STORMWATER MANAGEMENT PLANS - EARLY WORKS (CC1)
PROPOSED RESIDENTIAL FLAT BUILDING
No.56 BEANE STREET, GOSFORD
LOT 30 DP:1250970

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 3.5.3 OF AS3500.3-1990*

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 *AS3725-1989 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 3.10 OF AS3500.3-1990*

ABOVE GROUND PIPEWORK:
SHALL BE CARRIED OUT IN ACCORDANCE WITH *SECTION 6 OF AS3500.3-1990*

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 4.6.3 OF AS3500.4-1990. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.

- **GRATES:**
  GRATES ARE TO BE GALVANISED STEEL GRID TYPE. GRATE CLASSES ARE TO BE SELECTED IN ACCORDANCE WITH LOAD CLASS AS PER TABLE BELOW

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 3500.3:2003 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 3500.3:2003 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 G1 OF AS 3500.3:2003 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 3500.3:2003 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3:2003
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 LEGEND

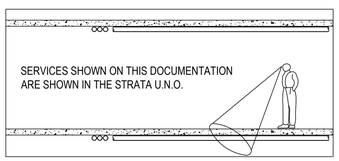
SURFACE INLET PIT		GRATED TRENCH DRAIN	
SURFACE INLET PIT (WITH OCEANGUARD 200)		ABSORPTION TRENCH	
ACCESS GRATE (WITH OCEANGUARD 200)		PROPOSED ROOF GUTTER FALL	
ACCESS GRATE (TO HED PIT)		PROPOSED DOWNPIPE SPREADER	SP
450 SQUARE INTERVAL	450 X 450	STORMWATER PIPE 100mm DIA. MIN. UNO	
GRATE LEVEL = 75.50	SL 75.50	SUBSOIL PIPE	
INVERT LEVEL = RL 75.20	IL 75.20	EXISTING STORMWATER PIPE	
PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.	DP 90	INSPECTION RISER	IR
		RAINWATER HEAD	RWH

UNDERGROUND SERVICES LEGEND

E E UNDERGROUND ELECTRICITY CABLES
W W UNDERGROUND SYDNEY WATER LINE

} POSITION OF UNDERGROUND SERVICES AQIURED FROM 'PLAN SHOWING THE LOCATION OF EXPOSED SERVICES AT 56-58 BEANE STREEET, GOSFORD' BY *ON POINT LOCATING PTY LTD*, PLAN No. 56/58 BEANE

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



STORMWATER DRAWINGS LIST		28/06/2021
DRAWING No.	DRAWING TITLE	REVISION
D1	DETAILS, NOTES & LEGEND	H
D2	LOWER GROUND FLOOR PLAN & DETAILS	H
D3	SITE / LEVEL 1 FLOOR PLAN	H
D4	ROOF PLAN	H
D5	COMBINED STORMFILTER / OSD & RAINWATER TANK DETAILS + CALCULATIONS	H
D6	WATER QUALITY CATCHMENT DETAILS & CALCULATIONS	H
D7	SEDIMENT CONTROL PLAN	H
D8	STORMWATER & SEDIMENT CONTROL DETAILS + CALCULATIONS	H

CENTRAL COAST COUNCIL GENERAL NOTES

1. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH CENTRAL COAST COUNCIL CIVIL WORKS SPECIFICATION AND TO THE SATISFACTION OF COUNCIL'S REPRESENTATIVE.
2. THE SERVICE PROVIDER IS RESPONSIBLE FOR ONGOING MAINTENANCE OF EROSION AND SILTATION CONTROL MEASURES.
3. ALL PUBLIC UTILITIES SHALL BE CLEARLY IDENTIFIED IN THE FIELD PRIOR TO ANY CIVIL WORKS. COUNCIL DOES NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGE OR RELOCATION COSTS TO PUBLIC UTILITIES DURING CONSTRUCTION OF THE DEVELOPMENT.
4. PRIOR TO THE COMMENCEMENT OF ANY WORK A "**NOTICE OF INTENTION TO COMMENCE -SUBDIVISION WORKS, ROADS ACT APPROVAL WORKS AND/OR APPROVED STORMWATER DRAINAGE WORKS**" MUST BE COMPLETED AND SUBMITTED TO COUNCIL. THIS FORM IS AVAILABLE ON COUNCIL'S WEB SITE.
5. IT IS THE SERVICE PROVIDER'S RESPONSIBILITY TO ENSURE THAT ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WORK HEALTH AND SAFETY ACT 2011.
6. PERMISSION TO ENTER, CONSTRUCT WORKS AND DISCHARGE STORMWATER ONTO ADJOINING PROPERTIES SHALL BE OBTAINED AND SUBMITTED TO COUNCIL PRIOR TO THE COMMENCEMENT OF ANY WORKS.
7. PAVEMENT TO BE DESIGNED AND CERTIFIED BY A PRACTISING CONSULTANT GEOTECHNICAL ENGINEER AND SUBMITTED TO COUNCIL FOR APPROVAL PRIOR TO THE COMMENCEMENT OF ANY WORKS. **APPROVED PAVEMENT DESIGN REPORTS SHALL PREVAIL OVER ANY DESIGN REQUIREMENTS OR PAVEMENT DETAILS SHOWN ON THE APPROVED PLANS.**
8. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE CONDITIONS STATED IN CENTRAL COAST COUNCIL'S ENGINEERING PLAN APPROVAL CORRESPONDENCE AND THE CONDITIONS OF THE DEVELOPMENT CONSENT.
9. IF THE STANDARD OR REQUIREMENTS FOR WORKS SHOWN ON THE APPROVED DRAWINGS DIFFER FROM THAT REQUIRED BY COUNCIL'S CIVIL WORKS SPECIFICATION THEN THE REQUIREMENTS OF THE CIVIL WORKS SPECIFICATION SHALL PREVAIL. CLARIFICATION SHALL BE OBTAINED FROM COUNCIL'S REPRESENTATIVE IF THERE IS CONCERN THAT THE REQUIREMENTS OF COUNCIL'S CIVIL WORKS SPECIFICATION MAY NOT BE APPROPRIATE FOR A SPECIFIC CIRCUMSTANCE.
10. THE SERVICE PROVIDER SHALL ADDRESS ALL PRECONSTRUCTION REQUIREMENTS OF COUNCIL'S CIVIL WORKS SPECIFICATION PRIOR TO COMMENCEMENT OF ANY WORKS.

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7800
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES
ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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
ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(105203) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
MONO CONSTRUCTIONS

ARCHITECT
STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE
DETAILS, NOTES & LEGEND

PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH
N

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

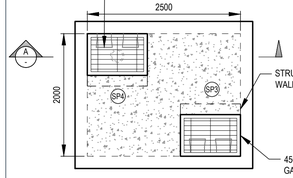
RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
-	H	D1

PUMP-OUT STORAGE TANK

- VOLUME (MIN) 4.5m³
- AVERAGE DEPTH 1200mm
- T.W.L RL 21.600

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

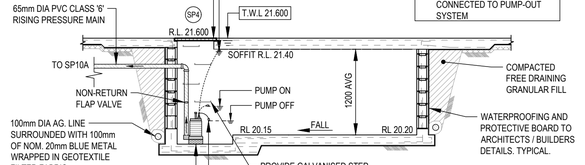


PLAN VIEW

900 x 600 (INTERNAL) HINGED MEDIUM DUTY GALVANISED MIND STEEL GRATE AND FRAME WITH J-LOCKS

BOTH PUMPS ON ALARM ACTIVATED

65mm DIA PVC CLASS 'E' RISING PRESSURE MAIN



PROVIDE 2 FLOAT PUMPS MIN. CAPACITY 10l/s MIN. @ 4.15m HEAD EACH CONNECTED IN PARALLEL, ALTERNATE START UP. SUGGESTED PUMP IS DAVEY DT22 OR EQUIVALENT

SECTION 'A'

NOTE:
1. PUMP SHALL BE CONSTRUCTED TO THE STRUCTURAL ENGINEERS DETAILS
2. ALL THE A.G LINES BEHIND THE BASEMENT WALLS ARE TO BE CONNECTED TO PUMP-OUT SYSTEM

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.

DRAINAGE PIPE LEGEND

- DRAINAGE PIPES VIA GRAVITY
- DRAINAGE PIPES TO ABSORPTION SYSTEM
- DRAINAGE PIPES TO RAINWATER TANK
- PRESSURE PIPE (65MM)

NOTE: ALL PIPES TO BE 100mm DIA UNO

SUBSOIL DRAINAGE CALCULATIONS:

THE PUMP-OUT TANK HAS BEEN DESIGNED FOR A 100YR 2 HOUR STORM EVENT

- 100YR 2HR ARI STORM = 54.1mm/hr
- D = ARI x 2HRS = 108.2mm/hr ('D')
- AREA DRAINING TO PUMP-OUT TANK = 40m² ('A')
- REQUIRED PUMP-OUT TANK VOLUME = 'A' x 'D'/1000
  = 4.328m³

THEREFORE, PROVIDE 4.5m³ MINIMUM PUMP-OUT TANK VOLUME

OSD SUMMARY

LGA: CENTRAL COAST COUNCIL
CODE: GOSFORD DCP 2013 CHAPTER 6.7

STORMWATER RETENTION VOLUME:
V = STORMWATER RETENTION VOLUME
A = 1283.2m² TOTAL SITE AREA
F = 80% FRACTION IMPERVIOUS AREA (1026.4m²)
V = 0.01 x A x (0.02F)²
V = 32.85m³

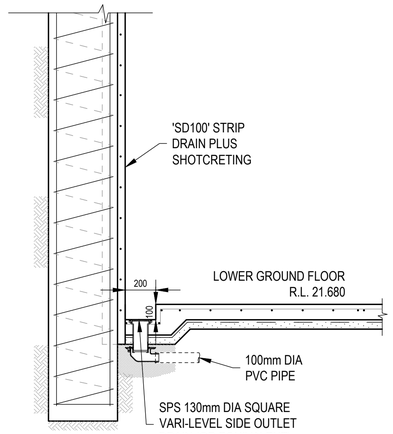
TOTAL STORMWATER RETENTION VOLUME = 32.85m³

STORMWATER DETENTION VOLUME:
'LIMIT POST DEVELOPMENT FLOW FROM THE PROPOSED DEVELOPMENT SITE TO LESS THAN OR EQUAL TO PREDEVELOPMENT FLOWS FOR ALL STORM EVENTS UP TO AND INCLUDING 1% YPY STORM EVENT'

50% OFFSET FROM RAINWATER TANK (32.85m³ x 0.5) = 16.43m³

OSD VOLUME REQUIRED ACCORDING TO 'DRAINS' MODEL = 30.5m³

THEREFORE,
FINAL OSD VOLUME (WITH RAINWATER OFFSET) = 30.5m³ - 16.43m³ = 14.07m³



SECTION 'B' - PILING WALL DETAIL
1:20

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

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

DANGER
CONFINED SPACE
NO ENTRY WITHOUT CONFINED SPACE TRAINING

CONFINED SPACE DANGER SIGN

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.

DA CONDITION B9 (e)

- IN ACCORDANCE WITH GOSFORD WATER CYCLE MANAGEMENT GUIDELINES PART 10.1 - SURFACE WATER TREATMENT FOR DRIVEWAYS, POROUS PAVING IS NOT SUITABLE FOR SLOPES GREATER THAN 5%, DIVERSION OF FLOWS FROM DRIVEWAY VIA PITS & PIPES TO INFILTRATION TRENCH IS A RECOGNISED METHOD OF TREATMENT
- IN LIEU OF SEMI-PERVIOUS MATERIALS IN DRIVEWAY, PROPOSED DRIVEWAY TO BE DRAINED TO ABSORPTION/INFILTRATION TRENCH.
- SUCH A SYSTEM ENSURES INFILTRATION IS MAXIMISED WHICH IS THE STATED DCP INTENTION.
- SEMI-PERVIOUS PAVING MATERIALS ARE NOT EFFECTIVE FOR THE PROPOSED DRIVEWAY RAMP SLOPE AS THE RUNOFF VELOCITY WILL NOT ALLOW SUFFICIENT PERMEATION TO OCCUR.

BELOW GROUND OSD / STORMFILTER TANK

OSD TANK:
- STORAGE VOLUME (MIN) 14.07m³
- STORAGE VOLUME (PROVIDED) 15.53m³
- SURFACE AREA (MIN) 24.47m²
- SURFACE AREA (PROVIDED) 27.08m²
- AVERAGE DEPTH 575mm
- T.W.L RL 21.20

STORMFILTER CHAMBER:
- PROVIDE 3 STORMFILTERS (460mm CARTRIDGES)

REFER TO DETAIL ON DRAWING No.D5

BELOW GROUND RAINWATER RE-USE TANK

- STORAGE VOLUME 32.85m³
- SURFACE AREA (MIN) 17.20m²
- AVERAGE DEPTH 1900mm
- T.W.L RL 21.30

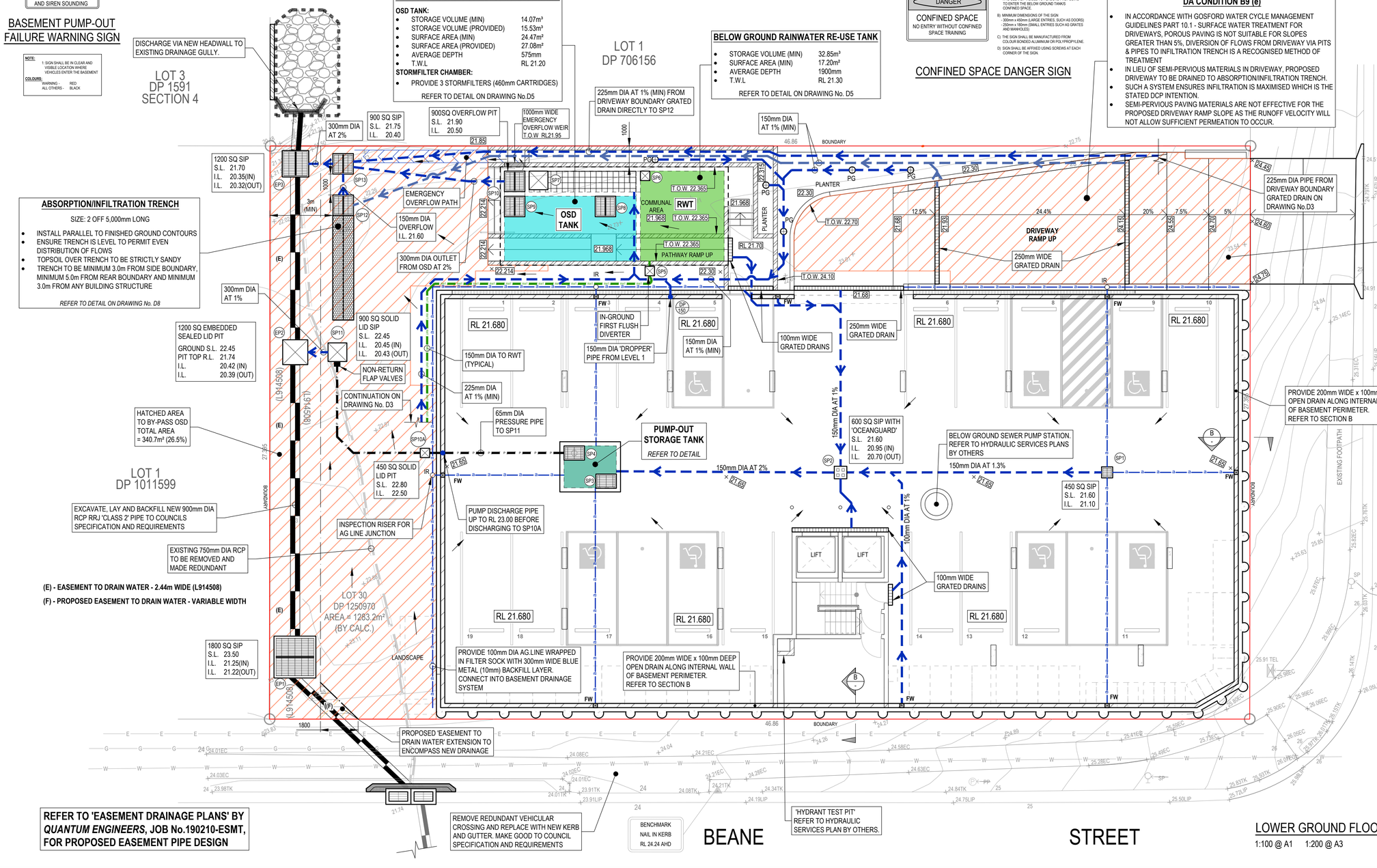
REFER TO DETAIL ON DRAWING No. D5

ABSORPTION/INFILTRATION TRENCH

SIZE: 2 OFF 5,000mm LONG

- INSTALL PARALLEL TO FINISHED GROUND CONTOURS
- ENSURE TRENCH IS LEVEL TO PERMIT EVEN DISTRIBUTION OF FLOWS
- TOPSOIL OVER TRENCH TO BE STRICTLY SANDY
- TRENCH TO BE MINIMUM 3.0m FROM SIDE BOUNDARY, MINIMUM 5.0m FROM REAR BOUNDARY AND MINIMUM 3.0m FROM ANY BUILDING STRUCTURE

REFER TO DETAIL ON DRAWING No. D8



PUMP-OUT STORAGE TANK
NTS

LOWER GROUND FLOOR PLAN
1:100 @ A1 1:200 @ A3

REFER TO 'EASEMENT DRAINAGE PLANS' BY *QUANTUM ENGINEERS*, JOB No.190210-ESMT, FOR PROPOSED EASEMENT PIPE DESIGN

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7900
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES

ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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
ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(102208) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
MONO CONSTRUCTIONS

ARCHITECT
STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE
LOWER GROUND FLOOR PLAN & DETAILS

PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D2

DRAINAGE PIPE LEGEND

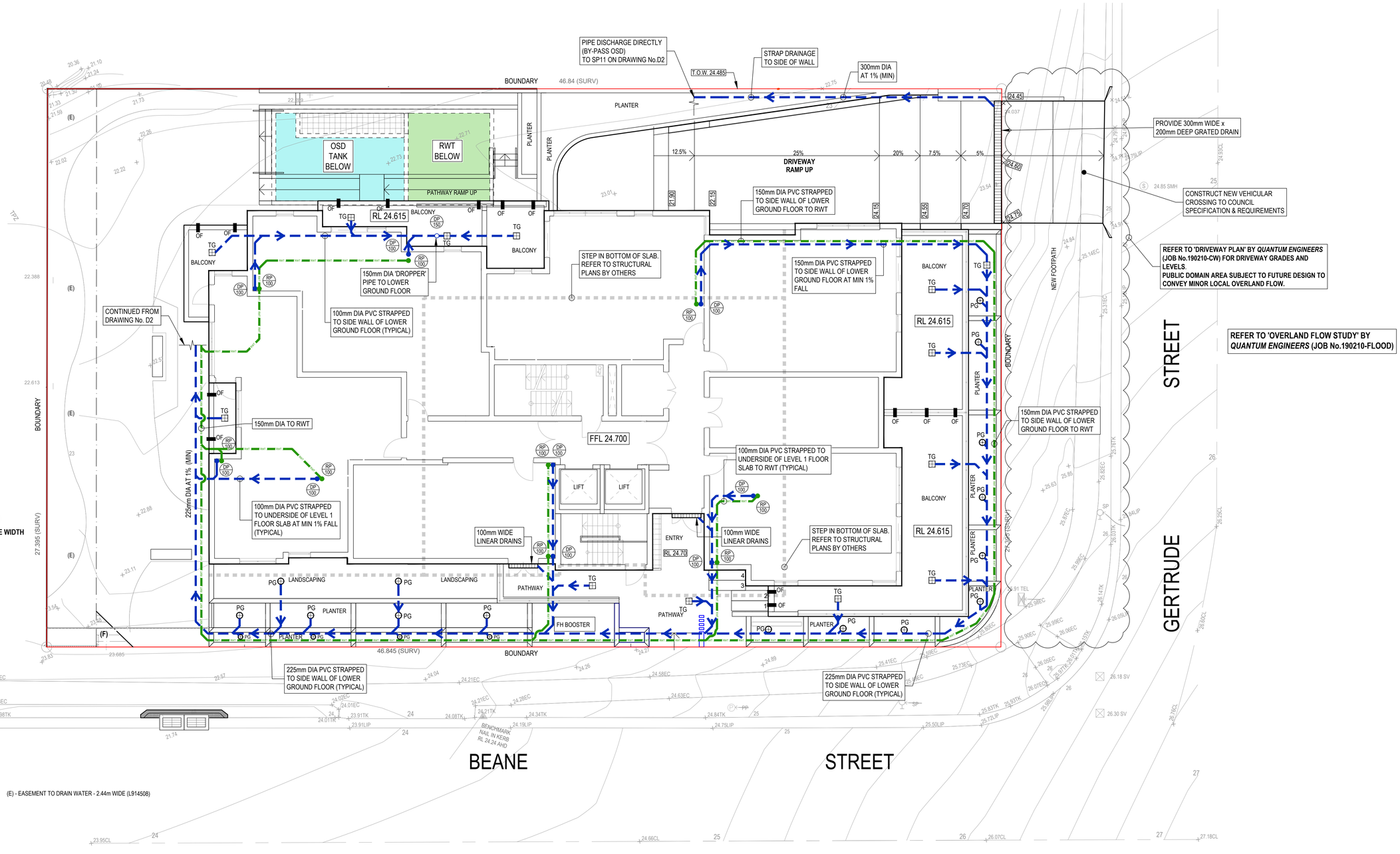
- DRAINAGE PIPES VIA GRAVITY
- DRAINAGE PIPES TO RAINWATER TANK
- OVERFLOW (OF) 50mm DIA

NOTE: ALL PIPES TO BE 100mm DIA UNO

DOWNPIPE LEGEND

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

LEVEL 1 DRAINAGE PLAN IS INDICATIVE ONLY
NOT FOR CONSTRUCTION



SITE / LEVEL 1 FLOOR PLAN

1:100 @ A1 1:200 @ A3

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7800
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES

ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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

ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(105209) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
MONO CONSTRUCTIONS

ARCHITECT
STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE
SITE / LEVEL 1 FLOOR PLAN
PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH
N

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

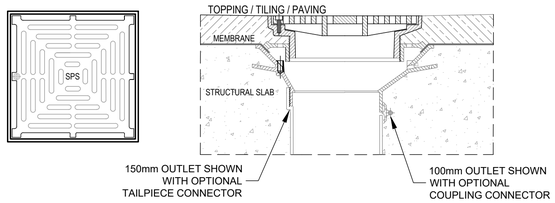
RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D3

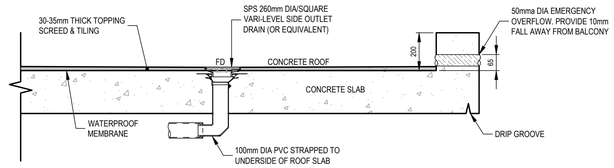
SPS 225mm Square Vari-Level Floor Drain
With Side-Outlet Lower Body

SPECIFICATION CODE:
Q225AB/C150 (ALUMINIUM-BRONZE GRATE, CI LOWER BODY)
Q225N/C150 (NICKEL-BRONZE GRATE, CI LOWER BODY)
Q225S/C150 (316 STAINLESS STEEL GRATE, CI LOWER BODY)
FOR A 100MM OUTLET, USE SUFFIX "C100" NOT "C150"

HEIGHT ADJUSTMENT:
MIN. 32mm
MAX. 80mm**



FLOOR DRAIN (SPS) - FD
NTS



ROOF DRAINAGE DETAIL
NTS

DRAINAGE PIPE LEGEND

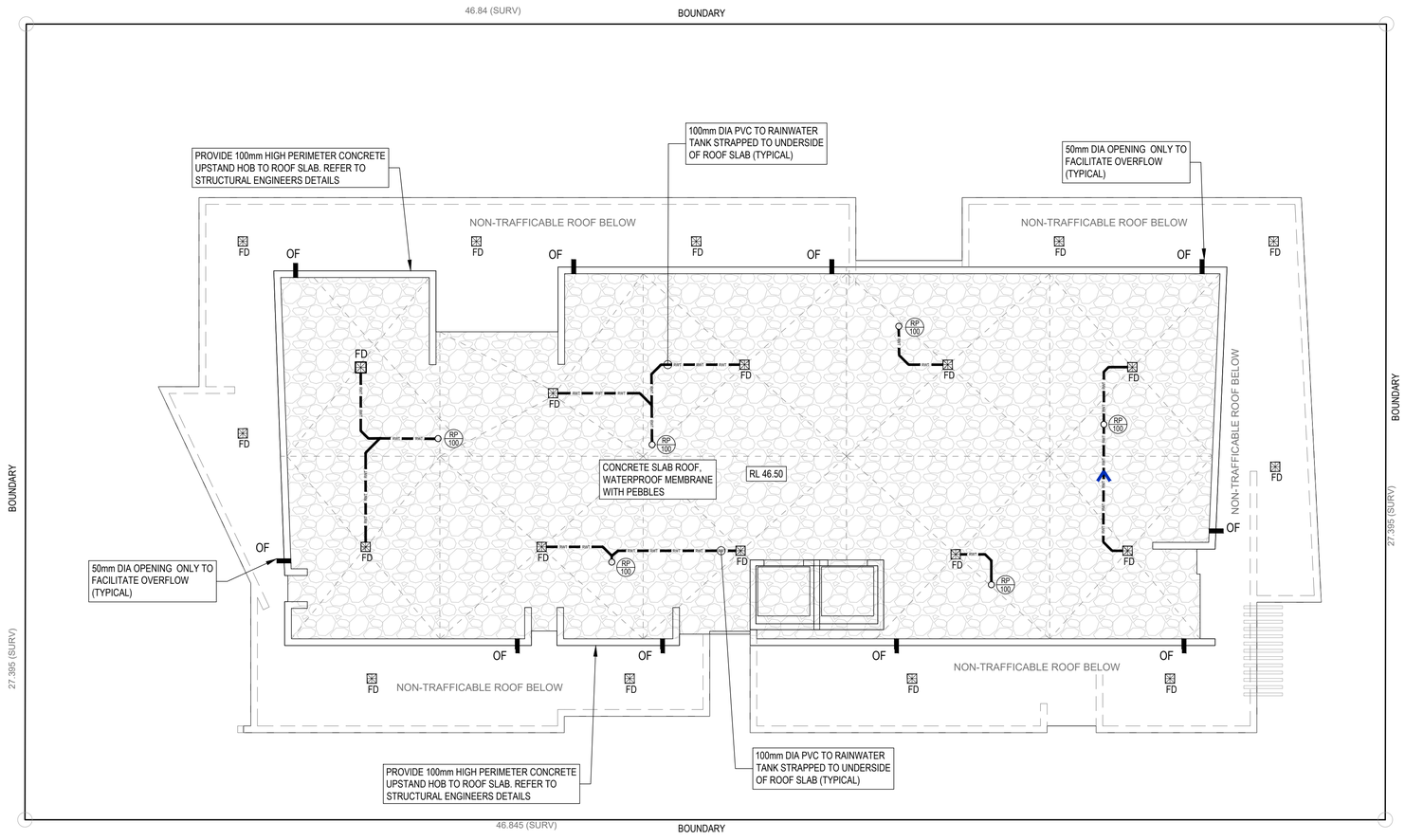
- DRAINAGE PIPES VIA GRAVITY
- CHARGED DRAINAGE PIPES
- DRAINAGE PIPES TO RAINWATER TANK
- PRESSURE PIPE (65mm)

NOTE: ALL PIPES TO BE 100mm DIA UNO

DOWNPIPE LEGEND

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

PROVIDE 50mm DIA OVERFLOW PIPE TO ALL TERRACES



GERTRUDE STREET

BEANE STREET

ROOF PLAN
1:100

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7900
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES

ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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
ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(102208) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
MONO CONSTRUCTIONS

ARCHITECT
STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE
ROOF PLAN
PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

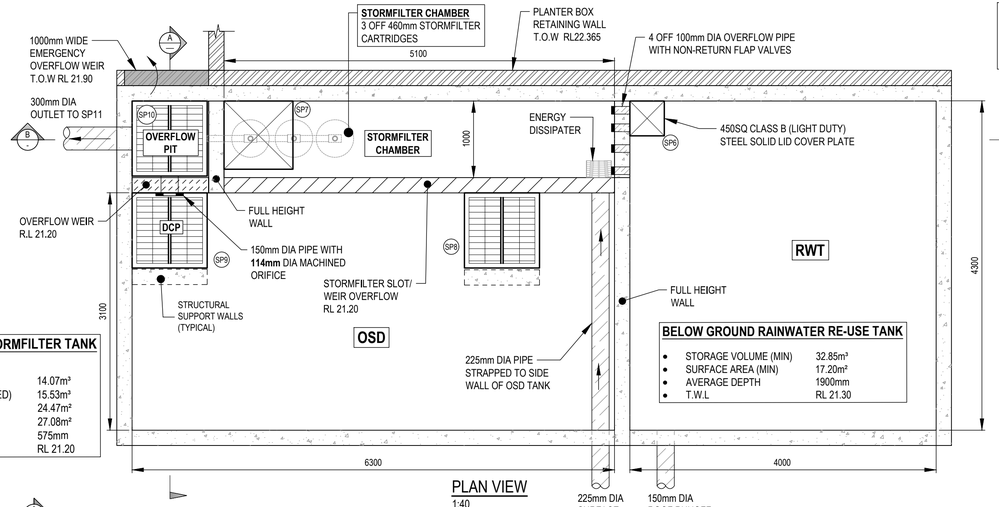
APPROX TRUE NORTH

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D4

OSD DETAILS



PLAN VIEW
1:40

225mm DIA SURFACE RUNOFF

150mm DIA ROOF RUNOFF ONLY

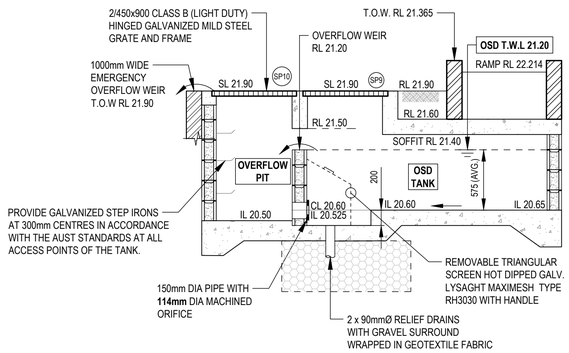
BELOW GROUND OSD / STORMFILTER TANK

OSD TANK:

STORAGE VOLUME (MIN)	14.07m³
STORAGE VOLUME (PROVIDED)	15.53m³
SURFACE AREA (MIN)	24.47m²
SURFACE AREA (PROVIDED)	27.08m²
AVERAGE DEPTH	575mm
T.W.L	RL 21.20

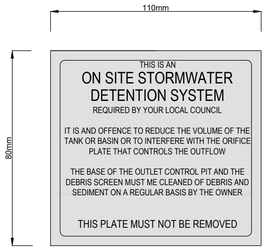
BELOW GROUND RAINWATER RE-USE TANK

STORAGE VOLUME (MIN)	32.85m³
SURFACE AREA (MIN)	17.20m²
AVERAGE DEPTH	1900mm
T.W.L	RL 21.30



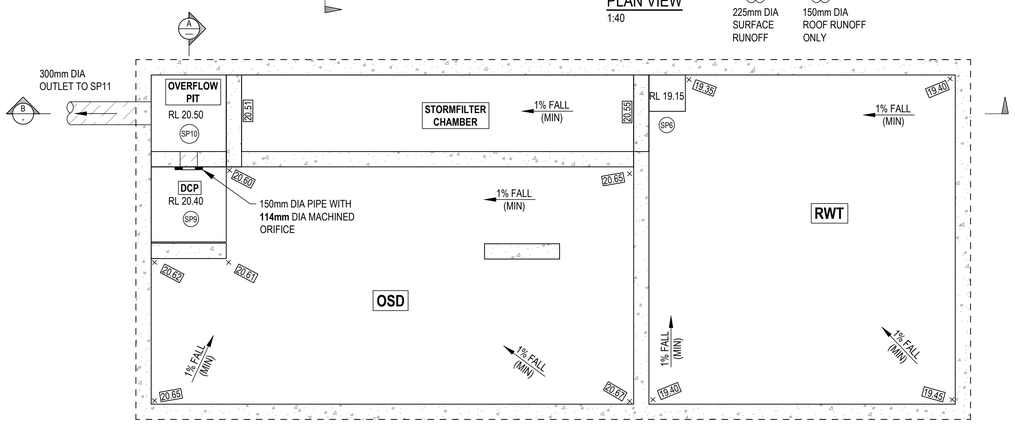
SECTION 'A'
1:40

CONFINED SPACE DANGER SIGN

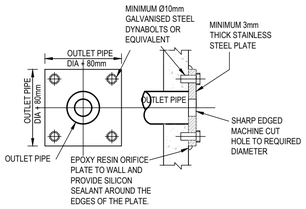


CORNERS: SQUARE
COLOUR: ETCHED AND FILLED BLACK LEGEND ON NATURAL SILVER BACKGROUND
MATERIAL: ALUMINIUM 0.9mm MILL

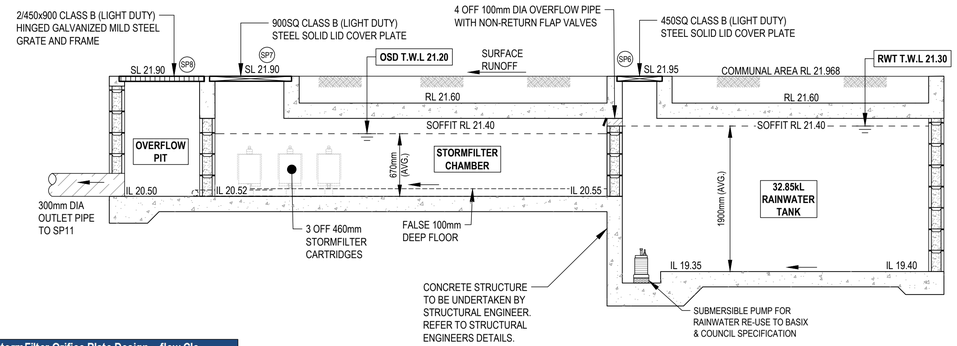
OSD PLAQUE
NTS



BASE OF TANK VIEW
1:40



ORIFICE PLATE DETAIL
NTS



SECTION 'B'
1:40

StormFilter Orifice Plate Design - flow Clc

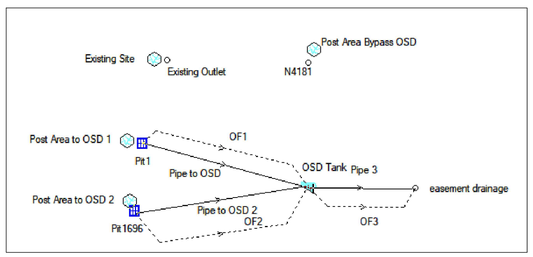
The equation below defines the relationship between the diameter of the orifice plate, the flow rate through the cartridge and head.

Q = (0.111d^2.06h^0.5)/60

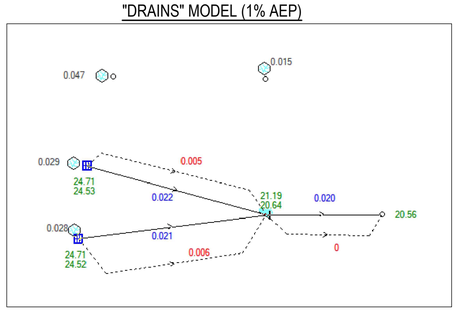
where d = Restrictor Disc Diameter
Δh = head

Cartridge Height (mm)	460	
Cartridge Quantity	3	
d(mm)	16.9	16.9
Δh (m)	0.75	0.75
Total Q at head	**1.63**	**L/s**

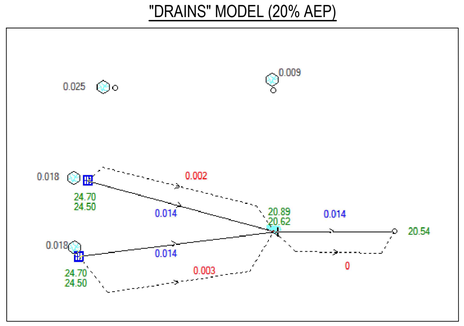
'DRAINS' LAYOUT



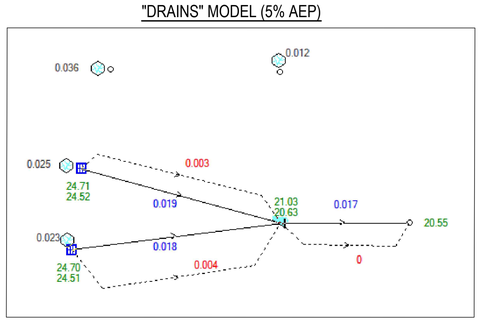
"DRAINS" MODEL (1% AEP)



"DRAINS" MODEL (20% AEP)



"DRAINS" MODEL (5% AEP)



PSD COMPUTATION SUMMARY

LGA:	*CENTRAL COAST COUNCIL*		
DURATION: 100 YEAR ARI	PRE-DEVELOPMENT FLOW.	0.0470	m^3/s
	POST-DEVELOPMENT BY-PASS FLOW.	0.0150	m^3/s
	STORMFILTER BY-PASS FLOW.	**1.63**	L/s
	Hence, PERMISSIBLE SITE DISCHARGE:	**30.37**	**L/s**
	DRAINS' MODELLING - resulting discharge rate	***20.00***	***L/s***
DURATION: 50 YEAR ARI	PRE-DEVELOPMENT FLOW.	0.0410	m^3/s
	POST-DEVELOPMENT BY-PASS FLOW.	0.0140	m^3/s
	STORMFILTER BY-PASS FLOW.	**1.63**	L/s
	Hence, PERMISSIBLE SITE DISCHARGE:	**25.37**	**L/s**
	DRAINS' MODELLING - resulting discharge rate	***19.00***	***L/s***
DURATION: 20 YEAR ARI	PRE-DEVELOPMENT FLOW.	0.0360	m^3/s
	POST-DEVELOPMENT BY-PASS FLOW.	0.0120	m^3/s
	STORMFILTER BY-PASS FLOW.	**1.63**	L/s
	Hence, PERMISSIBLE SITE DISCHARGE:	**22.37**	**L/s**
	DRAINS' MODELLING - resulting discharge rate	***17.00***	***L/s***
DURATION: 10 YEAR ARI	PRE-DEVELOPMENT FLOW.	0.0300	m^3/s
	POST-DEVELOPMENT BY-PASS FLOW.	0.0100	m^3/s
	STORMFILTER BY-PASS FLOW.	**1.63**	L/s
	Hence, PERMISSIBLE SITE DISCHARGE:	**18.37**	**L/s**
	DRAINS' MODELLING - resulting discharge rate	***16.00***	***L/s***
DURATION: 5 YEAR ARI	PRE-DEVELOPMENT FLOW.	0.0250	m^3/s
	POST-DEVELOPMENT BY-PASS FLOW.	0.0090	m^3/s
	STORMFILTER BY-PASS FLOW.	**1.63**	L/s
	Hence, PERMISSIBLE SITE DISCHARGE:	**14.37**	**L/s**
	DRAINS' MODELLING - resulting discharge rate	***14.00***	***L/s***

HENCE, OSD REQUIRED VOLUME =30.5m3

and

Orifice Diameter = 114mmdia

'DRAINS' RESULTS (1% AEP)

DRAINS results prepared from Version 2020.04

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
Pit1	24.53	24.71	0.029	0	0.17	0.005	Inlet Capacity
easement drainage	20.56		0				
Pit2	24.52	24.71	0.028	0	0.18	0.006	Inlet Capacity

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
Existing Site	0	0.047	0	0.047	10	20	0 AR&R 100 year, 1.5 hours storm, average 66.8 mm/h, Zone 1
Post Area to OSD 1	0.029	0.02	0.009	5	10		0 AR&R 100 year, 25 minutes storm, average 131 mm/h, Zone 1
Post Area Bypass OSD	0.015	0.007	0.009	10	20		0 AR&R 100 year, 2 hours storm, average 56.7 mm/h, Zone 1
Post Area to OSD 2	0.028	0.028	0	5	10		0 AR&R 100 year, 5 minutes storm, average 249 mm/h, Zone 1

Outflow Volumes for Total Catchment (0.09 impervious + 0.17 pervious = 0.26 total ha)

Storm	Total Rainfall cu.m	Total Runoff cu.m (Runoff %)	Impervious Runoff cu.m (Runoff %)	Pervious Runoff cu.m (Runoff %)
AR&R 100 year, 5 minutes storm, average 249 mm/h, Zone 1	53.18	33.12 (62.3%)	16.87 (95.2%)	16.25 (45.8%)
AR&R 100 year, 10 minutes storm, average 194 mm/h, Zone 1	83.08	59.93 (72.1%)	26.94 (96.9%)	33.09 (59.8%)
AR&R 100 year, 15 minutes storm, average 165 mm/h, Zone 1	105.56	79.97 (75.7%)	34.34 (97.6%)	45.63 (64.8%)
AR&R 100 year, 20 minutes storm, average 145 mm/h, Zone 1	123.97	96.24 (77.6%)	40.47 (97.9%)	55.77 (67.5%)
AR&R 100 year, 25 minutes storm, average 131 mm/h, Zone 1	139.67	109.32 (78.3%)	45.71 (98.2%)	63.61 (68.3%)
AR&R 100 year, 30 minutes storm, average 120 mm/h, Zone 1	153.47	121.01 (78.9%)	50.30 (98.3%)	70.71 (69.1%)
AR&R 100 year, 45 minutes storm, average 97.4 mm/h, Zone 1	187.41	149.84 (80.0%)	61.62 (98.6%)	88.22 (70.6%)
AR&R 100 year, 1 hour storm, average 83.6 mm/h, Zone 1	214.41	172.71 (80.6%)	70.42 (98.8%)	102.11 (71.4%)
AR&R 100 year, 1.5 hours storm, average 66.8 mm/h, Zone 1	257.08	208.58 (81.1%)	84.94 (99.0%)	123.73 (72.2%)
AR&R 100 year, 2 hours storm, average 56.7 mm/h, Zone 1	291.14	236.77 (81.3%)	96.20 (99.1%)	140.58 (72.4%)

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
Pipe to OSD	0.022	2.06	24.469	24.469	21.269 AR&R 100 year, 25 minutes storm, average 131 mm/h, Zone 1
Pipe 3	0.02	0.95	20.639	20.564	AR&R 100 year, 2 hours storm, average 56.7 mm/h, Zone 1
Pipe to OSD 2	0.021	2.46	24.469	21.257	AR&R 100 year, 15 minutes storm, average 165 mm/h, Zone 1

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max D+V	Max Width	Max V	Due to Storm
OF1	0.005	0.004	1.485	0.013	0.02	1.33	2.76	AR&R 100 year, 25 minutes storm, average 131 mm/h, Zone 1
OF3	0	0	1.35	0	0	0	0	
OF2	0.006	0.006	1.485	0.005	0.02	0.52	4.08	AR&R 100 year, 15 minutes storm, average 165 mm/h, Zone 1

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level	
OSD Tank	**21.33**	**303**	0.02	0.02	0	

CONTINUITY CHECK for AR&R 100 year, 1.5 hours storm, average 66.8 mm/h, Zone 1

Node	Inflow (cu.m)	Outflow (cu.m)	Storage Change (cu.m)	Difference %	
Existing Outlet	92.75	92.75	0	0	
Pit1	44.55	43.76	0	1.8	
OSD Tank	86.44	85.34	1.09	0	
easement drainage	85.34	85.34	0	0	
N4181	29.32	29.32	0	0	
PIT2	41.96	41.95	0	0	

Run Log for 190210_56.run at 15:58:07 on 26/8/2020 using version 2020.06
No water upwelling from any pit. Freeboard was adequate at all pits.
Flows were safe in all overflow routes.

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7800
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES

ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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

ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(1052206) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT
MONO CONSTRUCTIONS

ARCHITECT
STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE
COMBINED STORMFILTER / OSD & RAINWATER TANK DETAILS + CALCULATIONS

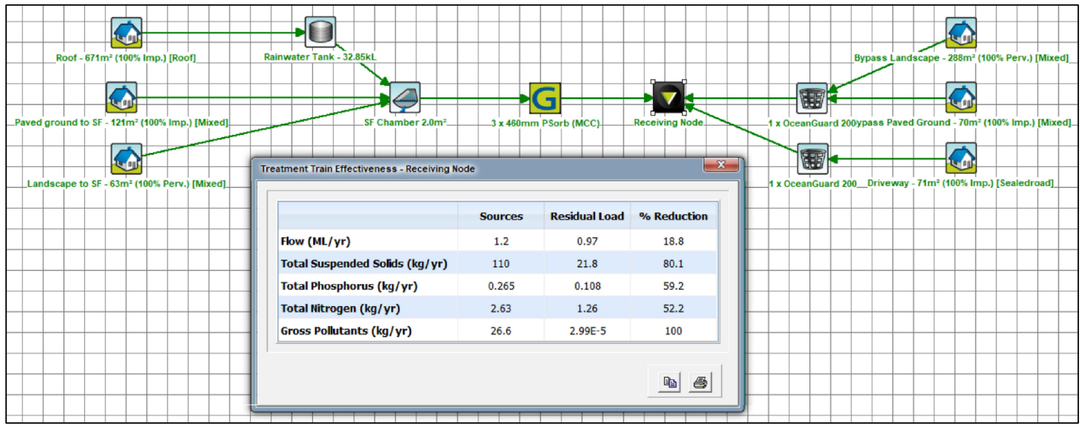
PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D5



	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.2	0.97	18.8
Total Suspended Solids (kg/yr)	110	21.8	80.1
Total Phosphorus (kg/yr)	0.265	0.108	59.2
Total Nitrogen (kg/yr)	2.63	1.26	52.2
Gross Pollutants (kg/yr)	26.6	2.99E-5	100

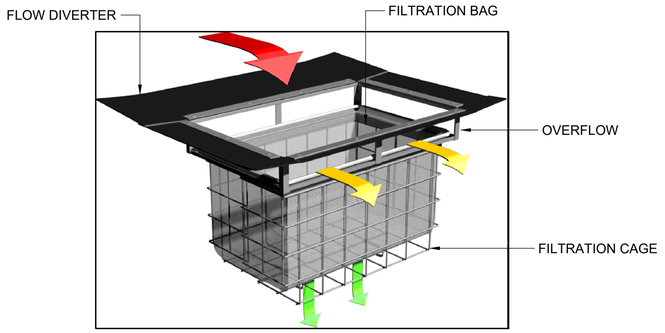
MUSIC MODELLING RESULT

GENERAL NOTES

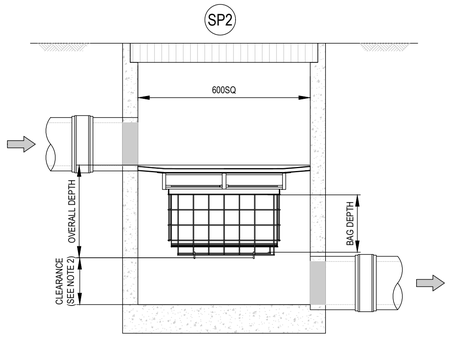
1. INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
2. A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
3. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
4. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
5. THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
6. CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
8. DRAWINGS NOT TO SCALE.

INSTALLATION NOTES

1. UNDERDRAIN AND FALSE FLOOR INSTALLED BY OCEAN PROTECT.



'OCEANGUARD' DETAIL



PIPE FLOW CONFIGURATION

SIP WITH OCEANGUARD DETAIL - SP2

NTS

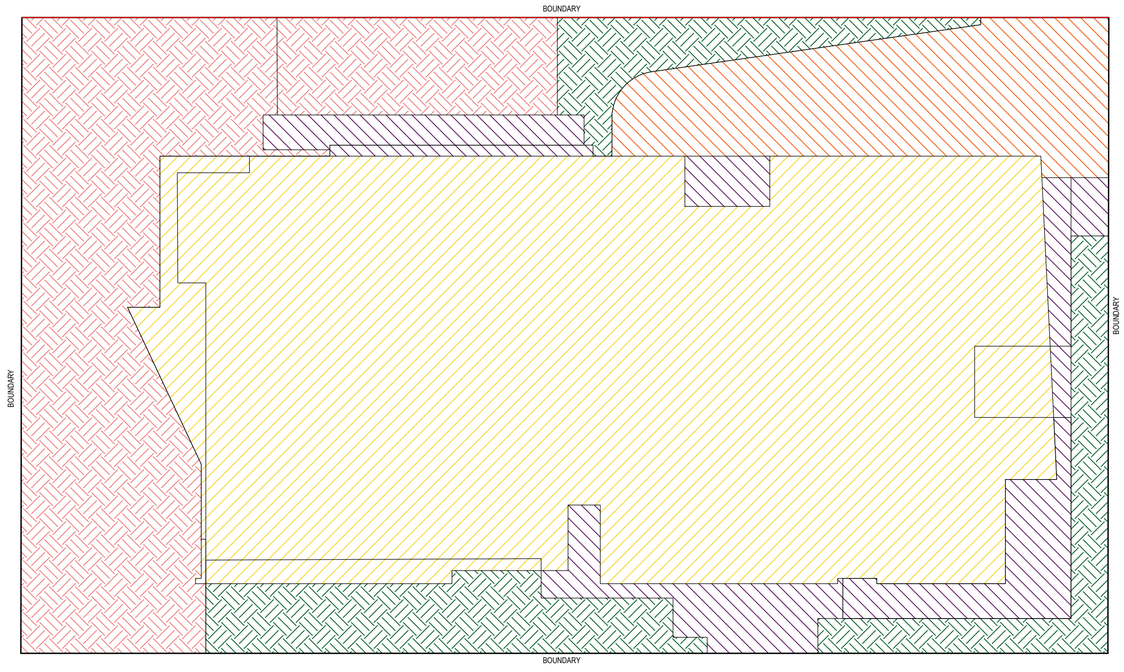
GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.

LEGEND

SITE AREA: 1283.2m²

- ROOF AREA DRAINING TO STORMFILTER TANK = **670.9m²**
- PAVED AREA DRAINING TO STORMFILTER TANK = **104.2m²**
- PERVIOUS AREA DRAINING TO STORMFILTER TANK = **140.6m²**
- -PERVIOUS AREA TO BY-PASS STORMFILTER TANK = **260.5m²**
- DRIVEWAY AREA TO BY-PASS STORMFILTER TANK = **107.0m²**



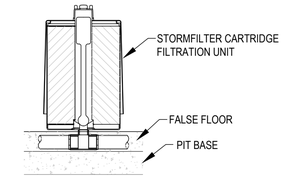
WATER QUALITY CATCHMENT AREA

NTS

STORMFILTER DESIGN TABLE

- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED. THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CERTIFYING ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 178mm.

CARTRIDGE NAME / SIPHON HEIGHT (mm)	690	460	310
CARTRIDGE PHYSICAL HEIGHT (mm)	840	600	600
TYPICAL WEIR HEIGHT [H] (mm)	920	690	540
CARTRIDGE FLOW RATE FOR ZPG MEDIA (L/s)	1.6	1.1	0.7
CARTRIDGE FLOW RATE FOR PSORB MEDIA (L/s)	0.9	0.46	0.39



STORMFILTER CARTRIDGE DETAIL

NTS

QUANTUM ENGINEERS
Suite 1A, Level 2
2 Rowe Street,
Eastwood NSW 2122
02 9807 7800
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES

ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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

ROBERT ELTOBBAGI
BE(Civil) MIEAust CPEng
NER(105209) RPEQ(25464)
APEC Engineer IntPE(Aus)

CLIENT: MONO CONSTRUCTIONS

ARCHITECT: STANTON DAHL ARCHITECTS
REF No.2421.19

DRAWING TITLE

WATER QUALITY CATCHMENT DETAILS & CALCULATIONS

PROPOSED RESIDENTIAL FLAT BUILDING

Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH

N

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	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

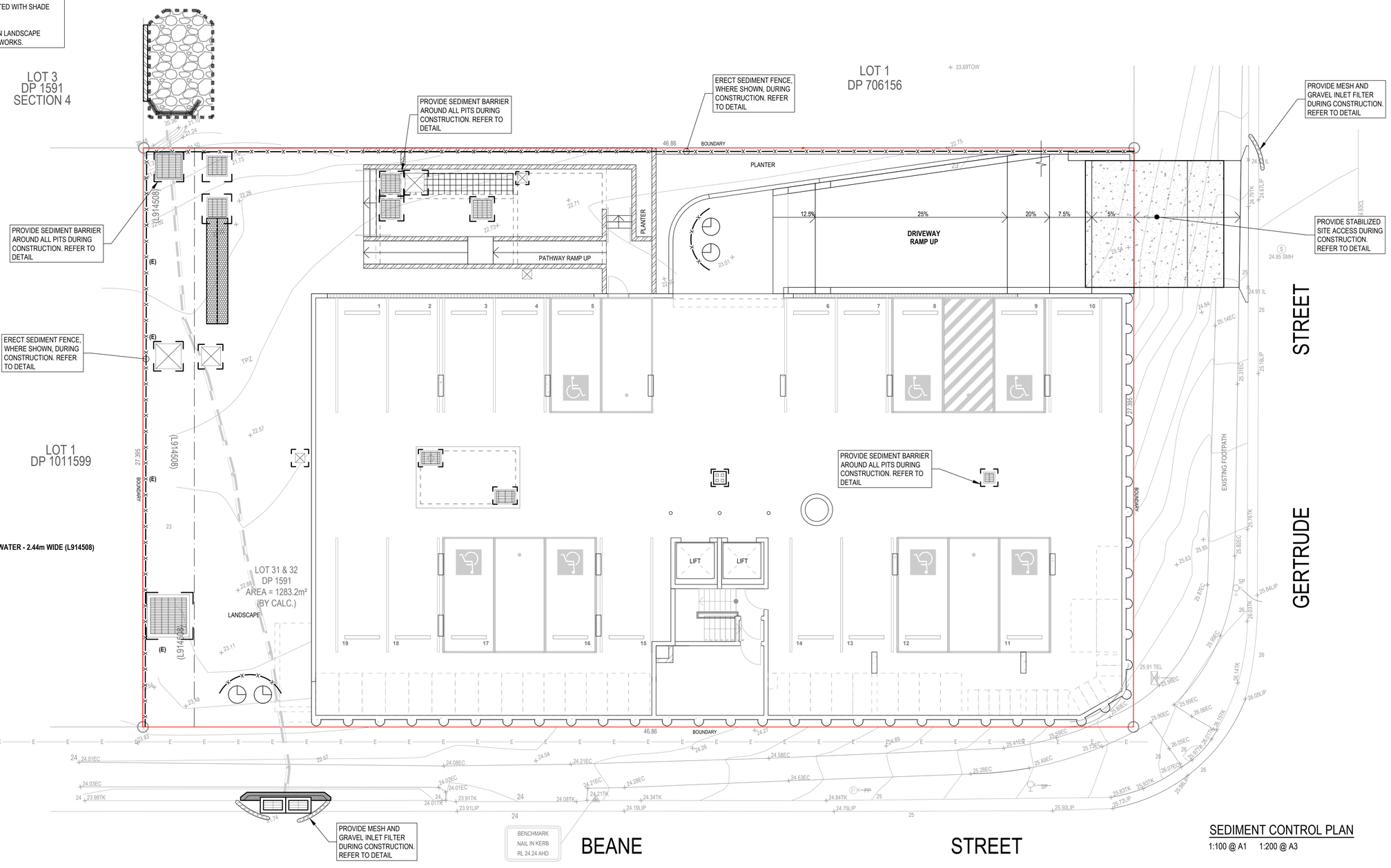
STOCK PILES

STABILIZED SITE ACCESS

MESH & GRAVEL INLET FILTER

WATER DIVERSION

STORMWATER PIT WITH SEDIMENT BARRIER



SEDIMENT CONTROL PLAN

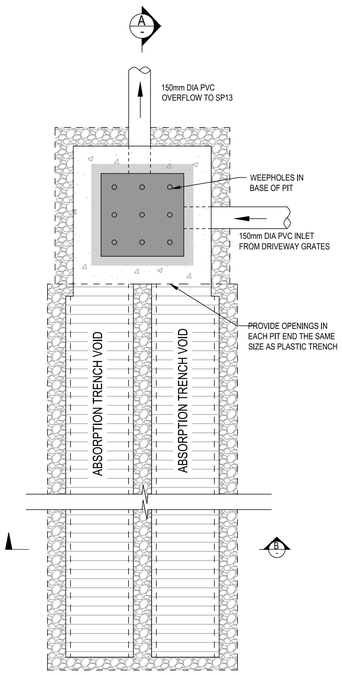
1:100 @ A1 1:200 @ A3

QUANTUM ENGINEERS Suite 1A, Level 2, 2 Rowe Street, Eastwood NSW 2122 02 9807 7900 admin@quantumengineers.com.au quantumengineers.com.au	**GENERAL NOTES** ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS. DRAWING 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** ROBERT ELTOBBAGI *BE(Civil) MIEAust CPEng* *NER(102208) RPEQ(25464)* *APEC Engineer IntPE(Aus)*	CLIENT MONO CONSTRUCTIONS ARCHITECT STANTON DAHL ARCHITECTS REF No.2421.19	**DRAWING TITLE** **SEDIMENT CONTROL PLAN** **PROPOSED RESIDENTIAL FLAT BUILDING** Lot 30, 56 BEANE STREET, GOSFORD Lot 30, DP125097 DA No. 19/2020/36/1	**APPROX TRUE NORTH** N				

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D7



PLAN VIEW
NTS

ABSORPTION SYSTEM CALCULATIONS - 'Rational Method'

Project: Proposed Residential Flat Building
Job Number: 190210
Location: Lot 30, 56 Beane Street, Gosford

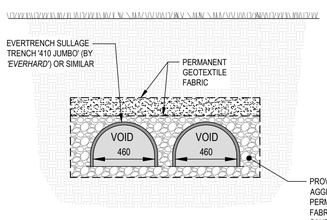
Site Details		
Site Area	**1283.2 m^2**	
Area to Absorption Trench	84 m^2	
Nominal Absorption Rate (AR_N)	0.2 $l/m^2/sec$	Subject to Geotechincal Report
Reduction Factor (F_R)	1	

Design Details		
Design Impervious Area (DA)		84 m^2
Design Absorption Rate (AR_d)	= AR_N x F_R	0.2 $l/m^2/sec$
Base Area of Absorption Pit (BA)	(to be calculated)	6 m^2 (2 Off 0.8m X 5m)

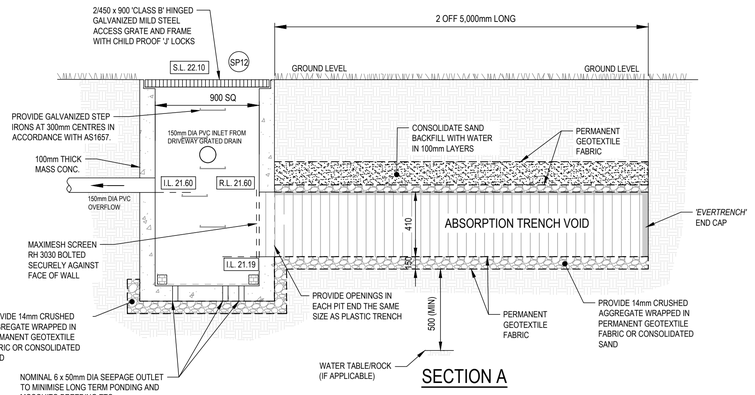
Required Absorption System Volume Calculation for 20 year ARI Storm

Time (min) T	Rainfall Intensity (mm/hr) I	Runoff (l/s) R = I x DA/3600	Runoff Volume (m^3) RV = R x T x 60/1000	Infiltration Vol (m^3) IV = BA x AR_N x T x60/1000	Required Absorption System Volume (m^3) RV - IV
5	218.0	5.09	1.53	0.36	1.17
6	206.0	4.81	1.73	0.43	1.30
10	171.0	3.99	2.39	0.72	1.67
20	124.0	2.89	3.47	1.44	2.03
30	99.5	2.32	4.18	2.16	2.02
60	65.3	1.52	5.49	4.32	1.17
120	41.7	0.97	7.01	8.64	-1.63
Maximum Required Absorption System Volume (MRASV) (m^3)					**2.03**

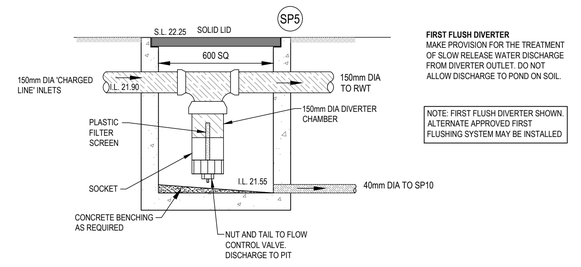
Proposed Absorption System Volume Calculation Sheet		
Total Volume of pits (above top of base level) (m^3)	(1 off 0.9 x 0.6 x 1.2m)	0.648
Volume of half round Everglas 410 'Jumbo' (m^3)	(0.175 x 5 x 2 off)	1.75
Gravel void Volume (20% of gravel volume) (m^3)	(2 off 0.60 x 5 x 0.2) x 20%	0.24
Above Ground Storage (m^3)		0.00
Other Volume (m^3)		0.00
Subtotal Proposed Absorption System Volume (m^3)		**2.64**
Total Proposed Absorption System Volume (TPASV) (m^3)		**2.64**
TPASV must be greater than MRASV		***Satisfactory***



SECTION B
NTS



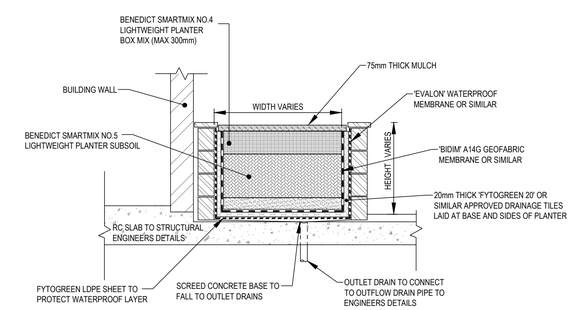
SECTION A
ABSORPTION PIT TRENCH
NTS



FIRST FLUSH DIVERTER
MAKE PROVISION FOR THE TREATMENT OF SLOW RELEASE WATER DISCHARGE FROM DIVERTER OUTLET. DO NOT ALLOW DISCHARGE TO POND ON SOIL.

NOTE: FIRST FLUSH DIVERTER SHOWN. ALTERNATE APPROVED FIRST FLUSHING SYSTEM MAY BE INSTALLED

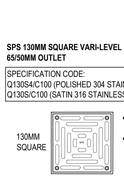
FIRST FLUSH UNIT - SP5 (IF REQUIRED)
NTS



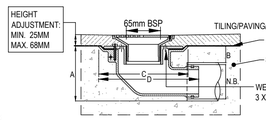
PLANTER BOX - ATLANTIS DRAINAGE
NTS

SPS 130MM SQUARE VARI-LEVEL SIDE OUTLET DRAIN 65/50MM OUTLET

SPECIFICATION CODE:
Q130S4/C100 (POLISHED 304 STAINLESS STEEL, ABS LOWER BODY)
Q130S/C100 (SATIN 316 STAINLESS STEEL GRATE, ABS LOWER BODY)



- SQUARE GRATE POLISHED 304 OR SATIN 316 STAINLESS STEEL.
- UPVC 100° BODY AND REVERSIBLE MEMBRANE CLAMP COLLAR WITH FEMALE 65MM BSP THREAD.



SPIGOT PUSHES INTO 65MM PVC OR COPPER WITH O-RING CONNECTION, OR CONNECTS TO 50MM PVC/HDPE WITH NO-HUB COUPLING.

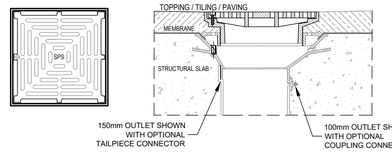
N.B.	A	B	C	D
50	100	40	180	200
65	105	37	180	200

TERRACE GRATE (SPS) - TG
NTS

SPS 225mm Square Vari-Level Floor Drain
With Side-Outlet Lower Body

SPECIFICATION CODE:
Q225A/C150 (ALUMINIUM-BRONZE GRATE, CI LOWER BODY)
Q225N/C150 (NICKEL-BRONZE GRATE, CI LOWER BODY)
Q225S/C150 (316 STAINLESS STEEL GRATE, CI LOWER BODY)
FOR A 100MM OUTLET, USE SUFFIX "C100" NOT "C150"

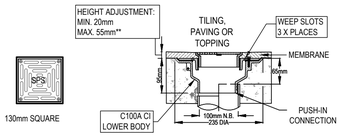
HEIGHT ADJUSTMENT: MIN. 32mm MAX. 80mm**



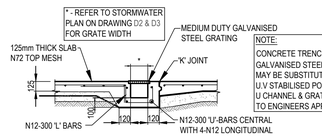
FLOOR DRAIN (SPS) - FD
NTS

SPS 130mmSQUARE VARI-LEVEL VERTICAL DRAIN
65/50mm OUTLET

SPECIFICATION CODES:
Q130S4/C (POLISHED 304 STAINLESS STEEL GRATE)
Q130S/C (SATIN 316 STAINLESS STEEL GRATE)
INCLUDES 100MM CAST IRON LOWER BODY



FLOOR WASTE (SPS) - FW
NTS

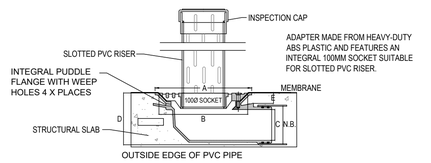


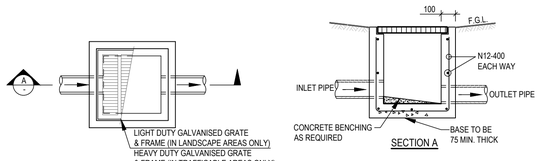
NOTE:
CONCRETE TRENCH WITH GALVANISED STEEL GRATING MAY BE SUBSTITUTED FOR U-V STABILISED POLYPROPYLENE U CHANNEL & GRATE SUBJECT TO ENGINEERS APPROVAL

GRATED DRAIN
NTS

SPS TRUFLO 80MM & 100MM 90° RWO WITH ALL-PURPOSE PLANTER BOX ADAPTER

SPECIFICATION CODE:
TIA80/90PB (80MM CI BODY WITH PLANTER BOX INSERT)
TIA100/90PB (100MM CI BODY WITH PLANTER BOX INSERT)



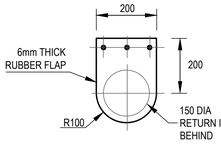


TYPICAL PIT (SIP)
NTS

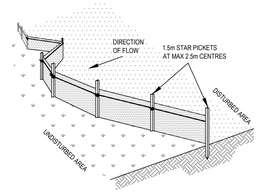
NOTE:
ALL PROPOSED SITE PITS ARE TO BE CONSTRUCTED IN CONCRETE CAST IN SITU, FRC OR FRC.
PLASTIC OR BRICK PITS ARE NOT ACCEPTABLE WITHOUT CONFIRMATION FROM DESIGN ENGINEER.

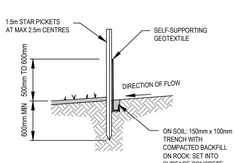
N.B.	A	B	C	D	E	FLOW RATE L/S
80	260	240	62	115	28	N/A
100	260	240	83	140	28	N/A

PLANTER GRATE (SPS) - PG
NTS



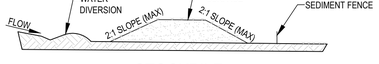
FLAP VALVE
NTS





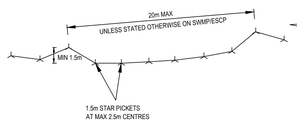
SEDIMENT FENCE DETAIL
NTS

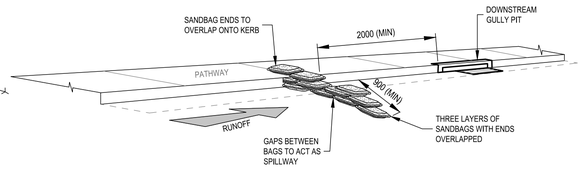
CONSTRUCTION NOTES:
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENTS AREA OF ANY ONE SECTION. THE CATCHMENTS AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT 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.



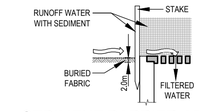
STOCKPILE
NTS

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.



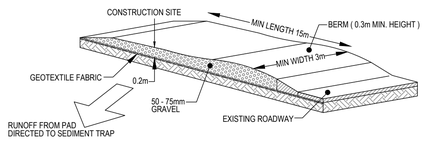


SANDBAG - KERB SEDIMENT TRAP
NTS



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.



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.

QUANTUM ENGINEERS
Suite 1A, Level 2,
2 Rowe Street,
Eastwood NSW 2122
02 9807 7800
admin@quantumengineers.com.au
quantumengineers.com.au

GENERAL NOTES
ALL DIMENSIONS SHOWN IN DRAWINGS ARE TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
DRAWING 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
ROBERT ELTOBBAGI
BE(Civil) ME/Aust CPEng NER(103220) RPEQ(25464) APEC Engineer IntPE(Aus)

CLIENT: MONO CONSTRUCTIONS
ARCHITECT: STANTON DAHL ARCHITECTS REF No.2421.19

DRAWING TITLE
STORMWATER DETAILS & CALCULATIONS + SEDIMENT CONTROL DETAILS
PROPOSED RESIDENTIAL FLAT BUILDING
Lot 30, 56 BEANE STREET, GOSFORD
Lot 30, DP125097 DA No. 19/2020/36/1

APPROX TRUE NORTH: N

REVISION	DATE	DESCRIPTION	DESIGNED BY
D	03.09.2020	RE-ISSUED FOR CC1	D.CHENG
E	07.09.2020	DISCHARGE LOCATION REVISED	D.CHENG
F	12.10.2020	LOWER GROUND FLOOR AND DRIVEWAY LEVELS REVISED	J.FISHER
G	18.05.2021	OSD DISCHARGE LOCATION REVISED; ABSORPTION TRENCH ADDED FOR DRIVEWAY; PITS SP12 & SP13 ADDED	D.CHENG
H	28.06.2021	ROOF PLAN ADDED	D.CHENG

RE-ISSUED FOR CC1

CHECKED BY	No. IN SET	JOB NUMBER
R.ELTOBBAGI	8	190210
SCALE - SIZE	**REVISION**	**DRAWING No.**
AS NOTED - A1	H	D8