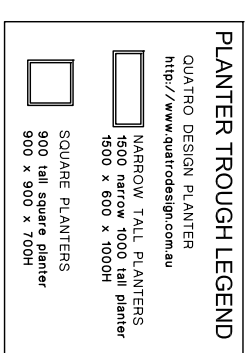
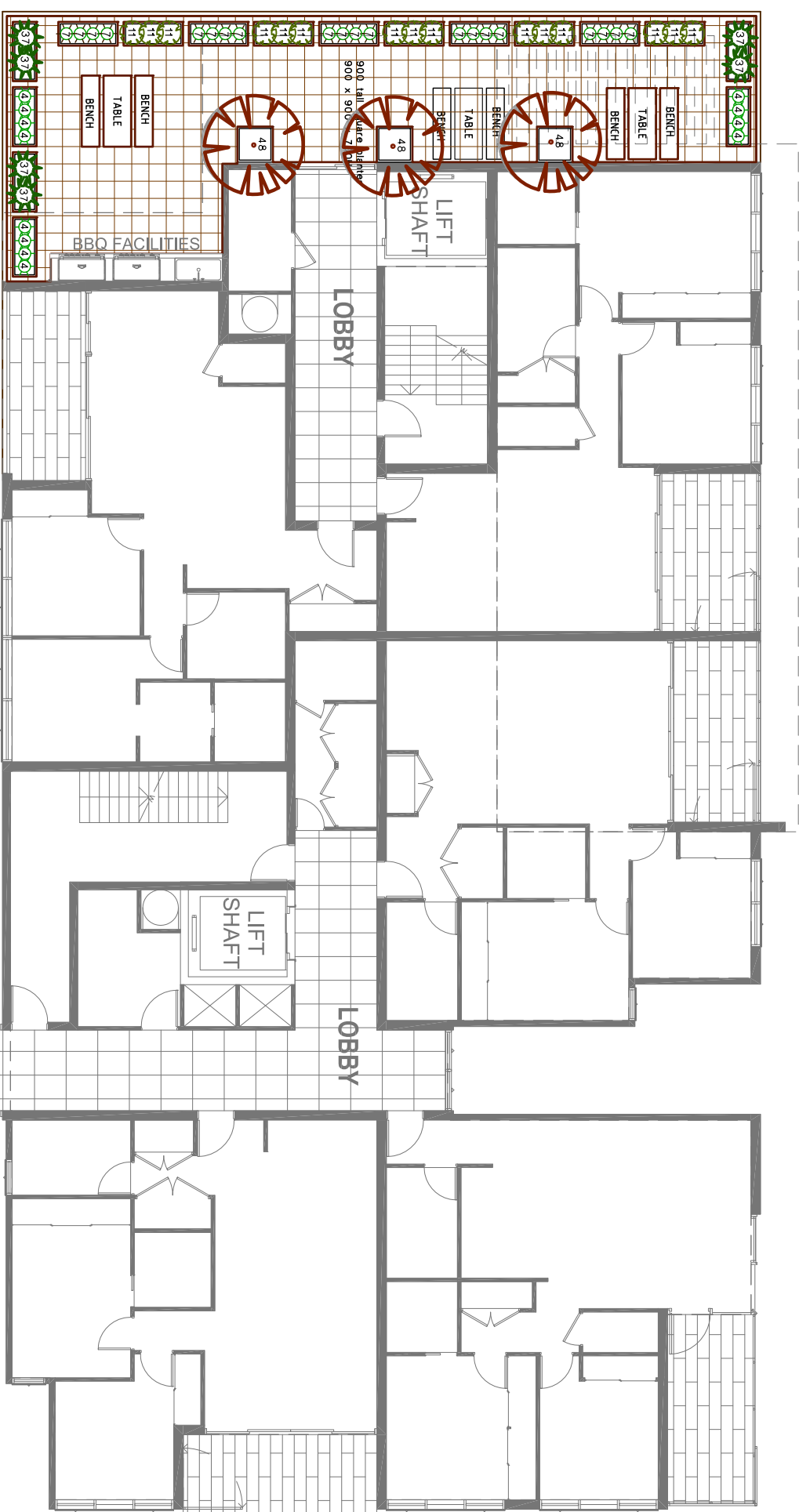
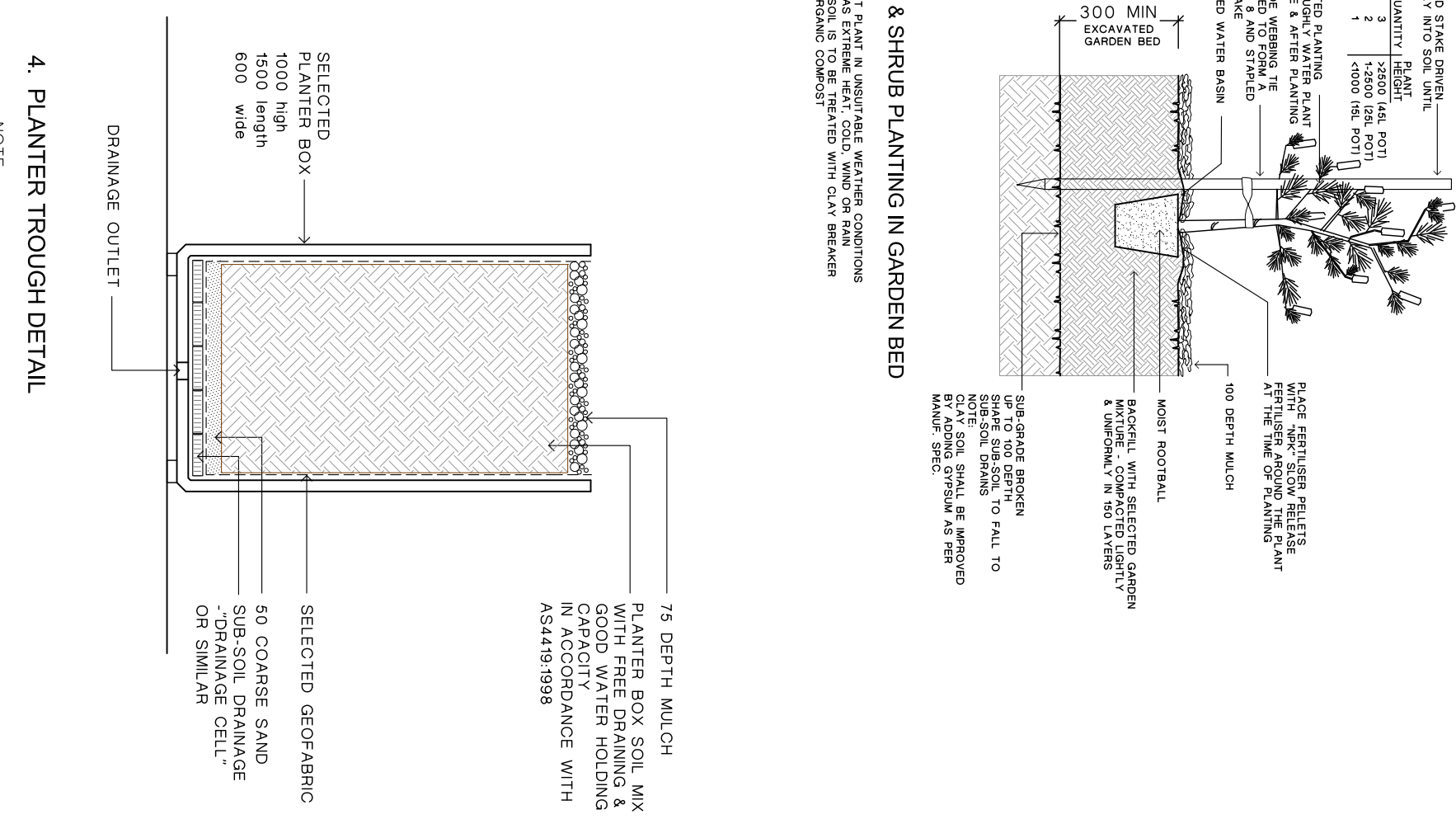
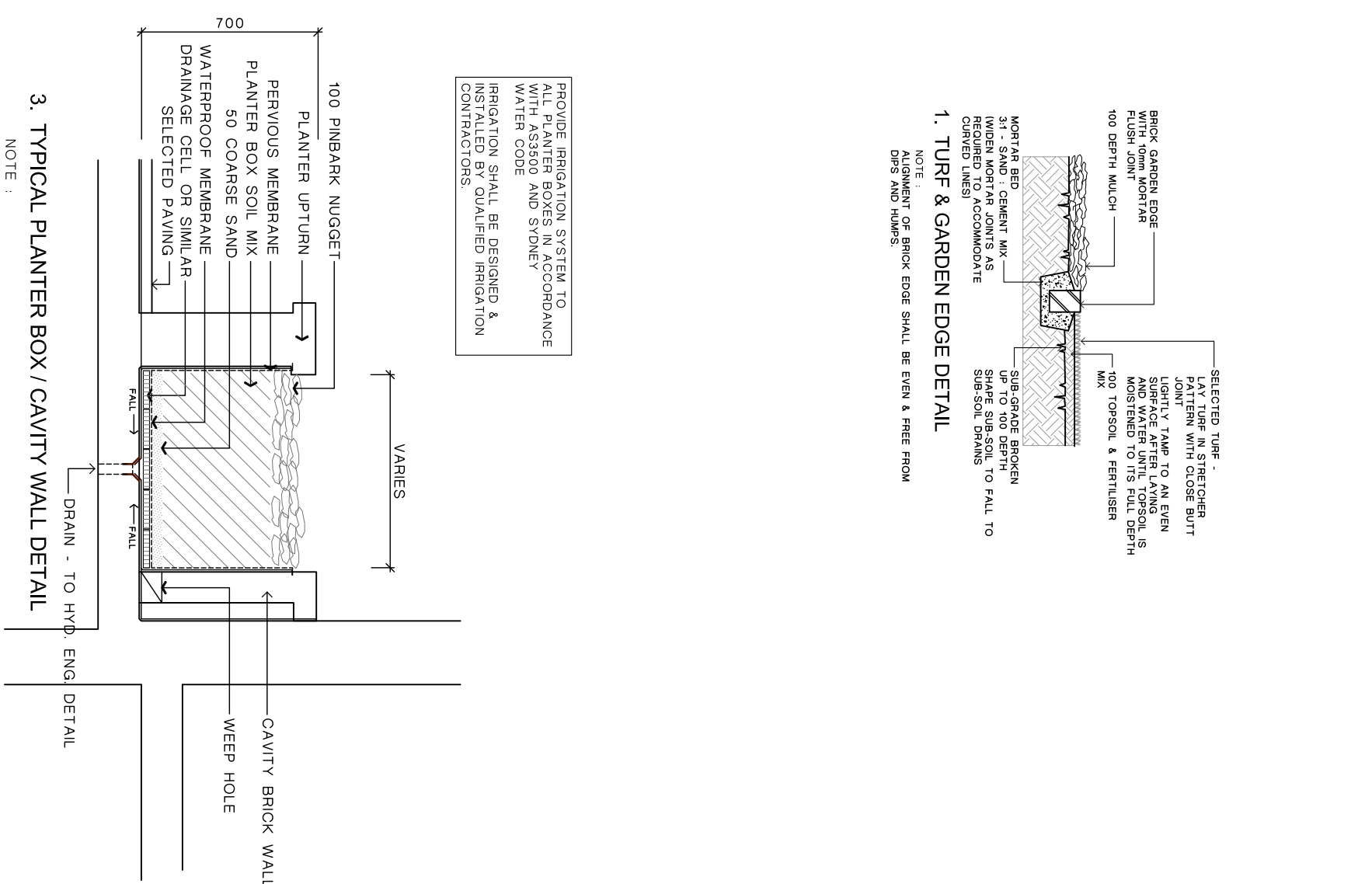


## LEGEND / FINISHES SCHEDULE

|                             | EXISTING RL                                                                                                                                                                                               |  |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                             | EXISTING TREES, SHRUBS & GROUND COVER<br>(REFER NO. TO PLANT SCHEDULE)                                                                                                                                    |  |
|                             |                                                                                                                                                                                                           |  |
|                             | LAWN AREA                                                                                                                                                                                                 |  |
|                             | PEBBLE AREA                                                                                                                                                                                               |  |
|                             | PATIO / TERRACE / PATH                                                                                                                                                                                    |  |
|                             | MASONRY RETAINING WALL                                                                                                                                                                                    |  |
|                             | NISFU MASONRY PLAYER BOX                                                                                                                                                                                  |  |
|                             | LETTER BOX                                                                                                                                                                                                |  |
|                             | STORM WATER PIT                                                                                                                                                                                           |  |
| ITEM                        | MATERIAL                                                                                                                                                                                                  |  |
| SOL                         | NOTE ALL SOL TYPE AS PER AUST. NATIVE LANDSCAPE SUPPLY OR EQUIVALENT                                                                                                                                      |  |
| LAWN AREA                   | 1st QUALITY TOP SOIL                                                                                                                                                                                      |  |
| NATIVE GARDEN               | NATIVE GARDEN MIX                                                                                                                                                                                         |  |
| EXOTO GARDEN BED            | ORGANIC GARDEN MIX                                                                                                                                                                                        |  |
| PLAYER BOX                  | PLAYER BOX MIX IN ACCORDANCE WITH AS4419/1998 & AS3743                                                                                                                                                    |  |
| MULCH                       | SELECTED HARD WOOD CHIP RECOGNIZING GRANT TO OSD AREA REFER TO DETAIL 1 & 2                                                                                                                               |  |
| PLANT MATERIAL              | AS PER PLANT SCHEDULE REFER TO DETAIL 2                                                                                                                                                                   |  |
| GARDEN EDGE                 | SELECTED PRESSED BRICK OR AS SELECTED                                                                                                                                                                     |  |
| RETAINING WALL & PLAYER BOX | SELECTED MASONRY RETAINING WALL AND DRAINAGE TO ENG DETAIL                                                                                                                                                |  |
| FENCE                       | 1800 HIGH LAPPED & CARPED TIMBER FENCE OR 1800 HIGH COLOURBOUND                                                                                                                                           |  |
| COURTYARD SEPARATION FENCE  | REFER TO ARCHITECT'S DETAIL                                                                                                                                                                               |  |
| FRONT                       | REFER TO ARCHITECT'S DETAIL                                                                                                                                                                               |  |
| IRRIGATION                  | PROVIDE DRIP IRRIGATION SYSTEM TO ALL PLANTER BOXES IN ACCORDANCE WITH AS3550 AND STREET WATER CODE AS3550 AND STREET WATER IRRIGATION SHALL BE DESIGNED & INSTALLED BY QUALIFIED IRRIGATION CONTRACTORS. |  |



## LEVEL 8



## PROPOSED PLANT SCHEDULE

| No.                           | BOTANICAL NAME               | COMMON NAME            | APPROX<br>MADEUP<br>PERCENT | POT<br>SIZE | QUANTITY |
|-------------------------------|------------------------------|------------------------|-----------------------------|-------------|----------|
| <b>GROUND COVER / BOARDER</b> |                              |                        |                             |             |          |
| 2                             | Lomandra 'TANIKA'            | Dwarf Lomandra         | 0.75                        | 150mm       | 120      |
| 3                             | Saxifraga hirsutella         | mother in law's tongue | 0.6                         | 150mm       | 28       |
| 4                             | Liriope muscari 'Just Right' | Just Right Liriope     | 0.5                         | 150mm       | 59       |
| 5                             | Dianella aemula 'Destiny'    | Destiny Flax Lily      | 0.4                         | 150mm       | 62       |
| 7                             | Prostanthera Chocomaui Mist  | Chocomaui Mist         | 0.5                         | 150mm       | 50       |
| 10                            | Aspidistra halimifolia       | Caribbean Plant        | 0.5                         | 150mm       | 21       |
| <b>LOW SHRUBS</b>             |                              |                        |                             |             |          |
| 11                            | Buxus microphylla Japanese   | Japanese box           | 1                           | 5 L         | 104      |
| 13                            | Philadelphus Xanadu          | Xanadu                 | 0.7                         | 5 L         | 139      |
| 16                            | Murraya paniculata           | Murraya                | 1.5                         | 5 L         | 101      |
| 19                            | Artemisia 'Mist Magic'       | Lily pillay            | 1.5                         | 5 L         | 20       |
| 20                            | Westringia frutescens        | Westringia             | 1.5                         | 5 L         | 37       |

| TABLE 3. SIRSUS |                                             |                    |    |
|-----------------|---------------------------------------------|--------------------|----|
| 22              | <i>Phllocladon</i> <i>sekiunum</i>          | <i>Phllocladon</i> | 22 |
| 25              | <i>Syzgium</i> <i>australe</i> 'Resilience' | Lilly jilly        | 41 |
| 28              | <i>Prothia</i> <i>glabra</i> 'Rubens'       | Prothia            | 18 |

### FEATURE SHRUBS

|    |                                             |                                |     |      |    |
|----|---------------------------------------------|--------------------------------|-----|------|----|
| 31 | <i>Desmodium ilicium</i>                    | Blue bamboo                    | 3   | 5 L  |    |
| 32 | <i>Coryphantha excelsa</i>                  | Gyma Lily                      | 12  | 5 L  | 11 |
| 33 | <i>Dioclea maritima</i>                     | Dragonica                      | 2.5 | 5 L  | 4  |
| 34 | <i>Pennisetum eximium</i>                   | Lily palm                      | 2.5 | 5 L  | 23 |
| 35 | <i>Corydalis Red Sensation</i> <sup>1</sup> | Red Sensation                  | 12  | 5 L  | 13 |
| 36 | <i>Dioclea juncea</i>                       | Sage Palm                      | 1.5 | 26 L | 3  |
| 37 | <i>Sterculia rostrata</i>                   | Narrow-leaved Bird of Paradise | 12  | 5 L  | 6  |
| 38 | <i>Sterculia nobilis</i>                    | Grand Bird of Paradise         | 5   | 5 L  | 3  |
| 39 | <i>Thiosiphon maxim</i>                     | Tiger grass                    | 1.5 | 5 L  | 9  |
| 40 | <i>Alpinia zerumbet variegata</i>           | Variegated Shell Ginger        | 1.5 | 5 L  | 34 |

| Trees                            |                          | Croat Bury Maple |      |
|----------------------------------|--------------------------|------------------|------|
| 41 Acer platanum Smirski         | 6.                       | 25.              | 4.   |
| 42 Aranea smithi                 | Luy jay                  | 10.              | 25.  |
| 43 Eucalyptus radiatus           | Blue berry ash.          | 8.               | 25.  |
| 45 Pterocarya capitata           | Cormorant Pear           | 6.               | 25.  |
| 47 Sapindus latifolius           | Chinese Willow Tree      | 10.              | 4.   |
| 48 Magnolia Little Gum           | Magnolia                 | 5.               | 4.   |
| 50 Howea forsteriana             | Kentia Palm              | 10.              | 18.  |
| 51 Melaleuca decora              | White Feather Honey-myrt | 7.               | 4.   |
| 52 Magnolia grandiflora Escholtz | Eucalyptus Myrtle        | 25.              | 3.   |
| 53 Brachyglottis acedroform      | Illawarra Flame Tree     | 75 L             | 2.   |
| 54 Corymba maculata              | Sporting gum             | 25               | 4.   |
| 55 Angophora floribunda          | Rough-barked Apple       | 20               | 75 L |

| REV | DESCRIPTION      | INIT | REVISION<br>BY<br>DATE |
|-----|------------------|------|------------------------|
| A   | COUNCIL DA ISSUE |      | 19/10/16               |
|     |                  |      |                        |
|     |                  |      |                        |
|     |                  |      |                        |
|     |                  |      |                        |
|     |                  |      |                        |

NOTE:

1. Contractors must verify all dimensions at the site before commencing any work or making any manufacturing. All dimensions must be approved before manufacturing.
  2. Do not scale drawing. If in doubt - ASK
  3. This drawing is to be read in conjunction with Architectural, Hydraulic and survey plans.
  4. All Existing trees to remain shall be protected as per arborist report & council requirements.
  5. All pruning shall be in accordance with the AS 4373.
  6. All dead or diseased trees must be removed.
  7. No variation to the works to be carried out without prior approval from owner.
  8. All materials to be the best of their respective kinds and shall comply with approved sample type submitted or specified.
  9. Substitution of plant species or varieties will not be permitted.
  10. Unless otherwise specified or directed, all instructions are to be issued by the consulting landscape designer.
  11. All storm water outlets & surface run off shall be to Hydraulic Engineers detail.
  12. Provide sub-soil drainage to garden beds & lawn areas where required - To be confirmed on site.
  13. Refer to survey plan for position of all existing services.
  14. Refer to Architectural elevations & Sections for existing and proposed ground levels.
  15. All landscape works shall comply with all councils DA & CC conditions and all relevant AUSTRALIAN STANDARDS and AUS SPEC NO1 Specification CD3-2 Landscape
  16. Irrigation system, if required, shall be designed & installed to comply with AS 4686, AS 2084-1994, AS 4685-1994, AS 4686-1994, AS 4687-1994 and other relevant authority regulations.
- MAINTENANCE:** All landscape works are to be completed within 14 days of completion of construction completion. Replace all plants which have failed with the same species. Much is to be maintained as specified. All plants and turf shall be watered at a specified frequency. All plants and turf shall be maintained on a regular basis. All plants and turf shall be watered on a regular basis. All garden areas are to be maintained free from weeds.

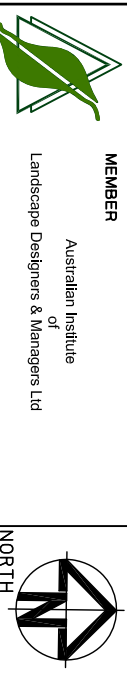
~~PROPOSED HOME UNITS~~

~~1-5 Bathurst Street  
Liverpool~~

ALGORRA ZAPPIA &amp; ASSOC.

LANDSCAPE CONCEPT  
PLAN

|                |    |       |                      |      |   |
|----------------|----|-------|----------------------|------|---|
| DRAWN          | FF | SCALE | 1:150@A1 OR 1:300@A3 | REV. |   |
| DRAWING NUMBER |    |       | 16129 DA 2-2         |      | A |



# Appendix E

## Stormwater Concept Plan

## TRANSMITTAL

| To | Company         | Attention     | Address                                   |
|----|-----------------|---------------|-------------------------------------------|
| >  | Binah By Design | Ahmad Refaieh | PO Box 3142, Liverpool Westfield NSW 2170 |
| >  |                 |               |                                           |

**PROJECT NAME:** 1-5 Bathurst St, Liverpool

**PROJECT NO:** 201602 28

We enclose copies of documents listed below:

DISCIPLINE

DATE SENT

|              |    |  |  |  |  |  |  |  |
|--------------|----|--|--|--|--|--|--|--|
| <b>Day</b>   | 20 |  |  |  |  |  |  |  |
| <b>Month</b> | 10 |  |  |  |  |  |  |  |
| <b>Year</b>  | 16 |  |  |  |  |  |  |  |

| TITLE                                            | DWG  | ISSUE |  |  |  |  |  |  |
|--------------------------------------------------|------|-------|--|--|--|--|--|--|
| COVER SHEET                                      | SW01 | A     |  |  |  |  |  |  |
| STORMWATER CONCEPT DESIGN - BASEMENT 2 PLAN      | SW02 | A     |  |  |  |  |  |  |
| STORMWATER CONCEPT DESIGN - GROUND FLOOR PLAN    | SW03 | A     |  |  |  |  |  |  |
| STORMWATER CONCEPT DESIGN - ROOF PLAN            | SW04 | A     |  |  |  |  |  |  |
| STORMWATER CONCEPT DESIGN - DETAILS SHEET        | SW05 | A     |  |  |  |  |  |  |
| SEDIMENT AND EROSION CONTROL - PLAN AND DETAILS  | SW06 | A     |  |  |  |  |  |  |
| STORMWATER CONCEPT DESIGN - MUSIC CATCHMENT PLAN | SW07 | A     |  |  |  |  |  |  |
|                                                  |      |       |  |  |  |  |  |  |
|                                                  |      |       |  |  |  |  |  |  |
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Engineering Value

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#### ISSUE DESCRIPTION

|                                                 |   |  |  |  |  |  |  |  |
|-------------------------------------------------|---|--|--|--|--|--|--|--|
| REASON FOR ISSUE: 1-7 (SEE BELOW)               | 2 |  |  |  |  |  |  |  |
| FORMAT: P, D or E (SEE BELOW)                   | E |  |  |  |  |  |  |  |
| METHOD OF DESPATCH: E, C, P, M or H (SEE BELOW) | E |  |  |  |  |  |  |  |

#### CODES:

##### Reason for issue

- 1: Preliminary
- 2: Development Application
- 3: Construction Certificate
- 4: Tender
- 5: Construction
- 6: As built
- 7: Other

##### Format

- E: Electronic
- P: Print
- D: Disk

##### Method of Despatch

- P: Pick up
- M: Mail
- C: Courier
- H: S&G by Hand
- M: Mail
- E: Email



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# PROPOSED RESIDENTIAL DEVELOPMENT

## 1-5 BATHURST ST LIVERPOOL

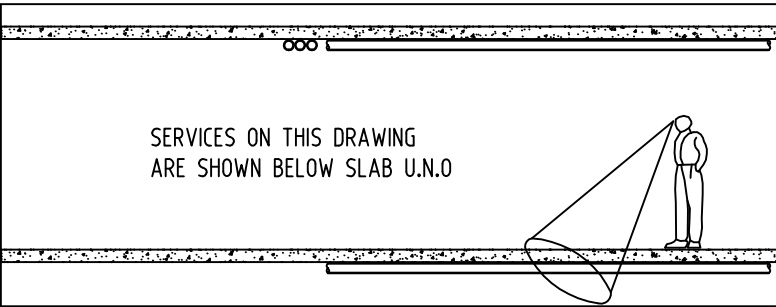
# STORMWATER CONCEPT DESIGN



LOCALITY PLAN

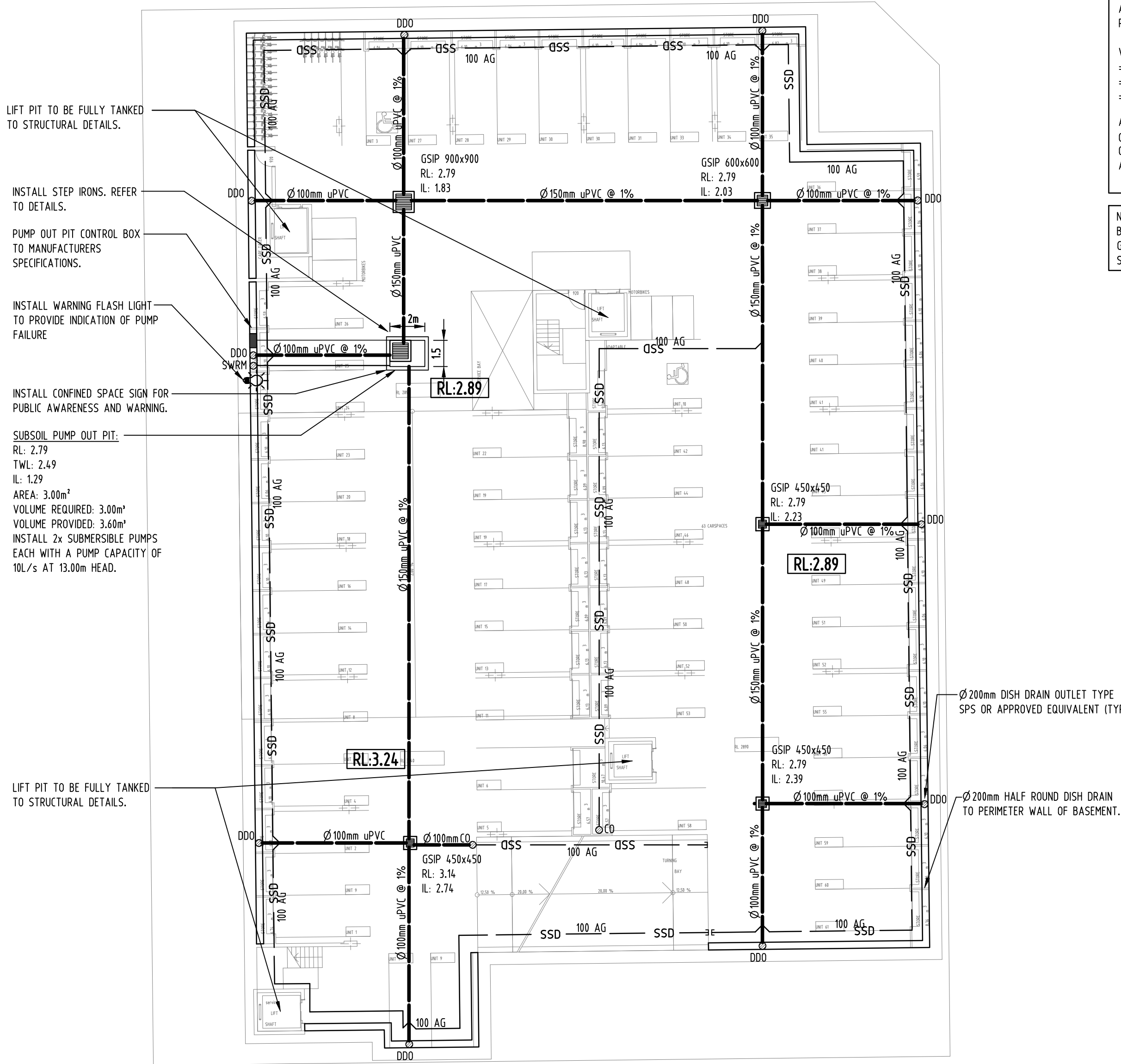
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|------------------|--------------------------------------------------|-----|
| No.              | TITLE                                            | REV |
| SW01             | COVER SHEET                                      | A   |
| SW02             | STORMWATER CONCEPT DESIGN - BASEMENT 2 PLAN      | A   |
| SW03             | STORMWATER CONCEPT DESIGN - GROUND FLOOR PLAN    | A   |
| SW04             | STORMWATER CONCEPT DESIGN - ROOF PLAN            | A   |
| SW05             | STORMWATER CONCEPT DESIGN - DETAILS SHEET        | A   |
| SW06             | SEDIMENT AND EROSION CONTROL - PLAN AND DETAILS  | A   |
| SW07             | STORMWATER CONCEPT DESIGN - MUSIC CATCHMENT PLAN | A   |

|                |                |                 |
|----------------|----------------|-----------------|
| Drawing Title  |                |                 |
| COVER SHEET    |                |                 |
| Project Number | Drawing Number | Revision Number |
| 20160228       | SW01           | A               |
| Sheet          | 1 of 7         | Issue           |
| FOR APPROVAL   |                |                 |



LACHLAN

STREET



**SUBSOIL DESIGN CALCS:**  
100yr 2hr ARI STORM= 45.4mm/hr  
ARIx2=90.8mm  
AREA OF DRIVEWAY  
RAMP UNCOVERED= 22m<sup>2</sup>  
  
V=Ax<sub>d</sub>  
=90.8x(22/1000)  
=90.8x0.022  
=2.00m<sup>3</sup>  
  
ACCORDING TO AS3500, THE MINIMUM PUMP  
OUT PIT SIZE IS 3m<sup>3</sup>. THEREFORE, A VOLUME  
OF 3.60m<sup>3</sup> SUBSOIL PUMP OUT PIT WILL BE  
APPLIED AS PER AUSTRALIAN STANDARD.

NOTE:  
BASEMENT DRAINAGE DESIGN SUBJECT TO  
GEOTECHNICAL INVESTIGATION AND  
STRUCTURAL DESIGN OF WALLS AND SLABS.

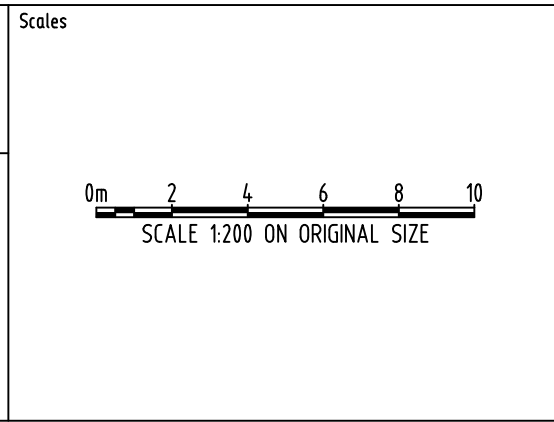
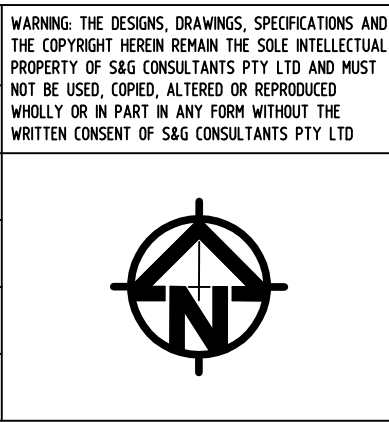
BATHURST

STREET

| Reference Coordination Drawing |                          |          |      |  |
|--------------------------------|--------------------------|----------|------|--|
| Discipline                     | Drawing Title and Number | Date     | Rev. |  |
| ARCH                           | DAT349-16-A05-P10        | 17.10.16 | 10   |  |
| ARCH                           |                          |          |      |  |
| STRUC                          |                          |          |      |  |
| MECH                           |                          |          |      |  |
| ELEC                           |                          |          |      |  |
| HYD                            |                          |          |      |  |
| FIRE                           |                          |          |      |  |
| LANDS                          |                          |          |      |  |
| CIVIL                          |                          |          |      |  |
| SURVEY                         |                          |          |      |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
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| APPROVED        | DATE |



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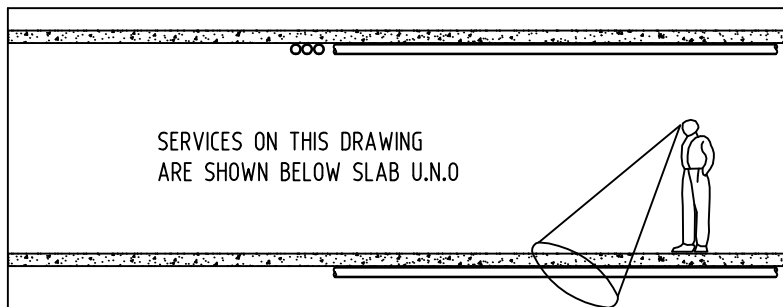
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ALGORRY ZAPPIA  
& ASSOCIATES

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|                                                                 |        |        |                          |
|-----------------------------------------------------------------|--------|--------|--------------------------|
| PROJECT<br>RESIDENTIAL DEVELOPMENT<br>1-5 BATHURST ST LIVERPOOL |        |        |                          |
| Grid                                                            | Datum  | Sheet  | Scale (at original size) |
| -                                                               | A.H.D. | 2 of 7 | 1:200 @ A1               |

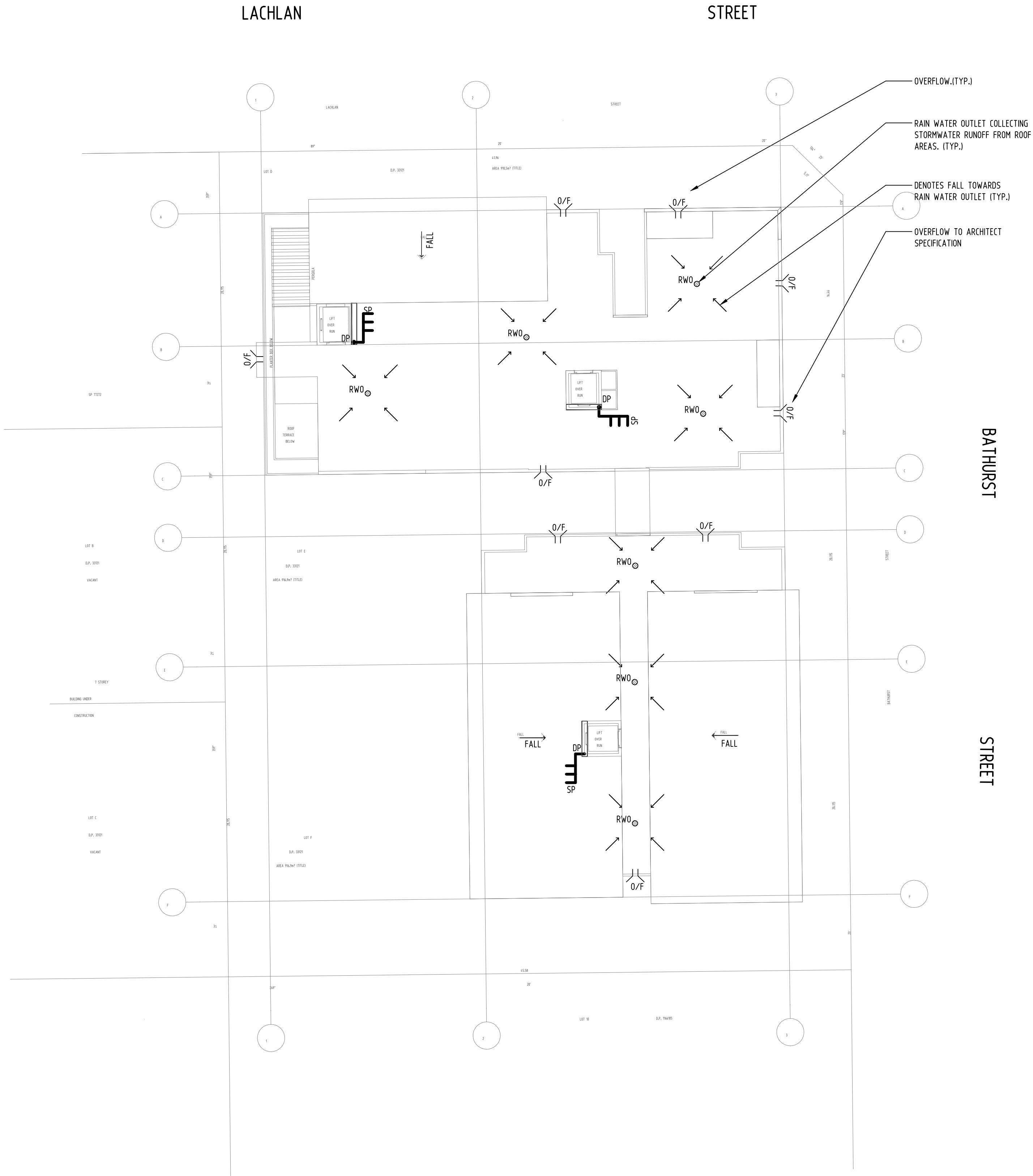
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| Drawing Title  | STORMWATER CONCEPT DESIGN<br>BASEMENT 2 PLAN            |             |  |
| Project No     | Drawing No                                              | Revision No |  |
| 20160228       | SW02                                                    | A           |  |



TOTAL HATCHED AREA BYPASS OSD = 297.50m<sup>2</sup> (10.80% OF TOTAL SITE AREA)

|                                          |                                                |             |  |
|------------------------------------------|------------------------------------------------|-------------|--|
| Drawing Status                           | PRELIMINARY                                    |             |  |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES |                                                |             |  |
| Drawing Title                            | STORMWATER CONCEPT DESIGN<br>GROUND FLOOR PLAN |             |  |
| Project No                               | Drawing No                                     | Revision No |  |
| 20160228                                 | SW03                                           | A           |  |

SERVICES ON THIS DRAWING  
ARE SHOWN BELOW SLAB U.N.O



| Reference Coordination Drawing |                          |          |      |  |
|--------------------------------|--------------------------|----------|------|--|
| Discipline                     | Drawing Title and Number | Date     | Rev. |  |
| ARCH                           | DAT349-16-A10-P10        | 18.10.16 | 10   |  |
| ARCH                           |                          |          |      |  |
| STRUCT                         |                          |          |      |  |
| MECH                           |                          |          |      |  |
| ELEC                           |                          |          |      |  |
| HYD                            |                          |          |      |  |
| FIRE                           |                          |          |      |  |
| LANDS                          |                          |          |      |  |
| CIVIL                          |                          |          |      |  |
| SURVEY                         |                          |          |      |  |

|                                  |  |
|----------------------------------|--|
| ENGINEERS AUSTRALIA              |  |
| Chartered Professional Engineers |  |
| MEMBER                           |  |

| QUALITY CONTROL |      |
|-----------------|------|
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| DESIGNED        | DATE |
| VERIFIED        | DATE |
| APPROVED        | DATE |

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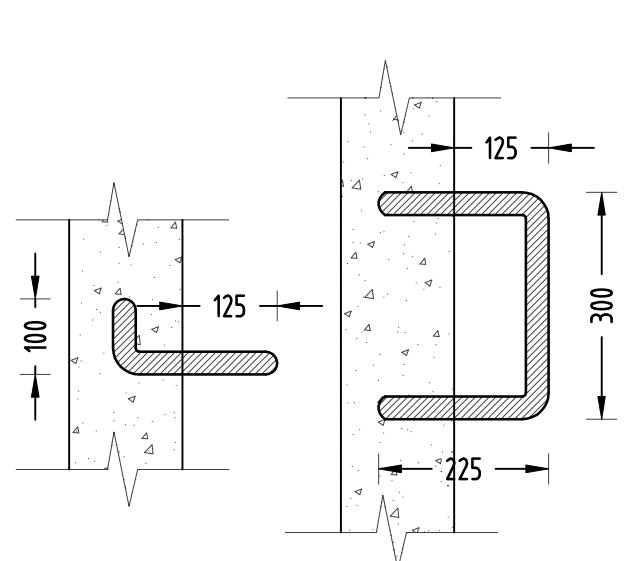
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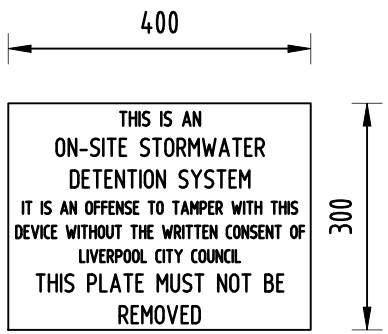
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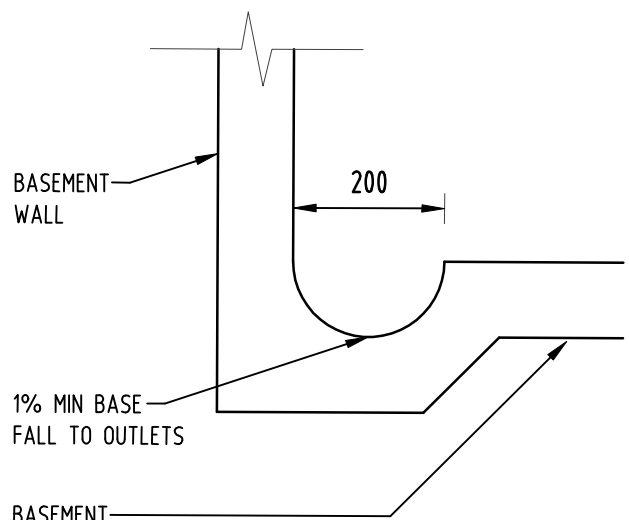
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| Grid                                   | Datum  | Sheet                                                                     |
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| Scale (at original size)<br>1:200 @ A1 |        | Project No<br>20160228                                                    |
|                                        |        | Drawing No<br>SW04                                                        |
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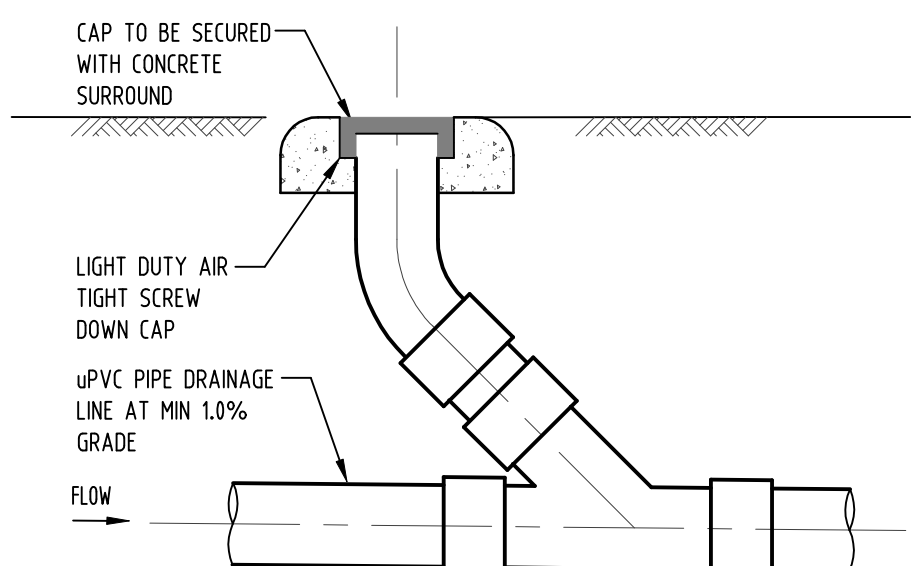
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STEP IRONS  
SCALE 1:10



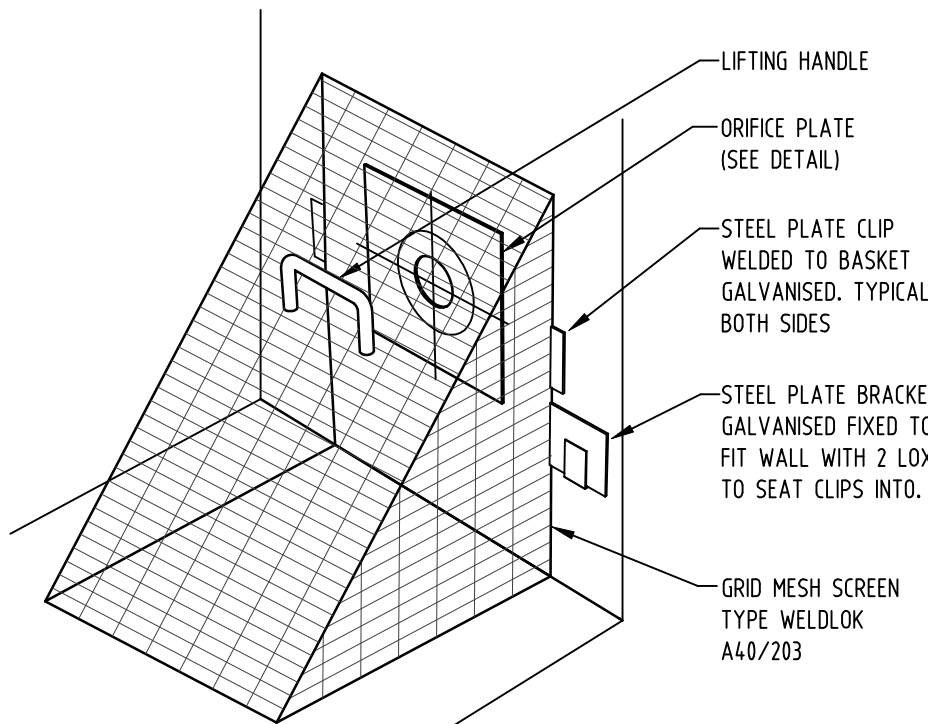
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-  
DETAIL  
OSD SIGN  
SCALE 1:10



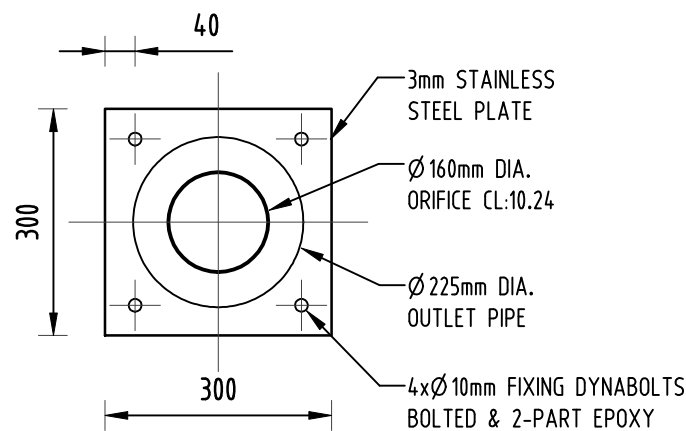
3  
-  
DETAIL  
DISH DRAIN  
SCALE 1:10



4  
-  
DETAIL  
CLEANING EYE  
SCALE 1:10



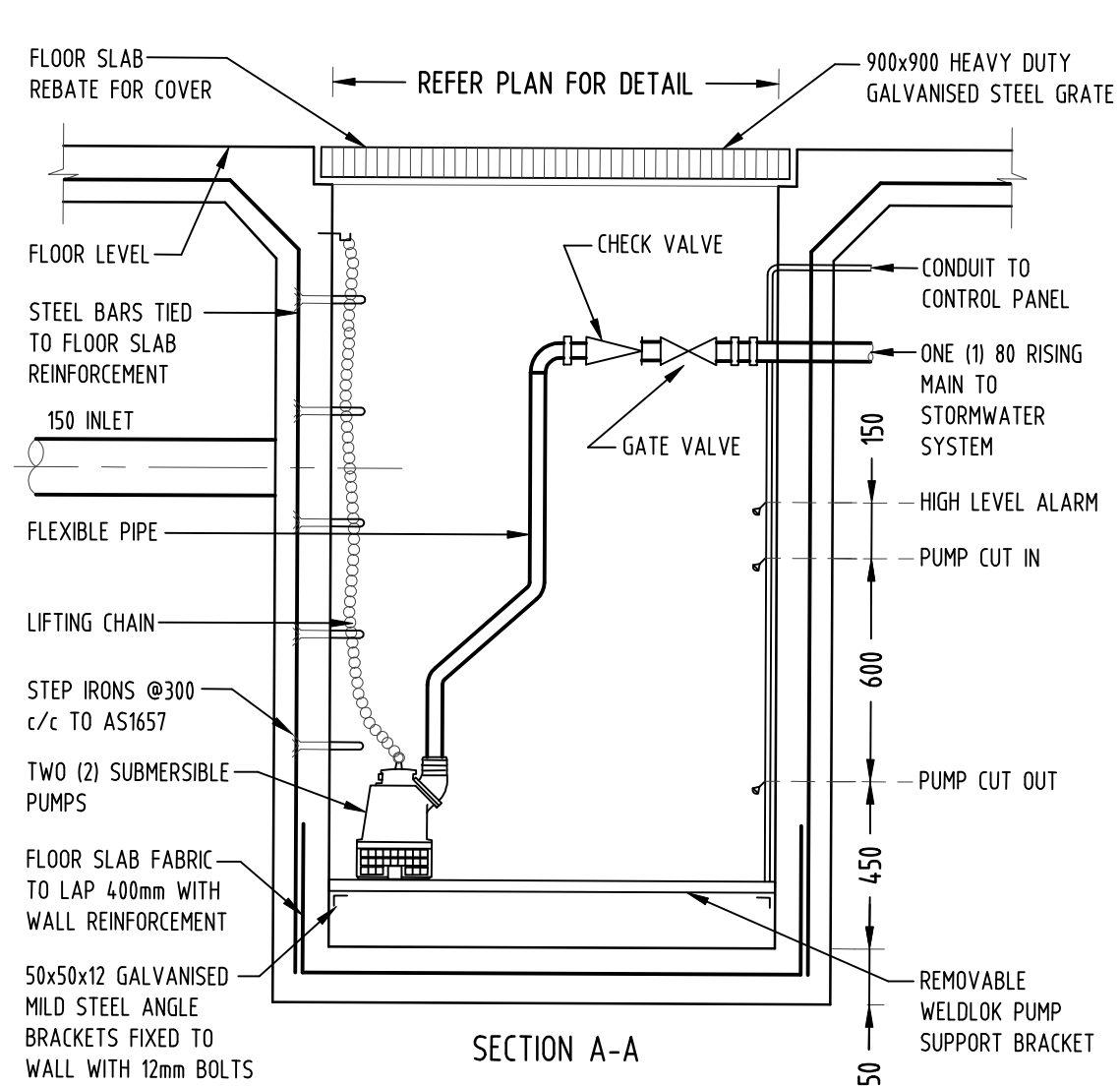
5  
-  
DETAIL  
TRASH SCREEN  
SCALE 1:20



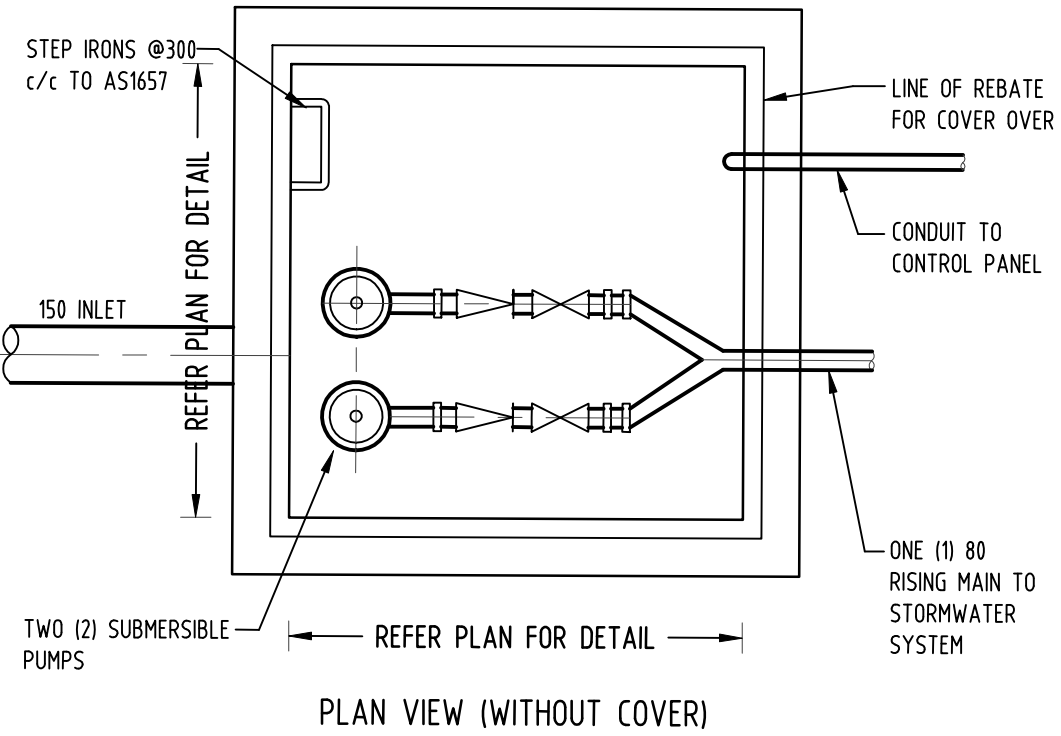
6  
-  
DETAIL  
ORIFICE PLATE  
SCALE 1:10



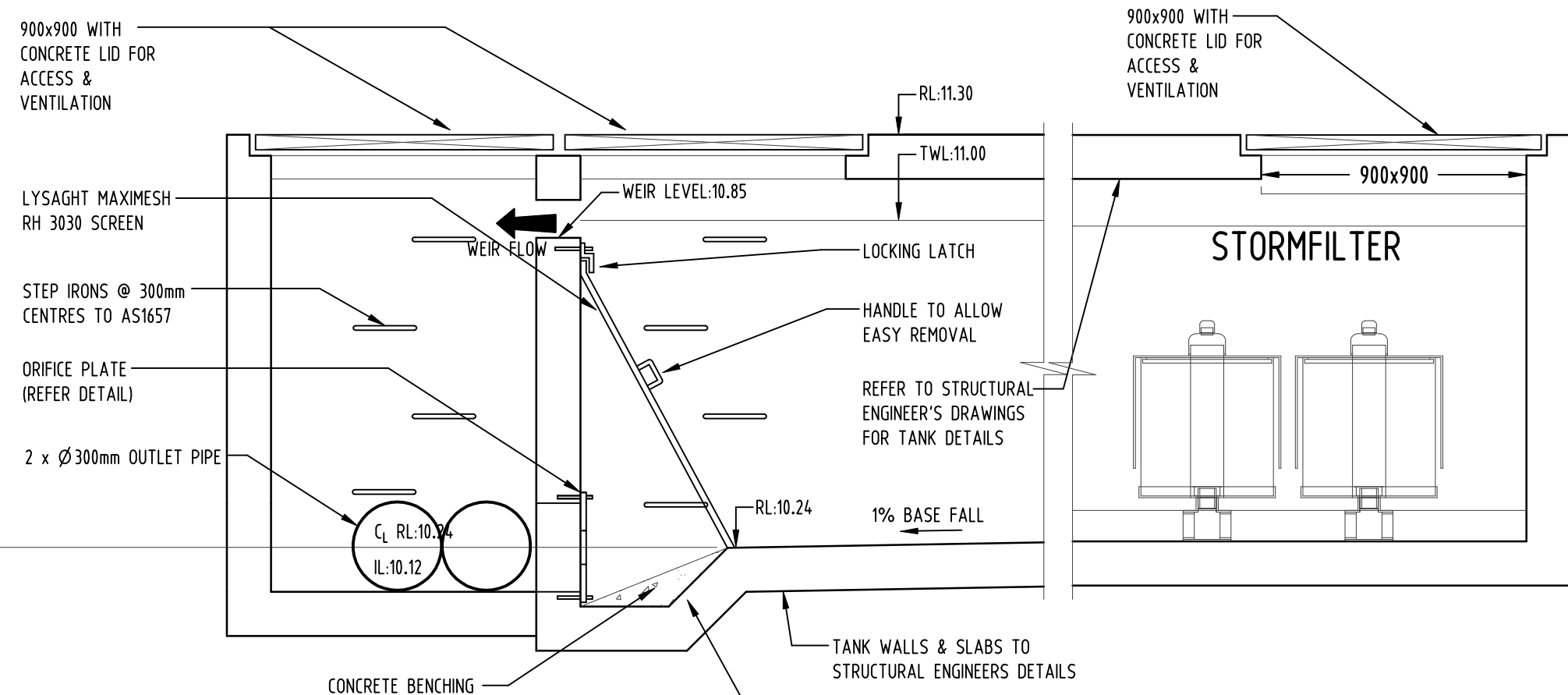
7  
-  
DETAIL  
CONFINED SPACE SIGN  
SCALE 1:10



SECTION A-A



8  
-  
DETAIL  
SUBSOIL PUMP OUT PIT  
SCALE 1:20



A  
-  
SECTION  
NOT TO SCALE

### DRAINAGE NOTES:

ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT

ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP

ALL PITS SHALL BE MAINTAINED REGULARLY

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER

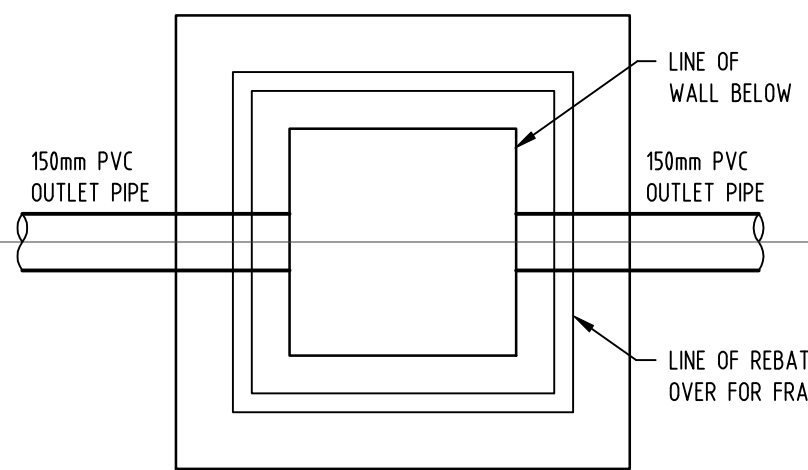
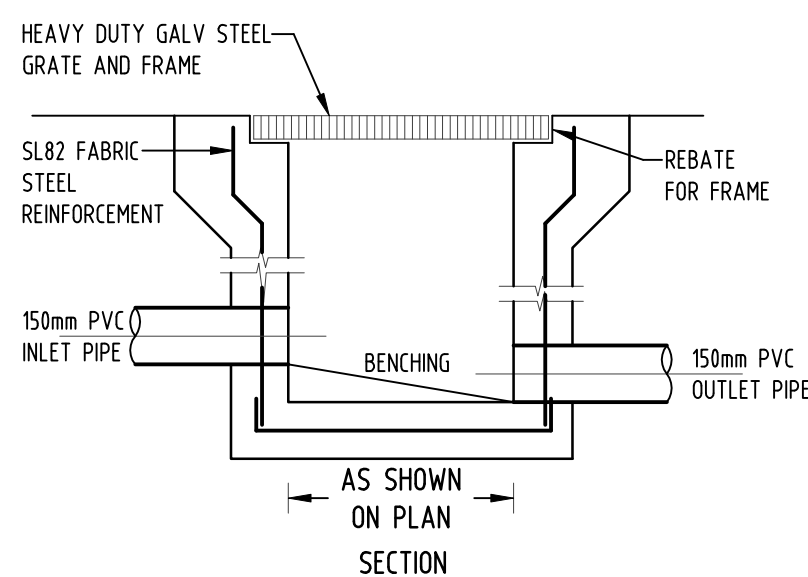
Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES

COMPRESSIVE STRENGTH  $f_c$  FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS

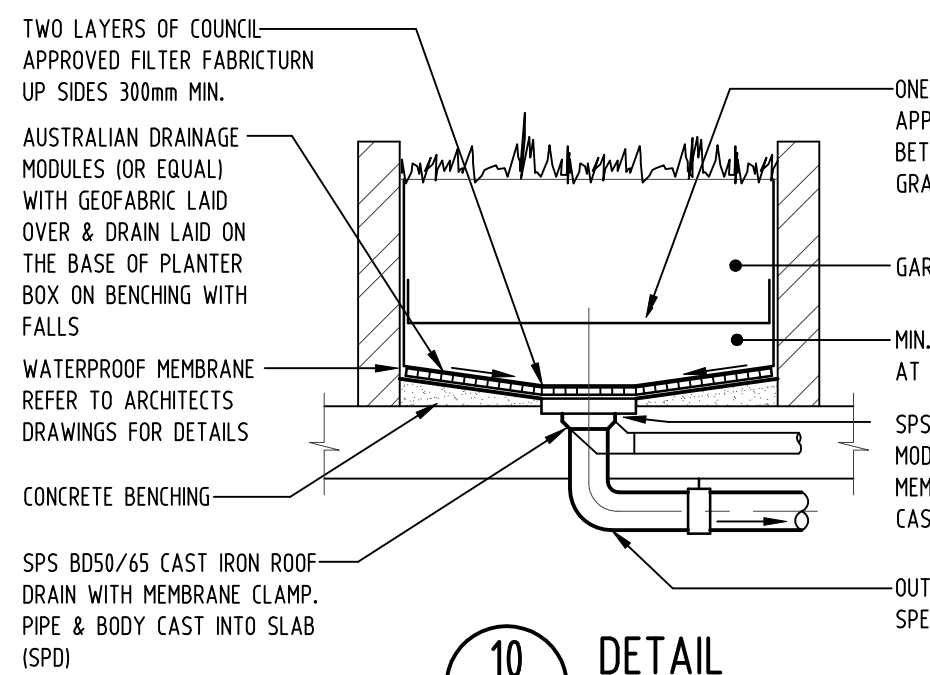
ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH OF 200mm

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL



9  
-  
DETAIL  
STORMWATER PIT  
SCALE 1:20



10  
-  
DETAIL  
PLANTER DRAIN  
SCALE 1:20

### LEGEND:

- STORMWATER LINE
- SSD SUBSOIL LINE
- SWRM SWRM STORMWATER RISING MAIN
- e EXISTING STORMWATER LINE
- SW SW AUTHORITY STORMWATER LINE
- S AUTHORITY SEWER LINE
- W AUTHORITY WATER LINE
- G G AUTHORITY GAS LINE
- E AUTHORITY ELECTRICITY LINE
- UE AUTHORITY UNDERGROUND ELECTRICITY LINE
- FO FO AUTHORITY FIBRE OPTIC LINE
- TEL AUTHORITY COMMS LINE
- FENCE LINE

- GRATED SURFACE INLET PIT
- GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT
- JUNCTION PIT
- KERB INLET PIT
- EXISTING KERB INLET PIT
- OFF OVERLAND FLOW PATH
- RWO RAINWATER OUTLET
- DDO DISH DRAIN OUTLET
- PD PLANTER DRAIN
- DP CAP
- DOWNPIPE
- WALL PENETRATION

### KERB INLET PIT NOTES:

- KERB INLET PITS TO BE CONSTRUCTED TO LIVERPOOL COUNCIL STANDARDS.
- ALL KERB INLET PITS TO BE CAST IN-SITU.
- ALL CONCRETE SHALL BE 25MPa STRENGTH AT 28 DAYS WITH F82 MESH CENTRALLY PLACED.

### AUTHORITY STORMWATER NOTES:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL SET OUT AND LEVELS PRIOR TO COMMENCEMENT OF WORKS AND TO REPORT ANY DISCREPANCIES FOUND TO THE SUPERINTENDANT.
- ALL SET OUT DIMENSIONS ARE TO FACE OF KERB, CENTERLINE OF FENCE/BOLARD/PIPE.
- SMOOTH ALL TRANSITIONS BETWEEN NEW AND EXISTING WORK IN BOTH LEVEL AND ALIGNMENT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY REQUIREMENTS AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS.
- NO TREES SHALL BE REMOVED, CUTBACK OR RELOCATED WITHOUT THE WRITTEN INSTRUCTION FROM THE SUPERINTENDENT.
- THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION AND PAVEMENT THICKNESS FROM A NATA REGISTERED TESTING AUTHORITY. MINIMUM THREE TESTS PER LAYER AS FOLLOWS:  
PIPE BACKFILL  
SELECT FILL (LESS THAN 300mm BELOW BASE COURSE)  
BASE COURSE  
DENSITY INDEX 75  
95% STANDARD  
98% MODIFIED  
100% MODIFIED
- THE AUSPEC SPECIFICATION SHALL BE THE SPECIFICATION FOR THESE WORKS.

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

### DESIGN NOTES:

THE SITE IS LOCATED IN LIVERPOOL COUNCIL.

TOTAL SITE AREA = 2744m<sup>2</sup>

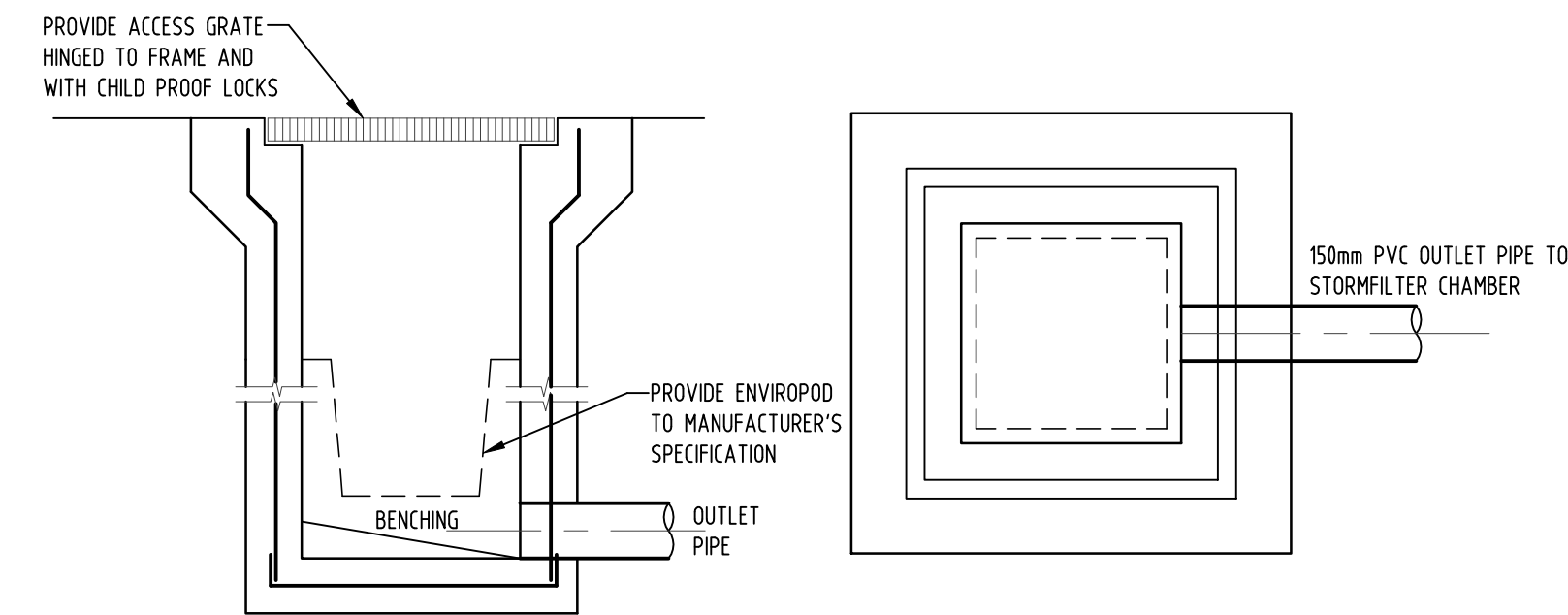
OSD IS REQUIRED AS PER BY COUNCIL DCP. THE OSD STORAGE SYSTEM WILL BE BELOW GROUND.

OSD IS DESIGNED USING DRAINS.

OSD IS DESIGNED TO CONTROL STORMWATER RUNOFF FROM DEVELOPMENT SITES SUCH THAT, FOR 5 TO 100 YEAR ARI EVENTS, PEAK STORMWATER DISCHARGES FROM THE SITE DO NOT EXCEED PRE-DEVELOPMENT STORMWATER DISCHARGES. STORMWATER IS DISCHARGED TO THE EXISTING COUNCIL DRAINAGE SYSTEM.

WSUD IS REQUIRED FOR THIS SITE.

AREA BYPASS OSD: 297.5m<sup>2</sup>, TAKES 10.8% OF THE TOTAL SITE AREA.



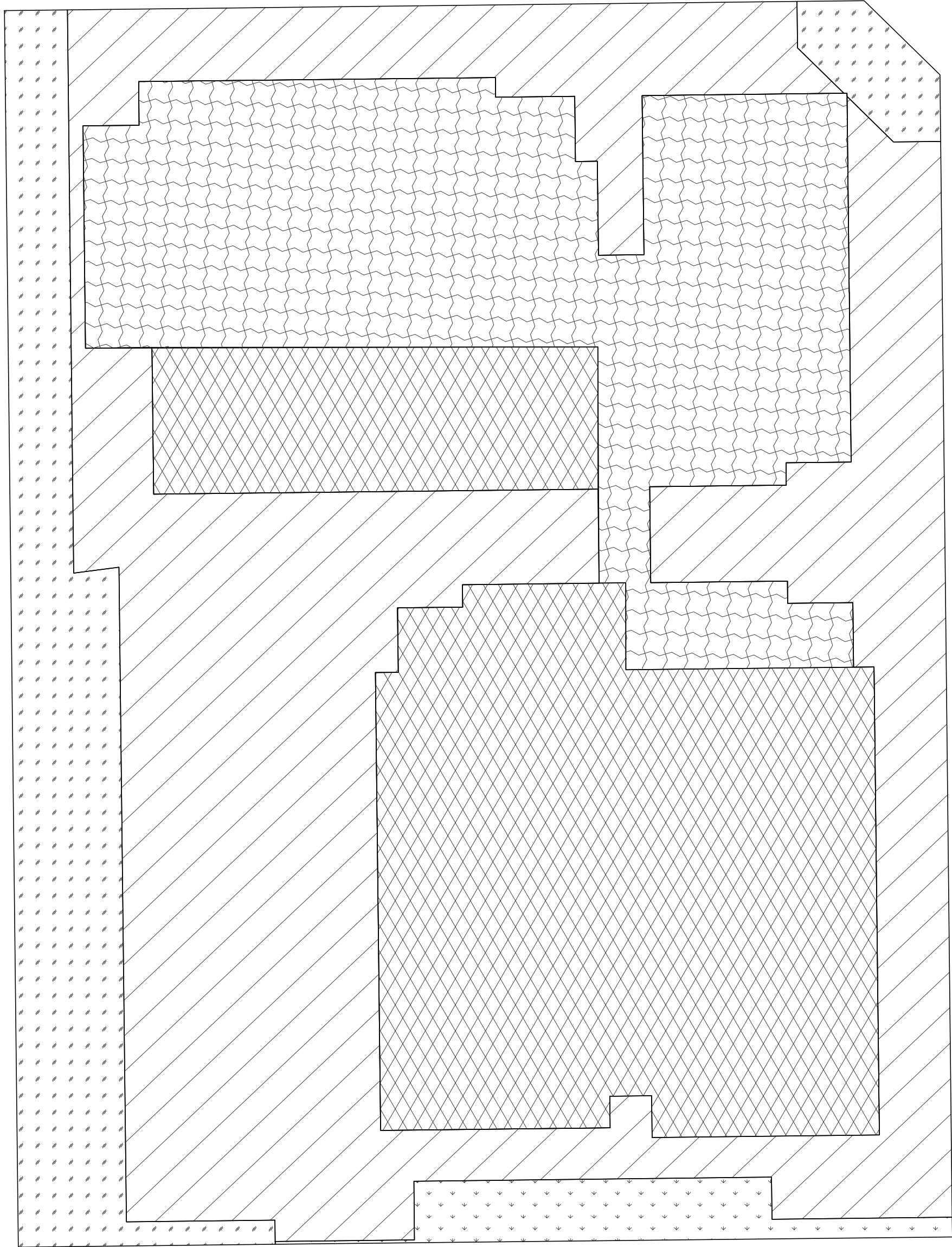
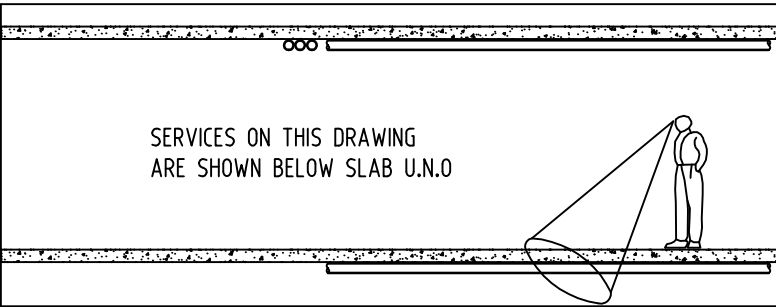
11  
-  
DETAIL  
STORMWATER PIT  
WITH ENVIRO POD  
SCALE 1:20

### POST-DEVELOPMENT OSD REQUIREMENTS:

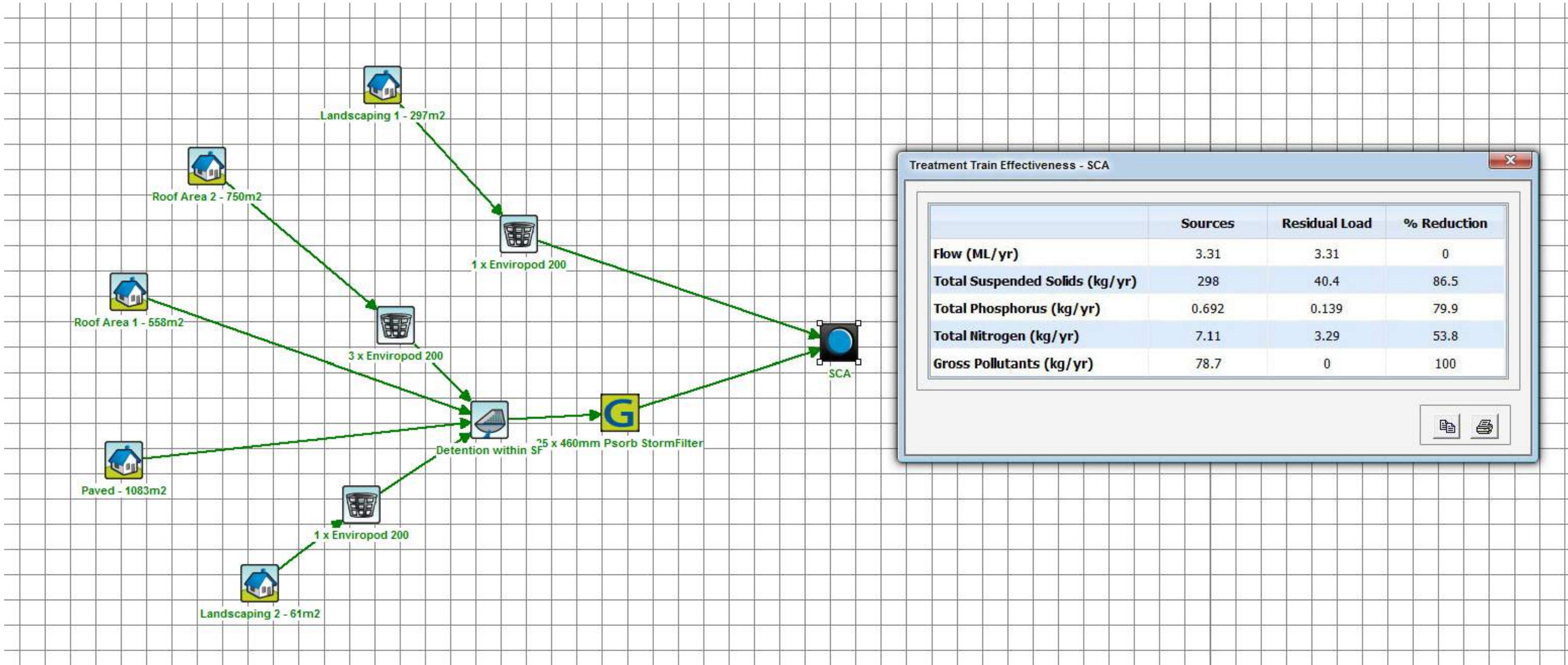
| LOT AREA (m <sup>2</sup> ) | PRE-DEV IMPERVIOUS (%) | POST-DEV IMPERVIOUS (%) | STORM (YR) | PRE-DEV FLOW (m <sup>3</sup> /s) | POST-DEV FLOW (m <sup>3</sup> /s) | PIPE OUTFLOW (m <sup>3</sup> /s) | WEIR OUTFLOW (m <sup>3</sup> /s) | BYPASSING FLOW (m <sup>3</sup> /s) | TOTAL PSD (m <sup>3</sup> /s) | OSD VOLUME (m <sup>3</sup> ) FOR 100YR STORM STORAGE |
|----------------------------|------------------------|-------------------------|------------|----------------------------------|-----------------------------------|----------------------------------|----------------------------------|------------------------------------|-------------------------------|------------------------------------------------------|
| 2744                       | 64                     | 90                      | 5          | 0.079                            | 0.088                             | 0.033                            | 0                                | 0.004                              | 0.037                         | 65.30                                                |
|                            |                        |                         | 20         | 0.108                            | 0.114                             | 0.039                            | 0                                | 0.007                              | 0.046                         |                                                      |
|                            |                        |                         | 100        | 0.132                            | 0.147                             | 0.023                            | 0.093                            | 0.011                              | 0.127                         |                                                      |

|                                               |  |  |  |                           |  |  |  | Reference Coordination Drawing |  |                          |  |        |  |        |  |
|-----------------------------------------------|--|--|--|---------------------------|--|--|--|--------------------------------|--|--------------------------|--|--------|--|--------|--|
|                                               |  |  |  |                           |  |  |  | Discipline                     |  | Drawing Title and Number |  | Date   |  | Rev.   |  |
|                                               |  |  |  |                           |  |  |  | ARCH                           |  |                          |  |        |  |        |  |
|                                               |  |  |  |                           |  |  |  | ARCH                           |  |                          |  |        |  |        |  |
| A                                             |  |  |  | ISSUED FOR DA             |  |  |  | CZ                             |  | 20.10.16                 |  | 1      |  | STRUCT |  |
| P2                                            |  |  |  | PRELIMINARY               |  |  |  | CZ                             |  | 04.10.16                 |  | 1      |  | MECH   |  |
| P1                                            |  |  |  | PRELIMINARY               |  |  |  | CZ                             |  | 25.09.16                 |  | 1      |  | ELEC   |  |
| Issue                                         |  |  |  | Last revision title       |  |  |  | by                             |  | Date                     |  | Status |  | FRG    |  |
| Issued internal sequence and revision history |  |  |  |                           |  |  |  |                                |  |                          |  |        |  |        |  |
| 1-preliminary                                 |  |  |  | 2-development application |  |  |  | 3-construction certificate     |  |                          |  | LANDS  |  |        |  |
| 4-tender                                      |  |  |  | 5-construction            |  |  |  | 6-other                        |  |                          |  | CIVIL  |  |        |  |
|                                               |  |  |  |                           |  |  |  |                                |  |                          |  | SURVEY |  |        |  |





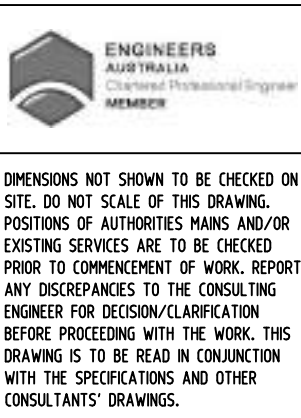
- PAVED AREA INTO STORMFILTER (1083.30m<sup>2</sup>)
- ROOF AREA 1 INTO STORMFILTER (553m<sup>2</sup>)
- ROOF AREA 2 INTO ENVIROPODS AND STORMFILTER (750.00m<sup>2</sup>)
- LANDSCAPING AREA 1 BYPASS STORMFILTER (297.00m<sup>2</sup>)
- LANDSCAPING AREA 2 INTO STORMFILTER (61.00m<sup>2</sup>)



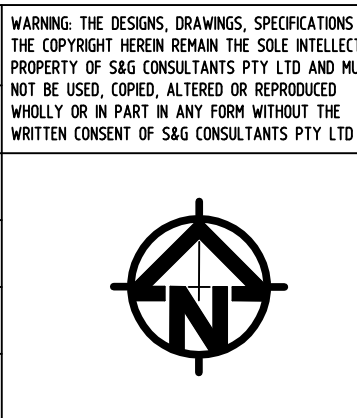
| Treatment Train Effectiveness - SCA |         |               |             |
|-------------------------------------|---------|---------------|-------------|
|                                     | Sources | Residual Load | % Reduction |
| Flow (ML/yr)                        | 3.31    | 3.31          | 0           |
| Total Suspended Solids (kg/yr)      | 298     | 40.4          | 86.5        |
| Total Phosphorus (kg/yr)            | 0.692   | 0.139         | 79.9        |
| Total Nitrogen (kg/yr)              | 7.11    | 3.29          | 53.8        |
| Gross Pollutants (kg/yr)            | 78.7    | 0             | 100         |

| Reference Coordination Drawing |                          |      |      |  |  |
|--------------------------------|--------------------------|------|------|--|--|
| Discipline                     | Drawing Title and Number | Date | Rev. |  |  |
| ARCH                           |                          |      |      |  |  |
| ARCH                           |                          |      |      |  |  |
| STRUCT                         |                          |      |      |  |  |
| MECH                           |                          |      |      |  |  |
| ELEC                           |                          |      |      |  |  |
| HYD                            |                          |      |      |  |  |
| FIRE                           |                          |      |      |  |  |
| LANDS                          |                          |      |      |  |  |
| CIVIL                          |                          |      |      |  |  |
| SURVEY                         |                          |      |      |  |  |

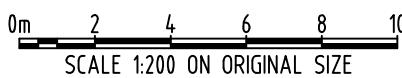
| Issuer internal sequence and revision history |                           |                            |         |
|-----------------------------------------------|---------------------------|----------------------------|---------|
| 1-preliminary                                 | 2-development application | 3-construction certificate | 6-other |
| 4-tender                                      | 5-construction            |                            |         |



| QUALITY CONTROL |      |
|-----------------|------|
| DRAWN           | DATE |
| CHECKED         | DATE |
| DESIGNED        | DATE |
| VERIFIED        | DATE |
| APPROVED        | DATE |



Scales



CLIENT  
BINAH BY DESIGN

ARCHITECT  
ALGORRY ZAPPIA  
& ASSOCIATES

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PROJECT  
RESIDENTIAL DEVELOPMENT

1-5 BATHURST ST LIVERPOOL

|      |        |        |                          |
|------|--------|--------|--------------------------|
| Grid | Datum  | Sheet  | Scale (at original size) |
| -    | A.H.D. | 7 of 7 | 1200 @ A1                |

|                |                                                         |             |  |
|----------------|---------------------------------------------------------|-------------|--|
| Drawing Status | PRELIMINARY<br>NOT TO BE USED FOR CONSTRUCTION PURPOSES |             |  |
| Drawing Title  | STORMWATER CONCEPT DESIGN<br>MUSIC CATCHMENT PLAN       |             |  |
| Project No     | Drawing No                                              | Revision No |  |
| 20160228       | SW07                                                    | A           |  |