

NPWS UNICORN FALLS MANNS ROAD CAR PARK Detailed Design

Drawing Schedule	
Dwg No.	Title
3706/C000	Cover Sheet, Locality and Drawing Schedule
3706/C001	Existing Site Layout
3706/C002	Tree Protection and Removal Plan
3706/C003	Construction Notes
3706/C010	Manns Road Civil Works Layout and Manoeuvring Plan
3706/C011	Car Park Civil Works Layout
3706/C012	Earthworks Cut and Fill Plan
3706/C013	Toilet Layout
3706/C020	Manns Road Long Section and Setout Table
3706/C021	Car Park Access Long Section and Setout Table
3706/C022	Car Park Aisle Long Section and Setout Table
3706/C030	Road and Car Park Construction Details
3706/C031	Manns Road Cross Sections
3706/C032	Car Park Access Cross Sections Sheet 1 of 3
3706/C033	Car Park Access Cross Sections Sheet 2 of 3
3706/C034	Car Park Access Cross Sections Sheet 3 of 3
3706/C035	Car Park Aisle Cross Sections
3706/C040	Erosion and Sediment Control Plan



FOR
CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
1	Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK
This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
environmental management and design

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked
Approved	RE	Date	5/11/2020	MVE

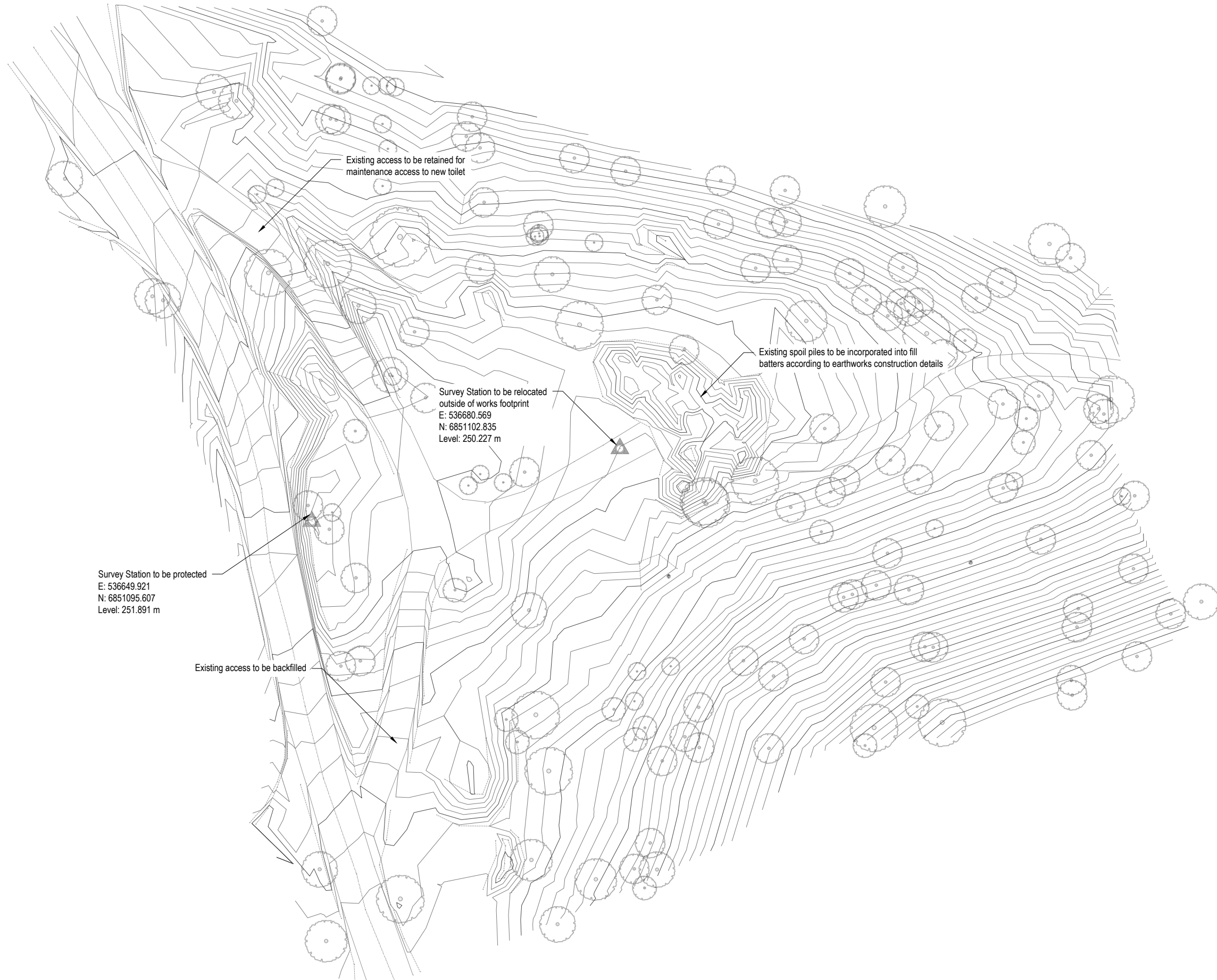
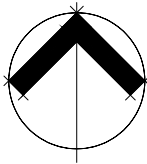
XREFs

Scale

metres Not To Scale

Drawing Title
**Cover Sheet, Locality and
Drawing Schedule**

Drawing Number
3706/C000



FOR
CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
1	Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.



Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

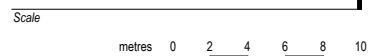
www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

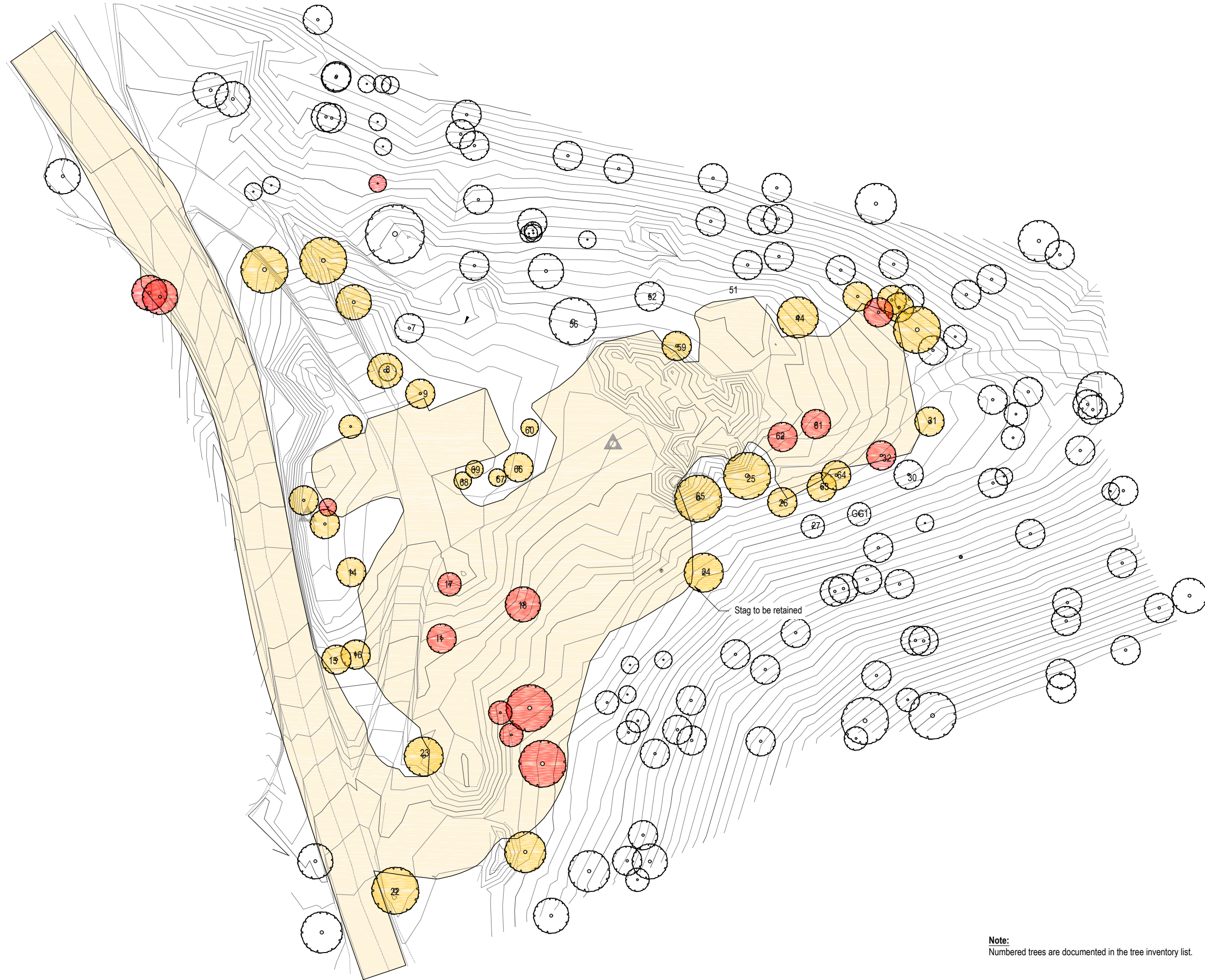
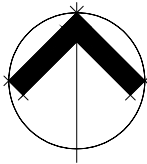
Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	5/11/2020	MVE	
XREFs					



Drawing Title
Existing Site Layout

3706-1014
Drawing Number
3706/C001
Revision



- LEGEND**
- Existing contours
 - Proposed works footprint
 - Existing tree
 - Tree requiring protection
 - Tree identified for removal - see final plan C011 p.6

Existing contours are at 0.1m intervals

FOR
CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
1	Issue for Construction	10/02/2021	BWH	RE	RE
<i>Amendments</i>					

© GeoLINK
This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
environmental management and design

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	5/11/2020	MVE	
XREFs					
Scale					
metres 0 2 4 6 8 10					

Note:
Numbered trees are documented in the tree inventory list.

Drawing Title
**Tree Protection and
Removal Plan**

Drawing Number
3706/C002

Revision
3706-1014

General

- Unless otherwise noted, all construction works associated with the provision of this project shall be carried out in accordance with the relevant design specifications and standard drawings of Tweed Shire Council.
- These drawings shall be read in conjunction with all other consultant's drawings and specifications. All discrepancies shall be referred to the supervising engineer before proceeding with the work.
- These drawings shall be read with full consideration of all the specifications, acts, regulations, standards, codes of practice and guidelines, both specifically referred to herein and implied, and with other such written instructions as may be issued during the course of the project. The contractor is responsible for ensuring they, and all site workers as necessary, have access to the relevant specifications, acts, regulations, standards, codes of practice and guidelines and are aware of the requirements and obligations set out therein.
- All materials and workmanship shall be in accordance with the relevant and current Australian Standards, by-laws and ordinances of the relevant building authorities, and local government specifications.
- All dimensions shown shall be verified by construction workers on site. The drawings shall not be scaled for dimensions.
- Unless otherwise noted all levels and dimensions are in metres.

General Erosion and Sediment Control Notes

- All erosion and sediment controls are to be in accordance with the *Soils and Construction Volume 1 - Managing Urban Stormwater 4th Ed.* (the 'Blue Book').
- These notes and accompanying plans are to be read in conjunction with any relevant engineering plans, and any other written instructions issued in relation to development on site.
- All sub contractors are to be informed of their responsibilities in relation to erosion and sedimentation.
- Accidentally disturbed areas would be stabilised and/or re-vegetated or secured with geofabric as soon as practical after the damage has occurred;
- Work are to cease if any pollution problems are suspected or detected.
- A spill containment kit, including equipment to address both terrestrial and aquatic spills, would be available at all times. Staff would be trained in the effective deployment of the spill containment kit.
- Safety issues must be considered at all times; incorporate traffic control devices to the satisfaction of the superintendent.

Timing of Works

- Works are to be carried out wherever possible during the cooler months, when rainfall events occur less frequently.
- The weather is to be monitored during the proposed period of works. Works would be scheduled outside of forecasted significant rain events and postponed during unforeseen rain events.
- Pavement formations and any excavation works are to be scheduled outside of average high rainfall periods.
- Works would cease and all sediment control measures checked and repaired or re-installed (if required) if heavy rainfall was forecast.
- Sediment control features would be checked as soon as practical (within 24 hours) after significant rainfall events.

Construction Staging

Works are to be undertaken in the following order. One stage must be complete prior to the next stage being commenced.

1. Site Establishment

Prior to the commencement of any works on site, the following erosion and sediment control works must be carried out:

- Construct a suitably stabilised site access comprising Alternative 1 or 2 from the details sheet, minimum 15 m in total length excluding grid, and a maximum of 3 m wide. The access is to be flanked with barrier fencing to ensure it is not bypassed during construction.
- Install clearly visible barrier fencing to contain construction works and delineate no-go zones.
- Construct the temporary and permanent clean water diversion drains and stabilise.
- Establish stockpile areas for spoil material

2. Site Preparation:

- Commencement of civil works may only begin when all erosion and sediment controls are correctly installed.
- Preparation works may then proceed, including approved clearing of vegetation, stripping of topsoil, and stockpiling materials.
- Stockpiles are to be constructed in accordance with *The Blue Book* and these notes.

3. Civil Works:

- As much as possible, works are to be carried out in stages to minimise disturbed areas exposed to erosion.
- Only disturb land when it is absolutely necessary.
- Stabilise disturbed land as soon as practicable e.g. with grass seeding.
- Works shall include pavement preparation and construction, laying of pipes for services etc.
- Ongoing maintenance of all erosion and sediment controls shall extend for the duration of construction works.
- Ensure stormwater runoff from all disturbed construction areas drains to appropriate sediment control devices.
- As drainage inlet structures are constructed, they are to be protected with appropriate sediment control.

4. Site Decommission:

- On completion of works, completed areas are to be decommissioned. Only once the site is suitably stabilised and rehabilitated may the erosion and sediment controls be removed.
- Ensure stormwater drainage structures, are free of sediment and debris.
- Sediment and barrier fencing is to remain in place until a suitably qualified person deems the erosion and sedimentation risk is low enough to warrant its removal.
- All erosion and sediment controls are to be maintained in accordance with these notes for the full duration of their installation. Failure to do so may result in pollution of the receiving environment.
- For the purpose of these plans, stabilised shall be defined as 70% permanent soil coverage over all upstream disturbed land.**

Water Quality

To ensure the receiving sensitive environment is not adversely affected by the proposed works, the following measure shall be put in place:

- No cleaning of tools or equipment shall occur within any drainage line or creek.
- All equipment shall be maintained in good working order and operated according to manufacturer's specifications;
- An incident management and emergency response procedure shall be prepared detailing procedures to be followed in the event of a spill or release of waste.
- Vehicles, machinery and equipment shall be maintained in accordance with manufacturer's specifications in order to meet the requirements of the *Protection of the Environment Operations Act 1997* and associated regulations.
- Vehicles and equipment shall be switched off when not operating.
- No materials are to be placed within areas of potentially high velocity flow.

Waste

- No waste materials will be used in a manner that would pose a risk to public safety and waste generated from the proposed works will be recycled where possible.
- Any contaminated waste generated by the proposed works will be disposed of in accordance with the EPA approved methods of waste disposal.
- All materials, including waste and hazardous materials are to only be stored in approved containers. Regular clearing of waste from the site is to be scheduled.
- The quantity of plant and material kept on site is to be limited to only those immediately required. All plant and materials are to be removed from the site when practical, as soon as construction is complete. Unnecessary storage of fuels, lubricants or other compounds on-site would be avoided and required fuels and other liquids would be stored in small quantities.

Site Inspection and Maintenance

- A self-auditing checklist program will be established by the contractor prior to the commencement of any construction works. The checks will be performed at least weekly, as well as immediately before site closure and immediately after any rainfall even greater than 5 mm in any one 24-hour period.
- A suitably qualified person will oversee the installation and maintenance of all soil and water management works.
- Waste receptacles will be cleared at least weekly, and more frequently if required.
- Areas recently stabilised with grass species will be watered regularly until an effective cover has been established. Re-seed if vegetation growth is inadequate.
- All erosion and sedimentation controls are to be kept in good working order at all times, and repaired/replaced as required.
- Sediment build-up behind sediment fences, within drainage lines and within sediment basins shall be removed and spread on site in locations where further erosion and or sedimentation is unlikely to occur.
- Where practical, foot and vehicular traffic will be kept away from all recently stabilised areas.

Stockpiles

- Place stockpiles a min. of 2 m (preferably 5 m) from existing vegetation, concentrated water flow and roads etc.
- Construct on the contour as low, flat, elongated mounds, less than 2 m high (if possible)
- Earth banks shall be constructed on the upslope side, and sediment fences installed within 2 m downslope.

Check Dams

- Check dams may be used within diversion drains to control velocity. Sediment collection is a secondary purpose.
- Catchment area will be limited to 4 ha.

Sediment Fences

- Shall not be located in areas of concentrated flow.
- Are to be installed along the contour with a max. catchment area 0.6 ha per 100 m length of fence.
- Woven fabrics are to be used.
- Where fences need to be located across the contour the layout shall conform to 'typical layout across grade'.
- Fences are required 2 m min. from toe of cut or fill batters, where not practical, one fence can be at the toe with a second fence 1 m min. away. Fence should not be located parallel with toe if concentration of flow will occur behind the fence.
- Wherever possible, construct the sediment fence from a continuous roll. To join fabric, either: a) attached each end to individuation stakes, hold the stakes together, rotate the stakes 180°, then drive the two stakes into the ground or b) overlap the fabric to the next support post.
- Both ends of the fence should be turned up the slope a minimum of 1.5 m to minimise the risk of flow bypassing around the ends of the fence.
- Returns are to be spaced at 20 m (max.) if fence is located along the contour, otherwise 5 to 10 m depending on the upstream slope.
- At least 300 mm of fabric must be buried in either a 200 mm deep trench or under a continuous 100 mm high layer of sand or aggregate (not soil).
- Sediment fences are to be braced for long-term stability. Spill-through weirs are to be incorporated at intervals of 20 - 30 m with rock rubble scour protection on the down stream side to control overflow.
- Barrier and sediment fencing are to be located no more than 5 m (2 m desirable) from construction activities, to ensure disturbed land is minimised.
- Captured sediment is to be removed and spread on site in locations where further erosion and or sedimentation is unlikely to occur.

Variations in Construction Process

As per *The Blue Book*, a revised Soil and Water Management Plan might be required where:

- Changes occur in slope gradients and drainage paths, with their exact form frequently unpredictable before works start;
- Works continue over an extended period, with revisions being required at the beginning of the second year of operations and further revisions at two-yearly intervals after that. Any revised plans should reflect reasonable new standards applying to them; or
- The desired outcome (e.g. protection of receiving environments) is clearly not being achieved. This plan is only part of the strategy, with other aspects being appropriate implementation, monitoring and corrective action.

Stormwater Drainage

- All stormwater drainage construction shall be in accordance NRLG Specifications C221.
- Drainage pipe 375 diameter and larger shall be precast reinforced concrete supplied and manufactured by an approved pipe manufacturer. Unless otherwise noted on the drawings or specified by the Superintendent concrete pipes shall be a minimum of Class 3.
- Stormwater pipes to be installed in accordance with NRLG standard drawing SW-06, H2 support.
- Unless otherwise noted and detailed on the design drawings drainage structures such as headwalls shall be supplied and constructed by an approved concrete manufacturer specialising in drainage components. Should the contractor undertake to construct headwalls insitu, that have not been detailed, before undertaking any construction the contractor shall submit to the Superintendent engineering drawings endorsed by a suitably qualified engineer detailing the proposed construction details.

Services

- Existing underground facilities may not be shown on the drawings or may be in locations or levels different from those shown on the drawings.
- The contractor shall be responsible for ascertaining the exact location of each underground facility prior to undertaking any work that may damage such facility.

Protection of Existing Vegetation

- Trees and vegetation to be retained within the construction site shall be protected by a fence to minimise disturbance to existing ground conditions within the dripline of the vegetation. The fence shall be constructed as follows:
 - with a minimum height of 1.2 metres,
 - outside the dripline of the tree or vegetation,
 - of steel star pickets at a maximum spacing of 2.0 m with a minimum of 3 strands of plain steel wire.
 - to completely enclose the tree or vegetation, or attached to existing permanent fencing to effectively enclose the tree/s and / or vegetation, except where the trees and / or vegetation are a continuous edge where the fence shall be constructed to encompass the length of the entire continuous edge and be located such as to exclude access to the vegetated area.
 - with orange barrier mesh or similar, attached to the outside of the fence and continuing around it's perimeter.
- The fence/s shall be erected prior to the commencement of any works within 50 metres of vegetation or trees to be retained. The fence/s shall remain and be maintained for the duration of the site clearing and construction works.
- No filling is to be placed within the dripline of a tree/s or vegetation to be retained, so as to cause changes in surface level by more than 100 mm from the existing level except where specific details are provided. Such placed soil / fill shall be finer than that being covered in-situ.

Earthworks and Pavement

- All earthworks are to be carried out in accordance with AS3798, Tweed Shire Council C213 and the conditions contained in the geotechnical report for the site.
- All pavement works to be carried out in accordance with Tweed Shire Council C242, C244 and C245 or NPWS Facilities Manual as appropriate.
- Any minor concrete works to be carried out in accordance with Tweed Shire Council C271
- All works are to be carried out in accordance with other consultants' documentation. Where discrepancies exist they shall be referred to the supervising engineer.
- Strip minimum 100 mm topsoil from all areas prior to filling and stockpile for reuse
- Trim and compact subgrade to min. 95% standard compaction and proof roll to the satisfaction of the supervising engineer prior to undertaking filling
- Any changes in surface condition of subgrade should be gradual, with existing and imported subgrade material ripped and blended prior to compaction to achieve a smooth transition.
- Fill is to be benched into the existing batter with a minimum 0.5 m overlap.
- Topsoil and grass seed or turf as required to be applied to all finished surface batters.

Structures

- Toilet and information shelter structures to be in accordance with NPWS standard drawings TSD-A - TSD-D, FTRS-A - FTRS-D and T17-A - T17-E and Landscape Specification document *Manns Road Car Park & Unicorn Falls Day Use Area*.
- Structural footings for toilet and information shelter to be designed and certified by a practicing structural engineer.
- Allowable bearing pressure for design of footings to be 200kPa.

FOR
CONSTRUCTION

1	Issue for Construction	10/02/2021	BWH	RE	RE
Rev.	Description	Date	Des.	App.	Chk.
<i>Amendments</i>					

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.



Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au

Email: info@geolink.net.au

quality solutions sustainable future

Project Title

NPWS Unicorn Falls

Client

NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	5/11/2020	MVE	
XREFs					
Scale					
metres 0 2 4 6 8 10					

Drawing Title

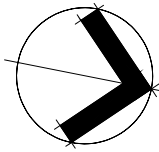
Construction Notes

3706-1014

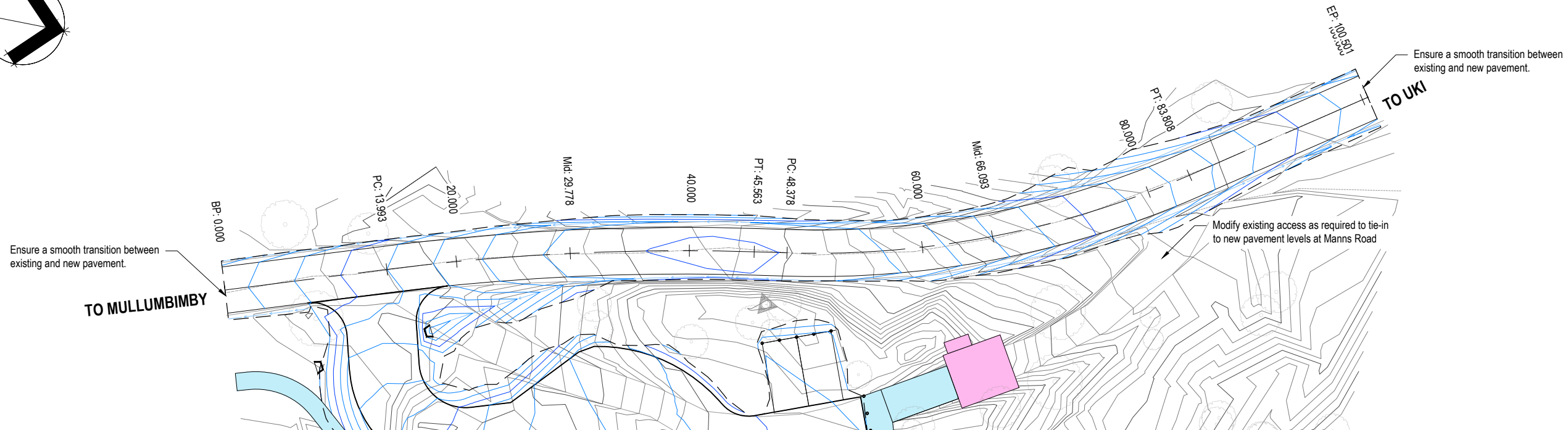
Drawing Number

Revision

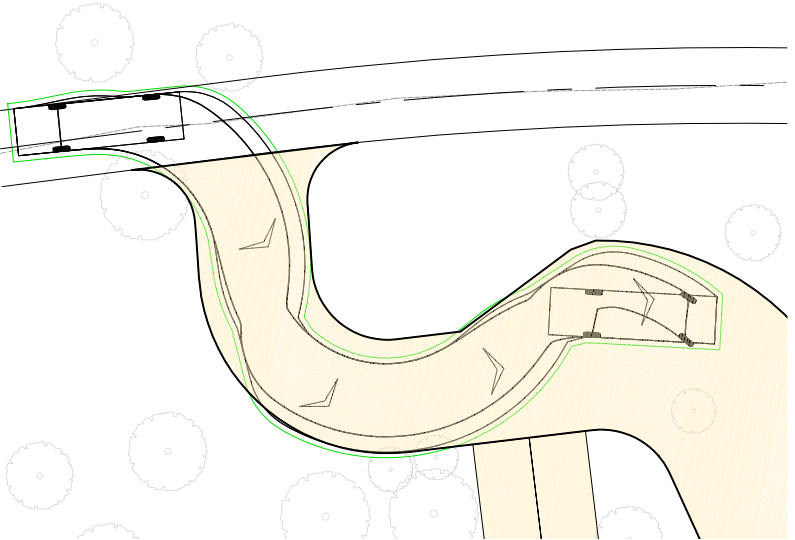
3706/C003



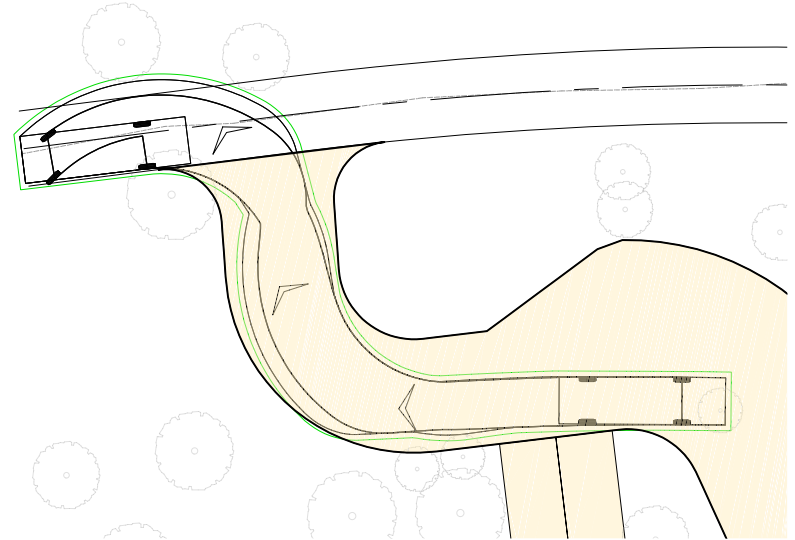
- LEGEND**
- Existing contours (0.2 m interval)
 - Proposed contours (0.2 m interval)
 - Proposed Pavement
 - Proposed roofed structure
 - Proposed footpath
 - Proposed limit of works
 - Indicative bollard locations
 - Proposed pipe culvert



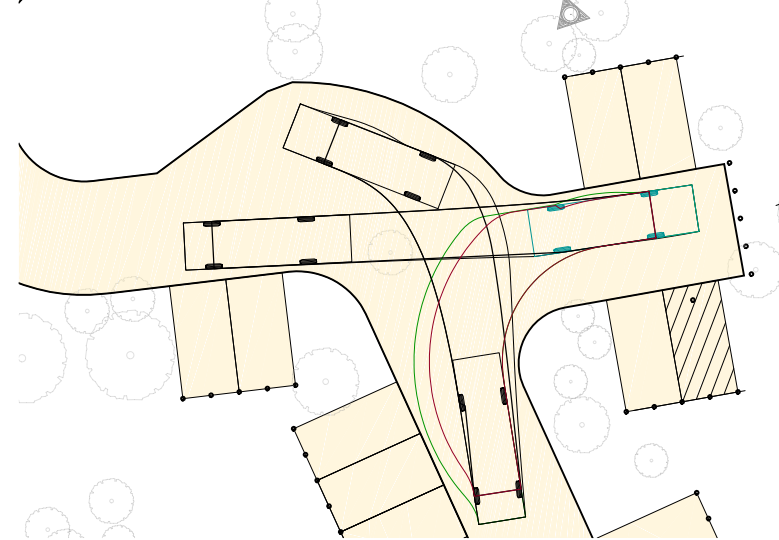
Medium Rigid Vehicle (MRV) Entry Manoeuvre



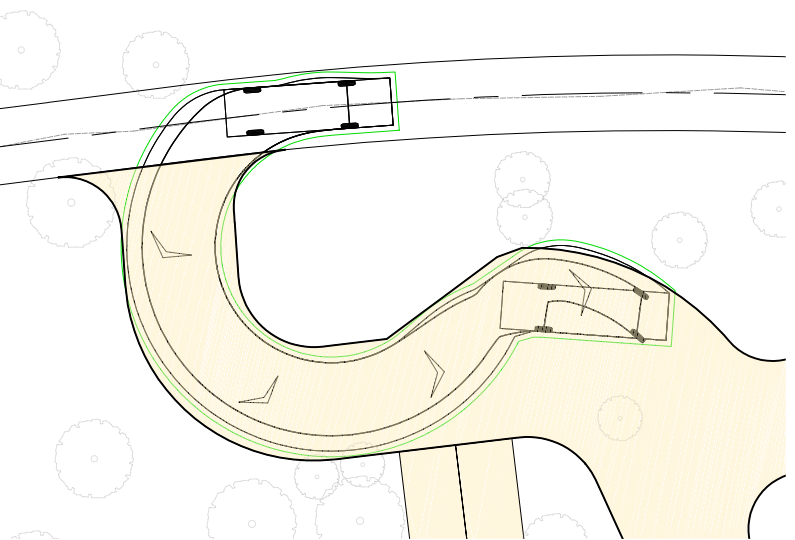
Medium Rigid Vehicle (MRV) Exit Manoeuvre



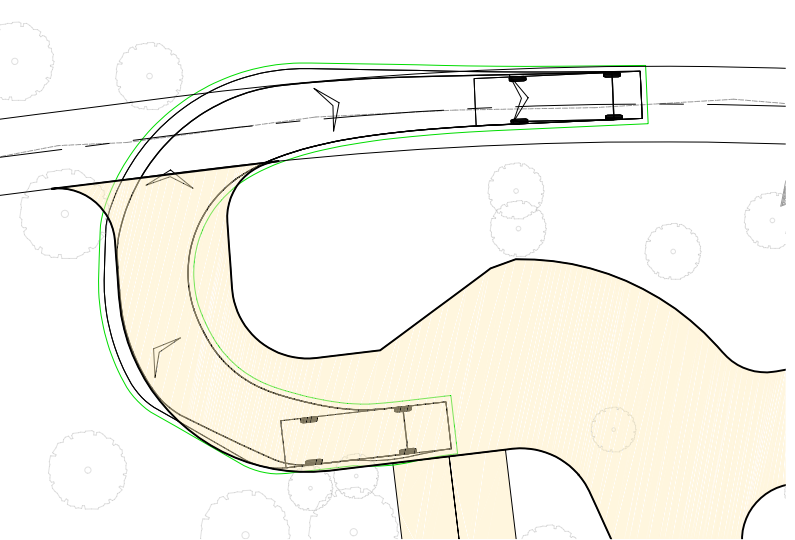
Medium Rigid Vehicle (MRV) Three-Point Turn Exit Manoeuvre



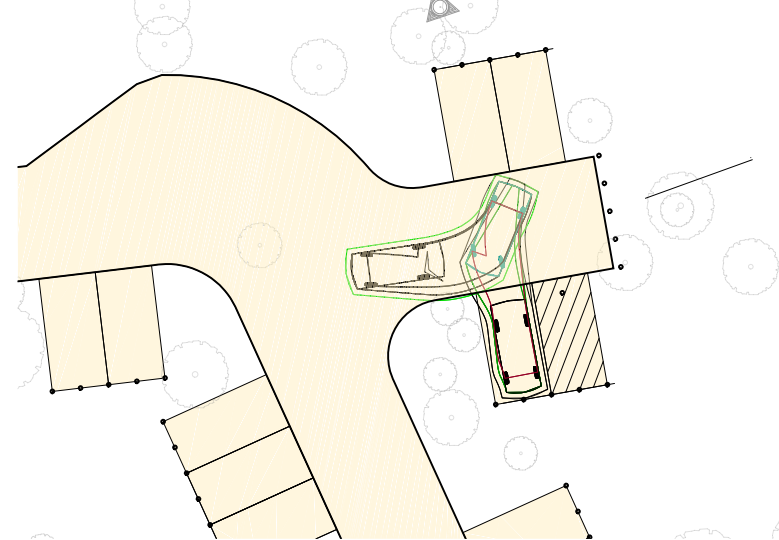
Medium Rigid Vehicle (MRV) Entry Manoeuvre



Medium Rigid Vehicle (MRV) Exit Manoeuvre



85th percentile Vehicle (B85) Parking Exit Manoeuvre



**FOR
CONSTRUCTION**

1 Issue for Construction	10/02/2021	BWH/RE	RE
Rev. Description	Date	Des. App.	Chk.
Amendments			

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
environmental management and design

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

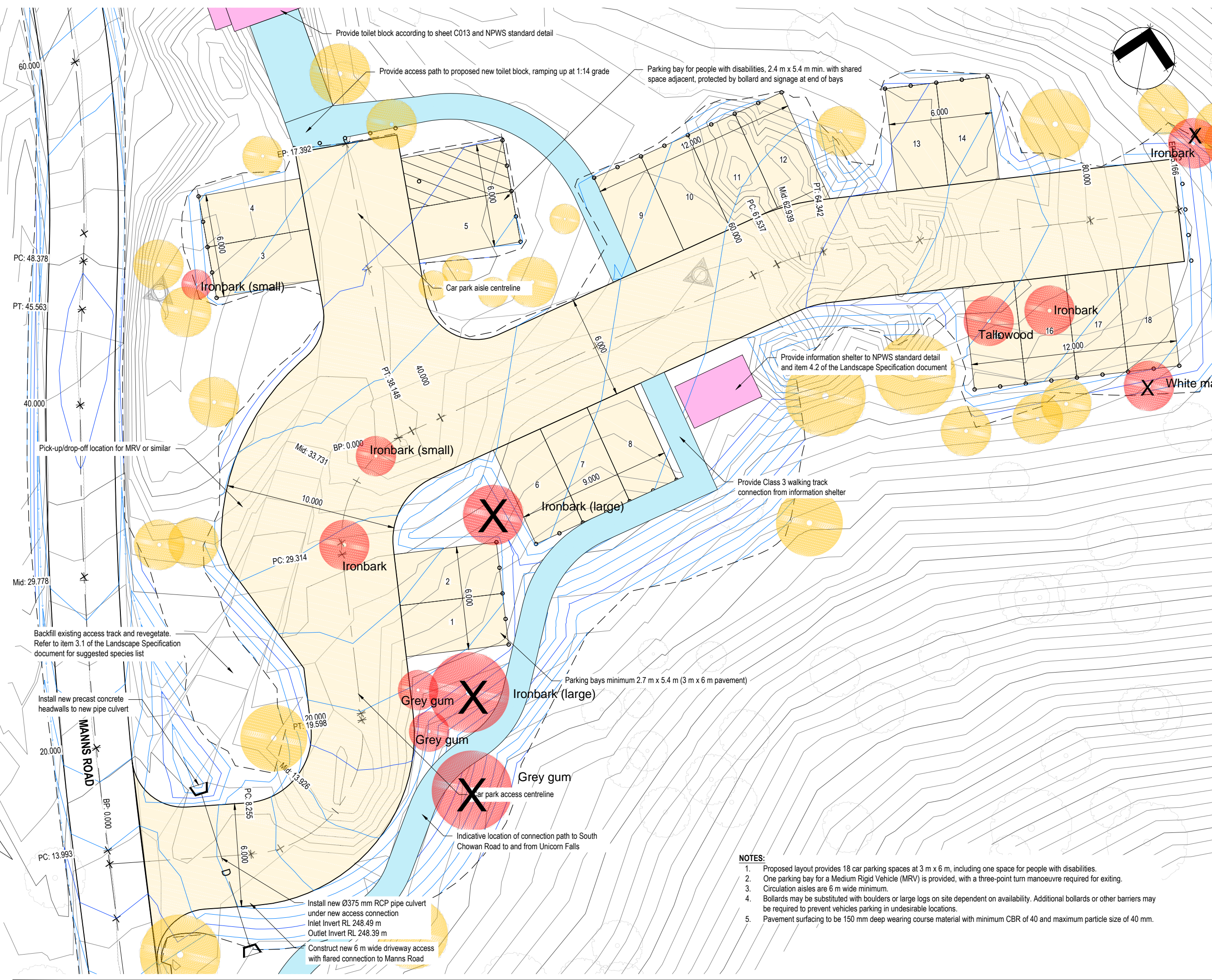
Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	5/11/2020	MVE	
XREFs					
Scale					

metres 0 1 2 3 4 5

Drawing Title
**Manns Road Civil Works Layout
and Manoeuvring Plan**

Drawing Number
3706/C010



LEGEND

- Existing contours (0.2 m interval)
- Proposed contours (0.2 m interval)
- Proposed Pavement
- Proposed roofed structure
- Proposed footpath
- Proposed road centreline
- Proposed limit of works
- Indicative bollard locations
- Proposed pipe culvert
- Proposed drainage swale
- Tree requiring protection
- Tree requiring removal
- Trees to be retained using methodology on GeoLINK 3706/C030

FOR CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
2	Added tree details	12/05/2021	BWH	RE	RE
1	Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6587 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

GeoLINK
environmental management and design

quality solutions sustainable future

Project Title

NPWS Unicorn Falls

Client

NPWS

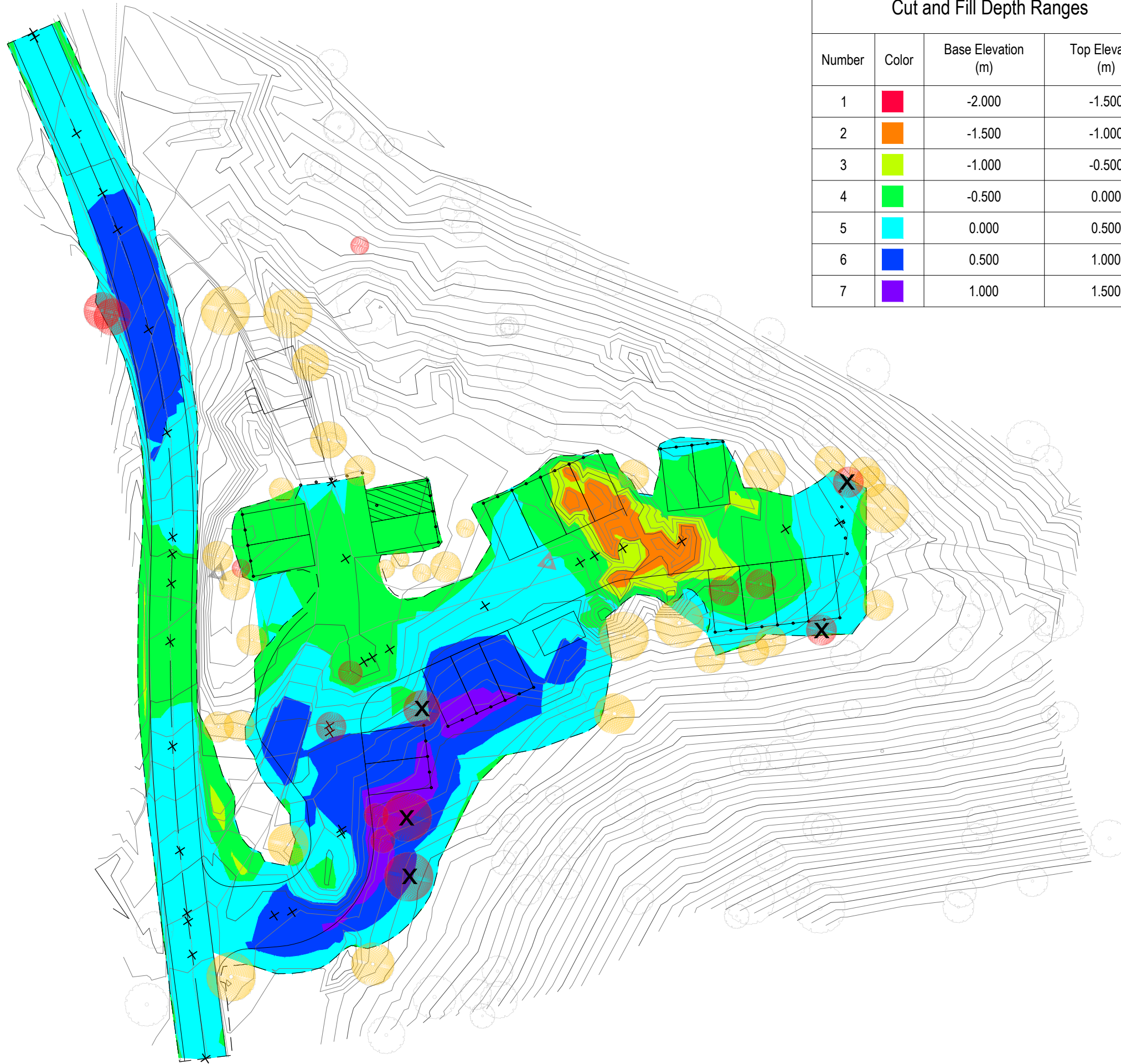
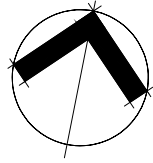
Designed	BWH	Drawn	BWH	Checked
Approved	RE	Date	5/11/2020	MVE

XREFs

Scale

metres 0 1 2 3 4 5

- NOTES:**
1. Proposed layout provides 18 car parking spaces at 3 m x 6 m, including one space for people with disabilities.
 2. One parking bay for a Medium Rigid Vehicle (MRV) is provided, with a three-point turn manoeuvre required for exiting.
 3. Circulation aisles are 6 m wide minimum.
 4. Bollards may be substituted with boulders or large logs on site dependent on availability. Additional bollards or other barriers may be required to prevent vehicles parking in undesirable locations.
 5. Pavement surfacing to be 150 mm deep wearing course material with minimum CBR of 40 and maximum particle size of 40 mm.



Cut and Fill Depth Ranges			
Number	Color	Base Elevation (m)	Top Elevation (m)
1	Red	-2.000	-1.500
2	Orange	-1.500	-1.000
3	Yellow	-1.000	-0.500
4	Light Green	-0.500	0.000
5	Cyan	0.000	0.500
6	Blue	0.500	1.000
7	Purple	1.000	1.500

- LEGEND**
- Existing contours (0.2 m interval)
 - Proposed contours (0.2 m interval)
 - Proposed limit of works
 - Tree requiring protection
 - Tree requiring removal
 - Trees to be retained using methodology on GeoLINK 3706/C030

FOR
CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
2	Added tree details	12/05/2021	BWH	RE	RE
1	Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK
 This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
 environmental management and design

Lennox Head Office
 PO Box 119
 Lennox Head NSW 2478
 Tel: 02 6687 7666

Coffs Harbour Office
 PO Box 1446
 Coffs Harbour NSW 2450
 Tel: 02 6651 7666

Armidale Office
 PO Box 1267
 Armidale NSW 2350
 Tel: 02 6772 0454

Lismore Office
 PO Box 229
 Lismore NSW 2480
 Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked	MVE
Approved	RE	Date	5/11/2020		

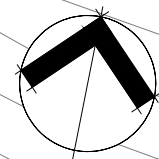
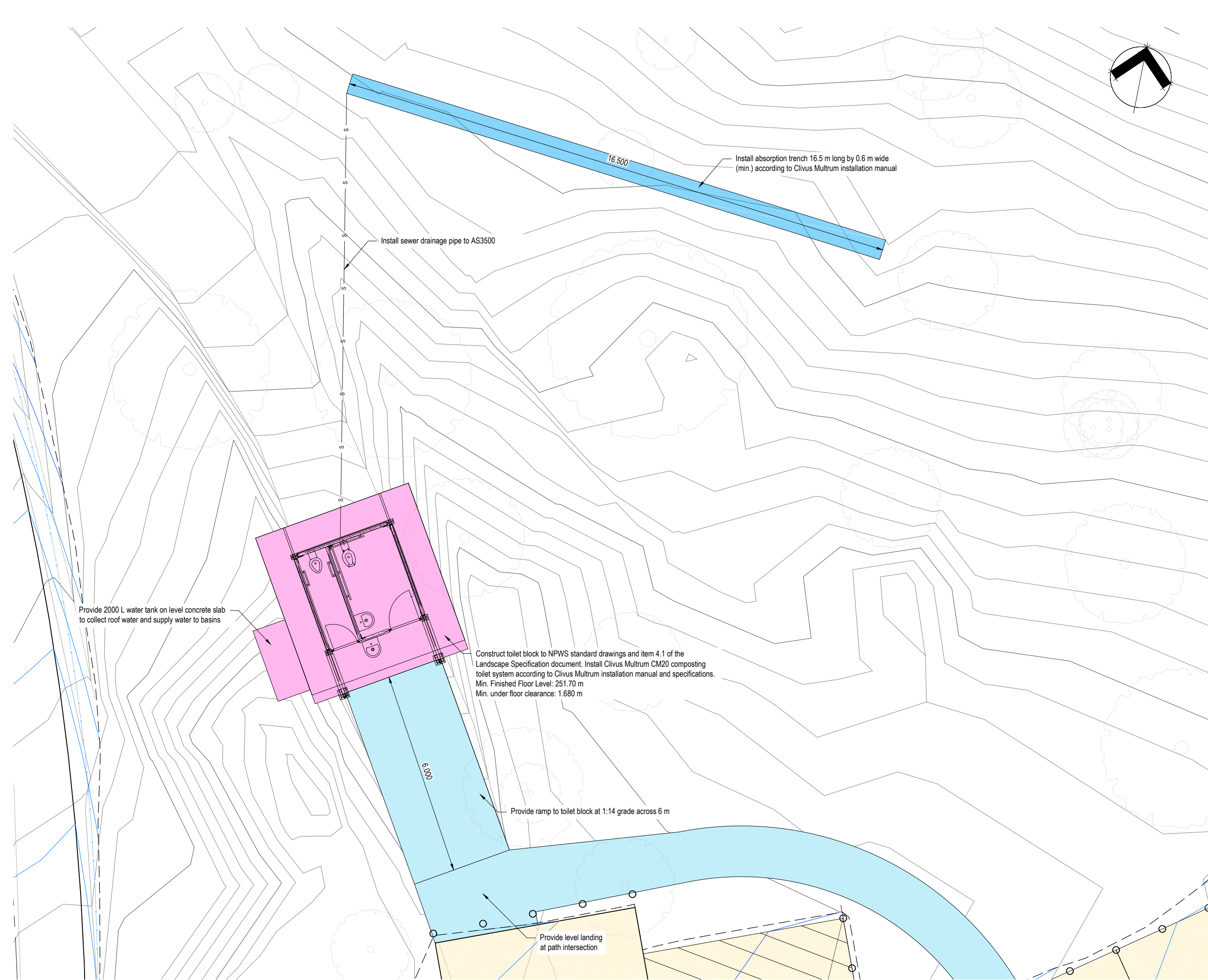
XREFs

Scale

metres 0 1 2 3 4 5

Drawing Title
Earthworks Cut and Fill Plan

Drawing Number Revision
3706/C012 2



- LEGEND**
- Existing contours (0.2 m interval)
 - Proposed contours (0.2 m interval)
 - Proposed Pavement
 - Proposed roofed structure
 - Proposed footpath
 - Proposed absorption trench
 - Proposed sewerage
 - Indicative bollard locations
 - Proposed drainage swale

**FOR
CONSTRUCTION**

Rev. Description	Date	Des.	App.	Chk.
1 Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

GeoLINK
environmental management and design

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	10/02/2021	RE	

XREFs

Scale

metres 0 0.5 1.0 1.5 2.0 2.5

Drawing Title
Toilet Layout

Drawing Number
3706/C013

Revision
3706-1015

Provide 2000 L water tank on level concrete slab to collect roof water and supply water to basins

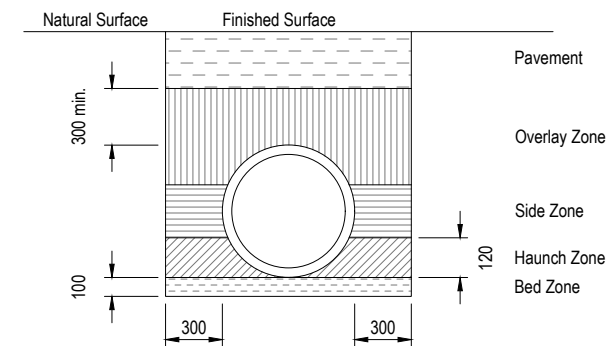
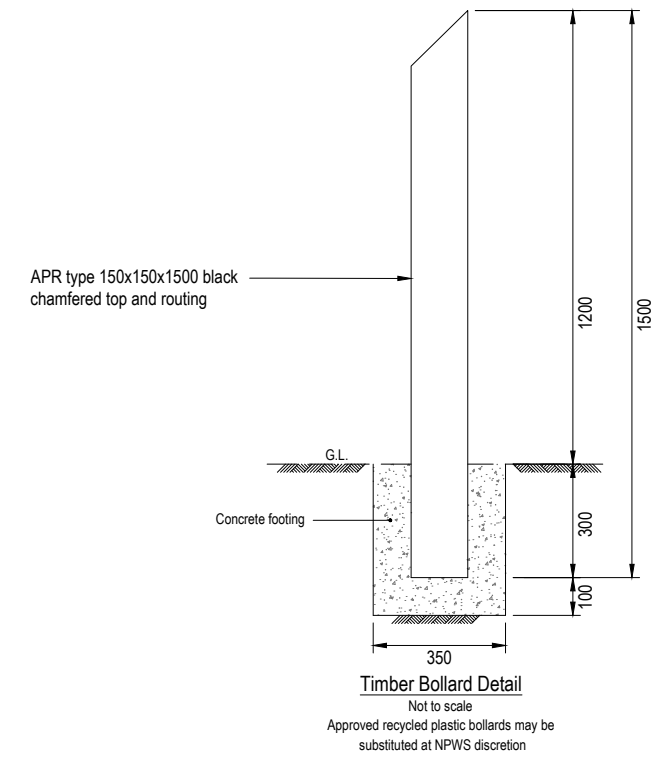
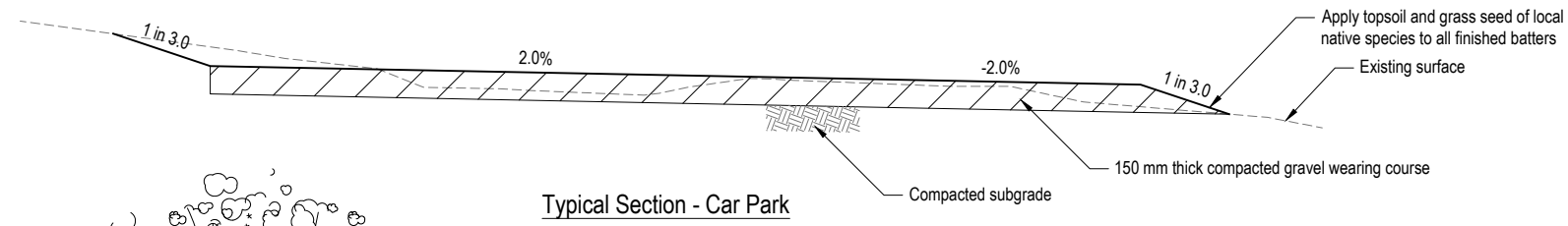
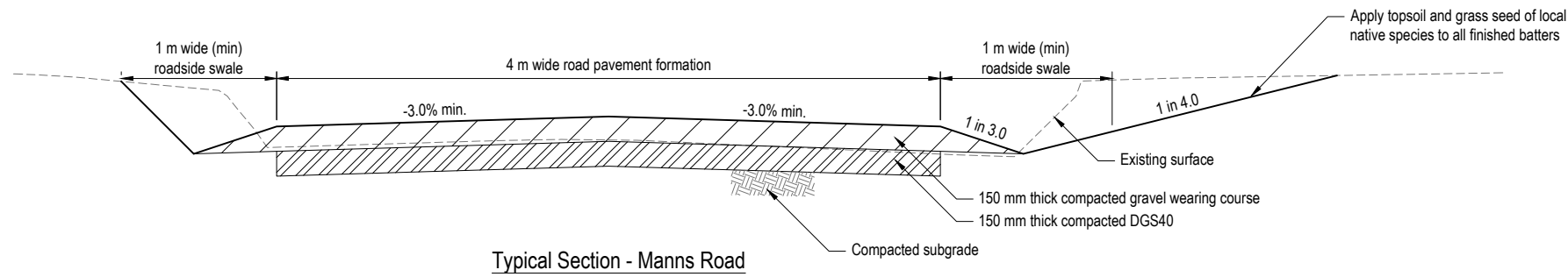
Install sewer drainage pipe to AS3500

Install absorption trench 16.5 m long by 0.6 m wide (min.) according to Clivus Multrum installation manual

Construct toilet block to NPWS standard drawings and item 4.1 of the Landscape Specification document. Install Clivus Multrum CM20 composting toilet system according to Clivus Multrum installation manual and specifications.
Min. Finished Floor Level: 251.70 m
Min. under floor clearance: 1.680 m

Provide ramp to toilet block at 1:14 grade across 6 m

Provide level landing at path intersection



FOR CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
1	Issue for Construction	10/02/2021	BWH	RE	RE

Amendments

© GeoLINK

This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
environmental management and design

Lennox Head Office
PO Box 119
Lennox Head NSW 2478
Tel: 02 6687 7666

Coffs Harbour Office
PO Box 1446
Coffs Harbour NSW 2450
Tel: 02 6651 7666

Armidale Office
PO Box 1267
Armidale NSW 2350
Tel: 02 6772 0454

Lismore Office
PO Box 229
Lismore NSW 2480
Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	10/02/2021	RE	

XREFs

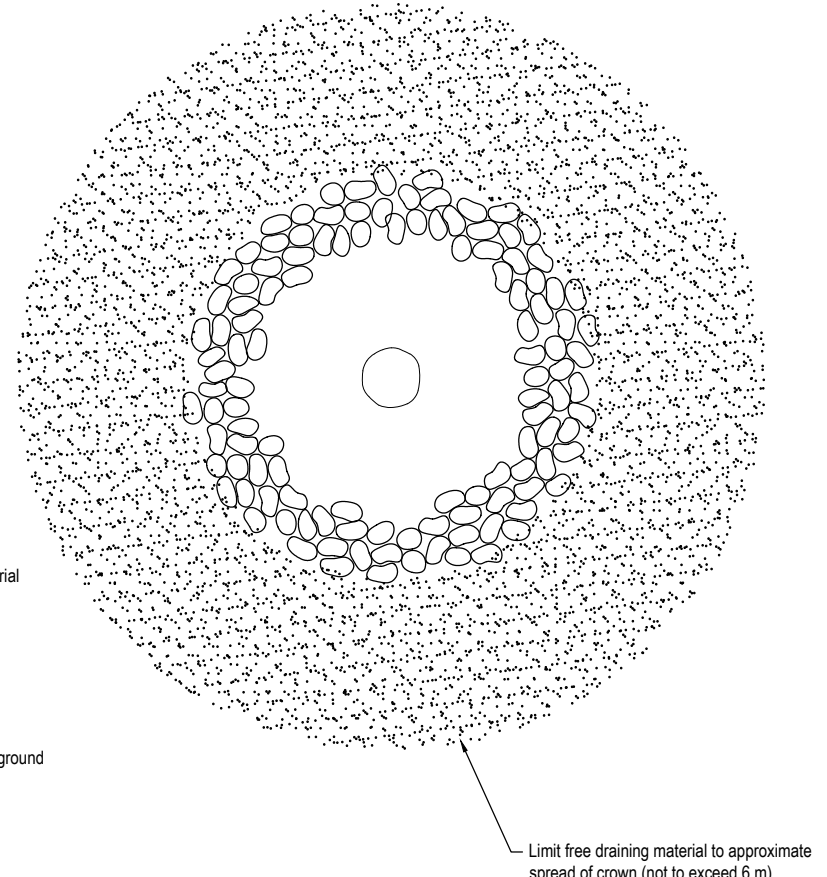
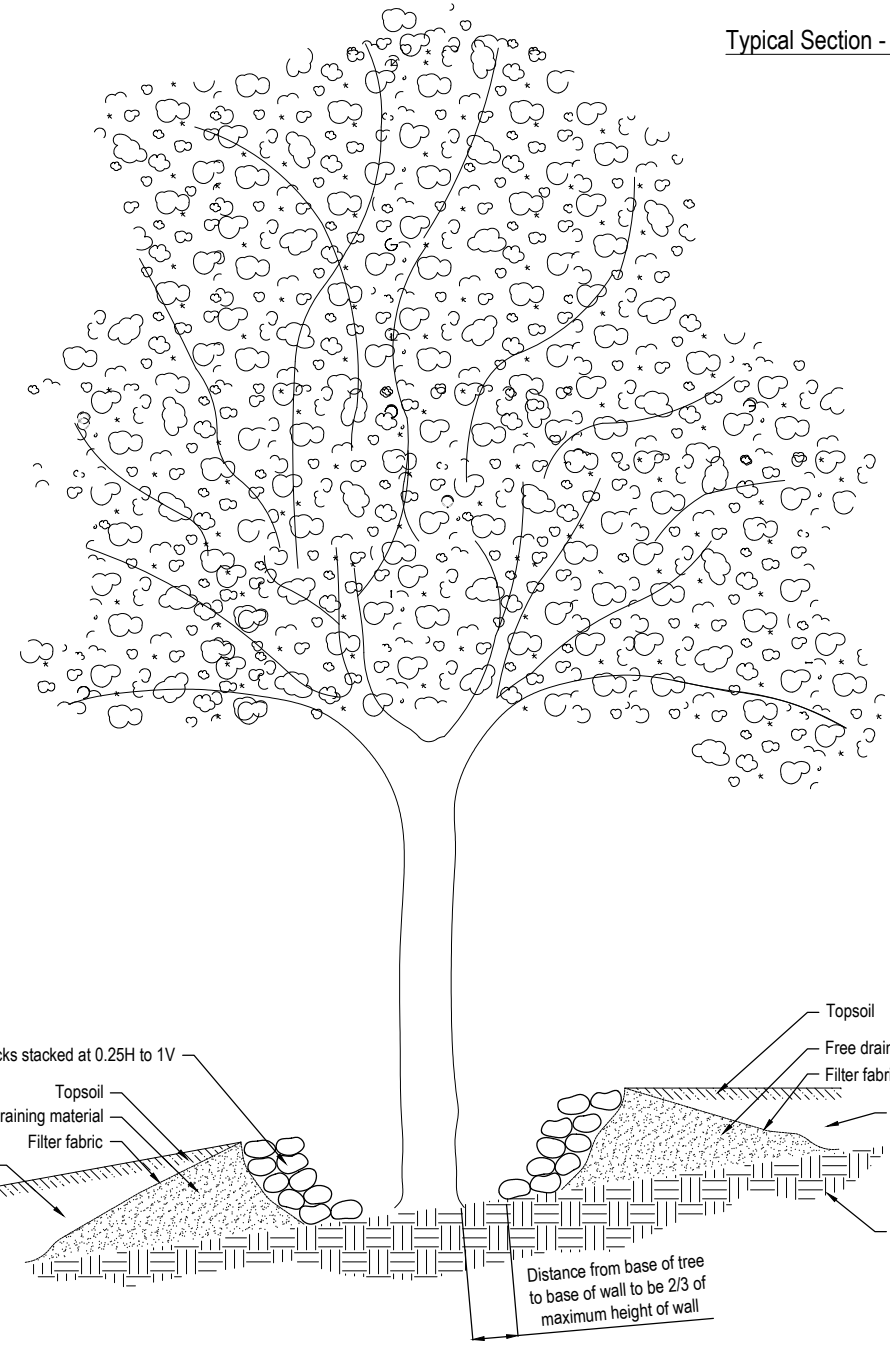
Scale

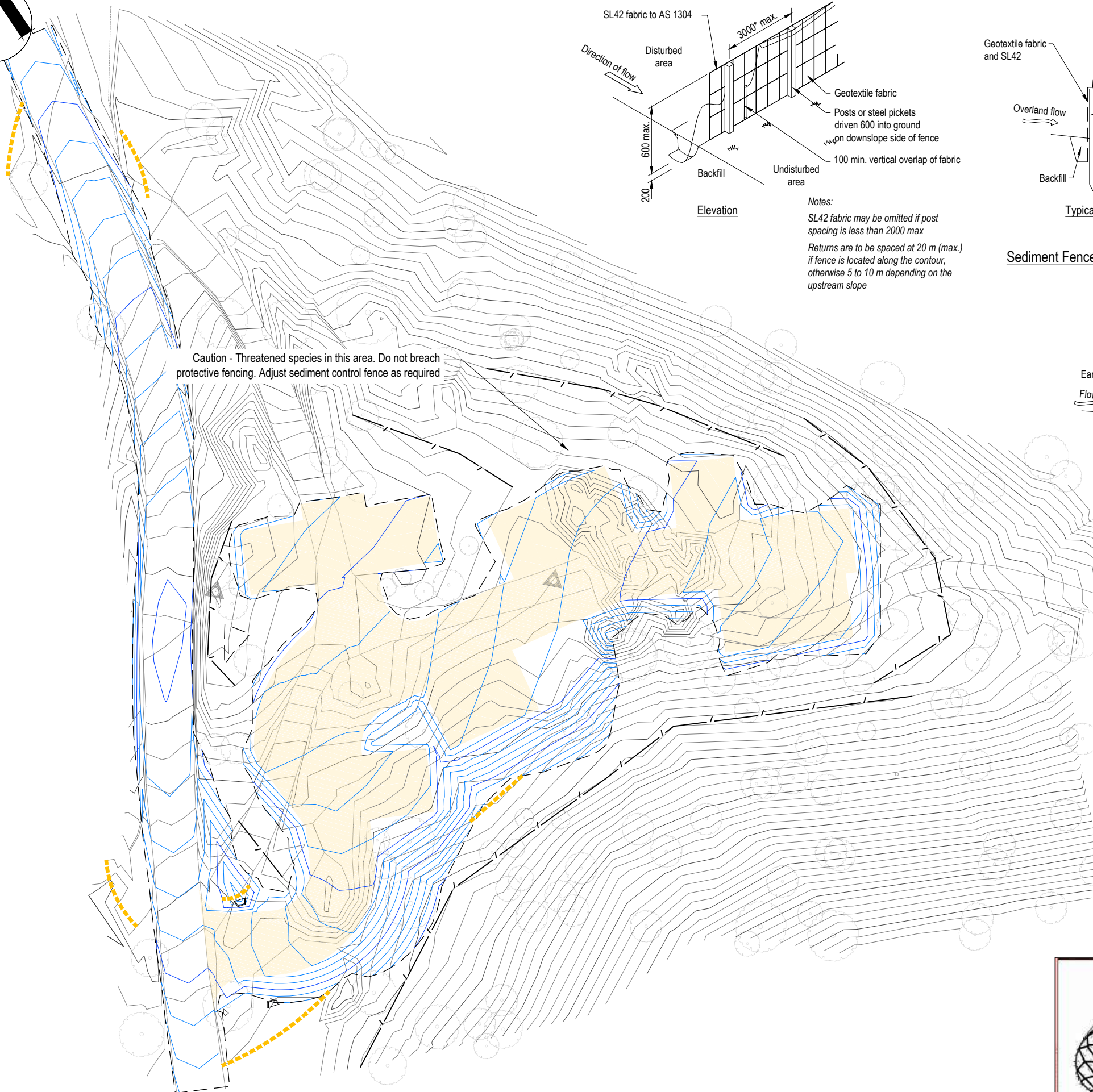
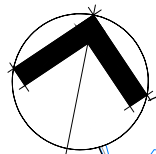
metres 0 0.2 0.4 0.6 0.8 1.0

Drawing Title
Road and Car Park Construction Details

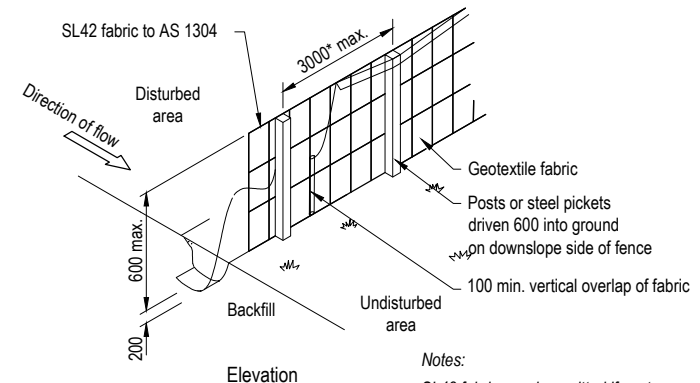
Drawing Number
3706/C030

Revision
1

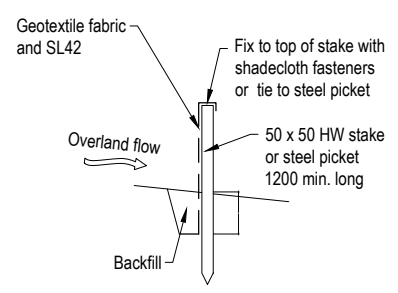




Caution - Threatened species in this area. Do not breach protective fencing. Adjust sediment control fence as required

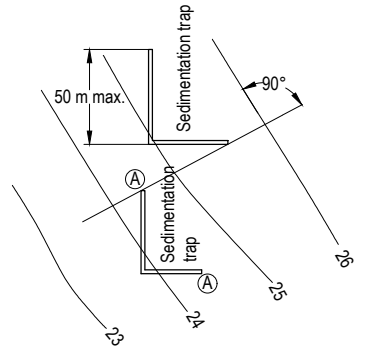


Notes:
 SL42 fabric may be omitted if post spacing is less than 2000 max
 Returns are to be spaced at 20 m (max.) if fence is located along the contour, otherwise 5 to 10 m depending on the upstream slope

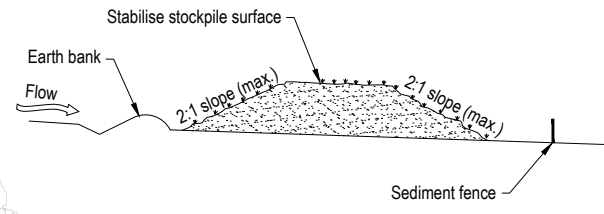


Typical Section

Sediment Fence



Typical Layout Across Grade
 Points 'A' at same elevation



Typical Stockpile Elevation

LEGEND

- Existing contours (0.2 m interval)
- Proposed contours (0.2 m interval)
- Proposed limit of works
- Proposed sediment fence
- Proposed coir log

FOR CONSTRUCTION

Rev.	Description	Date	Des.	App.	Chk.
1	Issue for Construction	10/02/2021	BWH	RE	RE

© GeoLINK
 This drawing must not be relied upon for any purpose other than that for which it was prepared or by any person or corporation other than the referred client.

GeoLINK
 environmental management and design

Lennox Head Office
 PO Box 119
 Lennox Head NSW 2478
 Tel: 02 6587 7666

Coffs Harbour Office
 PO Box 1446
 Coffs Harbour NSW 2450
 Tel: 02 6651 7666

Armidale Office
 PO Box 1267
 Armidale NSW 2350
 Tel: 02 6772 0454

Lismore Office
 PO Box 229
 Lismore NSW 2480
 Tel: 02 6621 6677

www.geolink.net.au Email: info@geolink.net.au

quality solutions sustainable future

Project Title
NPWS Unicorn Falls

Client
NPWS

Designed	BWH	Drawn	BWH	Checked	
Approved	RE	Date	10/02/2021	RE	

XREFs

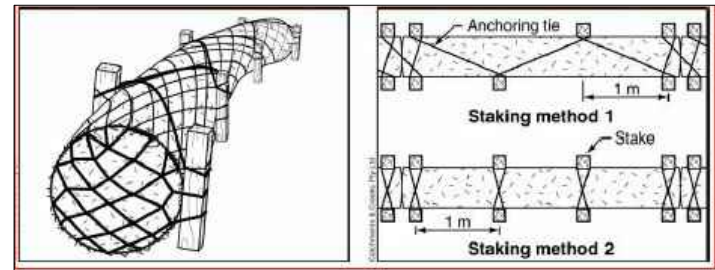
Scale

metres 0 1 2 3 4 5

Drawing Title
Erosion and Sediment Control Plan

Drawing Number
3706/C040

Revision
1



Coir Log
 For installation method refer to specification document item 4.6