

Johannesburg Water SOC Ltd



VOLUME 3

DRAWINGS

JW14228

**Panel of Contractors: Upgrade and Renewal of Sewer Pipelines for three
(3) years on an As and When Required Basis**

Date:

Drawing List

DRAWING NUMBER:	DESCRIPTION:
JW100-DET04-S01	Standard Detail: Nameboard
JW100-DET01.1-W01	Standard Detail: Nameboard Holder
JW100-DET01-S01	Standard Detail: Manhole Detail for Sewer Mains
JW100-DET2-S01	Standard Detail: Sewer Erf Connections
JW100-DET02-W01	Standard Detail: Sewer Mains Bedding Detail
JW100-DET01-SC01	Standard Detail: Site Camp
JW100-DET14-W01	Standard Detail: air Valve

2400

4800

3457

1247

96

97

ANOTHER
JOHANNESBURG WATER
SERVICE
DELIVERY PROJECT
HELPDESK (011)375-5555

PROJECT DETAILS:

CONTRACT NO.: JW.....

DESCRIPTION:-

FONT : 70mm

FONT : 60mm
SPACING : 60mm

780

CONSULTANT:

JOHANNESBURG WATER

DESIGN SECTION

TEL: 011 688 1400

FONT : 70mm

FONT : 50mm
SPACING : 50mm

540

CONTRACTOR:

.....

TEL.....

FONT : 70mm

FONT : 50mm
SPACING : 50mm

540

CLIENT

JOHANNESBURG WATER-

INVESTMENT DELIVERY

TEL: 011 688 1400

FONT : 70mm

FONT : 50mm
SPACING : 50mm

540



A world class African City



Johannesburg Water

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.MKHUMALO	MAY 2017
DRAWN	B.MKHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE 19/7/17
	SIGNATURE: <i>[Signature]</i>	
	ECSA REG. No. 201372044	
APPROVED BY:	T.MPANDAGUTA	DATE
	SIGNATURE: <i>[Signature]</i>	
	ECSA REG. No. 201170150	



Johannesburg Water

17 HARRISON STREET
MARSHALLTOWN
2107

TEL: (011) 688-1400
FAX: (011) 688-1529

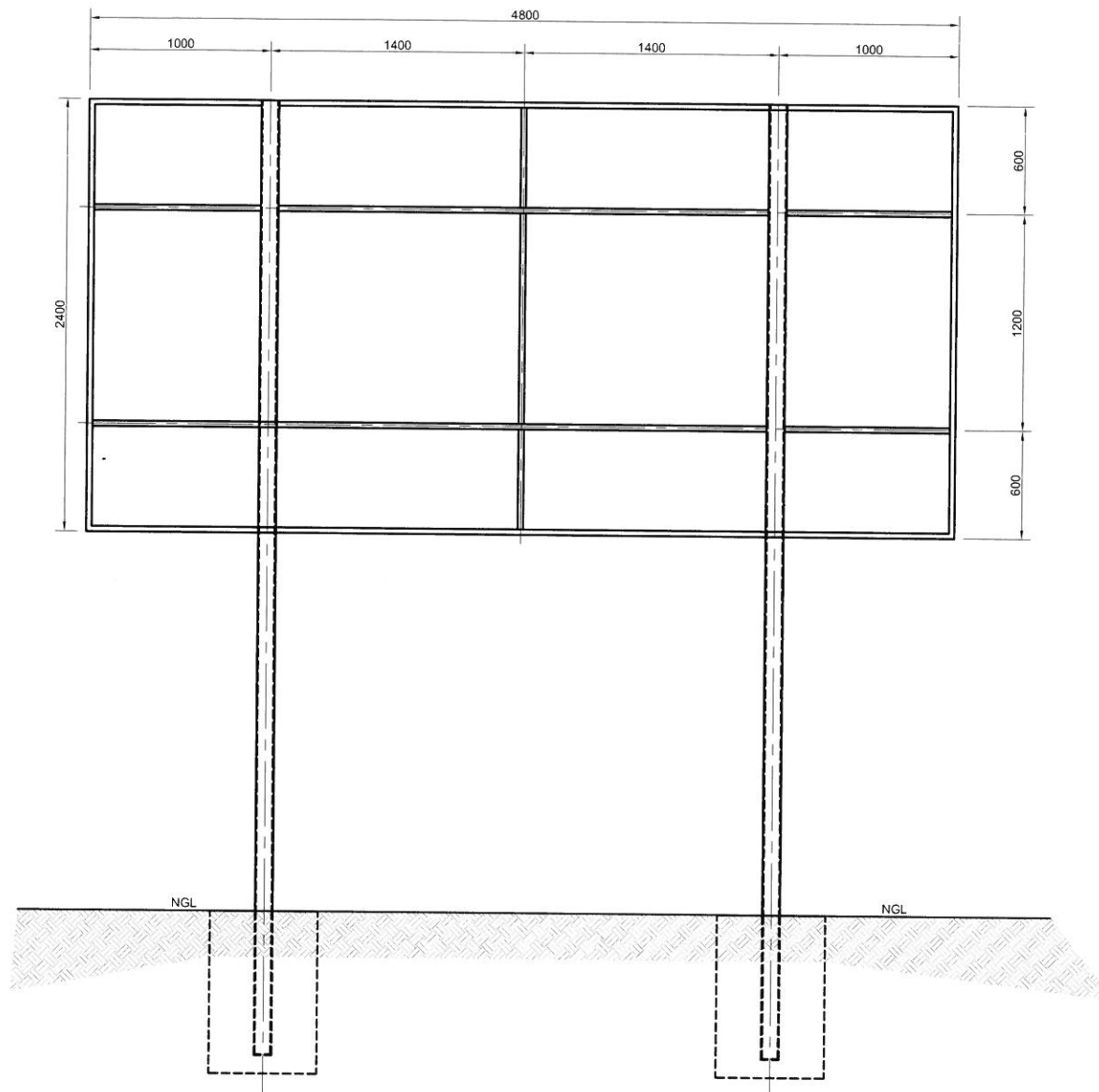


STANDARD DETAIL
NAMEBOARD

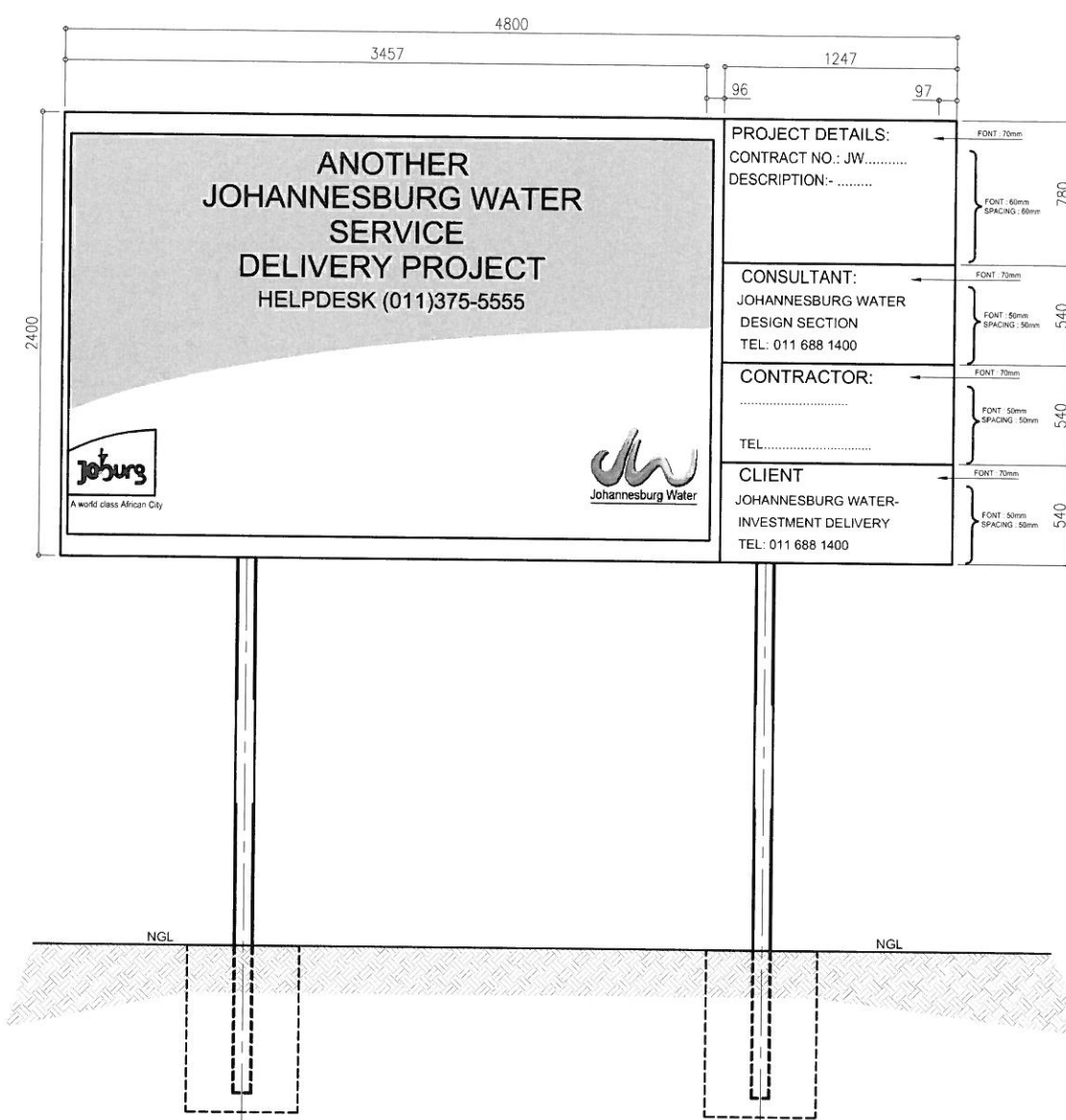
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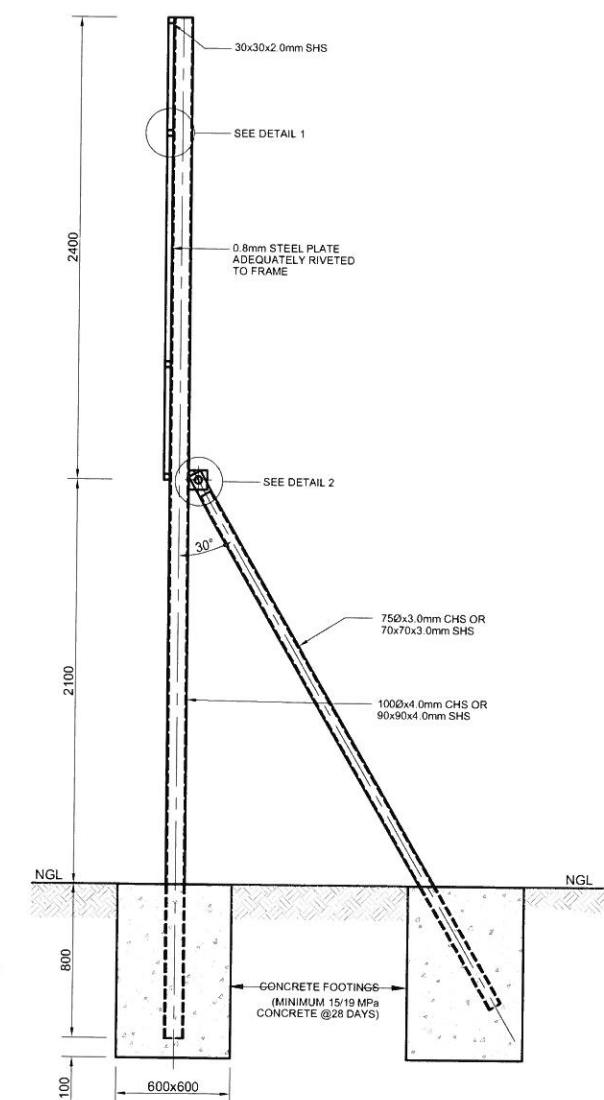
PROJECT No.	REV.
A3	04
SHEET	OF
ORIGINAL PAGE SIZE	
FILE No.	



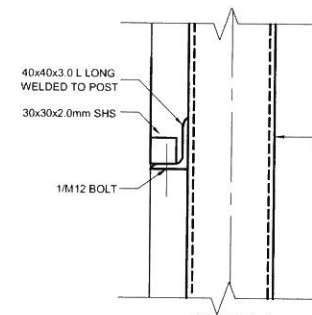
BACK ELEVATION



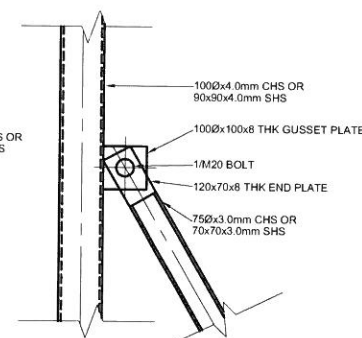
FRONT ELEVATION



TYPICAL SECTION



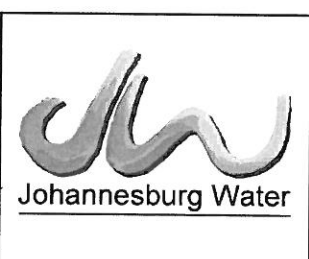
DETAIL 1



DETAIL 2

NOTE:
ALL WELDS TO BE 6mm FILLET
WELD ALL AROUND UNLESS
OTHERWISE SPECIFIED

CONSULTING ENGINEERS CAPEX DESIGN SECTION SWISS HOUSE 7TH FLOOR	DESIGNED B.M. KHUMALO MAY 2017	DRAWN B.M. KHUMALO MAY 2017	CHECKED J. GUMBO DATE 19/7/17	SIGNATURE [Signature] ECSA REG. No. 201370044	APPROVED BY T. MPANDAGUTA DATE 20/11/17	SIGNATURE [Signature] ECSA REG. No. 201170150
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2107
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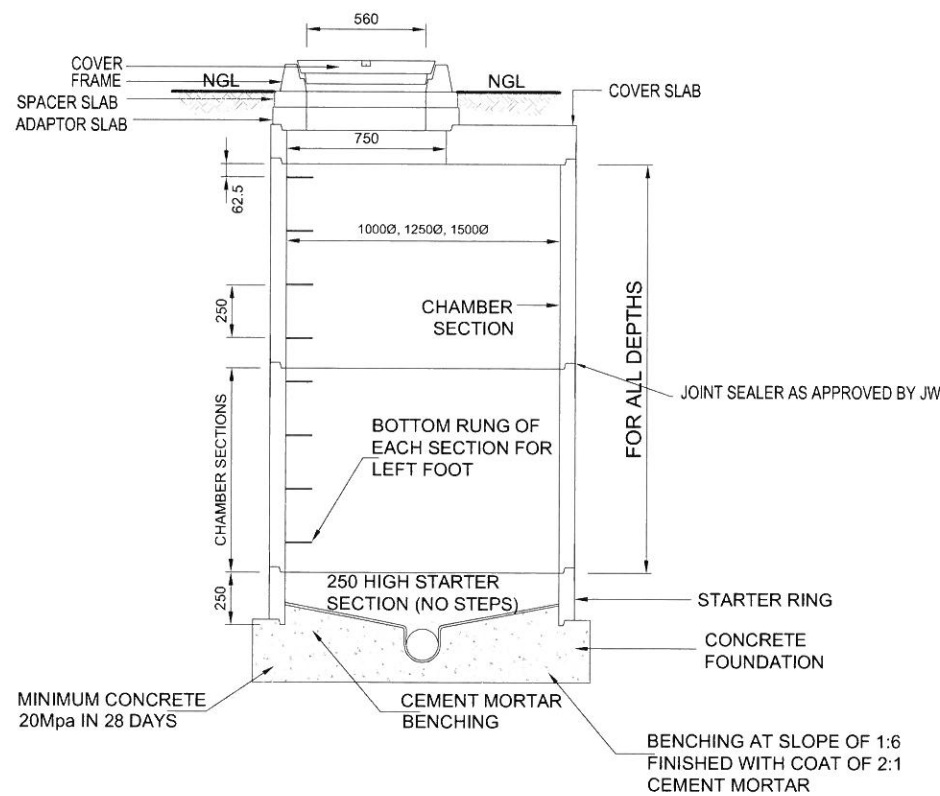
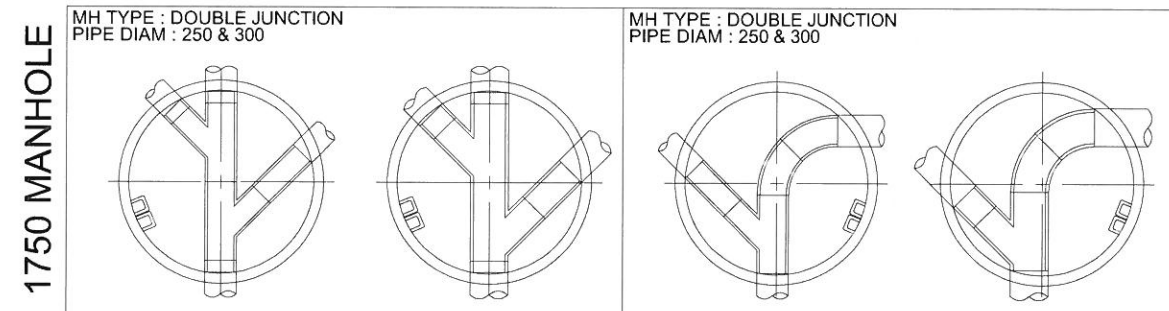
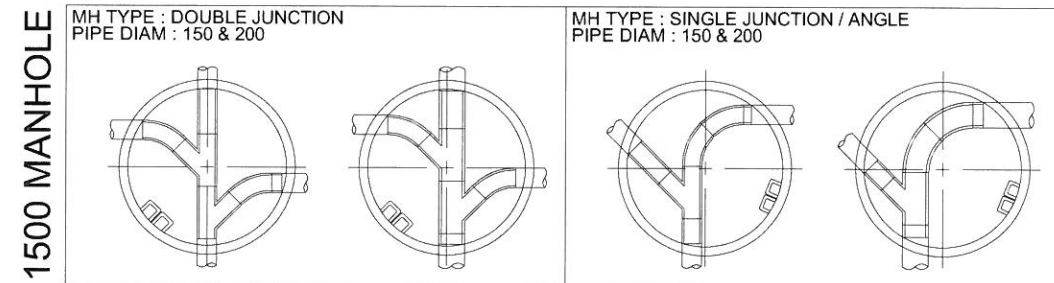
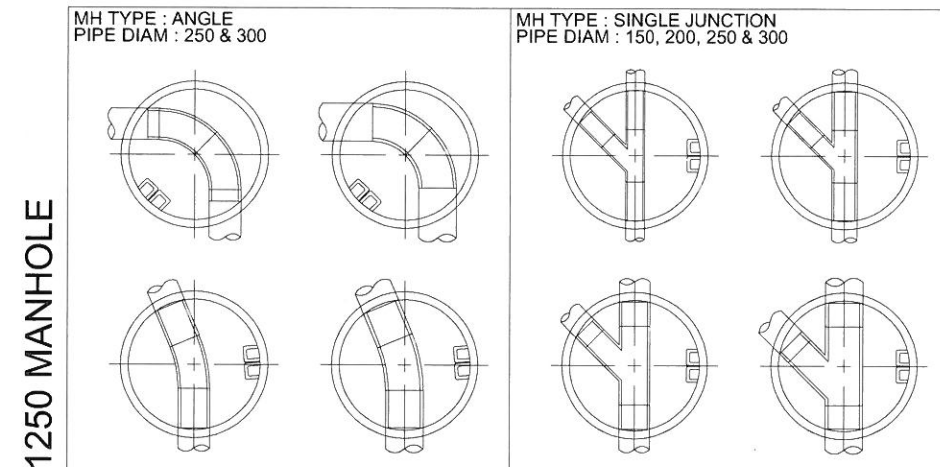
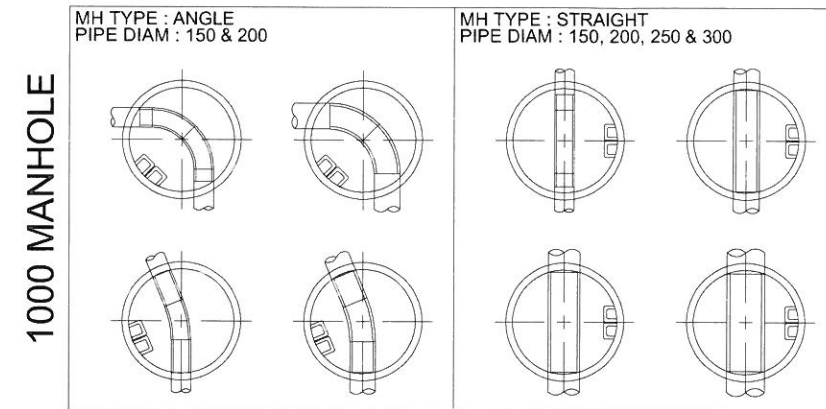
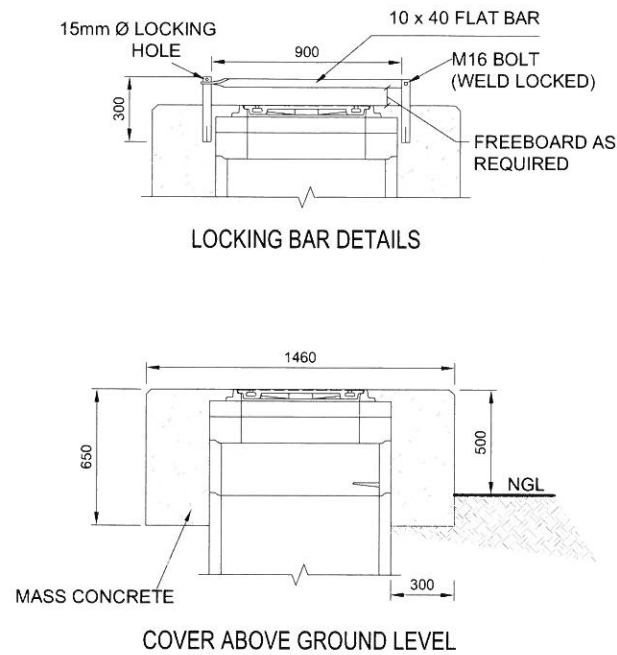


STANDARD DETAIL
NAMEBOARD HOLDER

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET01.1-W01	
PROJECT No.	REV.
A3	01
ORIGINAL PAGE SIZE	
FILE No.	

- NOTES
- 1) PRE-CAST CONCRETE MANHOLES AND SLABS, THE INSTALLATION AND CONSTRUCTION THEREOF TO COMPLY WITH SANS1294 AND SANS1200LD.
 - 2) THE UPPERMOST SECTION OF THE CHAMBER OR SHAFT TO BE A 250mm SECTION.
 - 3) MANHOLE SHAFTS AND STEP IRONS ARE TO BE PLACED OVER THE LARGEST LANDING ON THE DOWNSTREAM SIDE.
 - 4) HORIZONTAL SPACING OF STEPS TO BE 150mm (+/- 12 mm).
 - 5) PIPE SECTIONS AND SLABS TO BE BEDDED ON A 2:1 CEMENT MORTAR GROUT TO FORM A COMPACTED WATER-TIGHT JOINT OF APPROXIMATELY 5mm THICK.
 - 6) MAXIMUM PROTRUSION OF PIPES INTO MANHOLES TO BE 50mm.
 - 7) ALL CHANNELS TO BE PRECAST FIBER CEMENT.
 - 8) FOR LARGER PIPE DIAMETERS, DEEP SEWERS AND CHANNEL LAYOUTS NOT FITTING INSIDE STANDARD PRECAST MANHOLE SECTIONS, THE ENGINEER SHALL DESIGN A CHAMBER TO SUIT THE CONDITIONS.
 - 9) COVERS AND FRAMES AS PER SANS558, OR SIMILAR APPROVED.
 - 10) COVERS AND FRAMES TO BE INSTALLED (OR SIMILAR APPROVED) :
IN ROADS : TYPE 1A OR 2A.
OTHER AREAS : TYPES 1B, 4, 4A OR 6
 - 11) IN ROADS, PAVED AREAS OR PEDESTRIAN WALKWAYS, THE TOP OF THE MANHOLE COVER SHALL BE AT THE SAME LEVEL AS THE FINISHED LEVEL OF THE SURROUNDING AREA.
 - 12) THE COVER OF MANHOLES IN UNDEVELOPED AREAS OR MAHOLES ON OUTFALL SEWERS MUST BE +/- 500mm ABOVE NATURAL GROUND LEVEL.
 - 13) CONCRETE OR HINGED DUCTILE IRON COVERS MAY BE USED WITH APPROVAL FROM JW DESIGN MANAGER.
 - 14) THE ENGINEER MUST DETERMINE THE APPROPRIATE MANHOLE SIZE TO ENSURE THERE IS ENOUGH ROOM INSIDE THE MANHOLE FOR MAINTENANCE PURPOSES. SIZE OF PIPE, NUMBER OF JUNCTIONS AND ANGLE AT WHICH THEY CONNECT TO THE MANHOLE. JUNCTION ANGLES MUST BE IN LINE WITH JW STANDARDS REGARDLESS OF MANHOLE SIZE.



PRE CAST CONCRETE MANHOLE FOR ALL DEPTHS

NOTE:

1. FOR MANHOLE DEEPER THAN 3m MIN DIAMETER SHALL BE 1.5m (DIAMETER)
2. THE ABOVE ARE BASIC GUIDELINES, THE DESIGN ENGINEER MUST DESIGN TO SUIT SITUATION WHERE NECESSARY.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M. KHUMALO	JULY 2017
DRAWN	B.M. KHUMALO	JULY 2017
CHECKED	S. CHAIKE	DATE: 14/7/17
SIGNATURE	<i>[Signature]</i>	2013 700 44
ECSA REG. No.	2013 700 44	
APPROVED BY:	T. MPANDAGUTA	DATE
SIGNATURE	<i>[Signature]</i>	2011 701 10
ECSA REG. No.	2011 701 10	



17 HARRISON STREET
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2107

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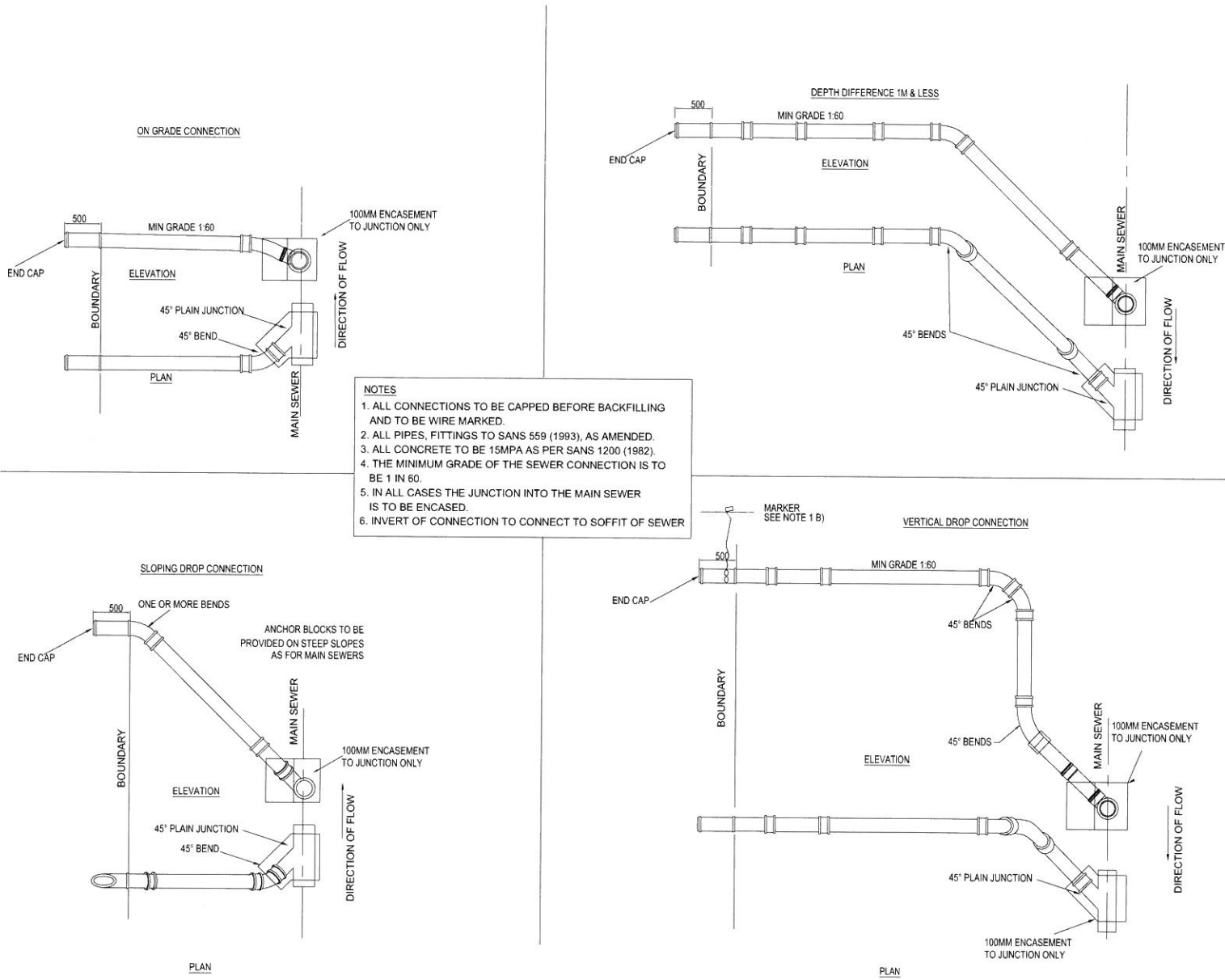
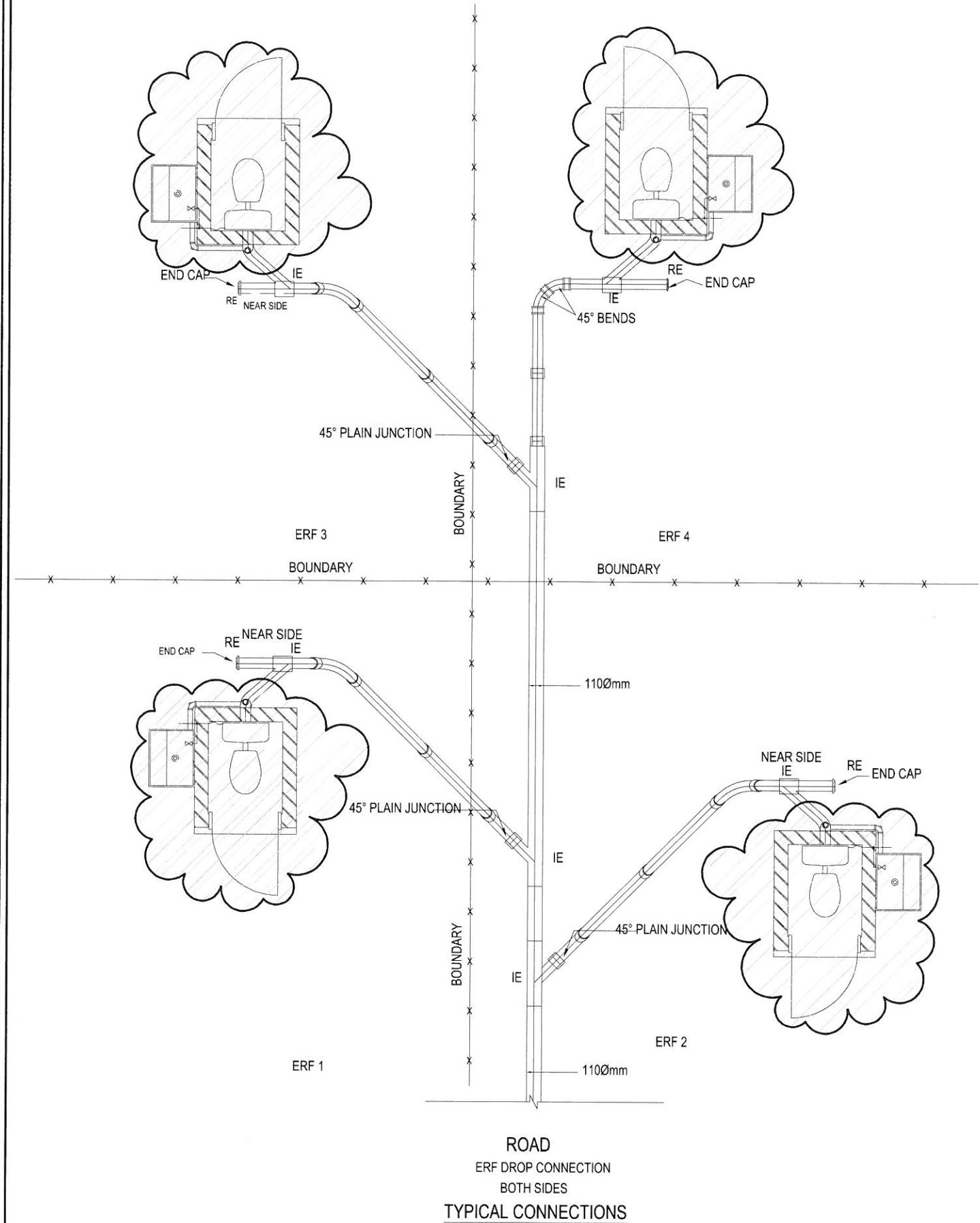
STANDARD DETAIL
MANHOLE DETAILS FOR SEWER

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET01-S01

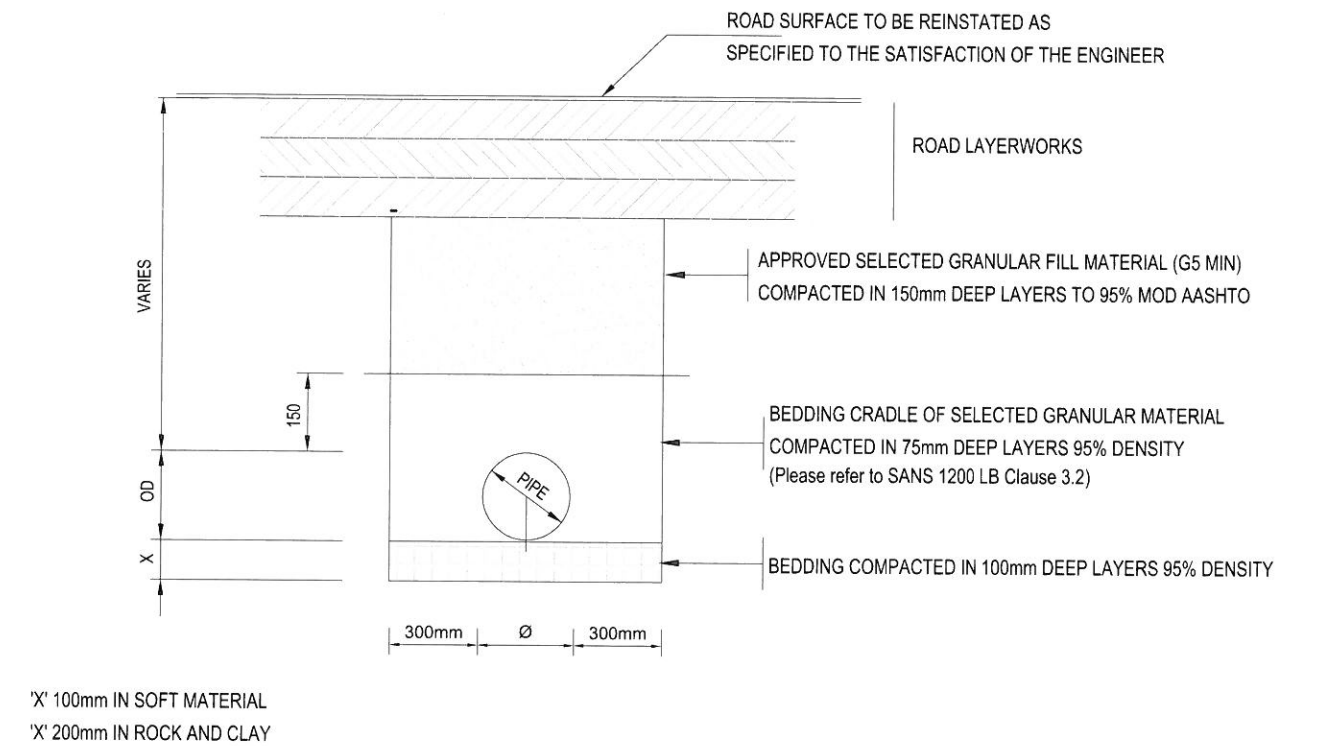
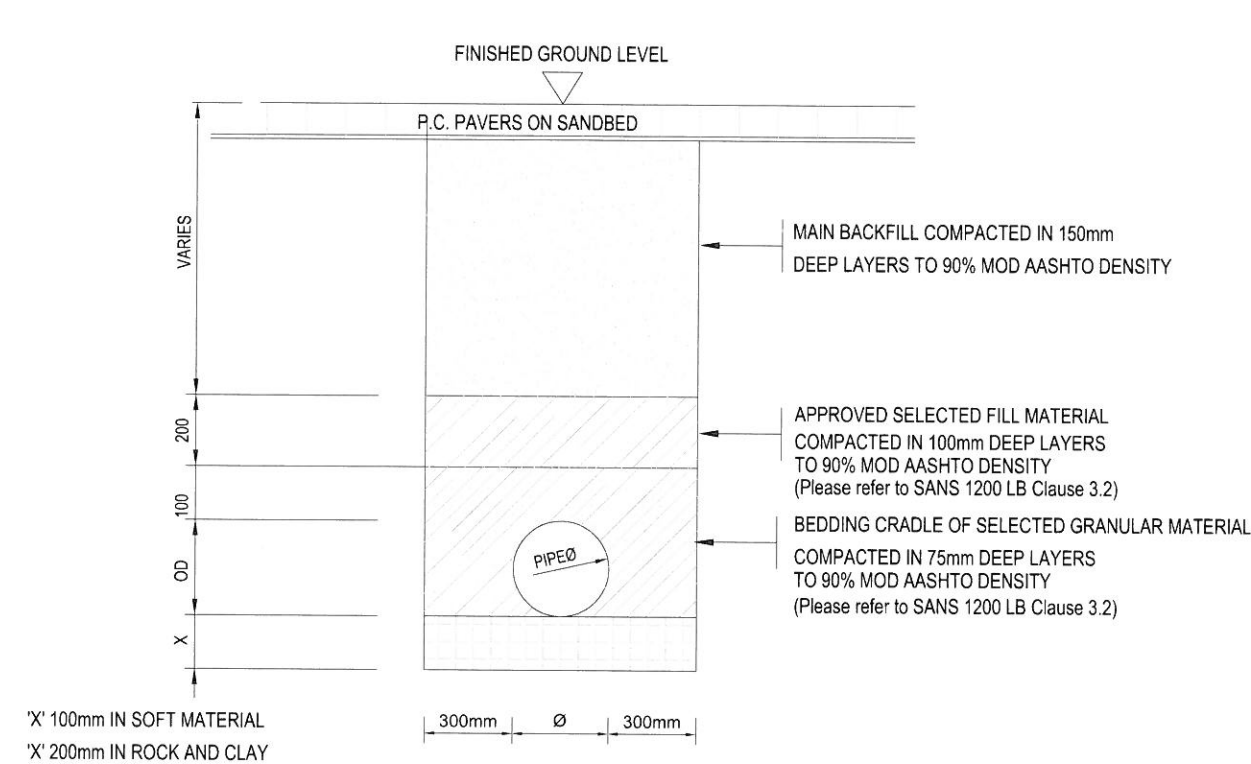
PROJECT No.	REV.
A3	1
SHEET	OF
ORIGINAL PAGE SIZE	FILE No.

- NOTES:
- COMPACTION TO BE IN 150MM LAYERS TO THE SPECIFIED COMPACTION EFFORT.
 - AREA SHADED NOT PART OF THE CONSTRUCTION.
 - LENGTH OF HOUSE CONNECTION IS MEASURABLE.
 - SETTING OUT TO BE APPROVED BY ENGINEER.
 - TESTING AS SPECIFIED BY ENGINEER.
 - ALL MATERIAL AS PER SABS 1200DB AND 1200 CB.



- NOTES
1. ALL CONNECTIONS TO BE CAPPED BEFORE BACKFILLING AND TO BE WIRE MARKED.
 2. ALL PIPES, FITTINGS TO SANS 559 (1993), AS AMENDED.
 3. ALL CONCRETE TO BE 15MPA AS PER SANS 1200 (1982).
 4. THE MINIMUM GRADE OF THE SEWER CONNECTION IS TO BE 1 IN 60.
 5. IN ALL CASES THE JUNCTION INTO THE MAIN SEWER IS TO BE ENCASED.
 6. INVERT OF CONNECTION TO CONNECT TO SOFFIT OF SEWER

CONSULTING ENGINEERS CAPEX DESIGN SECTION SWISS HOUSE 7TH FLOOR	DESIGNED	B. M. KHUMALO	JULY 2017	 Johannesburg Water	17 HARRISON STREET MARSHALLTOWN 2107 TEL: (011) 688-1400 FAX: (011) 688-1529	 STANDARD DETAIL SEWER ERF CONNECTIONS	AMENDMENTS				DRAWING No. JW100-DET2-S01 PROJECT No. REV. A3 SHEET OF 2 ORIGINAL PAGE SIZE FILE No. 	
	DRAWN	B. M. KHUMALO	JULY 2017				SCALE	REV.	DESCRIPTION	APPROVED		DATE
	CHECKED	S. CHAUNE	DATE: 14/7/17									
	SIGNATURE	<i>[Signature]</i>	201370044									
APPROVED BY:	T. MPANDAGUTA	DATE:										
	SIGNATURE:	<i>[Signature]</i>	201170150									



TYPICAL TRENCH SECTION ACROSS PAVED WALKWAYS AND OPEN GROUND

TYPICAL TRENCH SECTION BENEATH ROAD

NOTES:

1. PIPE SIDE ALLOWANCE OF 300mm TYPICAL FOR UP TO 700mm Dia. FOR PIPES GREATER THAN 700mm REFER TO SANS 1200DB CLAUSE 5.2 "MINIMUM BASE WIDTHS."
2. COMPACTION OF MAIN FILL TO MINIMUM MOD AASHTO OR THAT OF SURROUNDING IN SITU UNDISTURBED GROUND AND AS DIRECTED BY THE ENGINEER.
3. DIMENSIONS IN MILLIMETERS (mm)
4. REFER ALSO TO JRA AND OTHER SERVICE PROVIDERS SPECIFICATIONS FOR BEDDING DETAILS IN ROAD RESERVES OR WHERE THE PIPE INTERSECT WITH OTHER SERVICES.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M. KHUMALO	MAY 2017
DRAWN	B.M. KHUMALO	MAY 2017
CHECKED	J. GUMBO	DATE: 19/7/17
SIGNATURE	<i>[Signature]</i>	201390044
ECSA REG. No.		
APPROVED BY:	T. MPANDAGUTA	DATE
SIGNATURE	<i>[Signature]</i>	
ECSA REG. No.		251170180



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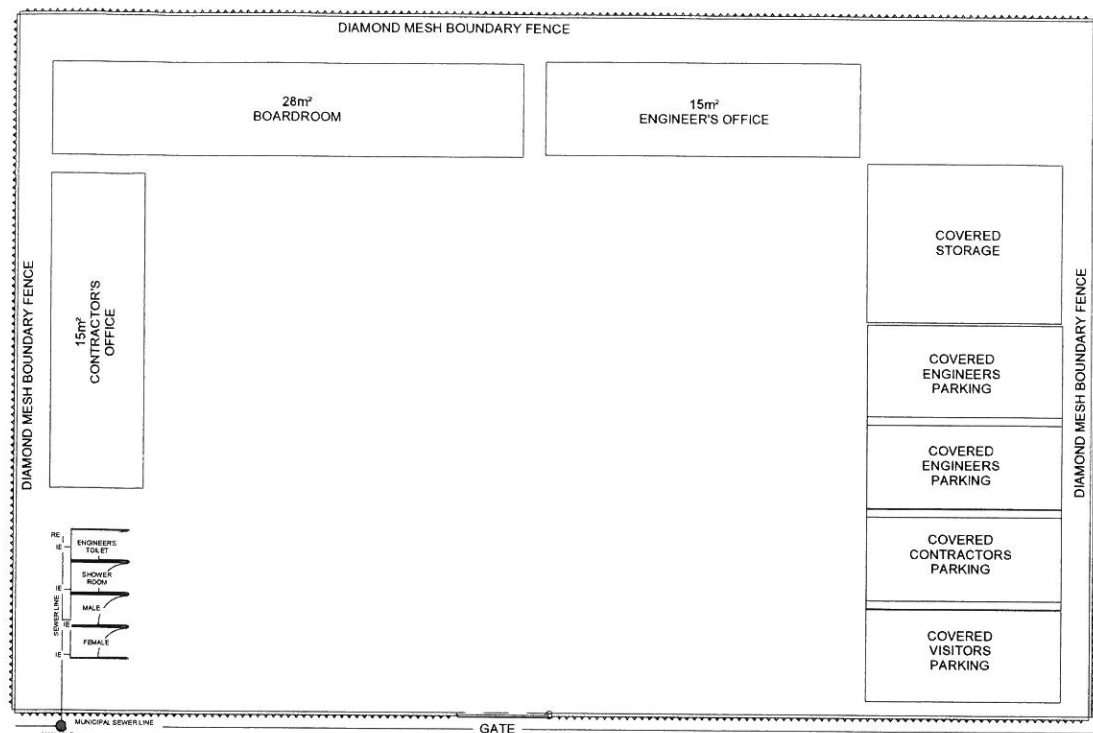
Johburg

STANDARD DETAIL
SEWER BEDDING DETAILS

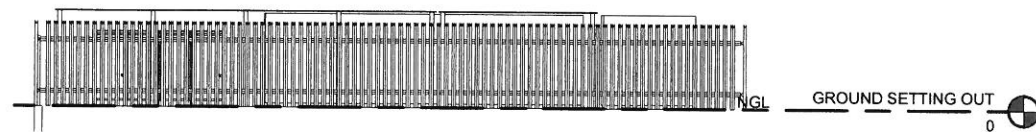
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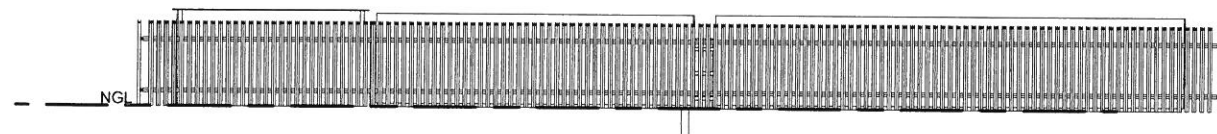
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A3	2
SHEET	OF
ORIGINAL PAGE SIZE	FILE No.



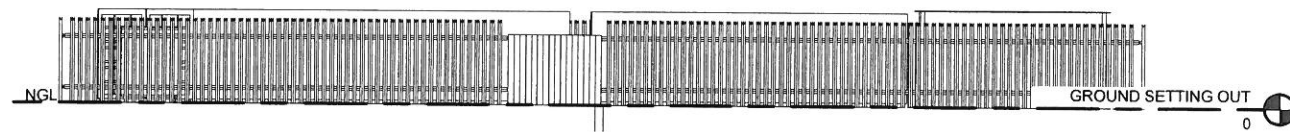
① GROUND SETTING OUT
1 : 100



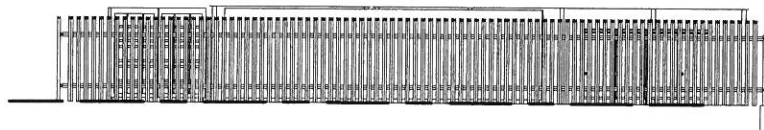
③ East Elevation
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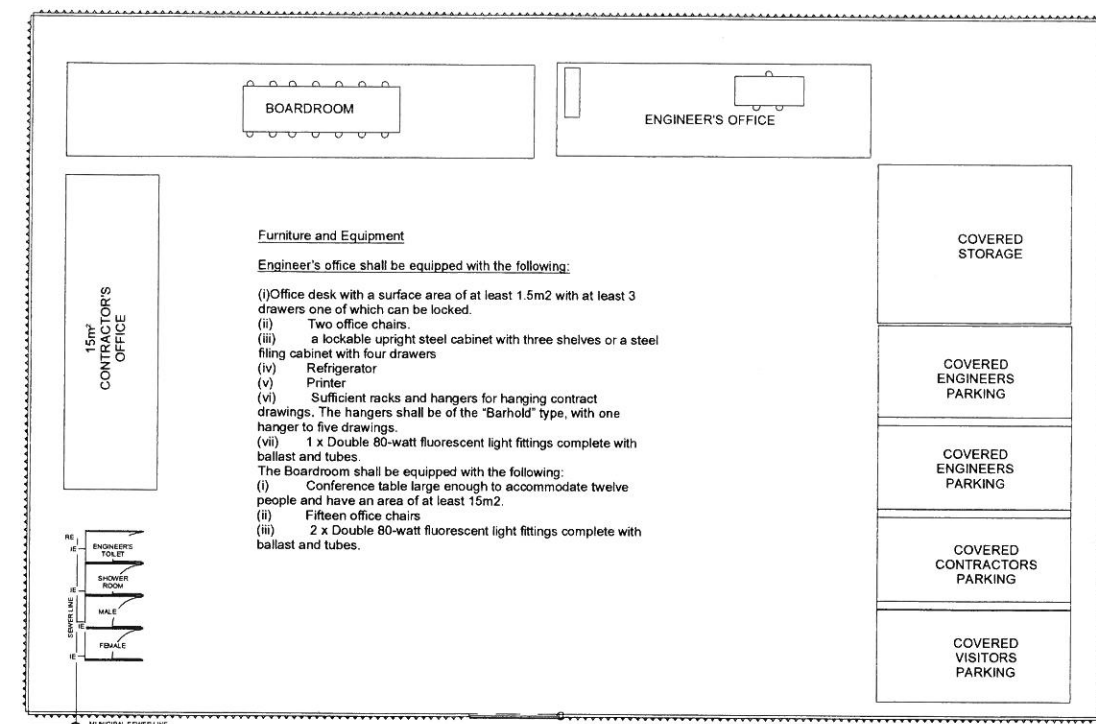
④ North Elevation
1 : 100



⑤ South Elevation
1 : 100



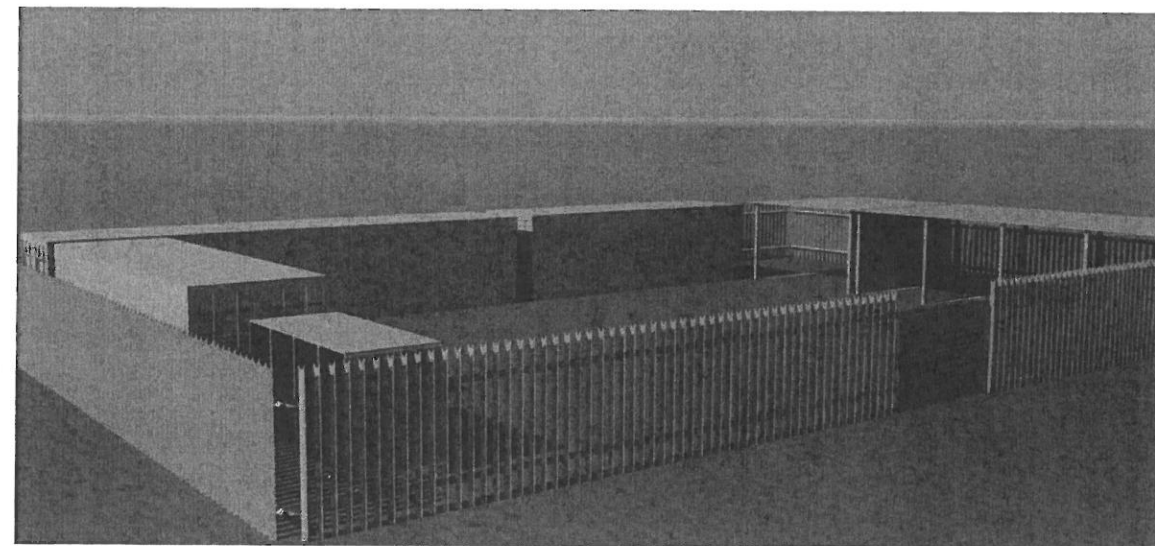
⑥ West Elevation
1 : 100



⑦ PROPOSED LAYOUT
1 : 100

SCHEDULE OF AREAS

Dimensions	Boardroom	Engineer's Office
Minimum floor area	28m²	15m²
Minimum window area	4.0m²	3.0m²
Minimum window area opening	2.4m²	1.5m²
Minimum clear height	2.5m	2.5m



② 3D View Site Render
1 : 1

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED BY: T. Mpandaguta
Date: 19/11/17

DRAWN BY: K. Kolberg
Date: 19/11/17

CHECKED BY: T. Mpandaguta
Date: 19/11/17

Signature: *T. Mpandaguta*
ECSA REG. No: 201270014

APPROVED BY: F. Chakana
Date: 20/11/17

Signature: *F. Chakana*
ECSA REG. No: 201170110

Johannesburg Water

17 HARRISON STREET
MARSHALLTOWN
2107

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Joburg

STANDARD DETAIL FOR
SITE CAMP

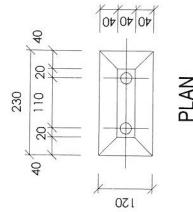
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AS SHOWN			

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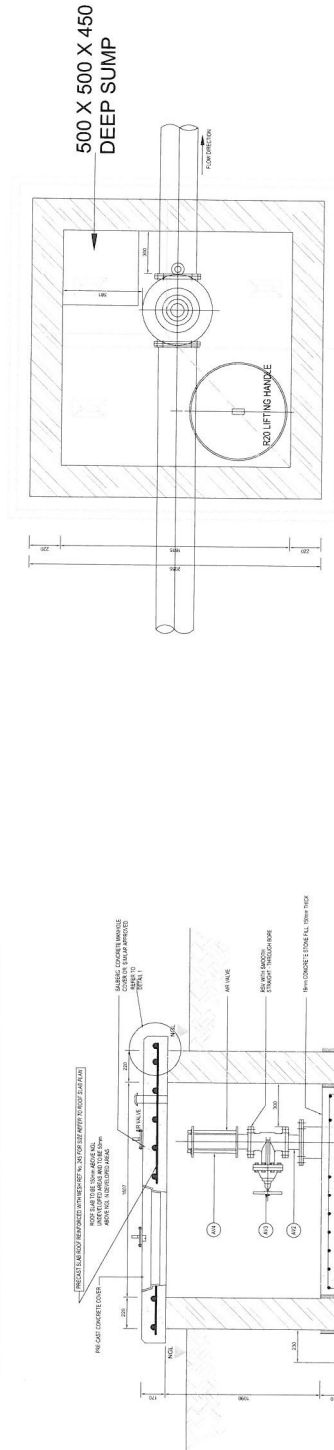
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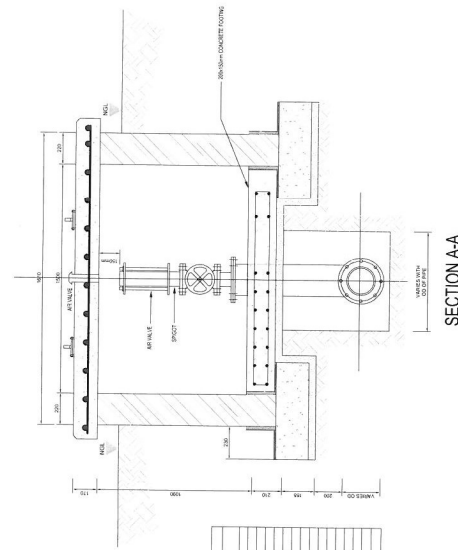
ORIGINAL PAGE SIZE



DETAIL OF BRICK COLUMN BASE



SECTION B - B



SECTION A-A

AIR VALVE DETAIL

[illegible]

DETAILS OF LIFTING EYE

SCALE 1:10
8 No. OFF
(SUPPLIED BY CONTRACTOR)

RECESS TO BE FORMED AND
POSITIONING RODS FOR SLEEVES TO
BE LOCATED IN FORMWORK

SECTION C - C

25mm Ø SLEEVES TO BE
CAST INTO CONCRETE