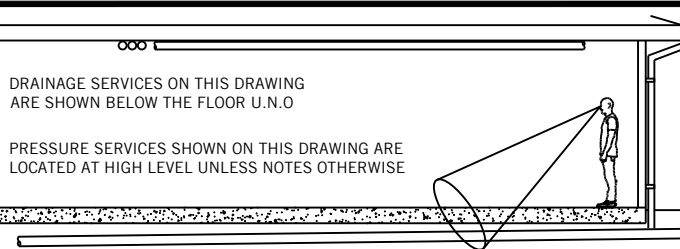




ALTERATIONS AND ADDITIONS
AT
214 HUDSON PARADE
CLAREVILLE
FOR
PATRICK HELLER

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LEGEND

PIPEWORK		MISCELLANEOUS	
	RW		SERVICE / SERVICE NUMBER
	RW		PIPE SIZE
	STW		FOR CONTINUATION
	STWRM		REFER DRG No
	SS		FOR SECTION VIEW
	B		REFER TO DRAWING
	e		1 DWG
	e		AHD
	-		AP
	-		BG
	-		DP
	-		e
	-		FFL
	TB		GIP
	FALL		HED
	o		HFB
	PBO		HL
	RWO/BO		HP
	SWP		IL
	SWP		INT
	SWP		KIP
	SWP		O/F
	SWP		OSD
	SWP		RHS
	SWP		RL
	SWP		RWH
	SWP		RWT
	SWP		SRL
	SWP		SRZ
	SWP		TBA
	SWP		TKL
	SWP		TRZ
			TWL
			UNO

LOCALITY PLAN



DRAWING LIST

DRAWING No.	TITLE
SWDA 1.1	COVERSHEET AND DRAWING LEGEND
SWDA 1.2	STORMWATER MANAGEMENT PLAN AND GENERAL NOTES
SWDA 1.3	EROSION & SEDIMENT CONTROL PLAN AND DETAILS
SWDA 1.4	EXISTING & PROPOSED LAYOUTS AND IMPERVIOUS AREAS
SWDA 1.5	STORMWATER LAYOUT
SWDA 1.6	SITE SECTION AND DETAILS SHEET
CDA 1.1	ACCESS DRIVEWAY LAYOUT AND SECTIONS

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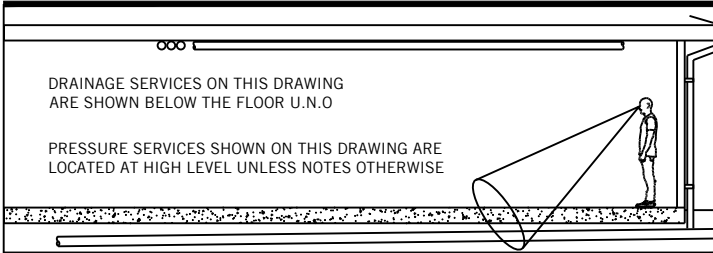
Title
**STORMWATER DRAINAGE SERVICES
COVERSHEET AND DRAWING LEGEND**

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Job No.	Drawing No.	Revision
2021H0110	SWDA 1.1	P1

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STORMWATER MANAGEMENT PLAN

EXISTING SITE DETAILS

THE SUBJECT SITE IS AN EXISTING SINGLE DWELLING DEVELOPMENT, LOCATED AT 214 HUDSON PARADE, CLAVEVILLE. THE OVERALL SITE HAS APPROXIMATELY AN AREA OF 742.5m². THE LOT IS CURRENTLY DEVELOPED AND COMPRISES: A SINGLE DWELLING RESIDENTIAL PROPERTY WITH A DUAL SPACE CARPORT AND BRICK GARAGE TO THE FRONT, BOATHOUSE AT THE REAR AND ASSOCIATED LANDSCAPE AREAS. THIS REAR-FALLING SITE GENERALLY SLOPES TOWARDS THE SOUTH AND IS BOUND BY ADJACENT PRIVATE PROPERTIES TO THE EAST AND WEST, PITT WATER RIVER TO THE SOUTH AND HUDSON PARADE TO THE NORTH. TOTAL IMPERMEABLE AREA IS ESTIMATED TO BE 547.6m² WITH ASSOCIATED LANDSCAPE OF 194.9m².

PROPOSED NEW DEVELOPMENT

IT IS PROPOSED TO DEMOLISH SOME EXISTING STRUCTURAL ELEMENTS AND TO CONSTRUCT ADDITIONS TO THE EXISTING DEVELOPMENT CONSISTING OF: A NEW POOL, CENTRAL COURTYARD AREA AND ASSOCIATED LANDSCAPE AREAS. POST DEVELOPMENT AREA IS ESTIMATED TO BE 428.0m² WITH LANDSCAPE OF 283.7m² AND A POOL OF 30.8m².

EXISTING STORMWATER NETWORK AND DISCHARGE

THE SUBJECT SITE IS CURRENTLY FULLY DEVELOPED WITH AN EXISTING ON-SITE DRAINAGE NETWORK. STORMWATER FROM THE ROOF AREA IS COLLECTED BY EXISTING EAVES GUTTERS AND DISCHARGED TO THE PITTWATER RIVER VIA AN OUTLET POINT ALONG THE SOUTHERN BOUNDARY OF THE SITE. THERE IS NO EVIDENCE OF OSD OR STORMWATER TREATMENT DEVICES AT PRESENT. TOTAL DISCHARGE VOLUME (FOR 20-YEAR, 5 MIN STORM DURATION MIN): Q = 38.76 L/s

FLOODING

THE SITE IS NOT AFFECTED BY FLOODING.

PROPOSED STORMWATER NETWORK AND DISCHARGE

IT IS PROPOSED TO CONSTRUCT A NEW STORMWATER NETWORK ON THE FOLLOWING PRINCIPLES:

- A NEW NETWORK OF PIPES AND PITS IS PROPOSED TO BE INCORPORATED INTO THE EXISTING STORMWATER SYSTEM PRIOR TO DISCHARGING TO PITTWATER RIVER TO THE SOUTH
- ALL THE ROOF AREA TO BE DISCHARGED INTO A RAINWATER TANK WITH AN OVERFLOW INTO THE ON-SITE STORMWATER DETENTION SYSTEM. THE PURPOSE OF RAINWATER RE-USE IS TO BE CONFIRMED.
- THE SITE IS LOCATED WITHIN REGION 1 OF THE NORTHERN BEACHES CATCHMENTS AREA. DUE TO THE INCREASE IN IMPERVIOUS AREAS BEING LESS THAN 50m², AN ON-SITE DETENTION TANK (OSD) IS NOT REQUIRED.
- A FILTRATION PIT IS PROPOSED AT THE REAR TO REMOVE ORGANIC MATTER ANC COARSE SEDIMENTS PRIOR TO DISCHARGE INTO PITTWATER RIVER.
- THE EXISTING POINT OF DISCHARGE AT THE REAR OF THE SITE IS TO BE RETAINED. THERE IS A REDUCTION IN THE RATE OF DISCHARGE FOR THE PROPOSED DEVELOPMENT.

STORMWATER QUANTITY MANAGEMENT

SITE AREA: 742.5m²
POOL AREA DISCHARGED TO SEWER: 30.8m²
TOTAL EXISTING DISCHARGE VOLUME (FOR 20-YEAR, 5 MIN STORM DURATION MIN): Q = 38.76L/s
TOTAL POST DEVELOPMENT DISCHARGE VOLUME (FOR 20-YEAR, 5 MIN STORM DURATION MIN): Q = 34.90 L/s

RAINWATER TANK STORAGE VOLUME REQUIRED: 1.137 m³ (BASIX)
RAINWATER TANK STORAGE VOLUME PROVIDED: 1.500 m³

STORMWATER QUALITY MANAGEMENT

A FILTRATION PIT HAS BEEN PROPOSED TO INTRODUCE A LEVEL OF TREATMENT TO THE STORMWATER PRIOR TO DISCHARGING INTO PITTWATER RIVER

OVERLAND FLOW PATHS

IF STORMS HIGHER THAN THE DESIGN STORM OCCUR, THE SITE IS GRADED TO ALLOW AN OVERLAND FLOW PATH TO FORM TO PROTECT THE BUILDINGS. OVERLAND FLOWS WILL EXIT THE SITE INTO PITTWATER RIVER. NO DAMAGE TO THE NEIGHBOURING PROPERTIES WILL OCCUR.

COUNCIL DOCUMENTS REFERENCE

THE ABOVE ASSESSMENT HAS BEEN PREPARED AND BASED ON PUBLISHED TOPOGRAPHIC MAPS, PHYSICAL LAND SURVEY, HYDRAULIC AND HYDROLOGICAL CALCULATIONS, AVAILABLE AERIAL PHOTOGRAPHY OF THE SITE AND IN ACCORDANCE WITH RELEVANT AUSTRALIA STANDARDS AND COUNCIL DEVELOPMENT CONTROL PLANS BELOW:

- AS 3500 PLUMBING AND DRAINAGE
- NORTHERN BEACES COUNCIL WATER MANAGEMENT FOR DEVELOPMENT POLICY 2020

GENERAL NOTES

- THIS IS A STORMWATER DRAINAGE PLAN ONLY, REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT INFORMATION.
- ALL STORMWATER RUNOFF FROM SURFACE, PITS, SUMPS AND UNDERGROUND PIPE NETWORK TO BE COLLECTED VIA ON-SITE DRAINAGE SYSTEM PRIOR TO DISCHARGE FROM THE SITE.
- ALL PIPES ARE TO BE 100DIA UPVC LAID AT 1.0% MIN GRADE. UPVC PIPES TO BE SOLVENT WELDED JOINTS U.N.O
- ALL PIPES ARE TO BE PROPRIETARY PRE-CAST ITEMS, COVER LEVELS TO MATCH U.N.O
- ALL GRATED DRAINS TO HAVE BASE GRADED 1.0% MIN WITH HEAVY DUTY GRATES.
- IT IS THE BUILDER'S RESPONSIBILITY TO LAY ALL PIPES IN ACCORDANCE WITH ALL RELEVANT AUTHORITY REQUIREMENTS (EG. COUNCIL, EPA, SYDNEY WATER).
- THE CONTRACTOR SHALL LOCATE EXISTING SERVICES ON SITE PRIOR TO CONSTRUCTION AND SHALL TAKE EXTREME CAUTION DURING CONSTRUCTION.
- REFER TO DRAWING SWDA 1.2 FOR STORMWATER MANAGEMENT PRINCIPLES.
- ALL WORKS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH THE LOCAL AUTHORITY'S CIVIL SPECIFICATION AND STANDARDS TO THE SATISFACTION OF THE LOCAL AUTHORITY OR PRIVATE CERTIFYING AUTHORITY'S REPRESENTATIVE. ANY DISCREPANCY, VARIATION OR ADDITIONAL WORKS SHALL BE APPROVED BY THE BUILDER'S REPRESENTATIVE BEFORE COMMENCEMENT OF WORKS.
- THE LOCAL AUTHORITY OR PRIVATE CERTIFYING AUTHORITY'S INSPECTION OF WORKS SHALL BE NOTIFIED AT LEAST 48 HOURS BEFORE INSPECTOR'S INSPECTION SCHEDULE REQUIREMENTS AND ENSURE THAT EACH IDENTIFIED STAGE OF WORKS IN ACCORDINGLY INSPECTED.
- THESE DRAWINGS ARE DIAGRAMMATIC REPRESENTATION OF WORKS TO BE CARRIED OUT ONLY AND ARE NOT TO BE SCALED OFF.
- ALL LEVELS SHALL BE OBTAINED FROM ESTABLISHED BENCH MARKS ONLY. DATUM USED ON THESE DRAWINGS IN AUSTRALIA HEIGHT DATUM (AHD) UNLESS NOTED OTHERWISE.
- UTILITY INFORMATION SHOWN ON THE PLANS IS NOT INTENDED TO DEPICT MORE THAN THE PRESENCE OF ANY SERVICES. ACTUAL LOCATIONS SHOULD BE VERIFIED BY HAND EXCAVATION PRIOR TO CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED WHERE SHOWN ON THE DRAWINGS, IN ACCORDANCE WITH THE SPECIFICATION AND THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (IF APPLICABLE).

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Project
**ALTERATIONS AND ADDITIONS
214 HUDSON PARADE
CLAREVILLE**

Title
**STORMWATER DRAINAGE SERVICES
STORMWATER MANAGEMENT PLAN
AND GENERAL NOTES**

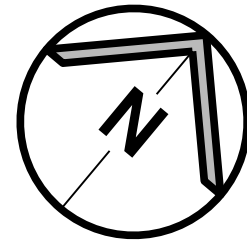
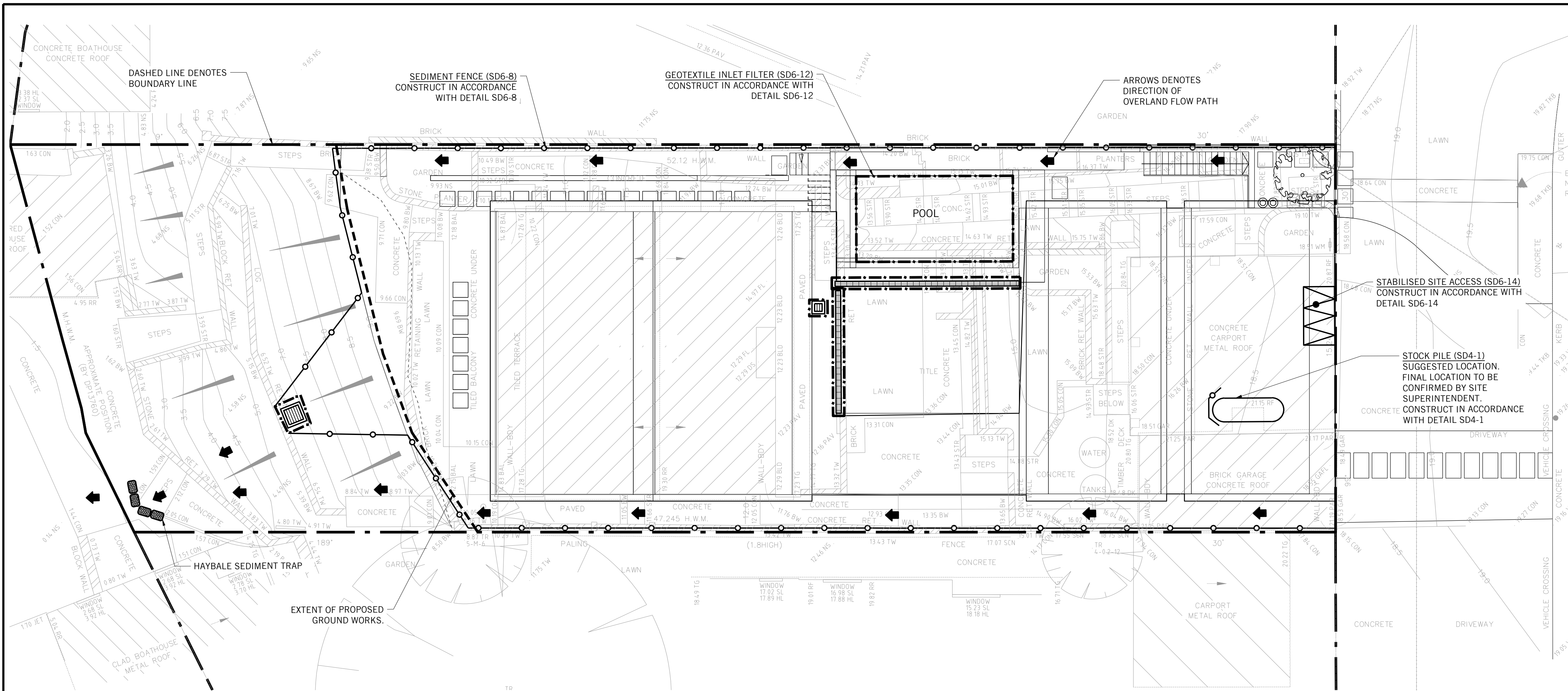
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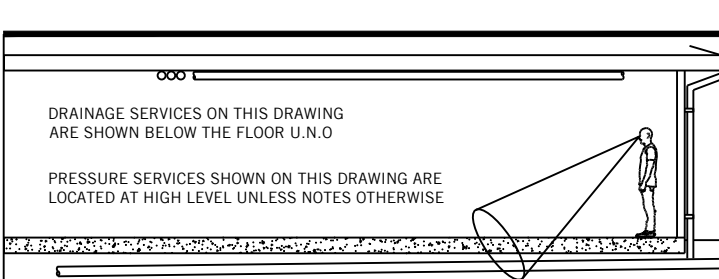
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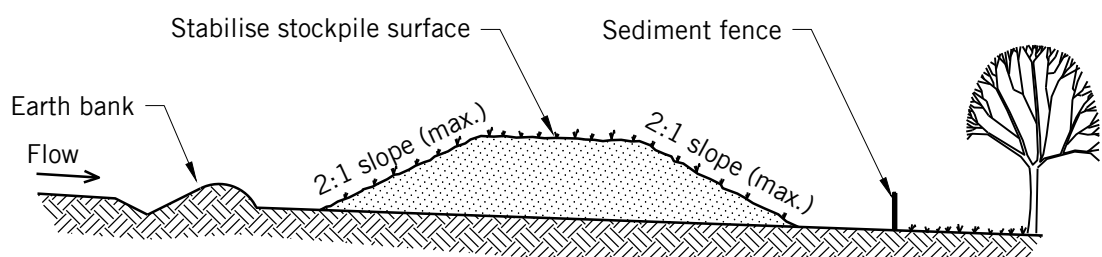


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EROSION AND SEDIMENT CONTROL PLAN

- MEASURES PROVIDED WILL BE TO THE SATISFACTION OF THE PRINCIPAL'S REPRESENTATIVE IN ACCORDANCE WITH THE LOCAL AND STATUTORY REQUIREMENTS UNLESS NOTED OTHERWISE. ALL WORKS SHALL BE ERECTED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE 'BLUE BOOK'- MANAGING URBAN STORMWATER (MUS): SOILS AND CONSTRUCTION, LANDCOM (VOL 1) AND DECCW (VOL 2) AND MOSMAN COUNCIL'S DEVELOPMENT CONTROL PLAN (DCP).
- ALL EXCAVATION WORKS ARE TO BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, IF AVAILABLE, AND THE STRUCTURAL ENGINEER'S DRAWINGS.
- INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.
- MESH AND GRAVEL INLET FILTERS (SD 6-11) TO BE INSTALLED UPSTREAM OF PROPOSED STORMWATER PITS AS WELL AS EXISTING STORMWATER PITS DOWNSTREAM OF DISTURBED AREAS.
- TOP SOIL WILL BE STRIPPED AND STOCKPILED (SD 4-1) FOR LATER USE IN LANDSCAPING.
- ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
- TOP SOIL WILL BE RE SPREAD AND ALL DISTURBED AREAS WILL BE REHABILITATED WITHIN 20 WORKING DAYS OF THE COMPLETION OF WORKS.
- ALL SEDIMENT TO BE STORED AND COLLECTED BY A LIQUID WASTE COMPANY FOR DISPOSAL AT A LICENSED TREATMENT FACILITY.
- ROADS AND FOOTWAYS TO BE SWEEPED AT THE END OF THE DAY.
- ALL EROSION AND SEDIMENT CONTROLS WILL BE CHECKED AT LEAST WEEKLY AND AFTER RAINFALL EVENTS TO MAKE SURE THEY ARE MAINTAINED TO A FULLY FUNCTIONAL CONDITION.

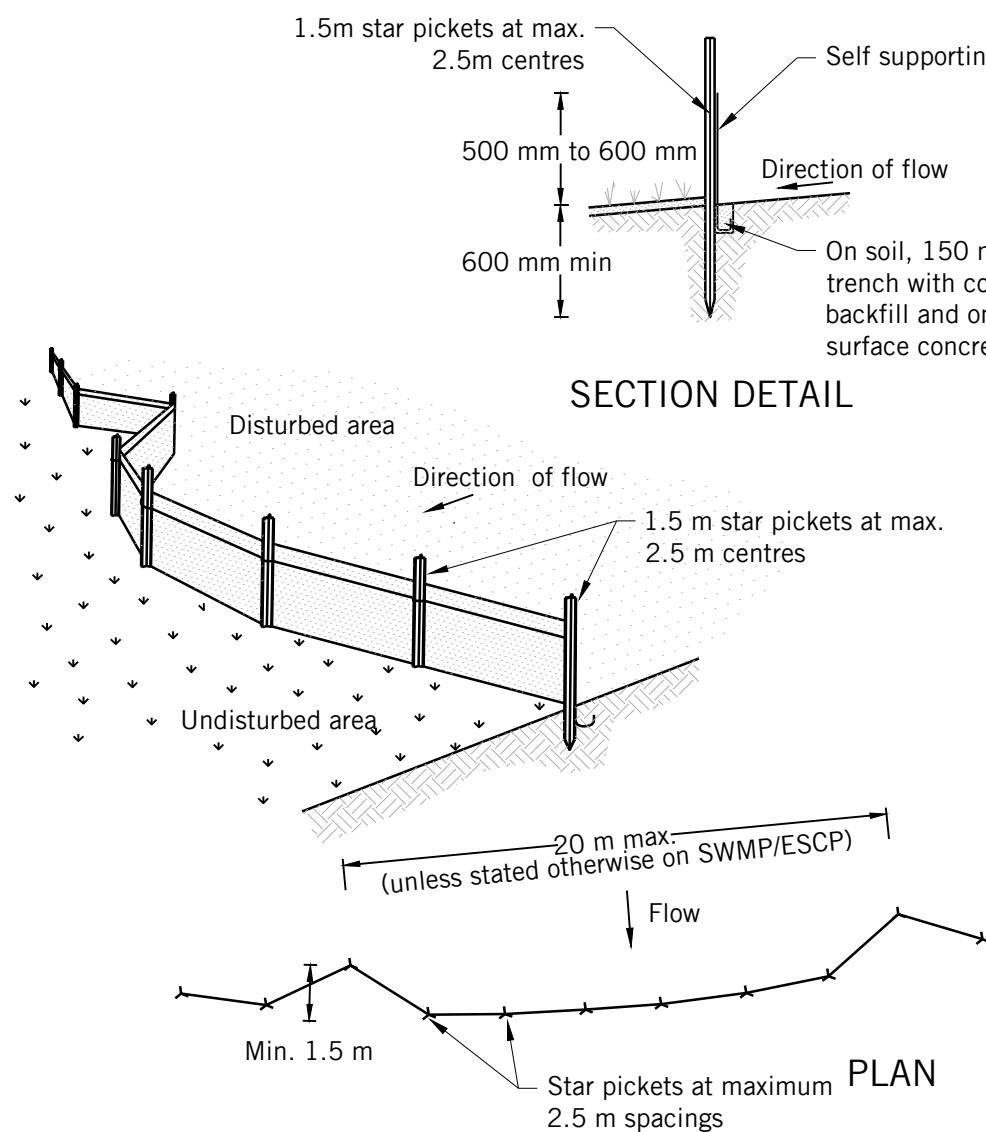


Construction Notes

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

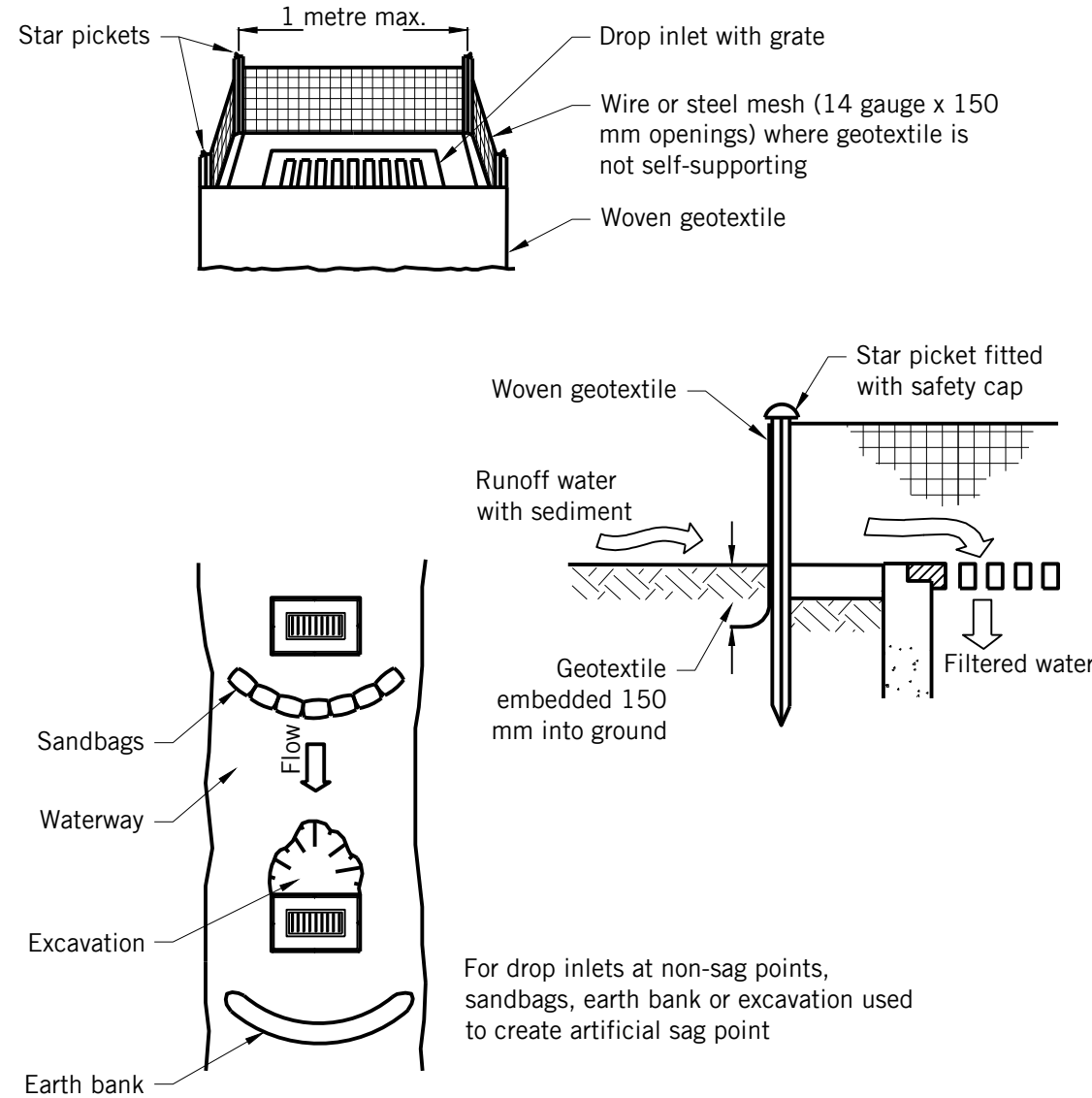


Construction Notes

- 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 catchment area of any one section. The catchment 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. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- 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.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8

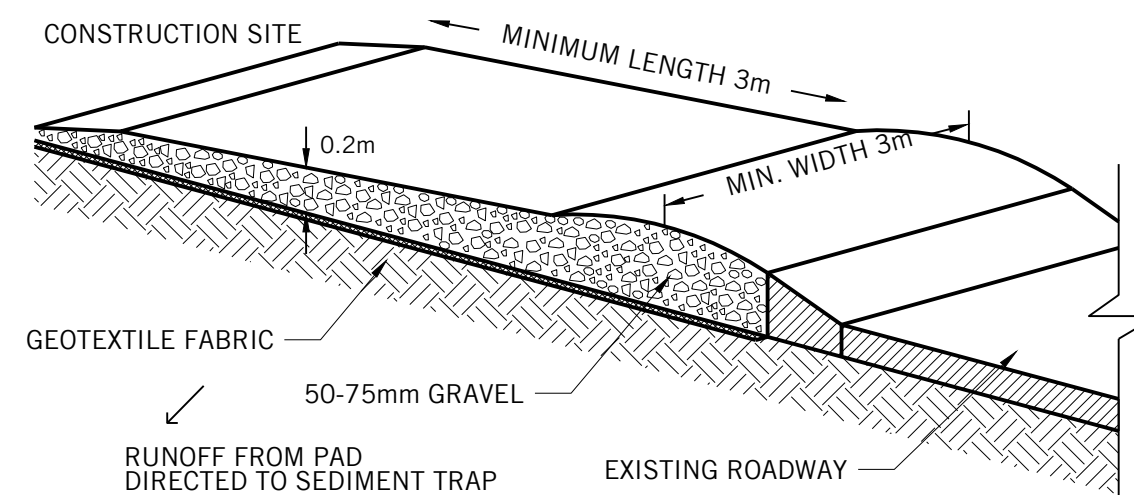


Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER

SD 6-12



Construction Notes

- Strip the topsoil, level the site and compact the subgrade.
- Cover the area with needle-punched geotextile.
- Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
- Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
- Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

STABILISED SITE ACCESS

SD 6-14

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Project

ALTERATIONS AND ADDITIONS
214 HUDSON PARADE
CLAREVILLE

Title

STORMWATER DRAINAGE SERVICES
EROSION & SEDIMENT CONTROL
PLAN AND DETAILS

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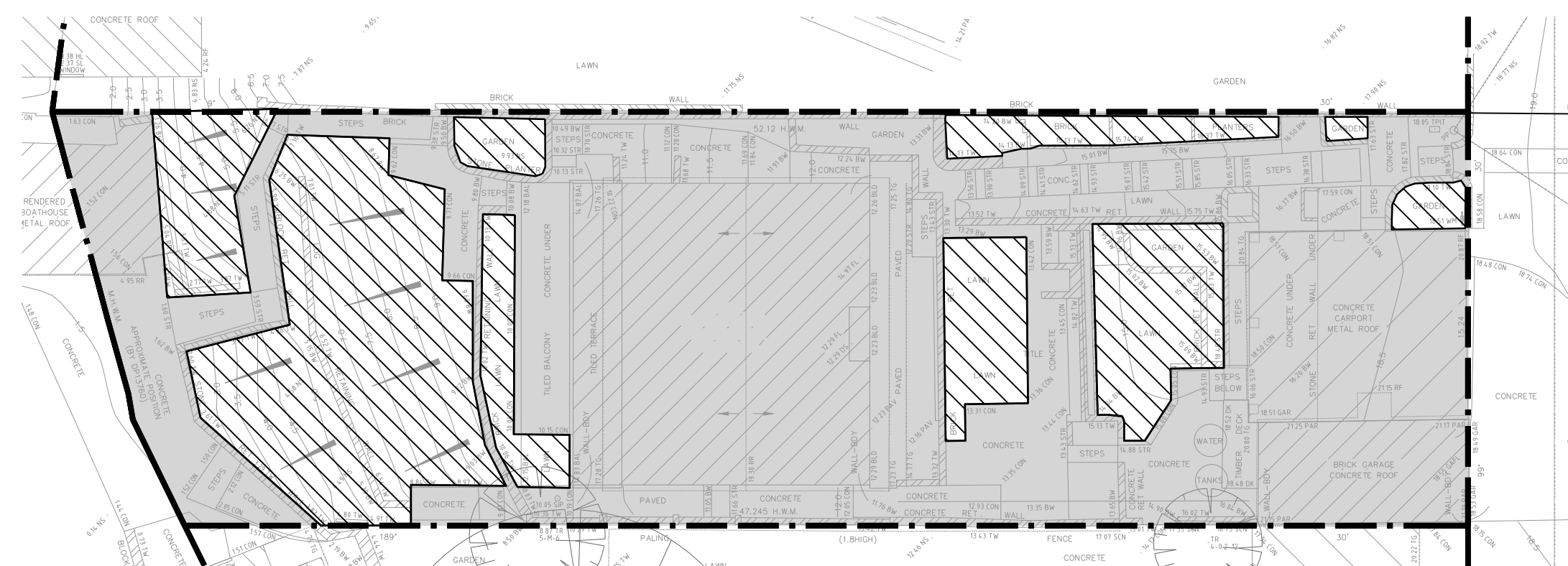
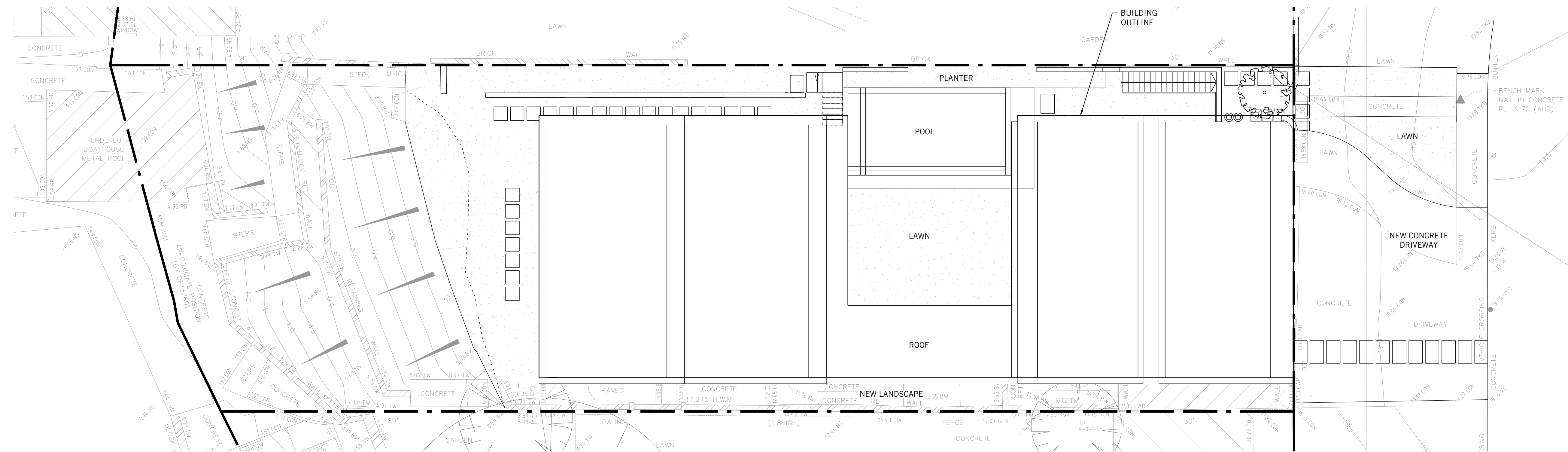
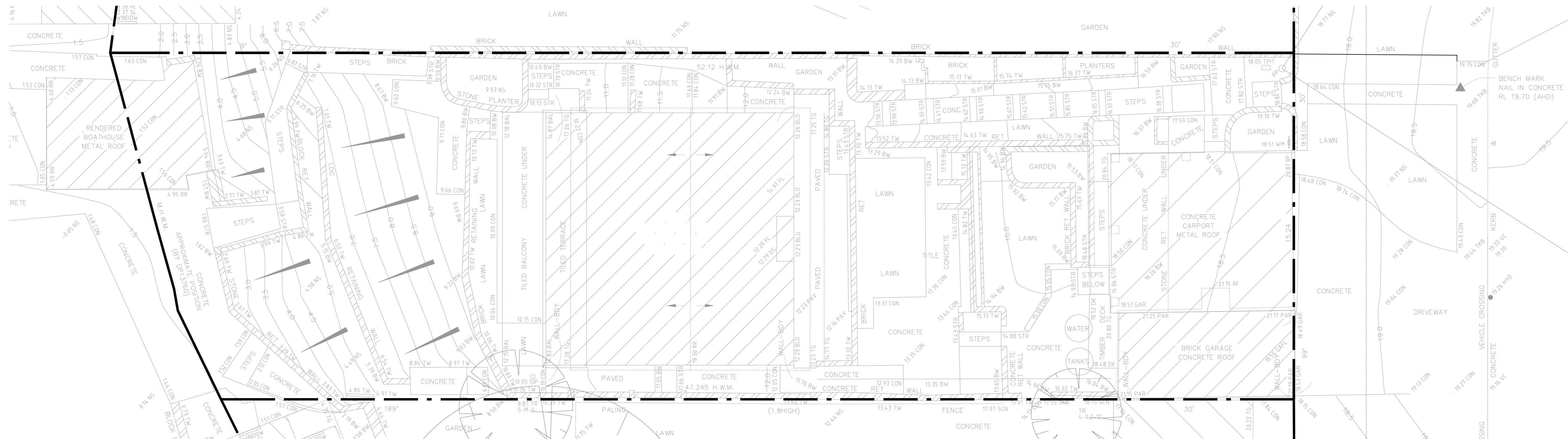
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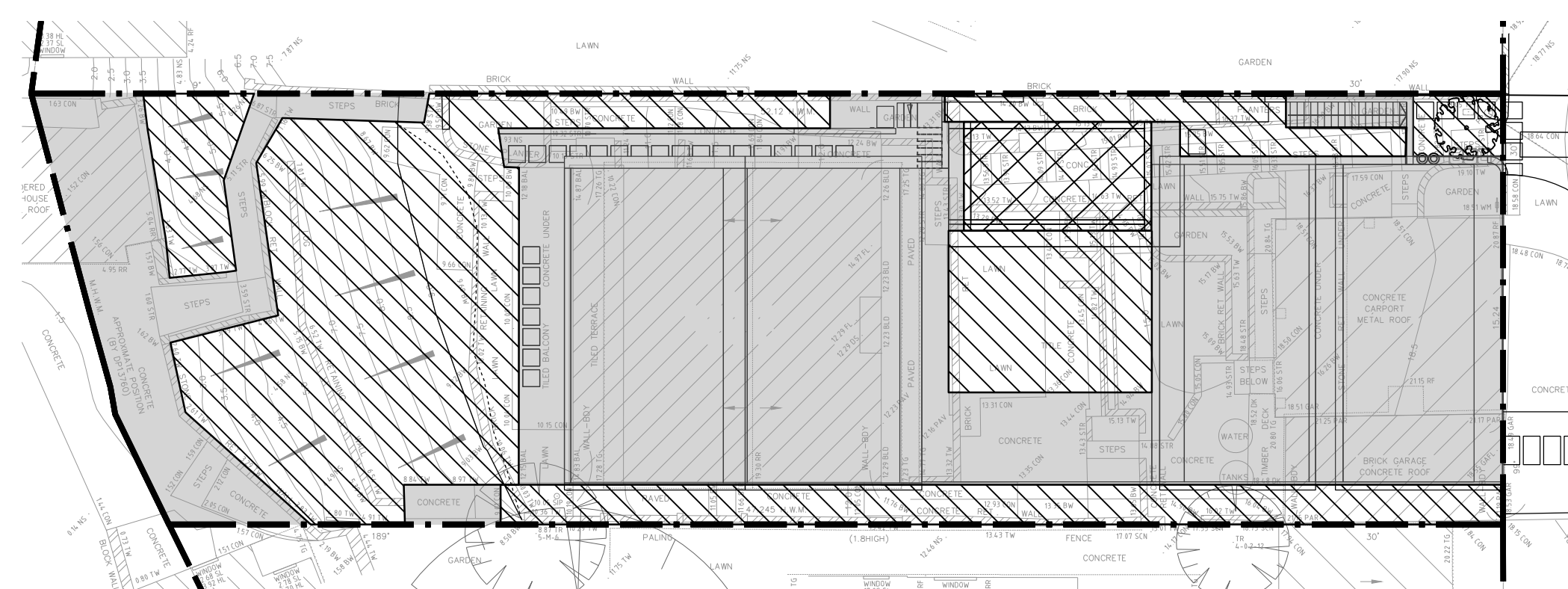
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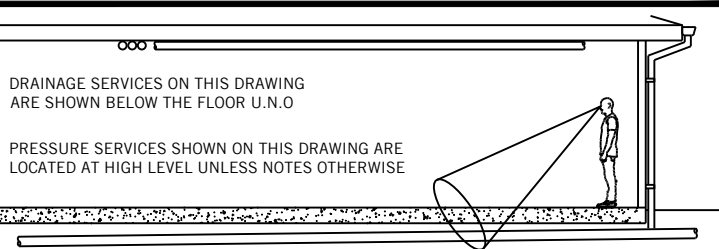
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		EXISTING	PROPOSED
	IMPERVIOUS AREA	547.6m ²	428.0m ²
	LANDSCAPE AREA	194.9m ²	283.7m ²
	POOL AREA (TO SEWER)	N/A	30.8m ²



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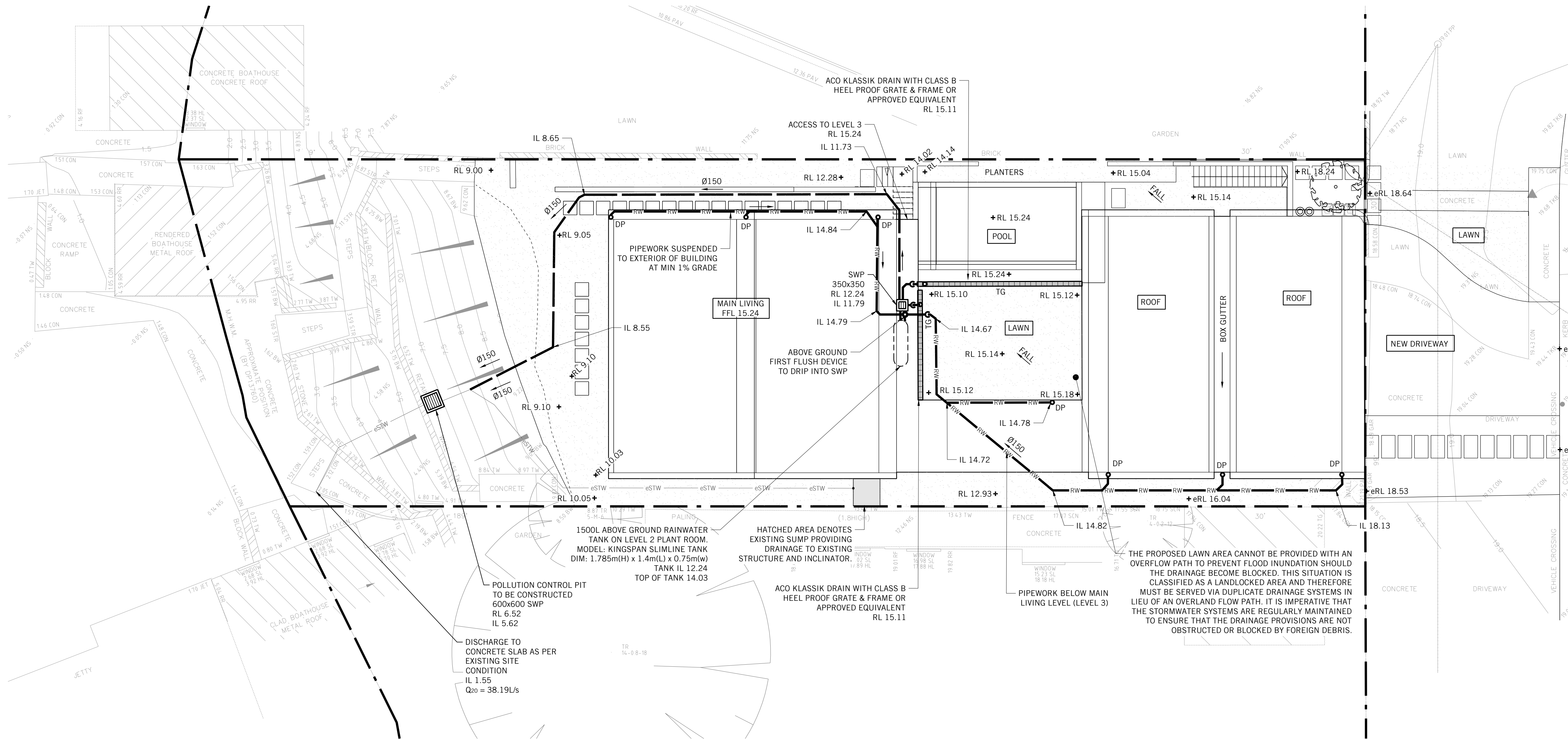
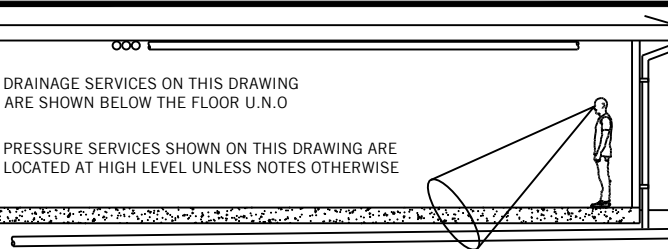
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**STORMWATER DRAINAGE SERVICES
EXISTING AND PROPOSED LAYOUTS
AND IMPERVIOUS AREAS**

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**ALTERATIONS AND ADDITIONS
214 HUDSON PARADE
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Title
**STORMWATER DRAINAGE SERVICES
STORMWATER LAYOUT**

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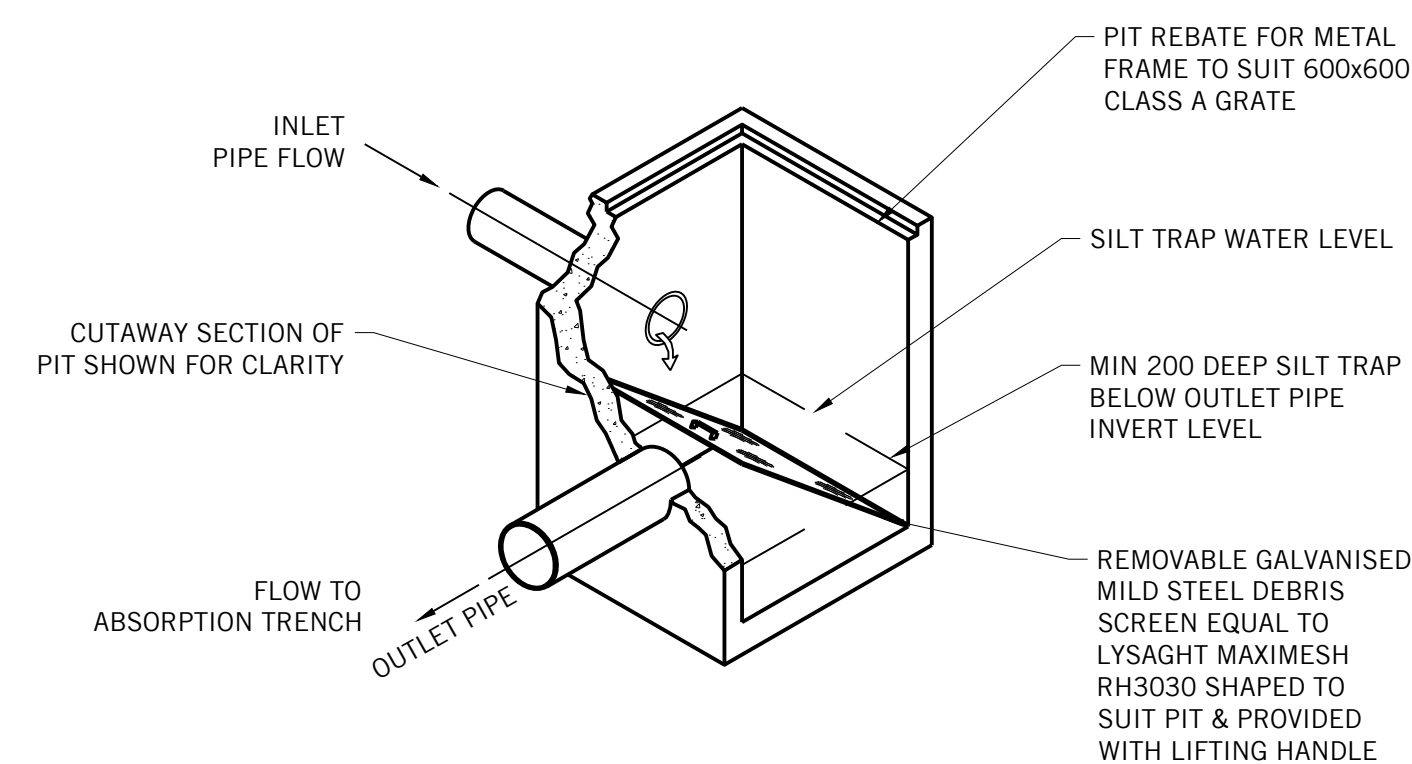
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**ALTERATIONS AND ADDITIONS
214 HUDSON PARADE
CLAREVILLE**

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