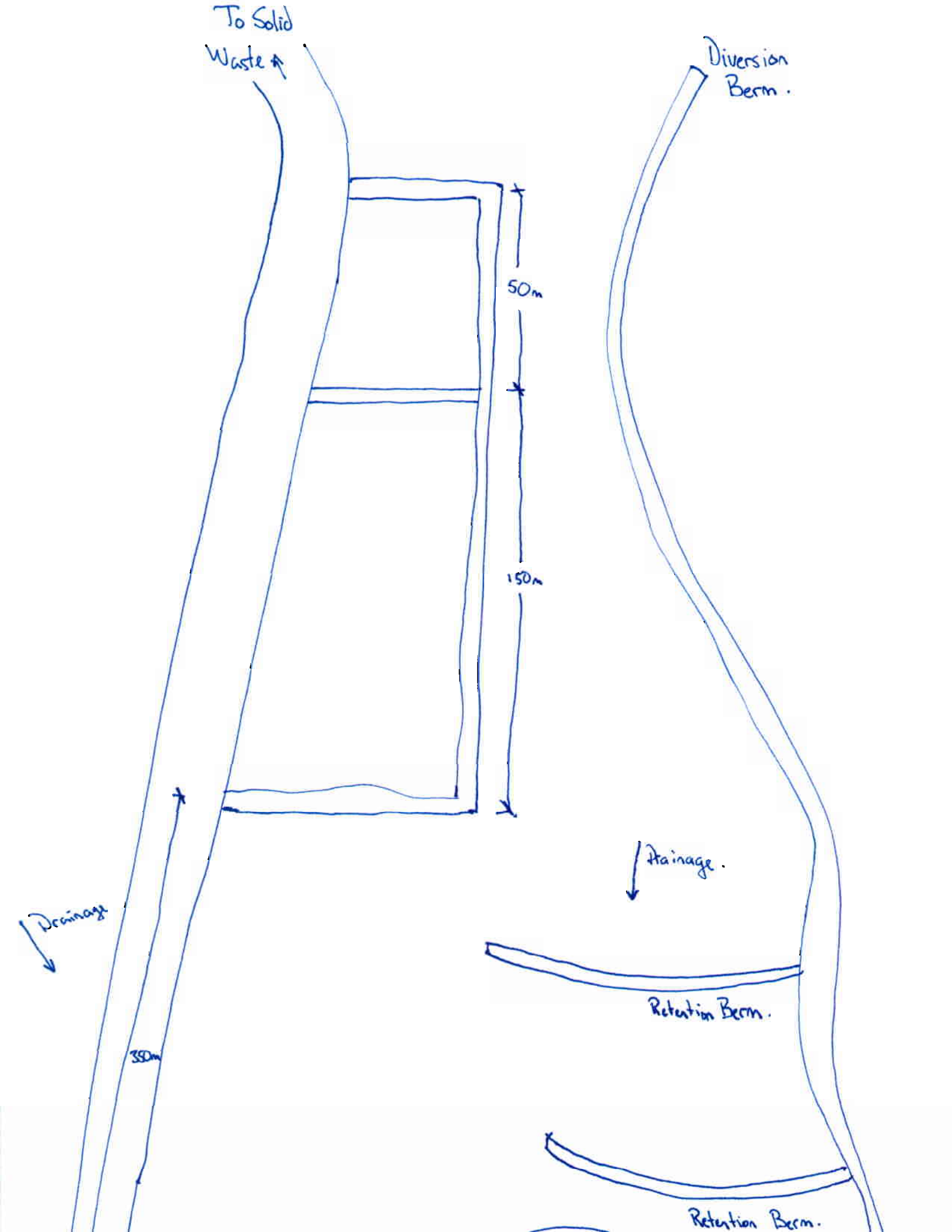
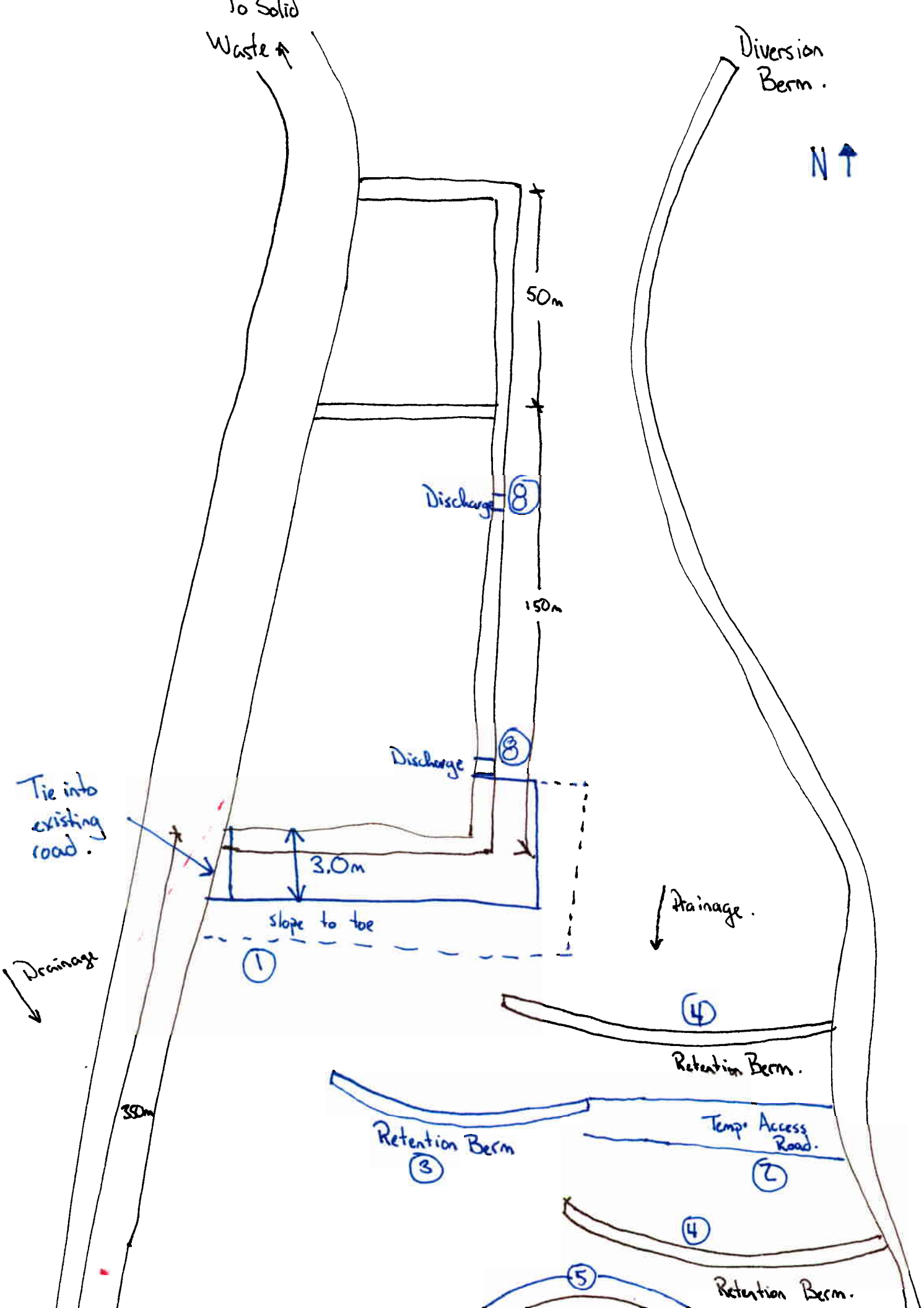
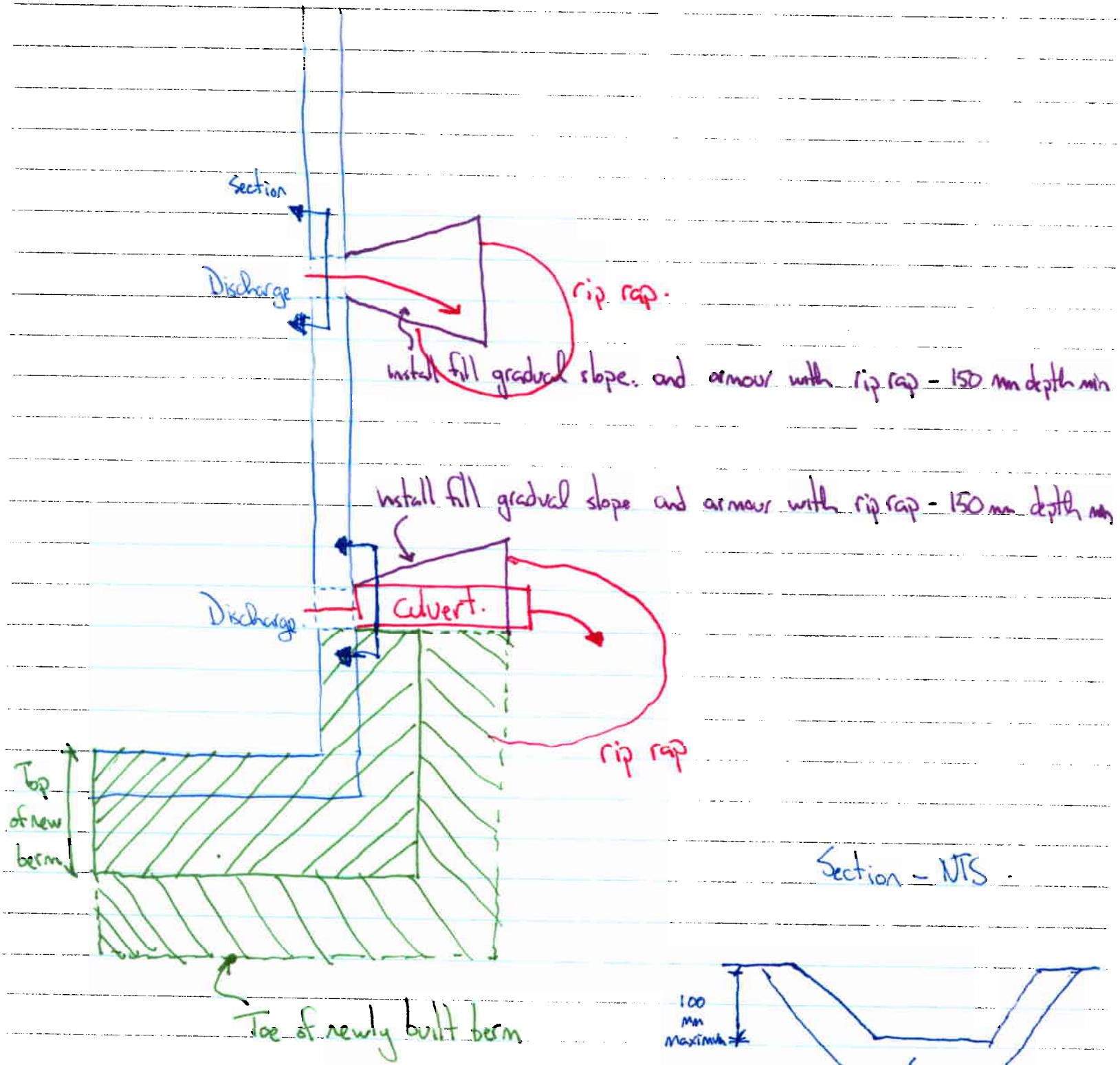
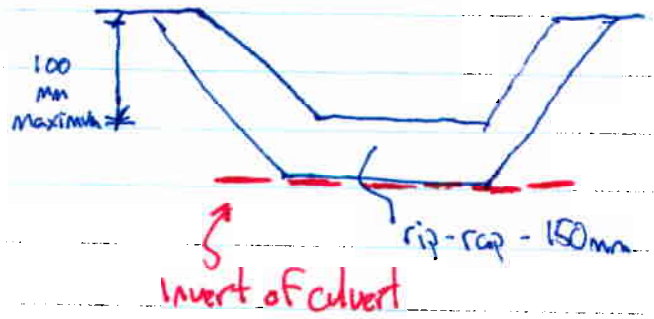

To Solid
Waste
Diversion
Berm.
50m
150m
Drainage
Drainage
350m
Retention Berm.
Retention Berm.


To Solid Waste
Diversion Berm.
N
50m
Discharge
8
150m
Discharge
8
Tie into existing road.
3.0m
slope to toe
1
Drainage
Drainage.
4
Retention Berm.
350m
Retention Berm
3
Temp. Access Road.
2
4
5
Retention Berm.


Section
Discharge
rip rap.
Install full gradual slope. and armour with rip rap - 150 mm depth min
Install full gradual slope and armour with rip rap - 150 mm depth min
Discharge
Culvert.
rip rap
Top of new berm
Toe of newly built berm

Section - NTS.


100 mm Maximum
rip-rap - 150mm
Invert of culvert

Scope of Work – Arctic Bay Sewage Lagoon

The following is meant to describe, in as best of detail as time would permit (1 hour preparation time), the scope of works to be undertaken in the urgent repairs to the Arctic Bay Sewage Lagoon system.

Start Date: As soon as authorized by Hamlet SAO
Finish Date: Anticipated 7 working days maximum

Scope of Work

Work is divided into 6 sub projects as follows:

1. Reinforce/Expand South Berm of Winter Storage Cell

The berm of the winter storage cell shall be built up such that the top of the berm has a 3.0 m width (ie sufficient for a pick-up truck to travel on top of). The height of the berm shall remain as is currently build. The slope of the berm shall be the natural slope, approximately 2:1. The berm width shall be expanded from the southwest corner to the first discharge point.

Method

a) Remove ice and snow as best as possible
b) Determine approximate location of toe of berm
c) Place granular material in 200 mm lifts
d) Compact with 10 passes of a dozer
e) Repeat until berm is built as required.

The contractor may propose a different method depending on site conditions, subject to the approval of the Hamlet.

2. Construct Temporary "Access Road" for Construction of Retention Berm

A temporary access road shall be constructed whose purpose shall be to limit damage to the wetland during the construction of a 3rd retention berm. The road may be constructed of whatever material the contractor sees fit and shall be removed as best as possible after construction has been completed.

Method

a) In the location to be determined by the GN, the contractor shall place fill as required to construct a temporary access from the existing "Diversion Berm" to the location of the to be constructed "Retention Berm"
b) After construction of the retention berm and sometime before steps 7a and 7b below, the contractor shall remove the temporary access road.

c) Salvage fill may be used for other purposes in this job

3. Construct Retention Berm

A third retention berm shall be constructed similar to the existing two retention berms. The location and size shall be field determined and staked out by the Hamlet.

Method

Refer to SECTION 2, Drawing 102

Generally the contractor shall construct the berm as designed with overflow outlets to be designated in the field. The contractor shall confirm that rip rap (stone 50 mm diameter and larger) and geotextile are available. The contractor shall use well graded granular materials for the core of the berm.

The berms shall not be higher than 2 m in any location.

4. Increase Height of Existing Berms (100 mm maximum)

In locations to be field determined, add granular fill so as to increase the height of berms. Generally the objective is to ensure that the height of the berm is uniform across the entire length of the berm, except at the overflow outlets. The Hamlet shall provide level details of the berm

Method

Refer to SECTION 2, Drawing 102

It is not anticipated that the level of work will be significant. Generally, the work should be undertaken so as to minimize the damage to the existing berm and wetland.

5. Add Fill to Side of Road to Encourage Drainage and Prevent Overtopping of Road

Along the road from the point of intersection with the diversion berm to a point to be determined in the field by the Hamlet, place well compacted fill at the side of the road so as to encourage drainage to existing culverts and prevent overtopping of the road surface. The height of fill shall be no more that 200 mm. The contractor shall no block drainage to the existing culverts.

Fill shall also be placed so as to minimize disruption to vehicular traffic and not to impede snow clearing operations.

6. Clear Culverts

The contractor shall clear culverts of all snow and ice and encourage local positive drainage. The culverts shall be cleared on both sides. These works may be undertaken by the Hamlet

7. Install Additional Culvert

The requirement and location of an additional culvert shall be field determined.

Method

Generally refer to detail NEW CULVERT PROFILE on drawing 102 of the contract documents. The contractor shall use locally available materials as best as possible.

8. Repair and Upgrade to Winter Storage Cell Overflow

At locations where sewage currently appears to overflow the winter storage cell, the contractor shall take measures to reinforce the berm and encourage controlled drainage from the cell.

Method

Refer to sketches provided

Involves placement of granular, rip rap and at the southern overflow, installation of a culvert to protect newly constructed berm.

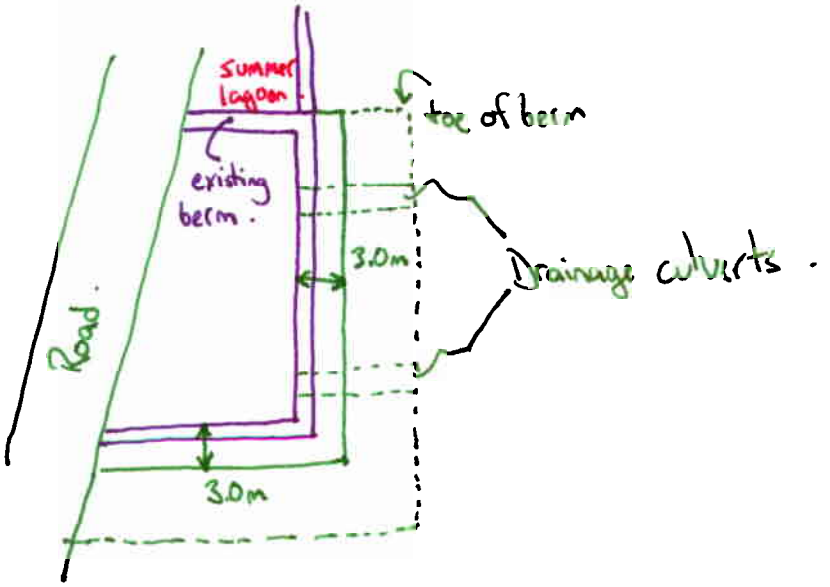
Addendum 1 - Step 8.

① At the northern most outflow of winter storage lagoon, construct gravel pad and rip-rap, add culvert, reduce height of berm at this location to encourage drainage from winter lagoon.

② Add "gate values" to culverts manually controlled from top of berm so as to be able to stop flow through culvert as required.

③ Continue building up full length of berm so that top of berm entire length of winter storage lagoon is 3 m width.

After Step 8, the winter lagoon should look like.



Addendum 1 Step 9.

On top of new 3.0 m wide berm, in 100 mm lifts, compacted, increase height of berm by 300 mm