

SERVICE LEGEND				WATER AND SEWERAGE SYSTEM SYMBOLS				
	(lineweight)	NEW (0.7)	EXISTING (0.35)	DISUSED (0.25)		NEW	EXISTING	DISUSED
GRAVITY SEWER					FIRE HYDRANT			
SEWER RISING MAIN					ISOLATION VALVE			
SEWER VACUUM MAIN					SCOUR VALVE			
LOW PRESSURE SEWER					AIR VALVE			
DRINKING WATER MAIN					DEAD END			
NON-DRINKING WATER MAIN					CONNECTOR			
VENT MAIN					TEST/CHLORINATION POINT			
WATER MAIN TO BE SUBSTITUTED					REDUCER			
WATER SERVICE CONDUIT (with service size shown)					PIPE MATERIAL CHANGE			
ENCASING/ENVELOPER PIPE					ISOLATION VALVE TO REMAIN CLOSED PENDING CLEARANCE OF NEW MAIN			
STORMWATER DRAINAGE								
GAS MAIN								
ELECTRICITY U/G								
ELECTRICITY O/H								
TELECOMMUNICATION								
OPTIC FIBRE								
UNIDENTIFIED SERVICE								
OIL PIPELINE								
LIGHT POLE								
ELECTRICITY/POWER POLE								
STORMWATER GULLY								
PIT (TELECOM/ELEC)								
BACK OF KERB								
EDGE OF BITUMEN								
FENCE LINE								
EASEMENT								
Q100 FLOOD LINE				(BELOW Q100 FLOOD LINE)				
CONTROL LEVEL				4.150 +				
CONTOUR LABEL				4.0				

WATER		SEWERAGE	
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SEWAGE PUMP STATION STANDARD DRAWINGS
DRAWING INDEX - SHEET 1 OF 2

DRAWING No.	DRAWING TITLE				REV No.
WBB-SPS-INDEX	SEWAGE PUMP STATION	DRAWING INDEX	SHEET 1 OF 2		A
WBB-SPS-INDEX	SEWAGE PUMP STATION	DRAWING INDEX	SHEET 2 OF 2		A
WBB-SPS-1100-1	TYPICAL LOCALITY AND SITE PLAN				A
WBB-SPS-1100-2	TYPICAL LONGITUDINAL SECTION	OF RISING MAIN			A
WBB-SPS-1101-1	TYPICAL P & ID DIAGRAM	DUTY - ASSIST OPERATION	OR DUTY-STANDBY		A
WBB-SPS-1101-2	TYPICAL P & ID DIAGRAM	DUTY STANDBY OPERATION		NOT USED	
WBB-SPS-1101-3	PUMP AND RISING MAIN DETAILS				A
WBB-SPS-1101-4	RISING MAIN CONCEPT DESIGN	SECTIONS AND MEAN	HEAD CALCULATIONS		A
WBB-SPS-1102-1	PREFERRED SITE LAYOUT				A
WBB-SPS-1102-2	TYPICAL SITE LAYOUT WITH	STORAGE AND BACK-UP POWER			A
WBB-SPS-1102-3	ALTERNATIVE LAYOUT WITH	STORAGE AND OPTIONAL FLOW-METER			A
WBB-SPS-1102-4	TYPICAL SITE LAYOUT WITH	PIG INSERTION/EMERGENCY PUMP POINT	AND ALTERNATIVE EMERGENCY STORAGE		A
WBB-SPS-1102-5	LEVEL AND CAPACITIES	INTERACTION DIAGRAM		NOT USED	
WBB-SPS-1102-6	LEVEL INTERACTION	DIAGRAM FOR SMALL STATIONS			A
WBB-SPS-1300-1	TYPICAL 1.8 M WET WELL	GENERAL ARRANGEMENT			A
WBB-SPS-1300-2	1.8 M WET WELL	SECTION DETAILS			A
WBB-SPS-1300-3	1.8 M WET WELL	PIPEWORK ARRANGEMENT			A
WBB-SPS-1300-4	FLOWMETER & SECTION VALVE CHAMBER				A
WBB-SPS-1300-5	2.4 M WET WELL	STRUCTURAL DETAILS		NOT USED	
WBB-SPS-1300-6	LEVEL CONTROL AND	WELL WASHER DETAILS			A
WBB-SPS-1300-7	1.8M WET WELL	NOTES SHEET 1 OF 2			A
WBB-SPS-1300-8	1.8M WET WELL	NOTES SHEET 2 OF 2			A
WBB-SPS-1300-9	TYPICAL 1800 DIA LIFT STATION				A
WBB-SPS-1300-10	TYPICAL 1800 DIA LIFT STATION	SECTIONS			A
WBB-SPS-1300-11	TYPICAL 1800 DIA LIFT STATION	MISCELLANEOUS DETAILS			A
WBB-SPS-1300-12	ALTERNATIVE LIFT STATION ARRANGEMENT	INCLUDING STORAGE OPTION		NOT USED	
WBB-SPS-1301-1	PUMP WELL GENERAL ARRANGEMENT	PLAN AT TOP SLAB LEVEL		NOT USED	
WBB-SPS-1301-2	PUMP WELL GENERAL ARRANGEMENT	PLAN AT HEADER PIPE LEVEL		NOT USED	
WBB-SPS-1301-3	PUMP WELL GENERAL ARRANGEMENT	SECTIONAL ELEVATION		NOT USED	
WBB-SPS-1301-4	CHAIN SUSPENDED	SUBMERSIBLE PUMP	TYPICAL INSTALLATION	NOT USED	
WBB-SPS-1304-0	ALUMINIUM ACCESS COVERS-OPTION 1	DRAWING INDEX AND GENERAL NOTES		NOT USED	
WBB-SPS-1304-1	ALUMINIUM ACCESS COVERS-OPTION 1	GENERAL ARRANGEMENT		NOT USED	
WBB-SPS-1304-2	ALUMINIUM ACCESS COVERS-OPTION 1	TYPICAL MULTI COVER ARRANGEMENT	AND SECTION DETAILS	NOT USED	
WBB-SPS-1304-3	ALUMINIUM ACCESS COVERS-OPTION 1	SECTION AND	HINGE DETAILS	NOT USED	
WBB-SPS-1304-4	ALUMINIUM ACCESS COVERS-OPTION 1	COVER SECTION DETAILS		NOT USED	
WBB-SPS-1304-5	ALUMINIUM ACCESS COVERS-OPTION 1	LOCK BOX MECHANISM DETAIL		NOT USED	
WBB-SPS-1304-6	ALUMINIUM ACCESS COVERS-OPTION 1	GRILLE HINGE DETAILS & SECTIONS		NOT USED	
WBB-SPS-1304-7	ALUMINIUM ACCESS COVERS-OPTION 1	CENTRE GRILLE HINGE	DETAILS & SECTIONS	NOT USED	
WBB-SPS-1304-8	ALUMINIUM ACCESS COVERS-OPTION 1	MISCELLANEOUS DETAILS		NOT USED	
WBB-SPS-1304-9	ALUMINIUM ACCESS COVERS-OPTION 1	RETAINING POST DETAILS		NOT USED	
WBB-SPS-1304-10	ALUMINIUM ACCESS COVERS-OPTION 2	NOTES AND PUMP WELL COVER PLAN		NOT USED	
WBB-SPS-1304-11	ALUMINIUM ACCESS COVERS-OPTION 2	PUMP WELL FRAME, SAFETY MESH PANELS	AND COVER UNDERSIDE DETAILS	NOT USED	
WBB-SPS-1304-12	ALUMINIUM ACCESS COVERS-OPTION 2	PUMP WELL HINGE AND SEAL DETAILS		NOT USED	
WBB-SPS-1304-13	ALUMINIUM ACCESS COVERS-OPTION 2	PUMP WELL AND VALVE PIT	LATCH MECHANISM BOX GENERAL ARRANGEMENT	NOT USED	
WBB-SPS-1304-14	ALUMINIUM ACCESS COVERS-OPTION 2	PUMP WELL AND VALVE PIT	LATCH MECHANISM BOX DETAILS	NOT USED	
WBB-SPS-1304-15	ALUMINIUM ACCESS COVERS-OPTION 2	PUMP WELL AND VALVE PIT	STRIKER PLATE ON FRAME DETAILS	NOT USED	
WBB-SPS-1304-16	ALUMINIUM ACCESS COVERS-OPTION 2	VALVE PIT GENERAL ARRANGEMENT		NOT USED	
WBB-SPS-1304-17	ALUMINIUM ACCESS COVERS-OPTION 2	VALVE PIT SECTIONS AND DETAILS		NOT USED	
WBB-SPS-1304-18	ALUMINIUM ACCESS COVERS-OPTION 3	DRAWING INDEX, NOTES AND LEGEND	SHEET 1 OF 12	NOT USED	
WBB-SPS-1304-19	ALUMINIUM ACCESS COVERS-OPTION 3	WET-WELL ACCESS COVERS	OPENING OPTIONS, SHEET 2 OF 12	NOT USED	
WBB-SPS-1304-20	ALUMINIUM ACCESS COVERS-OPTION 3	VALVE CHAMBER ACCESS COVERS	OPENING OPTIONS, SHEET 3 OF 12	NOT USED	
WBB-SPS-1304-21	ALUMINIUM ACCESS COVERS-OPTION 3	WET-WELL AND VALVE CHAMBER HANDRAILS	ARRANGEMENT OPTIONS, SHEET 4 OF 12	NOT USED	

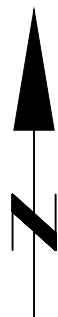
REV. No.	DATE	DESCRIPTION	AUTH.	WBBROC WATER SERVICE PROVIDERS	SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC				
					SEWAGE PUMP STATION DRAWING INDEX SHEET 1 OF 2	DRAWING No.								VERSION
						WBB-SPS-INDEX								A
						NOT TO SCALE								ORG DATE:
A	19/03/2018	BASED ON SEQ-SPS-INDEX VERSION C DATED 03/01/2017				WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION								

SEWAGE PUMP STATION STANDARD DRAWINGS
DRAWING INDEX - SHEET 2 OF 2

DRAWING No.	DRAWING TITLE				REV No.
WBB-SPS-1304-22	ALUMINIUM ACCESS COVERS-OPTION 3	WET-WELL ACCESS COVERS	GENERAL ARRANGEMENT PLANS, SHEET 5 OF 12	NOT USED	
WBB-SPS-1304-23	ALUMINIUM ACCESS COVERS-OPTION 3	WET-WELL ACCESS COVERS	DETAILS, SHEET 6 OF 12	NOT USED	
WBB-SPS-1304-24	ALUMINIUM ACCESS COVERS-OPTION 3	VALVE CHAMBER ACCESS COVERS	GENERAL ARRANGEMENT PLANS-TYPE A, SHEET 7 OF 12	NOT USED	
WBB-SPS-1304-25	ALUMINIUM ACCESS COVERS-OPTION 3	VALVE CHAMBER ACCESS COVERS	GENERAL ARRANGEMENT PLANS-TYPE B, SHEET 8 OF 12	NOT USED	
WBB-SPS-1304-26	ALUMINIUM ACCESS COVERS-OPTION 3	VALVE CHAMBER ACCESS COVERS	AND SAFETY GRATE DETAILS, SHEET 9 OF 12	NOT USED	
WBB-SPS-1304-27	ALUMINIUM ACCESS COVERS-OPTION 3	HANDRAILS AND TOEBOARDS	DETAILS, SHEET 10 OF 12	NOT USED	
WBB-SPS-1304-28	ALUMINIUM ACCESS COVERS-OPTION 3	MISCELLANEOUS DETAILS 1OF 2	SHEET 11 OF 12	NOT USED	
WBB-SPS-1304-29	ALUMINIUM ACCESS COVERS-OPTION 3	MISCELLANEOUS DETAILS 1OF 2	SHEET 11 OF 12	NOT USED	
WBB-SPS-1305-1	ALUMINIUM LADDERS			NOT USED	
WBB-SPS-1305-2	ALUMINIUM EXTENDABLE	HANDGRIP STANCHION		NOT USED	
WBB-SPS-1305-3	ALUMINIUM HANDRAILS			NOT USED	
WBB-SPS-1305-4	FABRICATED METALWORK			NOT USED	
WBB-SPS-1308-1	RPZ DEVICE	TYPICAL LAYOUT			A
WBB-SPS-1400-1	GRIT COLLECTOR	MAINTENANCE HOLE	GENERAL ARRANGEMENT	NOT USED	
WBB-SPS-1401-1	GRIT COLLECTOR - MAINTENANCE HOLE	BAR SCREEN INSTALLATION	GENERAL ARRANGEMENT	NOT USED	
WBB-SPS-1401-2	GRIT COLLECTOR - MAINTENANCE HOLE	INLET PIPE & VALVE	INSTALLATION & DETAILS	NOT USED	
WBB-SPS-1402-1	ADDITIONAL STORAGE CHAMBER	GENERAL REQUIREMENTS			A
WBB-SPS-1405-2	TYPICAL VENT POLE				A
WBB-SPS-1406-1	RISING MAIN DISCHARGE	TO GRAVITY SEWER		NOT USED	
WBB-SPS-1406-2	PREFERRED RISING MAIN DISCHARGE	MANHOLE TO GRAVITY SEWER - 900mm DIA		NOT USED	
WBB-SPS-1406-3	DISCHARGE MAINTENANCE HOLE DETAILS				A
WBB-SPS-1406-4	RISING MAIN DISCHARGE MANHOLE	TO GRAVITY SEWER - 1200mm DIA		NOT USED	
WBB-SPS-1407-1	POLYETHYLENE LINING	TOP SLAB & WALL	TYPICAL DETAILS		A
WBB-SPS-1407-2	POLYETHYLENE LINING	WALL PIPE PENETRATION	TYPICAL DETAILS		A
WBB-SPS-1508-1	SURVEY PLATE, PUMP LABEL PLATE	VALVE SPINDLE ACCESS			A
WBB-SPS-1508-2	RISING MAIN VALVE MARKING				A
WBB-SPS-1509-1	GRIT COLLECTOR	MAINTENANCE HOLE	ABOVE GROUND GEARBOX	NOT USED	
WBB-SPS-1601-1	TYPICAL PIPE INSTALLATION, SUPPORT AND	TRENCH FILL - RISING MAINS <= DN300		NOT USED	
WBB-SPS-1602-1	RISING MAIN	SCOUR / DRAIN ARRANGEMENT			A
WBB-SPS-1603-1	SCOUR MAINTENANCE HOLE FOR	RISING MAINS DN300 OR SMALLER		NOT USED	
WBB-SPS-1604-1	SCOUR MAINTENANCE HOLE FOR	RISING MAINS LARGER THAN DN300		NOT USED	
WBB-SPS-1605-1	DN32 AIR BLEED ASSEMBLY FOR OD250	RISING MAINS OR SMALLER			A
WBB-SPS-1606-1	AUTOMATIC GAS RELEASE VALVES				A
WBB-SPS-1607-1	CAST IRON VALVE BOX AND COVER			NOT USED	
WBB-SPS-1608-1	COMBINATION	EMERGENCY PUMP CONNECTION	AND PIG INSERTION POINT DETAILS	NOT USED	

REV. No.	DATE	DESCRIPTION	AUTH.	WBBROC WATER SERVICE PROVIDERS	SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC
					SEWAGE PUMP STATION DRAWING INDEX SHEET 2 OF 2	DRAWING No.				VERSION
						WBB-SPS-INDEX				A
						NOT TO SCALE				ORG DATE:
A	19/03/2018	BASED ON SEQ-SPS-INDEX VERSION C DATED 03/01/2017								

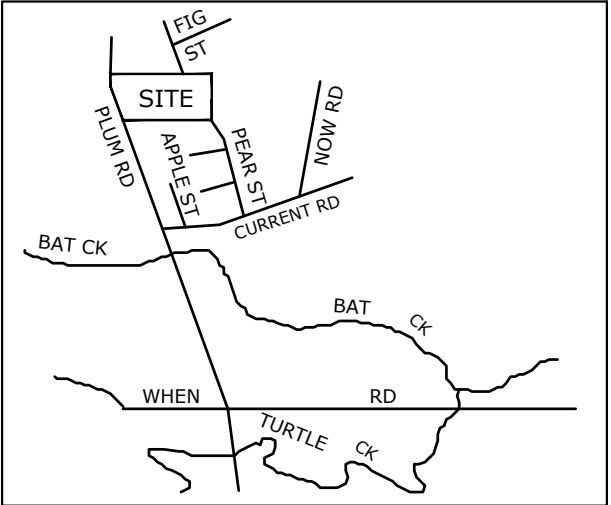
WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
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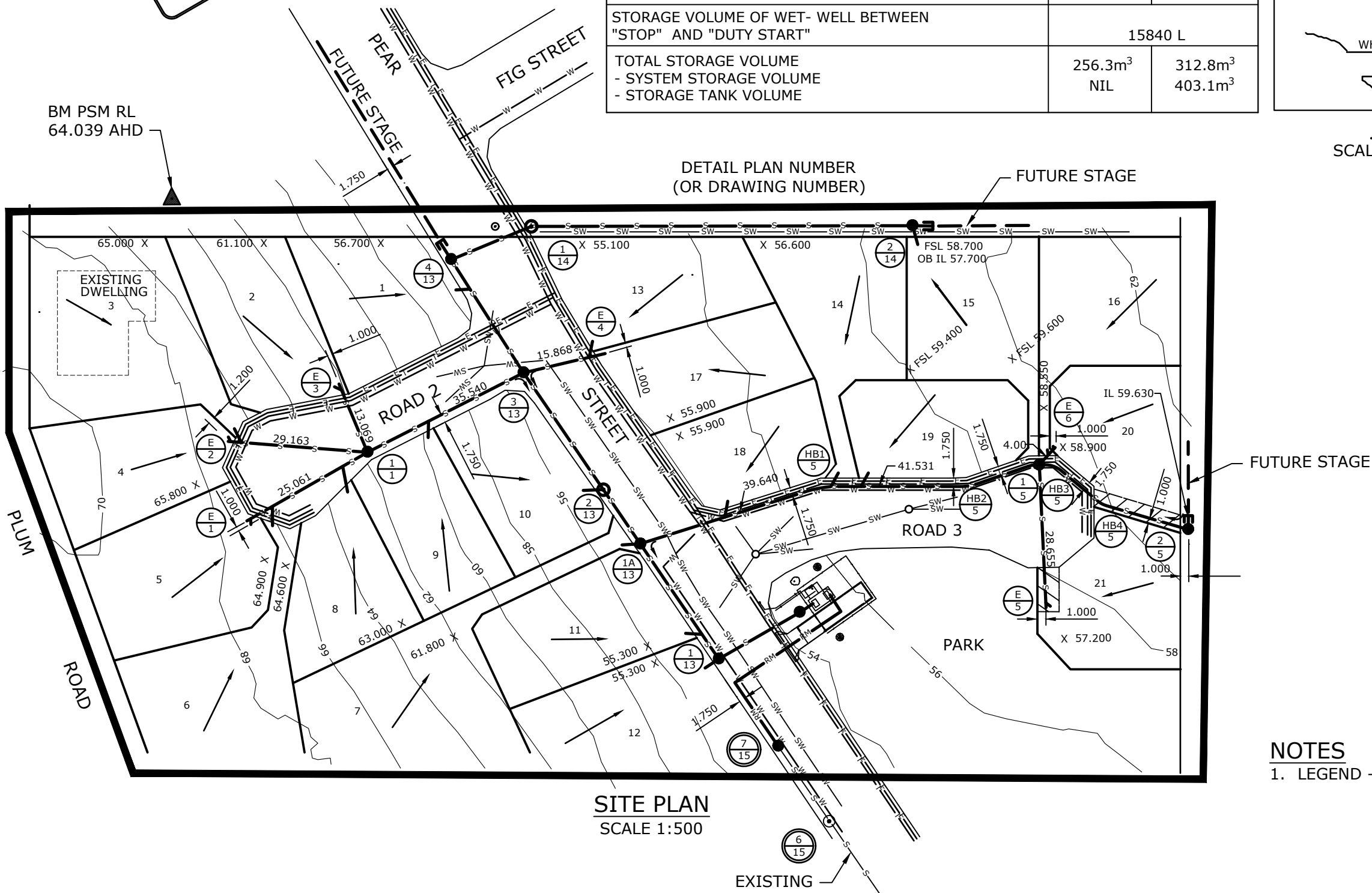
EXAMPLE
ONLY

BM PSM RL
64.039 AHD

PARAMETER	INITIAL	ULTIMATE
GROSS CATCHMENT AREA:	20.38 ha	249.59 ha
NETT CATCHMENT AREA:	15.28 ha	187.19 ha
DESIGN PWWF TO PUMPING STATION:	22.46 L/s	66.29 L/s
PUMPING FLOW RATE(S):	30 L/s	88 L/s
STORAGE TIME IN SEWERAGE SYSTEM AT ADWF BETWEEN "DUTY START" AND INVERT LEVEL OF OVERFLOW PIPE. (EMERGENCY OVERFLOW TO ENVIRONMENT)	5.2 hrs	3.5 hrs
STORAGE VOLUME OF WET- WELL BETWEEN "STOP" AND "DUTY START"	15840 L	
TOTAL STORAGE VOLUME - SYSTEM STORAGE VOLUME - STORAGE TANK VOLUME	256.3m ³ NIL	312.8m ³ 403.1m ³



LOCALITY PLAN
SCALE 1:2500 MAP GRID NO. J10



NOTES
1. LEGEND - SEE DRAWING WBB-GEN-1100-1

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1100-1 VERSION A	

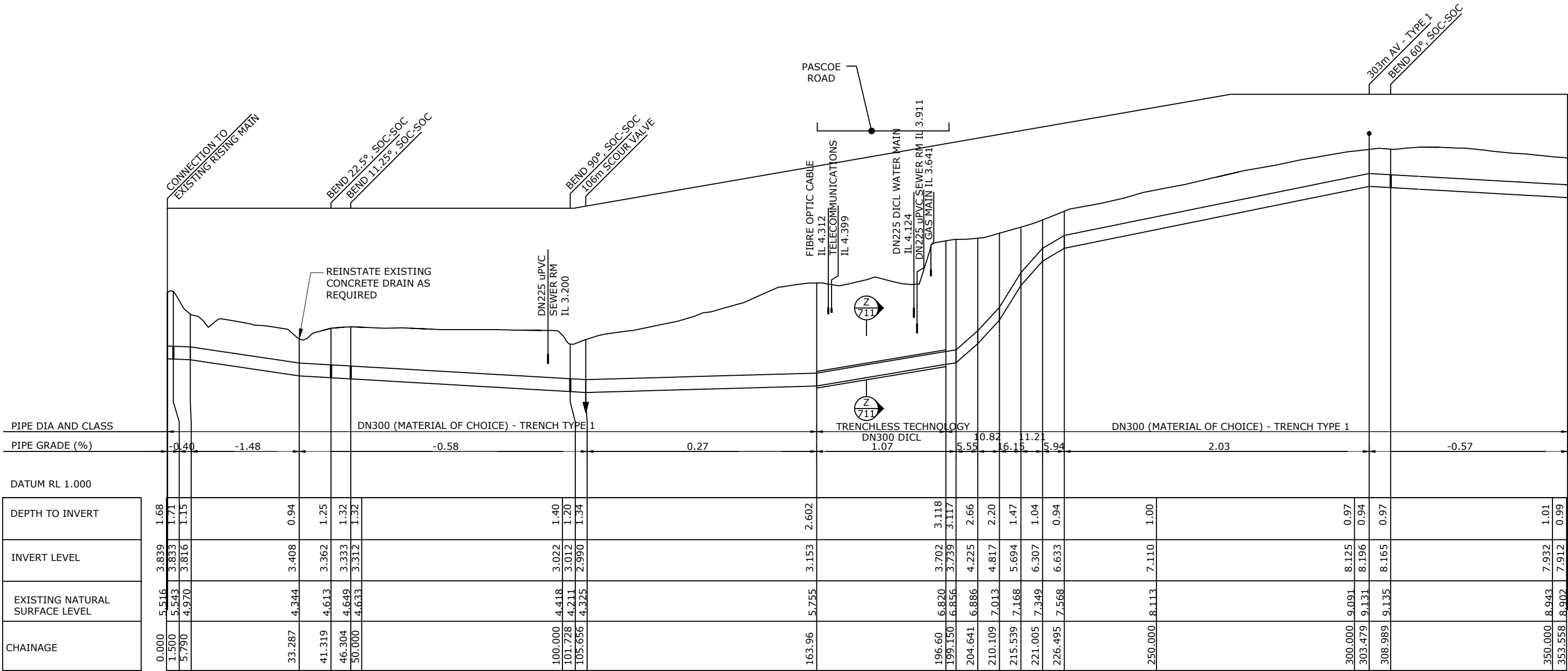
**WBBROC WATER
SERVICE PROVIDERS**

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
TYPICAL LOCALITY AND SITE PLAN

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1100-1				A
NOT TO SCALE				ORG DATE:

NOTE:
SHOW IL OF ALL SERVICE CROSSINGS



NOTE:
AS PER WBBROC SEWER CODE,
LONGITUDINAL SECTIONS SHALL BE
PROVIDED AS DESIGN DRAWINGS AND
SUBMITTED AS "AS CONS"

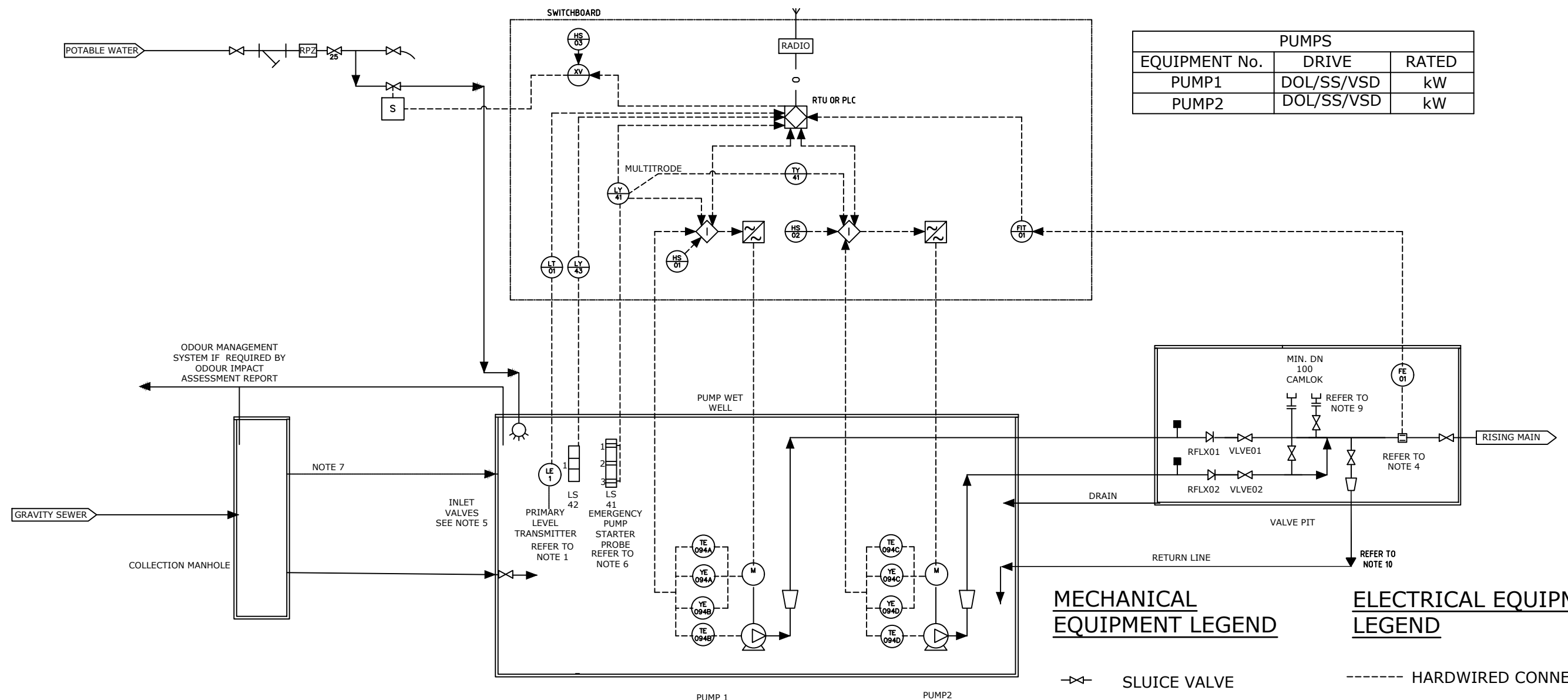
LEGEND

GAS VALVE

SCOUR VALVE

REV. No.	DATE	DESCRIPTION	AUTH.	WBBROC WATER SERVICE PROVIDERS		SEWAGE PUMP STATION STANDARD DRAWING		BRC	FCRC	GRC	NBRC	SBRC
						TYPICAL LONGITUDINAL SECTION OF RISING MAIN		DRAWING No.				VERSION
								WBB-SPS-1100-2				A
A	19/03/2018	BASED ON SEQ-SPS-1100-2 VERSION A						NOT TO SCALE				ORG DATE:

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION



PUMPS		
EQUIPMENT No.	DRIVE	RATED
PUMP1	DOL/SS/VSD	kW
PUMP2	DOL/SS/VSD	kW

MECHANICAL
EQUIPMENT LEGEND

- SLUICE VALVE
- NON-RETURN VALVE
- 'Y' TYPE STRAINER
- ELECTRIC MOTOR
- PUMP
- TAPPING POINT
- REDUCED PRESSURE ZONE BACKFLOW PREVENTION DEVICE
- WELL WASHER

ELECTRICAL EQUIPMENT
LEGEND

- HARDWIRED CONNECTION
- COMMUNICATION/SOFTWARE CONNECTION
- DISCRETE INSTRUMENT - FIELD MOUNTED/OPERATOR NOT ACCESSIBLE
- DISCRETE INSTRUMENT - OPERATOR ACCESSIBLE
- RTU - OPERATOR NOT ACCESSIBLE
- LOGIC INTERLOCK (SOFTWARE OR HARDWARE)
- VARIABLE SPEED DRIVE
- SOFT STARTER
- MAGNETIC FLOWMETER

NOTES:

- PUMP START/STOP NORMALLY CONTROLLED BY RTU USING LEVEL TRANSMITTER LT 01.
- UPON HIGH LEVEL (LS 41-1), PUMP START/STOP AUTOMATIC CONTROL IS BYPASSED BY HARD WIRED EMERGENCY/BACK-UP PUMP STARTER CIRCUIT ON MULTITRODE LEVEL CONTROL UNIT.
- ALL INSTRUMENTS AND ALARM RL'S SHALL BE CONFIRMED BY WBBROC-SP.
- FLOWMETER SHALL BE PROVIDED UNLESS OTHERWISE SPECIFIED BY WBBROC-SP, INSTALLATION REQUIREMENTS MAY REQUIRE SEPARATE PIT.
- INLET VALVES WHERE REQUIRED BY WBBROC-SP.
- REFER TO TYPICAL EMERGENCY/BACK-UP PUMP STARTER CIRCUIT SCHEMATIC. SEE WBBROC-SP ELECTRICAL DRAWINGS.
- HIGH INLET PIPE WHERE REQUIRED BY WBBROC-SP.
- WELL WASHER SHALL BE PROVIDED WHERE REQUIRED BY WBBROC-SP.
- ONE OR TWO CAMLOK CONNECTIONS REQUIRED DEPENDING ON PHYSICAL LAYOUT (REFER TO WBBROC-SP DRAWINGS)
- RETURN LINE MAY BE FROM VALVE PIT OR FROM RISING MAIN. (REFER TO WBBROC-SP DRAWINGS)

TAG	LEVEL	RL	COMMENTS
LT1	LSL	NOTE 3	ALL STOP
	LSM	NOTE 3	DUTY START
	LSH	NOTE 3	STANDBY START
	LSHH	NOTE 3	ALARM
LS42	1	NOTE 3	OVERFLOW ALARM
LS 41	1	NOTE 3	EMERG PUMP START/PUMP ALARM
	2	NOTE 3	
	3	NOTE 3	EMERG. PUMP STOP
PUMP 1			
094A	TE		STATOR HIGH TEMP.
094B	TE		PUMP BEARING HIGH TEMP.
094A	YE		JUNCTION BOX SEAL FAIL
094B	YE		STATOR HOUSING SEAL FAIL
PUMP 2			
094C	TE		STATOR HIGH TEMP.
094D	TE		PUMP BEARING HIGH TEMP.
094C	YE		JUNCTION BOX SEAL FAIL
094D	YE		STATOR HOUSING SEAL FAIL

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	REVISION DETAILS BASED ON SEQ-SPS-1101-1	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING

TYPICAL P & ID DIAGRAM
DUTY - ASSIST OPERATION
OR DUTY-STANDBY

BRC FCRC GRC NBRC SBRC

DRAWING No. VERSION

WBB-SPS-1101-1

A

NOT TO SCALE

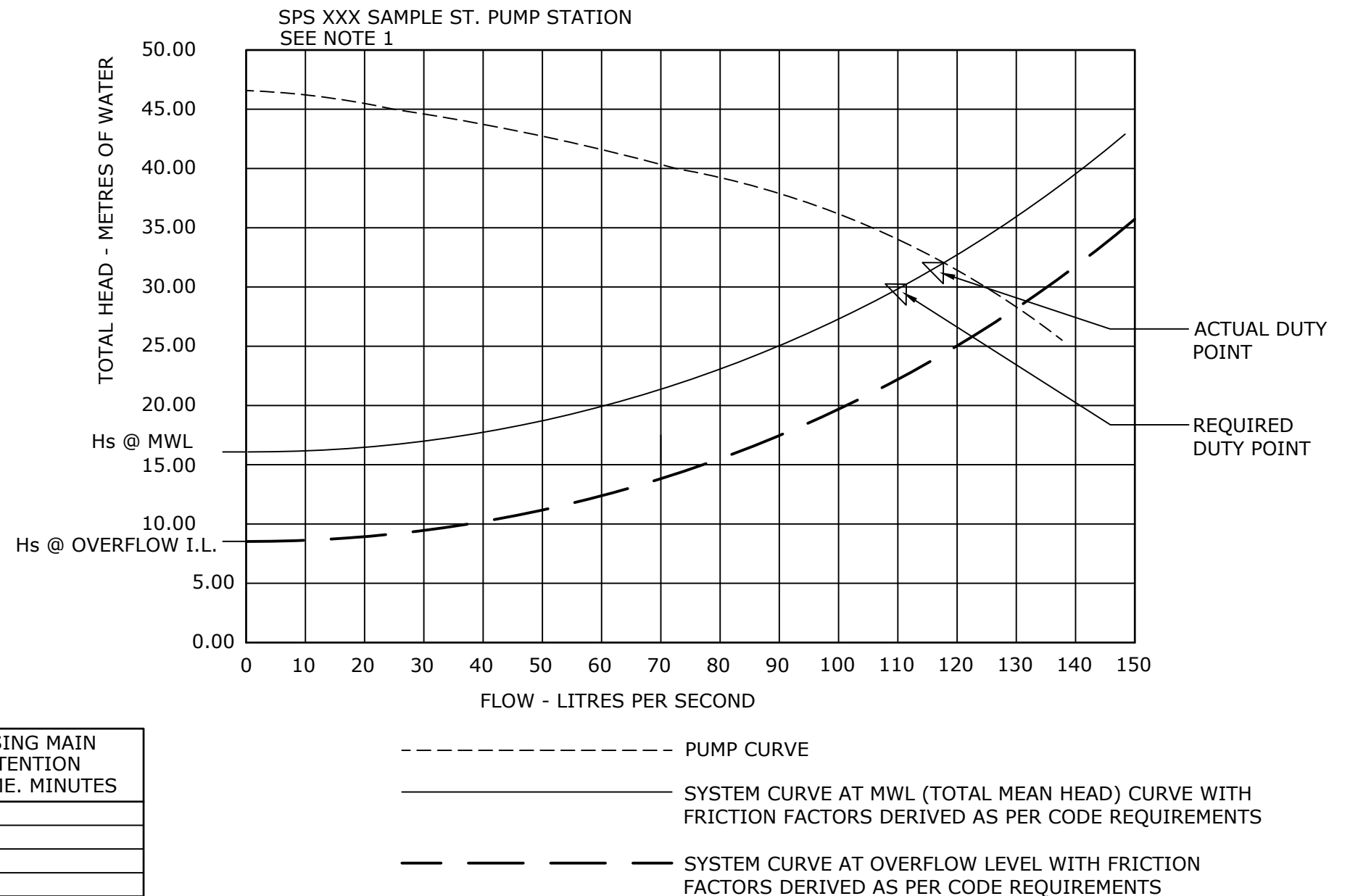
ORG DATE:

1. THE CURVES SHOWN ON THIS DRAWING ARE GIVEN AS A SAMPLE ONLY AND SHOW A STATION WITH ONE DUTY PUMP OPERATING AND AT A SINGLE SPEED. FOR STATIONS WITH MORE THAN ONE DUTY PUMP ADDITIONAL PUMP CURVES ARE REQUIRED FOR EACH ADDITIONAL PUMP RUNNING. FOR INSTALLATIONS WITH VARIABLE SPEED DRIVES PUMP CURVES ARE REQUIRED FOR PUMP SPEED AT 5Hz INCREMENTS FROM 30Hz TO 55Hz.
2. THE PROJECT DRAWING SHALL CONTAIN CURVES WHICH REFLECT THE PUMPS INSTALLED.
3. THE TABLES SHOWN ON THIS DRAWING SHALL BE POPULATED AND INCLUDED IN THE PROJECT DRAWINGS.
4. THE MINIMUM CABLE LENGTH FOR ANY PUMP IS 10 m (15.0m FOR QUU)
5. TWL - TOP WATER LEVEL (AT DUTY PUMP START LEVEL)
BWL - BOTTOM WATER LEVEL (AT DUTY PUMP STOP LEVEL)
MWL - MEAN WATER LEVEL (HALF WAY BETWEEN TWL & BWL)
6. MEAN STATIC AND TOTAL MEAN HEAD DEFINED ON DRAWING SEQ-SPS-1101-4.

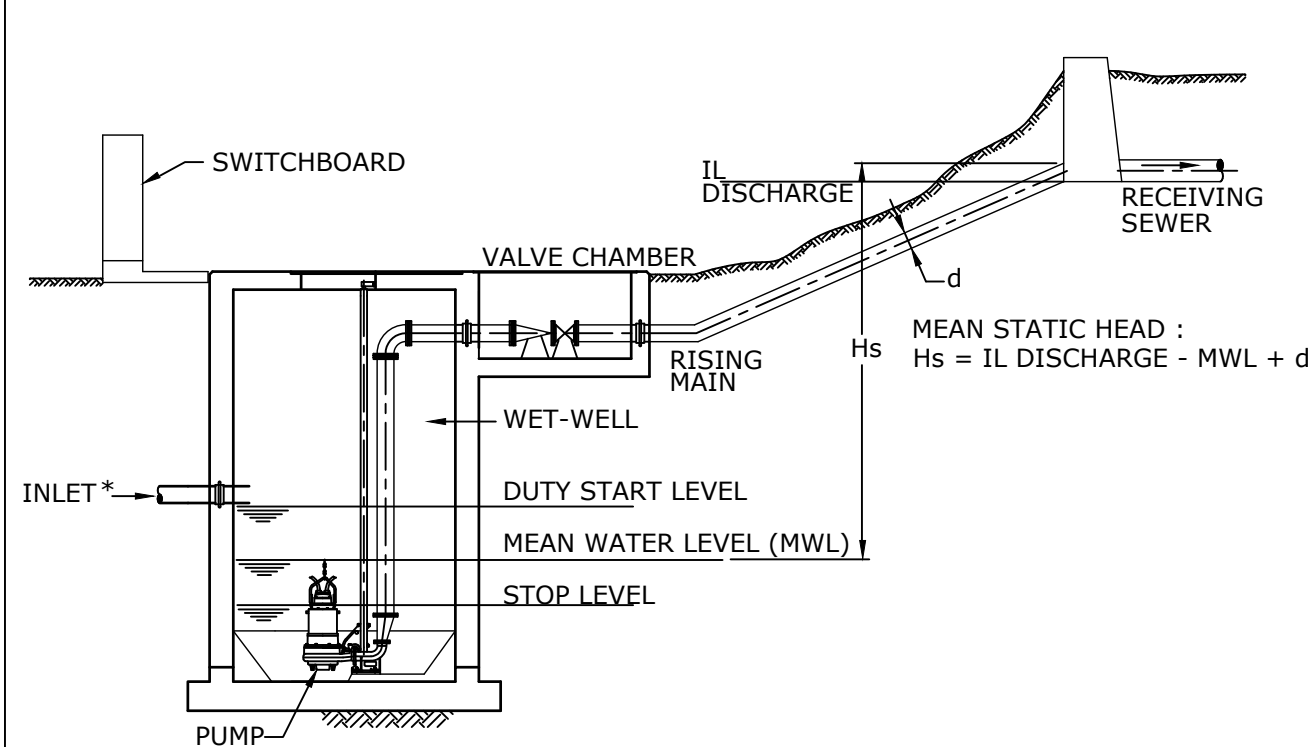
NUMBER OF DUTY PUMPS	
NUMBER OF ASSIST PUMPS	
NUMBER OF STANDBY PUMPS	
TOTAL NUMBER OF PUMPS	
PUMP MANUFACTURER	
PUMP MODEL	
PUMP IMPELLER DIAMETER	
IMPELLER TYPE (eg NON-CLOG)	
PUMP MANUFACTURER CURVE NO.	
MOTOR MANUFACTURER	
MOTOR KW RATING	
MOTOR START TYPE (dol,ss,vsd)	
MOTOR VOLTAGE	
MOTOR SPEED AT 50 Hz	
CABLE LENGTH (SEE NOTE 4.)	
DUTY POINT (FLOW & HEAD) (ACTUAL)	l/sec & m
HYDRAULIC EFFICIENCY @ DUTY POINT %	

PIPE NOMINAL DIAMETER	
PIPE MATERIAL	
PIPE MANUFACTURER	
PIPE INTERNAL DIAMETER mm	
PIPE OUTSIDE DIAMETER mm	
PIPE PN RATING	
VELOCITY AT 50 Hz FROM TWL	
VELOCITY AT MINIMUM Hz FROM BWL	
RIISING MAIN VOLUME M ³	
MEAN STATIC HEAD AT ZERO FLOW	
HYDRAULIC TEST PRESSURE kPA	

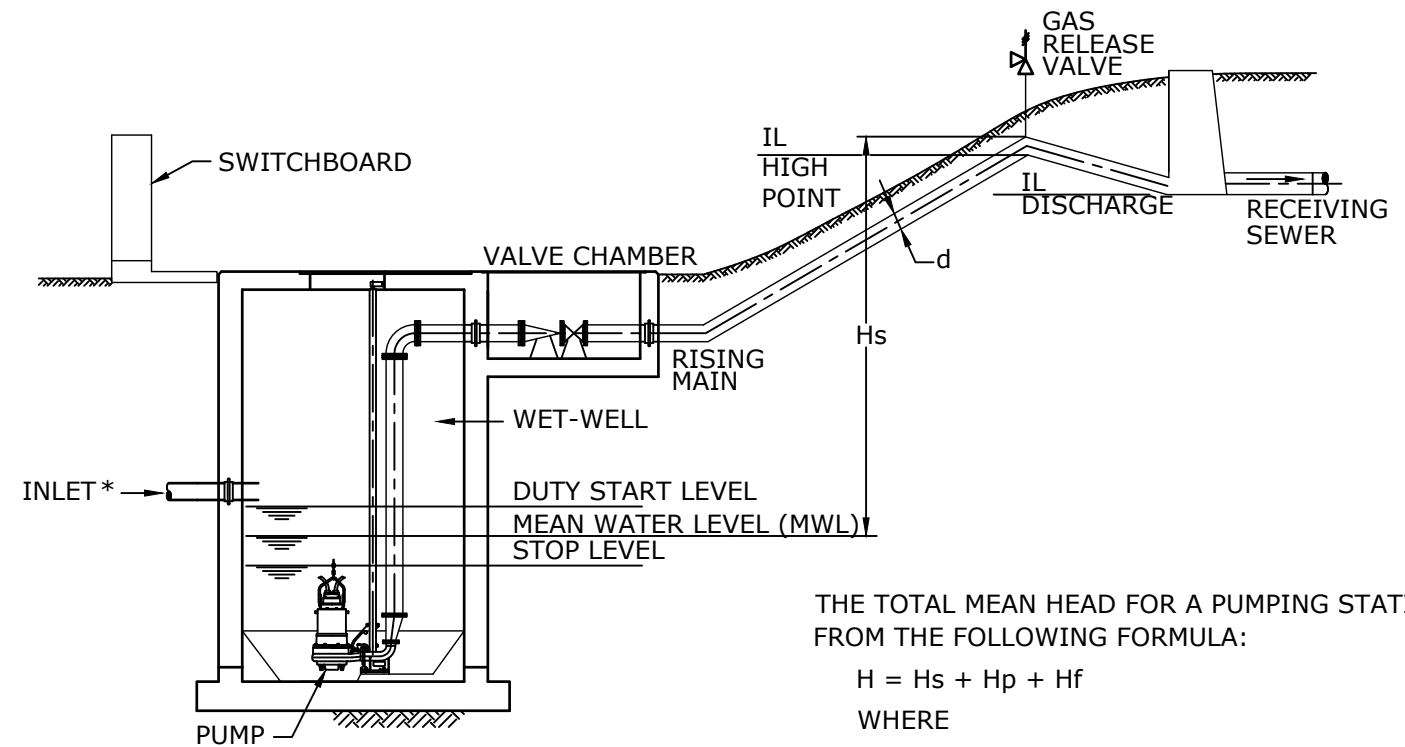
	FLOW RATE INTO PUMPING STATION L/S	VELOCITY IN RISING MAIN M/S	NUMBER OF PUMP STARTS PER HOUR	RISING MAIN DETENTION TIME. MINUTES
PWWF				
PDWF				
ADWF				



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					PUMP AND RISING MAIN DETAILS	DRAWING No.					VERSION
						WBB-SPS-1101-3					A
A	19/03/2018	BASED ON SEQ-SPS-1101-3 VERSION A			NOT TO SCALE					ORG DATE:	



CASE 1 - CONTINUOUS RISING MAIN



CASE 2 - RISING MAIN WITH A HIGH POINT

THE TOTAL MEAN HEAD FOR A PUMPING STATION (H) IS DERIVED FROM THE FOLLOWING FORMULA:

$$H = H_s + H_p + H_f$$

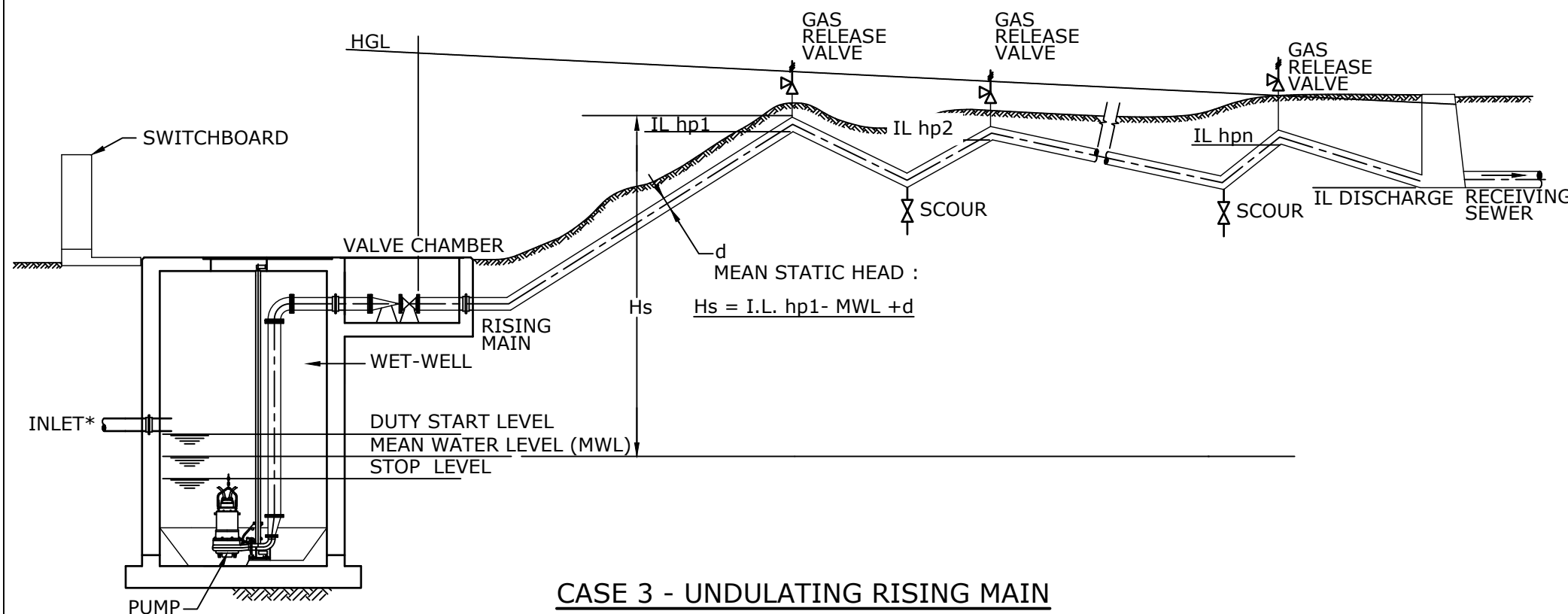
WHERE

H = TOTAL MEAN HEAD IN METRES

H_s = MEAN STATIC HEAD IN METRES

H_p = FRICTION HEAD LOSS OF THE MAIN IN METRES

H_f = TOTAL FRICTION HEAD LOSS OF FITTINGS AND VALVES USED IN PIPEWORK AND RISING MAIN IN METRES



CASE 3 - UNDULATING RISING MAIN

MEAN STATIC HEAD

MEAN STATIC HEAD, H_s = INVERT LEVEL OF THE RISING MAIN AT THE CRITICAL POINT - MEAN OPERATING LEVEL IN WET-WELL + d
WHERE d = RISING MAIN INTERNAL DIAMETER IN METERS.

THE CRITICAL POINT IS THE HIGHEST POINT ON THE RISING MAIN THAT IS ON (TOUCHING) THE HGL.

FOR MOST RISING MAINS, THE CRITICAL POINT IS EITHER AT THE DISCHARGE POINT OR AT THE HIGHEST PHYSICAL POINT ON THE MAIN. FOR UNDULATING MAINS, THE CRITICAL POINT MAY OCCUR AT LOCAL HIGH POINTS BETWEEN THE HIGHEST PHYSICAL POINT ON THE MAIN AND THE DISCHARGE POINT, AND MAY BE DIFFERENT FOR DIFFERENT FLOW RATES.

THE CRITICAL POINT IS DETERMINED BY CALCULATING THE TOTAL MEAN HEAD FOR EACH POTENTIAL CRITICAL POINT- THE HIGHEST VALUE OBTAINED INDICATES THE CRITICAL POINT.

FRICTION HEAD LOSSES ARE ONLY INCLUDED FOR THE SECTION OF MAIN BETWEEN THE PUMP AND THE CRITICAL POINT.

NOTES

1. "DUTY START LEVEL" ALSO KNOWN AS "CUT-IN" LEVEL AND TWL.
2. "STOP LEVEL" ALSO KNOWN AS "CUT-OUT" LEVEL AND BWL.

* A HIGH INLET PIPE MAY BE REQUIRED ON SOME SITES

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1101-4 VERSION A	

**WBBROC WATER
SERVICE PROVIDERS**

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
RISING MAIN CONCEPT DESIGN
SECTIONS AND MEAN
HEAD CALCULATIONS

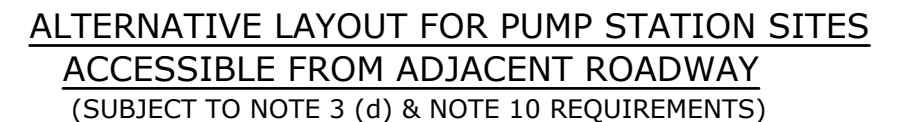
BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1101-4				A
NOT TO SCALE				ORG DATE:

1. WBBROC-SP SHALL INSTALL A DN25 WATER METER AFTER AN APPLICATION STATING THE NUMBER AND NAME OF THE PUMP STATION AND THE PRESCRIBED FEES HAVE BEEN PAID. THE APPLICATION SHALL BE IN THE NAME OF WBBROC-SP.



MGA CO-ORDINATES		
CENTROID OF	X (m)	Y (m)
WET WELL		
RECEIVING MANHOLE		
RISING MAIN VALVE		
SWITCHBOARD		

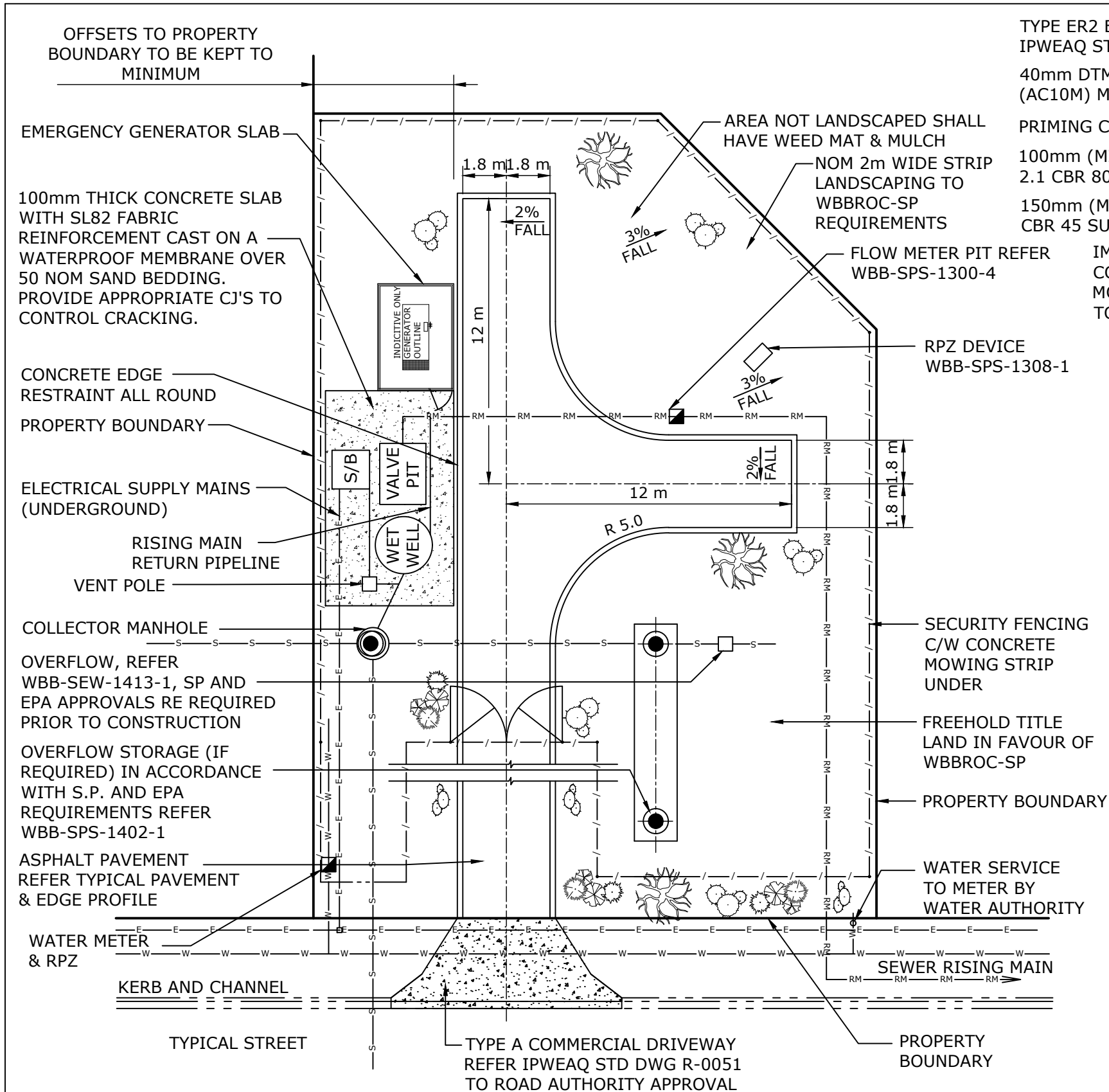
1. THE DETAILS SHOWN ON THIS DRAWING ARE TYPICAL ONLY. THE LOCATION OF ALL ITEMS SHALL BE AS SHOWN ON THE APPROVED DRAWINGS. RETIC = R, TRUNK = T.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH WBBROC STANDARD DRAWINGS
3. DRIVEWAY ACCESS TO ALL PUMP AND LIFT STATIONS SHALL BE PROVIDED AS FOLLOWS:
 - (a) LONGITUDINAL GRADE SHALL BE MAXIMUM 10%.
 - (b) LOCATED SO VEHICULAR TRAFFIC WILL NOT TRAVERSE THE COVERS.
 - (c) HEAVY VEHICLE ACCESS DRIVEWAYS SHALL BE REINFORCED CONCRETE.
 - (d) IN ACCORDANCE WITH ROAD SAFETY AUDIT PER RELEVANT ROAD AUTHORITY.
4. THE PUMP AND LIFT STATION SITE AREA SHALL BE A MINIMUM OF 400m² OR AS DIRECTED BY THE WBBROC-SP.
THE SURROUNDS SHALL BE LANDSCAPED WITH SHRUBS AND MULCH. INTERNAL LANDSCAPING -WEED MAT AND MULCH.
5. PUMP STATION PLATFORM SHALL BE PROFILED TO SLOPE 1 IN 100 AWAY FROM OPENINGS AND SWITCHBOARD PLINTH & THEN BATTER AT 1 IN 6 (MAX.) TO NATURAL SURFACE.
6. WHERE REQUIRED BY WBBROC-SP PROVIDE A 1.8m HIGH PERSON PROOF FENCE AND 4.0m WIDE DOUBLE LEAF LOCKABLE GATE.
7. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. ACCESS ROAD SHALL THE SAME FLOOD IMMUNITY CRITERIA AS REQUIRED FOR CONNECTING ROADS.
9. (NOTE DELETED)
10. USED ONLY WITH APPROVAL FROM WBBROC-SP.



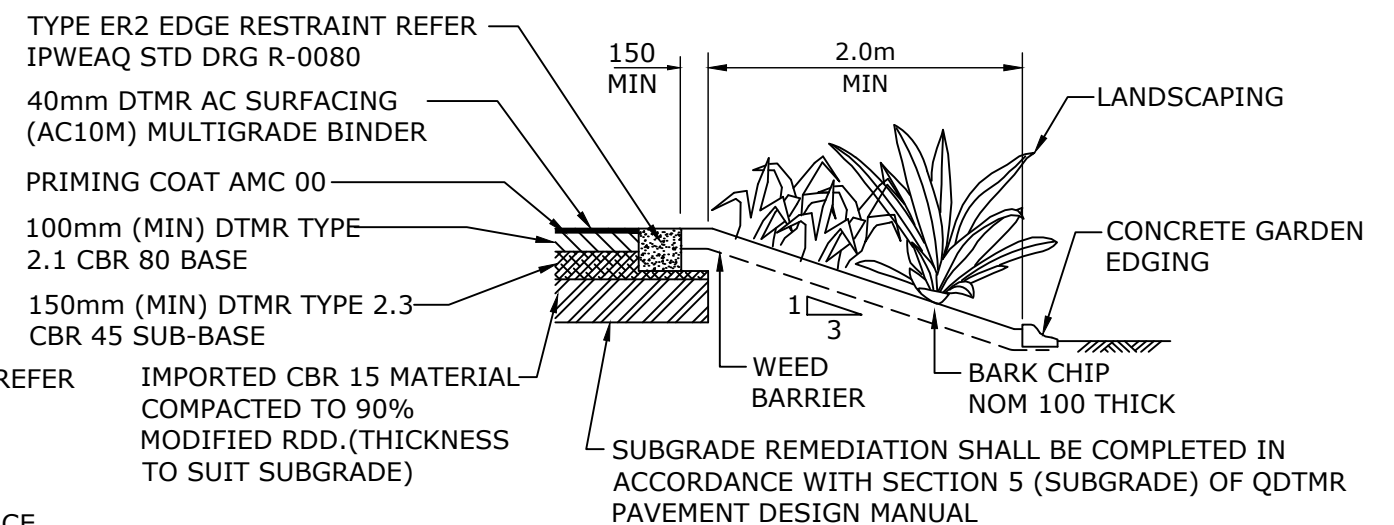
REV. No.	DATE	DESCRIPTION	AUTH
A	19/03/2018	BASED ON SPS-1102-1 VERSION A	

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

E	SEWAGE PUMP STATION STANDARD DRAWING				BRC	FCRC	GRC	NBRC	SBRC
	PREFERRED SITE LAYOUT				DRAWING No.				VERSION
					WBB-SPS-1102-1				A
					NOT TO SCALE			ORG DATE:	



TYPICAL LAYOUT FOR PUMP STATION SITE



TYPICAL PAVEMENT AND EDGE PROFILE FOR AC PAVEMENT

NOT TO SCALE

GENERAL

1. DETAIL SHOWN IN THIS DRAWING IS TYPICAL ONLY. THE LOCATION OF ALL ITEMS WILL BE AS SHOWN ON THE APPROVED DRAWINGS AND READ IN CONJUNCTION WITH WBBROC-SP SPECIFICATIONS FOR SEWAGE PUMPING STATIONS.
2. SECURITY FENCING INCLUDING 4M WIDE DOUBLE LEAF LOCKABLE GATE -REFER PRODUCTS AND MATERIALS - LIST (CIVIL).
3. SURFACE RUNOFF TO BE ADDRESSED AND MANAGED APPROPRIATELY.
4. DRIVEWAY ACCESS TO ALL PUMP AND LIFT STATIONS SHALL BE IN ACCORDANCE WITH ROAD SAFETY AUDIT PER RELEVANT ROAD AUTHORITY.
5. ROADWAY DIMENSIONS ARE TO CATER FOR TURNING/MANOEUVERING OF 8.8m SERVICE VEHICLE.

ELECTRICAL

1. ELECTRICAL SWITCHBOARD TO BE MINIMUM 1.5M FROM EDGE OF ANY OPENING.

ODOUR CONTROL

1. ODOUR CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE ODOUR IMPACT ASSESSMENT REPORT.

LANDSCAPING

1. CONSTRUCT CONCRETE CAST IN SITU GARDEN EDGING AT THE BASE OF THE LANDSCAPED AREA. THE LINE AND LEVEL OF THE GARDEN EDGING SHALL BE ESTABLISHED TO THE SATISFACTION OF THE SUPERINTENDENT.
2. SUPPLY AND PLACE WOODCHIP 100MM DEEP OVER AN APPROVED WEED INHIBITING MEDIUM. THE WHOLE AREA SHALL BE CLEARED OF WEEDS AND GRASS PRIOR TO PLACING THE ABOVE MATERIALS.
3. SUPPLY, PLANT AND ESTABLISH TREES AND SHRUBS AS APPROVED. TOPSOIL STRIPPED PRIOR TO CONSTRUCTION SHALL BE REPLACED ON ALL SURFACES NOT PAVED, INCLUDING BATTER SLOPES AND GARDEN BEDS.
4. AREA INSIDE FENCE TO BE FULLY LANDSCAPED WITH LOW MAINTENANCE PLANTS AND NO GRASSED AREAS.

PAVEMENT

1. PAVEMENT SHALL BE DRY AND THOROUGHLY BROOMED BEFORE SURFACING IS UNDERTAKEN.
2. ANY DEPRESSIONS GREATER THAN 25MM SHALL BE TACK COATED AND BROUGHT UP TO THE LEVEL OF THE PAVEMENT.
3. PAVEMENT SHALL COMPLY WITH DTMR SPECIFICATION "UNBOUND PAVEMENTS" MRTS 05
4. ASPHALTIC CONCRETE SHALL COMPLY WITH DTMR SPECIFICATION "ASPHALT PAVEMENTS" MRTS 30.
5. ALL ACCESS ROADS SHALL HAVE THE SAME FLOOD IMMUNITY CRITERIA AS REQUIRED FOR THE CONNECTING ROAD NETWORK.
6. QDTMR - QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1102-2 VERSION A	

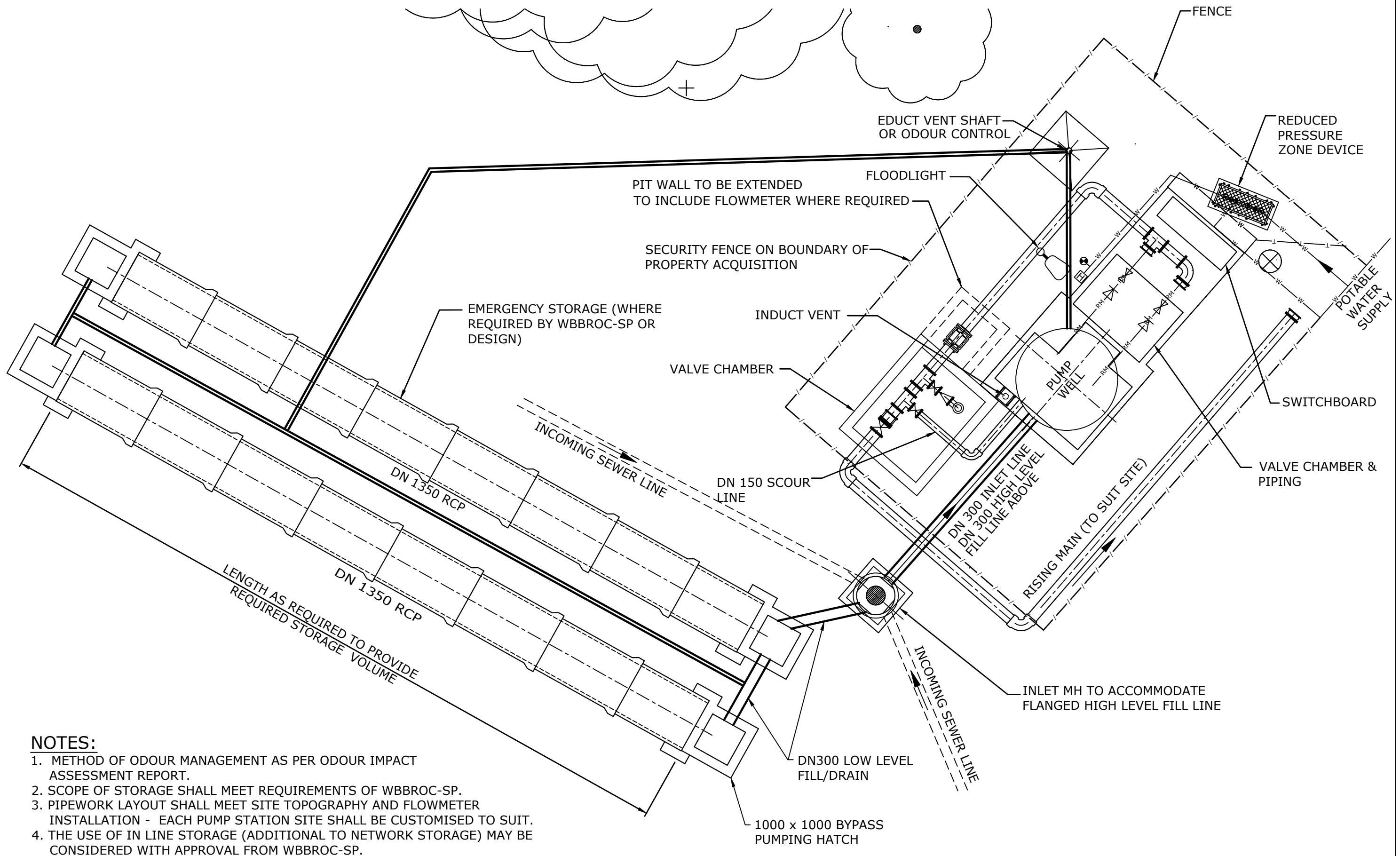
WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING

TYPICAL SITE LAYOUT WITH STORAGE AND BACK-UP POWER

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1102-2				A
NOT TO SCALE				ORG DATE:



NOTES:

1. METHOD OF ODOUR MANAGEMENT AS PER ODOUR IMPACT ASSESSMENT REPORT.
2. SCOPE OF STORAGE SHALL MEET REQUIREMENTS OF WBBROC-SP.
3. PIPEWORK LAYOUT SHALL MEET SITE TOPOGRAPHY AND FLOWMETER INSTALLATION - EACH PUMP STATION SITE SHALL BE CUSTOMISED TO SUIT.
4. THE USE OF IN LINE STORAGE (ADDITIONAL TO NETWORK STORAGE) MAY BE CONSIDERED WITH APPROVAL FROM WBBROC-SP.

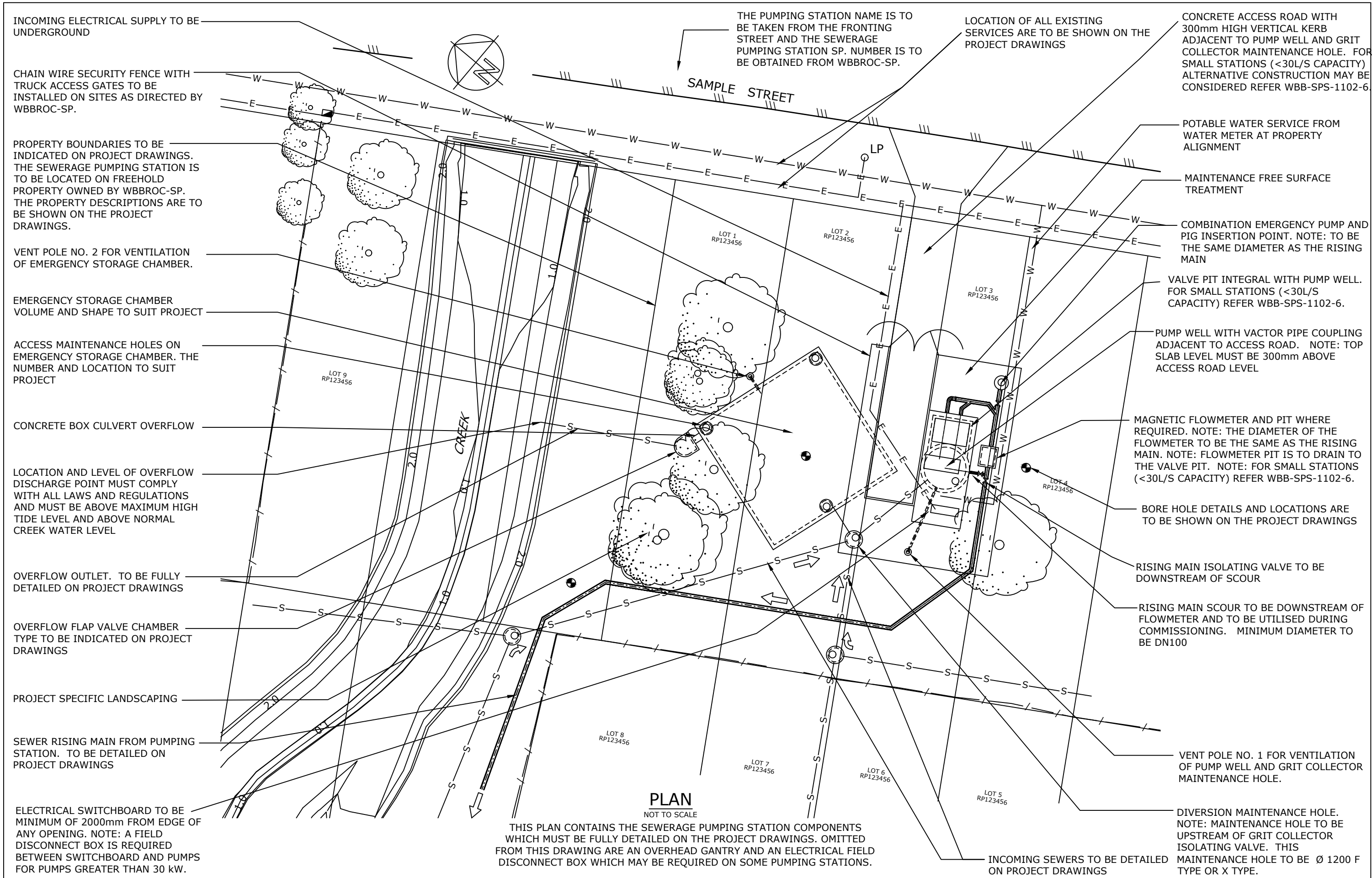
REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1102-3 VERSION A	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
ALTERNATIVE SITE LAYOUT WITH
STORAGE AND OPTIONAL FLOW-METER

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1102-3				A
NOT TO SCALE				ORG DATE:



REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1102-4 VERSION B DATED 06/05/2014	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING		BRC	FCRC	GRC	NBRC	SBRC
TYPICAL SITE LAYOUT WITH PIG INSERTION/EMERGENCY PUMP POINT AND ALTERNATIVE EMERGENCY STORAGE		DRAWING No.				VERSION
		WBB-SPS-1102-4				A
		NOT TO SCALE				ORG DATE:

REF.	DESCRIPTION	LEVEL
LEVEL 1	SURFACE LEVEL (ACCESS ROAD)	X.XXX
LEVEL 2	INVERT LEVEL OF OVERFLOW	X.XXX
LEVEL 3	INVERT LEVEL OF BASE OF VALVE PIT	X.XXX
LEVEL 4	INVERT LEVEL OF INLET SEWER AT PUMP WELL	X.XXX
LEVEL 5	TOP WATER LEVEL OF PUMP WELL	X.XXX
LEVEL 6	BOTTOM WATER LEVEL OF PUMP WELL	X.XXX
LEVEL 7	INVERT OF PUMP WELL	X.XXX
LEVEL 8	BOTTOM OF BASE SLAB OF PUMP WELL	X.XXX
LEVEL 9	TOP OF ROOF SLAB OF PUMP WELL	X.XXX
LEVEL 10	INVERT LEVEL OF RISING MAIN THROUGH PIT WALL	X.XXX

CHAMBER	VOLUME m3
PUMP WELL	XX.X
DIVERSION MAINTENANCE HOLE	XX.X
EMERGENCY STORAGE CHAMBER	XX.X
RETICULATION SYSTEM	XX.X
TOTAL	XXX.X

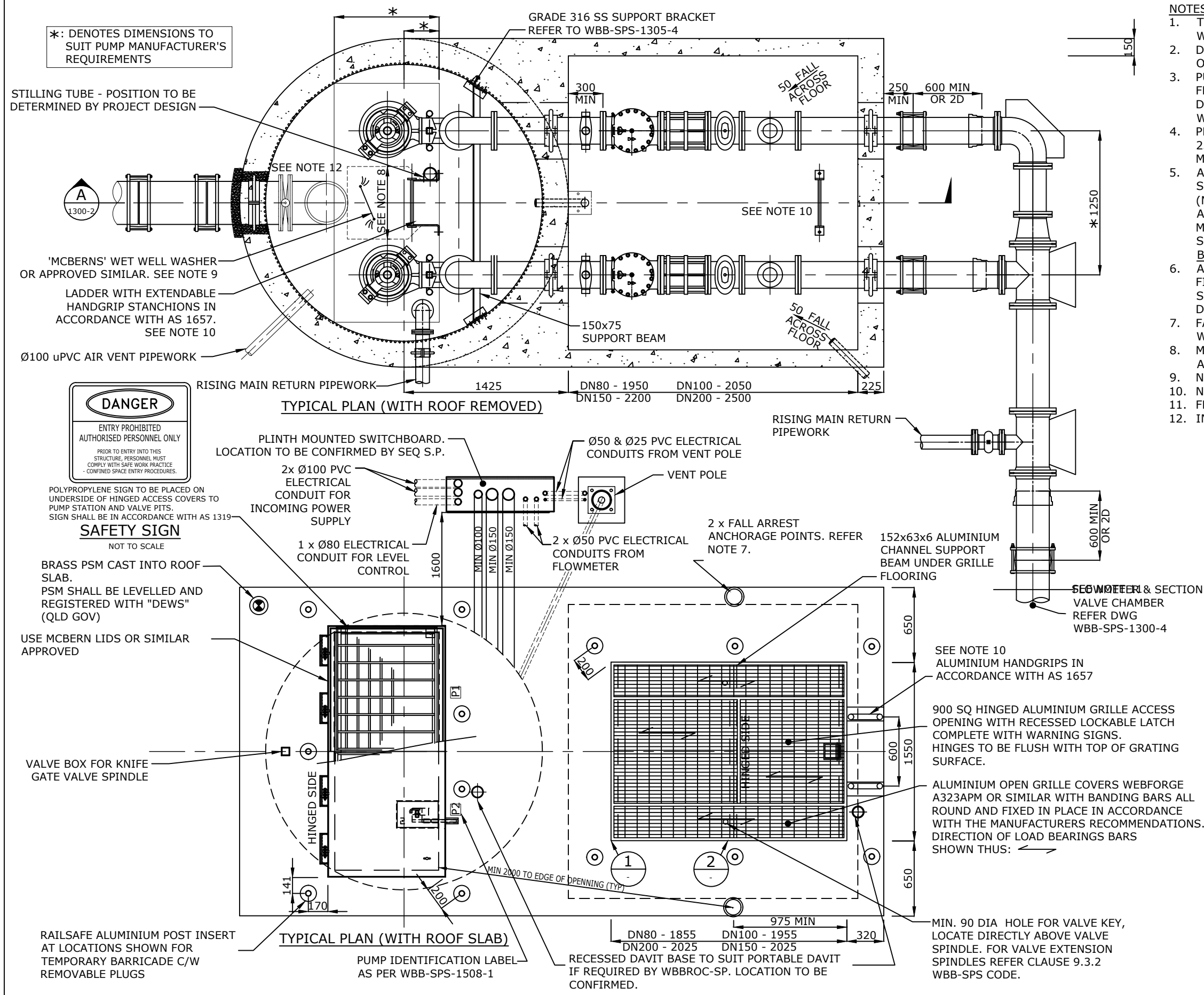
ALTERNATIVE PUMP STATION LEVEL INTERACTION DIAGRAM
NOT TO SCALE
(SEE NOTES G1 AND G6 - G13)

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1102-6 VERSION B DATED 14/05/2014	

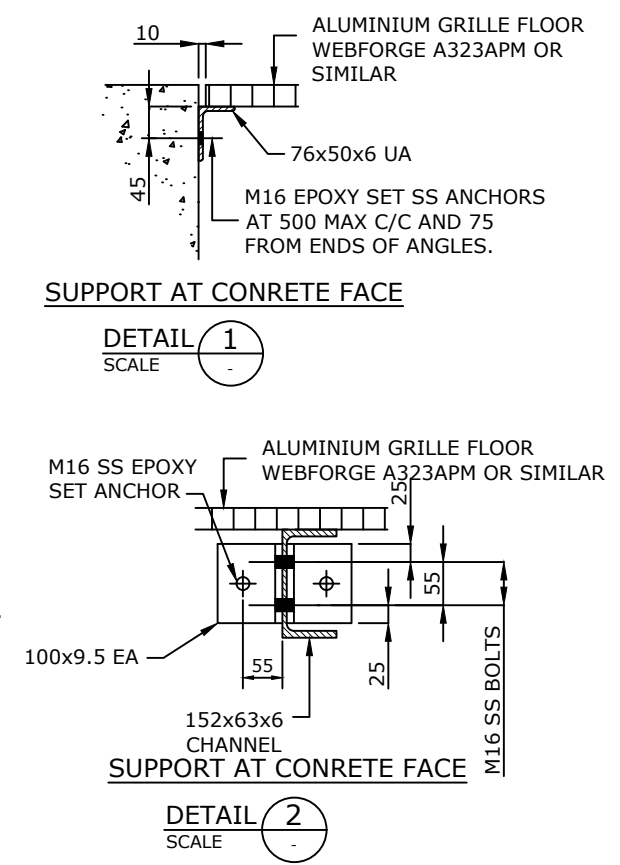
ORG DATE:

- NOTES:**

 - G1. THIS DRAWING MAY BE USED AS AN ALTERNATIVE TO DRAWING WBB-SPS-1102-5 FOR SMALL STATIONS (<30L/S CAPACITY) ONLY.
 - G2. THIS DRAWING IS PROVIDED TO DESIGNERS TO SHOW THE LEVEL RELATIONSHIPS BETWEEN THE VARIOUS COMPONENTS OF A SEWERAGE PUMPING STATION.
THE PROJECT DRAWINGS MUST CONTAIN A LEVEL INTERACTION DIAGRAM. THE PROJECT DRAWING MUST CONTAIN ALL THE INVERT LEVELS AND GRADES OF ALL THE PIPES. ALSO TO BE INCLUDED ARE ALL THE LEVELS OF THE STRUCTURES AND ALL THE WATER LEVELS AS INDICATED ON THIS DRAWING. THE PROJECT DRAWING IS TO CONTAIN THE TABLES SHOWN ON THIS DRAWING.
 - G3. THE LEVELS OF THE TOP SLABS OF THE PUMP WELL, VALVE PIT, FLOWMETER PIT (WHERE REQUIRED) AND SWITCHBOARD FOUNDATION ARE TO BE ABOVE THE Q100 FLOOD LEVEL.
 - G4. THE INTERNAL DIAMETER OF THE INLET SEWER TO THE PUMP WELL IS TO BE A MINIMUM OF ID225.
 - G5. THE MINIMUM TOTAL EMERGENCY STORAGE CAPACITY IS TO BE 3 HOURS AT PEAK DRY WEATHER FLOW. THE EMERGENCY STORAGE VOLUMES IN THE PUMP WELL AND THE GRIT COLLECTOR MAINTENANCE HOLE ARE TO BE MEASURED FROM THE TOP WATER LEVEL TO THE OVERFLOW LEVEL.
 - G6. VACTOR PIPE MAY NOT BE REQUIRED IN WET WELLS <3 M IN DEPTH SUBJECT TO WBBROC-SP APPROVAL.
 - G7. SEPARATE WET WELL AND VALVE PIT MAY BE CONSIDERED FOR SMALL STATIONS PROVIDED DIFFERENTIAL SETTLEMENT CAN BE ADEQUATELY ADDRESSED.
 - G8. SUMP PUMPS MAY BE OMITTED AND A GRAVITY DRAIN TO WET WELL MAY BE USED AS AN ALTERNATIVE. THE GRAVITY DRAIN MUST HAVE SEALS INCLUDING WATER TRAPS AND FLAP VALVES.
 - G9. FLOWMETERS ARE GENERALLY NOT REQUIRED FOR SMALL STATIONS WHICH DO NOT PUMP DIRECTLY TO A WWTP OR INTO A COMMON RISING MAIN SYSTEM UNLESS DIRECTED BY WBBROC-SP.
 - G10. PRECAST UNITS MAY BE CONSIDERED FOR THE CONCRETE WET WELL WALLS FOR SMALL STATIONS. WHERE PRECAST UNITS ARE APPROVED, INDIVIDUAL SECTIONS MUST BE POSITIVELY FIXED TOGETHER WITH STAINLESS STEEL ANCHORS AND JOINTS MUST BE SEALED WITH AN APPROVED SEALANT. PE LINING MUST BE WELDED AT JOINTS TO PROVIDE A CONTINUOUS BARRIER.
 - G11. WHERE APPROVED EPOXY COATING MAY BE CONSIDERED AS AN ALTERNATIVE TO PE LINING FOR SMALL STATIONS.
 - G12. ALTERNATIVE ACCESS ROAD CONSTRUCTION MAY BE CONSIDERED FOR SMALL STATIONS PROVIDED IT IS SUITABLY DURABLE FOR THE SITE CONDITIONS AND IS ABLE TO WITHSTAND THE LOADING & TURNING CIRCLE OF FULL MAINTENANCE TRUCKS WITH 24/7 ALL WEATHER ACCESS.
 - G13. WHERE APPROVED GRIT COLLECTOR MAINTENANCE HOLE MAY BE OMITTED FOR SMALL STATIONS.



- NOTES**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH WBB-SP-1300-7 AND 1300-8.
 - DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
 - PUMP BASEPLATES AND GUIDE RAILS SHALL BE FIXED TO THE FLOOR AND TOP OF SLAB WITH GRADE 316 STAINLESS STEEL DROP FLUSH ANCHOR MASONRY FASTENERS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.
 - PROVIDE STAINLESS STEEL DROP PIPE SUPPORT BRACKETS AT 2500 MAX. CENTRES FIXED TO WALL WITH GRADE 316 SS MASONRY FASTENERS. REFER NOTE 6.
 - ALL INTERNAL VERTICAL, SOFFIT & COVER OPENING WET WELL SURFACES SHALL HAVE AN APPROVED POLYETHYLENE LINER (MIN 2.5mm THICK) MECHANICALLY BONDED TO WALL VIA ANCHORS CAST INTO CONCRETE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. POLYETHYLENE LINING SHALL BE AS PER WBBROC-SP PRODUCTS AND MATERIALS LIST. **BENCHING SHALL NOT BE COATED.**
 - ALL ENTRIES THROUGH THE CONCRETE STRUCTURE AND ALL FITMENT HOLES THROUGH THE POLYETHYLENE LINER SHALL BE SEALED WITH AN APPROVED SEALANT IN ACCORDANCE WITH DWGS WBB-SPS-1407-1 AND WBB-SPS-1407-2.
 - FALL ARREST FLUSH MOUNT ANCHORAGE POINT. REFER WBBROC-SP PRODUCTS AND MATERIALS LIST.
 - MINIMUM CIRCULATION CLEARANCES TO RUNG TYPE LADDER AS PER AS1657 CLAUSE 5.1.
 - NO WELL WASHER UNLESS SPECIFICALLY REQUESTED
 - NO LADDER UNLESS SPECIFICALLY REQUESTED.
 - FLOWMETER IS REQUIRED UNLESS SPECIFIED OTHERWISE.
 - INLET VALVE REQUIRED UNLESS SPECIFIED OTHERWISE.

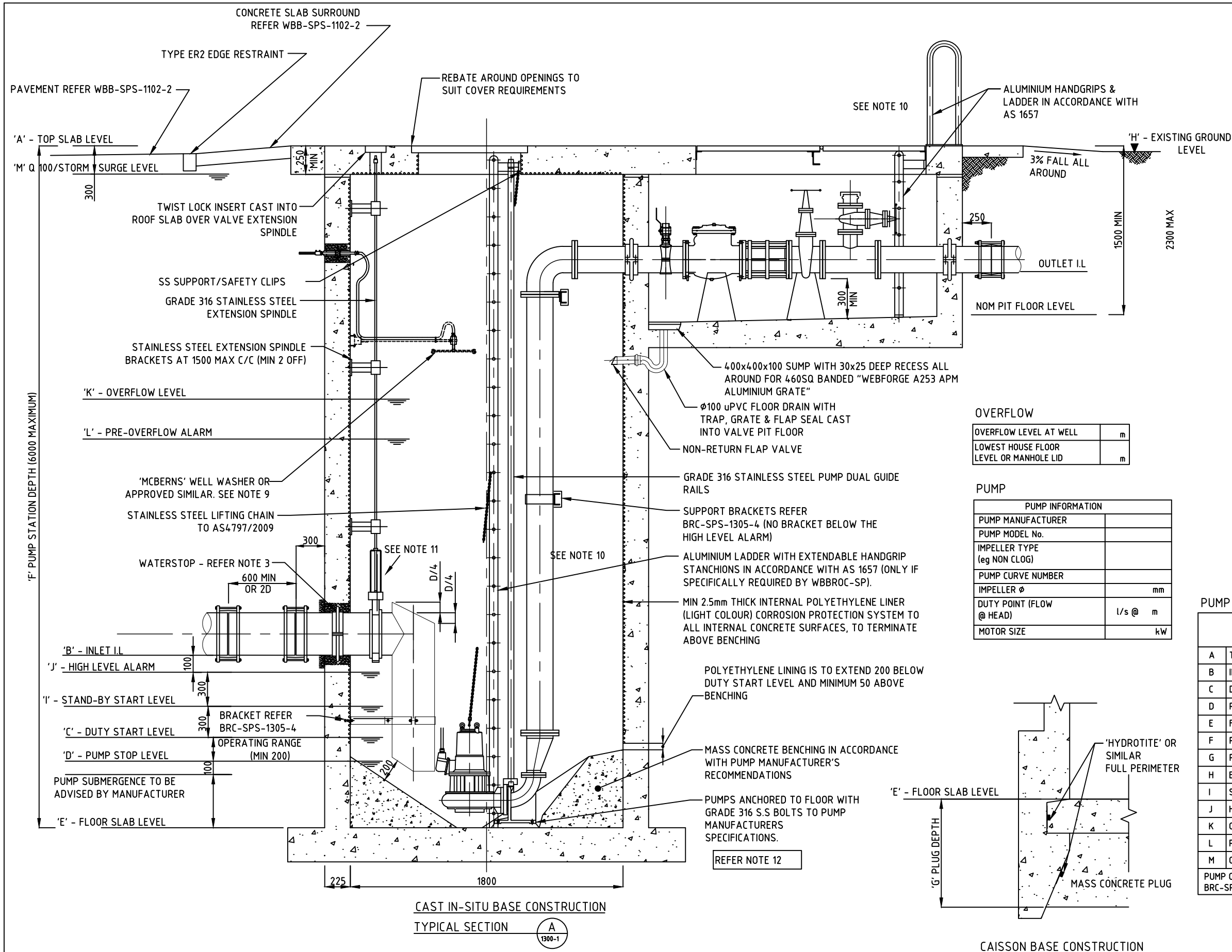


REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-1 VERSION B DATED 01/06/2014	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC
TYPICAL 1.8 M WET WELL GENERAL ARRANGEMENT	DRAWING No.				VERSION
	WBB-SPS-1300-1				A
	NOT TO SCALE				ORG DATE:

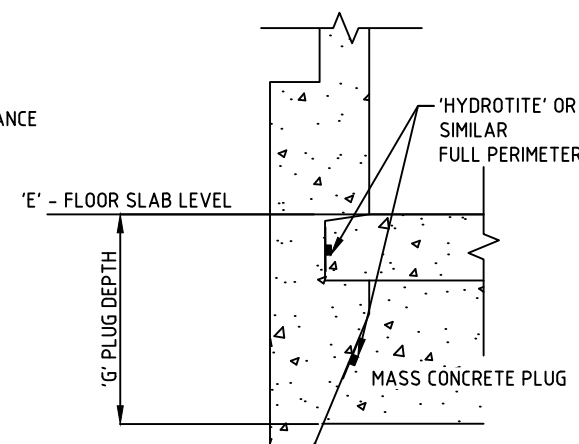


OVERFLOW

OVERFLOW LEVEL AT WELL	m
LOWEST HOUSE FLOOR LEVEL OR MANHOLE LID	m

PUMP

PUMP INFORMATION	
PUMP MANUFACTURER	
PUMP MODEL No.	
IMPELLER TYPE (eg NON CLOG)	
PUMP CURVE NUMBER	
IMPELLER Ø	mm
DUTY POINT (FLOW @ HEAD)	l/s @ m
MOTOR SIZE	kW



CAISSON BASE CONSTRUCTION

NOTE:

- ALL CRITICAL LEVELS AND DIMENSIONS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- PUMP STATION LID THICKNESS SHALL ALLOW FOR RECESSED DAVIT BASE - MIN 250.
- PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP ON INSIDE & OUTSIDE FACE OF ALL PUDDLE FLANGES.
- ALL WALL PENETRATIONS SHALL BE VIA CONCRETE BLOCKOUT WITH WATER PROOFING AS PER NOTE 3.
- WHERE CONSTRUCTION JOINTS ARE REQUIRED, PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP.
- SPACING BETWEEN PUMPS AND CLEARANCE BETWEEN PUMP & FINISHED FLOOR SHALL BE IN ACCORDANCE WITH PUMP MANUFACTURER'S RECOMMENDATIONS.
- BENCHING SHALL BE CLEAR OF PIPEWORK & BOLTS AS PER PUMP MANUFACTURER RECOMMENDATIONS.
- FOR DETAILS OF LEVEL SENSORS AND OTHER ELECTRICAL EQUIPMENT, REFER TO APPROPRIATE BRC ELECTRICAL SPECIFICATIONS.
- NO WELL WASHER UNLESS SPECIFICALLY REQUESTED.
- NO LADDER UNLESS SPECIFICALLY REQUESTED
- INLET VALVE REQUIRED UNLESS SPECIFIED OTHERWISE.
- PUMP PEDESTAL SHALL COMPLY WITH WSA 101 SPECIFICATION, UNITYWATER REQUIRES "FORRERS" TYPE PUMPS PEDESTAL WITH "FORRERS" LOCKING PLATE FITTED TO PUMP.
- DISTANCE B-E 2000MIN.

PUMP STATION CONTROL LEVELS

ITEM		LEVEL (A.H.D)	HEIGHT FROM BASE (m)
A	TOP OF SLAB	m	
B	INLET	m	
C	DUTY START	m	
D	PUMP STOP	m	
E	FLOOR SLAB	m	
F	PUMP STATION DEPTH	N.A.	
G	PLUG DEPTH	m	
H	EXISTING GROUND LEVEL	m	
I	STAND-BY START	m	
J	HIGH LEVEL ALARM	m	
K	OVERFLOW LEVEL	m	
L	PRE-OVERFLOW ALARM	m	
M	Q100/STORM SURGE LEVEL	m	

PUMP OPERATING LEVELS AND DEFAULT SETTINGS SHALL BE AS PER THE BRC-SP FUNCTIONAL DESCRIPTION.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-2 VERSION C DATED 30/01/2017	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING

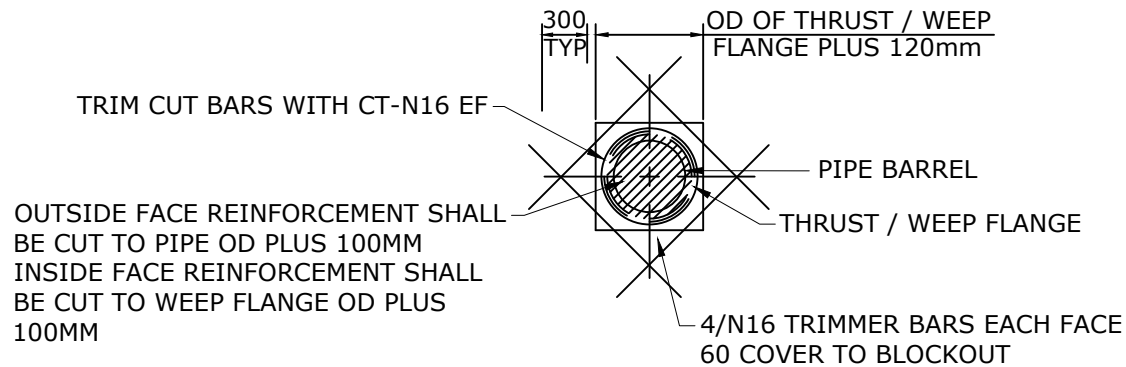
1.8 m WET WELL SECTION DETAILS

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1300-2				A
NOT TO SCALE				ORG DATE:

TABLE OF PIT DIMENSIONS

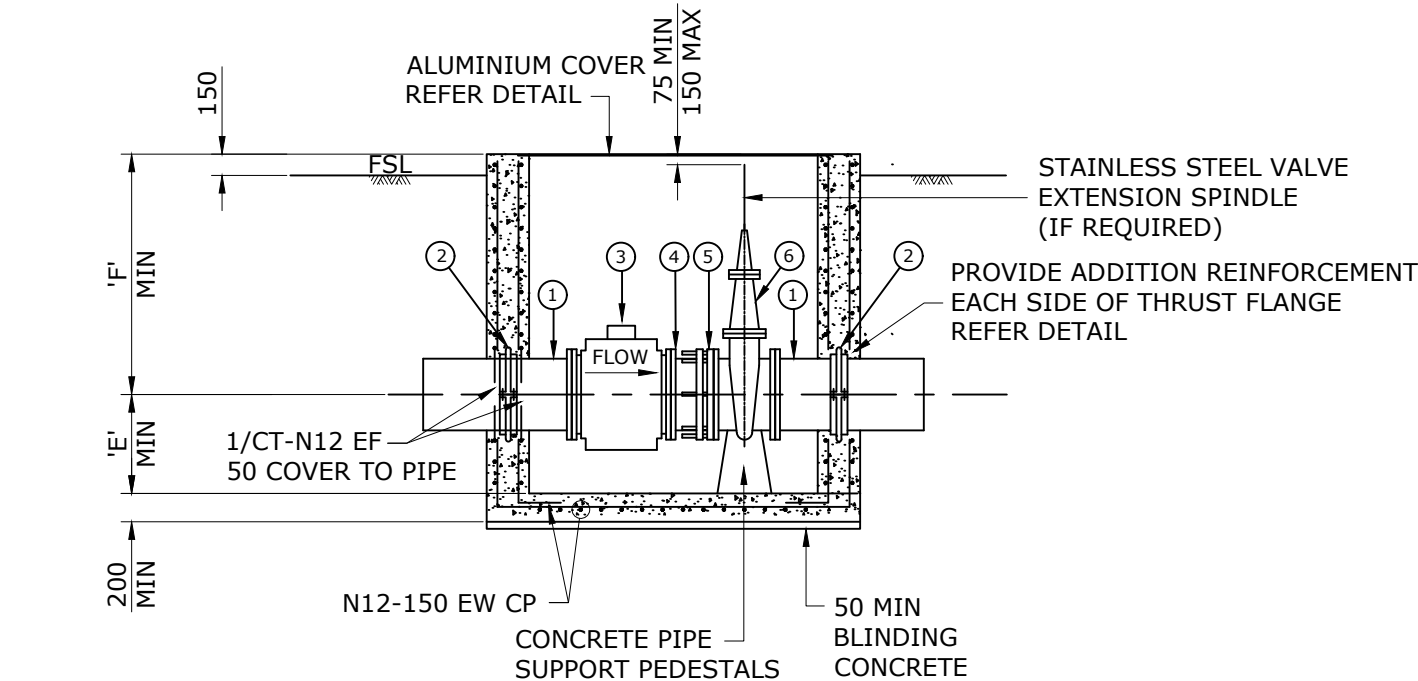
PIPE DN (mm)	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'
100	1100	600	1250	300	450	500	250	200
150	1100	600	1350	300	450	600	250	200
200	1150	650	1500	300	500	700	250	200
250	1150	650	1650	300	500	800	300	200
300	1200	700	2000	300	550	900	400	300
375	1250	750	2100	300	600	1060	400	300
450	1300	800	2300	300	650	1220	400	300
500	1300	800	2450	300	650	1375	400	300
600	1350	850	2600	350	700	1635	400	300
750	1450	950	3100	400	800	1975	400	300

SCHEDULE OF PIPES AND FITTINGS		
ITEM	DESCRIPTION	QTY
1	DI FBE FL-SP SPOOL PIECE	2
2	DI FBE THRUST FLANGE	2
3	FBE ELECTROMAGNETIC BIDIRECTIONAL FLOWMETER FL-FL	1
4	DI FBE FL-SP CONNECTOR	1
5	NON-THRUST TYPE DISMANTLING JOINT	1
6	DI FBE RESILIENT SEATED SLUICE VALVE FL-FL	1

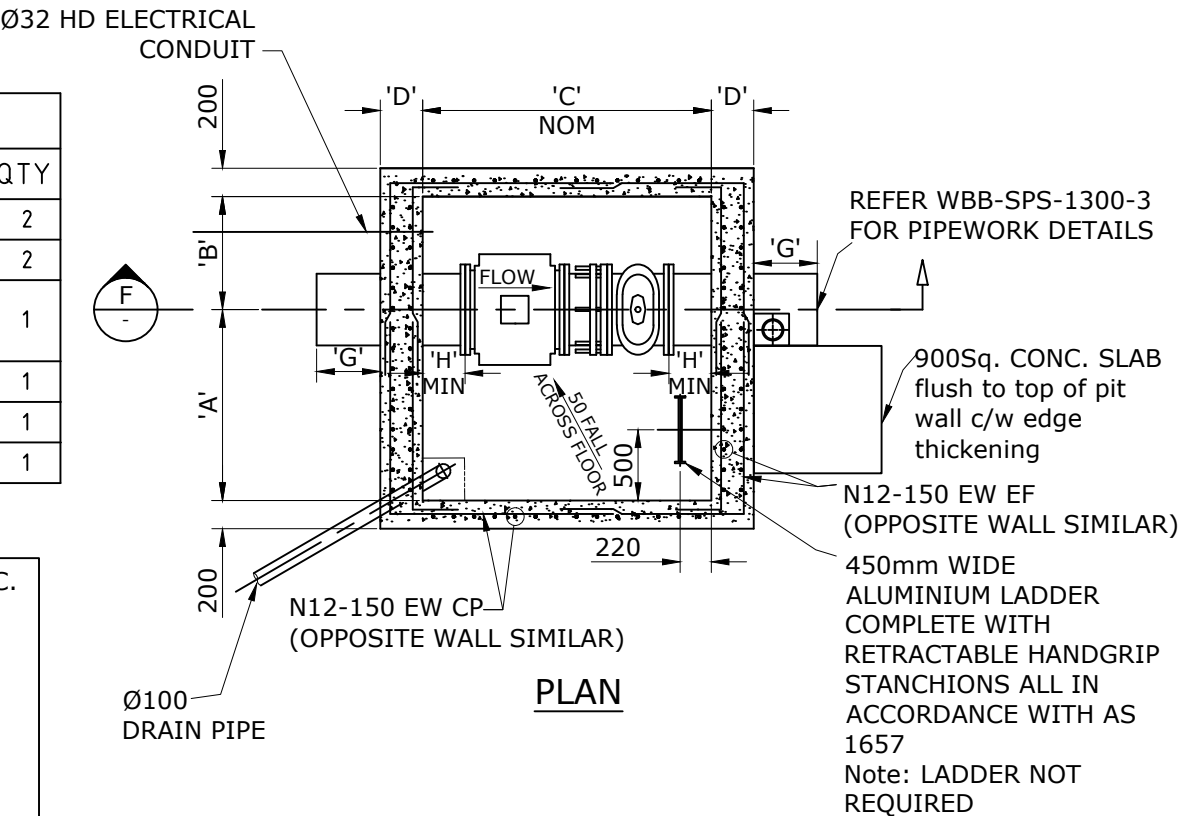


TYPICAL DETAIL OF ADDITIONAL REINFORCEMENT AT PIPE PENETRATIONS
NOT TO SCALE

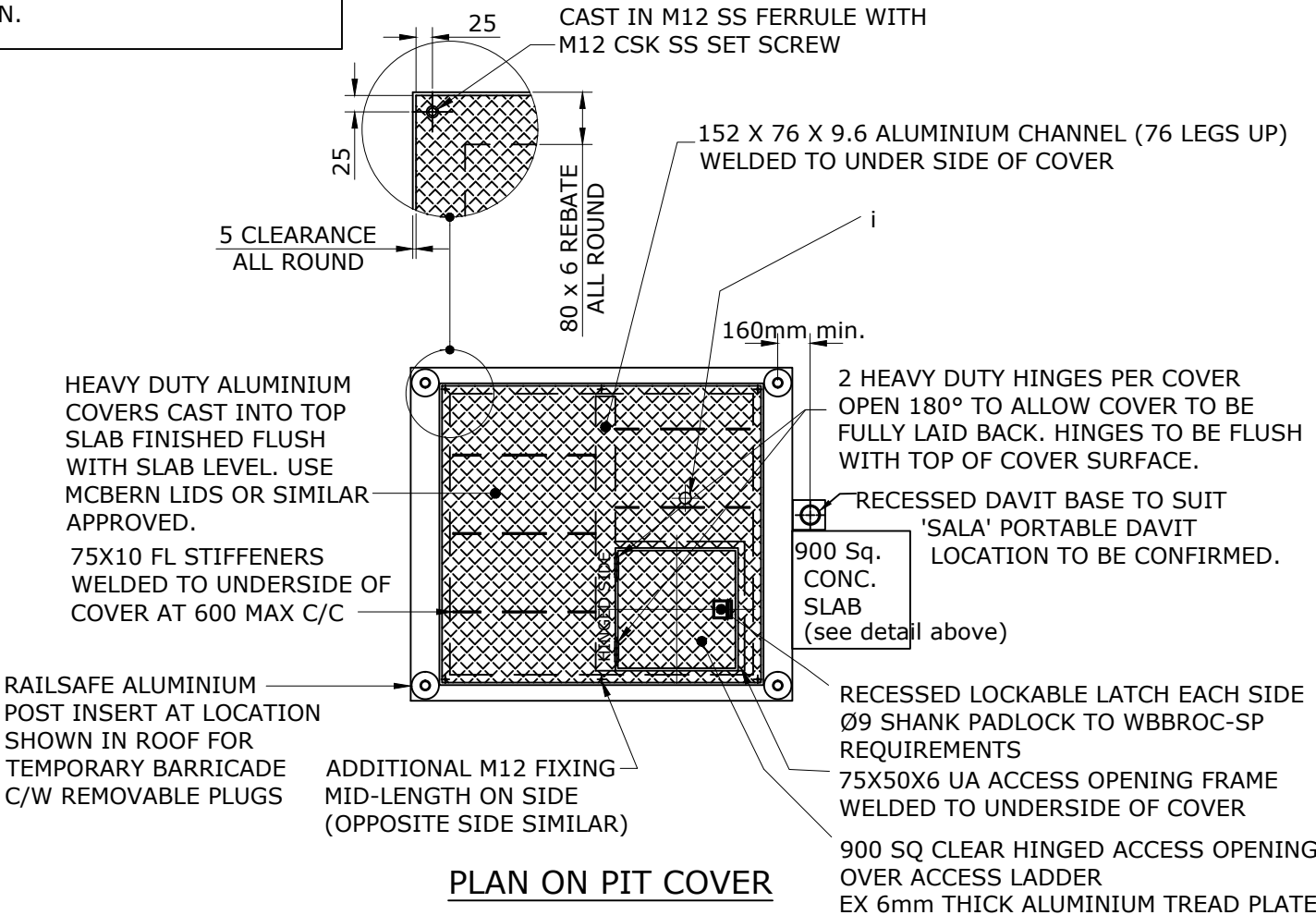
- "SALA" WALL MOUNT SLEEVE, MIN. ANCHOR SPEC.
- 4/M16 316 S/STEEL "CHEMSET" ANCHORS
 - HOLE DIA.: 18mm
 - HOLE DEPTH: 125mm
 - MIN. CONCRETE THICKNESS: 200mm
 - MIN. DISTANCE OF ANCHOR C/LINE TO CONCRETE EDGE :150mm
 - EPOXY RESIN SPEC. : HILTI HIT-RE-500 OR FISCHER FIS VS 360 S
 - EACH ANCHOR TO BE LOAD TESTED AFTER CURING TO 13.5 kN.



SECTION NOT TO SCALE



PLAN



PLAN ON PIT COVER

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-4 VERSION B DATED 07/08/2014	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
FLOWMETER & SECTION VALVE CHAMBER

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1300-4				A
NOT TO SCALE				ORG DATE:

SEWAGE PUMP STATION STANDARD DRAWING				BRC	FCRC	GRC	NBRC	SBRC
LEVEL CONTROL AND WELL WASHER DETAILS				DRAWING No.				VERSION
				WBB-SPS-1300-6				A
				NOT TO SCALE				ORG DATE:

DESIGN

- AS 1170: 2002 PARTS 1, 2 & 4 SAA LOADING CODE
AS 1657: 1992 FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS
AS/NZS 1664: 1997 SAA ALUMINIUM STRUCTURES CODE
AS 3600: 2001 CONCRETE STRUCTURES
AS 3735: 1991 CONCRETE STRUCTURES FOR RETAINING LIQUID

- (A) SELF WEIGHT

- | | | |
|------------------------|-------------------|-------------|
| (B) WIND LOAD | BASIC WIND SPEEDS | Vu : 55 M/S |
| | | Vp : 46 M/S |
| | | Vs : 37 M/S |
| REGION | | B |
| TERRAIN CATEGORY | | 2 |
| SHIELDING MULTIPLIER | | 1.0 |
| TOPOGRAPHIC MULTIPLIER | | 1.0 |
| IMPORTANCE MULTIPLIER | | 1.0 |

FOR STRUCTURES THAT DO NOT COMPLY WITH THE ABOVE PARAMETERS, PARTICULARLY WHERE THE STRUCTURE IS LOCATED IN REGION C OF AS 1170.2 STRUCTURAL DESIGN ACTIONS PART 2: WIND ACTIONS (WITHIN 50KM OF THE COAST NORTH FROM BUNDEBERG), SPECIFIC DESIGN IS REQUIRED.

- (C) LIVE LOADS ALUMINIUM ACCESS COVERS 2.5 kPA
CONCRETE ROOF SLAB W7 WHEEL LOAD

- [illegible]

EXTERNAL GROUND WATER FULL DEPTH

MAXIMUM PIPELINE TEST PRESSURE 900 kPa

FOUNDATIONS

- F1. ALL TOPSOIL AND VEGETATION SHALL BE REMOVED BEFORE EXCAVATION.
- F2. FOUNDATIONS HAVE BEEN DESIGNED FOR THE FOLLOWING SAFE ALLOWABLE GROUND BEARING CAPACITIES:-

ELEMENT	ALLOWABLE BEARING CAPACITY (kPA)
---------	----------------------------------

VALVE PIT	100
PUMP WELL	200

- F3. WBBROC-SP SHALL APPROVE FOUNDATION MATERIAL PRIOR TO PLACING REINFORCEMENT OR CONCRETE.
- F4. ANY OVER-EXCAVATIONS OR CAVITIES OF FOUNDATIONS SHALL BE FILLED WITH BLINDING CONCRETE.

GENERAL

- G1. NO DIMENSION SHALL BE OBTAINED BY SCALING.
- G2. ALL DIMENSIONS ARE IN MILLIMETRES UNO.
- G3. ALL LEVELS ARE IN METRES UNO.
- G4. ALL DIMENSIONS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE FABRICATION AND CONSTRUCTION.
- G5. REFER ALL DISCREPANCIES TO WBBROC BEFORE PROCEEDING WITH THE WORKS.
- G6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE AND NEIGHBOURING STRUCTURES IN A SAFE AND STABLE CONDITION DURING CONSTRUCTION. NO PART SHALL BE OVERSTRESSED.
- G7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING STRUCTURES AGAINST FLOATATION DURING CONSTRUCTION.

- G9. NO PENETRATIONS, CHASES OR TEMPORARY FIXTURES ARE PERMITTED WITHOUT PRIOR APPROVAL FROM WBBROC-SP. ALL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL AND SERVICES DRAWINGS FOR PENETRATIONS, CONDUITS AND PIPES ETC.
- G10. NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES THE REQUIRED PROPERTIES OF THE ITEM. SIMILAR ALTERNATIVES WITH THE REQUIRED PROPERTIES MAY BE OFFERED FOR WRITTEN APPROVAL.
- G11. PUMPS MUST BE ABLE TO BE REMOVED FROM, AND REINSTALLED INTO THE WET WELL, WITHOUT DISMANTLING ANY EQUIPMENT, PIPEWORK, BRACKETS OR COVERS.
- G12. FOR REFERENCED DOCUMENTS USE THE LATEST EDITIONS WITH AMENDMENTS, EXCEPT WHERE OTHER EDITIONS OR AMENDMENTS ARE REQUIRED BY STATUTORY AUTHORITIES.

ALUMINIUM

- A1. ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH AS/NZS 1664.
- A2. ALL MATERIALS SHALL BE IN ACCORDANCE WITH AS/NZS 1734, AS/NZS 1865, AS/NZS 1866 OR AS/NZS 1867.
- A3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO WBBROC-SP FOR APPROVAL PRIOR TO FABRICATION.
- A4. ALUMINIUM MEMBERS SHALL HAVE THE FOLLOWING ALLOY GRADES UNO:-

ALL EXTRUSIONS SHALL BE ALLOY	6061-T6.
PLATE 3MM AND THICKER SHALL BE ALLOY	5083-H321.
TREAD PLATE SHALL BE ALLOY	5251-0.
- A5. ALL METALWORK CONNECTIONS NOT SHOWN BOLTED, SHALL BE WELDED AS FOLLOWS:-
 - (a) ALL WELDING SHALL BE WELD QUALITY B IN ACCORDANCE WITH AS 1665.
 - (b) WELDS SHALL BE CONTINUOUS 6MM FILLET OR FULL PENETRATION BUTT WELDS ALL ROUND USING FILLER ALLOY 5556.
 - (c) ALL JOINTS SHALL BE FULLY SEAL WELDED UNLESS SHOWN OTHERWISE.
 - (d) GRIND WELDS FLUSH ONLY AT CONTACT POINTS WITH OTHER MEMBERS AND CONCRETE SURFACES.
- A6. ALL FASTENERS SHALL BE GRADE 316 STAINLESS STEEL.
- A7. NYLON OR POLYETHYLENE WASHERS, TOP HAT SECTIONS AND SPACERS SHALL BE USED TO SEPARATE STAINLESS STEEL FASTENERS FROM ALUMINIUM. HOLE SIZES SHALL BE DRILLED ONLY SUFFICIENTLY LARGE ENOUGH TO ACCOMMODATE THE FASTENER AND ISOLATOR CHOSEN. OVERSIZED HOLES WILL NOT BE ACCEPTED.
- A8. ALL ALUMINIUM SURFACES PLACED IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH TWO HEAVY COATS OF ALKALI-RESISTANT BITUMINOUS PAINT OR OTHER COATING PROVIDING EQUIVALENT PROTECTION BEFORE INSTALLATION.

STAINLESS STEEL

- SS1. ALL STAINLESS STEEL SHALL BE GRADE 316 IN ACCORDANCE WITH AS 1769 OR AS 2837 UNLESS SHOWN OTHERWISE.
- SS2. ALL WELDS SHALL BE 6MM CONTINUOUS FILLET OR FULL PENETRATION BUTT WELDS ALL ROUND IN ACCORDANCE WITH AS 1554.6 UNLESS SHOWN OTHERWISE.
- SS3. STAINLESS STEEL SURFACES SHALL HAVE THE SCALE REMOVED BY PICKLING AND SHALL BE PASSIVATED OR SURFACE TREATED TO PLACE THE ALLOY NEAR THE CATHODIC END OF THE GALVANIC SERIES. ALL AREAS OF STAINLESS STEEL WHICH ARE SUBSEQUENTLY MACHINED, GROUND OR WORKED IN ANY MANNER WHICH TENDS TO DESTROY THE ORIGINAL PASSIVATED CONDITION SHALL AGAIN BE PASSIVATED AS A FINAL CLEANING OPERATION. AFTER PASSIVATING, THE SURFACES SHALL BE FREE FROM PITTING OR SURFACE DEFECTS.
- SS4. FABRICATED HANDRAILS, LADDERS, STAIRWAYS, PLATFORMS AND WALKWAYS SHALL COMPLY WITH AS1657.
- SS5. LADDERS SHALL BE 450MM WIDE, FIXED IN PLACE WITH M20 FIXINGS.

CONCRETE

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 UNLESS SHOWN OTHERWISE.
- C2. QUALITY OF CONCRETE ELEMENTS SHALL BE:-

ELEMENT	EXPOSURE CLASSIFICATION	MINIMUM COVER TO REINFORCEMENT (mm)	CONCRETE GRADE (MPa)
WET WELL - INTERNAL	B2	70	N40
WET WELL - EXTERNAL	B2	50	N40
VALVE PITS	B2	50	N40
ROOF SLAB	B2	50	N40
CAISSON PLUG	B1	65	N32
PUMP WELL BENCHING	-	-	N32
BLINDING	-	- *	N15
SLABS ON GROUND	B1	45	N25

* COVER FOR SLAB CAST ON BLINDING CONCRETE.
WHERE CONCRETE IS CAST ON OR AGAINST GROUND, THE COVER
SHALL BE INCREASED BY 10MM IF THE CONCRETE IS PROTECTED BY
A WATERPROOF MEMBRANE OR 20MM OTHERWISE.

- C3. THE DRYING SHRINKAGE AT 56 DAYS, FOR CONCRETE USED IN RETAINING STRUCTURES, SHALL NOT EXCEED 700 MICROSTRAIN AS DETERMINED IN ACCORDANCE WITH AS 1012.13.
- C4. NOMINAL MAXIMUM AGGREGATE SIZE SHALL BE 20MM UNO.
- C5. ADMIXTURES SHALL NOT BE USED WITHOUT WRITTEN APPROVAL.
- C6. ALL CONCRETE SHALL BE READY MIXED CONCRETE COMPLYING WITH AS 1379.
- C7. THE TYPE OF CEMENT TO BE USED SHALL BE TYPE GP - GENERAL PURPOSE PORTLAND CEMENT UNLESS SPECIFIED OTHERWISE.
- C8. PROVIDE ALL EXPOSED EDGES AND CORNERS WITH A 20MM X 20MM CHAMFER OR FILLET.
- C9. CONCRETE SHALL BE COMPACTED BY MECHANICAL VIBRATION.
- C10. ALL CONCRETE SURFACES SHALL BE CURED BY APPROVED MEANS FOR A MINIMUM CONTINUOUS DURATION OF 7 DAYS COMMENCING IMMEDIATELY AFTER THE INITIAL SET OF THE CONCRETE.
- C11. CONCRETE FACES AT CONSTRUCTION JOINTS SHALL BE THOROUGHLY SCABBLED, FREE OF LAITANCE, CLEANED AND WETTED THOROUGHLY PRIOR TO THE PLACEMENT OF ABUTTING CONCRETE.
- C12. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF WBBROC-SP.
- C13. PROVIDE A FINE NON-SLIP SURFACE WITH A WOOD FLOAT TO THE TOPS OF ALL WALLS AND FLOORS.
- C14. CONSTRUCTION JOINTS WHERE NOT SHOWN ON THE DRAWINGS SHALL BE LOCATED TO THE APPROVAL OF WBBROC-SP.
- C15. ALL INTERNAL CONCRETE SURFACES OF THE PUMP WELL, COLLECTOR MANHOLE AND EMERGENCY STORAGE SHALL BE PAINTED WITH "APPROVED SEALANT" IN STRICT ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-7 VERSION A	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING

1.8M WET WELL
NOTES SHEET 1 OF 2

DRAWING No.

WBB-SPS-1300-7

NOT TO SCALE

VERSION

A

ORG DATE:

INFORMATION ON THIS DRAWING SHALL APPLY UNLESS
NOTED OTHERWISE ON THE DRAWINGS

REINFORCEMENT

- R1. REINFORCEMENT SYMBOL - 23/S-N16-200 EW
- 23 NUMBER OF BARS IN GROUP (IF SHOWN)
S BAR SHAPE CODE, REFER AS1100.501 (IF SHOWN)
N16 BAR GRADE/TYPE AND DIAMETER
200 SPACING BETWEEN BARS IN MILLIMETRES
EW LOCATION CODE (IF SHOWN)
- REINFORCEMENT SYMBOL, STANDARD AND GRADE DESIGNATIONS ARE AS FOLLOWS:-
- N GRADE 500N DEFORMED BAR TO AS/NZS 4671.
SL SQUARE REINFORCING FABRIC TO AS/NZS 4671.
- LOCATION CODES (IF SHOWN) :-
- | | | | |
|------|----------------------------|-------|---------------------|
| B | BOTTOM FACE | HORIZ | HORIZONTAL |
| BB | BOTTOM BOTTOM (LAID FIRST) | IL | INNER LAYER |
| CP | CENTRALLY PLACED | INTF | INTERNAL FACE |
| EF | EACH FACE | NF | NEAR FACE |
| ES | EQUALLY SPACED | OL | OUTER LAYER |
| EW | EACH WAY | T | TOP FACE |
| EXTF | EXTERNAL FACE | TT | TOP TOP (LAID LAST) |
| FF | FAR FACE | VERT | VERTICAL |
- R2. REINFORCEMENT IS REPRESENTED ON THE DRAWINGS DIAGRAMMATICALLY, AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- R3. REINFORCEMENT SHALL BE CUT OR DISPLACED TO PROVIDE 50MM COVER TO PIPES OR OPENINGS AS DIRECTED BY WBBROC-SP.
- R4. REINFORCEMENT SHALL BE KEPT 40MM CLEAR OF WATERSTOPS.
- R5. MINIMUM DEVELOPMENT/LAP LENGTHS FOR MINIMUM 25 MPA CONCRETE UNO SHALL BE:-
- | BAR DIAMETER | VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 300mm OF CONCRETE CAST BELOW | HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE CAST BELOW |
|--------------|---|---|
| N10 | 250 | 325 |
| N12 | 300 | 375 |
| N16 | 400 | 600 |
- R6. MINIMUM LAP LENGTH FOR SLAB REINFORCING FABRICS SHALL BE ONE FULL MESH PLUS 25MM.
MINIMUM LAP LENGTH FOR FABRIC MESH AND BARS SHALL BE 300MM.
- R7. LAPS IN REINFORCEMENT SHALL BE MADE ONLY IN THE LOCATIONS SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY WBBROC-SP.
- R8. WELDING OF REINFORCEMENT IS ONLY PERMITTED WHERE SHOWN ON THE DRAWINGS OR IF APPROVED BY WBBROC-SP.

PIPEWORK

- P1. WHERE CONNECTING TO EXISTING PIPEWORK, THE LEVEL AND DIAMETER OF THE EXISTING PIPEWORK, SHALL BE CONFIRMED BY THE CONTRACTOR, PRIOR TO CONNECTION.
- P2. ALL FLANGES SHALL BE IN ACCORDANCE WITH AS 4087, CLASS 14 FOR CAST IRON AND, CLASS 16 FOR DUCTILE IRON AND STEEL, UNO.
- P3. ALL FLANGE BOLT HOLE ORIENTATIONS SHALL BE OFF-CENTRE UNO.
- P4. ALL FLANGE BOLT SETS SHALL BE GRADE 316 STAINLESS STEEL. REFER AS 4087 - TABLE C1 FOR CLASS.
- P5. FLANGE GASKET MATERIAL AND THICKNESS SHALL BE IN ACCORDANCE WITH AS 4087 - TABLE C1.
- P6. THRUST AND PUDDLE FLANGES SHALL BE CAST CENTRALLY WITHIN WALLS UNLESS SHOWN OTHERWISE.
- P7. ALL SPIGOT AND SOCKET DICL PIPEWORK SHALL BE CLASS PN35.
- P8. ALL GATE AND REFLUX VALVES SHALL BE INTERNALLY AND EXTERNALLY COATED WITH A POLYMERIC COATING. ALL GATE VALVES SHALL BE RESILIENT SEATED. ALL REFLUX VALVES SHALL BE RESILIENT SEATED SWING FLEX CHECK VALVE OR SIMILAR APPROVED TOP OPENING VALVE.

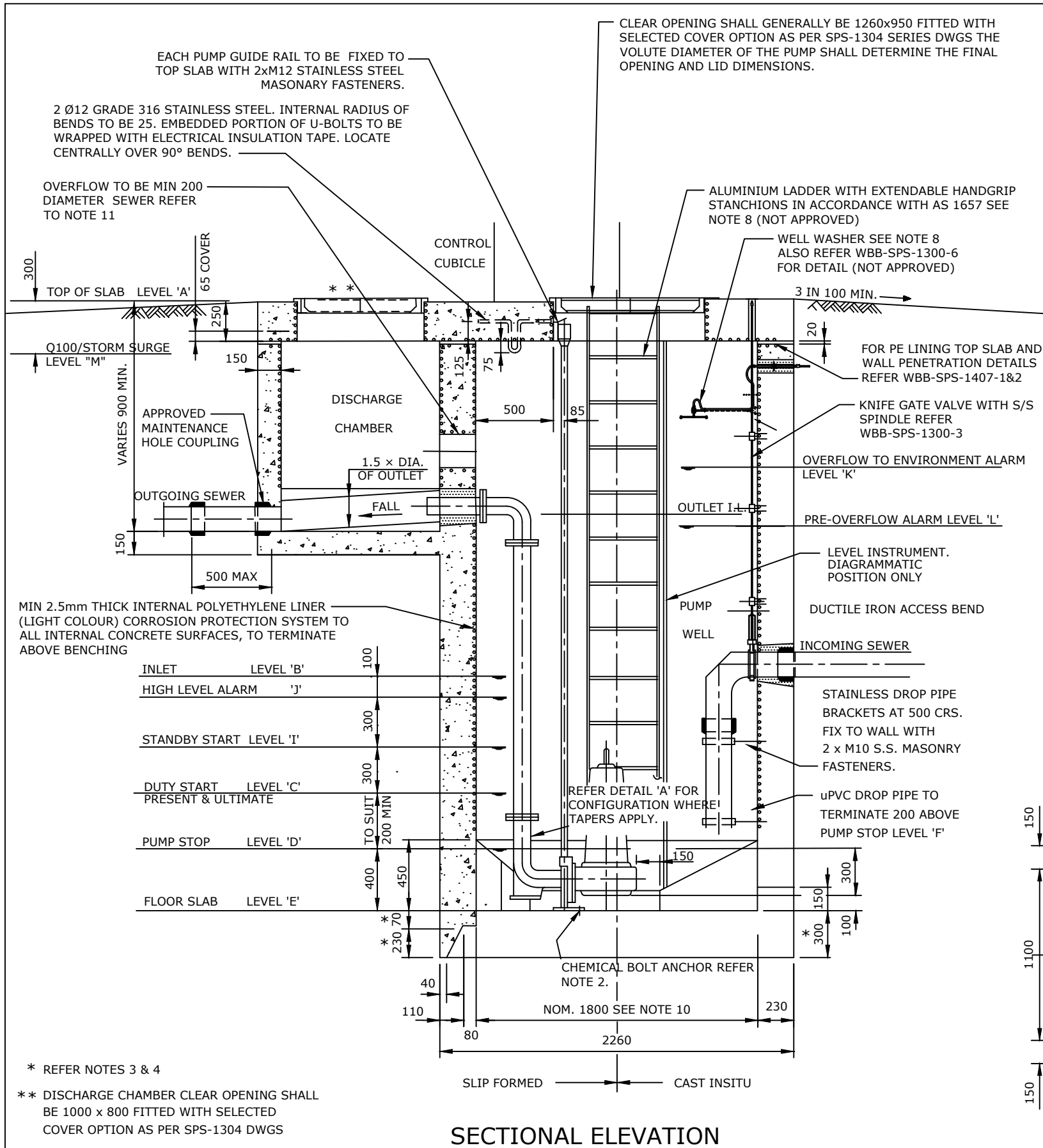
ELECTRICAL

- EL1. THE LOCATION OF ALL CONDUITS SHALL BE CONFIRMED BY WBBROC-SP PRIOR TO CONSTRUCTION OF THE SWITCHBOARD SLAB.
- EL2. ALL CABLES AND CONDUITS SHALL COMPLY WITH AS/NZS 3000 AND AUSTEL REQUIREMENTS.
- EL3. UNDERGROUND CONDUITS SHALL BE HEAVY DUTY RIGID PVC WITH 600MM MINIMUM COVER.
- EL4. POLYMERIC CABLE COVER STRIPS COMPLYING WITH AS 4702 SHALL BE USED AS ADDITIONAL MECHANICAL PROTECTION OF ALL UNDERGROUND WIRING ENCLOSURES.
- EL5. ALL EXTERNAL ABOVEGROUND CONDUITS SHALL BE GALVANISED STEEL UNO.
- EL6. ALL INTERNAL ABOVE GROUND ELECTRICAL CONDUITS SHALL BE MEDIUM DUTY RIGID PVC UNO.
- EL7. ALL CONDUITS SHALL HAVE LONG RADIUS BENDS.

ABBREVIATIONS

1. ABBREVIATIONS SHALL BE IN ACCORDANCE WITH STANDARDS AUSTRALIA PUBLICATION "SYMBOLS AND ABBREVIATIONS FOR BUILDING AND CONSTRUCTION" EXCEPT AS FOLLOWS:-
- | | |
|---------|-----------------------------|
| ECDP | ELECTRICAL CONDUIT DRAW PIT |
| FL | FLANGE |
| FSL | FINISHED SURFACE LEVEL |
| GJ | GIBAULT JOINT |
| RRJ | RUBBER RING JOINT |
| SP | SPIGOT |
| SC | SOCKET |
| SS | STAINLESS STEEL |
| STD DRG | STANDARD DRAWING |
| TWL | TOP WATER LEVEL |
| UNO | UNLESS NOTED OTHERWISE |

REV. No.	DATE	DESCRIPTION	AUTH.	WBBROC WATER SERVICE PROVIDERS		SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC
						1.8M WET WELL NOTES SHEET 2 OF 2	DRAWING No.				VERSION
							WBB-SPS-1300-8				A
							NOT TO SCALE		ORG DATE:		
A	19/03/2018	BASED ON SEQ-SPS-1300-8 VERSION A		WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION							



SECTIONAL ELEVATION

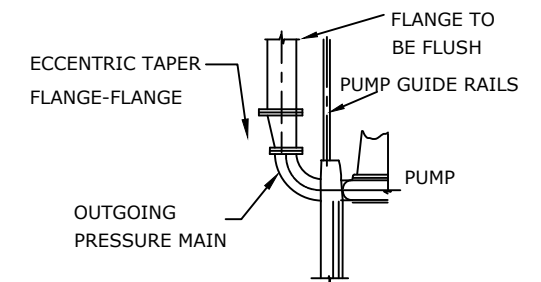
NOTES

- THIS DRAWING SHOULD BE READ IN CONJUNCTION WBB-SPS-1300 SERIES DRAWINGS
- PUMP BASEPLATES AND SLIDE SUPPORTS SHALL BE FIXED TO FLOOR AND TOP OF SLAB WITH STAINLESS STEEL DROP IN FLUSH ANCHOR MASONRY FASTENER'S IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.
- THE THICKNESS OF THE BASE SHOWN IS FOR LIFT STATIONS TO A MAX. DEPTH OF 4.0m.
- FOR DEPTHS OF LIFT STATIONS GREATER THAN 4.0m THE BASE THICKNESS SHALL BE INCREASED TO COVER FLOATATION OF THE STRUCTURE WHEN EMPTY OF PUMPS, PIPEWORK, FITTINGS AND LIQUID AND SHALL BE AS DETAILED ON THE DRAWINGS.
- RCC - ALL INTERNAL VERTICAL, SOFFIT, COVER OPENING WET WELL AND DISCHARGE CHAMBER SURFACES SHALL BE COATED WITH AN APPROVED PROTECTIVE COATING MANUFACTURER'S SYSTEM IN ACCORDANCE WITH THE RECOMMENDATIONS. BENCHING SHALL NOT BE COATED.
- RCC - THE PROTECTIVE COATING SYSTEM SHALL BE SEALED AT BENCHING EDGES, ALL ENTRIES THROUGH THE CONCRETE STRUCTURE AND AT ALL FITMENT HOLES WITH AN APPROVED SILICON ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
- NO LADDER, NO WELL WASHER UNLESS SPECIFICALLY REQUESTED.
- FALL PREVENTION INSERTS TO BE IN ACCORDANCE WITH SELECTED OPTION FOR COVERS SEE WBB-SPS-1304 SERIES DRAWINGS.
- MINIMUM CIRCULATION CLEARANCE FOR RUNG TYPE LADDERS AS PER AS1657 CLAUSE 5.1 WITH EXCEPTION THAT WBB-SP ACCEPTS NO LEVEL LANDING AREA AT THE BASE OF WET WELL IS PROVIDED.
- OVERFLOW LEVEL TO BE 150mm BELOW UPSTREAM NETWORK OVERFLOW LEVEL.
- ALL OTHER REQUIREMENTS AS PER PUMP STATION DRAWINGS.
- A FROG FLAP IS REQUIRED ON THE INLET OF DOWNSTREAM MANHOLE TO PREVENT BACKFLOW OF NETWORK INTO LIFT STATION.

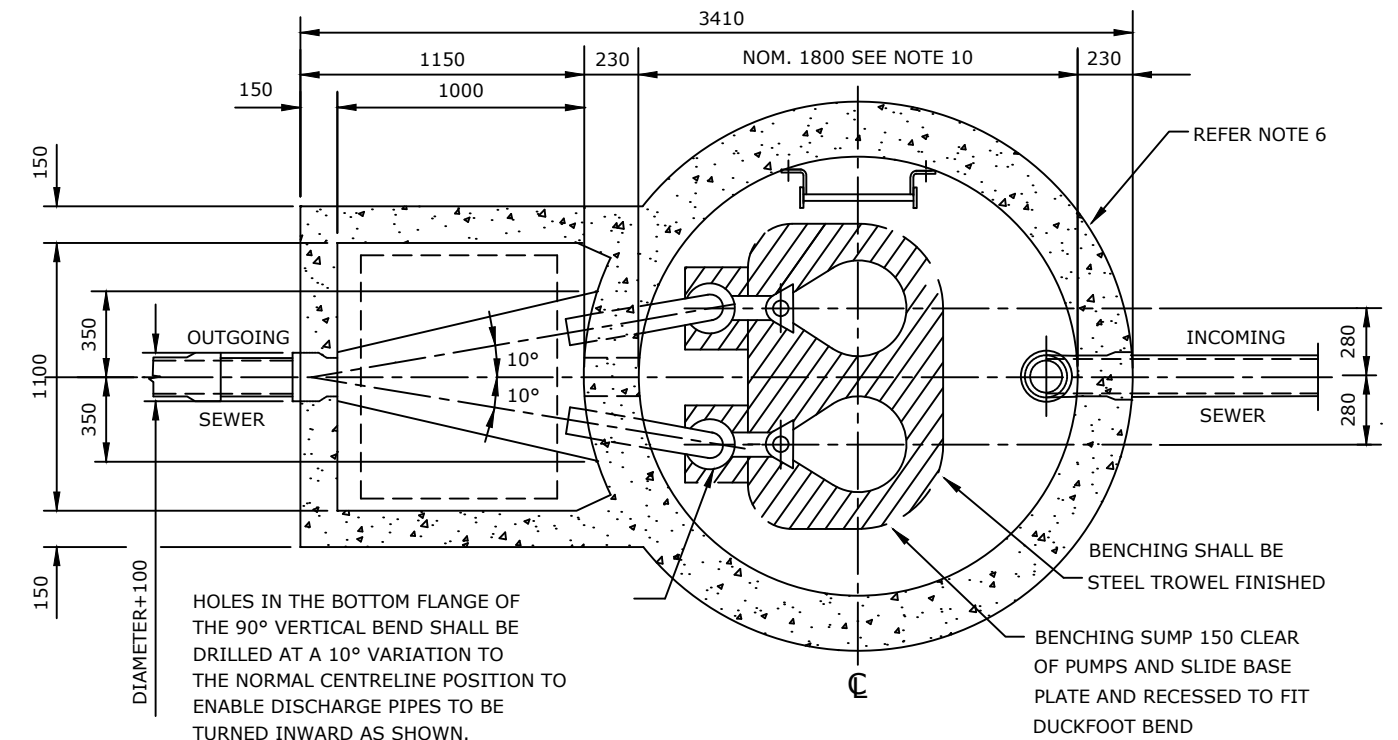
PUMP STATION CONTROL LEVELS

ITEM	LEVEL (A.H.D)	HEIGHT FROM BASE (m)
A	TOP OF SLAB	m
B	INLET	m
C	DUTY START	m
D	PUMP STOP	m
E	FLOOR SLAB	m
F	PUMP STATION DEPTH	N.A.
G	PLUG DEPTH	m
H	EXISTING GROUND LEVEL	m
I	STAND-BY START	m
J	HIGH LEVEL ALARM	m
K	OVERFLOW LEVEL TO ENV.	m
L	PRE-OVERFLOW ALARM	m
M	Q100/STORM SURGE LEVEL	m

PUMP OPERATING LEVELS AND DEFAULT SETTINGS SHALL BE AS PER THE WBB-SP FUNCTIONAL DESCRIPTION.



DETAIL 'A'



TYPICAL SECTIONAL PLAN

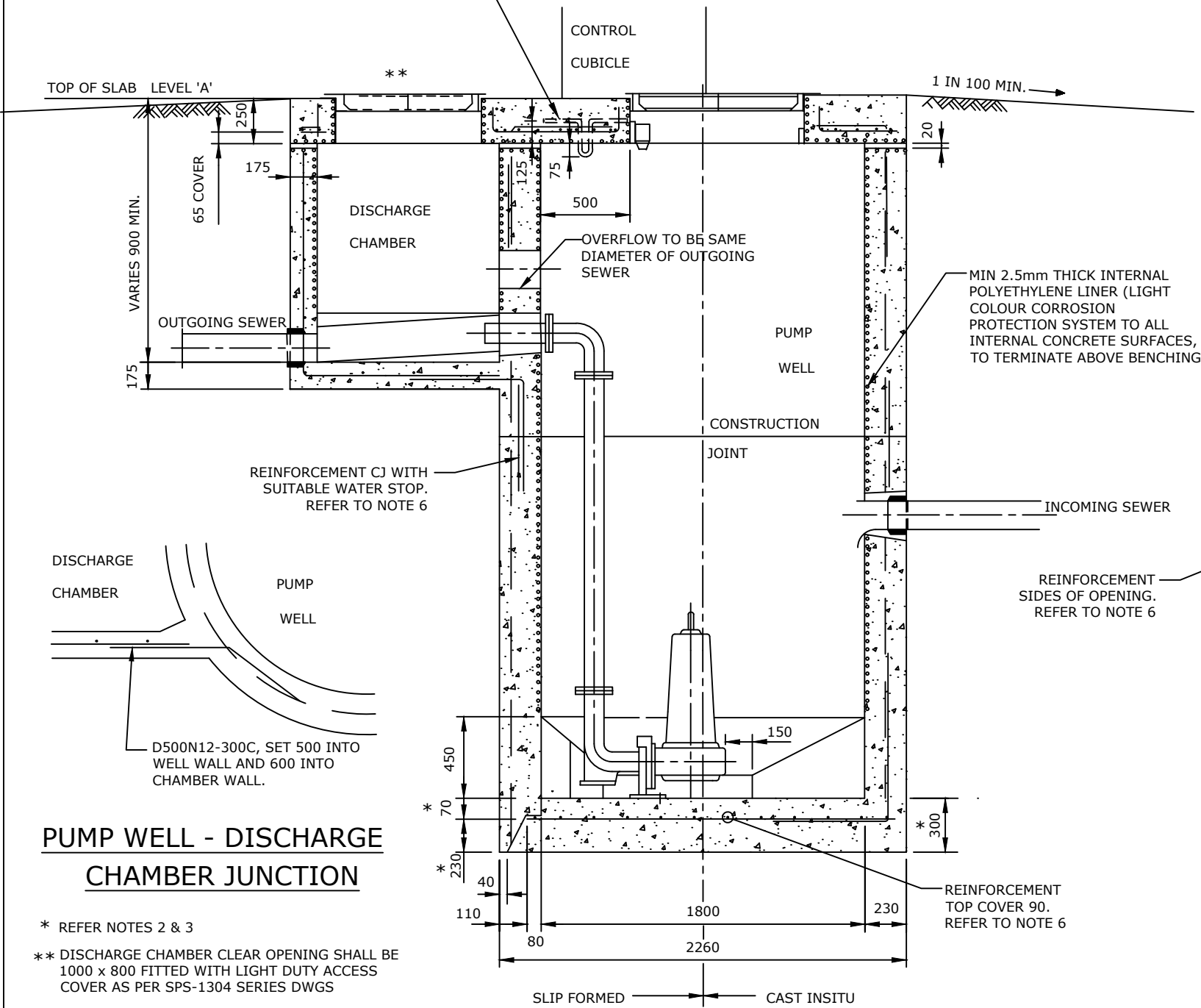
REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-9 VERSION B DATED 25/01/2017	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC
TYPICAL 1.8m DIA LIFT STATION GENERAL ARRANGEMENT	DRAWING No. WBB-SPS-1300-9				VERSION A
	NOT TO SCALE				ORG DATE:

2 Ø12 GRADE 316 STAINLESS STEEL. INTERNAL RADIUS OF BENDS TO BE 25. EMBEDDED PORTION OF U-BOLTS TO BE WRAPPED WITH ELECTRICAL INSULATION TAPE. LOCATE CENTRALLY OVER 90° BENDS.



PUMP WELL - DISCHARGE CHAMBER JUNCTION

* REFER NOTES 2 & 3

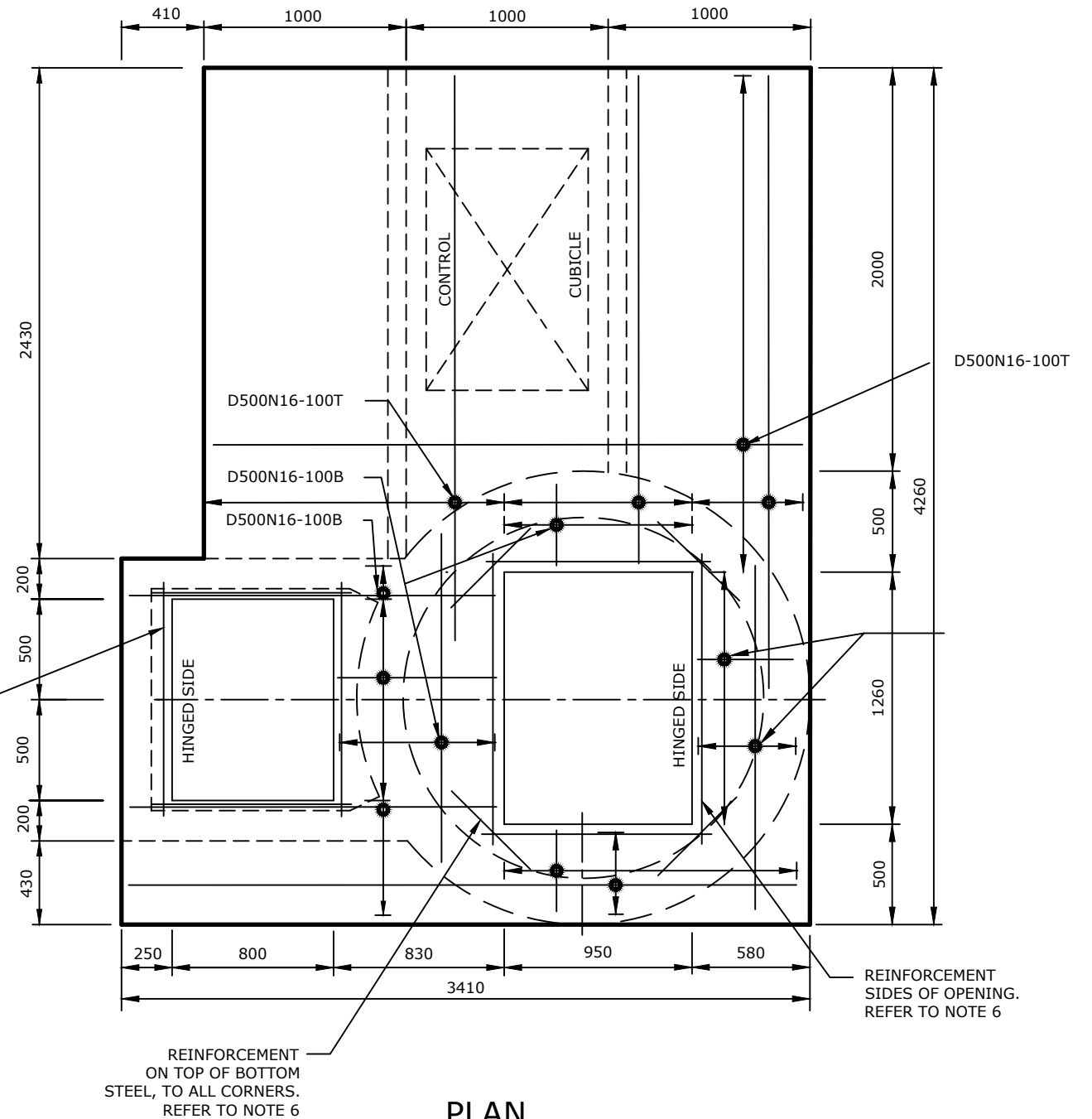
** DISCHARGE CHAMBER CLEAR OPENING SHALL BE 1000 x 800 FITTED WITH LIGHT DUTY ACCESS COVER AS PER SPS-1304 SERIES DWGS

NOTES:

- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WBB-SPS-1300 SERIES DRAWINGS.
- THE THICKNESS OF THE BASE SHOWN IS FOR LIFT STATIONS TO A MAX. DEPTH OF 4.0m.
- FOR DEPTHS OF LIFT STATIONS GREATER THAN 4.0m THE BASE THICKNESS SHALL BE INCREASED TO COVER FLOTATION OF THE STRUCTURE WHEN EMPTY OF PUMPS, PIPEWORK, FITTINGS AND LIQUID AND SHALL BE AS DETAILED ON THE DRAWINGS.

SECTIONAL ELEVATION

- ALL CONCRETE SHALL:
(a) BE GRADE S40
(b) COMPLY WITH THE REQUIREMENTS OF WBB-SP STANDARD SPECIFICATIONS
- ALL CORED HOLES IN LIFT WELL WALLS SHALL BE TAPERED TO BE Ø25 LARGER IN DIAMETER ON THE OUTSIDE FACE THAN THE INSIDE FACE. PACK HOLES WITH 3:1 CEMENT MORTAR UNLESS OTHERWISE DIRECTED.



PLAN

- ALL REINFORCING TO AS/NZS 4671:2001. DETAILS OF REINFORCEMENT SPECIFIED BY DESIGNER.
- LAPS IN REINFORCING SHALL BE 600 MINIMUM FOR BARS AND ONE (1) MESH SPACING FOR FABRIC.
- CONCRETE COVER TO REINFORCEMENT SHALL BE A MINIMUM 65 UNLESS OTHERWISE DIRECTED.
- DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-10 VERSION B DATED 27/01/2017	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

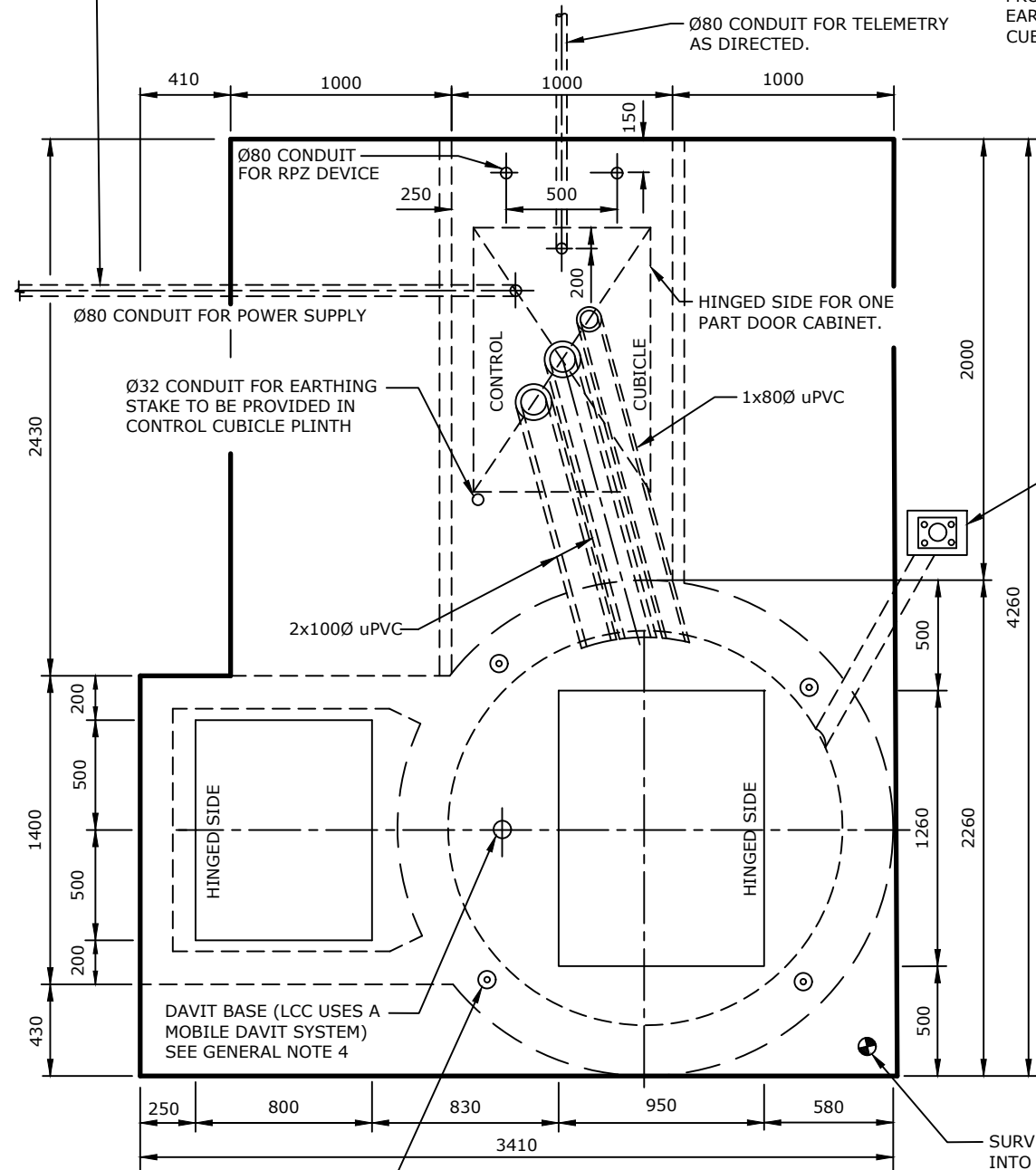
SEWAGE PUMP STATION STANDARD DRAWING TYPICAL 1.8m DIA LIFT STATION SECTIONS

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1300-10				A
NOT TO SCALE				ORG DATE:

PROVIDE Ø50 CONDUIT 125 BELOW SLAB LEVEL. (POSITION TO BE DIRECTED ON SITE)



DIMENSIONS OF SWITCHBOARD APRON SLAB MAY VARY TO SUIT SPECIFIC SWITCHBOARD SIZE

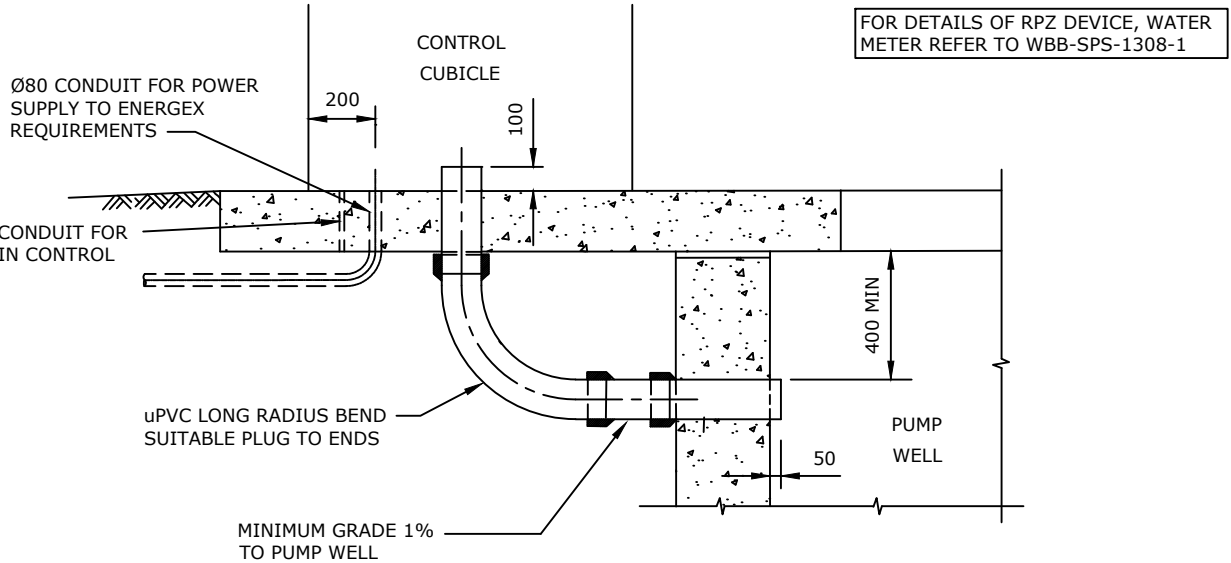


'RAIL SAFE' ALUMINUM POST INSERTS AT LOCATIONS SHOWN FOR TEMP. BARRICADE C/W REMOVEABLE PLUGS SEE GENERAL NOTE 4

PLAN



PROVIDE Ø32 CONDUIT FOR EARTH STAKE IN CONTROL CUBICLE



SECTION A-A TYPICAL CONDUIT DETAIL

VENT POLE REFER WBB-SPS-1405-2

SURVEY MARK TO BE CAST INTO ROOF SLAB FOR FUTURE REFERENCES. LEVEL AND COORDINATES, INCLUDING RELEVANT DATUM AND COORDINATE SYSTEM, TO BE RECORDED ON AS CONSTRUCTED DRAWINGS.

NOTES
GENERAL

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WBB-SPS-1300 SERIES DRAWINGS.
2. THE LOCATION OF THE LIFT STATION SHALL BE AS SHOWN ON THE APPROVED DRAWINGS.
3. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. FALL PREVENTION INSERTS NOT REQUIRED FOR MCBERNS FLUSH MOUNTS 4 SIDED VOID PROTECTION SYSTEM.

ELECTRICAL CONDUITS

1. CONDUITS TO BE MINIMUM 100 NOMINAL DIAMETER FOR EACH PUMP AND MINIMUM 80 NOMINAL DIAMETER FOR CONTROL CABLES OR TWICE THE OUTSIDE DIAMETER OF THE INSTALLED CABLE WHICHEVER IS THE GREATER.
2. PUMP CONDUITS AND CONTROL CONDUIT SHALL BE SEPARATED BY A MINIMUM 300. PUMP CONDUITS SHALL BE SEPARATED BY 30.
3. CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS3000.
4. CONDUITS SHALL BE IN ACCORDANCE WITH AS.2053.

COMPONENTS

1. ALL PIPES, FITTINGS, ASSOCIATED COMPONENTS AND PROTECTION SYSTEMS SHALL COMPLY WITH WBBROC-SP STANDARD SPECIFICATIONS.

LEVELS

1. THE FINISHED LEVEL OF THE ACCESS COVERS AND CONTROL CUBICLE SHALL BE 300 ABOVE THE HIGHEST RECORDED FLOOD LEVEL (OR Q100 FLOOD LEVEL WHICH EVER IS HIGHER) AND A 1 IN 6 GRADE EXTENDED TO NATURAL LEVEL.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1300-11 VERSION B DATED 27/01/2017	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING		BRC	FCRC	GRC	NBRC	SBRC
TYPICAL 1.8m DIA LIFT STATION MISCELLANEOUS DETAILS		DRAWING No.				VERSION
		WBB-SPS-1300-11				A
		NOT TO SCALE				ORG DATE:

NOTES:

- G1. PIPE MATERIAL:
THE PIPE MATERIAL BELOW GROUND AND NOT UNDER CONCRETE SLABS SHALL BE POLYETHYLENE PE 100 PN16 SDR 11. PLASSON OR APPROVED SIMILAR COMPRESSION FITTINGS MAY BE USED ON THE POLYETHYLENE PIPES. THE EXCEPTION TO USING POLYETHYLENE IS IN LOCATIONS OF LAND FILL OR GROUND CONTAMINATED WITH HYDROCARBONS. IN SUCH LOCATIONS GRADE 316 STAINLESS STEEL OR PROTECTED COATED COPPER SHALL BE USED. IN ABOVE GROUND LOCATIONS COPPER OR GRADE 316 STAINLESS STEEL SHALL BE USED. FOR LOCATIONS UNDER CONCRETE SLABS SCHEDULE 40S GRADE 316 STAINLESS STEEL IS TO BE USED. BSP THREADED STAINLESS STEEL FITTINGS SHALL BE USED ON THE STAINLESS STEEL PIPE.
- G2. PIPE DIAMETER AND PIPE CAPACITIES:
THE POTABLE WATER SUPPLY PIPE FROM THE WATER MAIN SHALL BE SIZED TO PROVIDE 1 l/s (AT 250 kPa MAINS PRESURE) ON THE DOWNSTREAM SIDE OF THE RPZD. THIS SERVICE PIPE AND THE RPZD AND ASSOCIATED FITTINGS SHALL HAVE A MINIMUM DIAMETER OF DN25 FOR COPPER AND STAINLESS STEEL AND DN32 FOR POLYETHYLENE. THE HOSE COCK AND THE WELL WASHER PIPE SHALL BE DN20 FOR COPPER AND STAINLESS STEEL AND DN25 FOR POLYETHYLENE.

G3. PIPE FITTINGS:
FITTINGS CONTAINED IN THE ABOVE GROUND CABINET SHALL BE BRONZE OR GRADE 316 STAINLESS STEEL. ALL FITTINGS SHALL HAVE AN AUSTRALIAN STANDARDS MARK.
- G4. ALL STAINLESS STEEL THREADS SHALL BE ASSEMBLED WITH THREAD TAPE OR ANTI- GALLING COMPOUND.

G5. CABINET: THE CABINET FOR THE RPZD SHALL BE CONSTRUCTED FROM 3mm THICK GRADE 5052 ALUMINIUM OR 1.6 THICK GRADE 316 STAINLESS STEEL 20mm ANGLE WITH MESH INSERTS (APPROXIMATELY 20X20).THE CAGE DOOR SHALL BE FITTED WITH LOCKABLE LATCH THE DIMENSIONS SHALL BE AS PER DRAWING AND HAVE A WIDTH OF 250mm. THE DOOR SHALL HAVE VERTICAL HINGES TO ALLOW FOR HORIZONTAL OPENING OF THE DOOR.

G6. SAFETY SIGN: ONE SAFETY SIGN SHALL BE PLACED ON THE EXTERNAL SURFACE OF THE DOOR AND ONE SAFETY SIGN SHALL BE PLACED ON THE INSIDE OF THE CABINET ADJACENT TO THE HOSE COCK. THE SAFETY SIGNS SHALL BE
- INSTALLED AS INDICATED IN AS3500.1 SECTION 4.4.5 AND THE SIGN SHALL BE A VERBAL PICTOGRAM AS SHOWN IN AS3500.1 SECTION 9 AND SHALL BE INSCRIBED "WARNING DO NOT DRINK".

G7. LOCATION AND DETAILS: THE LOCATION AND FULL DETAILS OF THE POTABLE WATER SYSTEM INCLUDING THE PIPES, CABINET, SOLENOID, WELL WASHER, SHALL BE GIVEN ON PROJECT DRAWINGS.

LOCKABLE MESH CABINET. REFER TO NOTE G5 FOR DETAILS

DN25 AUTHORISED REDUCED PRESSURE ZONE DEVICE (RPZD) VALVE BACKFLOW PREVENTION DEVICE TO AS/NZS 2845.1. REFER TO NOTE G3

DN25 WSA APPROVED STRAINER. REFER TO NOTE G3

PROVIDE DN25 BARREL UNION TO ALLOW FOR STRAINER AND RPZD REMOVAL

DN25 FULL BORE GRADE 316 STAINLESSL STEEL BALL VALVE WITH DN25 BSP THREADED FEMALE SOCKET ENDS

2 NO OFF 100 X 100 CCA TREATED HARDWOOD POSTS. ONE AT EITHER END OF CABINET

SAFETY SIGN ON EXTERNAL SURFACE OF DOOR. REFER TO NOTE G6 FOR DETAILS.

POLYETHYLENE OR WBBROC-SP ACCEPTED PIPE FOR INTERNAL PROPERTY POTABLE WATER SUPPLY. SEE NOTE G1 FOR PIPE MATERIAL AND NOTE G2 FOR SIZE.

WATER METER AND ISOLATING VALVE IN METER PIT. FOR DETAILS OF DN25 SIZED METER ARRANGEMENT REFER TO WBBROC-SP WATER SUPPLY STANDARD DRAWINGS FOR DIAMETERS GREATER THAN DN25 THE PROJECT DESIGNER MUST OBTAIN A DESIGN APPROVED BY WBBROC-SP FOR THE SERVICE AND METER ARRANGEMENT. THE MINIMUM DIAMETER OF SERVICE SHALL BE 25. SEE NOTE G2.

PROPERTY SERVICE CONNECTION. SEE NOTE G2 FOR SIZE.

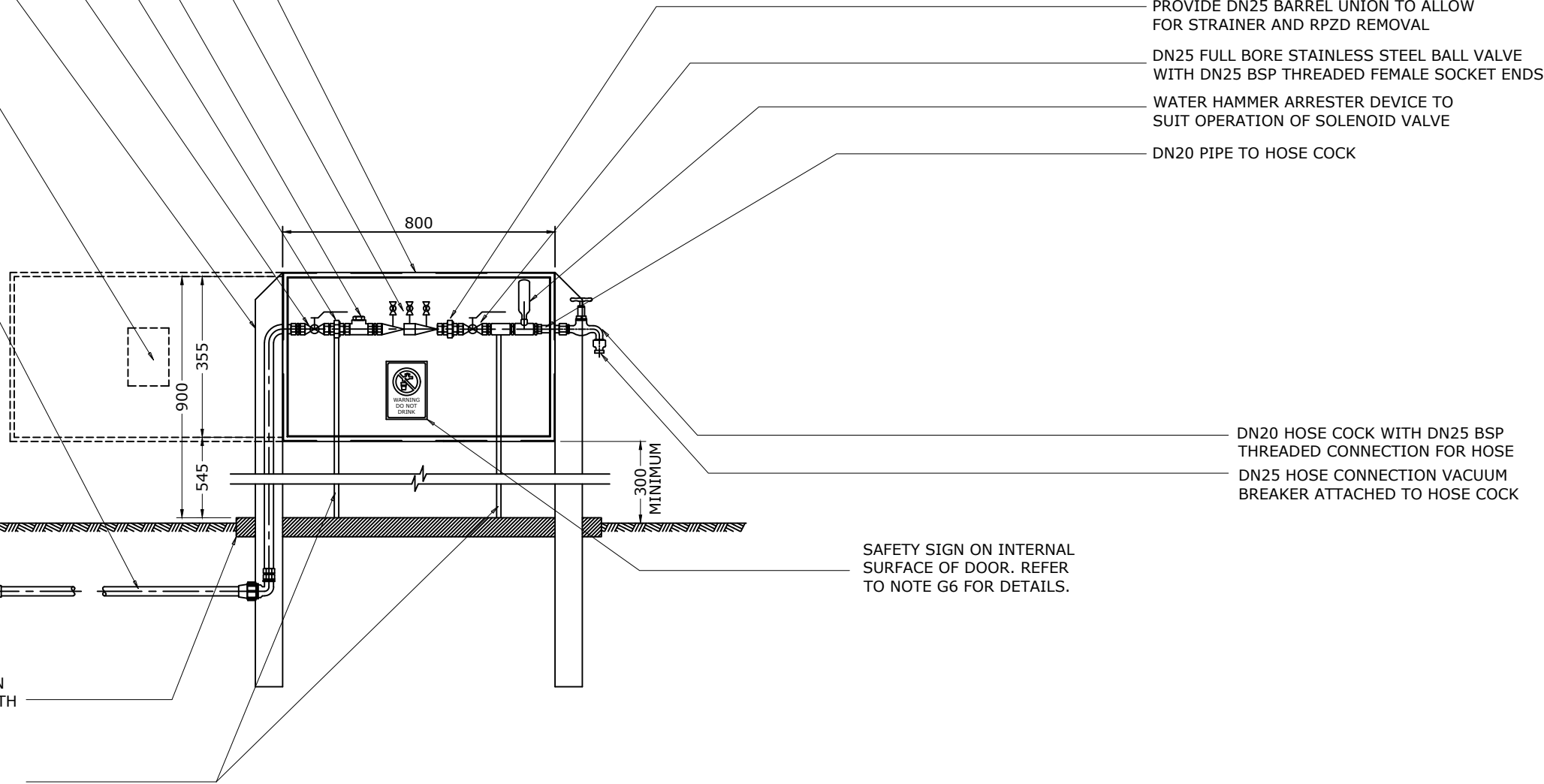
NOMINAL FINISHED SURFACE LEVEL

PROPERTY BOUNDARY

CONCRETE SLAB 75mm MIN DEPTH OR INTEGRATED WITH WET WELL COVER SLAB

PROVIDE SUPPORT FOR PIPEWORK 2X20mm ALUMINIUM OR S/S GRADE 316 LEGS BOLTED TO SLAB.

POTABLE WATER RETICULATION MAIN IN STREET



PROVIDE DN25 BARREL UNION TO ALLOW FOR STRAINER AND RPZD REMOVAL

DN25 FULL BORE STAINLESS STEEL BALL VALVE WITH DN25 BSP THREADED FEMALE SOCKET ENDS

WATER HAMMER ARRESTER DEVICE TO SUIT OPERATION OF SOLENOID VALVE

DN20 PIPE TO HOSE COCK

DN20 HOSE COCK WITH DN25 BSP THREADED CONNECTION FOR HOSE
DN25 HOSE CONNECTION VACUUM BREAKER ATTACHED TO HOSE COCK

SAFETY SIGN ON INTERNAL SURFACE OF DOOR. REFER TO NOTE G6 FOR DETAILS.

TYPICAL SECTIONAL VIEW OF POTABLE WATER SUPPLY
NOT TO SCALE

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WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING

RPZ DEVICE
TYPICAL LAYOUT

BRCFCRCGRCNBRC SBRC

DRAWING No. VERSION

WBB-SPS-1308-1

A

NOT TO SCALE

ORG DATE:

STRUCTURAL NOTES

- S1. THE STRUCTURE SHALL BE DESIGNED TO ALL RELEVANT CODES AND PRACTICES INCLUDING AS3735 AND AS3600.

S2. THE CHAMBER SHALL BE DESIGNED FOR TRAFFICABLE LOADS OF AT LEAST W80 TO AS5100.HOWEVER THE DESIGN SHALL COMPLY WITH ALL REQUIREMENTS SET OUT IN AS5100.

S3. THE MINIMUM EXPOSURE CLASS OF THE INTERNAL CONCRETE SURFACE SHALL BE B2 TO AS3735 AND THE COVER SHALL BE MEASURED FROM THE REINFORCEMENT STEEL TO THE EMBEDMENT LUGS OF THE POLYETHYLENE OR PVC LINING.
- S4. THE CONCRETE CLASS SHALL BE SPECIAL CLASS SCC40 TO WATER SERVICES ASSOCIATION OF AUSTRALIA INDUSTRY STANDARD FOR CONCRETE SPECIAL CLASS WSA 114.

S5. THE STRUCTURE SHALL BE TESTED IN ACCORDANCE WITH AS3735.

S6. THE DESIGN SHALL INCLUDE PROVISIONS TO PREVENT UPLIFT OF THE STRUCTURE DURING EXTERNAL FLOODING.

S7. ALL EXTERNAL CONCRETE SURFACES IN CONTACT WITH SOIL SHALL BE COATED WITH "OXYDUR PTB" OR A WBBROC-SP APPROVED EQUIVALENT.

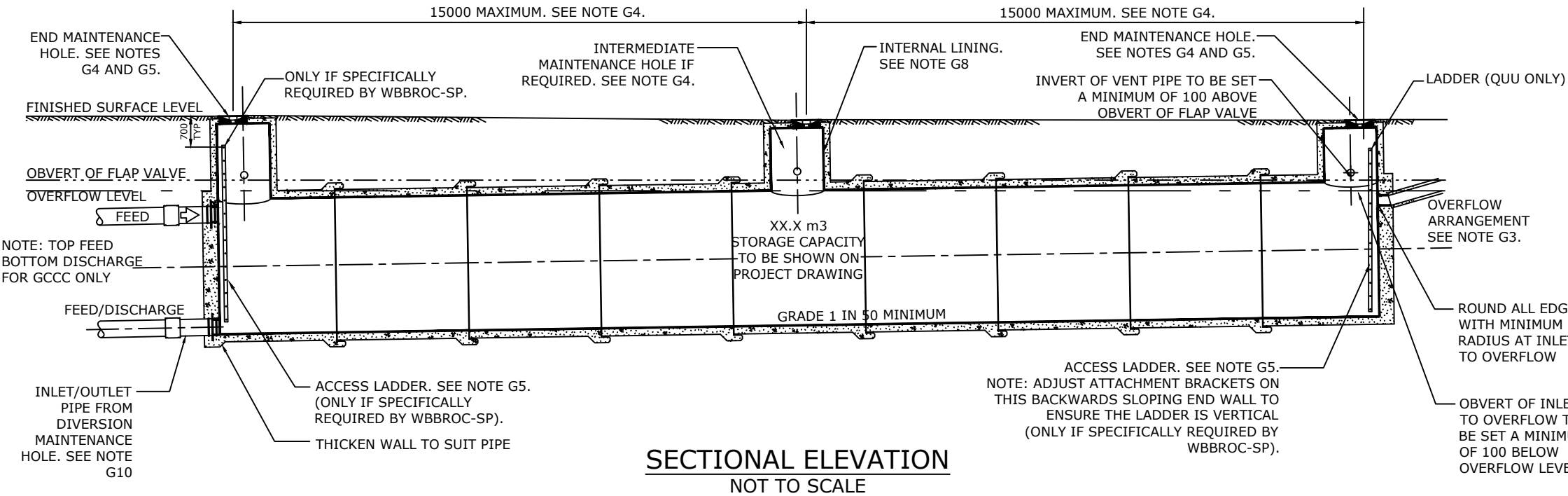
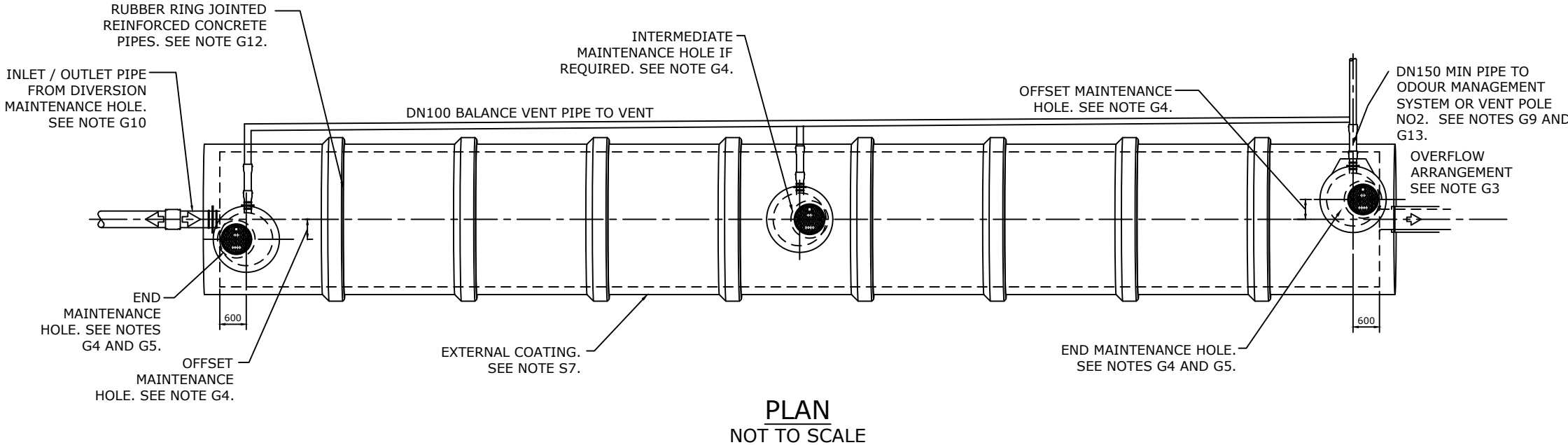
GENERAL NOTES CONT.

- G14. WHERE PERMITTED BY WBBROC-SP, A HIGH BUILD SOLVENT FREE EPOXY COATING SYSTEM MAY BE USED FOR ALL INTERNAL SURFACES. THE COATING SYSTEM SHALL BE WBBROC-SP APPROVED AND COMPLY WITH THE PRODUCT MANUFACTURER'S SURFACE PREPARATION AND APPLICATION REQUIREMENTS. THE COATING SYSTEM SHALL BE APPLIED BY THE PRODUCT MANUFACTURER'S APPROVED APPLICATION CONTRACTOR.

NOTES

GENERAL NOTES

- G1. THIS DRAWING SHOWS AN EMERGENCY STORAGE CHAMBER CONSTRUCTED USING PIPES.
- G2. THE OVERFLOW FLAP VALVE CHAMBER CONNECTING BOX CULVERT SHALL BE LOCATED AT THE FURTHEST POINT FROM THE INLET TO THE EMERGENCY STORAGE CHAMBER. THE OVERFLOW IS SITUATED IN THIS LOCATION TO MINIMISE THE SOLID AND FLOATING MATERIAL DISCHARGED INTO THE ENVIRONMENT IF AN OVERFLOW OCCURS. IF NO SUITABLE DISCHARGE POINT IS AVAILABLE AT THE PUMPING STATION SITE THEN SEQ-SP AND WHERE APPROPRIATE D.E.R.M. APPROVAL SHALL BE SOUGHT TO SITE THE OVERFLOW FLAP VALVE CHAMBER AT A UPSTREAM CATCHMENT MAINTENANCE HOLE LOCATION.
- G3. THE OVERFLOW FLAP VALVE CHAMBER SHALL BE A TYPE 1, 2 OR 3 AS SHOWN ON STANDARD DRAWINGS NOS. WBB-SEW 1409 TO 1413. THE OUTLET TO THE OVERFLOW FLAP VALVE CHAMBER SHALL BE A PIPE. A SEPARATE AS CONSTRUCTED PLAN SHALL BE PRODUCED OF THE OVERFLOW FLAP VALVE CHAMBER. A MAINTENANCE HOLE COVER ACCESS IS REQUIRED AT BOTH ENDS OF THE EMERGENCY STORAGE CHAMBER REGARDLESS OF THE LENGTH OF THE CHAMBER. THE MAXIMUM DISTANCE BETWEEN THE MAINTENANCE HOLE COVERS SHALL BE 15000. WHERE THE DISTANCE EXCEEDS 15000 INTERMEDIATE MAINTENANCE HOLES ARE REQUIRED. THESE INTERMEDIATE MAINTENANCE HOLES DO NOT REQUIRE LADDERS. AS SHOWN ON THIS DRAWING THE MAINTENANCE HOLE MAY NEED TO BE OFFSET AS THE LADDERS SHALL NOT COVER ANY PIPES OR OPENINGS IN THE CHAMBER. THE MAINTENANCE HOLES SHALL BE 1200 TYPE F BARRELS AND TOP SLABS OR WBBROC-SP APPROVED SIMILAR. THE BARRELS SHALL BE INTEGRAL AND FULLY SEALED WITH THE EMERGENCY STORAGE CHAMBER PIPES. THE MAINTENANCE HOLE COVERS SHALL BE CLASS D BOLT DOWN COVERS SUITABLE FOR TRAFFICABLE LOCATIONS.
- G4. LADDERS SHALL ONLY BE INSTALLED WHERE SPECIFICALLY REQUIRED BY WBBROC-SP. ANY LADDER SHALL COMPLY WITH AS 1657 AND SHALL BE OF SUITABLE APPROVED MATERIAL.
- G5. FOR DETAILS OF LEVEL INTERACTION WITH OTHER PUMPING STATION STRUCTURES AND STORAGE CAPACITY REQUIREMENTS REFER TO ALL OTHER WBBROC DRAWINGS.
- G6. NOT ALL LEVELS AND DIMENSIONS ARE SHOWN ON THIS TYPICAL DRAWING.FULL DETAILS SHALL BE PROVIDED ON THE PROJECT DRAWINGS.
- G7. ALL INTERNAL SURFACES OF A CHAMBER SHALL BE LINED WITH A LIGHT COLOURED MECHANICAL ANCHORED PE LINING AS DESCRIBED ON DRAWING WBB-SPS-1407-1. SPUN CAST CONCRETE PIPES WITH NON CONTINUOUS PE LINING ARE NOT PERMITTED. SEE NOTE 14 FOR A COATING SYSTEM ALTERNATIVE.
- G8. AN ODOUR CONTROL SYSTEM IN ACCORDANCE WITH THE ODOUR IMPACT ASSESSMENT REPORT IS REQUIRED. IF A VENT POLE (NO. 2) IS REQUIRED, IT SHALL BE SEPARATE FROM THE PUMP WELL AND GRIT COLLECTOR MH VENT POLE. IT SHALL BE LOCATED AT THE OPPOSITE END TO INLET SEWER. PIPE SIZES SHALL MEET THE FLOWS REQUIRED BY THE OMS.
- G9. THE INLET / OUTLET PIPE FROM THE DIVERSION MAINTENANCE HOLE TO THE EMERGENCY STORAGE CHAMBER SHALL BE SIZED TO CARRY MAXIMUM WET WEATHER FLOW. THE PIPE SHALL BE GRADED AT A MINIMUM 1 IN 50. THE PIPE SHOWN ON THIS DRAWING IS POLYETHYLENE. IF VC PIPES ARE USED A SHORT LENGTH OF PLAIN AND SOCKET PIPE IS REQUIRED ADJACENT TO THE STRUCTURE.
- G10. THE EMERGENCY STORAGE CHAMBER SHALL BE LOCATED WITHIN FREEHOLD PROPERTY OWNED BY WBBROC-SP.
- G11. THE PIPES USED TO FORM THE EMERGENCY STORAGE CHAMBER SHALL BE RUBBER RING JOINTED REINFORCED CONCRETE. THE MINIMUM CLASS OF PIPE SHALL BE CLASS 4. SEE NOTES S2 AND S5. THIS DRAWING SHOWS SOCKET RUBBER RING JOINTS, HOWEVER FOR LARGER DIAMETER PIPES AN IN WALL RUBBER RING JOINT IS SUITABLE. SEE NOTE G8 FOR CONCRETE PIPES WHICH ARE NOT APPROVED.
- G12. A 2000 MINIMUM CLEARANCE SHALL BE PROVIDED FROM ANY MAINTENANCE HOLE COVER ACCESS IN THE TOP SLAB OF THE CHAMBER TO ANY ABOVE GROUND EQUIPMENT OR STRUCTURE.



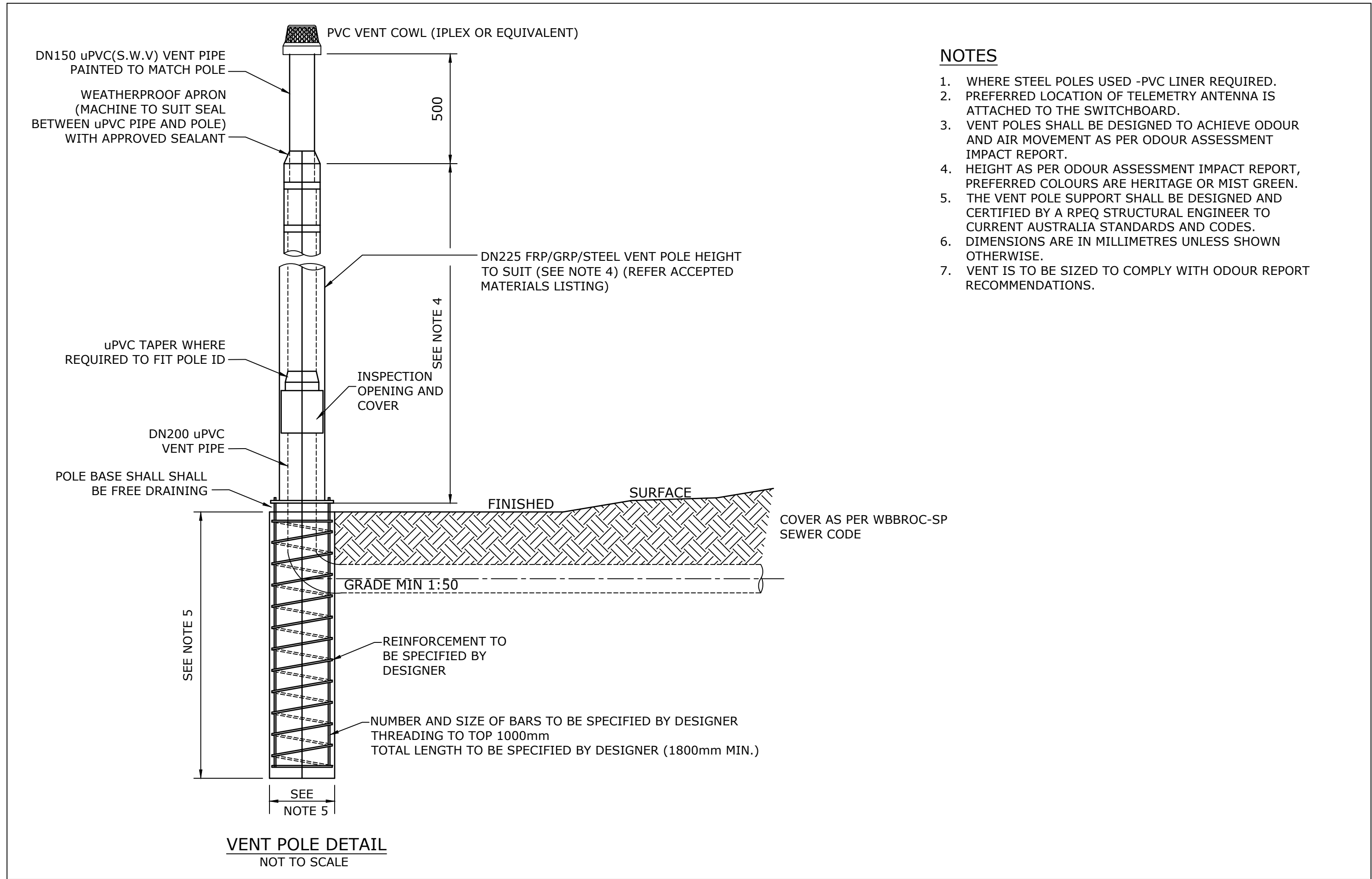
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A	19/03/2018	BASED ON SEQ-SPS-1402-1 VERSION C DATED 19/01/2017	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

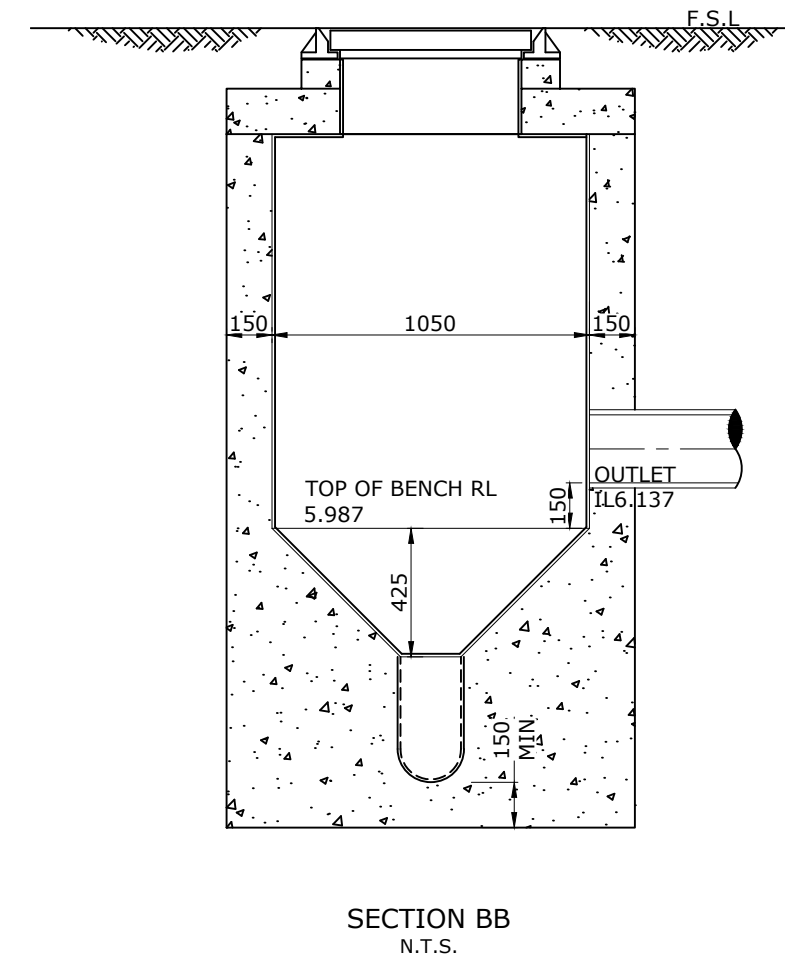
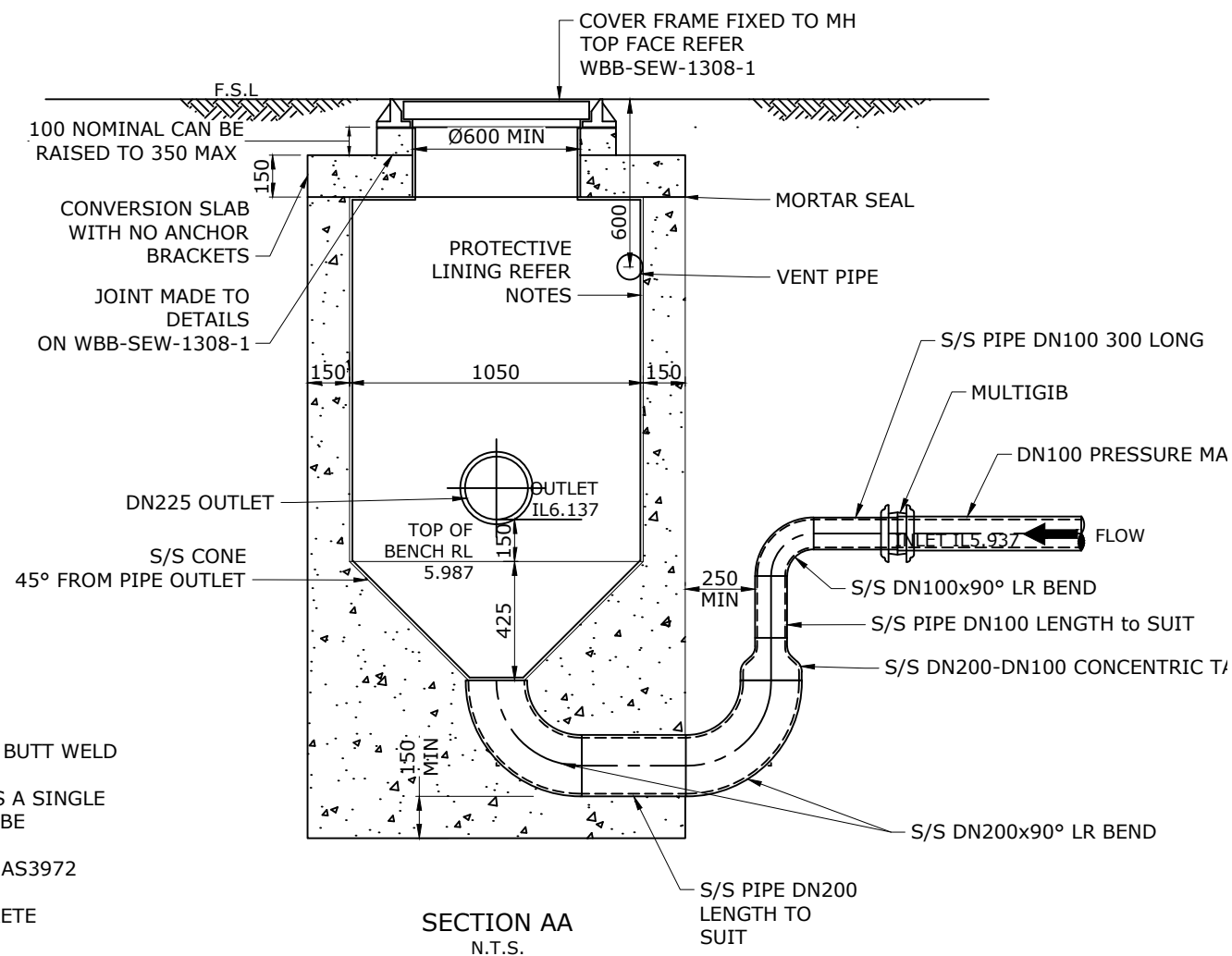
SEWAGE PUMP STATION STANDARD DRAWING
ADDITIONAL STORAGE CHAMBER
GENERAL REQUIREMENTS

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1402-1				A
NOT TO SCALE				ORG DATE:



REV. No.	DATE	DESCRIPTION	AUTH.	WBBROC WATER SERVICE PROVIDERS	SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC					
					TYPICAL VENT POLE	DRAWING No.									VERSION
						WBB-SPS-1405-2									A
						NOT TO SCALE									ORG DATE:
A	19/03/2018	BASED ON SEQ-SPS-1405-2 VERSION B DATED 01/06/2014				WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION									

PRECAST LID FROM HUMES OR
ROCLA (OR EQUIVALENT LID)
COULD BE USED FOR MH



GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL COMPLY WITH WBBROC-SP SPECIFICATIONS & STANDARDS.
2. ALL DIMENSIONS ARE IN MILLIMETRES.
3. PIPEWORK SHALL FINISH FLUSH WITH INTERNAL FACE OF WALL.
4. STAINLESS STEEL PIPES & FITTINGS SHALL BE 316 S/S SCH. 10S BUTT WELD FITTINGS. BENDS SHALL BE LONG RADIUS BENDS.
5. MAINTENANCE HOLE TOP & COVER SURROUND TO BE PRECAST AS A SINGLE UNIT. PROVIDE CORED HOLES TO ALLOW R16 GALV. DOWELS TO BE INSERTED THROUGH TOP INTO MAINTENANCE HOLE WALLS.
6. CONCRETE SHALL BE CLASS N32 IN ACCORDANCE WITH AS1379, AS3972 AND AS3600.
7. ALL INTERNAL SURFACES OF DISCHARGE MH SHALL HAVE CONCRETE PROTECTION SYSTEM APPLIED (REFER BELOW).
8. ALL REINFORCEMENT SHALL HAVE 50mm COVER.

PROTECTIVE LINING

OPTION 1:

WALLS AND TOP SLAB SOFFIT SHALL BE COATED WITH A 5mm THICK LAYER OF PEERLESS INDUSTRIAL SYSTEMS "EPIGEN" 1311 OR AN EQUIVALENT APPROVED PRODUCT, THE LINING IS TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATION.

OPTION 2:

AN ALTERNATIVE METHOD OF CORROSION PROTECTION APPROVED BY SERVICE AUTHORITY:

MIX:

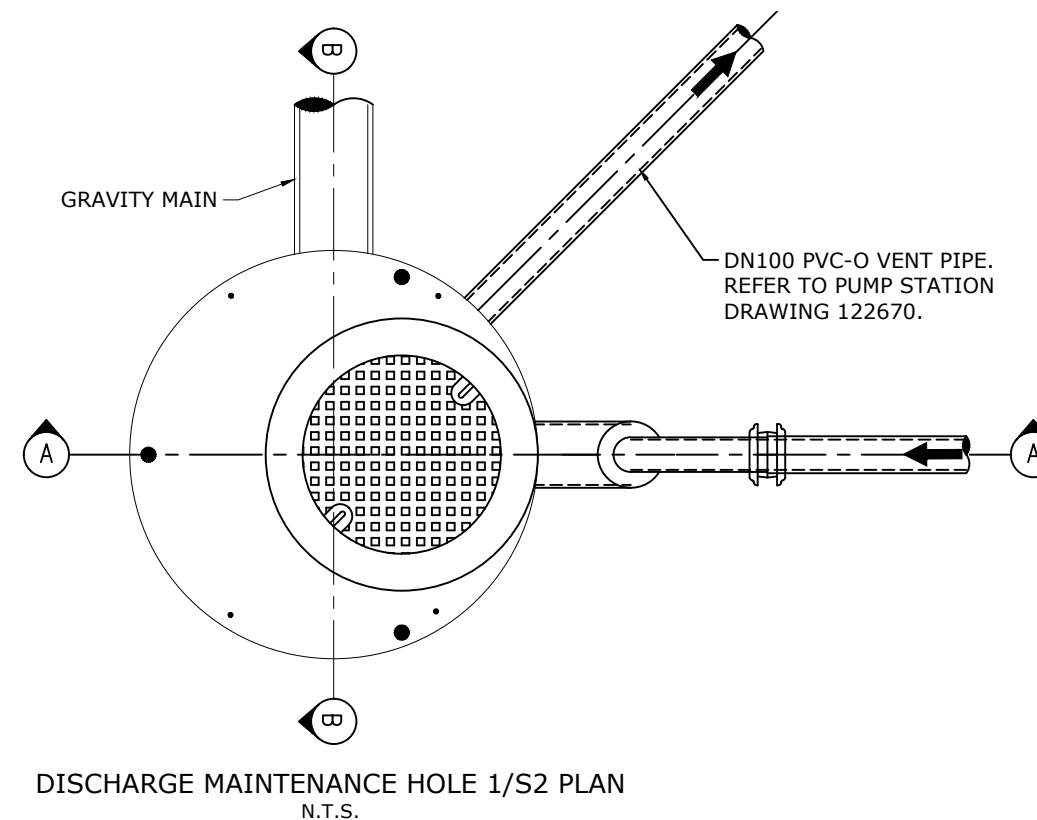
- 1 PART BONDCRETE
- 5 TO 6 PARTS WATER
- 1 TO 1.5 PARTS FINE WHITE OR BROWN SAND
- 1 PART CEMENT - TYPE SR (SULPHATE RESISTING)

APPLICATION

1. WATER BLAST CONCRETE (3000 PSI)
2. SPRAY MIX TO CHAMBER WALL
3. FINISH WITH HAND TROWEL TO A MINIMUM THICKNESS OF 5mm

OPTION 3:

PE LINER CL PE100 TO AS/NZS 4130 AND 4131 OR APPROVED EQUIVALENT



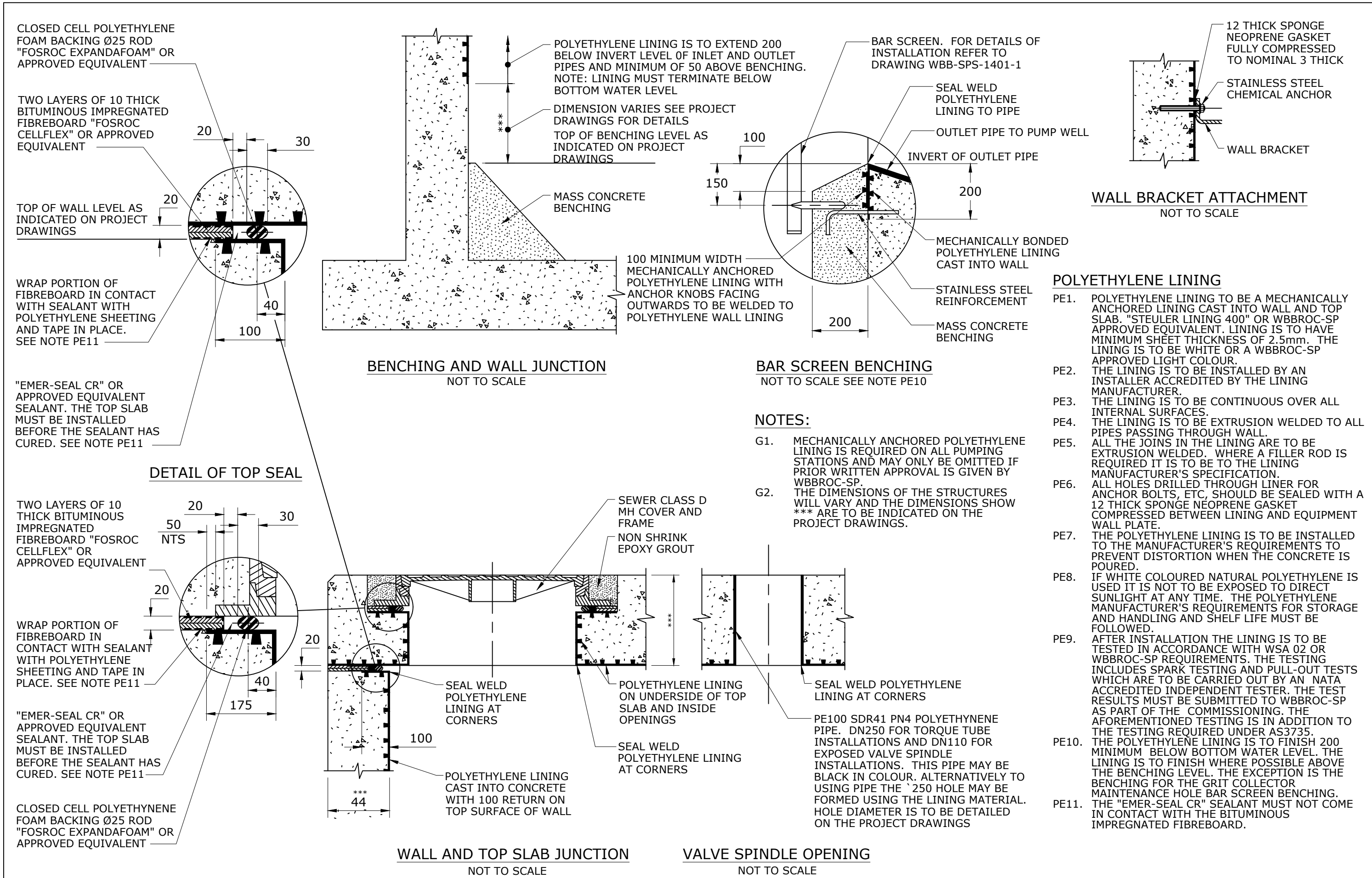
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WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
DISCHARGE MAINTENANCE HOLE DETAILS

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1406-3				A
NOT TO SCALE				ORG DATE:



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A	19/03/2018	BASED ON SEQ-SPS-1407-1 VERSION A	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING		BRC	FCRC	GRC	NBRC	SBRC
POLYETHYLENE LINING TOP SLAB & WALL TYPICAL DETAILS		DRAWING No.				VERSION
		WBB-SPS-1407-1				A
		NOT TO SCALE				ORG DATE:

WRAP THE DICL PIPE WITH "DENSO HI TACK TAPE" OVER THE INTERFACE WITH THE OUTSIDE SURFACE OF THE CONCRETE. SEE NOTE G6

THE PROTECTIVE POLYETHYLENE SLEEVE OF THE DICL PIPE IS TO BE TAPED TO THE "DENSO HI TACK TAPE" WRAPPED PIPE OUTSIDE THE CONCRETE

SHORT DICL FLANGE CLASS SPIGOT AND SOCKET PIPE ADJACENT TO CONCRETE THE STRUCTURE. EFFECTIVE LENGTH TO BE 2 X PIPE DIAMETER

POLYETHYLENE SLEEVING INSTALLED TO THE PIPE MANUFACTURER'S REQUIREMENTS. SEE NOTE G6.

DICL SOCKET AND FLANGED CONNECTOR

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR SEQ-SP APPROVED SIMILAR

PROVIDE A MINIMUM OF 150 CONCRETE COVER TO REAR FACE OF FLANGE.

TYPICAL DICL PIPE PENETRATION

NOT TO SCALE

DIMENSIONS TO BE SHOWN ON PROJECT DRAWINGS

STAINLESS STEEL FLANGE TO AS4087 FIGURE B7 PN16

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR WBBROC-SP APPROVED SIMILAR

STAINLESS STEEL WEEP FLANGE. SEE NOTE G10

PROVIDE A MINIMUM OF 150 COVER FROM BACK FACE OF THE BACKING FLANGE TO THE POLYETHYLENE LINING. SEE NOTE G3

SS316 BACKING RING

SS316 BOLTS

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR SEQ-SP APPROVED SIMILAR

EXTRUSION WELD PIPE TO LINING

POLYETHYLENE PIPE. SEE NOTES G5 AND G9

MECHANICALLY ANCHORED POLYETHYLENE LINING CAST INTO WALL. FOR DETAILS REFER TO NOTE PE1 ON DRAWING WBB-SPS-1407-1

POLYETHYLENE FULL FACE FLANGE BUTT WELDED TO POLYETHYLENE PIPE. SEE NOTE G5

3 THICK GASKET

TYPICAL STAINLESS STEEL WALL PIPE PENETRATION

NOT TO SCALE

EXTRUSION WELD POLYETHYLENE COLLAR TO POLYETHYLENE WALL LINING

2 PIECE POLYETHYLENE COLLAR CURVED TO SUIT RADIUS OF WELL

EXTRUSION WELD POLYETHYLENE COLLAR TO POLYETHYLENE SLEEVE ON PIPE

POLYETHYLENE SLEEVE SHRUNK ONTO PIPE. SEE NOTE G7

STAINLESS STEEL FLANGE WELDED TO PIPE AFTER THE POLYETHYLENE SLEEVE IS SHRUNK IN PLACE. CARE MUST BE TAKEN DURING WELDING TO ENSURE THE POLYETHYLENE IS NOT HEATED. THE FLANGE IS TO BE TO AS4087 FIGURE B7 PN16

FLANGED STAINLESS STEEL WALL PIPE WITH POLYETHYLENE SLEEVE. SEE NOTE G8

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR WBBROC-SP APPROVED SIMILAR

MECHANICALLY ANCHORED POLYETHYLENE LINING CAST INTO WALL. FOR DETAILS REFER TO NOTE PE1 ON DRAWING WBB-SPS-1407-1

25 MINIMUM THICKNESS

+GF+ FLEX RESTRAIN FITTING OR PE100 POLYETHYLENE FLANGE THERMAL WELDED TO PIPE

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR WBBROC-SP APPROVED SIMILAR

PE100 POLYETHYLENE PIPE WITH LIGHT COLOURED INTERIOR. SEE NOTES G4 AND G9

ELECTROFUSION COUPLING JOINING PIPE SEGMENTS

75 MINIMUM PROJECTION OF FLANGE FOR ALL PIPE DIAMETERS

LOCALLY THICKEN AND REINFORCE WALL TO PROVIDE A MINIMUM OF 150 COVER TO REAR FACE OF WEEP FLANGE

PROVIDE A MINIMUM OF 150 COVER FROM FRONT FACE OF WEEP FLANGE TO POLYETHYLENE LINING. SEE NOTE G3.

25 X 7 "HYDROTITE SEAL CJ-0725-3K" OR WBBROC-SP APPROVED SIMILAR

EXTRUSION WELD PIPE TO LINING

MECHANICALLY ANCHORED POLYETHYLENE LINING CAST INTO WALL. FOR DETAILS REFER TO NOTE PE1 ON DRAWING NO. WBB-SPS-1407-1

NOT TO SCALE

TYPICAL POLYETHYLENE PIPE PENETRATION

MECHANICALLY ANCHORED POLYETHYLENE LINING CAST INTO WALL. FOR DETAILS REFER TO NOTE PE1 ON DRAWING NO. WBB-SPS-1407-1

HDPE pipe boat

2/SS 316 Clamps

DI EPOXY COATED WEEP FLANGE

150 MIN. COVER

ALTERNATIVE THROUGH PIPE SEAL

NOT TO SCALE

TABLE A STAINLESS STEEL PIPE SIZES

NOMINAL PIPE DIAMETERS	PIPE OUTSIDE DIAMETER	MINIMUM * WALL THICKNESS
100	114.30	6.02 **
150	168.28	7.11 **
200	219.08	5
250	273.05	5
300	323.85	5
350	355.60	5
400	406.40	5
450	457.20	6
500	508.00	6

* SEE NOTE G8

** SCHEDULE 40 PIPE

TABLE B POLYETHYLENE PIPE SIZES

PIPE OUTSIDE DIAMETER
110
160
250
315
400
500
630

SEE NOTE G9

NOTES:

- G1. FOR NOTES ON POLYETHYLENE REFER TO DRAWING WBB-SPS-1407-1.
- G2. FOR DETAILS OF POTABLE WATER PIPE WALL PENETRATION REFER TO WBBROC-SP. FOR DETAILS OF AIR BLEED PIPE WALL PENETRATION REFER TO WBBROC-SP FOR DETAILS OF SUMP PUMP DISCHARGE PIPE WALL PENETRATION REFER WBBROC-SP FOR GENERAL DETAILS OF BLOCKOUTS AND THE TREATMENT OF THE REINFORCEMENT REFER WBBROC-SP.
- G3. THE 150 COVER IS TO BE MEASURED FROM THE CLOSEST SURFACE OF THE FLANGE TO THE EMBEDMENT LUGS OF THE POLYETHYLENE LINING.
- G4. THE POLYETHYLENE WALL PIPE USED IN CONJUNCTION WITH A POLYETHYLENE GRAVITY SEWER IS TO BE THE SAME DIAMETER PE100 PIPE WITH THE SAME SDR AND PN CLASS AS THE GRAVITY SEWER. SEE NOTE G9. THIS WALL PIPE IS TO HAVE A LIGHT COLOURED INTERIOR.
- G5. THE POLYETHYLENE WALL PIPE USED IN CONJUNCTION WITH A DICL GRAVITY SEWER IS TO BE PE100 PIPE WITH THE MINIMUM CLASS OF SDR21 AND PN8. THE INTERNAL DIAMETER OF THE POLYETHYLENE PIPE CANNOT BE LESS THAN THE INTERNAL DIAMETER OF THE FLANGE CLASS DICL PIPE. SEE NOTE G9. THIS SHORT SECTION OF POLYETHYLENE PIPE AND THE BUTT WELDED FULL FACE FLANGE THAT CONNECTS TO THE DICL PIPE MAY BE BLACK IN INTERNAL COLOUR.
- G6. IF THE SEWER PIPE IS DICL THEN THE PIPE AT THE INTERFACE OF THE OUTSIDE CONCRETE WALL IS TO BE WRAPPED WITH "DENSO HI TACK TAPE" OVER THE AREA INDICATED ON THIS DRAWING. THE SURFACE IS TO BE PREPARED AS REQUIRED BY THE TAPE MANUFACTURER AND PRIMED WITH A THIN FILM OF "DENSO PRIMER" THE PIPE IS THEN TO BE WRAPPED WITH THE "DENSO HI TACK TAPE" WITH EACH BINDING OVERLAPPING THE PREVIOUS BINDING BY A MINIMUM OF 50%. THE PROTECTIVE POLYETHYLENE SLEEVING TO THE DICL PIPE IS THEN TO BE TAPED TO THE "DENSO" WRAPPED PIPE EXTERNAL TO THE CONCRETE WITH THE TAPE SUPPLIED BY THE PIPE MANUFACTURER FOR TAPING THE POLYETHYLENE SLEEVING.
- G7. THE POLYETHYLENE SLEEVE ON THE STAINLESS STEEL WALL PIPE IS TO HAVE A MINIMUM THICKNESS OF 6mm. THE SLEEVE IS TO BE SHRUNK TO THE PIPE BEFORE ONE END FLANGE IS WELDED IN PLACE. THE SLEEVE IS TO HAVE AN INTERFERENCE FIT AND IS TO BE HEATED TO EXPAND TO ALLOW INSTALLATION. THE SLEEVE IS TO BE MACHINED FROM PIPE OR SOLID AND IS NOT TO BE FABRICATED AND SHALL NOT HAVE ANY WELDED JOINTS. THE POLYETHYLENE SLEEVE MAY BE BLACK IN COLOUR. CARE MUST BE TAKEN WHEN WELDING ON THE REMAINING FLANGE TO PREVENT HEATING OF THE POLYETHYLENE SLEEVE. THE POLYETHYLENE SLEEVE MAY ONLY BE OMITTED IF PRIOR APPROVAL IS GIVEN BY WBBROC-SP FOR THE OMISSION OF THE POLYETHYLENE LINING FROM THE WALLS OF THE GRIT COLLECTOR MAINTENANCE HOLE.
- G8. THE NOMINAL DIAMETERS AND WALL THICKNESS FOR STAINLESS STEEL PIPES ARE GIVEN IN TABLE A. STAINLESS STEEL GRADE 316 SCHEDULE 40 PIPE IS TO BE USED FOR DN100 AND DN150 PIPES. FOR PIPES OVER DN150 STAINLESS STEEL GRADE 316 SCHEDULE 40 OR SPIRAL WELDED PIPE MAY BE USED PROVIDED THE MINIMUM WALL THICKNESS IS MET.
- G9. THE OUTSIDE DIAMETERS (OD) OF POLYETHYLENE PIPES USED FOR GRAVITY SEWERS ARE GIVEN IN TABLE B. THE POLYETHYLENE PIPE IS TO BE PE100 WITH A MINIMUM SDR21 AND PN8 AND LIGHT COLOURED INTERIOR. THE DETAILS OF THE PIPES ARE TO BE SHOWN ON THE PROJECT DRAWINGS. SEE ALSO NOTE G4. THE SHORT LENGTH OF POLYETHYLENE PIPE CONNECTING TO THE DICL PIPE NEED NOT CONFORM WITH TABLE B. SEE ALSO NOTE G5.
- G10. THE WEEP FLANGE ON THE STAINLESS STEEL WALL PIPE IS TO BE WELDED AT AN ANGLE TO THE PIPE TO SUIT CURVATURE OF THE CONCRETE WALL. THE FLANGE IS TO BE PLACED CENTRALLY IN THE WALL. FULL DETAILS OF PIPES ARE TO BE GIVEN IN THE PROJECT DRAWINGS PIPE LIST AND PIPE SPECIALS DETAILS. THESE WEEP FLANGES ARE TO BE DESIGNED TO TRANSFER THE FULL THRUST LOADS OF A PN16 PIPE. THE MINIMUM DIAMETER OF A FLANGE WELDED AT 90° TO THE PIPE IS TO BE IN ACCORDANCE WITH AS4087 FIGURE B7.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1407-2 VERSION B DATED 23/06/2014	

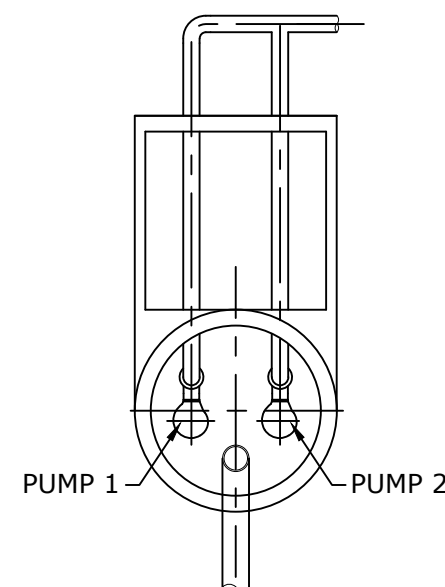
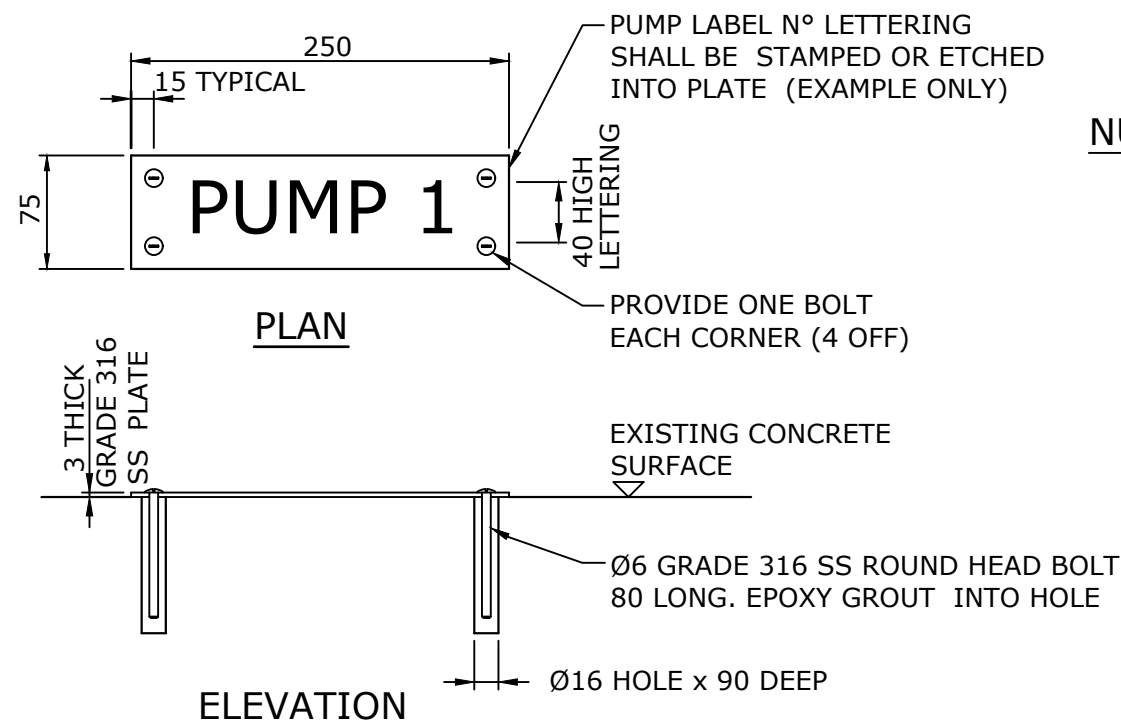
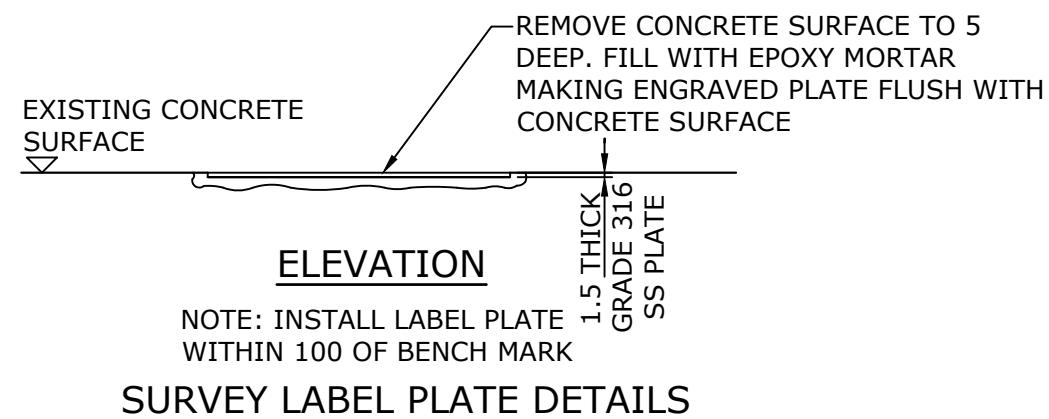
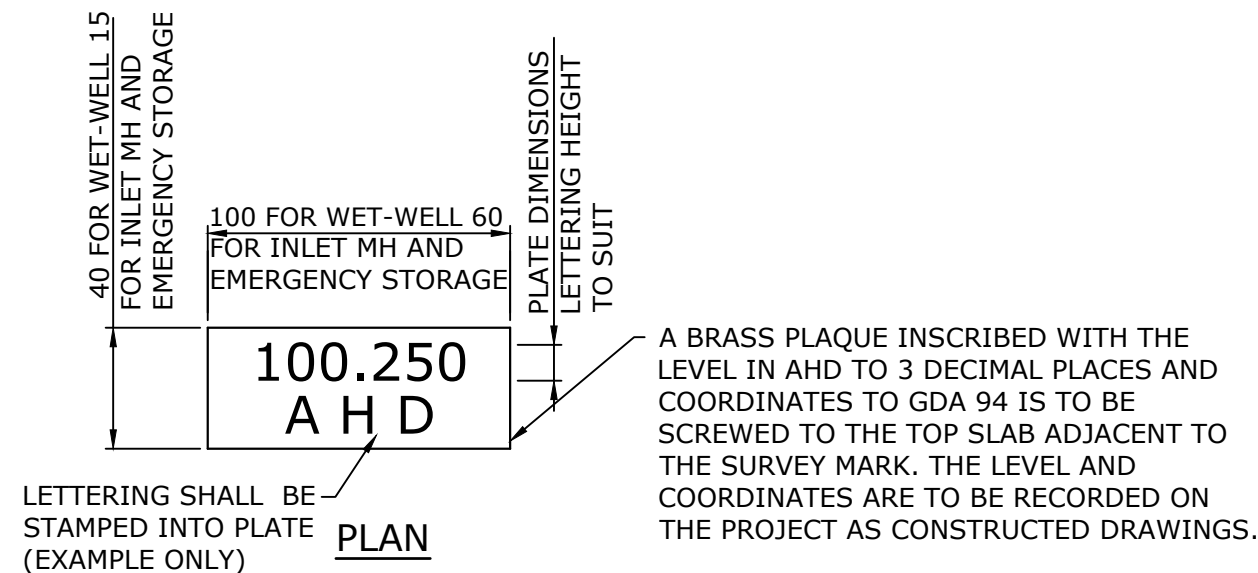
WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

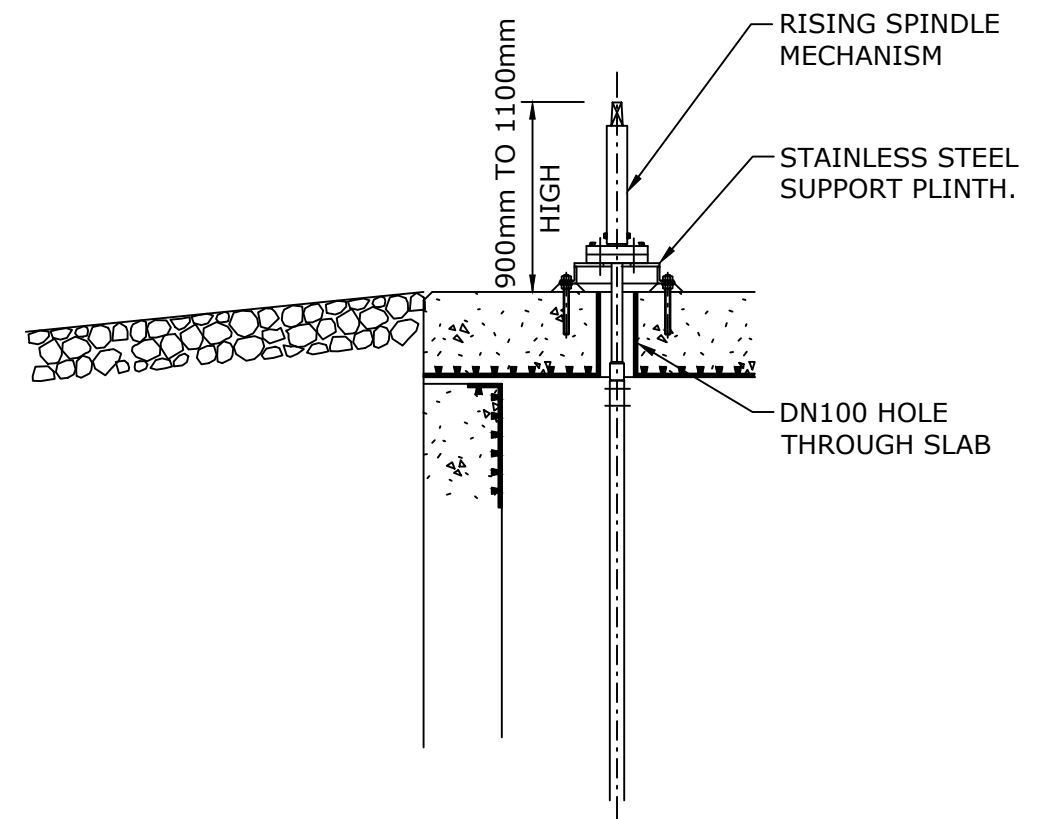
SEWAGE PUMP STATION STANDARD DRAWING

POLYETHYLENE LINING
WALL PIPE PENETRATION
TYPICAL DETAILS

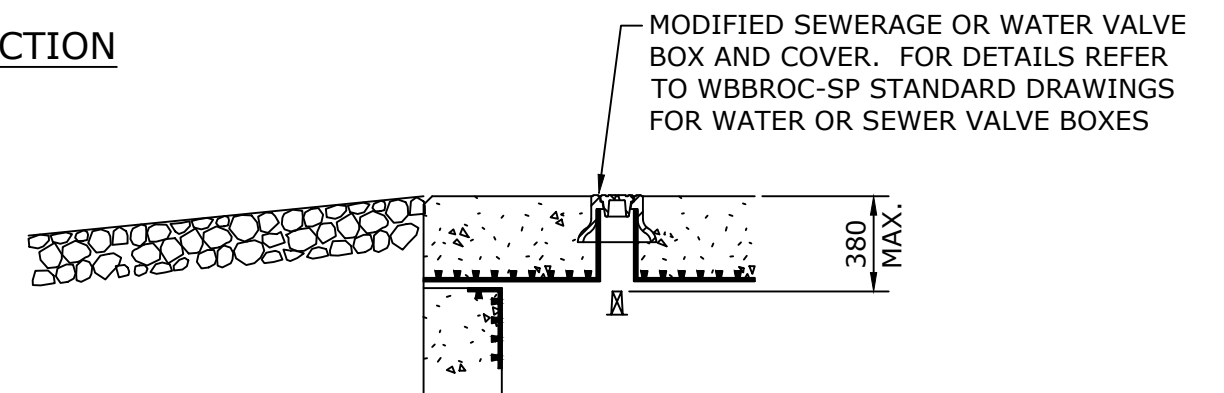
BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1407-2				A
NOT TO SCALE				ORG DATE:



NUMBERING CONNECTION



TYPICAL RISING SPINDLE MECHANISM ABOVE GROUND
(SECURITY FENCED AREAS ONLY)



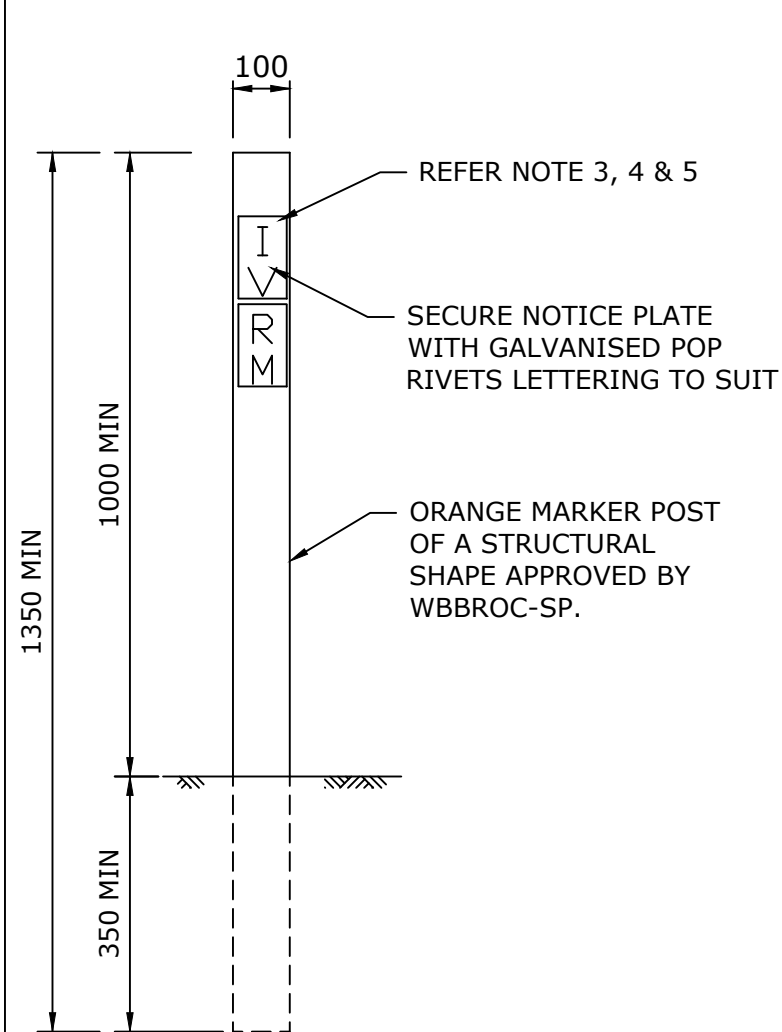
RISING SPINDLE MECHANISM UNDER SLAB

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1508-1 VERSION B DATED 28/05/2014	

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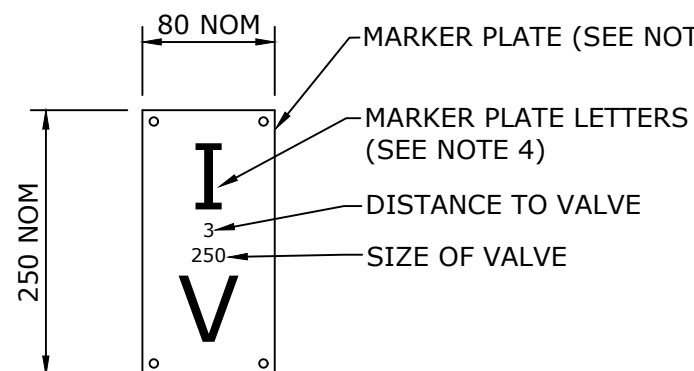
WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING		BRC	FCRC	GRC	NBRC	SBRC
SURVEY PLATE, PUMP LABEL PLATE VALVE SPINDLE ACCESS		DRAWING No. WBB-SPS-1508-1				VERSION A
		NOT TO SCALE				ORG DATE:

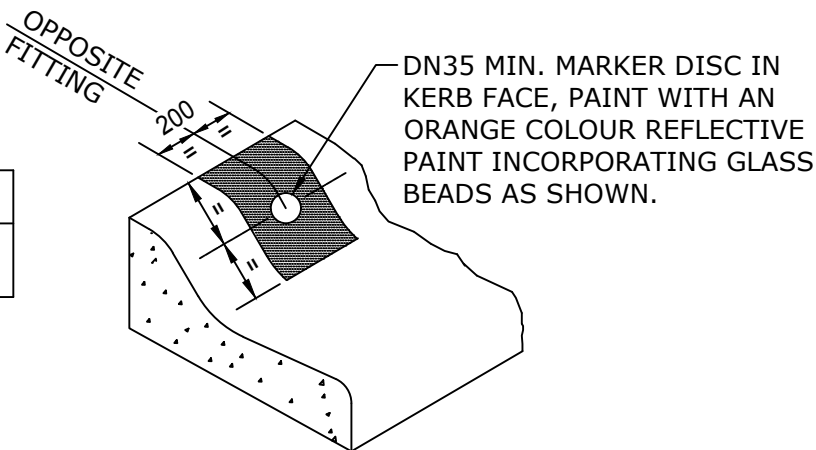


MARKER POST

APPROVED MARKER POST
PARK INTERNATIONAL UTILITY MARKER SYSTEM POLYMER 1350 LONG X 100 WIDE X 4 THICK OR EQUAL



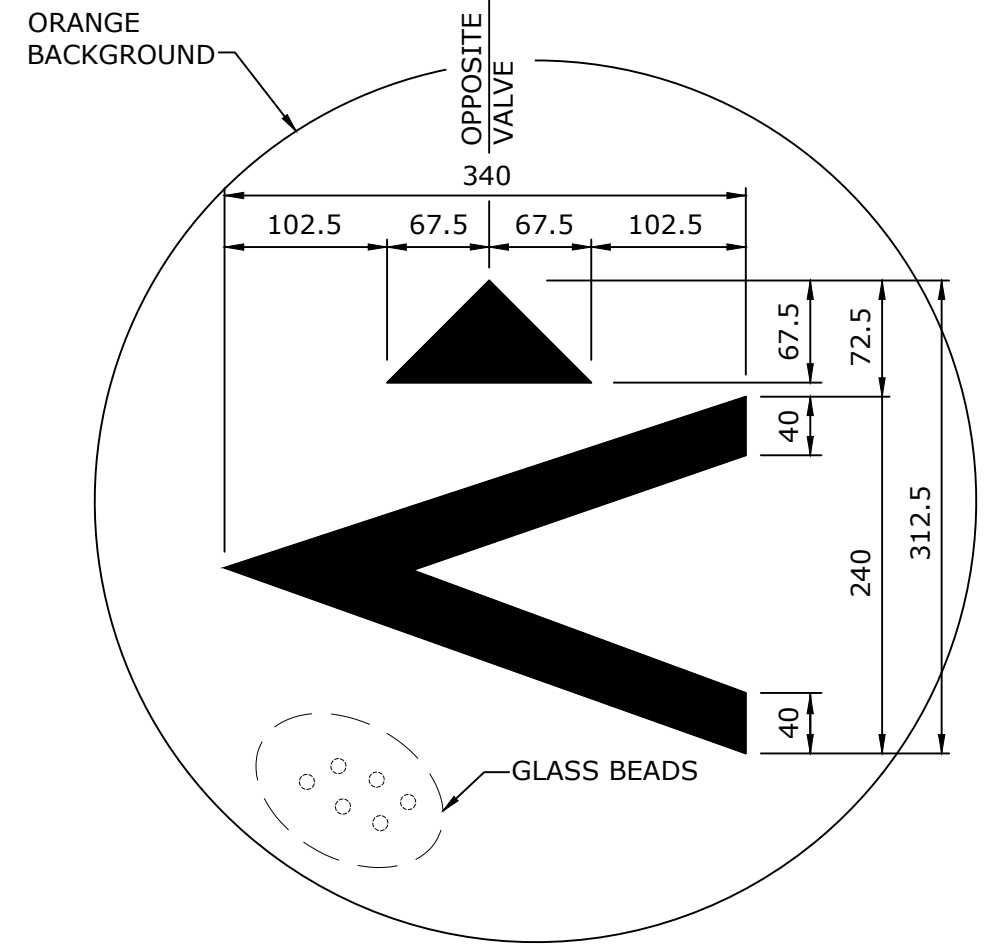
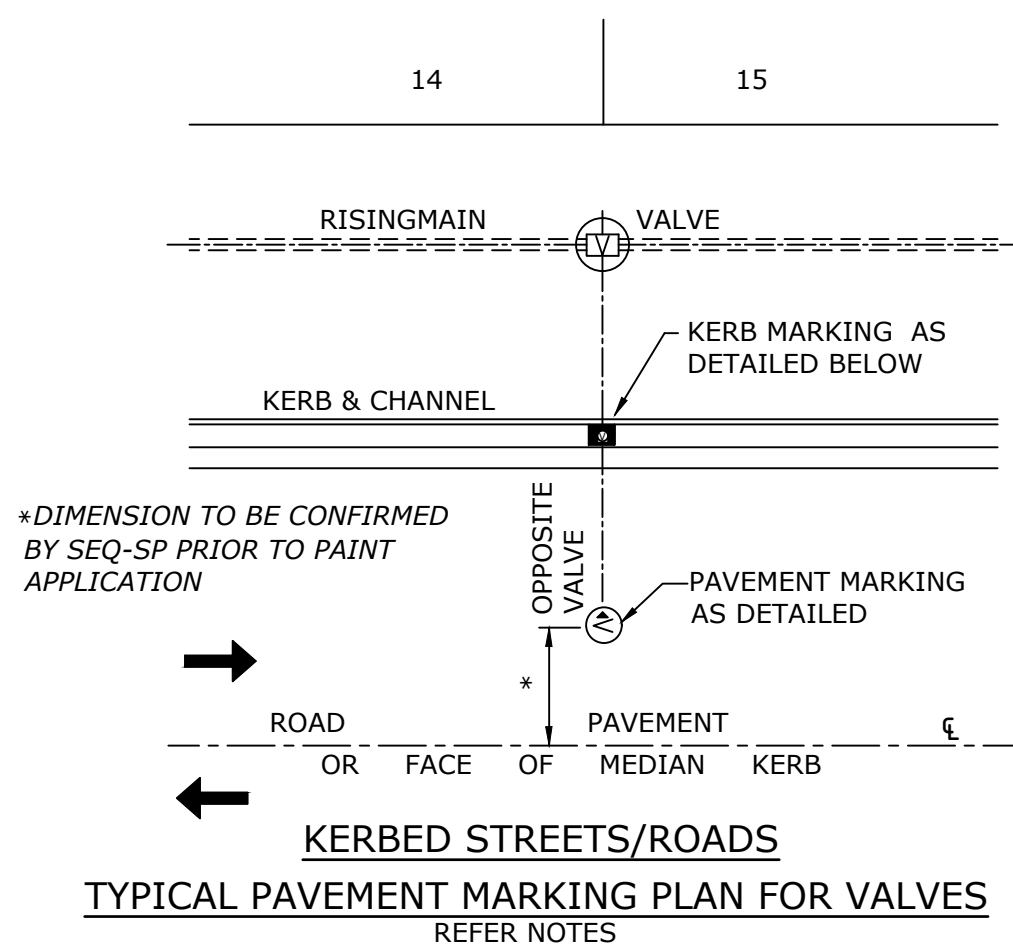
TYPICAL NOTICE PLATE ARRANGEMENT FIXED TO POST



KERB MARKING

IV - ISOLATION VALVE
GV - GAS VALVE
SV - SCOUR VALVE
VV - VACUUM SECTION VALVE
RM - RISING MAIN

MARKER DISCS & NOTICE PLATE CODES



PAVEMENT MARKING FOR VALVES

NOTES:

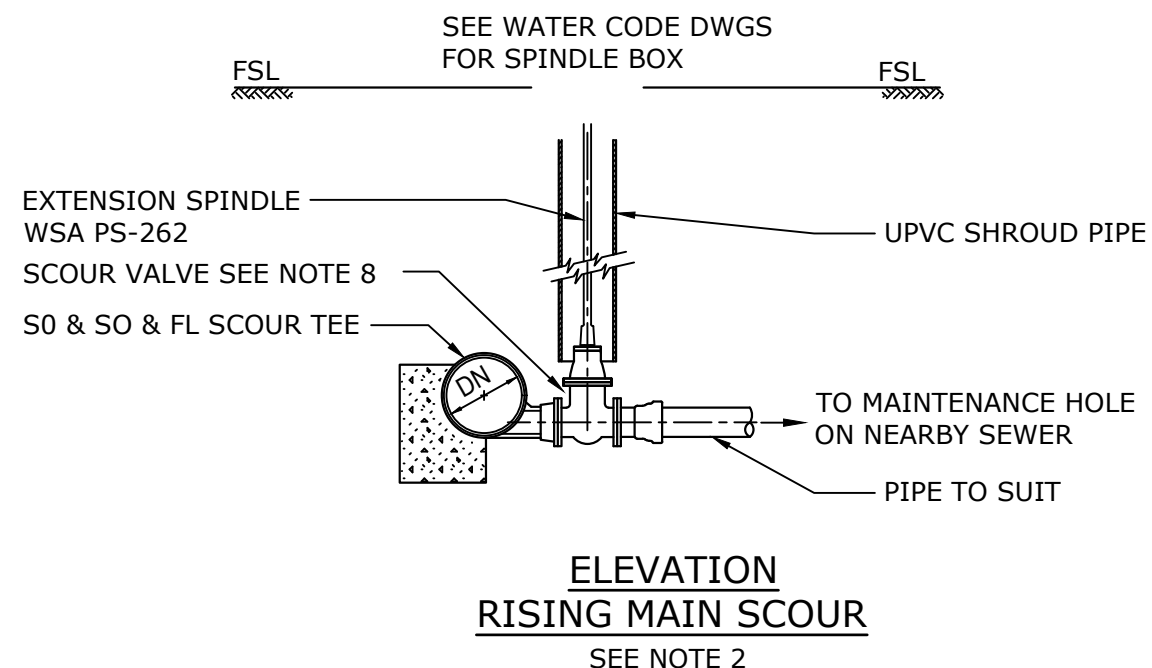
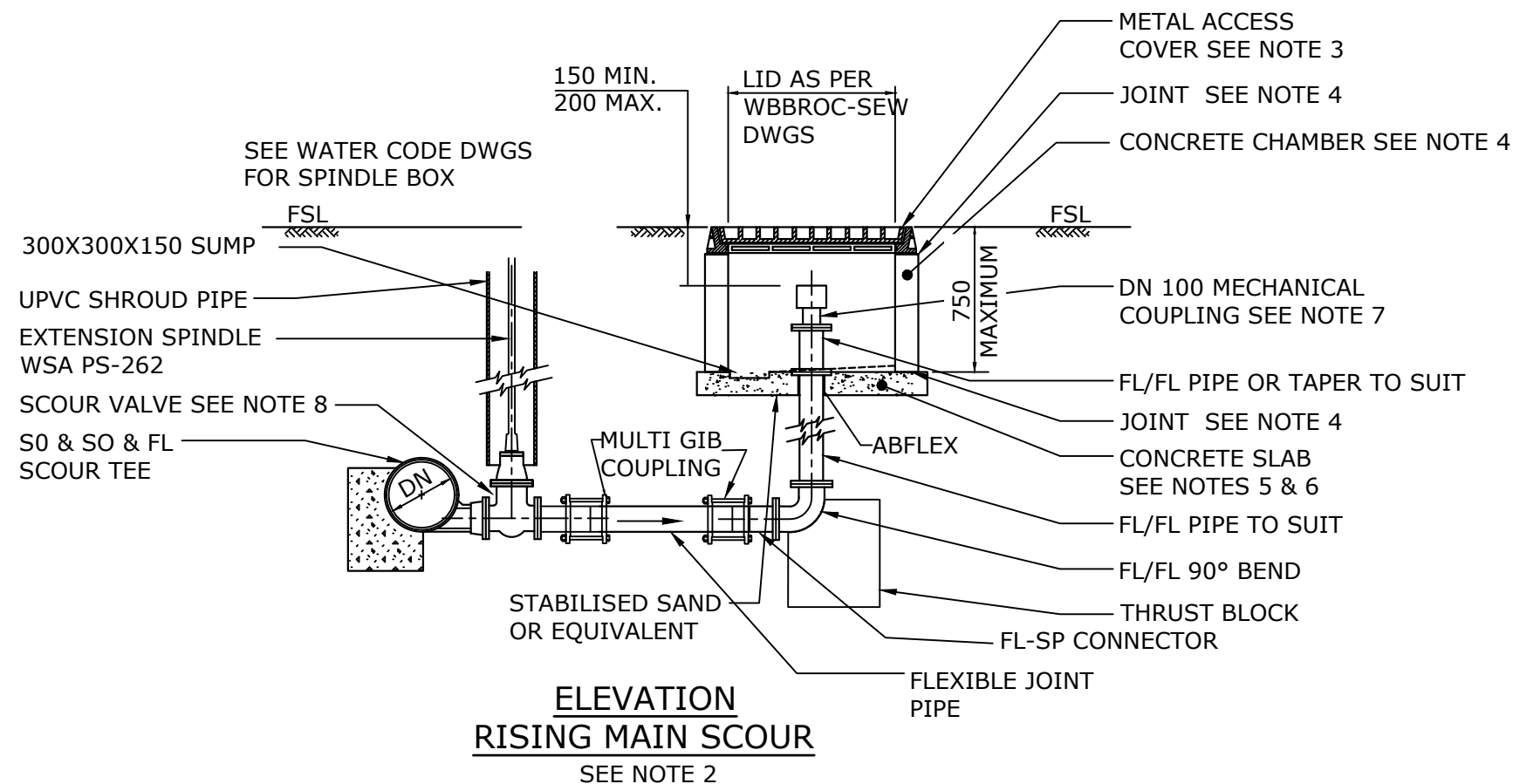
1. ALL SEWERAGE KERB, PAVEMENT & BOX MARKINGS SHALL BE BLACK WITH THE ORANGE PAINTED CIRCLE BACKGROUND TO CONTAIN GLASS BEADS.
2. PAVEMENT MARKING FOR VALVES SHALL BE PROVIDED ON A ORANGE PAINTED BACKGROUND CIRCLE LOCATED CLEAR OF THE PARKING LANE SO THAT TYRE WEAR IS MINIMISED.
THE EXACT LOCATION SHALL BE DETERMINED BY THE WBBROC-SP FOLLOWING SITE INSPECTIONS.
3. MARKER POSTS SHALL ONLY BE USED IN STREETS AND ROADS WHERE THERE IS NO KERB & CHANNEL OR AS DIRECTED BY THE WBBROC-SP.
4. THE NOTICE PLATE SHALL BE REFLECTORIZED ALUMINIUM WITH BLACK LETTERING ON A ORANGE BACKGROUND.
5. MARKER POSTS SHALL BE POSITIONED AT THE FRONT OF THE PROPERTY BOUNDARY OPPOSITE THE FITTING.
6. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1508-2 VERSION C DATED 27/07/2015	

WBBROC WATER
SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING	BRC	FCRC	GRC	NBRC	SBRC
RISING MAIN VALVE MARKING	DRAWING No. WBB-SPS-1508-2				VERSION A
	NOT TO SCALE				ORG DATE:



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. LOCATION AND SIZE OF SCOUR INSTALLATION SHALL BE AS SHOWN ON DESIGN PLANS. FLANGED DI CL PIPE AND FITTINGS SHOWN. OTHER PIPE SYSTEMS MAY BE SPECIFIED.
3. METAL ACCESS COVERS SHALL BE 900x600 :CLASS "B" FOR FOOTWAYS CLASS "D" FOR ROADWAYS. ACCESS COVERS FOR SCOUR CHAMBERS SHALL BE MARKED "SEWER" (OFFSET CAM LOCK TO ALLOW ACCESS TO MH).
4. PRECAST CHAMBERS MAY BE USED IN NON-TRAFFICABLE AREAS. JOINTS SHALL BE 20 TO 50 THICK FOR CEMENT MORTAR. ALTERNATIVELY, A 6 THICK BED OF BUTYL MASTIC MAY BE USED.
5. CONCRETE FOR SLAB SHALL BE N20.
6. REINFORCING FABRIC FOR CONCRETE SLAB SHALL BE TO AS 1304. EQUIVALENT REINFORCEMENT IN DEFORMED
7. MALE CAMLOCK-TYPE COUPLING TO SUIT: (i) TRAILER MOUNTED PUMP UNITS AS USED BY WBBROC-SP AND (ii) TANKERS WITH 16,000/21,000 LITRES CAPACITY.
8. RESILIENT SEATED GATE VALVE TO WSA PS-260.

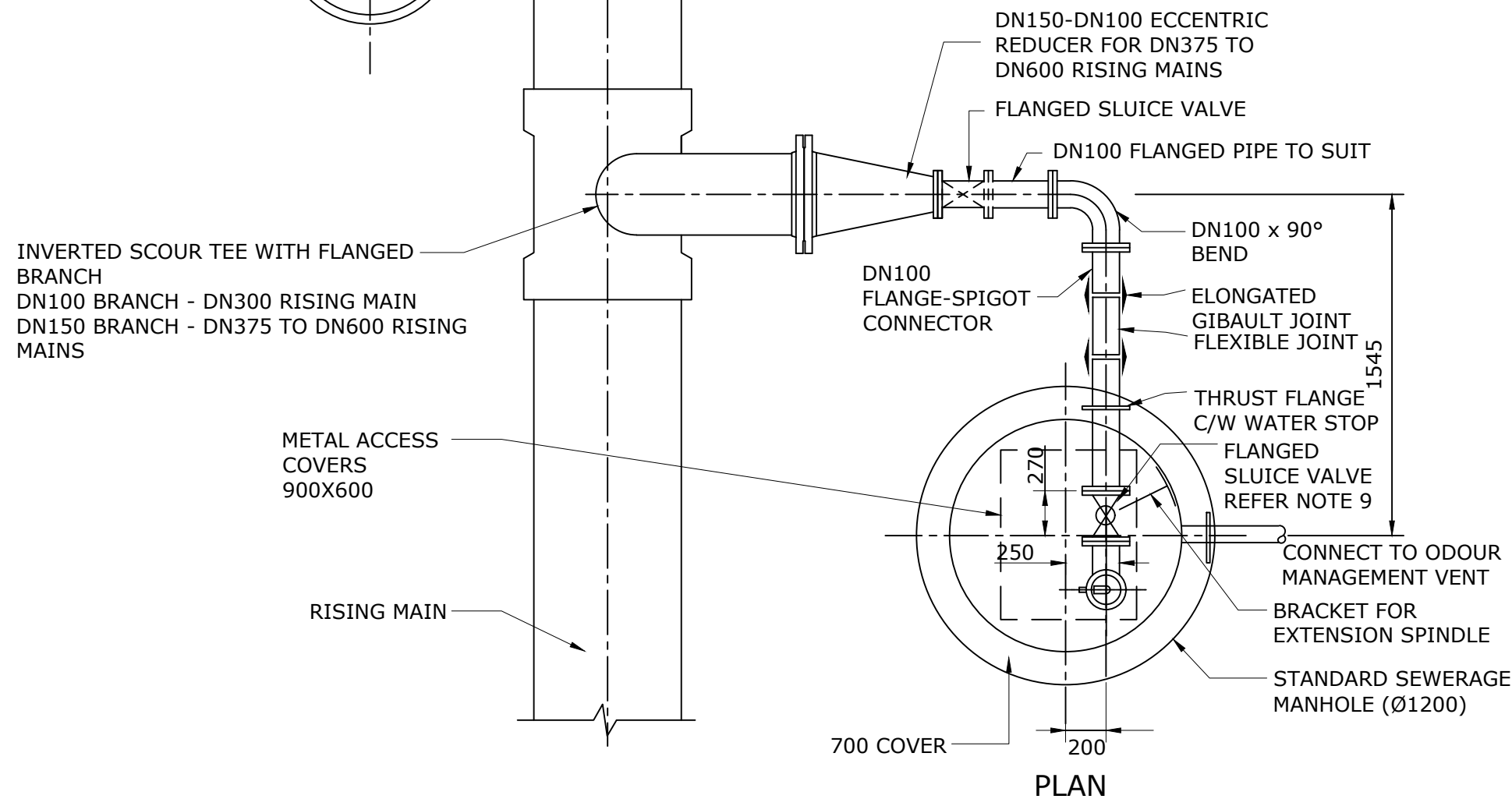
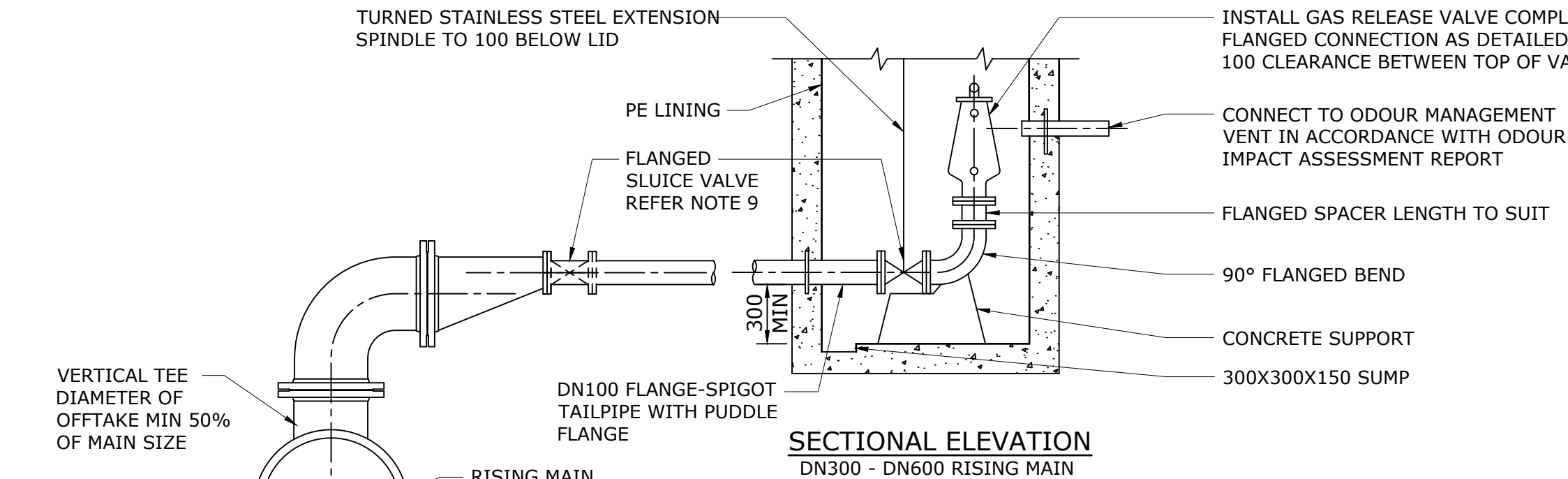
REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1602-1 VERSION A	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE
OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING
RISING MAIN SCOUR / DRAIN ARRANGEMENT

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1602-1				A
NOT TO SCALE				ORG DATE:



NOTE:

1. DETAILS SHOWN ARE FOR A BURIED DN100 SEWERAGE RISING MAIN.
2. FOR LARGER THAN DN100 SEWERAGE RISING MAINS A LARGER MANHOLE MAY BE REQUIRED.
3. FOR LARGER THAN DN100 RISING MAINS PROVIDE A DN100 FLANGED BRANCH HYDRANT TEE.
4. CARE SHALL BE TAKEN TO ENSURE THAT ALL CONCRETE IS KEPT CLEAR OF THE FLEXIBLE AND FLANGED JOINTS.
5. FOR PAVEMENT AND KERB & CHANNEL MARKING DETAILS REFER WBBROC-SP STDS.
6. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
7. PROVIDE PIPE STUB FOR ODOUR MANAGEMENT WHERE REQUIRED BY ODOUR IMPACT ASSESSMENT REPORT.
8. MANHOLES SHALL BE LINED WITH PE LINER; FLOOR, WALLS, ROOF AND OPENING.
9. PROVIDE SLUICE VALVE IN CHAMBER FOR DOUBLE ISOLATION AS DIRECTED BY WBBROC-SP.
10. METAL ACCESS COVER TO BE 900X600 (GAS TIGHT) CLASS 'B' FOOTPATHS CLASS 'D' ROADWAYS OFFSET GRV TO ALLOW ACCESS TO MANHOLE.

REV. No.	DATE	DESCRIPTION	AUTH.
A	19/03/2018	BASED ON SEQ-SPS-1606-1 VERSION A	

WBBROC WATER SERVICE PROVIDERS

WORK PRACTICES MUST COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH & SAFETY LEGISLATION

SEWAGE PUMP STATION STANDARD DRAWING AUTOMATIC GAS RELEASE VALVES

BRC	FCRC	GRC	NBRC	SBRC
DRAWING No.				VERSION
WBB-SPS-1606-1				A
NOT TO SCALE				ORG DATE: