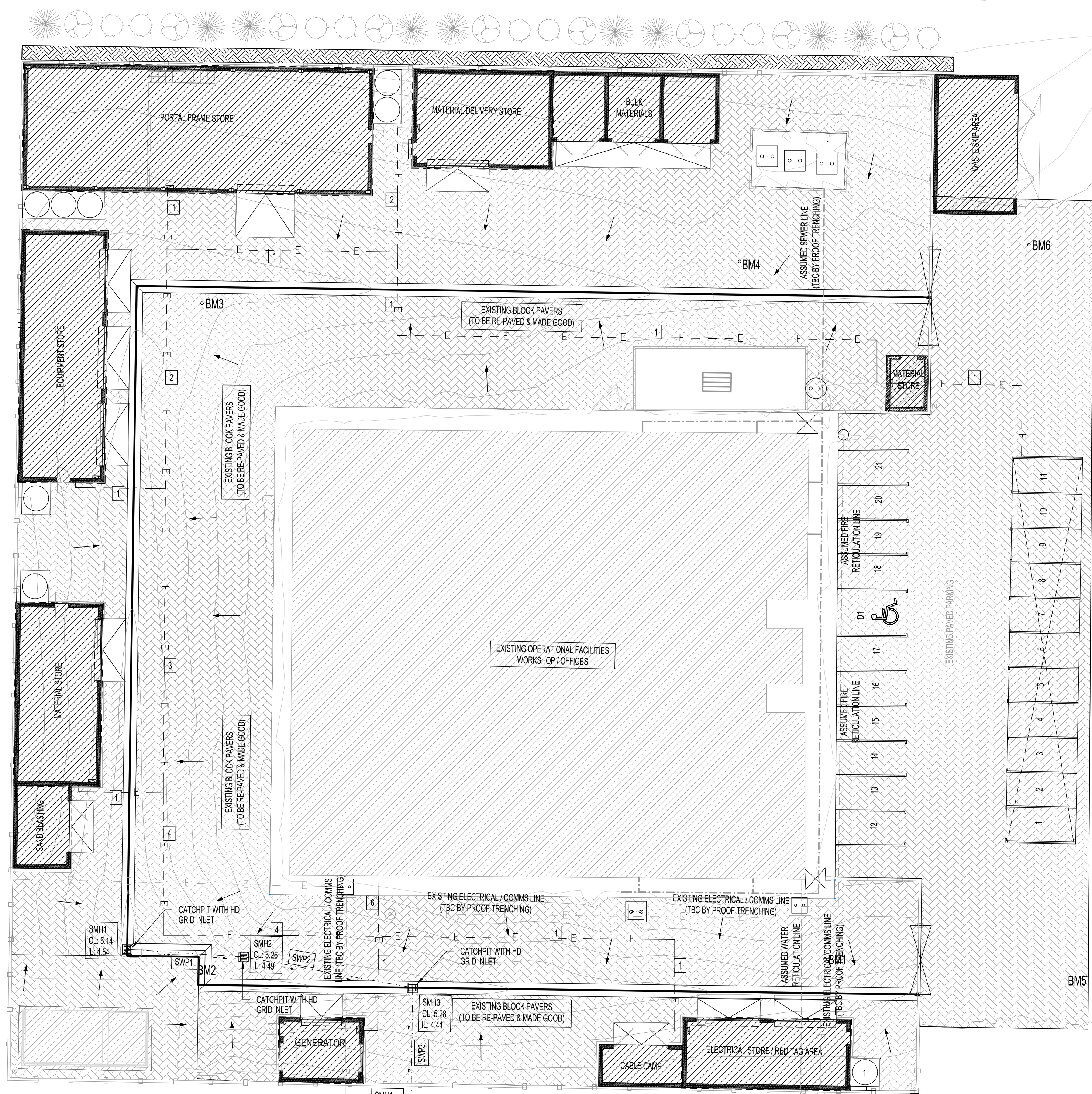
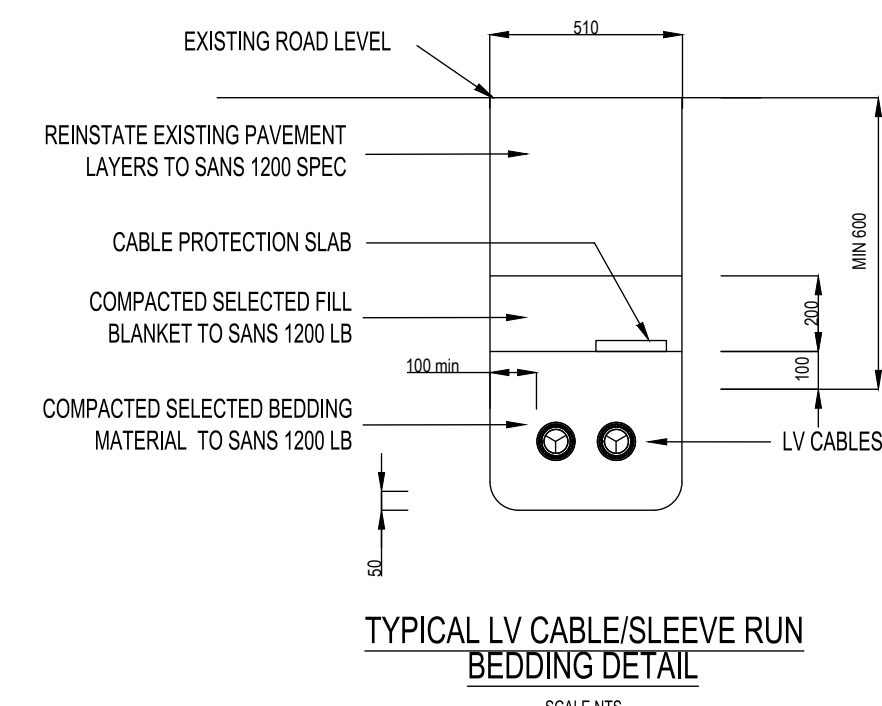


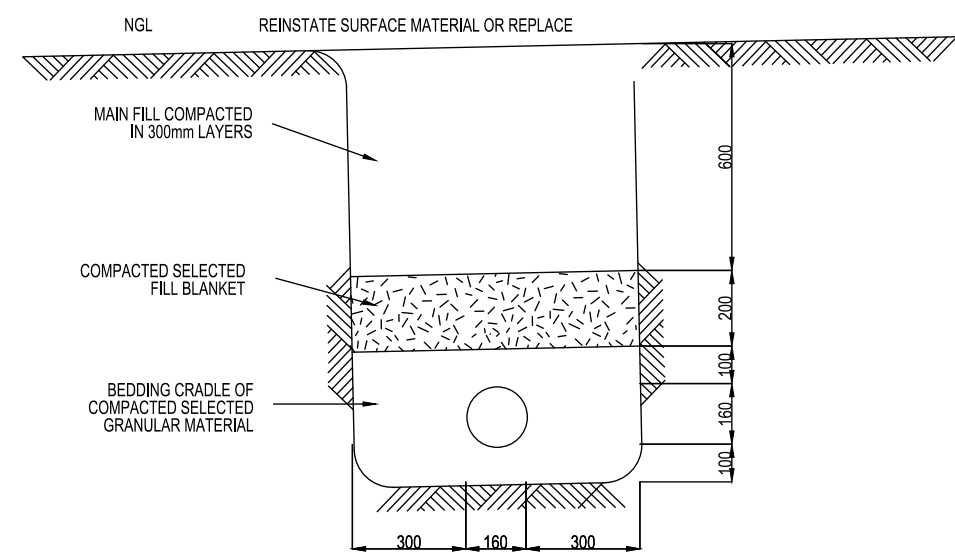


BAYVUE CIVIL DEPOT PLAN VIEW
SCALE 1:200

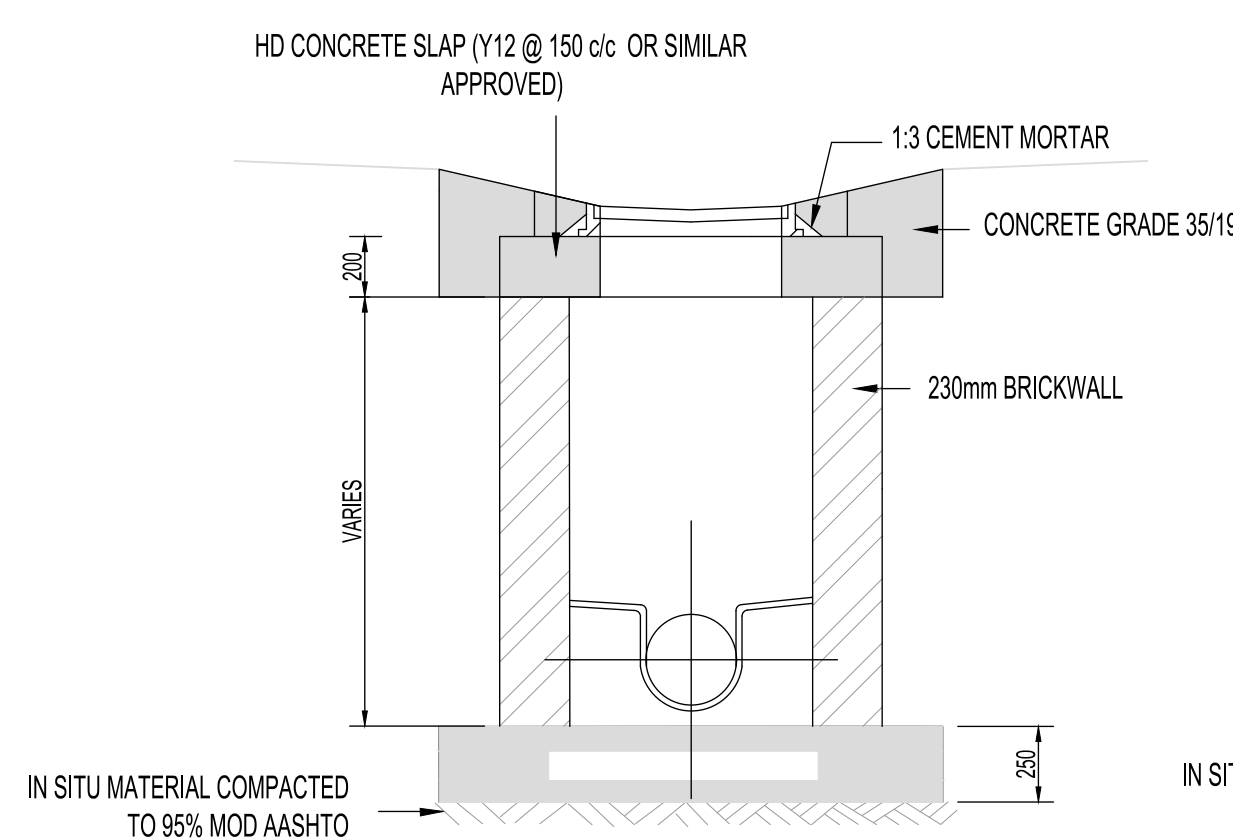


TYPICAL LV CABLE/SLEEVE RUN
BEDDING DETAIL
SCALE 1:50

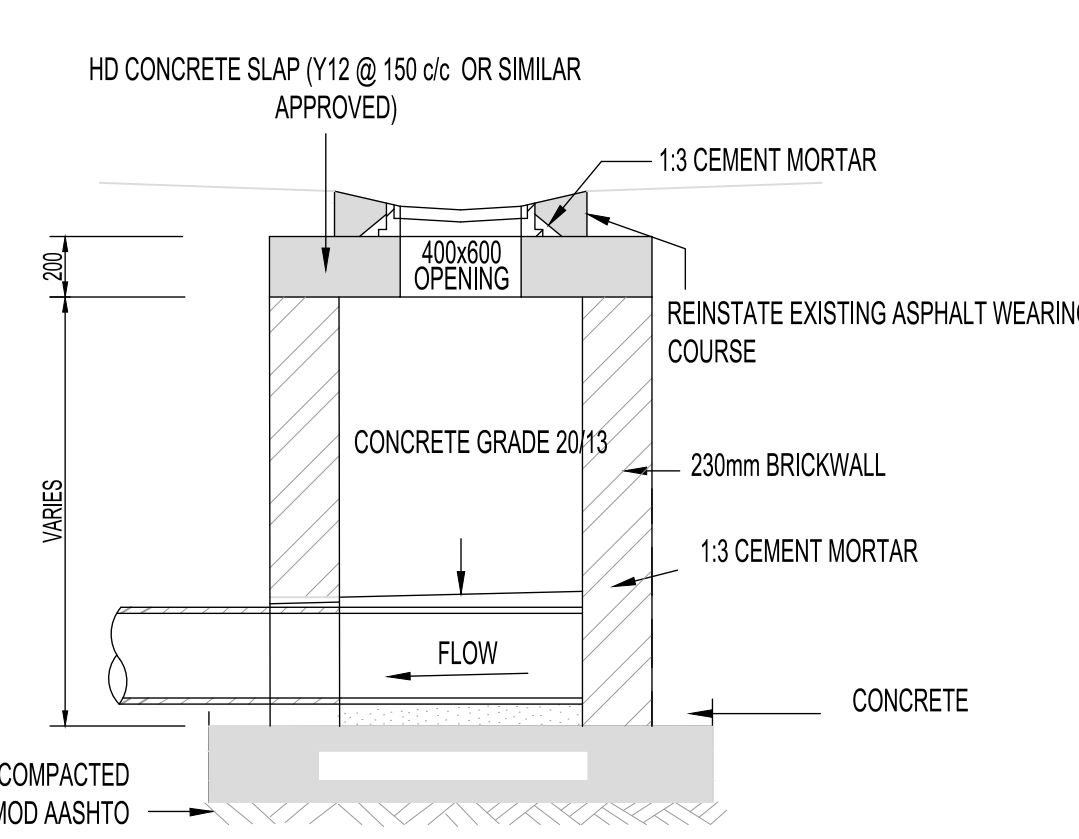
- NOTES:
1. THE CONTRACTOR SHALL CONFIRM ALL ELECTRICAL/COMMS CABLE TRENCH DEPTHS WITH THE ENGINEER PRIOR TO CONSTRUCTION.
 2. A MINIMUM DEPTH OF 800mm IS REQUIRED FOR ALL ELECTRICAL/COMMS - CHANGES SHALL BE APPROVED BY ENGINEER.



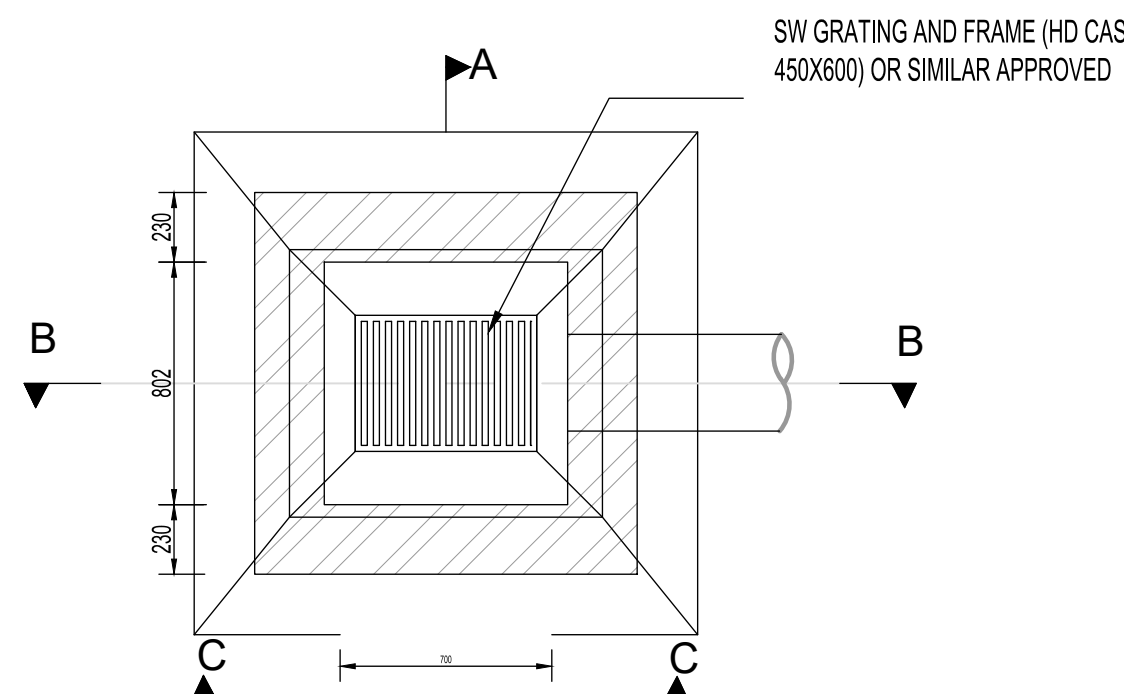
TYPICAL SECTION BEDDING DETAIL (1200 LB-2)
FLEXIBLE / RIGID WRAPPED SW PIPE
SCALE 1:50



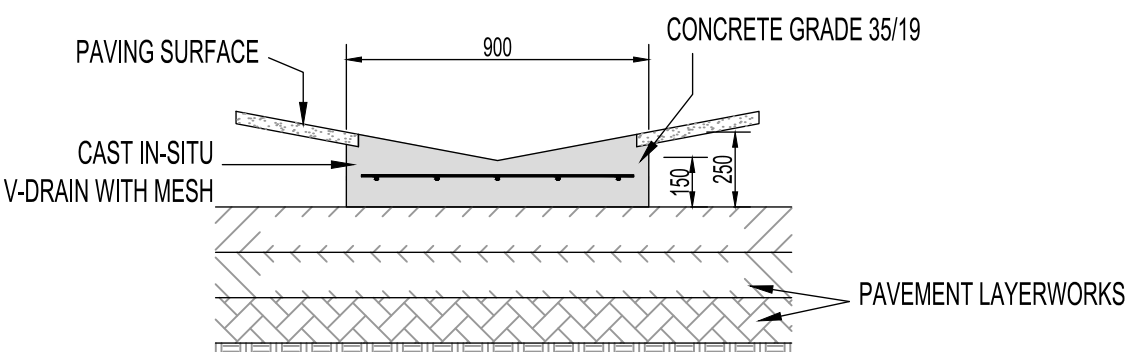
SECTION A - A



SECTION B - B



PLAN VIEW (GRID INLET)



SECTION C - C (CONC. V-DRAIN TIE IN DETAIL)

TYPICAL DETAIL: SW GRID INLET MANHOLE DETAILS

SCALE 1:50



- CONCRETE NOTES:
1. SCREED TO BE CLASS 20 / 19 CONCRETE.
 2. BACKING CONCRETE MINIMUM CLASS 20 / 19 CONCRETE TO BE ROUGH-SHUTTER MECHANICAL VIBRATION.
 3. CHANNEL : MINIMUM CLASS 20 / 19 CONSTRUCTED AFTER BACKING CONCRETE HAS SMOOTH FINISH AND R 10 ARRIS TO CORNERS.
 4. ALL PRECAST KERBING SHALL HAVE CONTINUOUS IN-SITU BACKING CONCRETE.
 5. WOOD FLOAT FINISH TO SURFACE OF 'V' CHANNEL.
 6. CAST 'V' CHANNEL IN ALTERNATIVE SECTIONS OF 700 mm WIDTH AND LENGTHS NOT EXCEEDING 1.5m.
 7. DETAILS TO BE READ IN CONJUNCTION WITH STANDARD ROADS DETAILS.

- STORMWATER NOTES
1. TRENCHES FOR PIPES TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE REQUIREMENT OF SANS 1200 D8 - PIPE TRENCHES.
 2. ALL RD PIPES SHALL HAVE CLASS C BEDDING AND uPVC PIPES SHALL HAVE BEDDING FOR FLEXIBLE PIPES IN ACCORDANCE WITH SANS 1200 LB - BEDDING.
 3. CONCRETE STORMWATER PIPES SHALL BE SPIGOT & SOCKET CLASS 100D (SANS 877).
 4. uPVC PIPES SHALL BE CLASS 34 TO SANS 791.
 5. ALL CONCRETE PIPE JOINTS TO BE WRAPPED WITH 'A2 BIDIM' (NONWOVEN, CONTINUOUS FILAMENT, NEEDLE PUNCHED, POLYESTER, GEOTEXTILE) MIN. WIDTH TO BE 750mm FOR PIPES 3000 TO 6000.
 6. NB! ALL MANHOLE COVERS TO SUIT CROSSFALL OF PAVING.

- ELECTRICAL AND COMMUNICATION NOTES
1. ALL DUCT PIPES SHALL COMPRISE uPVC PIPES TO SANS 791 (CLASS 34: HOMOGENOUS SOLID-WALL PIPES).
 2. BEDDING OF DRAINS SHALL BE FOR FLEXIBLE PIPES, IN ACCORDANCE WITH SANS 1200 LB.
 3. ALL DUCTS LESS THAN 800mm COVER TO BE CONCRETE ENCASED OR UNLESS OTHERWISE STATED BY THE ELECTRICAL ENGINEER.
 4. NB! ALL MANHOLE COVERS TO SUIT CROSSFALL OF FINISHED PAVING.
 5. THE CONTRACTOR SHALL SUBMIT A FULL SET OF AS-BUILT DRAWINGS UPON COMPLETION OF THE INSTALLATION.
 6. ANY DISCREPANCIES IN LEVELS AND SETTING OUT DATA TO BE QUERIED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.

- EARTHWORKS
1. ANY DISCREPANCIES IN LEVELS AND SETTING OUT DATA TO BE QUERIED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.
 2. ALL WORKMANSHIP TO BE IN ACCORDANCE WITH SANS 1200 PART D: EARTHWORKS AND THE RELEVANT PROJECT SPECIFICATIONS AS INCLUDED IN THE CONTRACT.
 3. BEFORE PLACING ANY FILL MATERIAL, THE EXISTING GROUND SURFACE MUST BE CLEARED AND GRUBBED OF ALL VEGETATION AND ORGANIC MATTER.
 4. TOPSOIL 200mm MUST BE STRIPPED AND STOCKPILED.
 5. WHERE THE MATERIAL GROUND LINE IS STEEPER THAN 1:6, BENCHING MUST BE EXCAVATED INTO EXISTING SURFACE PRIOR TO RECEIVING FILL.
 6. UNLESS OTHERWISE INDICATED, ALL BANK BATTERS TO BE : 1:2 CUT AND 1:2 FILL.
 7. THE UNCOMPACTED THICKNESS OF FILL LAYERS SHALL NOT EXCEED 300mm.
 8. LOCATE ALL EXISTING SERVICES PRIOR TO ANY CONSTRUCTION TAKING PLACE.

- GENERAL NOTES
1. THE CONTRACTOR WILL BE DEEMED TO HAVE INSPECTED THE SITE AND BE IN AGREEMENT WITH THE WORKS REQUIRED AS PER THE TENDER DOCUMENTS, UNLESS ALTERNATIVE PROPOSALS WITH COST IMPLICATIONS ARE RECEIVED TOGETHER WITH THE TENDER DOCUMENTS. ALTERNATIVE PROPOSALS SUBMITTED DURING CONSTRUCTION SHALL BE ON A DESIGN AND CONSTRUCT BASIS, WITH THE DESIGN AT CONTRACTOR'S EXPENSE.
 2. VARIATIONS DEEMED NECESSARY BY THE CONTRACTOR SHALL BE FORWARDED TO THE PROJECT MANAGER IN WRITING FOR APPROVAL BEFORE ANY CONSTRUCTION BASED ON THE VARIATION COMMENCES.
 3. SERVICES SHOWN ON DRAWINGS ARE KNOWN OR SOURCED FROM EXISTING DRAWINGS. THE CONTRACTOR MUST ENSURE THAT ALL SERVICES THAT INTERSECT OR RUN ALONGSIDE THE PROPOSED WORKS ARE LOCATED BEFORE CONSTRUCTION COMMENCES. ANY CLASHES SHALL BE REPORTED TO THE PROJECT MANAGER IN WRITING. THE CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGES TO EXISTING SERVICES DUE TO NEGLIGENCE.
 4. ALL EXISTING PIPES AND MANHOLES INCORPORATED INTO THE NEW SYSTEM SHALL HAVE DEFECTS RECTIFIED TO COMPLY TO STANDARDS FOR NEW WORKS.
 5. ALL LEVELS AND DIMENSIONS SHALL BE CHECKED BEFORE ANY WORK COMMENCES. FAILURE TO DO SO SHALL DEEM THE CONTRACTOR LIABLE FOR ANY WORK REQUIRED TO RECTIFY ERRORS AS A RESULT OF THE FAILURE TO CHECK THE LEVELS AND DIMENSIONS.
 6. THE LATEST REVISION OF SANS SPECIFICATIONS SHALL APPLY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH RELEVANT SANS SPECIFICATIONS, UNLESS OTHERWISE INDICATED.

MANHOLE DATA (WGS84, Lo19)				
NAME	IL [m]	DESCRIPTION	NORTHING (Y)	EASTING (X)
SMH1	4.54	HD GRID INLET SW MANHOLE	-3652333.940	95677.491
SMH2	4.49	HD GRID INLET SW MANHOLE	-3652334.482	95669.141
SMH3	4.41	HD GRID INLET SW MANHOLE	-3652336.690	95657.024
SMH4	4.63	HD SW SUMP WITH PUMP	-3652344.807	95657.138

STORMWATER PIPE DATA				
NAME	SIZE [mm]	MATERIAL & CLASS	LENGTH [m]	NODES
SWP1	160 Ø	CLASS 100D CONCRETE PIPE	8.4	SMH1-SMH2
SWP2	160 Ø	CLASS 100D CONCRETE PIPE	13.3	SMH2-SMH3
SWP3	160 Ø	CLASS 100D CONCRETE PIPE	9.6	SMH3-SMH4
SWP4	160 Ø	CLASS 100D CONCRETE PIPE	10.0	SMH4-TBC

LEGEND

- (FH) EXISTING FIRE HYDRANT
- (O) EXISTING CABLE CHAMBER
- (Hatched Box) EXISTING BUILDING / STRUCTURE
- (Hatched Box) PROPOSED BUILDING / STRUCTURE
- (Square with X) EXISTING ELECTRICAL / COMMS MANHOLE
- (Square with 3) STORMWATER HARVESTING TANK
- (Square with X) STORMWATER MANHOLE
- (Square with X) STORMWATER MANHOLE (TYPE 8 GRATING)
- (Line with X) PROPOSED STORMWATER V-DRAIN CHANNEL
- (Arrow) DIRECTION OF STORMWATER FLOW
- (Arrow) DIRECTION OF SURFACE RUNOFF
- (Dashed Line) EXISTING STORMWATER PIPE
- (Dashed Line) PROPOSED STORMWATER PIPE
- (Dashed Line) EXISTING ELECTRICALS / COMMS CABLES
- (Dashed Line) PROPOSED ELECTRICALS CABLES
- (Dashed Line) EXISTING SEWER LINE
- (Dashed Line) EXISTING WATER MAINS
- (Dashed Line) EXISTING FIRE SUPPLY PIPING
- (Star) VEGETATION (EROSION PREVENTION)
- (Hatched Box) PROPOSED SOIL BERM
- (Square with CC) PROPOSED CABLE CHAMBER
- (Square with 1) NUMBER OF PROPOSED ELECTRICAL OR COMMS CABLES
- (Square with 1) ELECTRICAL DISTRIBUTION BOARD

NOTES

1. ALL CO-ORDINATES ARE BASED ON THE SOUTH AFRICAN CO-ORDINATE SYSTEM HARTEBESHOEK 94, WGS 84 Lo 19
2. MEASUREMENTS ARE BASED ON THE METRIC SYSTEM
3. ALL LEVELS ARE IN METERS TO MEAN SEA LEVEL (MSL)

ADDITIONAL SIGNATORIES

SRV. PORT ENGINEER	SRV. FACILITIES MANAGER
NAME	NAME
SIGNATURE	SIGNATURE
DATE	DATE

FOR APPROVAL

D	ISSUED FOR TENDER	2023-03-01
C	ISSUED FOR SQUAD CHECK	2023-09-02
B	ISSUED FOR CLIENT APPROVAL	2023-02-01
A	ISSUED FOR CLIENT REVIEW	2021-11-10

No.	DESCRIPTION / REVISIONS	DATE
-----	-------------------------	------



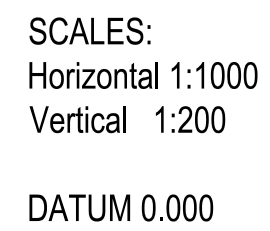
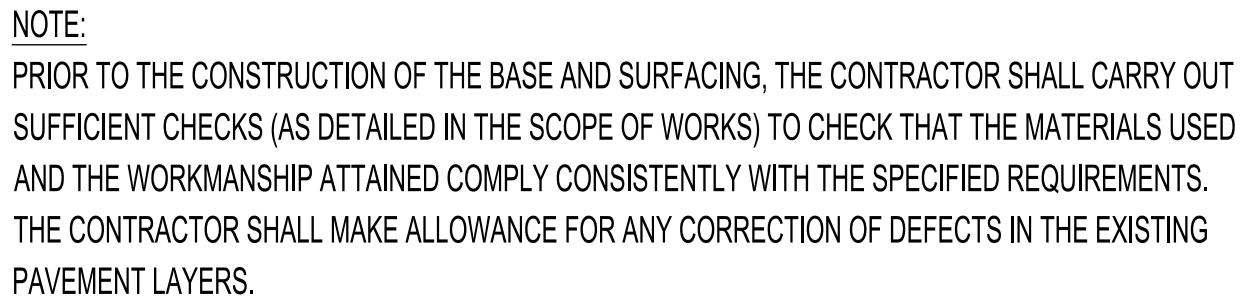
PORT OF SALDANHA OPERATIONAL FACILITY FOR INFRASTRUCTURE MAINTENANCE

DRAWING TITLE

BULK SERVICES LAYOUT: STORMWATER AND ELECTRICAL

DATE	2023-03-01	SRV. PROJ. TECH / TECHNICAL	DATE
SCALE	AS SHOWN	SIGNATURE	DATE
DESIGNED BY	MT	SRV. DESIGNER	01/03/2023
CHECKED BY	AP	SIGNATURE	DATE
DRAWN BY	MT	SRV. DRAWING ENGINEER	DATE
APPROVED BY	MM	SIGNATURE	03/03/2023

PAPER SIZE	TRANSNET DRW. NO.	SHEET	REV.
A0	SBH07T1003-001-03	CONSULTANT / CONTRACTOR DRW. NO.	
SHEET			
1 OF 1			

[illegible]

LONGSECTION FOR V-CHANNEL (FROM 0.000 TO 163.553)

GENERAL NOTES

1. THE CONTRACTOR WILL BE DEEMED TO HAVE INSPECTED THE SITE AND BE IN AGREEMENT WITH THE WORKS REQUIRED AS PER THE TENDER DOCUMENTS, UNLESS ALTERNATIVE PROPOSALS WITH COST IMPLICATIONS ARE RECEIVED TOGETHER WITH THE TENDER DOCUMENTS. ALTERNATIVE PROPOSALS SUBMITTED DURING CONSTRUCTION SHALL BE ON A DESIGN AND CONSTRUCT BASIS, WITH THE DESIGN AT CONTRACTOR'S EXPENSE.

2. VARIATIONS DEEMED NECESSARY BY THE CONTRACTOR SHALL BE FORWARDED TO THE PROJECT MANAGER IN WRITING FOR APPROVAL BEFORE ANY CONSTRUCTION BASED ON THE VARIATION COMMENCES.

3. SERVICES SHOWN ON DRAWING ARE KNOWN OR SOURCED FROM EXISTING DRAWINGS. THE CONTRACTOR MUST ENSURE THAT ALL SERVICES THAT INTERSECT OR RUN ALONGSIDE THE PROPOSED WORKS ARE LOCATED BEFORE CONSTRUCTION COMMENCES. ANY CLASHES SHALL BE REPORTED TO THE PROJECT MANAGER IN WRITING. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGES TO EXISTING SERVICES DUE TO NEGLIGENCE.

4. ALL EXISTING PIPES AND MANHOLES INCORPORATED INTO THE NEW SYSTEM SHALL HAVE DEFECTS RECTIFIED TO COMPLY TO STANDARDS FOR NEW WORKS.

5. ALL LEVELS AND DIMENSIONS SHALL BE CHECKED BEFORE ANY WORK COMMENCES. FAILURE TO DO SO SHALL DEEM THE CONTRACTOR LIABLE FOR ANY WORK REQUIRED TO RECTIFY ERRORS AS A RESULT OF THE FAILURE TO CHECK THE LEVELS AND DIMENSIONS.

6. THE LATEST REVISION OF SANS SPECIFICATIONS SHALL APPLY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH RELEVANT SANS SPECIFICATIONS, UNLESS OTHERWISE INDICATED.

EARTHWORKS

1. ANY DISCREPANCIES IN LEVELS AND SETTING OUT DATA TO BE
 QUERIED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK.

2. ALL WORKMANSHIP TO BE IN ACCORDANCE WITH SANS 1200 PART D : EARTHWORKS AND THE RELEVANT PROJECT SPECIFICATIONS AS INCLUDED IN THE CONTRACT

CONTRACT.
A. BEFORE DI.

3. BEFORE PLACING ANY FILL MATERIAL, THE EXISTING GROUND SURFACE MUST BE CLEARED AND GRUBBED OF ALL VEGETATION AND ORGANIC MATTER.

4. TOPSOIL 200mm MUST BE STRIPPED AND STOCKPILED.

5. WHERE THE MATERIAL GROUND LINE IS STEEPER THAN 1:6, BENCHING MUST BE EXCAVATED INTO EXISTING SUBRECEIVING FILL.

6. UNLESS OTHERWISE INDICATED,
ALL BANK BATTERS TO BE: 1:2 CUT AND 1:2 FILL

7. THE UNCOMPACTED THICKNESS OF FILL LAYERS SHALL

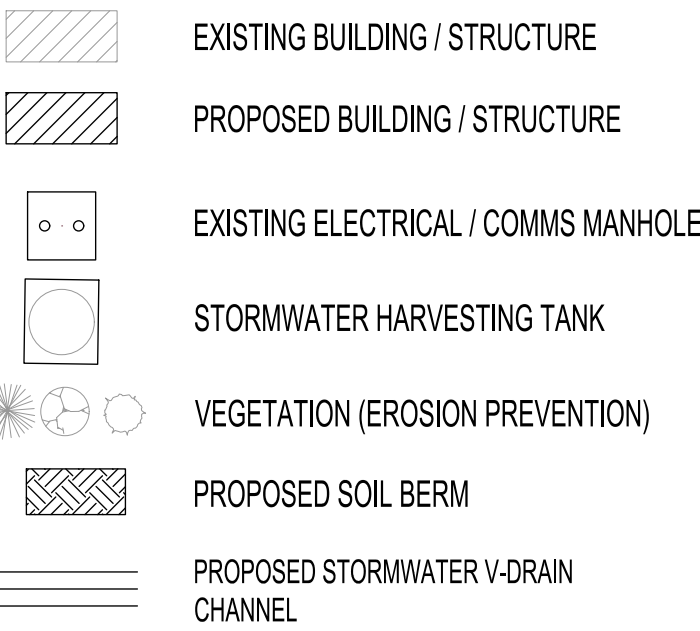
8. LOCATE ALL EXISTING SERVICES PRIOR TO ANY CONSTRUCTION TAKING PLACE.

BENCHMARKS (WGS 84, Lc19)			
POINT	NORTHING (Y)	EASTING (X)	ELEVATION (Z)
BM1	-3652334.629	95627.461	5.393
BM2	-3652335.664	95672.337	5.384
BM3	-3652287.614	95672.130	5.327
BM4	-3652284.625	95633.585	5.363
BM5	-3652335.799	95608.654	5.159
BM6	-3652283.420	95612.846	5.295

SETTING OUT POINTS (WGS 84, Ld19)			
POINT NO.	NORTHING (Y)	EASTING (X)	ELEVATION (Z)
P27	-3865233.298	95628.767	5.47
P28	-3865238.965	95628.757	5.51
P29	-3865239.039	95620.723	5.50
P30	-3865230.698	95620.747	5.47
P31	-3865234.310	95685.765	5.34
P32	-3865234.477	95672.360	5.20
P33	-3865234.339	95672.485	5.15
P34	-3865234.410	95667.589	5.54
P35	-3865234.603	95654.121	5.47
P36	-3865234.796	95640.672	5.48
P37	-3865234.988	95627.206	5.46
P38	-3865234.079	95620.939	5.50
P39	-3865233.519	95677.034	5.15
P40	-3865233.589	95671.447	5.24
P41	-3865236.977	95672.399	5.15
P42	-3865236.048	95671.481	5.22
P43	-3865236.671	95620.833	5.40
P44	-3865237.671	95620.847	5.41
P45	-3865279.240	95632.730	5.39
P46	-3865275.250	95632.650	5.47
P47	-3865275.450	95625.930	5.47
P48	-3865279.450	95626.100	5.41
P49	-3865220.870	95641.040	5.46
P50	-3865220.870	95628.840	5.45
P51	-3865295.250	95641.040	5.50
P52	-3865225.250	95628.840	5.48



LEGEND



NOTES

1. ALL CO-ORDINATES ARE BASED ON THE SOUTH AFRICAN CO-ORDINATE SYSTEM HARTEBESHOEK 94, WGS 84 Lo 19
2. MEASUREMENTS ARE BASED ON THE METRIC SYSTEM
3. ALL LEVELS ARE IN METERS TO MEAN SEA LEVEL (MSL)

ADDITIONAL SIGNATORIES

SDH - PORT ENGINEER MR.		SDH - FACILITIES MANAGER MR.	
SIGNATURE	DATE	SIGNATURE	DATE

FOR APPROVAL

D	ISSUED FOR TENDER	2023-03-0
C	ISSUED FOR SQUAD CHECK	2022-09-0
B	ISSUED FOR CLIENT APPROVAL	2022-02-0
A	ISSUED FOR CLIENT REVIEW	2021-11-1
No.	DESCRIPTION / REVISIONS	DATE



PROJECT / AREA / ASSET / SUBJECT

PORT OF SALDANHA

OPERATIONAL FACILITY FOR INFRASTRUCTURE MAINTENANCE

MOSS GAS SITE
PRIVATE BAG X 1
SALDANHA
TEL: (022) 703 5640

DRAWING TITLE

SETTING-OUT DETAILS: BULK EARTHWORKS

DATE	2023-03-01	SBH - ENG / TECH / TECHNI	
SCALE	AS SHOWN	MR. M. TEFFO	
DESIGNED BY	MT	SIGNATURE	DATE
CHECKED BY	AP	SBH - DESIGNER MR. M. TEFFO	01/03/2023
DRAWN BY	MT	SIGNATURE	DATE
APPROVED BY	MM	SBH - SMT ENGINEER MR. M. MALAPANE	03/03/2023
		SIGNATURE	DATE

PAPER SIZE	TRANSNET DRW. NO.	SHEET	REV.
A0	SBH07A1004-001-03		
SHEET	CONSULTANT / CONTRACTOR DRW. NO.		
1 OF 1			