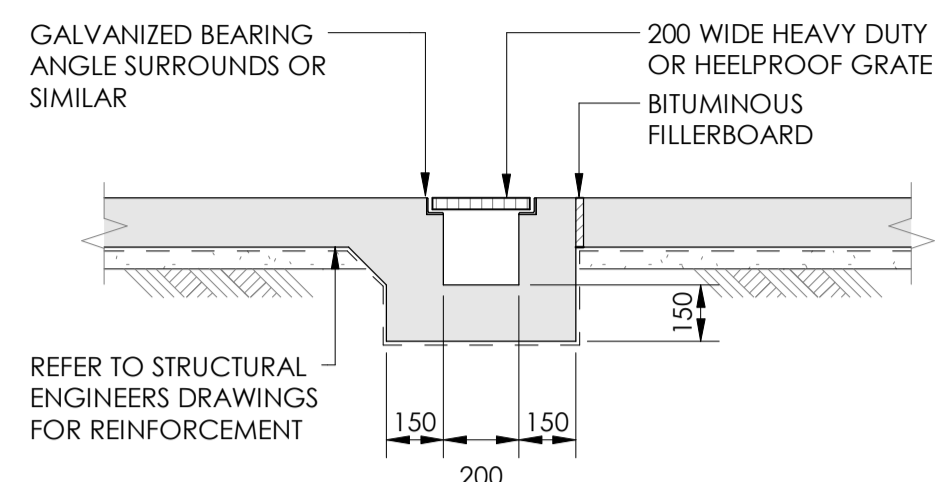
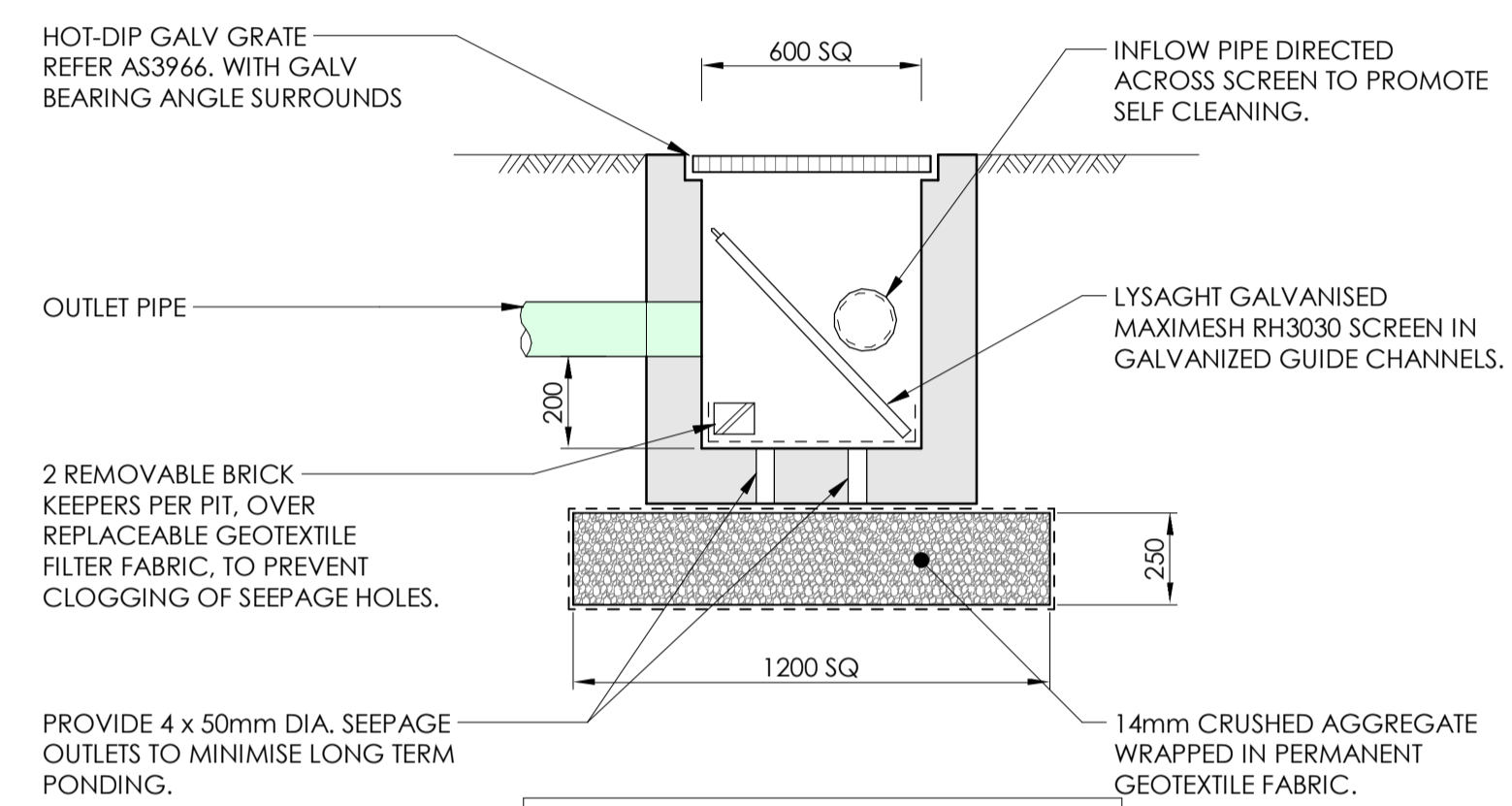


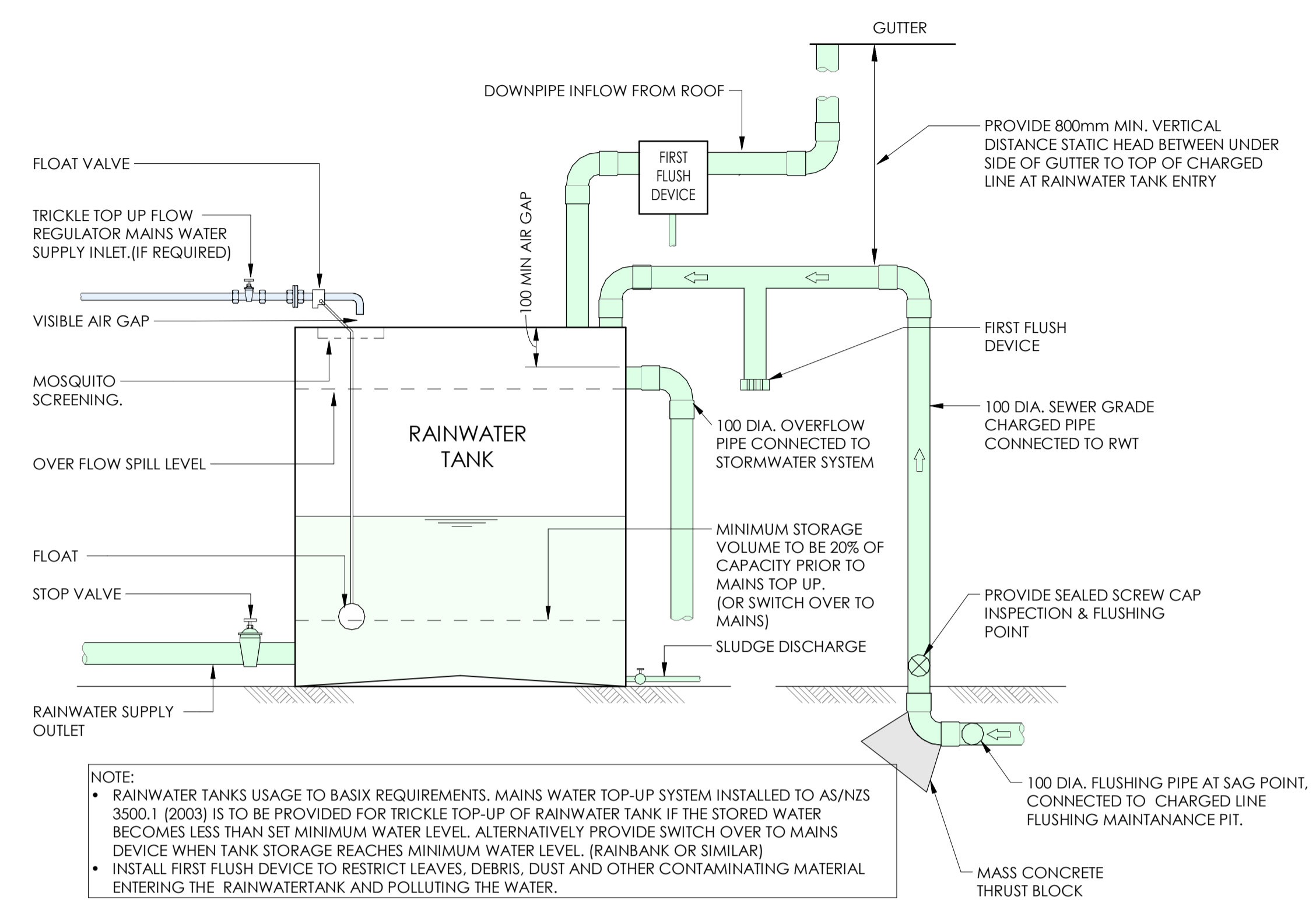
No	DATE	DESCRIPTION	BY
1	05.04.23	ISSUED FOR DA	ER



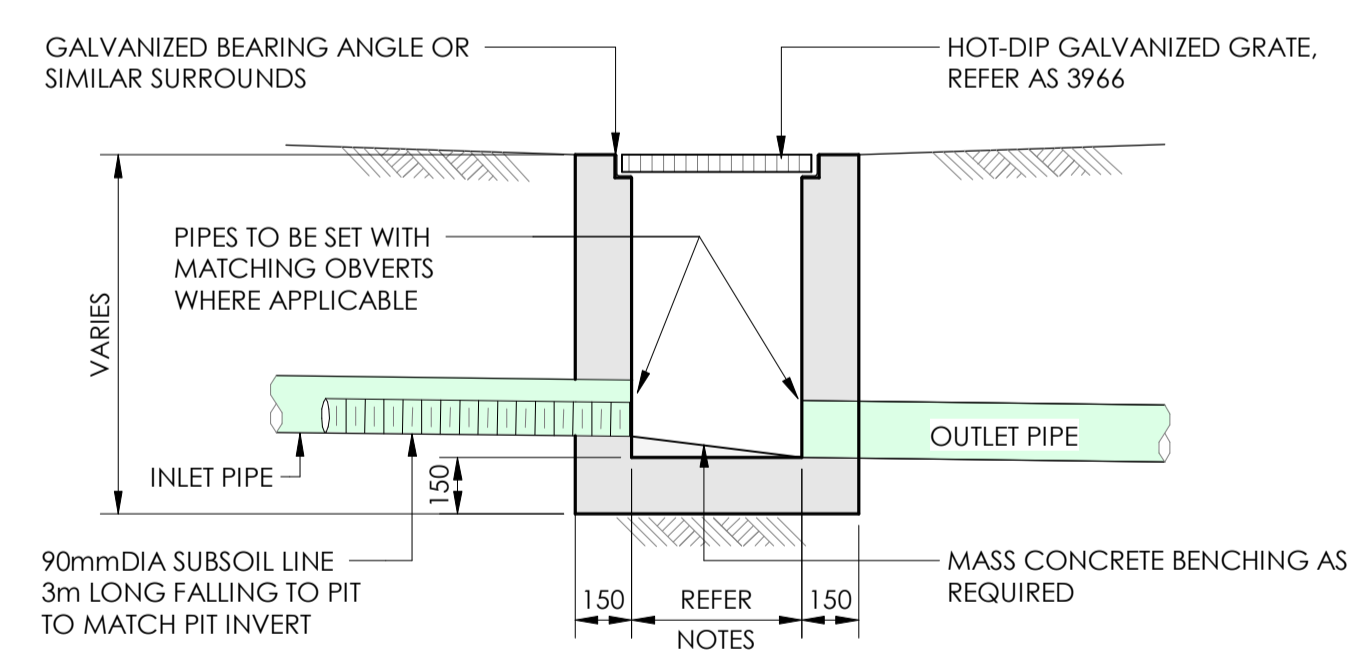
TYPICAL 200mm GRATED DRAIN DETAIL



TYPICAL SILT ARRESTOR PIT



TYPICAL RAINWATER TANK DETAIL - CHARGED LINE

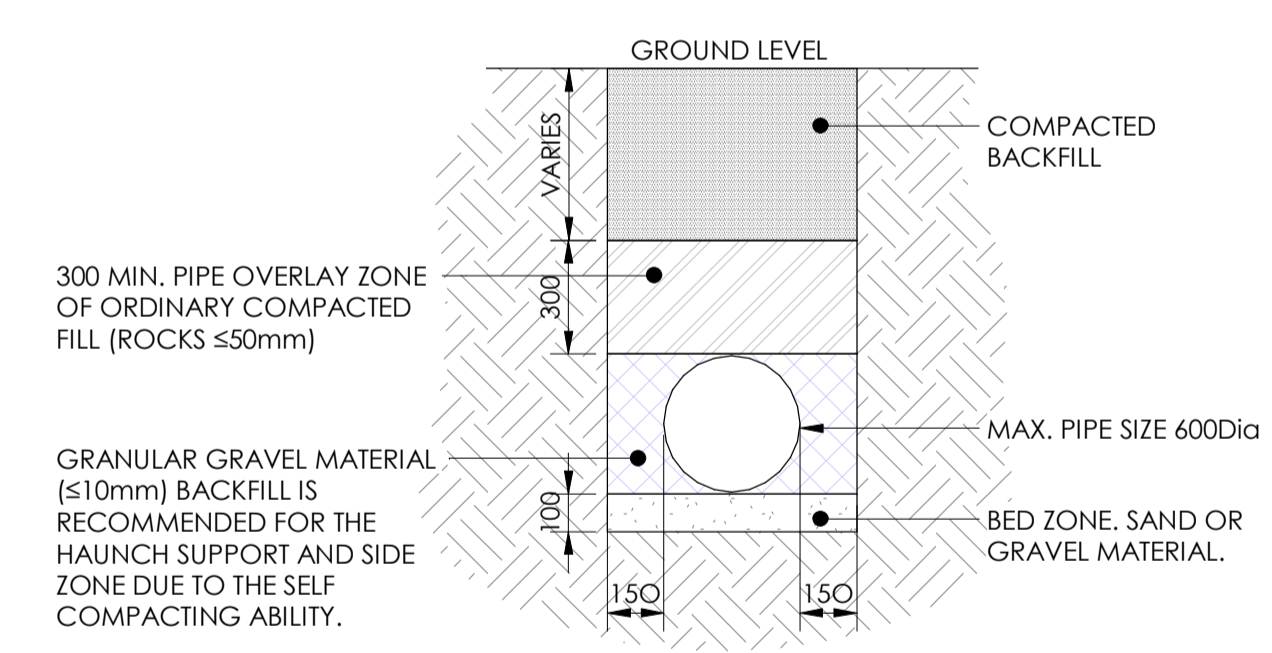


TYPICAL CONCRETE INLET PIT - NATURAL SURFACE

MINIMUM INTERNAL DIMENSIONS FOR STORMWATER PITS			
DEPTH OF INVERT OF OUTLET	DEPTH OF INVERT OF OUTLET		
	WIDTH	LENGTH	
< 600	450	450	
> 600	600	600	
> 900	600	900	
> 1200	900	900	

*STEP IRONS SHALL BE PROVIDED FOR PITS WITH DEPTHS EXCEEDING 1000mm

- NOTE:
- CLIMB IRONS SHALL BE PROVIDED UNDER LID AT 300 CTS TO COUNCIL STANDARDS WHERE PIT DEPTH IS DEEPER THAN 1000.
 - PROVIDE 90dia x 3000 LONG SUBSOIL DRAINAGE STUB PIPE SURROUNDED WITH 100mm THICKNESS OF NOMINAL 20mm COARSE FILTER MATERIAL WRAPPED IN GEOTEXTILE FILTER FABRIC. (BIDUM A24 OR APPROVED SIMILAR). TO BE PARALLEL TO UPSTREAM SIDE OF EACH INLET PIPE.
 - ALTERNATIVE PIT CONSTRUCTION MAY BE USED SUBJECT TO THE ENGINEERS APPROVAL.
 - CONCRETE STRENGTH F'c = 32 MPa



TYPICAL SCHEMATIC PIPE TRENCH DETAIL



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DISCIPLINE
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DRAWING TITLE
TYPICAL DETAILS

PROJECT
PROPOSED DUAL OCCUPANCY

ADDRESS
44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW 2290

PROJECT DETAILS

DESIGN	JS	N0221035
DRAWN	ER	
START DATE	APRIL 23	
DRG SIZE	A1	
SCALE	1 : 20	
PROJECT MGR	CG	C050 1
WWW.JN.COM.AU		

No	DATE	DESCRIPTION	BY
1	05.04.23	ISSUED FOR DA	ER

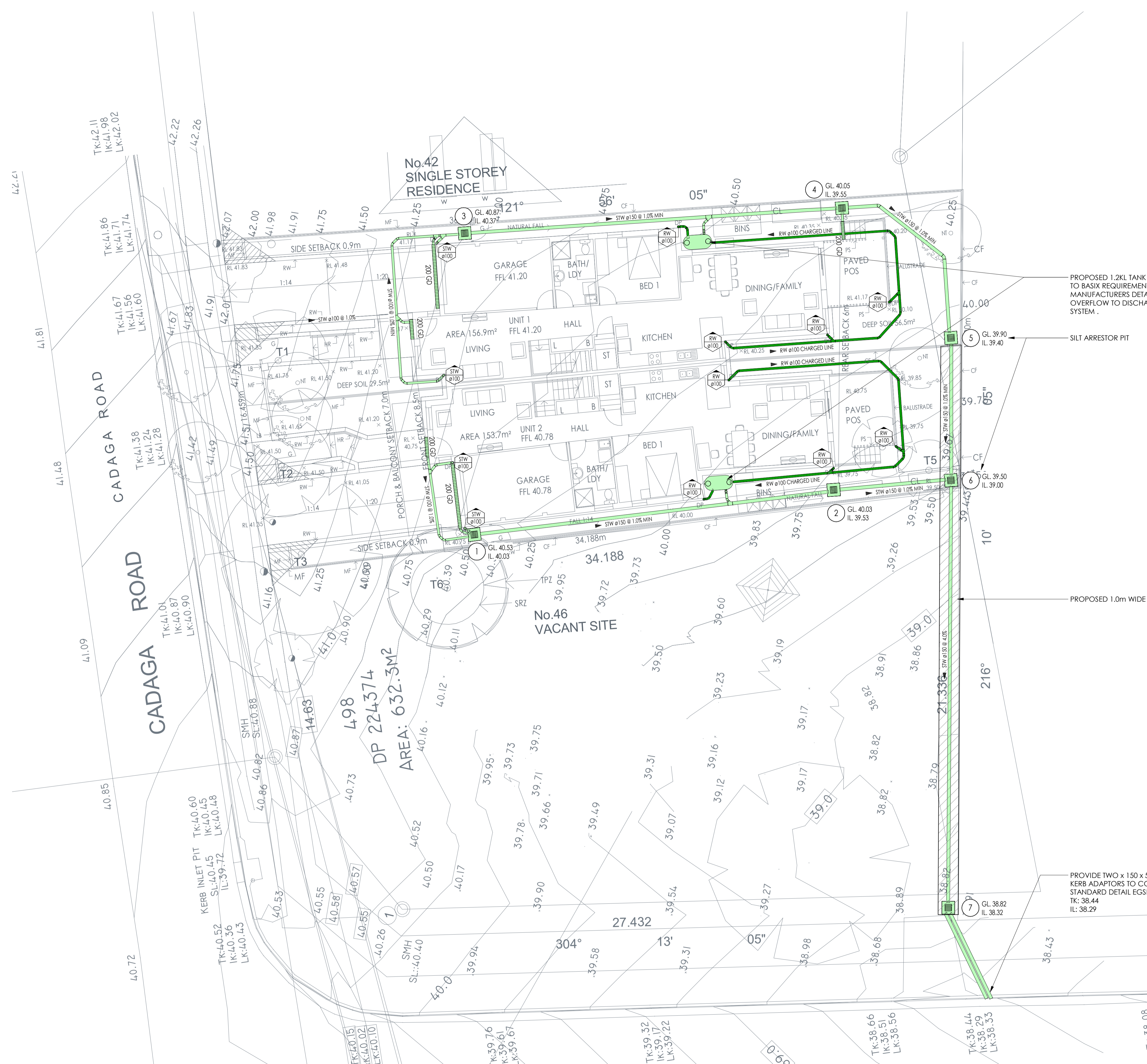
STORMWATER DESIGN SUMMARY:
 LAKE MACQUARIE DCP - 2014
 DRAINAGE DESIGN HANDBOOK - 2013
 WATER CYCLE MANAGEMENT GUIDELINES,
 REVISION 2 - 2013

SITE AREA: 543.8m²
 PROPOSED DUAL OCCUPANCY
 IMPERVIOUS AREA: 418m²
 ROOF AREA: 285m²

SDI = 0. ALL IMPERVIOUS AREAS DRAIN
 THROUGH EITHER THE RAINWATER TANK OR SILT
 ARRESTOR PITS WITH TRASH SCREEN, SUMP AND
 INFILTRATION BASE.

ONSITE DETENTION NOT REQUIRED FOR DUAL
 OCCUPANCY

WATER CYCLE MANAGEMENT PLAN NOT
 REQUIRED FOR DUAL OCCUPANCY



PROPOSED 1.2KL TANK TO EACH DWELLING
 TO BASIX REQUIREMENTS. TANK TO
 MANUFACTURERS DETAILS. PROVIDE 1000
 OVERFLOW TO DISCHARGE TO GRAVITY
 SYSTEM.

SILT ARRESTOR PIT

PROPOSED 1.0m WIDE EASEMENT

PROVIDE TWO x 150 x 50 RHS
 KERB ADAPTORS TO COUNCIL
 STANDARD DETAIL EGSD-404
 TK: 38.44
 IL: 38.29

GROUND FLOOR STORMWATER PLAN
 SCALE 1 : 100



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DRAWING TITLE
GROUND STORMWATER PLAN

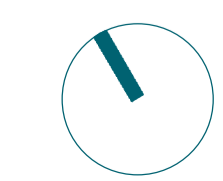
PROJECT
**PROPOSED DUAL
 OCCUPANCY**

ADDRESS
 44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW
 2290

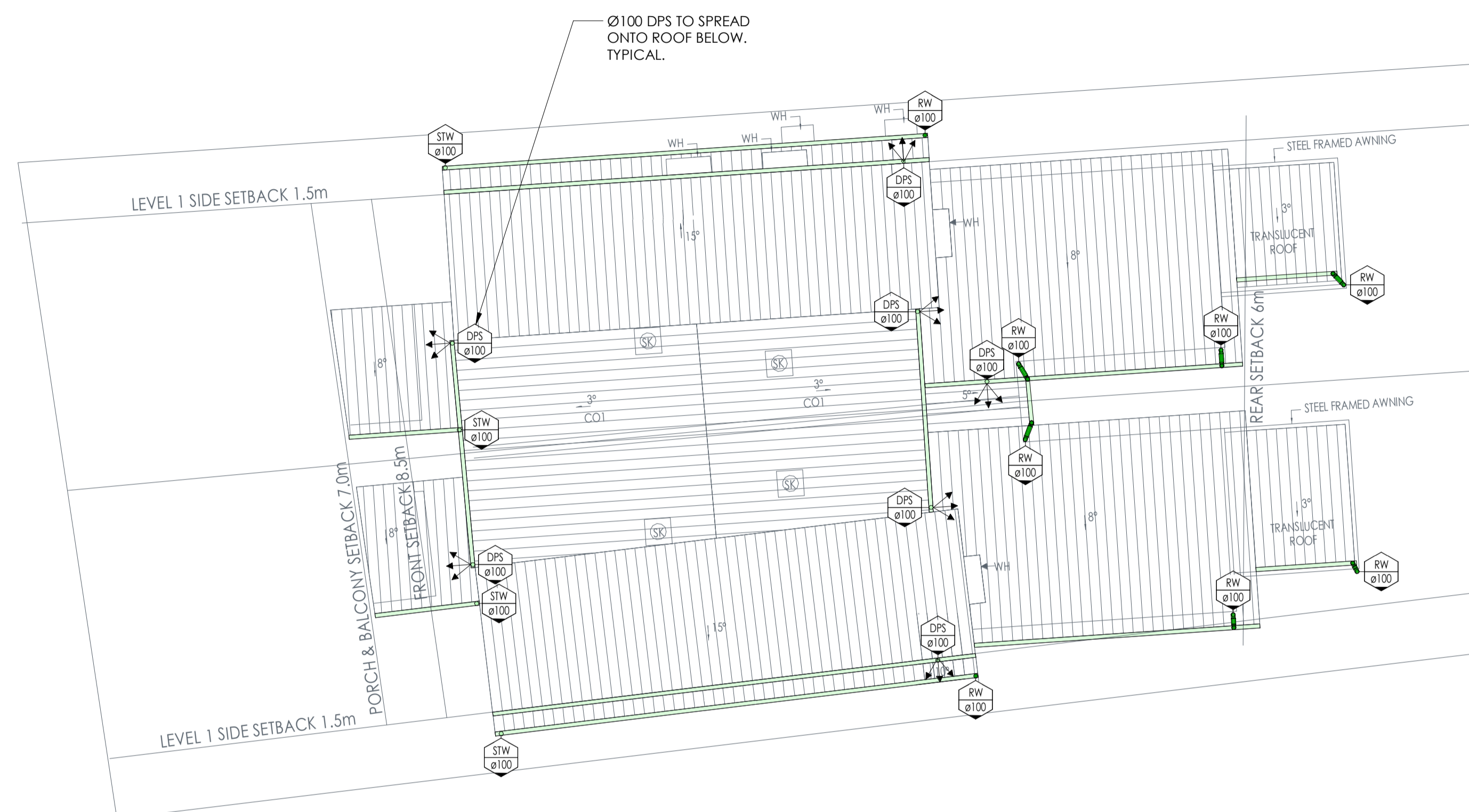
PROJECT DETAILS
 DESIGN JS
 DRAWN ER
 START DATE APRIL 23
 DRG SIZE A1
 SCALE 1 : 100
 PROJECT MGR CG

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C200 1

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ROOF STORMWATER PLAN
SCALE 1 : 100



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DRAWING TITLE
ROOF STORMWATER PLAN

PROJECT
PROPOSED DUAL
OCCUPANCY

ADDRESS
44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW
2290

PROJECT DETAILS
DESIGN JS
DRAWN ER
START DATE APRIL 23
DRG SIZE A1
SCALE 1 : 100
PROJECT MGR CG

N0221035
C300 1

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- LEGEND**
- NEW KERB LAYBACK TO COUNCIL STANDARD DETAIL EGSD-103
 - NEW FOOTPATH TO COUNCIL STANDARD DETAIL EGSD-301
 - NEW VEHICLE ACCESS TO COUNCIL STANDARD DETAIL EGSD-201



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DISCIPLINE
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DRAWING TITLE
DRIVEWAY LAYOUT PLAN

PROJECT
PROPOSED DUAL OCCUPANCY

ADDRESS
44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW 2290

PROJECT DETAILS
DESIGN JS
DRAWN ER
START DATE APR/23
DRG SIZE A1
SCALE 1:50
PROJECT MGR CG

N0221035
C400 1

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DRIVEWAY LAYOUT PLAN
SCALE 1:50

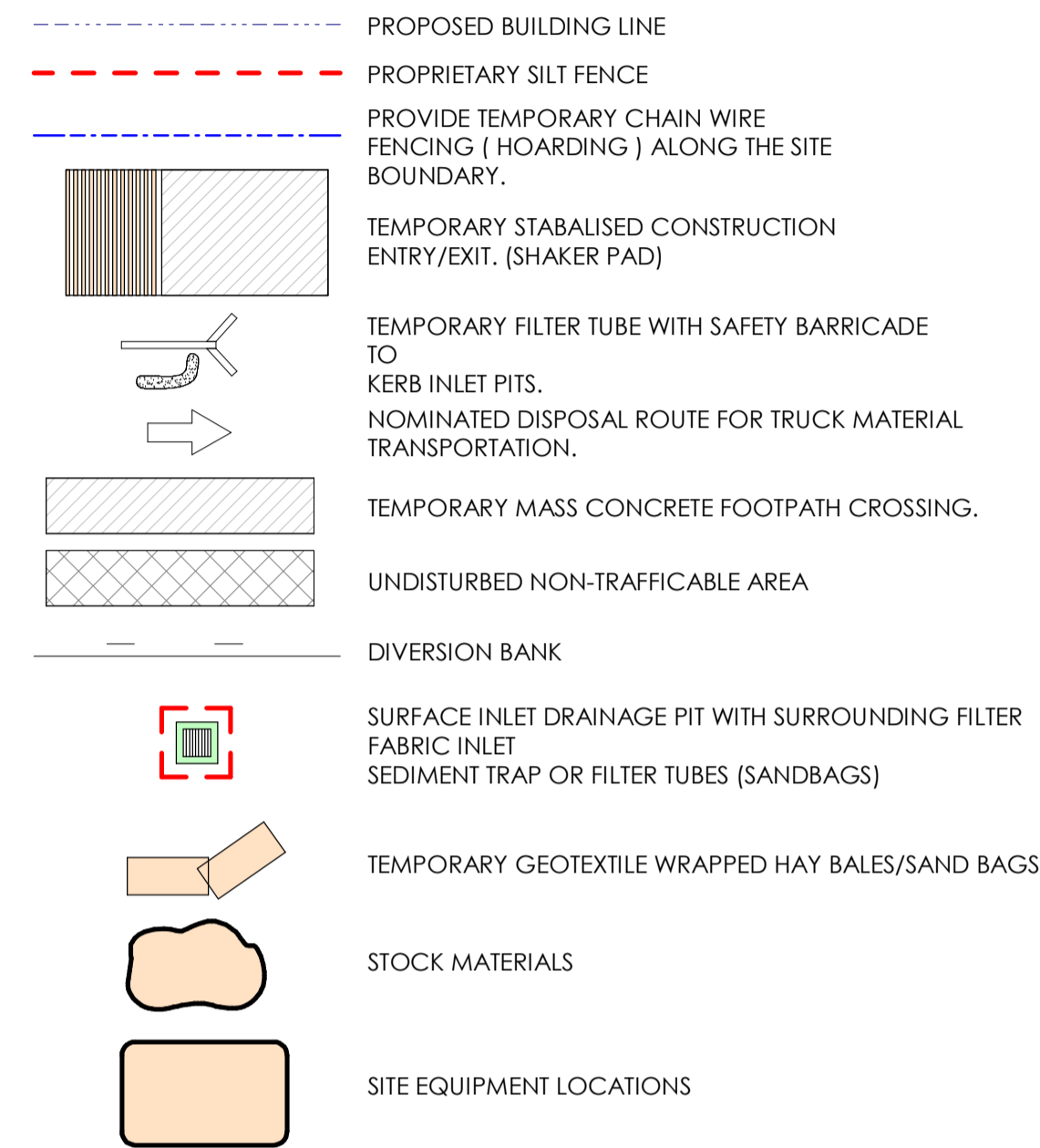
PROPOSED DUAL OCCUPANCY

44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW 2290

Job No. N0221035

No	DATE	DESCRIPTION	BY
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ENVIRONMENTAL SITE MANAGEMENT LEGEND



SAFETY IN DESIGN

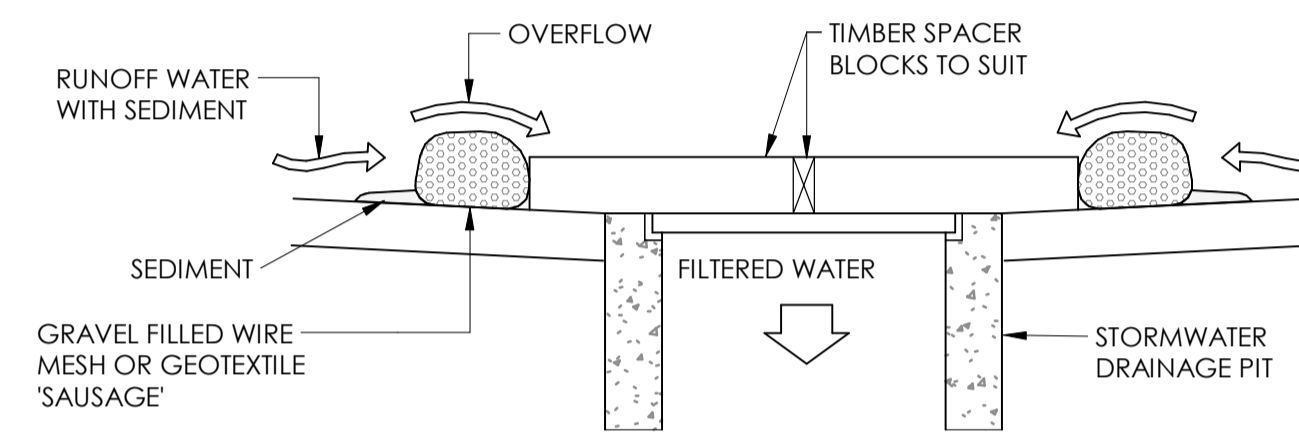
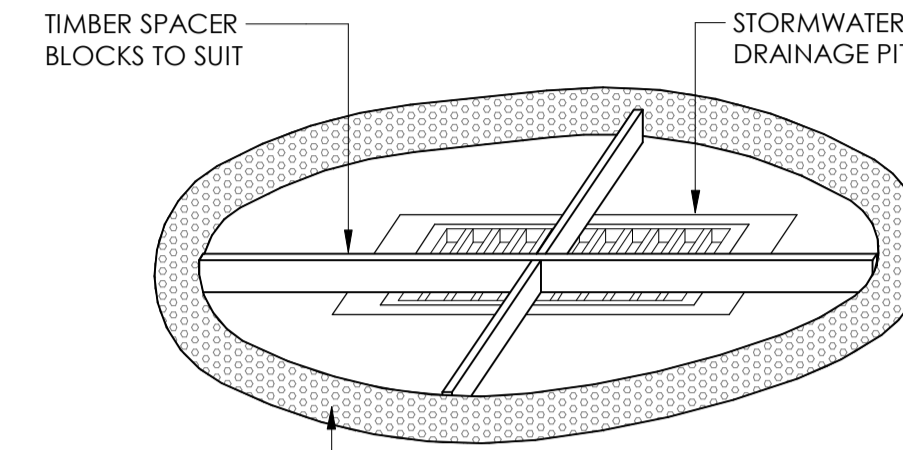
THERE ARE INHERENT RISKS WITH CONSTRUCTING, MAINTAINING, OPERATING, DEMOLISHING, DISMANTLING AND DISPOSING THIS DESIGN THAT ARE TYPICAL OF SIMILAR DESIGNS. AS FAR AS IS REASONABLY PRACTICABLE RISKS HAVE BEEN ELIMINATED OR MINIMISED THROUGH THE DESIGN PROCESS. HAZARD CONTROLS MUST STILL BE IMPLEMENTED BY THE CONTRACTOR, OWNER OR OPERATOR TO ENSURE THE SAFETY OF WORKERS.

- IN DO NOT CONSIDER THAT THERE ARE ANY UNIQUE RISKS ASSOCIATED WITH THE DESIGN OF THIS PROJECT.

ESM DRAWING LIST	
No.	SHEET NAME
ESM1	NOTES LEGEND & DETAILS
ESM2	ESM PLAN

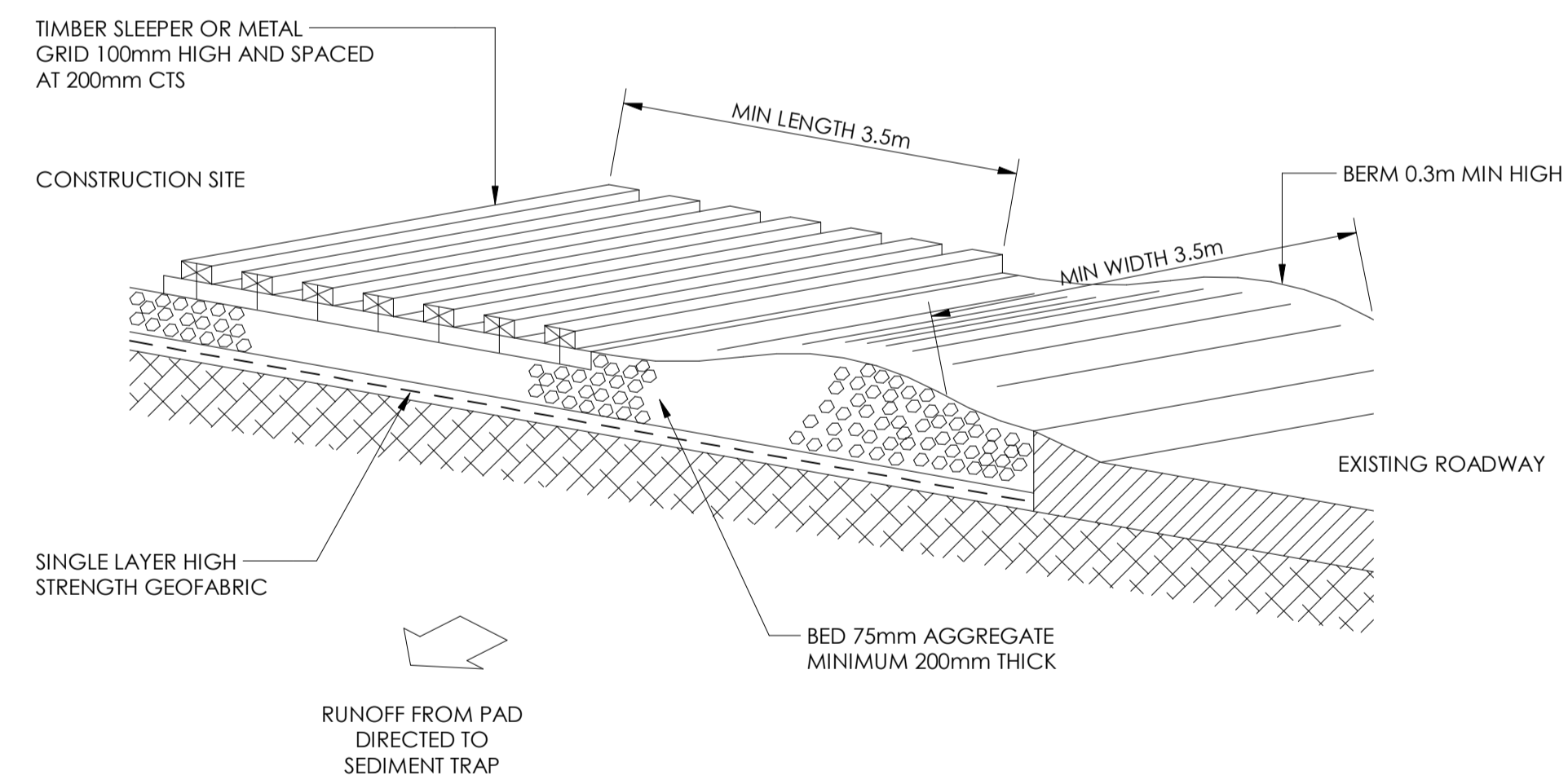
ENVIRONMENTAL SITE MANAGEMENT

1. EROSION & SEDIMENT CONTROLS TO BE INSTALLED IN ACCORDANCE WITH COUNCIL'S SPECIFICATION & THE NSW DEPARTMENT OF HOUSING "BLUE BOOK" - SOILS AND CONSTRUCTION - MANAGING URBAN STORMWATER, 2004. REFER TO THE BLUE BOOK FOR STANDARD DRAWINGS 'SD'
2. SEDIMENT & EROSION CONTROLS MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS OR DEMOLITION ACTIVITY. THE LOCATION OF SUCH DEVICES IS INDICATIVE ONLY AND FINAL POSITION SHOULD BE DETERMINED ON SITE.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MEASURES ARE TAKEN DURING THE COURSE OF CONSTRUCTION TO PREVENT SEDIMENT EROSION AND POLLUTION OF THE DOWNSTREAM SYSTEM. SUPERVISING ENGINEER SHOULD BE CONTACTED IF IN DOUBT. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE SITE.
4. RETAIN ALL EXISTING GRASS COVER WHEREVER POSSIBLE. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT THE NOMINATED SITE. A SEDIMENT FENCE TO BE PLACED DOWNHILL OF STOCKPILE.
5. AREAS OF SITE REGRADING ARE TO BE COMPLETED PROGRESSIVELY DURING THE WORKS AND STABILISED AS EARLY AS POSSIBLE. THE SUPERVISING ENGINEER MAY DIRECT THE CONTRACTOR TO HAVE AREAS OF DISTURBANCE COMPLETED AND STABILISED DURING THE COURSE OF THE WORKS.
6. ALL DISTURBED AREAS ARE TO BE SEED & FERTILISED WITHIN 14 DAYS OF EXPOSURE.
7. ALL EXISTING TREES TO BE RETAINED UNLESS SHOWN OTHERWISE ON APPROVED DRAWINGS. TREES RETAINED ARE TO BE PROTECTED WITH A HIGH VISIBILITY FENCE, PLUS FLAGGING TO INDIVIDUAL TREES AS NECESSARY.
8. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER. UNTIL SURROUNDING AREAS ARE PAVED OR REGRASSED. GRAVEL OR GEOTEXTILE INLET FILTERS TO SD6-11 & SD6-12.
9. ALL SILT FENCES & BARRIERS ARE TO BE MAINTAINED IN GOOD ORDER & REGULARLY DESILTED DURING THE CONSTRUCTION PERIOD. SILT FENCES TO SD6-8 OR SD6-9.
10. STOCKPILES OF LOOSE MATERIALS SUCH AS SAND, SOIL, GRAVEL MUST BE COVERED WITH GEOTEXTILE SILT FENCE MATERIAL. PLASTIC SHEETING OR MEMBRANE MUST NOT BE USED. SAFETY BARRICADING SHOULD BE USED TO ISOLATE STOCKPILES OF SOLID MATERIALS SUCH AS STEEL REINFORCING, FORMWORK AND SCAFFOLDING.
11. WASTE MATERIALS ARE TO BE STOCKPILED OR LOADED INTO SKIP-BINS LOCATED ON SITE AS SHOWN ON PLAN.
12. NO MORE THAN 150m OF TRENCHING TO BE OPEN AT ANY ONE TIME. IMMEDIATELY AFTER TRENCH BACKFILLING, PROVIDE SANDBAGS OR SAUSAGE FILTERS ACROSS EACH TRENCH AT MAXIMUM 20m SPACINGS. FILTERS TO REMAIN IN PLACE UNTIL REVEGETATION HAS OCCURRED.
13. ALL VEHICLES LEAVING THE SITE MUST PASS OVER THE STABILISED SITE ACCESS BALLAST AREA (SIMILAR TO SD6-14) TO SHAKE OFF SITE CLAY AND SOIL. IF NECESSARY WHEELS AND AXLES ARE TO BE HOSED DOWN. BALLAST IS TO BE MAINTAINED & REPLACED AS NECESSARY DURING THE CONSTRUCTION PERIOD.
14. THE HEAD CONTRACTOR IS TO INFORM ALL SITE STAFF AND SUB-CONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
15. ANY SEDIMENT DEPOSITED ON THE PUBLIC WAY, INCLUDING FOOTPATH RESERVE AND ROAD SURFACE, IS TO BE REMOVED IMMEDIATELY.
16. PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.
17. CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE BALLAST ENTRY DRIVEWAY AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.
18. TRUCKS REMOVING EXCAVATED / DEMOLISHED MATERIAL SHOULD TRAVEL ON STABILISED CONSTRUCTION PATHS. MATERIAL TO BE TAKEN TO THE TRUCK TO REDUCE TRUCK MOVEMENT ON SITE. TRUCKS TO BE LIMITED TO SINGLE UNIT HEAVY RIGID VEHICLES. (NO SEMITRAILERS)
19. ANY EXCAVATION WORK ADJACENT TO ADJOINING PROPERTIES OR THE PUBLIC ROADWAY IS NOT TO BE COMMENCED UNTIL THE STRUCTURAL ENGINEER IS CONSULTED AND SPECIFIC INSTRUCTIONS RECEIVED FROM THE ENGINEER.
20. TOILET FACILITIES MUST BE EITHER A FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED & SERVICED ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.
21. DURING TRENCH EXCAVATION ALL SPOIL SHALL BE MOUNDED ON THE UPHILL SIDE OF TRENCHES AND PLACEMENT IS TO COMPLY WITH THE SUPERINTENDENTS REQUIREMENT.
22. DIVERSION BANKS SHOULD BE CONSTRUCTED BY MOUNDING STRIPPED TOPSOIL (MIN HEIGHT 600mm) WHERE DIRECTED. MATERIAL TO BE RESPADED ON FOOTWAYS AFTER FINAL TRIMMING.
23. UNDISTURBED BUFFER ZONE AREAS ARE CLOSED TO ALL TRAFFIC MOVEMENTS UNLESS OTHERWISE NOTED BY THE SUPERINTENDENT AND ACCESS TO THE SEWER OR C.D.L. TRENCHING WILL BE AS SHOWN. OR HEAVY PENALTIES MAY BE IMPOSED.
24. TRAFFIC MANAGEMENT MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION. IN ACCORDANCE WITH 'R.T.A. TRAFFIC CONTROL AT WORK SITES - CURRENT EDITION' AND AS 1742 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.'
25. PEDESTRIAN CONTROL MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION. IN ACCORDANCE WITH AS 1742 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.'

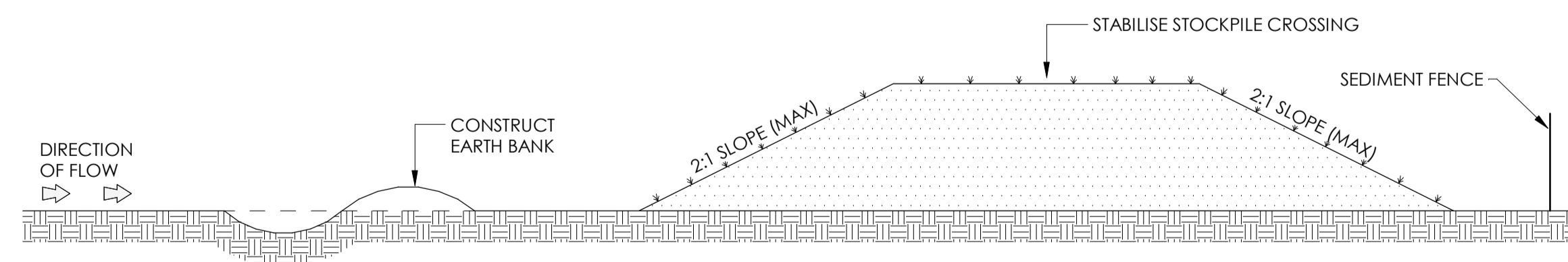


1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH ON THE INLET PIT.
2. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS SECTION ABOUT 150mm HIGH X 400mm WIDE.
4. MAINTAIN A CLEAR DISTANCE AWAY FROM THE PIT WITH SPACER BLOCKS.

SAUSAGE BARRIER DETAIL



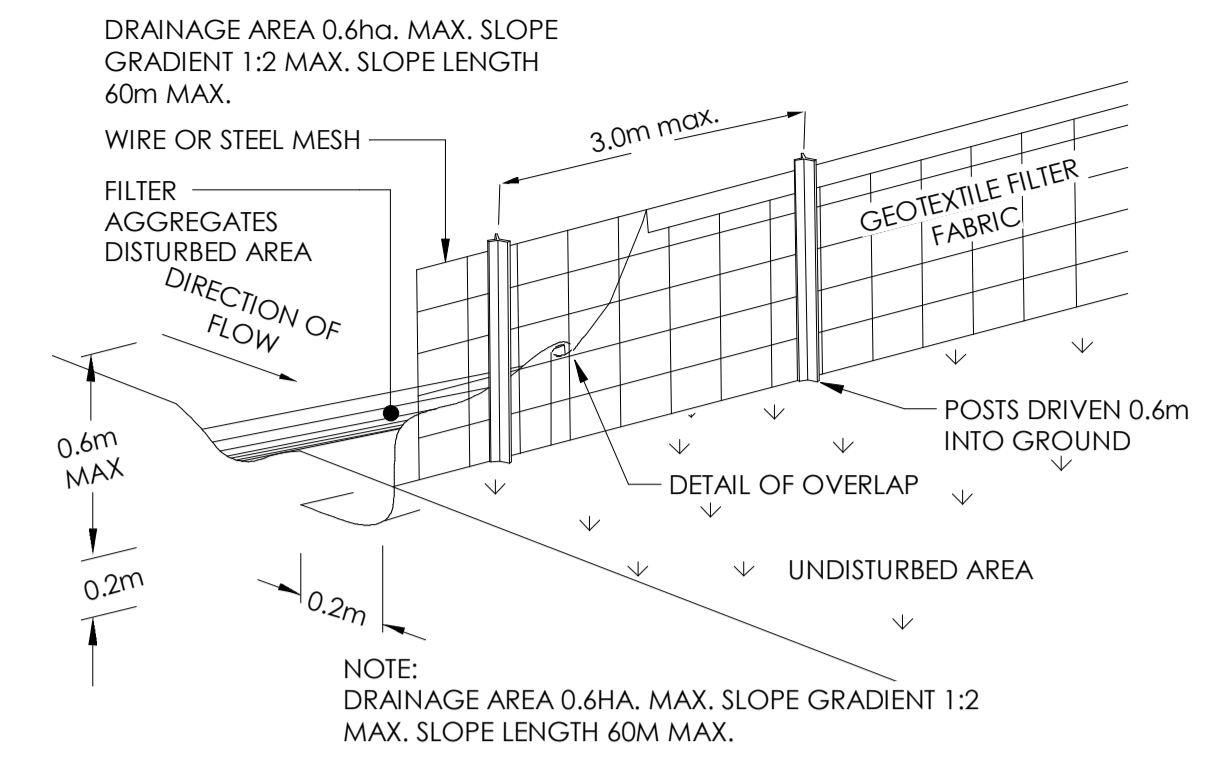
TEMPORARY CONSTRUCTION EXIT DETAIL - SHAKER



STOCKPILES

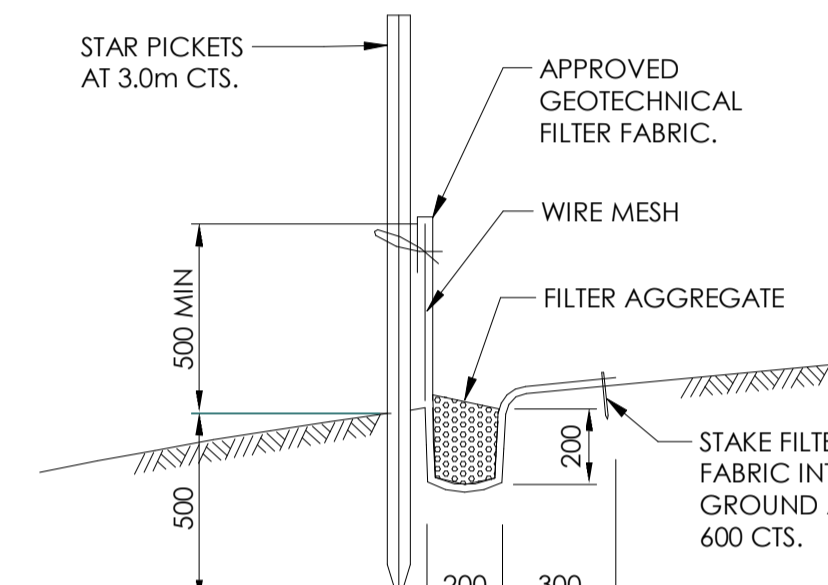
- GENERAL CONSTRUCTION NOTES:**
1. LOCATE STOCKPILE AT LEAST 5m FROM VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
 2. CONSTRUCT ON THE CONTOUR AS A LOW FLAT ELONGATED MOUND.
 3. WHERE THERE IS A SUFFICIENT AREA TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT. (TO ALLOW AIR VENTILATION FOR FUTURE REUSE)
 4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
 5. CONSTRUCT EARTH BANK ON THE UPSLOPE SIDE TO DIVERT RUN OFF AROUND THE STOCKPILE AND A SEDIMENT FENCE 1m TO 2m DOWNSLOPE OF STOCKPILE.

STOCKPILES



SEDIMENT FENCE

- GENERAL CONSTRUCTION NOTES**
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
 2. DRIVE 1.5m LONG STAR PICKETS IN GROUND 3m APART.
 3. DIG A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE FABRIC TO BE ENTRENCHED.
 4. BACKFILL TRENCH OVER BASE OF FABRIC
 5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
 6. JOIN SECTIONS OF FABRIC AT A SUPPORT WITH A 150m OVERLAP.



SEDIMENT SILT FENCE DETAIL



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NOTES LEGEND & DETAILS

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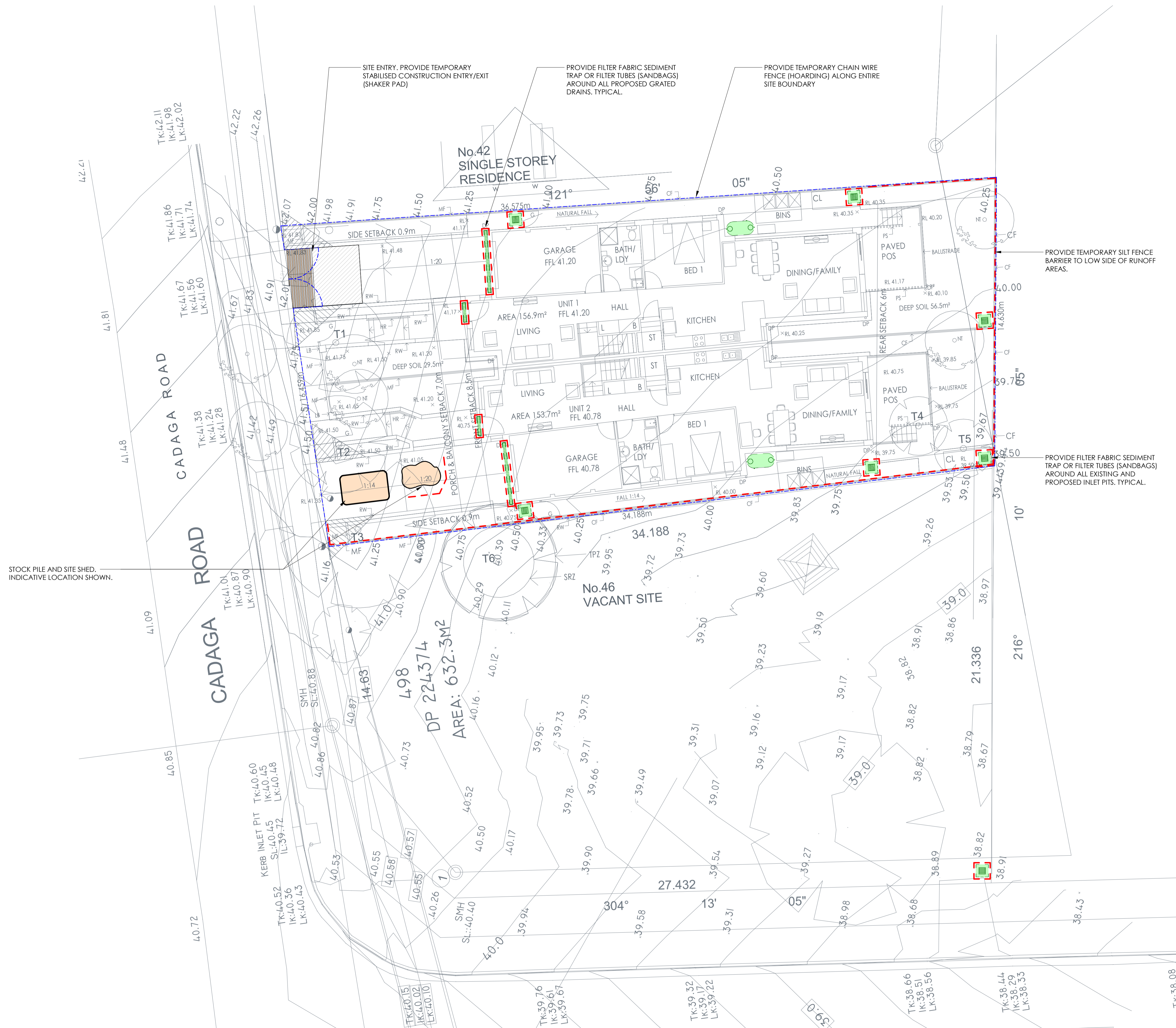
ADDRESS
44 CADAGA ROAD, LOT 499 DP224374, GATESHEAD NSW 2290

PROJECT DETAILS
DESIGN JS
DRAWN ER
START DATE APRIL 23
DRG SIZE A1
SCALE As indicated
PROJECT MGR CG

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ESM PLAN
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