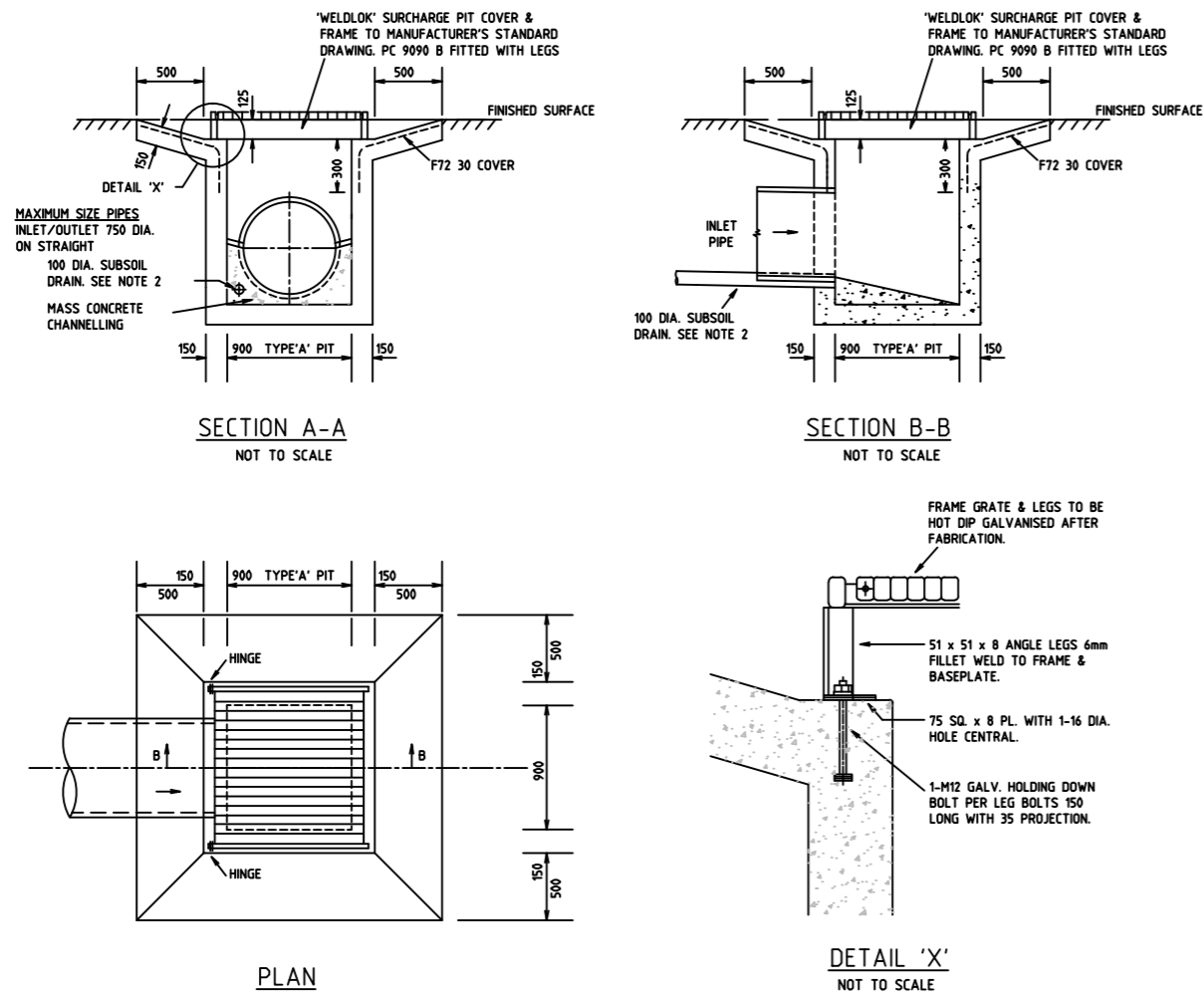




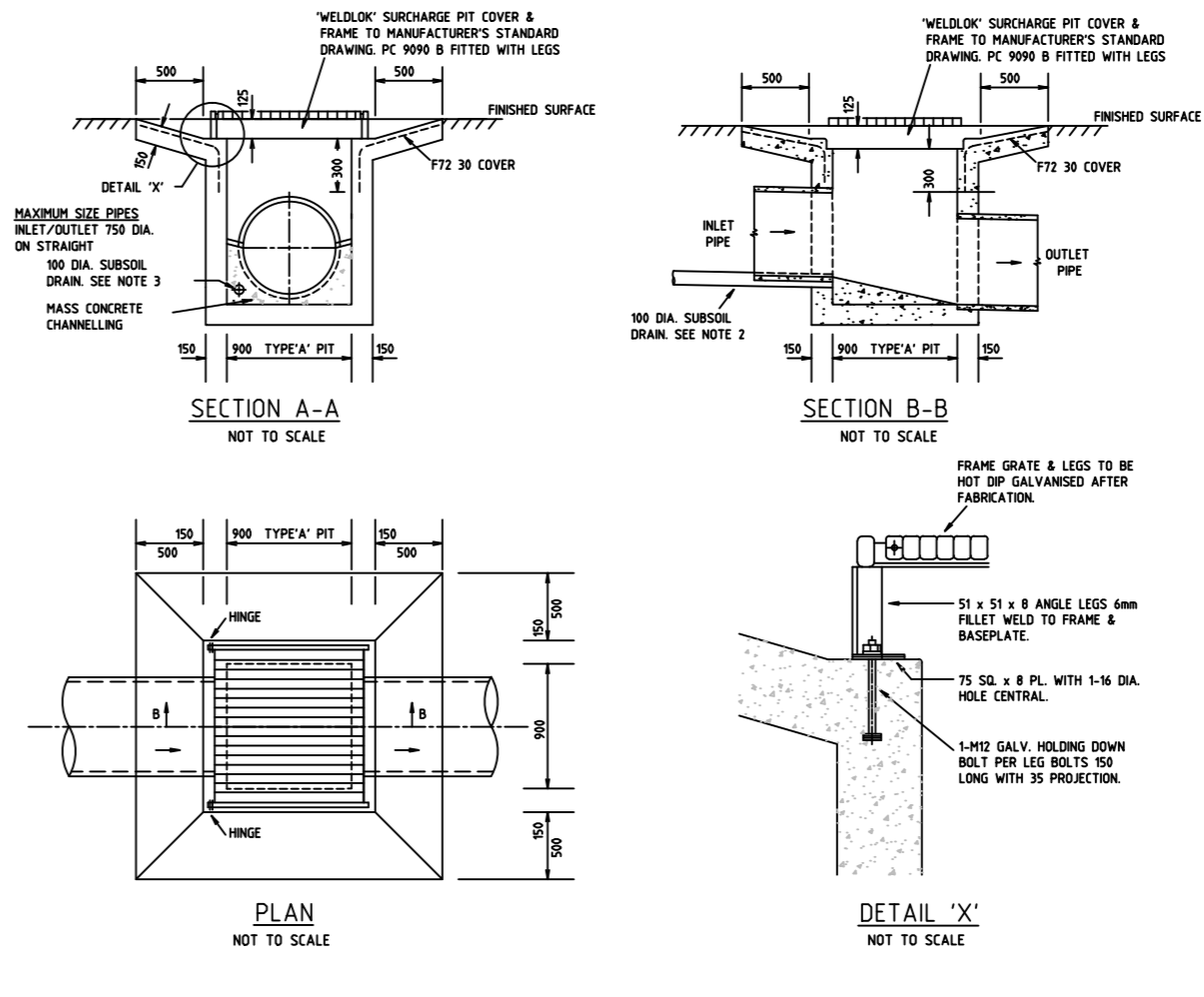
SURCHARGE PIT - RM11(TYPE A)



NOTES

1. COMPRESSIVE STRENGTH OF CONCRETE  
F<sub>c</sub> AT 28 DAYS TO BE 20 MPa.
2. 100 DIA. SUBSOIL DRAINAGE 3000 LONG  
WRAPPED IN FABRIC COSK TO BE PROVIDED  
IN PIPE TRENCHES ADJACENT TO INLET  
PIPES.
3. PROVIDE CLIMB IRONS TO RM3 WHERE  
PIT IS DEEPER THAN 1200.

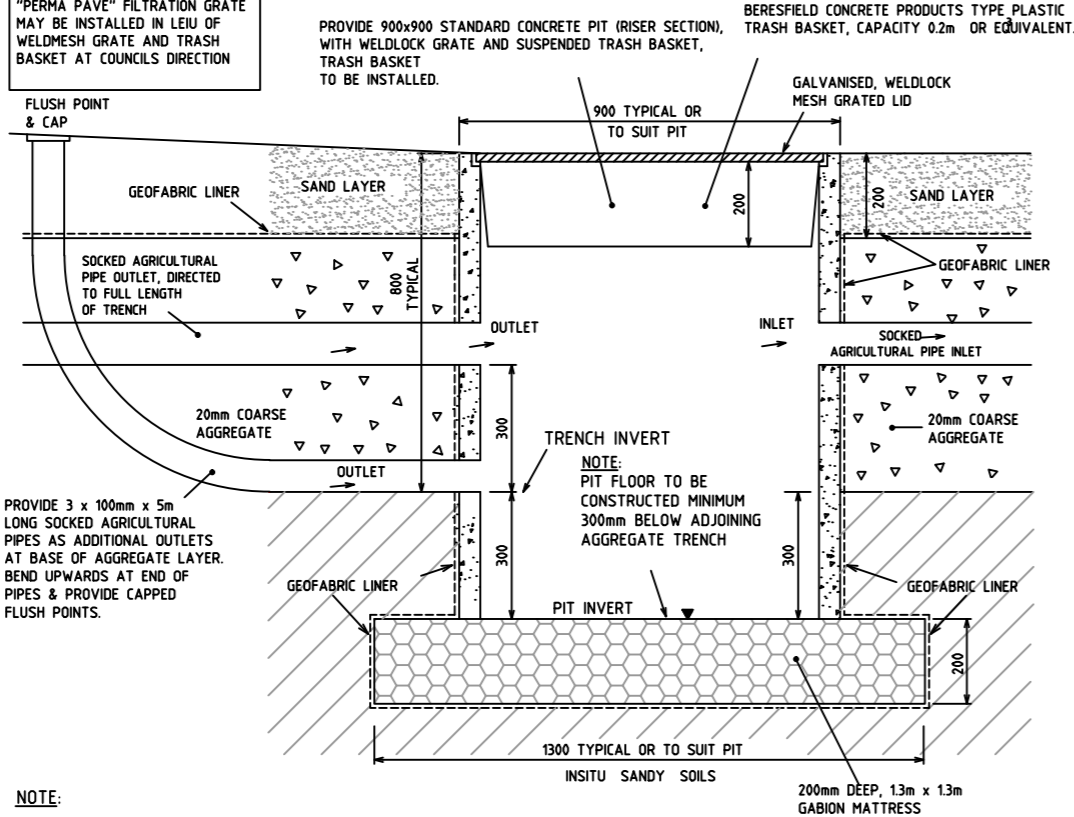
SURFACE INLET PIT - RM11(TYPE A)



NOTES

1. COMPRESSIVE STRENGTH OF CONCRETE  
F<sub>c</sub> AT 28 DAYS TO BE 20 MPa.
2. TOP OF BENCHING TO BE 1/2 OF OUTLET  
PIPE DIAMETER.
3. 100 DIA. SUBSOIL DRAINAGE 3000 LONG  
WRAPPED IN FABRIC COSK TO BE PROVIDED  
IN PIPE TRENCHES ADJACENT TO INLET  
PIPES.
4. PROVIDE CLIMB IRONS TO RM3 WHERE  
PIT IS DEEPER THAN 1200.

NOTE:  
"PERMA PAVE" FILTRATION GRATE  
MAY BE INSTALLED IN LIEU OF  
WELDMESH GRATE AND TRASH  
BASKET AT COUNCIL'S DIRECTION

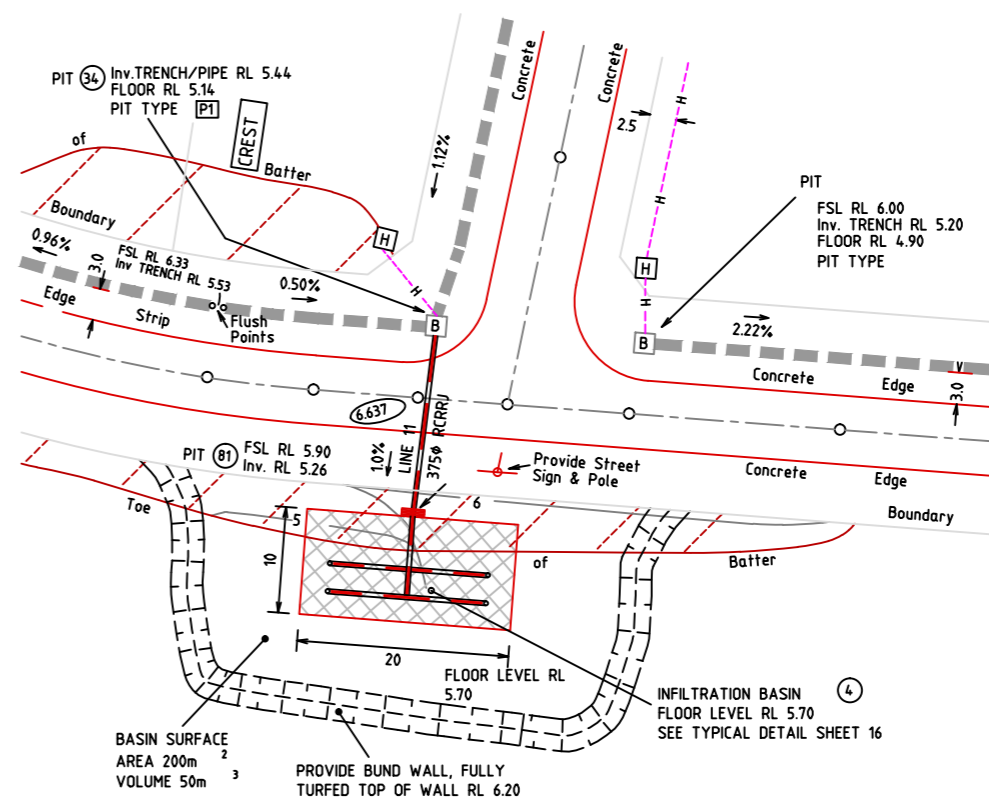


NOTE:

NOMINAL PIT SIZE 900x900x800 DEEP UNLESS  
OTHERWISE INDICATED.  
PIT TYPE [P3] SIZE 1100x1100x800 DEEP (CAPACITY 1.0m )  
PIT TYPE [P3] SIZE 1600x1600x800 DEEP (CAPACITY 2.0m )

BIO RETENTION SURFACE INLET PIT

NOT TO SCALE



TYPICAL INFILTRATION BASIN

NOT TO SCALE

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REVISION DATE  
17/01/2012  
PLOT DATE  
17/01/2012  
DA NUMBER

DATUM  
AHD  
CONTOURS  
X m  
DRAWN/CHKD BY  
IMc / AED  
CC NUMBER

DRAWING TITLE  
TYPICAL DRAINAGE TREATMENTS DETAIL1 REV-E  
DEVELOPMENT  
PROJECT PLAN  
FERN BAY SEASIDE VILLAGE  
NELSON BAY ROAD, FERN BAY  
CLIENT  
ASPEN GROUP LIMITED



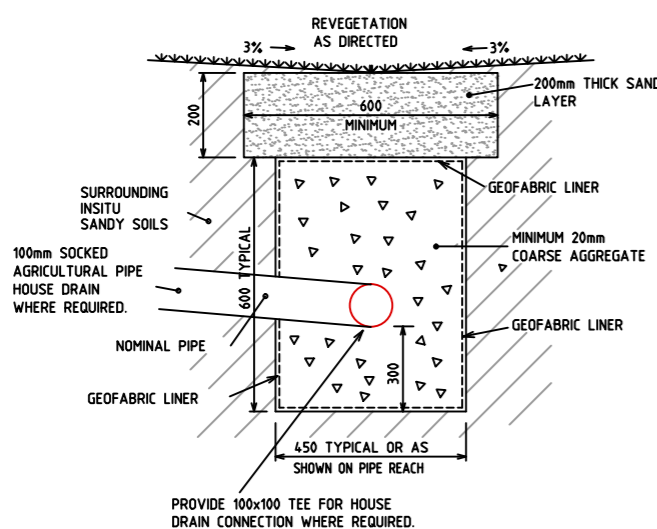
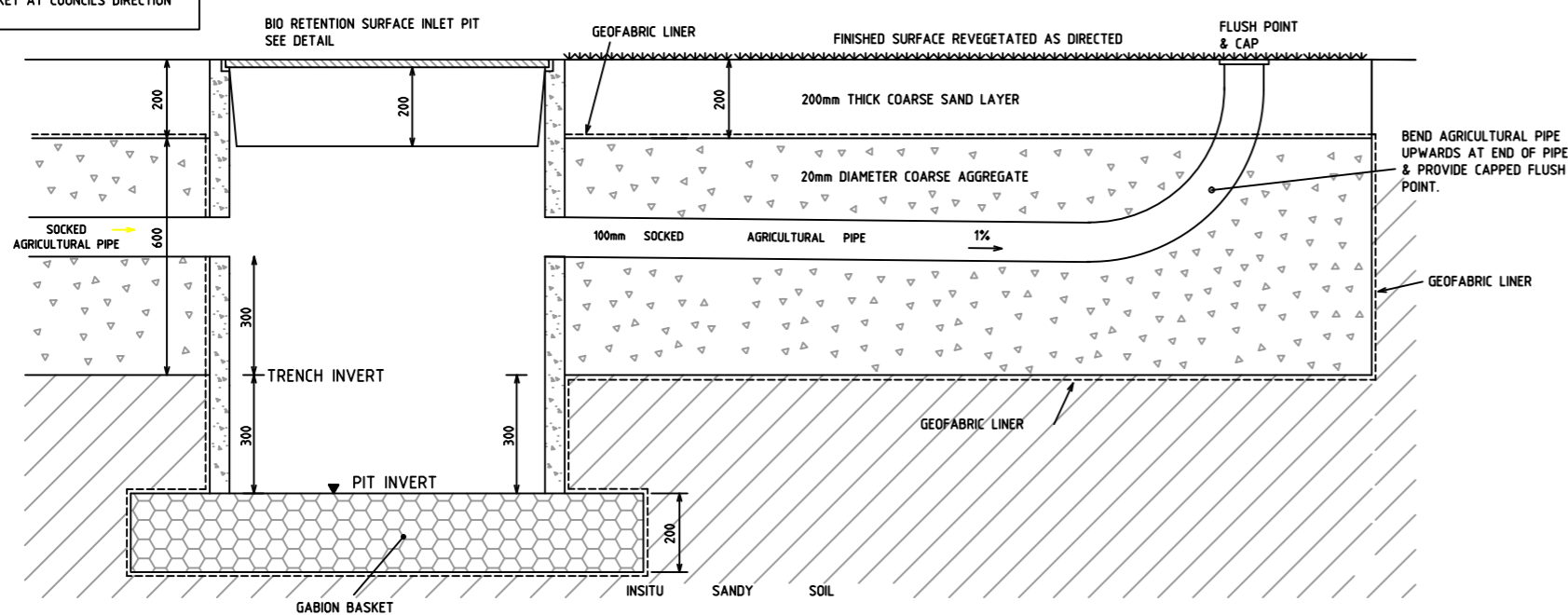
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ATF NORTH POINT SURVEYS TRUST ABN 52 041 968 075  
SURVEYING AND LAND DEVELOPMENT CONSULTANTS  
5 KOALA PLACE, ONE MILE BEACH  
PH: 0249 842606  
PO BOX 378 NELSON BAY, NSW, 2315  
EMAIL: admin@northpointsurveys.com.au

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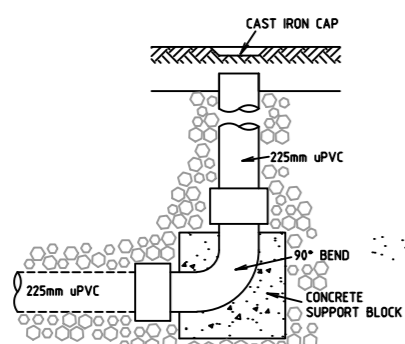
NOTE:  
"PERMA PAVE" FILTRATION GRATE  
MAY BE INSTALLED IN LIEU OF  
WELDMESH GRATE AND TRASH  
BASKET AT COUNCIL'S DIRECTION



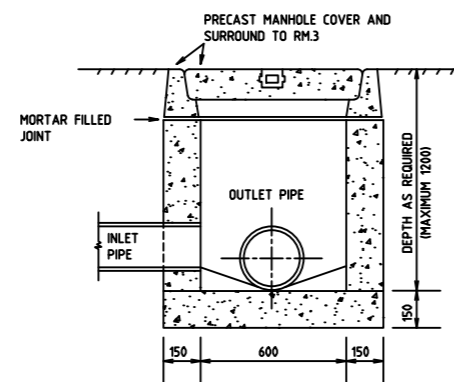
BIO RETENTION SWALE AND TRENCH  
NOT TO SCALE

NOTES:

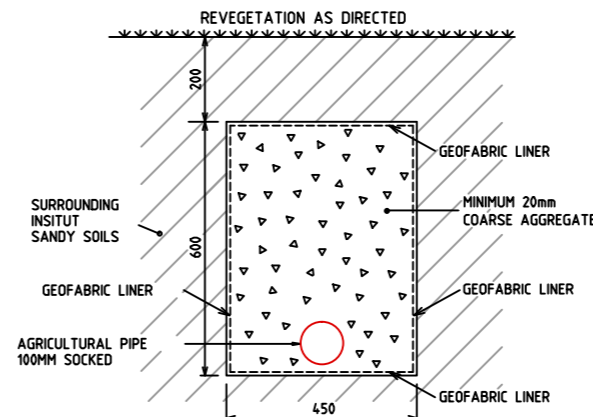
1. PITS CONSTRUCTED IN CRESTS TO BE USED FOR FLUSHING  
100mm SOCKED AGRICULTURAL PIPE, 100mm AGRICULTURAL  
PIPE TO BE CLEARLY ACCESSIBLE.
2. OUTLET OF BIO RETENTION SURFACE PITS TO BE ABLE TO  
TAKE 100mm SOCKED AGRICULTURAL PIPE OUTLET OR 375mm  
RCR/ CONCRETE PIPE.
3. DRAINAGE INSTALLATION AS DIRECTED AND SPECIFICATION TO  
BE WITH 'STORMWATER MANAGEMENT AT THE PROPOSED  
STOCKTON BEACH DEVELOPMENT STAGE 2' BY URBAN WATER  
CYCLE SOLUTIONS, JANUARY, 2005.



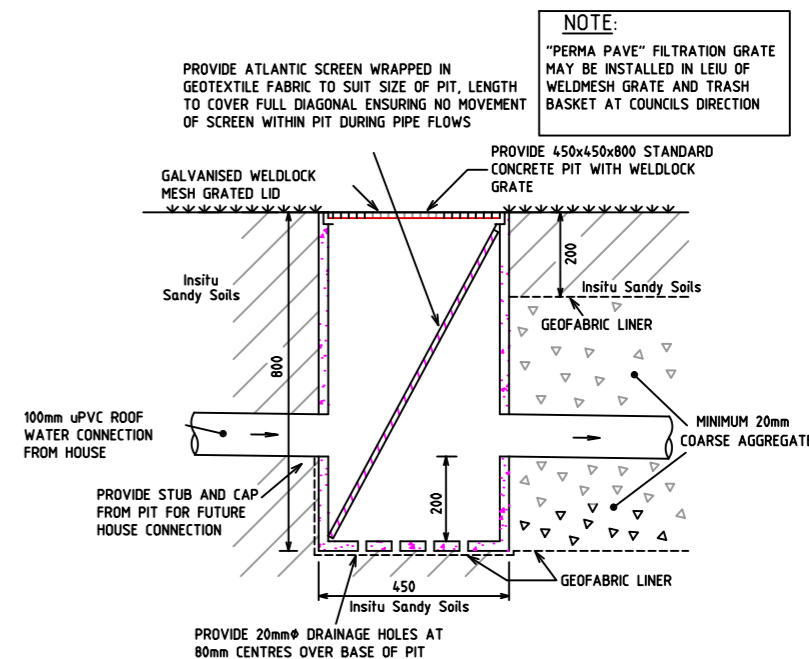
TYPICAL SLOTTED PIPE  
& FLUSHING POINT  
N.T.S.



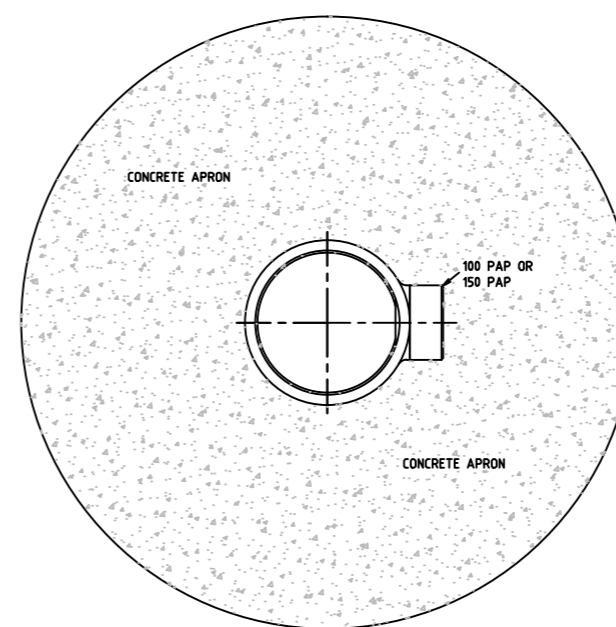
JUNCTION PIT RM8  
NOT TO SCALE



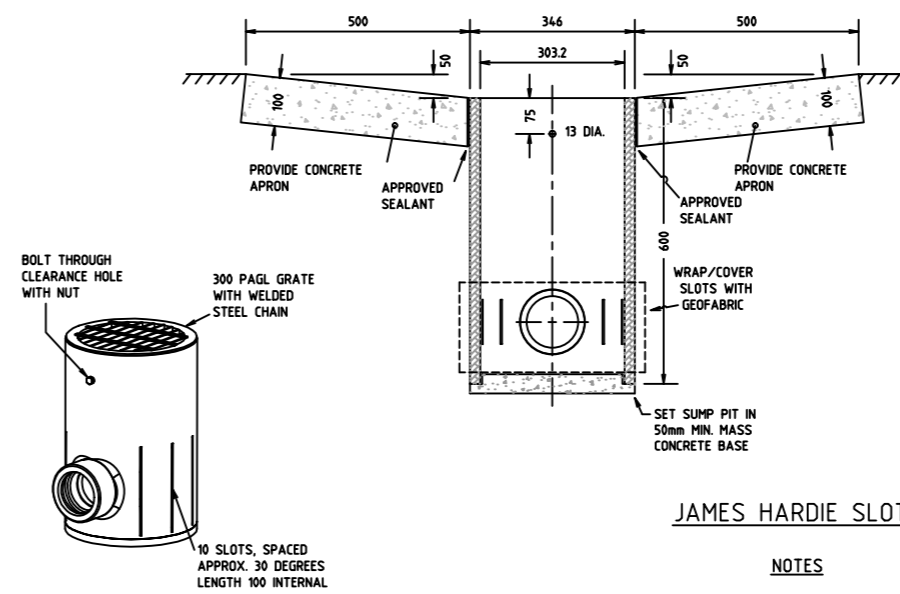
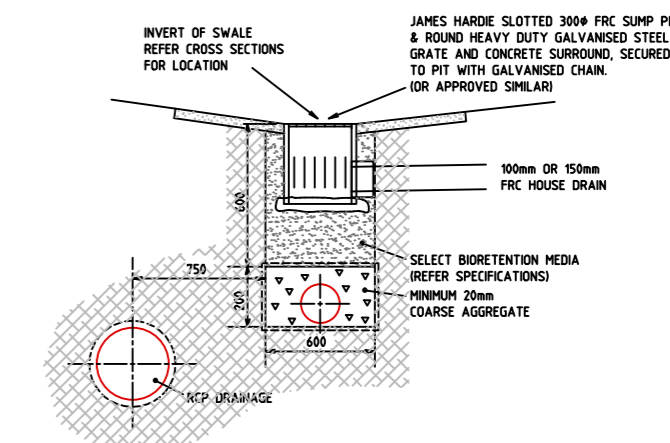
BIO RETENTION TRENCH  
HOUSE DRAINS DETAIL  
NOT TO SCALE



HOUSE DRAINAGE PIT DETAIL  
NOT TO SCALE



TYPICAL ARRANGEMENT  
300mm FRC SUMP PIT BIORETENTION SWALE  
AND STORMWATER DRAINAGE LINE  
NOT TO SCALE



JAMES HARDIE SLOTTED FRC SUMP PIT  
NOT TO SCALE

NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE  
F<sub>c</sub> AT 28 DAYS TO BE 20 MPa.

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SCALE  
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REVISION DATE  
15/12/2011  
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17/01/2012  
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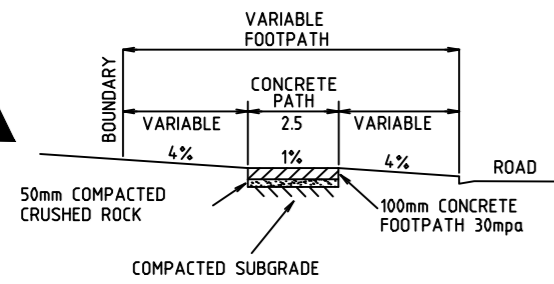
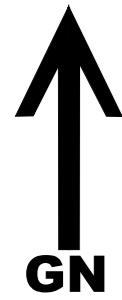
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AHD  
CONTOURS  
X m  
DRAWN/CHKD BY  
IMc / AED  
CC NUMBER

DRAWING TITLE  
TYPICAL DRAINAGE TREATMENTS DETAIL 2 REV-E  
DEVELOPMENT  
PROJECT PLAN  
FERN BAY SEASIDE VILLAGE  
NELSON BAY ROAD, FERN BAY  
CLIENT  
ASPEN GROUP LIMITED

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#### CYCLEPATH DETAIL

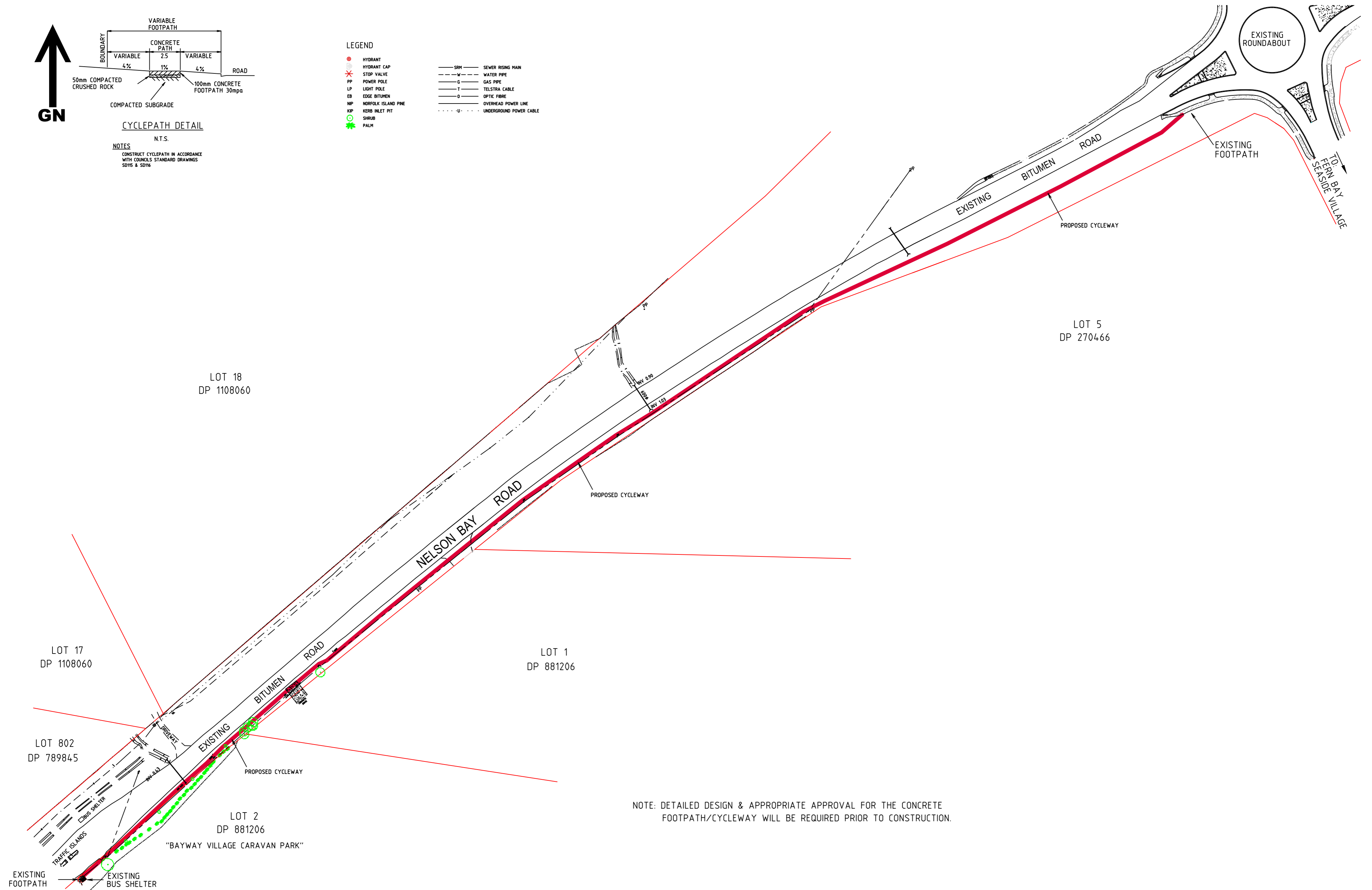
N.T.S.

#### NOTES

CONSTRUCT CYCLEPATH IN ACCORDANCE WITH COUNCILS STANDARD DRAWINGS SD115 & SD116

#### LEGEND

- HYDRANT
- HYDRANT CAP
- STOP VALVE
- POWER POLE
- LP LIGHT POLE
- EB EDGE BITUMEN
- NP NORFOLK ISLAND PINE
- KP KERB INLET PIT
- SHRUB
- PALM
- SRM SEWER RISING MAIN
- W WATER PIPE
- G GAS PIPE
- T TELSTRA CABLE
- O OPTIC FIBRE
- OVERHEAD POWER LINE
- U UNDERGROUND POWER CABLE

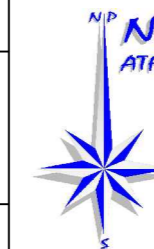


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1: 1500  
REVISION DATE  
15/12/2011  
PLOT DATE  
17/01/2012  
DA NUMBER

DATUM  
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DRAWN/CHKD BY  
IMc / AED  
CC NUMBER

DRAWING TITLE  
FOOTPATH & CYCLEWAY REV-E  
DEVELOPMENT  
PROJECT PLAN E  
FERN BAY SEASIDE VILLAGE  
NELSON BAY ROAD, FERN BAY  
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CLIENT  
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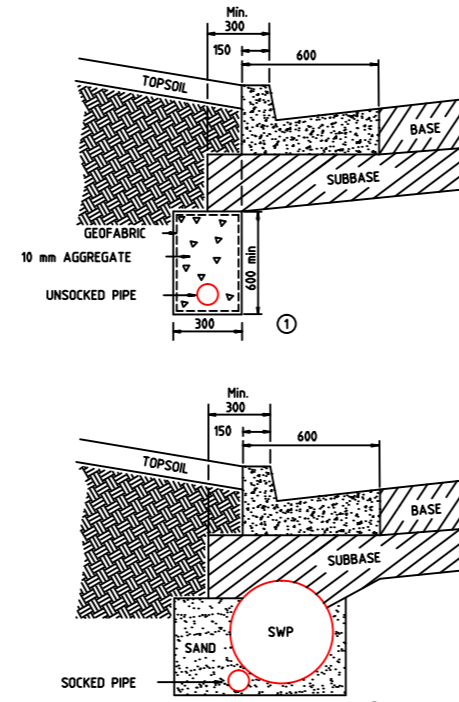
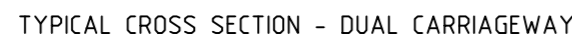
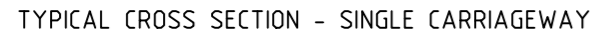
20 OF 23

A2

- \* REFER TO GEOTECHNICAL REPORT FOR PAVEMENT DETAILS AND GEOTECHNICAL ADVICE.
- \* SUBGRADE TO BE OF CLEAN SAND TO DEPTH OF 500mm. WHERE EXISTING MATERIAL IS CONSIDERED UNSUITABLE, REFER TO SUBGRADE PREPARATION ADVICE IN GEOTECHNICAL REPORT.
- \* IF WET CLAY MATERIAL IS ENCOUNTERED IN SUBGRADE THEN SUBGRADE SUITABILITY IS TO BE ASSESSED BY CONSULTANT GEOTECHNICAL ENGINEERS.
- \* IN AREAS OF GRADE OF GREATER THAN 10%, CONSULTANT GEOTECHNICAL ENGINEER IS TO ASSESS SUITABILITY OF MATERIAL AND VERIFY SUBBASE THICKNESS.

ROAD No.1  
-PRIME 7mm COAT & 25mm AC RESIDENTIAL MIX  
-100mm COMPACTED BASECOURSE  
-200mm COMPACTED SUBBASE  
-COMPACTED SAND SUBGRADE

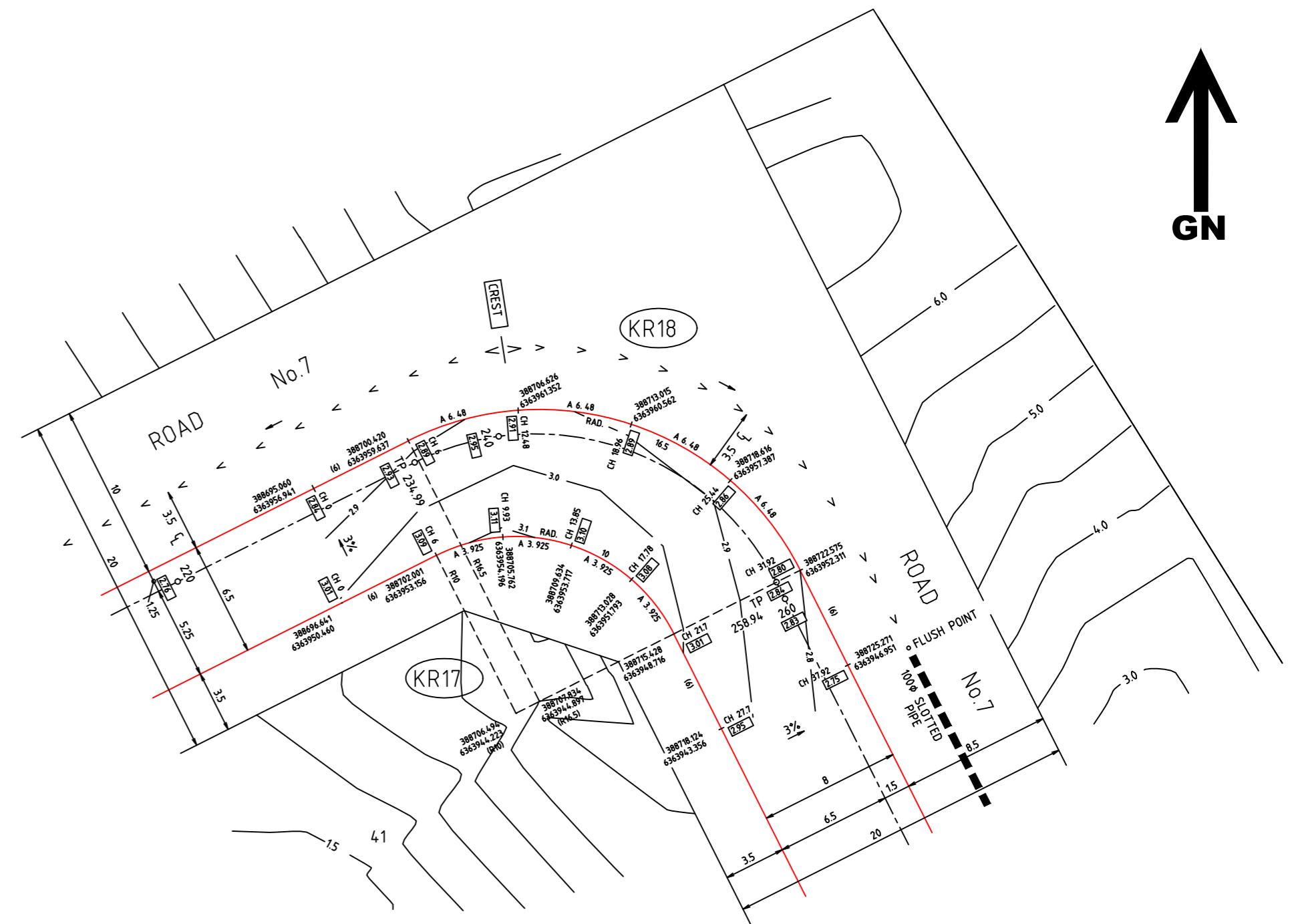
**NOTE C**  
**PROVIDE 1.0m WIDE**  
**100mm THICK CRUSHER**  
**DUST LAYER, AT 60mm**  
**BELOW FSL, COVER WITH**  
**TOPSOIL & TURF OR**  
**LANDSCAPE AS DIRECTED**



TYPICAL SUBSOIL  
DRAINAGE DETAIL

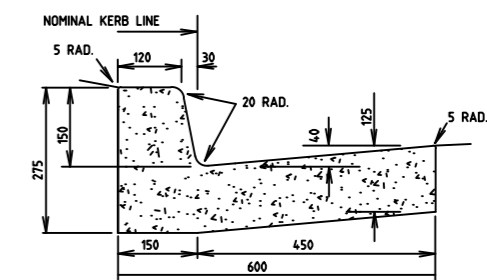
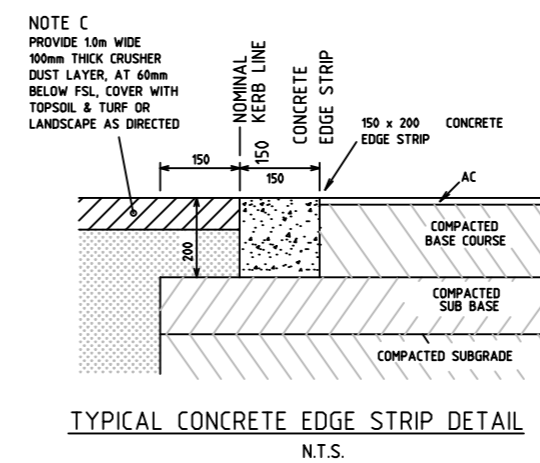
**NOTE:** -GEOTEXTILE IN ALL SUBSOIL DRAINS TO BE PLACED ON TOP AND BOTH SIDES AS DETAILED.

-SUBSOIL DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH PORT STEPHENS COUNCIL'S STANDARD DRAWING D4, SEE PORT STEPHENS COUNCIL'S SUBDIVISION CODE - PART 2.

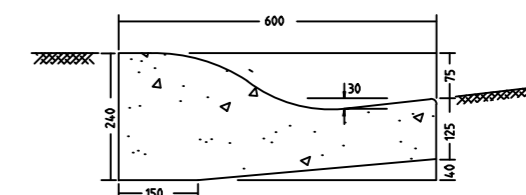


TYPICAL INTERSECTION DETAIL

SCALE 1:200



TYPICAL 150mm KERB & GUTTER  
N.T.S.



TYPICAL ROLL KERB & GUTTER  
N.T.S.



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SCALE 1: 5000	DATUM AHD
REVISION DATE 13/01/2012	CONTOURS X m
PLOT DATE 17/01/2012	DRAWN/CHKD BY IMc / AED
DA NUMBER	CC NUMBER

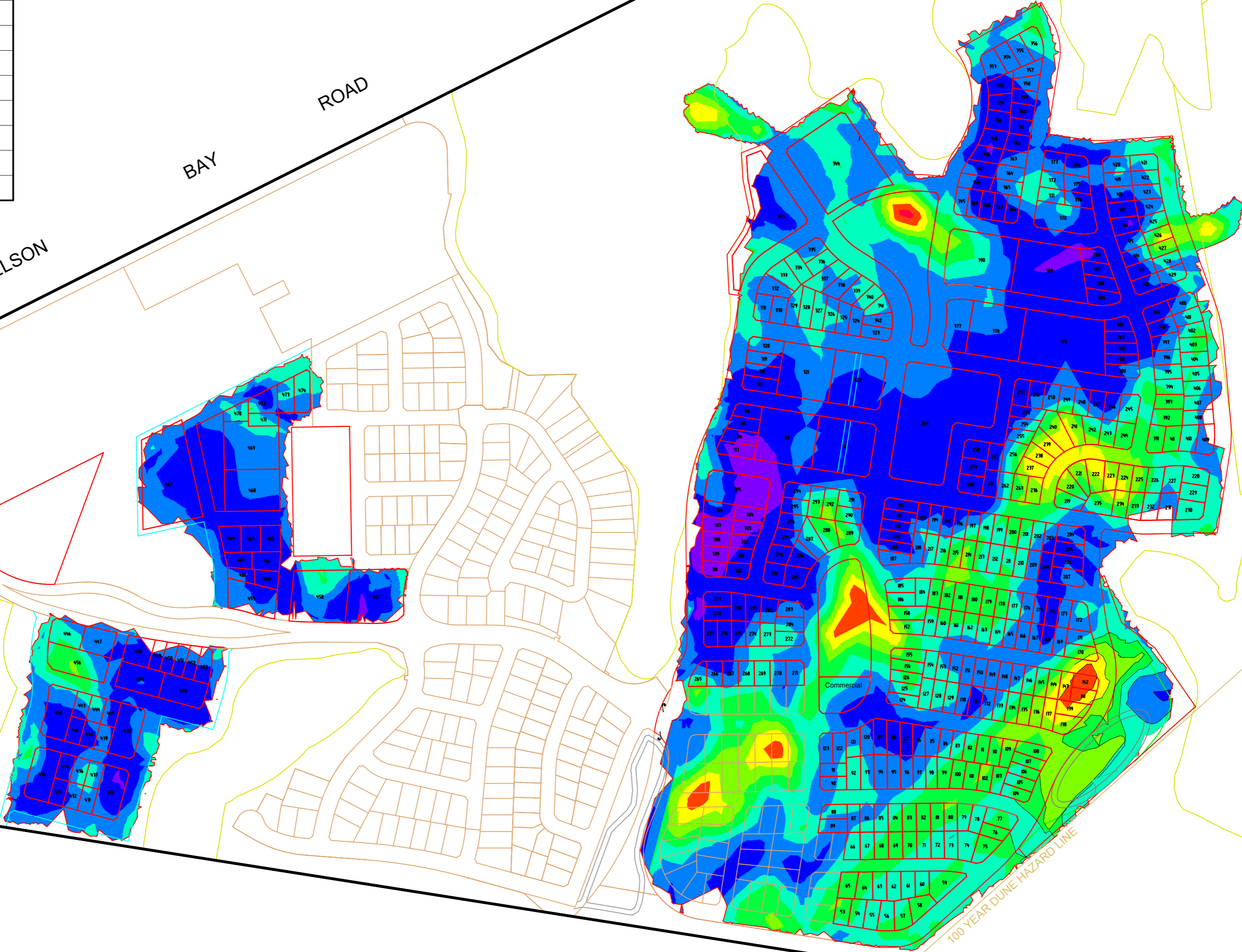
DRAWING TITLE AERIAL VIEW REV-E
DEVELOPMENT PROJECT PLAN E FERN BAY SEASIDE VILLAGE NELSON BAY ROAD, FERN BAY ----
CLIENT ASPEN GROUP LIMITED

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PO BOX 378 NELSON BAY, NSW, 2315  
EMAIL: admin@northpointsurveys.com.au

CUT (-ve) & FILL (+ve) DEPTHS DATA			
NUMBER	DEPTH	DEPTH	COLOUR
1	-11.1	-10.0	
2	-10.0	-8.0	
3	-8.0	-6.0	
4	-6.0	-4.0	
5	-4.0	-2.0	
6	-2.0	0.0	
7	0.0	2.0	
8	2.0	4.0	
9	4.0	6.3	



NELSON  
BAY  
ROAD



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1: 4000  
REVISION DATE  
17/01/2012  
PLOT DATE  
17/01/2012  
DA NUMBER

DATUM  
AHD  
DEPTH CONTOURS  
2 m  
DRAWN/CHKD BY  
IMc / AED  
CC NUMBER

DRAWING TITLE  
BULK EARTHWORKS (CUT-FILL) PLAN REV-E  
DEVELOPMENT  
PROJECT PLAN E  
FERN BAY SEASIDE VILLAGE  
NELSON BAY ROAD, FERN BAY  
CLIENT  
ASPEN GROUP LIMITED

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