

**MATERIALS**

EARTH FILL: NON-DISPERSIVE EARTH FREE OF ORGANIC DEBRIS. EMERSON'S AGGREGATE CLASS 6, 7 OR 8.

**INSTALLATION**

METHOD OF INSTALLATION MAY VARY SIGNIFICANTLY FROM BARRIER SYSTEM TO BARRIER SYSTEM. THE FOLLOWING IS PROVIDED AS A GENERAL GUIDE.

1. PRIOR TO COMMENCING ANY WORKS, OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED TO CONDUCT THE NECESSARY WORKS INCLUDING PERMITS FOR THE DISTURBANCE OF RIPARIAN AND AQUATIC VEGETATION, AND THE CONSTRUCTION OF ALL PERMANENT OR TEMPORARY INSTREAM BARRIERS AND INSTREAM SEDIMENT CONTROL MEASURES.

2. REFER TO APPROVED PLANS FOR LOCATION, EXTENT, AND INSTALLATION 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.

3. IF THERE IS FLOW WITHIN THE WATERCOURSE OR DRAINAGE CHANNEL AT THE TIME OF INSTALLATION OF THE ISOLATION BARRIER, THEN TAKE APPROPRIATE MEASURES TO MINIMISE THE RELEASE OF SEDIMENT DURING ITS INSTALLATION. SUCH MEASURES SHOULD ONLY BE INSTALLED IF CONSIDERED APPROPRIATE FOR THE LOCAL CONDITIONS, AND ONLY IF THEIR INSTALLATION IS JUDGED TO PROVIDE A NET OVERALL ENVIRONMENTAL BENEFIT.

4. WHERE PRACTICABLE, DIVERT ALL OVERBANK STORMWATER RUNOFF FROM THE ADJACENT CONSTRUCTION SITE ONTO STABLE, UNDISTURBED, VEGETATED AREAS ADJOINING THE WATERCOURSE SO AS TO MINIMISE THE DIRECT DISCHARGE OF SEDIMENT-LADEN WATER INTO FLOWING CHANNEL WATERS.

**MAINTENANCE**

1. WHILE CONSTRUCTION WORKS CONTINUE ON THE SITE, INSPECT THE ISOLATION BARRIER PRIOR TO FORECAST RAINFALL, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER RUNOFF PRODUCING RAINFALL, OR OTHERWISE ON A WEEKLY BASIS.

2. ENSURE THAT BARRIER IS STABLE AND UNDAMAGED.

3. DISPOSE OF ANY EXCESSIVE SEDIMENT OR DEBRIS DEPOSITS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

4. REPAIR ANY PLACES IN THE ISOLATION BARRIER THAT HAVE WEAKENED OR THAT HAVE BEEN SUBJECTED TO DAMAGE FROM INFLOWS OR OVERTOPPING WATER.

5. IF A BYPASS FLOODWAY EXISTS, CHECK THE FLOODWAY IS STABLE AND CAPABLE OF OPERATING AT ITS DESIGN CAPACITY.

**REMOVAL**

1. THE ISOLATION BARRIER MUST BE REMOVED AS SOON AS POSSIBLE AFTER IT IS NO LONGER NEEDED.

2. IF EXCESSIVE SEDIMENT OR DEBRIS HAS COLLECTED AROUND THE BARRIER, THEN REMOVE SUCH MATERIAL BEFORE THE BARRIER IS REMOVED, AND DISPOSE OF SUCH MATERIAL PROPERLY.

3. IF THERE IS FLOW WITHIN THE WATERCOURSE OR DRAINAGE CHANNEL AT THE TIME OF REMOVAL OF THE ISOLATION BARRIER, THEN TAKE APPROPRIATE MEASURES TO MINIMISE THE RELEASE OF SEDIMENT DURING ITS REMOVAL. SUCH MEASURES SHOULD ONLY BE INSTALLED IF CONSIDERED APPROPRIATE FOR THE LOCAL CONDITIONS, AND ONLY IF THEIR INSTALLATION IS JUDGED TO PROVIDE A NET OVERALL ENVIRONMENTAL BENEFIT.

4. ENSURE ANY CHANNEL WATER CONTAINED WITHIN THE ENCLOSED CHANNEL AREA IS SUITABLY TREATED BEFORE EITHER THE WATER IS DISCHARGED FROM THE ENCLOSURE OR THE ISOLATION BARRIER IS REMOVED.

5. IF IT IS NOT FEASIBLE TO WAIT FOR ADEQUATE SETTLEMENT OF SUSPENDED SEDIMENTS, THEN WHERE PRACTICABLE, PUMP THE SEDIMENT-LADEN WATER TO AN OFF-STREAM DE-WATERING SEDIMENT CONTROL SYSTEM FOR TREATMENT. THIS TREATMENT AREA SHOULD IDEALLY BE LOCATED AT LEAST 50m FROM THE CHANNEL.

6. STARTING FROM THE UPSTREAM END, REMOVE ALL MATERIALS USED TO FORM THE ISOLATION BARRIER AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

7. RESTORE THE WATERCOURSE CHANNEL TO ITS ORIGINAL CROSS-SECTION, AND SMOOTH AND APPROPRIATELY STABILISE AND/OR REVEGETATE ALL DISTURBED AREAS.

5. TO THE MAXIMUM DEGREE PRACTICABLE, CONSTRUCTION ACTIVITIES AND EQUIPMENT SHOULD NOT OPERATE WITHIN OPEN FLOWING WATERS.

6. ENSURE CLEARING AND EXCAVATION OF ACCESS PATHS AND THE BANKS AND BED OF THE WATERCOURSE ARE LIMITED TO THE MINIMUM PRACTICABLE.

7. IF DISPERSIVE, HIGHLY UNSTABLE, OR HIGHLY EROSIIVE SOILS ARE EXPOSED, THEN PRIORITY MUST BE GIVEN TO THE PROMPT STABILISATION OF ALL SUCH AREAS.

8. CLEAR THE LOCATION FOR THE ISOLATION BARRIER, CLEARING ONLY WHAT IS NEEDED TO PROVIDE ACCESS AND INSTALL THE BARRIER. AVOID CLEARING OR DISTURBING THE LAND UNTIL ALL NECESSARY DOWNSTREAM SEDIMENT TRAPS ARE IN PLACE.


9. REMOVE ANY CLEARED ORGANIC MATTER OR DEBRIS FROM THE CHANNEL AND DISPOSE OF IT PROPERLY. DO NOT USE ORGANIC MATTER OR DEBRIS TO FORM ANY EARTH BUNDS.

10. IF THE ISOLATION BARRIER IS TO BE CONSTRUCT WITH COMPACTED FILL, THE SIDES OF THE EARTH BUND MUST BE NO STEEPER THAN A 2:1 (H:V) SLOPE. TO ASSIST IN THE EVENTUAL REMOVAL OF ALL MATERIALS USED IN THE CONSTRUCTION OF AN EARTH-BASED ISOLATION BARRIER, A PROTECTIVE LAYER OF GEOTEXTILE FILTER CLOTH (PREFERABLY IN THE FORM OF A SINGLE SHEET) SHOULD BE PLACED OVER THE CHANNEL PRIOR TO INSTALLATION OF THE BARRIER. IF MORE THAN ONE SHEET OF FABRIC IS REQUIRED, OVERLAP THE FABRIC BY AT LEAST 600mm.

11. STABILISE ALL DISTURBED AREAS WITH VEGETATION, EROSION CONTROL BLANKETS, ROCK OR BY OTHER SUITABLE MEANS. THE MINIMUM ROCK SIZE PLACED WITHIN THE WATERWAY CHANNEL SHOULD BE 200mm.

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| NO.   | DATE     | DESCRIPTION            | APPVD |
| A   | 18/11/11 | ISSUE FOR CONSTRUCTION |       |
| AMENDMENTS AND REVISIONS                        |          |                        |       |
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| DRAWN                      | SIGNED | DATE     | DIRECTOR                 |
| POC                        | POC    | 21/2/11  | ENGINEERING SERVICES     |
| DESIGNED                   | SIGNED | DATE     |                          |
| POC                        | POC    | 21/2/11  | Stuart Holley RPEQ 56930 |
| CHECKED                    | SIGNED | DATE     |                          |
|                            |        |          |                          |
| MANAGER TECHNICAL SERVICES |        | DATE     |                          |
| G. HAWES                   |        | 21-12-11 |                          |
| G. HAWES RPEQ 5693         |        |          |                          |

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| <b>Mackay</b><br>REGIONAL COUNCIL   |  |

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| ISOLATION BARRIERS (GENERAL) |                 |
| SHEET 1 OF 1                 | WORKS JOB No. - |
| DRAWING No.                  | AMEND.          |
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