

4800
3457
1247
96
97

2400

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



A world class African City



PROJECT DETAILS:

CONTRACT NO.: JW.....

DESCRIPTION:-

FONT : 70mm

FONT : 60mm
SPACING : 60mm

CONSULTANT:

JOHANNESBURG WATER

DESIGN SECTION

TEL: 011 688 1400

FONT : 70mm

FONT : 50mm
SPACING : 50mm

CONTRACTOR:

.....

TEL.....

FONT : 70mm

FONT : 50mm
SPACING : 50mm

CLIENT

JOHANNESBURG WATER-

INVESTMENT DELIVERY

TEL: 011 688 1400

FONT : 70mm

FONT : 50mm
SPACING : 50mm

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	U MKHUMALO	MAY 2017
DRAWN	U MKHUMALO	MAY 2017
CHECKED	J GUMBO	DATE 18/1/17
SIGNATURE	14/1/17	
ECSA REG. NO.	501370044	
APPROVED BY	T MPANDAGUTU	DATE
SIGNATURE	20/1/17	
ECSA REG. NO.	20170150	



17 HARRISON STREET
MARSHALLTOWN
2107

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

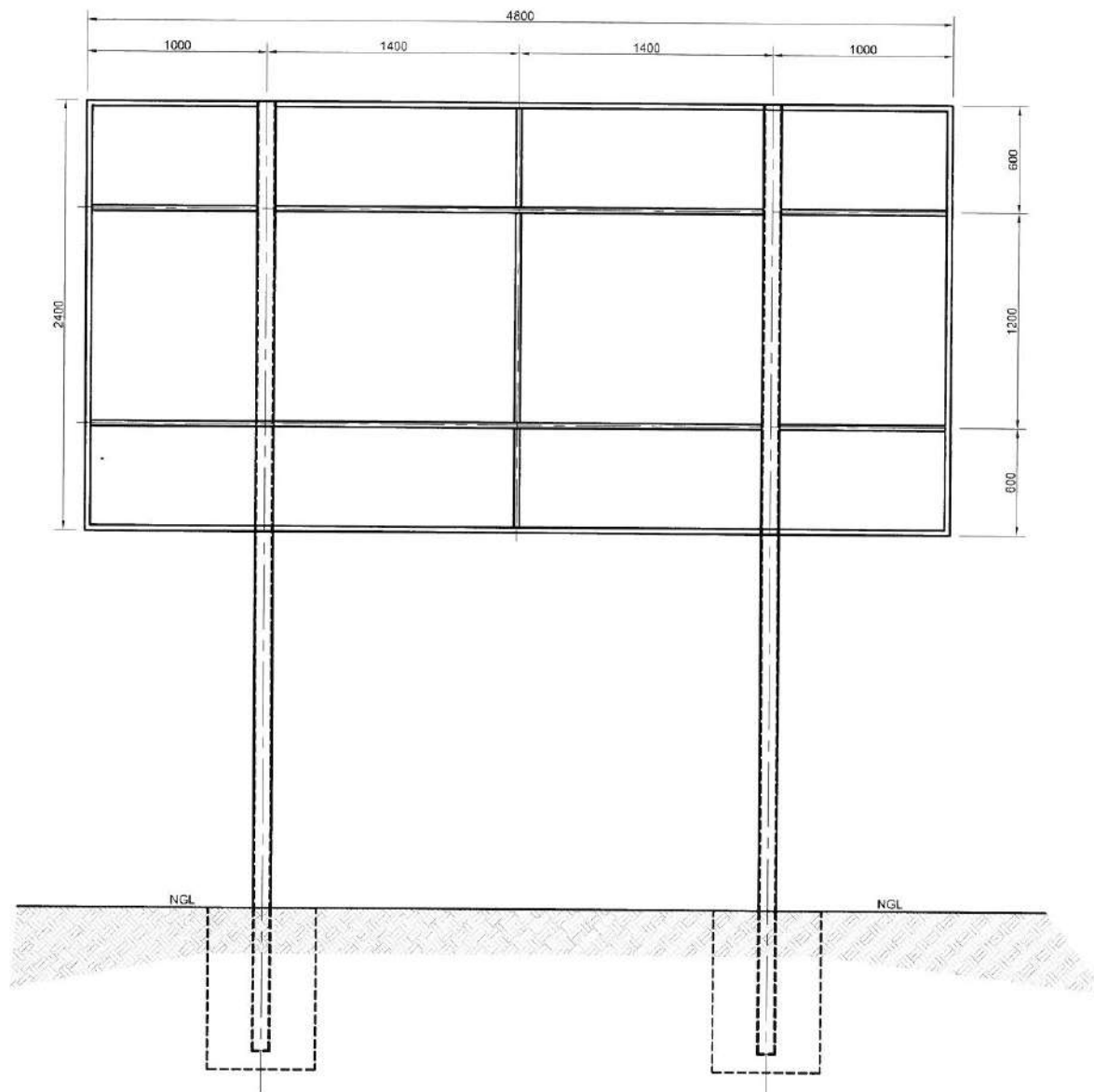


STANDARD DETAIL
NAMEBOARD

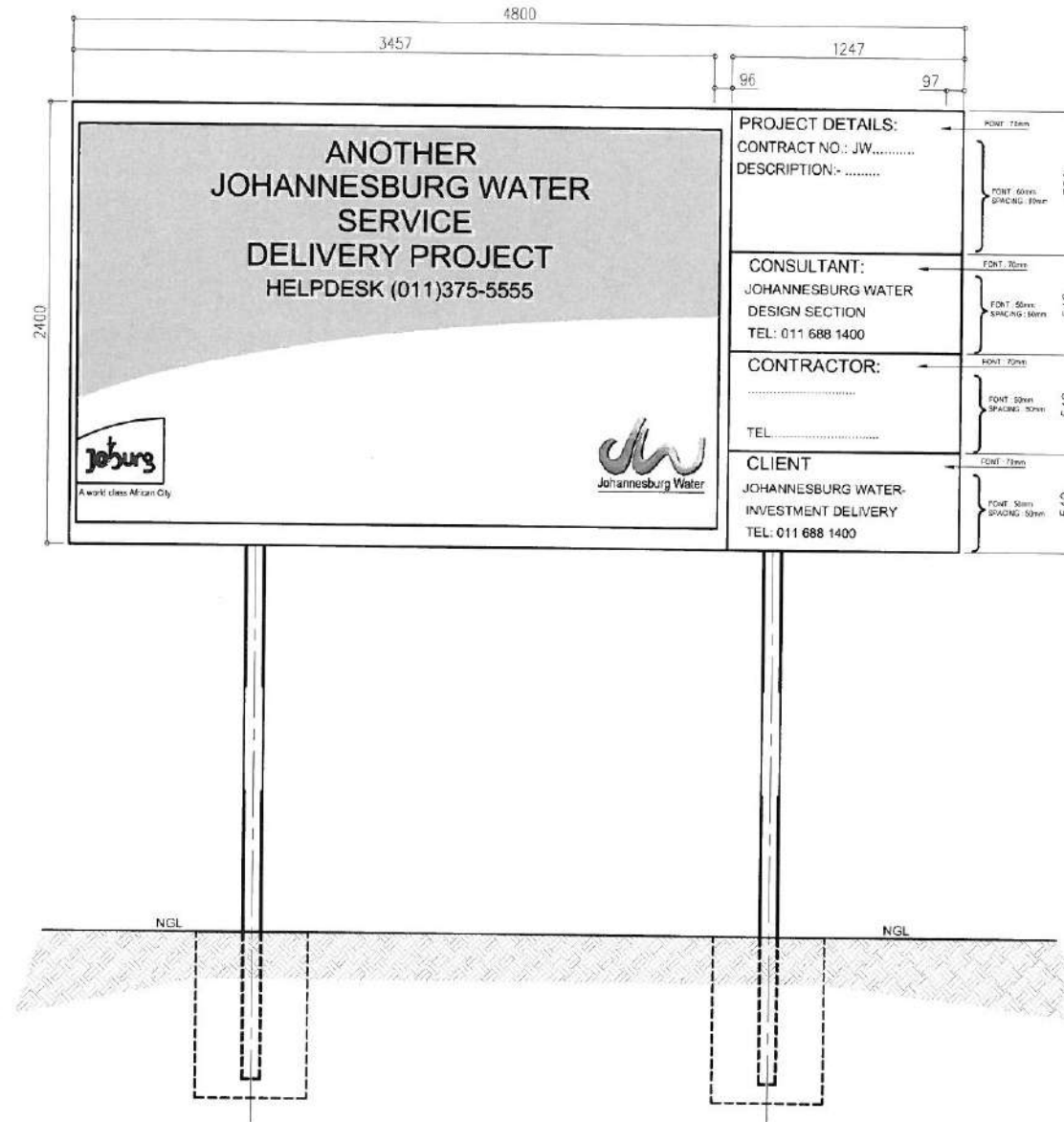
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DRAWING No. JW100-DET01-W01

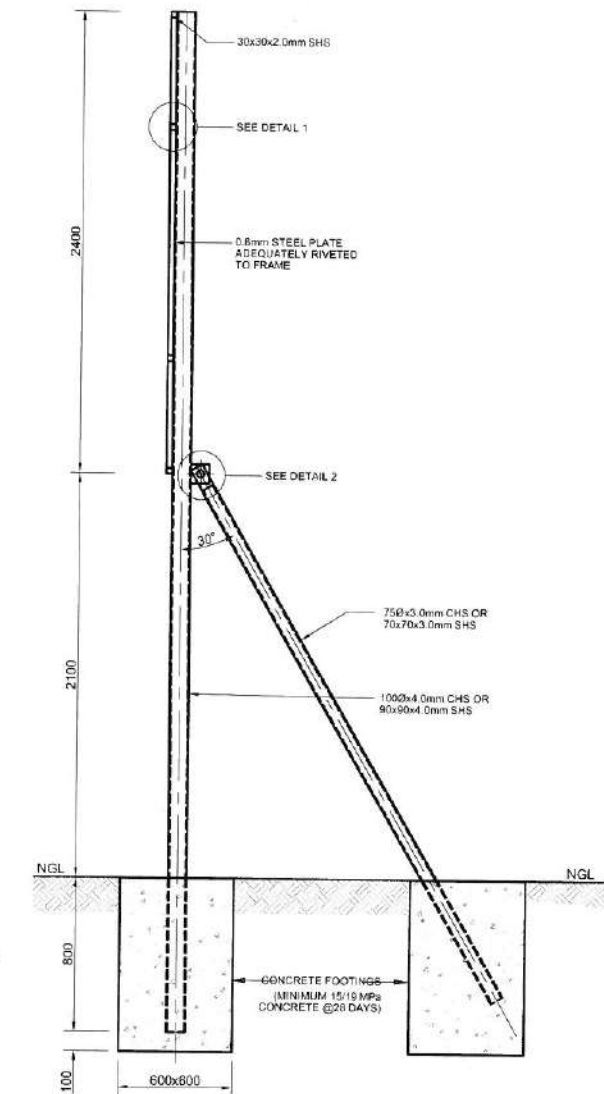
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SHEET	OF
ORIGINAL PAGE SIZE	



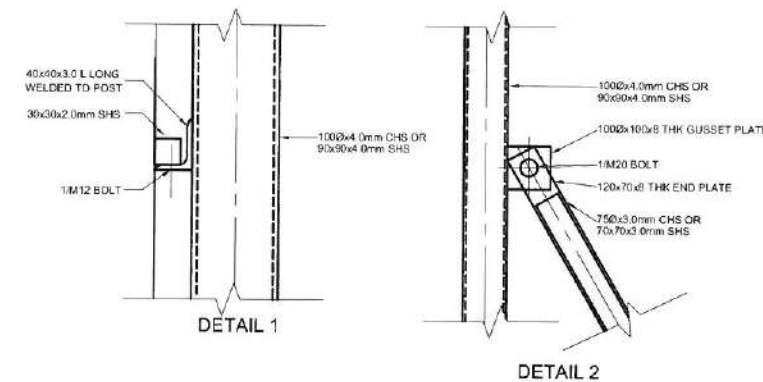
BACK ELEVATION



FRONT ELEVATION



TYPICAL SECTION



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

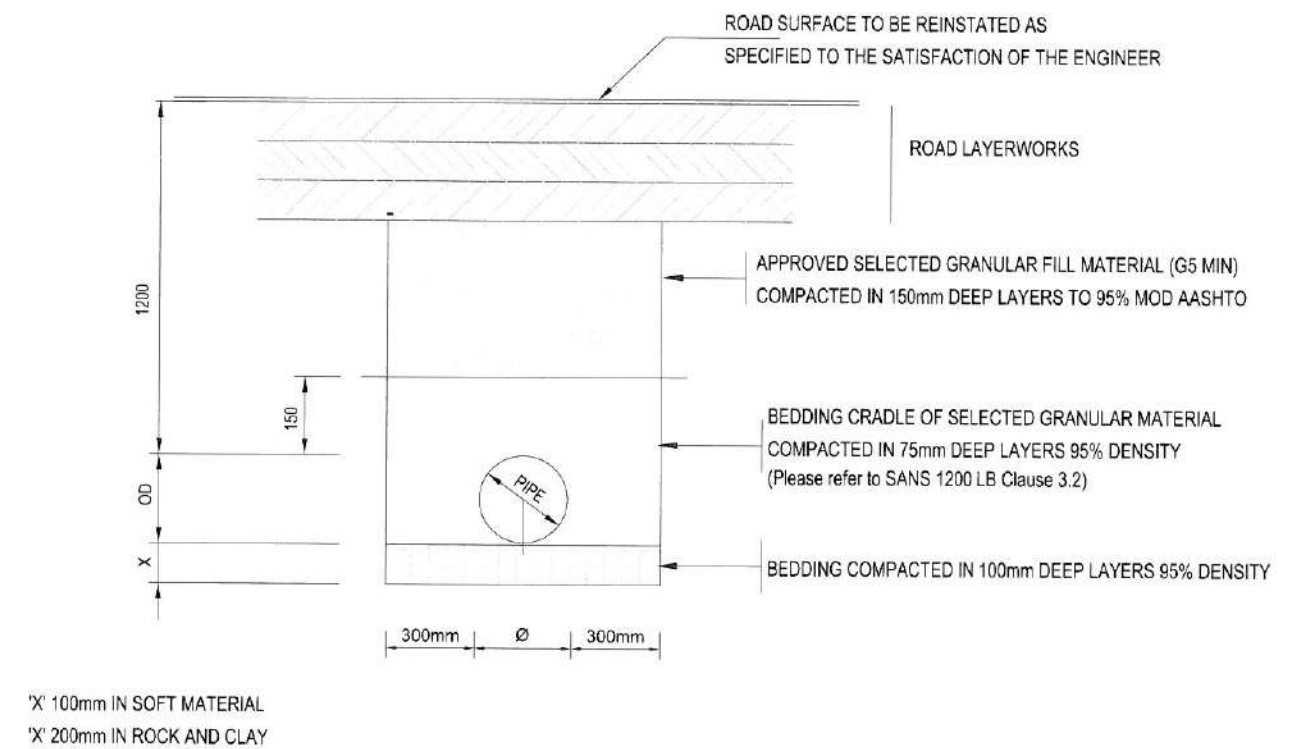
DESIGNED	B.MKHUMALO	MAY 2017
DRAWN	B.MKHUMALO	MAY 2017
CHECKED	J.GUMBO	DATE: 19/7/17
SIGNATURE	<i>[Signature]</i>	DATE: 20/7/2017
ECOA REG. NO.	2017/2017	
APPROVED BY	T.MPANDAGUTA	DATE: 20/7/2017
SIGNATURE	<i>[Signature]</i>	DATE: 20/7/2017
ECOA REG. NO.	2017/2017	



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2107
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FAX: (011) 688-1529

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STANDARD DETAIL
NAMEBOARD HOLDER

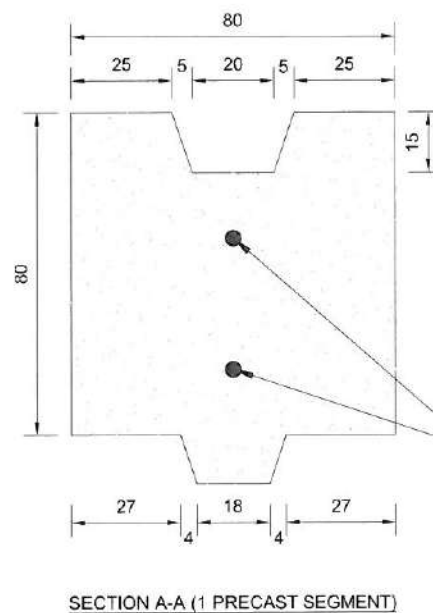
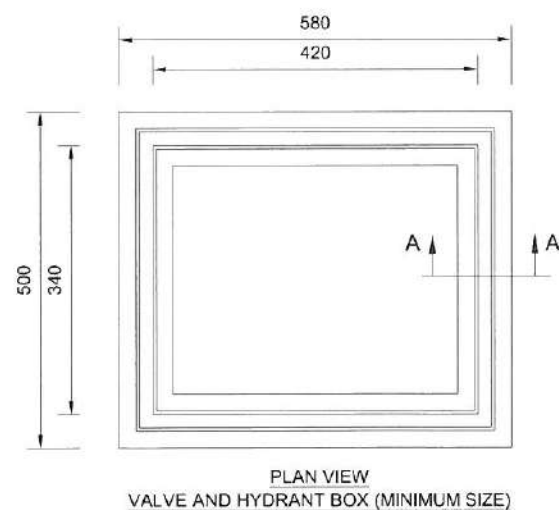
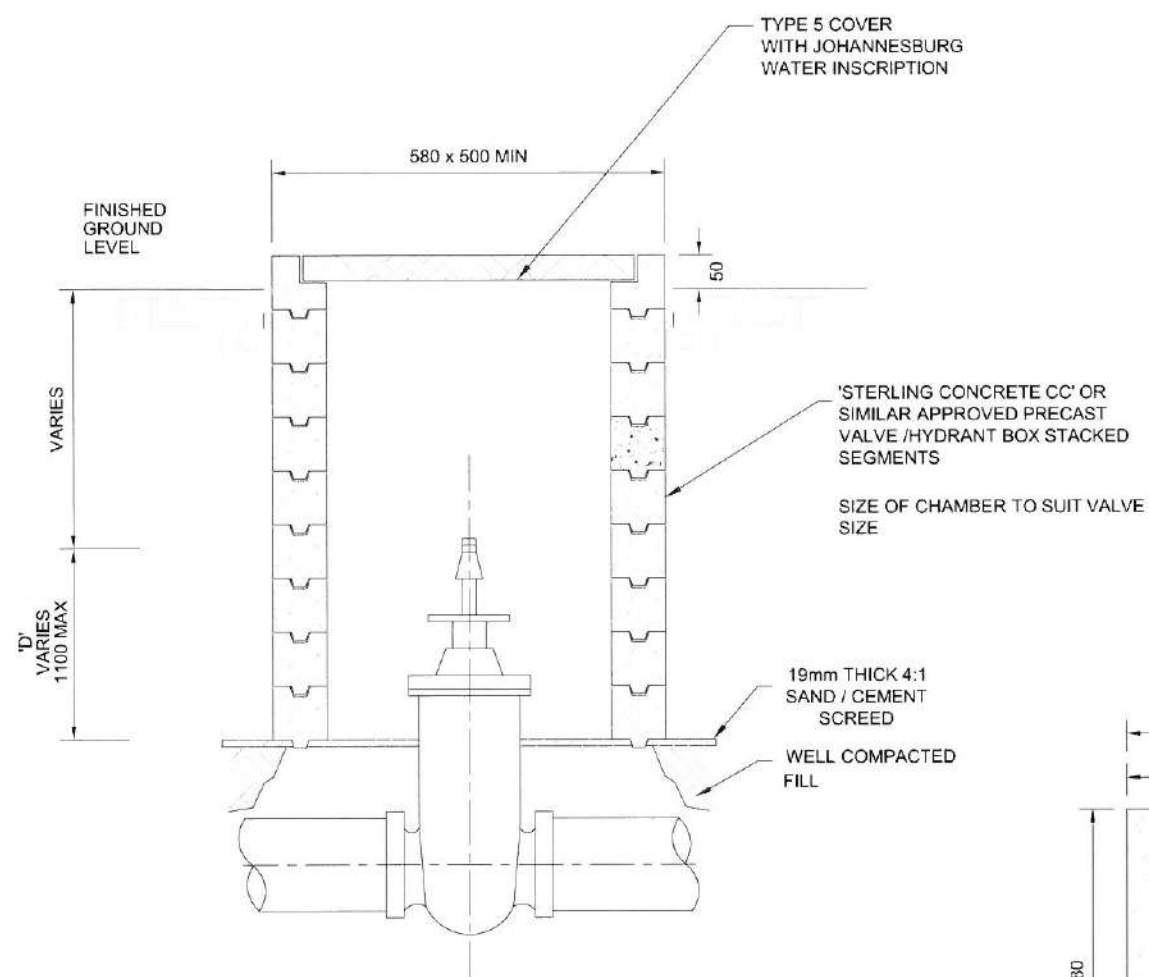
AMENDMENTS					DRAWING No. JW100-DET01.1-W01	
SCALE	REV	DESCRIPTION	APPROVED	DATE		



TYPICAL TRENCH SECTION BENEATH ROAD

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	 Johannesburg Water	17 HARRISON STREET MARSHALLTOWN 2107 TEL: (011) 688-1400 FAX: (011) 688-1529	 STANDARD DETAIL WATER BEDDING DETAILS	AMENDMENTS					DRAWING No. JW100-DET02-W01
	DRAWN	B M KHUMALO	MAY 2017				SCALE	REV.	DESCRIPTION	APPROVED	DATE	PROJECT No. REV. A3 SHEET 2 OF ORIGINAL PAGE SIZE FILE No.
	CHECKED	J. GUMUHO	DATE: 19/7/17									
	SIGNATURE											
	ECOSA REG. NO.	201370044										
	APPROVED BY:	T. M. PANDASUTA	DATE:									
SIGNATURE												
ECOSA REG. NO.	20170150											



NOTE: 28 DAYS CONCRETE STRENGTH TO BE 25 MPa

NOTES

a) VALVES UP TO 350mm N.B.

- 1) RESILIENT SEAL GATE VALVE (80mm UP TO 150mm N.B.)
- 2) WEDGE TYPE GATE VALVES (200mm UP TO 350mm N.B.)
- 3) NON RISING SPINDLE
- 4) ANTI CLOCKWISE CLOSING, EXCEPT IN MIDRAND AREA - CLOCKWISE CLOSING.
- 5) SPECIFICATIONS TO SANS 664 AND SPECIFICATIONS IN ANNEXURE E OF THE JW STANDARDS GUIDELINES.

b) PRECAST SEGMENT SPECIFICATIONS

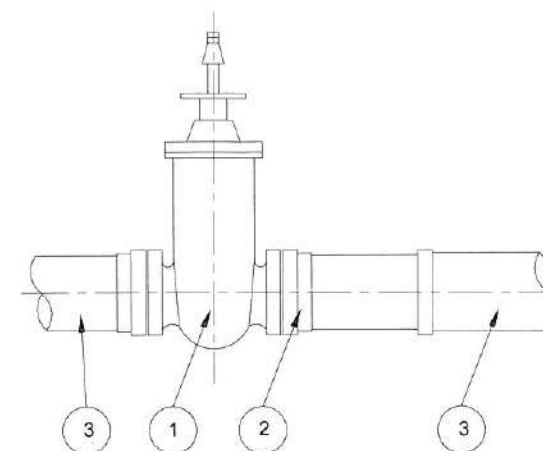
- 1) ALL MANHOLE SEGMENTS ACCORDING TO SANS 1294-1981
- 2) TOP SURFACE OF MANHOLE COVER TO BE 50 mm ABOVE THE FINISHED GROUND LEVEL EXCEPT IN PAVED AREAS
- 3) SEGMENTS TO BE DRY STACKED

c) ISOLATION VALVE

ALL VALVES SHALL BE FLANGED.

- 1) VICTAULIC VALVES AND FITTINGS MAY BE USED AS AN ALTERNATIVE TO THE PROPOSED ASSEMBLY.
- 2) WRITTEN PERMISSION FROM THE ENGINEER MUST BE OBTAINED FOR THE INSTALLATION OF ALTERNATIVES.
- 3) THE INSTALLATION MUST BE OF SUCH A NATURE THAT THE REMOVAL OF VALVES AND FITTINGS, FOR MAINTENANCE PURPOSES, CAN EASILY BE EXECUTED.

2 x 3 mmØ MILD STEEL REINFORCING BARS
(15mm MINIMUM COVER)



TYPICAL VALVE ASSEMBLY

SCHEDULE

1. FLANGED RESILIENT WEDGE TYPE GATE VALVE
2. FLANGE ADAPTOR COMPATIBLE TO BOTH uPVC/HDPE PIPES
3. uPVC /HDPE PIPE

TYPICAL VALVE BOXES FOR VALVES NOT EXCEEDING 350mm N.B.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B.M. KHUMALO	MAY 2017
DRAWN	B.M. KHUMALO	MAY 2017
CHECKED	J. GURIBO	DATE 2013/04/04
SIGNATURE	<i>[Signature]</i>	
ECSA REG. No.	201370044	
APPROVED BY	T. MANDAGUTA	DATE
SIGNATURE	<i>[Signature]</i>	
ECSA REG. No.	201170150	



17 HARRISON STREET
MARSHALLTOWN
2107

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

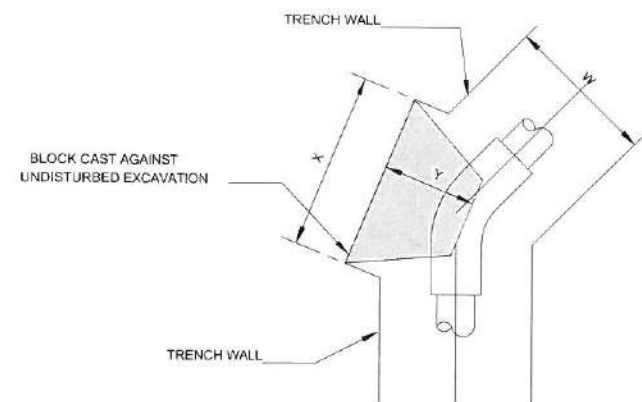


STANDARD DETAIL
TYPICAL VALVE BOXES FOR VALVES NOT EXCEEDING 350mm N.B.

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

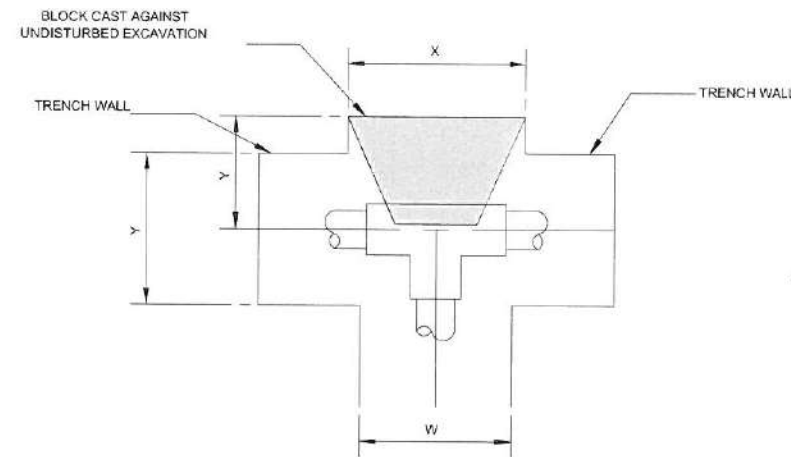
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PROJECT No.	REV.
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SHEET	OF
ORIGINAL PAGE SIZE	FILE No.



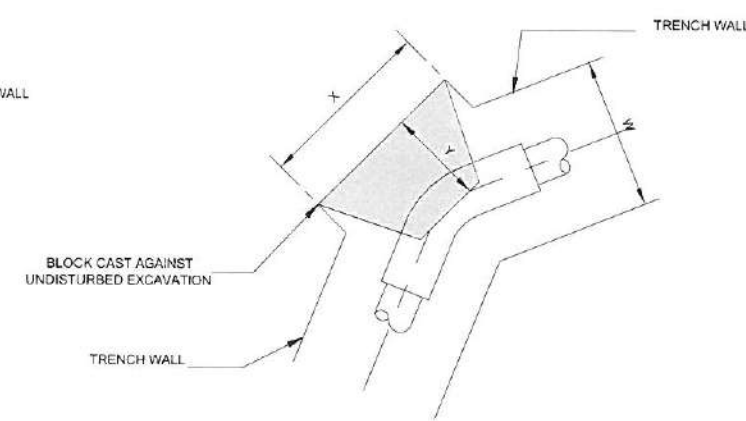
THRUST BLOCK FOR 45° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m³)
300	1 400	700	2 000	1 000	1.400
250	1 300	650	1 600	800	0.800
200	1 200	600	1 200	600	0.430
150	1 000	500	1 000	500	0.250
100	1 000	500	350	250	0.043
75	800	400	350	200	0.028



THRUST BLOCK FOR TEE

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m³)
300	1 400	700	2 700	1 300	2.550
250	1 300	650	2 150	1 100	1.500
200	1 200	600	1 600	800	0.770
150	1 000	500	1 300	650	0.420
100	1 000	500	500	300	0.075
75	800	400	450	300	0.054

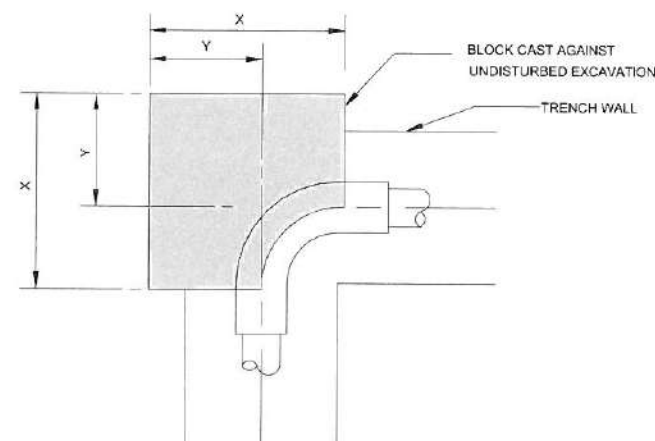


THRUST BLOCK FOR 22 1/2° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m³)
300	1 400	700	1 000	500	0.350
250	1 300	650	760	400	0.200
200	1 200	600	600	400	0.150
150	1 000	500	500	300	0.075
100	1 000	400	300	200	0.024
75	800	300	300	200	0.018

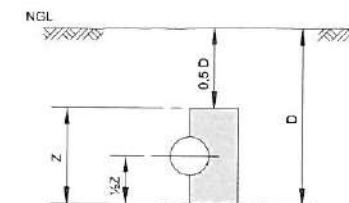
TYPICAL THRUST BLOCK DETAILS

N.T.S.



THRUST BLOCK FOR 90° BEND

NOMINAL DIAMETER ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m³)
300	1 400	700	2 700	1 400	5.00
250	1 300	650	2 150	1 100	3.00
200	1 200	600	1 600	800	1.54
150	1 000	500	1 300	700	0.80
100	1 000	500	500	300	0.12
75	800	400	450	300	0.08



SECTION

NOTES:

- THIS TABLE WAS CALCULATED FOR THRUST BLOCKS IN SANDY SOILS.
- USE 15 MPa CONCRETE.
- HALF THE DEPTH OF THE THRUST BLOCK NEEDS TO BE BELOW THE PIPE AXIS.
- KEEP THE CONCRETE AWAY FROM THE COUPLINGS & THE PIPE JOINTS.
- THRUST BLOCKS FOR PIPE ø LARGER THAN 300mm & HIGHER TEST PRESSURES THAN 18 BAR NEEDS TO BE DESIGNED BY THE ENGINEER.
- THRUST BLOCKS AT PADDLE FLANGES NEEDS TO BE REINFORCED & DESIGNED BY THE ENGINEER.
- IN CASES OF SOFT CLAY & SILTY SANDS, THE ANCOR BLOKS NEED TO BE DESIGNED BY THE ENGINEER.

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B. MUKHIMALO	MAY 2017
DRAWN	B. MUKHIMALO	MAY 2017
CHECKED	J. GUMBO	18/11/17
SIGNATURE	<i>[Signature]</i>	201370044
ECSSA REG. No.		
APPROVED BY	T. MPANDAGUTA	
SIGNATURE	<i>[Signature]</i>	201170150
ECSSA REG. No.		

17 HARRISON STREET
MARSHALLTOWN
2107

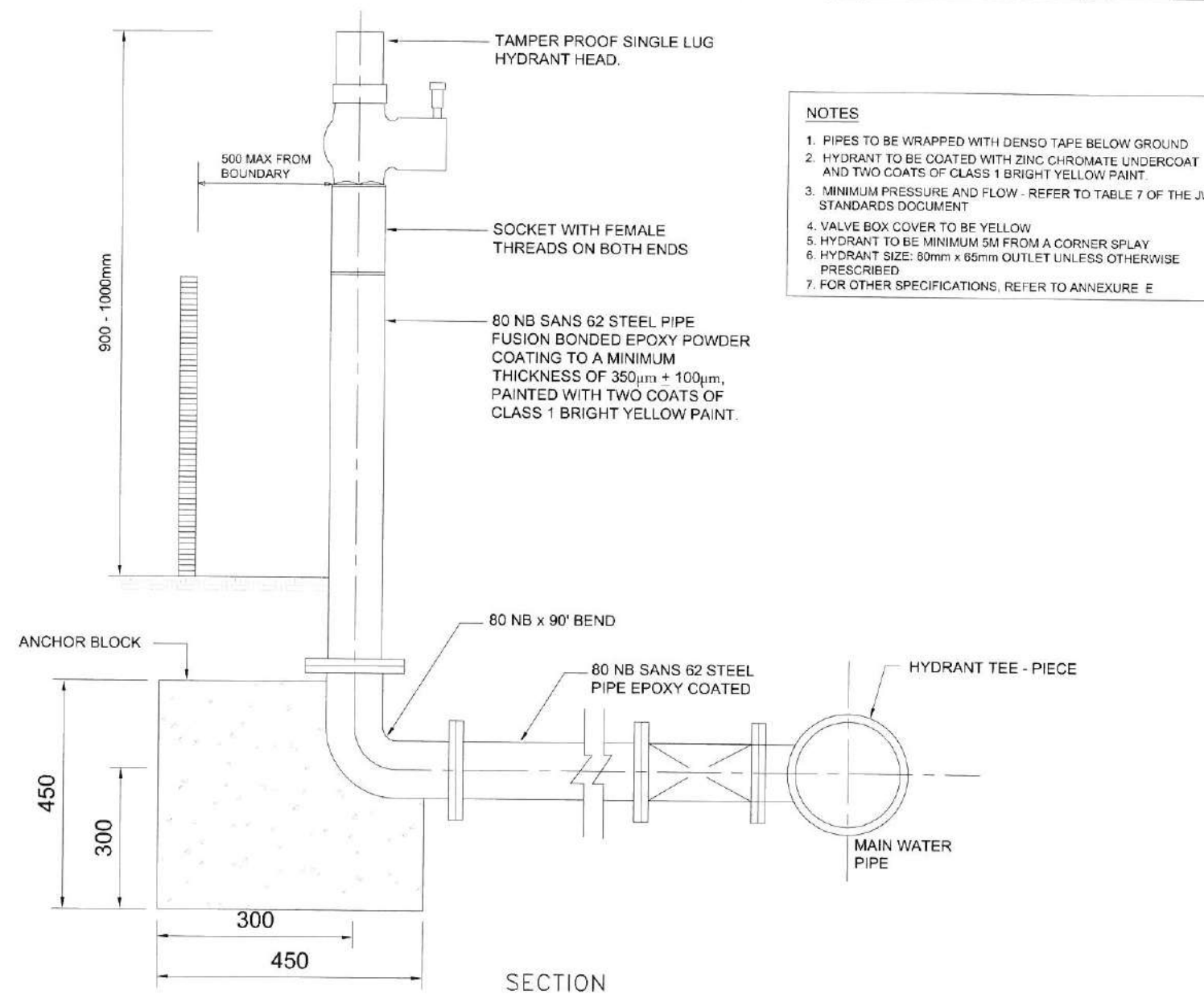
TEL: (011) 688-1400
FAX: (011) 688-1529

STANDARD DETAIL
TYPICAL THRUST BLOCK DETAILS

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET05-W01

PROJECT No.	REV.
A3	5
SHEET	OF
ORIGINAL PAGE SIZE	FILE No.



NOTES

1. PIPES TO BE WRAPPED WITH DENSO TAPE BELOW GROUND
2. HYDRANT TO BE COATED WITH ZINC CHROMATE UNDERCOAT AND TWO COATS OF CLASS 1 BRIGHT YELLOW PAINT.
3. MINIMUM PRESSURE AND FLOW - REFER TO TABLE 7 OF THE JW STANDARDS DOCUMENT
4. VALVE BOX COVER TO BE YELLOW
5. HYDRANT TO BE MINIMUM 5M FROM A CORNER SPLAY
6. HYDRANT SIZE: 80mm x 65mm OUTLET UNLESS OTHERWISE PRESCRIBED
7. FOR OTHER SPECIFICATIONS, REFER TO ANNEXURE E

ABOVE GROUND HYDRANT

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B. MUKHUMALO	MAY 2017
DRAWN	B. MUKHUMALO	MAY 2017
CHECKED	J. GURIBO	DATE
SIGNATURE	<i>LA 60</i>	
ECBA REG. No.	201370044	
APPROVED BY:	T. MIPANDAGUTA	DATE
SIGNATURE	<i>Mipandaguta</i>	
ECBA REG. No.	201170150	



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MARSHALLTOWN
2107

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

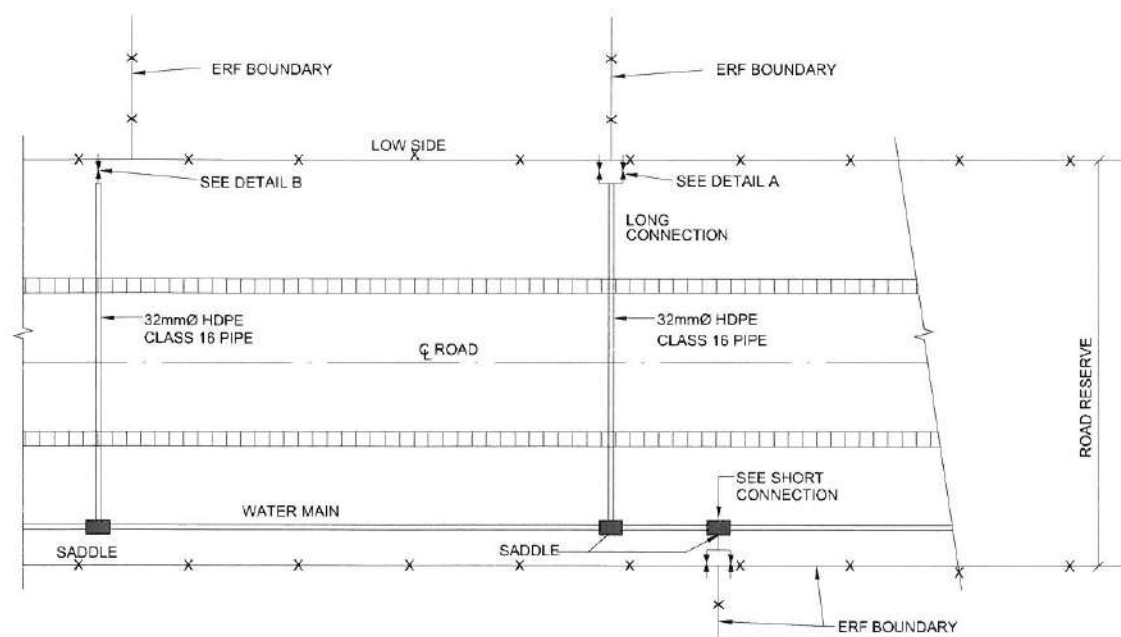
Johburg

STANDARD DETAIL
FIRE HYDRANT DETAIL

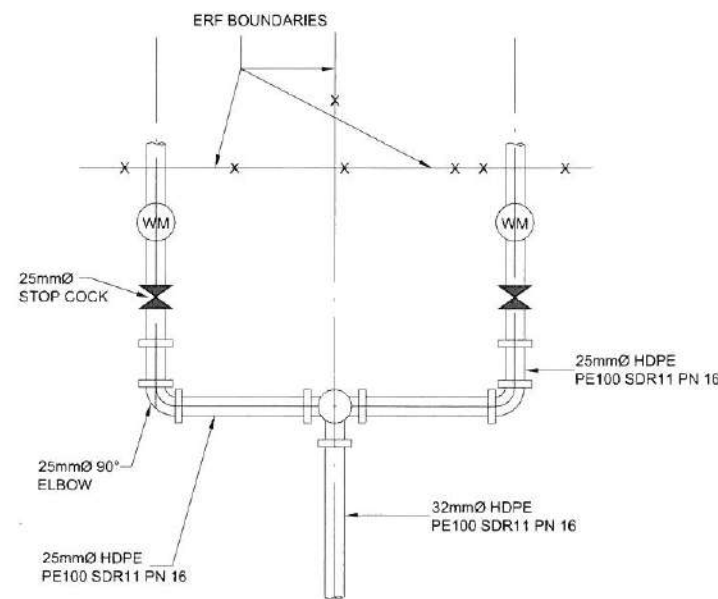
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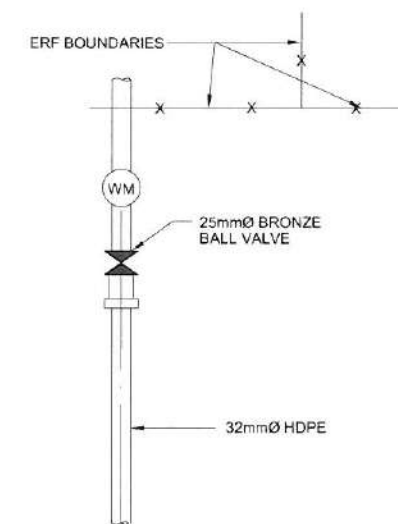
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SHEET	OF
ORIGINAL PAGE SIZE	FILE No.



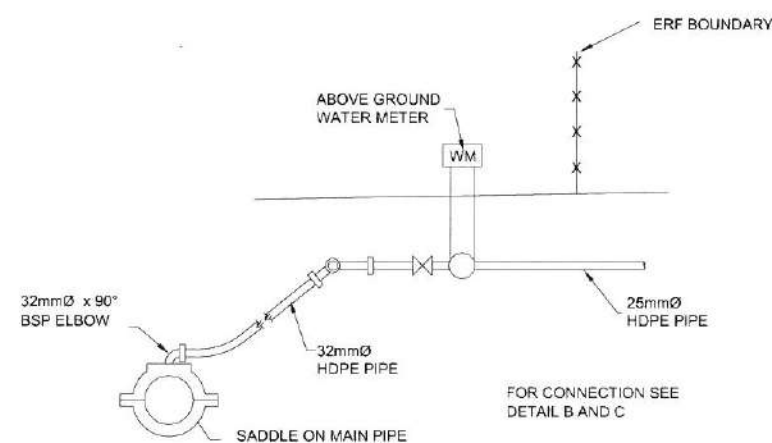
PLAN ROAD RESERVE
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



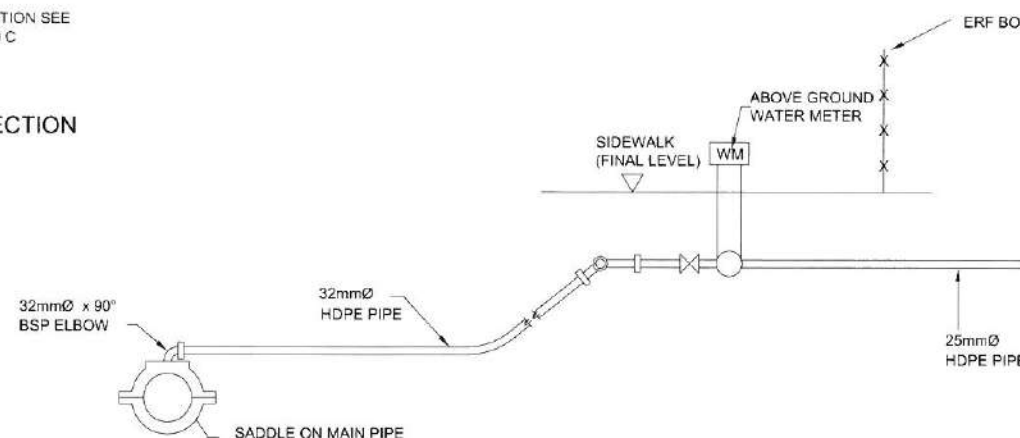
DETAIL A
(LONG DOUBLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



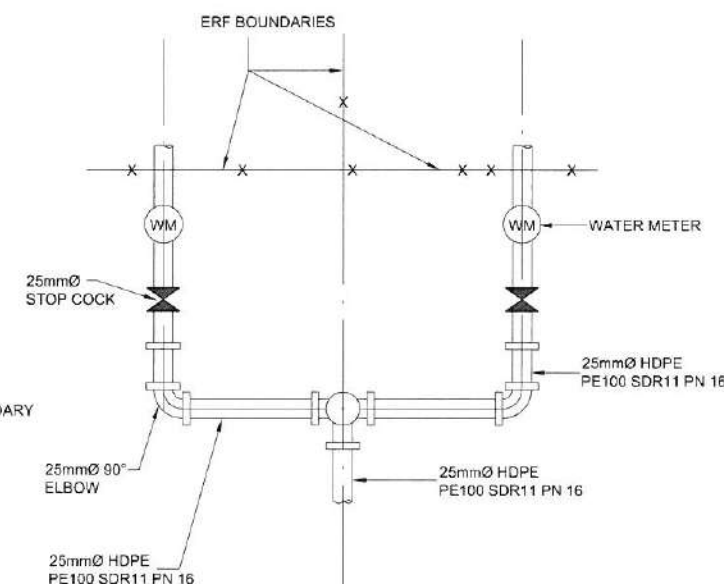
DETAIL B
(LONG AND SHORT SINGLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



SECTION OF SHORT DOUBLE ERF CONNECTION
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS



SECTION OF LONG DOUBLE ERF CONNECTION
N.T.S.



DETAIL C
(SHORT DOUBLE ERF CONNECTION)
N.T.S.
SEE NOTE 4 FOR INDUSTRIAL CONNECTIONS

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B. MUKHUMALQ	MAY 2017
DRAWN	B. M. KHUMALO	MAY 2017
CHECKED	J. GUMBO	DATE
SIGNATURE	<i>[Signature]</i>	
ECSA REG. NO.	201379044	
APPROVED BY	T. MPANDAGUTA	DATE
SIGNATURE	<i>[Signature]</i>	
ECSA REG. NO.	20170150	



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MARSHALLTOWN
2107
TEL: (011) 688-1400
FAX: (011) 688-1529

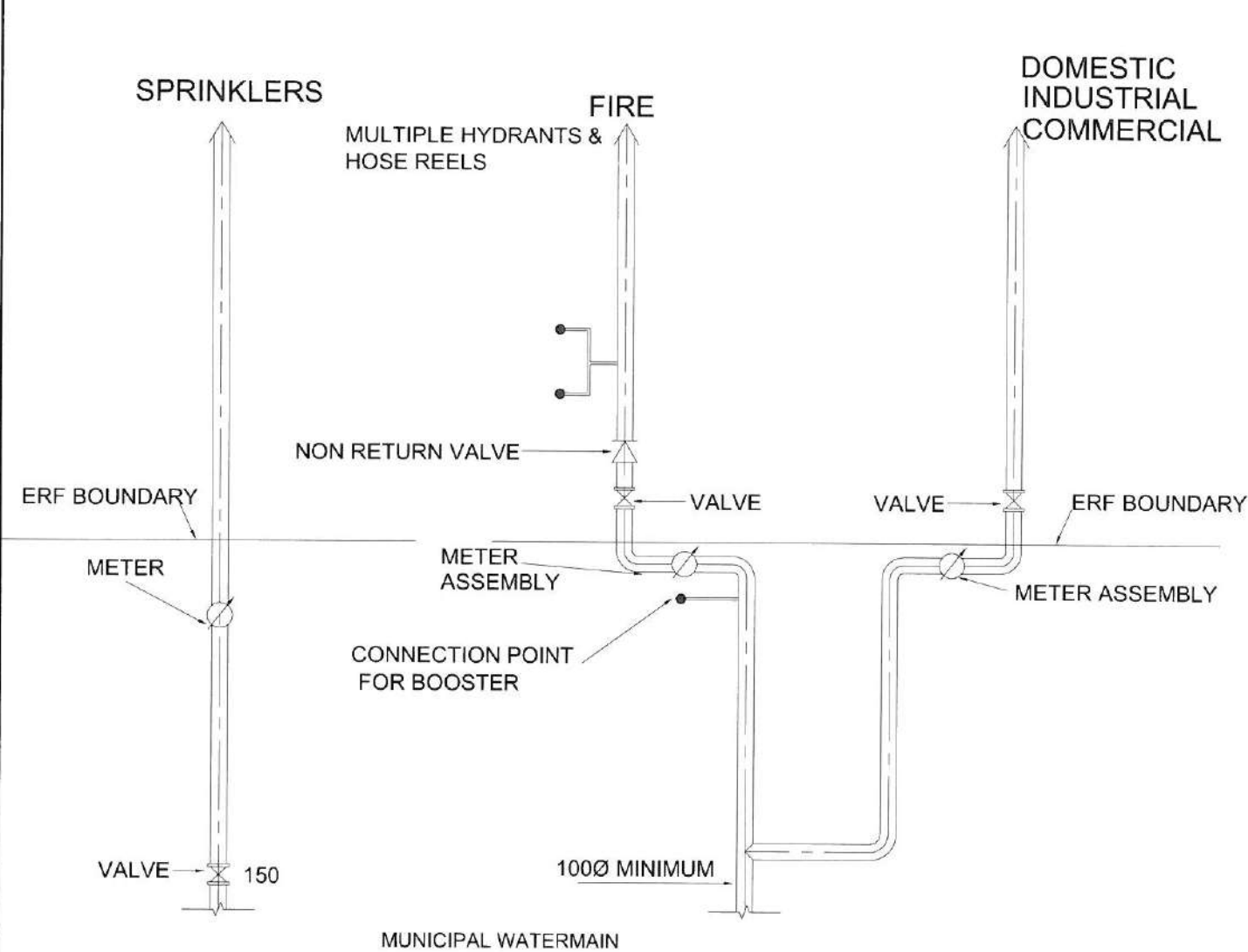
Joburg

STANDARD DETAIL
WATER ERF CONNECTIONS

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

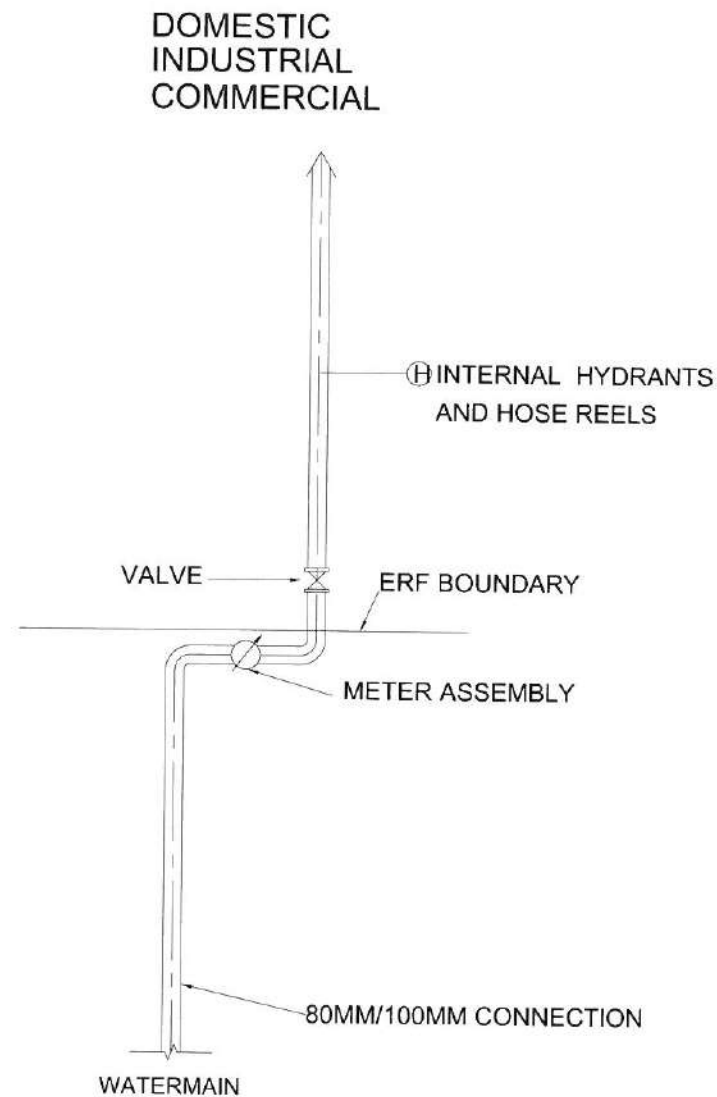
DRAWING No. JW100-DET07-W01

PROJECT No.	REV.
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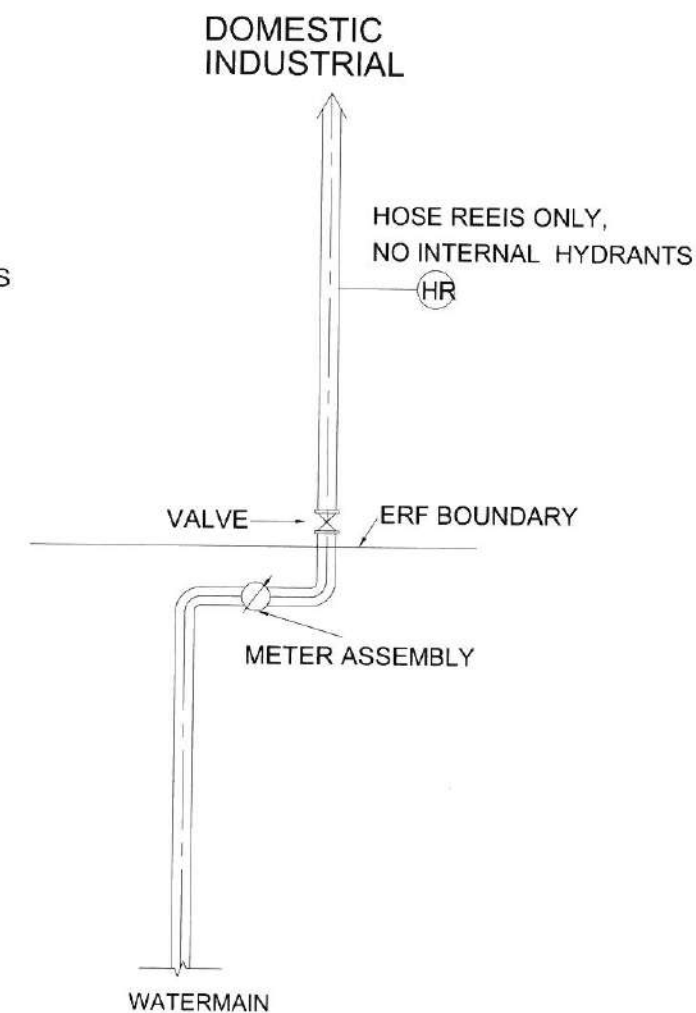
TYPE A CONNECTION

PROVISION MADE TO BOOST PRESSURE
TWO CONNECTIONS FROM STREET MAIN



TYPE B CONNECTION

PRESSURE BOOSTER POINT OPTIONAL
SINGLE SUPPLY (DOMESTIC AND FIRE)



TYPE C CONNECTION

NON-BOOSTED FIRE CONNECTION
SINGLE SUPPLY (DOMESTIC AND FIRE)

SCHEMATIC LAYOUT OF TYPICAL WATER CONNECTIONS FOR DOMESTIC, INDUSTRIAL AND COMMERCIAL PROPERTIES (BIG CONNECTION)

(HOSE REELS, INTERNAL HYDRANTS AND OR SPRINKLERS REQUIRED)

NOTES:

1. VALVES TYPE: RESILIENT OR WEDGE TYPE GATE VALVE AS APPLICABLE.
2. REFER TO METERING GUIDELINES. (LATEST VERSION)
3. METER ASSEMBLY TO INCLUDE STRAINER, METER AND ISOLATION VALVE.
4. METER ARRANGEMENT: AS PER DETAIL JW100-DET09W01 FOR SIZES 50-150mm N.B

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	B M KHUMALO	MAY 2017
DRAWN	B M KHUMALO	MAY 2017
CHECKED	J GUNDO	DATE 18/9/17
SIGNATURE	# 56	
ECSA REG. NO.	20137ec44	
APPROVED BY	TAMPANDOUTA	DATE
SIGNATURE	Mupafogoh	
ECSA REG. NO.	251176150	



17 HARRISON STREET
MARSHALLTOWN
2107

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

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STANDARD DETAIL
METERED FIRE CONNECTIONS

AMENDMENTS					DRAWING No. JW100-DET8-W01	
SCALE	REV.	DESCRIPTION	APPROVED	DATE	PROJECT No.	REV.

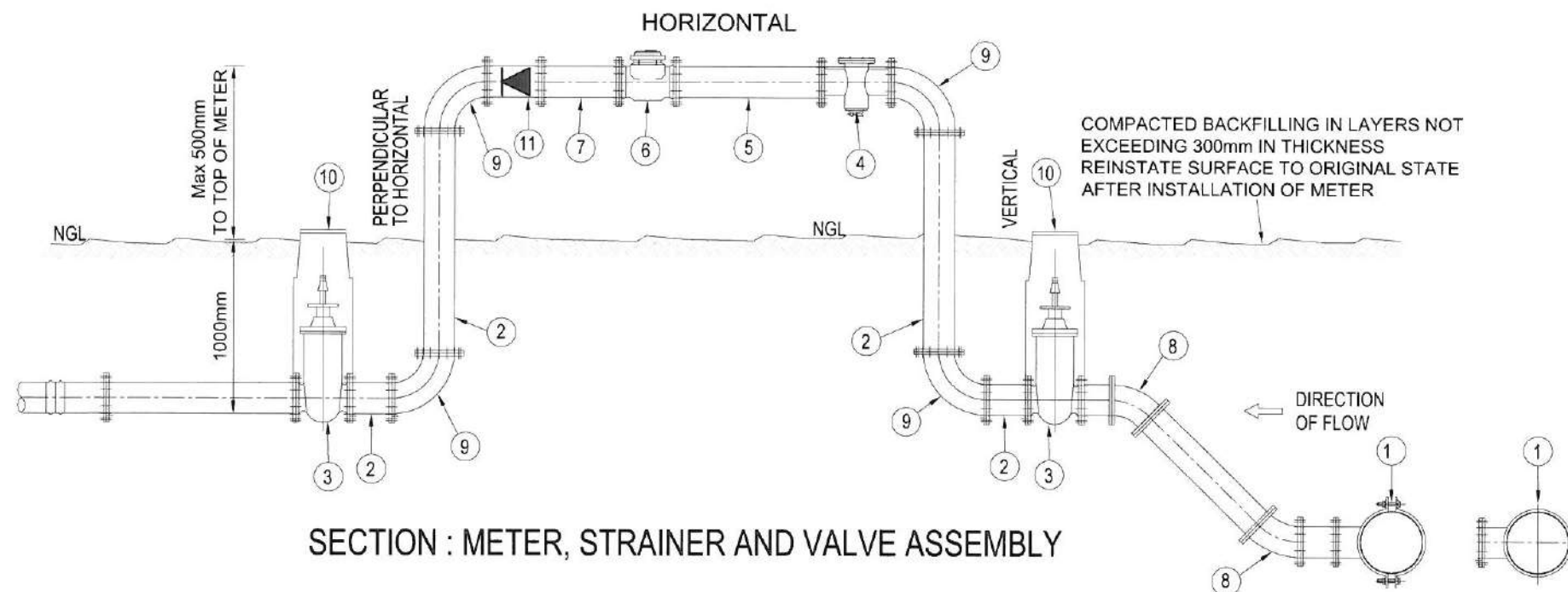
PROJECT No.

REV.

A3 SHEET 8 OF

ORIGINAL PAGE SIZE

FILE No.



SECTION : METER, STRAINER AND VALVE ASSEMBLY

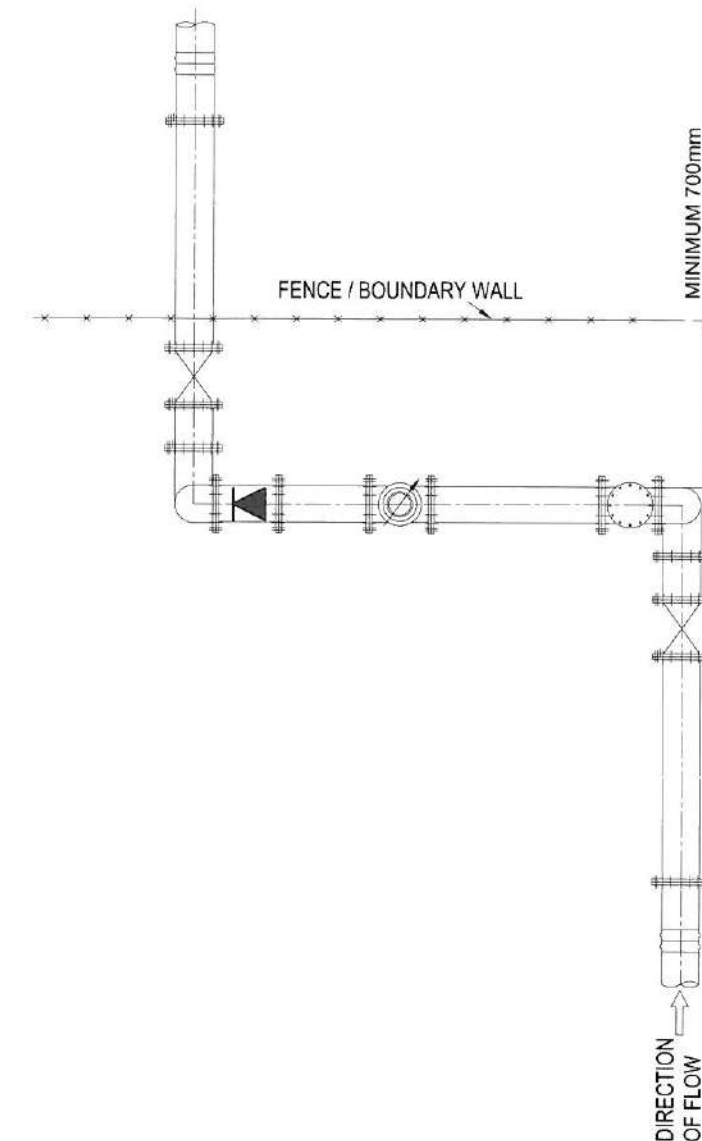
TYPICAL DETAIL FOR METER INSTALLATIONS FOR JOHANNESBURG WATER

PIPE SCHEDULE AND FITTINGS 50 -150mm + DIA. WATER METER INSTALLATION

ITEM	No OFF	DESCRIPTION
1	1	REDUCING TEE (TO BE FLANGED OR FABRICATED TO SUIT EXISTING PIPE MATERIAL)
2	4	FLANGED STEEL PIPE TO SUIT
3	2	RSV (Ø UP TO AND INCLUDING 150mm) NON RISING SPINDLE GATE VALVE, FLANGED ON BOTH ENDS TO JHB WATER SPECIFICATION.
4	1	IN LINE STRAINER, FLANGED BOTH ENDS
5	1	5 X Dia. STEEL FLANGED DISTANCE PIECE,(50mm : 5xDia STEEL FLANGED DISTANCE PIECE MINIMUM 250mm)
6	1	WPD WATER METER FLANGED BOTH ENDS.
7	1	3 X Dia . STEEL FLANGED DISTANCE PIECE,(50mm : 3xDia STEEL FLANGED DISTANCE PIECE MINIMUM 150mm)
8	2	FLANGED 45° BEND
9	4	FLANGED 90° BEND
10	1	JOHANNESBURG WATER VALVE BOXES WITH BLUE LID, TO SUIT VALVE SIZE TYPE 5 TO SANS 1808..
11	1	NON RETURN VALVE

NOTES:

- ALL FLANGES TO TABLE 1600/3.
- ALL FLANGES ABOVE GROUND MUST HAVE ONE SHEARING BOLTS PER FLANGE ARRANGEMENT.
- ALL DIMENSIONS TO BE CHECKED BEFORE MANUFACTURE/FITTING.
- ALL PIPES AND FITTINGS TO HAVE MINIMUM WORKING PRESSURE OF 16 BAR.
- LENGTH OF ITEM 5 TO BE AT LEAST 5 X DIA. AND ITEM 7 TO AT LEAST 3 X DIA.
- ALL BURIED MILD STEEL FLANGES AND COUPLINGS MUST BE CORROSION PROTECTED USING DENSO PRODUCTS OR SIMILAR APPROVED PRODUCT USED FOR CATHODIC PROTECTION TO BE SUITABLE FOR MATERIAL PROTECTION.
- METER ARRANGEMENT APPLICABLE TO ALL NEW INSTALLATIONS SUCH AS INDUSTRIAL/ COMMERCIAL/ TOWNHOUSE/COMPLEXES/ FIRE INSTALLATIONS AS APPLICABLE.
- ALL STEEL PIPE PIECES FOR ABOVE GROUND INSTALLATIONS MUST BE LINED INTERNALLY AND COATED EXTERNALLY WITH NON-TAINTING FUSION BONDED POWDERED EPOXY COATING (SANS 1217 TYPE 2) WITH MINIMUM 250 MICRONS AND MAXIMUM 600 MICRONS COAT FILM THICKNESS. FOR FLANGED DISTANCE PIECES AND FLANGED BENDS A UV PROTECTOR MUST BE INCORPORATED ON THE EXTERNAL COATING. THE FINAL COLOUR FOR ALL PIPES AND FITTINGS SHALL BE CORNFLOWER BLUE.
- FOR ALL OTHER SPECIFICATIONS NOT COVERED ABOVE , REFER TO THE JW METERING GUIDELINES.



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: 18/7/17
SIGNATURE	<i>[Signature]</i>	201370244
ECOSA REG. NO.		
APPROVED BY:	T. MPANDASUTA	DATE: 20/7/17
SIGNATURE	<i>[Signature]</i>	201170150
ECOSA REG. NO.		



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MARSHALLTOWN
2107

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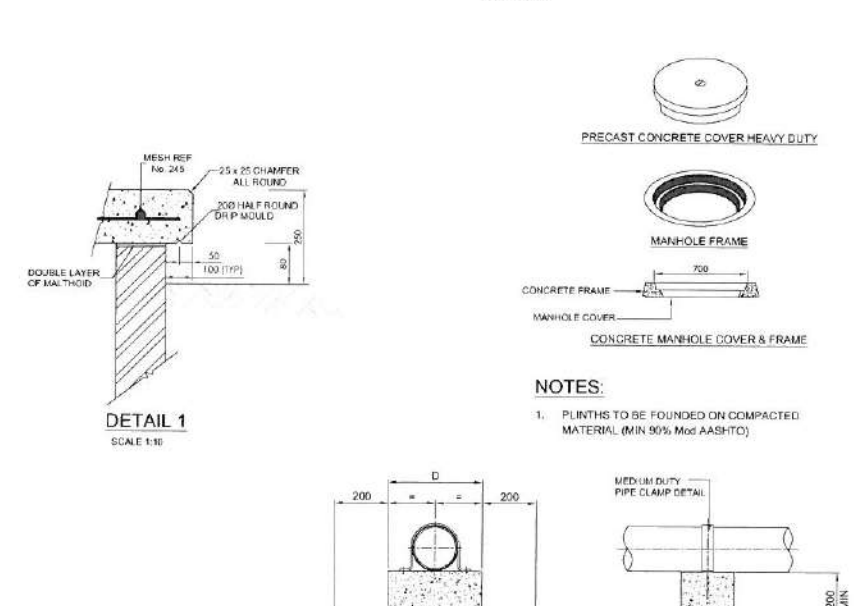
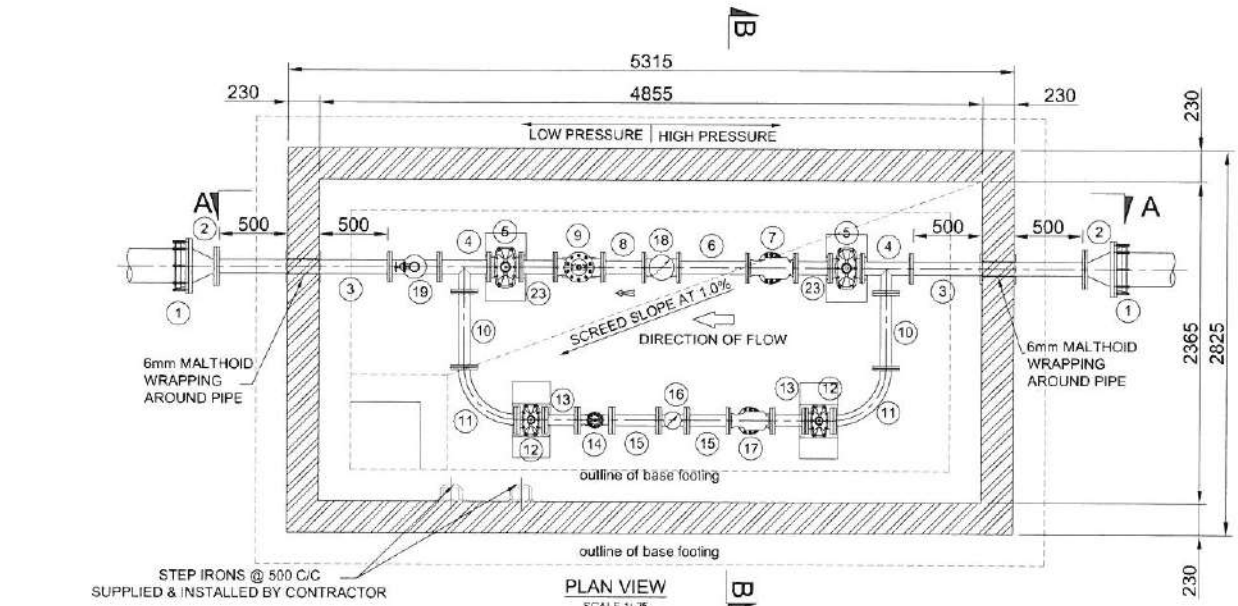
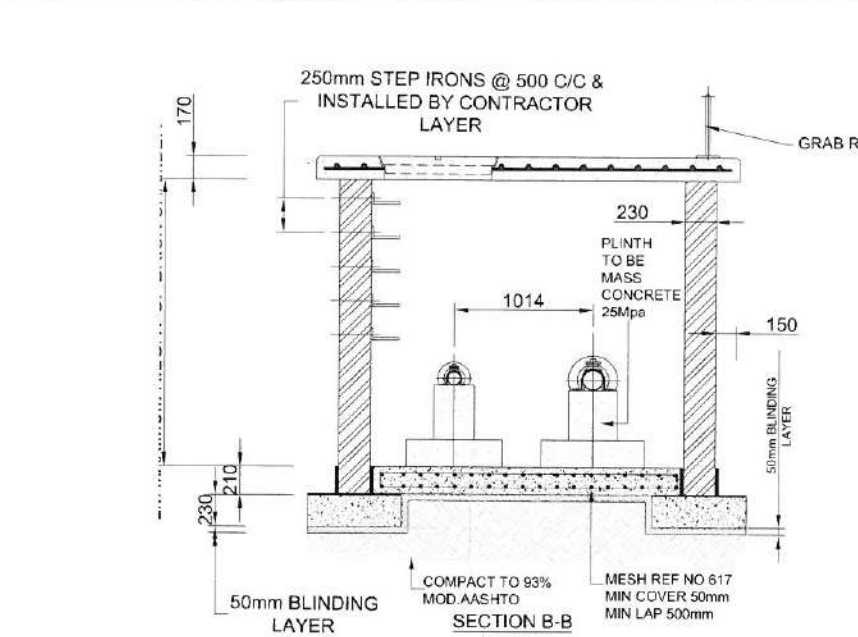
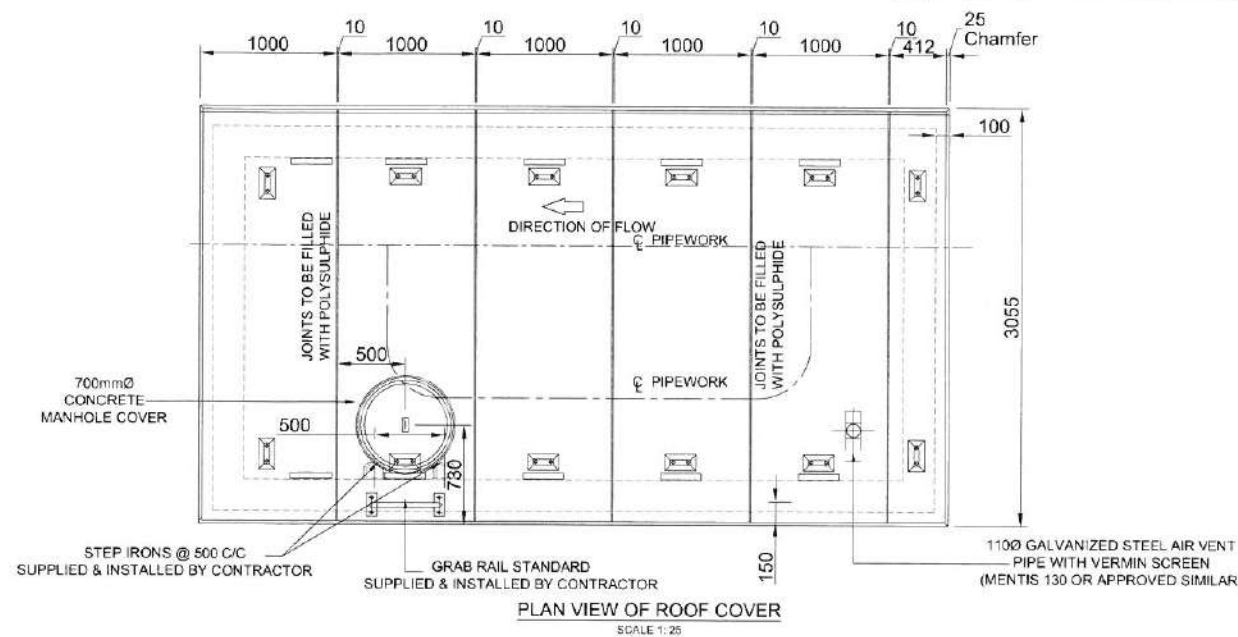
Johburg

STANDARD DETAIL
ABOVE GROUND WATER METER UP TO 150mm N.B

AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET09-W01

PROJECT NO.	1
REV.	
A3	SHEET 9 OF 9
ORIGINAL PAGE SIZE	
FILE NO.	



PRESSURE REDUCING VALVE				
ITEM NR	DESCRIPTION	DIMENSIONS	QUANTITY	FLANGE TABLE
1	2500 FLANGED ADAPTOR FOR STEEL/UPVC CLASS 16 PIPE		2	
2	2500 150 FLANGED REDUCER		2	
3	1500 DOUBLE FLANGED STEEL PIPE WITH A PRESSURE TRANSDUCER (EXCLUDING PRESSURE GAUGE) AND FIDDLE FLANGE		2	
4	150 x 100 FLANGED REDUCING TEE		2	
5	1500 NB ISOLATING WEDGE TYPE GATE VALVE		2	
6	1500 DOUBLE FLANGED DISTANCE PIECE WITH CLAMP PRESSURE TRANSMITTER		1	
7	1500 FLANGED STRAINER		1	
8	1500 DOUBLE FLANGED DISTANCE PIECE WITH CLAMP		1	
9	1500 PRESSURE REDUCING VALVE		1	
10	1000 DOUBLE FLANGED DISTANCE PIECE		2	
11	1000 x 900 FLANGED STEEL BEND		2	
12	1000 NB ISOLATING WEDGE TYPE GATE VALVE		2	
13	1000 DOUBLE FLANGED DISTANCE PIECE		2	
14	1000 PRESSURE REDUCING VALVE		1	
15	1000 DOUBLE FLANGED DISTANCE PIECE		2	
16	1000 ME NECK TURBINE COSMOS WPD WATER METER (FOR SIMILAR APPROVED) PN16, BOTH ENDS FLANGED TO SANS 1123 - 1600/3		1	
17	1000 FLANGED STRAINER		1	
18	1000 ME NECK TURBINE COSMOS WPD WATER METER (FOR SIMILAR APPROVED) PN16, BOTH ENDS FLANGED TO SANS 1123 - 1600/3		2	
19	800NB x 800B FLANGED UNEQUAL TEE (AIR ADJUSTABLE) FLANGES DRILLED TO SANS 1123 - 1600/2		1	
20	800NB FLANGED RISER PIECE, ONE END FLANGED TO SUIT AIR VALVE, OTHER END FLANGED TO SUIT 800NB, FLANGES DRILLED TO SANS 1123 - 1600/3		1	
21	800NB FLANGED PN16, R/V (TO JOHANNESBURG WATER SPECIFICATIONS)		1	
22	800NB VENT-O-MAT AIR VALVE TYPE 680 REX 1801		1	
23	1500 DOUBLE FLANGED DISTANCE PIECE		2	

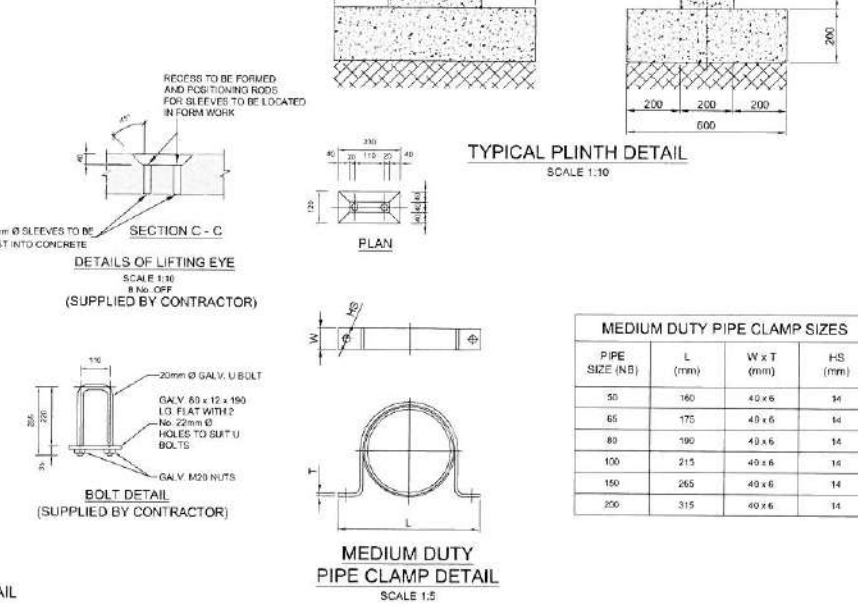
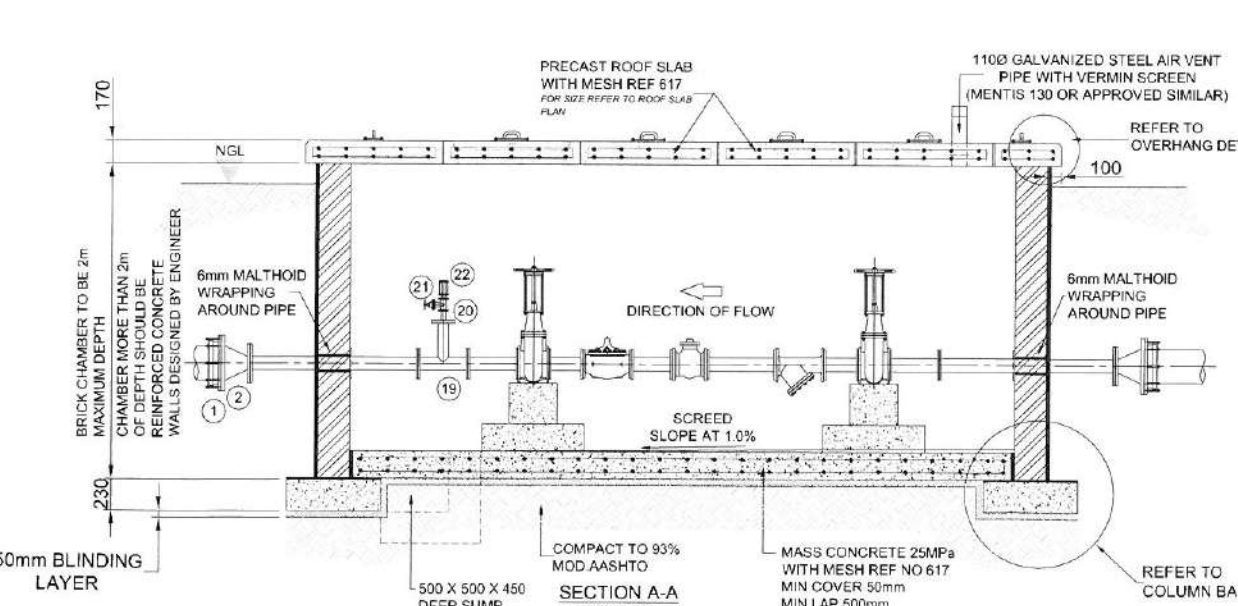
GENERAL NOTES:

- ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND INTERNALLY TO ENSURE WATER/TIGHT CHAMBER. USE ENGINEERING BRICKS.
- CONCRETE FOR THE BASE AND ROOF SLAB TO BE GRADE 25/19. COVER TO REINFORCEMENT - 30mm.
- ALL FITTINGS TO BE PAINTED WITH COPON KSH88 EPOXY PAINT. AFTER INSTALLATION 50mm BRGW REPAIR WRAP COATING.
- ALL FUMES TO TABLE 1500 OF SANS 1123.
- PIPES TO BE WRAPPED WITH 6mm THICK MALTHOID WRAPPING THROUGH WALLS.
- CHAMBER DIMENSIONS AND DEPTH ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE LOCATION AND DEPTH. FITTINGS ARE SUBJECT TO CHANGE UPON CONFIRMATION OF THE EXISTING PIPE MATERIALS.
- EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE. PIPES ARE TO BE PROVIDED AS DIRECTED BY THE ENGINEER AT SITE.
- VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED. DEPTH OF CHAMBERS 200mm MINIMUM HEIGHT OF BRICK CHAMBER.
- ENGINEERING BRICKS WITH BRCK FORCE EVERY 3RD COURSE FOR ALL CHAMBERS.
- ROOF SLAB TO BE MADE OF PRECAST PANELS.
- 230mm BRICK WALL OF 1m HIGH FROM BASE SLAB.

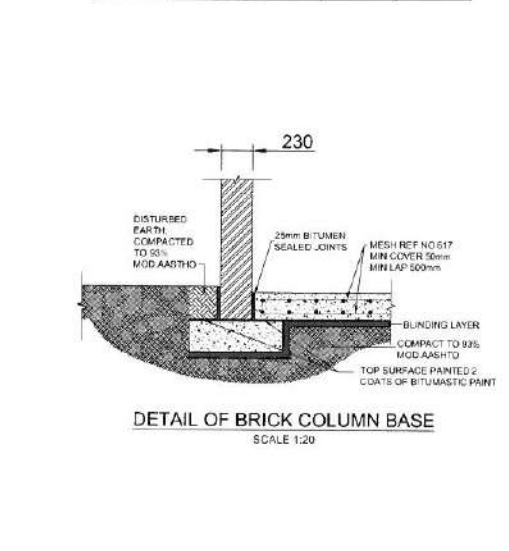
PRESSURE REDUCING VALVE LAYOUT + ANTI CAVITATION RING

ALL PIPES SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

- 8000/3800/3: 101 PRESSURE REDUCING VALVES
- DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL TRIM.
- FUSION BONDED EPOXY COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
- COMPLETE WITH FULLY ADJUSTABLE ORD PRESSURE REDUCING PLAT VALVE (ADJUSTABLE DOWNSTREAM BETWEEN 2:1 BARS AND 21 BARS).
- WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND 101 VISION POSITION INDICATOR.
- MUST BE FLANGED AND DRILLED TO SANS 1123 TABLE 1600, INCLUDING CUTTING OF PIPES COMPLIING AS:
- MUST BE COMPLETE WITH H-TYPE STRAINER/DUCTILE IRON BODY AND COVER/STAINLESS STEEL. REMOVABLE IN A DUCTILE IRON FUSION BONDED EPOXY COATED FRAME 2mm MESH FUSION BONDED EPOXY. INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250micron - PN 25 RATED FLANGED AND DRILLED TO SANS 1123 TABLE 1600 FACE TO FACE = 500mm.
- WALLS TO BE REINFORCEMENT CONCRETE



PIPE POSITIONING ON PLINTHS				
PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE		
		'B'	'C'	'D'
50	165	205	400	200
65	185	225	450	200
80	195	235	450	300
100	220	250	500	300
150	275	300	600	350
200	300	350	700	400



DESIGNED	B. M. KHUMALO	MAY 2017
DRAWN	B. M. KHUMALO	MAY 2017
CHECKED	J. GUMBO	DATE 18/1/17
SIGNATURE	<i>[Signature]</i>	
ECOA REG. NO.	201370044	
APPROVED BY	T. MPANDAGUTSA	DATE
SIGNATURE	<i>[Signature]</i>	
ECOA REG. NO.	261170150	

Johannesburg Water

17 HARRISON STREET
MARSHALLTOWN
2107

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

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STANDARD DETAIL
TYPICAL 1000 PRESSURE REDUCING VALVE CHAMBER

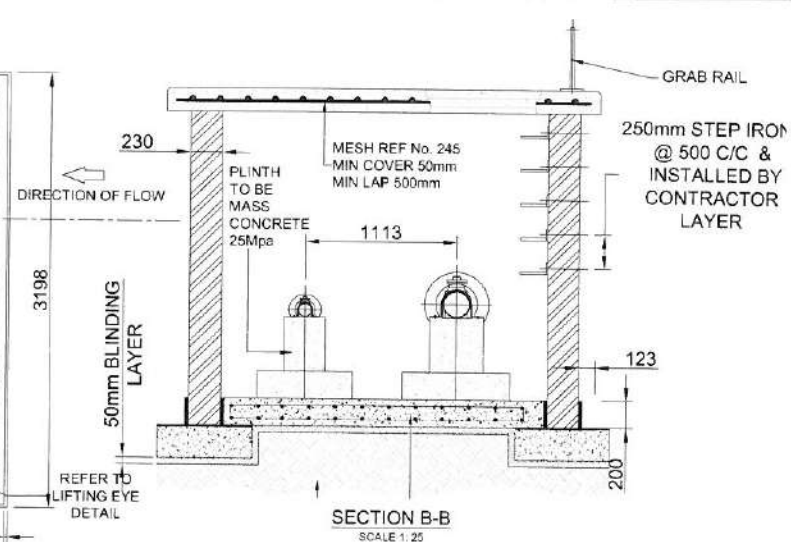
AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET10.1-W01

PROJECT No. *[Blank]* REV. *[Blank]*

A3 SHEET 10.1 OF *[Blank]*

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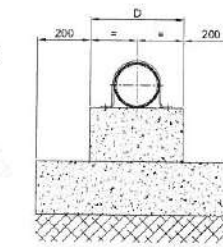
GENERAL NOTES:

- ALL BRICKWORK TO BE PLASTERED EXTERNALLY AND POINTED INTERNALLY. WATERTIGHT CHAMBER USE ENGINEERING BRICKS.
- USE TYPE FFF FOR THE BASE AND ROOF SLAB TO BE GRADE 25/10. COVER TO REINFORCEMENT = 50mm.
- ALL FITTINGS TO BE PAINTED WITH COPON KISBB EPOXY PAINT AFTER INSTALLATION 5mm. BEFORE REPAIR WRAP COATING. CHANGES TO TABLE 1100 OF SABS 1123 PIPES TO BE WRAPPED WITH 6mm THICK MULTILAY WRAPPING THROUGH WALLS. CHAMBER GROUNDING DEPTH MAY BE SUBJECT TO CHANGE UPON CONFORMATION OF THE EXISTING PIPE LOCATION AND DEPTH. FITTINGS ARE SUBJECT TO CHANGE UPON CONFORMATION OF THE EXISTING PIPE MATERIALS.
- EVERY CHAMBER MUST HAVE A 100mm DIAMETER VENT PIPE WITH MOSQUITO GAUZE. PEDISTALS TO BE PROVIDED AS DIRECTED BY ENGINEER.
- VALVE KEY HOLES TO BE PROVIDED IN THE ROOF ABOVE EVERY VALVE OR AS DIRECTED.
- DEPTH OF CHAMBERS 250 MILLIMETER HEIGHT OF BRICK CHAMBER.
- ENGINEERING BRICKS WITH BRICK-FORCE NOT TO BE USED FOR ALL CHAMBERS.
- ROOF SLAB TO BE MADE OF PRECAST PANELS.
- 200mm BRICK WALL OF 1m HIGH FROM BASE SLAB.

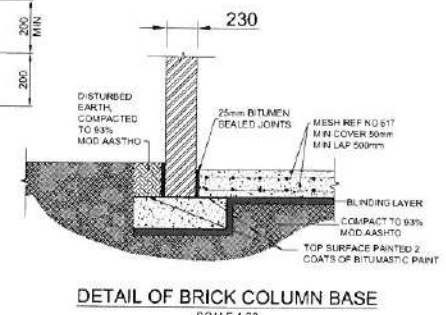
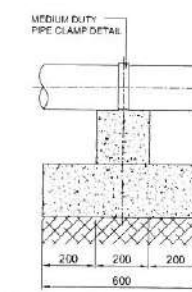
PRESSURE REDUCING WALL (CLAYTON + ANTI CAVITATION RING)

ALL PIP SHALL COMPLY WITH FOLLOWING SPECIFICATIONS:

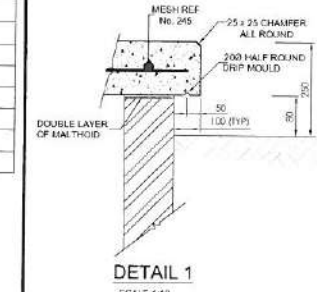
- 600x240BCS X101 PRESSURE REDUCING WALL
- DUCTILE IRON BODY AND COVER WITH STAINLESS STEEL THIM.
- PUR SCHIEDER SPIN COATED INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250 MICRONS PN 25 RATED.
- COMBITE WITH 100mm ADJUSTABLE CRG. ADJUSTABLE DOWNSTREAM BETWEEN 2:1 GND AND 2:1 BARS.
- WITH PRESSURE GAUGE, OPENING AND CLOSING SPEED CONTROLS AND x101 VISION SPIN INDICATOR.
- MUST BE FLANGED AND DRILLED TO SABS 1123 TABLE 1602, INCLUDING CUTTINGS OF PIPE JOINTING ELS.
- MUST BE COMPLIANT WITH H+THY STRAINER-DUCTILE IRON BODY AND COVER STAINLESS STEEL REMOVABLE IN PLACE DUCTILE IRON FUSION BONDED COATED FRAME 2mm MESH FUSION BONDED SPEC INTERNALLY AND EXTERNALLY TO A MINIMUM OF 250microns PN 25 RATED FLANGED AND DRILLED TO SABS 1123 TABLE 1602 TO PROTECT 100mm.
- WALLS TO BE REINFORCED WITH CONCRETE.



PIPE SIZE (NB)	L (mm)	W x T (mm)	HS (mm)
50	160	60 x 6	14
65	175	40 x 6	14
80	190	60 x 6	14
100	215	60 x 6	14
150	265	40 x 6	14
200	315	50 x 6	14



PIPE SIZE (NB)	PIPE CRS 'A'	PLINTH SIZE			
		'B'	'C'	'D'	
50	185	600	400	200	
65	195	650	450	200	
80	195	630	450	300	
100	220	750	500	300	
100	275	900	600	350	
200	330	1068	700	400	

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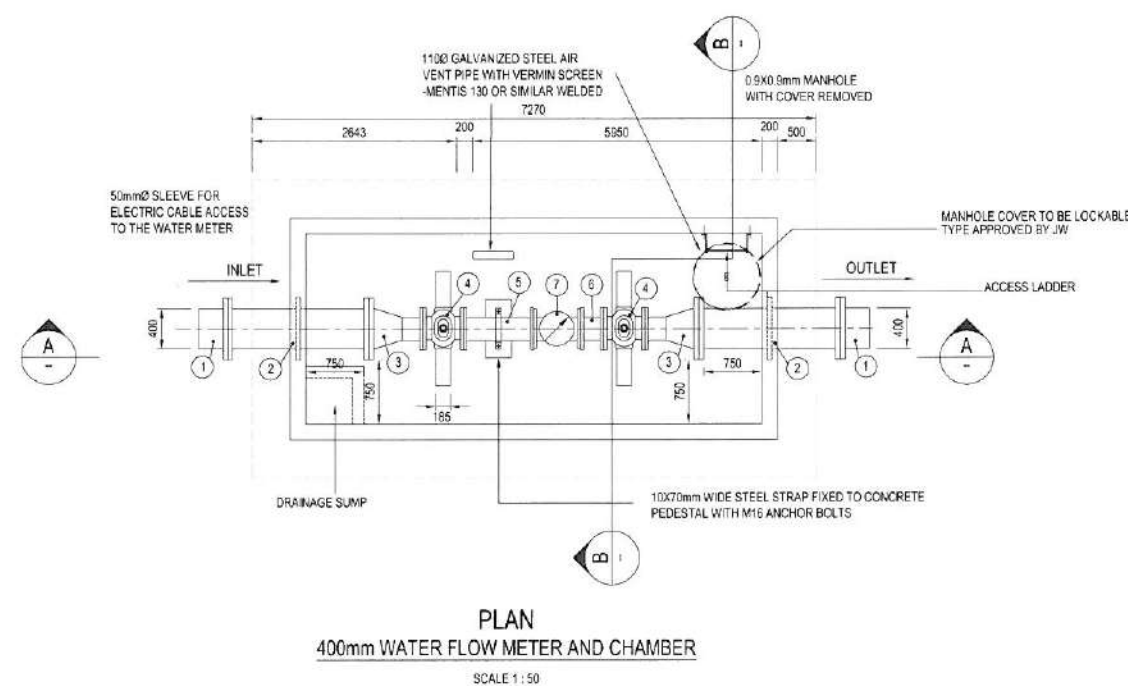
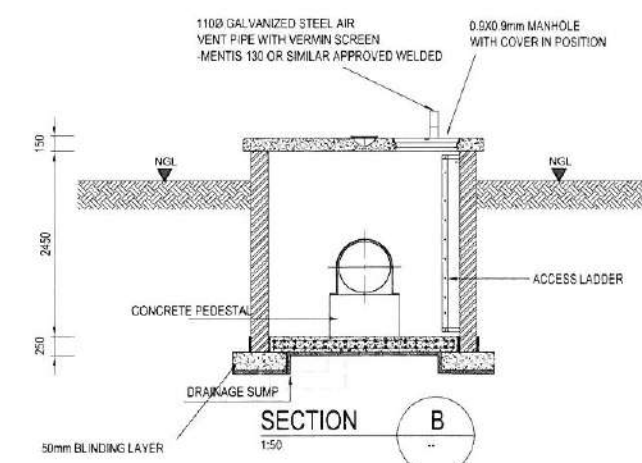
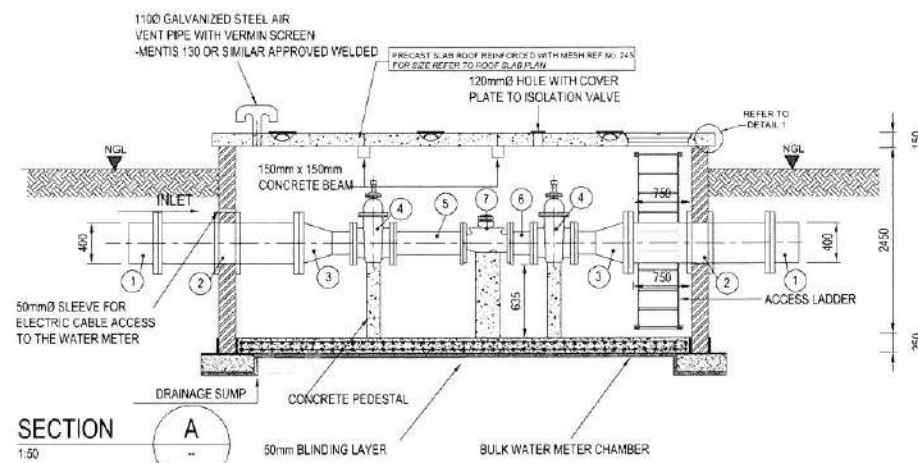
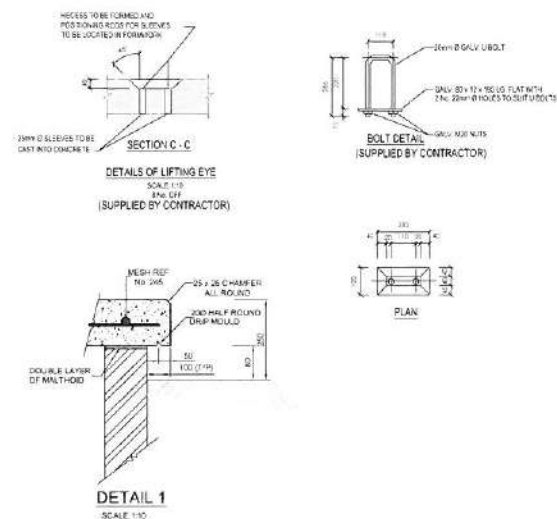
DRAWING No. JW100-DET10.5-W01

PROJECT No. _____ REV. _____

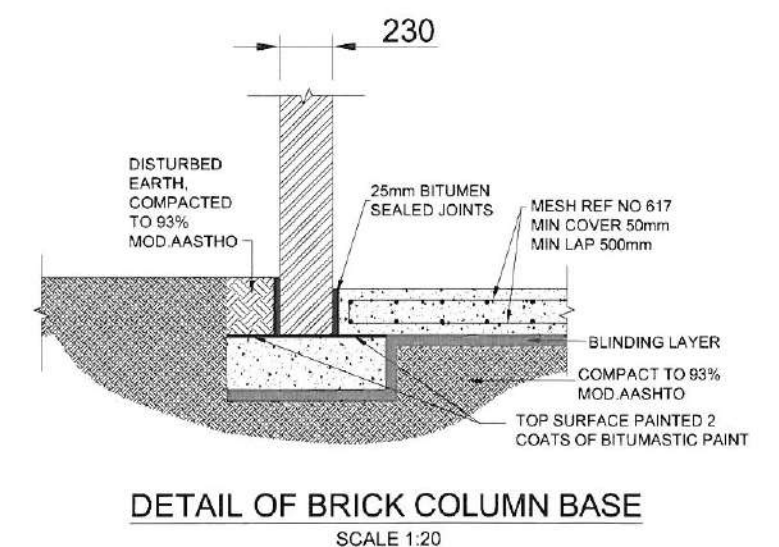
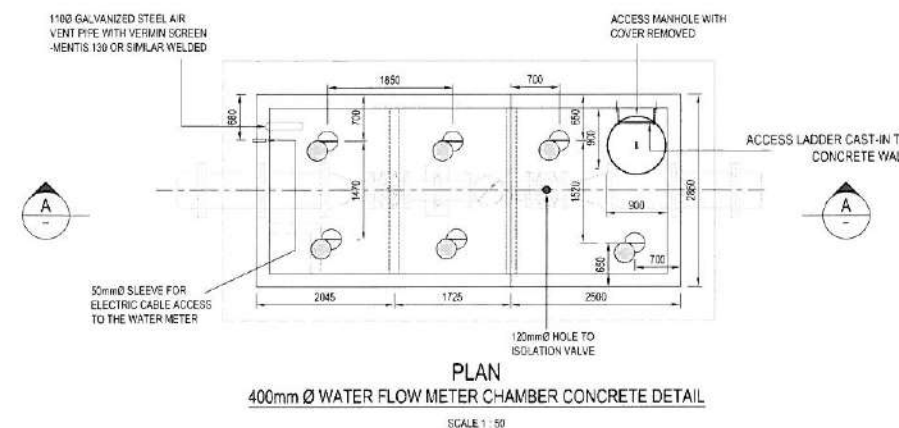
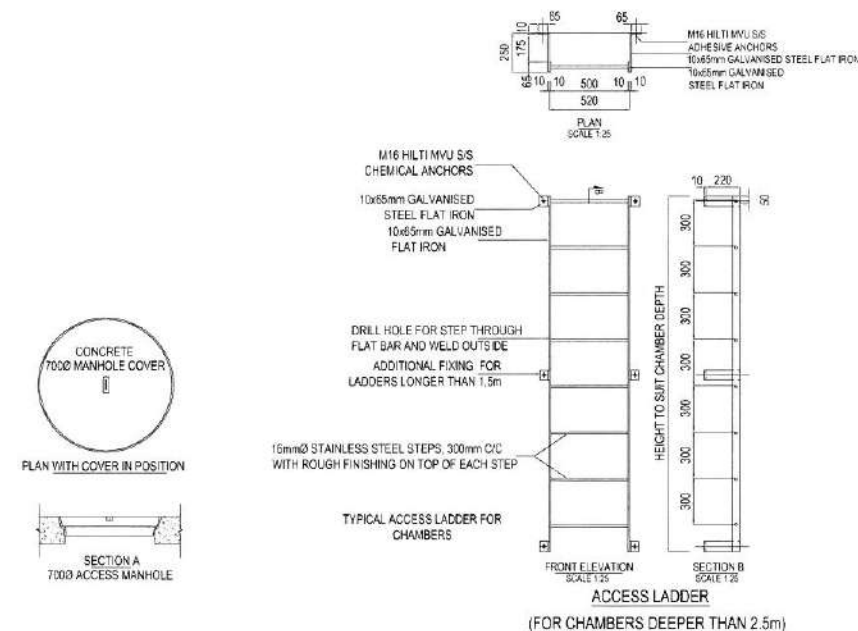
A3 SHEET 10.5 OF _____

ORIGINAL PAPER SIZE

FILE No. _____



TYPICAL STEEL PIPE FITTINGS AND ITEM LIST (400ND PIPE LINE WITH 2500kPa MAX. WORKING PRESSURE USED AS AN EXAMPLE)			
ITEM NR.	DESCRIPTION	NO. OFF	DIMENSIONS
1	4000 mm FLANGED PIPE FLANGED TO SABS 1123-1600/3.	2	
2	4000 x 1500mm LONG STEEL PIPE WITH PUDDLE FLANGE, BOTH ENDS FLANGED SABS 1123 - 1600/3	2	
3	4000 x 3000 STEEL REDUCER, BOTH ENDS FLANGED SABS 1123 - 1600/3	2	
4	3000 WEDGE TYPE GATE VALVE (PN16) WITH GEARBOX AND ANTI-CLOCKWISE CLOSING TO SABS 664, BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	2	
5	3x0 STEEL STRAIGHT, BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	1	
6	1x0 STEEL STRAIGHT, BOTH ENDS FLANGED TO SABS 1123 - 1600/3.	1	
7	300mm ON A 400mm (WPO 400T25) SENSUS WP TURBINE METER FLANGED TO BS4504, TABLE 25, WITH PRESSURE RATING 2500kPa AND OPERATIONAL MAXIMUM TEMP OF 50 DEGREES CELSIUS	1	



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: 18/11/17
SIGNATURE		
ECOSA REG. NO.	201370044	
APPROVED BY	T. MPANDAGUTA	DATE: 20/11/17
SIGNATURE		
ECOSA REG. NO.	201170150	



17 HARRISON STREET
MARSHALLTOWN
2107

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

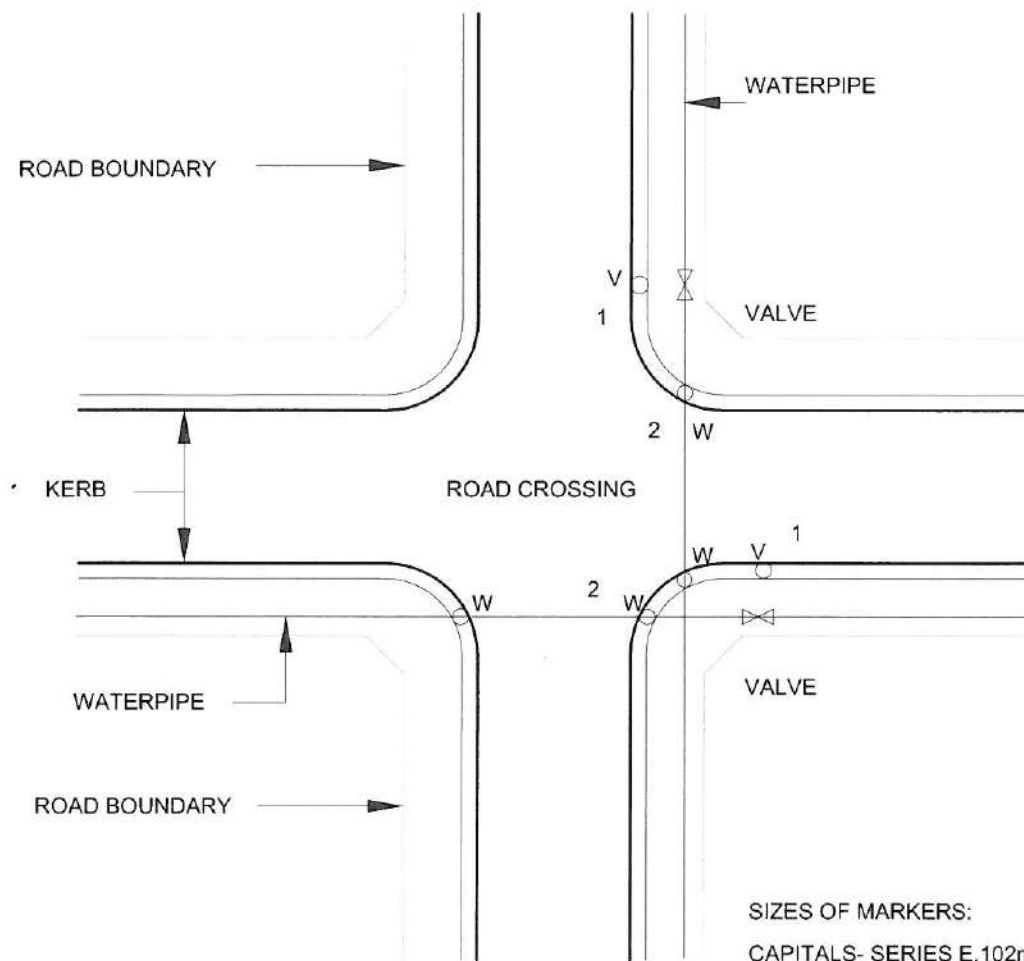


STANDARD DETAIL
TYPICAL 400mm PIPELINE BULK FLOW METER DETAIL

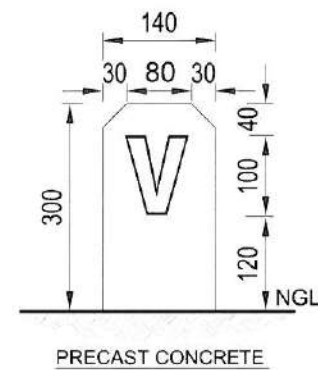
AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET11-W01

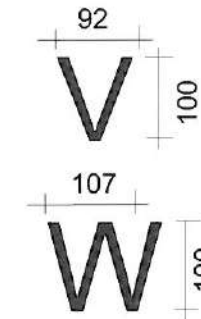
PROJECT No.	REV.
A3	11
SHEET	OF
ORIGINAL PAGE SIZE	FILE No.



SIZES OF MARKERS:
CAPITALS- SERIES E, 102mm IN SIZE ACCORDING TO THE S.A.
BOOK OF ROAD SIGNS.

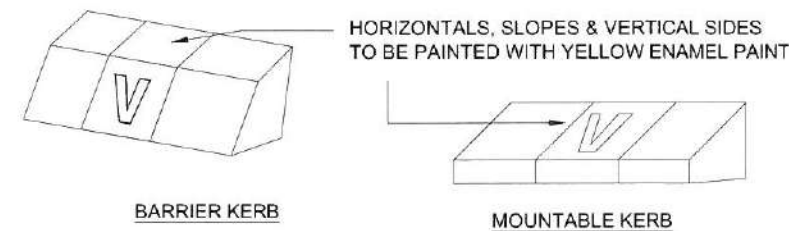


- 1 VALVE MARKER-"V" MUST BE PAINTED
- 2 WATER PIPE MARKER-"W"



NOTE

- 1) TOP SURFACE OF COVERS
TO BE PAINTED AS FOLLOWS:
VALVES NORMALLY OPEN : BLUE
VALVES NORMALLY CLOSED : SIGNAL RED
SCOUR VALVES : GREEN
AIR VALVES : BROWN



DETAILS OF SERVICE MARKERS

CONSULTING ENGINEERS
CAPEX DESIGN SECTION
SWISS HOUSE
7TH FLOOR

DESIGNED	U.MKHUMALO	MAY 2017
DRAWN	U.MKHUMALO	MAY 2017
CHECKED	J.SUMBO	DATE 18/7/17
SIGNATURE	<i>[Signature]</i>	DATE 18/7/17
ECOA REG. NO.	201370044	
APPROVED BY:	T.MPANDABITA	DATE
SIGNATURE	<i>[Signature]</i>	DATE 20/11/2017
ECOA REG. NO.		



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MARSHALLTOWN
2107

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FAX: (011) 688-1529

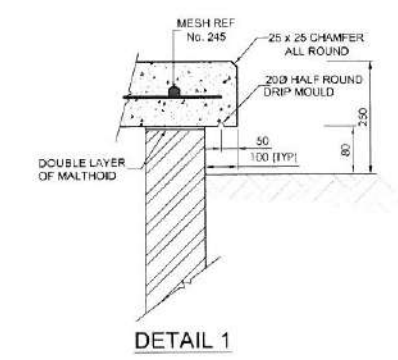
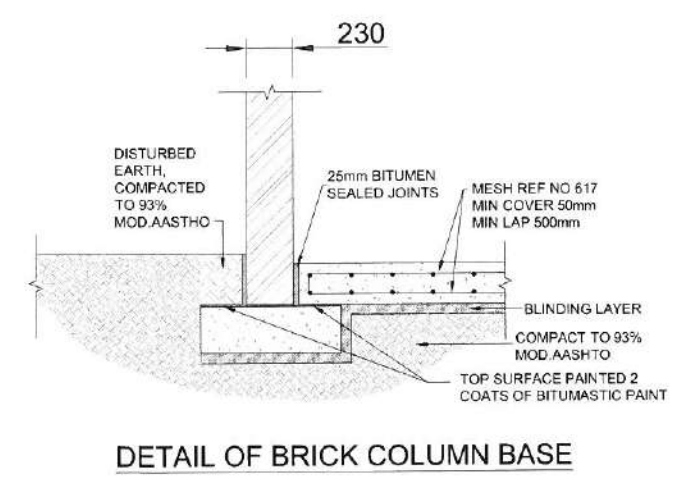
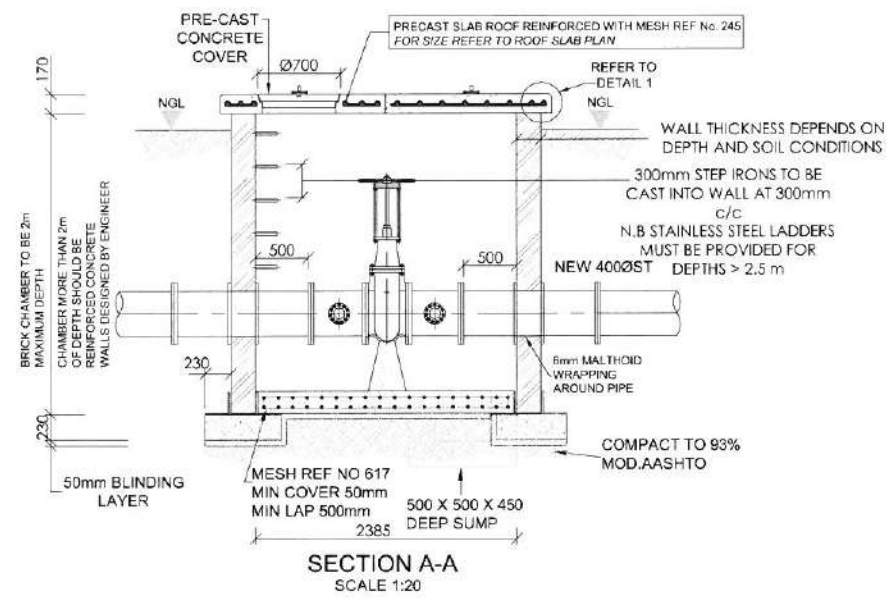
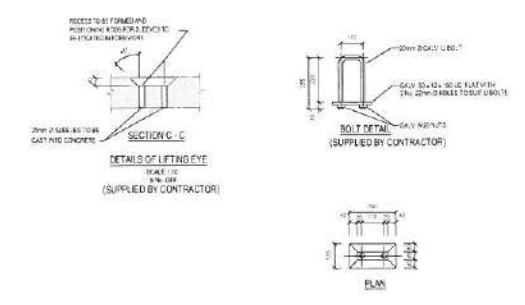
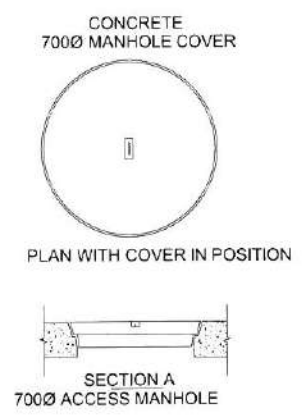
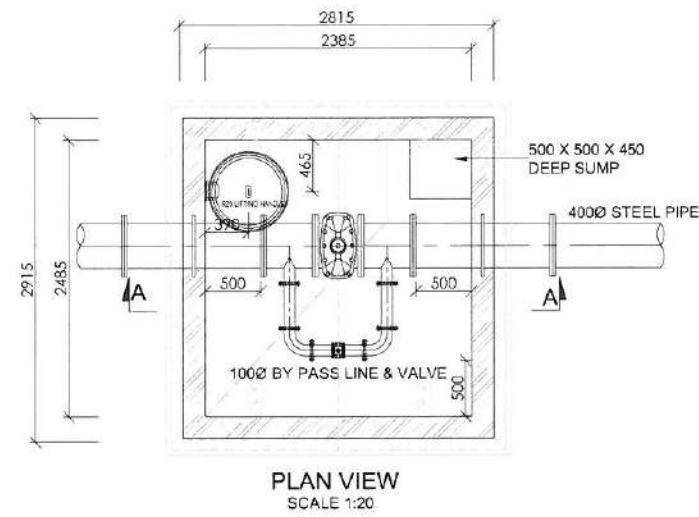
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STANDARD DETAIL
DETAILS OF SERVICE MARKERS

AMENDMENTS				
SCALE	REV	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET12-W01

PROJECT No.	REV
A3	12
SHEET	OF



DESIGNED	B.M. KHUMALO	MAY 2017
DRAWN	B.M. KHUMALO	MAY 2017
CHECKED	J. GUMBO	DATE 15/7/17
SIGNATURE	<i>[Signature]</i>	
ECOA REG. No.	2013 70044	
APPROVED BY	T. MPANDAGUTA	DATE
SIGNATURE	<i>[Signature]</i>	
ECOA REG. No.	2011 70150	



17 HARRISON STREET
MARSHALLTOWN
2107
TEL: (011) 688-1400
FAX: (011) 688-1529

TYPICAL STANDARD DETAIL
TYPICAL VALVE BOXES FOR VALVES 400mm N.B. AND ABOVE

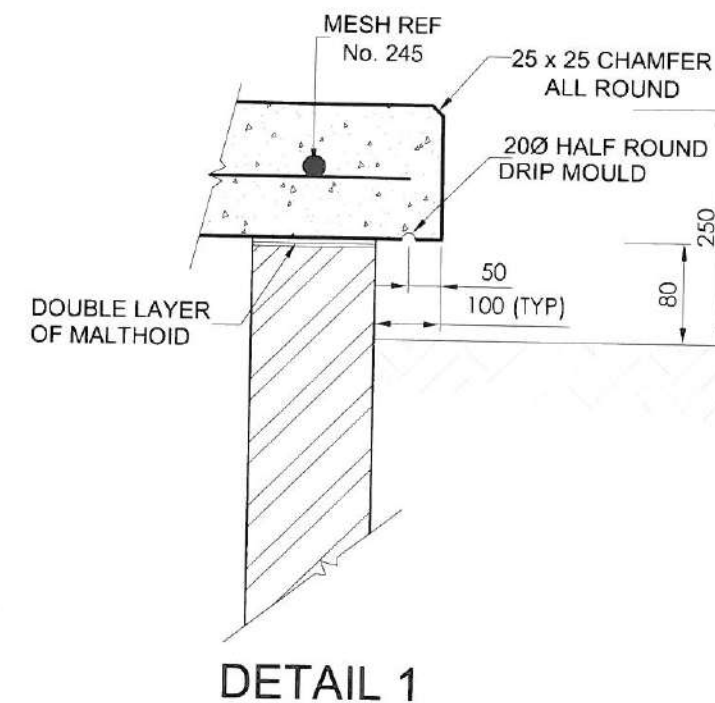
AMENDMENTS				
SCALE	REV.	DESCRIPTION	APPROVED	DATE

DRAWING No. JW100-DET13-W01

PROJECT No. REV.

A3 SHEET 13 OF

ORIGINAL PAGE SIZE



500 X 500 X 450 DEEP SUMP

R20 LIFTING HANDLE

FLOW DIRECTION

SECTION B - B
SCALE 1:15

SECTION A-A

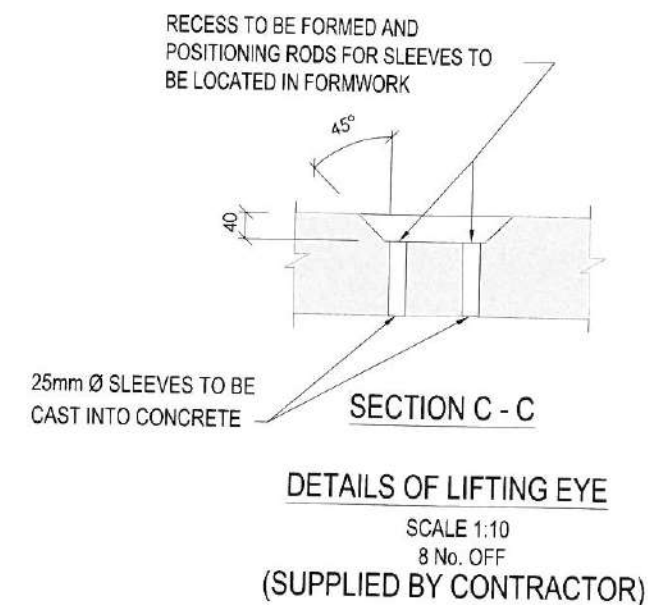
2000 3mm CONCRETE FOOTING

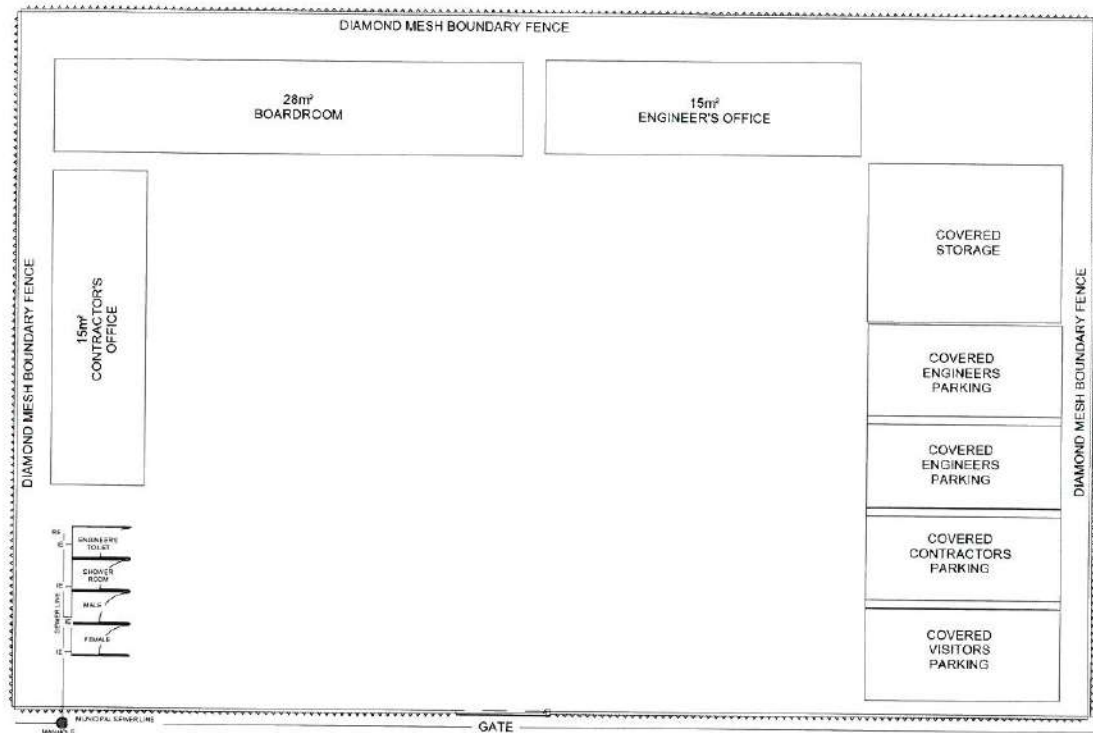
AIR VALVE

SPOUT

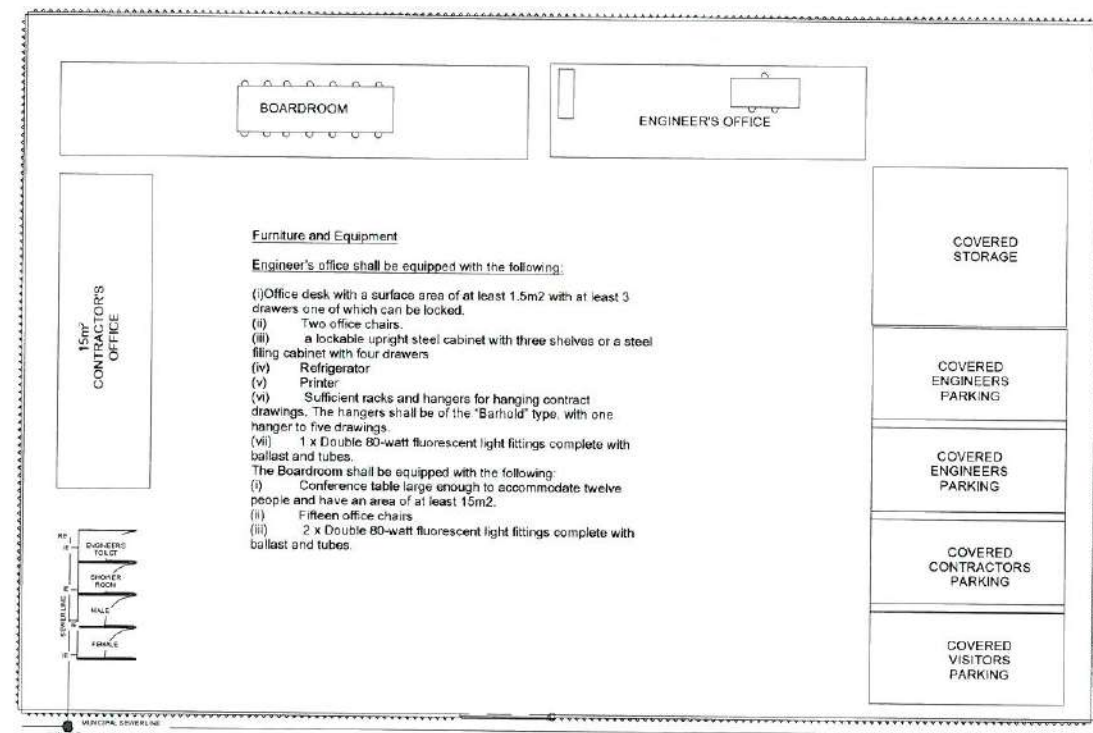
VARIED 7000 OD OF PIPE

NO.	DESCRIPTION	QTY	UNIT
1	500 X 500 X 450 DEEP SUMP	1	NO.
2	2000 3mm CONCRETE FOOTING	1	NO.
3	VARIED 7000 OD OF PIPE	1	NO.
4	AIR VALVE	1	NO.
5	SPOUT	1	NO.





1 GROUND SETTING OUT
1 : 100



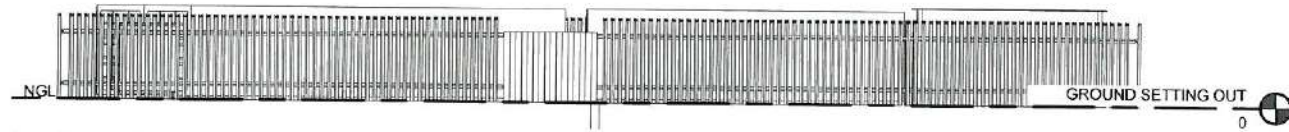
7 PROPOSED LAYOUT
1 : 100



3 East Elevation
1 : 100



4 North Elevation
1 : 100



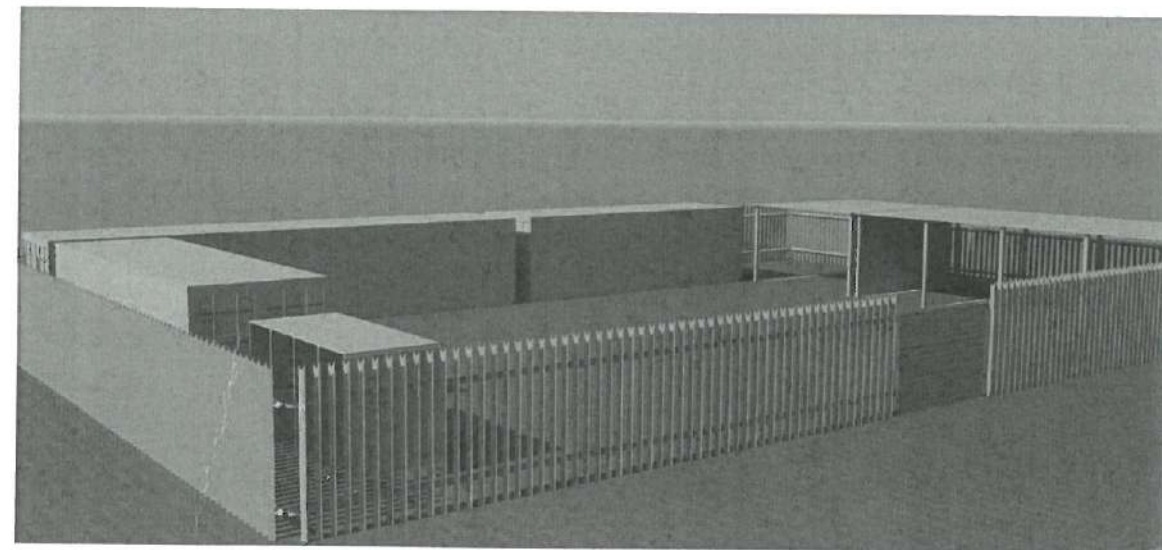
5 South Elevation
1 : 100



6 West Elevation
1 : 100

SCHEDULE OF AREAS

Dimensions	Boardroom	Engineer's Office
Minimum floor area	28m ²	15m ²
Minimum window area	4.0m ²	3.0m ²
Minimum window area opening	2.4m ²	1.5m ²
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: 15/11/17

DRAWN BY: K. Kolberg
Date: 15/11/17

CHECKED BY: T. Mpandaguta
Signature: [Signature]
Date: 15/11/17
ECSA REG. No: 20137044

APPROVED BY: F. Chakana
Signature: [Signature]
Date: 15/11/17
ECSA REG. No: 201170150

Johannesburg Water

17 HARRISON STREET
MARSHALLTOWN
2107

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

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STANDARD DETAIL FOR
SITE CAMP

SCALE	AMENDMENTS	DRAWING No JW 100-DET01-SC01
AS SHOWN	REVISION DESCRIPTION DATE	

PROJECT No: [] DISCIPLINARY: [] SHEET: [] OF: []

ORIGINAL PAGE SIZE