

**LEGEND**

281.24 PROPOSED CARPARK LEVELS

**NOTES**

1. GENERAL
- 1.1 ALL DIMENSIONS ARE IN METERS
  - 1.2 LEVELS ARE REDUCED FROM A.H.D.
  - 1.3 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DESIGN DRAWINGS AND THE SPECIFICATION.
  - 1.4 THE CONTRACTOR SHALL LIMIT THE MOVEMENT OF EQUIPMENT AND MANPOWER TO THE MINIMUM AREA NECESSARY AND PROTECT ALL VEGETATION ON SITE.
  - 1.5 THE CONTRACTOR SHALL ENSURE THAT ALL LEVELS ARE SET-OUT BY LICENSED SURVEYOR.
  - 1.6 THE CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING OCCUPANCIES AT ALL TIMES THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS.
  - 1.7 THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES IN THE DESIGN DRAWINGS OR CLASHES WITH OTHER SERVICES AS SOON AS PRACTICALLY POSSIBLE TO THE SUPERINTENDENT.
  - 1.8 THE CONTRACTOR SHALL LOCATE AND PROTECT ALL SERVICES.

CROSSOVER TO LOCAL AUTHORITY SPECIFICATION

KEANE STREET EAST

BLAIR PLACE

PLAN



| REV | REVISION DESCRIPTION | DATE    | DRN | CHK |
|-----|----------------------|---------|-----|-----|
| A   | ISSUE FOR REVIEW     | 31/7/23 | JO  | JO  |

**WARNING**  
**BEWARE OF UNDERGROUND SERVICES**  
 The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Worksafe Regulation 3.21.

**DIAL 1100**  
 BEFORE YOU DIG

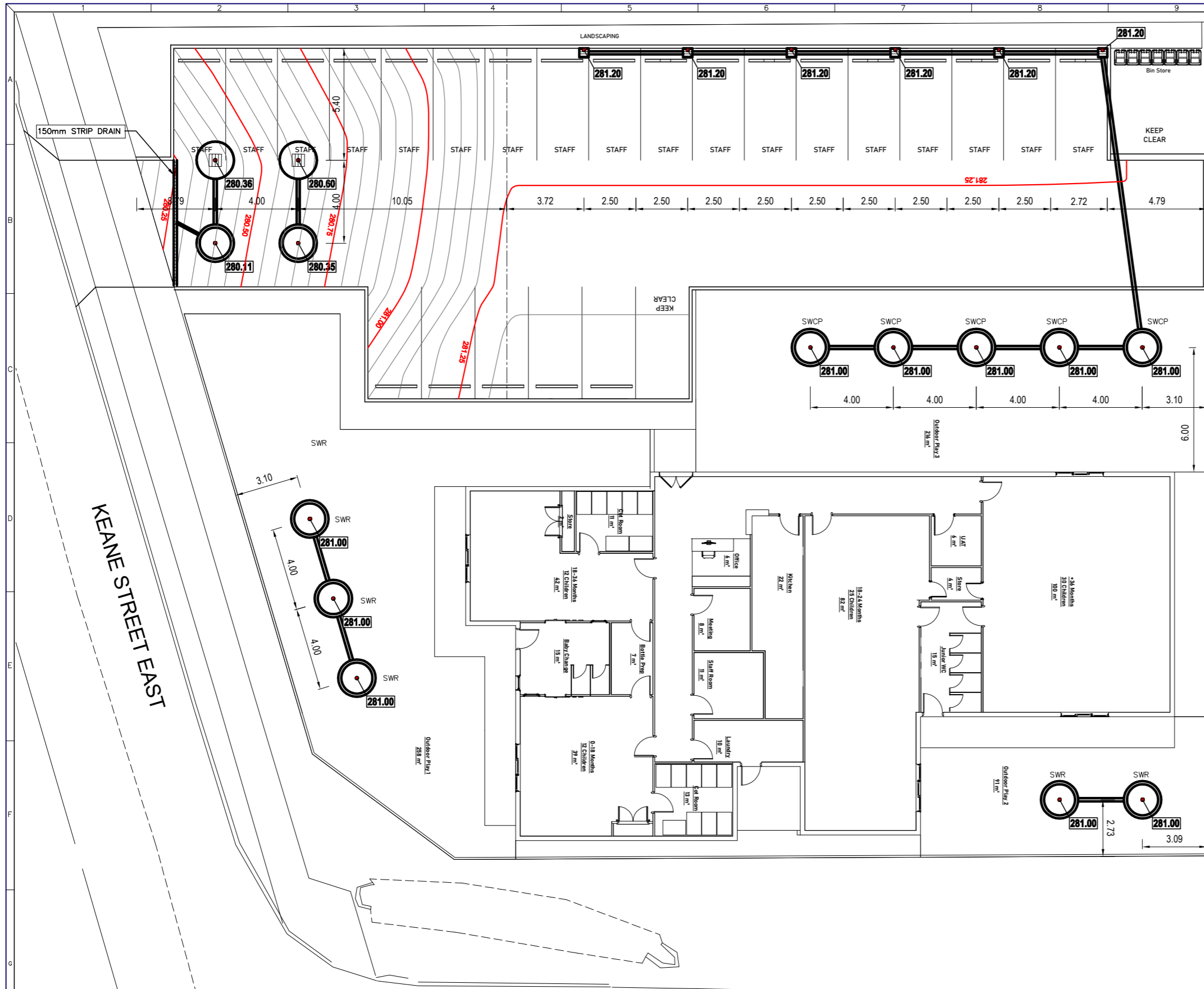
ISSUED FOR REVIEW

**OLSEN ENGINEERING WA**

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 A: 5 GAYTON PLACE, NORTH BEACH, WA 6020

|           |                                                             |           |          |          |    |  |
|-----------|-------------------------------------------------------------|-----------|----------|----------|----|--|
| CLIENT    | VALM PTY LTD                                                |           |          |          |    |  |
| PROJECT   | CHILDCARE CENTRE<br>LOT 2 KEANE STREET EAST<br>MOUNT HELENA |           |          |          |    |  |
| DATE:     | DRAWN:                                                      | DESIGNED: | CHECKED: | SCALE:   | A1 |  |
| 31-7-2023 | JO                                                          | JO        | JO       | AS SHOWN |    |  |

|                                            |              |                 |                 |           |
|--------------------------------------------|--------------|-----------------|-----------------|-----------|
| DRAWING TITLE                              |              |                 |                 |           |
| CIVIL WORKS<br>CARPARK LEVELS AND CONTOURS |              |                 |                 |           |
| SURVEY DATUM:                              | WAPC NUMBER: | PROJECT NUMBER: | DRAWING NUMBER: | REVISION: |
| AHD                                        | WAPC         | OE0187          | C300            | A         |



**LEGEND**

- 22.85 PROPOSED CARPARK LEVELS
- PROPOSED GRATED SOAKWELL
- PROPOSED BURIED SOAKWELL  
SWR - FOR ROOF DRAINAGE  
SWCP - FOR CAR PARK DRAINAGE
- PROPOSED 150 PVC PIPES
- PROPOSED GRATED PIT

**NOTES**

1. DRAINAGE
- 1.1 DRAINAGE GRATE LEVELS 10mm LOWER THAN ASPHALT LEVEL
- 1.2 TOP OF SOAKWELL LINER TO BE CUT ON ANGLE TO ALLOW FOR SLOPE OF PAVEMENT SURFACE PRIOR TO COVER BEING INSTALLED
- 1.3 JOINS BETWEEN UNDERSIDE OF SOAKWELL COVERS AND LINER WALLS TO BE MORTARED.
- 1.4 MINIMUM COVER TO 150 PVC PIPES TO BE 700mm.
- 1.5 BLIND SOAKWELL TO HAVE 50mm Ø PVC VENT PIPE INSTALLED BELOW PAVEMENT LEVEL WITH CONNECTION TO GRATED PIT TO ALLOW FOR PRESSURE RELEASE.
- 1.6 SOAKWELL GRATES TO BE TRAFFICABLE HEEL SAFE GRATES.
- 1.7 CONTRACTOR TO CLEAN OUT, INSPECT AND DETERMINE CONDITION OF EXISTING DRAINAGE PRIOR TO COMMENCEMENT OF WORKS.

**DRAINAGE DATA & CALCULATIONS**

**CAR PARK**

CATCHMENT 1  
 IMPERVIOUS AREA CATCHMENT = 450 m<sup>2</sup>  
 DESIGN BASED ON 1:100 YEAR CRITICAL STORM EVENT.  
 INFILTRATION RATE 0.7 m/day  
 STORAGE REQUIRED -  $Q=0.00278 \times C \times I \times A$ ,  $C=.90$ ,  $I = 13.6$  mm/hr (6 hours)  
 TOTAL STORM VOLUME TO BE MANAGED ON SITE :  $Q_t = 33.07$  m<sup>3</sup>  
 STORAGE PROVIDED (5 x 1800 DIAMETER x 1800 DEEP SOAKWELLS = 22.9 m<sup>3</sup>  
 INFILTRATION = 10.69 m<sup>3</sup> (6 hours)  
 TOTAL PROVIDED = 33.6 m<sup>3</sup>

CATCHMENT 2  
 IMPERVIOUS AREA CATCHMENT = 251 m<sup>2</sup>  
 DESIGN BASED ON 1:100 YEAR CRITICAL STORM EVENT.  
 INFILTRATION RATE 0.7 m/day  
 STORAGE REQUIRED -  $Q=0.00278 \times C \times I \times A$ ,  $C=.90$ ,  $I = 13.6$  mm/hr (6 hours)  
 TOTAL STORM VOLUME TO BE MANAGED ON SITE :  $Q_t = 18.44$  m<sup>3</sup>  
 STORAGE PROVIDED (4 x 1800 DIAMETER x 1200 DEEP SOAKWELLS = 12.21 m<sup>3</sup>  
 INFILTRATION = 6.4 m<sup>3</sup> (6 hours)  
 TOTAL PROVIDED = 18.63 m<sup>3</sup>

**ROOF AREA**

IMPERVIOUS AREA CATCHMENT = 490 m<sup>2</sup>  
 DESIGN BASED ON 1:100 YEAR CRITICAL STORM EVENT.  
 STORAGE REQUIRED -  $Q=0.1 \times 490 \times A$ ,  $0.0419 = 20.53$  m<sup>3</sup>  
 STORAGE PROVIDED (5 x 1800 DIAMETER x 1800 DEEP SOAKWELLS = 22.09 m<sup>3</sup>

BLAIR PLACE

PLAN



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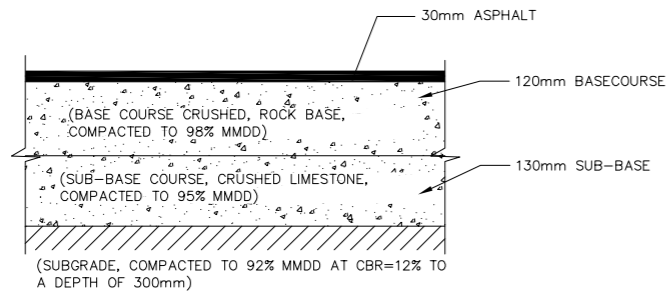
**DIAL 1100**  
 BEFORE YOU DIG

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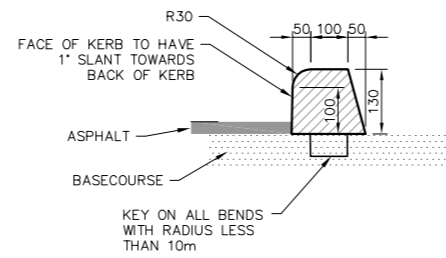
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| CHECKED:  | JO                                                          |
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|           | A1                                                          |

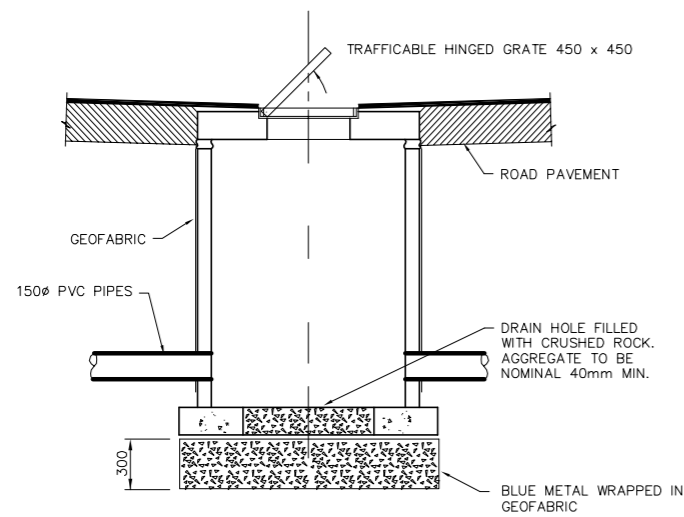
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|----------------------------------|-------------|----------------|----------------|----------|
| DRAWING TITLE                    |             |                |                |          |
| CIVIL WORKS                      |             |                |                |          |
| DRAINAGE LAYOUT AND CALCULATIONS |             |                |                |          |
| SURVEY DATUM                     | WACP NUMBER | PROJECT NUMBER | DRAWING NUMBER | REVISION |
| AHD                              | WACP        | OE0187         | C400           | A        |



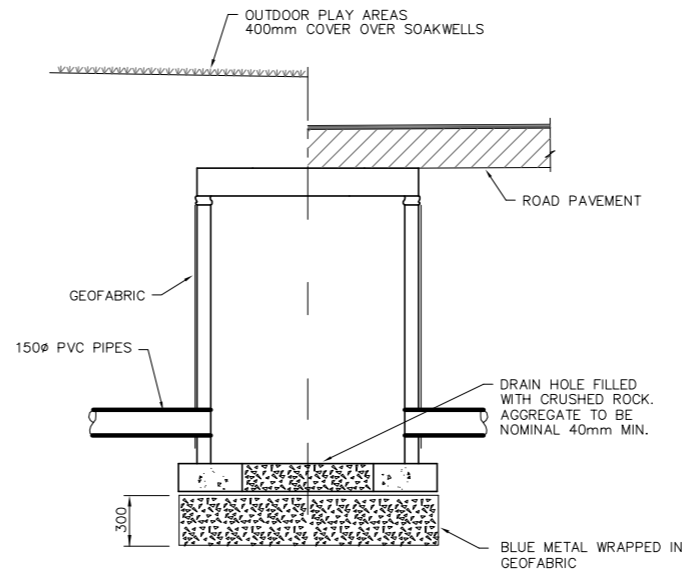
**TYPICAL PAVEMENT CROSS SECTION DETAIL**  
N.T.S.



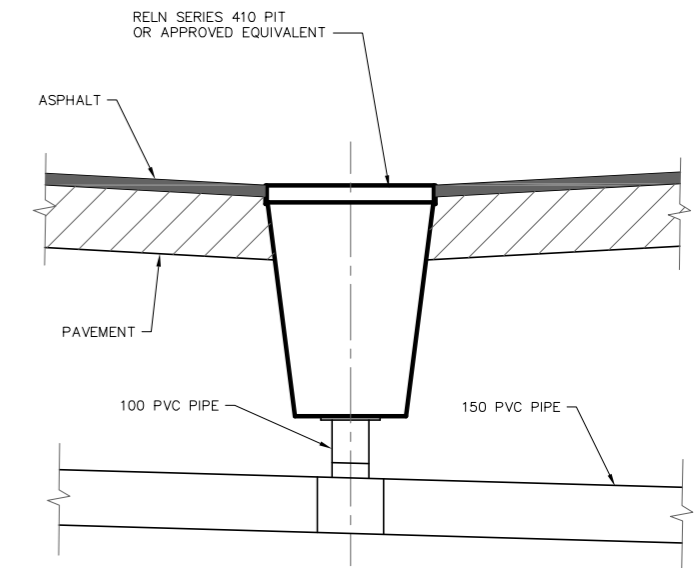
**BARRIER KERB DETAIL**  
N.T.S.



**SOAKWELL WITH GRATE DETAIL**



**BURIED SOAKWELL DETAIL**  
IN CAR PARK AND OUTDOOR AREAS



**GRADED PIT DETAIL**

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|---------------|-----|--------------|------|-----------------|--------------------------------|-----------------|------|-----------|---|
| DRAWING TITLE |     |              |      |                 | CIVIL WORKS<br>TYPICAL DETAILS |                 |      |           |   |
| SURVEY DATUM: | AHD | WAPC NUMBER: | WAPC | PROJECT NUMBER: | OE0187                         | DRAWING NUMBER: | C900 | REVISION: | A |