

LADY ANNIE OPERATIONS

30TH OF JANUARY 2009

DISCHARGE EVENT REPORT

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January 30th 2009 Rain Event

Lady Annie Operations (LAO) received 87mm of rainfall overnight of the 29th/30th of January. The rain event was accompanied by strong winds, and subsequently the rainfall measured can be determined to be less than that amount which fell onto site. Based on estimate methods provided by the US Department of Agriculture (<http://cat.inist.fr/?aModele=afficheN&cpsidt=2970733>), the rainfall estimate of this event was approximately 115 – 125 mm. Factors which reduced the rain gauge reading include the rain shadows cast by the Administration building and telegraph tower, wind speed and force of the rainfall.

Rainfall Summary

Weather records for monthly rainfall were sourced from the Bureau of Meteorology Climate Services website

(http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=18&p_display_type=dataFile&p_stn_num=29118),

and refer to Weather Station 29118 Calton Hills Station (Lat 20.14°S, Long 139.41°E, Elevation 350m). Calton Hills Station weather data were selected as the Mount Kelly mining leases are located on this pastoral lease, and thus would provide the best representation of local rainfall patterns.

The rainfall event experienced by Lady Annie Operations (LAO) can be placed into the following context. January 2009 is second, in total rainfall, only to January 1974 in the past 108 years.

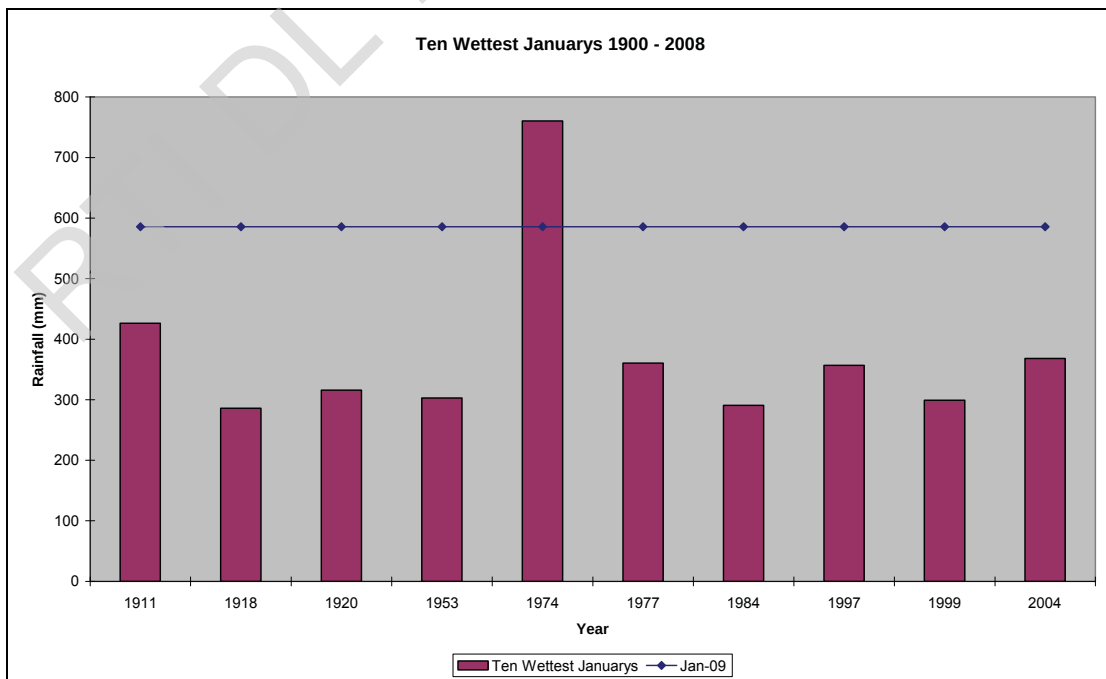


Chart 1: Ten Wettest Years recorded for Calton Hills Station 1900 - 2008

Below is a map of Queensland showing the areas of above average rainfall for the January to date. The purple areas indicate rainfall greater than 400% of the median rainfall.

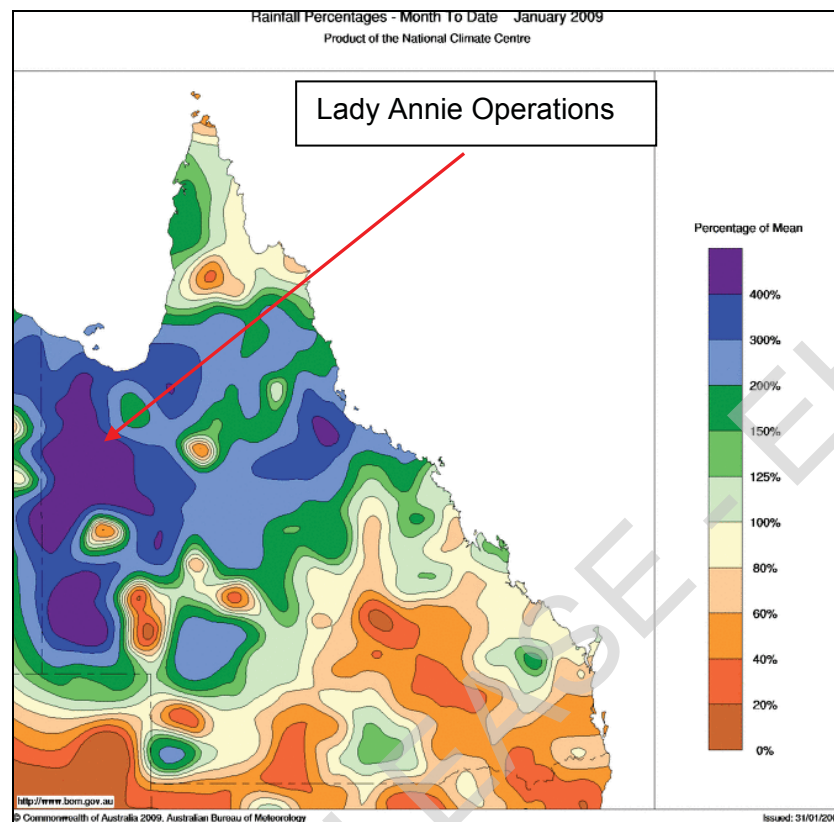


Figure 1: Above median rainfall percentages for Jan 2009, Qld (Source: BoM 2009)

Charts 2, provides an indication of the rainfall volumes across the three month period from the 1st of November 2008.

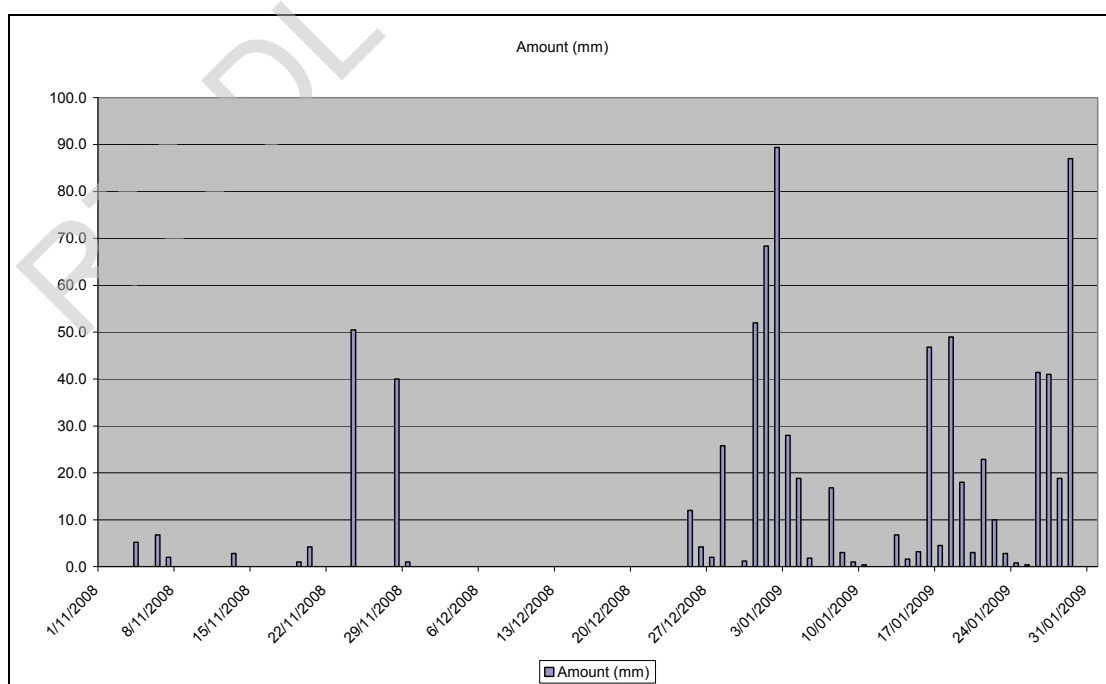


Chart 2: Rainfall Events - 01NOV08 to 30JAN09

Charts 3 shows the cumulative rainfall volume (blue line) in relation to the Design Rainfall Event (yellow line) of 823.9mm of rainfall.

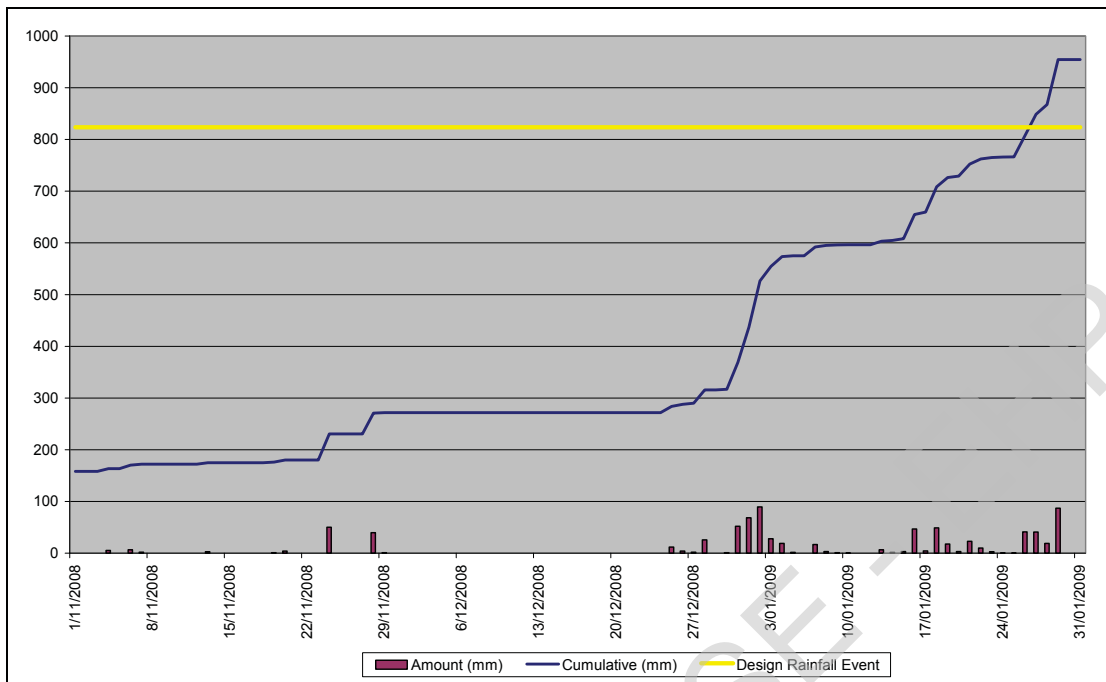


Chart 3: Cumulative Rainfall - 01NOV08 to 30JAN09

Dam Summary

The design parameters for the Hazardous Dams catchment and containment system for Lady Annie Operations are outlined in Table 1. An extract of the Environmental Authority Schedule C Design Criteria for Hazardous Dams is located in Appendix 3.

Table 1: Stage 1 & 2 Hydrology Parameters

Dam Design Criteria	Capacity	
Total Contributing Catchment	699,975 m ²	69ha
Required Process Water Storage	43,200m ³	43mL
100 Year 2 Month Wet Season Runoff Total Storage	576,710m ³	576.7mL
Required Total Storage	619,910m ³	619.9mL
Available Process Pond Storage	44,850m ³	44.9mL
Available Ponds Full Storage (To Stormwater Pond Overflow Spillway Level RL 350.10)	62,3856m ³	623.9mL
Mandatory Reporting Level #1 (100 Year 72 Hour Storm)	237,382m ³	237.4mL
Mandatory Reporting Level #2 (10 Year 24 Hour Storm)	105,001m ³	105mL

On the 20th of November 2008, refer Appendix 1; the annual Hazardous Dams Inspection was conducted by Osborne Lane Industrial, Registered Engineers. The inspection identified minor housekeeping actions within the report with an overall assessment of an endorsement for continuation of use of these systems for the next 12 month period.

On the 13th of January 2009 two representatives from the EPA (Russ McConnell and Michael Purdue) came to site to investigate the reported incident (dated 06JAN09) of the southern wall failure of Storm Water Pond #2. A memorandum prepared by Paul Martinkus is attached as Appendix 2. In this memorandum the remedial actions are outlined as:

- Pump water from storm water pond #2 to storm water pond #1 to allow inspection of the liner.
- Continue pumping water from dam 2 leak detection bores.
- Site visit by PSM (geotechnical consultants) organised for W/B 19th January 2009.
- Temporary repair of overall wall damage to commence once ground sufficiently dry to allow equipment movement.

The EPA responded verbally that these actions were sufficient to allow LAO to continue operations, and they stressed the importance of repairing the wall breach as soon as the weather permitted.

Environmental Authority Conditions

The Lady Annie Operations Environmental Authority (EA) (MIN100401006) provides allowance limits for contaminants released from site in discharge events.

Sampling is undertaken to determine compliance with the discharge limits of the contaminants, and wherever a breach of these limits is recorded, an environmental incident is to be raised and the regulatory authority (Environmental Protection Agency EPA) is notified.

LAO Plan of Operations

Below is an extract from the LAO Plan of Operations outlining the actions taken onsite in case of a discharge event.

Should the water level in the ponds reach the level below the spillway crest of a 1:10 year ARI, 24 hour event (150mm of rainfall across the catchment area) then the following strategies will be implemented:

- 1. The QEPA will be notified immediately.*
- 2. A water sample will be taken from each process water and stormwater pond to and sent to a NATA registered laboratory to determine water quality.*
- 3. Field measurements will be conducted in each pond using a portable pH and (EC) meter on a daily basis.*
- 4. Process water will continue to be circulated through the heap leach pads to prevent drain down of the heaps.*
- 5. Contingency measures will be developed to prevent an overflow in conjunction with the QEPA.*

Should an overflow of the stormwater ponds occur, the time that the discharge starts and finishes will be recorded along with approximate depths at regular intervals over the spillway. Water samples from the discharge will be taken at both the stormwater pond and downstream at the lease boundary at regular intervals to determine if environmental harm has occurred.

The EPA has been contacted and they have stated that the major concern will be that any actions undertaken by LAO to recommence production do not cause further or continuing environmental harm.

Actions taken to mitigate against a discharge event

Below is a list of the actions taken in the lead up to the discharge event.

- Dug cut off trench at back of Leach pad 3 to divert water away from storm pond # 2
- Pumping water from under storm pond 2 liner back into storm pond
- Dug a trench at back of leach pad 15 to divert water into drain system
- Opened up culvert over road adjacent to pad 15 / CDE workshop to assist water flow
- Dug trench south eastern corner of storm pond 2 to divert water away from area
- Trenches dug alongside McNamara's road towards Komatsu workshop to assist flow
- EPA came to site for storm pond 2 discussion prior to event
- Civil engineer brought to site to complete pond audit as per annual requirement
- Continually monitoring and pumping water from problem areas as required.
- Placed rock adjacent to the Raw Water dam to repair washout
- Sucker truck cleaned out W drains adjacent to leach ponds last week
- Removed build-up on spillway to ponds from leach pads (9 /10 interface)

Other housekeeping actions have been undertaken to counter the effects the expected rainfall.

Lead up to the Discharge Event

On the 28th of January the volume of the Storm Water Ponds was recorded as 544,000m³, or 64% of capacity (850,000m³).

At 1630 on the 29th of January the level of the Storm Water Ponds was approximately 2m below the Mandatory Reporting Level (MRL), the pond volume at this level being 578,000 m³ or 68% capacity.

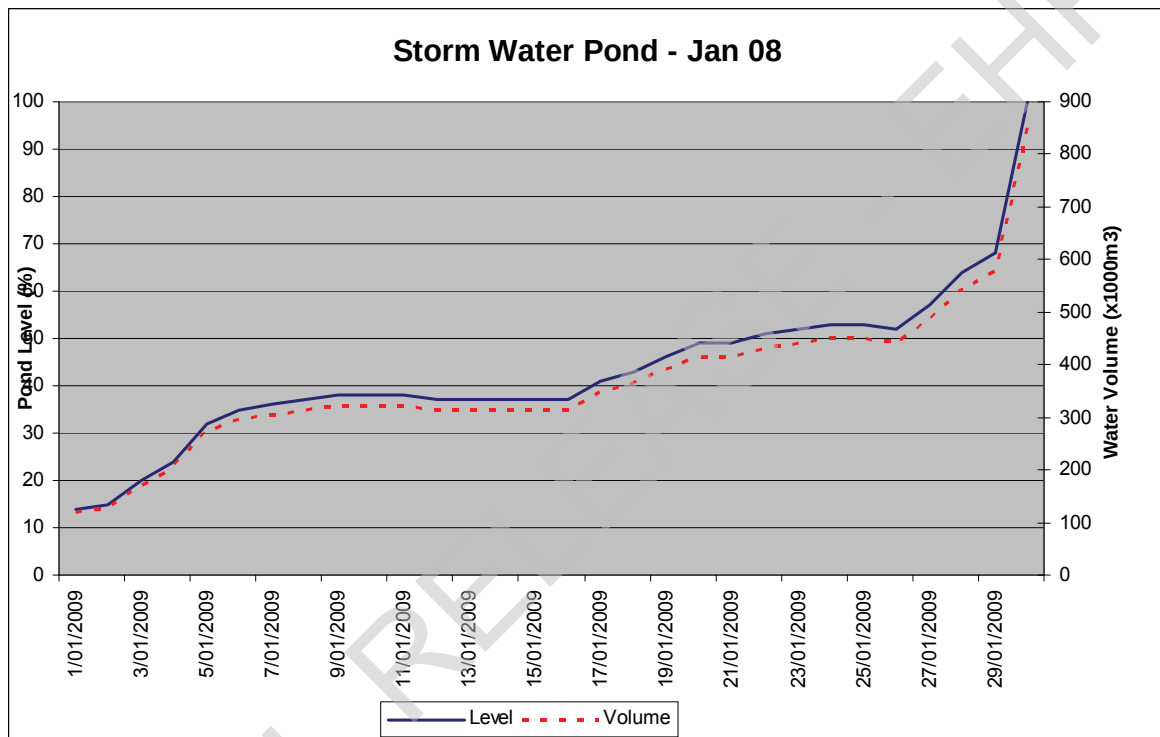


Chart 4: Storm Water Pond levels for January 2009.

Table 2: Storm Water Pond Volumes

Date	Storm Water Pond Level (%)	Volume Contained (MI)
01 Nov	1	8.5
01 Dec	12	102
01 Jan	14	119
30 Jan	100	850

At 0700 on the 30th of January the Storm Water Ponds were discharging, having exceeded the total volume of 850,000m³. The depth of water over the spillways was approximately 200mm, and the flow was approximately 12.1m³/second.

Samples were taken at 0720 of the 30th of January, and were assayed onsite for Cu content, pH, and acid content (Table 3). Duplicate samples have been taken and stored for analysis by a NATA accredited laboratory

At 1730 on the 30th of January, the field chemical properties of the water quality were observed (Table 4), and an inspection of the spillways and discharge points was undertaken.

Table 3: Water Quality Results for 30th January 2009.

Location	Cu	pH	Free Acid	Time
Storm Water Pond Grab (east side)	0.57	2.03	1.92	0720
Storm Water Pond Overflow Out	0.22	2.15	0.60	0725
Storm Water Pond 2 (Storm Water Overflow)	0.04	4.26	0.00	0729

Table 4: Physical water quality results for samples taken at 30th January 2009.

Sample Point	pH	EC	Temp (°C)	Time
SWP Spill#1	2.42	6.58 mS/cm	26.0	1737
SWP Spill#2 (H2O u/liner)	5.54	55.6 µs/cm	27.0	1744
MKDS04#1	3.45	862 µs/cm	26.0	1746
SWP Spill#1 (H2O u/liner)	2.79	2391 µs/cm	24.3	1753



Figure 2: Photo of both Storm Water Pond spillways (Taken 29JAN09).



Figure 3: Topographic Map showing Plant in relationship to Saga Ck catchment.

Figure 3 shows the location of the three sample point locations (red stars) downstream of the LAO Storm Water Ponds. There is one sample each for the two spillways, and one at the Licence Condition monitoring location MKDS04, as required by the LAO Environmental Authority MIN100401006.

Also shown is the location of the wall breach on the south-eastern side of the southern pond wall (Figures 10 & 11).

The dotted blue line shown is the headwaters of the Saga Creek catchment, which drains to the south-west (right to left of the illustration) into the Georgina-Diamantina Basin.

Major issues looking forward

In addition to the initial incident, a number of additional challenges have been identified as LAO moves forward in the recovery from this event.

1. Spillway Scouring

- a. In the interval between 1730 30th January and 0700 31st January, the spillway at SW Pond #1 scoured out beneath the liner. (Figure 4 & 5). The scour depth is estimated to be 500mm deep.
- b. The water level in SW Pond #1 dropped by approximately 1.5m overnight (Figure 6).
- c. The cause may be contributable to water above the liner forcing the water beneath the liner out under pressure. More investigation is required.



Figure 4: SW Pond #1 Spillway (Taken 1000 30JAN09).



Figure 5: Water flowing over and under pond liner SW Pond #1 Spillway (Taken 0650 on



31JAN09).

Figure 6: SW Pond #1 showing drop in water level of ~1.5m (Taken 0700 31JAN09).

2. Continuing Storm Water Pond Discharges

- a. Continuing discharge of dilute process water. Samples taken to verify water quality of discharge.



Figure 7: Scour beneath SW Pond#1 Spillway (Taken 0700 on 31JAN09).



Figure 8: Water colour of SW Pond #1 (Taken 0745 on 30JAN09).

3. Storm Water Pond volumes

- a. Storm water pond volumes are currently exceeding maximum storage capacity.



Figure 9: SW Pond #1 looking south towards spillway (Taken 0745 on 30JAN09).

4. Integrity of the Storm Water Pond #2 liner

- a. The quality of the water under the liner.
- b. Maintaining equal stresses and pressures on the liner by managing the waters on both sides of the liners is required to limit the risk of a break in the liner.



Figure 10: SW Pond #2 at point of wall failure (Taken 1000 on 30JAN09).



Figure 11: Breach in bund wall on east side of SW Pond #2(Taken 1000 on 30JAN09).



Figure 12: SW Pond #2 looking north towards Processing (Taken 1000 on 30JAN09).



Figure 13: SW Pond #2 looking south towards wall failure (Taken 1000 on 30JAN09).

Appendices

RTI/DL RELEASE - EHP

**OSBORN LANE
INDUSTRIAL**

**ENGINEERING REPORT OF
HAZARDOUS DAMS AT LADY ANNIE**

**Report for
COPPERCO
LADY ANNIE OPERATIONS PTY LTD**

Ref: M8 - 262
KH:PO DEC 2008

PO Box 1314 Mount Isa Qld 4825
Email: mtisa@osbornlane.com
Phone (07) 4749 0830
Fax (07) 4743 5106

Executive Summary

Osborn Lane Industrial have been engaged to carry out an inspection of the hazardous dams at Lady Annie Mine as required by the Environmental Protection Act 1994 Code of Environmental Compliance for Environmental Authorities.

An inspection was carried out on the 20th November 2008 of the perimeters of stormwater and process ponds and around the stage 1 leach pad. The inspection was limited to visual elements only.

No visual signs of degradation of the liners were found. A small section of the north (east) side of the stormwater pond # 1 showed signs of sinking sediments and needs to be rectified (See detail in report).

Some scour is occurring in various areas and should be maintained. All other elements appear to be operating normally.

Scheduled inspections need to be carried out and records maintained. Some inspections are behind in schedule and should be carried out immediately to ensure compliance to the Environmental Act and then at the required intervals.

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1.0 Introduction

Osborn Lane Industrial have been engaged to inspect and prepare a report detailing the current conditions of the hazardous dams at Lady Annie Mine in North West Queensland.

Staff attended the site on the 20th November 2008 and carried out a visual inspection of the two stormwater ponds, the process and stage 1 of the leech pads. Stage 2 of the leech pads was under construction during the visit and did not form a part of this inspection.

Sections of the stage 1 leech pads were not accessible due to this construction, but visible from a short distance.

Information was provided on the construction of the hazardous ponds, as well as the most recent daily, weekly and quarterly inspections and is commented on as a part of this report.

2.0 Leech Pads

Not all sections of the leech pads were accessible due to construction of stage 2. The collection drains to the west were visible from a short distance and appeared to be in good condition. The visible elements of the liner all appeared to be in good condition.

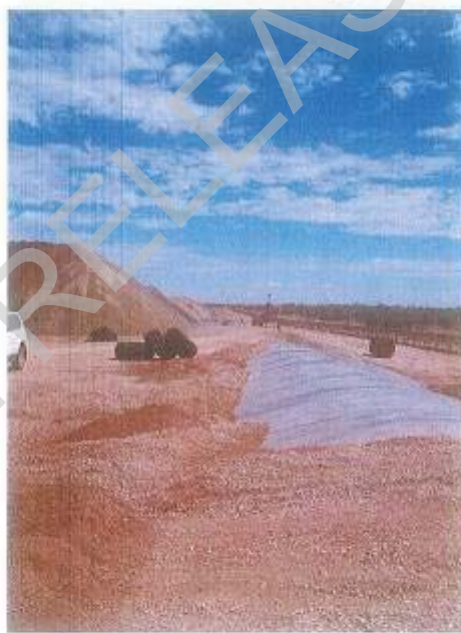


Figure 1: Eastern side of Leech Pad Stage 1

Ref: MB - 262
KH:PO NOV 2008

OSBORN LANE INDUSTRIAL
Mt Isa, Warwick, Brisbane, Ipswich

3.0 Process Ponds

The process ponds all appeared to be in good condition. Some scour was evident in the soil bund at the top of the collection drains and above the process ponds and some of the soil had been washed into the ponds.

These require ongoing maintenance to reinstate the washed away sediment.

Repair methods should follow the original construction methods to prevent or minimise further degradation.

The liner for the process ponds and collection drains appear to be in a good condition.



Figure 2: Eastern side of Process Ponds

Ref: M8 - 262
KH:PO NOV 2008

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Mt Isa, Warwick, Brisbane, Ipswich



Figure 3: Northern side of Process Ponds

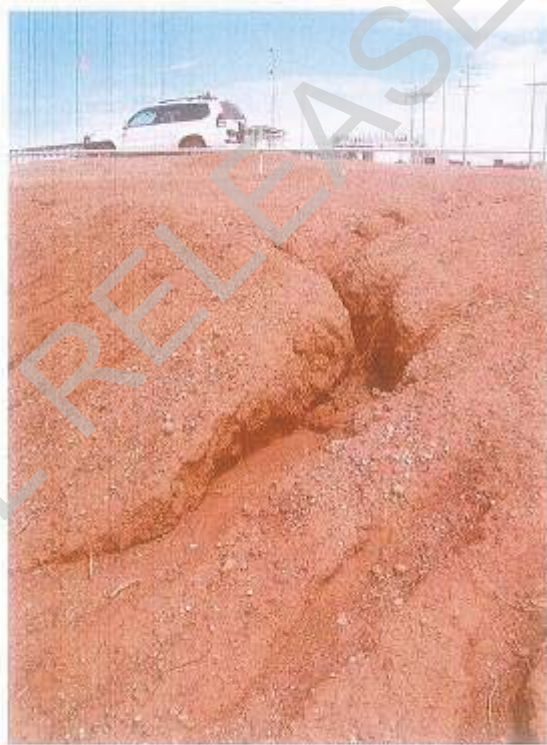


Figure 4: Scour above northern side of Process Ponds

Ref: M8 - 262
KH:PO NOV 2008

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Mt Isa, Warwick, Brisbane, Ipswich



Figure 5: South Western End of Process Ponds

4.0 Stormwater Ponds

An inspection was carried out around the edge of both stages of the stormwater collection ponds. The edges all appeared to be generally in good condition.

On the north side of the stormwater pond No.1 towards the eastern edge a medium sized crack in the soil was evident. It is located approximately 300mm from the edge of the liner and has been most likely formed by water soaking into the ground and settling the soil.

For the settlement to occur it is possible that adequate compaction was not achieved in this area during construction. Further testing by a geotechnical engineer should be carried out to check the state of the ground and to advise what remedial works should be carried out.

Some scour was evident at the crest of the stormwater ponds at this location also. This should be fixed before further degradation occurs.

Ref: M8 - 262
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WILSON ENGINEERING
Mt Isa, Warwick, Brisbane, Ipswich

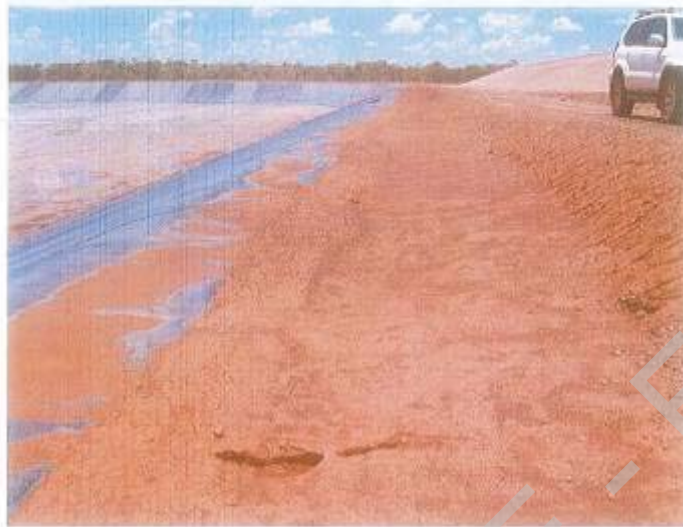


Figure 6: Northern side of Stormwater Pond No. 1



Figure 7: Depression in ground on northern side of Stormwater Pond No. 1

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Figure 8: Southern Side of Stormwater Pond No. 2



Figure 9: Stormwater pond No.2 looking to north-west

The region is prone to tropical "wet season" storms which are likely to occur over the next few months and scour will only continue to form, causing sediment to be washed into the ponds and possibly preventing access around the ponds.

It is worth considering sealing the surface around the ponds to prevent problems.

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Mt Isa, Warwick, Brisbane, Ipswich

The stormwater ponds are currently empty in anticipation of seasonal storms. The visible liner appeared to be in a good condition.

5.0 Containment Pond

The containment pond was partially filled at the time of the inspection. The visible liner appeared to be in a good condition.



Figure 10: Containment Pond

6.0 On Site Inspection Reports

As a part of the inspection, several inspection reports were made available to review. Inspections are carried out on a regular basis, however it appears the last quarterly groundwater monitoring inspection was carried out on the 8th June 2008.

This quarterly inspection should be carried out immediately and further inspections every 3 months to meet the Environmental Protection Act 1994 requirements.

A full review of the status of inspections and reporting should be conducted to ensure no other inspections are behind schedule.

7.0 Conclusion

The overall condition of the hazardous ponds is good. Scour around the ponds will become an issue in the long term if maintenance is not carried out.

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Current scour should be fixed prior to the start of this wet season to prevent further damage.

Scheduled inspection and reporting needs to be carried out at the required intervals to meet the Environment Protection Act 1994 requirements and to ensure any leaks or failures are found as soon as possible.

These dams are performing to the required standard and are adequate for use for the next 12 months.

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KH:PO NOV 2008

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Mt Isa, Warwick, Brisbane, Ipswich



MEMORANDUM

To: Peter Geroff, Andrew Rodgers
From: Paul Martinkus
Copy:
Date: 14 January 2009
Subject: EPA site visit – 14 January, 2009

Two officers from the EPA (Russ McConnell & Michael) visited site on Tuesday January 13, 2009 to inspect the damaged wall of storm water pond 2. The visit was pre-arranged and was primarily to allow Russ McConnell, the EPA's internal expert on hazardous dams to inspect the damage caused by the recent rain event.

The stated aim of the visit was to make an assessment of the wall damage and to collect their own water samples from within and external to the storm water pond. LAO had previously advised the EPA of the damage and has advised the EPA of our belief that the dam liner is intact and that no contaminated water has been released to the environment. LAO has also collected a full suite of water samples and is currently awaiting receipt of the sample results.

Due to a cancelled flight Jason Alexander, site Environmental Advisor, was not available and the inspection was in the company of Jodie Kimber, Senior Process Engineer. A de-brief with the Site General Manager took place after the inspection of the wall and surrounding country.

The following points were raised at the de-briefing meeting;

- EPA noted that water currently being pumped from monitoring holes below dam is 'turbid'.
- Russ McConnell had found an old drill hole in the area with cuttings that looked to be composed of cemented carbonates¹
- Evidence of further sink holes in area to South of dam found by EPA officers
- Discussed whether the overburden in the area might be covering limestone 'Karst' formation. Karst formations are characterised by the presence of voids and openings caused by dissolution of carbonate minerals by water.
- Discussed whether the soils might be dispersive

Russ McConnell asked whether a geotechnical investigation had been conducted prior to the construction of the second storm water dam. LAO advised that some investigation might of occurred during the initial construction phase but the results were not readily available on site. A request for all investigation work has subsequently been made to Robin Jones who confirmed that no specific geotechnical work was conducted in the immediate area prior to the commencement of excavation of the second storm water dam.

It was agreed at the meeting that a geotechnical investigation was warranted to determine the presence or otherwise of limestone Karst formation as the presence of voids will have a big impact on the future stability of the dam. It was agreed that our current strategy of pumping out the water from dam 2 into dam 1 to allow further inspection and repair to occur was appropriate. The EPA is concerned that an undetected void under the liner will significantly increase the risk of a rupture in the liner and the release of contaminated water into the water table.

It was agreed that LAO will continue to keep the EPA informed through the Mount Isa office as to the progress of repairs and the results of water sampling.

¹ Subsequent test of cuttings with acid suggested the presence of carbonates in hole

LAO have commenced the following actions to rectify the problem and mitigate the environmental risk;

- Pump water from storm water dam 2 into dam 1 to allow inspection of liner
- Continue pumping water from dam 2 leak detection bores
- Site visit by PSM (geotechnical consultants) organised for week commencing Monday January 19
- Temporary repair of wall damage to commence once ground sufficiently dry to allow equipment movement

The permanent repair of the damage and any realignment of drainage in the area will be based on advice from the geotechnical consultant. A full costing of repairs will be provided at that stage.

s.49 - Signature

Paul Martinkus
Site General Manager

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Schedule C - Water

Release to Waters

(C1-1) Receiving waters affected by the release of process water or storm water contaminated by the mining activities or both must be monitored at the locations and frequencies defined in Schedule C - Table 1 and Schedule I - Map 1 & 2, and the results of the test sites comply with the contaminant limits defined in Schedule C - Table 3.

Schedule C - Table 1 (Receiving Water Monitoring Locations and Frequency)

Monitoring point	Easting (AMG 84 Zone 54)	Northing (AMG 84 Zone 54)	Monitoring frequency
MKUS 1- reference site *	305625	7797450	Each flow event
MKUS 2- reference site*	300451	7793920	Each flow event
MKDS 1- test site	301160	7800135	Each flow event
MKDS 2- test site	308046	7800375	Each flow event
MKDS 3- test site	308370	7798383	Each flow event
MKDS 4- test site	301300	7797255	Each flow event
LA- US1- reference site*	295150	7812880	Each flow event
LA- US2- reference site*	295750	7812480	Each flow event
LA- DS1- test site	294000	7810100	Each flow event
LA- DS2- test site	295500	7810400	Each flow event

NOTE: This does not apply to dams containing hazardous waste

*Reference sites must:

- be from the same biogeographical and climatic region;
- have similar geology, soil types and topography
- contain a range of habitats similar to those at the test site
- be of similar flow regime; and
- not be so close to the test sites that any disturbances at the test site also result in a change at the reference site.

Can s/p/pe

- C1-2 Subject to Condition (C1-1), if the receiving water contaminant trigger levels defined in Schedule C - Table 2 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority within 3 months of receiving the analysis results.

Schedule C - Table 2 (Receiving Water Trigger Levels)

Parameter	Units	Minimum	Maximum	Trigger Type
pH ¹	pH	6	8.5	Range
EC ²	µS/cm	N/A	250	Maximum
Sulphate ²	mg/L	N/A	500	Maximum
Aluminium ⁴	mg/L	N/A	2.5	Maximum
Aluminium ⁵	mg/L	N/A	11.5	Maximum
Arsenic ²	mg/L	N/A	0.25	Maximum
Boron ²	mg/L	N/A	0.37	Maximum
Cadmium ²	mg/L	N/A	0.005	Maximum
Chromium ²	mg/L	N/A	0.5	Maximum
Cobalt ²	mg/L	N/A	0.5	Maximum
Copper ⁴	mg/L	N/A	0.5	Maximum
Copper ⁵	mg/L	N/A	0.83	Maximum
Fluoride ²	mg/L	N/A	1	Maximum
Lead ⁴	mg/L	N/A	0.05	Maximum
Lead ⁵	mg/L	N/A	0.065	Maximum
Manganese ³	mg/L	N/A	1.9	Maximum
Mercury ²	mg/L	N/A	0.001	Maximum
Molybdenum ²	mg/L	N/A	0.075	Maximum
Nickel ²	mg/L	N/A	0.5	Maximum
Selenium ³	mg/L	N/A	0.01	Maximum
Zinc ²	mg/L	N/A	10	Maximum

¹ Contaminant trigger limits are based on Table 3.3.4 and 3.3.5 of Aquatic Ecosystems ANZECC (2000).

² Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered).

³ Contaminant trigger limits based on ANZECC (2000) trigger levels for aquatic ecosystems of slightly - moderately disturbed systems - table 3.4.1 level of protection 95% / Table 3.3.4 / 3.3.5 - Tropical Australia upland rivers.

⁴ Contaminant trigger limits are based on 50% of the contaminant limits defined in the ANZECC (2000) Livestock Drinking Water and are to be analysed as total metals (unfiltered). These limits are set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

⁵ Contaminant trigger limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

Schedule C - Table 3 (Receiving Water Contaminant Limits)

Parameter	Units	Minimum	Maximum	Trigger Type
pH	pH	6	9	Range
TDS ²	mg/L	N/A	4000	Maximum
Sulphate ¹	mg/L	N/A	1000	Maximum
Aluminium ³	mg/L	N/A	5	Maximum
Aluminium ⁶	mg/L	N/A	23	Maximum
Arsenic ¹	mg/L	N/A	0.5	Maximum
Boron ¹	mg/L	N/A	5	Maximum
Cadmium ¹	mg/L	N/A	0.01	Maximum
Chromium ¹	mg/L	N/A	1	Maximum
Cobalt ¹	mg/L	N/A	1	Maximum
Copper ⁵	mg/L	N/A	1	Maximum
Copper ⁶	mg/L	N/A	1.66	Maximum
Fluoride ¹	mg/L	N/A	2	Maximum
Lead ⁴	mg/L	N/A	0.1	Maximum
Lead ⁶	mg/L	N/A	0.13	Maximum
Manganese ³	mg/L	N/A	2.5	Maximum
Mercury ¹	mg/L	N/A	0.002	Maximum
Molybdenum ¹	mg/L	N/A	0.15	Maximum
Nickel ¹	mg/L	N/A	1	Maximum
Selenium ¹	mg/L	N/A	0.02	Maximum
Zinc ¹	mg/L	N/A	20	Maximum

¹ Contaminant limits based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered)

² Contaminant limits are based on Table 4.3.1 Livestock drinking water quality and are analysed as Total metals (unfiltered)

³ Contaminant limits based on Table 3.4.1 of Aquatic Ecosystems ANZECC (2000) 80% and are to be analysed as filtered metals.

⁴ Contaminant limits based on Table 3.3.4 of Aquatic Ecosystems ANZECC (2000)

⁵ Contaminant limits are based on table 4.3.2 ANZECC (2000) Livestock drinking water quality and are analysed as Total metals (unfiltered). This limit is set for the Mount Kelly Leases only (ML 5426, ML 5478, ML90168, ML90169, ML90170, ML90178, ML 5435, ML 5446, ML 5447, ML 5448, ML 5474 and ML 5476.)

⁶ Contaminant limits are based on site specific background data and are to be analysed as total metals (unfiltered). These trigger limits are set for the Lady Annie Lease only (ML90179).

am sl/ks

October 28, 2008

Mr. Peter Gleeson
Principal Engineer
Operations Division
Environmental Protection Agency
PO Box 15155
CITY EAST QLD 4002

Dear Sir

**Certification of Completion Of Stage 2 of Hazardous Dam Construction
Copperco Limited, Lady Annie Project, Mount Kelly, Queensland**

I, Wayne R. Whitaker, being a Registered Professional Engineer of Queensland, being experienced in the design and construction of ponds and drainage systems including associated drains and overflow spillways for the containment of hazardous solutions certify the following :

- (a) I was the Design Engineer responsible for the design of the Stage 2 Heap Leach Pads 1-9 and the Stage 2 Stormwater Ponds (2 and 2B).
- (b) The construction of Stormwater Pond 2B and Leach Pads 3-9 has been in accordance has with the design drawings. As constructed information has been recorded on the following drawings :
 - Intech Engineers 1574-C-0501 (Rev 2)
 - 1574-C-0502 (Rev 2)
 - 1574-C-0506 (Rev2)
 - 1574-C- 0510 (Rev1)

Yours faithfully

s.49 - Signature

W.R. Whitaker
RPEQ No.1094
Director
Malcolm Douglas Consultants Pty.Ltd.

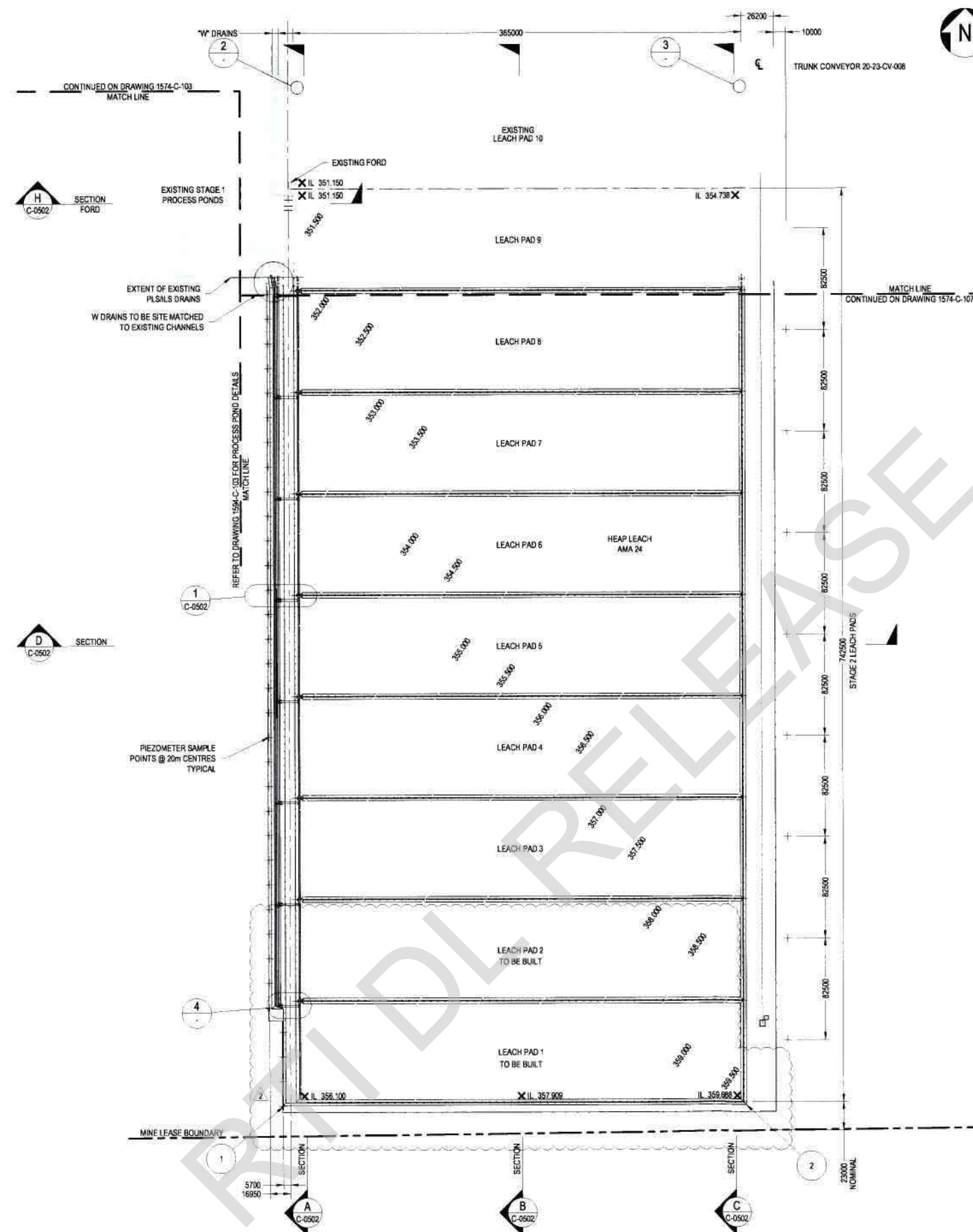
DIRECTORS:

WAYNE WHITAKER B.E., M.I.E.Aust., R.P.E.Q.

DANIEL TONINO B.E., M.I.E.Aust., R.P.E.Q.

CONSULTANT:

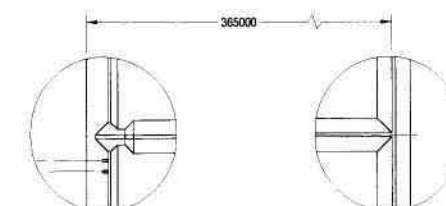
MALCOLM DOUGLAS M.I.E.Aust., R.P.E., C.Eng., M.I.St.E., P.Eng., L.G.Eng.



- NOTES:
1. GRADE 1V/2H U.N.O.
 2. GROUND LINE SHOWN AS --- TYPICAL.
 3. SURFACE AFTER STRIPPING SHOWN AS --- TYPICAL.
 4. TYPICAL FALL ACROSS PADS IS 1:150 FROM PAD 1 TO PAD 9.
 5. TYPICAL FALL ALONG THE LENGTH OF EACH PAD IS 1:100.
 6. NORTHERN SETOUT CO-ORDINATES ARE SETOUT POINTS ON EXISTING LEACH PAD 10 REFER TO DRAWING 1574-C-107.

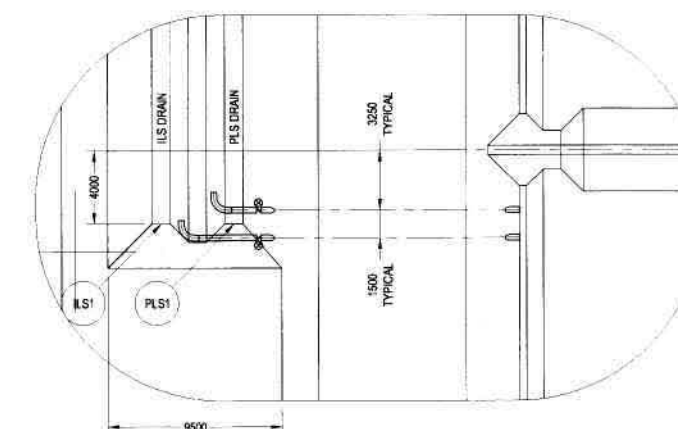
SETOUT CO-ORDINATES TO AGD84

POINT	EASTING	NORTHING
1	302 056 600	7 796 642 150
2	302 434 100	7 796 642 150
ILS1	302 050 000	7 796 722 900
PLS1	302 054 000	7 796 722 900



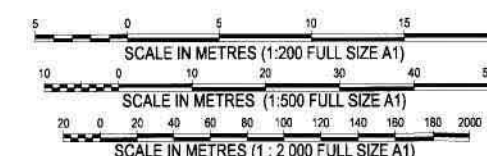
DETAIL
SCALE 1:500

DETAIL
SCALE 1:500



DETAIL
SCALE 1:200

AS CONSTRUCTED



95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006
ABN 58 011 070 625, TEL 61 7 3666 0006, FAX 61 7 3666 0004
Email: intech@intechengineers.com.au, www.intechengineers.com.au



REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE
A	FOR COMMENT	13/11/07	DMC			1574-G-0500	GENERAL ARRANGEMENT
B	FOR APPROVAL	13/11/07	DMC			1574-C-0502	LEACHPADS 1 TO 9 - SECTIONS AND DETAILS
C	FOR INFORMATION	28/11/07	DMC	DJB	DJB	1574-C-103	EARTHWORKS AND MT KELLY STORMWATER PONDS
T1	ISSUE FOR TENDER	4/12/07	DMC	DJB	RE	1574-C-107	MT KELLY LEACH PAD SETOUT PLAN
0	APPROVED FOR CONSTRUCTION	05/02/08	MAM	DJB/WW	RRE		
1	CHANGE TO MONITORING BORE LOCATION	19/05/08	DMC				
2	AS CONSTRUCTED, LP 1 & 2 YET TO BE CONSTRUCTED	31/10/08	MAM	DJB/WW	RRE		

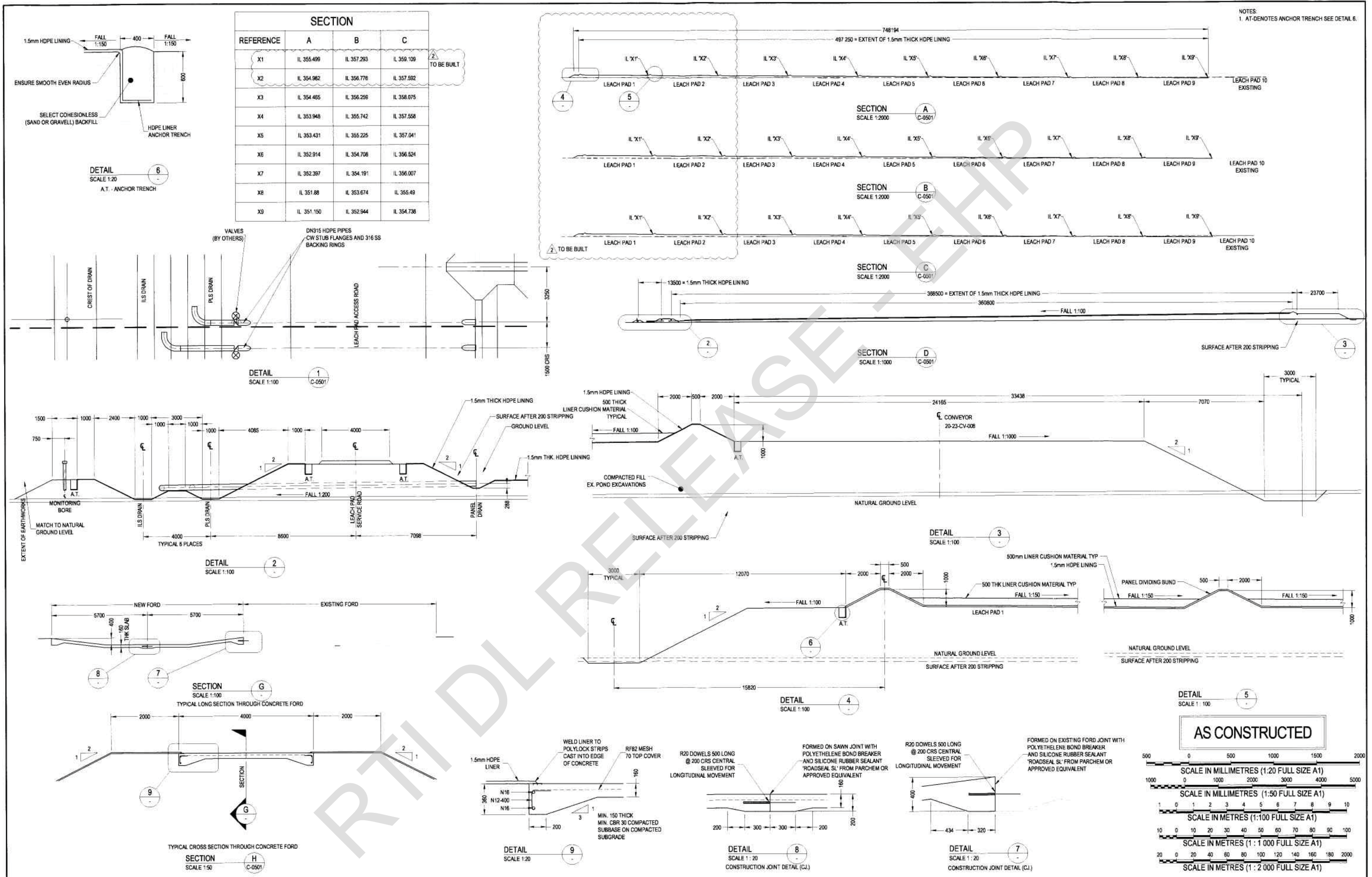
REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE
A	FOR COMMENT	13/11/07	DMC			1574-G-0500	GENERAL ARRANGEMENT
B	FOR APPROVAL	13/11/07	DMC			1574-C-0502	LEACHPADS 1 TO 9 - SECTIONS AND DETAILS
C	FOR INFORMATION	28/11/07	DMC	DJB	DJB	1574-C-103	EARTHWORKS AND MT KELLY STORMWATER PONDS
T1	ISSUE FOR TENDER	4/12/07	DMC	DJB	RE	1574-C-107	MT KELLY LEACH PAD SETOUT PLAN
0	APPROVED FOR CONSTRUCTION	05/02/08	MAM	DJB/WW	RRE		
1	CHANGE TO MONITORING BORE LOCATION	19/05/08	DMC				
2	AS CONSTRUCTED, LP 1 & 2 YET TO BE CONSTRUCTED	31/10/08	MAM	DJB/WW	RRE		

SCALE	1:2000	CLIENT
DRAWN	DMC	26/01/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R.R. ELLIS	18/02/08	



DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 2
MT KELLY SITE - HEAP LEACH
LEACHPADS 1 TO 9
CIVIL - SETOUT

FILE NAME	PROJECT	DWG NO	REV	SHEET
725c0501 Rev2.dwg	0725	1574-C-0501	2	A1

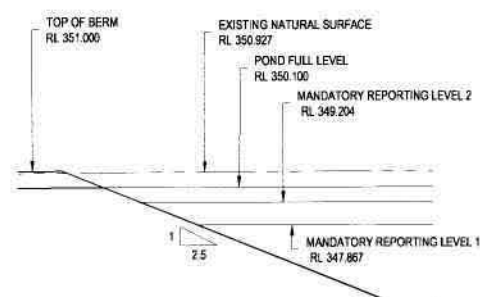


<p>95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006 ABN 58 011 070 625, TEL 61 7 3668 0006, FAX 61 7 3666 0004 Email: intech@intechengineers.com.au, www.intechengineers.com.au</p>	<p>THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF INTECH ENGINEERS PTY LTD AND IS LOANED TO YOU FOR YOUR USE ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF INTECH ENGINEERS PTY LTD.</p>	<p>REV A FOR COMMENT B FOR APPROVAL C PRELIMINARY FOR COMMENT T1 ISSUE FOR TENDER 0 APPROVED FOR CONSTRUCTION 1 DISTANCE TO MONITORING BORE ADDED TO DETAIL 2 2 AS CONSTRUCTED: LP 1 & 2 YET TO BE CONSTRUCTED</p>	<p>REVISION DETAILS</p>	<p>DATE BY CHKD APPD DWG NO</p>	<p>REFERENCE DRAWING TITLE</p>	<p>SCALE 1:2500 DRAWN DMC 29/01/08 CHKD DESIGN APPROVED - INTECH DATE APPROVED - CLIENT DATE</p>	<p>CLIENT </p>	<p>DWG TITLE LADY ANNIE EXPANSION PROJECT - STAGE 2 MT KELLY PLANT SITE - HEAP LEACH LEACHPADS 1 TO 9 CIVIL - SECTIONS AND DETAILS</p>	<p>FILE NAME 725c0502 Rev2.dwg</p>	<p>PROJECT 0725</p>	<p>DWG NO 1574-C-0502</p>	<p>REV 2</p>	<p>SHEET A1</p>

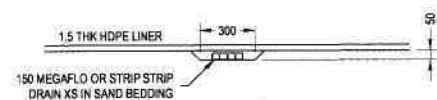
POINT	EASTING	NORTHING
1	301 738 800	7 797 363 800
2	301 467 300	7 797 382 100
5	301 732 600	7 797 072 200
6	301 468 100	7 797 073 600

STAGES 1, 2 & 3 HYDROLOGY PARAMETERS

- | | |
|---|------------------------|
| • TOTAL CONTRIBUTING CATCHMENT AREA | 945,969 m ² |
| • REQUIRED PROCESS WATER STORAGE VOLUME | 613 213 m ³ |
| • 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME | 779 384 m ³ |
| • REQUIRED TOTAL STORAGE VOLUME | 840 597 m ³ |
| • AVAILABLE PROCESS POND STORAGE VOLUME | 68 322 m ³ |
| • AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10) | 850 467 m ³ |
| MANDATORY REPORTING LEVEL 1 VOLUME | RL 347.727 m |
| • 100 YEAR 72 HOUR STORM VOLUME | 320 866 m ³ |
| MANDATORY REPORTING LEVEL 2 VOLUME | RL 349.077 m |
| • 10 YEAR 24 HOUR STORM VOLUME | 141 930 m ³ |

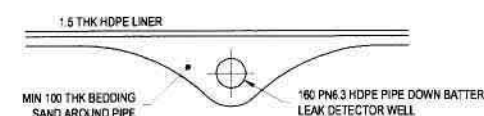


SECTION A



SECTION D
SCALE 1" = 20'

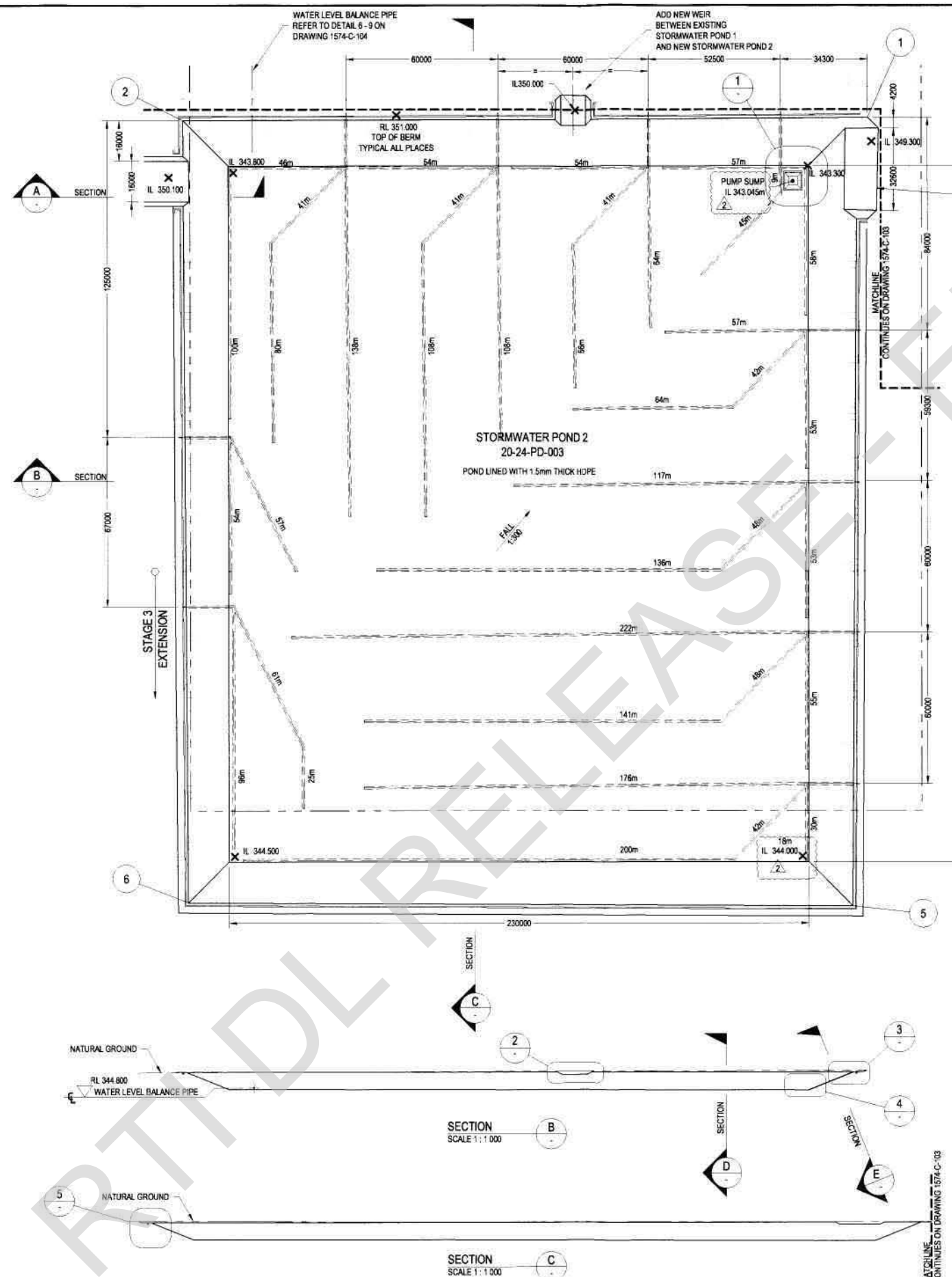
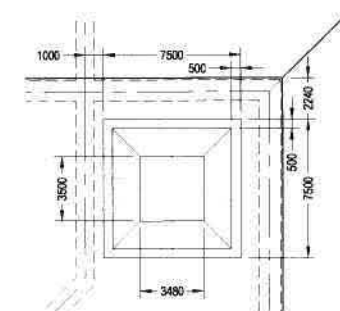
UNDER LINER
LEAK DETECTION TRENCH



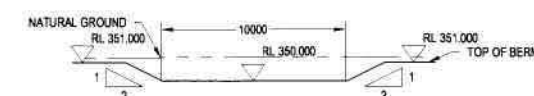
SECTION E

DOWN BATTER
LEAK DETECTOR WELL

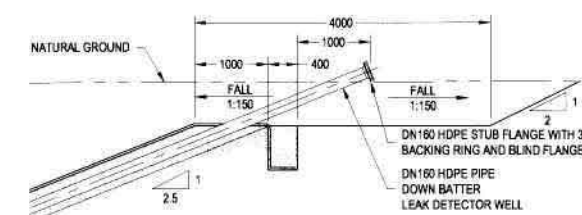
- NOTES:
1. GRADE 1V : 2.5H ON PONDS AND 1V : 2H ON WIERS UNO.
 2. FOR DETAILED REQUIREMENTS COVERING EARTHWORKS, ROADWORKS & DRAINAGE REFER TO 725-SP-0041.
 3. FOR DETAILED REQUIREMENTS COVERING GEO-TECH LINING, REFER TO 725-SP-0042



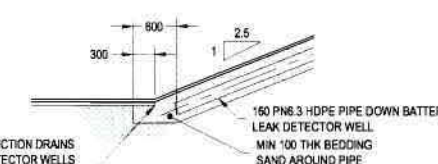
DETAIL 1



DETAIL 2



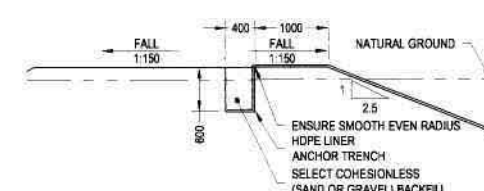
DETAIL 3



DETAIL

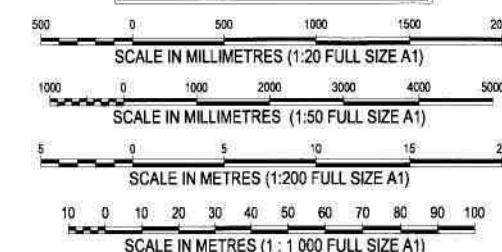
SCALE 1:50

4



DETAIL 5
SCALE 1:50

AS CONSTRUCTED

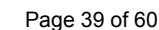


REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:1000	
A	ISSUED FOR INFORMATION		MAM			1574-C-0500	SITE LAYOUT	DRAWN	MAM	28/01/08
T	ISSUED FOR TENDER	29/01/08	CNC	DJB		1574-C-0503	25-26 PD-003 STORMWATER POND 2 CIVIL SETOUT & SECTIONS	DRAWN	DJB	18/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB / WW	RRE	1574-C-103	MT KELLY PROCESS AND STORMWATER PONDS SETOUT PLAN	DESIGN	WW	02/02/08
1	REVISED CO-ORDINATES	23/04/08	MAM			1574-C-104	MT KELLY PROCESS AND STORMWATER PONDS CROSS SECTIONS	APPROVED -	INTECH	DATE
2	AS CONSTRUCTED	31/10/08	MAM	DJB/WW	RRE					
								D.J. BYRNE		18/02/08
								APPROVED -	CLIENT	DATE
								D.E. CLARK		18/02/08



DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 3
MT KELLY PLANT SITE - HEAP LEACH AREA
20-24-PD-003 STORMWATER POND 2B
CIVIL - SETOUT AND SECTIONS

FILE NAME	PROJECT	DWG NO.	REV	SHEET
725c0506 Rev2.dwg	0725	1574-C-0506	2	A1



**MALCOLM DOUGLAS
CONSULTANTS PTY. LTD.**

Civil & Structural Engineers
Planning & Project Managers
A.C.N. 010 767 058

Suite 7, Level 1
445 Upper Edward Street,
Spring Hill Q 4000
Tel: (07) 3832 5844
Fax: (07) 3221 2932
Email: mdcon@bigpond.net.au

18 February , 2008

Principal Engineer
Operations Division, Environmental Protection Agency
PO BOX 15155
City East QLD 4002
Australia

Dear Sir

Submission of Certified Design Drawings - CopperCo Lady Annie Operations

On behalf of CopperCo Lady Annie Operations Limited, we enclose certified design drawings for the construction of hazardous dams on the Lady Annie Expansion mining leases as follows:

Drawing No.	Title
1574-C-0501	Leach Pads 1-9 Civil - Setout
1574-C-0502	Leach Pads 1-9 Civil – Sections and Details
1574-C-0503	Stormwater Pond Civil – Setout & Sections
1574-C-0504	Leach Pads 126-21 Civil - Setout
1574-C-0505	Leach Pads 16-21 Civil Sections& Details
1574-C-0506	Stormwater Pond No. 2 Civil Setout & Sections
1574-C-0507	20-20-24-PD-301,302,303,ILS,PLS,SWP3-Civil-Arrangement
1574-C-0509	Overland Channel-Civil-Layout &Details
1574-C-0103	Mt.,Kelly Process & Storm Ponds-Stage 3 Reporting Levels
1574-C-0510	Mt.Kelly Process & Storm Ponds-Stage 2 Reporting Levels

In my capacity as a Registered Professional Engineer Queensland, I certify that the designs shown in the drawings are consistent with relevant hazardous dam conditions in Environmental Authority MIN100401006 and have been designed to appropriate engineering standards.

Yours faithfully
Malcolm Douglas Consultants Pty. Ltd.

s.49 - Signature

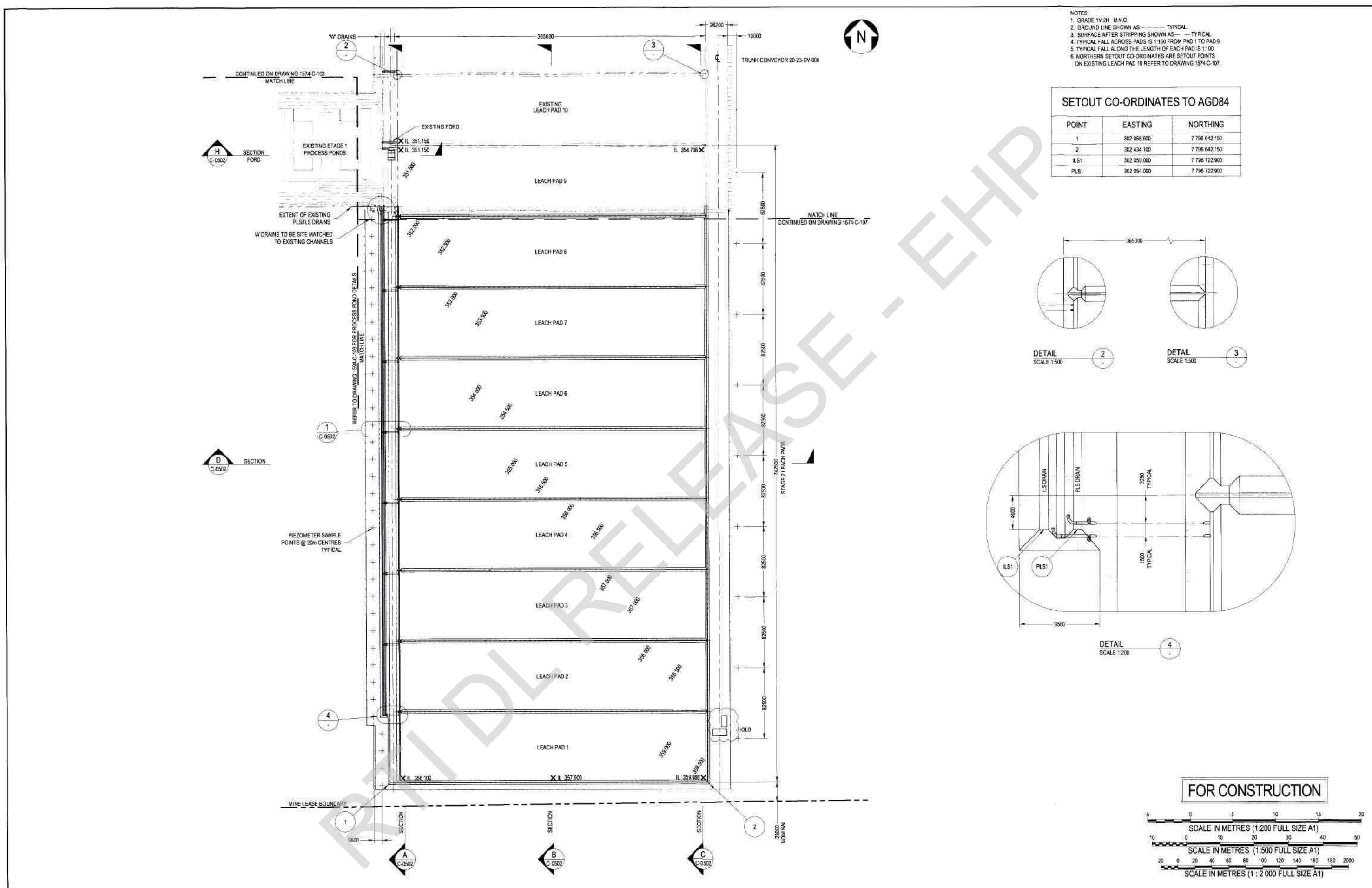
W.R. Whitaker
Director
RPEQ 1094

DIRECTORS:

WAYNE WHITAKER B.E., M.I.E.Aust., R.P.E.Q.

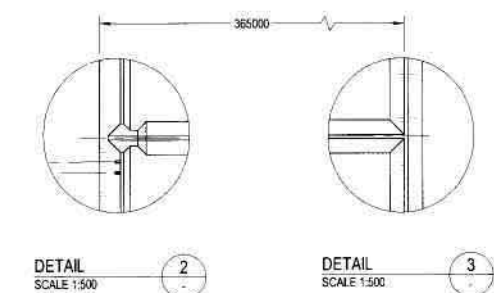
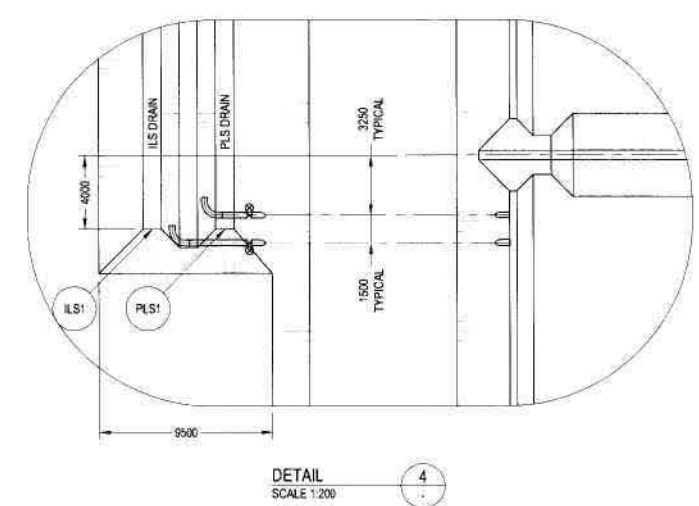
CONSULTANT:

MALCOLM DOUGLAS M.I.E.Aust., R.P.E., C.Eng., M.I.St.E., P.Eng., L.G.Eng.

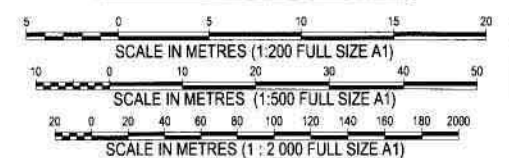


- NOTES:
- 1. GRADE 1V-2H U.N.O.
 - 2. GROUND LINE SHOWN AS --- TYPICAL
 - 3. SURFACE AFTER STRIPPING SHOWN AS --- TYPICAL
 - 4. TYPICAL FALL ACROSS PADS IS 1:150 FROM PAD 1 TO PAD 9
 - 5. TYPICAL FALL ALONG THE LENGTH OF EACH PAD IS 1:100
 - 6. NORTHERN SETOUT CO-ORDINATES ARE SETOUT POINTS ON EXISTING LEACH PAD 10 REFER TO DRAWING 1574-C-107

SETOUT CO-ORDINATES TO AGD84		
POINT	EASTING	NORTHING
1	302 056.800	7 796 642.150
2	302 434.100	7 796 642.150
ILS1	302 050.000	7 796 722.900
PLS1	302 054.000	7 796 722.900



FOR CONSTRUCTION

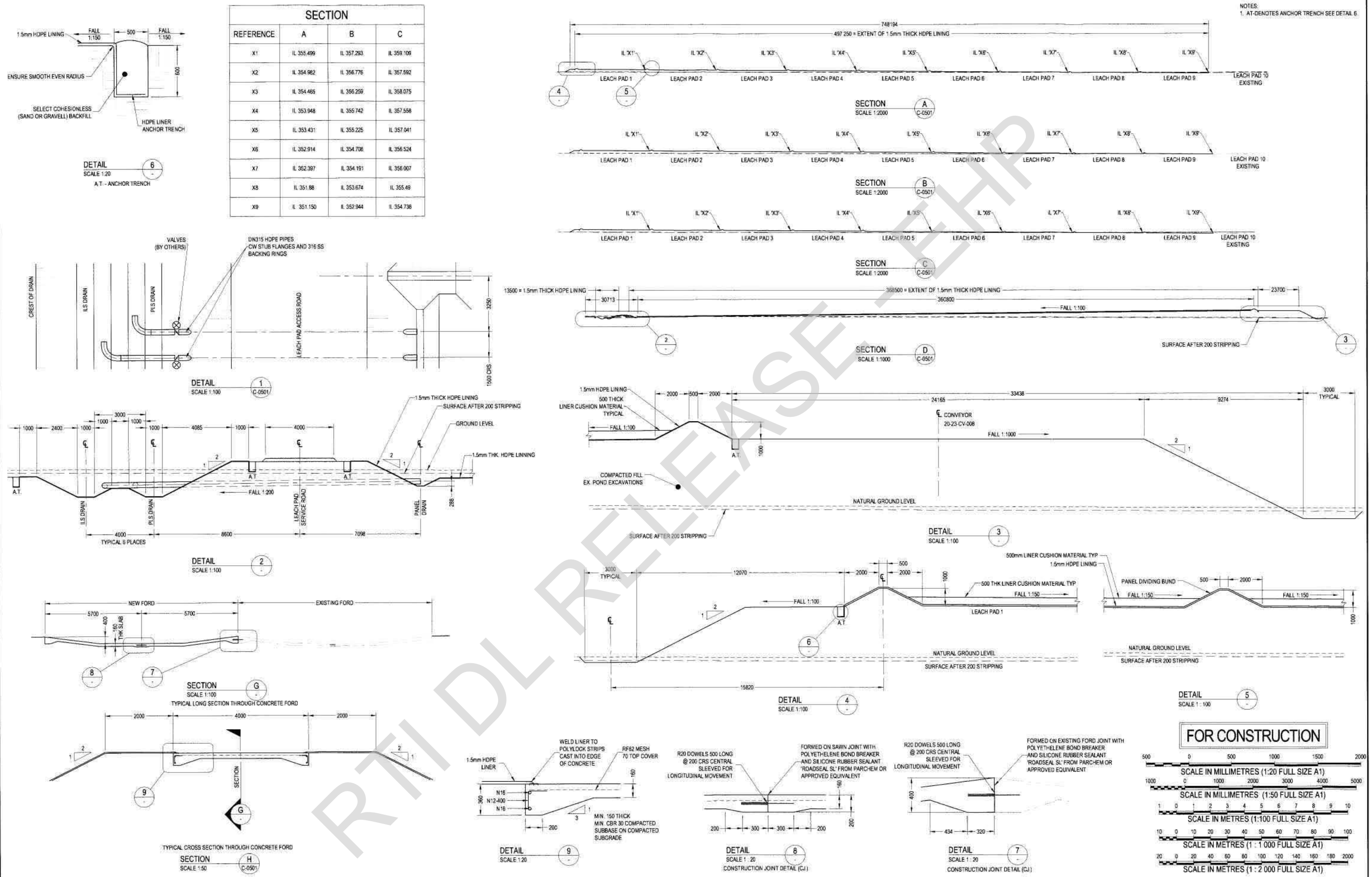


95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006
ABN 58 011 070 625, TEL 61 7 3666 0006, FAX 61 7 3666 0004
Email: intech@intechengineers.com.au, www.intechengineers.com.au

REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:2000	CLIENT
A	FOR COMMENT	13/11/07	DMC			1574-G-0500	GENERAL ARRANGEMENT	DRAWN	DMC	29/01/08
B	FOR APPROVAL	13/11/07	DMC			1574-C-0502	LEACHPADS 1 TO 9 - SECTIONS AND DETAILS	CHKD	DJB	18/02/08
C	FOR INFORMATION	26/11/07	DMC	DJB	DJB	1574-C-103	EARTHWORKS AND MT KELLY STORMWATER PONDS	DESIGN	WW	18/02/08
T1	ISSUE FOR TENDER	4/12/07	DMC	DJB	RE	1574-C-107	MT KELLY LEACH PAD SETOUT PLAN	APPROVED - INTECH	DATE	
0	APPROVED FOR CONSTRUCTION	05/02/08	MAM	DJB / WW	RRE			D.J. BYRNE	18/02/08	
								APPROVED - CLIENT	DATE	
								R.R. ELLIS	18/02/08	

DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 2
MT KELLY SITE - HEAP LEACH
LEACHPADS 1 TO 9
CIVIL - SETOUT

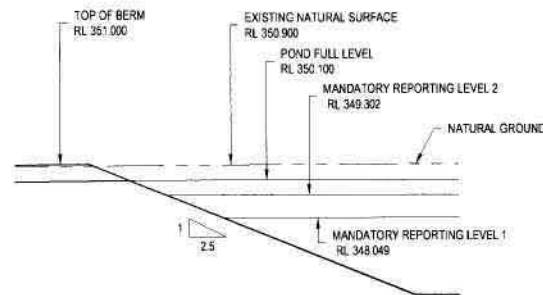
FILE NAME	PROJECT	DWG NO	REV	SHEET
725CA0503RevESWP2 18-10-07	0725	1574-C-0501	0	A1



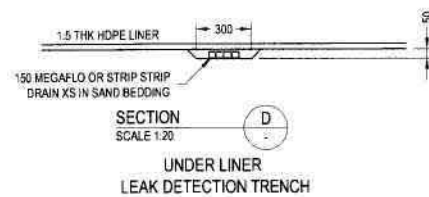
<p>intech ENGINEERS</p> <p>95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006 ABN 58 011 070 825, TEL 61 7 3666 0006, FAX 61 7 3666 0004 Email: intech@intechengineers.com.au, www.intechengineers.com.au</p>	<p>THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF INTECH ENGINEERS PTY LTD AND IS LOANED TO YOU FOR THE USE OF THE PROJECT ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF INTECH ENGINEERS PTY LTD.</p>	<p>REV</p> <p>A FOR COMMENT</p> <p>B FOR APPROVAL</p> <p>C PRELIMINARY FOR COMMENT</p> <p>T1 ISSUE FOR TENDER</p> <p>D APPROVED FOR CONSTRUCTION</p>	<p>REVISION DETAILS</p>	<p>DATE</p> <p>13/09/07</p> <p>1/11/07</p> <p>28/11/07</p> <p>4/12/07</p> <p>06/02/08</p>	<p>BY</p> <p>DMC</p> <p>DMC</p> <p>DMC</p> <p>DMC</p> <p>MAM</p>	<p>CHKD</p> <p>DMC</p> <p>DJB</p> <p>DJB</p> <p>DJB</p> <p>WW</p>	<p>APPD</p> <p>DJB</p> <p>DJB</p> <p>DJB</p> <p>RRE</p>	<p>DWG NO</p> <p>1574-C-0500</p> <p>1574-C-0501</p>	<p>REFERENCE DRAWING TITLE</p> <p>SITE LAYOUT</p> <p>LEACHPADS 1 TO 9 - SETOUT</p>	<p>SCALE</p> <p>1:2500</p>	<p>CLIENT</p> <p>CopperCo.</p>	<p>DWG TITLE</p> <p>LADY ANNIE EXPANSION PROJECT - STAGE 2</p> <p>MT KELLY PLANT SITE - HEAP LEACH</p> <p>LEACHPADS 1 TO 9</p> <p>CIVIL - SECTIONS AND DETAILS</p>	<p>FILE NAME</p> <p>725c0502 Rev0</p>	<p>PROJECT</p> <p>0725</p>	<p>DWG NO</p> <p>1574-C-0502</p>	<p>REV</p> <p>0</p>	<p>SHEET</p> <p>A1</p>

POINT	EASTING	NORTHING
1	301 736.800	7 797 383.800
2	301 467.200	7 797 382.700
3	301 735.000	7 797 184.600
4	301 468.300	7 797 187.200

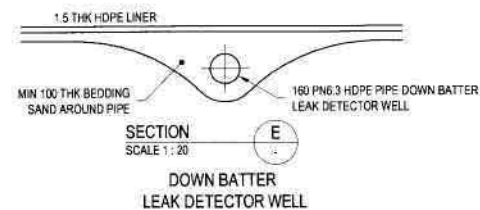
• TOTAL CONTRIBUTING CATCHMENT AREA	6989 975 m ²
• REQUIRED PROCESS WATER STORAGE VOLUME	43 200 m ³
• 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME	576 710 m ³
• REQUIRED TOTAL STORAGE VOLUME	619 910 m ³
• AVAILABLE PROCESS POND STORAGE VOLUME	44 850 m ³
• AVAILABLE ALL PONDS FILL STORAGE VOLUME (LEVEL RL 350 10)	623 856 m ³
MANDATORY REPORTING LEVEL 1 VOLUME	
• 100 YEAR 72 HOUR STORM VOLUME	RL 348 038 m
	237 382 m ³
MANDATORY REPORTING LEVEL 2 VOLUME	
• 10 YEAR 24 HOUR STORM VOLUME	RL 349 141 m
	105 001 m ³



SECTION
SCALE 1:200

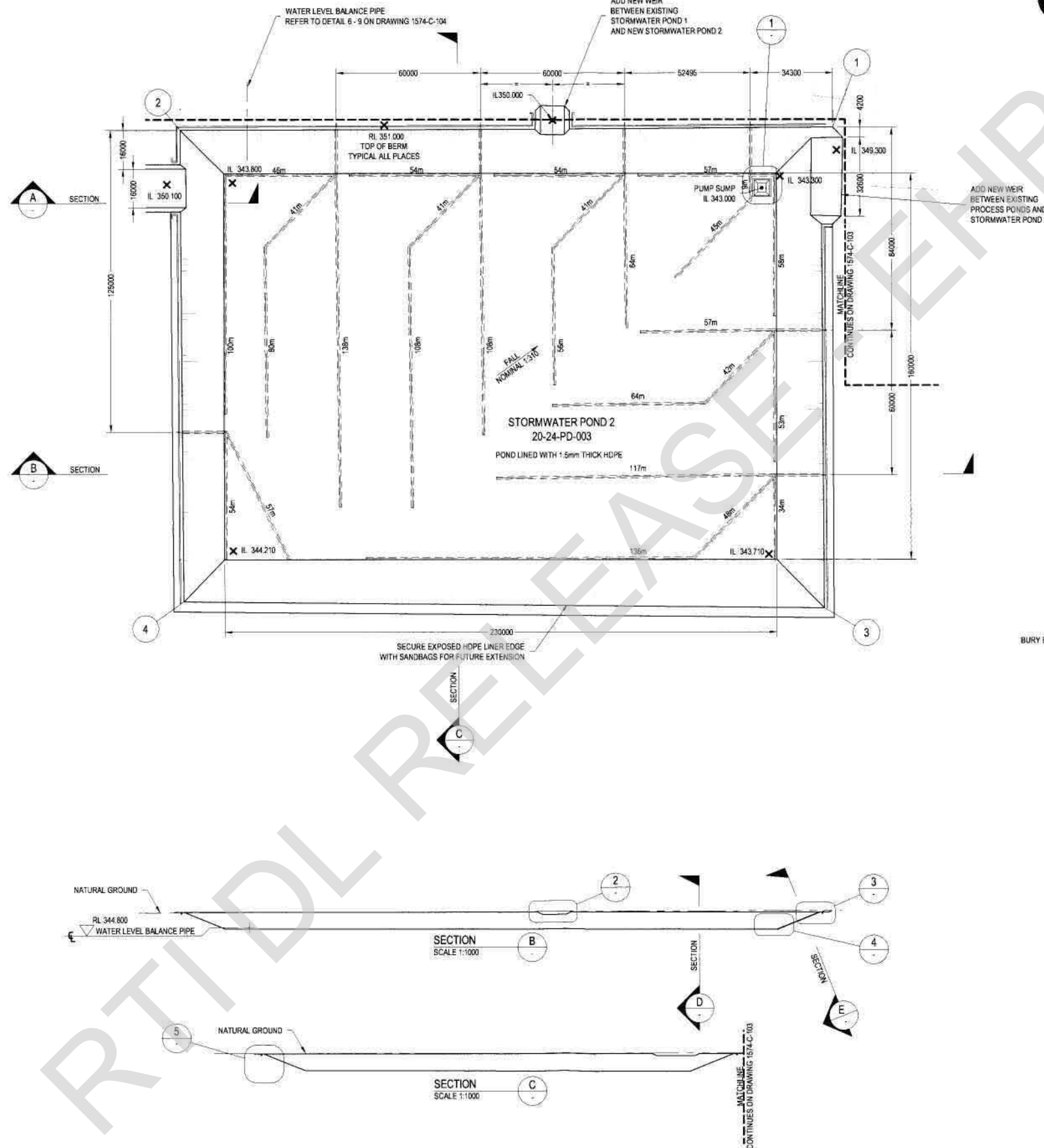
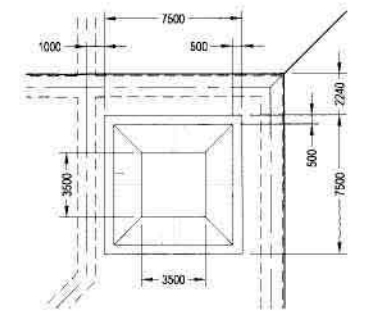


LEAK DETECTION TRENCH

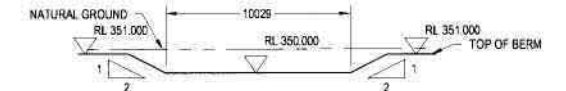


DOWN BATTER
LEAK DETECTOR WELL

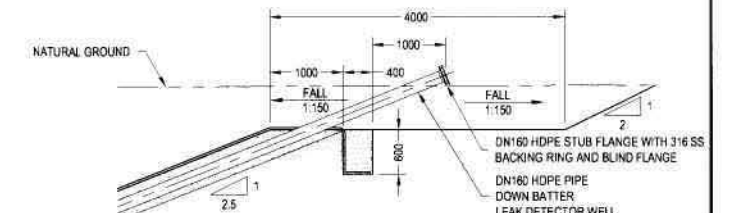
- NOTES:
1. GRADE 1V : 2.5H ON PONDS AND 1V : 2H ON WIERS UNO.
 2. FOR DETAILED REQUIREMENTS COVERING EARTHWORKS, ROADWORKS & DRAINAGE REFER TO 725-SP-0041.
 3. FOR DETAILED REQUIREMENTS COVERING GEO-TECH LINING, REFER TO 725-SP-0042.



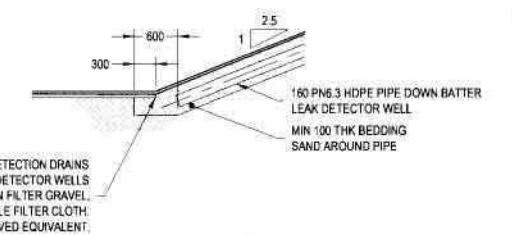
DETAIL
SCALE 1/2"



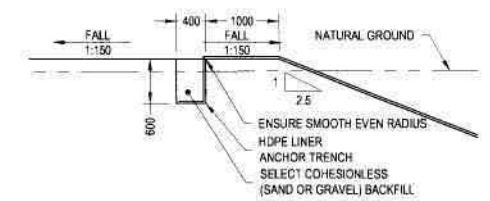
DETAIL
SCALE 1:20



DETAIL
SCALE 1:5

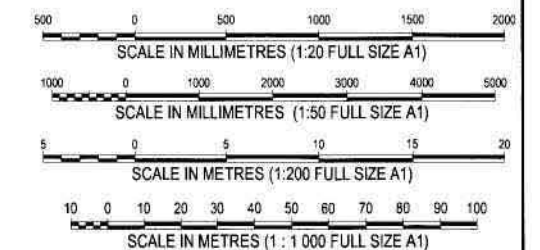


DETAIL
SCALE 1:5



DETAIL
SCALE 1:5

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ABN 58 011 070 625, TEL 61 7 3666 0006, FAX 61 7 3666 0004
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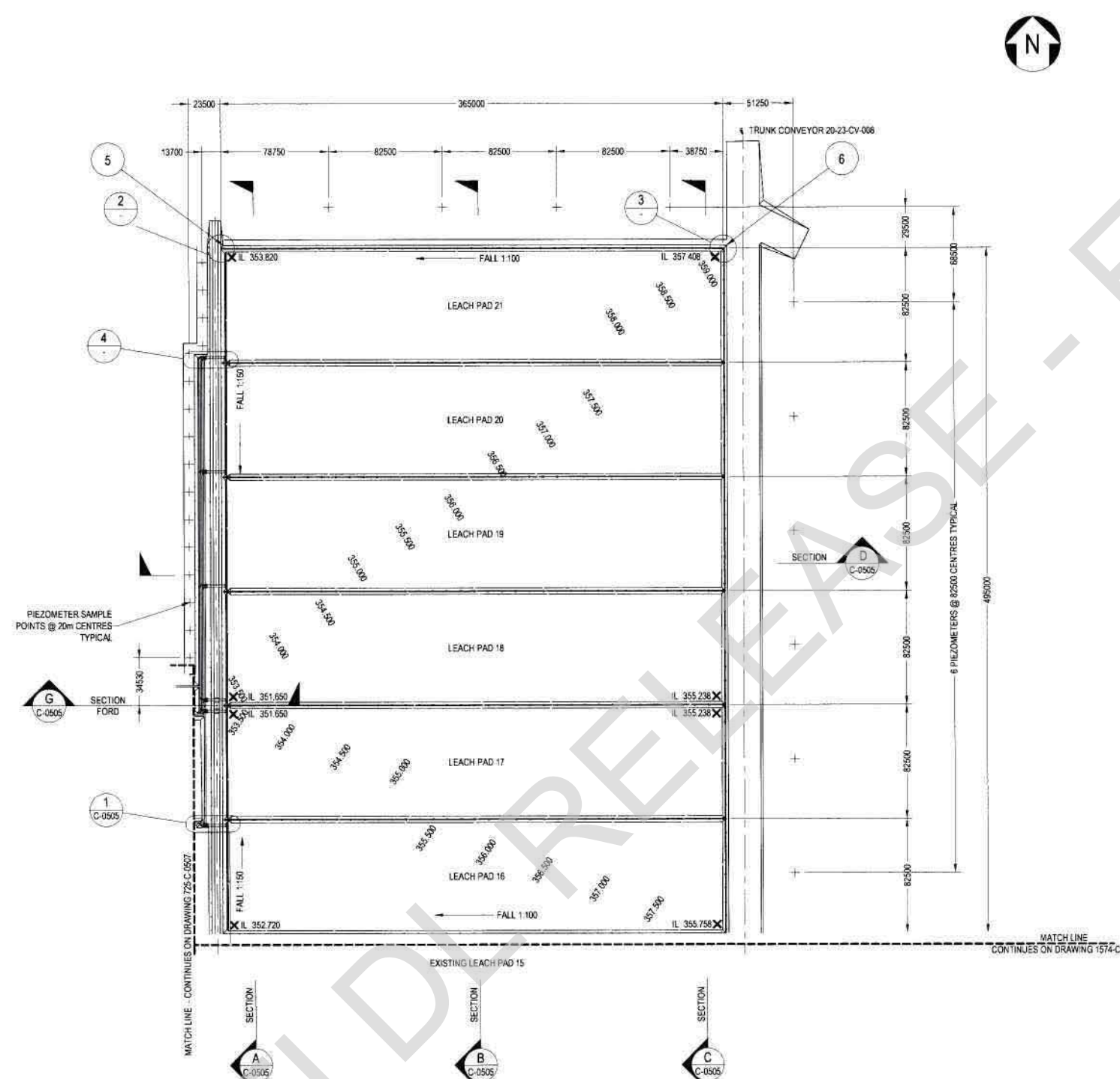
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CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH		DATE
D.J. BYRNE		18/02/08
APPROVED - CLIENT		DATE
D.D. BLAIR		18/02/08



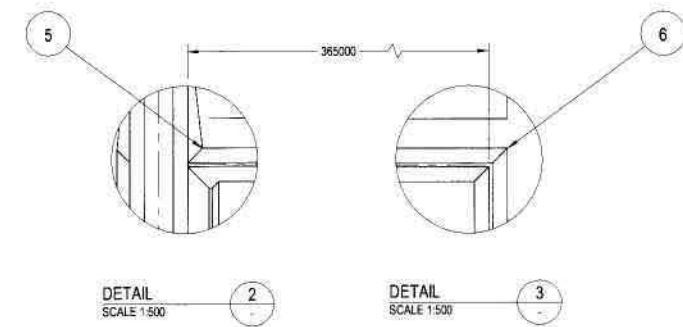
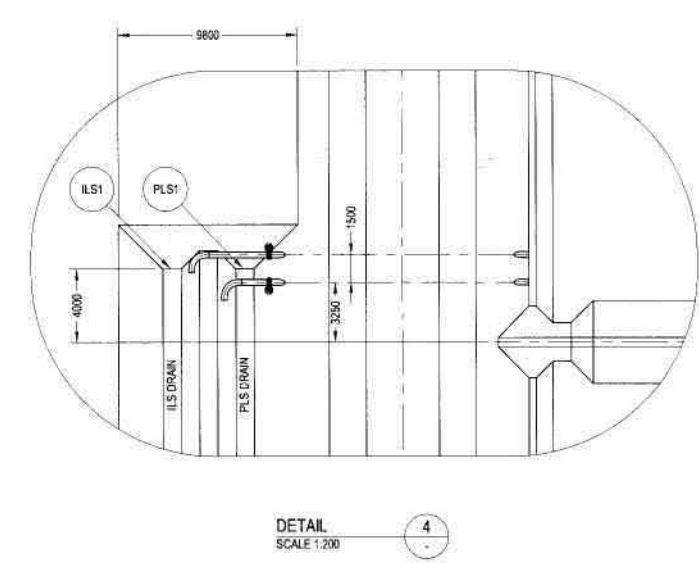
DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 2
MT KELLY PLANT SITE - HEAP LEACH AREA
20-24-PD-003 STORMWATER POND 2
CIVIL - SETOUT AND SECTIONS

FILE NAME	PROJECT	DWG NO	REV	SHEET
1574c0503 Rev0	0725	1574-C-0503	0	A1

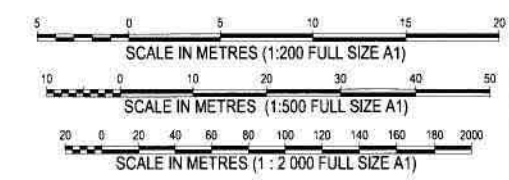


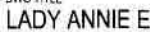
- NOTES
- 1. GRADE 1V/2H U.N.O.
 - 2. GROUND LINE SHOWN AS --- TYPICAL
 - 3. SURFACE AFTER STRIPPING SHOWN AS --- TYPICAL
 - 4. TYPICAL FALL ACROSS PADS IS 1:150 FROM PAD 1 TO PAD 9.
 - 5. TYPICAL FALL ALONG THE LENGTH OF EACH PAD IS 1:100
 - 6. SOUTHERN SETOUT CO-ORDINATES ARE SETOUT ON EXISTING LEACH PAD 15 REFER TO DRAWING 1574-C-107.

SETOUT CO-ORDINATES TO AGD84		
POINT	EASTING	NORTHING
5	302 068 600	7 798 398 540
6	302 434 100	7 798 398 540
ILS1	302 050 000	7 798 317 790
PLS1	302 054 000	7 798 317 790



FOR CONSTRUCTION



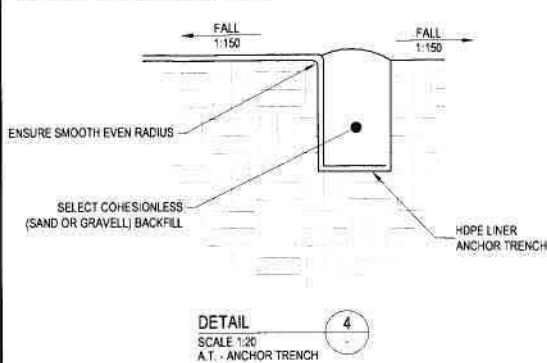
 95 Brunswick Street, Fortitude Valley, Brisbane QLD 4006 ABN 56 011 070 625, TEL 61 7 3666 0000, FAX 61 7 3666 0004 Email: intech@intechengineers.com.au, www.intechengineers.com.au	THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF INTECH ENGINEERS PTY LTD AND IS LOANED TO YOU FOR THE SOLE USE OF THE PROJECT. ANY REUSE OR MODIFICATION OF THIS INFORMATION WITHOUT THE WRITTEN PERMISSION OF INTECH ENGINEERS PTY LTD IS STRICTLY PROHIBITED.		REV		REVISION DETAILS		DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:2000	CLIENT						
	A	FOR COMMENT					01/11/07	DMC				1574-C-0500	SITE LAYOUT	DRAWN	DMC	28/01/08					
	T2	ISSUED FOR TENDER					31/01/08	MAM	DJB			1574-C-0505	LEACHPADS 16 TO 21 - SECTIONS AND DETAILS	CHKD	DJB	18/02/08					
	0	APPROVED FOR CONSTRUCTION					18/02/08	MAM	DJB / WW	RRE		1574-C-107	EARTHWORKS - MT KELLY LEACHPAD SETOUT PLAN	DESIGN	WW	18/02/08					
													20-24-PD 301, 302, 303 - ILS, PLS SWP3 CIVIL ARRANGEMENT	APPROVED - INTECH	DATE			DWG TITLE LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH AREA LEACH PADS 16 TO 21 CIVIL - SETOUT			
														D.J. BYRNE	18/02/08						
														APPROVED - CLIENT	DATE						
														R.R. ELLIS	18/02/08		FILE NAME	PROJECT	DWG NO	REV	SHEET
																	725c0504 Rev0	0725	1574-C-0504	0	A1

13-137

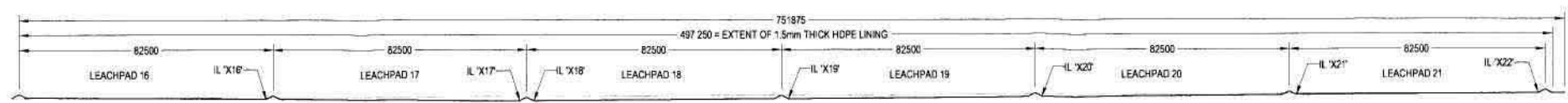
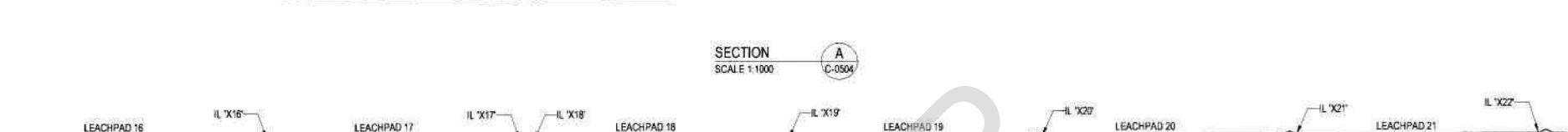
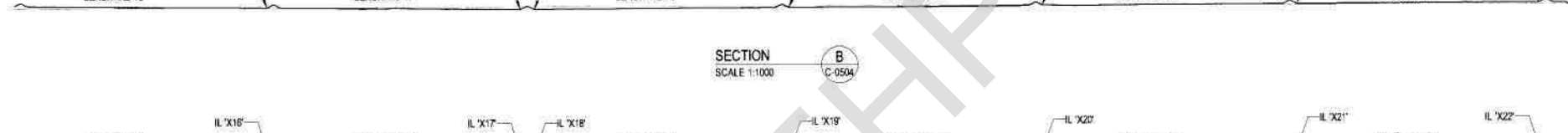
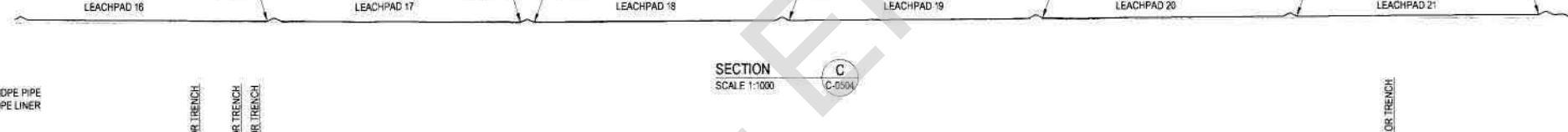
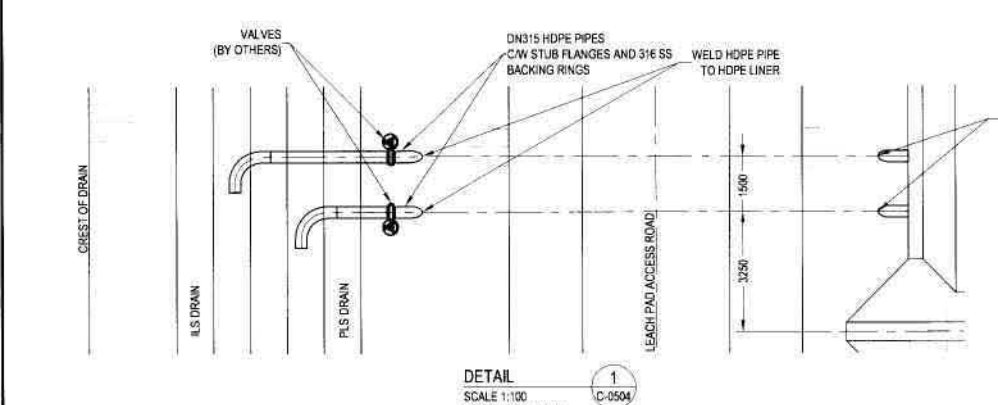
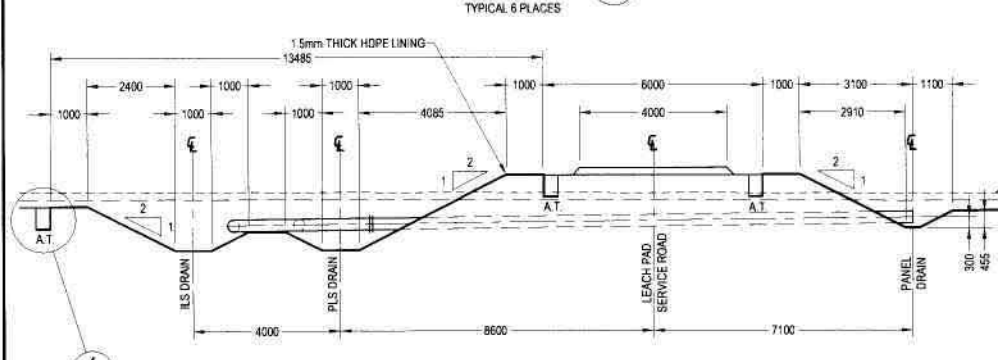
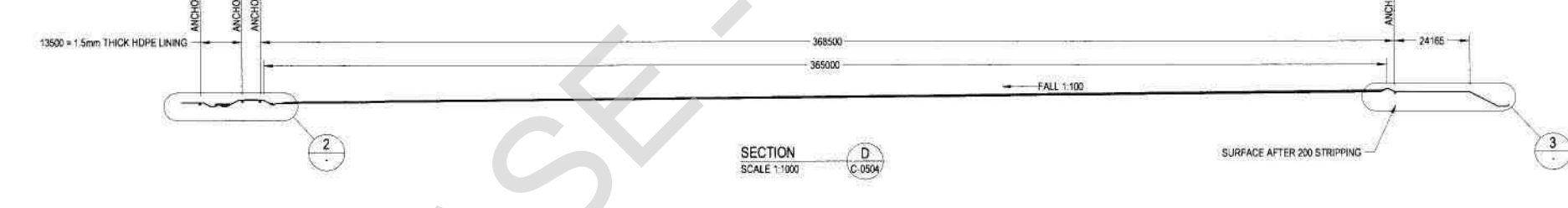
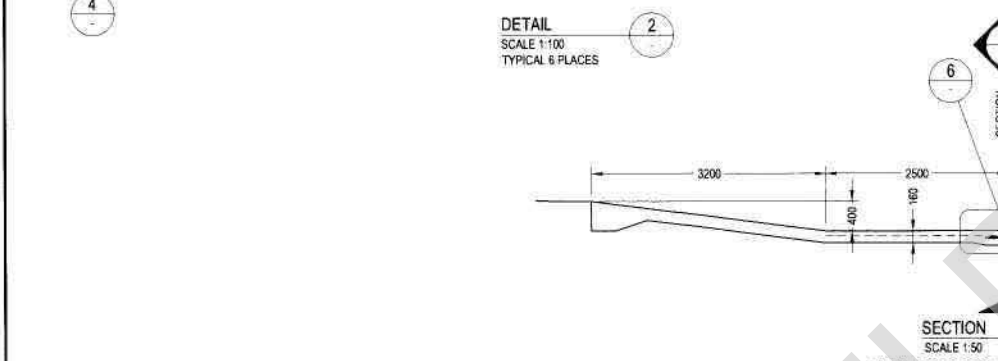
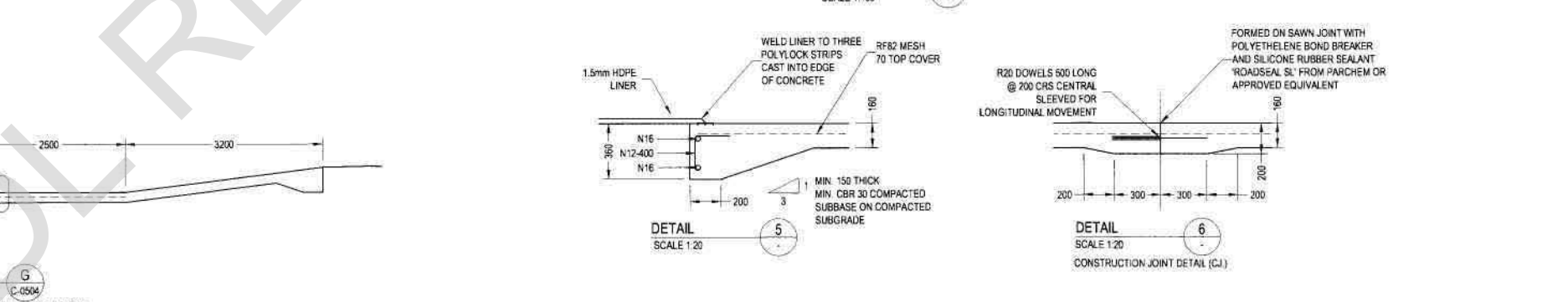
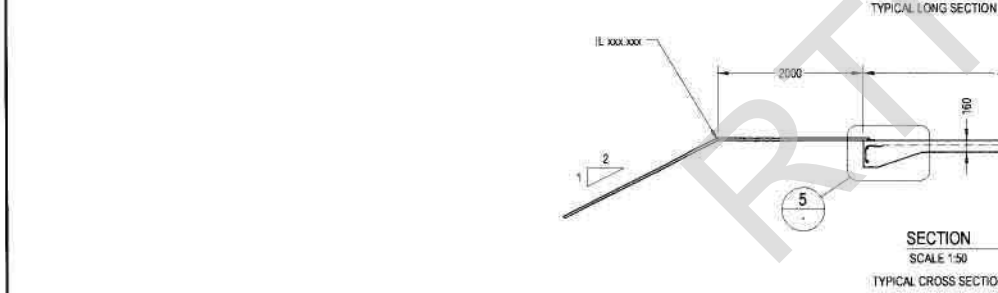
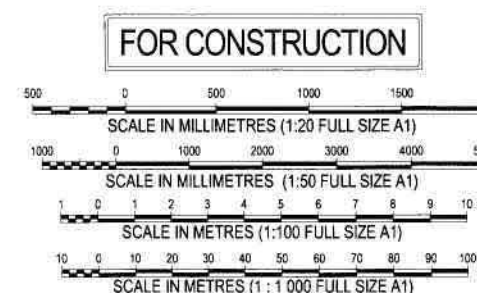
File D Documents

Page 44 of 60

NOTES
1. AT - DENOTES ANCHOR TRENCH SEE DETAIL 4.



SECTION			
REFERENCE	A	B	C
X16	IL 352.200	IL 353.994	IL 355.788
X17	IL 351.650	IL 353.444	IL 355.238
X18	IL 351.650	IL 353.444	IL 355.238
X19	IL 352.200	IL 353.994	IL 355.788
X20	IL 352.750	IL 354.544	IL 356.338
X21	IL 353.300	IL 355.094	IL 356.888
X22	IL 353.820	IL 355.614	IL 357.408



REVISION DETAILS				REFERENCE DRAWING TITLE				CLIENT			
REV	DATE	BY	CHKD	APPD	DWG NO	SITE LAYOUT	SCALE	CLIENT	FILE NAME	PROJECT	DWG NO
A	1/11/07	DMC			1574-C-0500	LEACHPADS 16 TO 21 - SETOUT	1:2000	CLIENT	725c0504 Rev0	0725	1574-C-0505
T2	31/01/08	MAM	DJB		1574-C-0504	LEACHPADS 16 TO 21 - SETOUT	1:2000	CLIENT			
0	04/02/08	MAM	DJB / WW	RRE			1:2000	CLIENT			

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0725	1574-C-0505	0	A1
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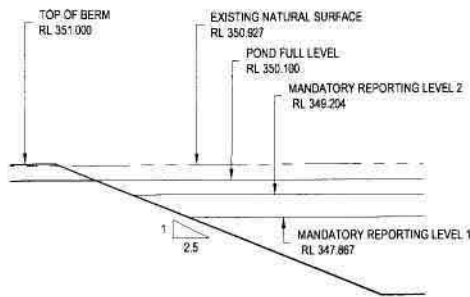
intech-engineers current projects\325 CopperCo Expansion Eng\33 Our Drawings\325-0504 Rev0.dwg, 18/02/2008 2:24:45 PM

SETOUT CO-ORDINATES TO AGD84

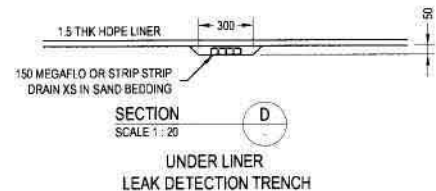
POINT	EASTING	NORTHING
1	301 738.800	7 797 383.800
2	301 467.300	7 797 382.100
5	301 731.600	7 797 073.300
6	301 466.900	7 797 076.500

STAGES 1, 2 & 3 HYDROLOGY PARAMETERS

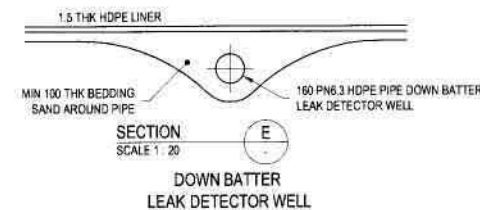
TOTAL CONTRIBUTING CATCHMENT AREA	945 969 m ²
REQUIRED PROCESS WATER STORAGE VOLUME	61 213 m ³
100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME	779 384 m ³
REQUIRED TOTAL STORAGE VOLUME	840 597 m ³
AVAILABLE PROCESS POND STORAGE VOLUME	68 322 m ³
AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10)	850 467 m ³
MANDATORY REPORTING LEVEL 1 VOLUME	RL 347.727 m
100 YEAR 72 HOUR STORM VOLUME	320 899 m ³
MANDATORY REPORTING LEVEL 2 VOLUME	RL 349.077 m
10 YEAR 24 HOUR STORM VOLUME	141 930 m ³



SECTION A
SCALE 1:200

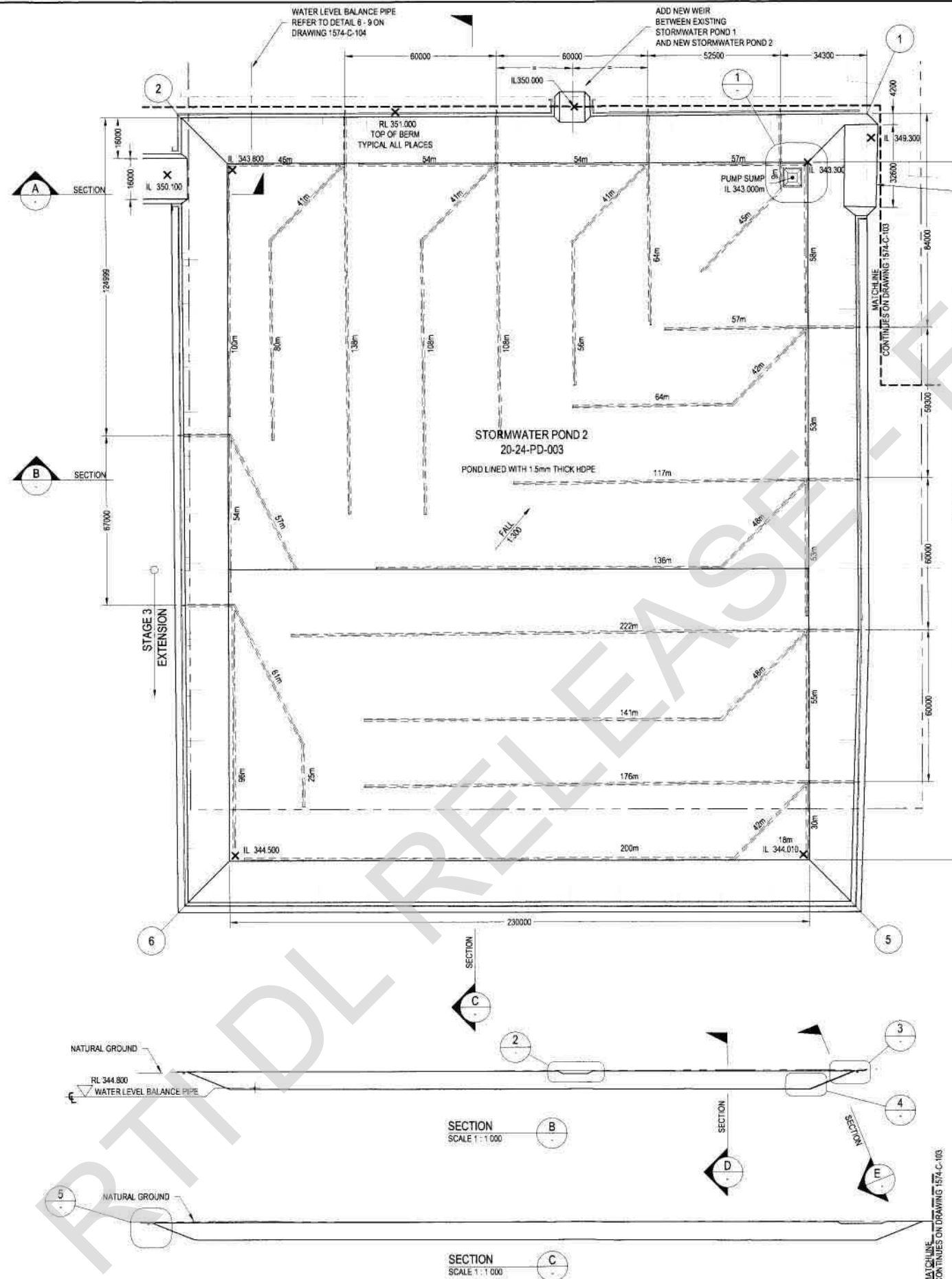


SECTION D
SCALE 1:20



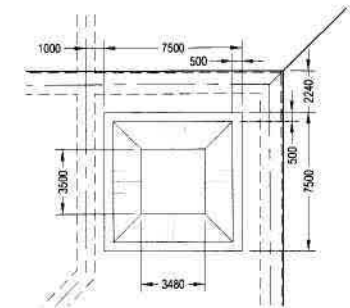
SECTION E
SCALE 1:20

- NOTES:
- GRADE 1V: 2.5H ON PONDS AND 1V: 2H ON WEIRS UNO.
 - FOR DETAILED REQUIREMENTS COVERING EARTHWORKS, ROADWORKS & DRAINAGE, REFER TO 725-SP-0041.
 - FOR DETAILED REQUIREMENTS COVERING GEO-TECH LINING, REFER TO 725-SP-0042.

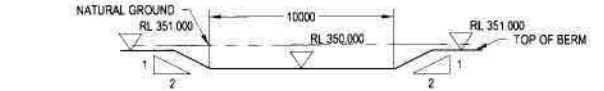


SECTION B
SCALE 1:1 000

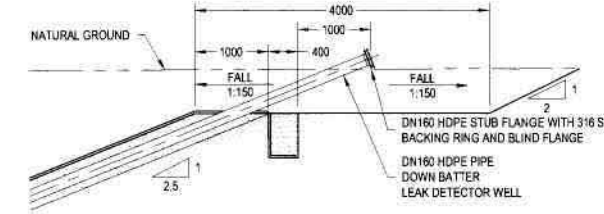
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SCALE 1:1 000



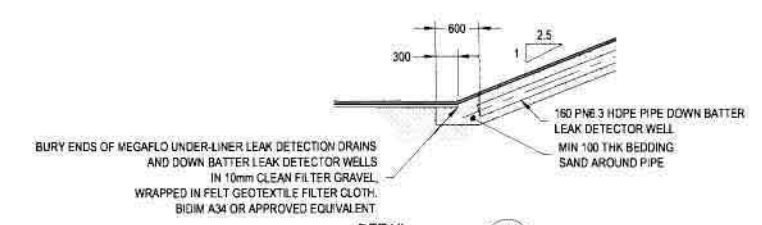
DETAIL 1
SCALE 1:200



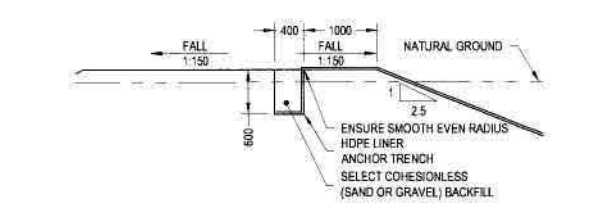
DETAIL 2
SCALE 1:200



DETAIL 3
SCALE 1:50

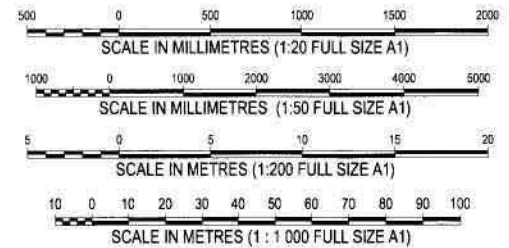


DETAIL 4
SCALE 1:50

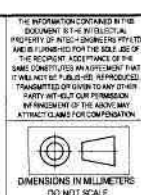


DETAIL 5
SCALE 1:50

FOR CONSTRUCTION



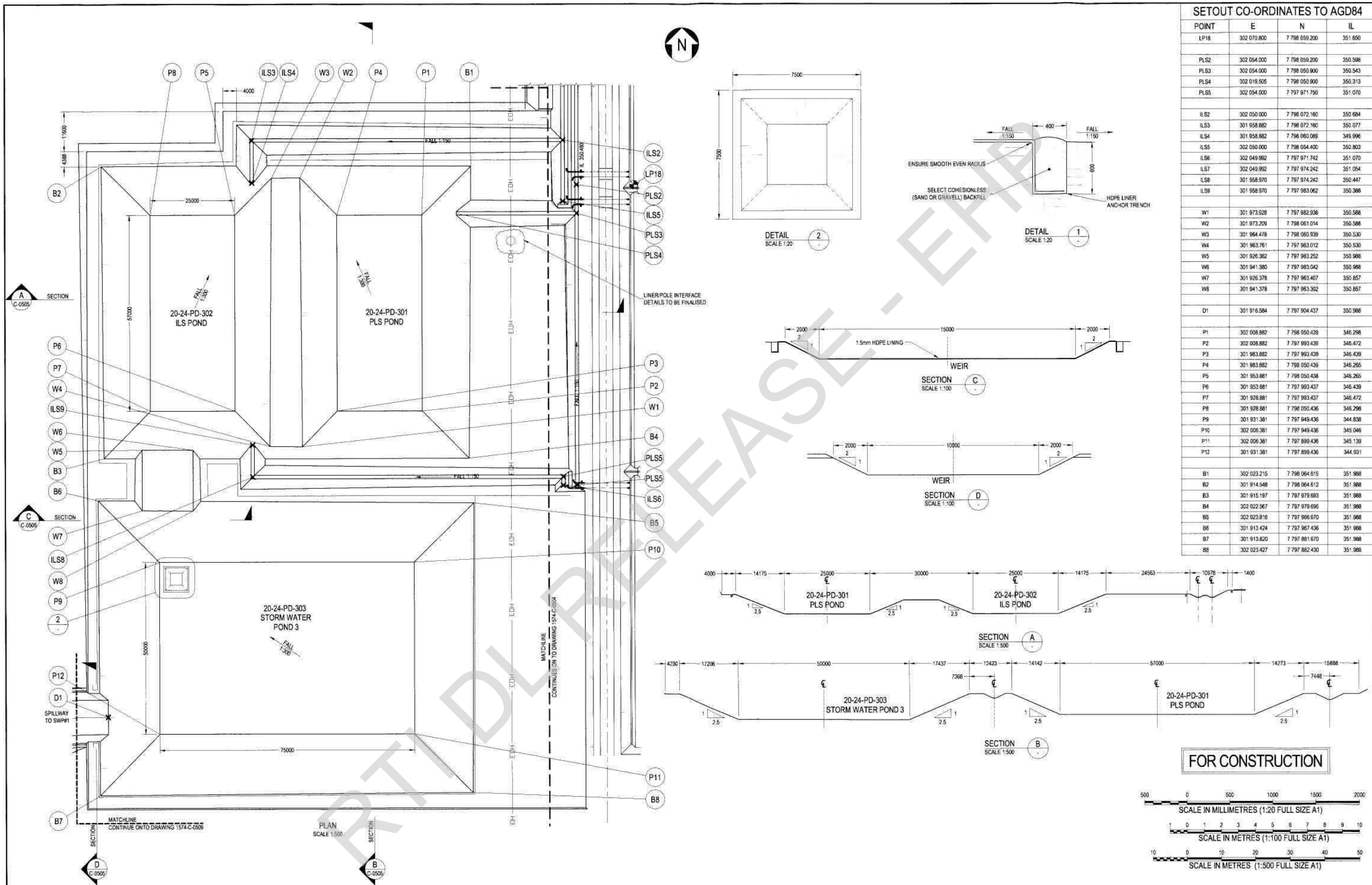
95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006
ABN 56 011 070 625, TEL 61 7 3666 0006, FAX 61 7 3666 0004
Email: info@intechengineers.com.au, www.intechengineers.com.au



REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:1000	CLIENT
A	ISSUED FOR INFORMATION		MAM			1574-C-0500	SITE LAYOUT	DRAWN	MAM	29/01/08
T2	ISSUED FOR TENDER	29/01/08	DMC	DJB		1574-C-0503	20-24-PD-003 STORMWATER POND 2 CIVIL SETOUT & SECTIONS	CHKD	DJB	18/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB / WW	RRE	1574-C-103	MT KELLY PROCESS AND STORMWATER PONDS SETOUT PLAN	DESIGN	WW	18/02/08
						1574-C-104	MT KELLY PROCESS AND STORMWATER PONDS CROSS SECTIONS	APPROVED - INTECH	DATE	
								D.J. BYRNE	18/02/08	
								APPROVED - CLIENT	DATE	
								R.E. ELLIS	18/02/08	

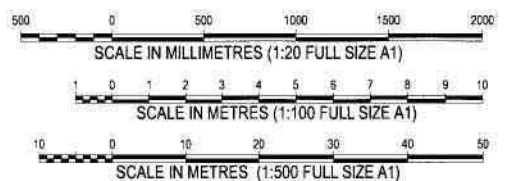


DWG TITLE			
LADY ANNIE EXPANSION PROJECT - STAGE 3			
MT KELLY PLANT SITE - HEAP LEACH AREA			
20-24-PD-003 STORMWATER POND 2B			
CIVIL - SETOUT AND SECTIONS			
FILE NAME	PROJECT	DWG NO	REV SHEET
725c0503 Rev0 DWG	0725	1574-C-0506	0 A1



SETOUT CO-ORDINATES TO AGD84			
POINT	E	N	IL
LP18	302 070.800	7 798 059.200	351.650
PLS2	302 054.000	7 798 059.200	350.588
PLS3	302 054.000	7 798 050.900	350.543
PLS4	302 019.505	7 798 050.900	350.313
PLS5	302 054.000	7 797 971.750	351.070
ILS2	302 050.000	7 798 072.160	350.684
ILS3	301 958.882	7 798 072.160	350.077
ILS4	301 958.882	7 798 060.089	349.996
ILS5	302 050.000	7 798 054.400	350.803
ILS6	302 049.992	7 797 971.742	351.070
ILS7	302 049.992	7 797 974.242	351.054
ILS8	301 958.970	7 797 974.242	350.447
ILS9	301 958.970	7 797 983.062	350.388
W1	301 973.928	7 797 982.936	350.588
W2	301 973.209	7 798 061.014	350.588
W3	301 964.478	7 798 060.939	350.530
W4	301 963.761	7 797 963.012	350.530
W5	301 926.382	7 797 983.252	350.986
W6	301 941.380	7 797 983.042	350.988
W7	301 926.378	7 797 963.407	350.857
W8	301 941.378	7 797 963.302	350.857
D1	301 916.584	7 797 904.437	350.986
P1	302 008.882	7 798 050.439	346.298
P2	302 008.882	7 797 993.439	346.472
P3	301 983.882	7 797 993.439	346.439
P4	301 983.882	7 798 050.439	346.265
P5	301 953.881	7 798 050.438	346.265
P6	301 953.881	7 797 993.437	346.439
P7	301 928.881	7 797 993.437	346.472
P8	301 928.881	7 798 050.436	346.296
P9	301 931.381	7 797 949.436	344.838
P10	302 006.381	7 797 949.436	345.046
P11	302 006.381	7 797 899.436	345.139
P12	301 931.381	7 797 899.436	344.931
B1	302 023.215	7 798 064.615	351.988
B2	301 914.548	7 798 064.612	351.988
B3	301 915.197	7 797 979.683	351.988
B4	302 022.567	7 797 979.685	351.988
B5	302 023.816	7 797 966.670	351.988
B6	301 913.424	7 797 967.436	351.988
B7	301 913.820	7 797 881.670	351.988
B8	302 023.427	7 797 882.430	351.988

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REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE
T1	FOR TENDER	19/12/07	MAM	DB			
T2	ISSUED FOR TENDER	29/01/08	DMC	DJB			
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB / WW	RRE		

SCALE 1:500

DRAWN MAM 29/01/08

CHKD DJB 18/02/08

DESIGN WW 18/02/08

APPROVED - INTECH DATE

D.J. BYRNE 18/02/08

APPROVED - CLIENT DATE

R.R. ELLIS 18/02/08

DWG TITLE

LADY ANNIE EXPANSION PROJECT - STAGE 3

MT KELLY PLANT SITE - HEAP LEACH AREA

20-24-PD-301,302,303-ILS,PLS,SWP3

CIVIL - ARRANGEMENT

FILE NAME 725c0507 Rev0.dwg

PROJECT 0725

DWG NO 1574-C-0507

REV 0

SHEET A1



N 7 797 900 000

N 7 797 800 000

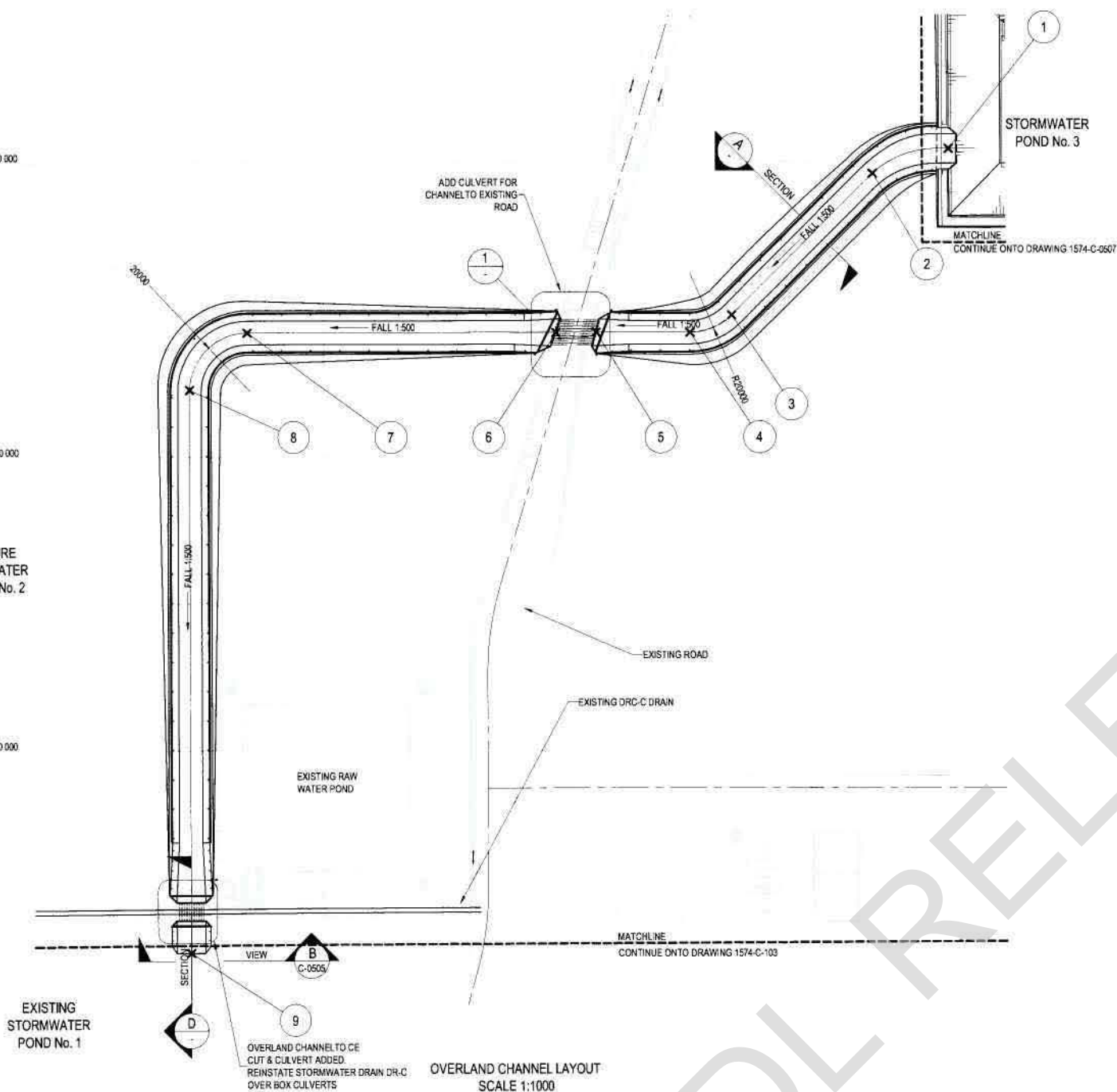
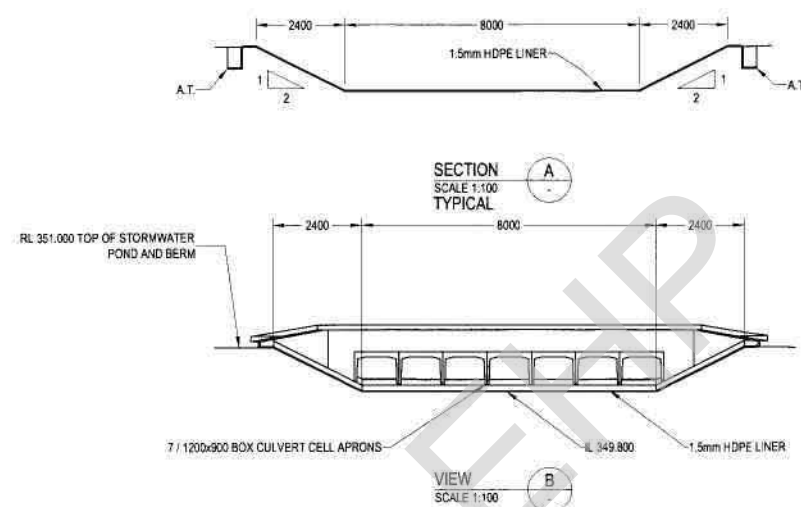
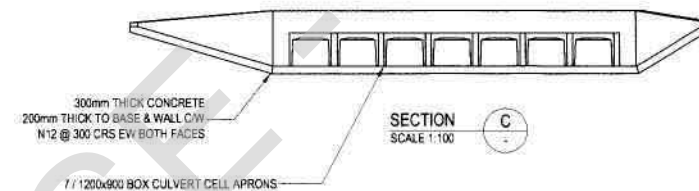
FUTURE
RAW WATER
POND No. 2

N 7 797 700 000

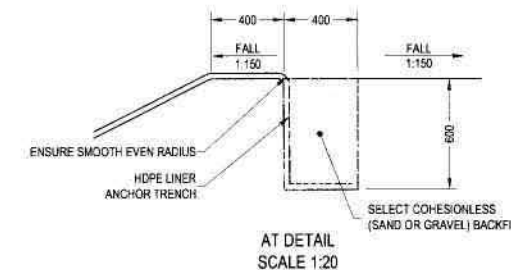
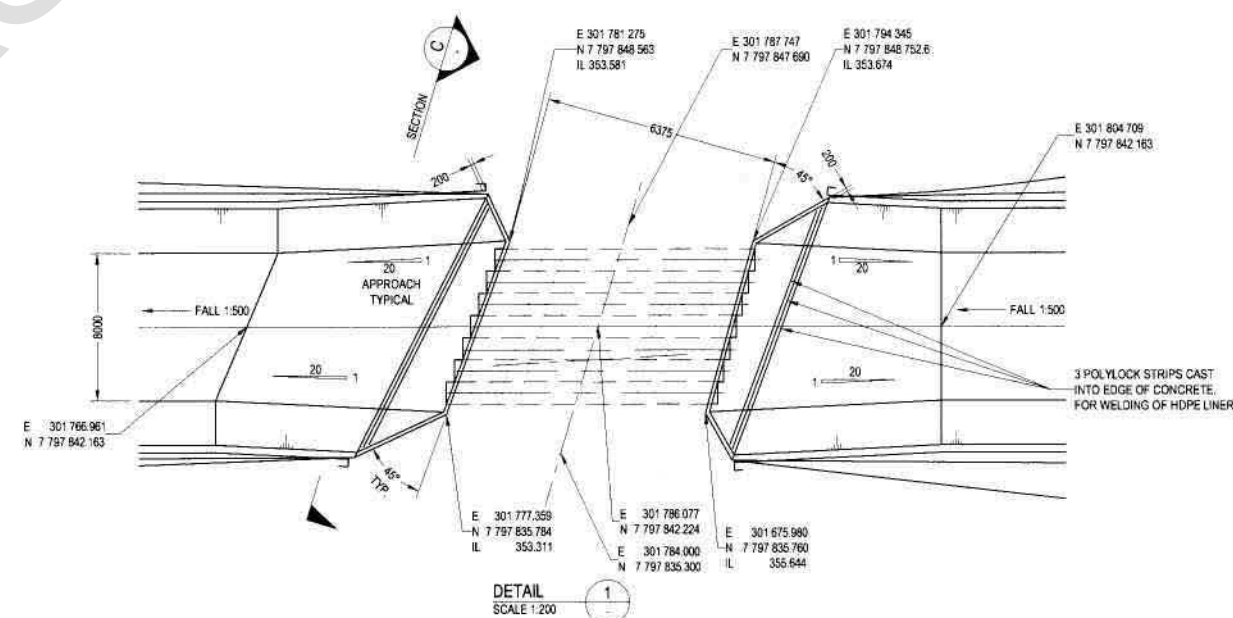
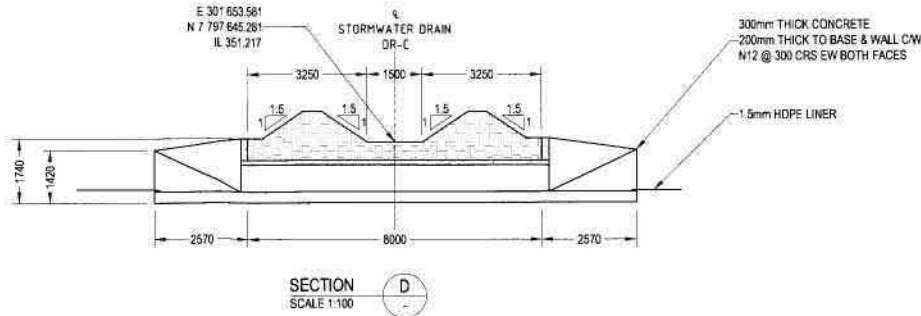
E 301 700 000

E 301 800 000

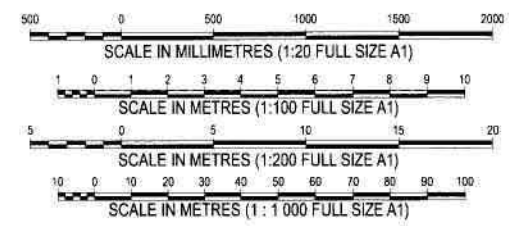
E 301 900 000



SETOUT CO-ORDINATES TO AGD84				
	PT	E	N	IL
OVERLAND CHANNEL	1	301 918.584	7 797 940.436	350.890
	2	301 887.871	7 797 896.052	350.715
	3	301 839.839	7 797 848.021	350.579
	4	301 827.224	7 797 842.221	350.548
	5	301 793.201	7 797 842.136	350.700
	6	301 779.545	7 797 842.163	350.650
	7	301 673.581	7 797 842.163	350.200
	8	301 653.581	7 797 822.201	350.183
	9	301 653.581	7 797 631.151	349.800



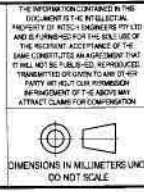
FOR CONSTRUCTION



- NOTES:
- EARTHWORKS TO BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION 725-SP-0041
 - FOR HDPE LINING TO BE COMPLETED IN ACCORDANCE WITH SPECIFICATION 725-SP-0042
 - CONCRETE WORKS TO BE COMPLETED IN ACCORDANCE WITH SPECIFICATION 725-SP-0043 AND AS3600

intech
ENGINEERS

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Email info@intechengineers.com.au, www.intechengineers.com.au



REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE
T2	ISSUED FOR TENDER	28/01/08	DMC	DJB	RRE	1574-C-0500	PROCESSING FACILITY - GENERAL ARRANGEMENT
0	APPROVED FOR CONSTRUCTION	18/02/08	DMC	DJB / WW	RRE	1574-C-0507	MT KELLY PLANT SITE 20-24-PD-301,302,303-ILS PLS SWP3
						1574-C-0103	20-24-PD-003 STORMWATER POND 2 CIVIL SETOUT & SECTIONS
						1574-C-0170	ROADWORKS - TO PROCESS PLANT PROCESS PLANT SECTIONS
						1574-C-0189	ROADWORKS - PROCESS PLANT PLAN SHEET

SCALE	AS NOTED	CLIENT
DRAWN	DMC	14/02/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R. R. ELLIS	18/02/08	

DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1

SCALE	AS NOTED	CLIENT
DRAWN	DMC	14/02/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R. R. ELLIS	18/02/08	

DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1

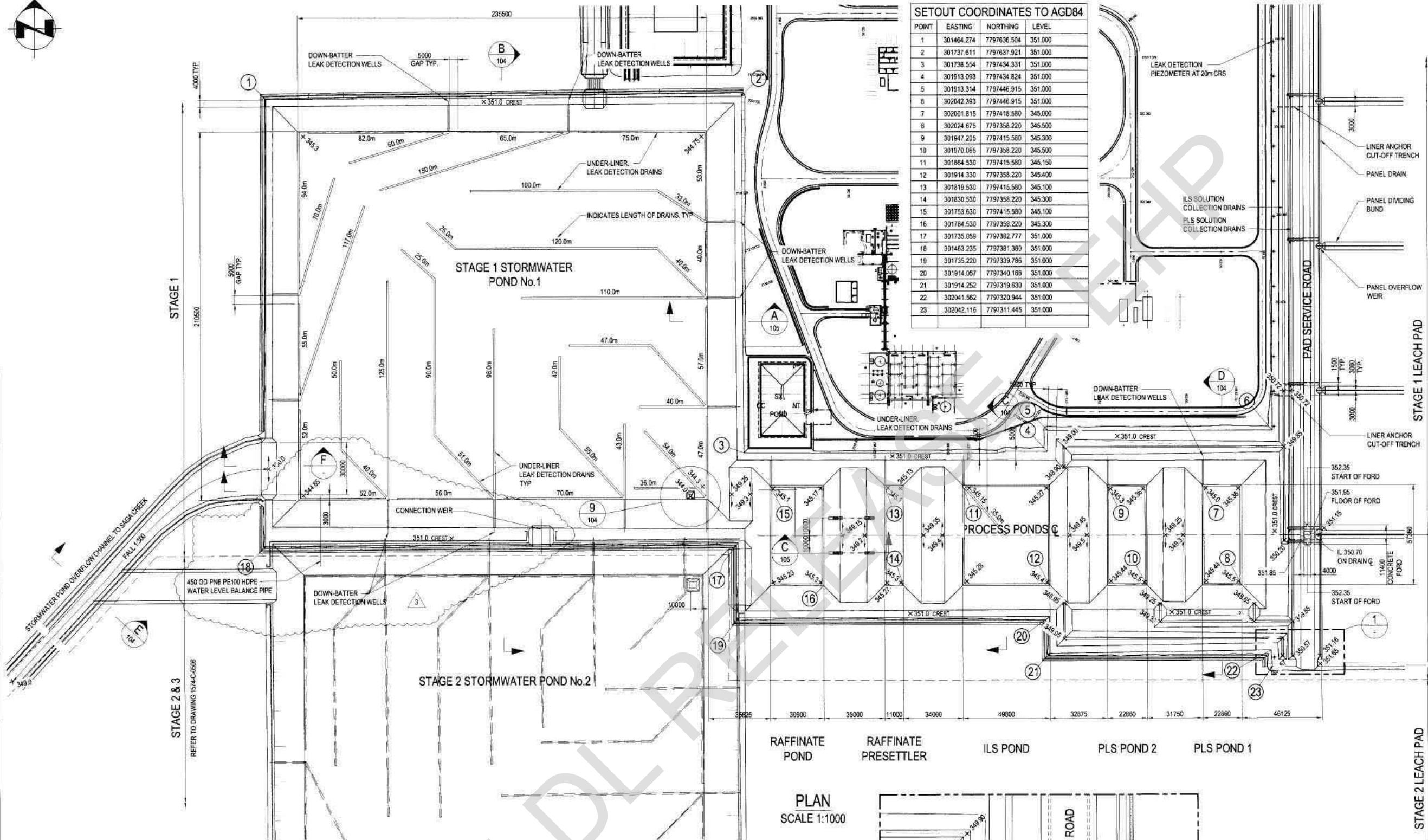


DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1

DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1

DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1

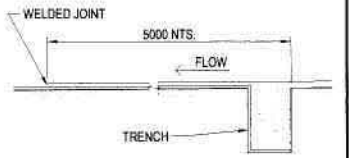
DWG TITLE	FILE NAME	PROJECT	DWG NO	REV	SHEET
LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH OVERLAND CHANNEL CIVIL - LAYOUT AND DETAILS	710C0509 Rev0.dwg	0725	725-C-0509	0	A1



SETOUT COORDINATES TO AGD84

POINT	EASTING	NORTHING	LEVEL
1	301464.274	7797636.504	351.000
2	301737.611	7797637.921	351.000
3	301738.554	7797434.331	351.000
4	301913.093	7797434.824	351.000
5	301913.314	7797446.915	351.000
6	302042.393	7797446.915	351.000
7	302001.815	7797415.580	345.000
8	302024.675	7797358.220	345.500
9	301947.205	7797415.580	345.300
10	301970.065	7797358.220	345.500
11	301864.530	7797415.580	345.150
12	301914.330	7797358.220	345.400
13	301819.530	7797415.580	345.100
14	301830.530	7797358.220	345.300
15	301753.630	7797415.580	345.100
16	301784.530	7797358.220	345.300
17	301735.059	7797382.777	351.000
18	301463.235	7797381.380	351.000
19	301735.220	7797339.786	351.000
20	301914.057	7797340.168	351.000
21	301914.252	7797319.630	351.000
22	302041.562	7797320.944	351.000
23	302042.116	7797311.445	351.000

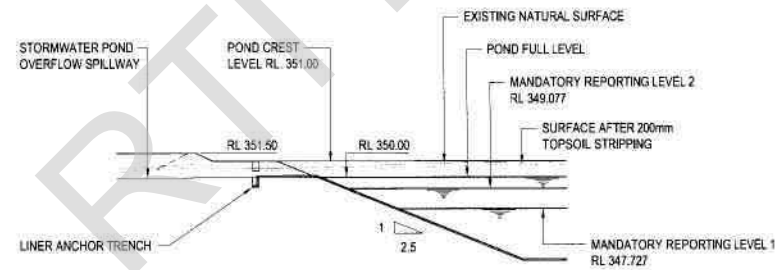
REFER TO DRG 1574-C-107 FOR DETAILS OF STAGE 1 LEACH PAD



TYPICAL SECTION THROUGH LINER ANCHOR CUT-OFF TRENCH
SCALE: NTS

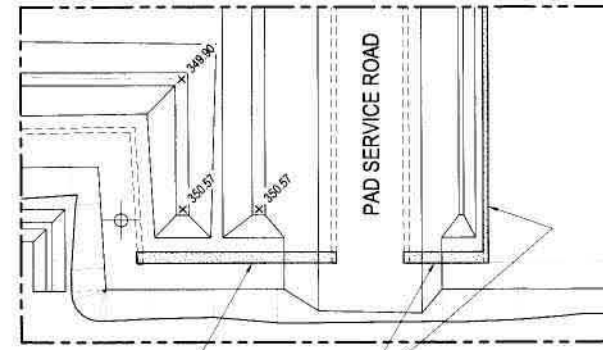
STAGE 1, 2 & 3 HYDROLOGY PARAMETERS

- TOTAL CONTRIBUTING CATCHMENT AREA 945 989 m²
- REQUIRED PROCESS WATER STORAGE VOLUME 61 213 m³
- 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME 775 384 m³
- REQUIRED TOTAL STORAGE VOLUME 840 597 m³
- AVAILABLE PROCESS POND STORAGE VOLUME 68 322 m³
- AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10) 850 467 m³
- MANDATORY REPORTING LEVEL 1 VOLUME RL 347.727 m 320 889 m³
- 100 YEAR 72 HOUR STORM VOLUME
- MANDATORY REPORTING LEVEL 2 VOLUME RL 349.077 m 141 930 m³
- 10 YEAR 24 HOUR STORM VOLUME



STAGE 1 & 2 HYDROLOGY PARAMETERS DETAIL
SCALE 1:200

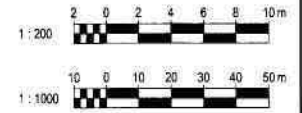
PLAN
SCALE 1:1000



DETAIL 1
NTS

APPROVED FOR CONSTRUCTION

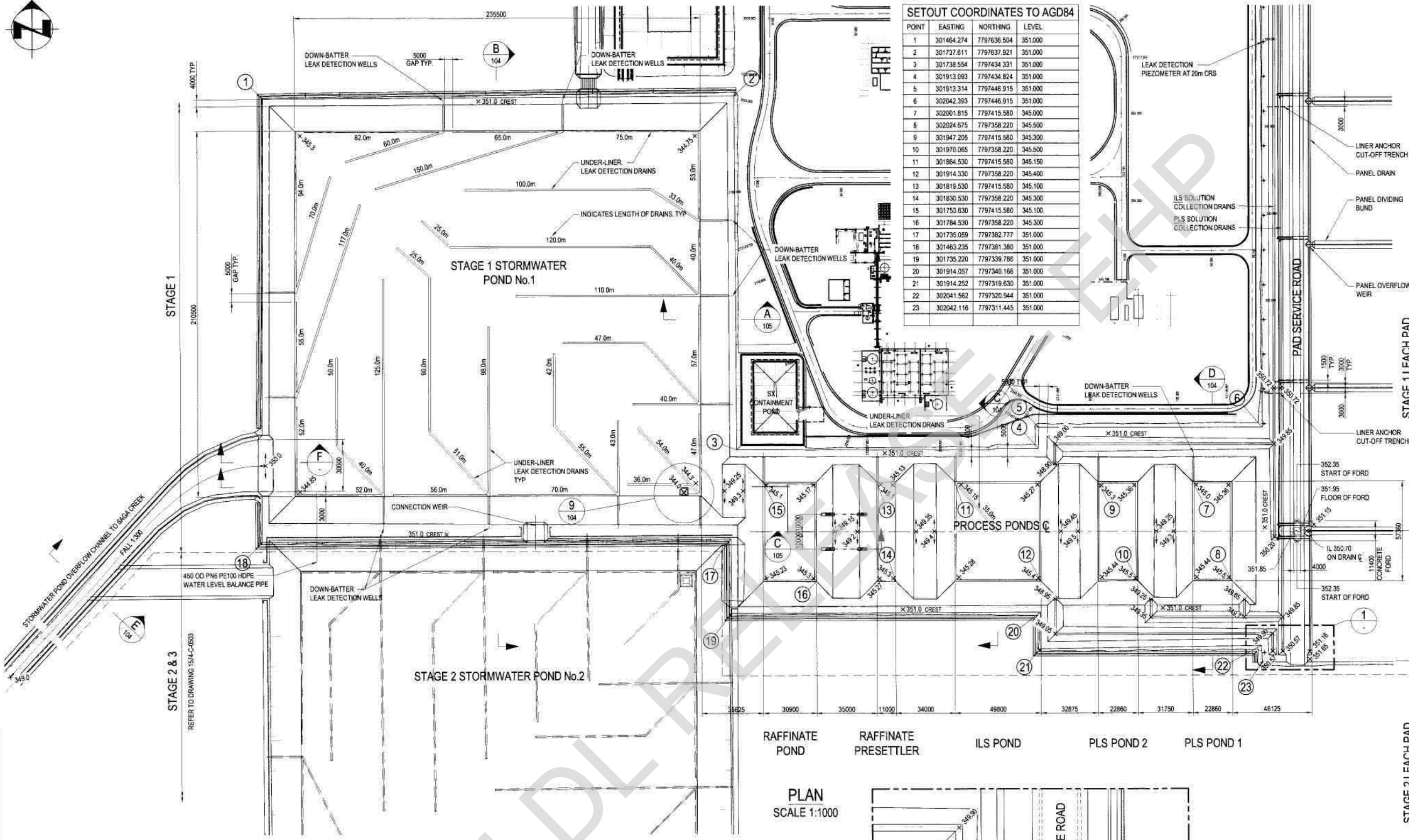
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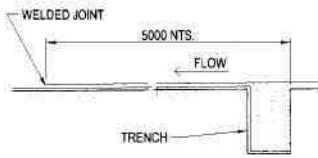
DRAWING No.	REFERENCE DRAWING TITLE	DRAWING No.	REFERENCE DRAWING TITLE	No	BY	DATE	REVISION DETAILS	CHKD	APPR	No	BY	DATE	REVISION DETAILS	CHKD	APPR	PROJ APPR	DATE
1574-C-107	25.54-PS-203 STORMWATER POND 2B	3	MM	16/02/09			GENERAL REVISIONS AS NOTED	CLB	WVR	RRE							16/02/09
1574-C-107	EARTHWORKS - MT KELLY LEACHPAD SETOUT PLAN	2	VBN	16/03/07			GENERAL REVISIONS AS NOTED	CLB	WVR	RRE							16/03/07
1574-C-107	EARTHWORKS - MT KELLY LEACHPAD DETAIL PLAN	1	VBN	16/03/07			GENERAL REVISIONS AS NOTED	MAG	WVR	RRE							16/03/07
1574-C-107	EARTHWORKS - MT KELLY LEACHPAD DETAIL PLAN	1	CLB	20/03/08			ISSUED FOR CONSTRUCTION	VBN	RRE								20/03/08
1574-C-107	EARTHWORKS - MT KELLY LEACHPAD DETAIL PLAN	11	DP	26/07/06			ISSUED FOR TENDER		RRE								26/07/06



CLIENT	COPPERCO LTD	SCALE	AS SHOWN	SIZE	B1
TITLE	LADY ANNIE COPPER PROJECT	ALL DIMENSIONS IN MILLIMETRES			
	EARTHWORKS - MT KELLY PROCESS AND STORMWATER PONDS	REV No.	1	2	3
	STAGE 3 REPORTING LEVELS	DRAWING No.	1574-C-107		



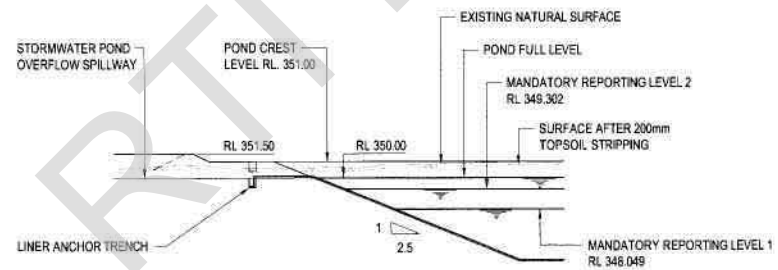
REFER TO DRG 1574-C-107 FOR DETAILS OF STAGE 1 LEACH PAD



TYPICAL SECTION THROUGH LINER ANCHOR CUT-OFF TRENCH
SCALE: NTS

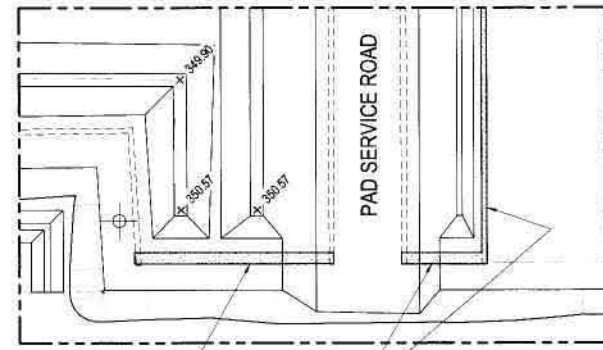
STAGE 1 & 2 HYDROLOGY PARAMETERS

- TOTAL CONTRIBUTING CATCHMENT AREA: 6999 975 m²
- REQUIRED PROCESS WATER STORAGE VOLUME: 43 200 m³
- 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME: 576 710 m³
- REQUIRED TOTAL STORAGE VOLUME: 619 910 m³
- AVAILABLE PROCESS POND STORAGE VOLUME: 44 850 m³
- AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10): 823 656 m³
- MANDATORY REPORTING LEVEL 1 VOLUME: RL 348 636 m, 237 382 m³
- MANDATORY REPORTING LEVEL 2 VOLUME: RL 349 141 m, 105 001 m³
- 10 YEAR 24 HOUR STORM VOLUME: 105 001 m³



STAGE 1 & 2 HYDROLOGY PARAMETERS DETAIL
SCALE 1:200

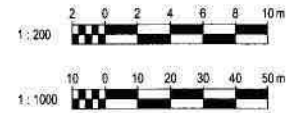
PLAN
SCALE 1:1000



DETAIL 1
NTS

APPROVED FOR CONSTRUCTION

NOTES



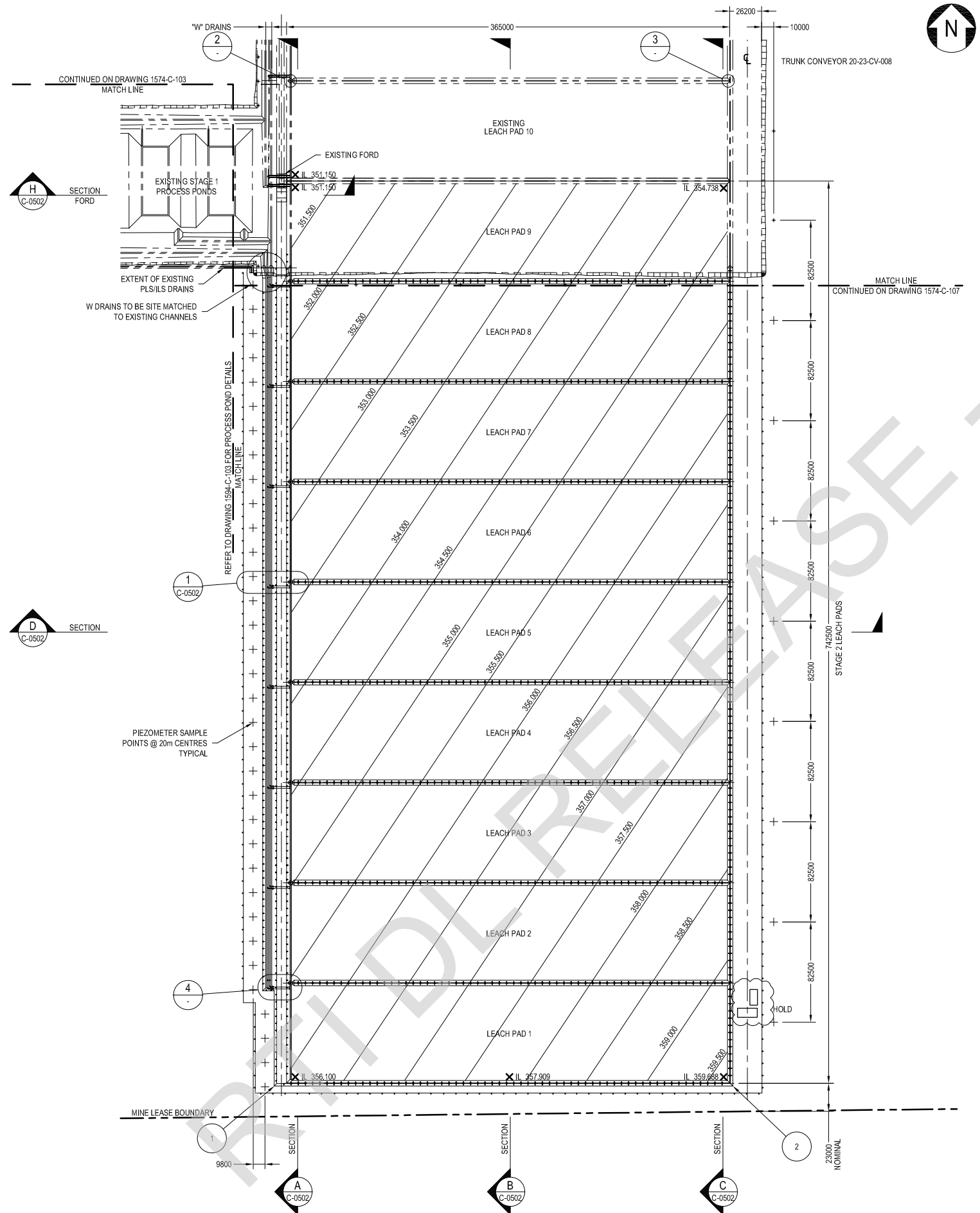
STD DETAIL DRAWINGS APPLY



DRAWING No.	REFERENCE DRAWING TITLE	DRAWING No.	REFERENCE DRAWING TITLE	No	BY	DATE	REVISION DETAILS	CHKD	APPR	No	BY	DATE
1574-C-107	26-24-PO-003 STORMWATER POND 2											
1574-C-107	EARTHWORKS - MT KELLY LEACH PAD SETOUT PLAN											
1574-C-109	EARTHWORKS - MT KELLY POND LINER DETAILS											
1574-C-104	EARTHWORKS - MT KELLY POND CROSS SECTIONS											

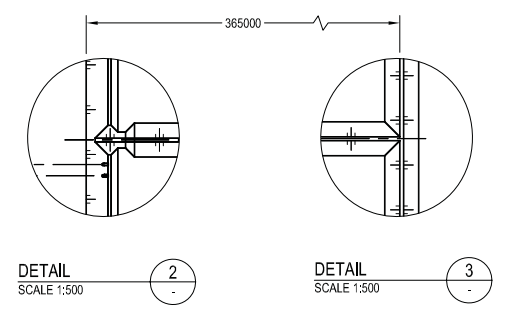
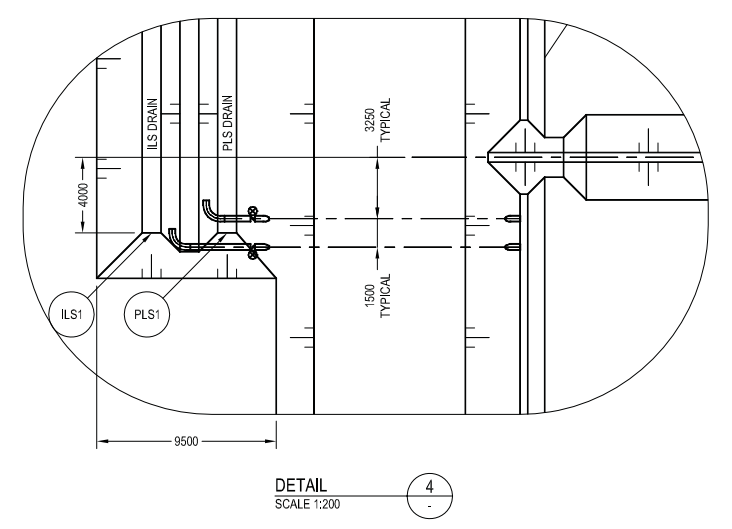


CLIENT	COPPERCO LTD	SCALE	AS SHOWN	SIZE	B1
TITLE	LADY ANNIE COPPER PROJECT	ALL DIMENSIONS IN MILLIMETRES			
	EARTHWORKS - MT KELLY PROCESS AND STORMWATER PONDS	REV No			
	STAGE 2 REPORTING LEVELS	DRAWING No			

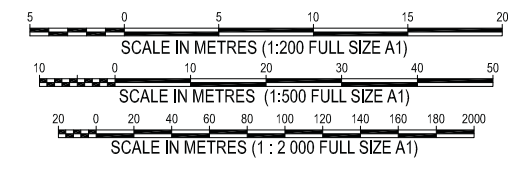


- NOTES:
1. GRADE 1V:2H U.N.O.
 2. GROUND LINE SHOWN AS --- TYPICAL
 3. SURFACE AFTER STRIPPING SHOWN AS --- TYPICAL
 4. TYPICAL FALL ACROSS PADS IS 1:150 FROM PAD 1 TO PAD 9.
 5. TYPICAL FALL ALONG THE LENGTH OF EACH PAD IS 1:100.
 6. NORTHERN SETOUT CO-ORDINATES ARE SETOUT POINTS ON EXISTING LEACH PAD 10 REFER TO DRAWING 1574-C-107.

SETOUT CO-ORDINATES TO AGD84		
POINT	EASTING	NORTHING
1	302 056.600	7 796 642.150
2	302 434.100	7 796 642.150
ILS1	302 050.000	7 796 722.900
PLS1	302 054.000	7 796 722.900

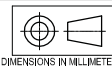


FOR CONSTRUCTION





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DIMENSIONS IN MILLIMETERS
DO NOT SCALE

REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWNG NO	REFERENCE DRAWING TITLE
A	FOR COMMENT	13/11/07	DMC			1574-G-0500	GENERAL ARRANGEMENT
B	FOR APPROVAL	13/11/07	DMC			1574-G-0502	LEACHPADS 1 TO 9 - SECTIONS AND DETAILS
C	FOR INFORMATION	28/11/07	DMC	DJB	DJB	1574-C-103	EARTHWORKS AND MT KELLY STORMWATER PONDS
T1	ISSUE FOR TENDER	4/12/07	DMC	DJB	RE	1574-C-107	MT KELLY LEACH PAD SETOUT PLAN
0	APPROVED FOR CONSTRUCTION	05/02/08	MAM	DJB / WW	RRE		

SCALE	1:2000	CLIENT
DRAWN	DMC	29/01/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R.R. ELLIS	18/02/08	



DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 2
MT KELLY SITE - HEAP LEACH
LEACHPADS 1 TO 9
CIVIL - SETOUT

FILE NAME
725CA0503RevESWP2 18-10-07

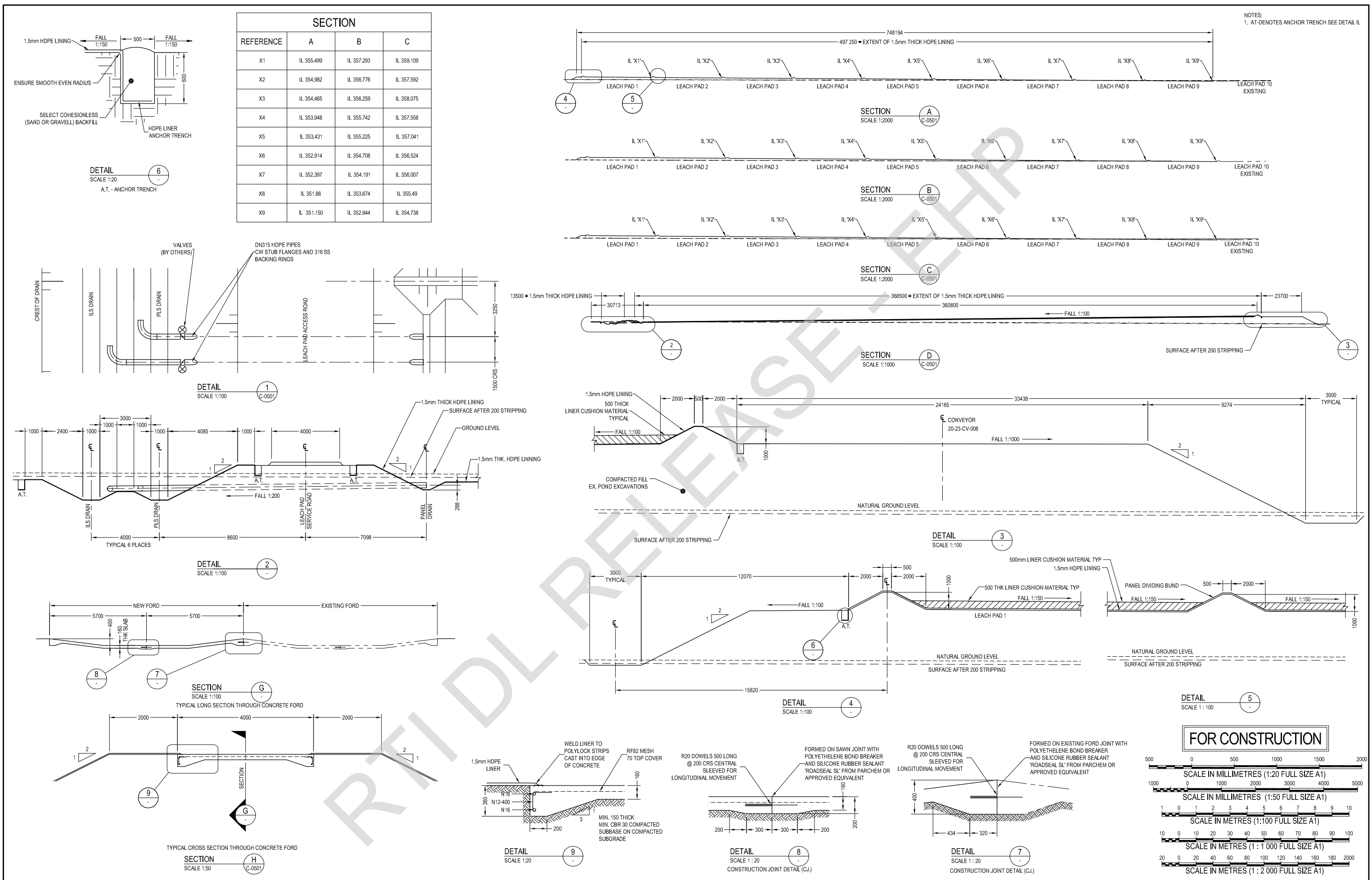
PROJECT
0725

DWG NO
1574-C-0501

Page 51 of 60

REV
0

SHEET
A1



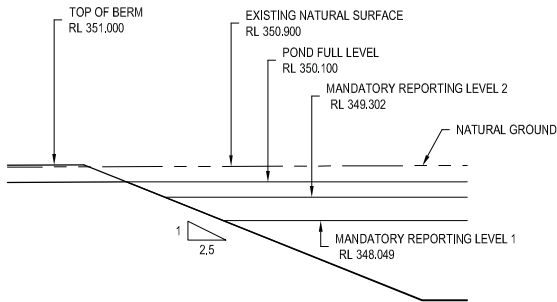
SETOUT CO-ORDINATES TO AGD84		
POINT	EASTING	NORTHING
1	301 738.800	7 797 383.800
2	301 467.200	7 797 382.700
3	301 735.000	7 797 184.600
4	301 468.300	7 797 187.200

STAGE 1 & 2 HYDROLOGY PARAMETERS

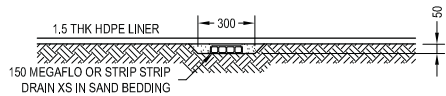
• TOTAL CONTRIBUTING CATCHMENT AREA	6999 975 m²
• REQUIRED PROCESS WATER STOTAGE VOLUME	43 200 m³
• 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME	576 710 m³
• REQUIRED TOTAL STORAGE VOLUME	619 910 m³
• AVAILABLE PROCESS POND STORAGE VOLUME	44 850 m³
• AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10)	623 856 m³

MANDATORY REPORTING LEVEL 1 VOLUME	RL 348.038 m
• 100 YEAR 72 HOUR STORM VOLUME	237 382 m³

MANDATORY REPORTING LEVEL 2 VOLUME	RL 349.141 m
• 10 YEAR 24 HOUR STORM VOLUME	105 001 m³

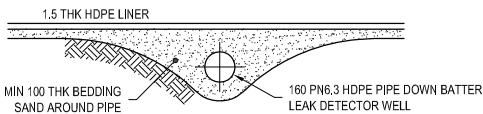


SECTION
SCALE 1:200



SECTION
SCALE 1:20

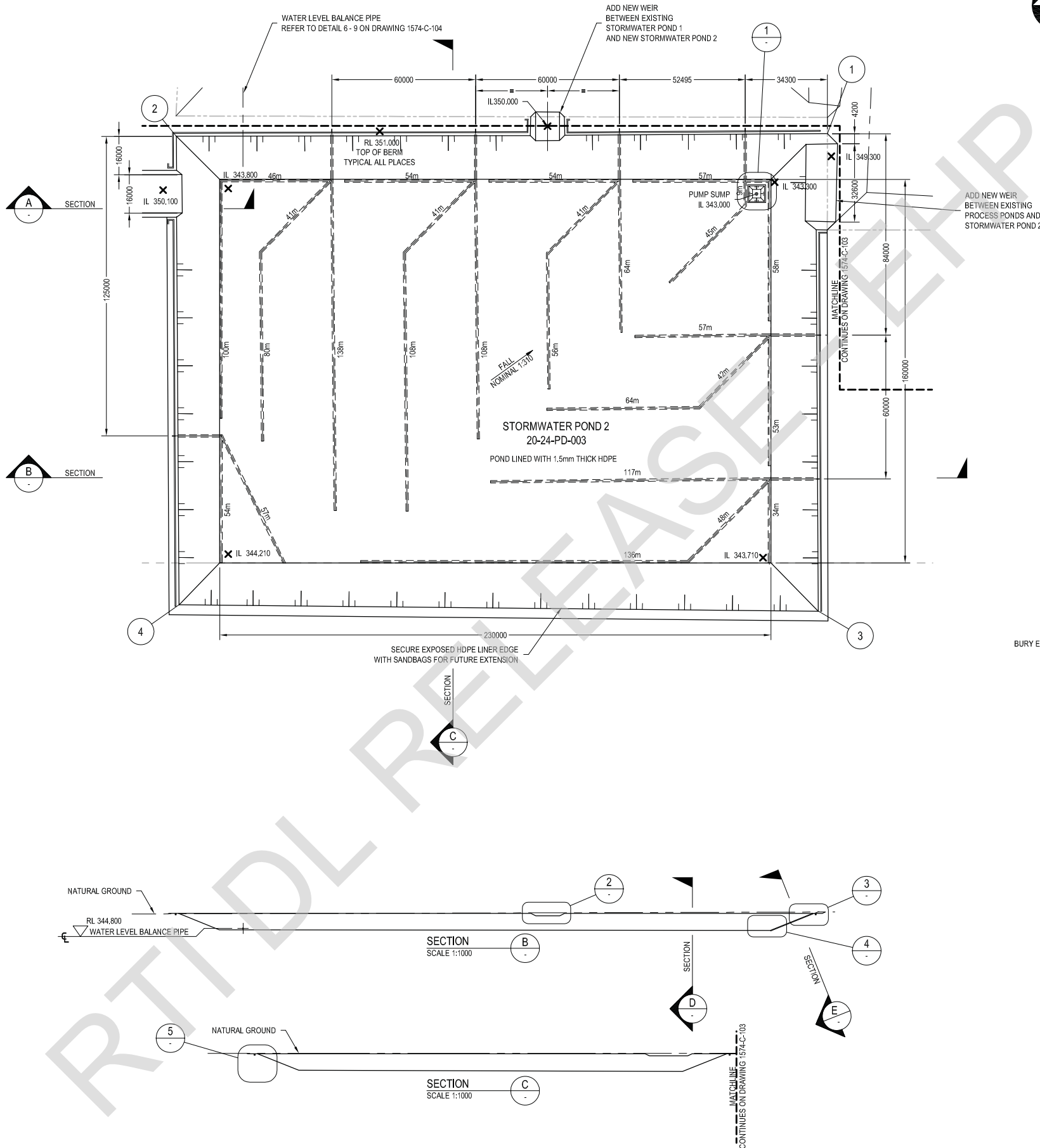
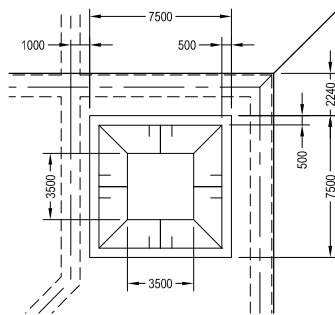
UNDER LINER
LEAK DETECTION TRENCH



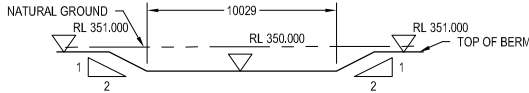
SECTION
SCALE 1:20

DOWN BATTER
LEAK DETECTOR WELL

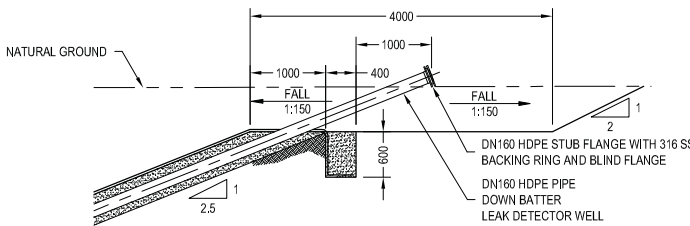
- NOTES:
1. GRADE 1V: 2.5H ON PONDS AND 1V: 2H ON WIERS UNO.
 2. FOR DETAILED REQUIREMENTS COVERING EARTHWORKS, ROADWORKS & DRAINAGE, REFER TO 725-SP-0041.
 3. FOR DETAILED REQUIREMENTS COVERING GEO-TECH LINING, REFER TO 725-SP-0042.



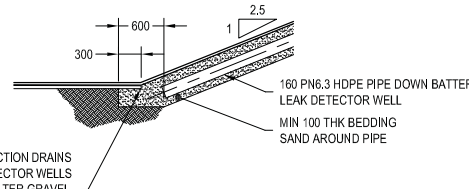
DETAIL
SCALE 1:200



DETAIL
SCALE 1:200

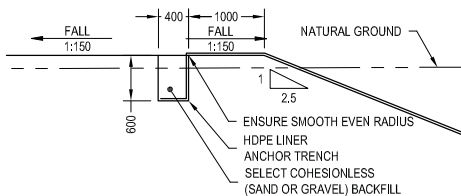


DETAIL
SCALE 1:50



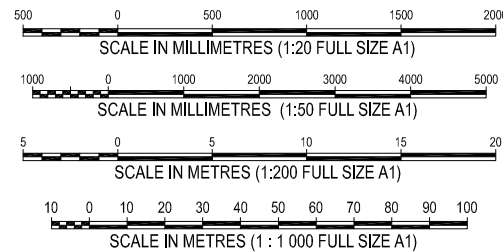
BURY ENDS OF MEGAFLO UNDER-LINER LEAK DETECTION DRAINS AND DOWN BATTER LEAK DETECTOR WELLS IN 10mm CLEAN FILTER GRAVEL, WRAPPED IN FELT GEOTEXTILE FILTER CLOTH, BIDIM A34 OR APPROVED EQUIVALENT.

DETAIL
SCALE 1:50

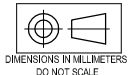


DETAIL
SCALE 1:50

FOR CONSTRUCTION



95 Brunswick Street, Fortitude Valley, Brisbane QLD, 4006
ABN 58 011 070 625 13-13766 0006, FAX 61 7 3666 0004
Email: intech@intechengineers.com.au, www.intechengineers.com.au



REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:1000	CLIENT
E	NUMBER CHANGED FROM 725-CA-0024 TO 1574-C-0503	08/10/07	MAM			1574-C-0500	SITE LAYOUT	DRAWN	MAM	29/01/08
T1	FOR TENDER	19/12/07	MAM	DJB		1574-C-103	MT KELLY PROCESS AND STORMWATER PONDS SETOUT PLAN	CHKD	DJB	18/02/08
T2	ISSUED FOR TENDER	29/01/08	DMC	DJB		1574-C-104	MT KELLY PROCESS AND STORMWATER PONDS CROSS SECTIONS	DESIGN	VW	18/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB/VW	RRE			APPROVED - INTECH	DATE	

File D Documents

D.J. BYRNE	18/02/08
APPROVED - CLIENT	DATE
R.R. ELLIS	18/02/08



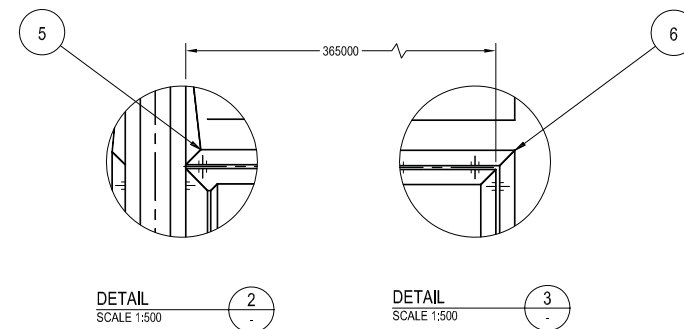
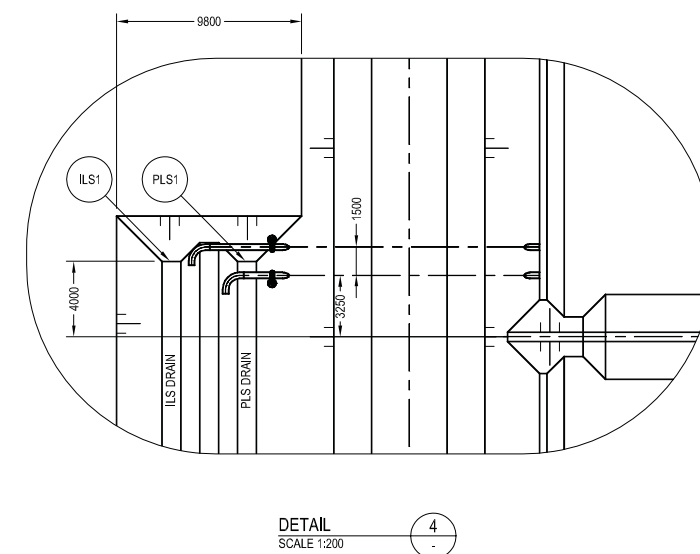
DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 2
MT KELLY PLANT SITE - HEAP LEACH AREA
20-24-PD-003 STORMWATER POND 2
CIVIL - SETOUT AND SECTIONS

FILE NAME	PROJECT	DWG NO	Page 53 of 60	REV	SHEET
1574c0503 Rev0	0725	1574-C-0503		0	A1

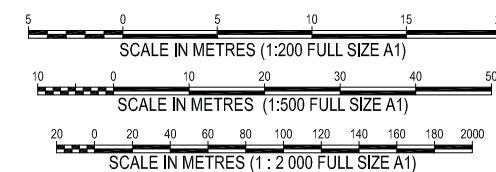
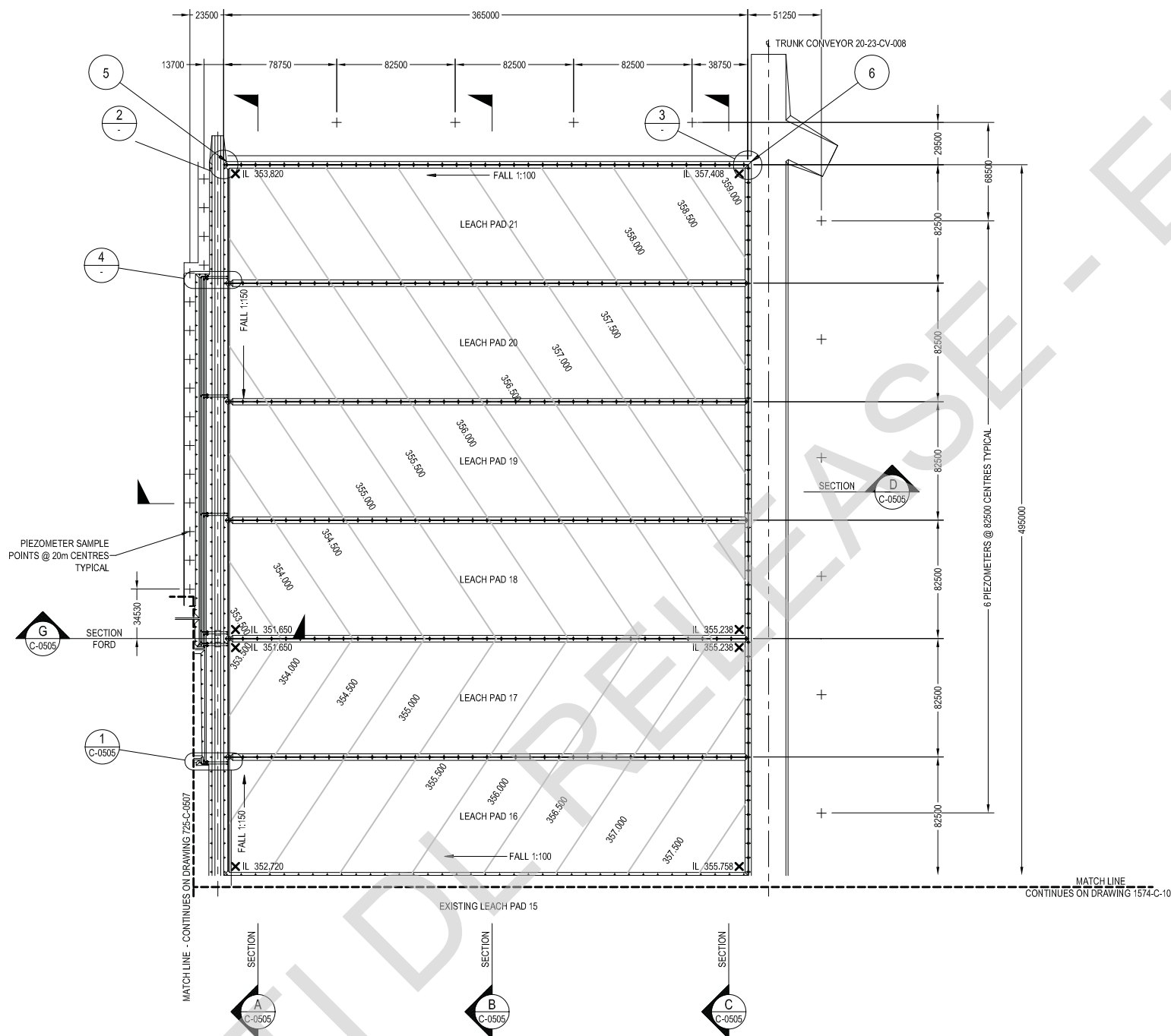
- NOTES:
1. GRADE 1V:2H U.N.O.
2. GROUND LINE SHOWN AS --- TYPICAL.
3. SURFACE AFTER STRIPPING SHOWN AS --- TYPICAL.
4. TYPICAL FALL ACROSS PADS IS 1:150 FROM PAD 1 TO PAD 9.
5. TYPICAL FALL ALONG THE LENGTH OF EACH PAD IS 1:100
6. SOUTHERN SETOUT CO-ORDINATES ARE SETOUT ON EXISTING LEACH PAD 15 REFER TO DRAWING 1574-C-107.

SETOUT CO-ORDINATES TO AGD84

POINT	EASTING	NORTHING
5	302 068,600	7 798 398,540
6	302 434,100	7 798 398,540
ILS1	302 050,000	7 798 317,790
PLS1	302 054,000	7 798 317,790



FOR CONSTRUCTION



95 Brunswick Street, Fortitude Valley, Brisbane QLD 4006
ABN 58 011 070 625 13-13766 0006, FAX 61 7 3696 0004
Email: Intech@intechengineers.com.au, www.intechengineers.com.au



REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:2000	CLIENT
A	FOR COMMENT	01/11/07	DMC			1574-C-0500	SITE LAYOUT	DRAWN	DMC	28/01/08
T2	ISSUED FOR TENDER	31/01/08	MAM	DJB		1574-C-0505	LEACHPADS 16 TO 21 - SECTIONS AND DETAILS	CHKD	DJB	18/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB / WW	RRE	1574-C-107	EARTHWORKS - MT KELLY LEACHPAD SETOUT PLAN	DESIGN	WW	18/02/08
						1574-C-0507	20-24-PD-301, 302, 303- ILS, PLS SWP3 CIVIL ARRANGEMENT	APPROVED - INTECH	DATE	
								D.J. BYRNE	18/02/08	
								APPROVED - CLIENT	DATE	
								R.R. ELLIS	18/02/08	

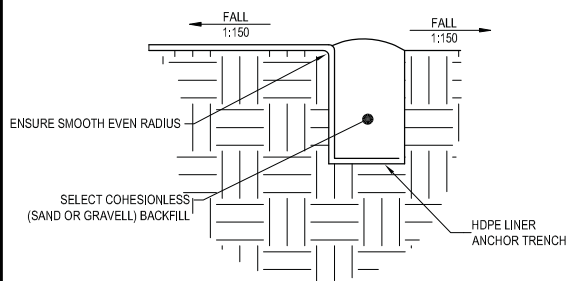
File D Documents



DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 3
MT KELLY PLANT SITE - HEAP LEACH AREA
LEACH PADS 16 TO 21
CIVIL - SETOUT

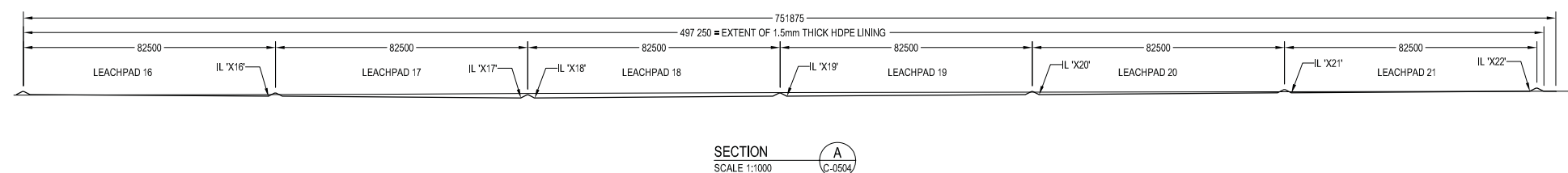
FILE NAME	PROJECT	DWG NO	Page 54 of 60	REV	SHEET
725c0504 Rev0	0725	1574-C-0504		0	A1

NOTES:
1. AT - DENOTES ANCHOR TRENCH SEE DETAIL 4.

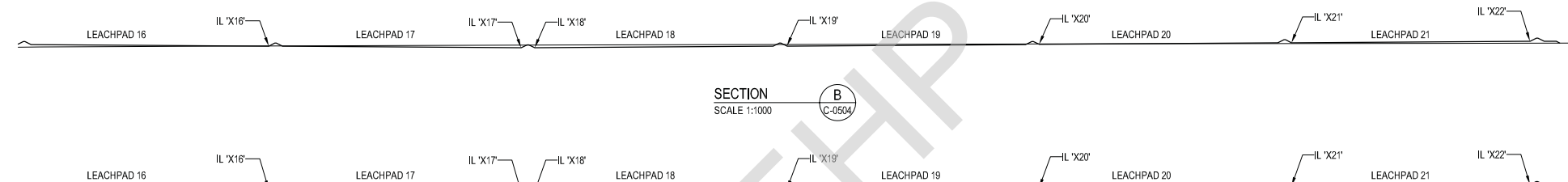


DETAIL
SCALE 1:20
A.T. - ANCHOR TRENCH

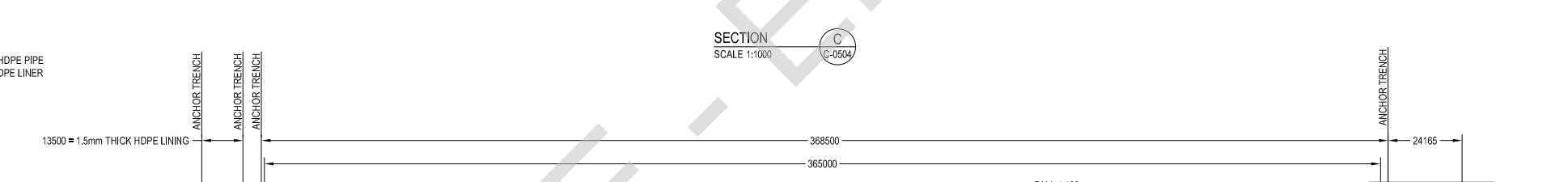
SECTION			
REFERENCE	A	B	C
X16	IL 352,200	IL 353,994	IL 355,788
X17	IL 351,650	IL 353,444	IL 355,238
X18	IL 351,650	IL 353,444	IL 355,238
X19	IL 352,200	IL 353,994	IL 355,788
X20	IL 352,750	IL 354,544	IL 356,338
X21	IL 353,300	IL 355,094	IL 356,888
X22	IL 353,820	IL 355,614	IL 357,408



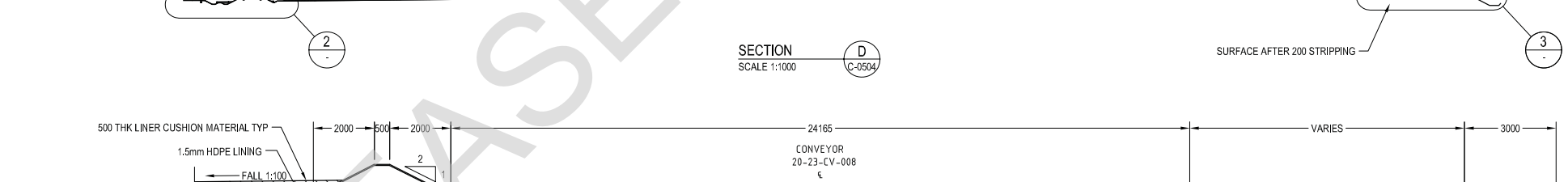
SECTION
SCALE 1:1000



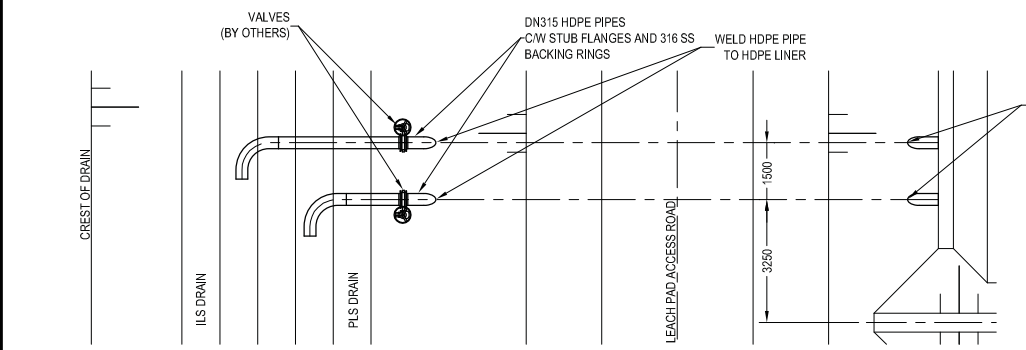
SECTION
SCALE 1:1000



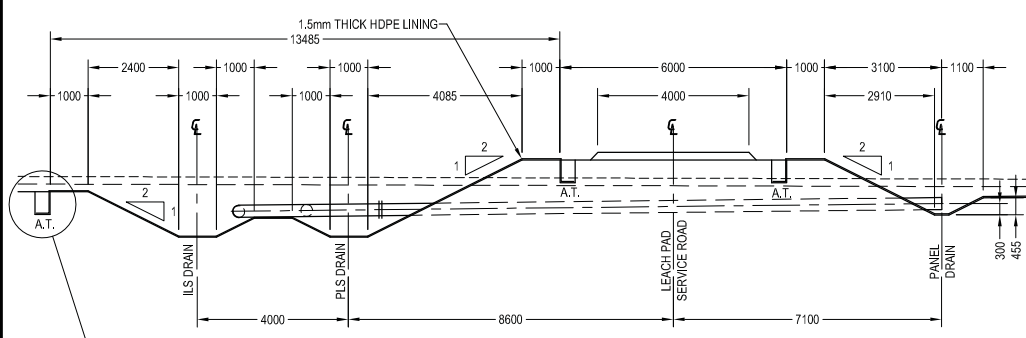
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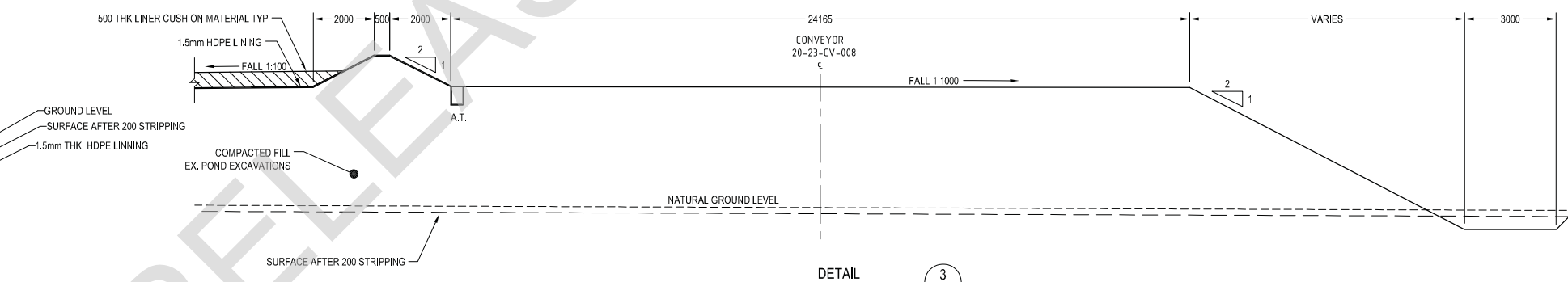
SECTION
SCALE 1:1000



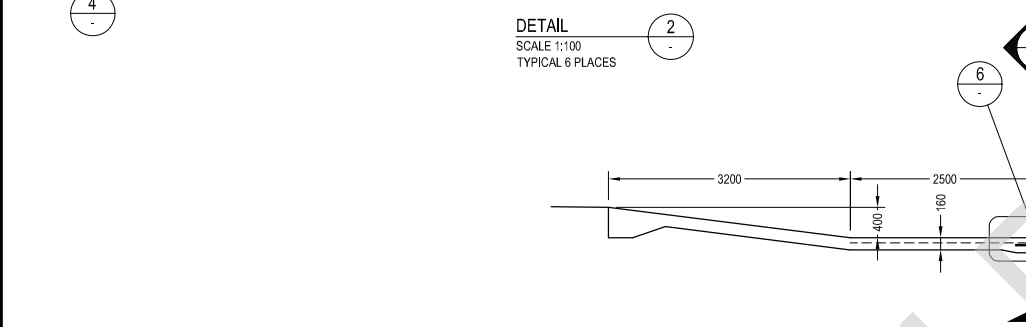
DETAIL
SCALE 1:100
TYPICAL 6 PLACES



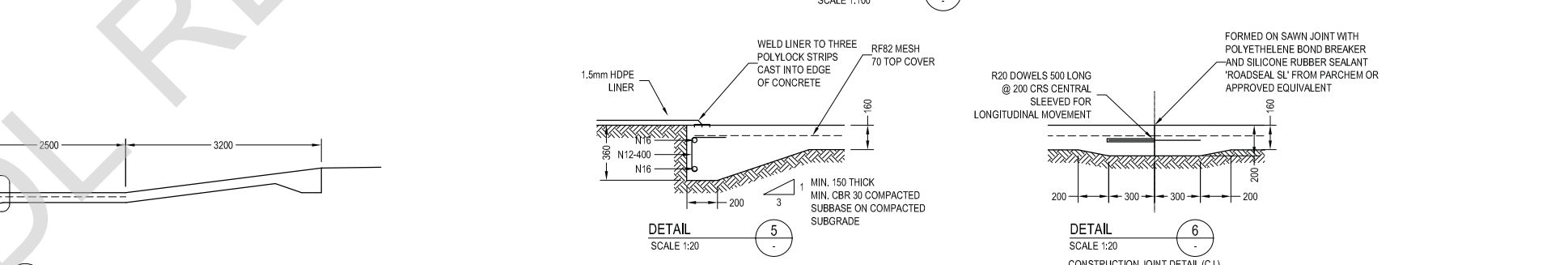
DETAIL
SCALE 1:100
TYPICAL 6 PLACES



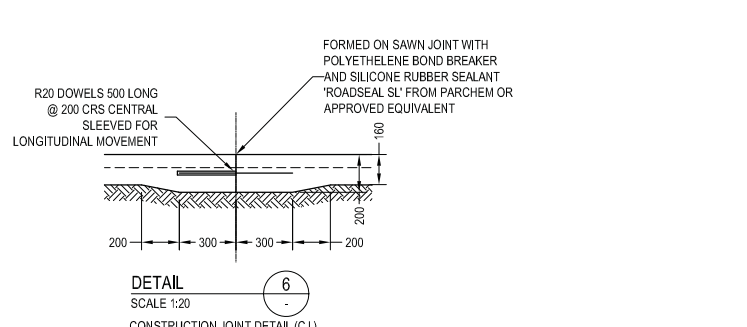
DETAIL
SCALE 1:100



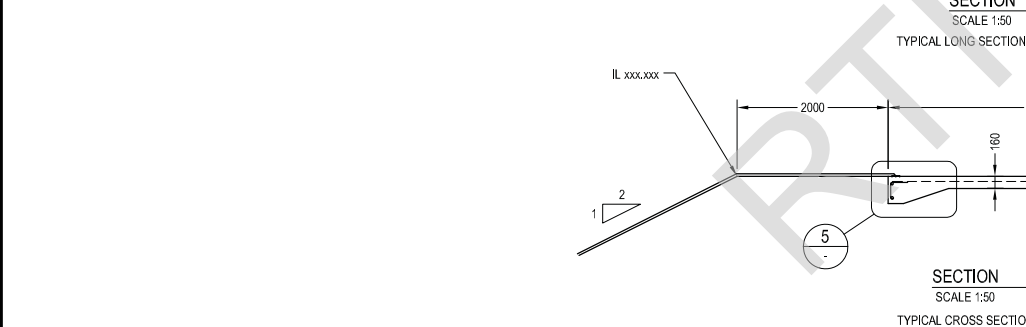
DETAIL
SCALE 1:100
TYPICAL 6 PLACES



DETAIL
SCALE 1:20



DETAIL
SCALE 1:20
CONSTRUCTION JOINT DETAIL (C.J.)

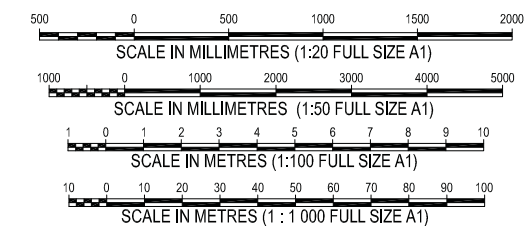


SECTION
SCALE 1:50
TYPICAL LONG SECTION THROUGH CONCRETE FORD



SECTION
SCALE 1:50
TYPICAL CROSS SECTION THROUGH CONCRETE FORD

FOR CONSTRUCTION

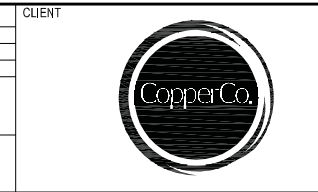


REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE
A	FOR COMMENT	1/11/07	DMC			1574-C-0500	SITE LAYOUT
T2	ISSUED FOR TENDER	31/01/08	MAM	DJB		1574-C-0504	LEACHPADS 16 TO 21 - SETOUT
0	APPROVED FOR CONSTRUCTION	04/02/08	MAM	DJB / WW	RRE		

SCALE	1:2000	CLIENT
DRAWN	DMC	29/01/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R.R. ELLIS	18/02/08	

FILE D Documents

SCALE	1:2000	CLIENT
DRAWN	DMC	29/01/08
CHKD	DJB	18/02/08
DESIGN	WW	18/02/08
APPROVED - INTECH	DATE	
D.J. BYRNE	18/02/08	
APPROVED - CLIENT	DATE	
R.R. ELLIS	18/02/08	



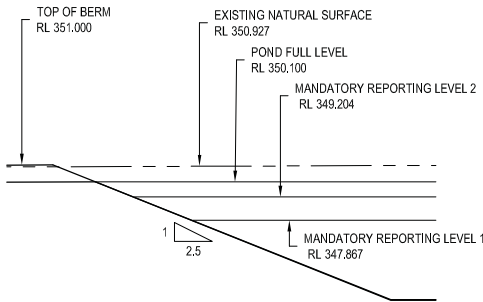
SETOUT CO-ORDINATES TO AGD84		
POINT	EASTING	NORTHING
1	301 738.800	7 797 383.800
2	301 467.300	7 797 382.100
5	301 731.600	7 797 073.300
6	301 468.900	7 797 076.500

STAGES 1, 2 & 3 HYDROLOGY PARAMETERS

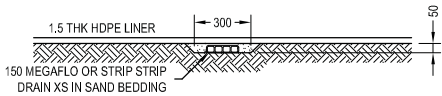
TOTAL CONTRIBUTING CATCHMENT AREA	945 969 m ²
REQUIRED PROCESS WATER STOTAGE VOLUME	61 213 m ³
100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME	779 384 m ³
REQUIRED TOTAL STORAGE VOLUME	840 597 m ³
AVAILABLE PROCESS POND STORAGE VOLUME	68 322 m ³
AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10)	850 467 m ³

MANDATORY REPORTING LEVEL 1 VOLUME	RL 347.727 m
100 YEAR 72 HOUR STORM VOLUME	320 889 m ³

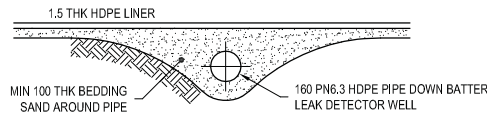
MANDATORY REPORTING LEVEL 2 VOLUME	RL 349.077 m
10 YEAR 24 HOUR STORM VOLUME	141 930 m ³



SECTION
SCALE 1 : 200

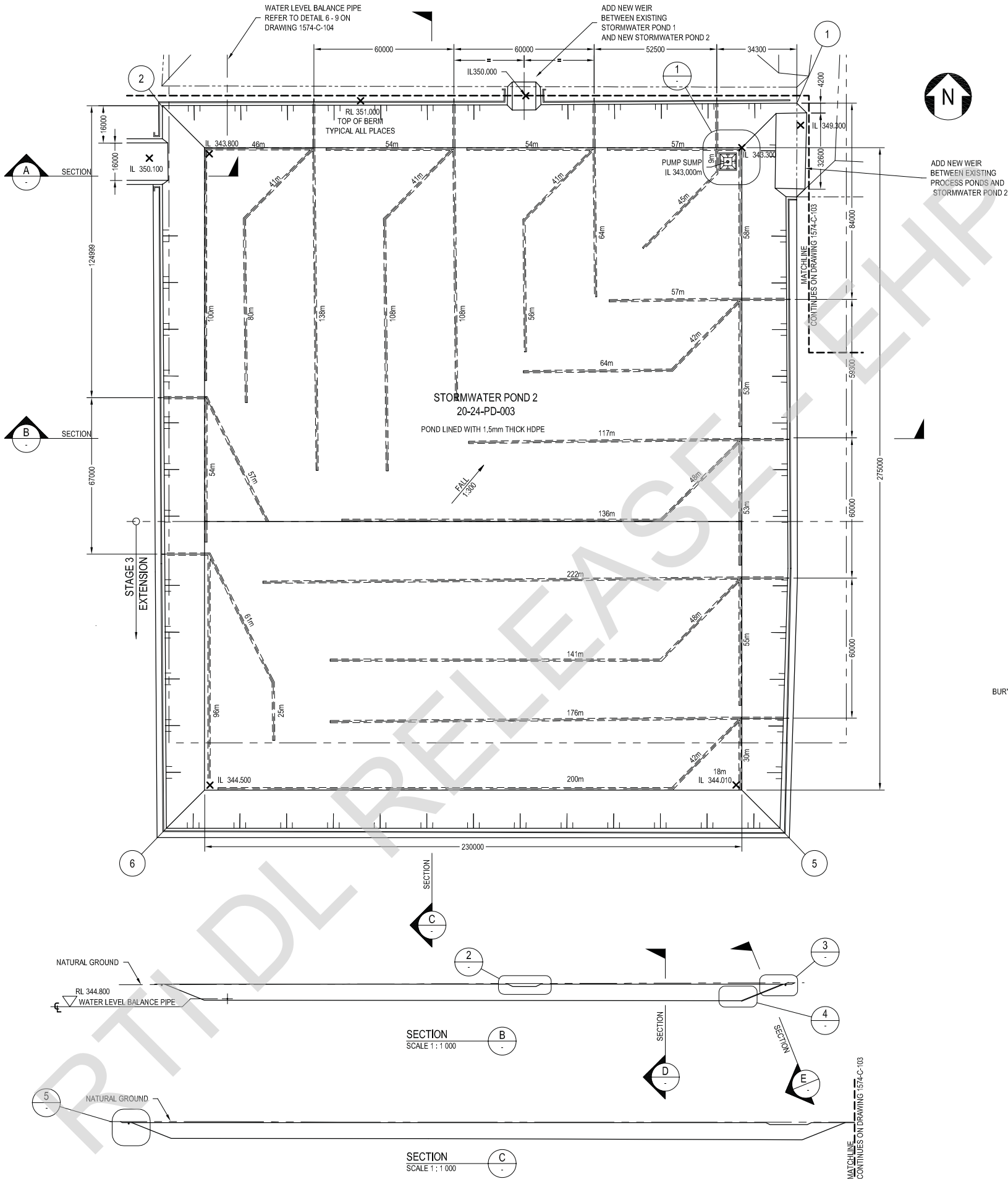
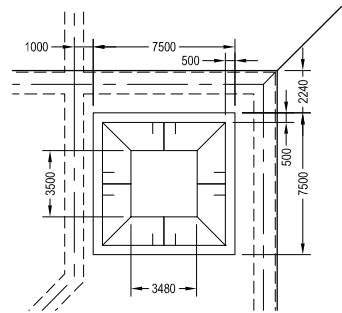


SECTION
SCALE 1 : 20
UNDER LINER
LEAK DETECTION TRENCH

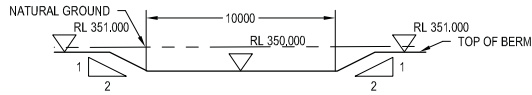


SECTION
SCALE 1 : 20
DOWN BATTER
LEAK DETECTOR WELL

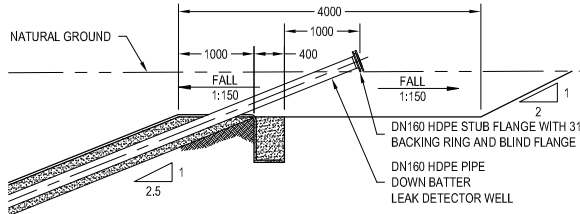
- NOTES:
1. GRADE 1V : 2.5H ON PONDS AND 1V : 2H ON WIERS UNO.
 2. FOR DETAILED REQUIREMENTS COVERING EARTHWORKS, ROADWORKS & DRAINAGE, REFER TO 725-SP-0041.
 3. FOR DETAILED REQUIREMENTS COVERING GEO-TECH LINING, REFER TO 725-SP-0042.



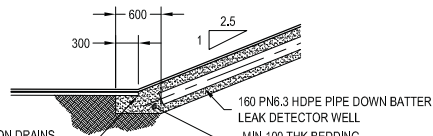
DETAIL
SCALE 1:200



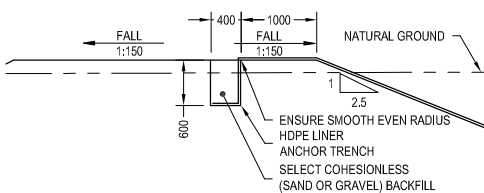
DETAIL
SCALE 1:200



DETAIL
SCALE 1:50

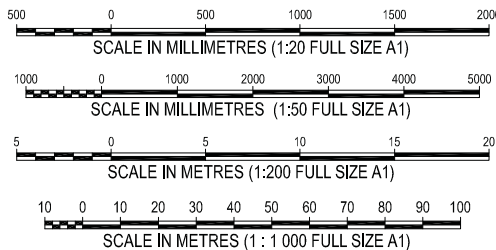


DETAIL
SCALE 1:50



DETAIL
SCALE 1:50

FOR CONSTRUCTION



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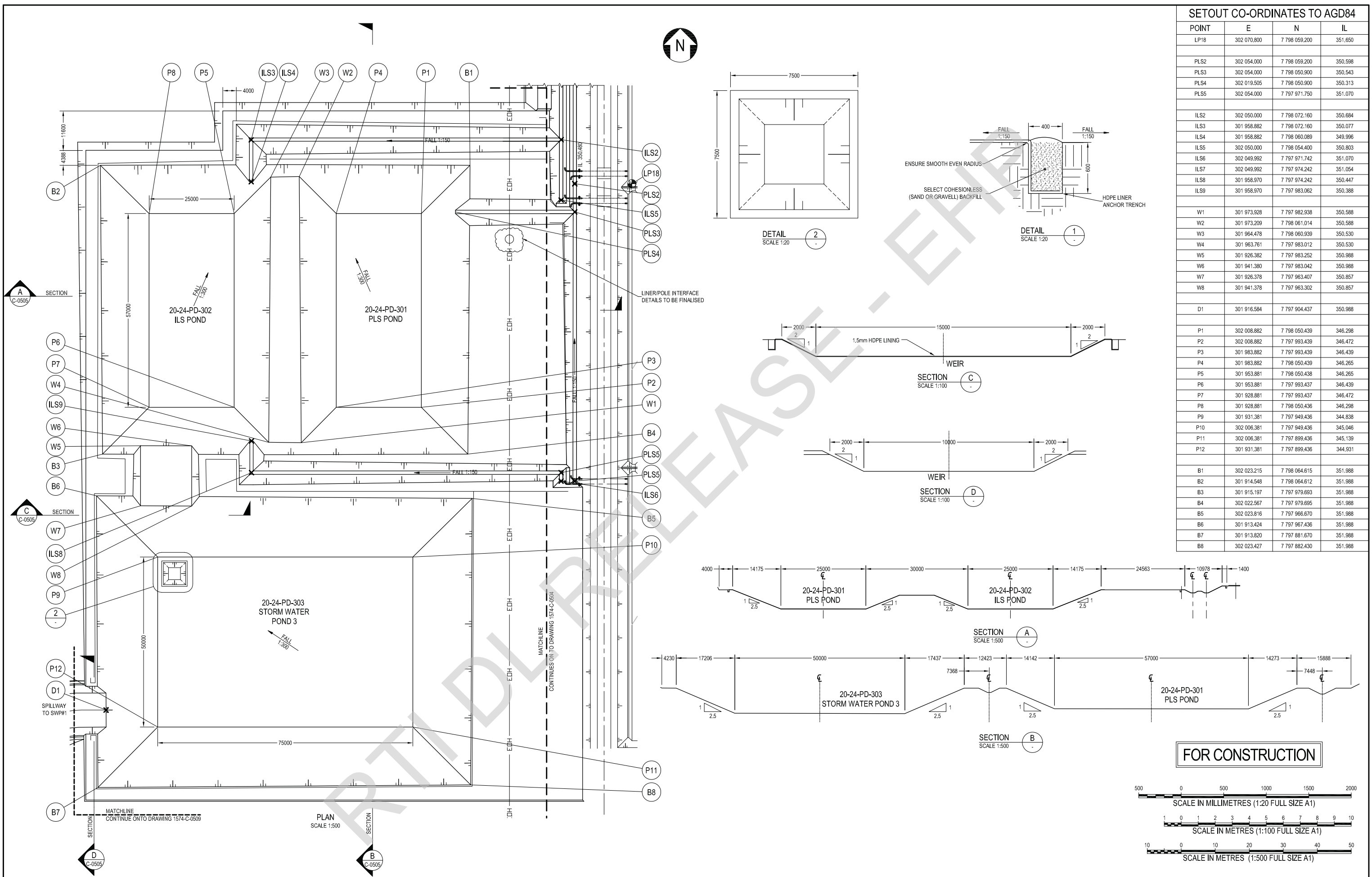


REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	1:1000	CLIENT
A	ISSUED FOR INFORMATION		MAM			1574-C-0500	SITE LAYOUT	DRAWN	MAM	29/01/08
T2	ISSUED FOR TENDER	29/01/08	DMC	DJB		1574-C-0503	20-24-PD-003 STORMWATER POND 2 CIVIL SETOUT & SECTIONS	CHKD	DJB	18/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	MAM	DJB / WW	RRE	1574-C-103	MT KELLY PROCESS AND STORMWATER PONDS SETOUT PLAN	DESIGN	WW	18/02/08
						1574-C-104	MT KELLY PROCESS AND STORMWATER PONDS CROSS SECTIONS	APPROVED - INTECH	DATE	
								D.J. BYRNE	18/02/08	
								APPROVED - CLIENT	DATE	
								R.E. ELLIS	18/02/08	

File D Documents

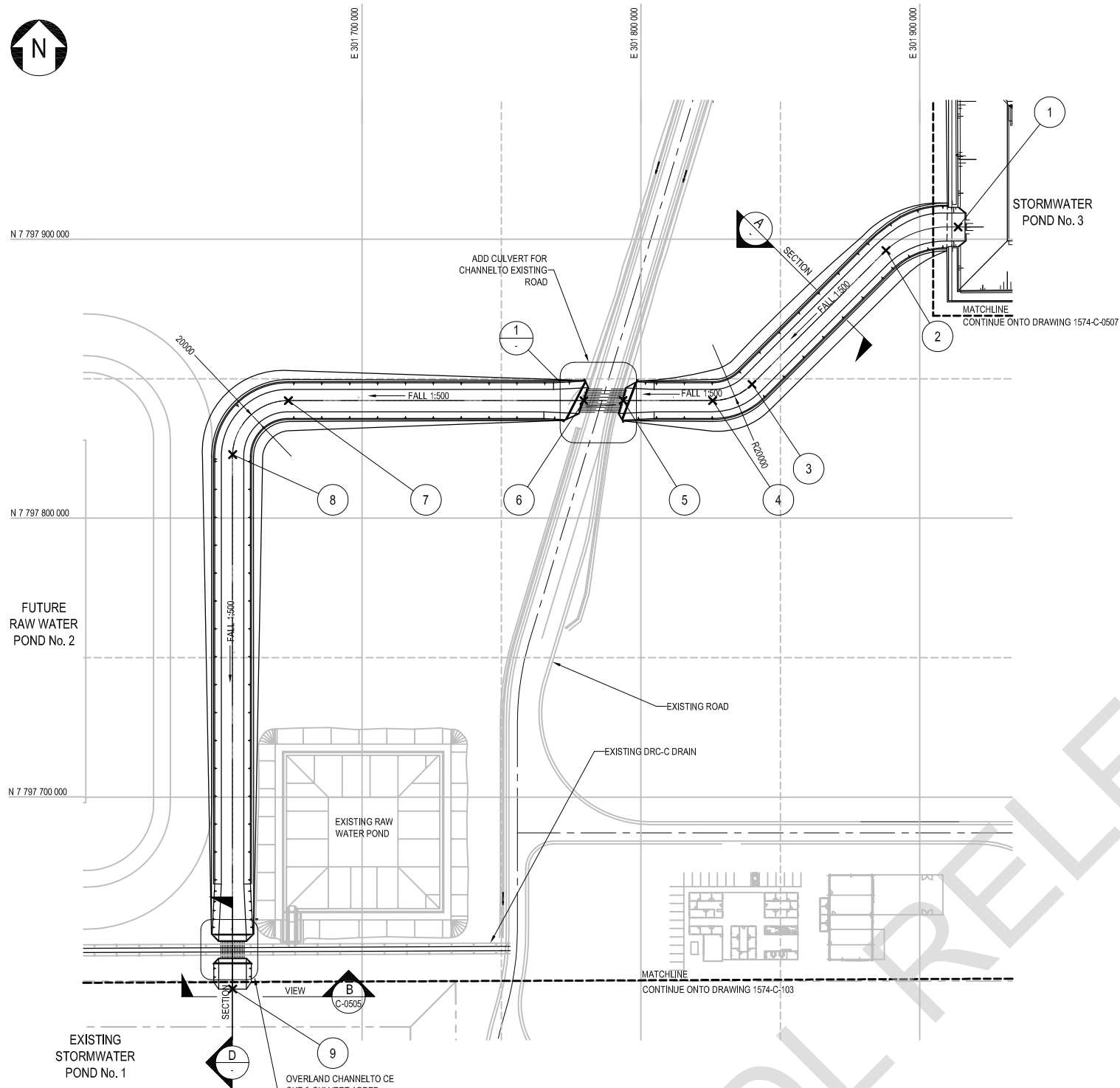
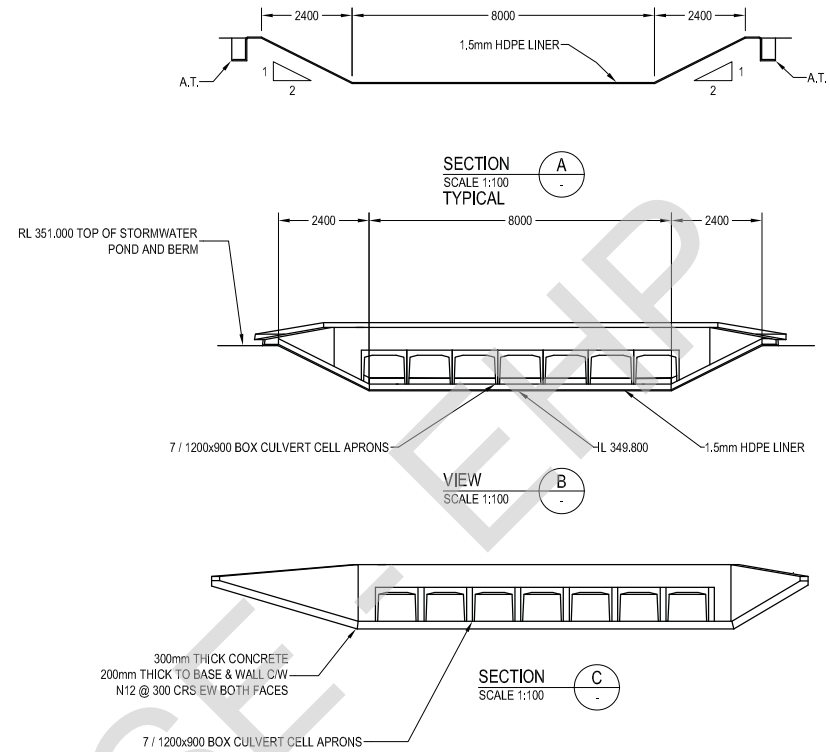


DWG TITLE		LADY ANNIE EXPANSION PROJECT - STAGE 3 MT KELLY PLANT SITE - HEAP LEACH AREA 20-24-PD-003 STORMWATER POND 2B CIVIL - SETOUT AND SECTIONS	
FILE NAME	PROJECT	DWG NO	REV
725c0503 Rev0.DWG	0725	1574-C-0506	0
Page 56 of 60		A1	

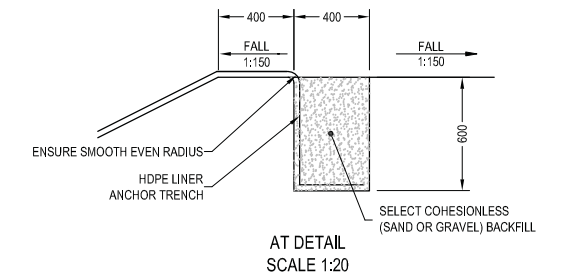
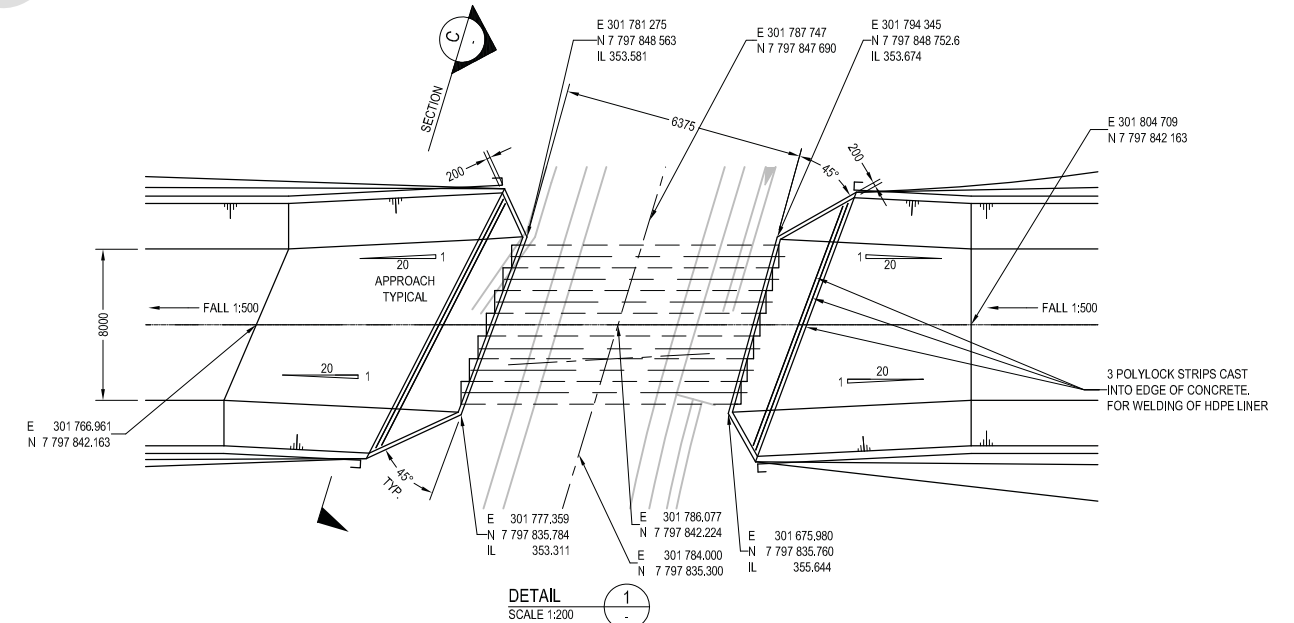
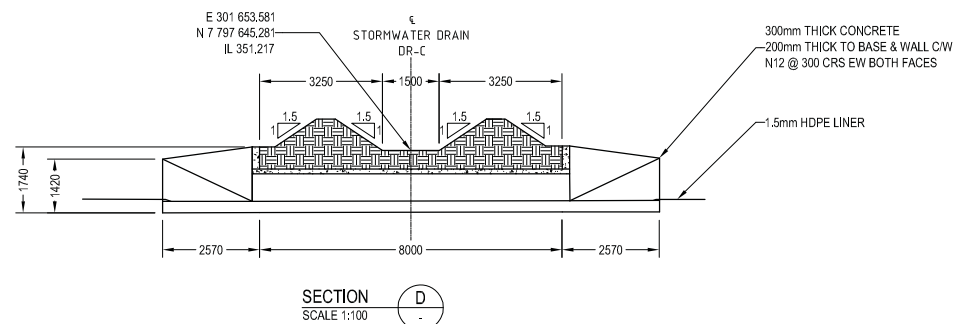


SETOUT CO-ORDINATES TO AGD84

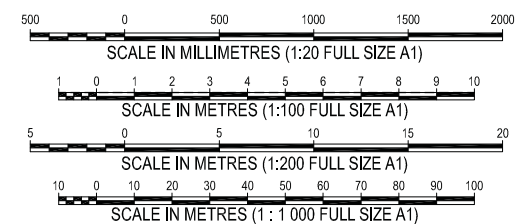
POINT	E	N	IL
LP18	302 070.800	7 798 059.200	351.650
PLS2	302 054.000	7 798 059.200	350.598
PLS3	302 054.000	7 798 050.900	350.543
PLS4	302 019.505	7 798 050.900	350.313
PLS5	302 054.000	7 797 971.750	351.070
ILS2	302 050.000	7 798 072.160	350.684
ILS3	301 958.882	7 798 072.160	350.077
ILS4	301 958.882	7 798 060.089	349.996
ILS5	302 050.000	7 798 054.400	350.803
ILS6	302 049.992	7 797 971.742	351.070
ILS7	302 049.992	7 797 974.242	351.054
ILS8	301 958.970	7 797 974.242	350.447
ILS9	301 958.970	7 797 983.062	350.388
W1	301 973.928	7 797 982.938	350.588
W2	301 973.209	7 798 061.014	350.588
W3	301 964.478	7 798 060.939	350.530
W4	301 963.761	7 797 983.012	350.530
W5	301 926.382	7 797 983.252	350.988
W6	301 941.380	7 797 983.042	350.988
W7	301 926.378	7 797 963.407	350.857
W8	301 941.378	7 797 963.302	350.857
D1	301 916.584	7 797 904.437	350.988
P1	302 008.882	7 798 050.439	346.298
P2	302 008.882	7 797 993.439	346.472
P3	301 983.882	7 797 993.439	346.439
P4	301 983.882	7 798 050.439	346.265
P5	301 953.881	7 798 050.438	346.265
P6	301 953.881	7 797 993.437	346.439
P7	301 928.881	7 797 993.437	346.472
P8	301 928.881	7 798 050.436	346.298
P9	301 931.381	7 797 949.436	344.838
P10	302 006.381	7 797 949.436	345.046
P11	302 006.381	7 797 899.436	345.139
P12	301 931.381	7 797 899.436	344.931
B1	302 023.215	7 798 064.615	351.988
B2	301 914.548	7 798 064.612	351.988
B3	301 915.197	7 797 979.693	351.988
B4	302 022.567	7 797 979.695	351.988
B5	302 023.816	7 797 966.670	351.988
B6	301 913.424	7 797 967.436	351.988
B7	301 913.820	7 797 881.670	351.988
B8	302 023.427	7 797 882.430	351.988



SETOUT CO-ORDINATES TO AGD84				
OVERLAND CHANNEL	PT	E	N	IL
	1	301 916.584	7 797 940.436	350.890
	2	301 887.871	7 797 896.052	350.715
	3	301 839.839	7 797 848.021	350.579
	4	301 827.224	7 797 842.221	350.548
	5	301 793.201	7 797 842.136	350.700
	6	301 779.545	7 797 842.163	350.650
	7	301 673.581	7 797 842.163	350.200
	8	301 653.581	7 797 822.201	350.183
	9	301 653.581	7 797 631.151	349.800



FOR CONSTRUCTION



NOTES:

- EARTHWORKS TO BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION 725-SP-0041
- FOR HDPE LINING TO BE COMPLETED IN ACCORDANCE WITH SPECIFICATION 725-SP-0042
- CONCRETE WORKS TO BE COMPLETED IN ACCORDANCE WITH SPECIFICATION 725-SP-0043 AND AS3600



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ABN 58 011 070 625 13-13766 0006, FAX 61 7 3696 0004
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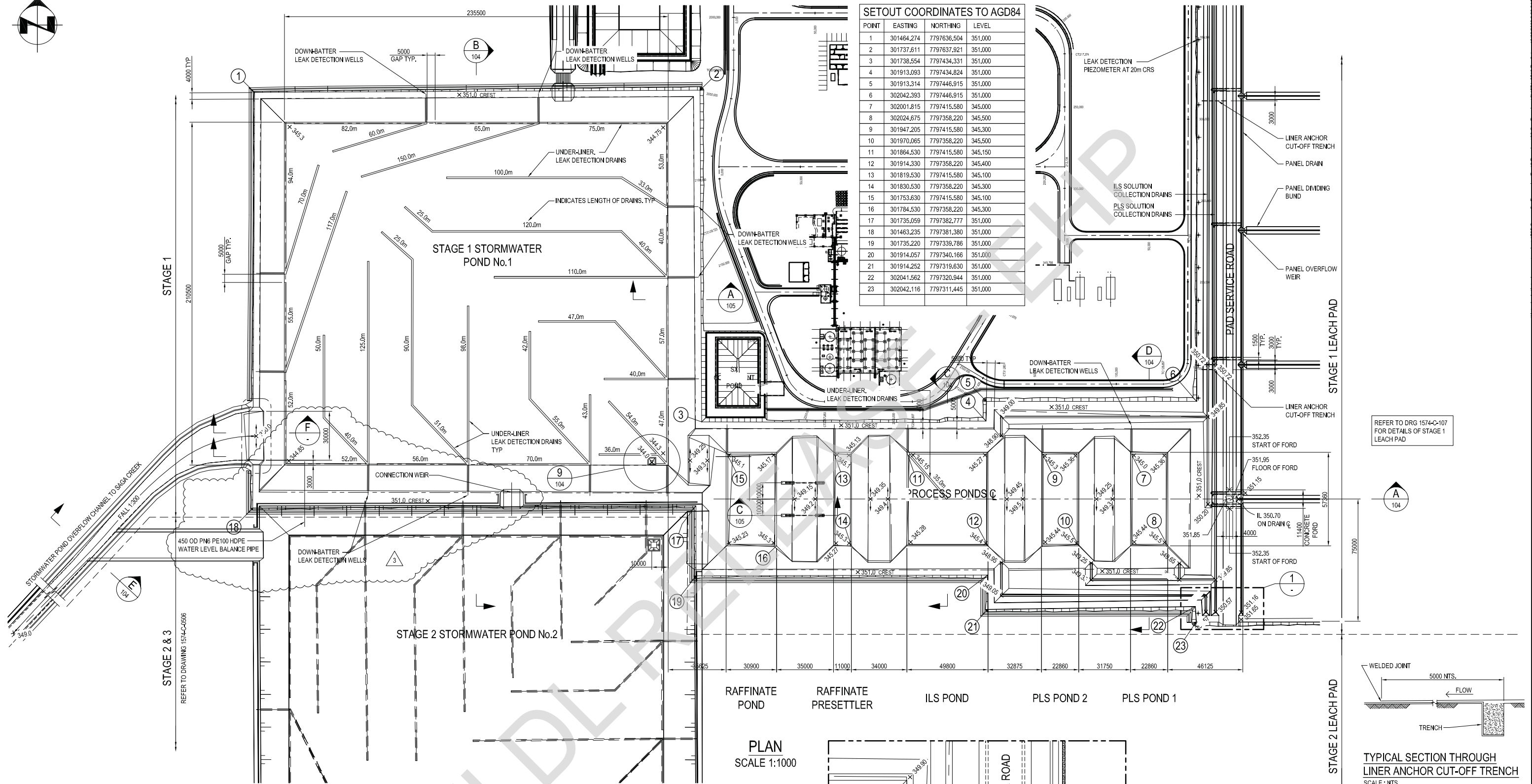


REV	REVISION DETAILS	DATE	BY	CHKD	APPD	DWG NO	REFERENCE DRAWING TITLE	SCALE	AS NOTED	CLIENT
T2	ISSUED FOR TENDER	29/01/08	DMC	DJB		1574-C-0500	PROCESSING FACILITY - GENERAL ARRANGEMENT	DRAWN	DMC	14/02/08
0	APPROVED FOR CONSTRUCTION	18/02/08	DMC	DJB / WW	RRE	1574-C-0507	MT KELLY PLANT SITE-20-24-PD-301,302,303-ILS,PLS,SWP3	CHKD	DJB	18/02/08
						1574-C-0103	20-24-PD-003 STORMWATER POND 2 CIVIL SETOUT & SECTIONS	DESIGN	WW	18/02/08
						1574-C-0170	ROADWORKS - TO PROCESS PLANT PROCESS PLANT SECTIONS	APPROVED - INTECH	DATE	
						1574-C-0169	ROADWORKS - PROCESS PLANT PLAN SHEET	D.J. BYRNE	18/02/08	
								APPROVED - CLIENT	DATE	
								R.R.ELLIS	18/02/08	



DWG TITLE
LADY ANNIE EXPANSION PROJECT - STAGE 3
MT KELLY PLANT SITE - HEAP LEACH
OVERLAND CHANNEL
CIVIL - LAYOUT AND DETAILS

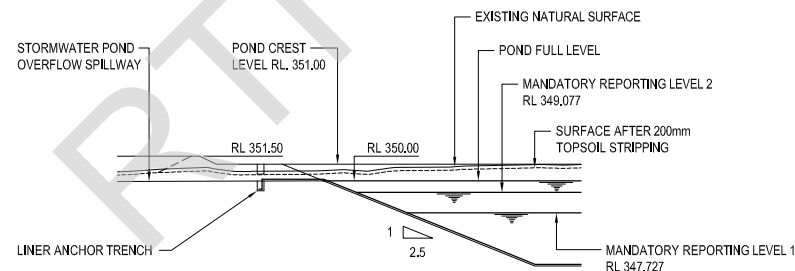
FILE NAME	PROJECT	DWG NO	Page 58 of 60	REV	SHEET
710C0509 Rev0.dwg	0725	725-C-0509	Page 58 of 60	0	A1



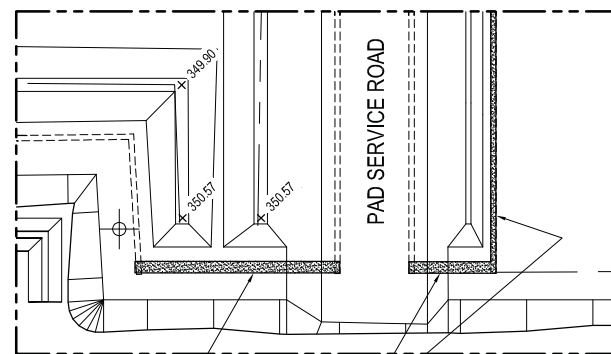
STAGE 1, 2 & 3 HYDROLOGY PARAMETERS

- TOTAL CONTRIBUTING CATCHMENT AREA 945 999 m²
- REQUIRED PROCESS WATER STORAGE VOLUME 61 213 m³
- 100 YEAR 2 MONTH WET SEASON RUN-OFF TOTAL STORAGE VOLUME 779 394 m³
- REQUIRED TOTAL STORAGE VOLUME 840 597 m³
- AVAILABLE PROCESS POND STORAGE VOLUME 68 322 m³
- AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10) 850 467 m³
- MANDATORY REPORTING LEVEL 1 VOLUME 100 YEAR 72 HOUR STORM VOLUME RL 347.727 m 320 869 m³
- MANDATORY REPORTING LEVEL 2 VOLUME 10 YEAR 24 HOUR STORM VOLUME RL 349.077 m 141 930 m³

STAGE 1 & 2 HYDROLOGY PARAMETERS DETAIL



PLAN
SCALE 1:1000

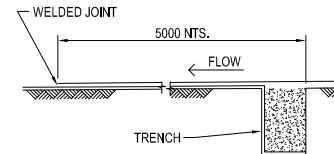


SECURE EXPOSED EDGES OF HDPE LINER
REQUIRED TO BE CONTINUED IN STAGE 2
WITH SANDBAGS

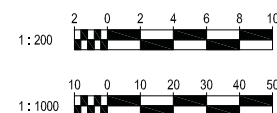
DETAIL
NTS

**APPROVED FOR
CONSTRUCTION**

NOTES



TYPICAL SECTION THROUGH
LINER ANCHOR CUT-OFF TRENCH
SCALE: NTS.



DRAWING No.	REFERENCE DRAWING TITLE	DRAWING No.	REFERENCE DRAWING TITLE	No	BY	DATE	REVISION DETAILS	CHKD	APPR	No	BY	DATE	REVISION DETAILS	CHKD	APPR
1574-C-098	20-24-PD-003 STORMWATER POND 2B	3	MAN	18/02/08	GENERAL REVISIONS AS NOTED	DJB / WM	RRE								
1574-C-107	EARTHWORKS - MT KELLY LEACH PAD SETOUT PLAN	2	VRH	16/03/07	GENERAL REVISIONS AS NOTED	DJM	BM								
1574-C-106	EARTHWORKS - MT KELLY POND LINER DETAILS	1	VRH	16/10/06	GENERAL REVISIONS AS NOTED	MAB	PM								
1574-C-104	EARTHWORKS - MT KELLY POND CROSS SECTIONS	0	DJO	26/10/06	ISSUED FOR CONSTRUCTION	VRH	RAE								
		19	DP	26/07/06	ISSUED FOR TENDER		RAE								

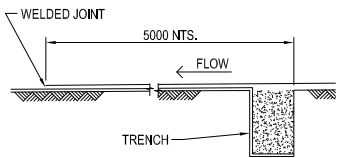
File D Documents

DRAWN	DP	07/06/06
CHECKED	D.J. BYRNE	18/02/08
DESIGNED	W. WHITAKER	18/02/08
DES. APPR		
PROJ. APPR	R.R. ELLIS	18/02/08



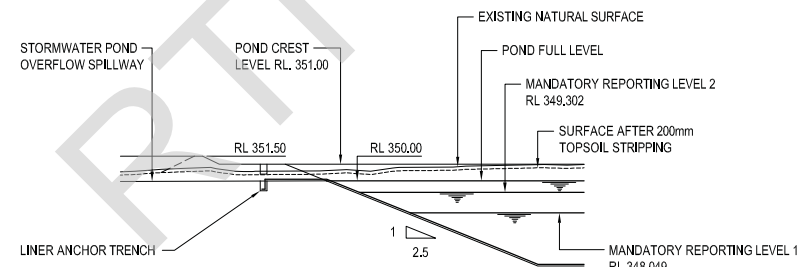
CLIENT	COPPERCO LTD	SCALE	AS SHOWN	SIZE	B1
TITLE	LADY ANNIE COPPER PROJECT	ALL DIMENSIONS IN MILLIMETRES			
	EARTHWORKS - MT KELLY PROCESS AND STORMWATER POND	REV	1	3	
	STAGE 3 REPORTING LEVELS	1574-C-103			

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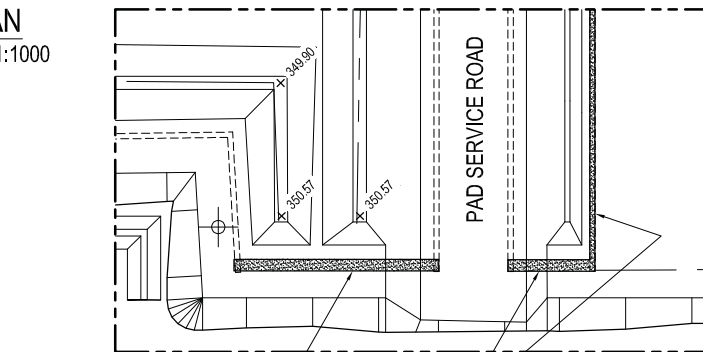


TYPICAL SECTION THROUGH
LINER ANCHOR CUT-OFF TRENCH
SCALE : NTS.

• TOTAL CONTRIBUTING CATCHMENT AREA	6999 975 m ²
• REQUIRED PROCESS WATER STORAGE VOLUME	43 200 m ³
• 100 YEAR 2 MONTH WET SEASON RUNOFF TOTAL STORAGE VOLUME	576 710 m ³
• REQUIRED TOTAL STORAGE VOLUME	619 910 m ³
• AVAILABLE PROCESS POND STORAGE VOLUME	44 850 m ³
• AVAILABLE ALL PONDS FULL STORAGE VOLUME (TO STORMWATER POND OVERFLOW SPILL WAY LEVEL RL 350.10)	623 856 m ³
MANDATORY REPORTING LEVEL 1 VOLUME	RL 348.038 m
• 100 YEAR 72 HOUR STORM VOLUME	237 382 m ³
MANDATORY REPORTING LEVEL 2 VOLUME	RL 348.141 m
• 10 YEAR 24 HOUR STORM VOLUME	105 001 m ³



STAGE 1 & 2 HYDROLOGY PARAMETERS DETAIL



SECURE EXPOSED EDGES OF HDPE LINER
REQUIRED TO BE CONTINUED IN STAGE 2
WITH SANDBAGS

DETAIL 1
NTS -

**APPROVED FOR
CONSTRUCTION**

STD DETAIL DRAWINGS APPLY

[illegible]