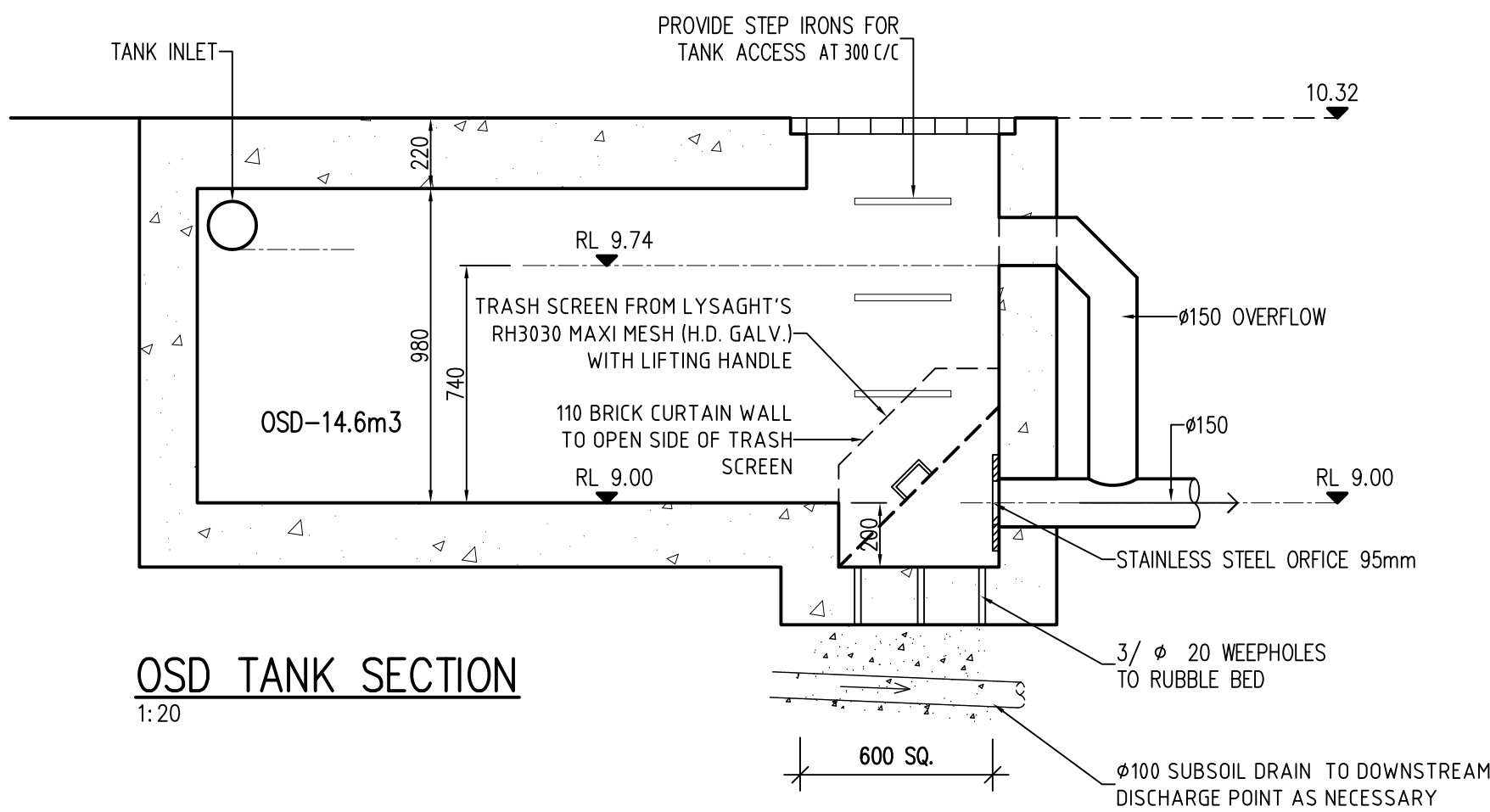


### SITE DRAINAGE CONCEPT PLAN

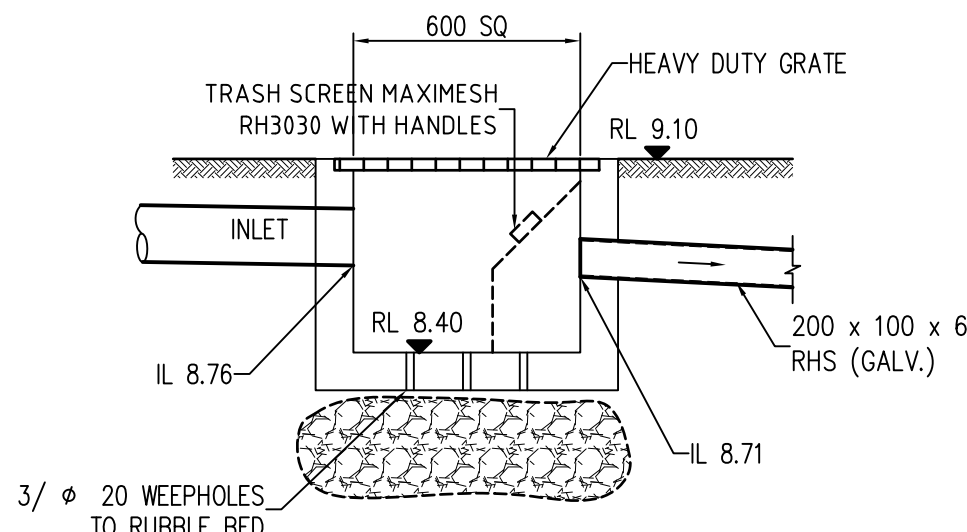
LEGEND  
VERTICAL DOWN PIPE = ● DP  
SURFACE RUN OFF =   
200 x 100 x 6 RHS (GALV.) =   
Ø100 OR Ø150 uPVC (SEALED) =   
SEALED SCREW OFF LID = SSL

THIS IS AN ON-SITE STORMWATER DETENTION SYSTEM REQUIRED BY YOUR LOCAL COUNCIL. IT IS AN OFFENCE TO REDUCE THE VOLUME OR TO INTERFERE WITH THE ORIFICE PLATE THAT CONTROLS THE OUTFLOW. THE BASE OF THE OUTLET CONTROL PIT AND DEBRIS SCREEN MUST BE CLEANED OF DEBRIS AND SEDIMENT ON REGULAR BASIS BY OWNER. THIS PLATE MUST NOT BE REMOVED



OSD TANK SECTION  
1:20

ORIFICE PLATE  
1:10



SITE DISCHARGE PIT (TYP)  
(INLET PIT SIMILAR)  
1:20

### CONNECTION WITH 150mm CONCRETE KERB

NOTES  
1. INTERNAL HEIGHT OF RECTANGULAR SECTION ACROSS THE FOOTPATH SHALL BE 100mm MAXIMUM.  
2. RECTANGULAR SECTION ACROSS FOOTPATH SHALL BE HOT DIP GALVANISED RHS.  
3. CONVERT STORMWATER PIPES WITHIN PROPERTY TO SHS ACROSS FOOTPATH USING STORMWATER PIT.

TOTAL SITE AREA: 581.3m<sup>2</sup>  
POST-DEVELOPMENT AREAS  
IMPERVIOUS TO OSD:  
TOTAL: 368.3m<sup>2</sup>  
PERVIOUS TO OSD:  
PERVIOUS AREAS: 130.5m<sup>2</sup>  
IMPERVIOUS BY-PASSING OSD:  
TOTAL: 39.7m<sup>2</sup>  
PERVIOUS BY-PASSING OSD:  
PERVIOUS AREAS: 42.8m<sup>2</sup>

### OSD SYSTEM DESIGN DATA

DESIGNED SIZE OF OSD = 14600L  
(DESIGNED USING DRAINS SOFTWARE)

(DESIGN BY USING DRAINS SOFTWARE)	
"GREEN FIELD" SITE DISCHARGE (L/S)	
PRE-DEVELOPMENT	TOTAL
5 YEAR ARI	= 19.0 L/s
20 YEAR ARI	= 26.0 L/s
100 YEAR ARI	= 36.0 L/s
POST-DEVELOPMENT	TOTAL
5 YEAR ARI	= 12.0 L/s
20 YEAR ARI	= 15.0 L/s
100 YEAR ARI	= 19.0 L/s

LEAF GUARDS  
TO BE INSTALLED TO EACH DOWN PIPE

STORMWATER SYSTEM IS  
SUBJECT TO COUNCIL APPROVAL

UNDERGROUND SERVICES  
DIAL 1100 BEFORE YOU DIG FOR LOCATION OF UNDERGROUND SERVICES PRIOR TO ANY CONSTRUCTION WORKS.  
CONTACT TELSTRA FOR WRITTEN PERMISSION TO MAINTAIN OR RELOCATE ANY EXISTING SERVICE PIT.  
ALL SERVICES ARE TO MATCH INTO THE NEW FOOTPATH LEVELS CONTACT THE RELEVANT AUTHORITY FOR ADJUSTMENT TO SERVICES.

DRAINAGE LINES LOCATIONS ARE INDICATIVE ONLY AND MAY VARY DUE TO SITE CONSTRAINTS. FINAL PIPES LOCATIONS TO BE COORDINATED ON SITE WITH OTHER SERVICES & BUILDERS.

GENERAL NOTES  
ALL PLUMBING WITHIN THE SITE MUST BE CARRIED OUT IN ACCORDANCE WITH RELEVANT PROVISIONS OF AUSTRALIAN STANDARD AS/NZS 3500.3-2003 PLUMBING AND DRAINAGE - STORMWATER DRAINAGE.

ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD)

DO NOT SCALE FROM THE DRAWINGS.

THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS, REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT OR DESIGN ENGINEER.

ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND SPECIFICATION.

READ THESE PLANS IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATION.

WHERE NEW WORK ABUTS EXISTING, THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES, IS OBTAINED.

DESIGN LEVELS GIVEN ARE TO FINISHED SURFACE LEVEL AND INCLUSIVE OF TOPSOIL. (TOPSOIL DEPTH VARIES).

THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.

CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.

ALL BUILDING SURROUND SHOULD BE GRADED TO ENSURE OVERLAND FLOW FROM UPSTREAM AREAS CAN DRAIN AROUND THE FOUNDATIONS, WALLS OF BUILDING.

ALL EXCAVATION SHORING OF EXCAVATION AND STABILITY OF ADJACENT STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

DURING CONSTRUCTION, THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.

WORKMANSHIP AND MATERIALS SHALL CONFORM WITH THE REQUIREMENTS OF THE RELEVANT SAA CODES, BCA REQUIREMENTS AND THE SPECIFICATION, BY-LAWS AND ORDINANCES OF THE RELEVANT AUTHORITIES.

PROPRIETARY PRODUCTS USED SHALL BE INSTALLED TO MANUFACTURERS SPECIFICATION AND TO THE SATISFACTION OF THE SUPERINTENDENT.

### EXTERNAL WORKS

ALL ACTIVITIES AND WORKS EXTERNAL TO THE SITE, OR THAT AFFECT PUBLIC ROADS, ARE TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S CODES AND STANDARDS.

PUBLIC FOOTPATHS SHALL BE RECONSTRUCTED TO THE SATISFACTION OF COUNCIL'S DIRECTOR OF ENGINEERING SERVICES. A ROAD OPENING PERMIT SHALL BE OBTAINED FOR ALL WORKS CARRIED OUT IN A PUBLIC OR COUNCIL CONTROLLED LAND. RESTORATION OF LANDSCAPING, ROADS AND PATHS SHALL BE TO COUNCIL'S REQUIREMENTS. ALL OTHER RESTORATION SHALL BE TO THE SATISFACTION OF THE AFFECTED PARTIES.

WHERE WORKS ARE UNDERTAKEN ON PUBLIC ROADS, ADEQUATE TRAFFIC CONTROL AND DIRECTIONS TO MOTORISTS SHALL BE PROVIDED.

### DRAINAGE PITS

PITS DEEPER THAN 1200mm TO BE FITTED WITH STEP IRONS AT 300mm CENTRES AND STAGGERED.

APPROVED PRECAST PITS MAY BE USED.

DIAMETER 100mm HOLE FOR SUBSOIL DRAINAGE OUTLET TO BE LOCATED 100mm ABOVE INVERT OF ALL INLET PIPES. DIAMETER 100mm SUBSOIL DRAINAGE TO EXTEND FOR A DISTANCE OF 3.0m UPSTREAM OF PIT (AT EACH INLET PIT) WITH THE UPSTREAM END SEALED.

ALL CONNECTIONS TO THE EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.

PIT GRATES AND SOLID COVERS SHALL BE CLASS 'B' IN NON TRAFFIC AREAS AND CLASS 'D' IN TRAFFIC AREAS IN ACCORDANCE WITH AS 3996.

### DRAINAGE PIPES

EXISTING PIPES WHICH FORM NO PART OF THE DRAINAGE SYSTEM SHALL BE REMOVED OR SANDFILLED AS INDICATED ON THE PLANS.

PIPE LENGTHS MEASURED ARE BETWEEN PIT CENTRES.

ALL DRAINAGE PIPES LESS THAN 300mm DIAMETER SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS (U.N.O.). ALL PIPE JUNCTIONS AND TAPERS SHALL BE VIA PURPOSE MADE FITTINGS.

MINIMUM GRADE TO DRAINAGE PIPES TO BE 1.5% U.N.O.

MINIMUM PIPE SIZE TO BE 100mm DIAMETER U.N.O.

THE CONTRACTOR IS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.

### RAINWATER RE-USE NOTES AND SPECIFICATIONS

ROOF WATER ONLY TO BE DRAINED TO THE RAINWATER STORAGE TANKS.

THE RAINWATER STORAGE TANKS ARE TO BE CONNECTED FOR RE-USE AS REQUIRED BY THE BASIX CERTIFICATE.

RAINWATER STORAGE TANKS TO BE CONFIGURED IN ACCORDANCE WITH SYDNEY WATER SPECIFICATIONS 'GUIDELINES FOR RAINWATER TANKS ON RESIDENTIAL PROPERTIES'.

PROVIDE MAINS 'TOP-UP' SUPPLY TO RAINWATER TANKS. MAINS 'TOP-UP' ZONE TO BE BASED ON THE DAILY NON-POTABLE USAGE THAT MAY BE EXPECTED FROM THE TANK.

PROVIDE A MECHANICAL PUMPING ARRANGEMENT (IN SOUND-PROOF HOUSING) TO PUMP SUPPLIERS SPECIFICATION TO SUIT INTENDED USAGE OF RAINWATER STORAGE. PUMPING ARRANGEMENTS MUST COMPLY WITH EPA GUIDELINES.

INLETS TO RAINWATER TANKS MUST BE SCREENED TO PREVENT THE ENTRY OF FOREIGN MATTER, ANIMALS OR INSECTS.

A SIGN MUST BE AFFIXED TO THE RAINWATER TANKS AND HOSE TAPS AS PER AS3500.1 CLEARLY STATING THAT THE WATER IN THE TANK IS RAINWATER AND IS NOT TO BE USED FOR HUMAN CONSUMPTION.

'FIRST FLUSH' DEVICE TO BE PROVIDED TO EACH DOWNPIPE OR IF PREFERRED A SINGLE DEVICE TO BE PROVIDED ON THE UPSTREAM SIDE OF STORAGE TANK FOR EACH PIPED INLET TO STORAGE TANK. A SINGLE FIRST FLUSH DEVICE MAY BE PROVIDED IN LIEU OF EACH DOWNPIPE.

RAINWATER TANKS TO BE PLACED ON A STRUCTURALLY ADEQUATE BASE IN ACCORDANCE WITH THE MANUFACTURER'S OR STRUCTURAL ENGINEER'S DETAILS.

THE TANK MUST NOT BE INSTALLED OVER ANY MAINTENANCE STRUCTURE OR FITTINGS USED BY A PUBLIC AUTHORITY.

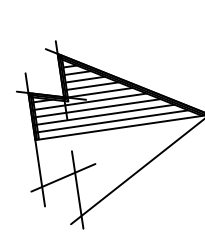
RAINWATER TANKS AND ASSOCIATED PLUMBING WORKS TO BE INSTALLED AND CONFIGURED BY A LICENSED PLUMBER. PUMP TO BE INSTALLED BY A LICENSED ELECTRICIAN.

### DOCUMENT CERTIFICATION

I AM A QUALIFIED CIVIL ENGINEER. I HOLD THE FOLLOWING QUALIFICATIONS: MEngSci (Civil), MEngSci (Mech), MEngSci (Struct), MEngSci (Hydro), MEngSci (Thermal), MEngSci (Environmental), MEngSci (Marine), MEngSci (Aerospace), MEngSci (Automotive), MEngSci (Agricultural), MEngSci (Food), MEngSci (Textile), MEngSci (Paper), MEngSci (Chemical), MEngSci (Metallurgical), MEngSci (Mineral), MEngSci (Petroleum), MEngSci (Biological), MEngSci (Medical), MEngSci (Pharmaceutical), MEngSci (Agricultural), MEngSci (Food), MEngSci (Textile), MEngSci (Paper), MEngSci (Chemical), MEngSci (Metallurgical), MEngSci (Mineral), MEngSci (Petroleum), MEngSci (Biological), MEngSci (Medical), MEngSci (Pharmaceutical).

Michael Korecky

1	ISSUED FOR DEVELOPMENT APPLICATION ONLY	13/03/20
No.	AMENDMENT	DATE
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CLIENT:  
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