

Legend

- Proposed Concept Master Plan
- Catchment Boundary

FIGURE 1.1

Locality Plan



Source: Layout and Aerial: Coomes Consulting Streamlines: LPI 1:25 000 Topographic Map Series
Note: Only approximate flood extent shown

0 100 200 300m
1:7000

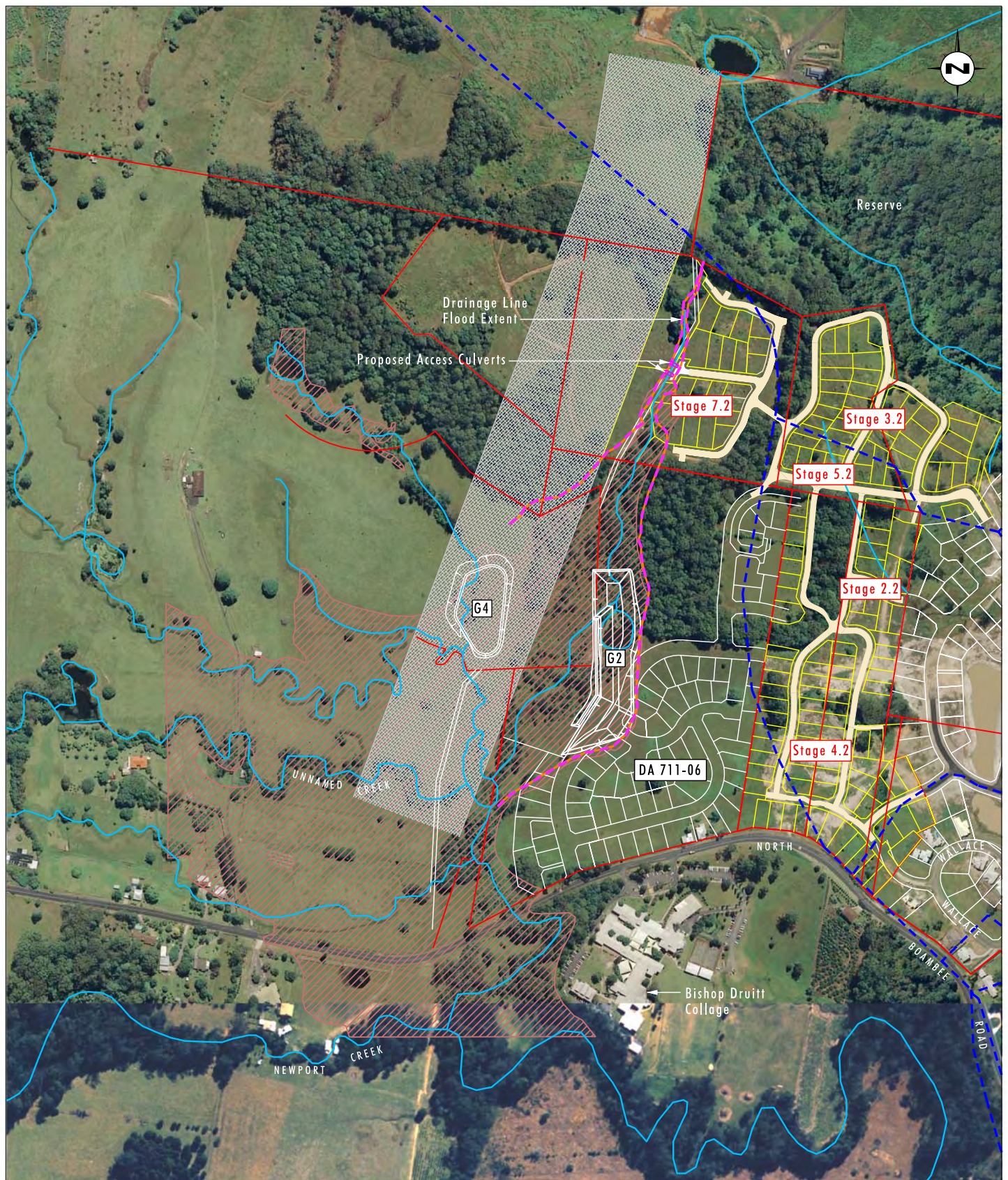
Legend

- Catchment Boundary
- Proposed Development
- Existing / Approved Development
- Land Parcel Boundaries
- Proposed Highway Bypass
- Proposed Access Roads
- Approved Upstream 100 Year ARI Flood Extent
- Upstream 100 Year ARI Flood Extent with Channel

File Name (A4): R01_V1/2500_002.dgn

FIGURE 3.1

**Lakes Estate Catchment
Area Stormwater Constraints**



Source: Layout and Aerial: Coombes Consulting Streamlines: LPI 1:25 000 Topographic Map Series
Flood Extent: Bewsher Consulting, Detention Ponds and Dams: GHD

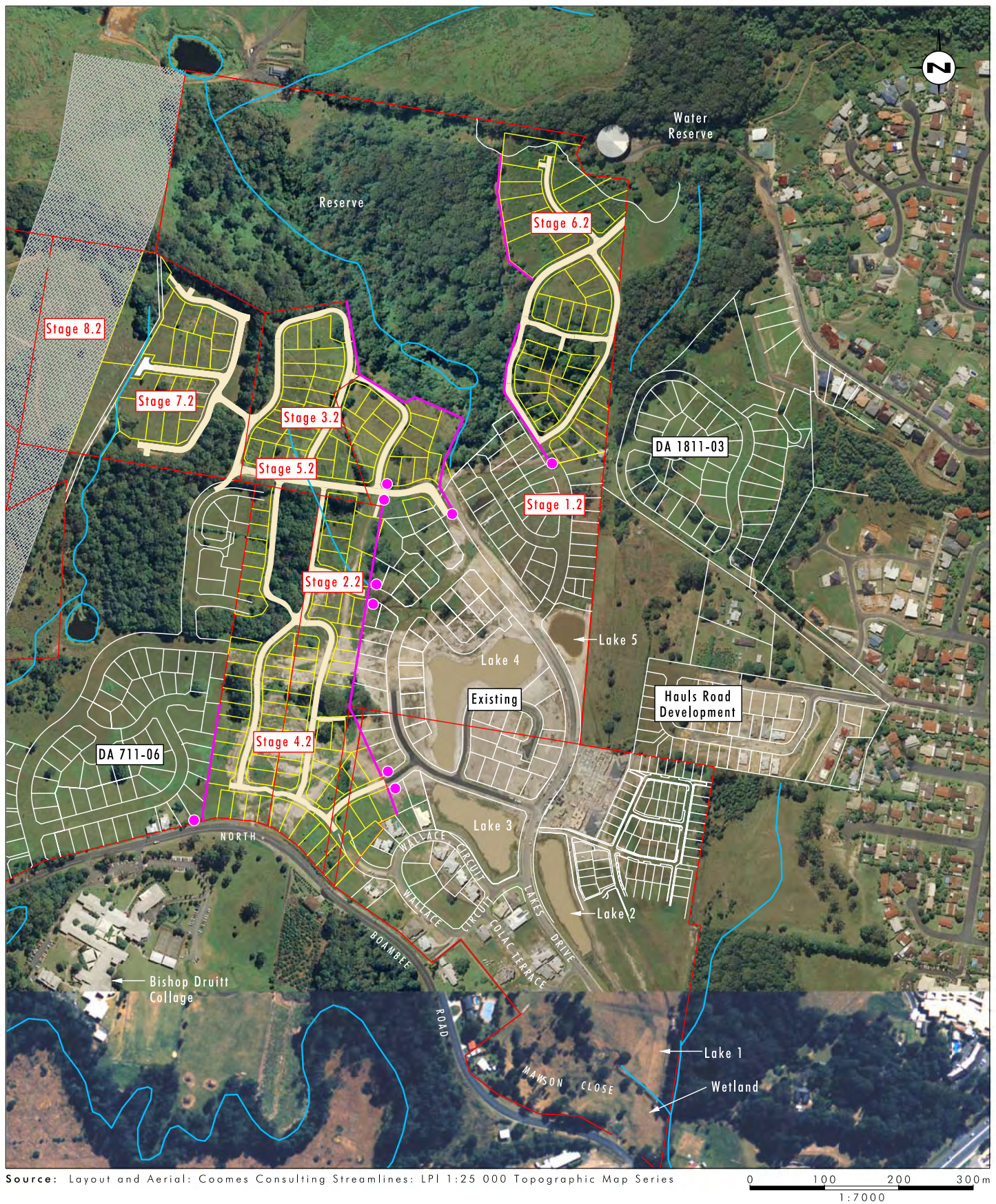
0 100 200 300m
1:7000

Legend

- Catchment Boundary
- 100 year flood extent
- Proposed Development
- Existing / Approved Development
- Land Parcel Boundaries
- Proposed Highway Bypass
- Proposed Access Roads
- Pre-Development Drainage Line Flood Extent
- Post-Development Drainage Line Flood Extent

FIGURE 3.2

**Western Catchment Area
Stormwater Constraints**



Legend

- Proposed Development
- Existing / Approved Development
- Land Parcel Boundaries
- Proposed Highway Bypass
- Proposed Access Roads
- Sediment Fence / Straw Bales
- Kerb Inlet Controls

FIGURE 4.1

Construction Sediment and Erosion Controls
Lakes Estate Catchment Area



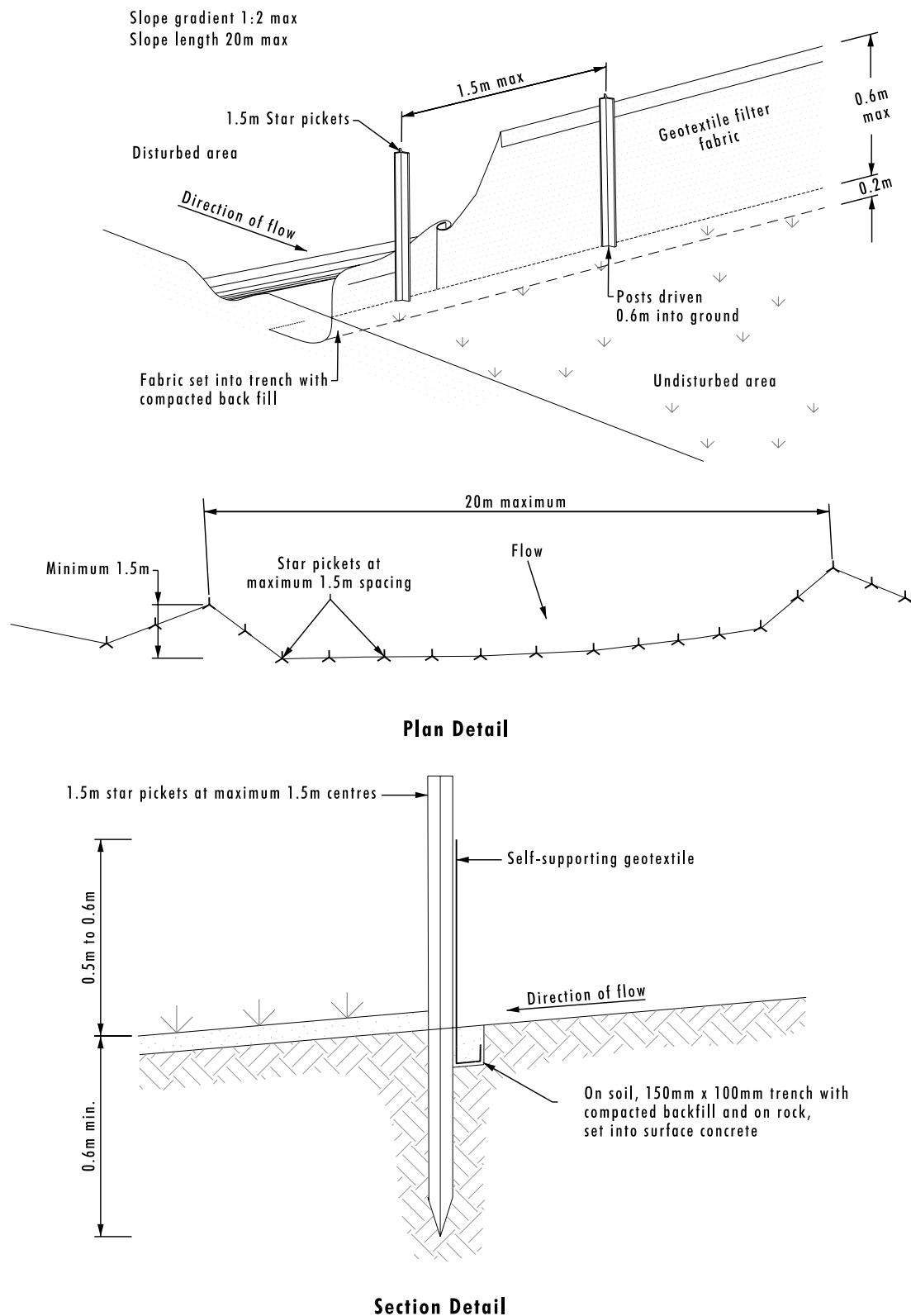
Source: Layout and Aerial: Coombes Consulting Streamlines: LPI 1:25 000 Topographic Map Series

Legend

- Proposed Development
- Existing / Approved Development
- Land Parcel Boundaries
- Proposed Highway Bypass
- Proposed Access Roads
- Sediment Fence / Straw Bales
- Kerb Inlet Controls

FIGURE 4.2

Construction Sediment and Erosion Controls
- Western Catchment Area

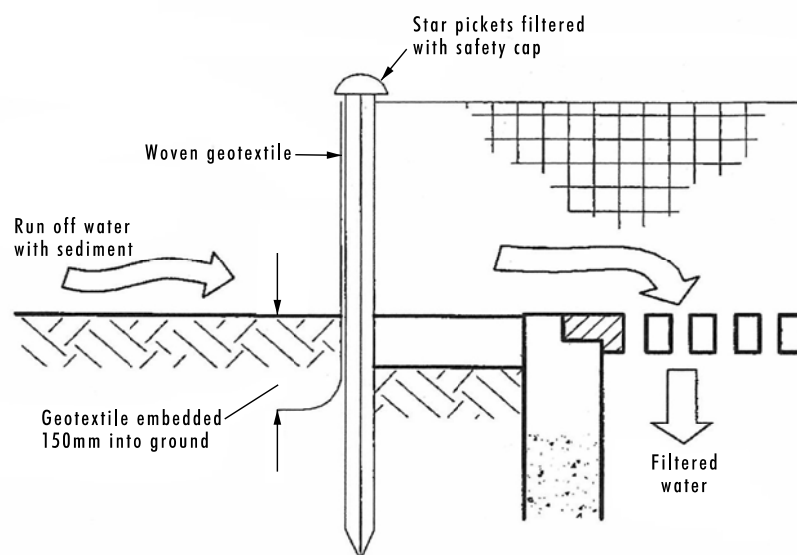
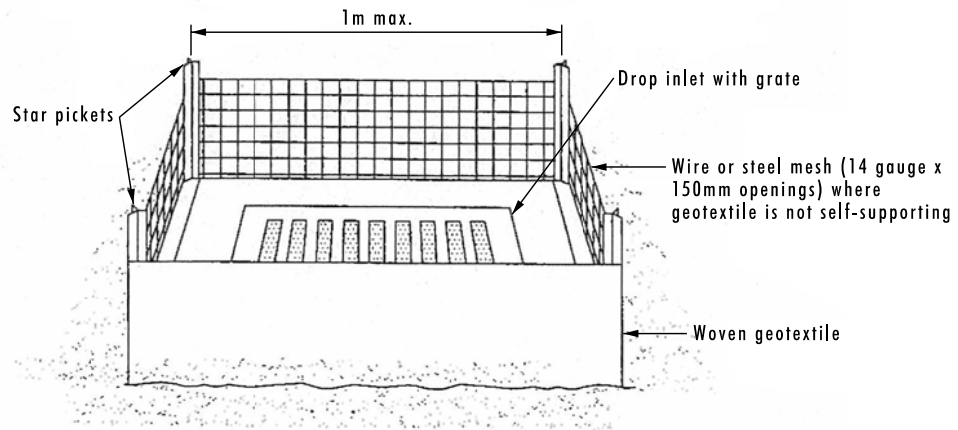


Construction Notes:

- 1) Construct sediment fence parallel to site contours (if practicable)
- 2) Cut a 150mm deep trench along the up slope line of the fence for the bottom of the fabric to be entrenched
- 3) Drive 1.5m long star pickets into ground at 1.5m intervals at the down slope edge of the trench. Fit pickets with safety caps
- 4) Fix self-supporting geotextile to the up slope side of the posts ensuring it sits along the base of the trench.
Fix the geotextile with wire ties or as recommended by the manufacturer
- 5) Join sections of fabric at a support post with a 150mm overlap
- 6) Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile

FIGURE 4.3

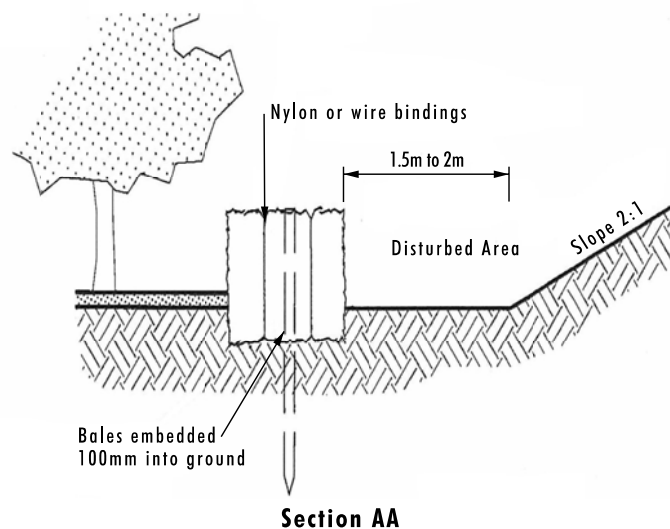
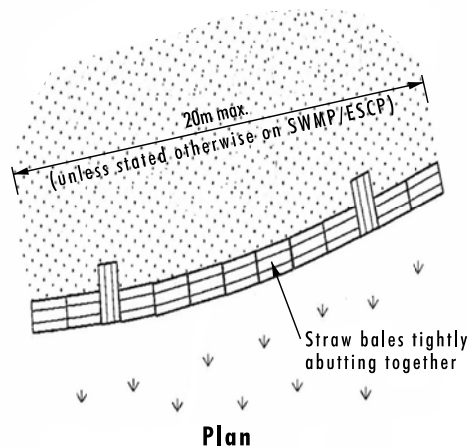
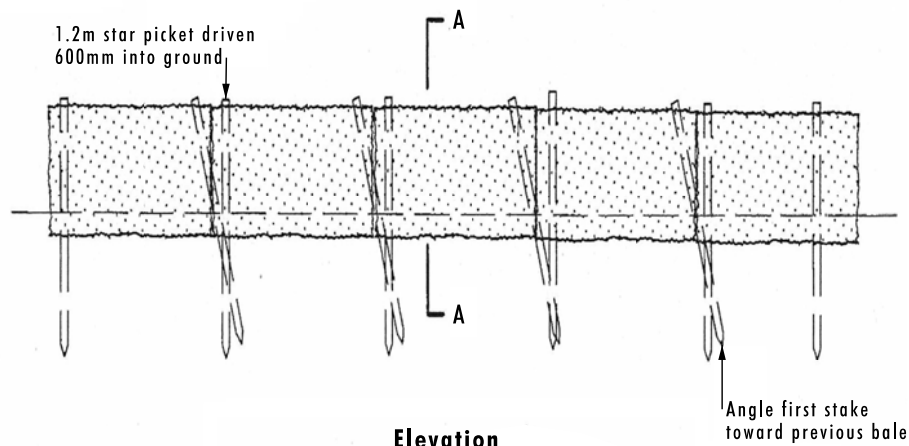
**Installation of Sediment Fence
(where required)**



Construction Notes:

- 1) Do not cover the inlet with geotextile

FIGURE 4.4
Typical Inlet Filter



Construction Notes:

- 1) Construct the straw bales filter as close as possible to being parallel to the contours of the site
- 2) Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws bales are to be placed parallel to ground
- 3) Ensure that the maximum height of the filter is one bale
- 4) Embed each bale in the ground 75mm to 100mm and anchor with two 1.2m star pickets or stakes. angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600mm into the ground and, if possible, flush with the top of bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps
- 5) Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months

Source: Managing Urban Storm Water - Soils and Construction
Volume 1, 4th Edition, Author Landcom March 2004

File Name (A4): R01_V1/2500_009.dgn

FIGURE 4.5
Straw Bale Filter

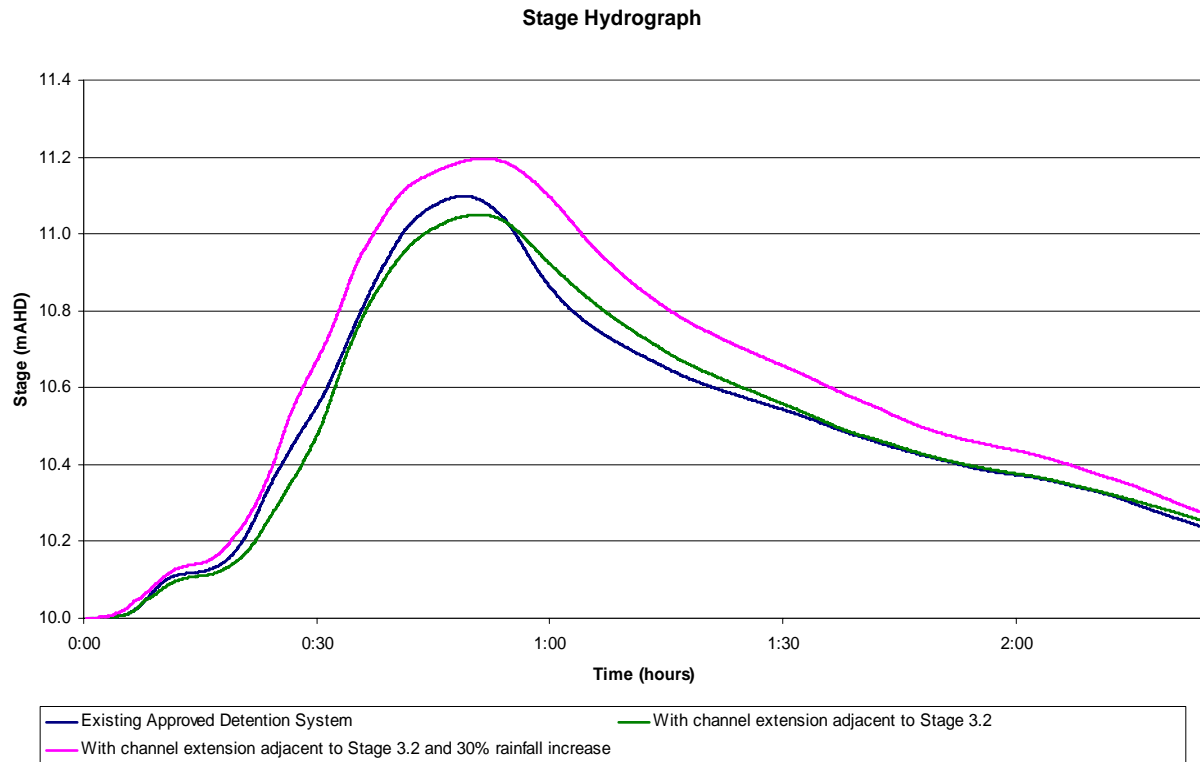
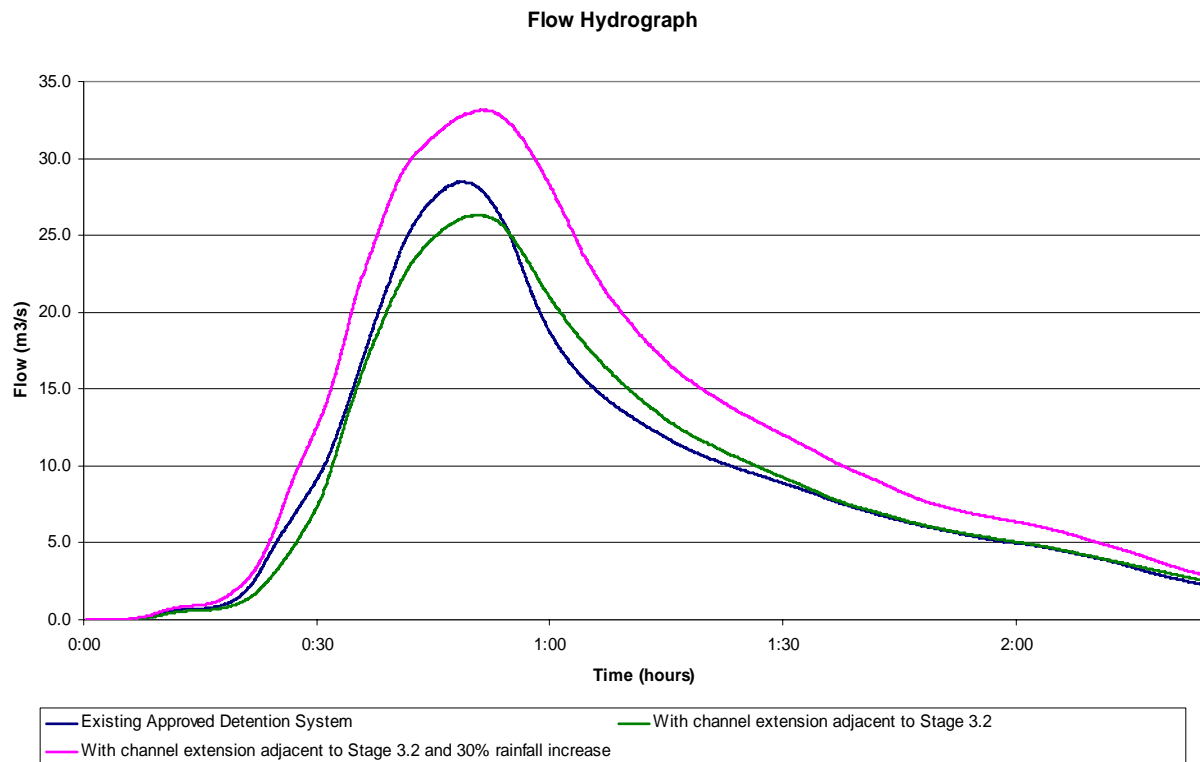


FIGURE 5.1

100 year ARI Storm Event Hydrographs
Upstream of Existing Lakes Estate Detention System

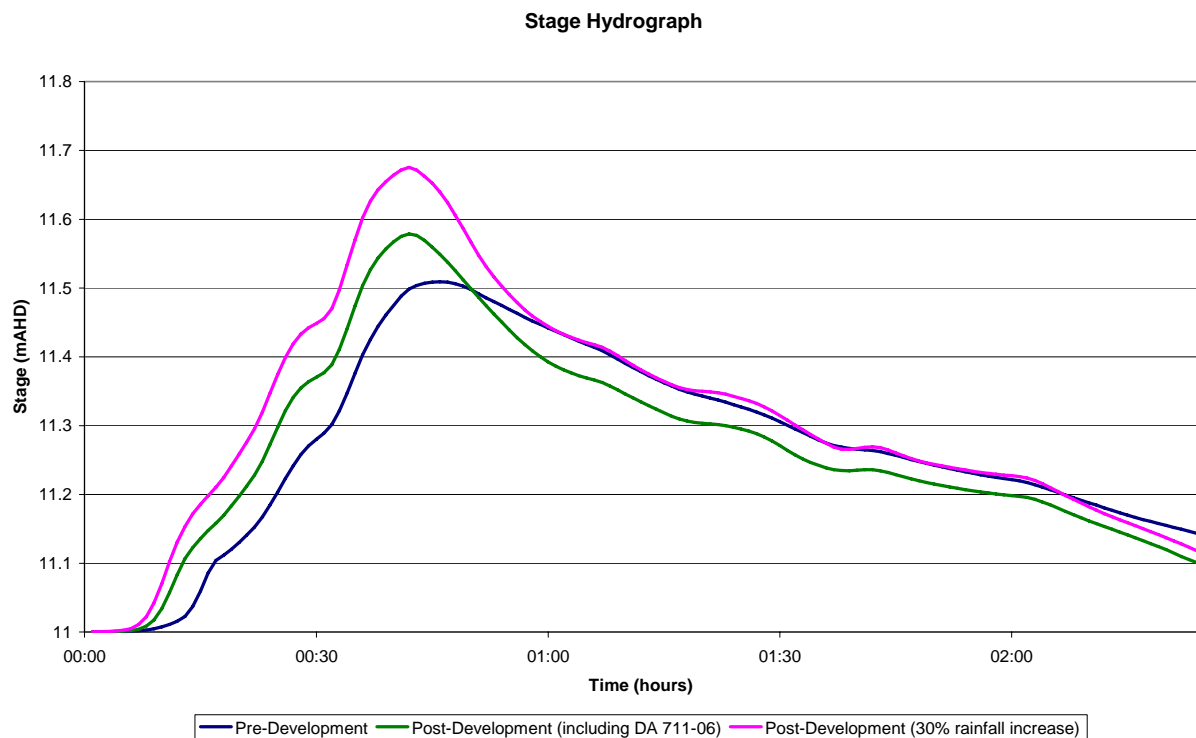
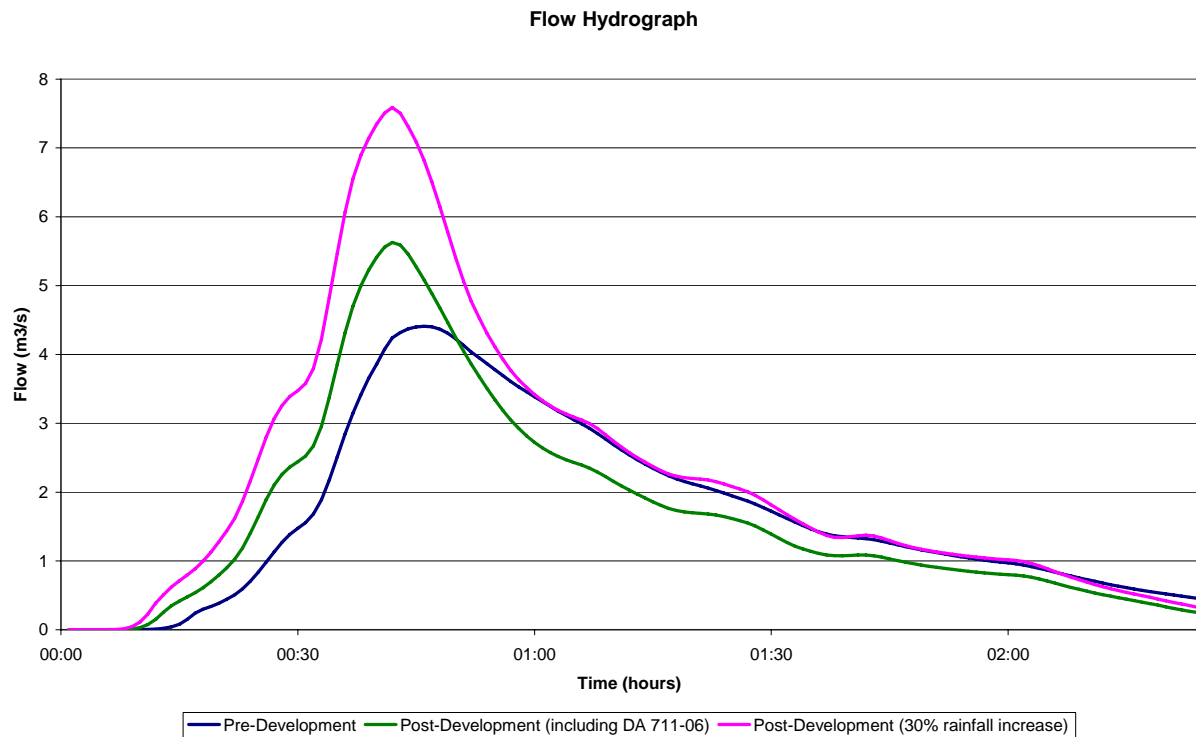


FIGURE 5.2

100 year ARI Storm Event Hydrographs
at Downstream Boundary of Stage 7.2

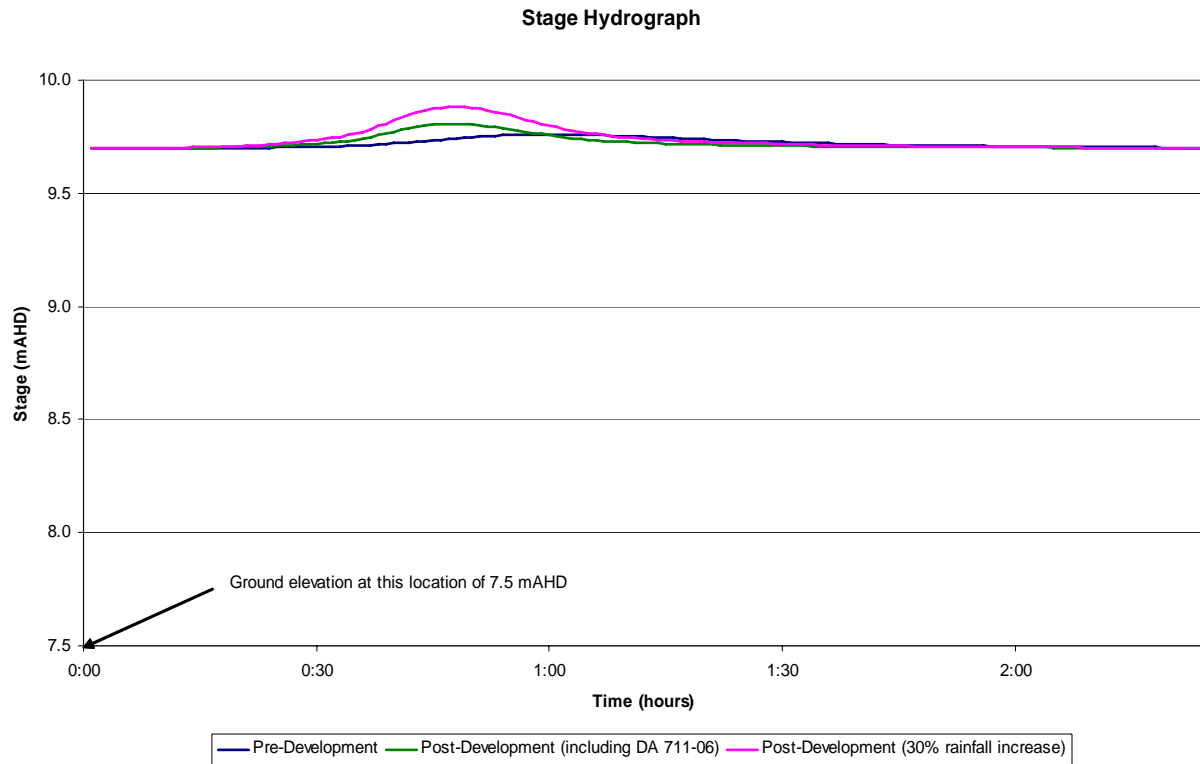
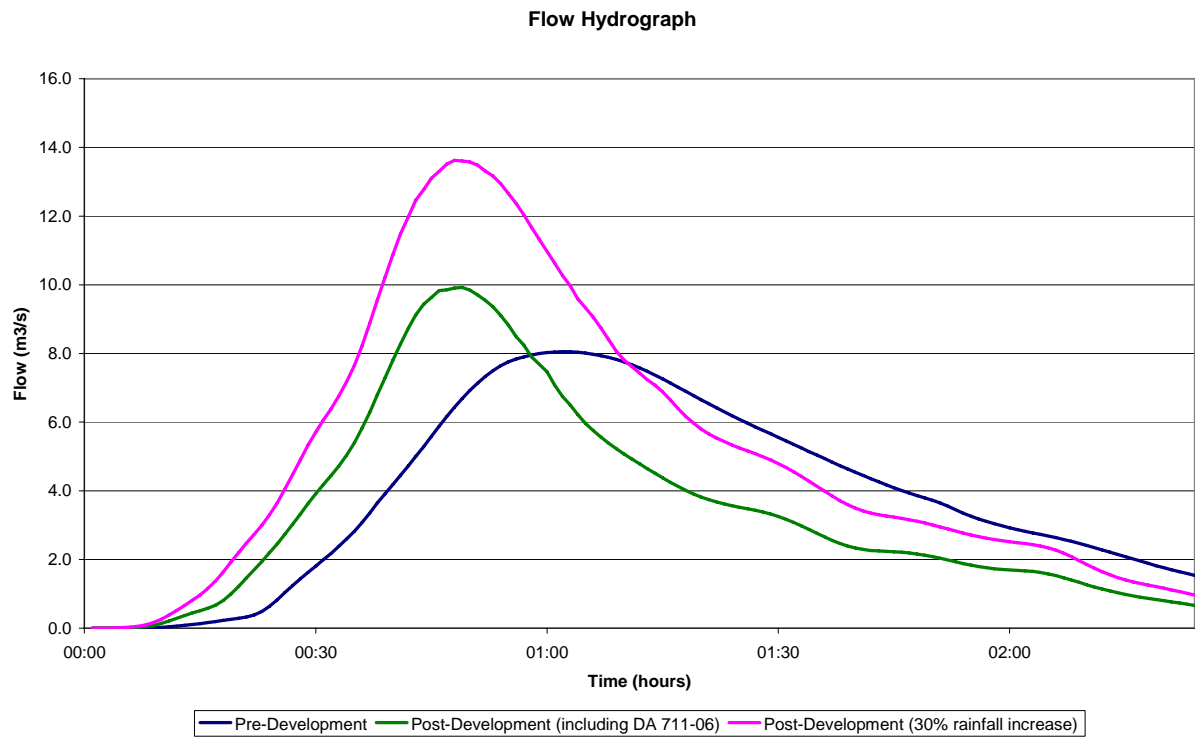


FIGURE 5.3

100 year ARI Storm Event Hydrographs
at 350 metres Downstream of Pond G2