

The Chairperson
Development Consent Authority
GPO Box 1680
DARWIN NT 0801

Dear Chairperson

Re: Condition Precedent 6 of Development Permit DP18/0409 – Lot 04873 Town of Nightcliff – STAGE 1

Condition Precedent 6 relates to the endorsement of the Erosion and Sediment Control Plan (ESCP).

The Stage 1 Erosion and Sediment Control Plan (ESCP) consisting of the document listed below (and attached) has been assessed as being satisfactory in relation to construction phase erosion and sediment control:

- Erosion and Sediment Control – Approved by Carlo de Byl (CPESC no. 7619) – Drawing Numbers DC1603-2CRU-01-ES01 - DC1603-2CRU-01-ES11

The Department of Environment Parks, and Water Security has assessed the information provided, and consider that Condition Precedent 6 of Development Permit DP18/0409 for Stage 1 has been satisfied.

Please note that officers from this Department may undertake site inspections to ensure these works are implemented and maintained effectively.

Should you have any further queries regarding these comments, please contact the Development Coordination Branch by email DevelopmentAssessment@nt.gov.au or phone (08) 8999 4446.

Yours sincerely



Lauren Cooper
A/Director Development Coordination, Rangelands
2 June 2022

TO: Cardno, David Bramley (david.breamley@cardno.com.au)

GENERIC INSTALLATION SEQUENCE:

THIS INSTALLATION SEQUENCE ONLY SERVES AS A GENERIC GUIDE FOR THE MINIMUM EROSION AND SEDIMENT CONTROL (ESC) MEASURES FOR EVERY STAGE OF WORK. SITE CONDITIONS SUCH AS DISPERSIVE SOILS MAY WARRANT HIGHER ESC STANDARD (CONTACT SUPERINTENDENT OR THE ENGINEER PRIOR TO WORK).

| CODE | ITEM | PLAN | INSTALLED | REMOVED |
|---|--|---|--|--|
| MARK OUT INITIAL LIMITS OF DISTURBANCE. IDENTIFY LOCATION OF DISPERSIVE SOIL IF ANY. IF DISPERSIVE SOIL IS ENCOUNTERED CONTACT THE SUPERINTENDENT PRIOR TO COMMENCING WORK. | | | | |
| Entry/Exit | Construction entry/exit – vibration grid | DWG. DC1603-2CRU-01-ES04 & DC1603-2CRU-01-ES10 | Day One | When Entry/Exit is no longer required |
| SF | Sediment Fence with Woven Fabric | DWG. DC1603-2CRU-01-ES04 TO DC1603-2CRU-01-ES08 | Prior to clearing of upslope areas | When site office and Stockpiles are removed and when upslope site is suitably stabilised |
| Site Office | Site Office | | Day One | End of Work |
| Stockpile | Stockpile/Waste/Parts Washdown Area | | Day One | End of Work |
| CD | Parabolic Catch Drain without bank – Type A | DWG. DC1603-2CRU-01-ES04 TO DC1603-2CRU-01-ES08 | Day One | After adequate stabilisation of contributing upslope catchment |
| MB | Mulch Filter Berms | DWG. DC1603-2CRU-01-ES04 TO DC1603-2CRU-01-ES08 | As soon as construction activities allows. Install as required | After site stabilisation or house construction on each individual lot has commenced |
| OG, SA, FD | On Grade, Sag, and Fabric Drop Inlet Protection | DWG. DC1603-2CRU-01-ES07 & DC1603-2CRU-01-ES08 | As soon as inlets and pipes are constructed | After adequate stabilisation of contributing upslope catchment |
| GFS | 1.2m Grass Filter Strip | DWG. DC1603-2CRU-01-ES07 & DC1603-2CRU-01-ES08 | As soon as construction activities allows | NA |
| LS | Level Spreader | DWG. DC1603-2CRU-01-ES04 to DC1603-2CRU-01-ES06 | As soon as construction activities allows. Downslope land condition to be determined on site | When next stage begins and LS is no longer required |
| FR | Fibre Roll | DWG. DC1603-2CRU-01-ES04 TO DC1603-2CRU-01-ES08 | As soon as open drains are constructed | After adequate stabilisation of contributing upslope catchment |
| RCD | Rock Check Dam | DWG. DC1603-2CRU-01-ES04 TO DC1603-2CRU-01-ES08 | As soon as construction activities allows. Provide geotextile splash pad and ensure 150mm is provided between centre and outer check dam wing. | After drain stabilisation |
| RFD | Rock Filter Dam | DWG. DC1603-2CRU-01-ES04 to DC1603-2CRU-01-ES08 | Following installation of boundary sediment controls and prior to land clearing | After adequate stabilisation of contributing upslope catchment |
| Dust | Dust Suppression | | At sufficient interval to suppress dust generation | N/A |
| Revegetation | Revegetation by native species grassing in any disturbed areas | | As soon as practicable | N/A |

MONTHLY AND ANNUAL RAINFALL EROSIIVITY (R-FACTOR) VALUES

| DARWIN | 12.42S, 130.87E | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|--------|------------------------------|------|------|------|------|-----|-----|-----|-----|-----|------|------|------|--------|
| | MEAN | 4496 | 3512 | 2826 | 808 | 160 | 15 | 5 | 47 | 80 | 472 | 948 | 2355 | 15724 |
| | % OF ANNUAL | 29 | 22 | 18 | 5 | 1 | 0 | 0 | 0 | 1 | 3 | 6 | 15 | |
| | 2 yr ARI (MEDIAN) | 3572 | 2781 | 2124 | 514 | 0 | 0 | 0 | 0 | 0 | 322 | 906 | 1775 | 11994 |
| | 3 yr ARI (66.8th PERCENTILE) | 5624 | 3573 | 2754 | 978 | 120 | 0 | 0 | 0 | 0 | 466 | 1207 | 2542 | |
| | 4 yr ARI (75th PERCENTILE) | 5961 | 4538 | 3720 | 1182 | 151 | 0 | 0 | 0 | 28 | 753 | 1325 | 3318 | |
| | 5 yr ARI (80th PERCENTILE) | 6242 | 4735 | 4440 | 1553 | 202 | 0 | 0 | 0 | 112 | 933 | 1488 | 3667 | |
| | 10 yr ARI (90th PERCENTILE) | 8517 | 6370 | 5988 | 1728 | 417 | 0 | 0 | 237 | 317 | 1262 | 1624 | 4968 | |



| Rev. | Date | Description | Des. | Verif. | Appd. |
|------|----------|--------------|------|--------|-------|
| A | 12.04.22 | FOR APPROVAL | C dB | DMB | |

Development Permit: DP19/0050

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|--------------|---------------|
| Drawn OAR | Date June '20 |
| Checked DMB | Date June '20 |
| Designed OAR | Date June '20 |
| Verified AGO | Date June '20 |
| Approved | Date |

Client: DEFENCE HOUSING AUSTRALIA
Project: MUIRHEAD NORTH DEVELOPMENT
LEE POINT ROAD, MUIRHEAD
CITY OF DARWIN
Title: EROSION AND SEDIMENT CONTROL SEQUENCE TABLE AND R-FACTORS

| | | | |
|--|-----------------|-----------------|-------------|
| Status: FOR APPROVAL | | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum: AHD | Date: July 2021 | Scale: AS SHOWN | Size: A1 |
| Drawing Number: DC1603-2CRU-01-ES02 | | | Revision: A |



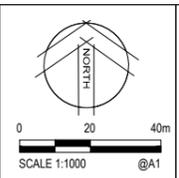
NOTES

1. REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
2. REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN.
3. REFER TO DWG No. DC1603-2CRU-01-ES04 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 1 (APRIL - OCTOBER). REFER TO DWG No. DC1603-2CRU-01-ES05 TO ES06 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 2 (APRIL - OCTOBER). REFER TO DWG No. DC1603-2CRU-01-ES07 TO ES08 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR POST CONSTRUCTION PHASE 3.
4. REFER TO DWG No. DC1603-2CRU-01-ES12 & ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
5. DUST CONTROL FENCE TO BE ERECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS.
6. SEDIMENT FENCE TO BE INSTALLED ONLY IF INSUFFICIENT MULCH AVAILABLE ON SITE.

LEGEND

- SEDIMENT FENCE
- ON GRADE KERB INLET SEDIMENT TRAP
- SAG KERB INLET SEDIMENT TRAP
- FABRIC DROP INLET PROTECTION
- GULLY BAG INLET PROTECTION
- ROCK CHECK DAM
- FIBRE ROLL
- ROCK WEIR AT END OF BERM
- FINISHED CONTOURS
- MULCH FILTER BERM (REFER NOTE 7)
- CATCH DRAIN
- DIVERSION DRAIN (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS)
- FLOW DIRECTION
- ROCK FILTER DAM (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS)
- AREA TO BE CLEARED FOR CONSTRUCTION WORKS
- NO-GO RESTRICTED AREA

| Rev. | Date | Description | CdB Des. | DMB Verif. | Appd. |
|------|----------|-------------|----------|------------|-------|
| A | 12.04.22 | FOR REVIEW | | | |



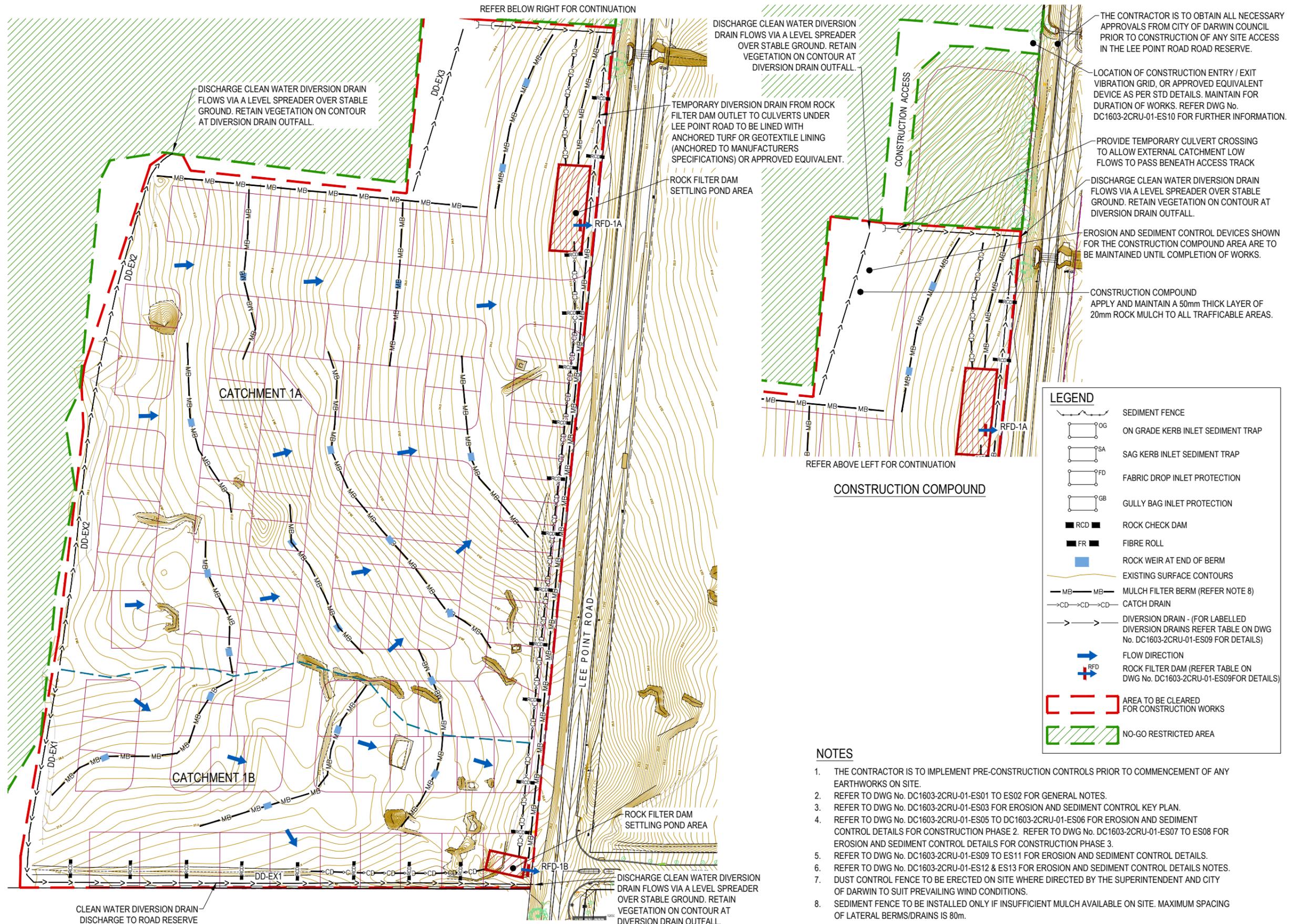
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|----------|---------------------|------|---------|
| Drawn | OAR | Date | June 20 |
| Checked | DMB | Date | June 20 |
| Designed | OAR | Date | June 20 |
| Verified | AGO | Date | June 20 |
| Approved | <i>Caro de Sijl</i> | Date | June 20 |

| | |
|---------|--|
| Client | DEFENCE HOUSING AUSTRALIA |
| Project | MUIRHEAD NORTH DEVELOPMENT LEE POINT ROAD, MUIRHEAD CITY OF DARWIN |
| Title | EROSION AND SEDIMENT CONTROL KEY PLAN |

| | | | | | |
|--|---------------------|------|-----------|----------|----------|
| Status | PRELIMINARY | | | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | | | |
| Datum | AHD | Date | Dec' 2021 | Scale | AS SHOWN |
| Size | A1 | | | | |
| Drawing Number | DC1603-2CRU-01-ES03 | | | Revision | A |



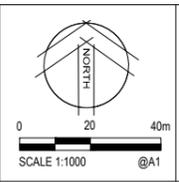
LEGEND

| | |
|--|--|
| | SEDIMENT FENCE |
| | ON GRADE KERB INLET SEDIMENT TRAP |
| | SAG KERB INLET SEDIMENT TRAP |
| | FABRIC DROP INLET PROTECTION |
| | GULLY BAG INLET PROTECTION |
| | ROCK CHECK DAM |
| | FIBRE ROLL |
| | ROCK WEIR AT END OF BERM |
| | EXISTING SURFACE CONTOURS |
| | MULCH FILTER BERM (REFER NOTE 8) |
| | CATCH DRAIN |
| | DIVERSION DRAIN - (FOR LABELLED DIVERSION DRAINS REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS) |
| | FLOW DIRECTION |
| | ROCK FILTER DAM (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS) |
| | AREA TO BE CLEARED FOR CONSTRUCTION WORKS |
| | NO-GO RESTRICTED AREA |

- NOTES**
1. THE CONTRACTOR IS TO IMPLEMENT PRE-CONSTRUCTION CONTROLS PRIOR TO COMMENCEMENT OF ANY EARTHWORKS ON SITE.
 2. REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
 3. REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN.
 4. REFER TO DWG No. DC1603-2CRU-01-ES05 TO DC1603-2CRU-01-ES06 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 2. REFER TO DWG No. DC1603-2CRU-01-ES07 TO ES08 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 3.
 5. REFER TO DWG No. DC1603-2CRU-01-ES09 TO ES11 FOR EROSION AND SEDIMENT CONTROL DETAILS.
 6. REFER TO DWG No. DC1603-2CRU-01-ES12 & ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
 7. DUST CONTROL FENCE TO BE ERRECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS.
 8. SEDIMENT FENCE TO BE INSTALLED ONLY IF INSUFFICIENT MULCH AVAILABLE ON SITE. MAXIMUM SPACING OF LATERAL BERMS/DRAINS IS 80m.

| Rev. | Date | Description | C dB | DMB |
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| Des. | Verif. | Appd. | | |
| A | 12.04.22 | FOR APPROVAL | | |

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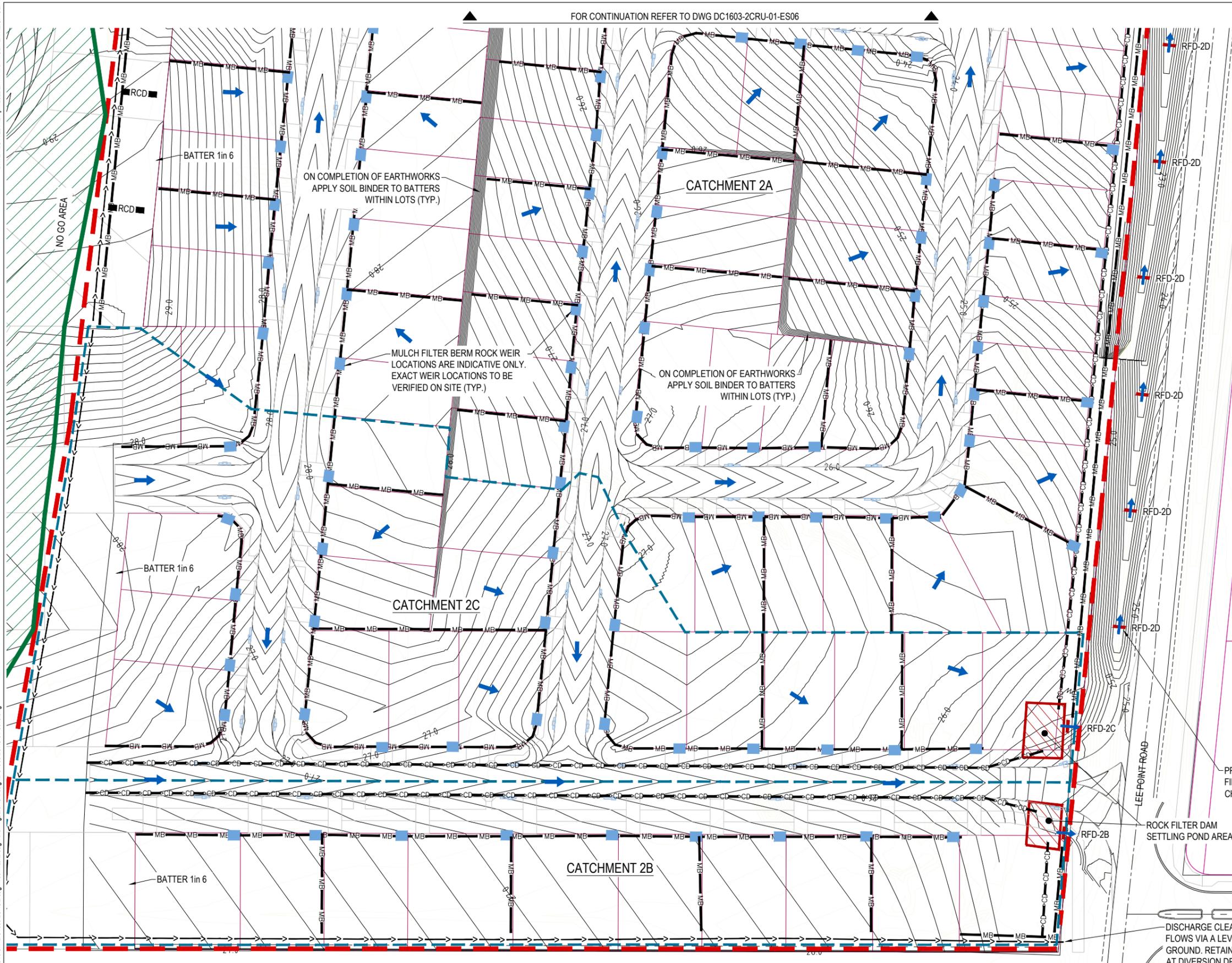


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| Drawn | Date | Client |
| OAR | June 20 | DEFENCE HOUSING AUSTRALIA |
| Checked | Date | Project |
| DMB | June 20 | MUIRHEAD NORTH DEVELOPMENT |
| Designed | Date | |
| OAR | June 20 | LEE POINT ROAD, MUIRHEAD |
| Verified | Date | CITY OF DARWIN |
| AGO | June 20 | Title |
| Approved | Date | EROSION AND SEDIMENT CONTROL |
| <i>Carlo de Sijl</i> | CPESC 7619 | PHASE 1 - PRE CONSTRUCTION (APRIL - OCTOBER) |
| | | LAYOUT PLAN |

| | | | |
|--|--------------|----------|------|
| Status | FOR APPROVAL | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | Date | Scale | Size |
| AHD | July 2021 | AS SHOWN | A1 |
| Drawing Number | Revision | | |
| DC1603-2CRU-01-ES04 | A | | |



FOR CONTINUATION REFER TO DWG DC1603-2CRU-01-ES06

LEGEND

- SEDIMENT FENCE
- ON GRADE KERB INLET SEDIMENT TRAP
- SAG KERB INLET SEDIMENT TRAP
- FABRIC DROP INLET PROTECTION
- GULLY BAG INLET PROTECTION
- ROCK CHECK DAM
- FIBRE ROLL
- ROCK WEIR AT END OF BERM
- FINISHED CONTOURS
- MULCH FILTER BERM (REFER NOTE 7)
- CATCH DRAIN
- DIVERSION DRAIN (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS)
- FLOW DIRECTION
- ROCK FILTER DAM (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS)
- AREA TO BE CLEARED FOR CONSTRUCTION WORKS
- NO-GO RESTRICTED AREA

- ### NOTES
1. REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
 2. REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN.
 3. REFER TO DWG No. DC1603-2CRU-01-ES04 FOR CONSTRUCTION PHASE 1. REFER TO DWG No. DC1603-2CRU-01-ES07 TO ES08 FOR CONSTRUCTION PHASE 3.
 4. REFER TO DWG No. DC1603-2CRU-01-ES09 TO ES11 FOR EROSION AND SEDIMENT CONTROL DETAILS.
 5. REFER TO DWG No. DC1603-2CRU-01-ES012 TO ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
 6. DUST CONTROL FENCE TO BE ERECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS.
 7. SEDIMENT FENCE TO BE INSTALLED ONLY IF INSUFFICIENT MULCH AVAILABLE ON SITE. MAXIMUM SPACING OF LATERAL BERMS/DRAINS IS 80m.
 8. IF IT IS EXPECTED THAT CONSTRUCTION WORKS WILL CONTINUE INTO THE WET SEASON, A WET WEATHER ESCP MUST BE SUBMITTED AND APPROVED FOR IMPLEMENTATION PRIOR TO 30 SEPTEMBER 2022.
 9. CONTRACTOR TO CONFIRM WITH THE SUPERINTENDENT THE SEDIMENT AND DRAINAGE CONTROL MEASURES REQUIRED ALONG NORTHERN AND WESTERN BOUNDARIES OF THE STAGE 1 WORKS WHERE EARTHWORKS TEMPORARILY INTERFACES WITH FUTURE WORKS.

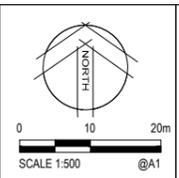
PROGRESSIVELY INSTALL INSTREAM ROCK FILTER DAMS AND STABILISE FINISHED CHANNEL PROFILE AS SOON AS PRACTICAL.

ROCK FILTER DAM SETTLING POND AREA

DISCHARGE CLEAN WATER DIVERSION DRAIN FLOWS VIA A LEVEL SPREADER OVER STABLE GROUND. RETAIN VEGETATION ON CONTOUR AT DIVERSION DRAIN OUTFALL.

| Rev. | Date | Description | Cd | DMB |
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| | | | Des. | Verif. Appd. |
| A | 12.04.22 | FOR REVIEW | | |

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|----------------------|---------|--|
| Drawn | Date | Client |
| QAR | June 20 | DEFENCE HOUSING AUSTRALIA |
| Checked | Date | Project |
| DMB | June 20 | MUIRHEAD NORTH DEVELOPMENT |
| Designed | Date | Location |
| QAR | June 20 | LEE POINT ROAD, MUIRHEAD |
| Verified | Date | City |
| AGO | June 20 | CITY OF DARWIN |
| Approved | Date | Title |
| <i>Carlo de Sijl</i> | June 20 | EROSION AND SEDIMENT CONTROL PLAN |
| | | CONSTRUCTION PHASE 2 (APRIL - OCTOBER) |
| | | SHEET 1 OF 2 |

| | | | |
|--|---------------------|----------|----------|
| Status | PRELIMINARY | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | Date | Scale | Size |
| AHD | Dec '2021 | AS SHOWN | A1 |
| Drawing Number | DC1603-2CRU-01-ES05 | | Revision |
| | | | A |

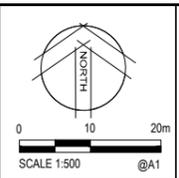


| LEGEND | |
|--------|--|
| | SEDIMENT FENCE |
| | ON GRADE KERB INLET SEDIMENT TRAP |
| | SAG KERB INLET SEDIMENT TRAP |
| | FABRIC DROP INLET PROTECTION |
| | GULLY BAG INLET PROTECTION |
| | ROCK CHECK DAM |
| | FIBRE ROLL |
| | ROCK WEIR AT END OF BERM |
| | FINISHED CONTOURS |
| | MULCH FILTER BERM (REFER NOTE 7) |
| | CATCH DRAIN |
| | DIVERSION DRAIN (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS) |
| | FLOW DIRECTION |
| | ROCK FILTER DAM (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS) |
| | AREA TO BE CLEARED FOR CONSTRUCTION WORKS |
| | NO-GO RESTRICTED AREA |

- NOTES**
- REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
 - REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN.
 - REFER TO DWG No. DC1603-2CRU-01-ES04 FOR CONSTRUCTION PHASE 1. REFER TO DWG No. DC1603-2CRU-01-ES07 TO ES08 FOR CONSTRUCTION PHASE 3.
 - REFER TO DWG No. DC1603-2CRU-01-ES09 TO ES11 FOR EROSION AND SEDIMENT CONTROL DETAILS.
 - REFER TO DWG No. DC1603-2CRU-01-ES012 TO ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
 - DUST CONTROL FENCE TO BE ERECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS. SEDIMENT FENCE TO BE INSTALLED ONLY IF INSUFFICIENT MULCH AVAILABLE ON SITE. MAXIMUM SPACING OF LATERAL BERMS/DRAINS IS 80m.
 - IF IT IS EXPECTED THAT CONSTRUCTION WORKS WILL CONTINUE INTO THE WET SEASON, A WET WEATHER ESCP MUST BE SUBMITTED AND APPROVED FOR IMPLEMENTATION PRIOR TO 30 SEPTEMBER 2022. REFER TO DWG No. DC1603-2CRU-01-ES01 FOR WET WEATHER PREPAREDNESS NOTES.
 - TEMPORARY STOCKPILES - PRIOR TO PLACEMENT OF STOCKPILES, THE CLEARED AREA SHALL BE REGRADED TO ELIMINATE CONCENTRATED FLOW PATHS. ON COMPLETION OF CLEARING AND REGRADED OF THE STOCKPILE AREA, A JOINT INSPECTION WITH THE SUPERINTENDENT AND DEPWS SHALL BE CONDUCTED TO DETERMINE WHETHER ANY ADDITIONAL DRAINAGE AND/OR SEDIMENT CONTROL MEASURES ARE REQUIRED. STOCKPILE HEIGHT - DESIRABLE MAXIMUM 2.0m (ABSOLUTE MAXIMUM 3.0m). ALL STOCKPILES ARE TO BE COMPLETELY REMOVED AND ALL DISTURBED AREAS FULLY MULCHED DURING PHASE 2 WORKS PRIOR TO 31 OCTOBER 2022. REFER TO DC1603-2CRU-01-ES01 FOR ADDITIONAL STOCKPILE MANAGEMENT NOTES.
 - CONTRACTOR TO CONFIRM WITH THE SUPERINTENDENT THE SEDIMENT AND DRAINAGE CONTROL MEASURES REQUIRED ALONG NORTHERN AND WESTERN BOUNDARIES OF THE STAGE 1 WORKS WHERE EARTHWORKS TEMPORARILY INTERFACES WITH FUTURE WORKS.

| Rev. | Date | Description | CdB | DMB |
|------|----------|-------------|------|--------------|
| | | | Des. | Verif. Appd. |
| A | 12.04.22 | FOR REVIEW | | |

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| Drawn | OAR | Date | June '20 |
| Checked | DMB | Date | June '20 |
| Designed | OAR | Date | June '20 |
| Verified | AGO | Date | June '20 |
| Approved | <i>Carlo de Sijl</i> | Date | 7619 |

Client: DEFENCE HOUSING AUSTRALIA
 Project: MUIRHEAD NORTH DEVELOPMENT
 LEE POINT ROAD, MUIRHEAD
 CITY OF DARWIN
 Title: EROSION AND SEDIMENT CONTROL PLAN
 CONSTRUCTION PHASE 2 (APRIL - OCTOBER)
 SHEET 2 OF 2

| | | | |
|--|---------------------|------|-----------|
| Status: PRELIMINARY | | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | AHD | Date | Dec '2021 |
| Scale | AS SHOWN | Size | A1 |
| Drawing Number | DC1603-2CRU-01-ES06 | | Revision |
| | | | A |

FOR CONTINUATION REFER TO DWG DC1603-2CRU-01-ES08



LEGEND

- SEDIMENT FENCE
- ON GRADE KERB INLET SEDIMENT TRAP
- SAG KERB INLET SEDIMENT TRAP
- FABRIC DROP INLET PROTECTION
- GULLY BAG INLET PROTECTION
- ROCK CHECK DAM
- FIBRE ROLL
- ROCK WEIR AT END OF BERM
- 0.9m WIDE GRASS FILTER STRIP REFER TO LANDSCAPING DRAWINGS FOR VERGE AREAS BEYOND FILTER STRIP
- 25.0 FINISHED CONTOURS
- MULCH FILTER BERM (REFER NOTE 7)
- CATCH DRAIN
- DIVERSION DRAIN (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS)
- AREA TO BE CLEARED FOR CONSTRUCTION WORKS
- NO-GO RESTRICTED AREA

INTERFACE AREAS / BATTERS (OUTSIDE OF LOT AREAS) TO BE TOPSOILED (50 TO 75mm NON-DISPERSIVE SOIL) AND SEEDED, MULCHED OR STABILISED TO SUPERINTENDENTS INSTRUCTIONS.

MULCH FILTER BERM WEIR LOCATIONS ARE INDICATIVE ONLY. EXACT WEIR LOCATION TO BE VERIFIED ON SITE. (TYP.)

REMOVE INSTREAM ROCK FILTER DAMS FOLLOWING ADEQUATE STABILISATION OF THE ROADSIDE DRAIN.

OPEN SPACE AREA AND ROADSIDE DRAIN TO BE VEGETATED / STABILISED TO APPROVED LANDSCAPE ARCHITECTS DRAWINGS.

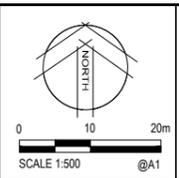
NOTES

1. THE CONTRACTOR IS TO PROGRESSIVELY IMPLEMENT POST-CONSTRUCTION CONTROLS AS WORK ON THE LOTS IS COMPLETED.
2. REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
3. REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN. REFER TO DWG No. DC1603-2CRU-01-ES04 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 1. REFER TO DWG No. DC1603-2CRU-01-ES05 TO ES06 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 2.
4. REFER TO DWG No. DC1603-2CRU-01-ES12 TO ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
5. DUST CONTROL FENCE TO BE ERECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS.
6. SEDIMENT FENCE TO BE INSTALLED ONLY IF INSUFFICIENT MULCH AVAILABLE ON SITE.
7. DOWNSLOPE BOUNDARY SEDIMENT CONTROLS TO REMAIN IN PLACE AND FUNCTIONAL UNTIL ADEQUATE STABILISATION OF CONTRIBUTING UPSLOPE CATCHMENT.
8. WHERE APPROPRIATE BINDER OR STABILISER IS APPLIED TO ACHIEVE ADEQUATE COVER, THE AREA SHALL BE FLAGGED / FENCED OFF TO PREVENT VEHICULAR TRAFFIC.
9. ALL AREAS DISTURBED DURING THE STAGE 1 WORKS THAT REMAIN EXPOSED BEYOND 30 NOVEMBER ARE TO BE INSPECTED BY DEPWS REPRESENTATIVES TO CONFIRM THE LEVEL OF EROSION AND SEDIMENT CONTROL MEASURES / DEVICES TO BE IMPLEMENTED FOR THE WET SEASON.

ROCK FILTER DAM TO BE REMOVED FOLLOWING ADEQUATE STABILISATION OF THE CONTRIBUTING CATCHMENT

| Rev. | Date | Description | CdB | DMB |
|------|----------|-------------|------|--------|
| | | | Des. | Verif. |
| A | 12.04.22 | FOR REVIEW | | |

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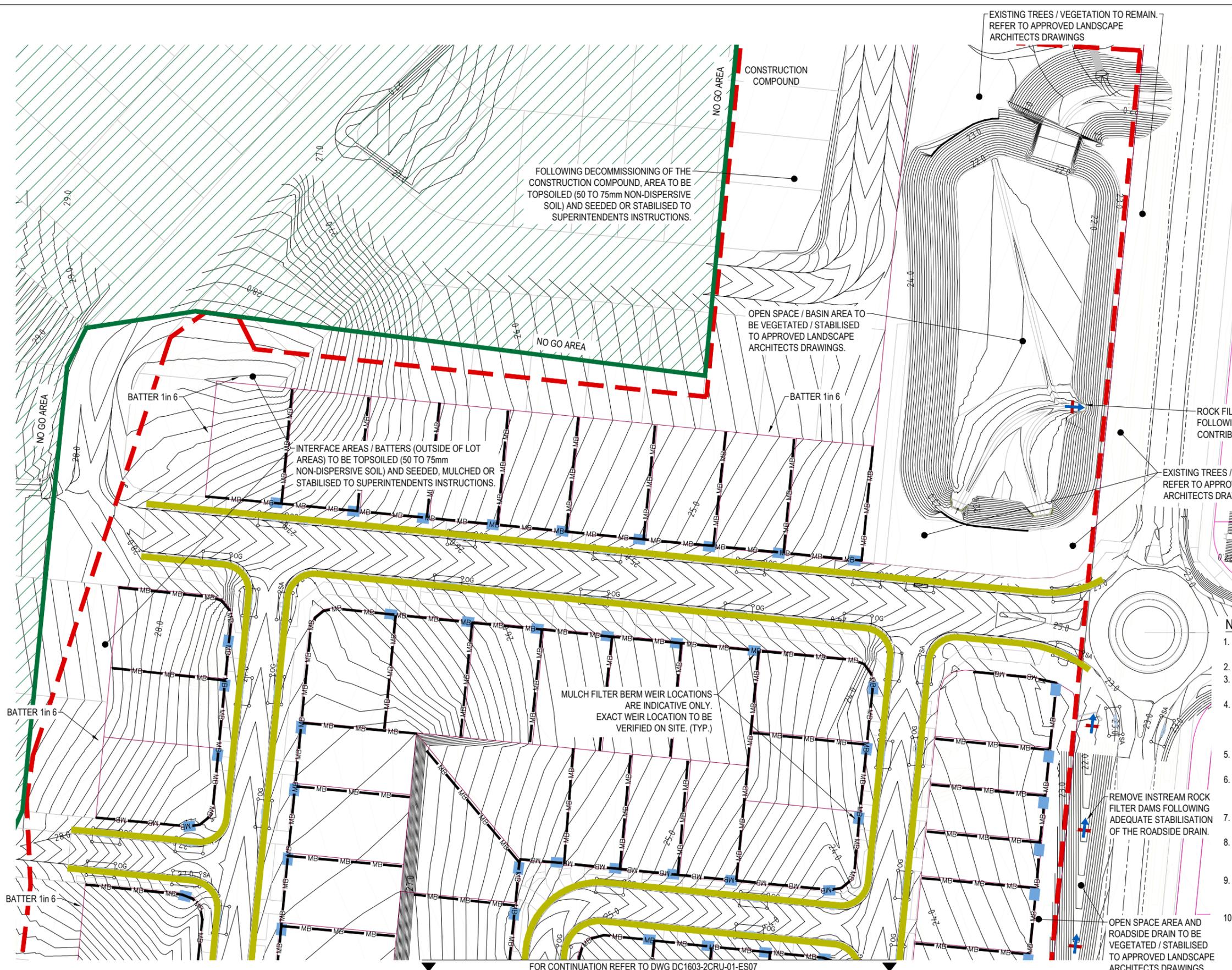
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| | | | |
|----------|-----|------|----------|
| Drawn | OAR | Date | June '20 |
| Checked | DMB | Date | June '20 |
| Designed | OAR | Date | June '20 |
| Verified | AGO | Date | June '20 |
| Approved | | Date | June '20 |

Anto de Sijl CPESC 7619

Client DEFENCE HOUSING AUSTRALIA
 Project MUIRHEAD NORTH DEVELOPMENT
 LEE POINT ROAD, MUIRHEAD
 CITY OF DARWIN
 Title EROSION AND SEDIMENT CONTROL PLAN
 POST CONSTRUCTION PHASE 3
 SHEET 1 OF 2

| | | | |
|--|---------------------|------|-----------|
| Status PRELIMINARY | | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | AHD | Date | Dec' 2021 |
| Scale | AS SHOWN | Size | A1 |
| Drawing Number | DC1603-2CRU-01-ES07 | | Revision |
| | | | A |

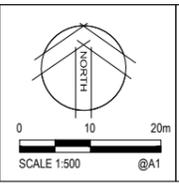


| LEGEND | |
|--------|--|
| | SEDIMENT FENCE |
| | ON GRADE KERB INLET SEDIMENT TRAP |
| | SAG KERB INLET SEDIMENT TRAP |
| | FABRIC DROP INLET PROTECTION |
| | GULLY BAG INLET PROTECTION |
| | ROCK CHECK DAM |
| | FIBRE ROLL |
| | ROCK WEIR AT END OF BERM |
| | 0.9m WIDE GRASS FILTER STRIP REFER TO LANDSCAPING DRAWINGS FOR VERGE AREAS BEYOND FILTER STRIP |
| | 25.0 FINISHED CONTOURS |
| | MB MULCH FILTER BERM (REFER NOTE 7) |
| | CD CATCH DRAIN |
| | DD DIVERSION DRAIN (REFER TABLE ON DWG No. DC1603-2CRU-01-ES09 FOR DETAILS) |
| | AREA TO BE CLEARED FOR CONSTRUCTION WORKS |
| | NO-GO RESTRICTED AREA |

- NOTES**
1. THE CONTRACTOR IS TO PROGRESSIVELY IMPLEMENT POST-CONSTRUCTION CONTROLS AS WORK ON THE LOTS IS COMPLETED.
 2. REFER TO DWG No. DC1603-2CRU-01-ES01 TO ES02 FOR GENERAL NOTES.
 3. REFER TO DWG No. DC1603-2CRU-01-ES03 FOR EROSION AND SEDIMENT CONTROL KEY PLAN.
 4. REFER TO DWG No. DC1603-2CRU-01-ES04 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 1. REFER TO DWG No. DC1603-2CRU-01-ES05 TO ES06 FOR EROSION AND SEDIMENT CONTROL DETAILS FOR CONSTRUCTION PHASE 2.
 5. REFER TO DWG No. DC1603-2CRU-01-ES12 TO ES13 FOR EROSION AND SEDIMENT CONTROL DETAILS NOTES.
 6. DUST CONTROL FENCE TO BE ERECTED ON SITE WHERE DIRECTED BY THE SUPERINTENDENT AND CITY OF DARWIN TO SUIT PREVAILING WIND CONDITIONS.
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 10. ALL AREAS DISTURBED DURING THE STAGE 1 WORKS THAT REMAIN EXPOSED BEYOND 30 NOVEMBER ARE TO BE INSPECTED BY DEPWS REPRESENTATIVES TO CONFIRM THE LEVEL OF EROSION AND SEDIMENT CONTROL MEASURES / DEVICES TO BE IMPLEMENTED FOR THE WET SEASON.

| Rev. | Date | Description | CdB | DMB |
|------|----------|-------------|-----|-----|
| A | 12.04.22 | FOR REVIEW | | |

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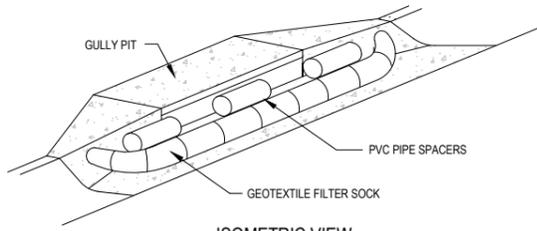


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| | | |
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| Drawn OAR | Date June 20 | Client DEFENCE HOUSING AUSTRALIA |
| Checked DMB | Date June 20 | Project MUIRHEAD NORTH DEVELOPMENT |
| Designed OAR | Date June 20 | LEE POINT ROAD, MUIRHEAD CITY OF DARWIN |
| Verified AGO | Date June 20 | Title EROSION AND SEDIMENT CONTROL PLAN |
| Approved <i>Carlo de Byl</i> | Date 7619 | POST CONSTRUCTION PHASE 3 SHEET 2 OF 2 |

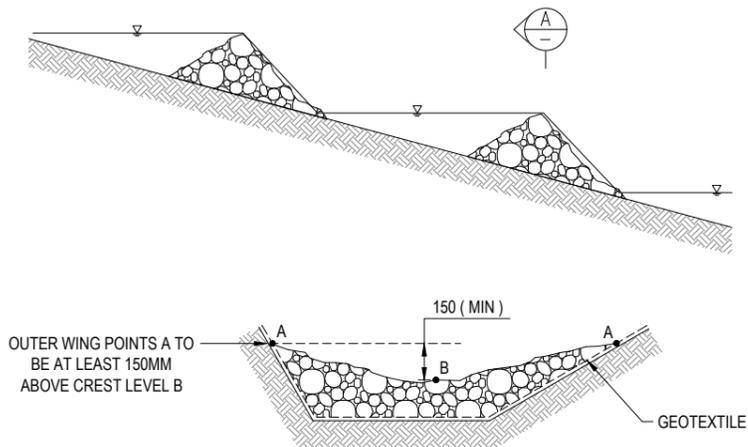
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| Status | PRELIMINARY | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | AHD | Date | Dec '2021 |
| Scale | AS SHOWN | Size | A1 |
| Drawing Number | DC1603-2CRU-01-ES08 | | Revision |
| | | | A |



ISOMETRIC VIEW

REFER DWG. NO. DC1603-2CRU-01-ES13 AND IECA BPESC STD. DWG. SD-SA-01 FOR FURTHER INFORMATION.

SAG KERB INLET SEDIMENT TRAP
N.T.S.



SECTION A
N.T.S.

REFER DWG. NO. DC1603-2CRU-01-ES13 AND IECA BPESC STD. DWG. SD-RCD-01 FOR FURTHER INFORMATION.

ROCK CHECK DAM
N.T.S.

DIMENSIONS - ROCK CHECK DAM

- MAXIMUM HEIGHT OF 0.5m UNLESS FORMALLY DESIGNED.
- MAXIMUM HEIGHT 1m IF FORMALLY DESIGNED.
- WEIR INVERT TO BE AT LEAST 150mm LOWER THAN OUTER EDGES.
- MAXIMUM BANK SLOPE OF 2(H): 1(V).
- ROCK 150mm-300mm NOMINAL DIAMETER, HARD, EROSION RESISTANT ROCK. SMALLER ROCK MAY BE USED IF SUITABLE LARGE ROCK IS NOT AVAILABLE

ROCK FILTER DAM DETAILS TABLE

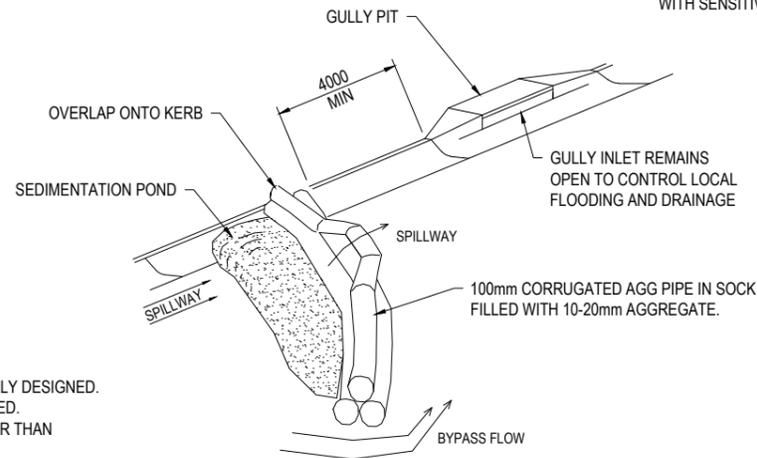
| DEVICE ID | CATCHMENT ID | MIN. SETTLING POND SURFACE AREA | SUGGESTED SETTLING POND LENGTH | SUGGESTED SETTLING POND WIDTH | DEVICE THICKNESS (IN DIRECTION OF FLOW) (D) | HEIGHT OF ROCK FILTER (WEIR) (H ₁) | FILTER AGGREGATE SIZE | MIN. THICKNESS OF FILTER AGGREGATE | MIN. CORE ROCK SIZE | WIDTH OF FILTER DAM (W ₁) | SPILLWAY LENGTH (W ₂) | SPILLWAY DEPTH | EMBANKMENT HEIGHT (H ₂) |
|-----------|----------------|---------------------------------|--------------------------------|-------------------------------|---|--|-----------------------|------------------------------------|---------------------|---------------------------------------|-----------------------------------|----------------|-------------------------------------|
| RFD-1A | 1A | 604m ² | 45.0m | 14.0m | MIN. 1.50m | 0.50m | 25mm | 0.30m | 250mm | 35.0m | 35.0m | 0.45m | 0.95m |
| RFD-1B | 1B | 180m ² | 10.0m | 18.0m | MIN. 1.50m | 0.50m | 25mm | 0.30m | 250mm | 10.0m | 10.0m | 0.45m | 0.95m |
| RFD-2A | 2A | 610m ² | 45.0m | 14.0m | MIN. 1.50m | 0.50m | 25mm | 0.30m | 250mm | 35.0m | 35.0m | 0.45m | 0.95m |
| RFD-2B | 2B | 84m ² | 10.0m | 9.0m | MIN. 1.50m | 0.30m | 25mm | 0.30m | 250mm | 10.0m | 10.0m | 0.40m | 0.70m |
| RFD-2C | 2C | 134m ² | 10.0m | 14.0m | MIN. 1.50m | 0.50m | 25mm | 0.30m | 250mm | 10.0m | 10.0m | 0.40m | 0.90m |
| RFD-2D | ROADSIDE DRAIN | VARIES | VARIES | VARIES | MIN. 1.50m | 0.30m | 25mm | 0.30m | 250mm | 1.5m | 5.0m | VARIES | 0.70m |
| RFD-2E | 2E | 7m ² | 5.0m | 2.0m | MIN. 1.50m | 0.30m | 25mm | 0.30m | 250mm | 2.0m | 9.0m | 0.40m | 0.70m |

- REFER TYPICAL ROCK FILTER DAM OUTLET WEIR DETAILS FOR LOCATION OF VARIABLES 'D' 'H1' 'H2' 'W1' AND 'W2' FROM THE ABOVE TABLE.
- OFF-LINE ROCK FILTER DAM DETAILS BASED ON 3 MONTH ARI PEAK FLOWS FILTERING THROUGH FILTER AGGREGATE, WITH SPILLWAY SIZED FOR 2 YEAR ARI PEAK FLOWS.
- SUITABILITY OF DEVICE AND DEVICE DETAILS TO BE CONFIRMED ON SITE.
- REFER IECA STD DWG SD-RFD-01 AND SD-RFD-02 FOR TYPICAL ROCK FILTER DAM DETAILS
- REFER IECA STD DWG SD-RFD-03 AND SD-RFD-04 FOR TYPICAL INSTREAM ROCK FILTER DAM DETAILS (RFD-2D ONLY)

CLEAN WATER DIVERSION DRAINS DETAILS TABLE

| DEVICE ID | CATCHMENT ID | LINING MATERIAL | MINIMUM LONGITUDINAL GRADE | LEFT HAND BATTER SLOPE | CHANNEL BASE WIDTH | RIGHT HAND BATTER SLOPE | DEPTH OF FLOW | MINIMUM FREEBOARD | ADOPTED DEPTH |
|-----------|--------------|-------------------|----------------------------|------------------------|--------------------|-------------------------|---------------|-------------------|---------------|
| DD-EX1 | EX1 | GEOTEXTILE LINING | 1.0% | 1 IN 2 | 0.0m | 1 IN 2 | 0.25m | 0.15m | 0.4m |
| DD-EX2 | EX2 | GEOTEXTILE LINING | 1.0% | 1 IN 2 | 0.2m | 1 IN 2 | 0.35m | 0.15m | 0.5m |
| DD-EX3 | EX2 + EX3 | GEOTEXTILE LINING | 1.0% | 1 IN 2 | 0.9m | 1 IN 2 | 0.35m | 0.15m | 0.5m |

- LEFT AND RIGHT HAND SIDE ARE BASED ON THE ASSUMPTION OF FACING DOWNSTREAM
- REFER TO IECA STD DWG SD-DC-01, SD-CD-01, SD-CD-02, SD-CD-03, SD-CD-04 AND SD-CD-05 FOR TYPICAL CLEAN WATER DIVERSION DRAIN DETAILS.
- d50 ROCK SIZE DENOTES THE DIAMETER OF WHICH 50% OF THE ROCKS ARE SMALLER, d90 OF WHICH 90% OF THE ROCKS ARE SMALLER.
- ROCK SIZE DISTRIBUTION (d50/d90) ASSUMED TO BE 0.67
- FOR IDENTIFIED DISPERSIVE SOILS AREAS, FLOW DIVERSION BUNDS/BANKS SHOULD BE ADOPTED OVER CUT IN CATCH DRAINS. WHERE CUT IN DRAINS ARE NECESSARY WITHIN DISPERSIVE SOIL AREAS, THESE CATCH DRAINS SHOULD BE ADEQUATELY LINED WITH A MINIMUM OF 150mm OF NON-DISPERSIVE MATERIAL PRIOR TO THE INSTALLATION OF OTHER TEMPORARY CHANNEL LININGS OR CHECK DAMS.

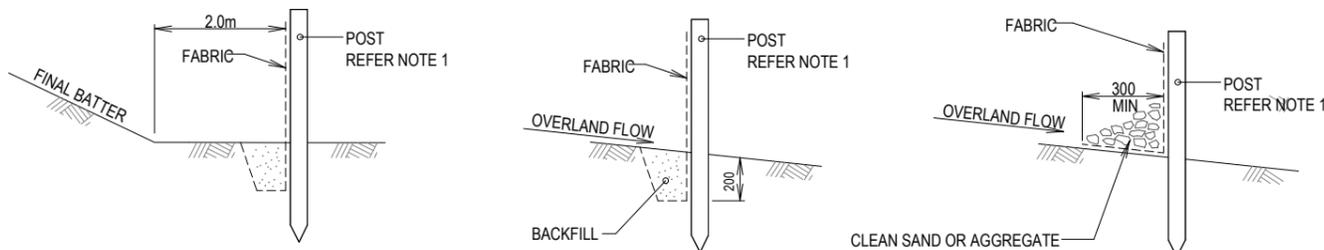


ISOMETRIC VIEW

REFER DWG. NO. DC1603-2CRU-01-ES13 AND IECA BPESC STD. DWG. SD-OG-01 FOR FURTHER INFORMATION.

ON-GRADE KERB INLET SEDIMENT TRAP

N.T.S.



LOCATION OF FENCE RELATIVE TO BASE OF SLOPE

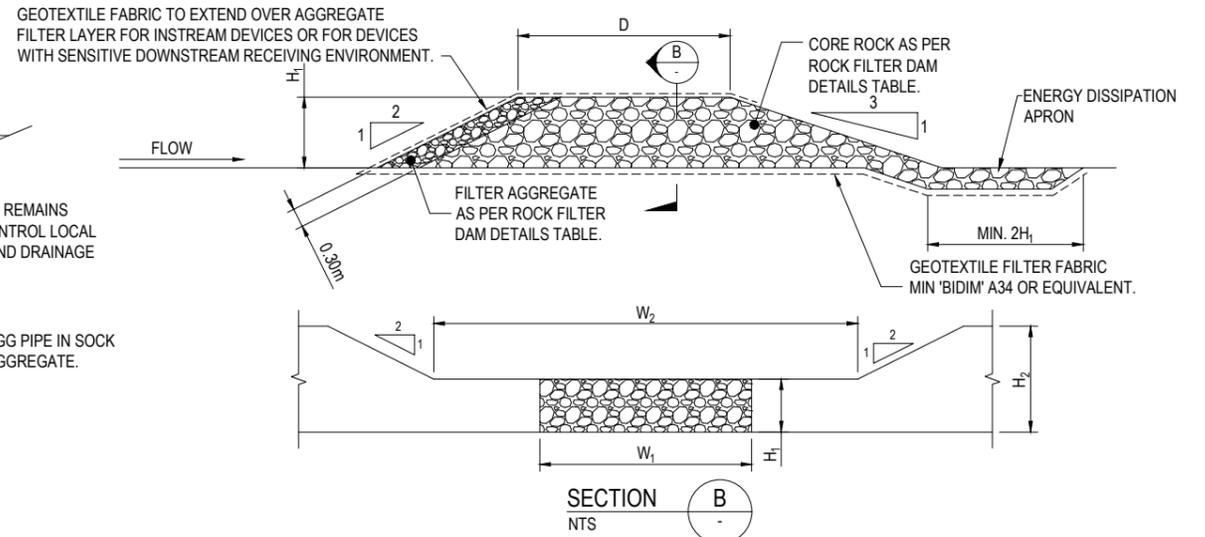
ALTERNATIVE 1

ALTERNATIVE 2

ANCHORING BASE OF FABRIC

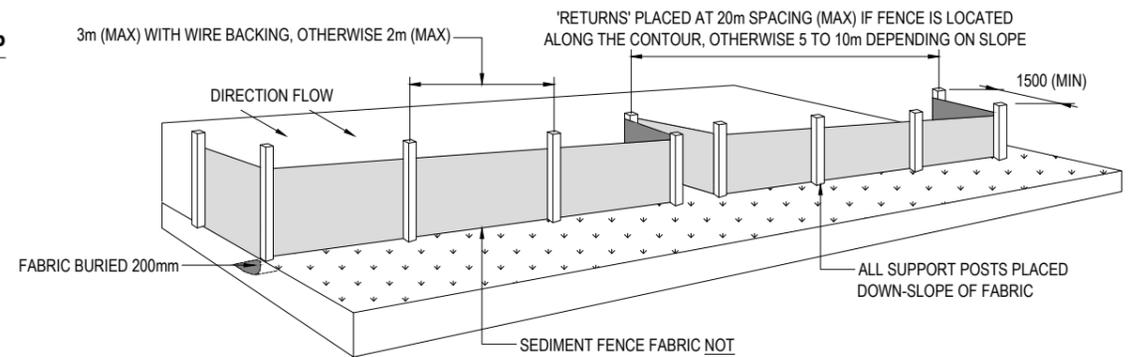
NOTES

1. POSTS ARE TO BE STAR PICKETS OR 50x50 MIN. TIMBER STAKES. STEEL DROPPERS ARE NOT TO BE USED.
2. REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-SF-01 AND SD-SF-02 FOR FURTHER INFORMATION.



TYPICAL ROCK FILTER DAM OUTLET WEIR

N.T.S.



INSTALLATION OF SEDIMENT FENCE

N.T.S.

| Rev. | Date | Description | C dB | DMB | Appd. |
|------|----------|--------------|------|-----|-------|
| A | 12.04.22 | FOR APPROVAL | | | |



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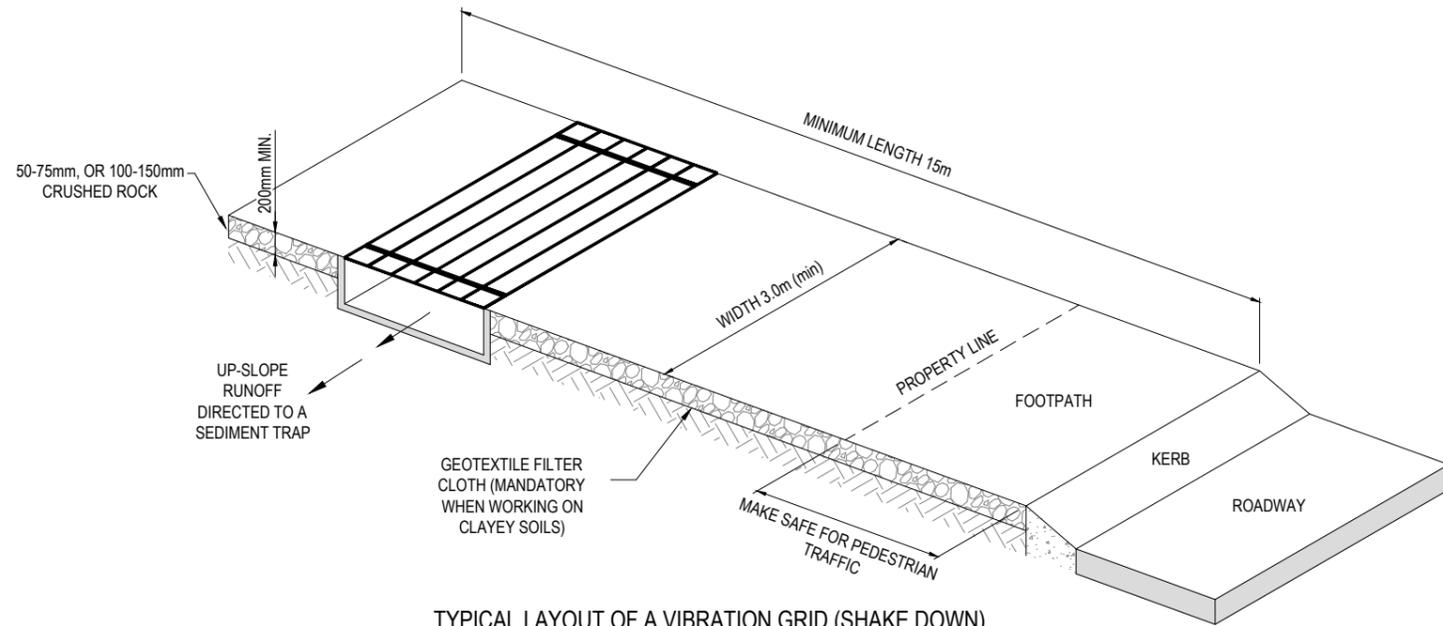


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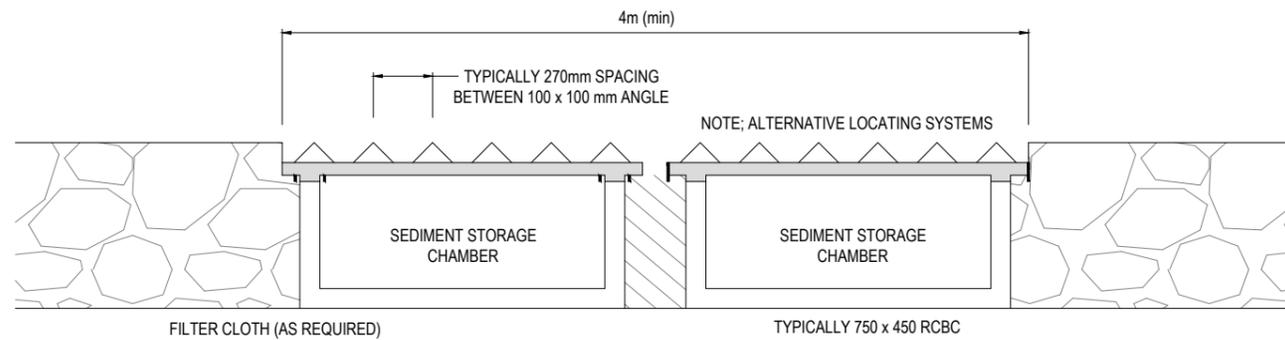
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| Drawn | Date | Client |
| OAR | June 20 | DEFENCE HOUSING AUSTRALIA |
| Checked | Date | Project |
| DMB | June 20 | MUIRHEAD NORTH DEVELOPMENT |
| Designed | Date | |
| OAR | June 20 | LEE POINT ROAD, MUIRHEAD |
| Verified | Date | |
| AGO | June 20 | CITY OF DARWIN |
| Approved | Date | Title |
| <i>Carlo de Sijl</i> | CPESC 7619 | EROSION AND SEDIMENT CONTROL |
| | | DETAILS |
| | | SHEET 1 OF 3 |

| | | | |
|---------------------|-----------|----------|------|
| Datum | Date | Scale | Size |
| AHD | July 2021 | AS SHOWN | A1 |
| Drawing Number | Revision | | |
| DC1603-2CRU-01-ES09 | A | | |

Status: **FOR APPROVAL**
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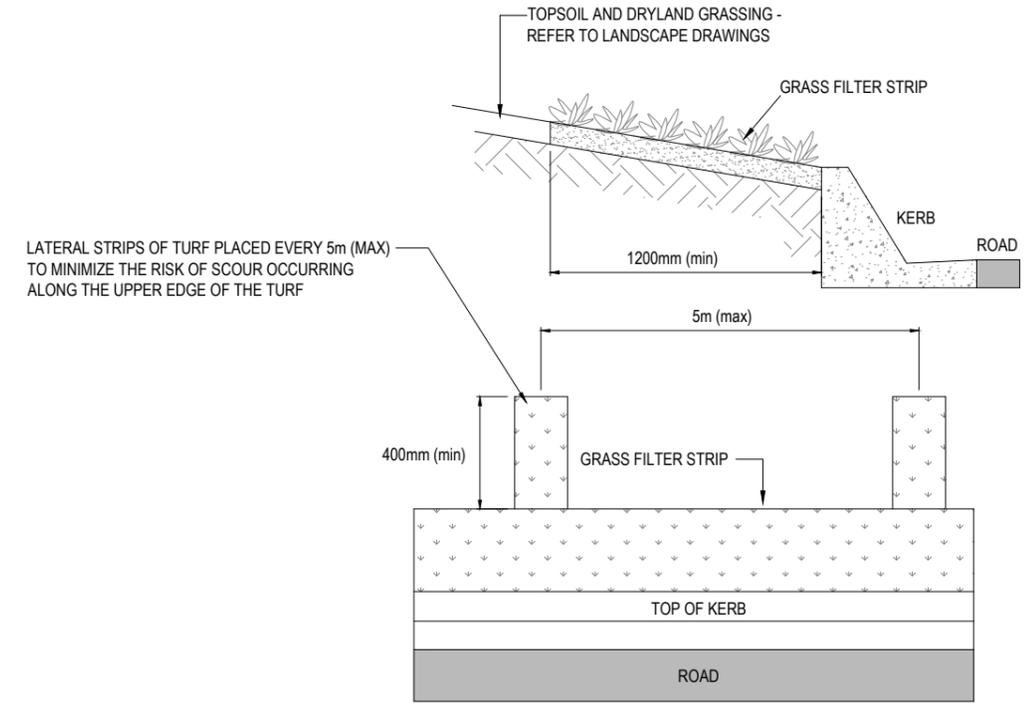


TYPICAL LAYOUT OF A VIBRATION GRID (SHAKE DOWN)
N.T.S.



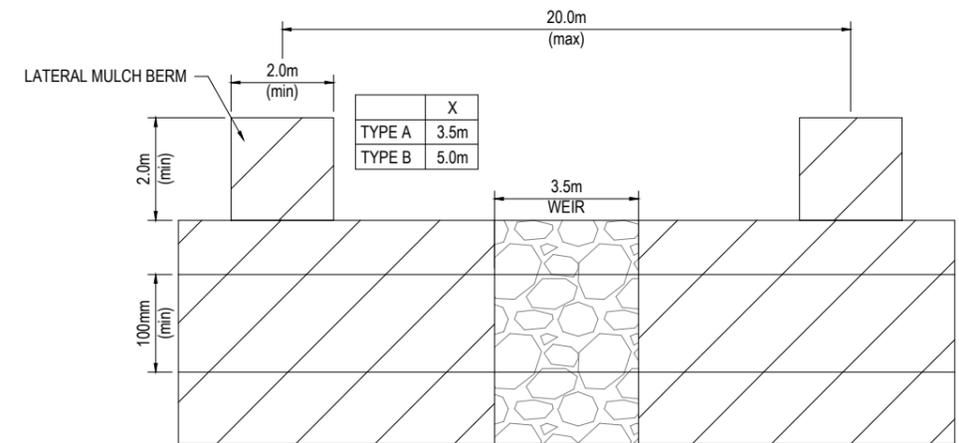
REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-EXIT-04 AND SD-EXIT-05 FOR FURTHER INFORMATION.

TYPICAL PROFILE OF VIBRATION PANELS
N.T.S.

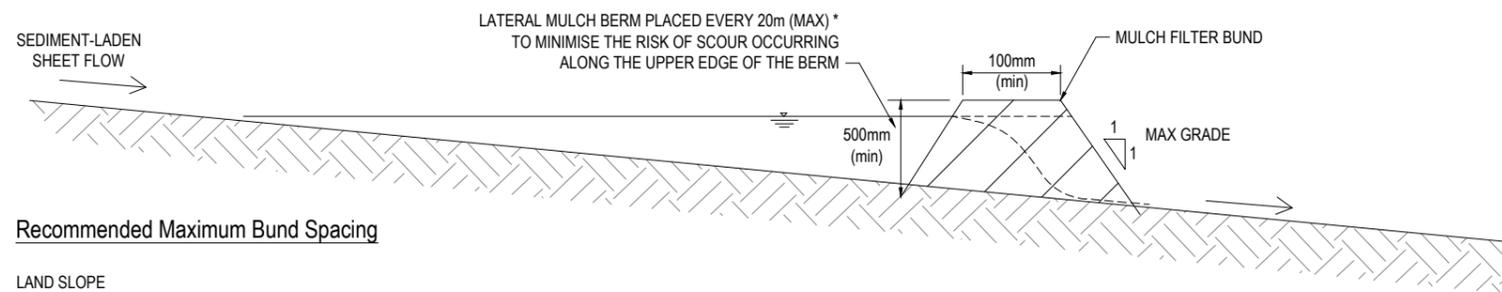


REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-GFS-01 AND SD-GFS-02 FOR FURTHER INFORMATION.

PLACEMENT OF GRASS FILTER STRIPS ALONG EDGE OF IMPERVIOUS SURFACE
N.T.S.

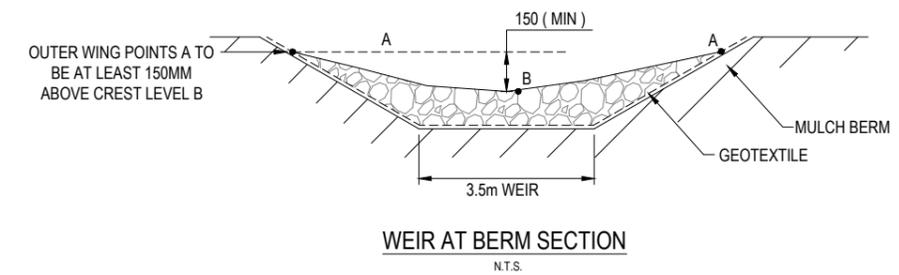


TYPICAL MULCH FILTER BERM PLAN DETAIL
N.T.S.



REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-MB-01 FOR FURTHER INFORMATION.

TYPICAL MULCH FILTER BERM DETAIL
N.T.S.



OUTER WING POINTS A TO BE AT LEAST 150MM ABOVE CREST LEVEL B

WEIR AT BERM SECTION
N.T.S.

Recommended Maximum Bund Spacing

| LAND SLOPE | Spacing |
|------------|---------|
| 2% | 30m |
| 5% | 25m |
| 10% | 15m |
| 20% | 8m |

* MULCH BUNDS TO BE INSTALLED WITH MINIMUM 20m RETURNS TO AVOID SCOUR BEHIND THE BUNDS. SITE SUPERINTENDENT AND DEPWS REPRESENTATIVE TO INSPECT PRIOR TO ACCEPTANCE.

| Rev. | Date | Description | Des. | Verif. | Appd. |
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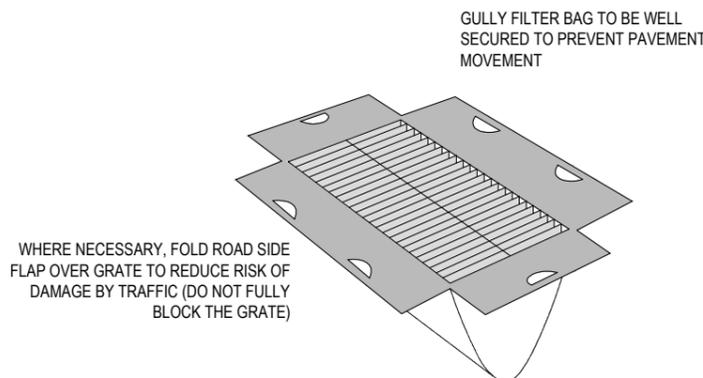
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| Drawn | OAR | Date | June 20 |
| Checked | DMB | Date | June 20 |
| Designed | OAR | Date | June 20 |
| Verified | AGO | Date | June 20 |
| Approved | <i>Carlo de Sijl</i> | Date | 7619 |

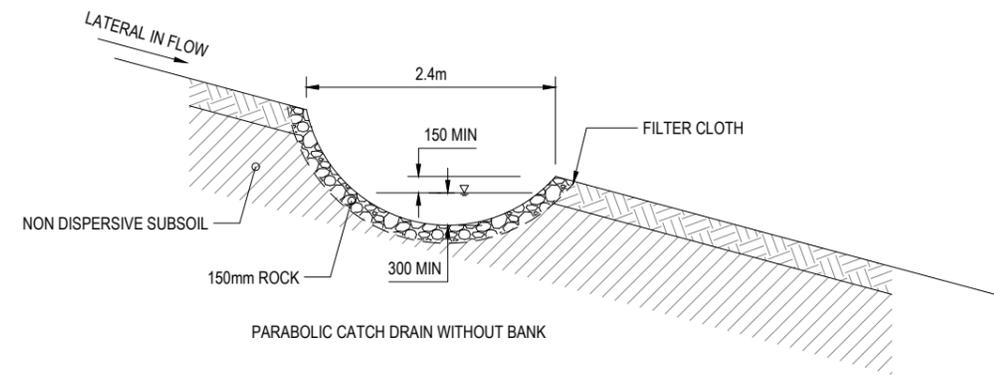
Client DEFENCE HOUSING AUSTRALIA
Project MUIRHEAD NORTH DEVELOPMENT
LEE POINT ROAD, MUIRHEAD
CITY OF DARWIN
Title EROSION AND SEDIMENT CONTROL
DETAILS
SHEET 2 OF 3

| | | | |
|--|---------------------|------|-----------|
| Status | FOR APPROVAL | | |
| NOT TO BE USED FOR CONSTRUCTION PURPOSES | | | |
| Datum | AHD | Date | July 2021 |
| Scale | AS SHOWN | Size | A1 |
| Drawing Number | DC1603-2CRU-01-ES10 | | Revision |
| | | | A |

DATE PLOTTED: 12 April 2022 2:49 PM BY: OLIVER REISINGER

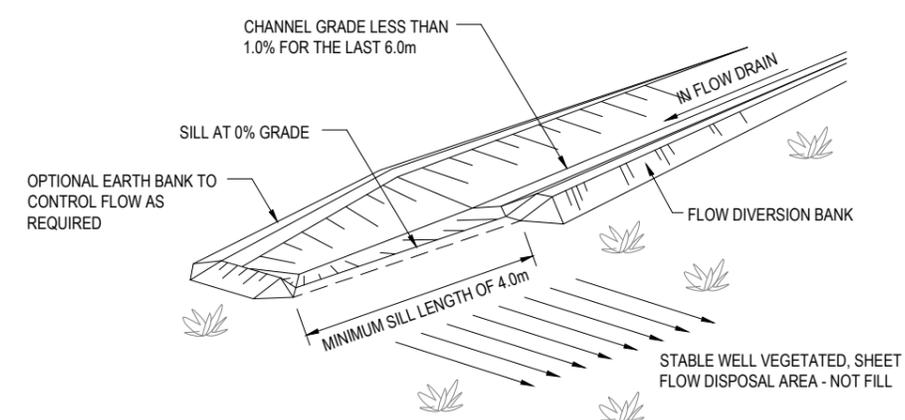


GULLY FILTER BAG
N.T.S.



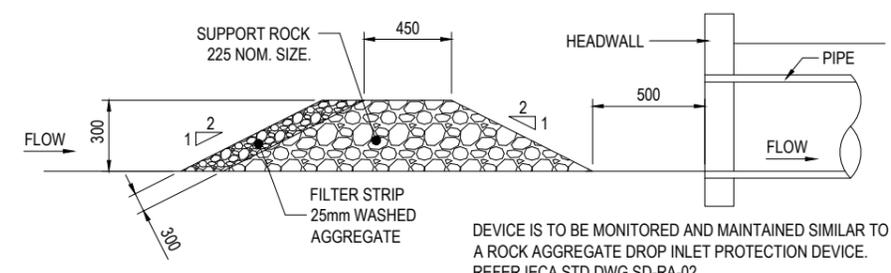
REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-CD-01 AND SD-CD-05 FOR FURTHER INFORMATION.

CATCH DRAINS
N.T.S.

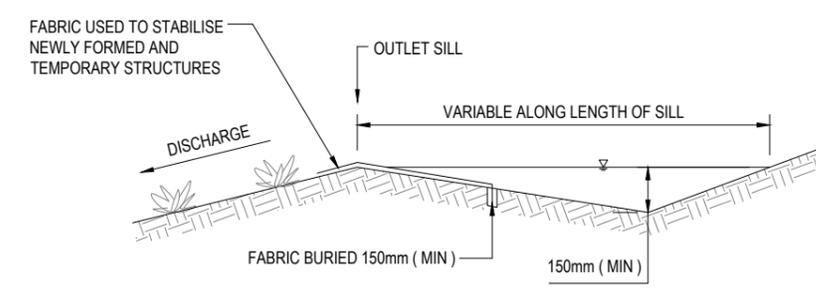


REFER DWG. NO. DC1603-2CRU-01-ES13 AND IECA BPESC STD. DWG. SD-LS-01 FOR FURTHER INFORMATION.

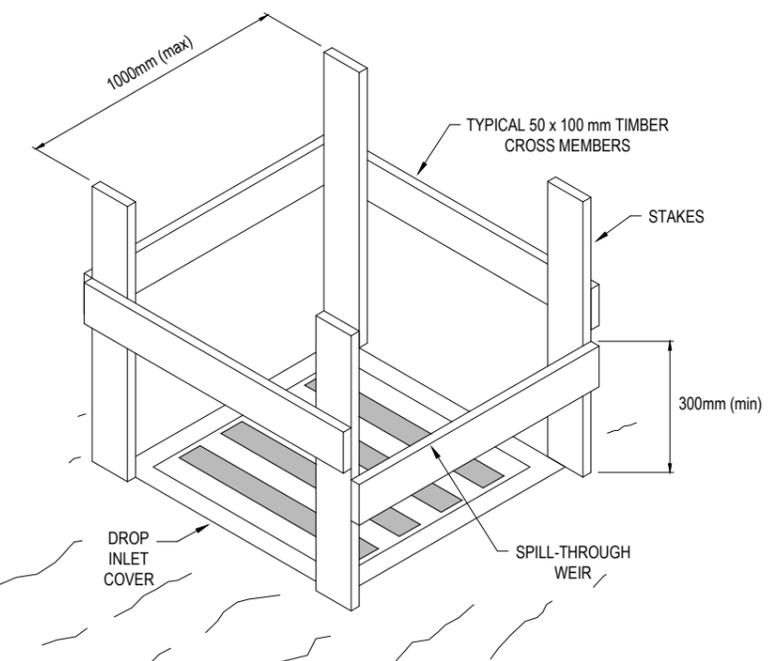
TYPICAL LAYOUT OF THE LEVEL SPREADER
N.T.S.



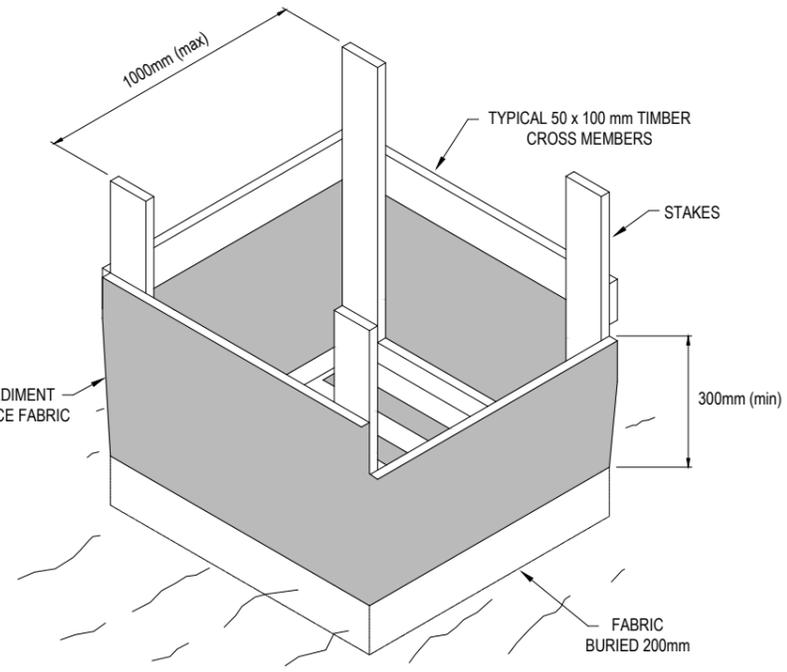
INLET PROTECTION ROCK & AGGREGATE SYSTEM
N.T.S.



TYPICAL PROFILE OF THE OUTLET WEIR
N.T.S.

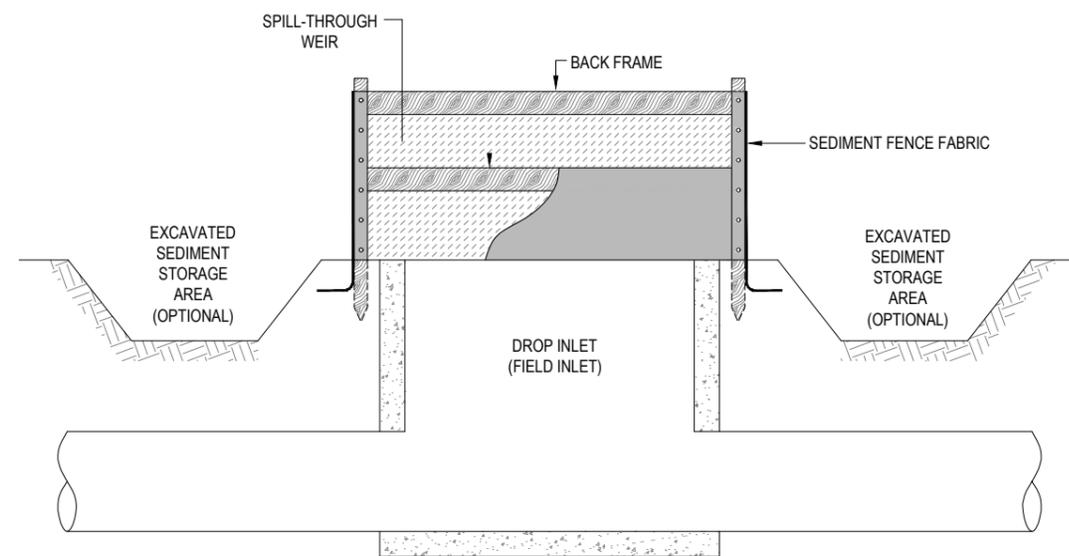


DETAILS OF SUPPORT FRAME WITH SPILL-THROUGH WEIR
N.T.S.



DETAILS OF SUPPORT FRAME WITH SPILL-THROUGH WEIR
N.T.S.

REFER DWG. NO. DC1603-2CRU-01-ES12 AND IECA BPESC STD. DWG. SD-FD-01 AND SD-FD-02 FOR FURTHER INFORMATION.



FABRIC DROP INLET PROTECTION WITH OPTIONAL EXCAVATED SEDIMENT STORAGE AREA AND SETTLING POND
N.T.S.

| Rev. | Date | Description | Des. | Verif. | Appd. |
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| A | 12.04.22 | FOR APPROVAL | C dB | DMB | |



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| Drawn | Date | Client |
| OAR | June 20 | DEFENCE HOUSING AUSTRALIA |
| Checked | Date | Project |
| DMB | June 20 | MUIRHEAD NORTH DEVELOPMENT |
| Designed | Date | |
| OAR | June 20 | LEE POINT ROAD, MUIRHEAD |
| Verified | Date | CITY OF DARWIN |
| AGO | June 20 | |
| Approved | Date | Title |
| <i>Carlo de Sijl</i> | 7619 | EROSION AND SEDIMENT CONTROL |
| | | DETAILS |
| | | SHEET 3 OF 3 |

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| Datum | Date | Scale | Size |
| AHD | July 2021 | AS SHOWN | A1 |
| Drawing Number | Revision | | |
| DC1603-2CRU-01-ES11 | A | | |

Status: **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION PURPOSES

CONSTRUCTION EXIT - VIBRATION GRID

MATERIALS

- * ROCK: WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK, NOMINAL DIAMETER OF 50MM TO 75MM (SMALL DISTURBANCES) OR 100 TO 150MM (LARGE DISTURBANCES). ALL REASONABLE MEASURES MUST BE TAKEN TO OBTAIN ROCK OF NEAR UNIFORM SIZE.
- * FOOTPATH STABILISING AGGREGATE: 25 TO 50MM GRAVEL OR AGGREGATE.
- * GEOTEXTILE FABRIC: HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH ('BIDIM' A24 OR EQUIVALENT).

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND DIMENSIONAL DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- CLEAR THE LOCATION OF THE VIBRATION GRID, REMOVING STUMPS, ROOTS AND OTHER VEGETATION TO PROVIDE A FIRM FOUNDATION SO THAT THE ROCK IS NOT PRESSED INTO SOFT GROUND. CLEAR SUFFICIENT WIDTH TO ALLOW PASSAGE OF LARGE VEHICLES, BUT CLEAR ONLY THAT NECESSARY FOR THE EXIT. DO NOT CLEAR ADJACENT AREAS UNTIL THE REQUIRED EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE.
- GRADE THE LOCATION OF THE VIBRATION GRID SO THAT RUNOFF FROM THE UNIT WILL NOT FLOW INTO THE STREET, BUT WILL FLOW TOWARDS AN APPROPRIATE SEDIMENT-TRAPPING DEVICE.
- ENSURE THAT THE INSTALLATION OF THE VIBRATION GRID INCLUDES ADEQUATE SEDIMENT STORAGE VOLUME UNDER THE GRID. WHERE NECESSARY, INSTALL SUITABLE PRECAST SEDIMENT COLLECTION CHAMBERS.
- PLACE A ROCK PAD/RAMP FORMING A MINIMUM 200MM THICK LAYER OF CLEAN, OPEN-VOID ROCK OVER THE ROADWAY BETWEEN THE VIBRATION GRID AND THE SEALED STREET TO PREVENT TYRES FROM PICKING UP MORE SOIL AFTER THEY HAVE BEEN CLEANED.
- THE TOTAL LENGTH OF THE VIBRATION GRID AND ROCK RAMPS SHOULD BE AT LEAST 15M WHERE PRACTICABLE, AND AS WIDE AS THE FULL WIDTH OF THE ENTRY OR EXIT AND AT LEAST 3M. THE ROCK RAMP SHOULD COMMENCE AT THE EDGE OF THE OFF-SITE SEALED ROAD OR PAVEMENT.
- FLARE THE END OF THE ROCK PAD WHERE IT MEETS THE PAVEMENT SO THAT THE WHEELS OF TURNING VEHICLES DO NOT TRAVEL OVER UNPROTECTED SOIL.
- IF THE FOOTPATH IS OPEN TO PEDESTRIAN MOVEMENT, THEN COVER THE COARSE ROCK WITH FINE AGGREGATE OR GRAVEL, OR OTHERWISE TAKE WHATEVER MEASURES ARE NEEDED TO MAKE THE AREA SAFE

MAINTENANCE

- INSPECT VIBRATION GRID PRIOR TO FORECAST RAIN, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF-PRODUCING RAINFALL, OR OTHERWISE AT FORTNIGHTLY INTERVALS.
- IF SAND, SOIL, SEDIMENT OR MUD IS TRACKED OR WASHED ONTO THE ADJACENT SEALED ROADWAY, THEN SUCH MATERIAL MUST BE PHYSICALLY REMOVED, FIRST USING A SQUARE-EDGED SHOVEL, AND THEN BY A MECHANICAL VACUUM UNIT, IF AVAILABLE.
- IF NECESSARY FOR SAFETY REASONS, THE ROADWAY SHALL ONLY BE WASHED CLEAN AFTER ALL REASONABLE EFFORTS HAVE BEEN TAKEN TO SHOVEL AND SWEEP THE MATERIAL FROM THE ROADWAY.
- WHEN THE VOIDS BETWEEN THE ROCK BECOMES FILLED WITH MATERIAL AND THE EFFECTIVENESS OF THE ROCK RAMPS ARE REDUCED TO A POINT WHERE SEDIMENT IS BEING TRACKED OFF THE SITE, A NEW 100MM LAYER OF ROCK MUST BE ADDED AND/OR THE ROCK PAD MUST BE EXTENDED.
- ENSURE ANY ASSOCIATED DRAINAGE CONTROL MEASURES ARE MAINTAINED IN ACCORDANCE WITH THEIR DESIRED OPERATIONAL CONDITION.
- DISPOSE OF SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

- THE VIBRATION GRID SHOULD BE REMOVED ONLY AFTER IT IS NO LONGER NEEDED AS A SEDIMENT CONTROL DEVICE.
- REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- RE-GRADE AND STABILISE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.

SEDIMENT FENCE

MATERIALS

- * FABRIC: POLYPROPYLENE, POLYAMIDE, NYLON, POLYESTER, OR POLYETHYLENE WOVEN OR NON-WOVEN FABRIC, AT LEAST 700MM IN WIDTH AND A MINIMUM UNIT WEIGHT OF 140GSM. ALL FABRICS TO CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE (ULTRAVIOLET STABILITY EXCEEDING 70%).
- * FABRIC REINFORCEMENT: WIRE OR STEEL MESH MINIMUM 14-GAUGE WITH A MAXIMUM MESH SPACING OF 200MM.
- * SUPPORT POSTS/STAKES: 1500MM2 (MIN) HARDWOOD, 2500MM2 (MIN) SOFTWOOD, OR 1.5KG/M (MIN) STEEL STAR PICKETS SUITABLE FOR ATTACHING FABRIC.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION, EXTENT, AND REQUIRED TYPE OF FABRIC (IF SPECIFIED). IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, FABRIC TYPE, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- TO THE MAXIMUM DEGREE PRACTICAL, AND WHERE THE PLANS ALLOW, ENSURE THE FENCE IS LOCATED:
 - TOTALLY WITHIN THE PROPERTY BOUNDARIES;
 - ALONG A LINE OF CONSTANT ELEVATION WHEREVER PRACTICAL;
 - AT LEAST 2M FROM THE TOE OF ANY FILLING OPERATIONS THAT MAY RESULT IN SHIFTING SOIL/FILL DAMAGING THE FENCE.
- INSTALL RETURNS WITHIN THE FENCE AT MAXIMUM 20M INTERVALS IF THE FENCE IS INSTALLED ALONG THE CONTOUR, OR 5 TO 10M MAXIMUM SPACING (DEPENDING ON SLOPE) IF THE FENCE IS INSTALLED AT AN ANGLE TO THE CONTOUR. THE 'RETURNS' SHALL CONSIST OF EITHER:
 - V-SHAPED SECTION EXTENDING AT LEAST 1.5M UP THE SLOPE; OR
 - SANDBAG OR ROCK/AGGREGATE CHECK DAM A MINIMUM 1/3 AND MAXIMUM 1/2 FENCE HEIGHT, AND EXTENDING AT LEAST 1.5M UP THE SLOPE.
- ENSURE THE EXTREME ENDS OF THE FENCE ARE TURNED UP THE SLOPE AT LEAST 1.5M, OR AS NECESSARY, TO MINIMISE WATER BYPASSING AROUND THE FENCE.
- ENSURE THE SEDIMENT FENCE IS INSTALLED IN A MANNER THAT AVOIDS THE CONCENTRATION OF FLOW ALONG THE FENCE, AND THE UNDESIRABLE DISCHARGE OF WATER AROUND THE ENDS OF THE FENCE.
- IF THE SEDIMENT FENCE IS TO BE INSTALLED ALONG THE EDGE OF EXISTING TREES, ENSURE CARE IS TAKEN TO PROTECT THE TREES AND THEIR ROOT SYSTEMS DURING INSTALLATION OF THE FENCE. DO NOT ATTACH THE FABRIC TO THE TREES.
- UNLESS DIRECTED BY THE SITE SUPERVISOR OR THE APPROVED PLANS, EXCAVATE A 200MM WIDE BY 200MM DEEP TRENCH ALONG THE PROPOSED FENCE LINE, PLACING THE EXCAVATED MATERIAL ON THE UP-SLOPE SIDE OF THE TRENCH.
- ALONG THE LOWER SIDE OF THE TRENCH, APPROPRIATELY SECURE THE STAKES INTO THE GROUND SPACED NO GREATER THAN 3M IF SUPPORTED BY A TOP SUPPORT WIRE OR WEIR MESH BACKING, OTHERWISE NO GREATER THAN 2M.
- IF SPECIFIED, SECURELY ATTACH THE SUPPORT WIRE OR MESH TO THE UP-SLOPE SIDE OF THE STAKES WITH THE MESH EXTENDING AT LEAST 200MM INTO THE EXCAVATED TRENCH. ENSURE THE MESH AND FABRIC IS ATTACHED TO THE UP-SLOPE SIDE OF THE STAKES EVEN WHEN DIRECTING A FENCE AROUND A CORNER OR SHARP CHANGE-OF-DIRECTION.
- WHEREVER POSSIBLE, CONSTRUCT THE SEDIMENT FENCE FROM A CONTINUOUS ROLL OF FABRIC. TO JOIN FABRIC EITHER:
 - ATTACH EACH END TO TWO OVERLAPPING STAKES WITH THE FABRIC FOLDING AROUND THE ASSOCIATED STAKE ONE TURN, AND WITH THE TWO STAKES TIED TOGETHER WITH WIRE (METHOD 1); OR
 - OVERLAP THE FABRIC TO THE NEXT ADJACENT SUPPORT POST (METHOD 2).
- SECURELY ATTACH THE FABRIC TO THE SUPPORT POSTS USING 25 X 12.5MM STAPLES, OR THE WIRE AT MAXIMUM 150MM SPACING.
- SECURELY ATTACH THE FABRIC TO THE SUPPORT WIRE/MESH (IF ANY) AT A MAXIMUM SPACING OF 1M.
- ENSURE THE COMPLETED SEDIMENT FENCE IS AT LEAST 450MM, BUT NOT MORE THAN 700MM HIGH. IF A SPILL-THOUGH WEIR IS INSTALLED, ENSURE THE CREST OF THE WEIR IS AT LEAST 300MM ABOVE GROUND LEVEL.
- BACKFILL THE TRENCH AND TAMP THE FILL TO FIRMLY ANCHOR THE BOTTOM OF THE FABRIC AND MESH TO PREVENT WATER FROM FLOWING UNDER THE FENCE.
- IF IT IS NOT POSSIBLE TO ANCHOR THE FABRIC IN AN EXCAVATED TRENCH, THEN USE A CONTINUOUS LAYER OF SAND OR AGGREGATE TO HOLD THE FABRIC FIRMLY ON THE GROUND.

MAINTENANCE

- DURING THE MAINTENANCE PERIOD, INSPECT THE SEDIMENT FENCE AT LEAST WEEKLY AND AFTER ANY SIGNIFICANT RAIN. MAKE NECESSARY REPAIRS IMMEDIATELY.
- REPAIR ANY TORN SECTIONS WITH A CONTINUOUS PIECE OF FABRIC FROM POST TO POST.
- WHEN MAKING REPAIRS, ALWAYS RESTORE THE SYSTEM TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED OR SPECIFIED.
- IF THE FENCE IS SAGGING BETWEEN STAKES, INSTALL ADDITIONAL SUPPORT POSTS.
- REMOVE ACCUMULATED SEDIMENT IF THE SEDIMENT DEPOSIT EXCEEDS A DEPTH OF 1/3 THE HEIGHT OF THE FENCE.
- DISPOSE OF SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REPLACE THE FABRIC IF THE SERVICE LIFE OF THE EXISTING FABRIC EXCEEDS 6-MONTHS.

REMOVAL

- WHEN DISTURBED AREAS UP-SLOPE OF THE SEDIMENT FENCE ARE SUFFICIENTLY STABILISED TO RESTRAIN EROSION, THE FENCE MUST BE REMOVED.
- REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REHABILITATE/REVEGETATE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.

CATCH DRAINS - ROCK LINED

MATERIALS

- ROCK:
 - * ALL ROCK MUST BE HARD, WEATHER RESISTANT, AND DURABLE AGAINST DISINTEGRATION UNDER CONDITIONS TO BE MET IN HANDLING, PLACEMENT AND OPERATION.
 - * ALL ROCK MUST HAVE ITS GREATEST DIMENSION NOT GREATER THAN 3 TIMES ITS LEAST DIMENSIONS.
 - * THE ROCK USED IN FORMATION OF THE DRAIN MUST BE EVENLY GRADED WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL ROCK SIZE AND HAVE SUFFICIENT SMALL ROCK TO FILL THE VOIDS BETWEEN THE LARGER ROCK DIRT, FINES, AND SMALLER ROCK MUST NOT EXCEED 5% BY WEIGHT.
 - * THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO LARGER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY TO BE AT LEAST 2.5.
 - * THE COLOUR OF THE RIPRAP SHALL BE [INSERT] AND MUST BE APPROVED BY THE ENGINEER. ONCE APPROVED, THE COLOUR SHALL BE KEPT CONSISTENT THROUGH THE PROJECT.

FILTER CLOTH:

- * GEOTEXTILE FABRIC: HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH, MINIMUM 'BIDIM' A24 OR EQUIVALENT.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION, EXTENT, AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- THOROUGHNESS OF SUCH CHECKING MUST BE APPROPRIATE FOR THE POTENTIAL CONSEQUENCES ASSOCIATED WITH FAILURE OF THE STRUCTURE OR PURPOSE FOR WHICH THE MATERIAL WILL BE USED.
- CLEAR THE LOCATION FOR THE CATCH DRAIN, CLEARING ONLY WHAT IS NEEDED TO PROVIDE ACCESS FOR PERSONNEL AND EQUIPMENT FOR INSTALLATION.
- REMOVE ROOTS, STUMPS, AND OTHER DEBRIS AND DISPOSE OF THEM PROPERLY. DO NOT USE DEBRIS TO BUILD THE BANK.
- REMOVE ALL SOFT, YIELDING MATERIAL: REPLACE WITH SUITABLE ON-SITE MATERIAL, COMPACT TO SMOOTH FIRM SURFACE.
- EXCAVATE THE DRAIN TO THE LINES AND GRADES SHOWN ON THE APPROVED PLANS. OVER-CUT THE DRAIN TO A DEPTH EQUAL TO THE SPECIFIED DEPTH OF ROCK PLACEMENT SUCH THAT THE FINISHED TOP SURFACE WILL BE AT THE ELEVATION OF THE SURROUNDING LAND. PLACEMENT OF THE ROCK LINING MUST NOT REDUCE THE DRAIN'S TOP WIDTH AND DEPTH AS SPECIFIED WITHIN THE APPROVED PLANS.
- GRADE THE DRAIN TO THE SPECIFIED SLOPE AND FORM THE ASSOCIATED EMBANKMENT WITH COMPACTED FILL. NOTE THAT THE DRAIN INVERT MUST FALL 100M EVERY 10M FOR EACH 1% OF CHANNEL GRADIENT.
- ENSURE THE SIDES OF THE CUT DRAIN ARE NO STEEPER THAN A 1.5:1 (H:V) SLOPE AND THE EMBANKMENT FILL SLOPES NO STEEPER THAN 2:1.
- IF THE DRAIN IS CUT INTO A DISPERSIVE (SODIC) SOIL, THEN PRIOR TO PLACING FILTER CLOTH, THE EXPOSED DISPERSIVE SOIL MUST BE COVERED WITH A MINIMUM 200MM THICK LAYER OF NON-DISPERSIVE SOIL PRIOR TO PLACEMENT OF FILTER CLOTH OR ROCKS.
- IF A FILTER CLOTH UNDERLAY IS SPECIFIED, PLACE THE FILTER FABRIC DIRECTLY ON THE PREPARED FOUNDATION. IF MORE THAN ONE SHEET OF FILTER CLOTH IS REQUIRED TO OVER THE AREA, OVERLAP THE EDGE OF EACH SHEET AT LEAST 300MM, AND SECURE ANCHOR PINS AT MINIMUM 1M SPACING ALONG THE OVERLAP.
- ENSURE THE FILTER CLOTH IS PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION OF THE FABRIC AND THE ROCK. REPAIR ANY DAMAGE BY REMOVING THE ROCK AND PLACING WITH ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA OVERLAPPING THE EXISTING FABRIC A MINIMUM OF 300MM.
- PLACEMENT OF ROCK SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER LAYER. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS.
- PLACE ROCK LINING TO THE EXTENT AND DEPTH INDICATED WITHIN THE APPROVED PLANS.
- ENSURE THE ROCK IS PLACED IN AN APPROPRIATE MANNER TO AVOID DISPLACING UNDERLYING MATERIALS OR PLACING UNDUE IMPACT FORCE ON THE BEDDING MATERIALS.
- ENSURE THE ROCK IS PLACED WITH A MINIMUM THICKNESS OF 1.5 TIMES THE NOMINAL ROCK SIZE (D50).
- ENSURE MATERIALS THAT ARE D50 AND LARGER ARE POSITIONED FLUSH WITH THE TOP SURFACE WITH FACES AND SHAPES MATCHED TO MINIMISE VOIDS.
- ENSURE PROJECTIONS ABOVE OR DEPRESSIONS UNDER THE SPECIFIED TOP SURFACE ARE LESS THAN 20% OF THE ROCK LAYER THICKNESS. THE AVERAGE SURFACE PLANE OF THE FINISHED ROCK IS DEFINED AS THE PLANE WHERE 50% OF THE TOPS OF ROCKS WOULD CONTACT.
- ENSURE THE COMPLETED DRAIN HAS SUFFICIENT DEEP (AS SPECIFIED FOR THE TYPE OF DRAIN) MEASURED FROM THE DRAIN INVERT (AVERAGE SURFACE PLANE ALONG CHANNEL INVERT) TO THE TOP OF THE EMBANKMENT. THE AVERAGE SURFACE PLANE OF THE FINISHED ROCK IS DEFINED AS THE PLANE WHERE 50% OF THE TOPS OF ROCKS WOULD CONTACT.
- TO THE MAXIMUM DEGREE PRACTICABLE, THE MATERIAL BETWEEN LARGER ROCK MUST NOT BE LOOSE OR EASILY DISPLACED BY THE EXPECTED FLOW.
- AFTER PLACEMENT OF THE ROCK LINING, ENSURE THE DRAIN HAS A CONSTANT FALL IN THE DESIRED DIRECTION FREE OF OBSTRUCTIONS.
- ENSURE THE DRAIN DISCHARGES TO A STABLE OUTLET SUCH THAT SOIL EROSION WILL BE PREVENTED FROM OCCURRING. ENSURE THE DRAIN DOES NOT DISCHARGE TO AN UNSTABLE FILL SLOPE.

MAINTENANCE

- INSPECT ALL CATCH DRAINS AT LEAST WEEKLY AND AFTER RUNOFF-PRODUCING STORM EVENTS AND REPAIR ANY SLUMPS, BANK DAMAGE, OR LOSS OF FREEBOARD.
- CLOSELY INSPECT THE OUTER EDGES OF THE ROCK PROTECTION. ENSURE WATER ENTRY INTO THE ROCK-LINED AREA IS NOT CAUSING EROSION ALONG THE EDGE OF THE ROCK PROTECTION.
- CAREFULLY CHECK THE STABILITY OF THE ROCK LOOKING FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES.
- REPLACE OR REPOSITION THE SURFACE ROCK SUCH THAT THE DRAIN FUNCTIONS AS REQUIRED AND THE DRAIN'S REQUIRED HYDRAULIC CAPACITY IS NOT REDUCED.
- REPLACE ANY DISPLACED ROCK WITH ROCK OF A SIGNIFICANTLY (MINIMUM 110%) LARGER SIZE THAN THE DISPLACED ROCK.
- ENSURE SEDIMENT IS NOT PARTIALLY BLOCKING THE DRAIN. WHERE NECESSARY, REMOVE ANY DEPOSITED MATERIAL TO ALLOW FREE DRAINAGE.
- DISPOSE OF ANY SEDIMENT OR FILL IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

- WHEN THE SOIL DISTURBANCE ABOVE THE CATCH DRAIN IS FINISHED AND THE AREA IS STABILISED, THE DRAIN AND ANY ASSOCIATED BANKS SHOULD BE REMOVED, UNLESS IT IS TO REMAIN AS A PERMANENT DRAINAGE FEATURE.
- DISPOSE OF ANY SEDIMENT OR EARTH IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.
- GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION FOR STABILISATION.
- STABILISE THE AREA BY GRASSING OR AS SPECIFIED WITHIN THE APPROVED PLAN.

MULCH FILTER BERMS

MATERIALS

- * MULCH MUST COMPLY WITH THE REQUIREMENTS OF AS4454.
- * MAXIMUM SOLUBLE SALT CONCENTRATION OF SDS/M.
- * MOISTURE CONTENT OF 30 TO 50% PRIOR TO APPLICATION.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND EXTENT. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, MATERIAL TYPE, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- WHEN SELECTING THE LOCATION OF A MULCH FILTER BERM, TO THE MAXIMUM DEGREE PRACTICAL, ENSURE THE BERM IS LOCATED:
 - * TOTALLY WITHIN THE PROPERTY BOUNDARIES;
 - * ALONG A LINE OF CONSTANT ELEVATION (PREFERRED, BUT NOT ALWAYS PRACTICAL);
 - * AT LEAST 1M, IDEALLY 3M, FROM THE TOE OF A FILL EMBANKMENT;
 - * AWAY FROM AREAS OF CONCENTRATED FLOW.
- ENSURE THE BERM IS INSTALLED IN A MANNER THAT AVOIDS THE CONCENTRATION OF FLOW ALONG THE BERM, OR THE UNDESIRABLE DISCHARGE OF WATER AROUND THE END OF THE BERM.
- ENSURE THE BERM HAS BEEN PLACED SUCH THAT PONDING UP-SLOPE OF THE BERM IS MAXIMISED.
- ENSURE BOTH ENDS OF THE BERM ARE ADEQUATELY TURNED UP THE SLOPE TO PREVENT FLOW BYPASSING PRIOR TO WATER PASSING OVER THE BERM.
- ENSURE 100 PER CENT CONTACT WITH THE SOIL SURFACE.
- WHERE SPECIFIED, TAKE APPROPRIATE STEPS TO VEGETATE THE BERM.

MAINTENANCE

- DURING THE MAINTENANCE PERIOD, INSPECT ALL BERMS AT LEAST WEEKLY AND AFTER ANY SIGNIFICANT RAIN. MAKE NECESSARY REPAIRS IMMEDIATELY.
- REPAIR OR REPLACE ANY DAMAGED SECTIONS.
- WHEN MAKING REPAIRS, ALWAYS RESTORE THE SYSTEM TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED OR SPECIFIED.
- REMOVE ACCUMULATED SEDIMENT IF THE SEDIMENT DEPOSIT EXCEEDS A DEPTH OF 100MM OR ONE-THIRD THE HEIGHT OF THE BERM.
- DISPOSE OF SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

REMOVAL (IF REQUIRED)

- WHEN DISTURBED AREAS UP-SLOPE OF THE BERM ARE SUFFICIENTLY STABILISED TO RESTRAIN EROSION, THE BERM MAY BE REMOVED.
- REMOVE ANY COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REHABILITATE/REVEGETATE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.

FABRIC DROP INLET PROTECTION

MATERIALS

- * FABRIC: POLYPROPYLENE, POLYAMIDE, NYLON, POLYESTER, OR POLYETHYLENE WOVEN OR NON-WOVEN REINFORCED FABRIC. THE FABRIC WIDTH SHOULD BE AT LEAST 700MM, WITH A MINIMUM UNIT WEIGHT OF 140GSM. FABRICS SHOULD CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE (ULTRAVIOLET STABILITY EXCEEDING 70%).
- * FABRIC REINFORCEMENT: WIRE OR STEEL MESH MINIMUM 14-GAUGE WITH A MAXIMUM MESH SPACING OF 200MM.
- * STAKES: MINIMUM 1500MM2 (MIN) HARDWOOD, 2500MM2 (MIN) SOFTWOOD, OR 1.5KG/M (MIN) STEEL STAR PICKETS.
- * TIMBER CROSS MEMBERS: 50 X 100MM TIMBER OR EQUIVALENT.
- * AGGREGATE: 15 TO 25MM CRUSHED ROCK

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND DIMENSIONAL DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.
- WHERE POSSIBLE, EXCAVATE A 200X200MM TRENCH AROUND THE INLET STRUCTURE.
- SPACE STAKES EVENLY AROUND THE PERIMETER OF THE STORMWATER INLET AT A MAXIMUM 1M SPACING, AND SECURELY DRIVE THEM INTO THE GROUND.
- WHERE NECESSARY, INSTALL A HORIZONTAL SPILL-THROUGH WEIR TO LIMIT THE MAXIMUM HEIGHT WATER PONDING AROUND THE STRUCTURE.
- ENSURE THE MAXIMUM POND HEIGHT WILL NOT CAUSE A SAFETY HAZARD, INCLUDING UNDESIRABLE FLOODING OF AN ADJACENT PROPERTY OR ROADWAY. WHEREVER PRACTICAL, THE SPILL-THROUGH WEIR SHOULD BE AT LEAST 300MM ABOVE GROUND LEVEL.
- IF A SPILL-THROUGH WEIR IS NOT INSTALLED, THEN FRAME THE TOP OF THE STAKES WITH HORIZONTAL CROSS MEMBERS.
- CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS.
- PLACE THE BOTTOM 300MM OF FABRIC IN THE EXCAVATED TRENCH.
- SECURELY FASTEN THE FABRIC TO THE STAKES AND CROSS MEMBERS. AT THE FABRIC JOINT, OVERLAP THE FABRIC TO THE NEXT STAKE.
- BACKFILL THE TRENCH WITH AT LEAST 300MM OF AGGREGATE OR COMPACTED SOIL. IF A TRENCH CANNOT BE EXCAVATED, LAY THE BOTTOM 300MM OF FABRIC EVENLY ON THE GROUND SURFACE AND COVER WITH A 300MM LAYER OF AGGREGATE, NOT EARTH OR SOIL.
- WHERE REQUIRED, INSTALL A FLOW CONTROL BUND TO MAINTAIN THE SPECIFIED POOL DEPTH AND CONTROL THE MOVEMENT OF WATER.
- TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE AND TO PREVENT UNSAFE ENTRY INTO THE STORMWATER INLET.

MAINTENANCE

- INSPECT THE SEDIMENT TRAP AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT AND MAKE REPAIRS AS NEEDED TO THE SEDIMENT TRAP AND ASSOCIATED FLOW CONTROL BUNDS.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- SEDIMENT DEPOSITS SHOULD BE REMOVED IMMEDIATELY IF THEY REPRESENT A SAFETY RISK.

REMOVAL

- WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- BRING THE DISTURBED AREA TO A PROPER GRADE, THEN SMOOTH, COMPACT AND STABILISE AND/OR REVEGETATE AS REQUIRED.

GRASS FILTER STRIPS

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION, EXTENT AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- ENSURE ALL NECESSARY SOIL TESTING (E.G. SOIL PH, NUTRIENT LEVELS) HAS BEEN COMPLETED, AND REQUIRED SOIL ADJUSTMENTS PERFORMED, PRIOR TO PLANTING.
- REMOVE ALL OBJECTIONABLE MATERIAL FROM THE AREA TO BE TURFED.
- ALL TURF SHOULD BE USED WITHIN 12-HOURS OF DELIVERY, OTHERWISE ENSURE THE TURF IS STORED IN CONDITIONS APPROPRIATE FOR THE WEATHER CONDITIONS.
- MOISTENING THE TURF AFTER IT IS UNROLLED WILL HELP MAINTAIN ITS VIABILITY.
- TURF SHOULD BE LAID ON A MINIMUM 75MM BED OF ADEQUATELY FERTILISED TOPSOIL. RAKE THE SOIL SURFACE TO BREAK THE CRUST JUST BEFORE LAYING THE TURF.
- ENSURE THE TURF IS NOT LAID ON GRAVEL, HEAVILY COMPACTED SOILS, OR SOILS THAT HAVE BEEN RECENTLY TREATED WITH HERBICIDES.
- ENSURE THAT INTIMATE CONTACT IS ACHIEVED AND MAINTAINED BETWEEN THE TURF AND THE SOIL SUCH THAT SEEPAGE FLOW BENEATH THE TURF IS AVOIDED.
- IF THE FILTER STRIPS ARE REQUIRED TO BE PLACED ALONG THE CONTOUR, THEN ENSURE EACH ROW OF TURF IS PLACED ALONG A LINE OF CONSTANT LAND ELEVATION.
- IF THE FILTER STRIPS ARE PLACED AT AN ANGLE TO THE LAND SLOPE (I.E. SUCH THAT UP-SLOPE RUNOFF WILL BE DEFLECTED ALONG THE UPPER EDGE OF THE TURF), THEN LATERAL STRIPS OF TURF MUST BE PLACED AT MAXIMUM 5M INTERVALS AND EXTENDING AT LEAST 400MM UP-SLOPE OF THE FILTER STRIP.
- WATER UNTIL THE SOIL IS WET 100MM BELOW THE TURF. THEREAFTER, WATERING SHOULD BE SUFFICIENT TO MAINTAIN AND PROMOTE HEALTHY GROWTH.

MAINTENANCE

- INSPECT THE GRASS FILTER STRIPS AFTER EACH RUNOFF EVENT. CHECK FOR EVIDENCE OF CONCENTRATED RILL-FORMING FLOW ALONG THE UPPER EDGE OF THE TURF.
- IF EXCESSIVE EROSION IS OCCURRING ALONG THE UP-SLOPE EDGE OF THE TURF, THEN PLACE ADDITIONAL DIAGONAL TURF STRIPS. ALTERNATIVELY, USE SANDBAGS TO APPROPRIATELY DIVERT RUNOFF THROUGH THE GRASS.
- MAINTAIN A HEALTHY AND VIGOROUS GRASS CONDITION WHENEVER AND WHEREVER POSSIBLE, INCLUDING WATERING AND FERTILISING AS NEEDED.
- WHERE PRACTICABLE, MAINTAIN A MINIMUM LEAF LENGTH OF 50MM. MOWING SHOULD NOT BE ATTEMPTED UNTIL THE TURF IS FIRMLY ROOTED, USUALLY 2 TO 3 WEEKS AFTER LAYING.

FIBRE ROLLS

MATERIALS

- * FIBRE ROLLS: TYPICALLY 200 TO 250MM JUTE, COIR OR STRAW ROLL TIED WITH SYNTHETIC OR BIODEGRADABLE MESH.
- * STAKES: MINIMUM 20 BY 20MM TIMBER STAKES.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- WHEN PLACED ACROSS NON-VEGETATED OR NEWLY SEEDED SLOPES, THE ROLLS MUST BE PLACED ALONG THE CONTOUR.
- IF PLACED ON OPEN OR LOOSE SOIL, ENSURE THE FIBRE ROLLS ARE TRENCHED 75 TO 125MM IN SANDY SOILS AND 50 TO 75MM IN CLAYEY SOILS.
- ENSURE THE OUTER MOST ENDS OF THE FIBRE ROLL ARE TURNED UP THE SLOPE TO ALLOW WATER TO ADEQUATELY POND UP-SLOPE OF THE ROLL, AND TO MINIMISE FLOW BYPASSING.
- WHEN PLACED ACROSS THE INVERT OF MINOR DRAINS, ENSURE THE SOCKS ARE PLACED SUCH THAT:
 - THE CREST OF THE DOWNSTREAM ROLL IS LEVEL WITH THE CHANNEL INVERT AT THE IMMEDIATE UPSTREAM SOCK (IF ANY);
 - EACH ROLL EXTENDS UP THE CHANNEL BANKS SUCH THAT THE CREST OF THE FIBRE ROLL AT ITS LOWEST POINT IS LOWER THAN THE GROUND LEVEL AT EITHER END OF THE ROLL.
- ENSURE THE ANCHORING STAKES ARE DRIVEN INTO THE END OF EACH ROLL AND ALONG THE LENGTH OF EACH ROLL AT A SPACING NOT EXCEEDING 1.2M OR SIX TIMES THE ROLL DIAMETER, WHICHEVER IS THE LESSER, A MAXIMUM STAKE SPACING OF 0.3M APPLIES WHEN USED TO FORM CHECK DAMS.
- ADJOINING ROLL MUST BE OVERLAP AT LEAST 450MM, NOT ABUTTED.

MAINTENANCE

- INSPECT ALL FIBRE ROLLS PRIOR TO FORECAST RAIN, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF PRODUCING STORMS OR OTHERWISE AT WEEKLY INTERVALS.
- REPAIR OR REPLACE DAMAGED FIBRE ROLLS.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

REMOVAL

- ALL EXCESSIVE SEDIMENT TRAPPED BY THE ROLLS MUST BE REMOVED FROM THE DRAIN OR SLOPE IF SUCH SEDIMENT IS LIKELY TO BE WASHED AWAY BY EXPECTED FLOWS.
- DISPOSE OF COLLECTED SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- THE BIODEGRADABLE CONTENT OF THE STRAW ROLLS MAY NOT NECESSARILY NEED TO BE REMOVED FROM THE SITE.
- ALL SYNTHETIC (PLASTIC) MESH OR OTHER NON READILY BIODEGRADABLE MATERIAL MUST BE REMOVED FROM THE SITE ONCE THE SLOPE OR DRAIN IS STABILISED, OR THE ROLLS HAVE DETERIORATED TO A POINT WHERE THEY ARE NO LONGER PROVIDING THEIR INTENDED DRAINAGE OR SEDIMENT CONTROL FUNCTION.

NOTE:
INFORMATION ON DEVICES SHOWN ON THIS DRAWING SOURCED
FROM IECA(2008) BOOK 6 - STANDARD DRAWINGS.

| Rev. | Date | Description | Des. | Verif. | Appd. |
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| Project | Title | Date |
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| MUIRHEAD NORTH DEVELOPMENT | EROSION AND SEDIMENT CONTROL | |
| LEE POINT ROAD, MUIRHEAD CITY OF DARWIN | DETAIL NOTES | |
| | SHEET 1 OF 2 | |

| Status | Datum | Date | Scale | Size |
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CHECK DAM SEDIMENT TRAP

MATERIALS

- * ROCK: 150 TO 300MM EQUIVALENT DIAMETER, HARD, EROSION RESISTANT ROCK.
- * SANDBAGS: GEOTEXTILE BAGS (WOVEN SYNTHETIC, OR NON-WOVEN BIODEGRADABLE) FILLED WITH CLEAN COARSE SAND, CLEAN AGGREGATE, OR COMPOST.

INSTALLATION (ROCK CHECK DAM)

- REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- PRIOR TO PLACEMENT OF THE SEDIMENT TRAP, ENSURE THE DRAINAGE CHANNEL IS DEEP ENOUGH TO PREVENT WATER BEING UNSAFELY DIVERTED OUT OF THE DRAIN ONCE THE CHECK DAMS ARE INSTALLED.
- LOCATE EACH CHECK DAM SEDIMENT TRAP AS DIRECTED WITHIN THE APPROVED PLANS, OR OTHERWISE AT SUCH A SPACING TO ACHIEVE THE REQUIRED SEDIMENT TRAPPING OUTCOMES.
- IF THE CHECK DAMS ARE ALSO BEING USED TO CONTROL EROSION WITHIN THE DRAINAGE CHANNEL, THEN LOCATE EACH SUCCESSIVE CHECK DAM SUCH THAT THE CREST OF THE IMMEDIATE DOWNSTREAM DAM IS LEVEL WITH THE CHANNEL INVERT AT THE IMMEDIATE UPSTREAM CHECK DAM.
- CONSTRUCT EACH CHECK DAM TO THE DIMENSIONS AND PROFILE SHOWN WITHIN THE APPROVED PLAN.
- WHERE SPECIFIED, THE CHECK DAMS MUST BE CONSTRUCTED ON A SHEET OF GEOTEXTILE FABRIC USED AS A DOWNSTREAM SPLASH PAD.
- EACH CHECK DAM MUST BE EXTENDED UP THE CHANNEL BANK (WHERE PRACTICABLE) TO AN ELEVATION AT LEAST 150MM ABOVE THE CREST LEVEL OF THE DAM.

MAINTENANCE

- INSPECT EACH CHECK DAM AND THE DRAINAGE CHANNEL AT LEAST WEEKLY AND AFTER RUNOFF-PRODUCING RAINFALL.
- CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN ANY OF THE CHECK DAMS, THEN CHECK THE SPACING OF THE DAMS AND WHERE NECESSARY INSTALL INTERMEDIATE CHECK DAMS OR A SUITABLE CHANNEL LINER.
- CHECK FOR DISPLACEMENT OF THE CHECK DAMS.
- CHECK FOR SOIL SCOUR AROUND THE ENDS OF EACH CHECK DAM. IF SUCH EROSION IS OCCURRING, CONSIDER EXTENDING THE WIDTH OF THE CHECK DAM TO AVOID SUCH PROBLEMS.
- IF SEVERE SOIL EROSION OCCURS EITHER UNDER OR AROUND THE CHECK DAMS, THEN SEEK EXPERT ADVICE ON AN ALTERNATIVE TREATMENT MEASURE.
- DE-SILT SEDIMENT TRAP IF THE SEDIMENT LEVEL EXCEEDS 1/3 THE CREST HEIGHT.
- DISPOSE OF COLLECTED SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

REMOVAL

- WHEN CONSTRUCTION WORK WITHIN THE DRAINAGE AREA ABOVE THE CHECK DAMS HAS BEEN COMPLETED AND DISTURBED AREAS SUFFICIENTLY STABILISED TO RESTRAIN EROSION, THE DAMS MUST BE REMOVED, UNLESS THE SEDIMENT TRAPS ARE TO REMAIN AS A PERMANENT FEATURE.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REMOVE AND APPROPRIATELY DISPOSE OF ALL MATERIALS INCLUDING ANY GEOTEXTILE FABRIC.
- STABILISE THE DISTURBED CHANNEL WITH A LINING OF FABRIC AND ROCK, OR ESTABLISH VEGETATION AS APPROPRIATE.

KERB INLET TRAP - SAG INLETS

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.
- INSTALL SEDIMENT TRAP IN ACCORDANCE WITH STANDARD DRAWING SUPPLIED WITH THE APPROVED PLAN, OR AS DIRECTED BY THE SITE SUPERVISOR.
- ENSURE THE SEDIMENT TRAP IS CONSTRUCTED UP-SLOPE OF AN ON-GRADE KERB INLET. THE SEDIMENT TRAP MUST NOT SURROUND THE KERB INLET UNLESS SPECIFICALLY DIRECTED BY THE SITE SUPERVISOR.
- IF NECESSARY, INSTALL ADDITIONAL SEDIMENT TRAPS UP-SLOPE OF THE KERB INLET TO ADEQUATELY RETAIN THE EXPECTED QUANTITY OF SEDIMENT RUNOFF.
- TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE.

MAINTENANCE

- INSPECT ALL SEDIMENT TRAPS DAILY AND IMMEDIATELY AFTER RUNOFF-PRODUCING RAINFALL. MAKE REPAIRS AS NEEDED.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- ENSURE SEDIMENT DOES NOT ENTER THE STORMWATER DRAIN DURING DE-SILTING OPERATIONS AND MAINTENANCE OF THE TRAP.
- SEDIMENT ON THE ROAD MUST BE REMOVED IMMEDIATELY IF IT REPRESENTS A SAFETY HAZARD.

REMOVAL

- WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

KERB INLET TRAP - ON-GRADE

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.
- INSTALL SEDIMENT TRAP IN ACCORDANCE WITH STANDARD DRAWING SUPPLIED WITH THE APPROVED PLAN, OR AS DIRECTED BY THE SITE SUPERVISOR.
- ENSURE THE SEDIMENT TRAP IS CONSTRUCTED UP-SLOPE OF AN ON-GRADE KERB INLET. THE SEDIMENT TRAP MUST NOT SURROUND THE KERB INLET UNLESS SPECIFICALLY DIRECTED BY THE SITE SUPERVISOR.
- IF NECESSARY, INSTALL ADDITIONAL SEDIMENT TRAPS UP-SLOPE OF THE KERB INLET TO ADEQUATELY RETAIN THE EXPECTED QUANTITY OF SEDIMENT RUNOFF.
- TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE.

MAINTENANCE

- INSPECT ALL SEDIMENT TRAPS DAILY AND IMMEDIATELY AFTER RUNOFF-PRODUCING RAINFALL. MAKE REPAIRS AS NEEDED.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- ENSURE SEDIMENT DOES NOT ENTER THE STORMWATER DRAIN DURING DE-SILTING OPERATIONS AND MAINTENANCE OF THE TRAP.
- SEDIMENT ON THE ROAD MUST BE REMOVED IMMEDIATELY IF IT REPRESENTS A SAFETY HAZARD.

REMOVAL

- WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

ROCK FILTER DAM

FOR INSTALLATION, MAINTENANCE AND REMOVAL NOTES REFER TO STANDARD DRAWING SD-RFD-02.

LEVEL SPREADERS

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION, DIMENSIONS AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- WHEREVER PRACTICAL, LOCATE THE LEVEL SPREADER ON UNDISTURBED, STABLE SOIL.
- ENSURE FLOW DISCHARGING FROM THE LEVEL SPREADER WILL DISPERSE ACROSS A PROPERLY STABILISED SLOPE NOT EXCEEDING 10:1 (H:V) AND SUFFICIENTLY EVEN IN GRADE ACROSS THE SLOPE TO AVOID CONCENTRATING THE OUTFLOW.
- THE OUTLET SILL OF THE SPREADER SHOULD BE PROTECTED WITH EROSION CONTROL MATTING TO PREVENT EROSION DURING THE ESTABLISHMENT OF VEGETATION. THE MATTING SHOULD BE A MINIMUM OF 1200MM WIDE EXTENDING AT LEAST 300MM UPSTREAM OF THE EDGE OF THE OUTLET CREST AND BURIED AT LEAST 150MM IN A VERTICAL TRENCH. THE DOWNSTREAM EDGE SHOULD BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY-DUTY WIRE STAPLES AT LEAST 150MM LONG.
- ENSURE THAT THE OUTLET SILL (CREST) IS LEVEL FOR THE SPECIFIED LENGTH.
- IMMEDIATELY AFTER CONSTRUCTION, TURF, OR SEED AND MULCH WHERE APPROPRIATE, THE LEVEL SPREADER.

MAINTENANCE

- INSPECT THE LEVEL SPREADER AFTER EVERY RAINFALL EVENT UNTIL VEGETATION IS ESTABLISHED.
- AFTER ESTABLISHMENT OF VEGETATION OVER THE LEVEL SPREADER, INSPECTIONS SHOULD BE MADE ON A REGULAR BASIS AND AFTER RUNOFF-PRODUCING RAINFALL.
- ENSURE THAT THERE IS NO SOIL EROSION AND THAT SEDIMENT DEPOSITION IS NOT CAUSING THE CONCENTRATION OF FLOW.
- ENSURE THAT THERE IS NO SOIL EROSION OR CHANNEL DAMAGE UPSTREAM OF THE LEVEL SPREADER, OR SOIL EROSION OR VEGETATION DAMAGE DOWNSTREAM OF THE LEVEL SPREADER.
- INVESTIGATE THE SOURCE OF ANY EXCESSIVE SEDIMENTATION.
- MAINTAIN GRASS IN A HEALTH CONDITION WITH NO LESS THAN 90% COVER UNLESS CURRENT WEATHER CONDITIONS REQUIRE OTHERWISE.
- GRASS HEIGHT SHOULD BE MAINTAINED AT A MINIMUM 50MM BLADE LENGTH WITHIN THE LEVEL SPREADER AND DOWNSTREAM DISCHARGE AREA, AND A MAXIMUM BLADE LENGTH NO GREATER THAN ADJACENT GRASSES.

REMOVAL

- TEMPORARY LEVEL SPREADERS SHOULD BE DECOMMISSIONED ONLY AFTER AN ALTERNATIVE STABLE OUTLET IS OPERATIONAL, OR WHEN THE INFLOW CHANNEL IS DECOMMISSIONED.
- REMOVE COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REMOVE AND APPROPRIATELY DISPOSE OF ANY EXPOSED GEOTEXTILE.
- GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION FOR STABILISATION.
- STABILISE THE AREA AS SPECIFIED ON THE APPROVED PLAN.

WIND BUFFER CLEARING

METHODOLOGY

- REFER TO APPROVED PLANS FOR EXTENT OF CLEARING.
- ALL SMALL TREES, SHRUBS AND LONG GRASS TO BE REMOVED.
- TALL TREES ARE TO BE REMOVED, WITH THE EXCEPTION OF UP TO 10% TREE COVERAGE AS SHOWN IN NOMINAL LOCATIONS ON DWG No. DC1603-2CRU-01-ES06 & ES08 OR AS DIRECTED BY SUPERINTENDENT AFTER CONSULTATION WITH DEPW.
- EXISTING GROUND TO BE GRADED TO AVOID PONDING OF STORMWATER AND TOP SOILED WITH NATURAL MATERIAL CONTAINING NATURAL GRASSES.
- UNDISTURBED GRASSED AREAS ARE TO BE SLASHED.

MAINTENANCE

- INSPECT AND REPLENISH MULCH POST WET SEASON UNTIL AREA IS DEVELOPED OR NATURAL GRASS/GROUND COVER IS ESTABLISHED.
- NATURAL GRASS AND GROUND COVER RE-GROWTH IS ENCOURAGED TO AID IN EROSION CONTROL. SLASH / MAINTAIN TO LOW HEIGHT.

FUTURE USE

- WIND BUFFER AREA WILL BE REPLACED WITH RURAL RESIDENTIAL LOTS AND A STABILISED DETENTION BASIN DURING FUTURE STAGE WORKS.

NOTE:
INFORMATION ON DEVICES SHOWN ON THIS DRAWING SOURCED
FROM IECA(2008) BOOK 6 - STANDARD DRAWINGS.

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| Drawn OAR | Date June 20 | Client DEFENCE HOUSING AUSTRALIA |
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