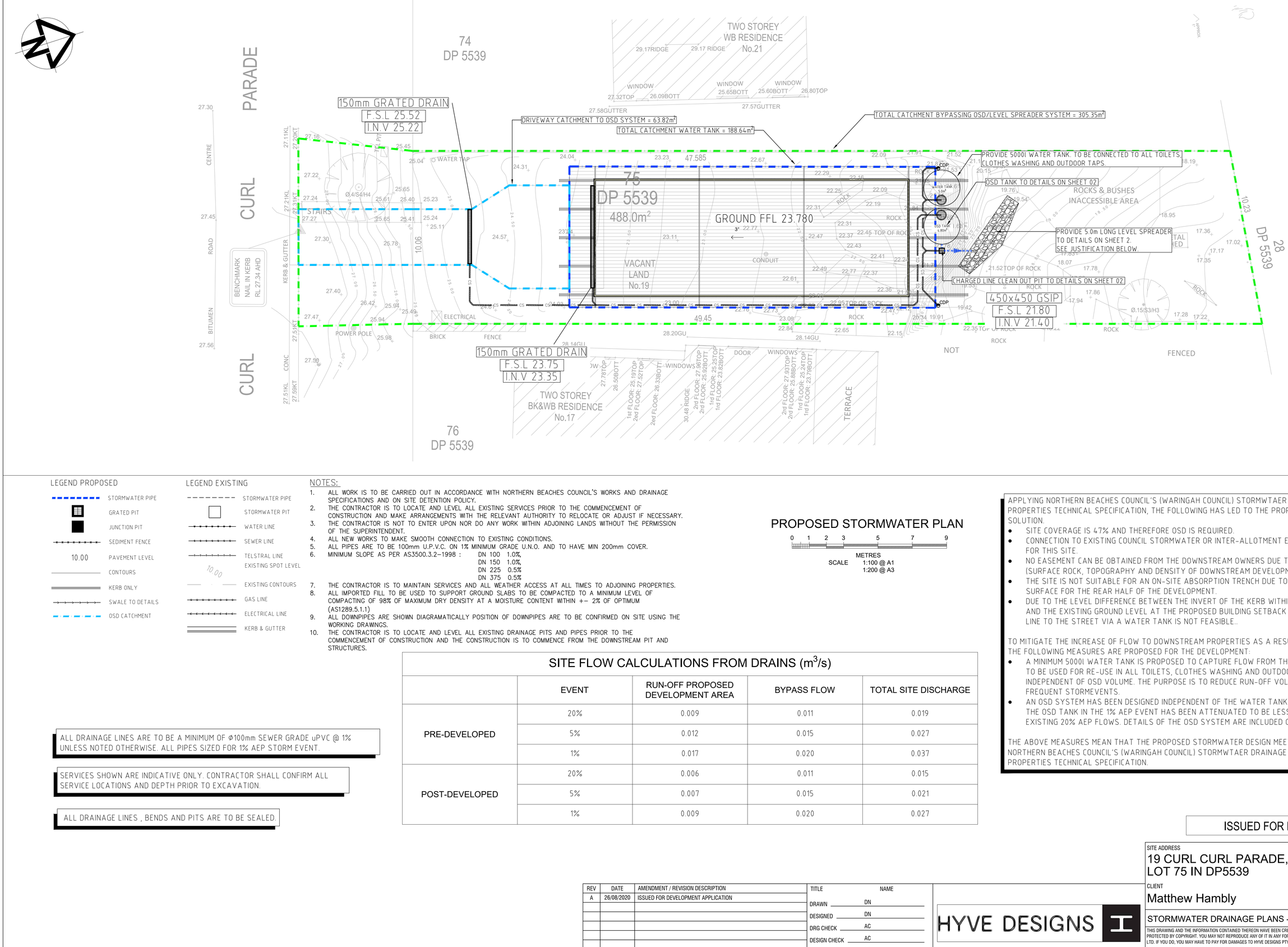



LEGEND PROPOSED

- STORMWATER PIPE
- GRATED PIT
- JUNCTION PIT
- SEDIMENT FENCE
- 10.00 PAVEMENT LEVEL
- CONTOURS
- KERB ONLY
- SWALE TO DETAILS
- OSD CATCHMENT

LEGEND EXISTING

- STORMWATER PIPE
- STORMWATER PIT
- WATER LINE
- SEWER LINE
- TELSTRAL LINE
- EXISTING SPOT LEVEL 10.00
- EXISTING CONTOURS
- GAS LINE
- ELECTRICAL LINE
- KERB & GUTTER

NOTES:

1. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S WORKS AND DRAINAGE SPECIFICATIONS AND ON SITE DETENTION POLICY.
2. THE CONTRACTOR IS TO LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY.
3. THE CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJOINING LANDS WITHOUT THE PERMISSION OF THE SUPERINTENDENT.
4. ALL NEW WORKS TO MAKE SMOOTH CONNECTION TO EXISTING CONDITIONS.
5. ALL PIPES ARE TO BE 100mm U.P.V.C. ON 1% MINIMUM GRADE U.N.O. AND TO HAVE MIN 200mm COVER.
6. MINIMUM SLOPE AS PER AS3500.3.2–1998 : DN 100 1.0%, DN 150 1.0%, DN 225 0.5%, DN 375 0.5%
7. THE CONTRACTOR IS TO MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
8. ALL IMPORTED FILL TO BE USED TO SUPPORT GROUND SLABS TO BE COMPACTED TO A MINIMUM LEVEL OF COMPACTING OF 98% OF MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +– 2% OF OPTIMUM (AS1289.5.1.1)
9. ALL DOWNPIPES ARE SHOWN DIAGRAMATICALLY POSITION OF DOWNPIPES ARE TO BE CONFIRMED ON SITE USING THE WORKING DRAWINGS.
10. THE CONTRACTOR IS TO LOCATE AND LEVEL ALL EXISTING DRAINAGE PITS AND PIPES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND THE CONSTRUCTION IS TO COMMENCE FROM THE DOWNSTREAM PIT AND STRUCTURES.

## PROPOSED STORMWATER PLAN

0 1 2 3 5 7 9

METRES

SCALE 1:100 @ A1
1:200 @ A3

APPLYING NORTHERN BEACHES COUNCIL'S (WARINGAH COUNCIL) STORMWTAER DRAINAGE FROM LOW LEVEL PROPERTIES TECHNICAL SPECIFICATION, THE FOLLOWING HAS LED TO THE PROPOSED LEVEL SPREADER SOLUTION.

- SITE COVERAGE IS 47% AND THEREFORE OSD IS REQUIRED.
- CONNECTION TO EXISTING COUNCIL STORMWATER OR INTER-ALLOTMENT EASEMENT IS NOT PROVIDED FOR THIS SITE.
- NO EASEMENT CAN BE OBTAINED FROM THE DOWNSTREAM OWNERS DUE TO SITE CONSTRAINTS (SURFACE ROCK, TOPOGRAPHY AND DENSITY OF DOWNSTREAM DEVELOPMENT)
- THE SITE IS NOT SUITABLE FOR AN ON-SITE ABSORPTION TRENCH DUE TO THE ROCK BEING AT THE SURFACE FOR THE REAR HALF OF THE DEVELOPMENT.
- DUE TO THE LEVEL DIFFERENCE BETWEEN THE INVERT OF THE KERB WITHIN THE STREET FRONTAGE AND THE EXISTING GROUND LEVEL AT THE PROPOSED BUILDING SETBACK BEING 3.56m, CHARGING A LINE TO THE STREET VIA A WATER TANK IS NOT FEASIBLE..

TO MITIGATE THE INCREASE OF FLOW TO DOWNSTREAM PROPERTIES AS A RESULT OF THE DEVELOPMENT THE FOLLOWING MEASURES ARE PROPOSED FOR THE DEVELOPMENT:

- A MINIMUM 5000l WATER TANK IS PROPOSED TO CAPTURE FLOW FROM THE PROPOSED ROOF. THIS IS TO BE USED FOR RE-USE IN ALL TOILETS, CLOTHES WASHING AND OUTDOOR TAPS. THIS VOLUME IS INDEPENDENT OF OSD VOLUME. THE PURPOSE IS TO REDUCE RUN-OFF VOLUME FROM THE SITE IN FREQUENT STORMEVENTS.
- AN OSD SYSTEM HAS BEEN DESIGNED INDEPENDENT OF THE WATER TANK VOLUME. PEAK FLOW FROM THE OSD TANK IN THE 1% AEP EVENT HAS BEEN ATTENUATED TO BE LESS THAN THAT OF THE EXISTING 20% AEP FLOWS. DETAILS OF THE OSD SYSTEM ARE INCLUDED ON SHEET 02.

THE ABOVE MEASURES MEAN THAT THE PROPOSED STORMWATER DESIGN MEETS THE REQUIREMENTS OF NORTHERN BEACHES COUNCIL'S (WARINGAH COUNCIL) STORMWTAER DRAINAGE FROM LOW LEVEL PROPERTIES TECHNICAL SPECIFICATION.

## SITE FLOW CALCULATIONS FROM DRAINS ($m^3/s$)

| | EVENT | RUN-OFF PROPOSED DEVELOPMENT AREA | BYPASS FLOW | TOTAL SITE DISCHARGE |
|---|---|---|---|---|
| PRE-DEVELOPED | 20% | 0.009 | 0.011 | 0.019 |
| | 5% | 0.012 | 0.015 | 0.027 |
| | 1% | 0.017 | 0.020 | 0.037 |
| POST-DEVELOPED | 20% | 0.006 | 0.011 | 0.015 |
| | 5% | 0.007 | 0.015 | 0.021 |
| | 1% | 0.009 | 0.020 | 0.027 |

ALL DRAINAGE LINES ARE TO BE A MINIMUM OF Ø100mm SEWER GRADE uPVC @ 1% UNLESS NOTED OTHERWISE. ALL PIPES SIZED FOR 1% AEP STORM EVENT.

SERVICES SHOWN ARE INDICATIVE ONLY. CONTRACTOR SHALL CONFIRM ALL SERVICE LOCATIONS AND DEPTH PRIOR TO EXCAVATION.

ALL DRAINAGE LINES , BENDS AND PITS ARE TO BE SEALED.

ISSUED FOR DA

| REV | DATE | AMENDMENT / REVISION DESCRIPTION |
|---|---|---|
| A | 26/08/2020 | ISSUED FOR DEVELOPMENT APPLICATION |

| TITLE | NAME |
|---|---|
| DRAWN | DN |
| DESIGNED | DN |
| DRG CHECK | AC |
| DESIGN CHECK | AC |
| APPROVED | AC |

HYVE DESIGNS

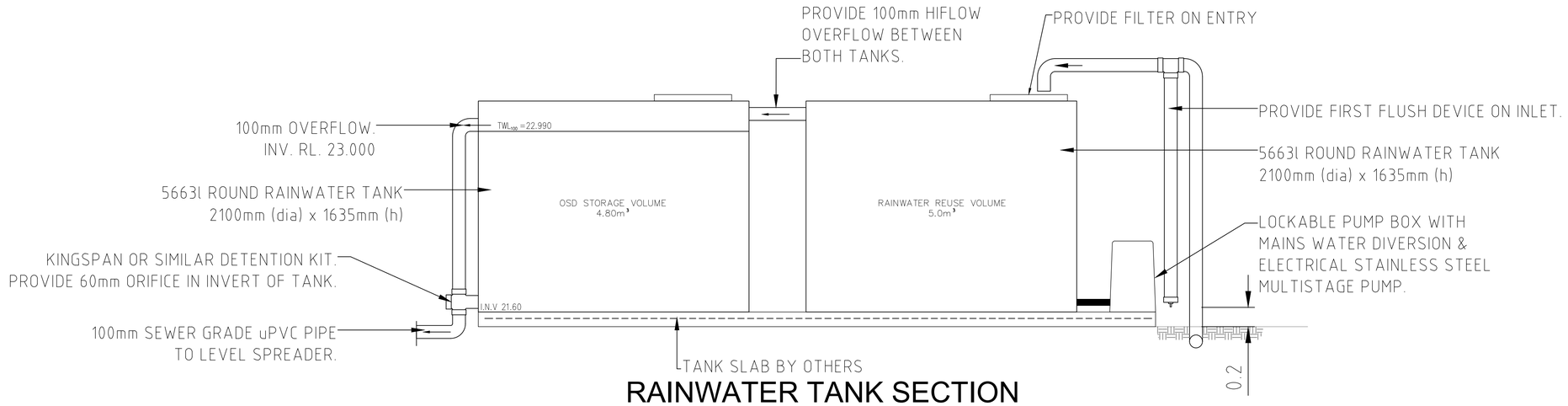
SITE ADDRESS
19 CURL CURL PARADE, CURL CURL
LOT 75 IN DP5539

CLIENT
Matthew Hambly

STORMWATER DRAINAGE PLANS - 20157

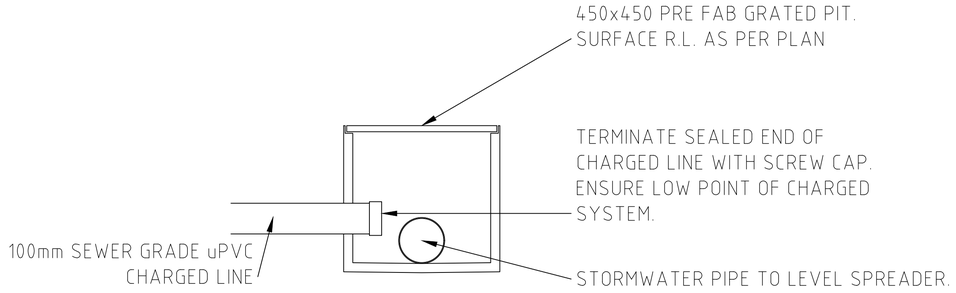


| JOB NUMBER: | SCALE | SHEET No | REV |
|---|---|---|---|
| SC20042 | 1:100 | 01 | A |



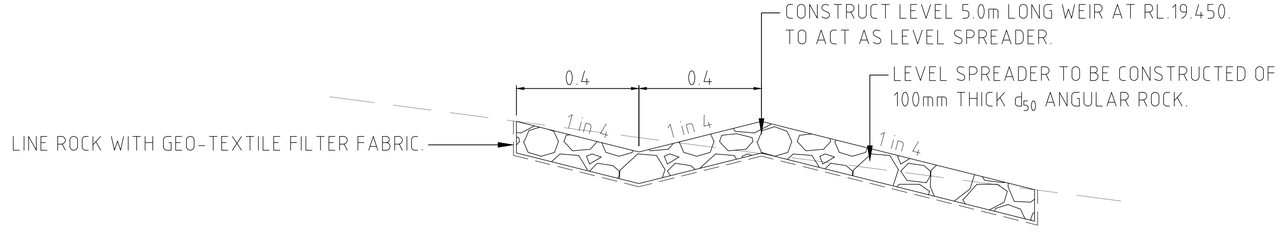

# RAINWATER TANK SECTION

SCALE 1:20 @ A3




# CHARGED LINE END PIT DETAIL

SCALE 1:10 @ A1




# LEVEL SPREADER DETAIL

SCALE 1:10 @ A1

ISSUED FOR DA

| REV | DATE | AMENDMENT / REVISION DESCRIPTION |
|---|---|---|
| A | 26/08/2020 | ISSUED FOR DEVELOPMENT APPLICATION |

| TITLE | NAME |
|---|---|
| DRAWN | DN |
| DESIGNED | DN |
| DRG CHECK | AC |
| DESIGN CHECK | AC |
| APPROVED | AC |

HYVE DESIGNS

SITE ADDRESS
19 CURL CURL PARADE, CURL CURL
LOT 75 IN DP5539

CLIENT
Matthew Hambly

STORMWATER DRAINAGE PLANS - 20157



| JOB NUMBER: | SCALE | SHEET No | REV |
|---|---|---|---|
| SC20042 | | 02 | A |