STORMWATER MANAGEMENT PLANS
PROPOSED MIXED USE DEVELOPMENT
No. 58-62 RAILWAY PARADE, GRANVILLE

LOT 1 DP:1196456, LOT 2 DP:1196456 & PT 3 DP:174492

DRAINAGE NOTES

PIPE SIZE:
THE MINIMUM PIPE SIZE SHALL BE:
- 90mm DIA WHERE THE LINE ONLY RECEIVES ROOFWATER RUNOFF; OR
- 100mm DIA WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS ON THE PROPERTY

THE MINIMUM PIPE VELOCITY SHOULD BE 0.6 m/s AND A MAXIMUM PIPE VELOCITY OF 6.0 m/s DURING THE DESIGN STORM.

PIPE GRADE:
THE MINIMUM PIPE GRADE SHALL BE:
- 1.0% FOR PIPES LESS THAN 225mm DIA
- 0.5% FOR ALL LARGER PIPES

PIPES WITH A GRADIENT GREATER THAN 20% WILL REQUIRE ANCHOR BLOCKS AT THE TOP AND BOTTOM OF THE INCLINED SECTION; AND AT INTERVALS NOT EXCEEDING 3.0m

ANCHOR BLOCKS ARE DESIGNED ACCORDING TO *CLAUSE 7.9 OF AS3500.3-2021*

DEPTH OF COVER FOR PVC PIPES:
MINIMUM PIPE COVER SHALL BE AS FOLLOWS:

LOCATION	MINIMUM COVER
NOT SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTIAL 300mm ALL OTHER DEVELOPMENTS
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE

SEE AS2032 INSTALLATION OF UPVC PIPES FOR FURTHER INFORMATION.

CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH *AS3725-2007 LOADS ON BURIED CONCRETE PIPES*, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL THEN BE PAVED WITH AT LEAST:
- 150mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC;
- 75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT TO LIGHT VEHICLE TRAFFIC; OR
- 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE TRAFFIC.

CONNECTIONS TO STORMWATER DRAINS UNDER BUILDINGS:
SHALL BE CARRIED OUT IN ACCORDANCE WITH *SECTION 6.2.8 OF AS3500.3-2021*

ABOVE GROUND PIPEWORK:
SHALL BE CARRIED OUT IN ACCORDANCE WITH *SECTION 6 OF AS3500.3-2021*

PIT SIZES AND DESIGN:

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 450mm	450 x 450
450mm TO to 600mm	600 x 600
600mm TO 900mm	600 x 900
900mm TO 1500mm	900 x 900 (WITH STEP IRONS)
1500mm TO 2000mm	1200 x 1200 (WITH STEP IRONS)

ALL PIPES SHOULD BE CUT FLUSH WITH THE WALL OF THE PIT.

PITS GREATER THAN 600mm DEEP SHALL HAVE A MINIMUM ACCESS OPENING OF 600 x 600mm

THE GRATED COVERS OF PITS LARGER THAN 600 x 600mm ARE TO BE HINGED TO PREVENT THE GRATE FROM FALLING INTO THE PIT.

THE BASE OF THE DRAINAGE PITS SHOULD BE AT THE SAME LEVEL AS THE INVERT OF THE OUTLET PIPE. RAINWATER SHOULD NOT BE PERMITTED TO POND WITHIN THE STORMWATER SYSTEM

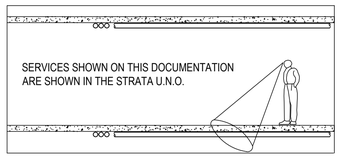
- **TRENCH DRAINS:**
  CONTINUOUS TRENCH DRAINS ARE TO BE OF WIDTH NOT LESS THAN 150mm AND DEPTH NOT LESS THAN 100mm. THE BARS OF THE GRATING ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW.

- **STEP IRONS:**
  PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.

- **IN-SITU PITS:**
  IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 7.5.5.1 OF AS3500.3-2021. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.

- **GRATES:**
  GRATES ARE TO BE GALVANISED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.

CLASS		USE
A	EXTRA LIGHT DUTY	AREAS INCLUDING FOOTWAYS, ACCESSIBLE ONLY TO PEDESTRIANS, PEDAL CYCLISTS AND CLOSED TO OTHER TRAFFIC
B	LIGHT DUTY	AREAS INCLUDING FOOTWAYS AND LIGHT TRACTOR PATHS ACCESSIBLE TO VEHICLES (EXCLUDING COMMERCIAL VEHICLES) OR LIVESTOCK
C	MEDIUM DUTY	MALLS AND AREAS OPEN TO SLOW-MOVING COMMERCIAL TRAFFIC
D	HEAVY DUTY	CARRIAGEWAYS OF ROADS AND AREAS OPEN TO COMMERCIAL VEHICLES
E	EXTRA HEAVY DUTY	GENERAL DOCKS AND AIRCRAFT PAVEMENTS
F	EXTRA HEAVY DUTY	DOCK AND AIRCRAFT PAVEMENTS SUBJECT TO HIGH WHEEL LOADS
G	EXTRA HEAVY DUTY	DOCKS AND AIRCRAFT PAVEMENTS SUBJECT TO VERY HIGH WHEEL LOADS



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GENERAL NOTES

1. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH WORK.
3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 3500.3:2021 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL POLICY/CONSENT/REQUIREMENTS.
4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS NOR TO BE USED FOR SETOUT PURPOSES.
5. ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
6. THESE DRAWINGS DEPICT THE DESIGN OF SURFACE STORMWATER RUNOFF DRAINAGE SYSTEMS ONLY AND DO NOT DEPICT ROOF DRAINAGE OR SUBSOIL DRAINAGE SYSTEMS UNLESS NOTED OTHERWISE. THE DESIGN OF ROOF AND SUBSOIL DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF OTHERS.
7. ALL STORMWATER DRAINAGE PIPES ARE TO BE uPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS.
9. ALL PITS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL.
10. THIS PLAN IS THE PROPERTY OF QUANTUM ENGINEERS AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM QUANTUM ENGINEERS.

PLAN NOTES

1. **ROOF DRAINAGE NOTE:** AS 3500 ROOF DRAINAGE REQUIRES EAVES GUTTERS TO BE SIZED FOR 20 YEAR 5 MIN. STORM = 205mm/hr. FOR EAVES GUTTERS, AS 3500.3:2021 THEN HAS THE FOLLOWING REQUIREMENTS:
   1.1. FOR TYPICAL STANDARD QUAD GUTTER WITH Ae = 6000mm² AND GUTTER SLOPE 1:500 AND STEEPER, THIS REQUIRES ONE DOWNPIPE PER 30m² ROOF AREA.
   1.2. DOWNPIPES TO BE MINIMUM 90mm DIA. OR 100 x 50mm FOR GUTTERS SLOPE 1:500 AND STEPPER.
   1.3. OVERFLOW METHOD TO FIGURE F.1 OF AS 3500.3:2021 IT IS THE RESPONSIBILITY OF THE PLUMBER AND / OR BUILDER TO COMPLY WITH THIS. THIS DRAWING SHOWS PRELIMINARY LOCATIONS / NUMBERS OF DOWNPIPES ONLY WHICH ARE TO BE VERIFIED BY BUILDER / PLUMBER
2. **TREE PRESERVATION:** IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF THOSE WORKS
3. ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3:2021 AND SECTIONS 3.5, 3.7.7 AND APPENDIX G OF AS 3500.3:2021
4. THIS DRAWING IS NOT TO BE USED FOR SET-OUT PURPOSES - REFER TO ARCHITECTURAL DRAWINGS
5. LOCATION OF SURFACE STORMWATER GRATED INLET PITS MAY BE VARIED OR NEW PITS INSTALLED AT THE CONSTRUCTION STAGE PROVIDED DESIGN INTENT OF THIS DRAWING IS MAINTAINED

STORMWATER DRAWINGS LIST

DRAWING No.	DRAWING TITLE	REVISION
D1	DETAILS, NOTES & LEGEND	E
D2	BASEMENT LEVEL 2 PLAN	E
D3	BASEMENT LEVEL 1 PLAN	E
D4	SITE / GROUND FLOOR PLAN	E
D5	ROOF PLAN	E
D6	OSD & RWT DETAILS AND CALCULATIONS	E
D7	SEDIMENT CONTROL PLAN	E
D8	STORMWATER & SEDIMENT CONTROL DETAILS	E

STORMWATER LEGEND

- SIP — SURFACE INLET PIT (SIP)
- SURFACE INLET PIT (WITH 'OCEANGUARD')
- GD — GRATED TRENCH DRAIN MIN 150mm DEEP (U.N.O)
- LD — LINEAR TRENCH DRAIN 100mm WIDE U.N.O
- FW — FLOOR WASTE
- TG — TERRACE GRATE
- PG — PLANTER GRATE
- FD — FLOOR DRAIN
- ABSORPTION/INFILTRATION TRENCH
- OSD — ON-SITE DETENTION TANK (OSD)
- RWT — RAINWATER RE-USE TANK (RWT)
- PUMP — PUMP-OUT STORAGE TANK
- SFC — STORMFILTER CHAMBER/WATER QUALITY SYSTEM (REFER TO PLAN)
- STORMWATER PIPE VIA GRAVITY 100mm DIA (MIN) U.N.O
- STORMWATER PIPE TO RAINWATER TANK 100mm DIA (MIN) U.N.O
- PRESSURE PIPE FROM PUMP-OUT TANK 65mm DIA (MIN) U.N.O
- COUNCIL / EASEMENT DRAINAGE SYSTEM. REFER TO PLAN
- 100mm DIA (MIN) U.N.O SLOTTED PVC WRAPPED IN GEOTEXTILE SLEEVE AT 1% (MIN)
- 1% — SURFACE FALL LINES 1% (MIN)
- IR — INSPECTION RISER WITH SEALED CAP
- DP 100 — PROPOSED DOWNPIPE 100mm DIA uPVC
- INDICATES DOWNPIPE PENETRATING FLOOR SLAB
- INDICATES DOWNPIPE COMMENCING BELOW FLOOR SLAB
- ROOF FALL — INDICATES ROOF FALL DIRECTION
- 450SQ — 450 x 450 SQUARE INTERNAL PIT DIMENSIONS
- SL 20.00 — PIT GRATE SURFACE LEVEL = RL 20.00
- IL 19.50 — PIT INVERT LEVEL = RL 19.50

CONSULTANTS COORDINATION LEGEND

- MECHANICAL DUCT SYSTEM (REFER TO MECHANICAL ENGINEERS PLANS)
- STRUCTURAL SLAB TRANSITION (REFER TO STRUCTURAL ENGINEERS PLANS)
- 250 — STRUCTURAL SLAB/BEAM THICKNESS (REFER TO STRUCTURAL ENGINEERS PLANS)

UNDERGROUND SERVICES LEGEND

- E — UNDERGROUND ELECTRICITY CABLES
- G — UNDERGROUND GASMAIN
- NBN — UNDERGROUND NBN NETWORK CABLE
- O — UNDERGROUND OPTUS CABLES
- S — UNDERGROUND SEWERMAIN
- T — UNDERGROUND TELSTRA COMMUNICATIONS CABLES
- W — UNDERGROUND SYDNEY WATER LINE

} APPROXIMATE POSITION ONLY VIA DIAL BEFORE YOU DIG PLANS. WHERE CRITICAL TO DESIGN UNDERGROUND SERVICES SHOULD BE LOCATED BY GROUND PENETRATING RADAR PRIOR TO DESIGN OR EXCAVATION.

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GENERAL NOTES
ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS PLANS.
ALL EXISTING GROUND LINES & TREES ARE APPROXIMATE ONLY, TO BE VERIFIED ON-SITE BY BUILDER.
ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH:
a) ALL RELEVANT & CURRENT BUILDING CODES, ACTS & REGULATIONS
b) ALL CURRENT AUSTRALIAN STANDARDS
c) ALL LOCAL COUNCIL REGULATIONS AS WELL AS ALL DCP & LEP ASSOCIATED.

APPROVED BY
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BE(Civil) MIEAust CPEng
NER(105209) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT: Dr. ADEL SOLIMAN
ARCHITECT: zhinar architects

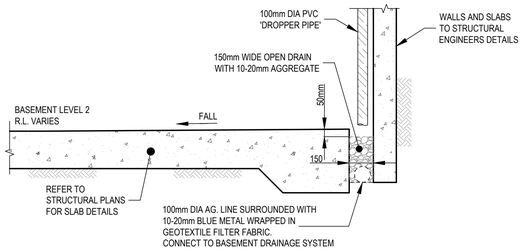
DRAWING TITLE: DETAILS, NOTES & LEGEND
PROPOSED MIXED USE DEVELOPMENT: Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH

REVISION	DATE	DESCRIPTION	DESIGNED BY
A	23.10.2023	PRELIMINARY ISSUE	A.KUIKEL
B	06.11.2023	PRELIMINARY ISSUE	A.KUIKEL
C	14.12.2023	ISSUED FOR DA	A.KUIKEL
D	31.05.2024	PRELIMINARY ISSUE	A.KUIKEL
E	11.06.2024	RE-ISSUE FOR DA	A.KUIKEL

ISSUED FOR DA

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	230354_SW
SCALE - SIZE	**REVISION**	**DRAWING No.**
-	E	D1



SECTION 'B' - 'WET-WALL' DRAINAGE DETAIL *(BASEMENT LEVEL 2)*

1:20

DANGER

CONFINED SPACE
NO ENTRY WITHOUT CONFINED SPACE TRAINING

CONFINED SPACE DANGER SIGN

COLOURS:- "DANGER" AND BACKGROUND - WHITE
ELLIPTICAL AREA
RECTANGLE CONTAINING ELLIPSE - RED
OTHER LETTERING AND BORDER - BLACK

A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS CONFINED SPACE.

B) MINIMUM DIMENSIONS OF THE SIGN
- 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
- 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES AND MANHOLES)

C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.

D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN.

WARNING
PUMP OUT SYSTEM FAILURE IN BASEMENT WHEN LIGHT IS FLASHING AND SIREN SOUNDING

BASEMENT PUMP-OUT FAILURE WARNING SIGN

NOTE:
1. SIGN SHALL BE IN CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT

COLOURS:
WARNING - RED
ALL OTHERS - BLACK

PUMP STORAGE SYSTEM

Property : *No.58-62 Railway Pde, Granville*
D.A. No. :

Area = 82.15 sq.m (Provided for water seepage)

Duration	1 Yr	Q1	V1	2 Yr	Q2	V2	5 Yr	Q5	V5	10 Yr	Q10	V10	20 Yr	Q20	V20	50 Yr	Q50	V50	100 Yr	Q100	V100
5 min	90.2	2.1	0.7	98.9	2.3	0.8	126	2.9	1.0	140	3.3	1.2	163	3.7	1.3	188	4.3	1.5	207	4.7	1.7
7 min	81.5	1.9	0.8	89.9	2.1	0.9	116	2.6	1.1	134	3.1	1.3	151	3.4	1.4	174	4.0	1.7	192	4.4	1.8
8 min	77.8	1.8	0.9	85.9	2.0	0.9	111	2.5	1.2	129	2.9	1.4	145	3.3	1.6	167	3.8	1.8	184	4.2	2.0
9 min	74.4	1.7	0.9	82.3	1.9	1.0	107	2.4	1.3	124	2.8	1.5	140	3.2	1.7	161	3.7	2.0	177	4.0	2.2
10 min	71.3	1.6	1.0	79	1.8	1.1	103	2.4	1.4	119	2.7	1.6	134	3.1	1.8	155	3.5	2.1	170	3.9	2.3
11 min	68.5	1.6	1.0	75.9	1.7	1.1	98.9	2.3	1.5	114	2.6	1.7	129	2.9	1.9	149	3.4	2.2	164	3.7	2.5
12 min	65.9	1.5	1.1	73.1	1.7	1.2	95.3	2.2	1.6	110	2.5	1.8	125	2.9	2.1	143	3.3	2.3	158	3.6	2.5
13 min	63.6	1.5	1.1	70.4	1.6	1.3	91.9	2.1	1.6	106	2.4	1.9	120	2.7	2.1	138	3.1	2.5	152	3.5	2.7
14 min	61.4	1.4	1.2	68	1.6	1.3	88.7	2.0	1.7	103	2.4	2.0	116	2.6	2.2	133	3.0	2.5	147	3.4	2.8
15 min	59.3	1.4	1.2	65.8	1.5	1.4	85.7	2.0	1.8	99.1	2.3	2.0	112	2.6	2.3	129	2.9	2.6	142	3.2	2.9
16 min	57.5	1.3	1.3	63.6	1.5	1.4	82.9	1.9	1.8	95.9	2.2	2.1	108	2.5	2.4	125	2.9	2.7	137	3.1	3.0
17 min	55.7	1.3	1.3	61.7	1.4	1.4	80.3	1.8	1.9	92.8	2.1	2.2	105	2.4	2.4	121	2.8	2.8	133	3.0	3.1
18 min	54.1	1.2	1.3	59.9	1.4	1.5	77.9	1.8	1.9	90	2.1	2.2	102	2.3	2.5	117	2.7	2.9	129	2.9	3.2
20 min	51.1	1.2	1.4	56.5	1.3	1.5	73.4	1.7	2.0	84.8	1.9	2.3	95.8	2.2	2.6	110	2.5	3.0	121	2.8	3.3
25 min	45.1	1.0	1.5	49.7	1.1	1.7	64.3	1.5	2.2	74.2	1.7	2.5	83.7	1.9	2.9	96.2	2.2	3.3	106	2.4	3.6
30 min	40.5	0.9	1.7	44.6	1.0	1.8	57.4	1.3	2.4	66	1.5	2.7	74.5	1.7	3.1	85.6	2.0	3.5	94	2.1	3.9
35 min	36.8	0.8	1.8	40.5	0.9	1.9	51.9	1.2	2.5	59.6	1.4	2.9	67.2	1.5	3.2	77.2	1.8	3.7	84.8	1.9	4.1
40 min	33.9	0.8	1.9	37.2	0.8	2.0	47.5	1.1	2.6	54.5	1.2	3.0	61.4	1.4	3.4	70.5	1.6	3.9	77.5	1.8	4.2
45 min	31.4	0.7	1.9	34.4	0.8	2.1	43.8	1.0	2.7	50.3	1.1	3.1	56.6	1.3	3.5	65	1.5	4.0	71.5	1.6	4.4
50 min	29.4	0.7	2.0	32.1	0.7	2.2	40.8	0.9	2.8	46.7	1.1	3.2	52.6	1.2	3.6	60.4	1.4	4.1	66.4	1.5	4.5
55 min	27.6	0.6	2.1	30.2	0.7	2.3	38.2	0.9	2.9	43.7	1.0	3.3	49.2	1.1	3.7	56.5	1.3	4.3	62.2	1.4	4.7
60 min	26.1	0.6	2.1	28.5	0.7	2.3	36	0.8	3.0	41.2	0.9	3.4	46.3	1.1	3.8	53.2	1.2	4.4	58.6	1.3	4.8
75 min	22.5	0.5	2.3	24.5	0.6	2.5	30.8	0.7	3.2	35.2	0.8	3.6	39.6	0.9	4.1	45.6	1.0	4.7	50.2	1.1	5.2
90 min	20	0.5	2.5	21.7	0.5	2.7	27.2	0.6	3.4	31.1	0.7	3.8	35	0.8	4.3	40.3	0.9	5.0	44.4	1.0	**5.5**
2 hr	16.5	0.4	2.7	17.9	0.4	2.9	22.4	0.5	3.7	25.6	0.6	4.2	28.9	0.7	4.7	33.4	0.8	5.5	36.9	0.8	6.1
3 hr	12.7	0.3	3.1	13.8	0.3	3.4	17.3	0.4	4.3	19.8	0.5	4.9	22.4	0.5	5.5	26	0.6	6.4	28.9	0.7	7.1
4 hr	10.6	0.2	3.5	11.5	0.3	3.8	14.5	0.3	4.8	16.7	0.4	5.5	19	0.4	6.2	22.2	0.5	7.3	24.7	0.6	8.1
5 hr	9.18	0.2	3.8	10	0.2	4.1	12.8	0.3	5.3	14.8	0.3	6.1	16.9	0.4	6.9	19.7	0.4	8.1	22.1	0.5	9.1
6 hr	8.21	0.2	4.0	8.99	0.2	4.4	11.6	0.3	5.7	13.4	0.3	6.6	15.4	0.4	7.6	18.1	0.4	8.9	20.2	0.5	10.0
8 hr	6.9	0.2	4.5	7.61	0.2	5.0	9.94	0.2	6.5	11.6	0.3	7.6	13.4	0.3	8.8	15.8	0.4	10.4	17.8	0.4	11.7
10 hr	6.04	0.1	5.0	6.7	0.2	5.5	8.87	0.2	7.3	10.5	0.2	8.6	12.1	0.3	9.9	14.3	0.3	11.7	16.2	0.4	13.3
12 hr	5.42	0.1	5.3	6.05	0.1	6.0	8.1	0.2	8.0	9.59	0.2	9.5	11.1	0.3	10.9	13.2	0.3	13.0	15	0.3	**14.8**
14 hr	4.95	0.1	5.7	5.55	0.1	6.4	7.5	0.2	8.6	8.93	0.2	10.3	10.4	0.2	12.0	12.4	0.3	14.3	14	0.3	16.1
16 hr	4.58	0.1	6.0	5.15	0.1	6.8	7.02	0.2	9.2	8.39	0.2	11.0	9.81	0.2	12.9	11.7	0.3	15.4	13.3	0.3	17.5
18 hr	4.27	0.1	6.3	4.82	0.1	7.1	6.62	0.2	9.8	7.94	0.2	11.7	9.3	0.2	13.8	11.1	0.3	16.4	12.6	0.3	18.6
20 hr	4.01	0.1	6.6	4.54	0.1	7.5	6.28	0.1	10.3	7.55	0.2	12.4	8.86	0.2	14.6	10.6	0.2	17.4	12	0.3	19.7
22 hr	3.79	0.1	6.8	4.29	0.1	7.8	5.98	0.1	10.8	7.21	0.2	13.0	8.48	0.2	15.3	10.2	0.2	18.4	11.5	0.3	20.8
24 hr	3.59	0.1	7.1	4.08	0.1	8.0	5.73	0.1	11.3	6.9	0.2	13.6	8.14	0.2	16.0	9.77	0.2	19.3	11.1	0.3	21.9
36 hr	2.79	0.1	8.3	3.2	0.1	9.5	4.57	0.1	13.5	5.57	0.1	16.5	6.61	0.2	19.5	7.95	0.2	23.5	9	0.2	26.6
48 hr	2.31	0.1	9.1	2.66	0.1	10.5	3.84	0.1	15.1	4.7	0.1	18.5	5.59	0.1	22.0	6.71	0.2	26.5	7.58	0.2	29.9
60 hr	1.96	0.0	9.8	2.29	0.1	11.3	3.33	0.1	16.3	4.06	0.1	20.0	4.83	0.1	23.6	5.79	0.1	28.5	6.53	0.1	32.2
72 hr	1.74	0.0	10.3	2.01	0.0	11.9	2.91	0.1	17.2	3.57	0.1	21.1	4.24	0.1	25.1	5.08	0.1	30.0	5.71	0.1	33.8

Pump Discharge Required (MIN)	4.7 l/s
Volume Required BELOW GROUND	5.5 m^3
Volume Required ABOVE GROUND	14.8 m^3

TOTAL VOLUME REQUIRED 20.3 m^3

DRAINAGE PIPE LEGEND

- DRAINAGE PIPES VIA GRAVITY *(IN-GROUND)*
- DRAINAGE PIPES CAST-IN SLAB *(65mm DIA)*
- PRESSURE DRAINAGE PIPE (65mm)

NOTE: ALL PIPES TO BE 100mm DIA UNO

RAILWAY

PARADE

BOUNDARY 114°18'00" - 13.62

BOUNDARY 123° 36' 00" - 12.945

BOUNDARY 294°18'00" - 15.24

BOUNDARY 278°16'10" - 15.245

BOUNDARY 189°14'30" - 30.93

BOUNDARY 6°48'40" - 39.63

BOUNDARY 8°48'40" - 2.235

BOUNDARY 278°16'10" - 1.995

PROVIDE 150mm WIDE OPEN DRAIN WITH 100mm DIA AGG.LINE FILLED WITH 10-20mm BLUE METAL AGGREGATE. REFER TO SECTION 'B'

PROVIDE 100mm DIA AG.LINE WRAPPED IN FILTER SOCK WITH 200mm SURROUND BLUE METAL (10mm)

65mm DIA PRESSURE PIPE TO SP16 ON DRAWING No.D4

PROVISION FOR SERVICE AREA

SHARED ZONE 0.5%

COMMERCIAL

MIN. 2.5M HEADROOM

MIN. 2.1M HEADROOM UNDER RAMP

600 SQ SIP S.L. 8.76 I.L. 8.24

LIFT PITS TO BE 'TANKED' WATERTIGHT. REFER TO DETAILS BY OTHERS

100mm DIA 'DROPPER' PIPE FROM BASEMENT LEVEL 1 (TYPICAL)

Ø150mm @ 1%

PUMP SYSTEM FLASHING STROBE LIGHT AND FAILURE WARNING SIGN

CPE

CHILDCARE LIFT

MED.CENTER LIFT

TURNING AREA

600 SQ SIP S.L. 9.12 I.L. 8.62

600 SQ SIP S.L. 9.12 I.L. 8.55

600 SQ SIP S.L. 9.12 I.L. 8.47

600 SQ SIP S.L. 9.12 I.L. 8.40

Ø150mm @ 1%

PUMP-OUT TANK

TURNING BAY

SHARED ZONE

100mm DIA 'DROPPER' PIPE FROM BASEMENT LEVEL 1 (TYPICAL)

MIN. 2.5M HEADROOM

600 SQ SIP S.L. 9.12 I.L. 8.57

600 SQ SIP S.L. 9.12 I.L. 8.62

PUMP ROOM

PROVIDE 150mm WIDE OPEN DRAIN WITH 100mm DIA AGG.LINE FILLED WITH 10-20mm BLUE METAL AGGREGATE. REFER TO SECTION 'B'

PROVIDE 100mm DIA AG.LINE WRAPPED IN FILTER SOCK WITH 200mm SURROUND BLUE METAL (10mm)

LIFT PITS TO BE 'TANKED' WATERTIGHT. REFER TO DETAILS BY OTHERS

PROVIDE 100mm DIA AG.LINE WRAPPED IN FILTER SOCK WITH 200mm SURROUND BLUE METAL (10mm)

CARLTON STREET

PUMP-OUT STORAGE TANK

(BELOW GROUND)

- VOLUME (MIN) 5.50m^3
- AVERAGE DEPTH 1000mm
- T.W.L RL 8.89

PROVIDE GALVANISED STEP IRONS AT 300 C-C TO THIS PIT

65mm DIA PVC CLASS '6' RISING PRESSURE MAIN

BOTH PUMPS ON ALARM ACTIVATED

600 x 900 (INTERNAL) CLASS 'C' HINGED GALVANISED MILD STEEL GRATE AND FRAME WITH J-LOCKS

T.W.L 8.89

SOFFIT R.L. 8.89

TO SP16

NON-RETURN FLAP VALVE

PUMP ON

PUMP OFF

1000 AVG

FALL

RL 7.79

RL 7.89

TANKED BASEMENT

FLOAT SWITCH

PROVIDE 2 FLOAT PUMPS MIN. CAPACITY 4.7l/s MIN. @ 10.00m HEAD EACH CONNECTED IN PARALLEL, ALTERNATE START UP. SUGGESTED PUMP IS DAVEY DT22 OR EQUIVALENT

NOTE:
1. PUMP SHALL BE CONSTRUCTED TO THE STRUCTURAL ENGINEERS DETAILS

SECTION 'C'

3000

2000

STRUCTURAL SUPPORT WALLS (TYPICAL)

600x900 'CLASS C' HINGED GALVANIZED MILD STEEL GRATE AND FRAME

PROVIDE GALVANIZED STEP IRONS AT 300mm CENTRES IN ACCORDANCE WITH THE AUST STANDARDS AT ALL ACCESS POINTS OF THE TANK (TYPICAL)

PLAN VIEW

PUMP-OUT STORAGE TANK

1:50

STANDARD PUMP OUT DESIGN NOTES:

THE PUMP OUT SYSTEM SHALL BE DESIGNED TO OPERATE IN THE FOLLOWING MANNER-

- THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
- A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THE FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
- A SECOND FLOAT HALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW-LEVEL FLOAT.
- A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
- AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

PUMP SYSTEM STORAGE (BELOW GROUND)

- VOLUME (MIN) 5.50m^3
- SURFACE AREA (MIN) 5.50m^2
- AVERAGE DEPTH 1000mm
- T.W.L RL 8.89

PUMP SYSTEM STORAGE (ABOVE GROUND)

- VOLUME (MIN) 14.80m^3
- SURFACE AREA (MIN) 296.00m^2
- AVERAGE DEPTH 50mm
- T.W.L RL 9.19

BASEMENT LEVEL 2 PLAN

1:100 AT A1
1:200 AT A3

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APEC Engineer IntPE(Aus)

CLIENT
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ARCHITECT
zhinar architects

DRAWING TITLE
BASEMENT LEVEL 2 PLAN

PROPOSED MIXED USE DEVELOPMENT
Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH
N

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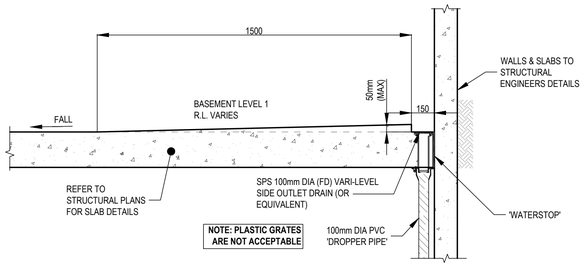
ISSUED FOR DA

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	230354_SW
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	E	D2

DRAINAGE PIPE LEGEND

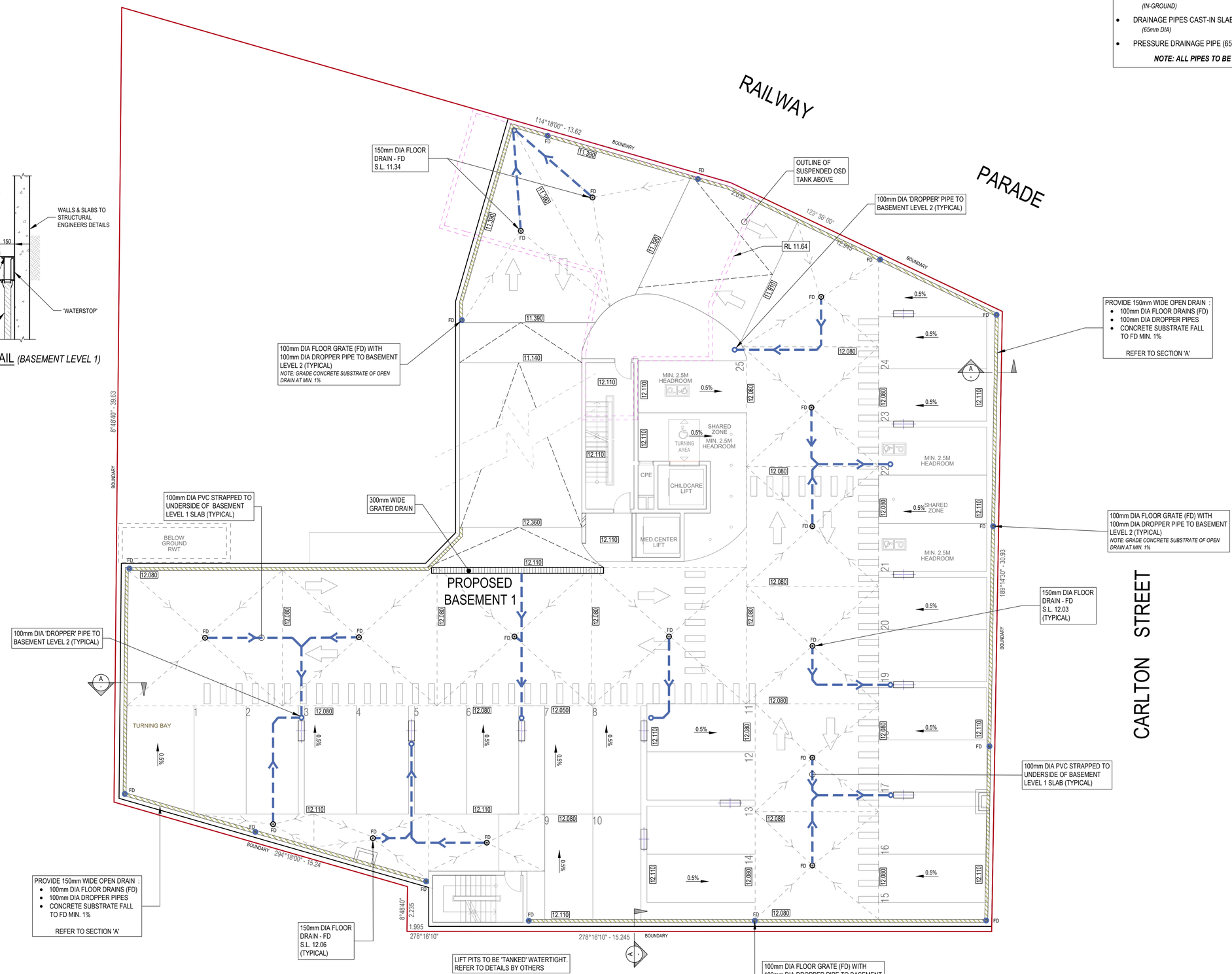
- DRAINAGE PIPES VIA GRAVITY *(IN-GROUND)*
- DRAINAGE PIPES CAST-IN SLAB *(65mm DIA)*
- PRESSURE DRAINAGE PIPE (65mm)

NOTE: ALL PIPES TO BE 100mm DIA UNO



SECTION 'A' - 'WET-WALL' DRAINAGE DETAIL *(BASEMENT LEVEL 1)*

1:20



BASEMENT LEVEL 1 PLAN

1:100 AT A1
1:200 AT A3

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NER(105209) RPEQ(25454)
APEC Engineer (#PEA/Aus)

CLIENT: Dr. ADEL SOLIMAN

ARCHITECT: zhinar architects

DRAWING TITLE

BASEMENT LEVEL 1 PLAN

PROPOSED MIXED USE DEVELOPMENT

Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH: N

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AS NOTED - A1	E	D3

OSD WARRANT

LGA: CUMBERLAND CITY COUNCIL
RELEVANT CODE: CUMBERLAND CITY COUNCIL DCP : PART G- MISCELLANEOUS DEVELOPMENT CONTROLS

PART G4 STORMWATER AND DRAINAGE : "ONSITE DEVELOPMENT SHALL BE REQUIRED FOR ALL PROPOSED DEVELOPMENT, RE-DEVELOPMENT OR NEW LAND SUBDIVISIONS, EXCEPT WHERE:....."

THEREFORE OSD REQUIRED.

DRAINAGE PIPE LEGEND

- DRAINAGE PIPES VIA GRAVITY *(IN-GROUND)*
- DRAINAGE PIPES CAST-IN SLAB *(50mm DIA)*
- PRESSURE DRAINAGE PIPE (65mm)

NOTE: ALL PIPES TO BE 100mm DIA UNO

DOWNPIPE LEGEND

- INDICATES DOWNPIPE DIRECTLY TO OSD SYSTEM
- INDICATES DOWNPIPE DIAMETER
- DOWNPIPE PENETRATING FLOOR SLAB
- DOWNPIPE COMMENCING BELOW FLOOR SLAB

BELOW GROUND OSD TANK

SURFACE AREA (MIN)	104.02m²
AVERAGE DEPTH	0.95m
MAXIMUM DEPTH	1.26m
STORAGE VOLUME (MIN)	98.81m³
T.W.L	RL 15.00

REFER TO DETAILS ON DRAWING No. D6

'OSD' DISCHARGE & SITE STORAGE REQUIREMENTS

**THE SITE IS LOCATED IN DUCK RIVER CATCHMENT AREA, THEREFORE:*

- *SSR = 470 m³/ha*
- *PSD = 80 L/s/ha*

NOTE: BALCONY GRATES & PUDDLE FLANGES TO BE SET OUT BY SURVEYOR

ALL STORMWATER DRAINAGE TO BE SEWER GRADE PVC U.N.O
ALL STORMWATER DRAINAGE TO BE 1% MINIMUM GRADE U.N.O

NOTE: OVERLAND FLOW NEGLIGIBLE DUE TO THE GRANVILLE POLICE STATION BUILDING WITHIN CLOSE PROXIMITY OF REAR BOUNDARY AND OBSTRUCTING/DISTURBING OVERLAND FLOW.

BELOW GROUND RWT 10,000 L (MIN)

SURFACE AREA (MIN)	8.00m²
AVERAGE DEPTH	1.25m
STORAGE VOLUME (MIN)	10.00m³
T.W.L	RL 15.10

REFER TO DETAIL ON DRAWING No. D6

(A) RIGHT OF CARRIAGEWAY (4 WIDE AND VARIABLE)

GRANVILLE POLICE STATION

HATCHED AREA TO BY-PASS OSD TOTAL AREA 141.0m² (8.5%)

REMOVE REDUNDANT VEHICULAR CROSSING. MAKE GOOD TO COUNCIL SPECIFICATION AND REQUIREMENTS

CONSTRUCT NEW VEHICULAR CROSSING TO COUNCIL SPECIFICATION & REQUIREMENTS

EXISTING SW PIT SL 14.27 (TBC) IL 12.90 (TBC)

900 SQ HED PIT S.L. 15.20 C.L. 13.74 I.L. 13.54

600 SQ SIP S.L. 14.35 I.L. 13.50

600 SQ SIP S.L. 15.05 I.L. 14.15

150mm DIA PVC STRAPPED TO OSD SOFFIT

100mm DIA PVC STRAPPED TO UNDERSIDE GROUND FLOOR SLAB (TYPICAL)

65mm DIA PRESSURE PIPE WITH NON-RETURN FLAP VALVE FROM PUMP STORAGE TANK ON BASEMENT LEVEL 2

100mm DIA PVC STRAPPED TO UNDERSIDE GROUND FLOOR SLAB (TYPICAL)

100mm WIDE 'ZERO' THRESHOLD LINEAR DRAIN

150mm DIA PVC STRAPPED TO UNDERSIDE GROUND FLOOR SLAB (TYPICAL)

100mm WIDE 'ZERO' THRESHOLD LINEAR DRAIN

100mm DIA PVC STRAPPED TO BASEMENT LEVEL 2 WALLS (TYPICAL)

BENCHMARK RL 14.25 (AHD)

LOT 1
DP 1196456
SITE AREA 679m²

LOT 2
DP 1196456
SITE AREA 589.2m²

LOT 3
DP 174492
SITE AREA 399.7m²

1
DP 934394

EXISTING CLINIC (HERITAHE HOUSE)
FFL 15.670
No.62

PROPOSED MEDICAL CENTER
FFL 15.200

PROPOSED RETAIL SPACE
FFL 15.200

OSD TANK

DRIVEWAY

SERVICE CORRIDOR

TRUCK TURNING BAY AREA

WASTE TRUCK LOADING BAY

RAILWAY PARADE

CARLTON STREET

LANE

PATH

No. 64 ONE STOREY BRICK HOUSE TILE & METAL ROOF

NUMBER	BEARING	DISTANCE
1	122°36'00"	2.035
2	278°16'10"	1.995
3	8°48'40"	2.235

SITE / GROUND FLOOR PLAN

1:100 AT A1
1:200 AT A3

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APEC Engineer IntPE(Aus)

CLIENT
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ARCHITECT
zhinar

DRAWING TITLE
SITE / GROUND FLOOR PLAN

PROPOSED MIXED USE DEVELOPMENT
Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH

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AS NOTED - A1	E	D4

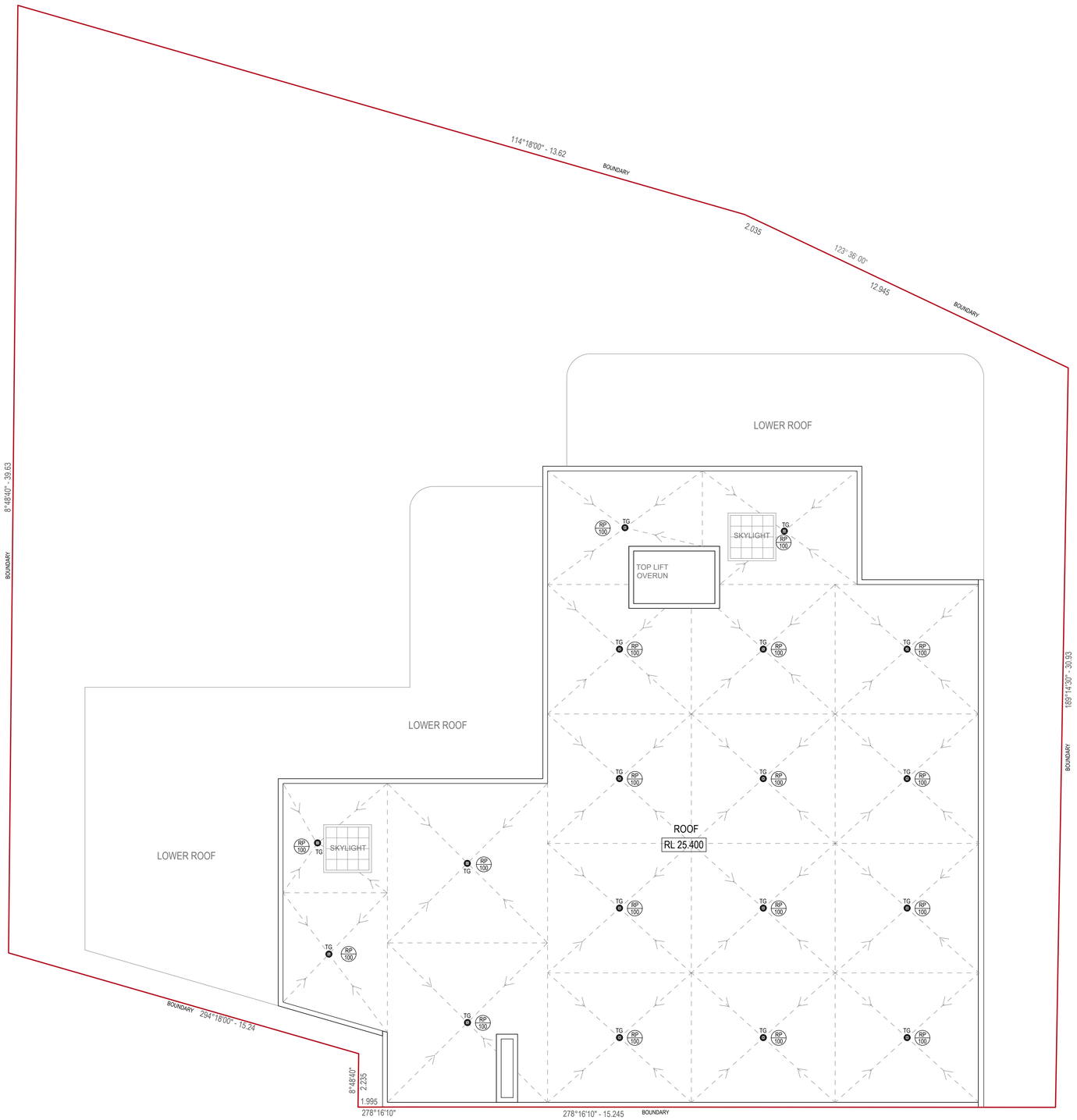
DRAINAGE PIPE LEGEND

- DRAINAGE PIPES VIA GRAVITY
- CAST-IN SLAB PIPES (50mm DIA) (MAX 2800mm)

NOTE: ALL PIPES TO BE 100mm DIA UNO

DOWNPIPE LEGEND

- INDICATES DOWNPIPE DIRECTLY TO OSD SYSTEM
- INDICATES DOWNPIPE DIAMETER
- DOWNPIPE PENETRATING FLOOR SLAB
- DOWNPIPE COMMENCING BELOW FLOOR SLAB



ROOF PLAN

1:100 AT A1
1:200 AT A3

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zhinar architects

DRAWING TITLE
ROOF PLAN

PROPOSED MIXED USE DEVELOPMENT
Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH
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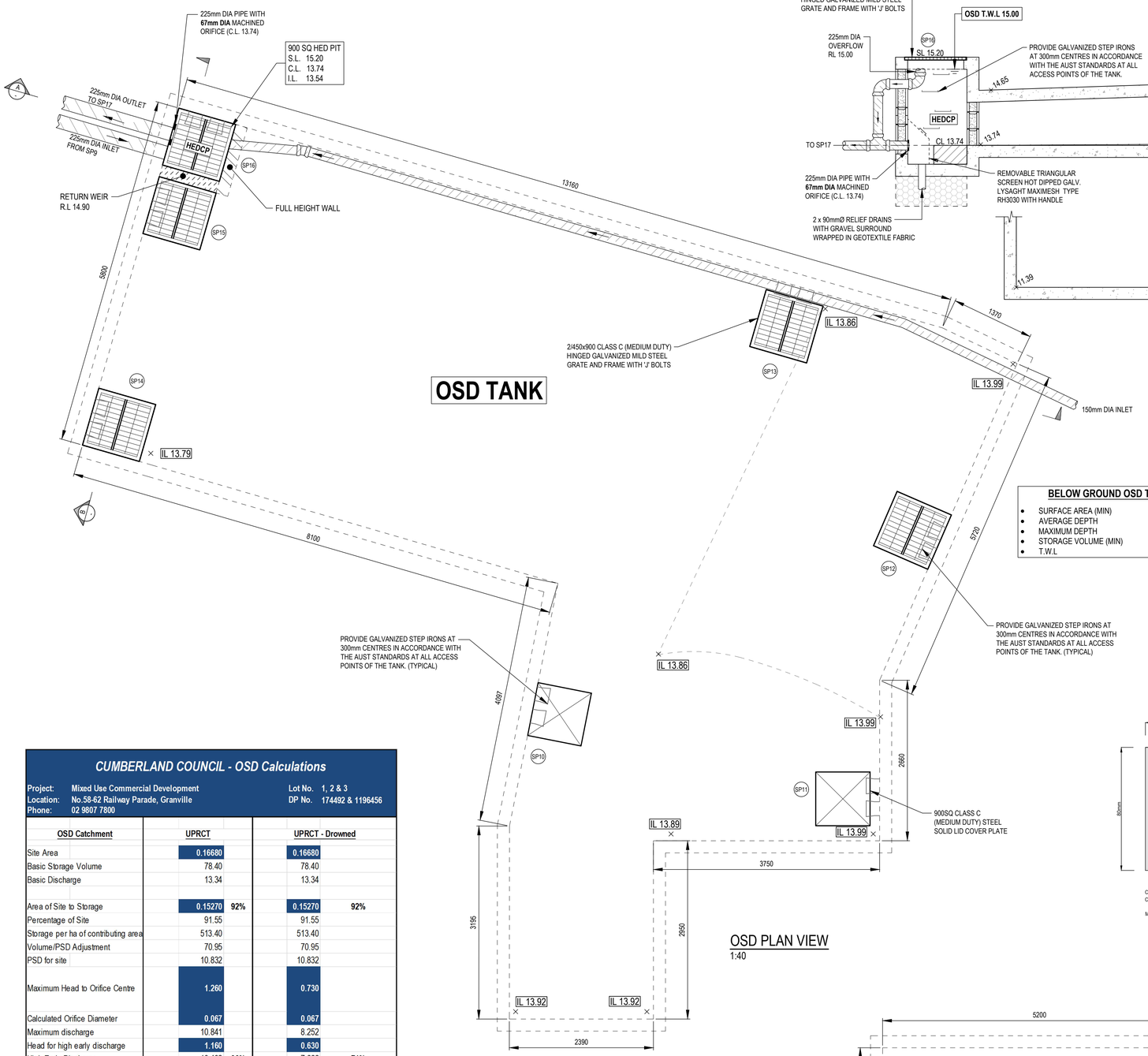
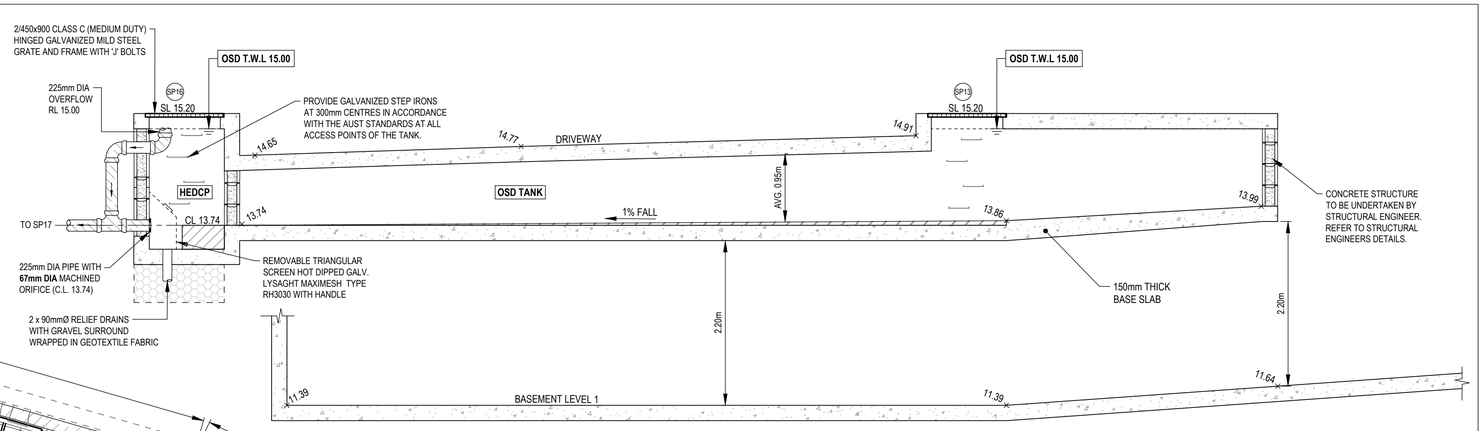


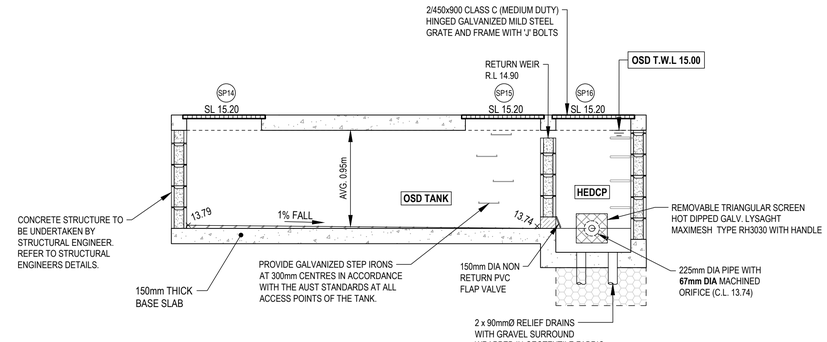
OSD TANK

BELOW GROUND OSD TANK

• SURFACE AREA (MIN)	104.02m²
• AVERAGE DEPTH	0.95m
• MAXIMUM DEPTH	1.26m
• STORAGE VOLUME (MIN)	98.81m³
• T.W.L	RL 15.00



SECTION 'A'
1:40

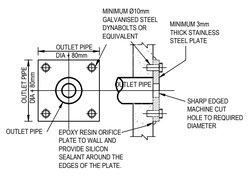


SECTION 'B'
1:40

CUMBERLAND COUNCIL - OSD Calculations

Project: Mixed Use Commercial Development — **Lot No.** 1, 2 & 3
Location: No.58-62 Railway Parade, Granville — **DP No.** 174492 & 1196456
Phone: 02 9807 7800

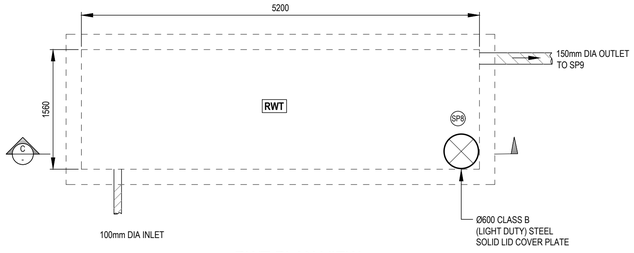
OSD Catchment	UPRCT		UPRCT - Drowned	
Site Area	0.16680		0.16680	
Basic Storage Volume	78.40		78.40	
Basic Discharge	13.34		13.34	
Area of Site to Storage	0.15270	92%	0.15270	92%
Percentage of Site	91.55		91.55	
Storage per ha of contributing area	513.40		513.40	
Volume/PSD Adjustment	70.95		70.95	
PSD for site	10.832		10.832	
Maximum Head to Orifice Centre	1.260		0.730	
Calculated Orifice Diameter	0.067		0.067	
Maximum discharge	10.841		8.252	
Head for high early discharge	1.160		0.630	
High Early Discharge	10.402	96%	7.666	71%
Mean Discharge	10.621		7.959	
Average Discharge per Hectare	69.558		52.120	
Final Site Storage Ratio	524		647	
Site Storage Volume	80.02		98.81	
Volume Provided		0%	103.75	105%



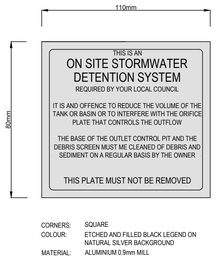
ORIFICE PLATE DETAIL
NTS

TYPICAL WARNING SIGN
NTS

EVERY EXTERNAL SUPPLY OUTLET FROM
RAINWATER RE-USE TANK TO BE LABELED
WITH METALLIC WARNING SIGN



RWT PLAN VIEW
1:40



OSD PLAQUE
NTS

CONFINED SPACE DANGER SIGN

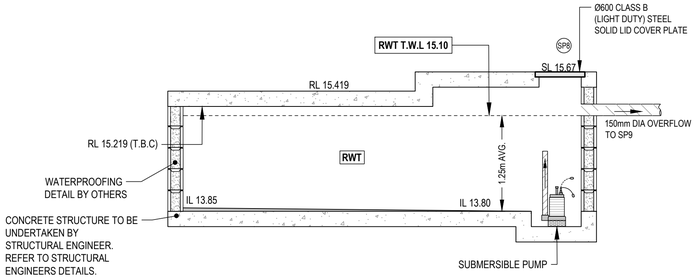
COLOURS:- "DANGER" AND BACKGROUND - WHITE
ELLIPTICAL AREA
RECTANGLE CONTAINING ELLIPSE - RED
OTHER LETTERING AND BORDER - BLACK

A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS CONFINED SPACE.

B) MINIMUM DIMENSIONS OF THE SIGN
- 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
- 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES AND MANHOLES)

C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.

D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN.



SECTION C
1:40

RAINWATER TANK
1:40

QUANTUM ENGINEERS
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c) ALL LOCAL COUNCIL REGULATIONS AS WELL AS ALL DCP & LEP ASSOCIATED.

APPROVED BY
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NER(105209) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
Dr. ADEL SOLIMAN

ARCHITECT
zhinar ARCHITECTS

DRAWING TITLE
OSD & RWT DETAILS AND CALCULATIONS
PROPOSED MIXED USE DEVELOPMENT
Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH
N

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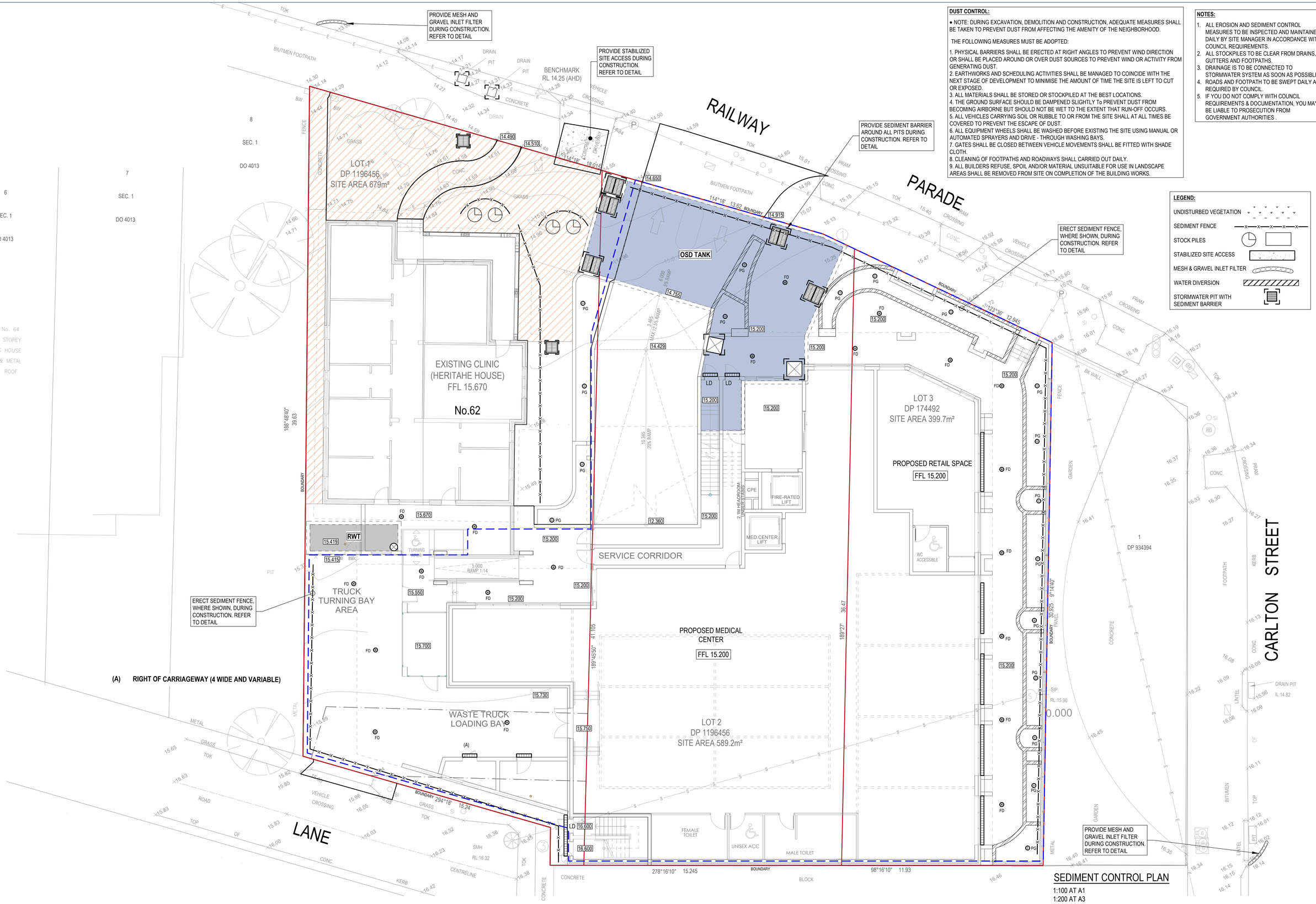
E	11.06.2024	RE-ISSUE FOR DA	A.KUIKEL

ISSUED FOR DA

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	230354_SW
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	E	D6



DUST CONTROL:

- NOTE: DURING EXCAVATION, DEMOLITION AND CONSTRUCTION, ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE AMENITY OF THE NEIGHBORHOOD.

THE FOLLOWING MEASURES MUST BE ADOPTED:

1. PHYSICAL BARRIERS SHALL BE ERECTED AT RIGHT ANGLES TO PREVENT WIND DIRECTION OR SHALL BE PLACED AROUND OR OVER DUST SOURCES TO PREVENT WIND OR ACTIVITY FROM GENERATING DUST.
2. EARTHWORKS AND SCHEDULING ACTIVITIES SHALL BE MANAGED TO COINCIDE WITH THE NEXT STAGE OF DEVELOPMENT TO MINIMISE THE AMOUNT OF TIME THE SITE IS LEFT TO CUT OR EXPOSED.
3. ALL MATERIALS SHALL BE STORED OR STOCKPILED AT THE BEST LOCATIONS.
4. THE GROUND SURFACE SHOULD BE DAMPENED SLIGHTLY To PREVENT DUST FROM BECOMING AIRBORNE BUT SHOULD NOT BE WET TO THE EXTENT THAT RUN-OFF OCCURS.
5. ALL VEHICLES CARRYING SOIL OR RUBBLE TO OR FROM THE SITE SHALL AT ALL TIMES BE COVERED TO PREVENT THE ESCAPE OF DUST.
6. ALL EQUIPMENT WHEELS SHALL BE WASHED BEFORE EXISTING THE SITE USING MANUAL OR AUTOMATED SPRAYERS AND DRIVE - THROUGH WASHING BAYS.
7. GATES SHALL BE CLOSED BETWEEN VEHICLE MOVEMENTS SHALL BE FITTED WITH SHADE CLOTH.
8. CLEANING OF FOOTPATHS AND ROADWAYS SHALL CARRIED OUT DAILY.
9. ALL BUILDERS REFUSE, SPOIL AND/OR MATERIAL UNSUITABLE FOR USE IN LANDSCAPE AREAS SHALL BE REMOVED FROM SITE ON COMPLETION OF THE BUILDING WORKS.

NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
2. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
3. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
4. ROADS AND FOOTPATH TO BE SWEPT DAILY AS REQUIRED BY COUNCIL.
5. IF YOU DO NOT COMPLY WITH COUNCIL REQUIREMENTS & DOCUMENTATION, YOU MAY BE LIABLE TO PROSECUTION FROM GOVERNMENT AUTHORITIES .

LEGEND:

- UNDISTURBED VEGETATION
- SEDIMENT FENCE
- STOCK PILES
- STABILIZED SITE ACCESS
- MESH & GRAVEL INLET FILTER
- WATER DIVERSION
- STORMWATER PIT WITH SEDIMENT BARRIER

SEDIMENT CONTROL PLAN

1:100 AT A1
1:200 AT A3

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APPROVED BY

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BE(Civil) ME(Aust CP)Eng
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APEC Engineer IntPE(Aus)

CLIENT: Dr. ADEL SOLIMAN

ARCHITECT: zhinar architects

DRAWING TITLE

SEDIMENT CONTROL PLAN

PROPOSED MIXED USE DEVELOPMENT

Lot 1, 2, 3, 58 - 62 RAILWAY PARADE, GRANVILLE

APPROX TRUE NORTH

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R.ELTOBBAGI	8	230354_SW
SCALE - SIZE	**REVISION**	**DRAWING No.**
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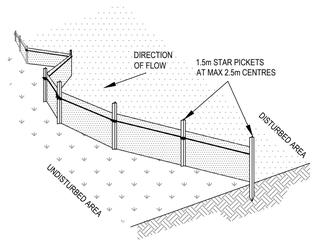
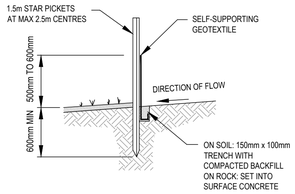
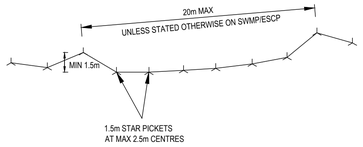


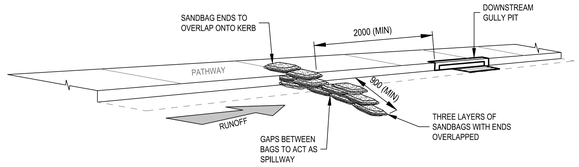


SEDIMENT FENCE DETAIL
NTS

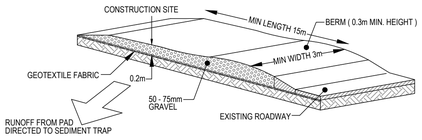
CONSTRUCTION NOTES:

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENTS AREA OF ANY ONE SECTION. THE CATCHMENTS AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.





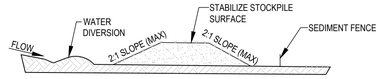
SANDBAG - KERB SEDIMENT TRAP
NTS



STABILIZED SITE ACCESS
NTS

CONSTRUCTION NOTES:

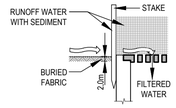
1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASED OR 30mm AGGREGATE
4. ENSURE THE STRUCTURE IS AT LEAST 15m LONG OR TO BUILD ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILIZED ACCESS, CONSTRUCT A HUMP IN THE STABILIZED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.



STOCKPILE
NTS

NOTE:

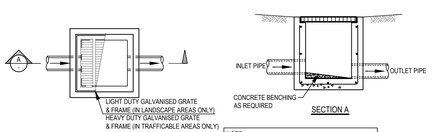
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILIZE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (LOW FLOW) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES ON THE DOWNSLOPE.



SEDIMENT BARRIER AROUND PIT
NTS

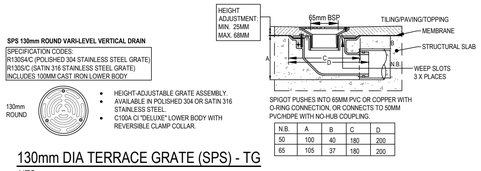
CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STRAW FILTER AND SEDIMENT FENCE FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.



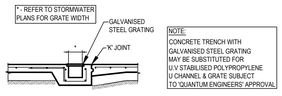
TYPICAL PIT (SIP)
NTS

NOTE:
ALL PROPOSED SITE PITS ARE TO BE CONSTRUCTED IN CONCRETE CAST IN SITU OR GRC.
CONTACT QUANTUM ENGINEERS TO DISCUSS POSSIBLE ALTERNATIVES

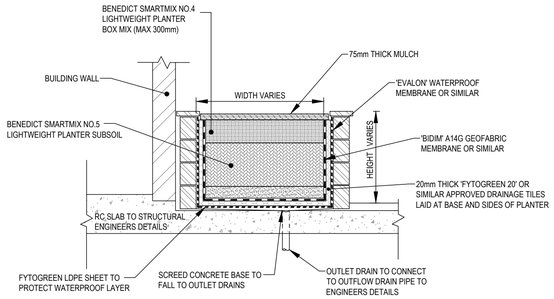


N.B.	A	B	C	D
50	100	40	180	200
65	105	37	180	200

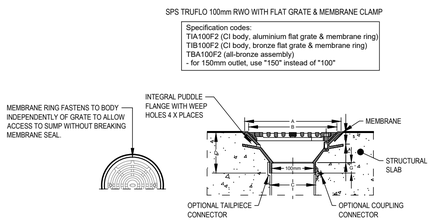
130mm DIA TERRACE GRATE (SPS) - TG
NTS



GRATED DRAIN
NTS



PLANTER BOX - ATLANTIS DRAINAGE
NTS

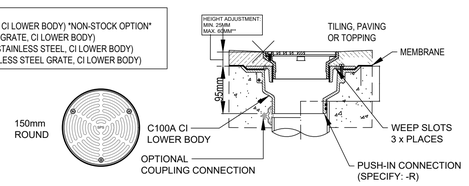


FLOOR DRAIN (SPS) - FD
(OR SIMILAR)
NTS

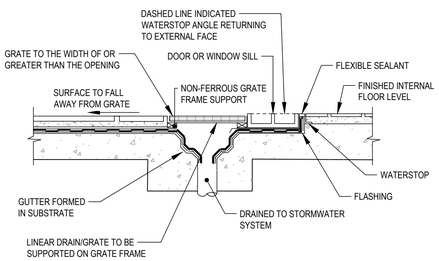
SPS 150mm ROUND VARI-LEVEL VERTICAL DRAIN

100MM OUTLET

SPECIFICATION CODES:
R150G/C (BRONZE GRATE, CI LOWER BODY) *NON-STOCK OPTION*
R150N/C (NICKEL BRONZE GRATE, CI LOWER BODY)
R150S4/C (POLISHED 304 STAINLESS STEEL, CI LOWER BODY)
R150S/C (SATIN 316 STAINLESS STEEL GRATE, CI LOWER BODY)



FLOOR DRAIN (SPS) - FD
NTS



AS 4654.2-2012, CLAUSE 2.8.4:

ANY FIXINGS THAT PENETRATE THE MEMBRANE SHALL BE SEALED. THE SEALANT SHALL BE COMPATIBLE WITH THE SURFACE MATERIAL.

WHERE BACKING RODS ARE USED TO SUPPORT THE SEALANT, THEY SHALL BE A MINIMUM OF 12mm.

'ZERO' THRESHOLD LINEAR DRAIN DETAIL
NTS

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CLIENT
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ARCHITECT
zhinar ARCHITECTS

DRAWING TITLE
STORMWATER & SEDIMENT CONTROL DETAILS

PROPOSED MIXED USE DEVELOPMENT
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