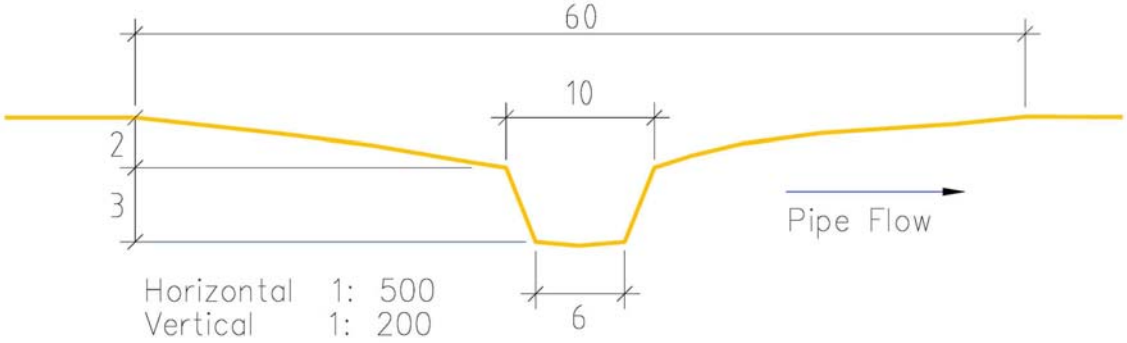
# SUPPLEMENT APPENDIX 1 – WATERCOURSE PROFILES AND PHOTOS

## SANDFLY CREEK (opposite KP 10)

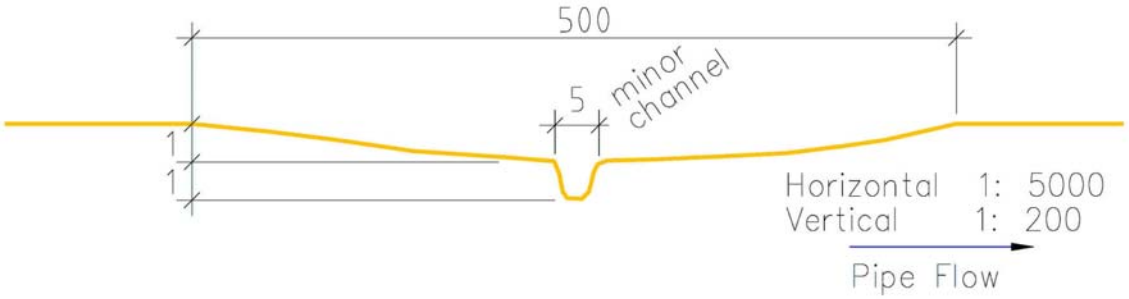
(adjacent to bridge under construction)




## SEASONAL DRAINAGE CHANNEL

(opposite KP 11)

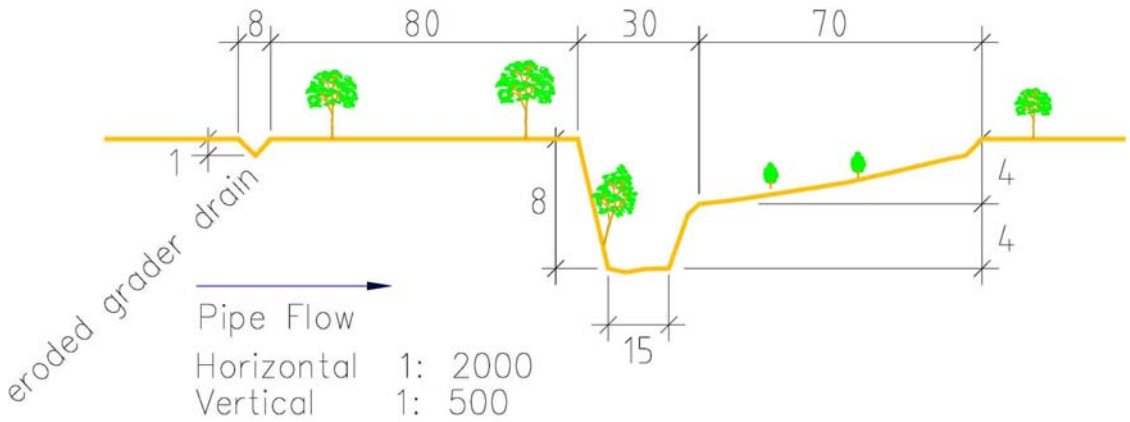
(adjacent to gravel road and tree line)




## DEE CREEK

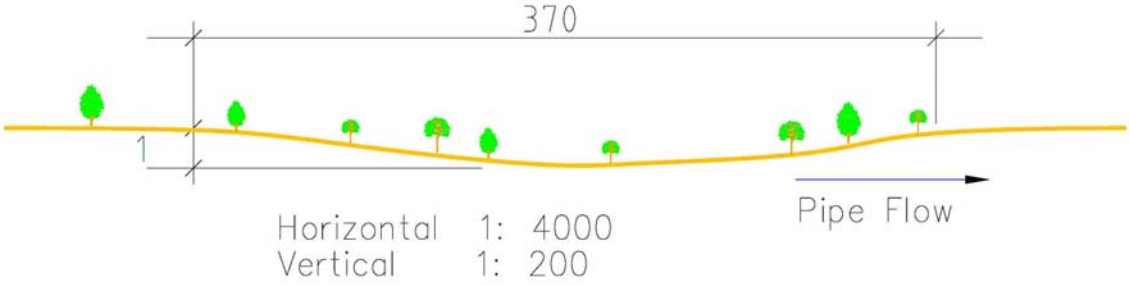
(opposite KP 17)

(adjacent to road crossing)

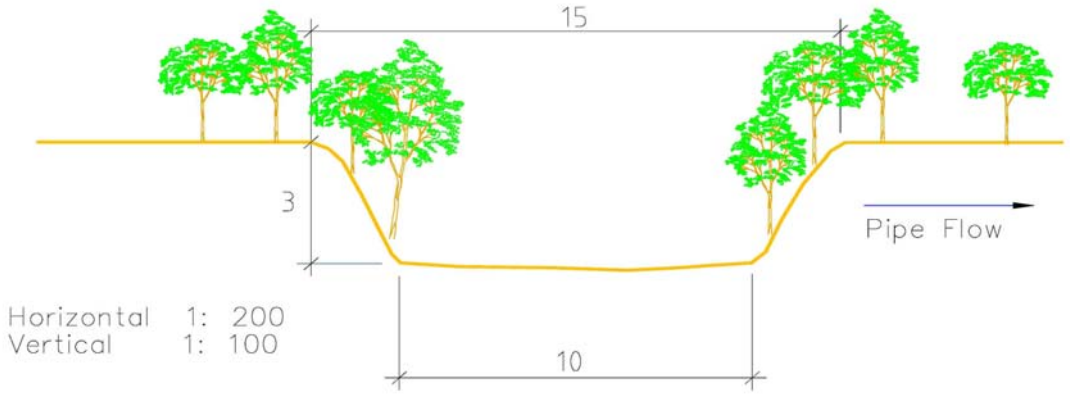



## SEASONAL DRAINAGE CHANNEL

(opposite KP 20)

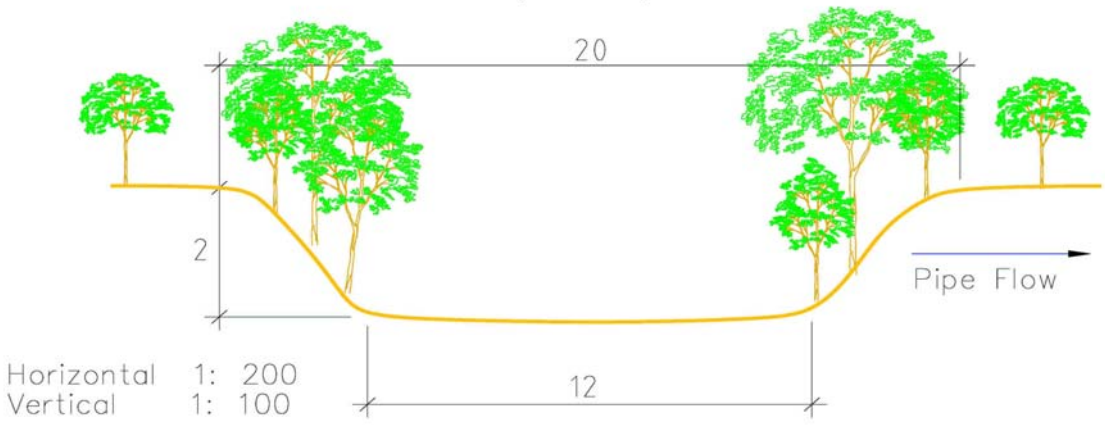



## QUINS CREEK ( KP 33.9)



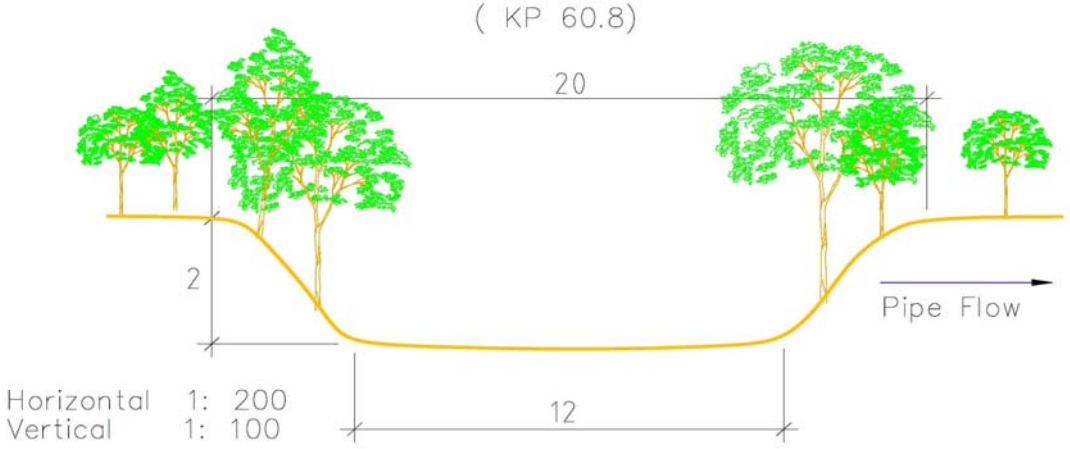

## ANOPHELES CREEK

( KP 55)



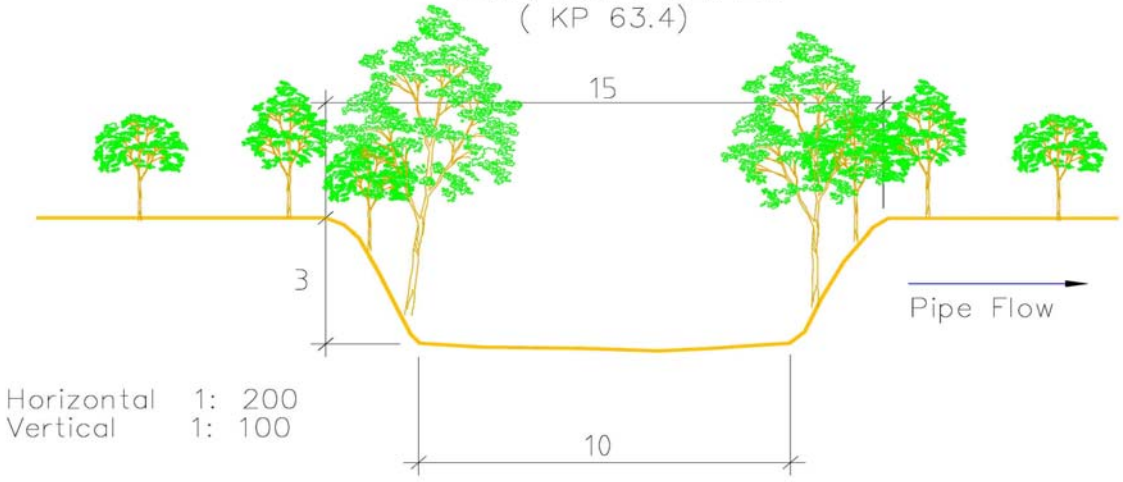

## CREEK

( KP 60.8)

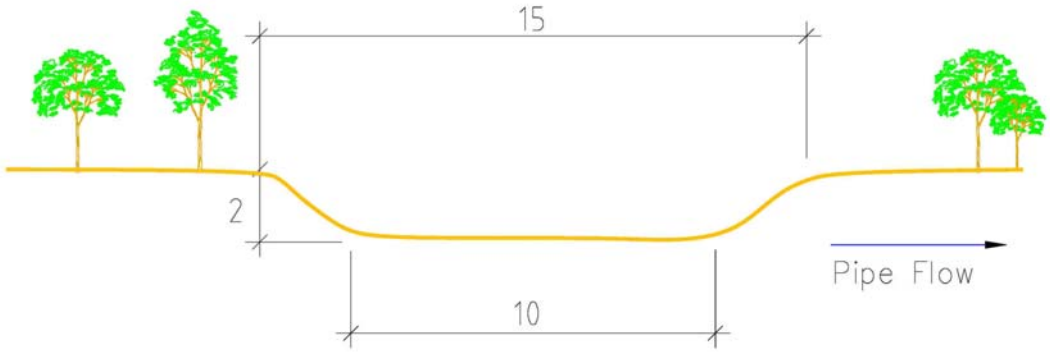



## CHALANYI CREEK

( KP 63.4)

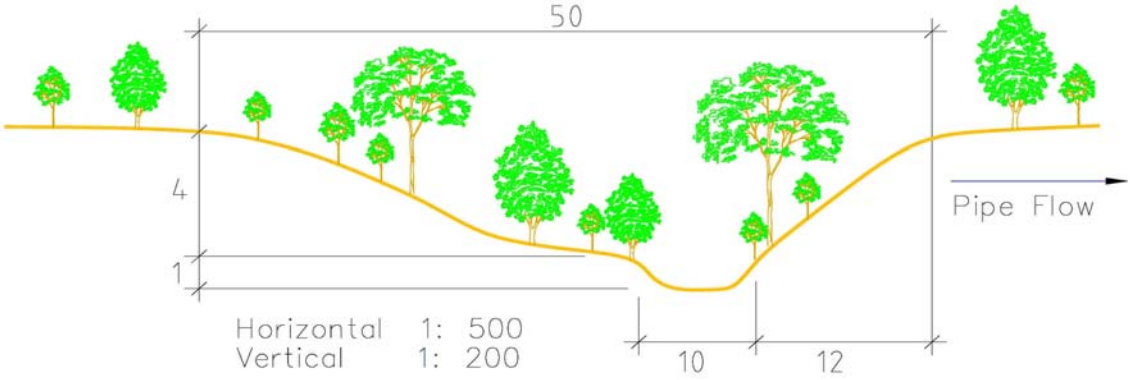



## CREEK
( KP 70.5)



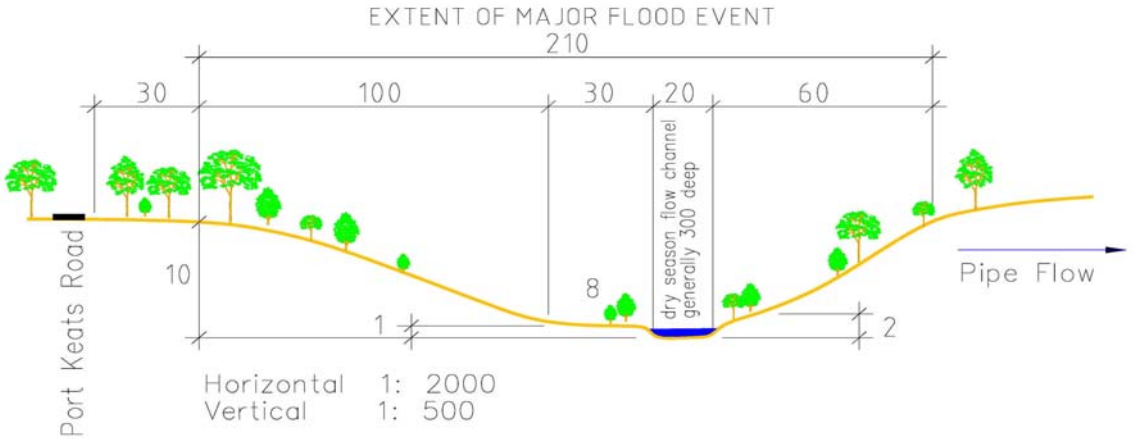

Horizontal 1: 200
Vertical 1: 200

## CORALIE CREEK
(KP74.6)



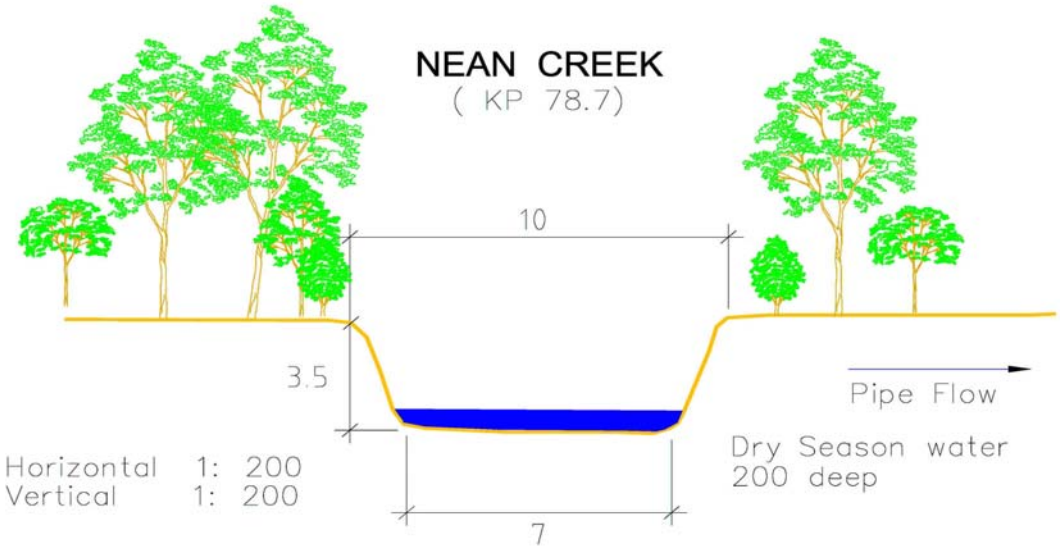

## MOYLE RIVER

(KP 75.4)
(adjacent to Telstra crossing)

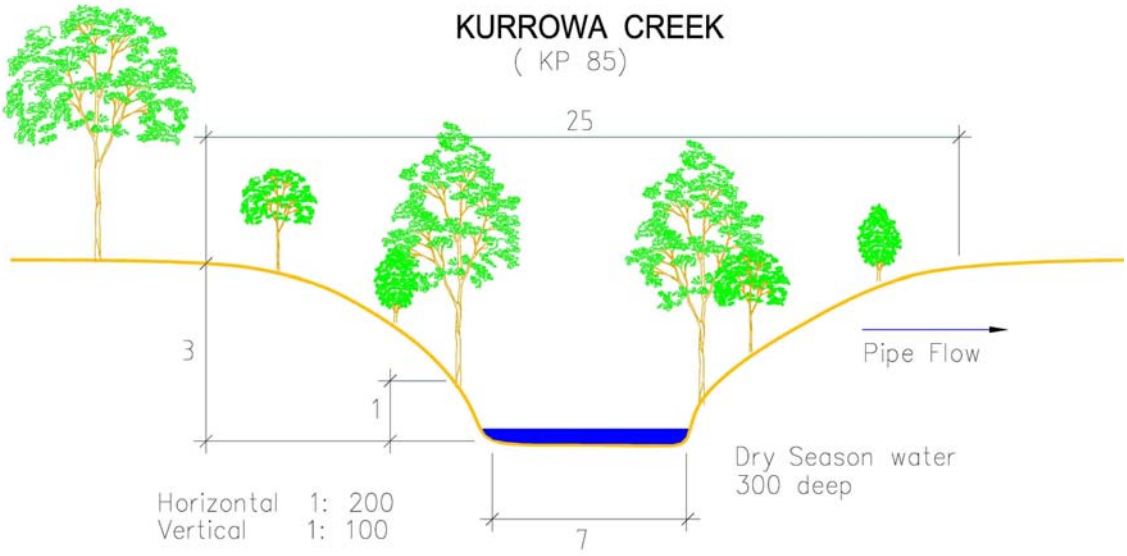



## NEAN CREEK

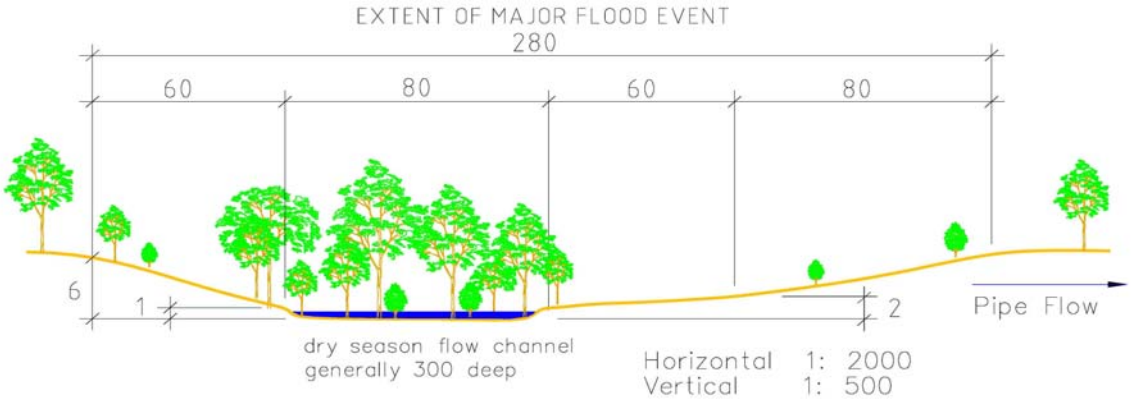
( KP 78.7)




## KURROWA CREEK
( KP 85)

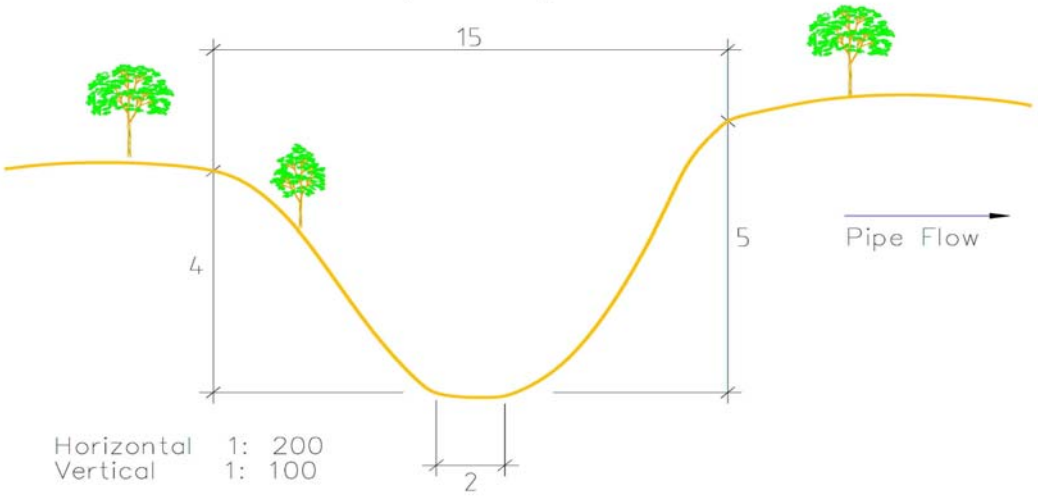



## TOM TURNERS CREEK
(KP 92)



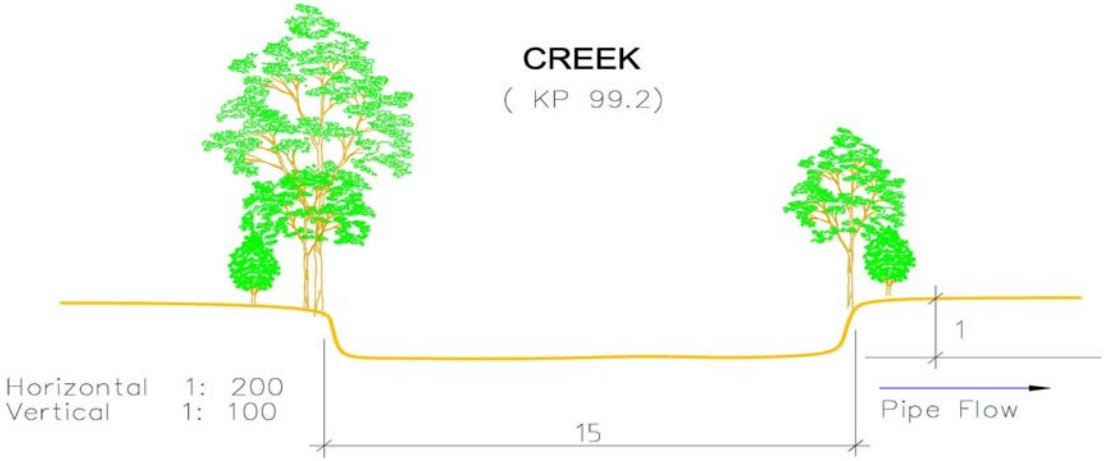

## GULLY

( KP 96.8)



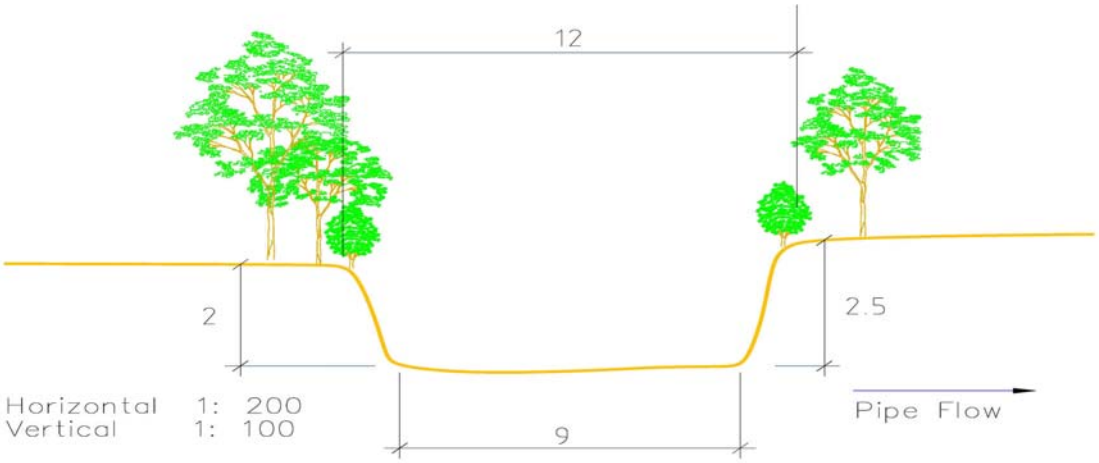

## CREEK

( KP 99.2)



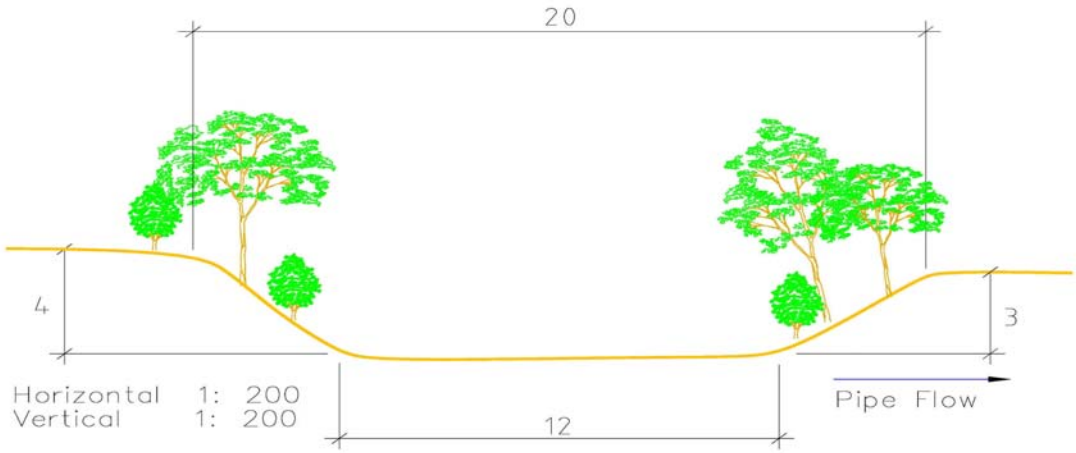

## CREEK

( KP 120.2)



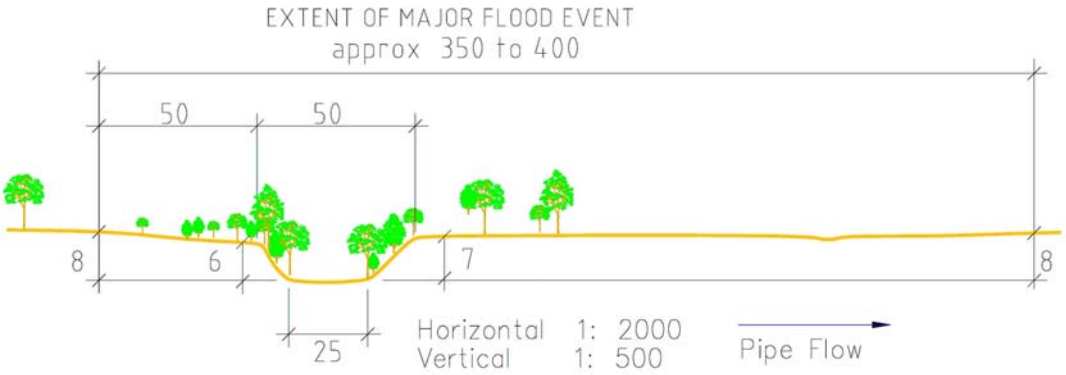

## CREEK

( KP 129.2)



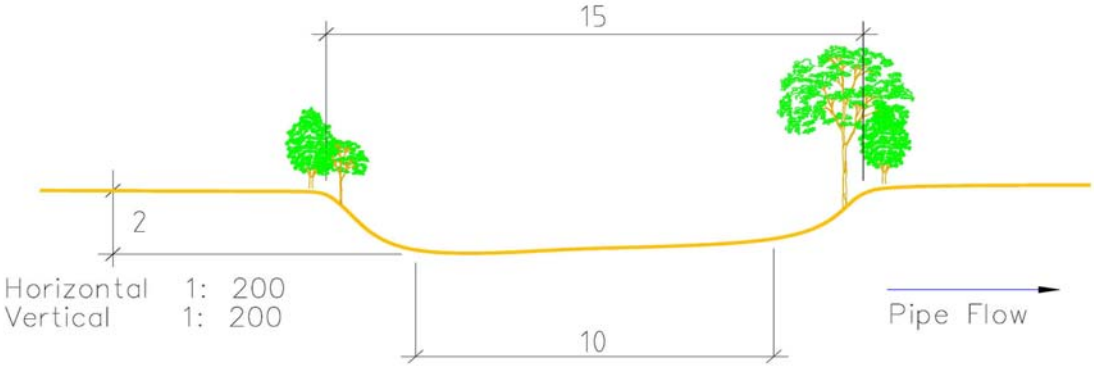

## SANDY CREEK

(KP 132.2)



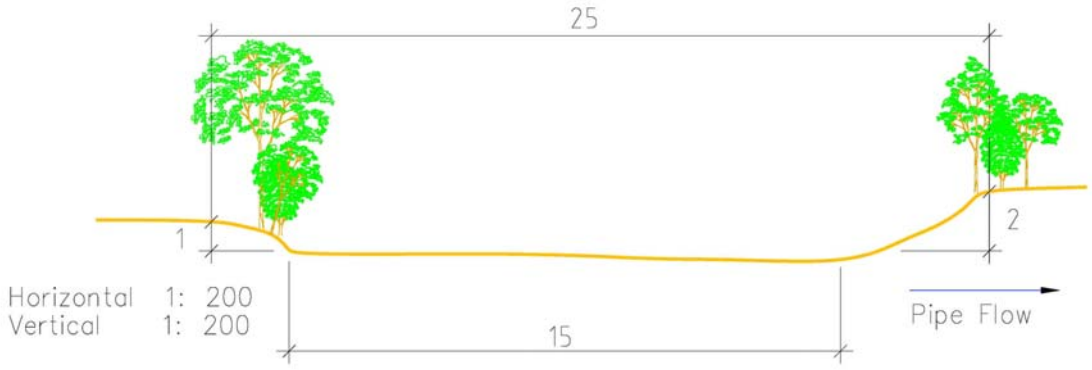

## CREEK

( KP 133.5)




## TI - TREE CREEK

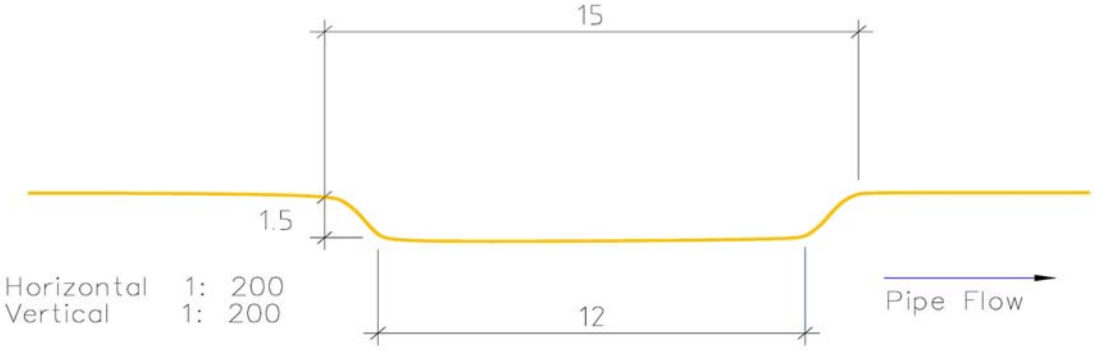
( KP 136)




## CREEK

( KP 146.7)

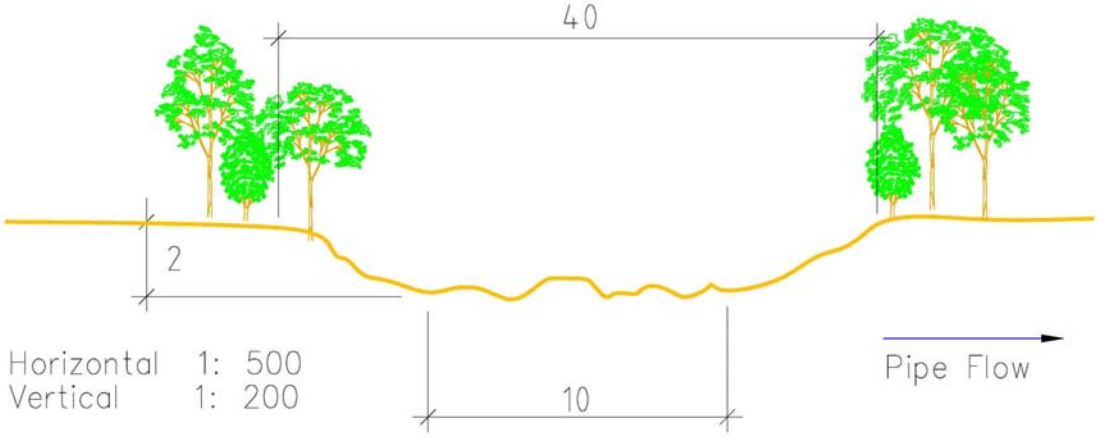
( Restricted between large trees on western bank)




## CREEK

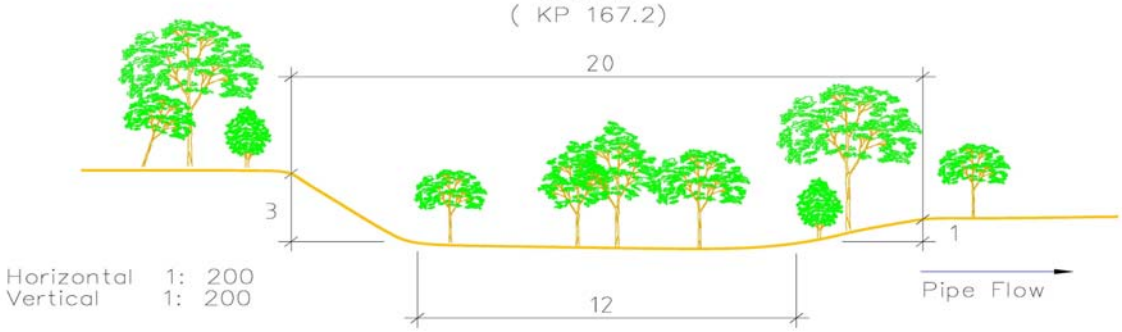
( KP 164.3)

( Sheet Rock Base)



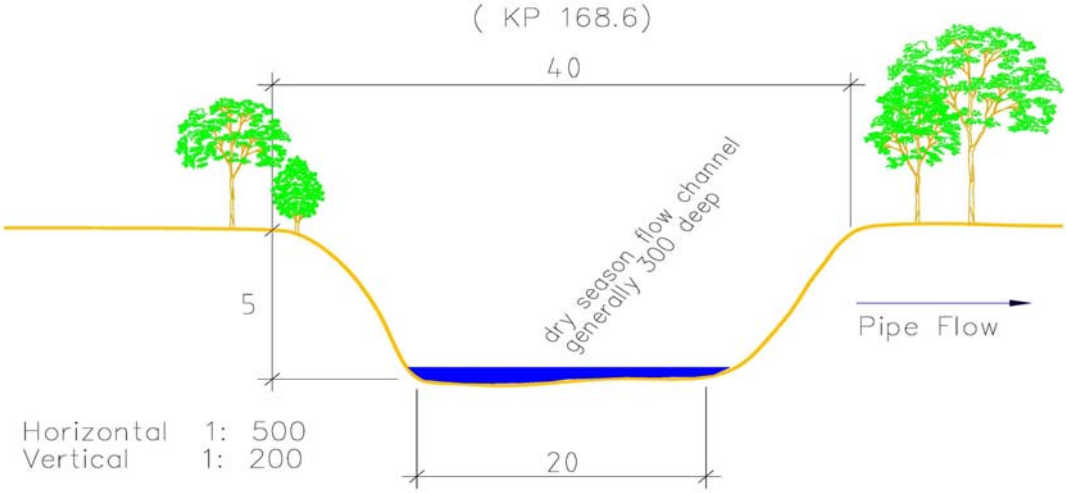

## CREEK

( KP 167.2)



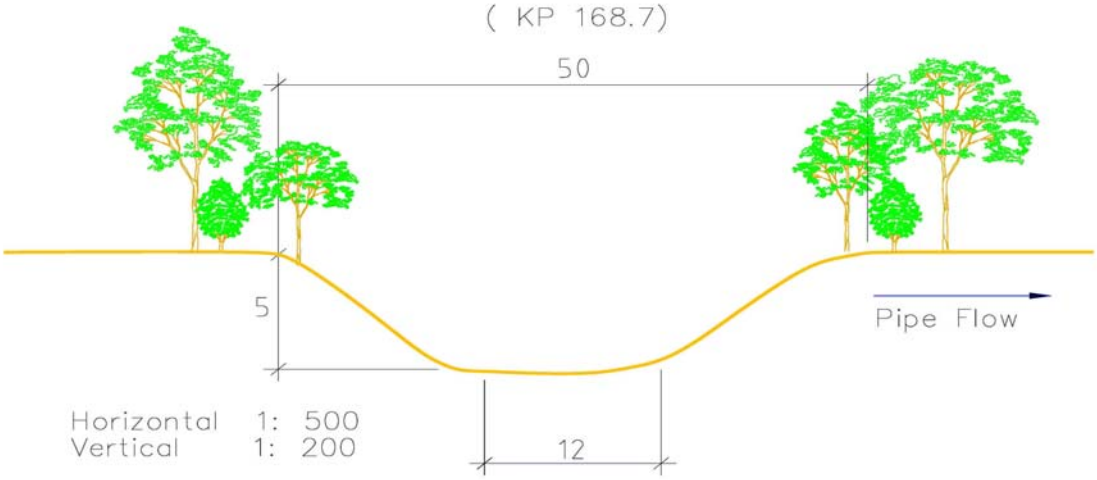

## CHILLING CREEK

( KP 168.6)



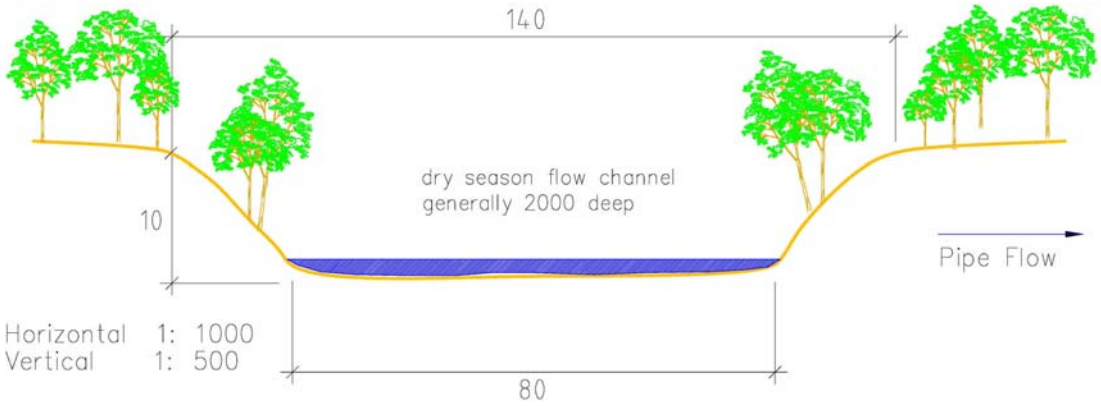

## CREEK

( KP 168.7)



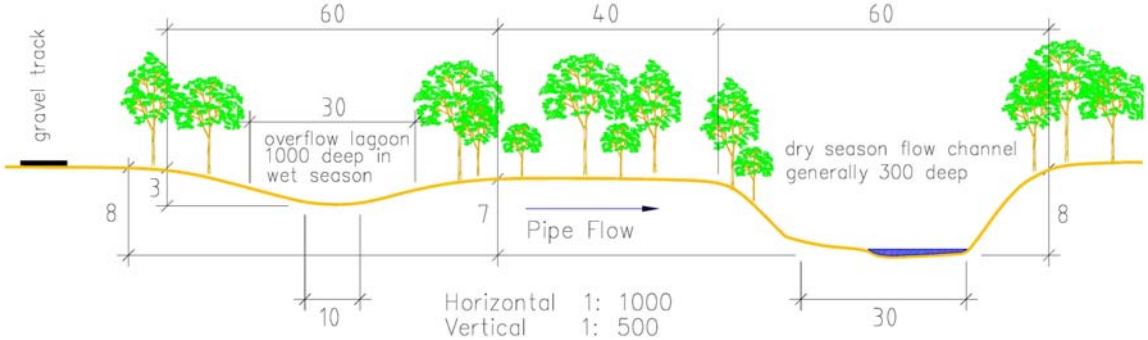

## DALY RIVER

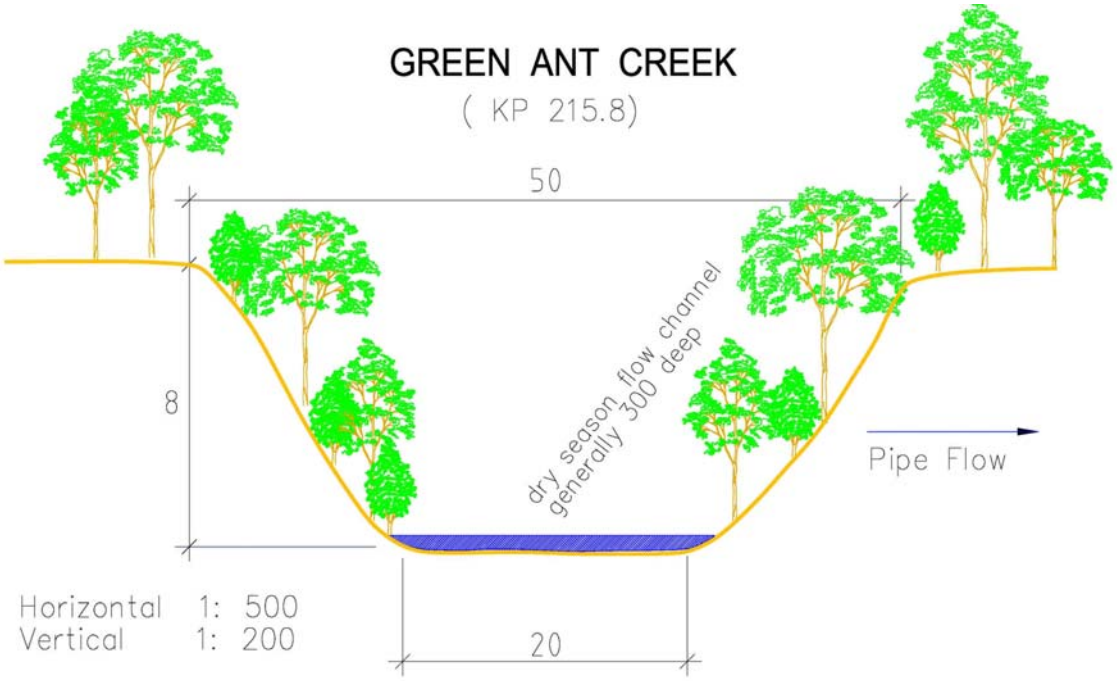
(KP 173.5)

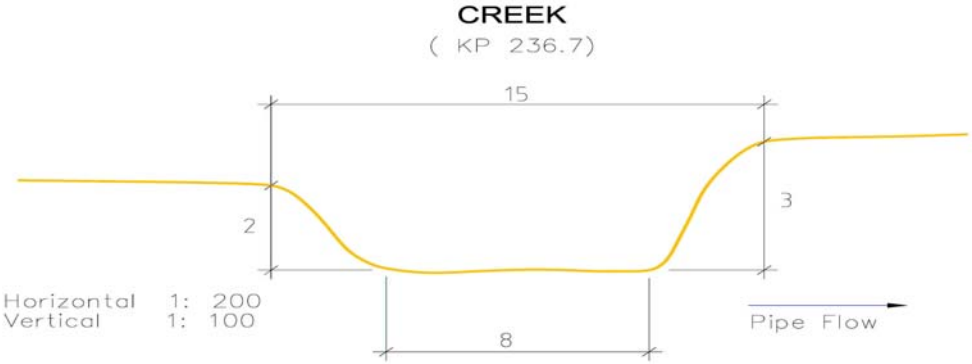



## TRIBUTARY OF GREEN ANT CREEK

(KP 214.5)

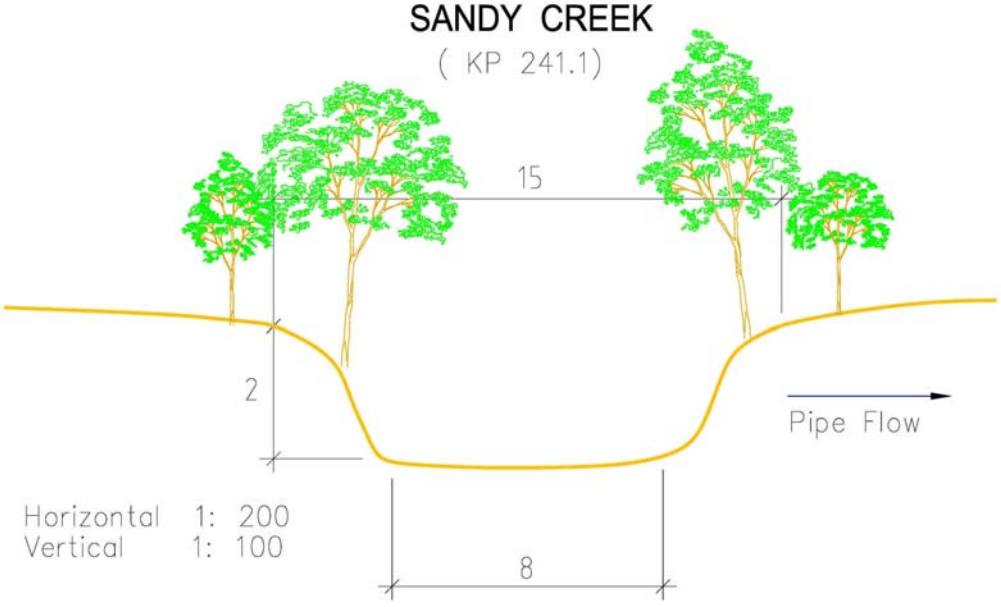




GREEN ANT CREEK
( KP 215.8)
50
8
dry season flow channel
generally 300 deep
Pipe Flow
Horizontal 1: 500
Vertical 1: 200
20


CREEK
( KP 236.7)
15
2
3
Horizontal 1: 200
Vertical 1: 100
8
Pipe Flow

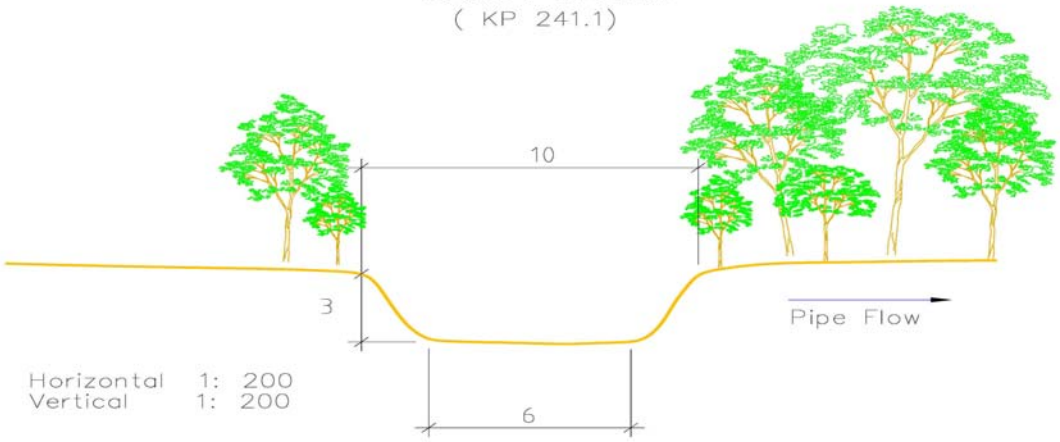
## SANDY CREEK

( KP 241.1)



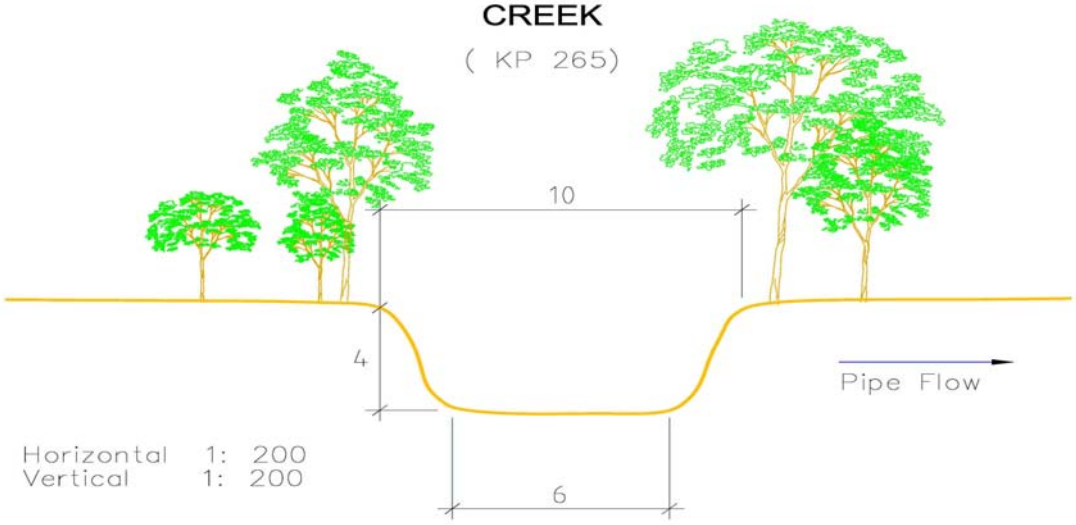

## SANDY CREEK

( KP 241.1)



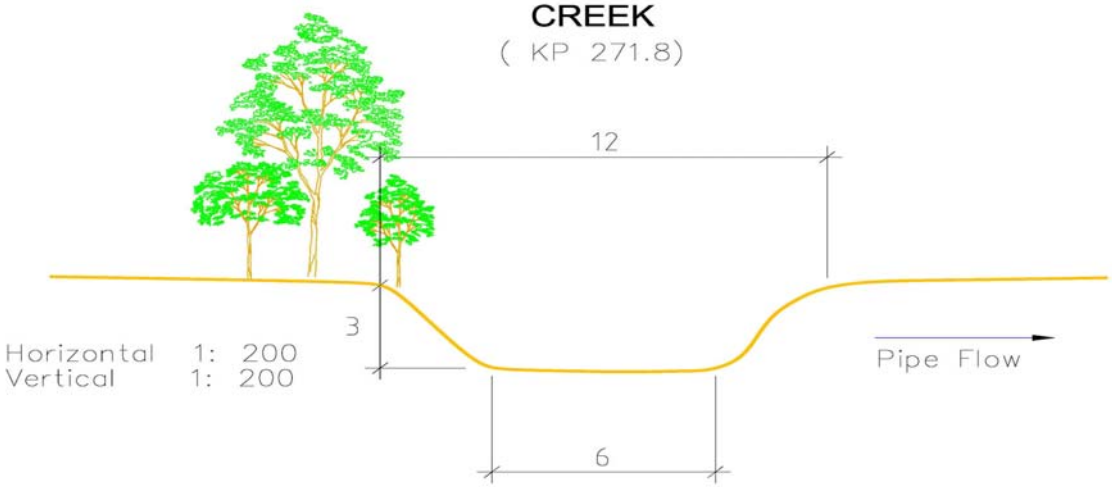

## CREEK

( KP 265)




## CREEK

( KP 271.8)




**Bonaparte Gas Pipeline**

**Australian Pipeline Trust**

**Pipeline fauna monitoring – basic procedures and requirements.**

**Prepared by Steven Wilson & Noel Preece, May 2007**

**Introduction**

Effective fauna monitoring and removal require:

- Minimising harm to protected species;
- Safe removal of endangered/vulnerable species;
- Removal of dangerous animals (e.g. snakes) from the work place;
- Retaining and collating accurate distributional data on all fauna recovered to pass on to relevant Northern Territory authorities; and
- Retaining and preserving fauna fatalities to pass on to relevant Northern Territory authorities.

**Legislative Requirements**

- *Territory Parks & Wildlife Conservation Act 2000;*
- *NT Animal Welfare Act 1999*;
- *Environmental Protection and Biodiversity Conservation Act 1999.*

**Personnel requirements**

Fauna handlers should have proven extensive experience in the handling and identification of fauna. Fauna identification will include all vertebrate species that will be encountered. Each fauna officer should work in tandem with an assistant. The primary role of the assistant is to install and retrieve fauna protection devices from the trench and place them within new sections of trench. A team can handle 20-30km of open trench.

Indigenous engagement will be sought where possible for the work.

**Times and daily schedule**

Work times would follow normal pipeline operating hours. The full working day will be required, and normally commences ahead of pipeline construction teams in order to clear fauna from the trench where they are working.

**Fauna Protection**

Protection for fauna in the trench will be required. A range of devices can be utilised for this purpose.

The protective devices should be placed at a minimum of 250m apart within the trench.

Checking devices is normally done from the top of the trench, using a metal hook.

**Daily activities**

The daily work involves checking protective devices, removing, recording and releasing any animals sheltering beneath them, and replacing the devices.

Work begins each morning immediately ahead of works. There should be daily consultation with the foreman regarding expected progress for the day.

All animals are identified to species, their locality logged on a data sheet with GPS co-ordinates, and released as near as practicable to the site of capture. The rescue of fauna will take priority over identification and logging should high numbers of fauna be encountered.

Data, including GPS coordinates of each collection should be downloaded to a computer and backed up to an off-computer device each evening.

**Equipment**

- Trayback 4x4 with canopy for each Fauna team (Fauna Officer and Assistant).;
- UHF & VHF radios according to communications procedures on the pipeline Project;
- First aid kit;
- Fauna handling equipment;
- Additional water container for re-hydrating frogs;
- GPS;
- Data sheets detailing Lat & Long, identification, and comments (retained/released);
- Comprehensive series of vertebrate field guides; frogs, reptiles, mammals & birds;
- Temporary holding containers; cloth bags, clear plastic aquariums;
- digital camera to record diagnostic features of animals difficult to identify;
- Formalin (10%) solution in sealable tray for fixing specimens;
- alcohol (70% concentration); and
- Computer database for downloading coordinates and recording field data.

**Removing fauna from trenches**

Depending on site regulations regarding the entering of trenches, the Fauna Officer should use long-handled equipment to remove all fauna from a trench.

Large fauna (eg macropods, emus) should be herded along the trench to the nearest ramp (these are normally at 500m intervals).

**Fauna outside trenches**

Unless injured on the road or right-of-way, fauna outside of trenches should be regarded as protected fauna and not interfered with in any way.

It may be necessary to remove venomous snakes from the workplace, but only if they enter facilities where someone may be harmed (in a container where equipment is stored, among accommodation blocks etc).

**Euthanasia**

Extreme head trauma using a solid heavy implement (eg tomahawk) is recommended. The exceptions are large stock. Landholder liaison will be required.

Euthanasia of voucher specimens, where this is essential, will follow NHMRC & ANZCCART guidelines.

**Retention limits**

Unless there are sound reasons for holding them, all fauna should be released as soon as possible, as near as practical to the point of capture. Valid reasons for retaining fauna include:

- Unsuitable conditions for immediate release;
- Some care required (eg frogs requiring re-hydration); and
- Problematic identification.

Fauna should generally not be brought back to camp except for problematic identification. Dead specimens should be retained, identified, labelled and preserved.

Dangerous snakes should not be bought back to camp.

**Dangerous snakes**

The Fauna handler should be:

- Familiar with all dangerous snakes likely to occur during the Project;
- Aware of appropriate snake-bite first aid; and
- Competent at communicating issues of snake commonsense and first aid to the broader work force

**Antivenom**

The administration of antivenom is carried out only by a medical practitioner, and only when symptoms of systemic envenomation are evident.