

# CONCEPT STORMWATER DRAWINGS FOR 10-11 RAILWAY ST, WERRINGTON NSW 2747

## SYMBOLS

|       |                                   |
|-------|-----------------------------------|
| RL    | PIT SURFACE LEVEL                 |
| IL    | INVERT LEVEL                      |
| TK    | TOP OF KERB                       |
| B.O.W | BOTTOM OF WALL                    |
| T.O.W | TOP OF WALL                       |
|       | STORMWATER DRAINAGE PIPE          |
|       | DOWNPIPE TO RAINWATER TANK        |
|       | OVERFLOW PIPE FROM RAINWATER TANK |
|       | Ø100 SUBSOIL PIPE                 |
|       | Ø100 SUBSOIL PIPE                 |
|       | FLOOR WASTE 150X150               |
|       | FLOOR WASTE 150Ø                  |
|       | RAINWATER OUTLET 300Ø             |
|       | PLANTER GRATE                     |
|       | DOWN PIPE                         |
|       | CLEAN OUT                         |
|       | INSPECTION OPENING                |
|       | VERTICAL DROP                     |
|       | VERTICAL RISER                    |
|       | CONCRETE COVER JUNCTION PIT       |
|       | GRATED INLET PIT                  |
|       | WIDE GRATED DRAIN                 |
|       | OVERLAND FLOW PATH                |
|       | CAST IN SLAB PIPE                 |

## NOTES

- ALL LINES ARE TO BE MIN. 100Ø UPVC @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE.
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS. ALL DESIGN LEVELS SHOWN ON PLAN SHALL BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORK.
- ALL PIPES TO HAVE MIN 200mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS BE HEAVY DUTY GRATES. DIRECT SURFACE FLOW TO ALL GRATED SURFACE INLET PITS.
- ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3 (CURRENT EDITION) AND COUNCIL SPECIFICATIONS.
- LOCATION OF DOWNPIPES & FLOOR WASTES ARE INDICATIVE ONLY. DOWNPIPE & FLOOR WASTE SIZE, LOCATION & QUANTITY TO BE DETERMINED BY BUILDER & IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, LANDSCAPE AND STRUCTURAL AND ALL OTHER RELEVANT CONSULTANT'S PLANS.
- ALL RAINWATER TANKS TO BE FITTED WITH A FIRST FLUSH DEVICE TO PREVENT POTENTIAL CONTAMINANTS FROM ENTERING THE TANKS.
- ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE DESIGN ENGINEER FOR RESOLUTION.
- ALL PITS OR GRATES IN TRAFFICABLE AREAS TO BE HEAVY DUTY.
- ALL GUTTERS WILL BE FITTED WITH LEAF GUARDS AND SHOULD BE INSPECTED AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE DOWNPIPES
- PROVIDE EMERGENCY OVERFLOW TO ALL PLANTER BOX AND BALCONIES.
- ALL PITS WITH DEPTH MORE THAN 1M MUST HAVE IRON STEPS AND TO BE BENCHED AND STREAMLINED
- PROVIDE STORMWATER GRATE 200Wx200D AT THE BASE OF ALL MECHANICAL SHAFTS AND UNCOVERED STAIRS OR OPENINGS.
- ENSURE ALL DRAINAGE WORKS ARE AWAY FROM TREE ROOTS
- SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATION AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT AND CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION.
- ALL VARIATIONS TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY SMART STRUCTURES AUSTRALIA PRIOR TO COMMENCEMENT OF WORKS.
- THE MINIMUM SIZES OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY THE REGULATORY AUTHORITY

AS 3500.3- TABLE 8.2  
SIZE OF MINIMUM INTERNAL DIMENSIONS  
FOR STORMWATER AND INLET PITS

| DEPTH OF INVERT OF OUTLET | MINIMUM INTERNAL DIMENSIONS (mm) |                    |                   |
|---------------------------|----------------------------------|--------------------|-------------------|
|                           | RECTANGULAR WIDTH                | RECTANGULAR LENGTH | CIRCULAR DIAMETER |
| ≤600                      | 450                              | 450                | 600               |
| >600 ≤900                 | 600                              | 600                | 900               |
| >900 ≤1200                | 600                              | 900                | 1000              |
| >1200                     | 900                              | 900                | 1000              |

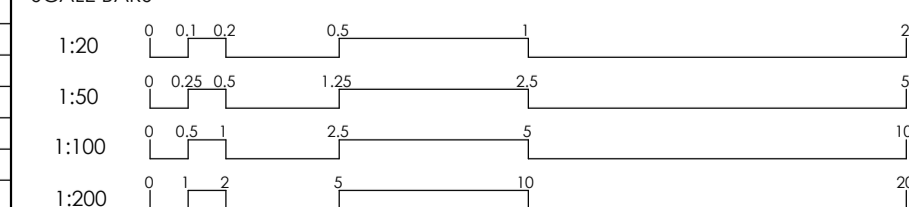
## DRAWING LIST

| DRAWING NUMBER | DRAWING NAME  |
|----------------|---|
| D00            | COVER SHEET, LEGEND & DRAWING SCHEDULE                  |
| D01            | BASEMENT 2 STORMWATER DRAINAGE PLAN                     |
| D02            | BASEMENT 1 STORMWATER DRAINAGE PLAN                     |
| D03            | GROUND FLOOR STORMWATER DRAINAGE PLAN                   |
| D07            | ROOF STORMWATER DRAINAGE PLAN                           |
| D09            | POST DEVELOPMENT CATCHMENT PLAN AND MUSIC MODEL RESULTS |
| D10            | STORMWATER DRAINAGE SECTIONS AND DETAILS SHEET 1        |
| D11            | STORMWATER DRAINAGE SECTIONS AND DETAILS SHEET 2        |
| D15            | EROSION AND SEDIMENT CONTROL PLAN AND DETAILS SHEET 1   |
| D16            | EROSION AND SEDIMENT CONTROL PLAN AND DETAILS SHEET 2   |



**IMPORTANT:**  
CONTRACTOR TO OBTAIN CURRENT SET OF  
"DIAL BEFORE YOU DIG" PLANS ON SITE ALL  
TIMES AND PRIOR TO CONSTRUCTION WORKS

### SCALE BARS



CLIENT:

-

ARCHITECT:

LEVEL ARCHITECTS



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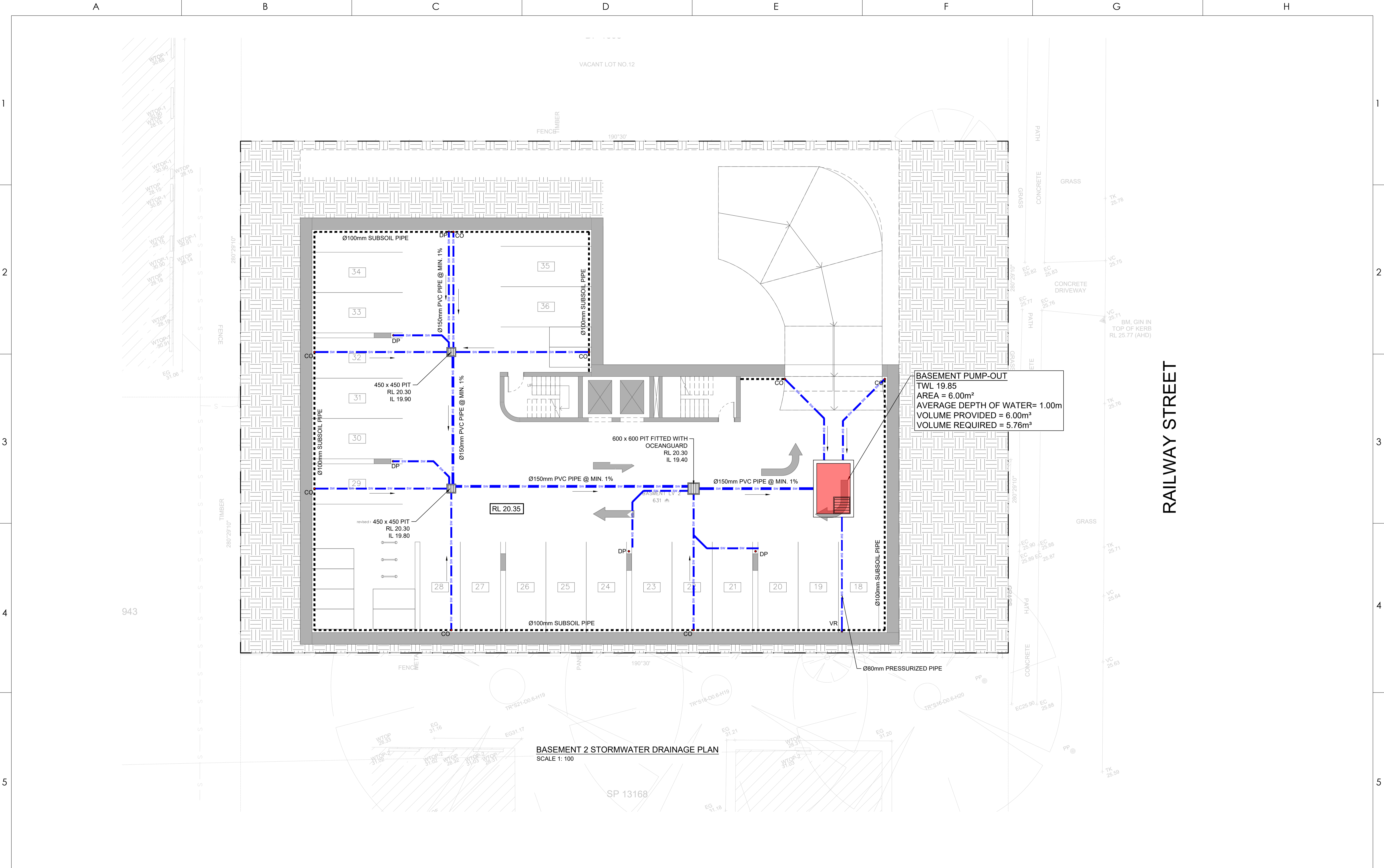
DRAWING TITLE  
**COVER SHEET, LEGEND &  
DRAWING SCHEDULE**

|                          |                       |                            |
|--------------------------|-----------------------|----------------------------|
| SHEET NO.<br><b>D00</b>  | REV.<br><b>A</b>      | SCALE @ A1<br><b>NTS</b>   |
| DESIGNED:<br><b>K.E.</b> | DRAWN:<br><b>N.E.</b> | AUTHORISED:<br><b>K.E.</b> |

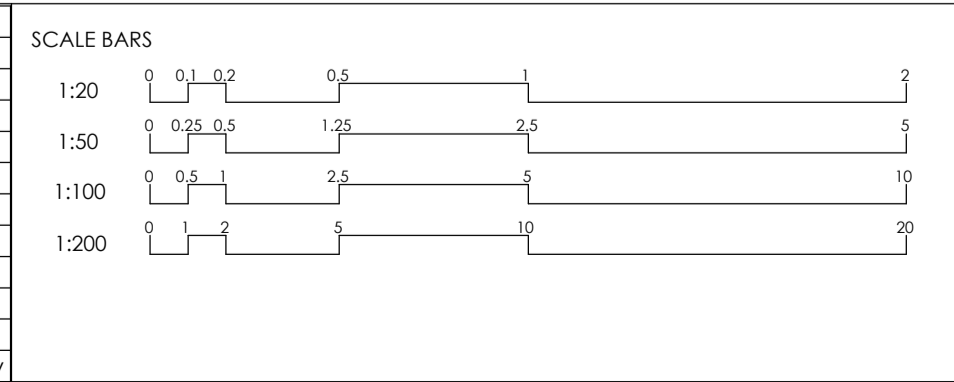
PROJECT  
**10-11 RAILWAY ST,  
WERRINGTON NSW 2747**

|       |  |
|-------|--|
| NORTH | PROJECT NO.<br><b>200442</b>                 |
|       | PROJECT START DATE:<br><b>SEPTEMBER 2021</b> |

| No. | Description     | Date     | Issued by | Checked by |
|-----|-----------------|----------|-----------|------------|
| A   | ISSUED FOR D.A. | 13.09.21 | N.E.      | K.E.       |



| No. | Description     | Date     | Issued by | Checked by |
|-----|-----------------|----------|-----------|------------|
| B   | ISSUED FOR D.A. | 14.09.21 | N.E.      | K.E.       |
| A   | ISSUED FOR D.A. | 13.09.21 | N.E.      | K.E.       |



CLIENT: -

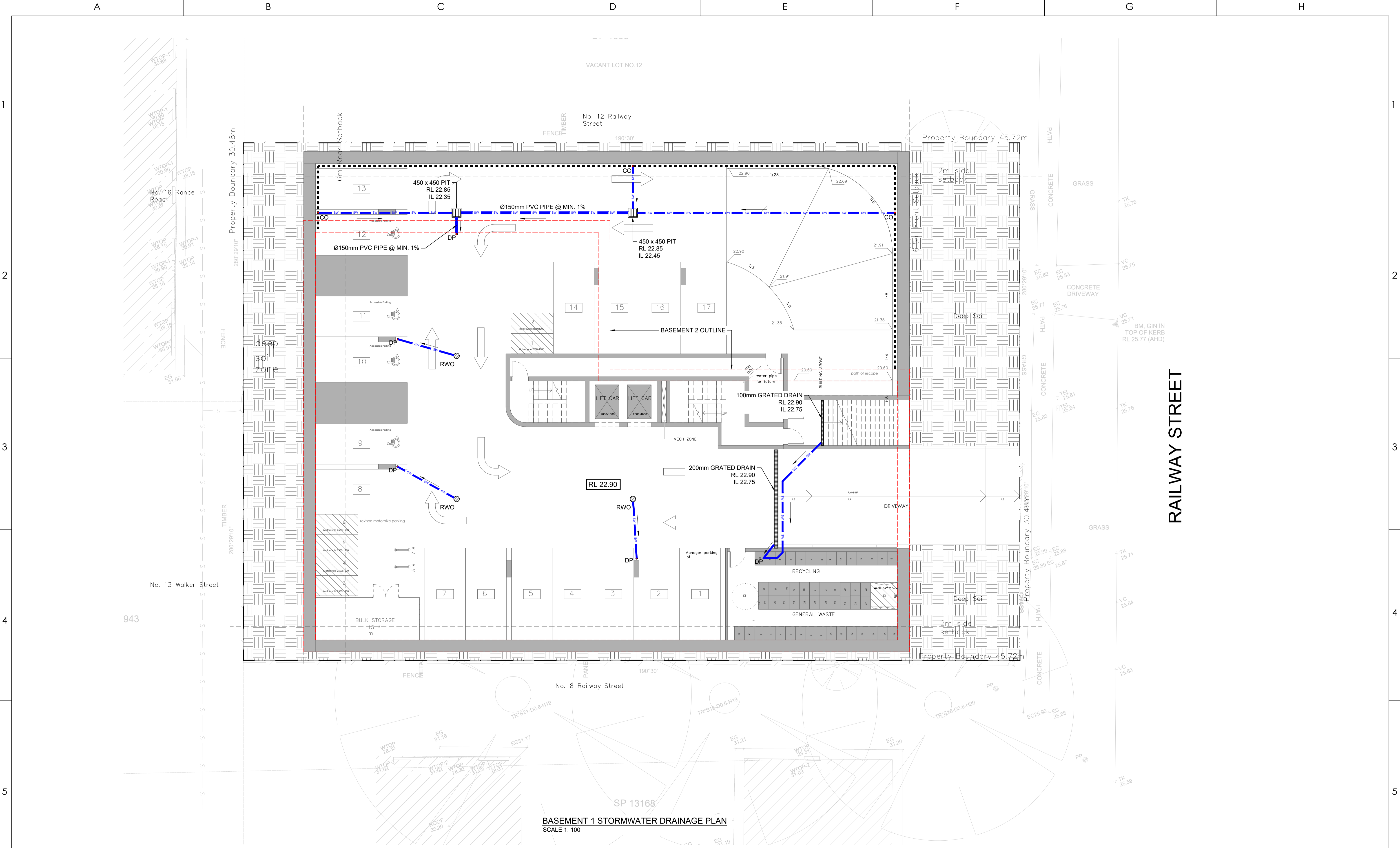
ARCHITECT: LEVEL ARCHITECTS

**SMART STRUCTURES AUSTRALIA**

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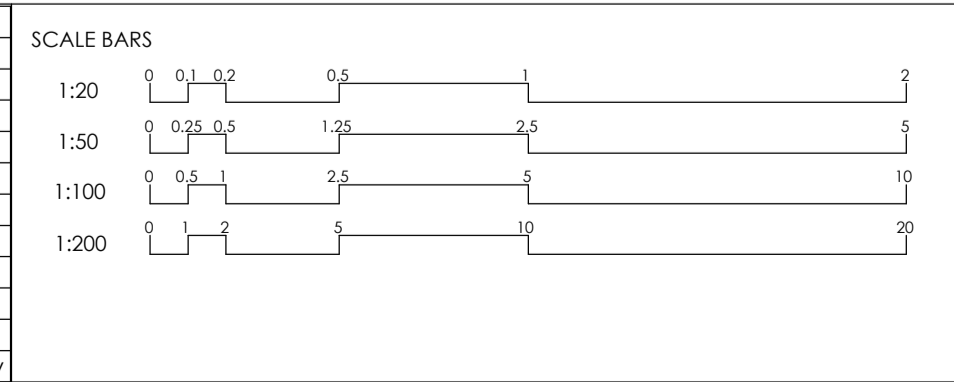
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|---|------------------|-------------------------------|---|--|
| DRAWING TITLE<br><b>BASEMENT 2 STORMWATER DRAINAGE PLAN</b> |                  |                               | PROJECT<br>10-11 RAILWAY ST,<br>WERRINGTON NSW 2747 |  |
| SHEET NO.<br><b>D01</b>                                     | REV.<br><b>B</b> | SCALE @ A1<br><b>AS SHOWN</b> | NORTH   | PROJECT NO.<br><b>200442</b>                 |
| DESIGNED:<br>K.E.   | DRAWN:<br>N.E.   | AUTHORISED:<br>K.E.           |   | PROJECT START DATE:<br><b>SEPTEMBER 2021</b> |





**BASEMENT 1 STORMWATER DRAINAGE PLAN**  
SCALE 1: 100

| No. | Description     | Date     | Issued by | Checked by |
|-----|-----------------|----------|-----------|------------|
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ARCHITECT: LEVEL ARCHITECTS

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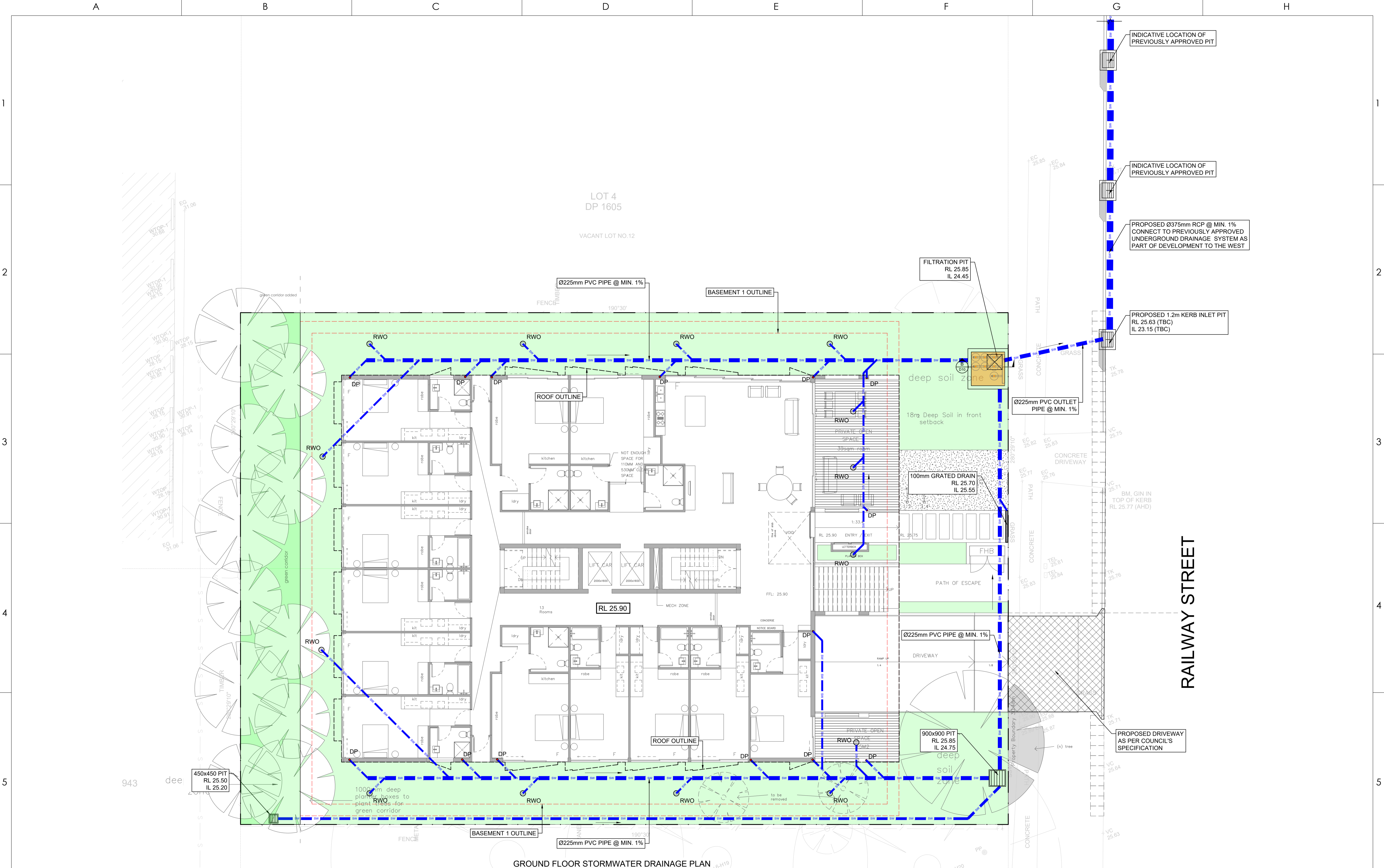
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|---|-----------------------|-------------------------------|
| DRAWING TITLE<br><b>BASEMENT 1 STORMWATER DRAINAGE PLAN</b> |                       |                               |
| SHEET NO.<br><b>D02</b>                                     | REV.<br><b>B</b>      | SCALE @ A1<br><b>AS SHOWN</b> |
| DESIGNED:<br><b>K.E.</b>                                    | DRAWN:<br><b>N.E.</b> | AUTHORISED:<br><b>K.E.</b>    |

PROJECT  
**10-11 RAILWAY ST,  
WERRINGTON NSW 2747**

NORTH

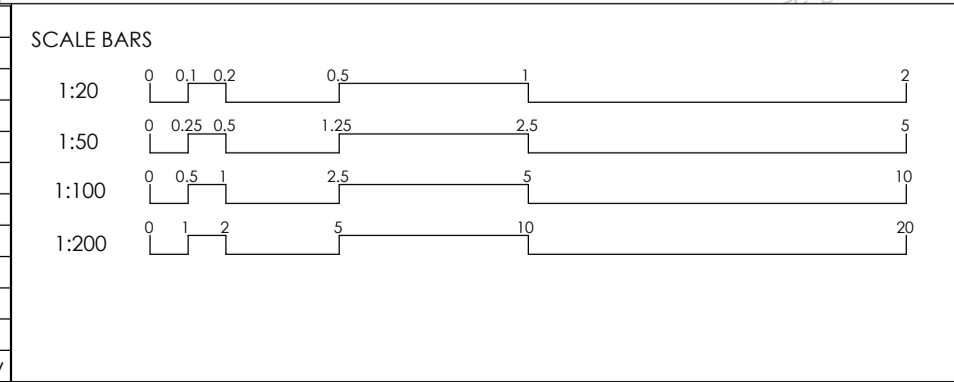
PROJECT NO.  
**200442**

PROJECT START DATE:  
**SEPTEMBER 2021**



GROUND FLOOR STORMWATER DRAINAGE PLAN  
SCALE 1: 100

| No. | Description     | Date     | Issued by | Checked by |
|-----|-----------------|----------|-----------|------------|
| B   | ISSUED FOR D.A. | 14.09.21 | N.E.      | K.E.       |
| A   | ISSUED FOR D.A. | 13.09.21 | N.E.      | K.E.       |



CLIENT: -  
ARCHITECT: LEVEL ARCHITECTS

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|   |                  |   |  |
|---|------------------|---|--|
| DRAWING TITLE<br><b>GROUND FLOOR STORMWATER DRAINAGE PLAN</b> |                  | PROJECT<br>10-11 RAILWAY ST,<br>WERRINGTON NSW 2747 |  |
| SHEET NO.<br><b>D03</b>                                       | REV.<br><b>B</b> | SCALE @ A1<br><b>AS SHOWN</b>                       | NORTH<br>                                    |
| DESIGNED:<br>K.E.   | DRAWN:<br>N.E.   | AUTHORISED:<br>K.E.                                 | PROJECT NO.<br><b>200442</b>                 |
|   |                  |   | PROJECT START DATE:<br><b>SEPTEMBER 2021</b> |







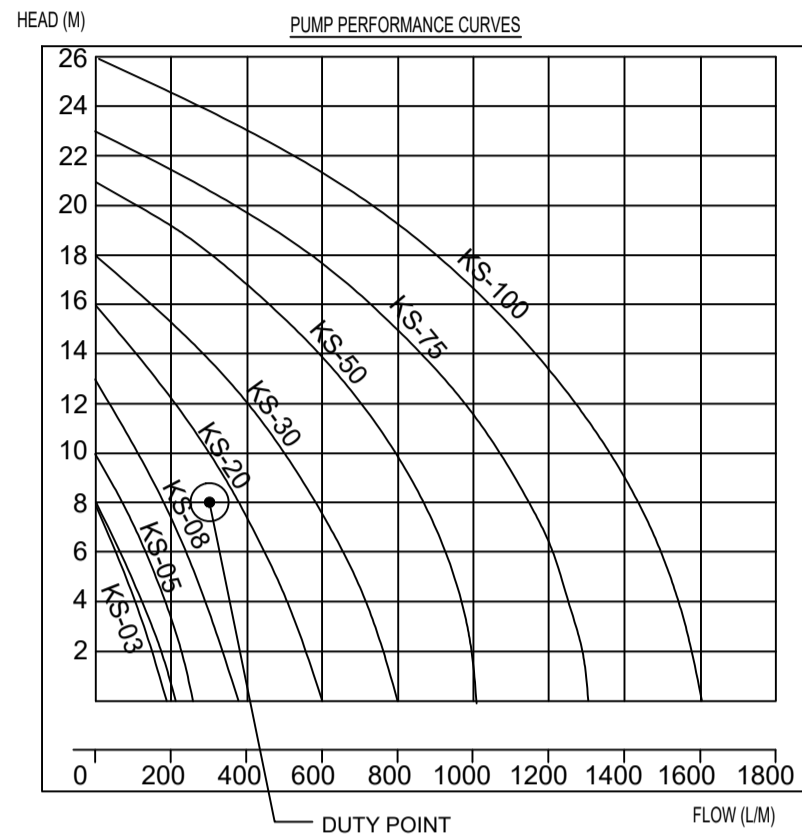




# PUMP SPECIFICATIONS STANDARD PUMP-OUT NOTES

THE PUMP-OUT SYSTEM IS DESIGNED TO WORK IN THE FOLLOWING MANNER -

- 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 THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMP.
- A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY THE PUMP WILL OPERATE & 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 ACTIVATE THE ALARM.
- AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT & 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 WELL DETAILS

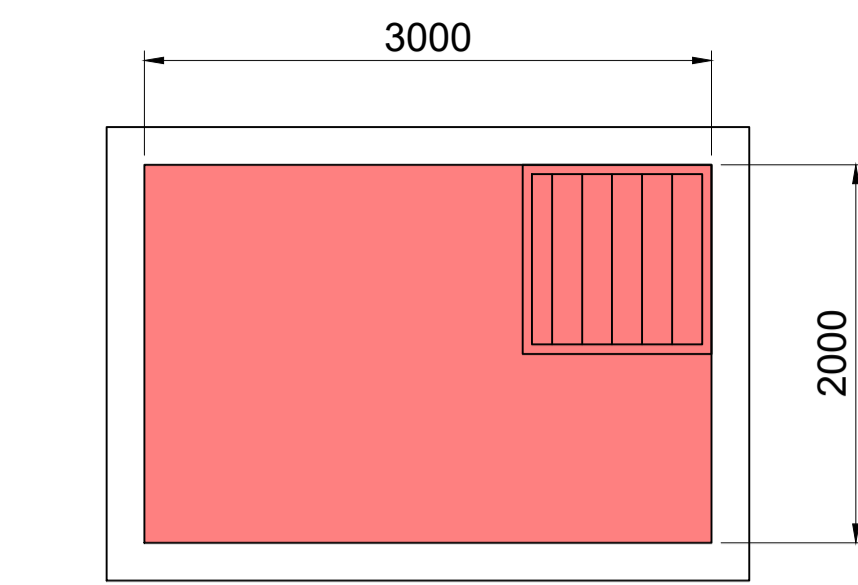
AREA DRAINING TO SUMP = 70m<sup>2</sup>

VOLUME BASED ON 100 YEAR ARI 2 HOUR INTENSITY  
INTENSITY = 41.10mm/hr  
Q = 1 x 41.10mm/hr x 70m<sup>2</sup> / 3600 = 0.80L/s  
VOLUME REQUIRED = 0.80 x (60x60x2) = 5.76m<sup>3</sup>  
STORAGE PROVIDED 2.0x3.0x1.0m = 6.00 m<sup>3</sup>

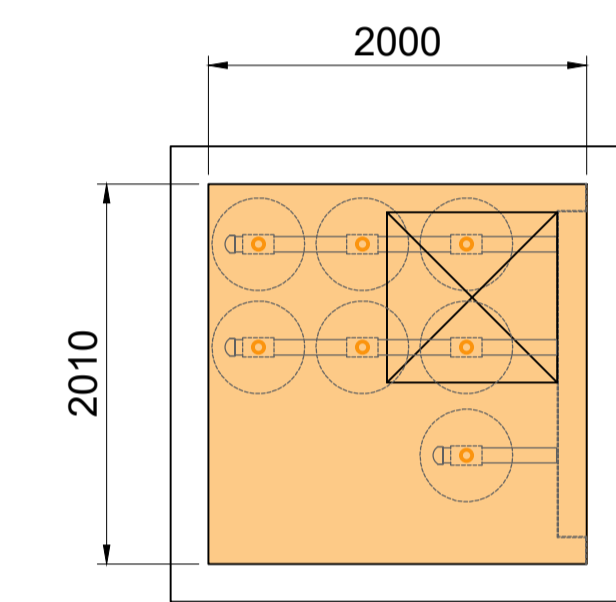
PUMP OUT RATE BASED ON 100 YEAR ARI 5 MIN  
INTENSITY = 239mm/hr  
Q = 1 x 239 x 70 / 3600 = 4.65L/s  
MIN. PUMP OUT RATE REQUIRED BY AS 3500.3 = 10.0 L/sec

DUAL KS-20 PUMP OR EQUIVALENT TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMPS TO OPERATE SIMULTANEOUSLY ON HIGH LEVEL ALARMS AT 5.0L/sec (PER PUMP) AT 8.0m HEAD

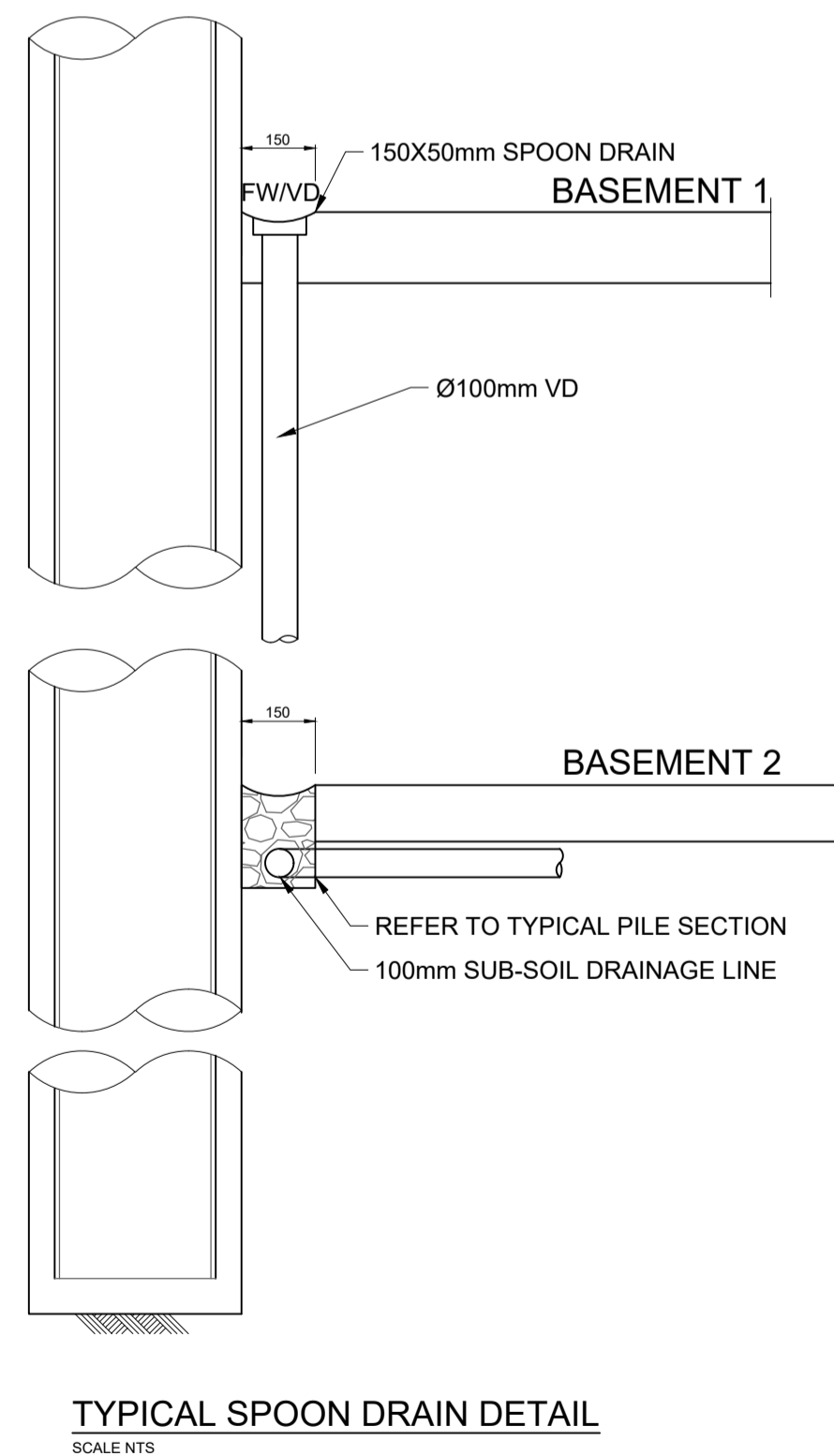
| Type   | Output |      | Outlet |        | Rated Head Capacity |     | Maximum Head Capacity |      | Weigh Kg | Dimension |       |       |
|--------|--------|------|--------|--------|---------------------|-----|-----------------------|------|----------|-----------|-------|-------|
|        | HP     | kW   | mm     | Inch   | M                   | LPM | M                     | LPM  |          | L(mm)     | W(mm) | H(mm) |
| KS-03  | 1/3    | 0.25 | 40     | 1 1/2" | 3                   | 130 | 8                     | 180  | 9        | 188       | 141   | 305   |
| KS-04  | 1/2    | 0.4  | 50     | 2"     | 5                   | 150 | 8                     | 220  | 11       | 208       | 140   | 359   |
| KS-05  | 1/2    | 0.4  | 50     | 2"     | 5                   | 160 | 10                    | 260  | 14       | 230       | 156   | 375   |
| KS-08  | 1      | 0.75 | 50     | 2"     | 6                   | 240 | 13                    | 380  | 21       | 290       | 180   | 425   |
| KS-20  | 2      | 1.5  | 80     | 3"     | 10                  | 300 | 16                    | 600  | 31       | 278       | 182   | 475   |
| KS-30  | 3      | 2.2  | 80     | 3"     | 10                  | 500 | 18                    | 800  | 42       | 390       | 250   | 450   |
| KS-50  | 5      | 3.7  | 100    | 4"     | 10                  | 800 | 21                    | 1100 | 48       | 450       | 240   | 530   |
| KS-75  | 7 1/2  | 5.6  | 100    | 4"     | 15                  | 800 | 23                    | 1300 | 60       | 550       | 310   | 590   |
| KS-100 | 10     | 7.5  | 150    | 6"     | 18                  | 900 | 25                    | 1600 | 70       | 550       | 310   | 610   |



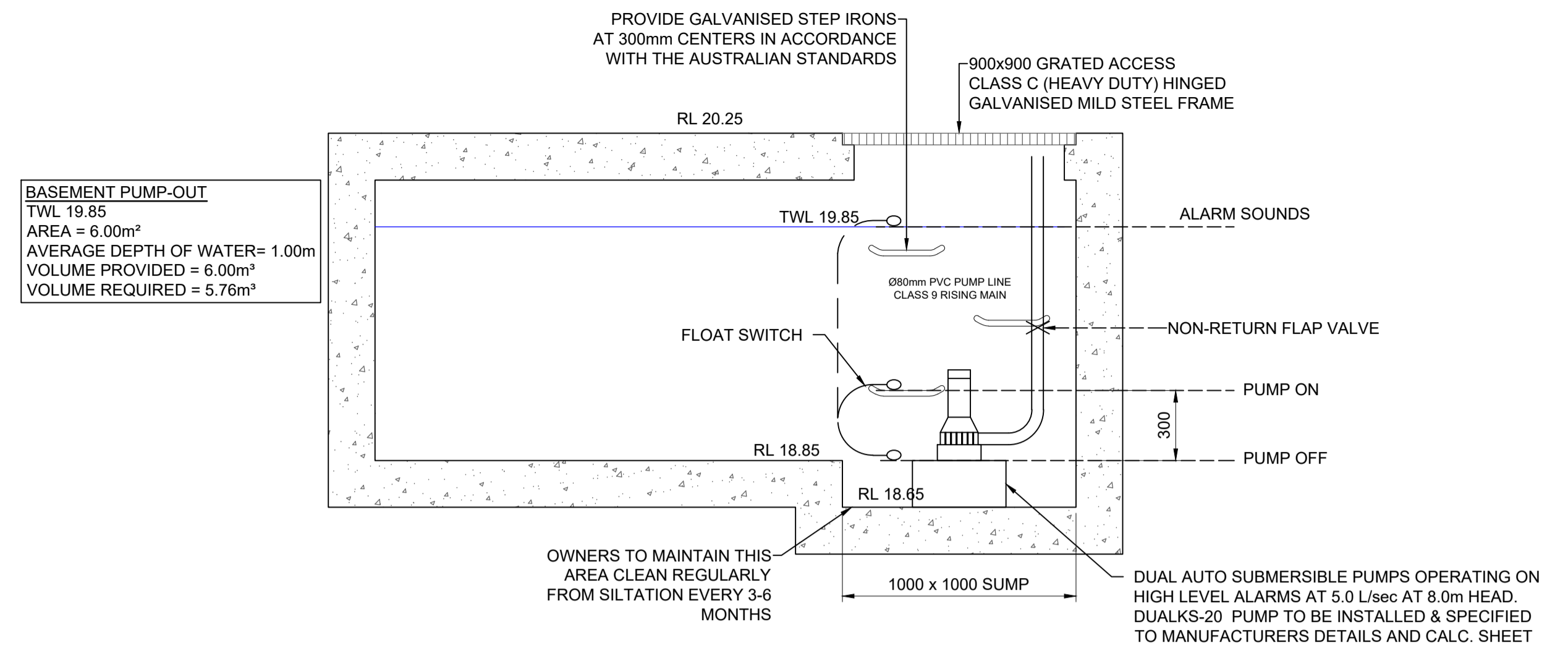
**PUMP OUT PIT PLAN VIEW**  
SCALE NTS



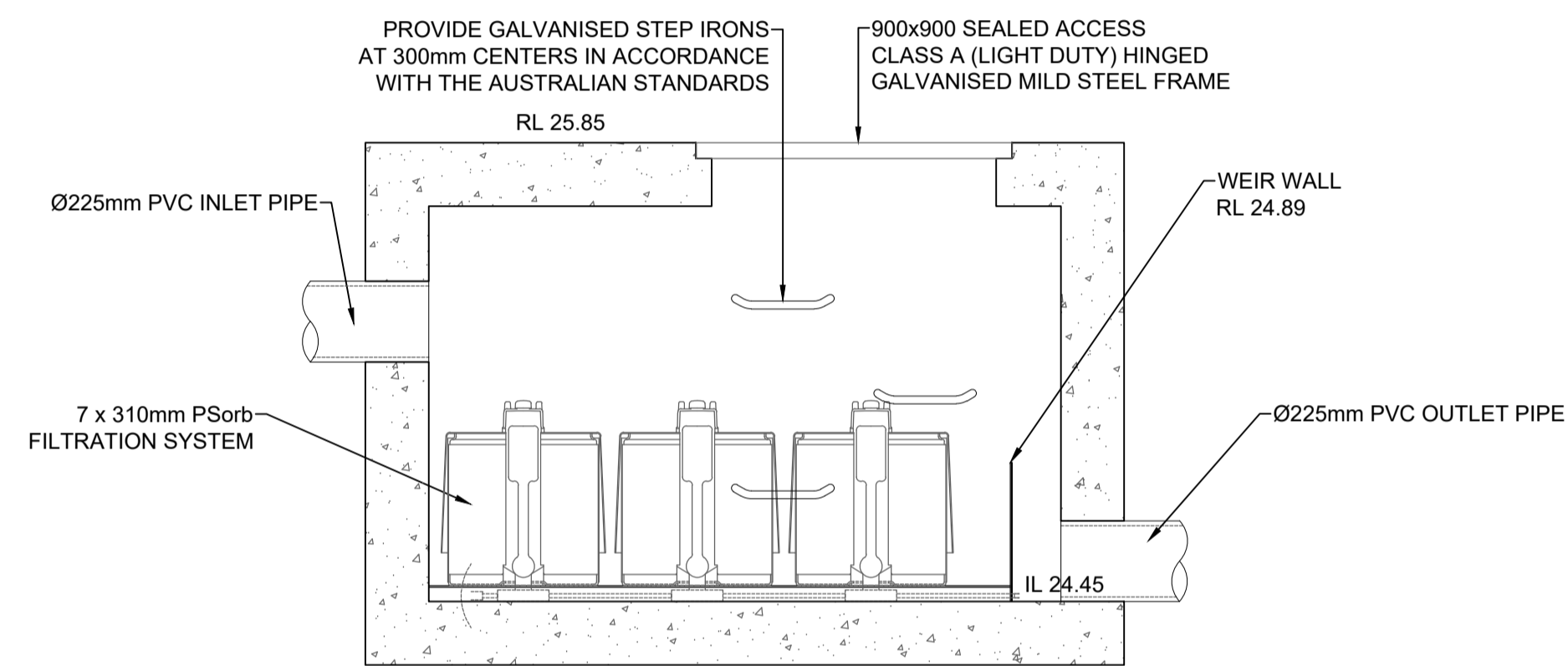
**FILTRATION PIT PLAN VIEW**  
SCALE NTS



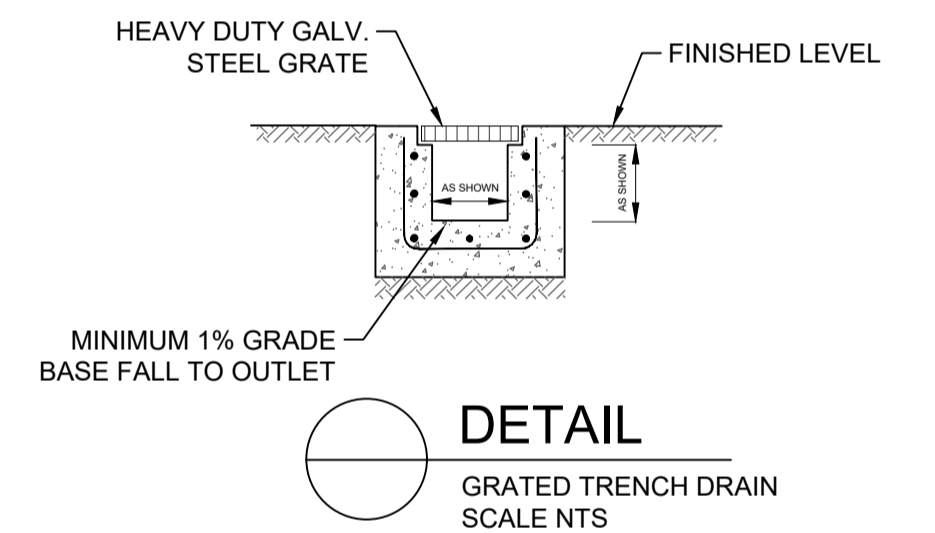
**TYPICAL SPOON DRAIN DETAIL**  
SCALE NTS



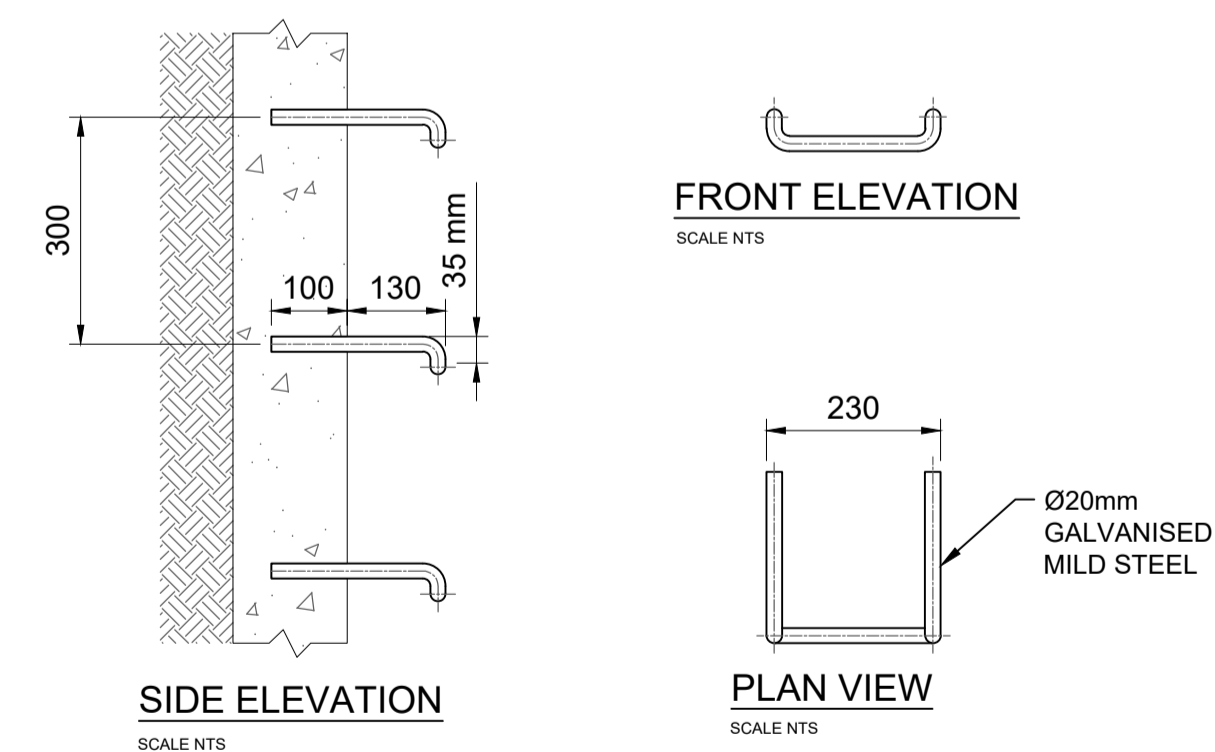
**SECTION THROUGH PUMP OUT PIT (A)**  
SCALE NTS



**B FILTRATION TANK SECTION**  
SCALE NTS

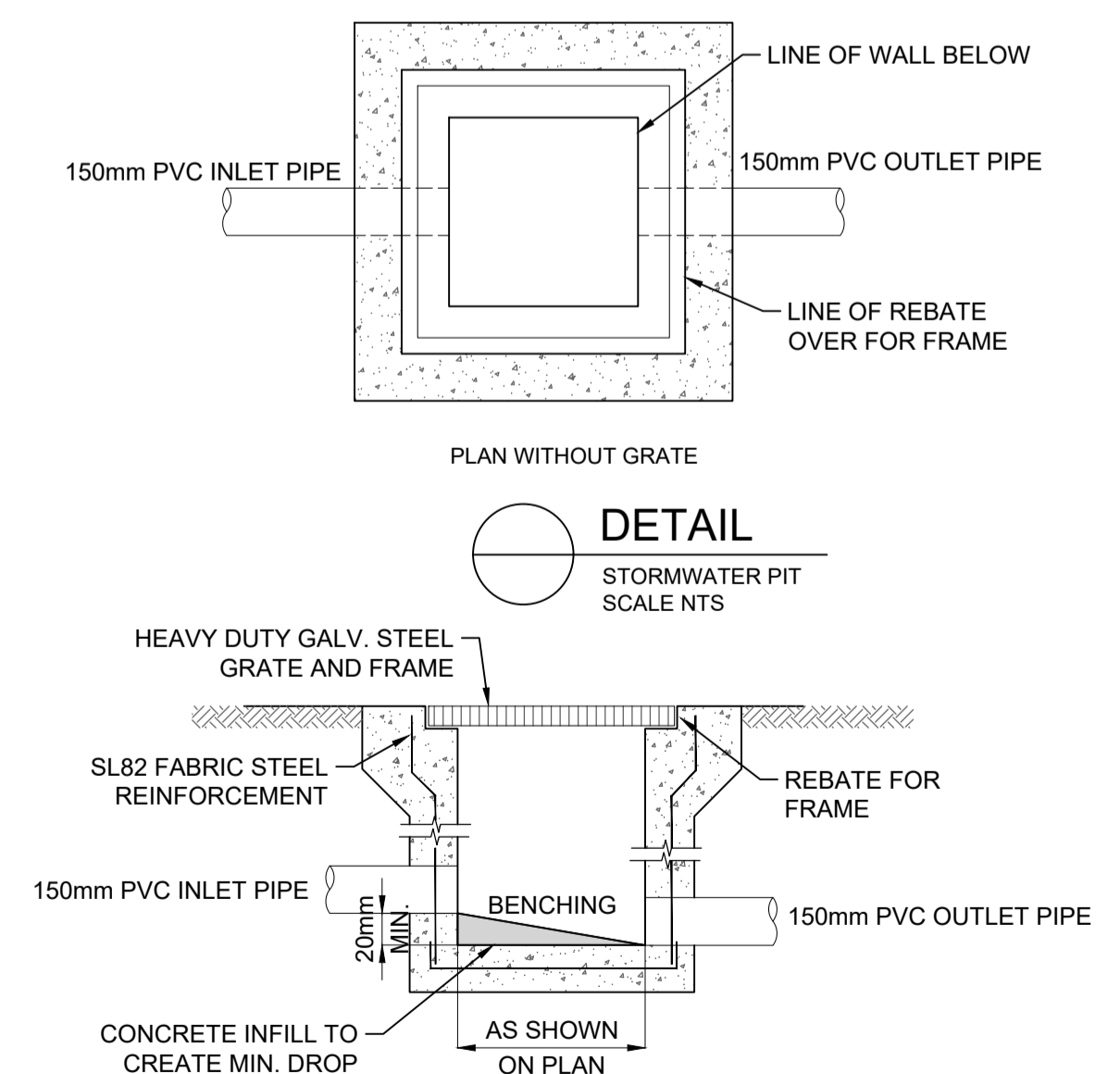


**DETAIL**  
GRATED TRENCH DRAIN  
SCALE NTS

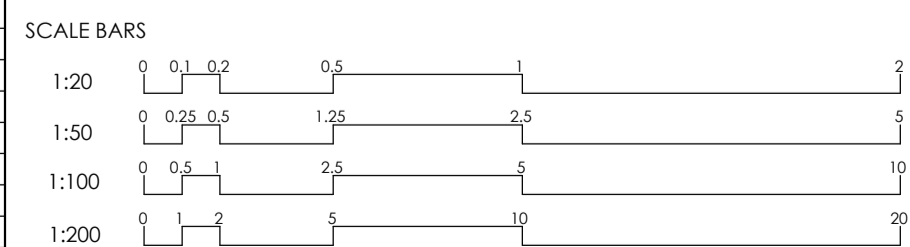


**STEP IRON DETAIL**  
SCALE NTS

NOTE: INSTALL WHERE PITS ARE DEEPER THAN 900



**DETAIL**  
STORMWATER PIT  
SCALE NTS



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ARCHITECT: LEVEL ARCHITECTS



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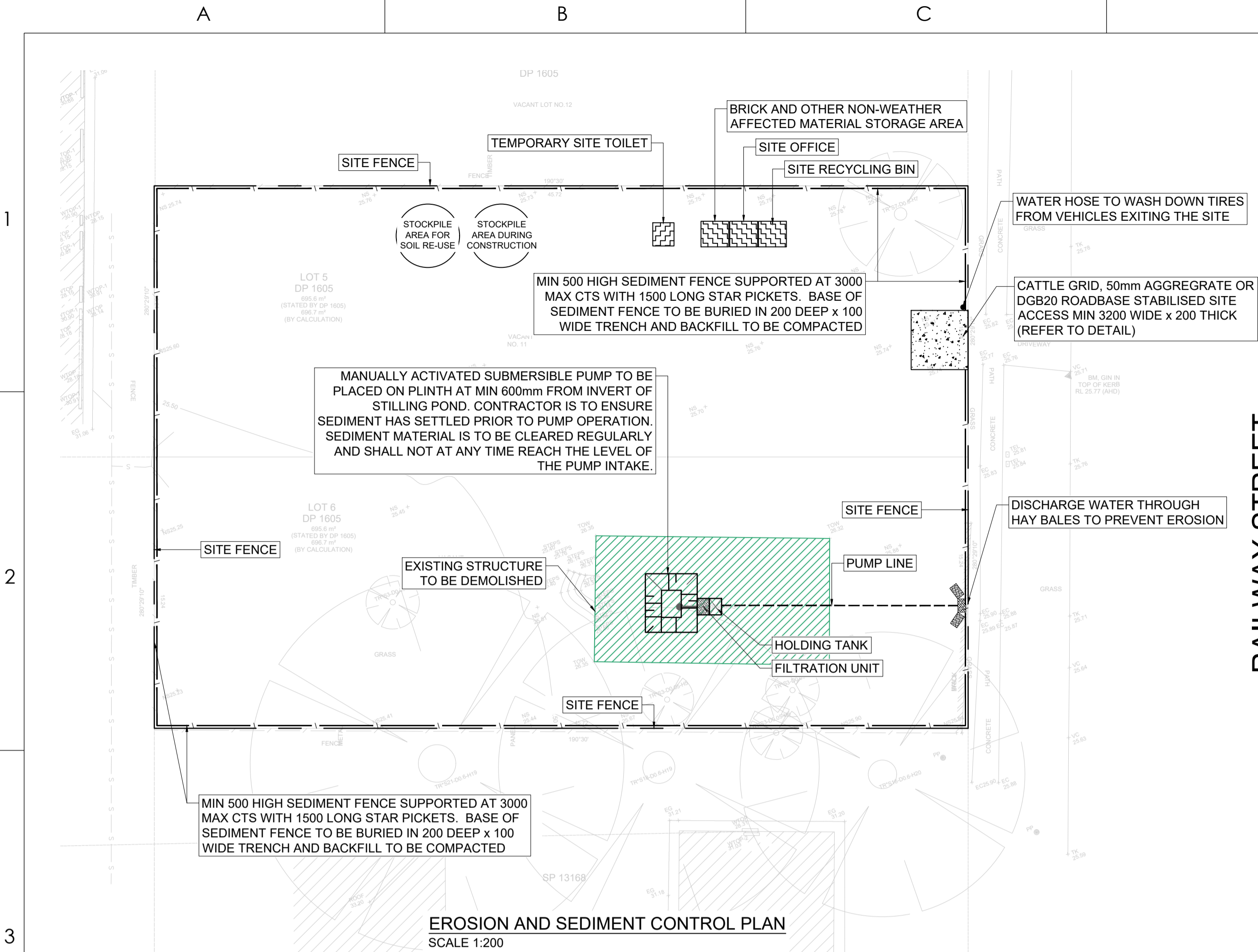
DRAWING TITLE  
**STORMWATER DRAINAGE SECTIONS AND DETAILS SHEET 1**

SHEET NO. **D10**  
REV. **A**  
DESIGNED: **K.E.**  
DRAWN: **N.E.**

PROJECT  
**10-11 RAILWAY ST, WERRINGTON NSW 2747**

SCALE @ A1 **AS SHOWN**  
NORTH  
PROJECT NO. **200442**  
PROJECT START DATE: **SEPTEMBER 2021**

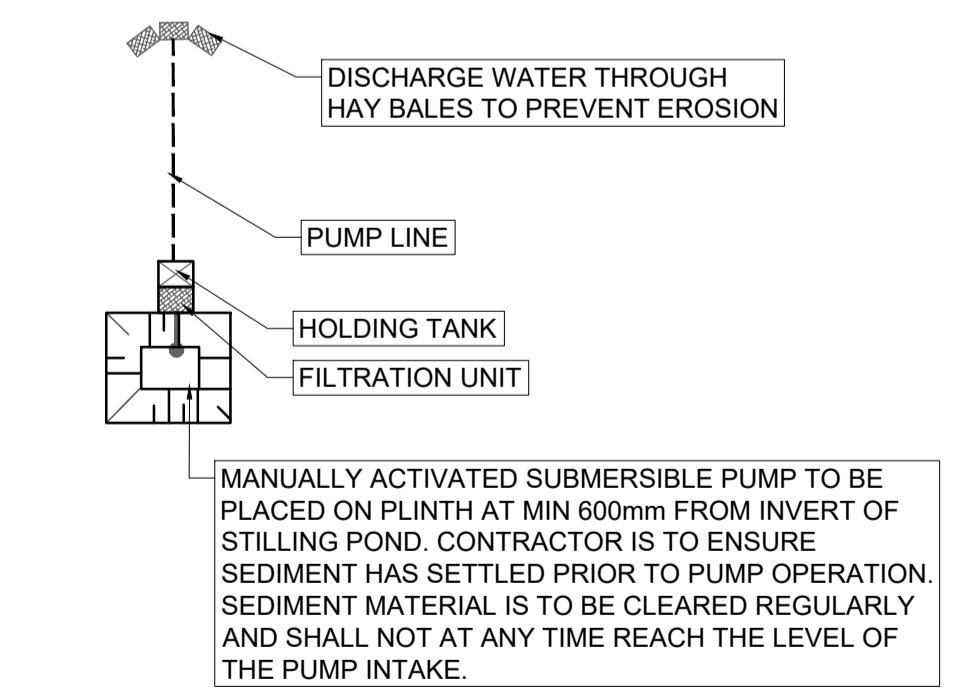
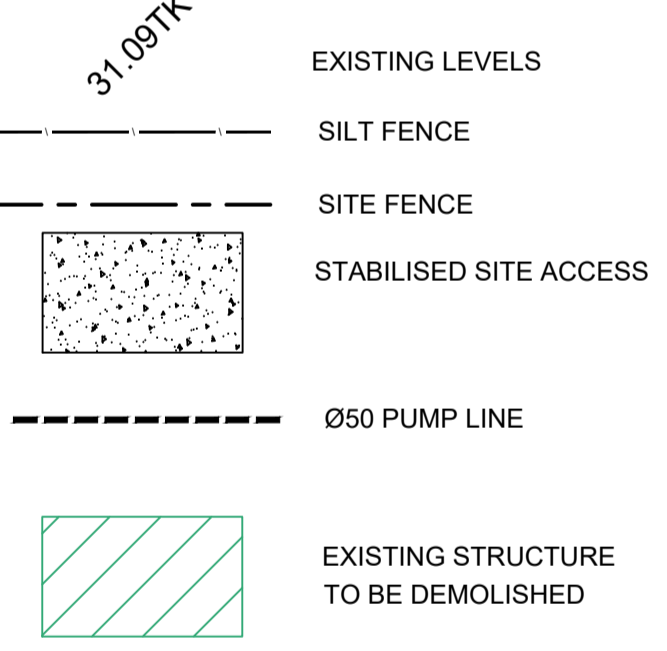




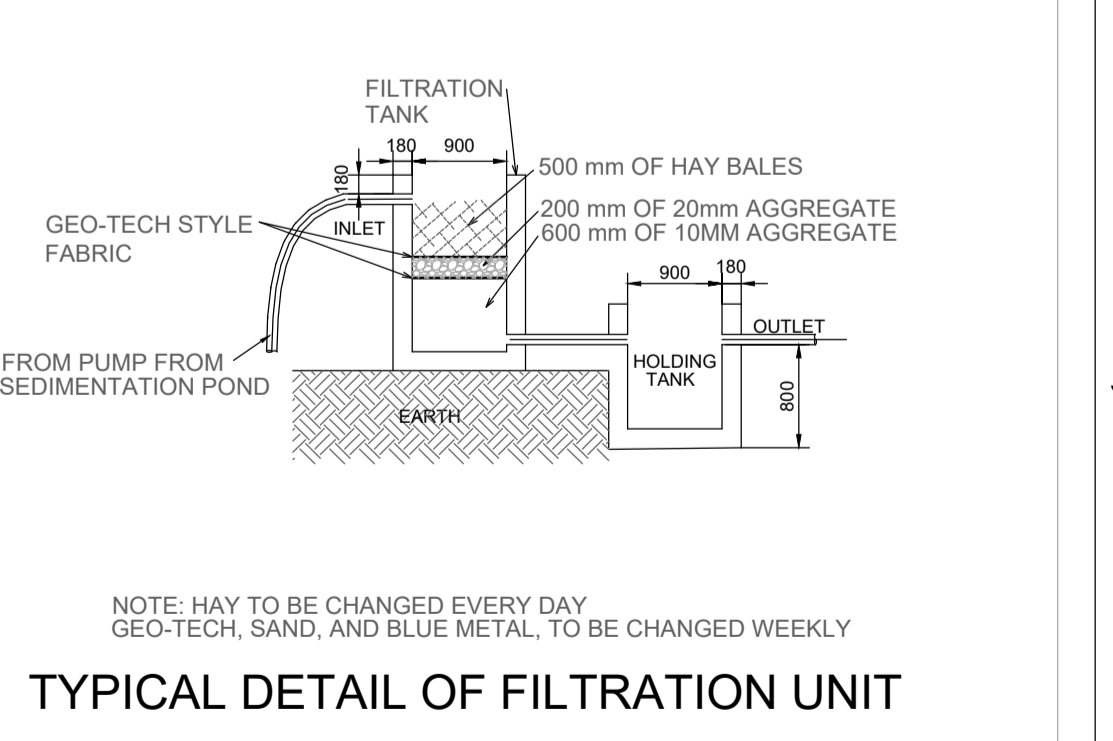
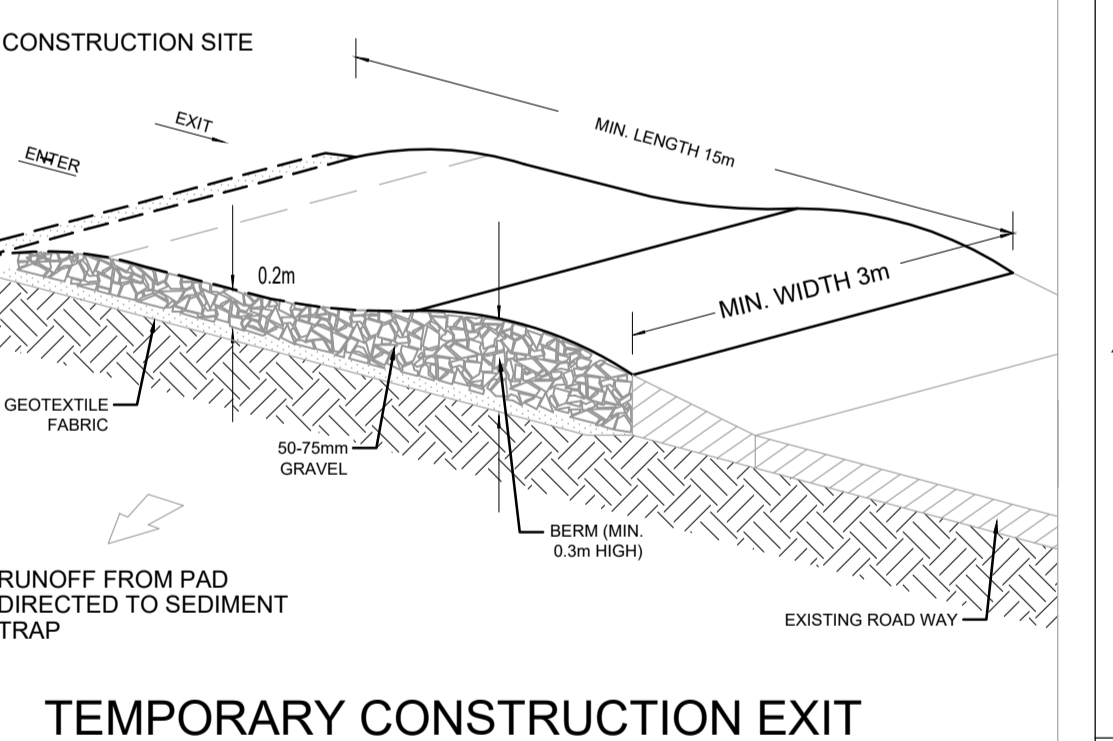
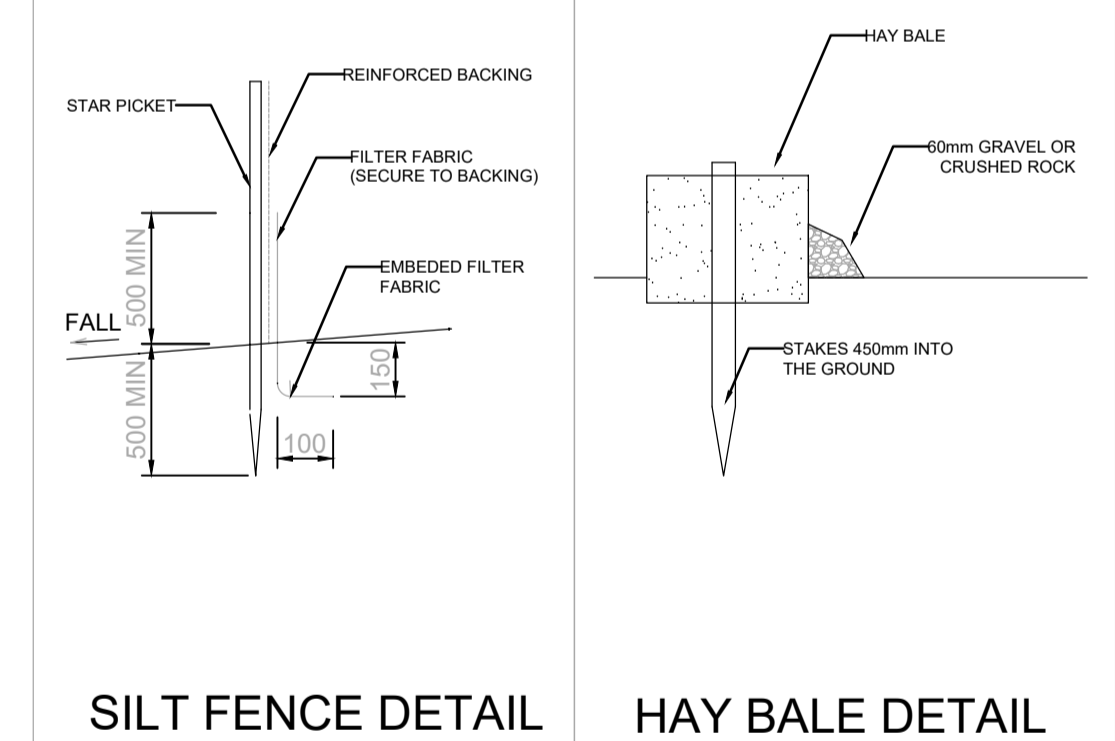
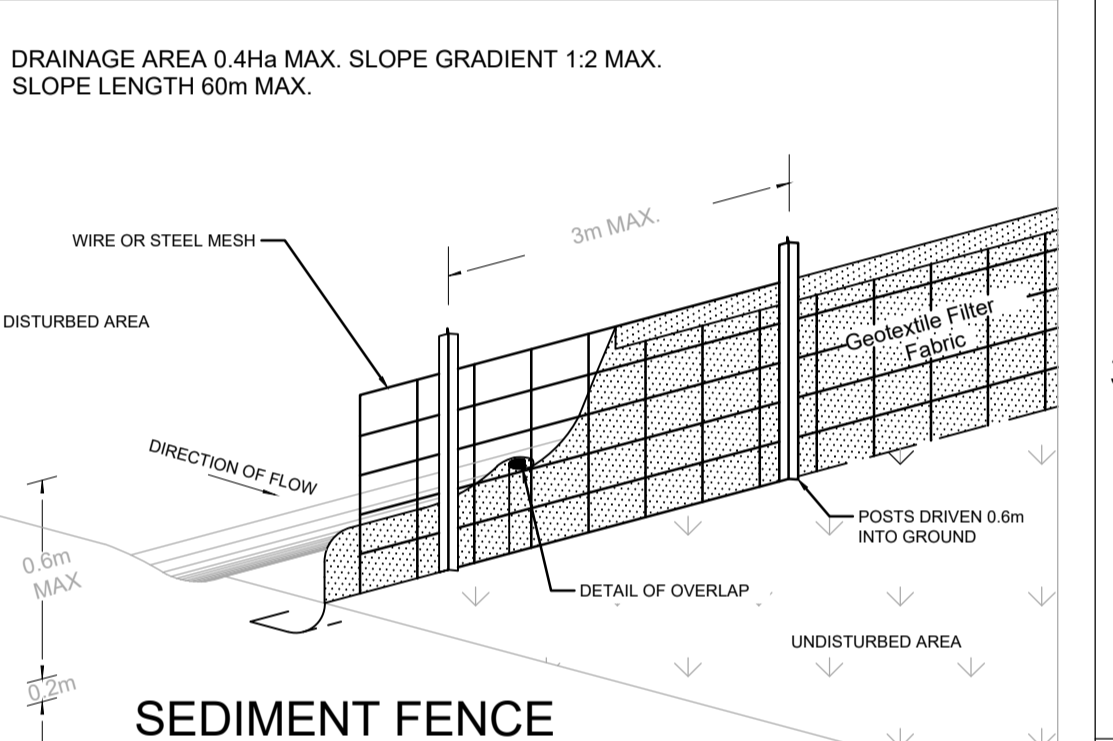
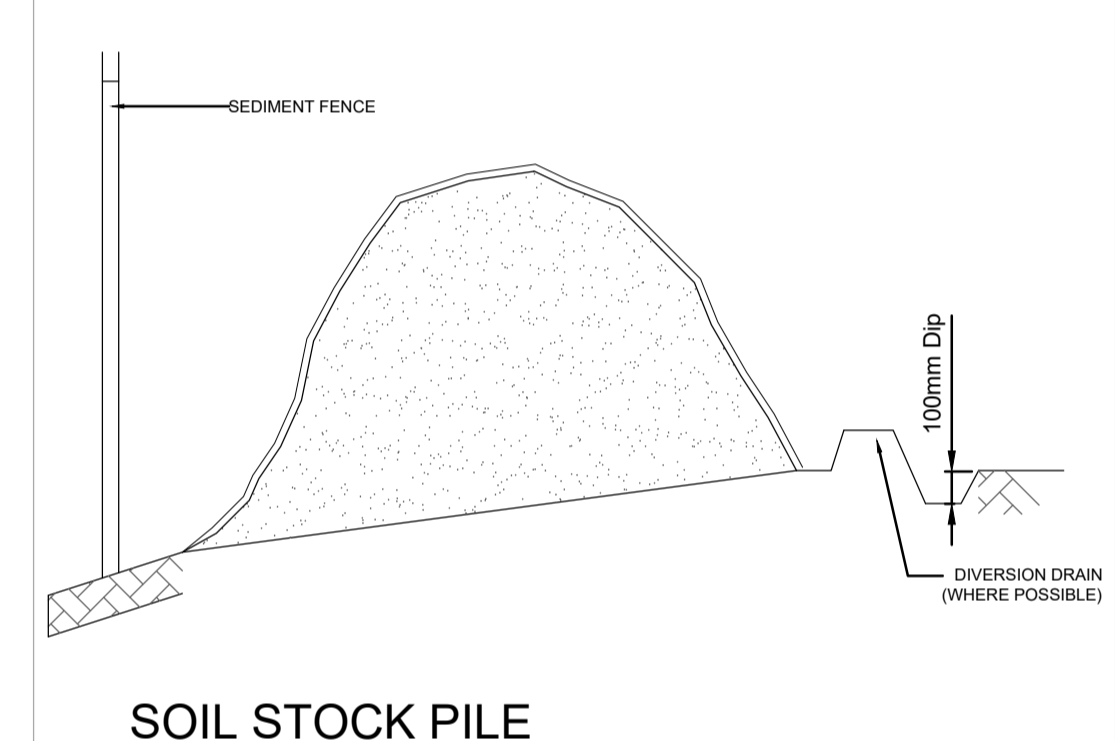
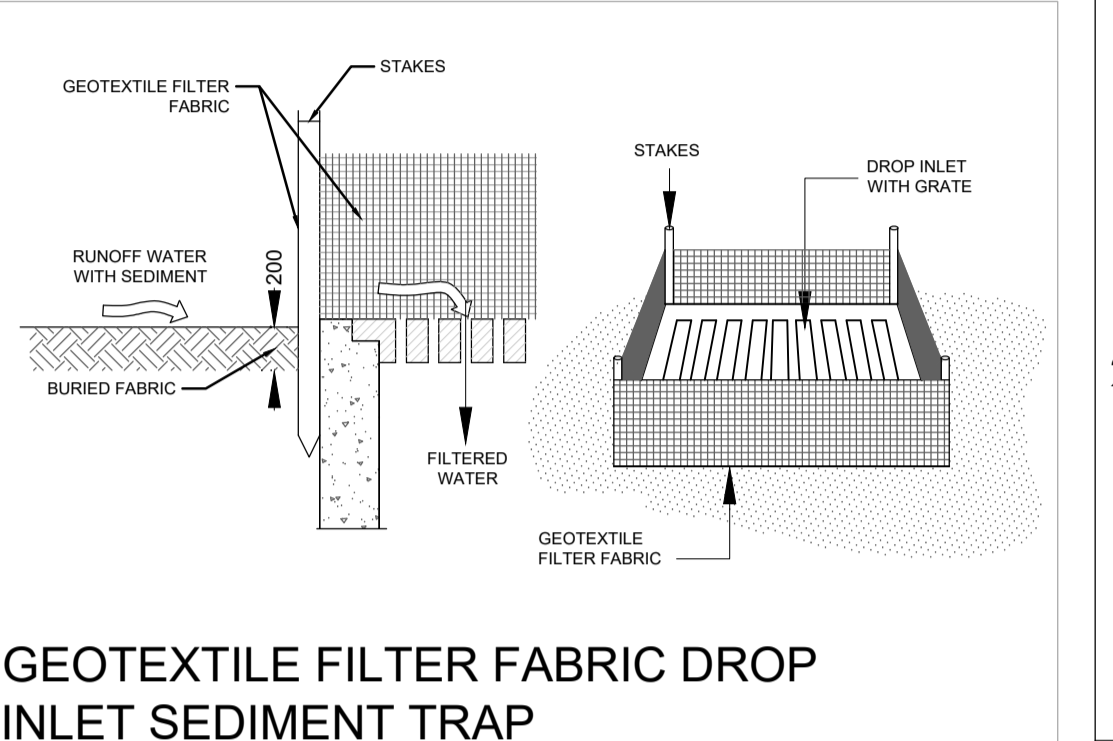
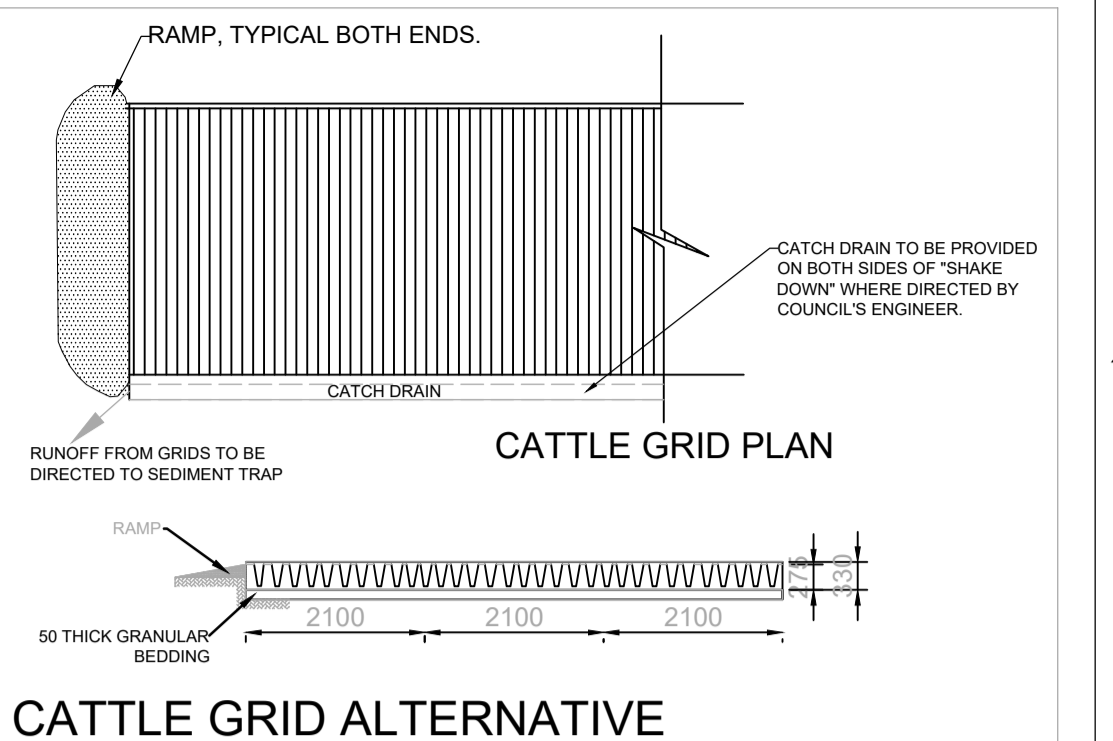
**EROSION CONTROL NOTES**

- ALL EROSION & SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH 'MANAGING URBAN STORMWATER, 3RD EDITION' PRODUCED BY THE NSW DEPARTMENT OF HOUSING.
  - ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION AND REMOVED REGULARLY DURING CONSTRUCTION
  - ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECTS OR LANDSCAPE ARCHITECTS DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC. CONTRACTOR TO MINIMISE DISTURBED AREAS.
  - INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADDED WATER
  - NOT WITHSTANDING DETAILS SHOWN, IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT.
  - ALL DISTURBED AREAS AND STOCKPILES TO BE STABILISED WITHIN 14 DAYS. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
  - TOPSOIL TO BE STRIPPED, STOCKPILED AND RE-SPREAD ON COMPLETION OF EARTHWORKS. NONE TO BE REMOVED.
  - NO DISTURBANCE OF SITE PERMITTED OTHER THAN IMMEDIATE AREA OF THE WORKS.
  - DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
- NON-COMPLIANCE MAY RESULT IN A \$1500 FINE

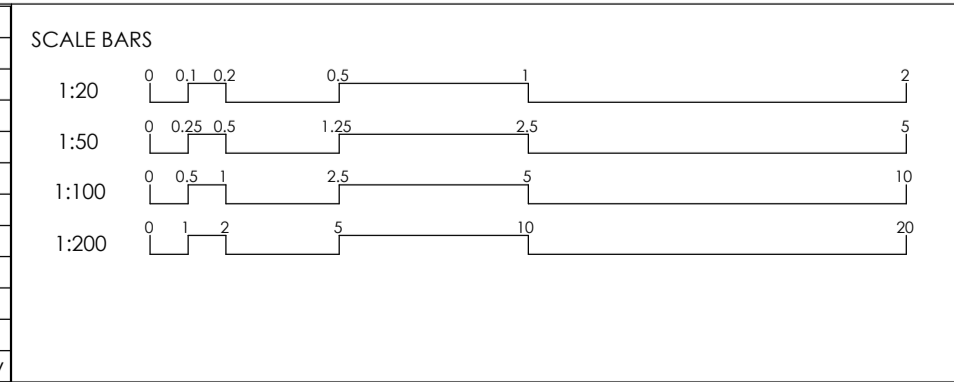
**SYMBOLS**



- NOTES THIS DRAWING**
- ALL DOCUMENTS WILL BE SUBMITTED TO COUNCIL FOR APPROVAL.
  - ALL SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE.
  - INSTALLATION OF SILT FENCING, SEDIMENTATION BARRIERS AROUND DRAINS.
  - FENCING IS TO BE 1.8m(min) HEIGHT, PLACED AROUND THE SITE UNTIL THE WORK COMPLETE.
  - THE SITE GATES WILL BE LOCATED AT RAILWAY STREET.
  - THE HARDSTAND AREAS OR CATTLE GRIDS WILL BE PLACED AT THE SITE ENTRANCES AND EXITS. TO REMOVE THE BULK OF DIRT AND MUD THAT MAY ACCUMULATE ON TRUCK TYRES.
  - CONTRACTOR WILL CONDUCT REGULAR STREET SWEEPS ALONG THE ACCESS ROUTE TO ENSURE THE ROADS ADJACENT TO THE SITE ENTRANCES ARE KEPT CLEAN OF ANY DIRT AND DEBRIS.
  - REGULAR ENVIRONMENTAL INSPECTIONS WILL BE CARRIED OUT BY CONTRACTOR'S PERSONNEL TO ENSURE COMPLIANCE WITH THIS PLAN.



| A No. | ISSUED FOR D.A. | Description | Date     | Issued by | Checked by |
|-------|-----------------|-------------|----------|-----------|------------|
|       |                 |             | 13.09.21 | N.E.      | K.E.       |



CLIENT: -

ARCHITECT: LEVEL ARCHITECTS

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| DRAWING TITLE<br><b>EROSION AND SEDIMENT CONTROL PLAN AND DETAILS SHEET 1</b> |                       | PROJECT<br><b>10-11 RAILWAY ST, WERRINGTON NSW 2747</b> |  |
| SHEET NO.<br><b>D15</b>   | REV.<br><b>A</b>      | SCALE @ A1<br><b>AS SHOWN</b>                           | NORTH  |
| DESIGNED:<br><b>K.E.</b>  | DRAWN:<br><b>N.E.</b> | AUTHORISED:<br><b>K.E.</b>                              | PROJECT NO.<br><b>200442</b>                 |
|   |                       |   | PROJECT START DATE:<br><b>SEPTEMBER 2021</b> |



GENERAL INSTRUCTIONS:

SWM01 THESE PLANS PRESENT A CONCEPTUAL SOIL AND WATER MANAGEMENT PLAN (SWMP) ONLY AND SHOWS A POSSIBLE WAY OF MANAGING SOIL AND EROSION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT AND MANAGEMENT OF THE SITE AND PREPARING A DETAILED PLAN AND OBTAINING APPROVAL FROM THE RELEVANT AUTHORITY PRIOR TO THE COMMENCEMENT OF ANY WORKS.

SWM02 THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND ANY OTHER PLANS, WRITTEN INSTRUCTIONS, SPECIFICATION OR DOCUMENTATION THAT MAY BE ISSUED AND RELATING TO DEVELOPMENT OF THE SUBJECT SITE.

SWM03 THE CONTRACTOR WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE CONSISTENT WITH 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION' - ALSO KNOWN AS 'THE BLUE BOOK'.

SWM04 ALL BUILDERS AND SUB-CONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.

EROSION CONTROL:

SWM05 WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNTIL SEDIMENT CONCENTRATION IS LESS THEN OR EQUAL TO 50MG/L. IE THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/ OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AND APPROVED STRUCTURE.

SWM06 ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD THE SURFACE WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.

SWM07 ACCEPTABLE RECEPTORS WILL BE CONSTRUCTED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

SWM08 'SEDIMENT' FENCING WILL BE INSTALLED AS INDICATED ON THE PLANS AND AT THE DIRECTION OF SITE SUPERINTENDENT TO ENSURE CONTAINMENT OF SEDIMENT. THE SEDIMENT FENCING WILL OUTLET OR OVERFLOW UNDER STABILISED CONDITIONS INTO THE SEDIMENT BASIN. TO SAFELY CONVEY WATER INTO A SUITABLE FILTERING SYSTEM SHOULD THE PORES IN THE FABRIC BLOCK.

SWM09 THE SEDIMENT BASINS WILL BE CONSTRUCTED WITH THE MINIMUM WET SEDIMENT CAPACITY OF CUM CUBIC METERS AND DESIGNED TO REMAIN STABLE IN AT LEAST THE 1 IN CDSE YEAR CRITICAL DURATION STORM EVENT. ARTIFICIAL FLOCCULATION OF THE FINER PARTICLES MAY NOT BE NECESSARY IN THIS INSTANCE.

SWM10 STOCKPILES SHOULD NOT BE LOCATED WITHIN 5M OF TREES AND HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, DRAINAGE LINES, PAVED AREAS AND DRIVEWAYS. WHERE THEY ARE WITHIN 5M FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSTREAM WATERS. MEASURE SHOULD ALSO BE APPLIED TO PREVENT THE EROSION OF THE STOCKPILE.

SWM11 ALL CUT AND FILL BATTERS ARE TO BE SEEDED AND MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION.

SWM12 ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY - A. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE. B. ENSURING THAT NOTHING IS NAILED TO THEM. C. PROHIBITING PAVING GRADING SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS: 1. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER, 2. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH, 3. CARE IS TAKEN.

SWM13 DURING WINDY WEATHER, LARGE DISTURBED UNPROTECTED AREAS SHOULD BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

SWM14 TEMPORARY PROTECTION FROM EROSION FORCES WILL BE UNDERTAKEN ON LANDS WHERE FINAL SHAPING HAS NOT BEEN COMPLETED BUT WORKS ARE UNLIKELY TO PROCEED FOR PERIODS OF TWO MONTHS OR MORE (EG. ON TOP SOIL STOCKPILES). THIS MAY BE ACHIEVED WITH A VEGETATIVE COVER. A RECOMMENDED LISTING OF PLANT SPECIES FOR SOIL AND WATER MANAGEMENT NOTES: TEMPORARY COVER IS - I) AUTUMN/WINTER SOWING -OATS/RYECORN AT 20KG/HA -JAPANESE MILLET AT 10KG/HA II) SPRING/SUMMER SOWING -JAPANESE MILLET AT 20KG/HA - OATS/RYECORN AT 10 KG/HA

SWM15 DIVERSION BANKS/ CHANNELS WILL BE REHABILITATED AS SOON AS POSSIBLE AND WITHIN 5 WORKING DAYS FROM THEIR FINAL SHAPING. OTHER THAN IN THE WINTER MONTHS, SUITABLE MATERIALS'S INCLUDE TURF GRASSES SUCH S COUCH OR KIKUYU. DURING WINTER, OR AT OTHER TIMES WHEN TEMPORARY REHABILITATION (MORE THAN 3 MONTHS) IS REQUIRED, IT IS SUGGESTED THAT HESSIAN CLOTH IS USED BUT ONLY IF TACKED WITH APPROPRIATE PEGS AND AN ANIONIC BITUMEN EMULSION. FOOT AND VEHICULAR TRAFFIC SHOULD BE KEPT AWAY FROM THESE AREAS.

SWM16 UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

CONSTRUCTION SEQUENCE

SWM17 WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE SHOULD BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE -

- I) INSTALL INLET SEDIMENT TRAPS TO ALL GULLY PITS FRONTING THE SITE. II) INSTALL A 1.8M CHAIN WIRE FENCE AROUND THE BOUNDARIES AND ATTACH HESSIAN CLOTH OR SIMILAR TO IT ON THE WINDWARD SIDE (TIES AT THE TOP, CENTRE AND BOTTOM AND AT 1M INTERVALS OR AS INSTRUCTED BY THE SUPERINTENDENT). III) INSTALL GEOFABRIC SEDIMENT FENCE AND SEDIMENT TRAPS AROUND ALL PERMANENT STORMWATER RETICULATION STRUCTURES AS SHOWN ON THE PLAN. IV) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN OR TO LOCATION AS DETERMINED BY SUPERINTENDENT. V) INSTALL DIVERSION BANKS ALONGS THE BOUNDARY WHERE REQUIRED, REHABILITATE DISTURBED LANDS DOWNSLOPE FROM THE BASINS WITHIN 20 WORKING DAYS. VI) ENSURE THAT THE SEDIMENT BASIN IS DIRECTED ONTO A TURFED AREA AND DRAINS TO A SUITABLE LOCATION. A TEMPORARY STORMWATER LINE MAY BE NECESSARY TO CONVEY THE FLOWS TO THIS LOCATION. CONSTRUCT DIVERSION CHANNELS AT THE BOUNDARY TO DRAIN INTO THE SEDIMENT BASIN AS SHOWN ON PLANS. VII) AT COMPLETION STABILISE SITE AND DECOMMISSION SEDIMENT BASIN AND ALL EROSION CONTROL DEVICES.

SWM18 TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

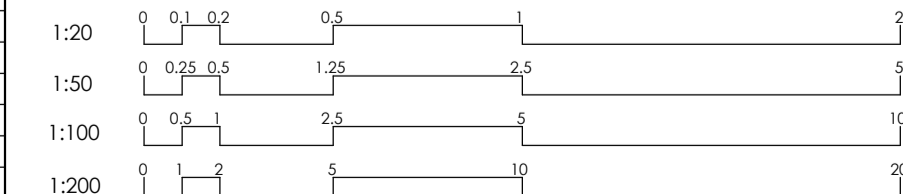
SWM19 FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SITE INSPECTION AND MAINTENANCE

SWM 20 AT LEAST WEEKLY AND AFTER EVERY RAIN FALL EVENT, THE CONTRACTOR WILL INSPECT THE SITE AND ENSURE THAT - I) DRAINS AND ALL SEDIMENT CONTROL DEVICES OPERATE EFFECTIVELY AND INITIATE REPAIR OR MAINTENANCE AS REQUIRED. II) RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WIGHT WASTE MATERIALS AND LITTER ARE TO BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANOR APPROVED BY THE SUPERINTENDENT. III) SPILL SAND (OR OTHER MATERIALS) IS REMOVED FROM HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, GUTTERS, PAVED AREAS AND DRIVEWAYS. IV) SEDIMENT IS REMOVED FROM BASINS AND / OR TRAPS WHEN LESS THAN 20M³ OF TRAPPING CAPACITY REMAIN PER 1000M² OF DISTRIBUTED LANDS, AND OR LESS THAN 500 DEPTH REMAINS IN THE SETTLING ZONE. ANY COLLECTED SEDIMENT WILL BE DISPOSED IN AREAS WHERE FURTHER POLLUTION TO DOWN SLOPE LANDS AND WATERWAYS IS UNLIKELY. V) REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND INITIATE UPGRADING OR REPAIR AS APPROPRIATE.

SWM 21 THE CONTRACTOR SHALL PROVIDE ALL MONITORING CONTROL AND TESTING.

SCALE BARS



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DRAWING TITLE EROSION AND SEDIMENT CONTROL PLAN AND DETAILS SHEET 2

Table with drawing details: SHEET NO. D16, REV. A, SCALE @ A1 AS SHOWN, DESIGNED: K.E., DRAWN: N.E., AUTHORISED: K.E.

PROJECT 10-11 RAILWAY ST, WERRINGTON NSW 2747

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