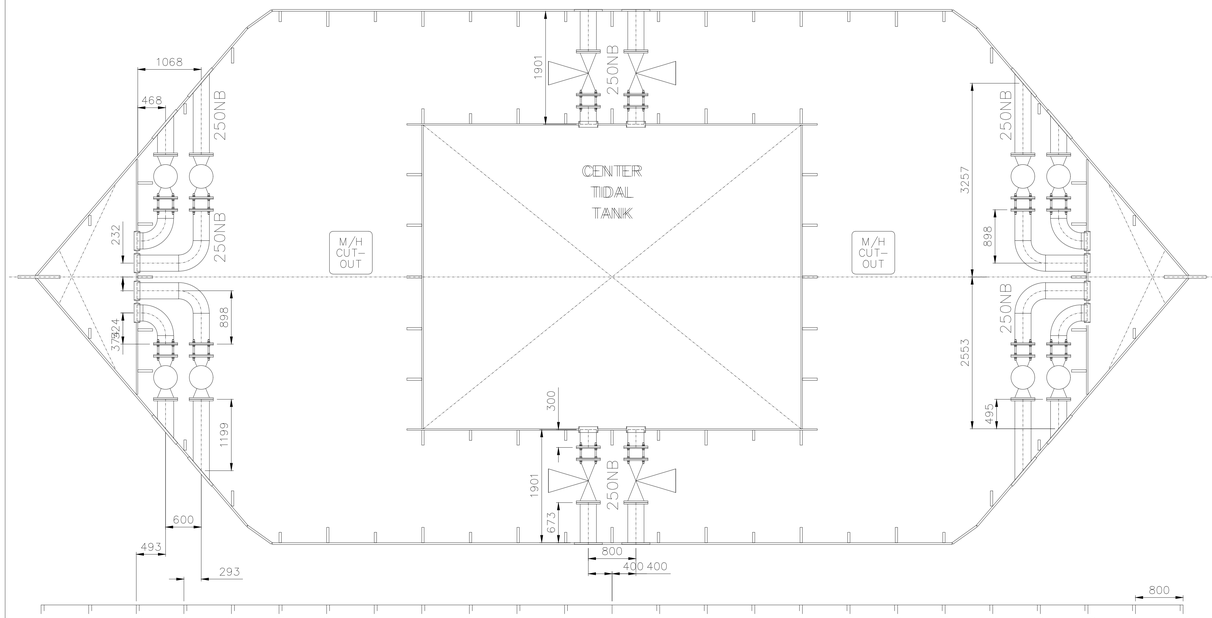

COVER PLATE B

8mm ST/ST PLATE (316)

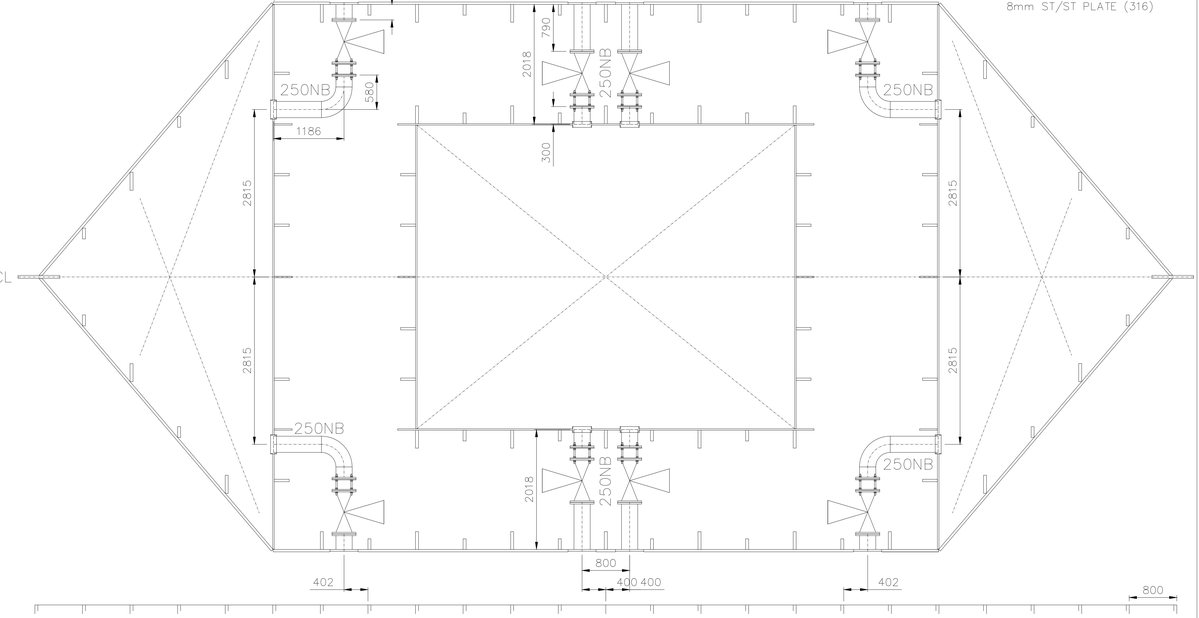



COVER PLATE A

8mm ST/ST PLATE (316)




PLAN VIEW ON B-DECK




PLAN VIEW BELOW B-DECK

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| | | | | | |

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CLIENT

| TITLE | NAME | DATE |
|---|---|---|
| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

BILGE OVB TANK FILL

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status |
|---|---|---|---|---|---|---|
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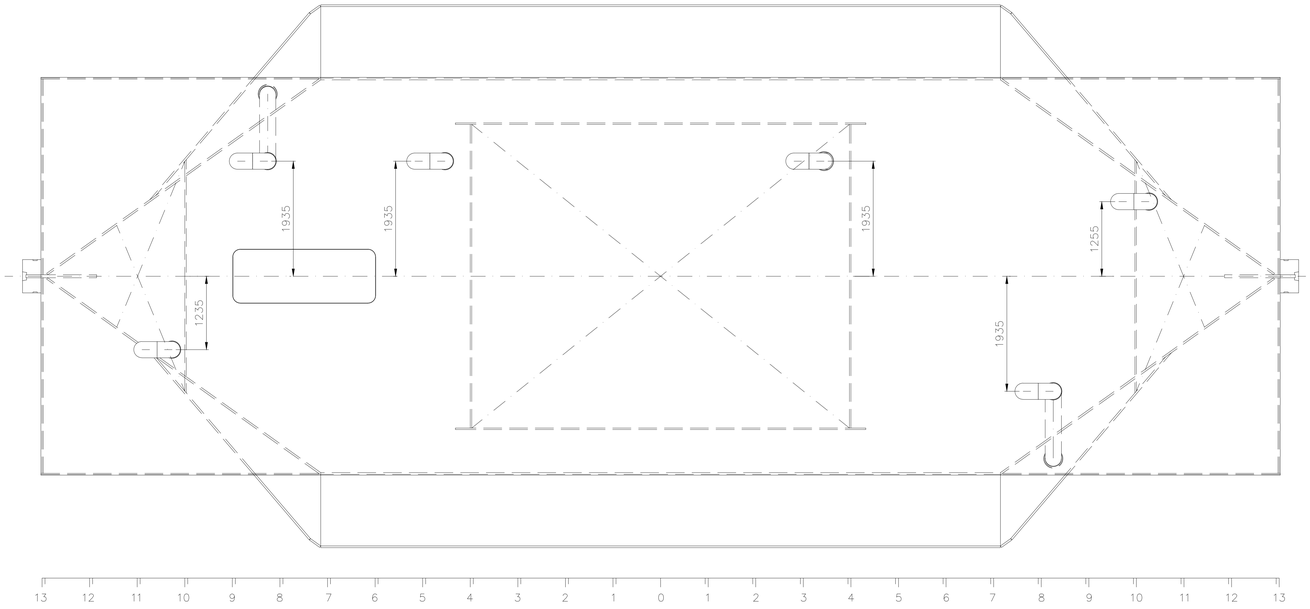
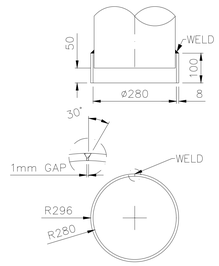
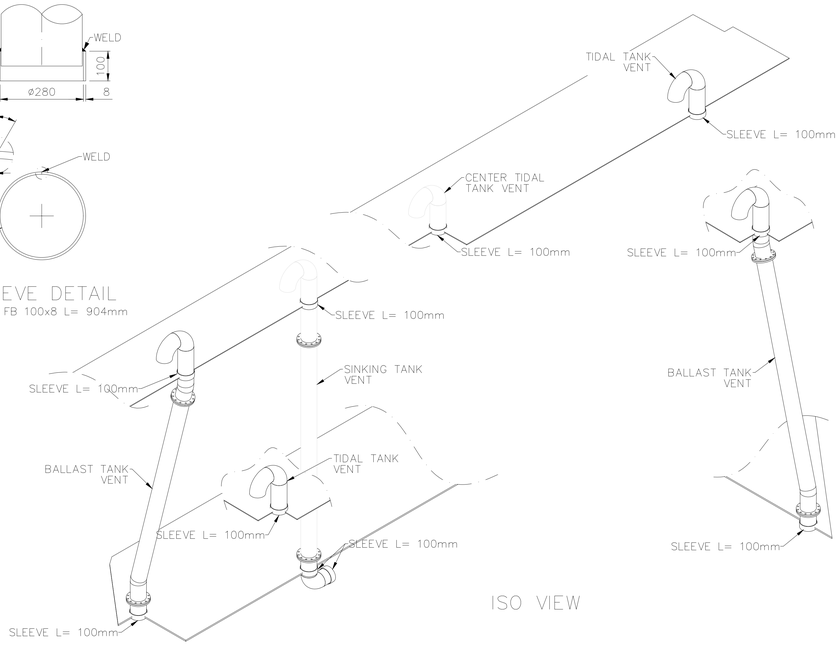


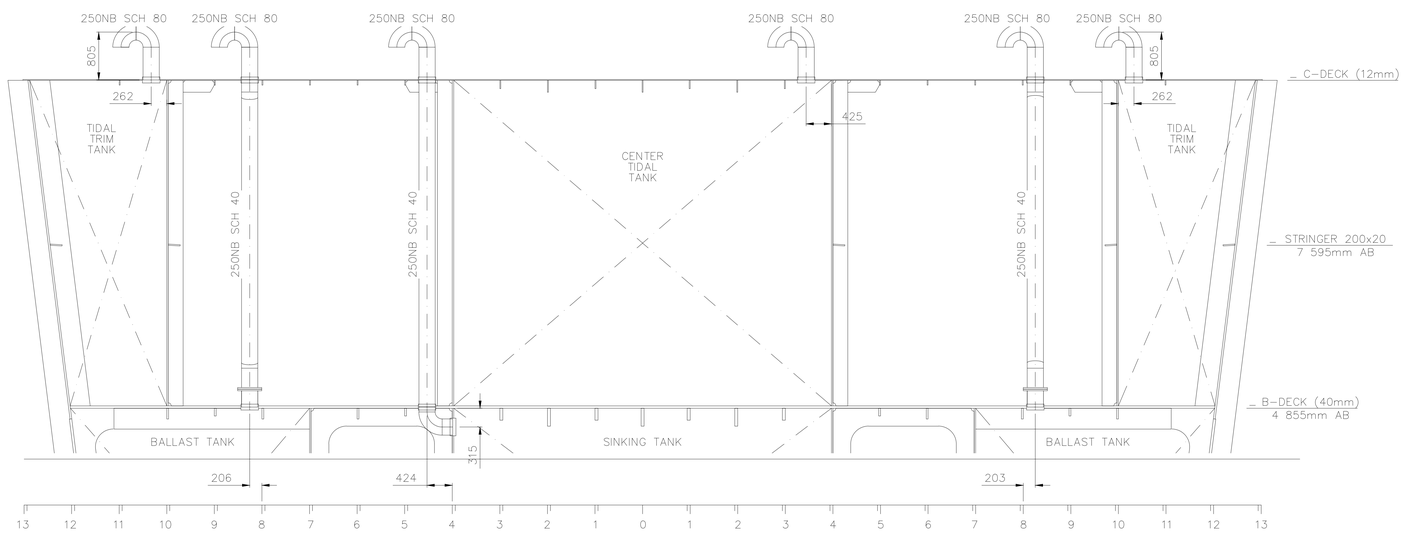

PROFILE VIEW ON C-DECK



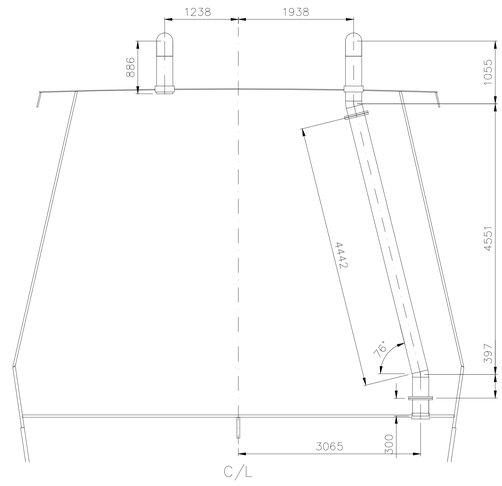

SLEEVE DETAIL
ROLLED FB 100x8 L= 904mm




ISO VIEW




PROFILE VIEW ON CL




SECTION FR 9

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | VENT POSITIONS CHANGED | B.B | | | |

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CLIENT

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|---|---|---|
| | | |

MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 24/04/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

APPROVED BY

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

BILGE VENTS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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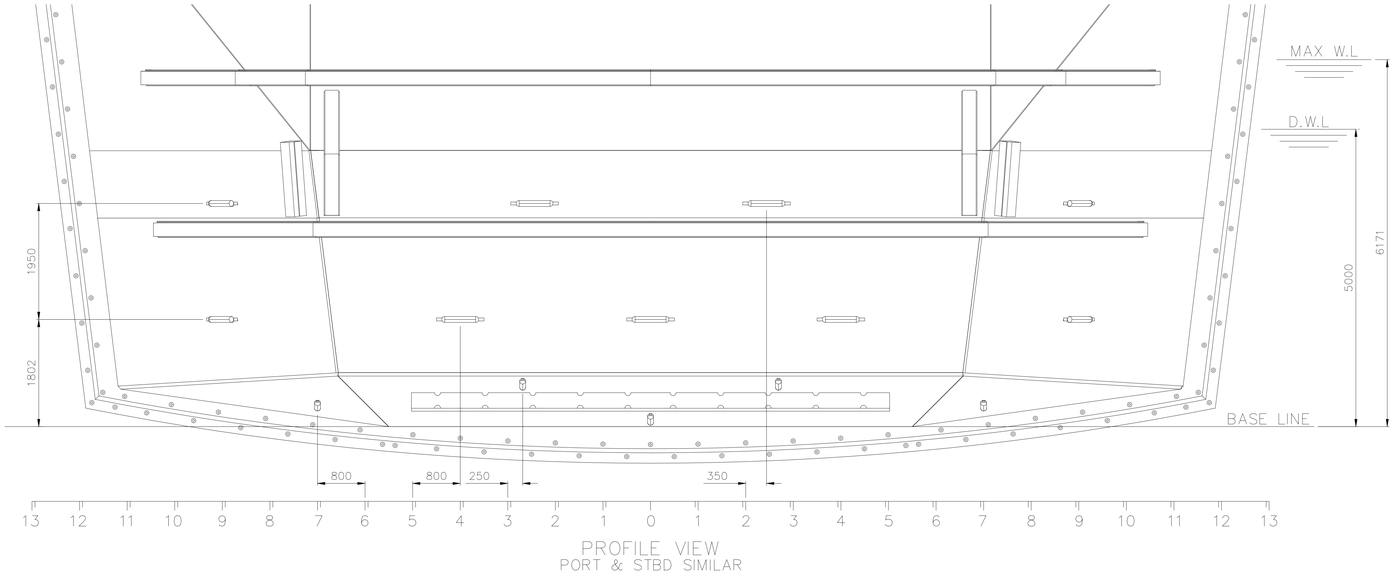
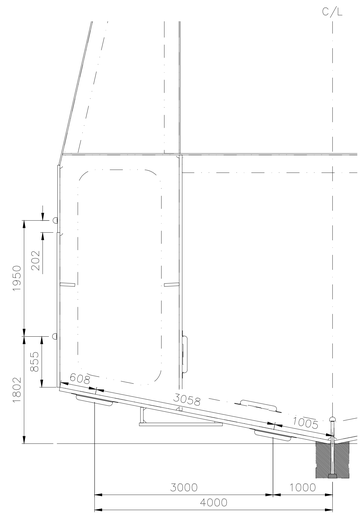
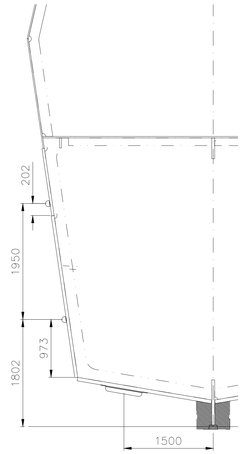


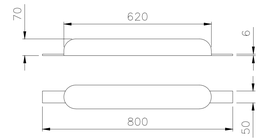

PROFILE VIEW
PORT & STBD SIMILAR



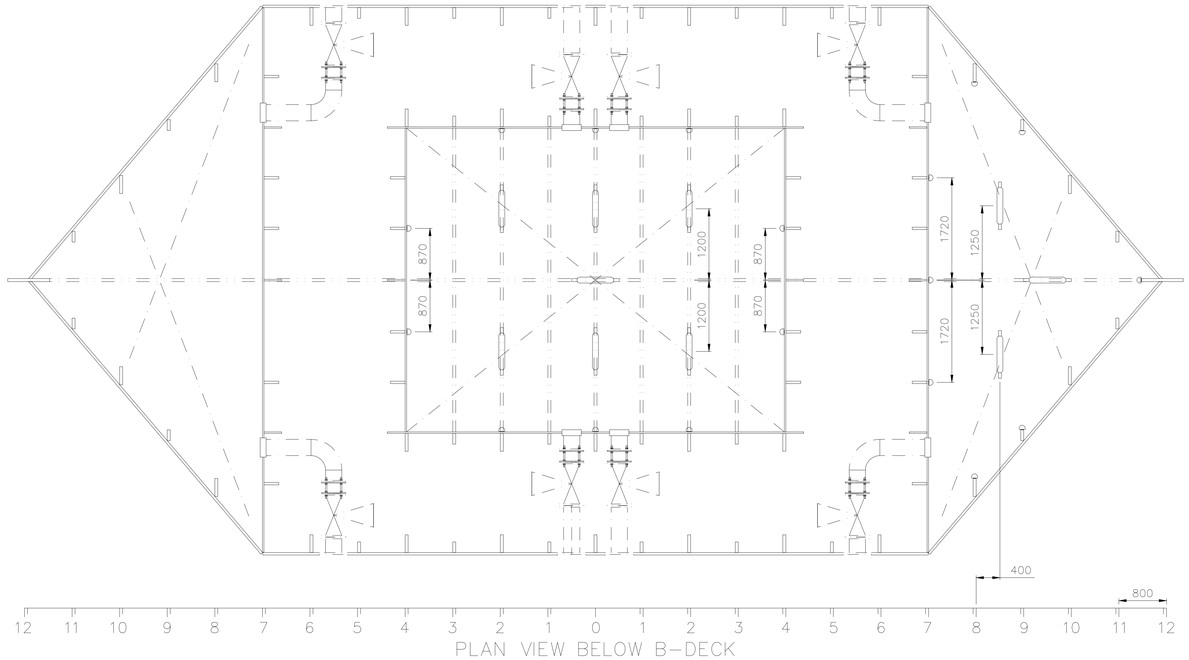

SECTION VIEW
FRAMES 0–4



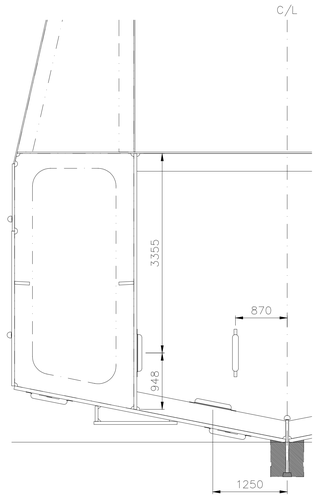

SECTION FR 9



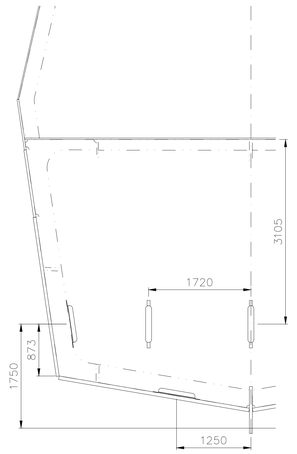

ANODE DETAIL
PROTEA FOUNDRY BN6
9.2Kg ALU



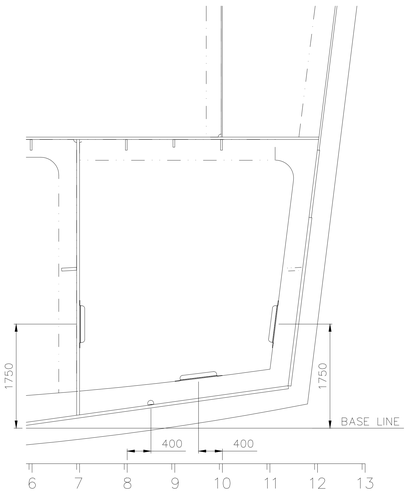

PLAN VIEW BELOW B–DECK




SECTION VIEW
IN SINKING TANK




SECTION FR 8
LOOK TO FR 0




SECTION ON CL

GENERAL NOTES:
ANODE PLAN BASED ON "PROTEA FOUNDRY & ENGINEERING'S" BN6 9.2Kg ALU ANODE
SEE ANODE DETAIL FOR SIZE

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 26/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

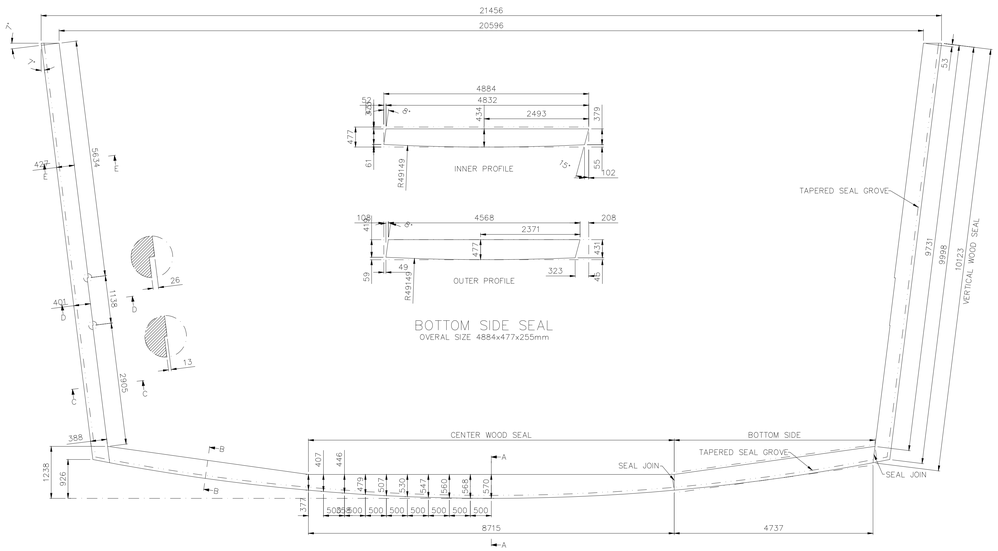
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

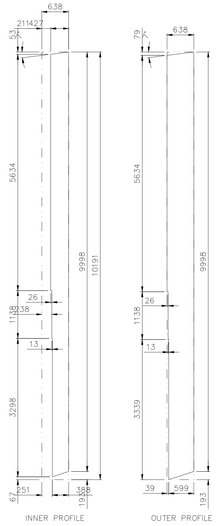
ANODE PLAN

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:50 | 26/06/19 | 1002-007-4023 | | 0 | A0 | ISSUED FOR INFORMATION |

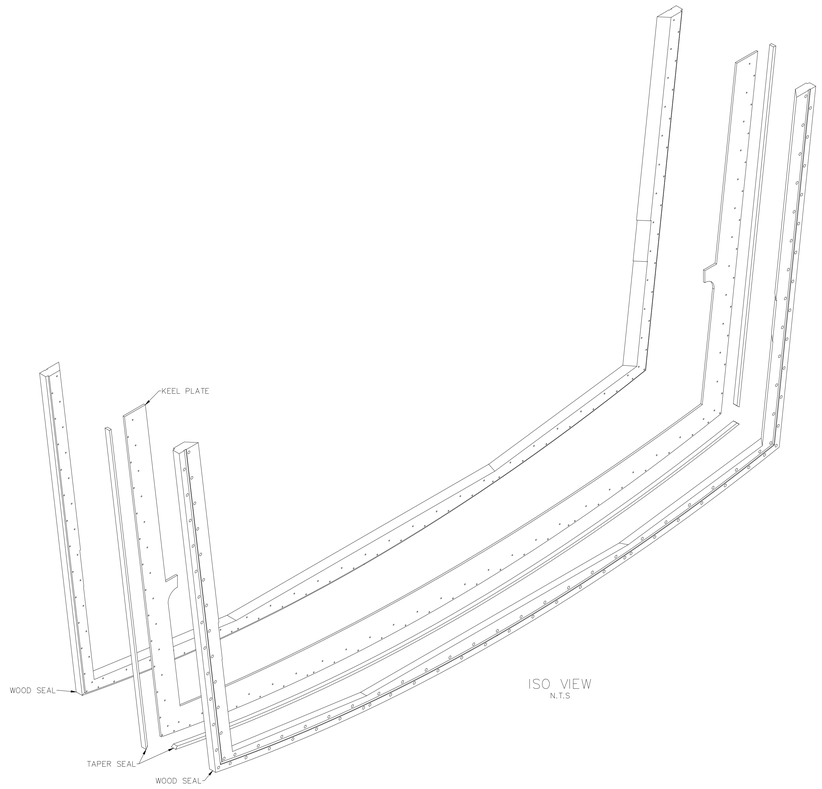



## BOTTOM SIDE SEAL
OVERAL SIZE 4884x477x255mm

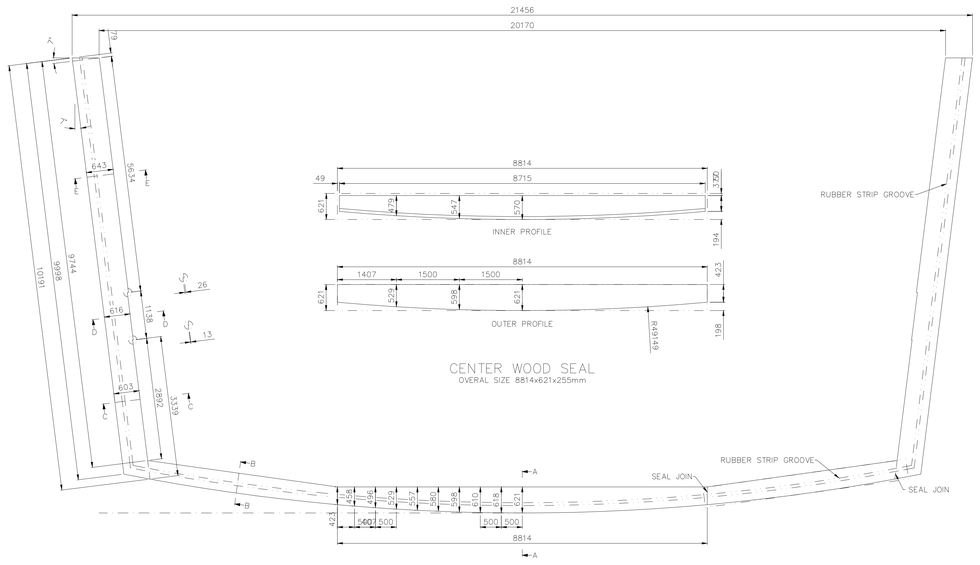
SEAL INNER FACE PROFILE




## VERTICAL SEAL
OVERAL SIZE 10191x638x255mm

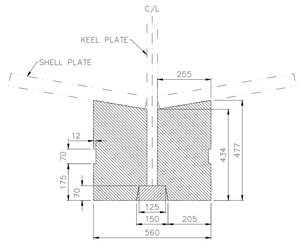



ISO VIEW
N.T.S

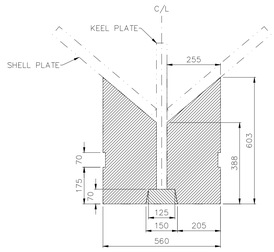



## CENTER WOOD SEAL
OVERAL SIZE 8814x621x255mm

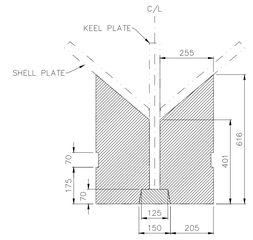
SEAL OUTER FACE PROFILE



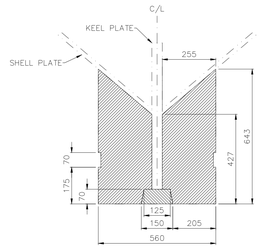

SECTION B–B
SCALE 1:20



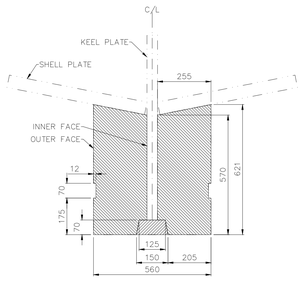

SECTION C–C
SCALE 1:20



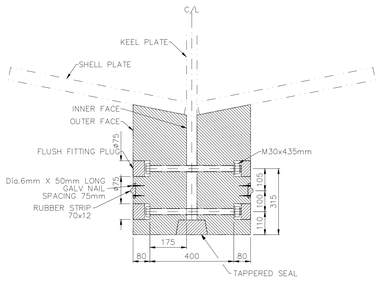

SECTION D–D
SCALE 1:20



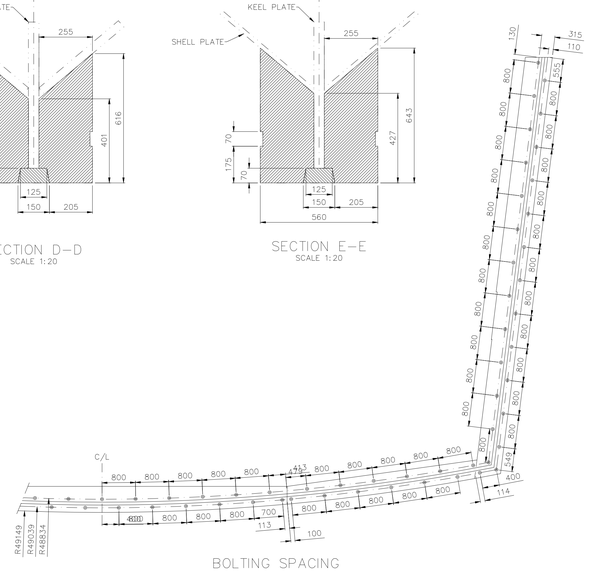

SECTION E–E
SCALE 1:20




SECTION A–A
SCALE 1:20




BOLTING DETAIL
SCALE 1:20




BOLTING SPACING

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 11/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

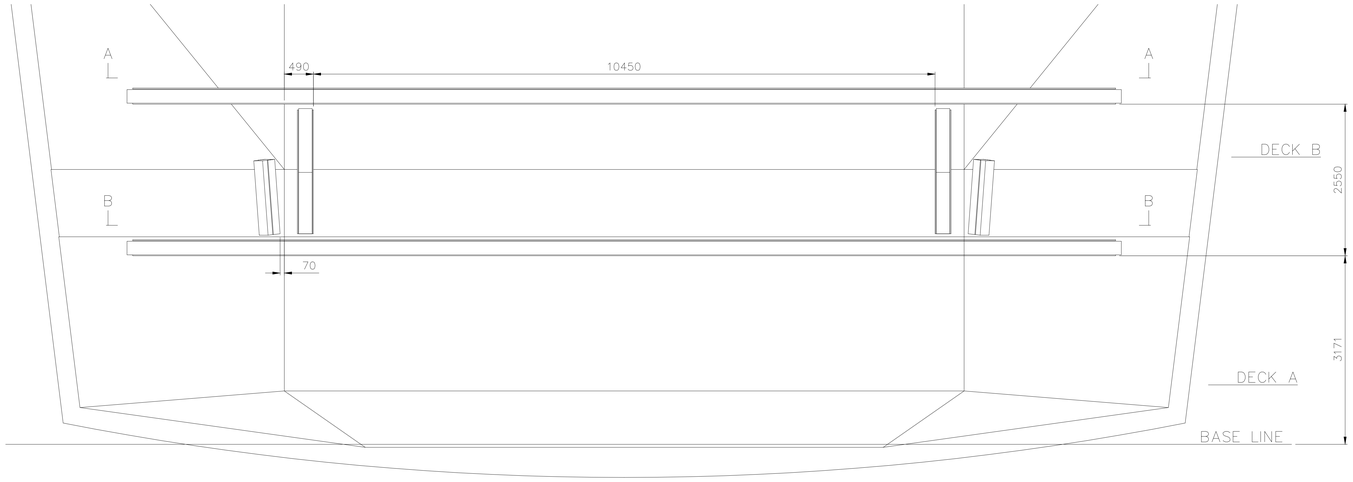
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

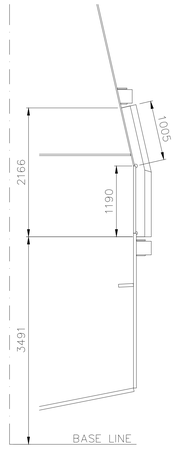
DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

SEALING FACE

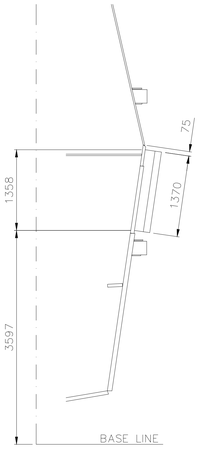
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev | Sheet size | Status |
|---|---|---|---|---|---|---|
| 1:50 | 11/06/19 | 1002-007-4024 | | 0 | A0 | ISSUED FOR INFORMATION |



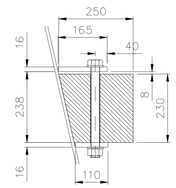

PROFILE VIEW



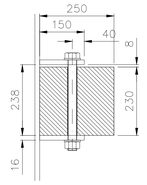

SECTION FR 7



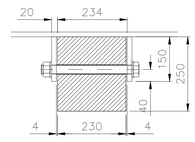

SECTION FR 7.5
400mm FWD OF FR 7



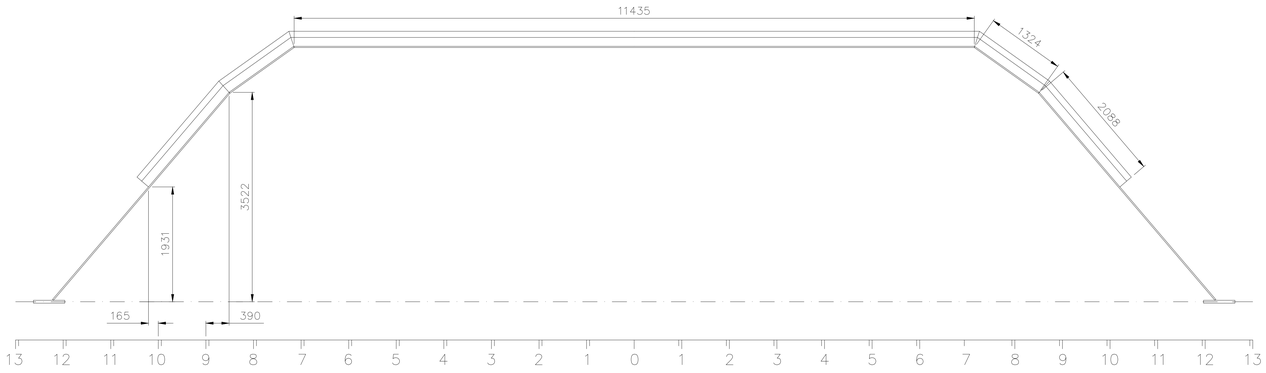

BOLTING DETAIL A
FOR SECTION A–A



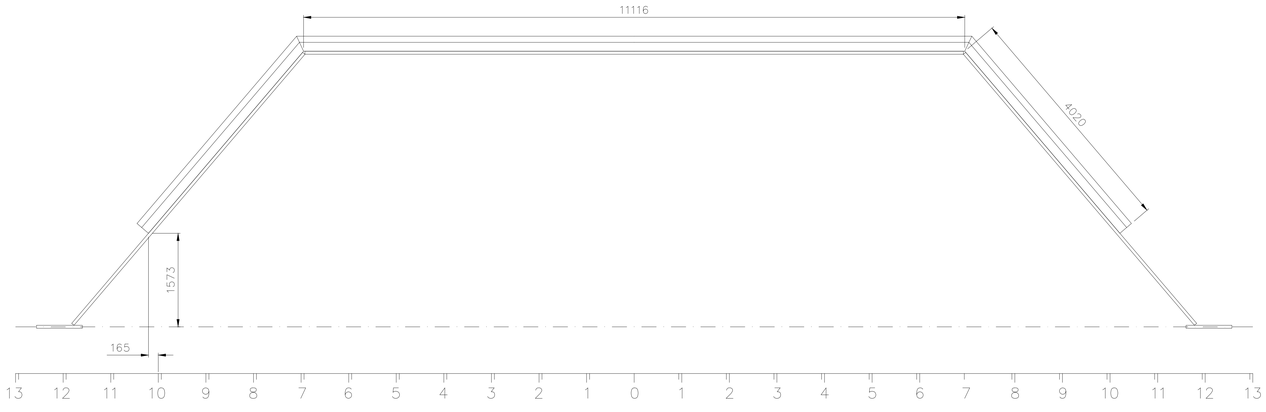

BOLTING DETAIL B
FOR SECTION B–B



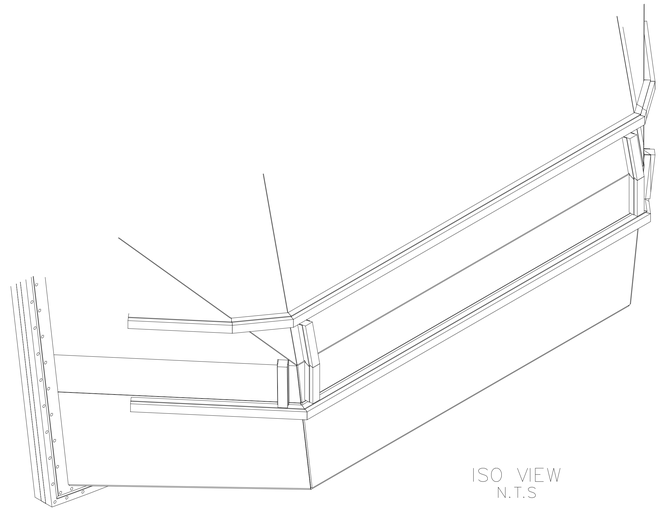

BOLTING DETAIL C
FOR VERTICAL FENDER




SETION A–A




SETION B–B



ISO VIEW
N.T.S

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 13/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

FENDER DETAILS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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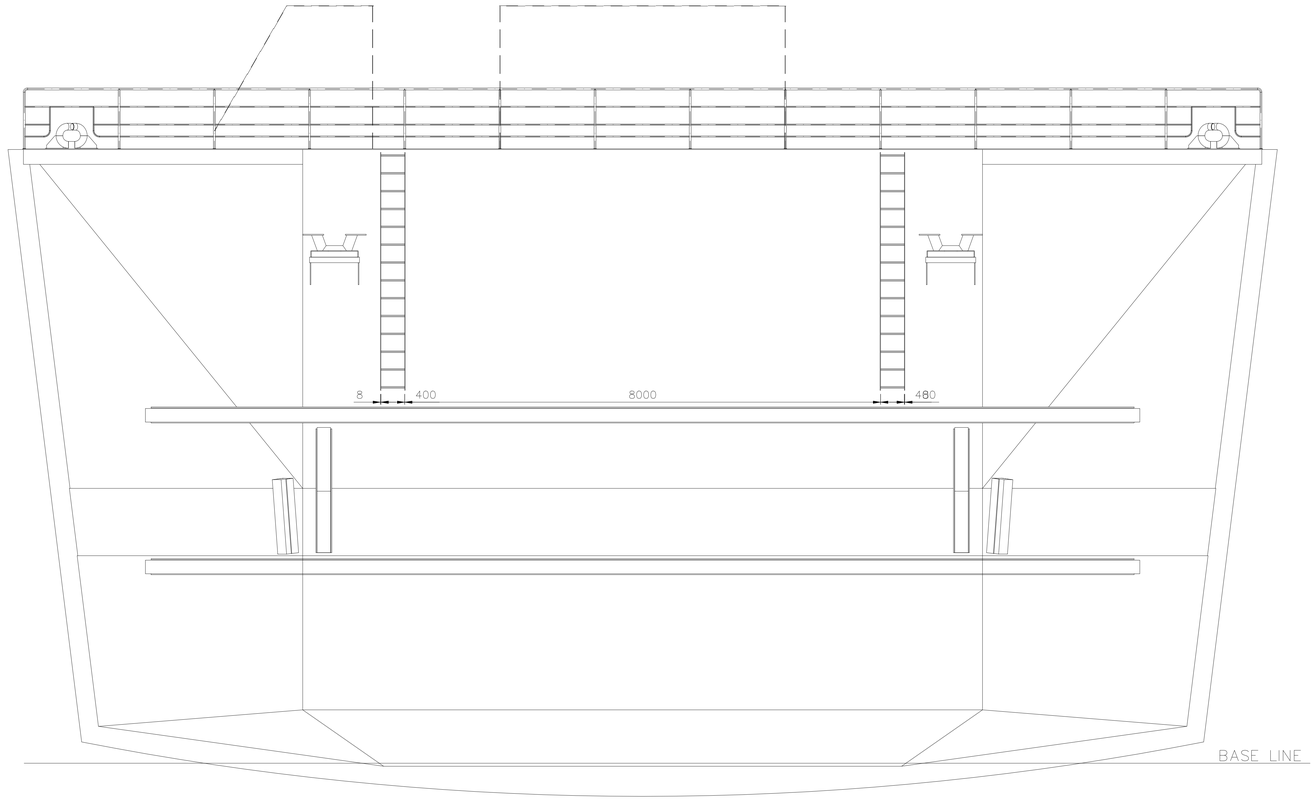
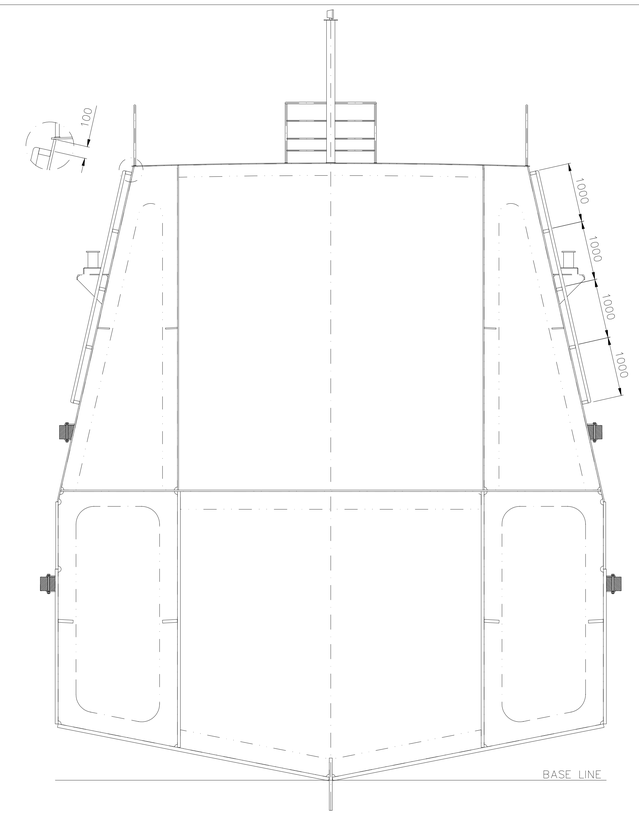
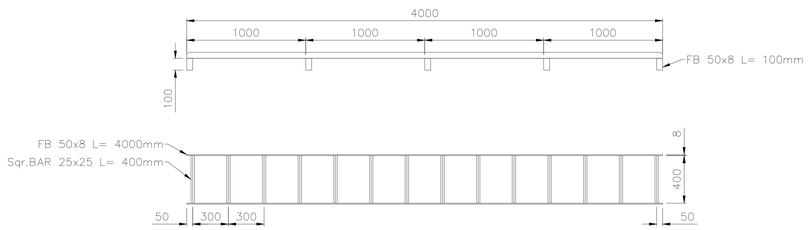


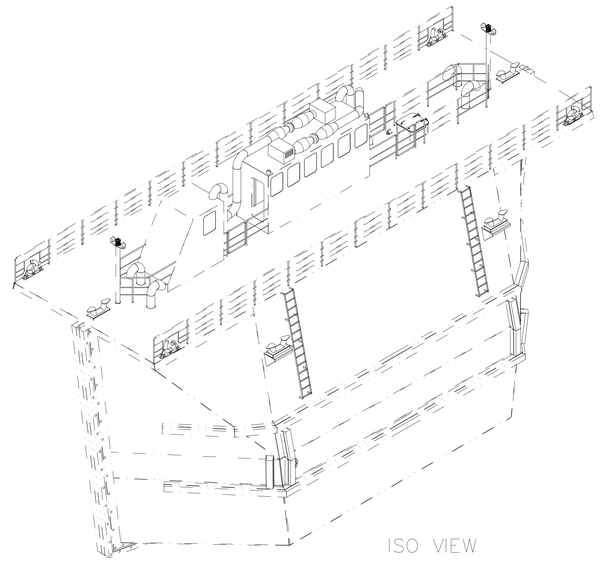

PROFILE VIEW




SECTION FR 5




LADDER DETAIL
-4 OFF REQ'D-



ISO VIEW

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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CLIENT

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|---|---|---|

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 26/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

ACCESS LADDER

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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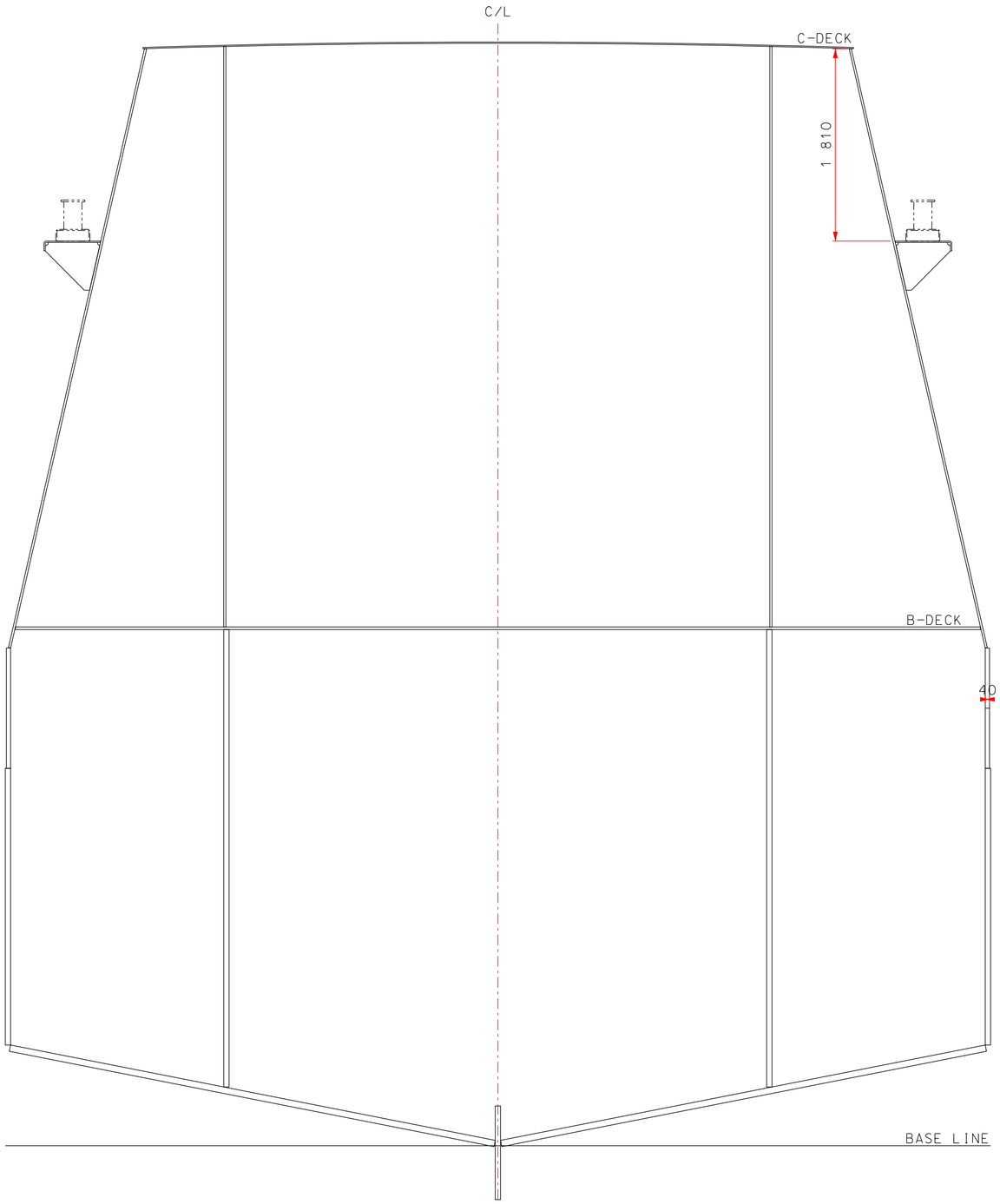
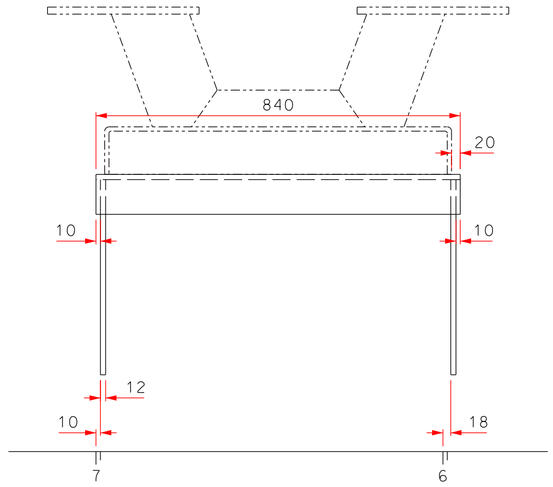
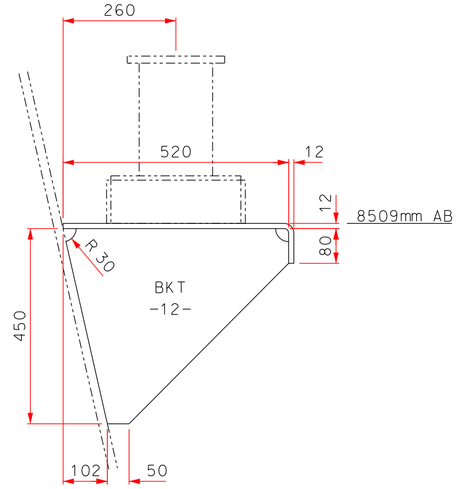


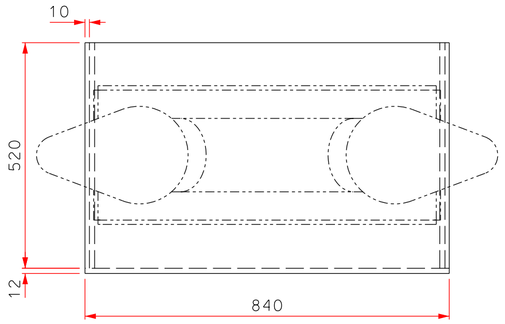

SECTION VIEW
SCALE 1:25



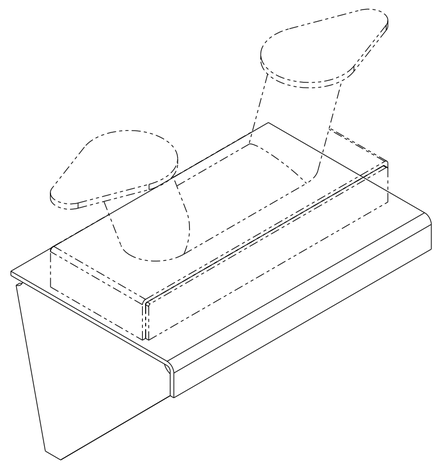

PROFILE VIEW




SIDE VIEW




PLAN VIEW



ISO VIEW

| DRAWING NO. | REFERENCE |
|---|---|
| REFERENCE DRAWINGS | |

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
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|---|---|---|
| TITLE | NAME | DATE |

| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | BJB | 25/06/19 |
| CHECKED | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

| APPROVED BY | | |
|---|---|---|
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN
SHELL BOLLARD
FOUNDATION

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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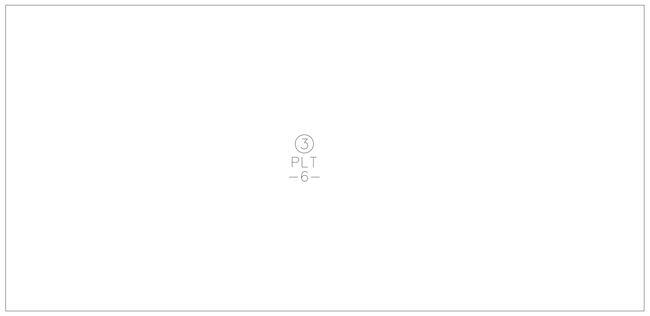


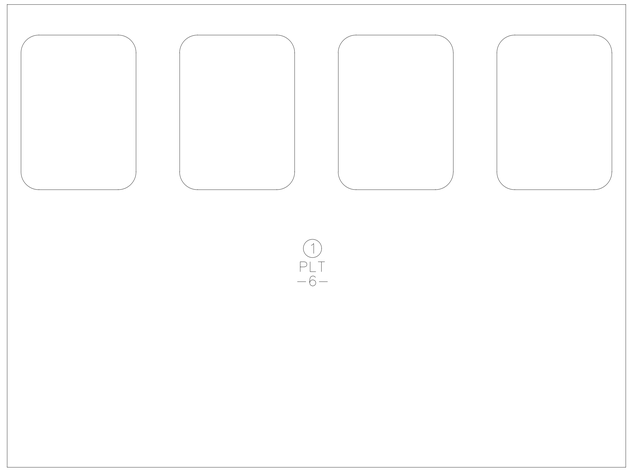


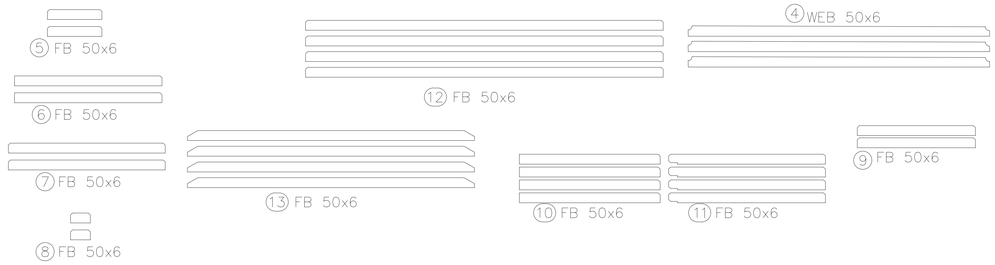


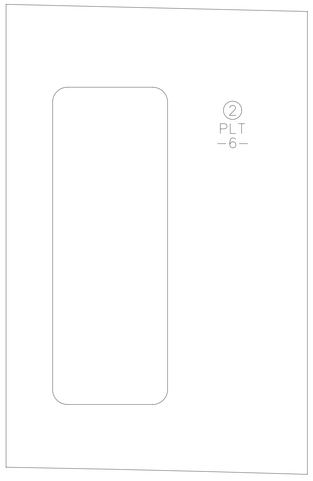


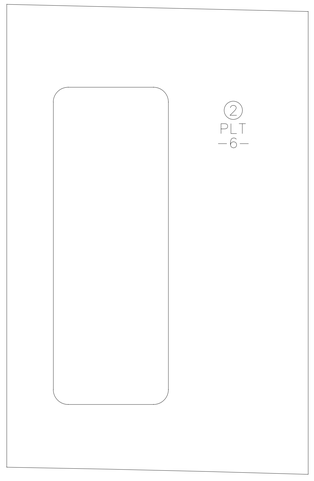


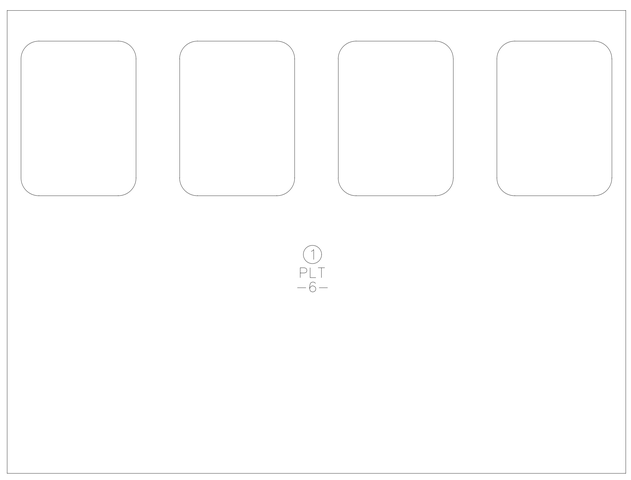


| DRAWING NO. | REFERENCE |
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| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
| A | UPDATED TO NEW LAYOUT | B.B | | | |

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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

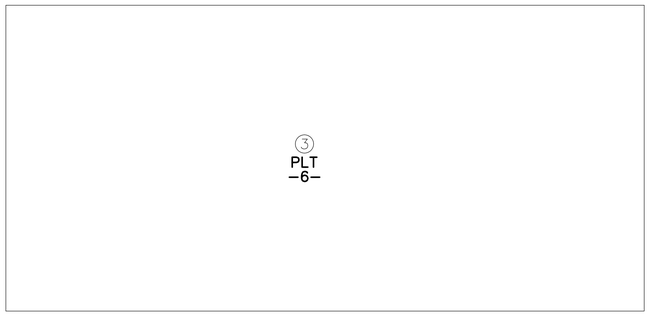
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

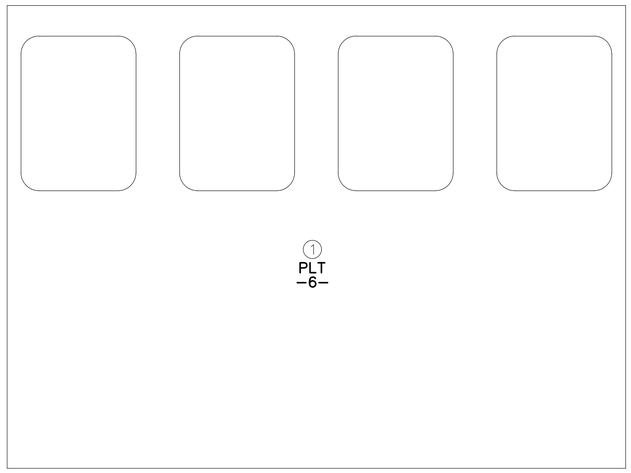
LODEMANN EST. 2015

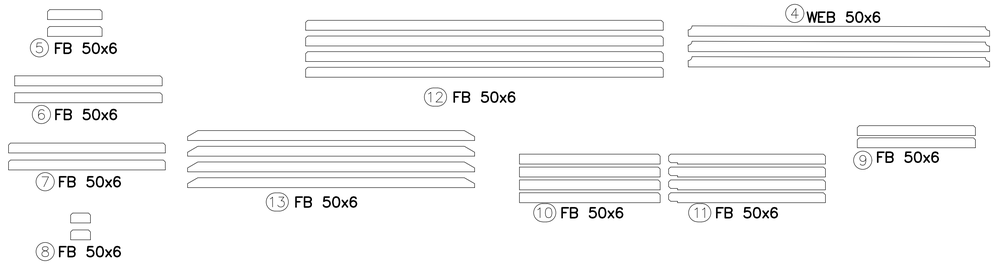
# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

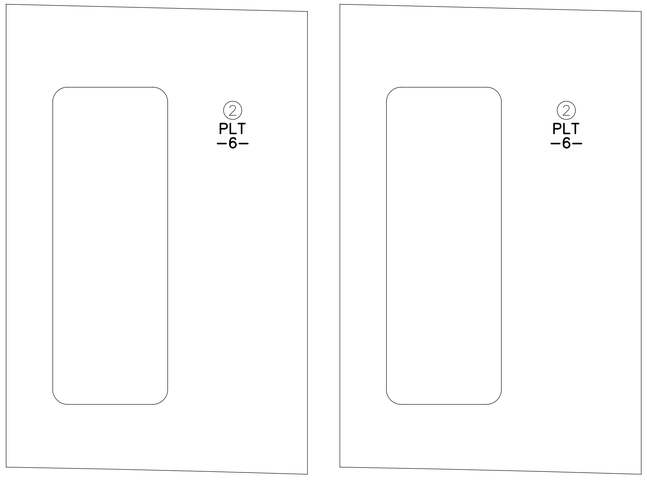
## CONTROL ROOM PARTS

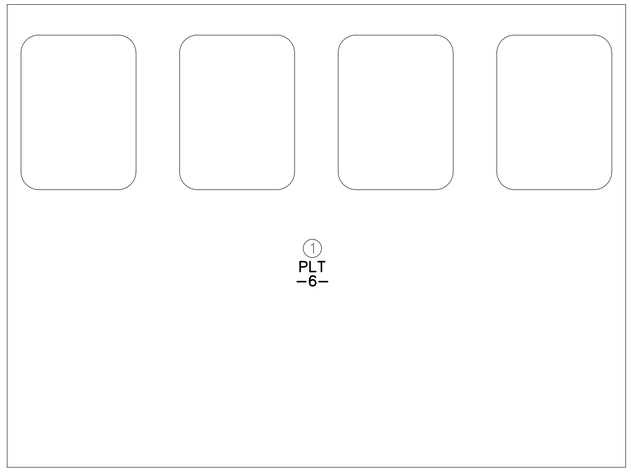
| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| 1:15 | 04/06/19 | 1002-007-4028 | | A | A0 | ISSUED FOR INFORMATION |




| DRAWING NO. | REFERENCE |
|---|---|
| | |

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|
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| | | |

**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
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| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

STAIR CASE ENTRANCE
HATCH PARTS

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
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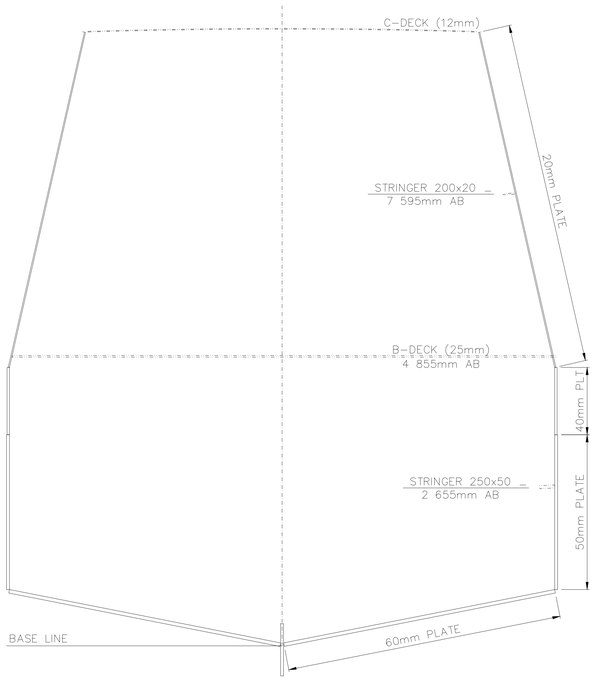
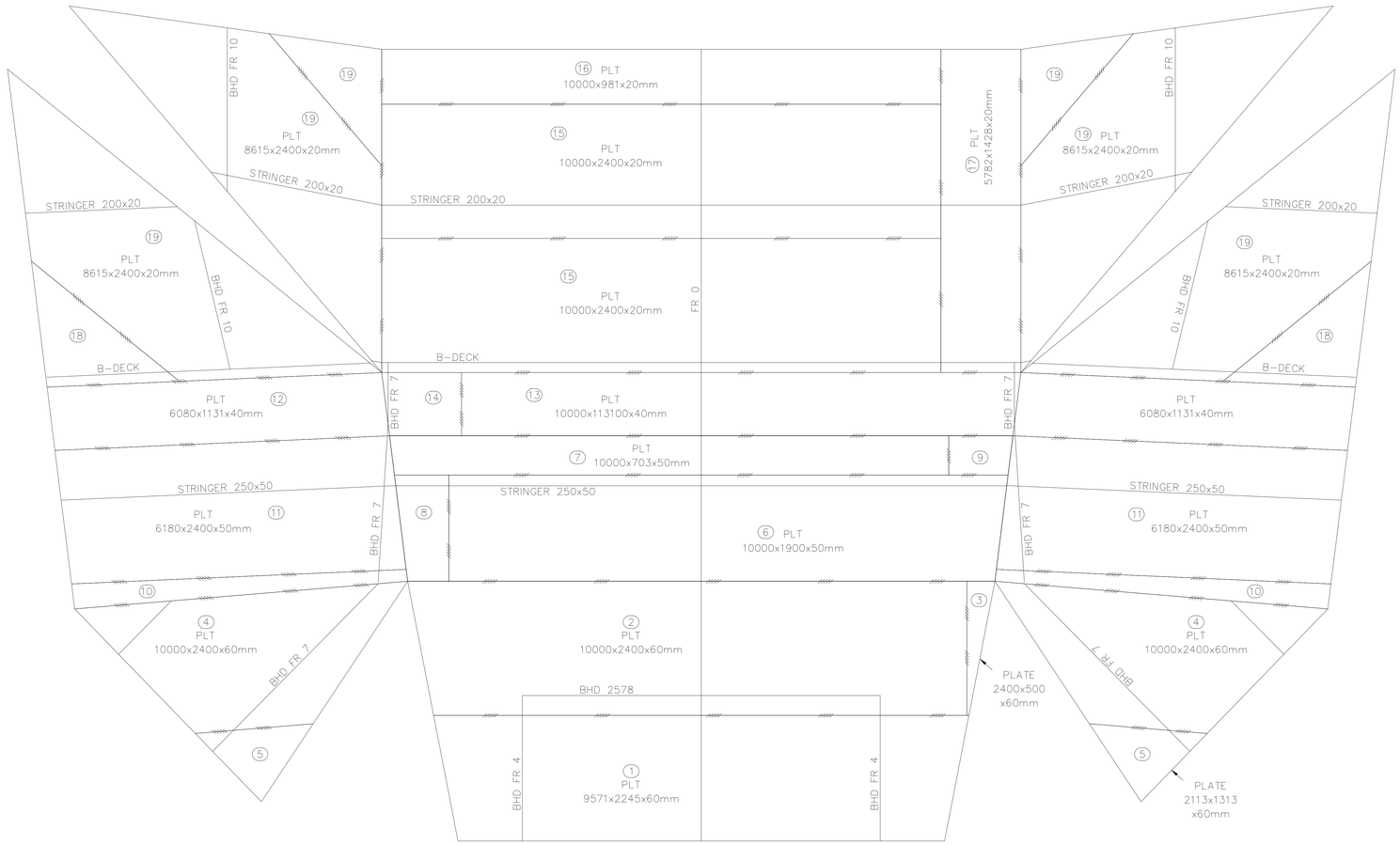



MIDSHIP SECTION
PLATING ONLY




SHELL EXPANSION

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
|---|---|---|---|---|---|

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|---|---|---|

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| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | B.B | 04/06/19 |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL ENG. | | |
| INSTRU. ENG. | | |
| PROC. ENG. | | |

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| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

SHELL PLATING

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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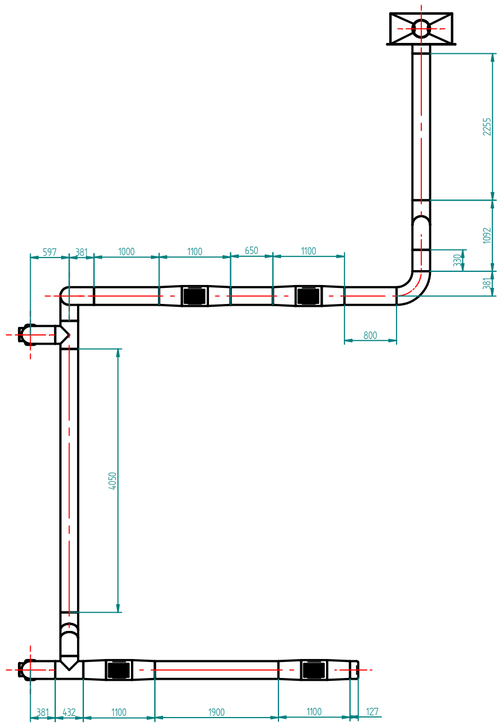
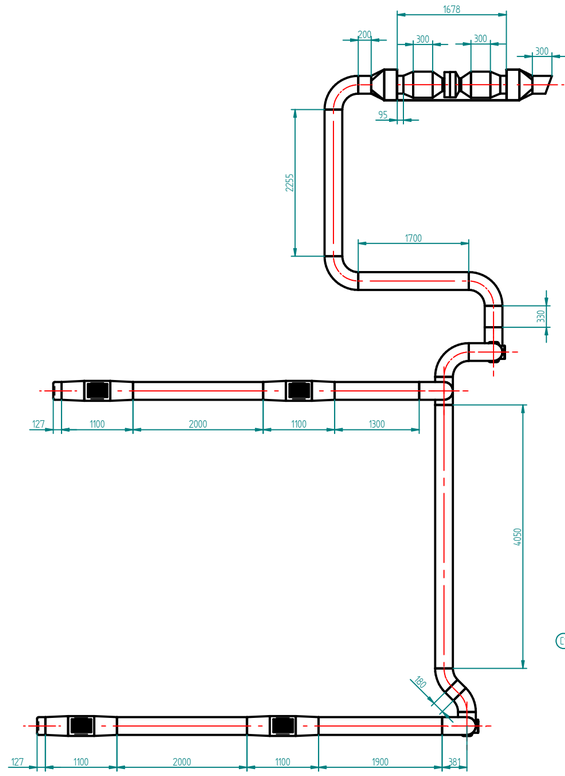
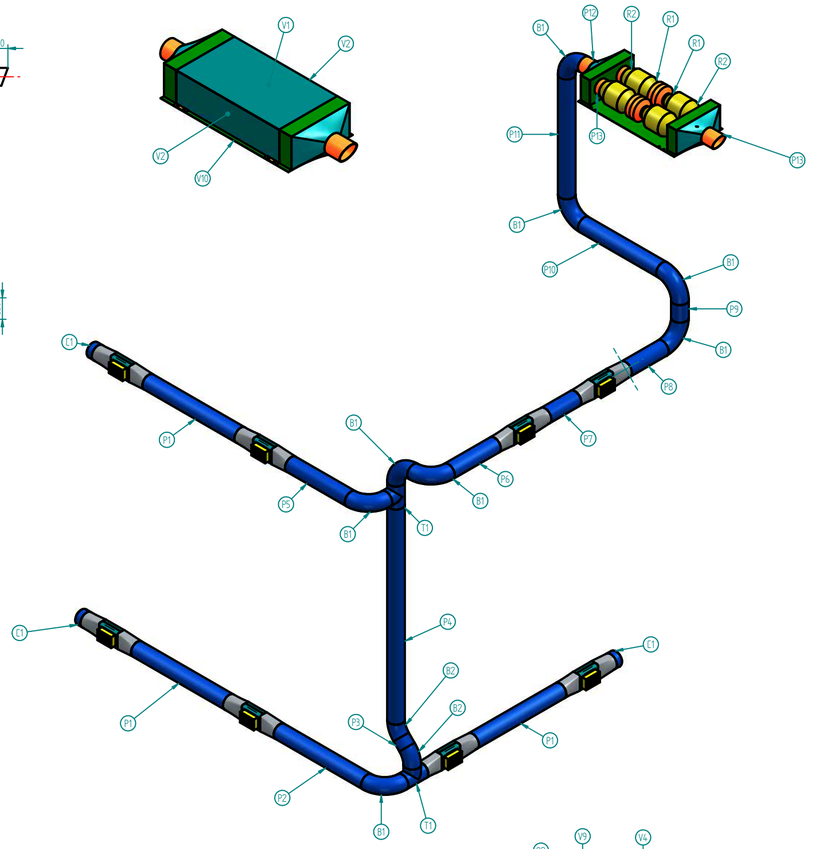
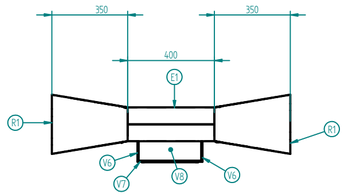


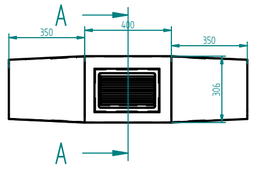


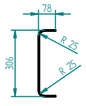





AIR GRILLER DETAIL




BEND PLATE DETAIL
(MARK E1)

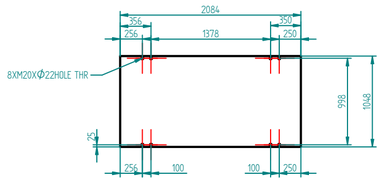
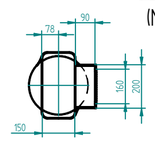
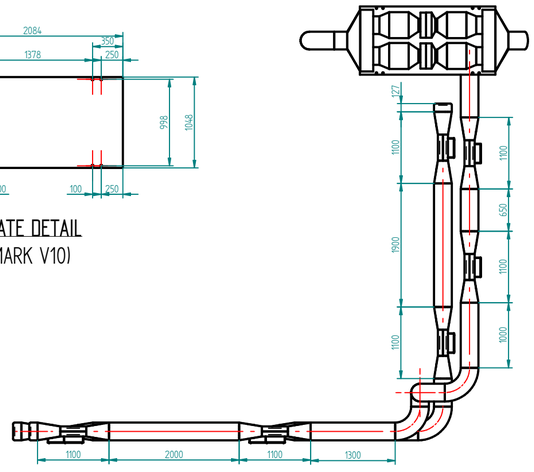
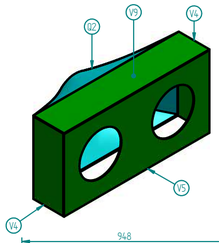



PLATE DETAIL
(MARK V10)




SECTION A-A



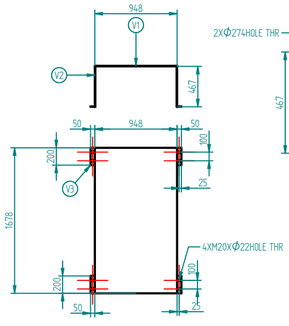
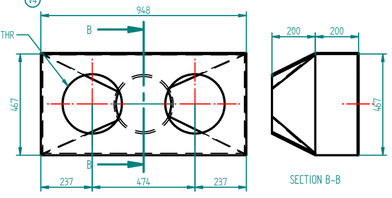
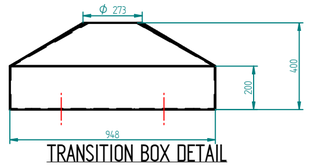




PLATE DETAIL
(MARK V1)




TRANSITION BOX DETAIL
(MARK Q2)

| MATERIAL LIST | | | |
|---|---|---|---|
| ITEM No. | DESCRIPTION | MATERIAL | QTY |
| B1 | 90 DEG ELBOW 250NB SCH.40 | STAINLESS STEEL | 8 |
| B2 | 45 DEG ELBOW 250NB SCH.40 | STAINLESS STEEL | 2 |
| C1 | END CAP 250NB SCH.40 X 127 LG | STAINLESS STEEL | 3 |
| E1 | BEND PLATE | STAINLESS STEEL | 18 |
| G1 | FLAT BAR 450X415X3 THK | STAINLESS STEEL | 1 |
| P1 | PIPE 250NB SCH.40 X 2000 LG | STAINLESS STEEL | 3 |
| P2 | PIPE 250NB SCH.40 X 1900 LG | STAINLESS STEEL | 2 |
| P3 | PIPE 250NB SCH.40 X 180 LG | STAINLESS STEEL | 1 |
| P4 | PIPE 250NB SCH.40 X 4050 LG | STAINLESS STEEL | 1 |
| P5 | PIPE 250NB SCH.40 X 800 LG | STAINLESS STEEL | 1 |
| P6 | PIPE 250NB SCH.40 X 1000 LG | STAINLESS STEEL | 1 |
| P7 | PIPE 250NB SCH.40 X 650 LG | STAINLESS STEEL | 1 |
| P8 | PIPE 250NB SCH.40 X 170 LG | STAINLESS STEEL | 1 |
| P9 | PIPE 250NB SCH.40 X 330 LG | STAINLESS STEEL | 1 |
| P10 | PIPE 250NB SCH.40 X 1700 LG | STAINLESS STEEL | 1 |
| P11 | PIPE 250NB SCH.40 X 2255 LG | STAINLESS STEEL | 1 |
| P12 | PIPE 250NB SCH.40 X 100 LG | STAINLESS STEEL | 4 |
| P13 | PIPE 250NB SCH.40 X 300 LG | STAINLESS STEEL | 1 |
| R1 | TRANSITION 306-273 X 350 LG | STAINLESS STEEL | 16 |
| R2 | REDUCER 400-273 SCH.40 X150 LG | STAINLESS STEEL | 2 |
| R3 | REDUCER 400-199 SCH.40 X 150 LG | STAINLESS STEEL | 2 |
| S1 | SILENCER O.D=400 I.D=394 X 300LG | STAINLESS STELL | 2 |
| Q1 | TRANSITION O.D=273X948X472X200LG | STAINLESS STEEL | 2 |
| T1 | TEE 250NB SCH.40 | STAINLESS STEEL | 2 |
| V1 | FLAT BAR 1678X948X5 THK | STAINLESS STEEL | 1 |
| V2 | FLAT BAR 1678X467X5 THK | STAINLESS STEEL | 2 |
| V3 | BASE PLATE 200X50X5 THK | STAINLESS STEEL | 4 |
| V4 | FLAT BAR 467X200X5 THK | STAINLESS STEEL | 2 |
| V5 | FLAT BAR 948X467X5 THK | STAINLESS STEEL | 1 |
| V6 | FLATBAR 200X90X5 THK | STAINLESS STEEL | 2 |
| V7 | FLATBAR 400X306X5 THK | STAINLESS STEEL | 1 |
| V8 | FLATBAR 290X90X5 THK | STAINLESS STEEL | 2 |
| V9 | FLAT BAR 948X200X5 THK | STAINLESS STEEL | 1 |
| V10 | FLAT BAR 2084X1048X5 THK | STAINLESS STEEL | 1 |

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APRD | DATE |
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| TITLE | NAME | DATE |
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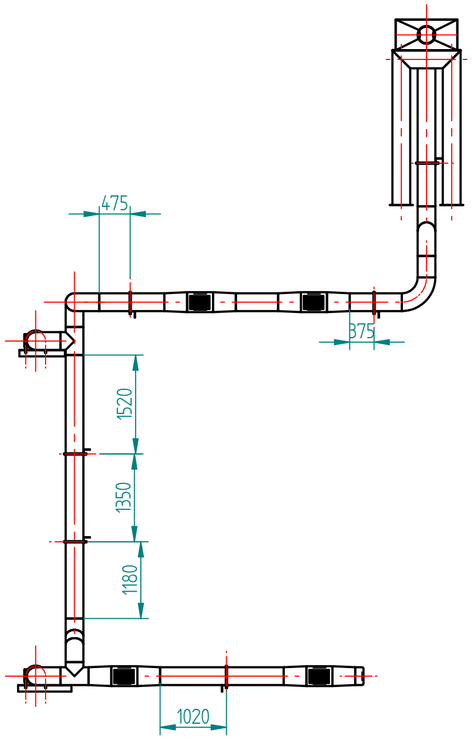
| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | MADONDO KG | |
| CHECKED | DUBE M.C. | |
| ENG COORD | | |
| ARCHITECT | | |
| ELECENG | | |
| MECHENG | DUBE M.C. | |
| STRUCTENG | | |
| CIVILENG | | |
| INSTRUENG | | |
| PROCENG | | |

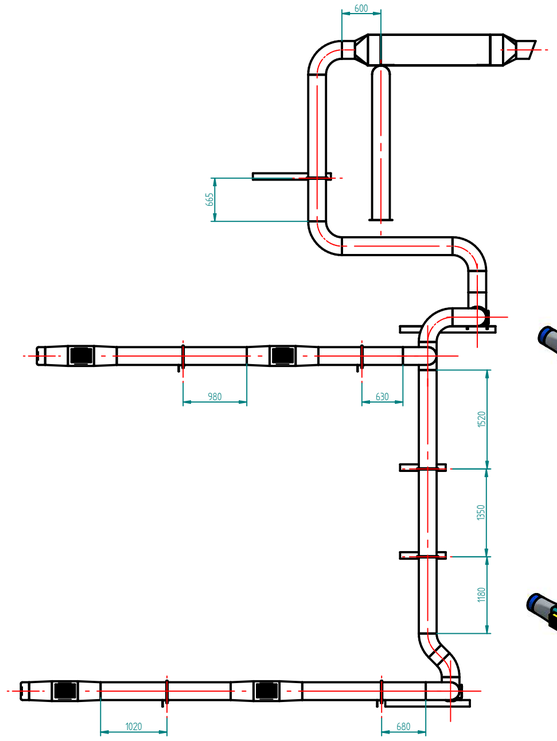
| APPROVED BY | |
|---|---|
| NAME | DATE |
| SIGNATURE | |
| REG NUMBER | |

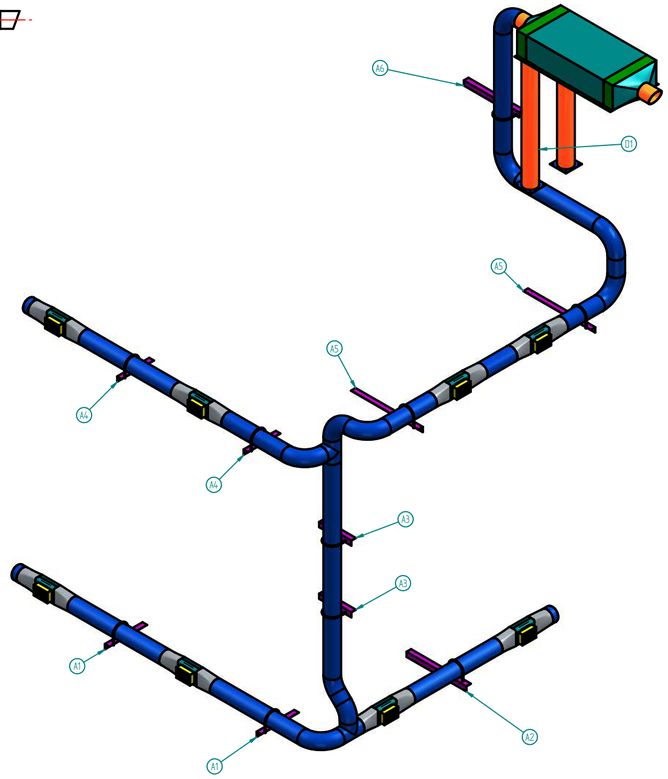
LODEMANN
EST. 2015

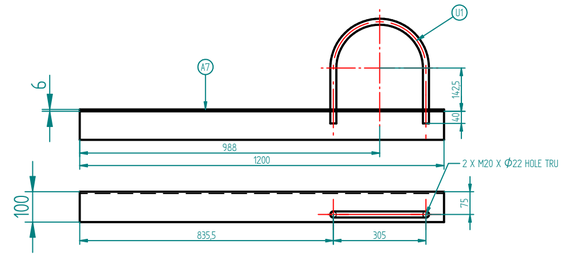
DESIGN OF THE FLOATING CAISSON AT ROBIN DRY DOCK, PORT OF CAPE TOWN
SUPPLY FRESH AIR VENTILLATION - GA

| SCALE | DATE | DRAWING NUMBER | CLIENT DRAWING NUMBER | REV. | SHEET SIZE | STATUS |
|---|---|---|---|---|---|---|
| 1:100 | 17-09-19 | 1002-077-4031 | | 2 | A1 | ISSUED FOR CONSTRUCTION |

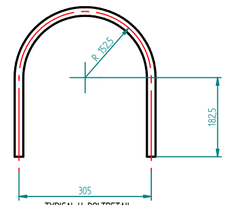


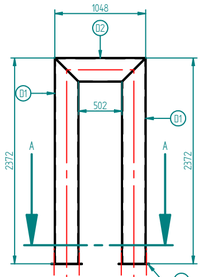




TYPICAL SUPPORT DETAIL
(MARK A7)

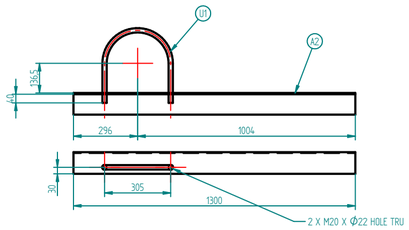



TYPICAL U-BOLTDETAIL
(MARK U1)

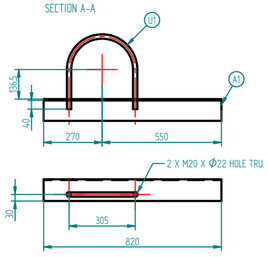



TYPICAL SUPPORT DETAIL
(MARK A1)

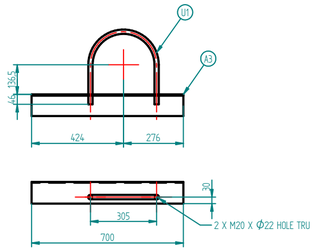
SECTION A-A



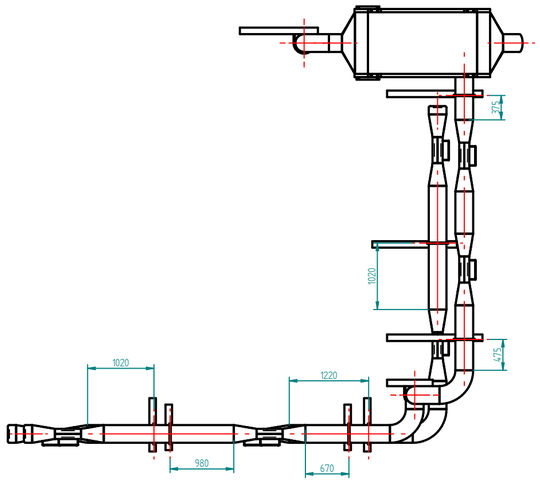

TYPICAL SUPPORT DETAIL
(MARK A2)

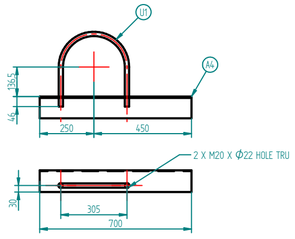



TYPICAL SUPPORT DETAIL
(MARK A1)

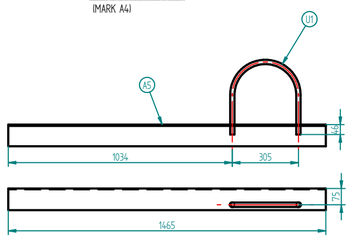



TYPICAL SUPPORT DETAIL
(MARK A3)




TYPICAL SUPPORT DETAIL
(MARK A4)




TYPICAL SUPPORT DETAIL
(MARK A5)

| ITEM No. | DESCRIPTION | MATERIAL | QTY |
|---|---|---|---|
| A1 | ANGLE IRON 100X100X6X8.297kg/mX490LG | STAINLESS STEEL | 2 |
| A2 | ANGLE IRON 100X100X6X8.297kg/mX1300LG | STAINLESS STEEL | 1 |
| A3 | ANGLE IRON 100X100X6X8.297kg/mX700LG | STAINLESS STEEL | 2 |
| A4 | ANGLE IRON 100X100X6X8.297kg/mX700LG | STAINLESS STEEL | 2 |
| A5 | ANGLE IRON 100X100X6X8.297kg/mX1700LG | STAINLESS STEEL | 2 |
| A6 | ANGLE IRON 100X100X5X8.297kg/mX1200LG | STAINLESS STEEL | 1 |
| D1 | PIPE 250NB X 2372 LG | STAINLESS STEEL | 2 |
| D2 | PIPE 250NB X 1048 LG | STAINLESS STEEL | 1 |
| Q1 | CLAMP 250NB | STAINLESS STEEL | 4 |
| U1 | U-BOLT 250NB | STAINLESS STEEL | 10 |
| Z1 | FLAT BAR 350X350X5 THK | STAINLESS STEEL | 2 |

GENERAL NOTES

DRAWING NO. | REFERENCE

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APRD | DATE |
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| TITLE | NAME | DATE |
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MAIN CONSULTANT

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | MADONDO K.G | |
| CHECKED | DUBE M.C | |
| ENG COORD | | |
| ARCHITECT | | |
| ELEC ENG | | |
| MECH ENG | | |
| STRUCT ENG | DUBE M.C | |
| CIVIL ENG | | |
| INSTRU ENG | | |
| PROC ENG | | |

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LODEMANN
EST. 2015

DESIGN OF THE FLOATING CAISSON AT ROBIN DRY DOCK, PORT OF CAPE TOWN
SUPPLY FRESH AIR VENTILLATION – SUPPORT DETAIL

| SCALE | DATE | DRAWING NUMBER | CLIENT DRAWING NUMBER | REV. | SHEET SIZE | STATUS |
|---|---|---|---|---|---|---|
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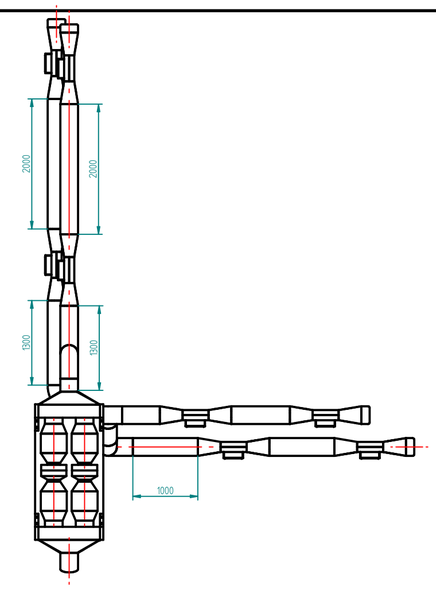
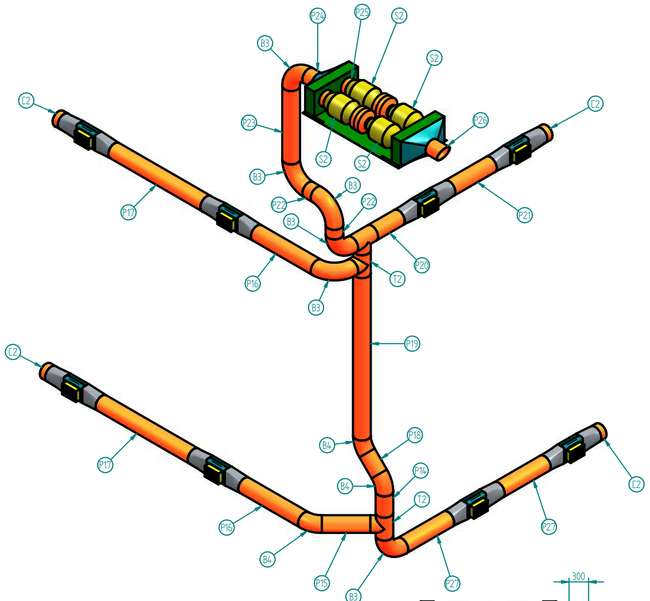
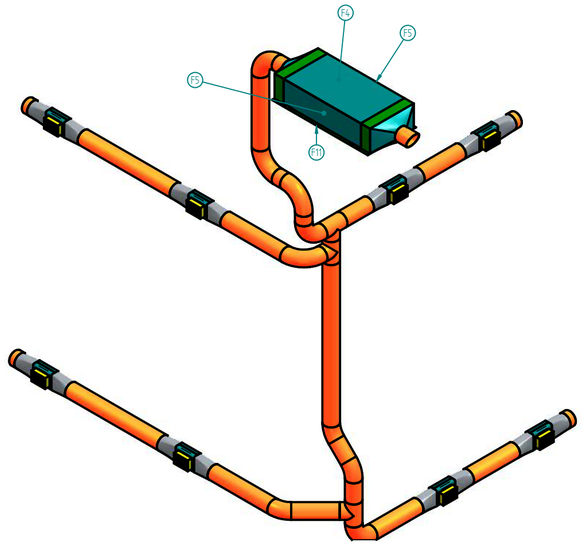
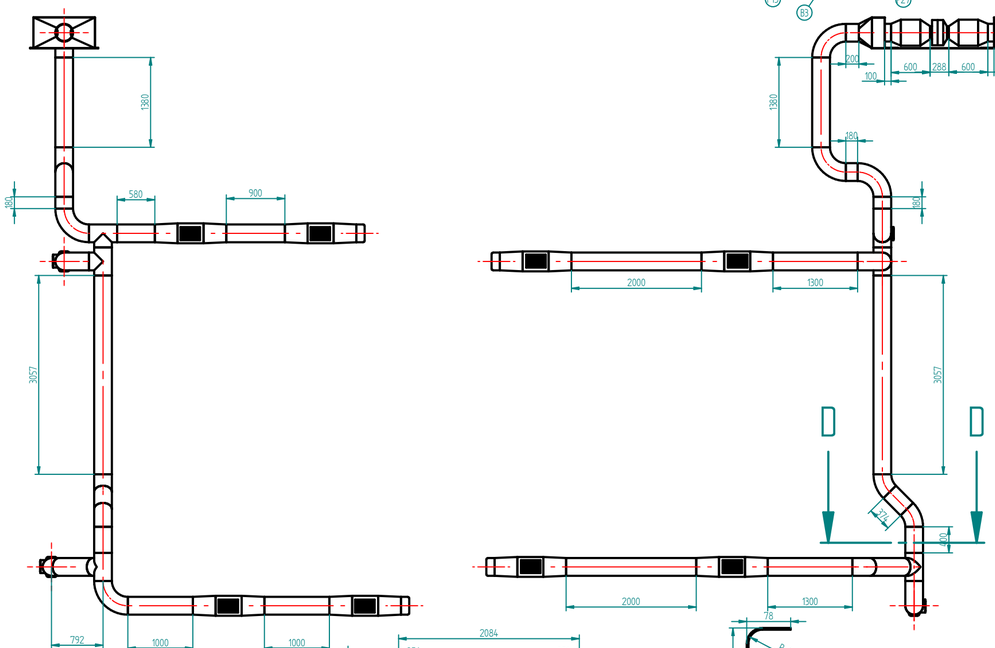


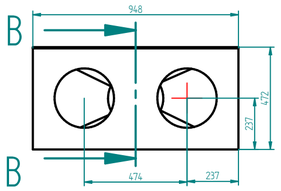



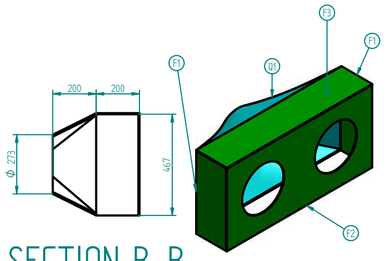



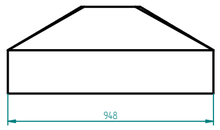

BEND PLATE DETAIL
(MARK E2)

BEND PLATE DETAIL
(MARK E2)

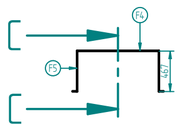


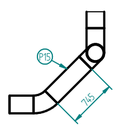

SECTION B-B

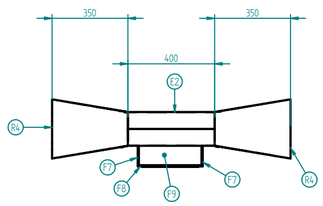


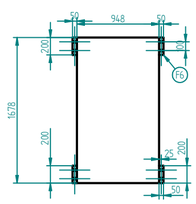




TRANSITION DETAIL



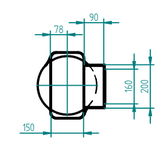



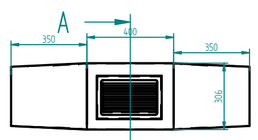

COVER DETAIL

SECTION C-C

SECTION D-D




SECTION A-A




A AIR GRILLER DETAIL

| MATERIAL LIST | | | |
|---|---|---|---|
| ITEM No. | DESCRIPTION | MATERIAL | QTY |
| B3 | 90 DEG ELBOW 250NB SCH.40 | STAINLESS STEEL | 6 |
| B4 | 45 DEG ELBOW 250NB SCH.40 | STAINLESS STEEL | 3 |
| C2 | END CAP 250NB SCH.40 X 127 LG | STAINLESS STEEL | 4 |
| E2 | BEND PLATE | STAINLESS STEEL | 18 |
| F1 | FLAT BAR 467X200X5THK | STAINLESS STEEL | 4 |
| F2 | FLAT BAR 948X467X5THK | STAINLESS STEEL | 2 |
| F3 | FLAT BAR 948X200X5THK | STAINLESS STEEL | 1 |
| F4 | FLAT BAR 1678X948X5THK | STAINLESS STEEL | 1 |
| F5 | FLAT BAR 1678X467X5 THK | STAINLESS STEEL | 2 |
| F6 | FLAT BAR 200X50X5 THK | STAINLESS STEEL | 4 |
| F7 | FLAT BAR 200X90X5 THK | STAINLESS STEEL | 2 |
| F8 | FLAT BAR 400X306X5 THK | STAINLESS STEEL | 1 |
| F9 | FLAT BAR 290X90X5 THK | STAINLESS STEEL | 2 |
| F10 | FLAT BAR 1684X1048X5 THK | STAINLESS STEEL | 1 |
| F11 | FLAT BAR 2084X1048X5 THK | STAINLESS STEEL | 1 |
| P14 | PIPE 250NB SCH.40 X 400 LG | STAINLESS STEEL | 1 |
| P15 | PIPE 250NB SCH.40 X 745 LG | STAINLESS STEEL | 2 |
| P16 | PIPE 250NB SCH.40 X 1300 LG | STAINLESS STEEL | 2 |
| P17 | PIPE 250NB SCH.40 X 2000 LG | STAINLESS STEEL | 2 |
| P18 | PIPE 250NB SCH.40 X 374 LG | STAINLESS STEEL | 1 |
| P19 | PIPE 250NB SCH.40 X 3057 LG | STAINLESS STEEL | 1 |
| P20 | PIPE 250NB SCH.40 X 580 LG | STAINLESS STEEL | 1 |
| P21 | PIPE 250NB SCH.40 X 900 LG | STAINLESS STEEL | 1 |
| P22 | PIPE 250NB SCH.40 X 180 LG | STAINLESS STEEL | 2 |
| P23 | PIPE 250NB SCH.40 X 1300 LG | STAINLESS STEEL | 1 |
| P24 | PIPE 250NB SCH.40 X 200 LG | STAINLESS STEEL | 1 |
| P25 | PIPE 250NB SCH.40 X 100 LG | STAINLESS STEEL | 4 |
| P26 | PIPE 250NB SCH.40 X 300 LG | STAINLESS STEEL | 1 |
| P27 | PIPE 250NB SCH.40 X 1000 LG | STAINLESS STEEL | 2 |
| R4 | TRANSITION 306-273 X 350 LG | STAINLESS STEEL | 16 |
| R5 | REDUCER 400-273 SCH.40 X 150 LG | STAINLESS STEEL | 2 |
| R6 | REDUCER 400-199 SCH.40 X150 LG | STAINLESS STEEL | 2 |
| S2 | SILENCER O.D=400 I.D=394 | STAINLESS STEEL | 2 |
| Q1 | TRANSITION O.D=273X948X472X200LG | STAINLESS STEEL | 2 |
| T2 | TEE 250NB SCH.40 | STAINLESS STEEL | 3 |

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APRD | DATE |
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| | | |

| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | MADONJO K.G | |
| CHECKED | DUBE M.C | |
| ENG COORD | | |
| ARCHITECT | | |
| ELEC.ENG | | |
| MECH.ENG | DUBE M.C | |
| STRUCT.ENG | | |
| CIVIL.ENG | | |
| INSTRU.ENG | | |
| PROC.ENG | | |

| APPROVED BY | |
|---|---|
| NAME | DATE |
| SIGNATURE | |
| REG NUMBER | |

LODEMANN
EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBIN DRY DOCK, PORT OF CAPE TOWN
## EXTRACT AIR VENTILLATION – GA

| SCALE | DATE | DRAWING NUMBER | CLIENT DRAWING NUMBER | REV. | SHEET SIZE | STATUS |
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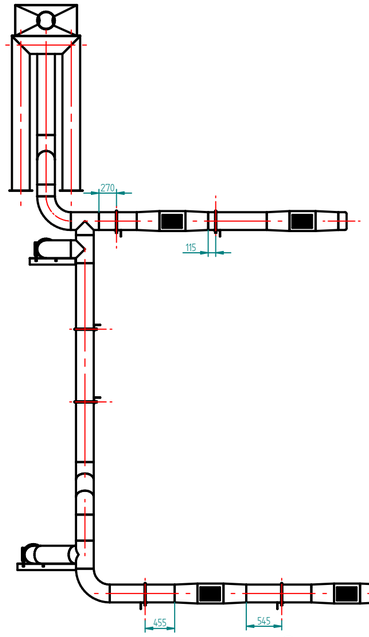
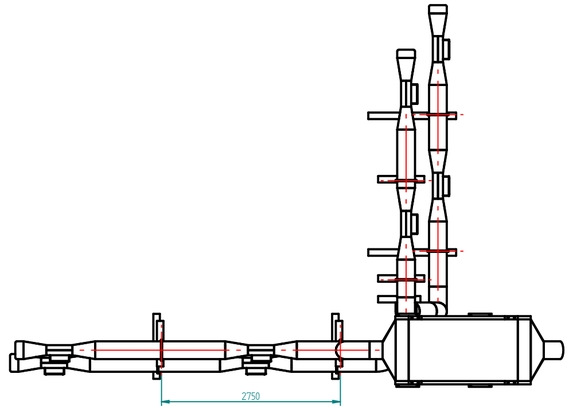
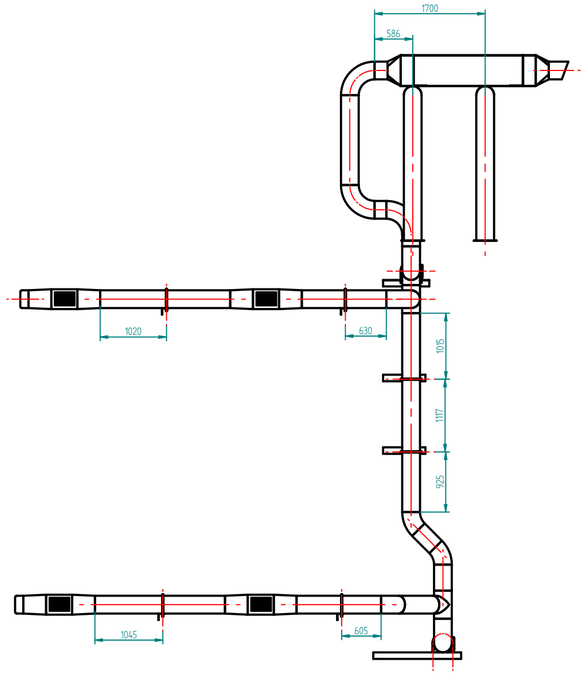
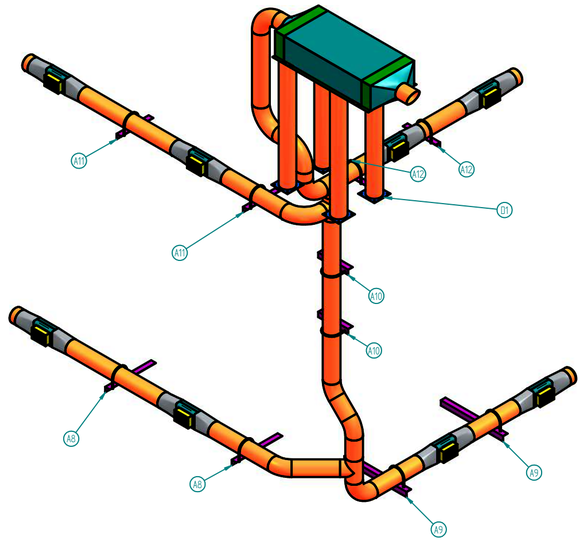
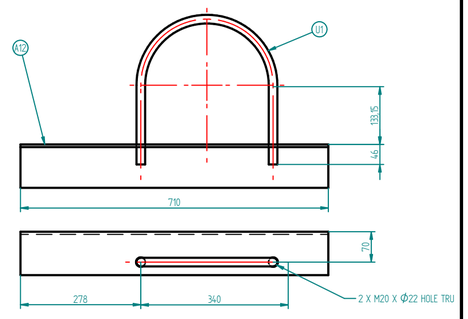


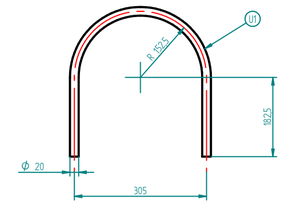



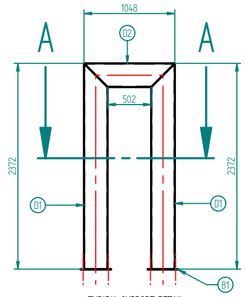



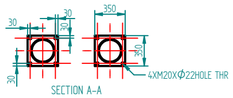

TYPICAL SUPPORT DETAIL
(MARK A12)



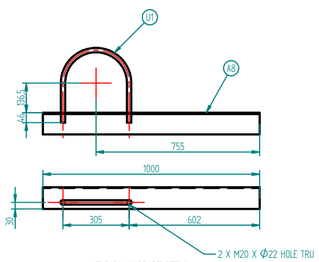

TYPICAL U-BOLTDETAIL
(MARK U1)



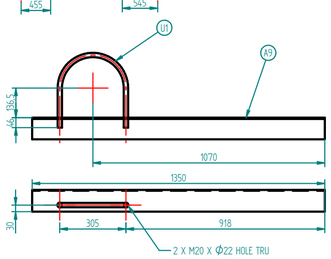

TYPICAL SUPPORT DETAIL
(MARK D1 AND D2)



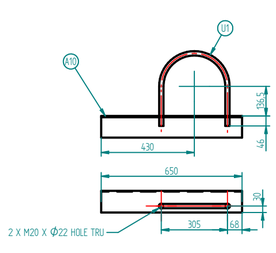

SECTION A-A



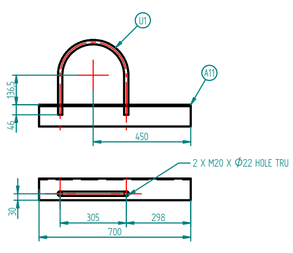

TYPICAL SUPPORT DETAIL
(MARK A8)




TYPICAL SUPPORT DETAIL
(MARK A9)




TYPICAL SUPPORT DETAIL
(MARK A10)




TYPICAL SUPPORT DETAIL
(MARK A11)

| MATERIAL LIST | | | |
|---|---|---|---|
| ITEM No. | DESCRIPTION | MATERIAL | QTY |
| A8 | ANGLE IRON 100X100X6X8.297kg/mX1000LG | STAINLESS STEEL | 2 |
| A9 | ANGLE IRON 100X100X6X8.297kg/mX1350LG | STAINLESS STEEL | 2 |
| A10 | ANGLE IRON 100X100X6X8.297kg/mX650LG | STAINLESS STEEL | 2 |
| A11 | ANGLE IRON 100X100X6X8.297kg/mX700LG | STAINLESS STEEL | 2 |
| A12 | ANGLE IRON 100X100X6X8.297kg/mX700LG | STAINLESS STEEL | 2 |
| D1 | PIPE 250NB SCH.80 X 2372 LG | STAINLESS STEEL | 4 |
| D2 | PIPE 250NB SCH.80 X 1048 LG | STAINLESS STEEL | 2 |
| B1 | BASE PLATE 350X350X5THK | STAINLESS STEEL | 2 |
| U1 | U-BOLT 250NB | STAINLESS STEEL | 12 |

GENERAL NOTES

DRAWING NO. | REFERENCE

REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APRD | DATE |
|---|---|---|---|---|---|

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| TITLE | NAME | DATE |
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| DRAWN | MADONDO K.G | |
| CHECKED | DUBE M.E | |
| ENG/CONRO | | |
| ARCHITECT | | |
| ELEC.ENG | | |
| MECH.ENG | DUBE M.E | |
| STRUCT.ENG | | |
| CIVIL.ENG | | |
| INSTRU.ENG | | |
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| REG NUMBER | |

LODEMANN
EST. 2015

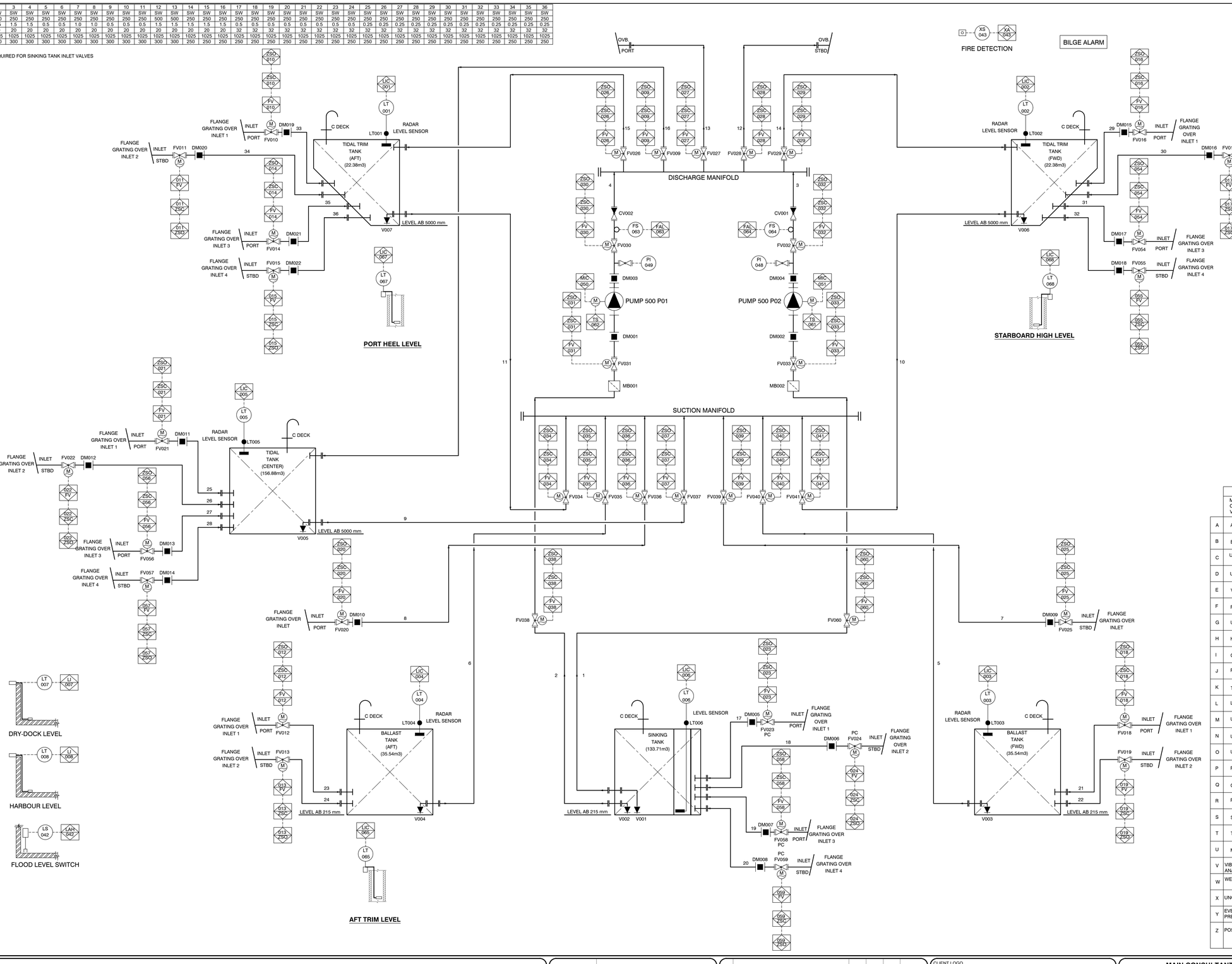
DESIGN OF THE FLOATING CAISSON AT ROBIN DRY DOCK, PORT OF CAPE TOWN
EXTRACT AIR VENTILLATION – SUPPORT DETAIL

| SCALE | DATE | DRAWING NUMBER | CLIENT DRAWING NUMBER | REV. | SHEET SIZE | STATUS |
|---|---|---|---|---|---|---|
| 1:100 | 17-09-19 | 1002-077-4034 | | 2 | A1 | ISSUED FOR CONSTRUCTION |

| STREAM/LINE NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRODUCT | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW | SW |
| DESIGN FLOW [m3/hr] | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 500 | 500 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| ABS PRESSURE [bar] | 0.5 | 0.5 | 1.5 | 1.5 | 0.5 | 0.5 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| TEMPERATURE [deg C] | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| DENSITY [kg/m3] | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 | 1025 |
| PIPE SIZE [NB] | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |

SW: SEA WATER

PC: PROPORTIONAL CONTROL REQUIRED FOR SINKING TANK INLET VALVES




| ICON | ITEM No. | DESCRIPTION |
|---|---|---|
| | | 250 M3/H SELF- PRIMING CENTRIFUGAL PUMP |
| | | MUD BOX DN 80-500 8x8mm (LK 482021) |
| | | DISMANTLING JOINT |
| | | REMOTELY CONTROLLED GLOBE VALVE |
| | | CHECK VALVE |
| | | MOTOR |
| | | FOOT VALVE |
| | | FLOW DIRECTION |
| | | ULTRASONIC TANK LEVEL SENSOR |

| | PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR | FIELD MOUNTED | AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR |
|---|---|---|---|
| DISCRETE INSTRUMENTS | 1. | 2. | 3. |
| SHARED DISPLAY, SHARED CONTROL | 4. | 5. | 6. |
| COMPUTER FUNCTION | 7. | 8. | 9. |
| PROGRAMMABLE LOGIC CONTROL | 10. | 11. | 12. |
| INTERLOCK | 13. | | |

| | FIRST-LETTER | | SUCCEEDING-LETTERS | | |
|---|---|---|---|---|---|
| | MEASURED OR INITIATING VARIABLE | MODIFIER | READOUT OR PASSIVE FUNCTION | OUTPUT FUNCTION | MODIFIER |
| A | ANALYSIS (5,19) | | ALARM | | USERS CHOICE (1) |
| B | BURNER, COMBUSTION | | | USERS CHOICE (1) | |
| C | USERS CHOICE (1) | | | CONTROL (13) | |
| D | USERS CHOICE (1) | DIFFERENTIAL (13) | | | |
| E | VOLTAGE | | SENSOR (PRIMARY ELEMENT) | | |
| F | FLOW RATE | RATIO (FRACTION) (4) | | | |
| G | USERS CHOICE (1) | | GLASS, VIEWING DEVICE (9) | | |
| H | HAND | | | | HIGH (7, 15,16) |
| I | CURRENT ( ELECTRICAL) | | INDICATION (10) | | |
| J | POWER | SCAN (7) | | | |
| K | TIME, TIME SCHEDULE | TIME RATE OF CHANGE (4,21) | | CONTROL STATION (22) | |
| L | LEVEL | | LIGHT (11) | | LOW (7, 15,16) |
| M | USERS CHOICE (1) | MOMENTARY (4) | | | MIDDLE INTERMEDIATE (7,15) |
| N | USERS CHOICE (1) | USERS CHOICE (1) | USERS CHOICE (1) | USERS CHOICE (1) | USERS CHOICE (1) |
| O | USERS CHOICE (1) | | OFFICE, RESTRICTION | | |
| P | PRESSURE, VACUUM | | POINT (TEST) CONNECTION | | |
| Q | QUANTITY | INTEGRATE, TOTALIZE (4) | | | |
| R | RADIATION | | RECORD (17) | | |
| S | SPEED, FREQUENCY | SAFETY (8) | | SWITCH (13) | |
| T | TEMPERATURE | | | TRANSMIT (18) | |
| U | MULTIVARIABLE (6) | | MULTIFUNCTION (12) | MULTIFUNCTION (12) | MULTIFUNCTION (12) |
| V | VIBRATION, MECHANICAL ANALYSIS (19) | | | VALVE, DAMPER, LOUVER (13) | |
| W | WEIGHT, FORCE | | WELL | | |
| X | UNCLASSIFIED (2) | X AXIS | UNCLASSIFIED (2) | UNCLASSIFIED (2) | UNCLASSIFIED (2) |
| Y | EVENT, STATE OR PRESENCE (20) | Y AXIS | | RELAY, COMPUTE, CONVERT (13,14,18) | |
| Z | POSITION, DIMENSIONS | Z AXIS | | DRIVER, ACTUATOR , UNCLASSIFIED FINAL CONTROL ELEMENT | |

## GENERAL NOTES

| DRAWING NO. | REFERENCE |
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REFERENCE DRAWINGS

| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
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| A | ISSUED FOR CONSTRUCTION | LM | BC | BC | 13-06-2019 |

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| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU / L. NYONI | |
| PROC. ENG. | | |

**APPROVED BY**

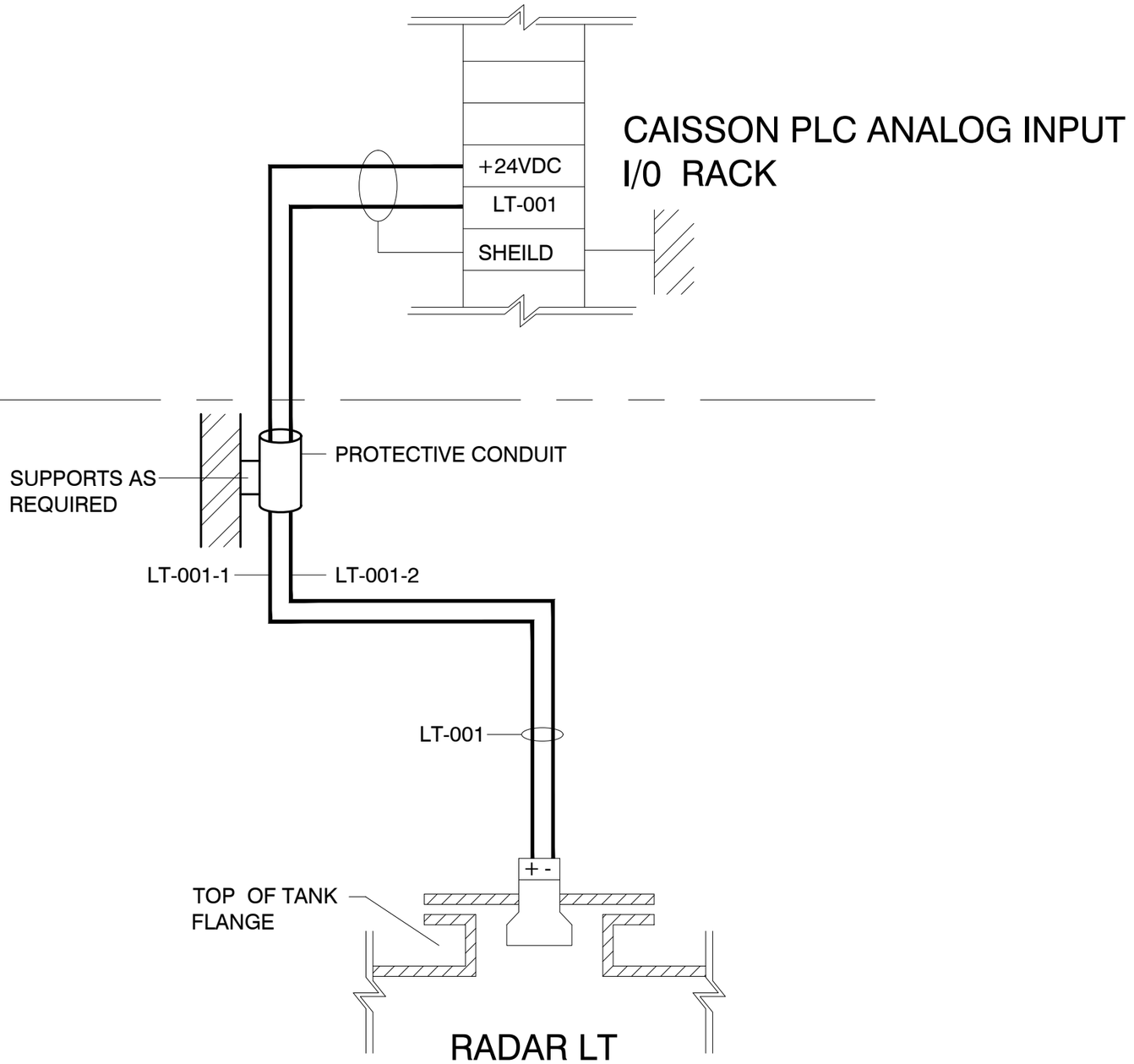
| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

# DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

## BILGE DIAGRAM

| SCALE | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status |
|---|---|---|---|---|---|---|
| N.T.S | 29-03-19 | 1002-007-5000 | | A | A0 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-001 | E + H | MICROPILOT FMR 20 | 3" DN8 F65 | |

GENERAL NOTES

| DRAWING NO. | REFERENCE |
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| NO. | DESCRIPTION | BY | CHKD | APPD | DATE |
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| A | ISSUED FOR CONSTRUCTION | LM | BC | BC | 13/06/2019 |
| 1. | ISSUED FOR CLIENT REVIEW | LM | BC | BC | 17/04/2019 |

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| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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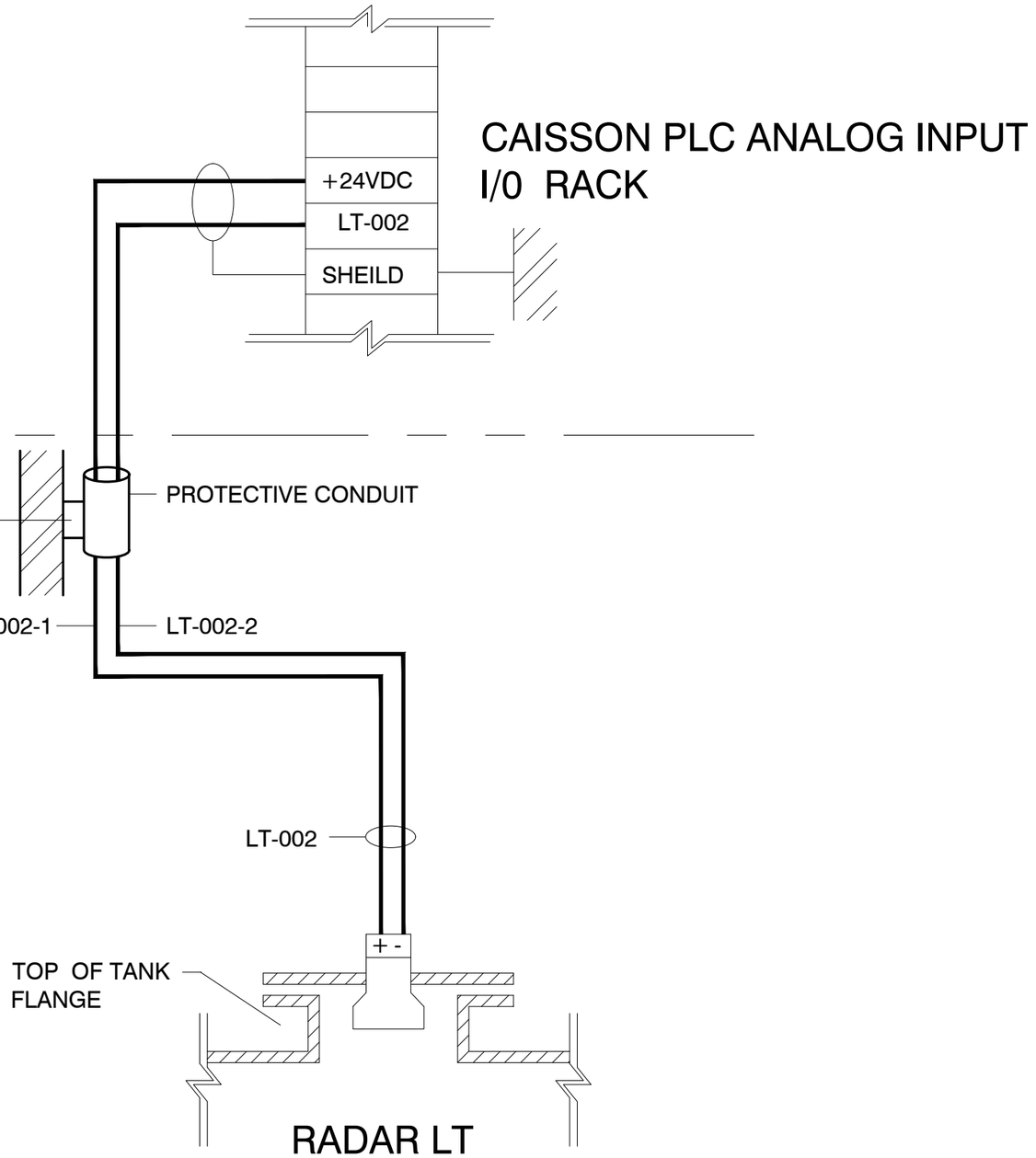
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL TIDAL TANK (AFT) - 000-LT-001
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5001 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-002 | E + H | MICROPILOT FMR 20 | 3" DN8 F65 | |

GENERAL NOTES

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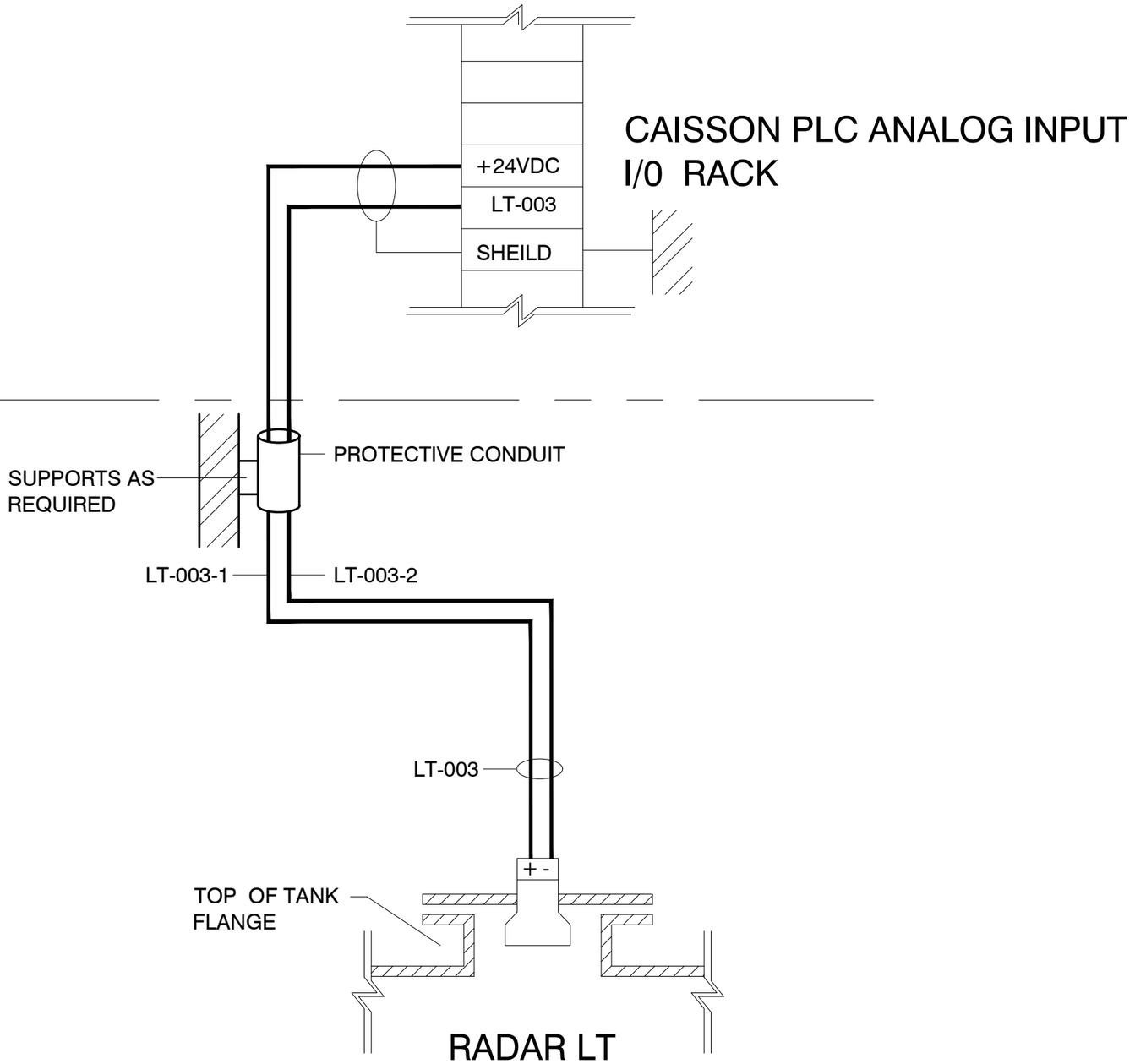
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL TIDAL TANK (FWD) - 000-LT-002
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5002 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-003 | E + H | MICROPILOT FMR 20 | 3" DN8 F65 | |

GENERAL NOTES

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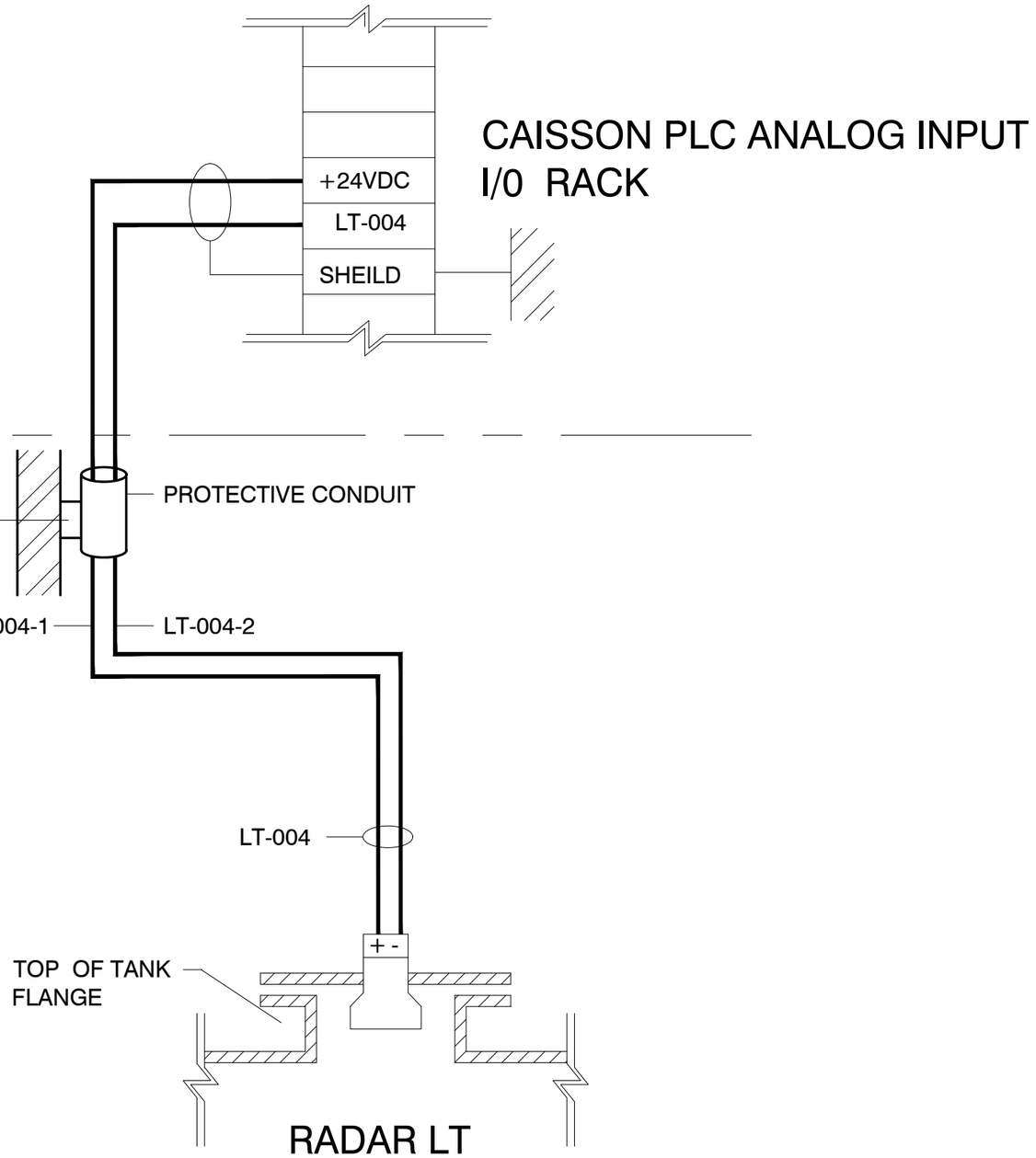
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL BALLAST TANK (FWD) - 000-LT-003
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5003 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-004 | E + H | MICROPILOT FMR 20 | 3" DN8 F65 | |

GENERAL NOTES

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|---|---|

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| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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| NAME | M. MADIBA | DATE |
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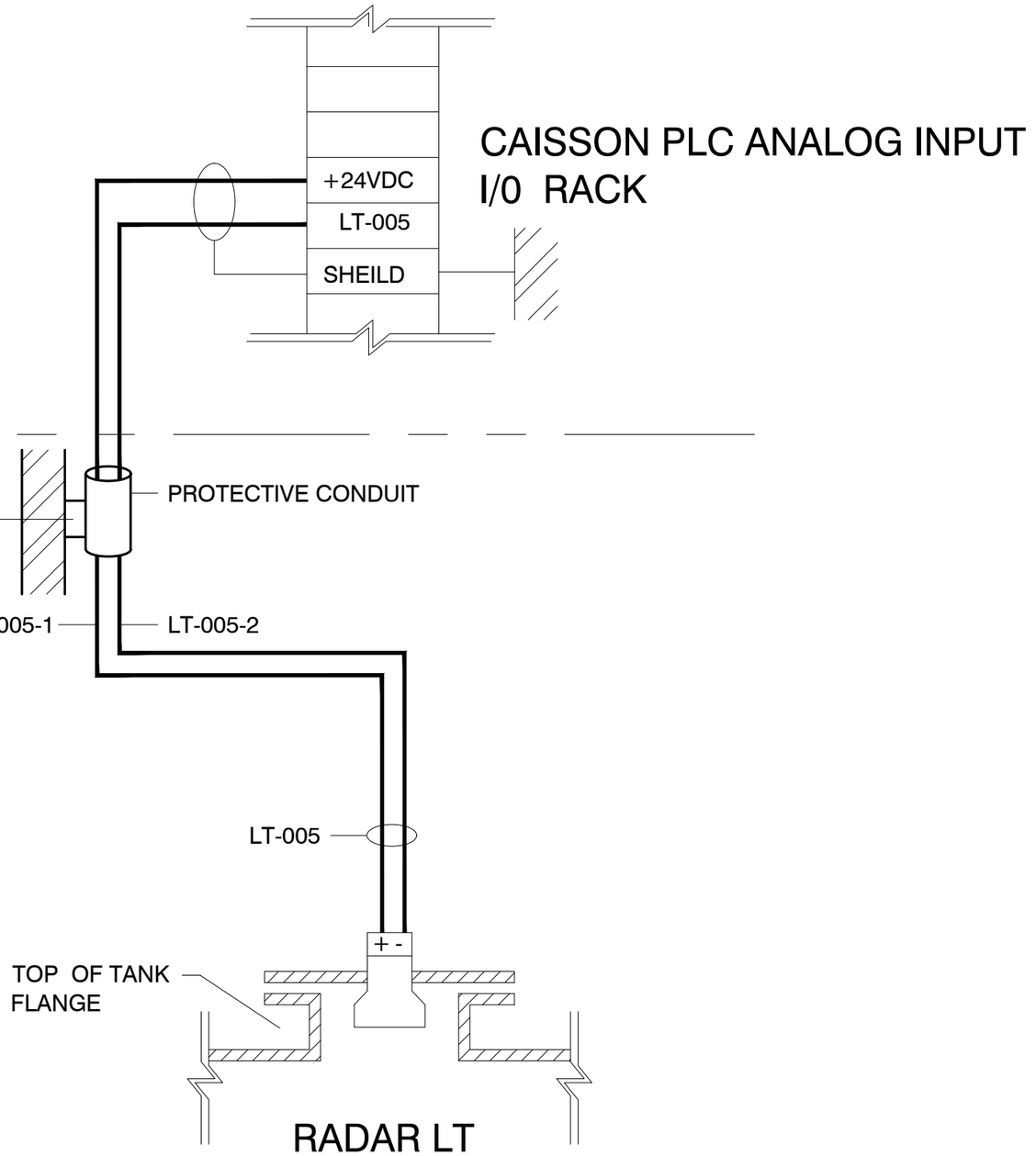
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL BALLAST TANK (AFT) - 000-LT-004
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5004 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-005 | E + H | MICROPILOT FMR 20 | 3" DN8 F65 | |

GENERAL NOTES

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| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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| NAME | M. MADIBA | DATE |
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LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL TIDAL TANK (CENTER) - 000-LT-005
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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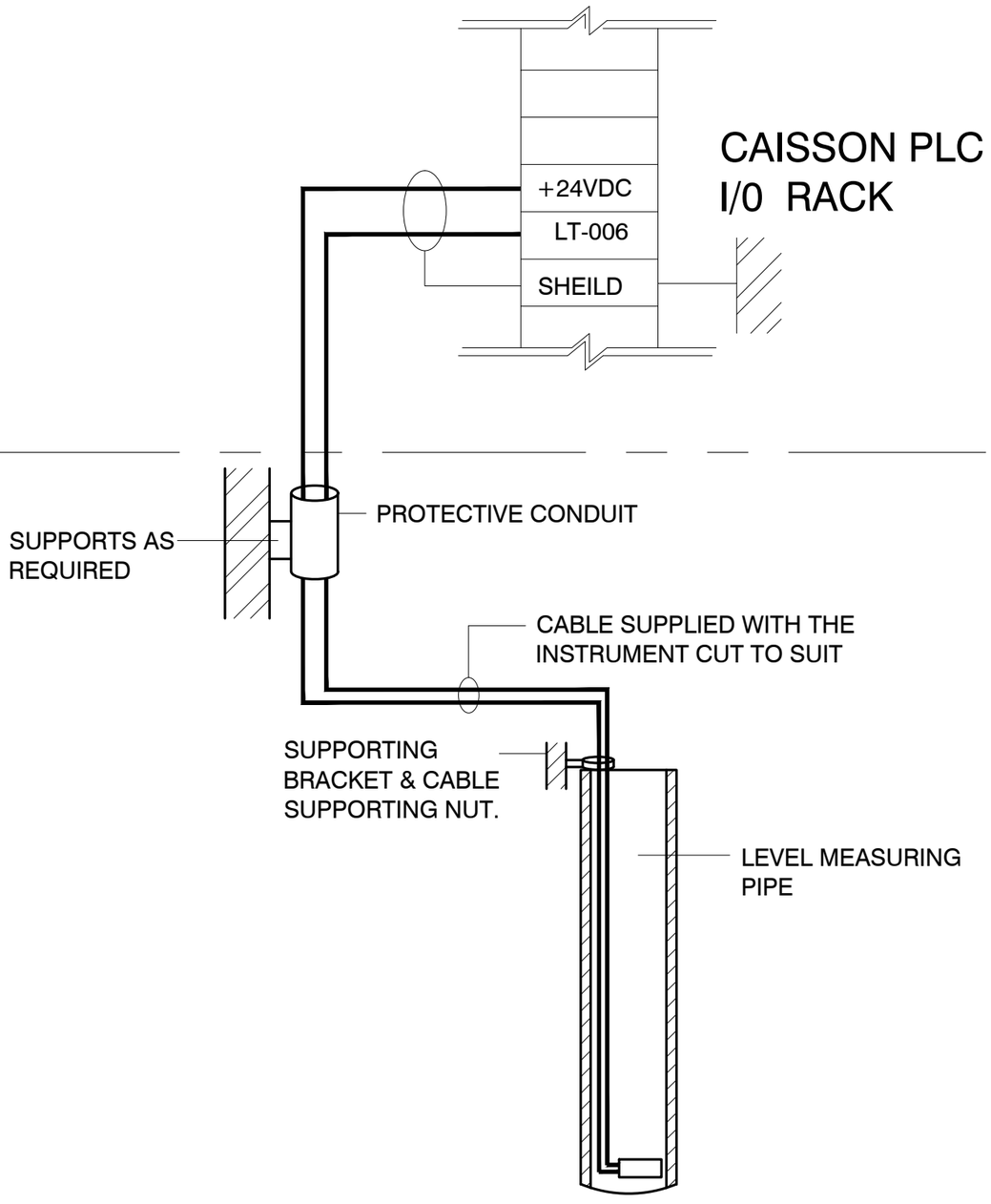
| N.T.S | 17-04-19 | 1002-007-5005 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-006 | E + H | WATER PILOT FMX 21 | 3" DN8 F65 | |

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| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU / L. NYONI | |
| PROC. ENG. | | |

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LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL SINKING TANK - 000-LT-006
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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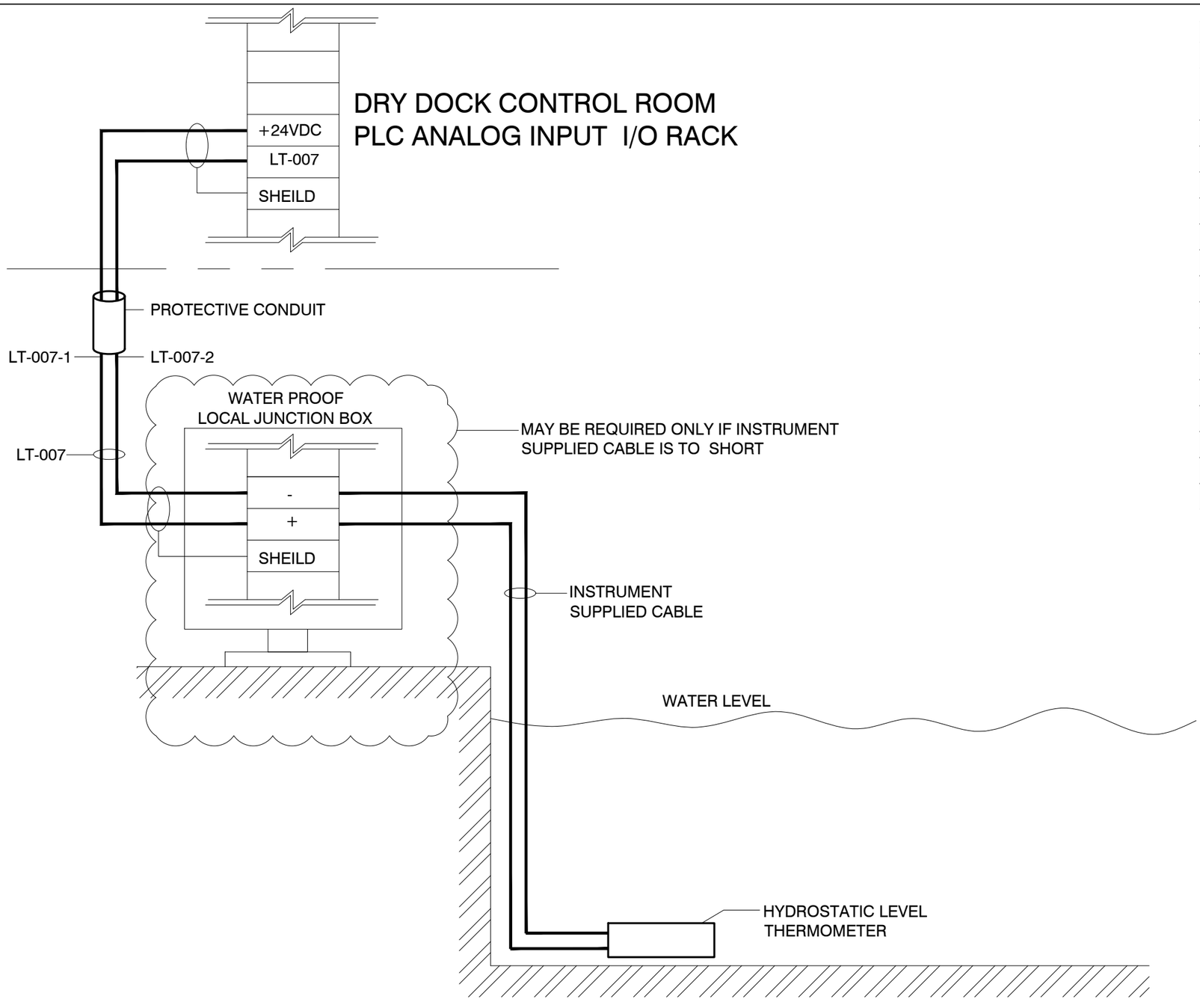
| N.T.S | 17-04-19 | 1002-007-5006 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-007 | E + H | WATER PILOT FMX 21 | N/A | RANGE TO BE CHECKED ON SITE |
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| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
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LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL DRY DOCK - 000-LT-007
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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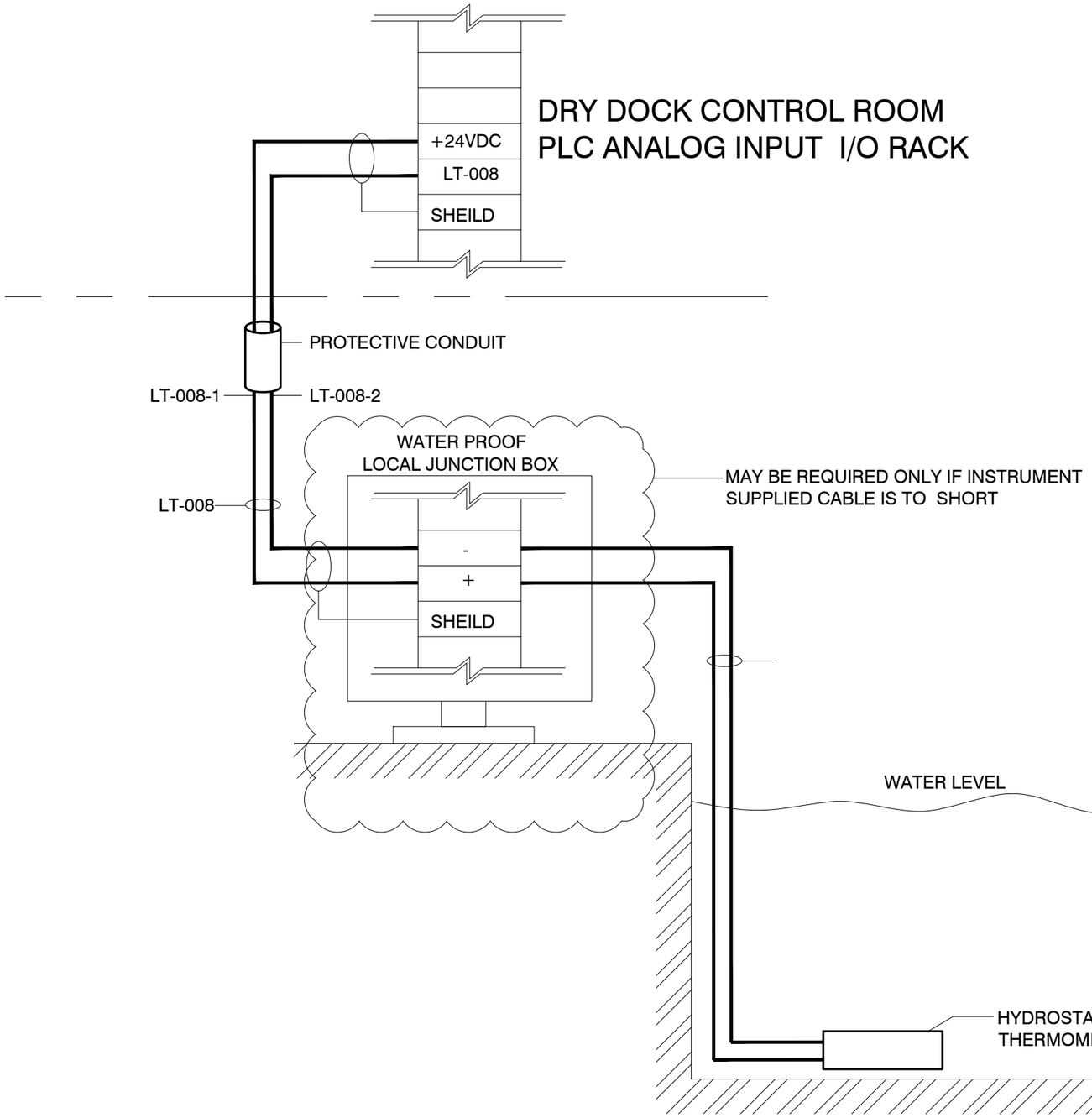
| N.T.S | 17-04-19 | 1002-007-5007 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-008 | E + H | WATER PILOT FMX 21 | N/A | RANGE TO BE CHECKED ON SITE |
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**MAIN CONSULTANT**

| TITLE | NAME | DATE |
|---|---|---|
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU / L. NYONI | |
| PROC. ENG. | | |

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|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

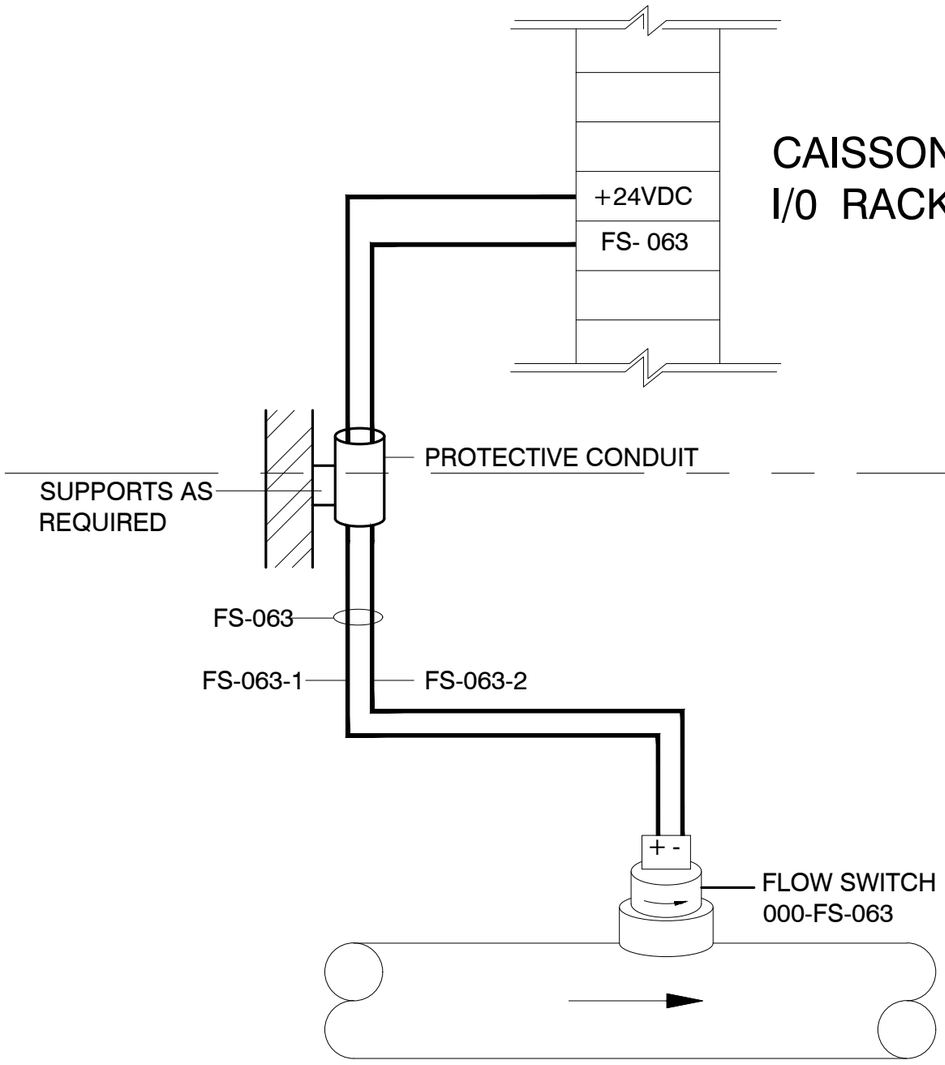
LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

LEVEL HARBOUR - 000-LT-008
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5008 | | 1 | A3 | ISSUED FOR CONSTRUCTION |

# CAISSON PLC ANALOG INPUT I/0 RACK




## PUMP OUTLET

| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 000-FS-063 | E + H | FLOW PLANT DTT 31 | G ½ | FLOW - NO FLOW |

GENERAL NOTES

| DRAWING NO. | REFERENCE |
|---|---|

REFERENCE DRAWINGS

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| MAIN CONSULTANT | | |
|---|---|---|
| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| CHECKED | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
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| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

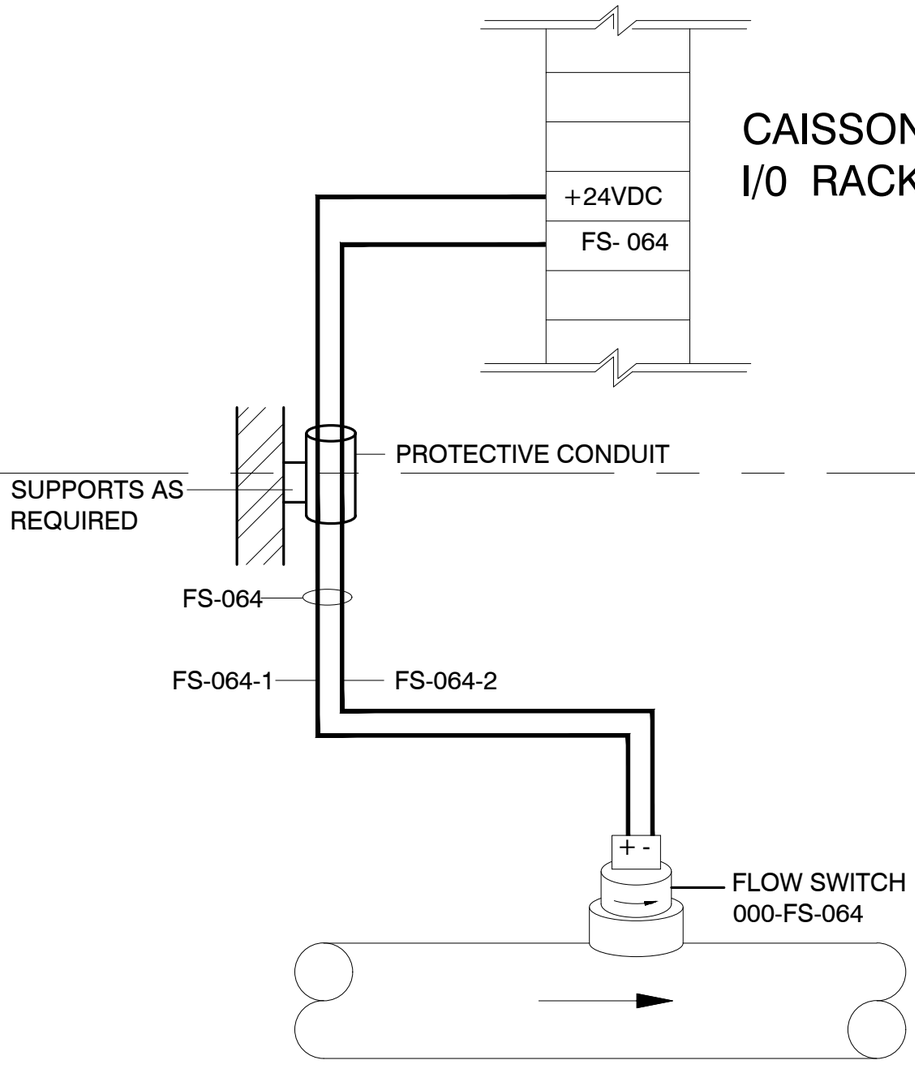
LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

PUMP 1 DISCHARGE FLOW - 000-FS-063
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5009 | | A | A3 | ISSUED FOR CONSTRUCTION |

# CAISSON PLC ANALOG INPUT I/0 RACK




# PUMP OUTLET

| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 000-FS-064 | E + H | FLOW PLANT DTT 31 | G ½ | FLOW - NO FLOW |
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| MAIN CONSULTANT | | |
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| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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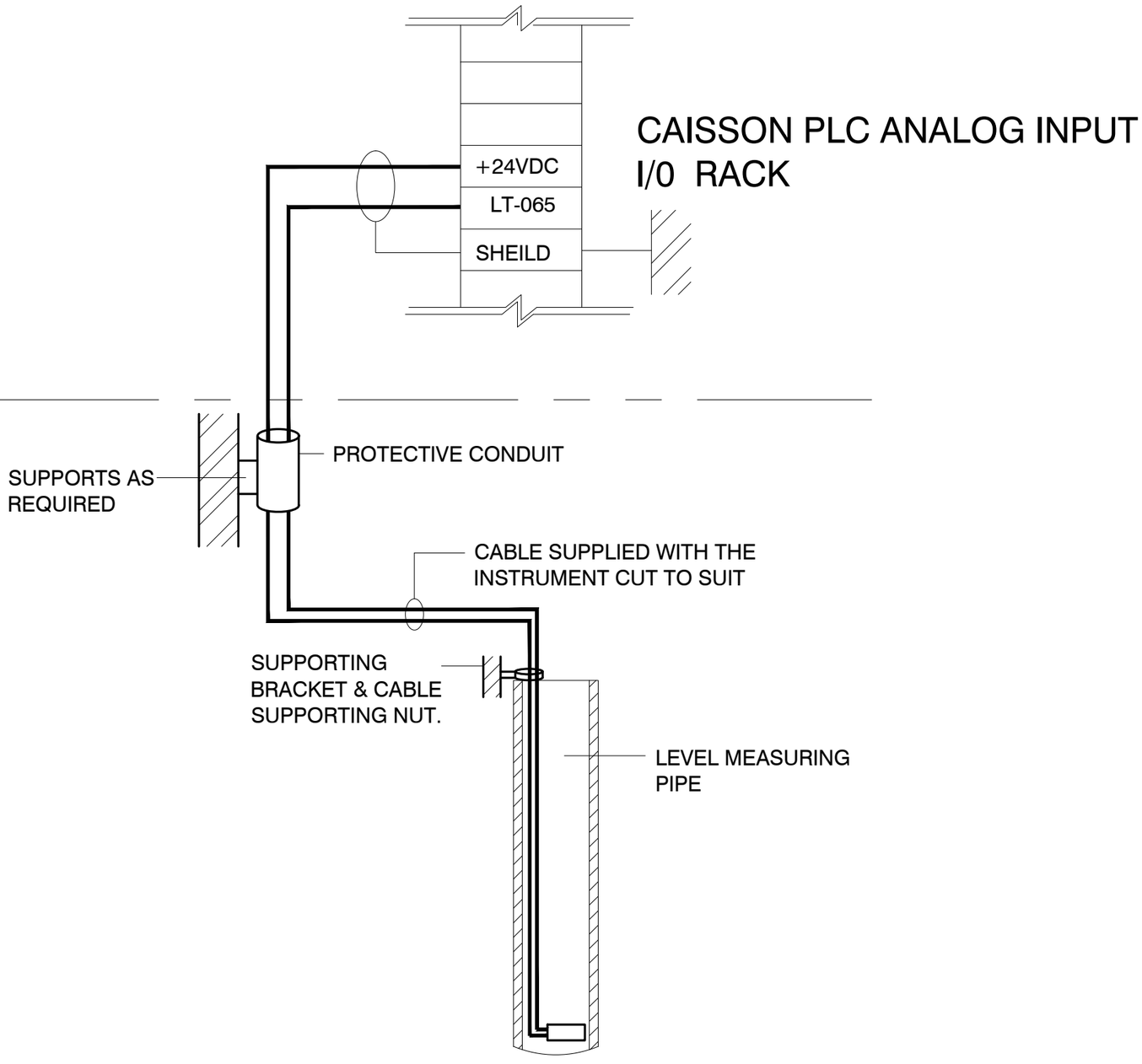
| NAME | M. MADIBA | DATE |
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

PUMP 2 DISCHARGE FLOW - 000-FS-064
LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
|---|---|---|---|---|---|---|
| N.T.S | 17-04-19 | 1002-007-5010 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-065 | E + H | WATER PILOT FMX 21 | | |
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| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
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LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

AFT TRIM LEVEL MEASUREMENT
000-LT-065 LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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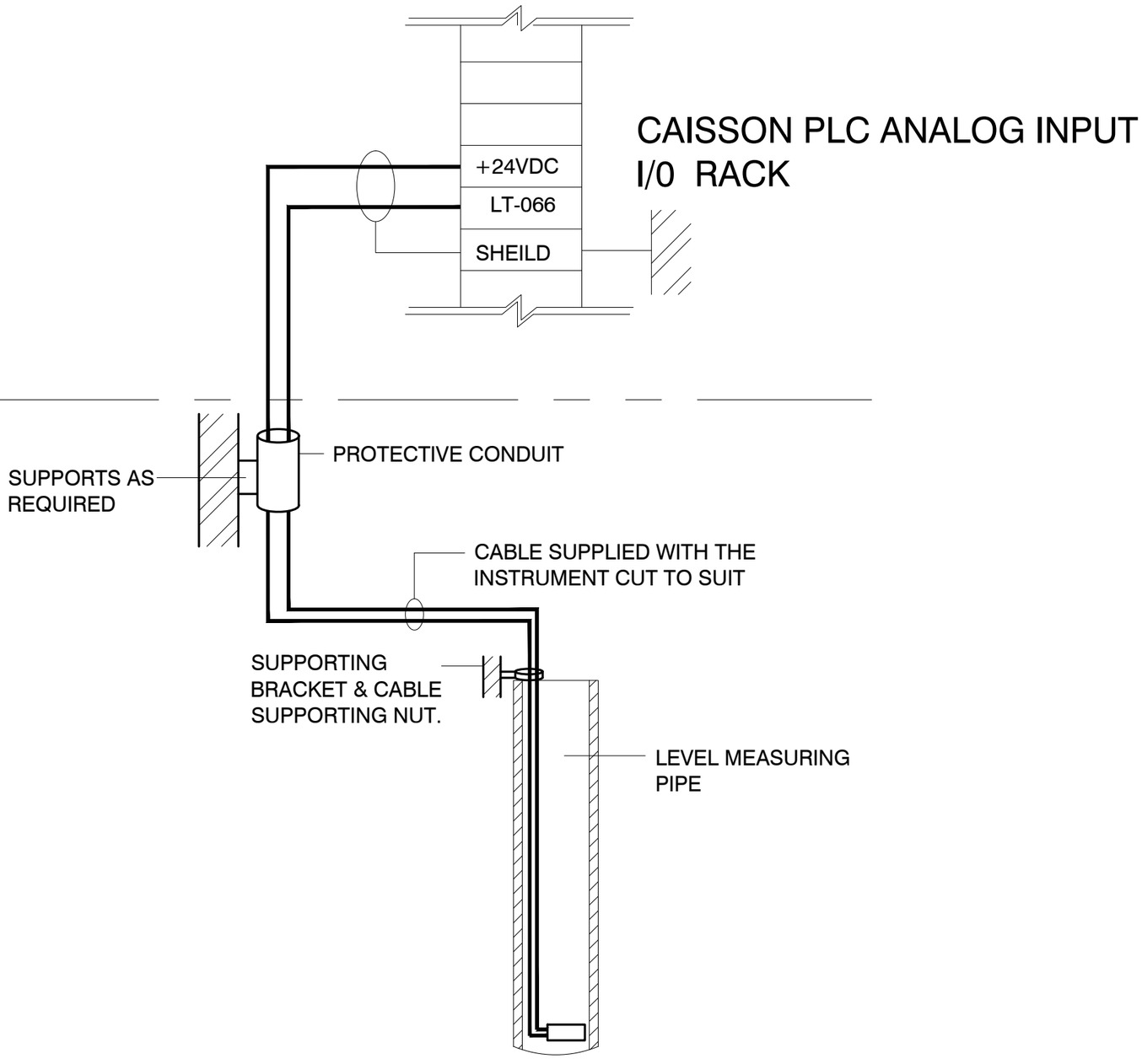
| N.T.S | 17-04-19 | 1002-007-5011 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-066 | E + H | WATER PILOT FMX 21 | | |
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| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
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| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

FWD TRIM LEVEL MEASUREMENT
000-LT-066 LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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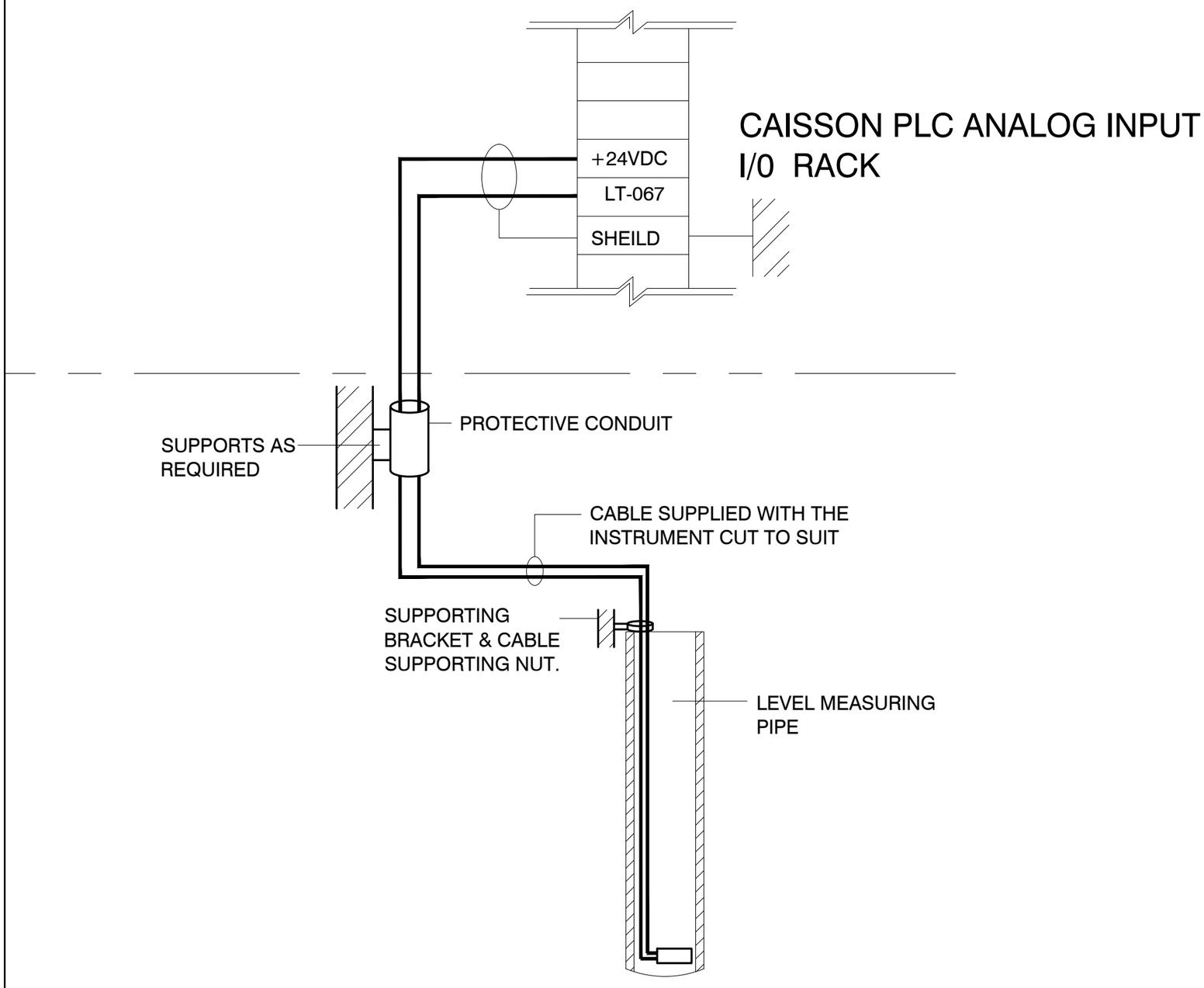
| N.T.S | 13-06-19 | 1002-007-5012 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-067 | E + H | WATER PILOT FMX 21 | | |
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| MAIN CONSULTANT | | |
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| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
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| ARCHITECT | | |
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| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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|---|---|---|
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| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

PORT HEEL LEVEL MEASUREMENT
000-LT-067 LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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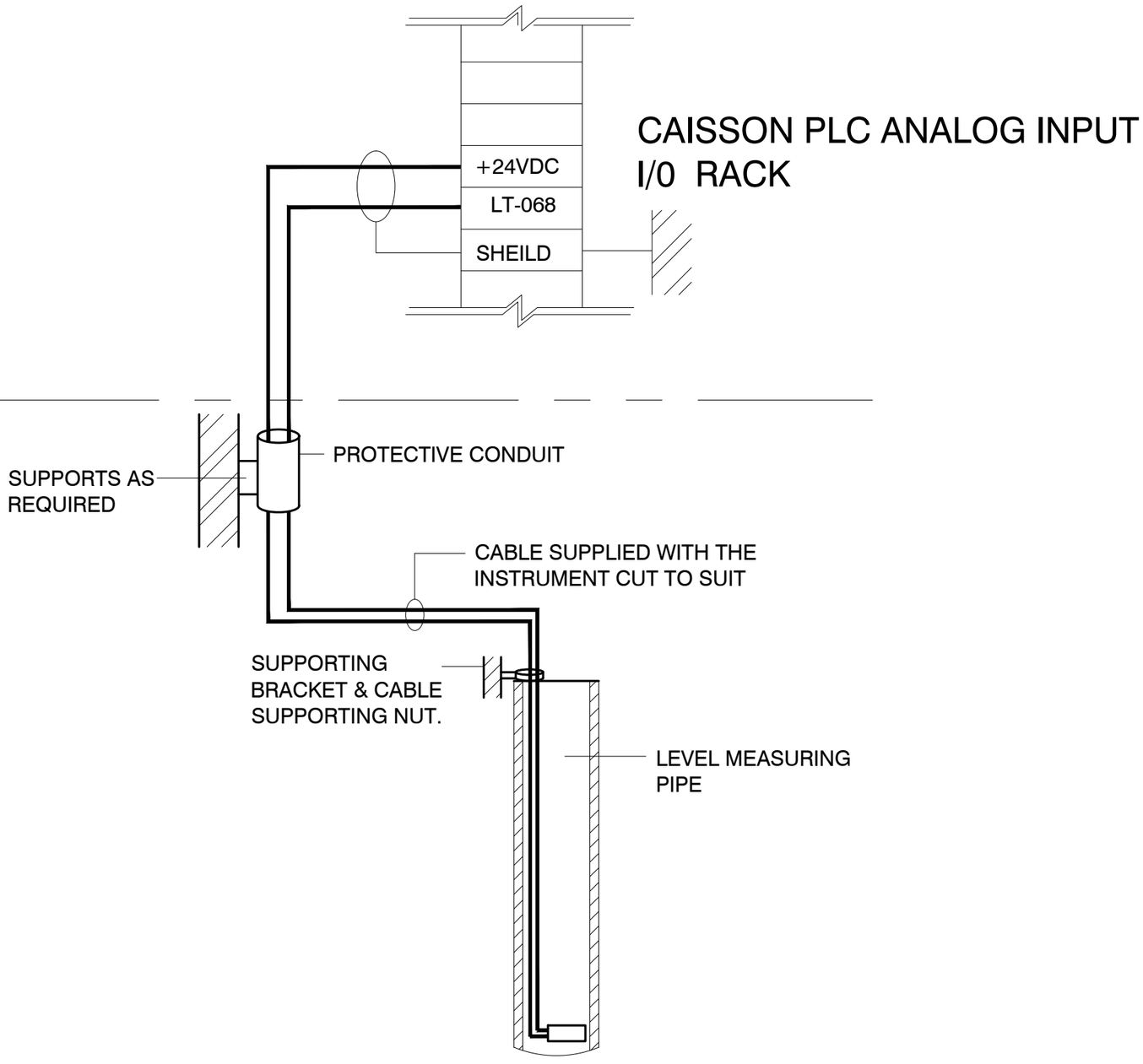
| N.T.S | 13-06-19 | 1002-007-5013 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 001-LT-068 | E + H | WATER PILOT FMX 21 | | |
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| MAIN CONSULTANT | | |
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| TITLE | NAME | DATE |
| DRAWN | L. MKHIZE | |
| **CHECKED** | | |
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| INSTRU. ENG. | B. CHADROU/ L. NYONI | |
| PROC. ENG. | | |

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| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

STARBOARD HEEL LEVEL MEASUREMENT
000-LT-067 LOOP DIAGRAM

| SCALE : | DATE | Drawing Number | CLIENT Drawing Number | Rev. | Sheet size | Status. |
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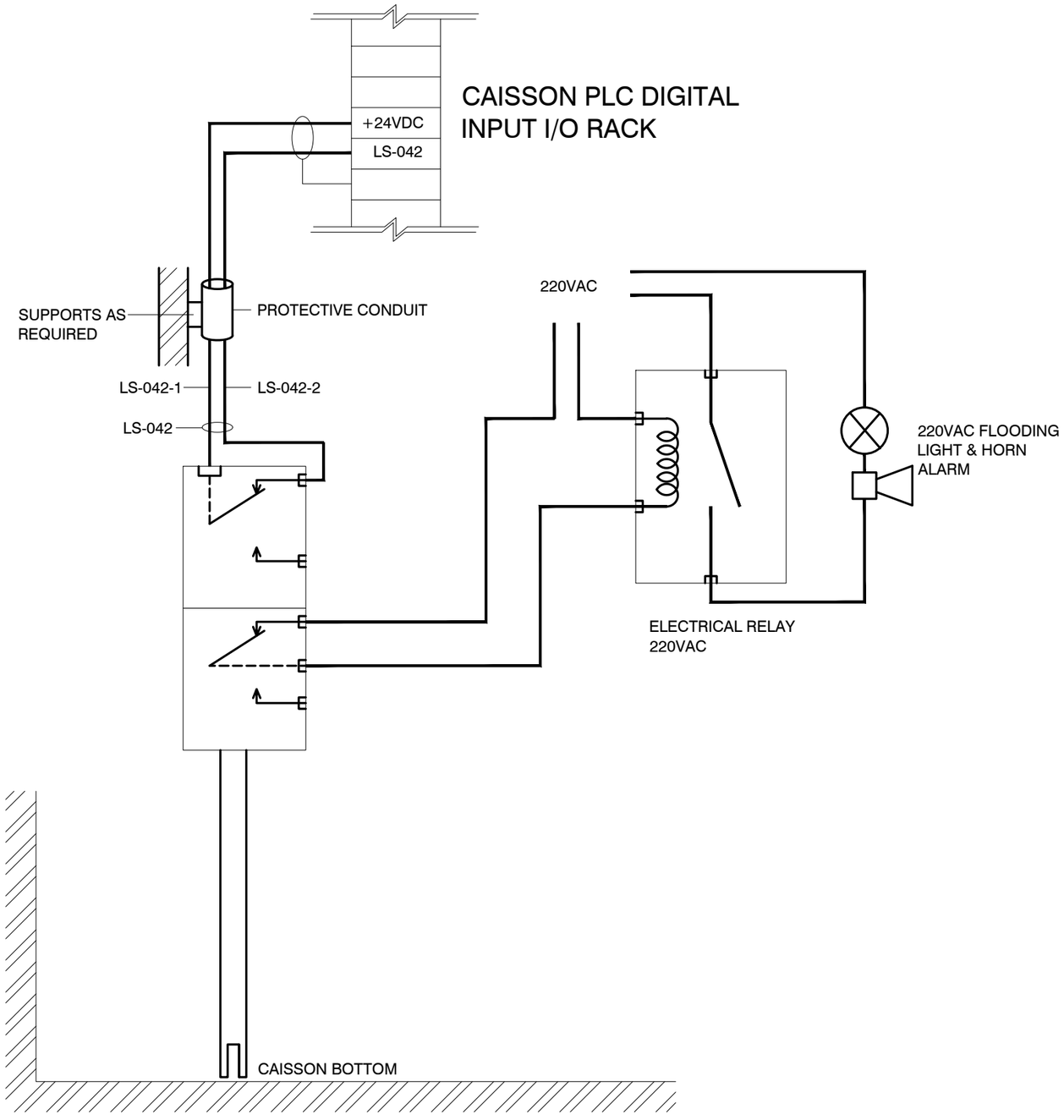
| N.T.S | 13-06-19 | 1002-007-5014 | | A | A3 | ISSUED FOR CONSTRUCTION |




| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 000-LS-042 | VEGA | VEGASWING 63 | N/A | FLOW/ NO FLOW |

GENERAL NOTES

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| ENG. COORD | | |
| ARCHITECT | | |
| ELEC. ENG. | | |
| MECH. ENG. | | |
| STRUCT. ENG. | | |
| CIVIL. ENG. | | |
| INSTRU. ENG. | B. CHADROU / L. NYONI | |
| PROC. ENG. | | |

**APPROVED BY**

| NAME | M. MADIBA | DATE |
|---|---|---|
| SIGNATURE | | |
| REG. NUMBER | D/2404/2017 | |

LODEMANN EST. 2015

DESIGN OF THE FLOATING CAISSON AT
ROBINSON DRY DOCK
PORT OF CAPE TOWN

CAISSON FLOOD DETECTION SWITCH
000-LS-042

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|---|---|---|---|---|---|---|
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| SPECIFICATION | | | | |
|---|---|---|---|---|
| TAG NO. | EQUIPMENT MANUFACTURER | TYPE | SIZE | CALIBRATION |
| 000-LS-042 | VEGA | VEGASWING 63 | N/A | FLOW/ NO FLOW |
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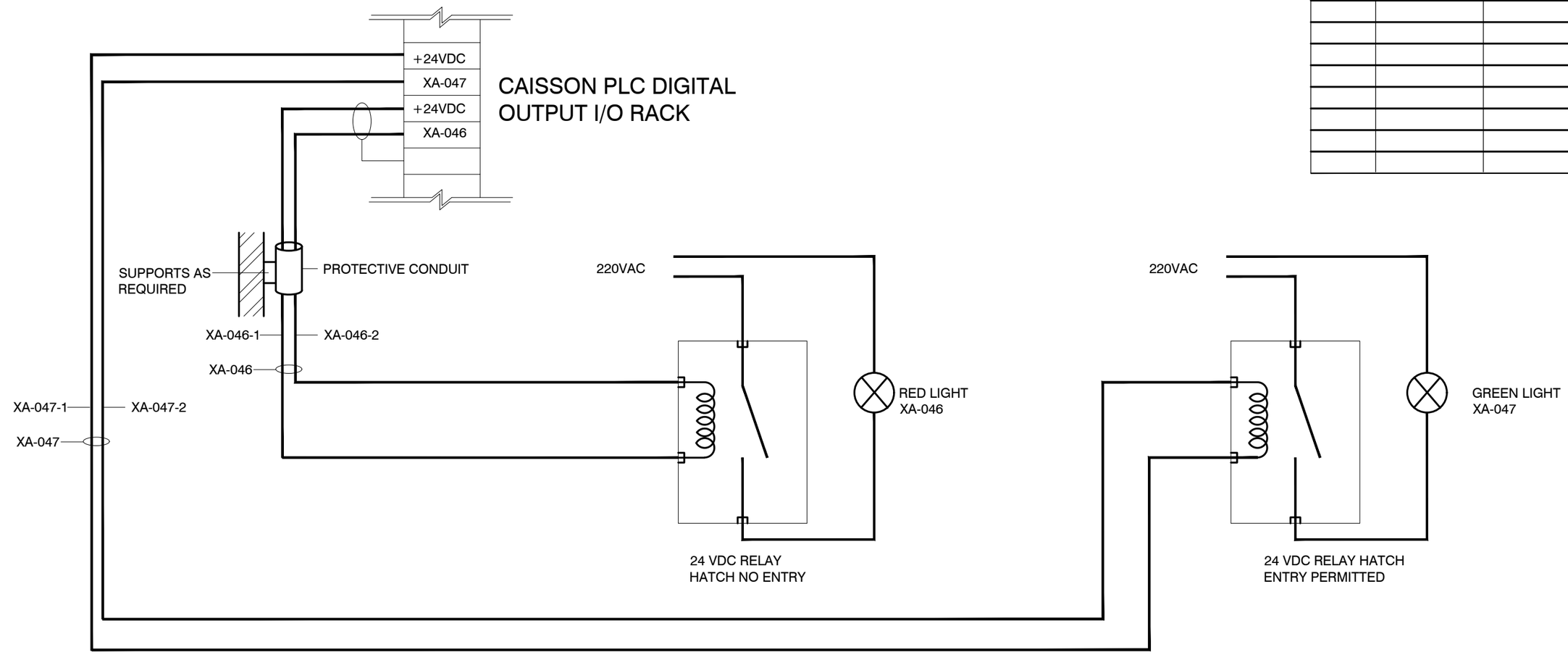


GENERAL NOTES

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DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

HATCH ENTRY RESTRICTIONS
000-XA-046/047

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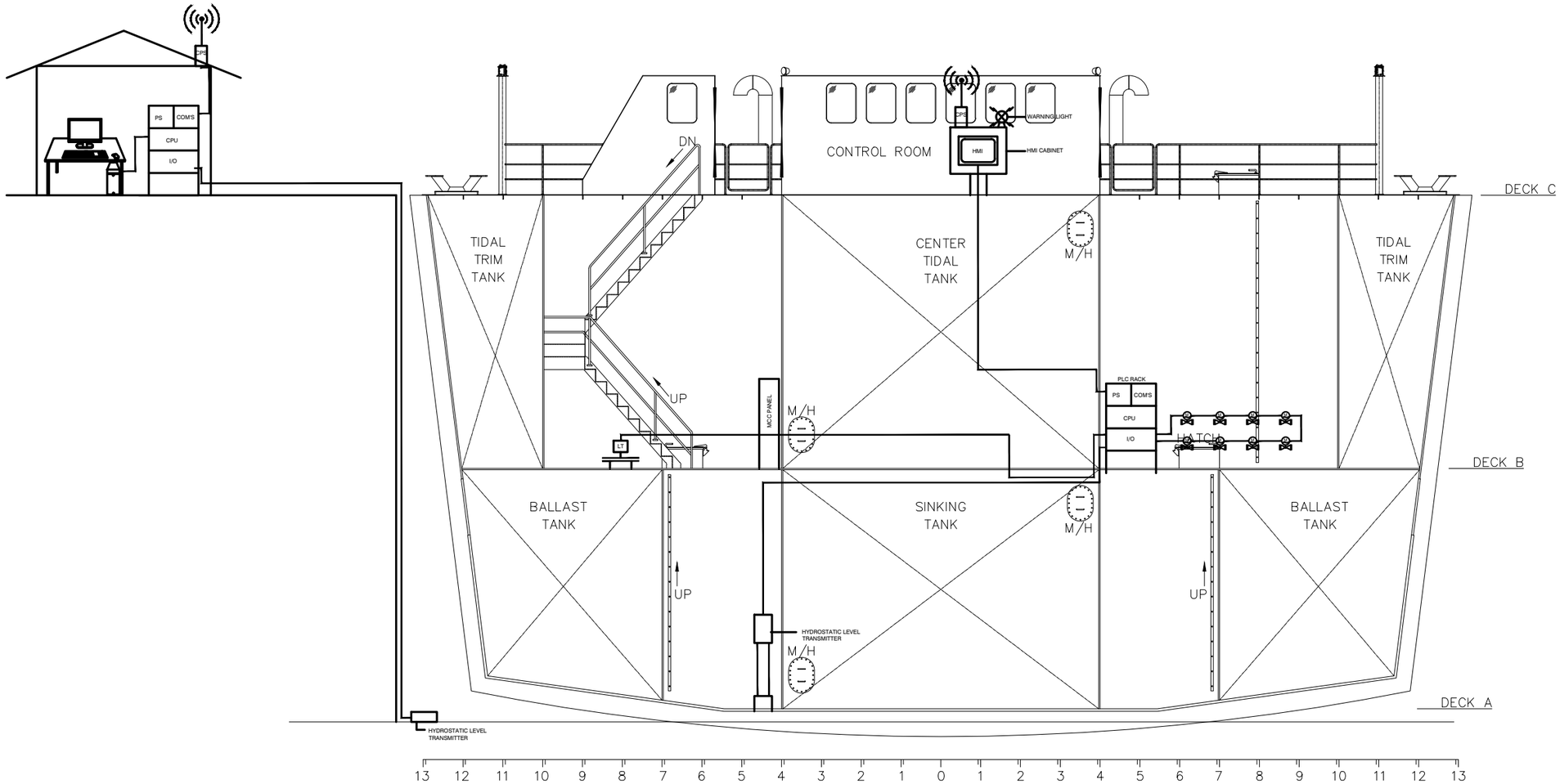
| N.T.S | 13-06-19 | 1002-007-5016 | | A | A3 | ISSUED FOR CONSTRUCTION |




PROFILE VIEW

GENERAL NOTES

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| DRAWN | L. MKHIZE | |
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DESIGN OF THE FLOATING CAISSON AT ROBINSON DRY DOCK PORT OF CAPE TOWN

PLC NETWORK DIAGRAM

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