

Crest	<p>Good crest capping material with no evidence of breakdown or disintegration (<i>Photograph 8</i>).</p> <p>There was no evidence of settlement, depressions, low spots, sinkholes, wheel rutting or cracking.</p> <p>Overall in good condition.</p>	
Downstream face	<p>There was no evidence of depressions, settlements or cracking (<i>Photograph 9</i>).</p> <p>Seeding has been completed. Once the grass cover is established, the condition of the grass, including the existence of bare patches should be assessed.</p> <p>Overall in good condition.</p>	
RHS Training wall	In good condition with no evidence of displacements, tilt, cracking, spalling, AAR or deterioration (<i>Photograph 7</i>).	
RHS abutment Wall	In good condition with no evidence of displacements, tilt, cracking, spalling, AAR or deterioration.	
RHS Wing wall	In good condition with no evidence of displacements, tilt, cracking, spalling, AAR or deterioration (<i>Photograph 9</i> and <i>Photograph 13</i>).	
RHS batter downstream of the weir	<p>In good condition with no evidence of slope instability (<i>Photograph 10</i>).</p> <p>There are several areas where small size rip-rap and lumps of soil are present (<i>Photograph 11</i> and <i>Photograph 12</i>). There is a risk of displacement of smaller size rip-rap and washing away of soil, resulting in inadequate erosion protection.</p> <p>Consideration should be given to monitoring the condition of the rip-rap protection following major floods.</p>	
Instrumentation	Survey Monitoring Points on LHS and RHS embankment dams	In good condition with no evidence of damage.
	Survey Monitoring Pins on concrete walls.	In good condition with no evidence of damage.
	Gauge Board	In good condition (<i>Photograph 7</i>). There are no elevation markers such as EL 573 AHD and EL 574 AHD.
	Standpipe piezometers	In good condition with no evidence of damage.
Outlet Works	Valve Chamber	Concrete in good condition with no evidence of cracking, spalling, AAR or deterioration.

	<p>During the normal operating condition, the tailwater level is higher than the floor level of the outlet valve chamber. Therefore, sediments (mud) are likely to accumulate in this chamber.</p>
Inlet	<p>Inlet comprises an open pipe and a penstock guard gate. It was inundated on the day of the inspection. Hence, it was not possible to inspect it.</p> <p>The inlet pipe of the outlet / scour is set at the base level. Therefore, this valve should be opened at regular intervals to flush the silt accumulated in front of the inlet pipe.</p>
Penstock Guard Valve	<p>As the frame and leaf were inundated on the day of the inspection, it was not possible to inspect them.</p> <p>Gearbox located above the Labyrinth return wall is new and in good condition.</p> <p>The elevation of the operating platform, compared to that of the handwheel, is set at a lower level. Therefore, significant time and effort are required to operate the valve.</p> <p>The gate was exercised fully under “no flow condition” on the day of the inspection. It is understood that this gate has not been test-operated with flow. It is therefore recommended that the penstock gate be tested for closure into flow prior to the project being signed off as complete.</p>
Entry hatch	<p>The hatch is heavy and significant effort is required to open it (Photograph 15).</p>
Regulating Valve	<p>The outlet gate valve is new and in good condition.</p> <p>The valve has a metal seat, and slight leakage was noted in the closed position after the upstream penstock valve was exercised. This leakage is considered acceptable.</p> <p>It is understood that this valve has not been test-operated for closure into flow.</p> <p>This valve could not be operated during the inspection as the valve key and handle were not available. It is therefore recommended that the outlet valve be tested for closure into flow prior to the project being signed off as complete.</p> <p>It was found that one bolt was missing from the valve flange and the other one was not tightened (Photograph 39). These defects should be rectified.</p> <p>The stainless steel pipe and flanges appear to be contaminated with carbon steel, resulting in surface corrosion at this early stage (Photograph 38 and Photograph 40). They should be cleaned and re-passivated.</p> <p>The operating force / torque should be measured and documented in an Operation and Maintenance log for future reference as a benchmark.</p>
Maintenance work	<p>Not undertaken at this early stage.</p>
Access	<p>Access to the valve operating platform is via two sets of rung ladders. The first rung ladder is from the ground level at EL 575.5m (approx..) up to the top of concrete wall at EL 578.20m,</p>

		<p>and then the second rung ladder is from top of the concrete wall down to the operating floor at EL 573.20m.</p> <p>A bracket for a portable recovery system (davit arm) is provided at the top of the ladders. The practicality of installation of the safety davit is yet to be proven. It is considered as not required for normal operation and exercise works. However, for high risk works, the safety davit should be installed.</p> <p>A heavy-duty handrail (Including kick board) is provided at the valve operating platform.</p> <p>Access down to the valve chamber can be via another rung ladder from the operating platform through a Gatic cover (filled with concrete). However, if the tail water level is low, access can be through the security gate at the floor level at EL 569.50m.</p> <p>It is noted that the gate locking bolt and lug may not be properly aligned. The bolt pin has been bent, resulting the locking operation being difficult (Photograph 36).</p> <p>The ladder was in good condition. However, there are several sharp edges which introduce the risk of injury (Photograph 14).</p>
Work, Health & Safety issues noted	Safe access for inspection of the downstream face of the concrete walls of Labyrinth weir	There is no safe access (Photograph 10 and Photograph 31). Therefore, consideration should be given to installing handrails on both LHS and RHS wingwalls as shown in above photographs.
	Ladder access to operate outlet valves	The existing arrangement of ladders and installation of the "recovery system" should be reviewed.
	Ladder on the outside face of the RHS wall	There are several sharp edges the risk of injury to personnel. Consideration should be given to grinding those sharp edges to eliminate this risk (Photograph 14).
	The hatch of the outlet valve chamber	The gate latch for the outlet valve chamber is heavy, jammed and hard to open (Photograph 15).
General issues	Illumination during night	There are no flood lights or similar for inspection of the weir during the night, in case of an emergency.
Other features	Access roads	In good condition.
	Security / vandalism	No evidence of vandalism.
	Emergency communications	Good mobile reception.

5. STRUCTURE SPECIFIC DOCUMENTS

5.1. Dam Safety Emergency Plans (DSEP)

A structure specific Dam Safety Emergency Plan (DSEP), in final form, has been prepared for Isabella Weir⁹.

5.2. Maintenance Plan for Mechanical and Electrical Components

The Maintenance Plan for Mechanical and Electrical Components has been prepared by SMEC for the mechanical components of Isabella Weir.

5.3. Operation and Maintenance Manual

An operation and maintenance manual has been prepared by SMEC for the mechanical and electrical components. The plan was finalised in June 2011 and updated in November 2018. The plan describes the mechanical and electrical components at each dam, indicating the requirements for maintenance, and providing a maintenance and inspection schedule.

For Isabella Weir, the components added following upgrade works include:

Low level Outlet	Size	450 mm
	Capacity	N/A
	Regulation	DN450 ductile iron seat bonneted gate valve
	Guard	DN450 Aluminium AWMA TFL rising spindle penstock

The recommended frequency of maintenance for the various items varies from 6 monthly to 5 yearly.

5.4. Surveillance Procedures

The surveillance procedures for the TCCS dams have been revised¹⁰.

The surveillance procedures provide details of requirements for inspections, instrumentation monitoring, records and reporting. A surveillance data sheet is provided for each dam which details:

- a description of the dam;
- the program for inspections and monitoring;
- the program for exercising valves; and
- a general arrangement plans of the structure.

⁹ Isabella Weir – Interim Dam Safety Emergency Plan (DSEP), Revision 2.0, June 2017.

¹⁰ Territorial Dams – Surveillance Procedures (November 2018, SMEC).

6. Recommendations

Major Dam Safety (DS) action items identified during the current inspection together with those identified during previous inspections are listed in Table 6.1. The minor and on-going dam safety action items are presented in Table 6.2.

The operation and maintenance (O&M) and Workplace Health and Safety (WH&S) action items noted during the dam safety inspections are reported in Table 6.3. Depending on their nature, some maintenance action items, if not attended expeditiously, may eventually become dam safety issues. Therefore, O&M action items identified in Table 6.3 of this report should also be addressed to reduce dam safety risks to TCCS.

The listing of action items is by component grouping and is not related to priorities. The stated relative priority, which is based on Table 6.4, gives an indication as to the level of priority that each of the items should be given.

Table 6-1 : Major Dam Safety Action Summary Listing – Items from the current inspection are shown in red

Item	Observations / Issues / Concerns	Recommended Action (by whom)	Status (Priority)
1	Civil Works		
1.1	Cracking and defects of concrete in walls of the labyrinth weir where there was evidence of seepage and brown colour stains.	Request the contractor to provide a method statement outlining the procedure for sealing for approval.	Priority A - 3
1.2	Rip-rap erosion protection on both LHS and RHS is small and prone to movement and dislodgement during wave action.	Undertake on-going monitoring.	Priority C
1.3	A substantial water flow was evident through a defect at the upstream corner of walls in Labyrinth Weir Bay No 2.	Request the contractor to provide a method statement outlining the procedure for sealing for approval.	Priority A - 3
1.4	Gauge Board - There are no elevation markers such as EL 573m, EL 574m etc.,	Install elevation makers.	Priority C
1.5	There are no flood lights or similar for inspection of the weir during the night, in case of an emergency.	Consider this item as part of emergency preparedness in the DSEP.	Priority C
2	Mechanical Works		
2.1	One missing bolt and one loose bolt on the gate valve flange.	Tighten the loose bolt and replace the missing bolt.	Priority A-1
2.2	Stainless steel pipe and flanges seems to be contaminated and corrosion has started.	Clean and re-passivate these components.	Priority A-1
2.3	The inlet pipe of outlet / scour is set at the base level. Therefore, the valve may become inoperable if silt is accumulated in front of the inlet pipe.	Operate the valve at regular intervals to flush out sediments, if accumulated in front of the valve.	Priority A-3

2.4	The operational aspects of the regulating valve are not known. (Note that this valve was not test operated during the inspection as the maintenance contractor who is the custodian of the valve key did not attend the inspection.) The operating force / torque should be measured and documented in an Operation and Maintenance Log for future reference / benchmarking purposes.	Test operate the valve in next TCCS valve exercising.	Priority A-3
3	General Issues		
3.1	“Works-As-Executed (WAE)” drawings are not available at this stage.	Prepare WAE drawings and review them for their completeness and accuracy of information.	Priority A-1
3.2	“Construction Report” is not available at this stage.	Prepare the construction report and review it for completeness and accuracy of information.	Priority A-1

Table 6-2 : Operation and Maintenance (O&M) and WH&S Activities noted during the Dam Safety Inspections

Item	Observations / Issues / Concerns	Recommended Action (by whom)	Status (Priority)
1	Upstream Pool		
1.1	Trash rack has not been provided to prevent debris blocking the outlet valve	Consider installing a trash rack.	Priority B
2	Weir Structure		
2.1	There is no safe access for inspection of the downstream area of the labyrinth weir.	Provide safe access for inspection.	Priority B
3	Outlet Works		
3.1	There is no safe access for inspection of the downstream area of the labyrinth weir.	Improve access to the valve operating platform by extending the existing valve operating platform downstream and then turn into the RHS embankment with stairs. This will eliminate the use of high ladders, fall prevention mechanism and recovery system.	Priority B
3.2	The existing arrangement of ladders for installation of the “Recovery System” should be reviewed.	Raise the penstock gate operating platform to an appropriate level (possibly by approx. 30 cm).	Priority B
3.3	There are several sharp edges in the ladder (outside of the RHS wall) provided for access to valve operation which can cause injury to personnel.	Clean the sharp edges and repaint with zinc rich paint.	Priority B
3.4	The gate latch for the outlet valve chamber is jammed and hard to open.	Enlarge the hole of the bolt lug and repaint with zinc rich paint.	Priority A
3.5	The operating force / torque of the guard (isolation) and regulating valves are not	Measure and document the operating force / torque in an Operation and	Priority A-1

Item	Observations / Issues / Concerns	Recommended Action (by whom)	Status (Priority)
	measured and documented for future reference / benchmarking.	Maintenance log for future reference / benchmarking.	
3.6	A bracket for a portable recovery system (davit arm) is provided at the top of the ladders but a recovery system has not been provided.	Provide the portable recovery system.	Priority A-1
3.7	The inlet pipe of the outlet / scour is set at the base level. Therefore, the valve could become inoperable if silt is accumulated in front of the inlet pipe.	Open the valve at regular intervals as specified in the operation and maintenance plan to flush the silt accumulated in front of the inlet pipe.	On-going activity

Table 6-3 : Action Priority Rankings

Priority Ranking	Recommended Time Frame to Complete Action Item
A -1	Immediate Action
A - 2	Within 6 months
A - 3	Within 1 year
B	3 years
C	5 years
Relative priority within each ranking is denoted by the number following it	

Table 6-4 : Category Legend

Category Legend	
O&M	Operation & Maintenance
DS	Dam Safety
WH&S	Workplace Health & Safety

7. Summary

Following completion of upgrade works at Isabella Weir, an inspection was undertaken by the Surveillance Officer and a report issued. Then, following re-filling of the weir pool to FSL, a detailed inspection was undertaken on 20 November 2018 by the Dam Safety Engineer (DSE) and the Surveillance Officer (SO), accompanied by several key members involved in the upgrade project (See Section 4.5.1 for names of the inspection team).

Based on the information gathered from the dam safety inspections, monitoring of instrumentation undertaken to-date, discussions held with other team members of the inspection team and other information made available to SMEC for review, a number of issues associated with dam safety, O & M and WH&S have been identified. A complete list of the outstanding action items is presented in Section 6 of this report. Depending on their nature, some maintenance activities, if not attended to in a timely manner, may eventually become dam safety issues. Therefore, O&M action items reported should also be addressed as a part of TCCS risk management.

It is recommended that the works identified in the Action Summaries be carried out in accordance with the risk-based priorities to reduce the risk to TCCS.

8. References

Actew AGL (2008) "Territorial Dams Surveillance Procedures", ACT Roads Asset Maintenance Management, July 2008.

Actew AGL (2010) "Isabella Weir – Annual Surveillance Report" September 2010 for Territory and Municipal Services Roads ACT – Strategic Asset Maintenance.

ANCOLD (2003) "Guidelines on Dam Safety Management".

SMEC (2018) "Territorial Dams Mechanical and Electrical Components Maintenance Plan".

GHD (2013), "Tuggeranong Creek Hydrology and Dam Break Study (Draft Final Report)".

ACT Geotechnical Engineering Pty Ltd (2018), "Isabella Weir Instrumentation, Piezometer and Settlement Points Installation Record".

Isabella Weir Upgrade Final Sketch Plan (FSP) Design Report, SMEC, July 2015

Consequence Category Assessment, Isabella Weir, Final Report, GHD, December 2013

FIGURES AND DRAWINGS

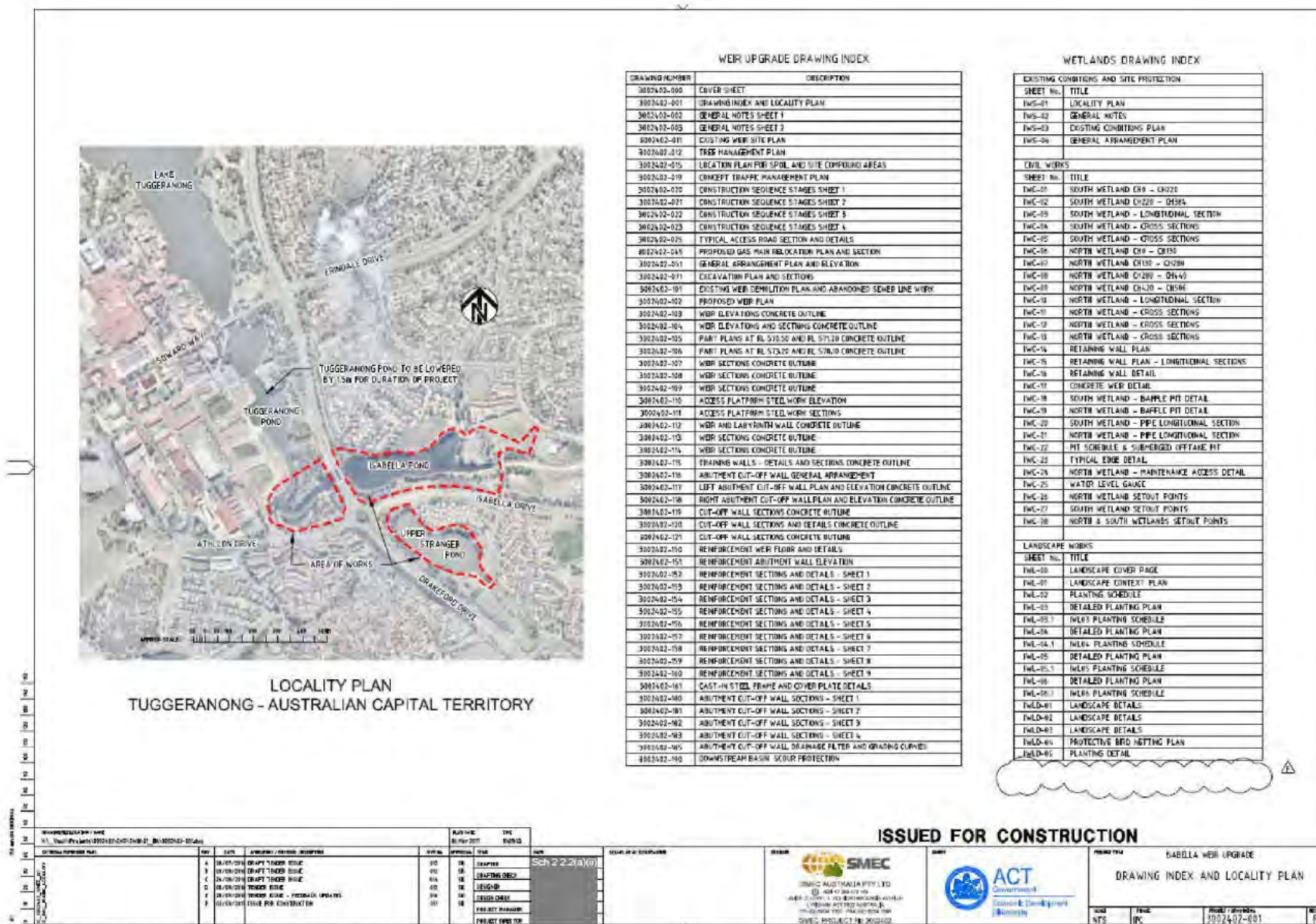


Figure 4: Locality Plan and Drawings Index

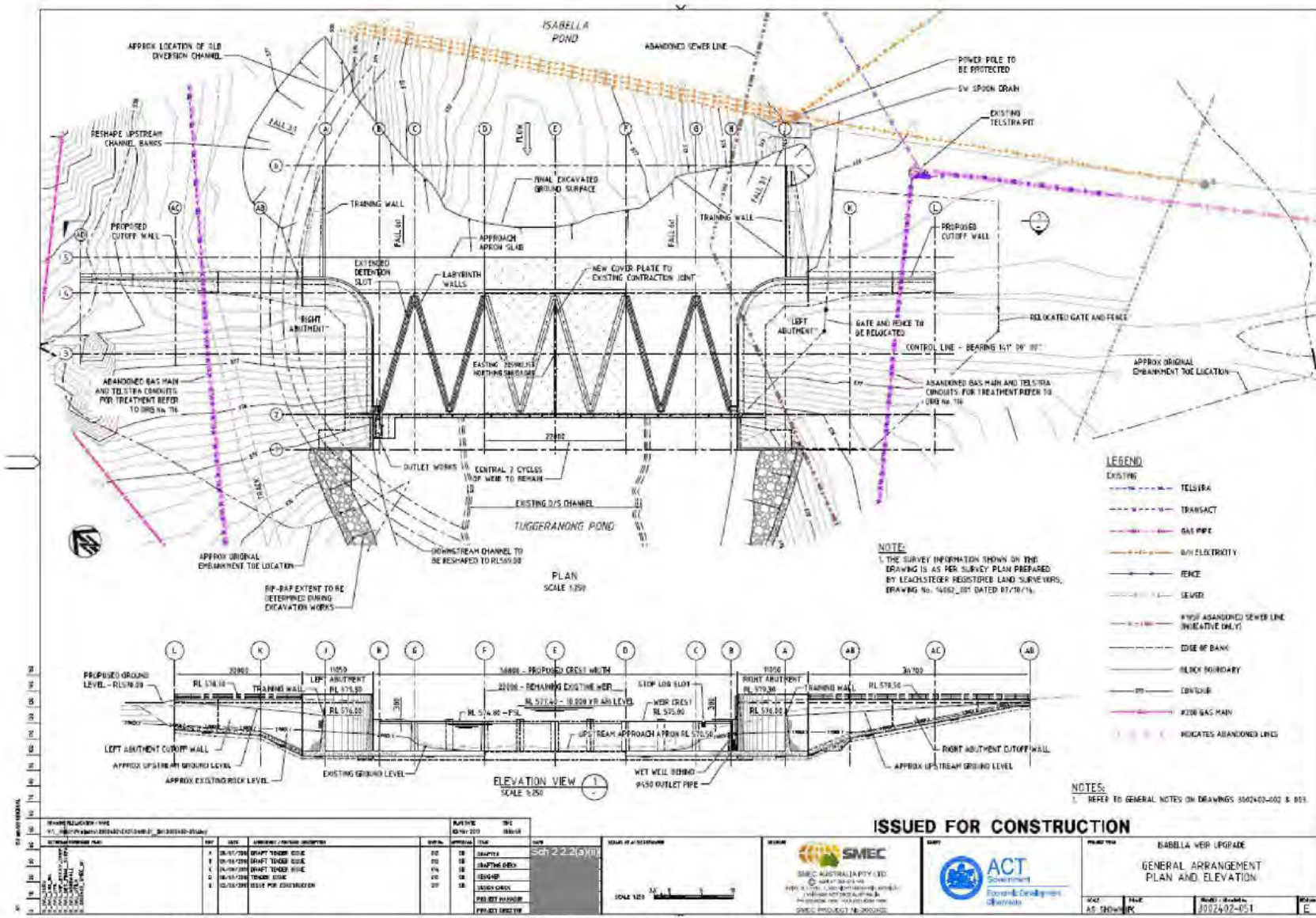


Figure 5: Isabella Weir - General Arrangement – Plan and Elevation (Drawing No 3002402-051, Rev E)

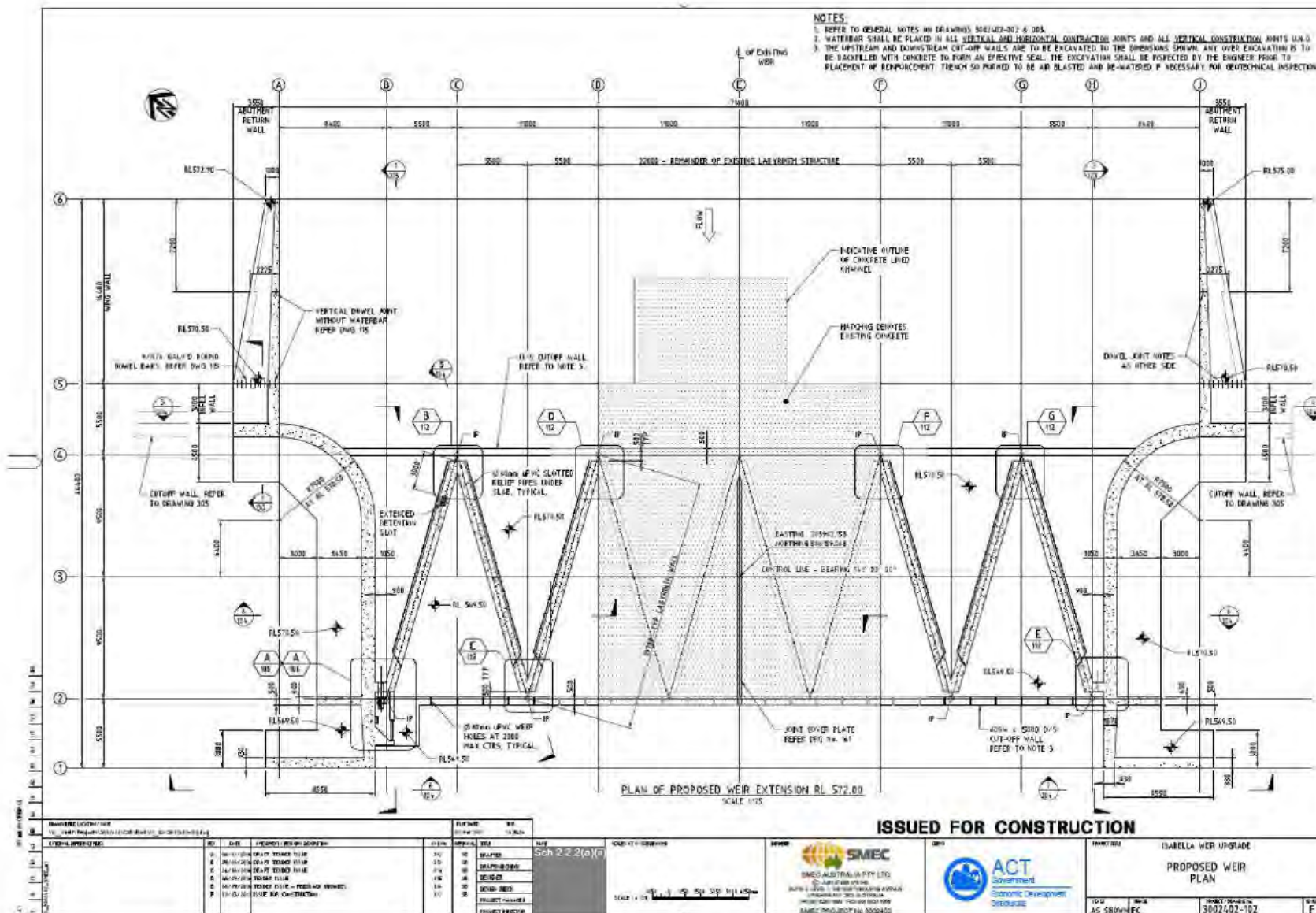


Figure 6: Isabella Weir – Proposed Weir - Plan (Drawing No 3002402-102, Rev F)

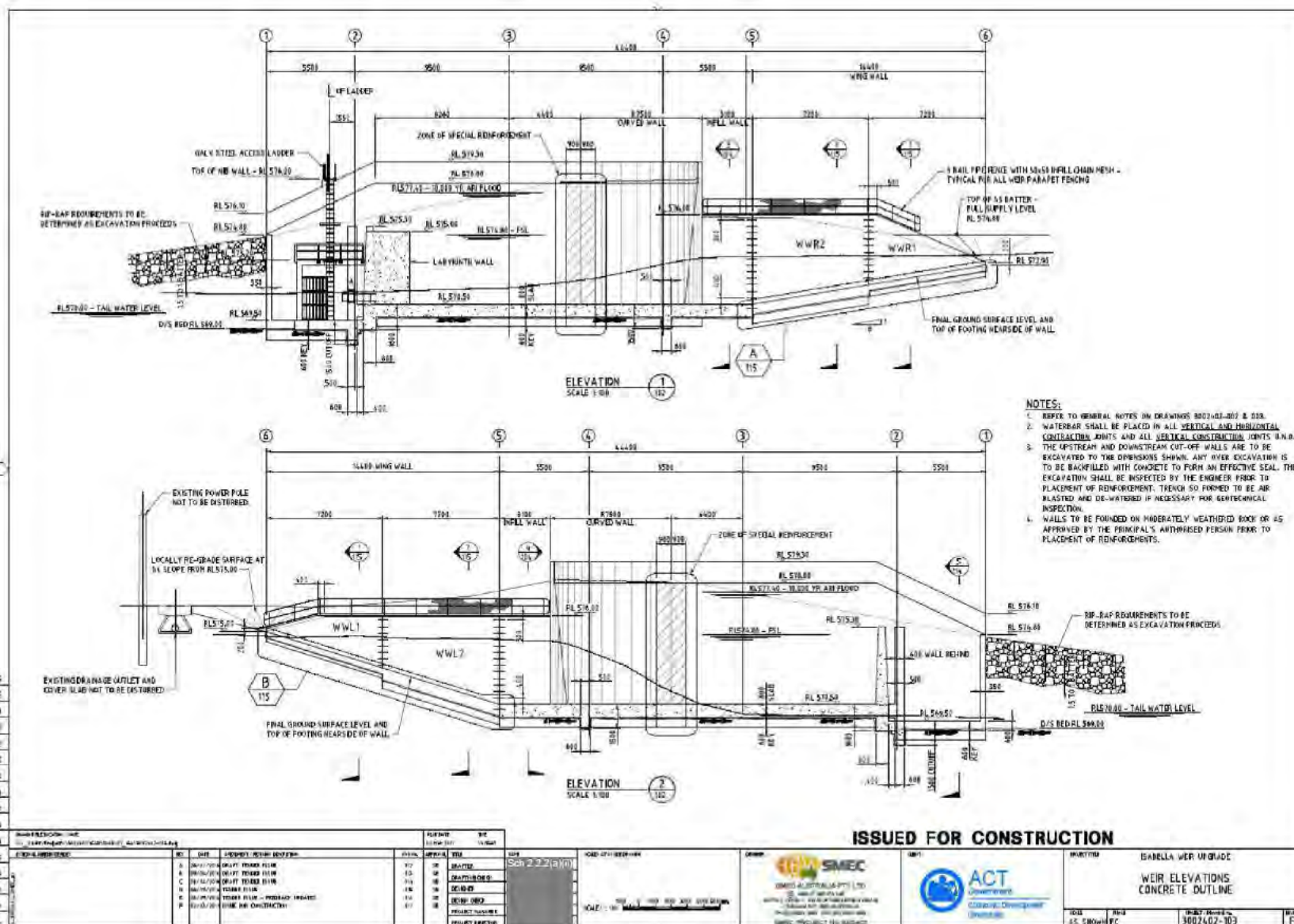


Figure 7: Isabella Weir – Weir Elevations and Concrete Outline (Drawing No 3002402-103, Rev F)

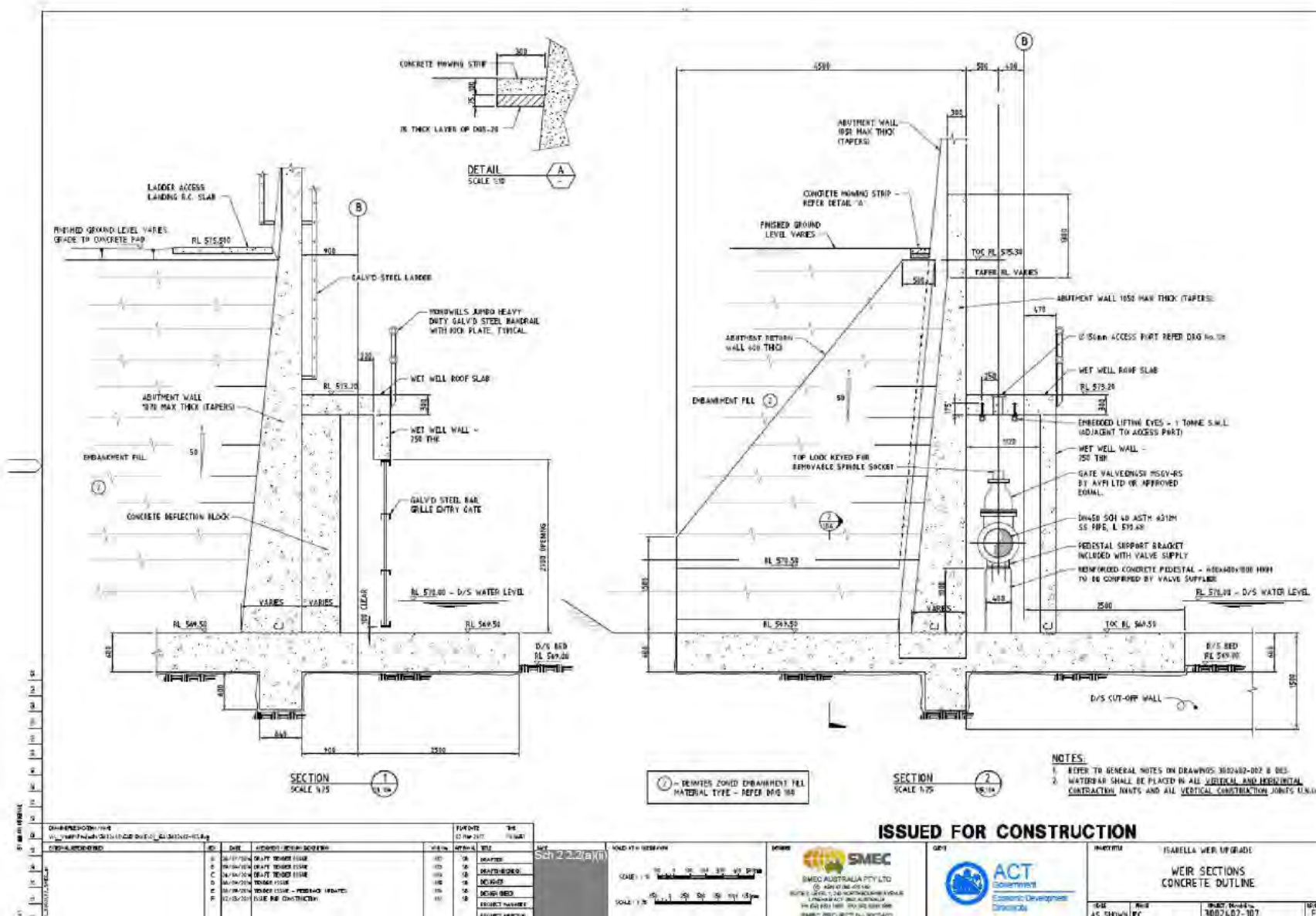


Figure 8: Isabella Weir – Weir Sections – Concrete Outline (Drawing No 3002402-107, Rev F)

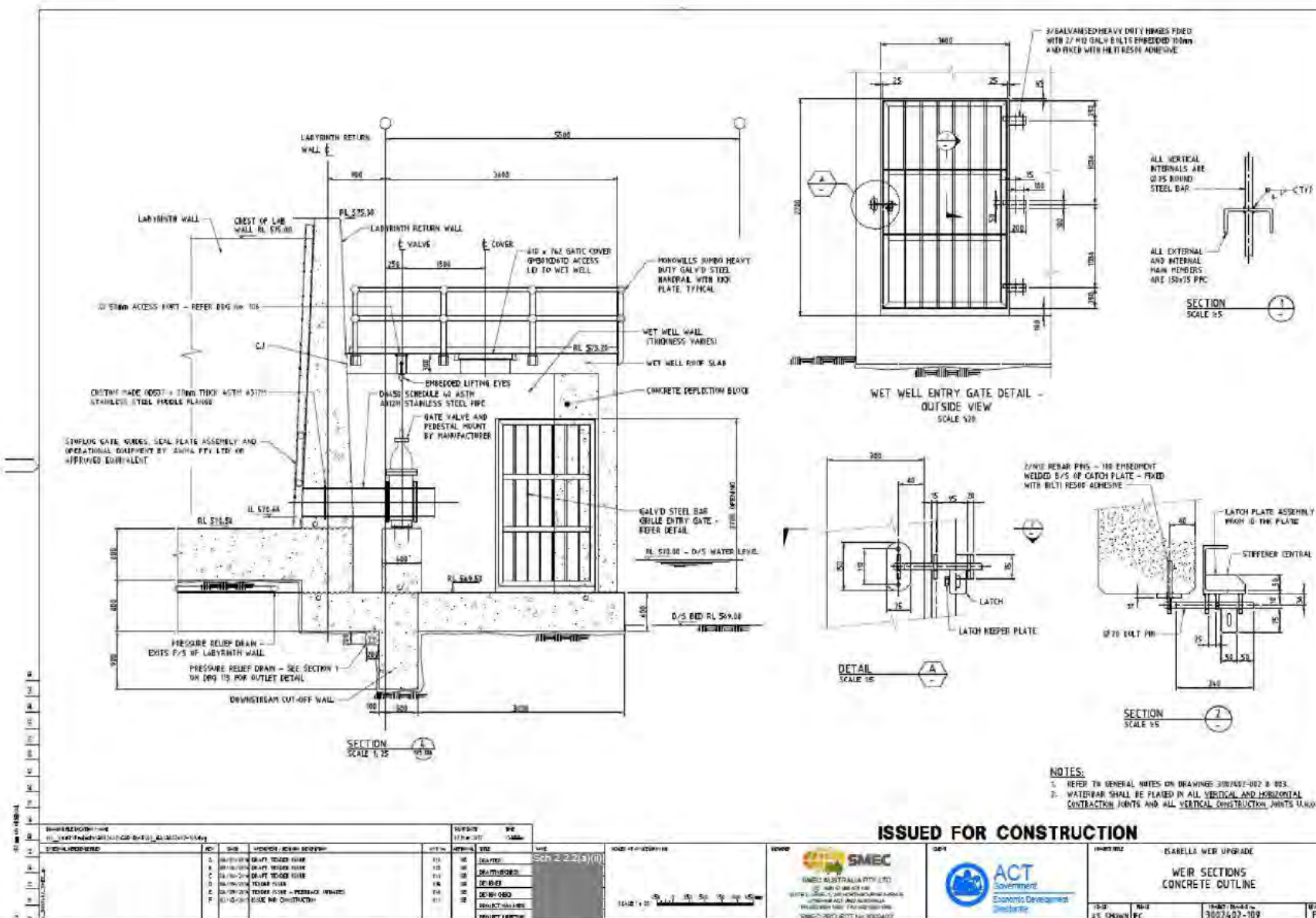


Figure 9: Isabella Weir – Weir Sections – Concrete Outline (Drawing No 3002402-109, Rev F)

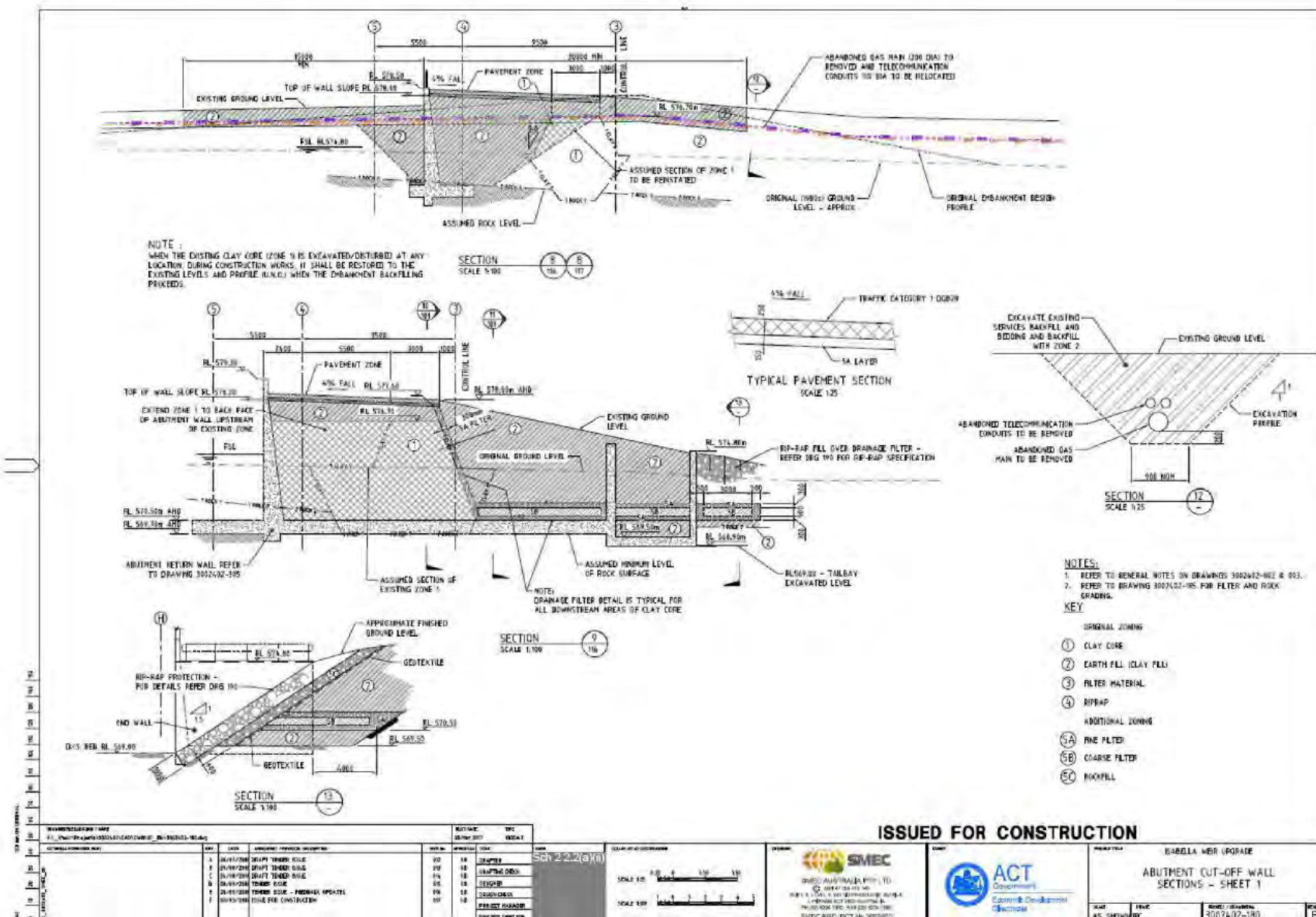


Figure 10: Isabella Weir – Abutment Cut-Off Wall, Sheet 1 (Drawing No 3002402-181, Rev F)

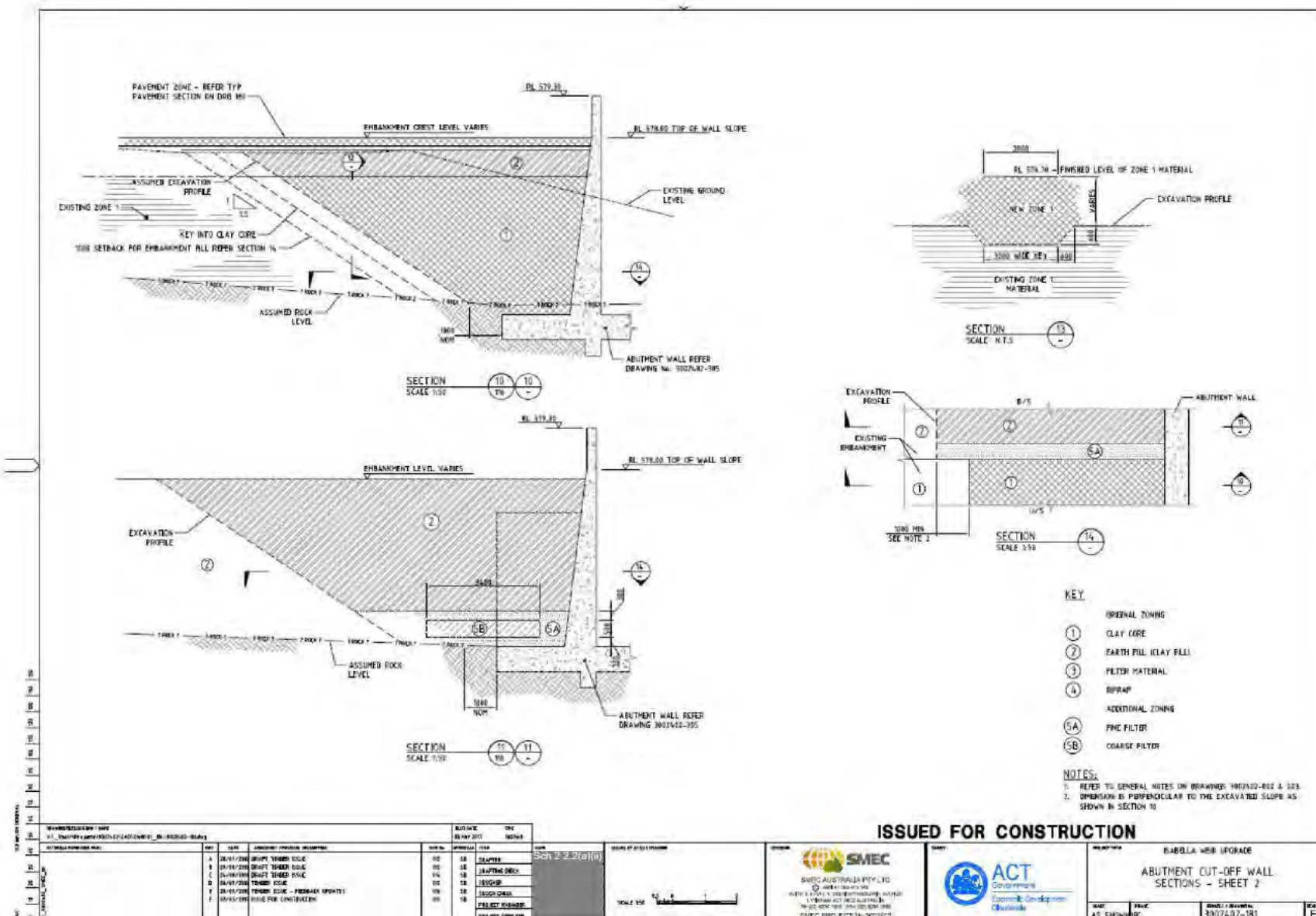


Figure 11: Isabella Weir – Abutment Cut-Off Wall, Sheet 2 (Drawing No 3002402-181, Rev F)

Appendix A Inspection Photographs



Photograph 1 – Job Safety Assessment (JSA) and briefing session undertaken prior to the commencement of the inspection.

(Note: This photograph was taken by Sch 2 2.2(a)(ii) who was also a member of the inspection team).



Photograph 2 – General view of the upstream pool and the weir.



Photograph 3 – General view of the weir (Note: the water level of the downstream pool was lowered to facilitate the inspection).



Photograph 4 – General downstream view of the weir and downstream pool.



Photograph 5 – General downstream view of the pool.



Photograph 6 – View of the RHS batter immediately upstream of the weir.



Photograph 7 – General view of RHS training wall and the gauge board.



Photograph 8 – General view of the crest of the RHS embankment.



Photograph 9 – Downstream face of the RHS embankment.



*Photograph 10 – View of the RHS batter immediately downstream of the weir.
There is no safe access to the downstream apron area from right abutment. Therefore, consideration should be given to providing a hand rail as shown in yellow, or similar acceptable arrangement.*



Photograph 11 – A close-up view of the tip-rap protection of the RHS batter referred to in Photograph 10. Note sand-like materials within the rip-rap protection which could be washed away during flood discharge.



Photograph 12 – Another close-up view of the tip-rap protection of the RHS batter referred to in Photograph 10. Note sand-like materials within the rip-rap protection which could be washed away during flood discharge.



Photograph 13 – General view of the outlet valve chamber, valve operating platforms and access ladders. Note the ladder and bracket for the Devitt arm of the recovery system.

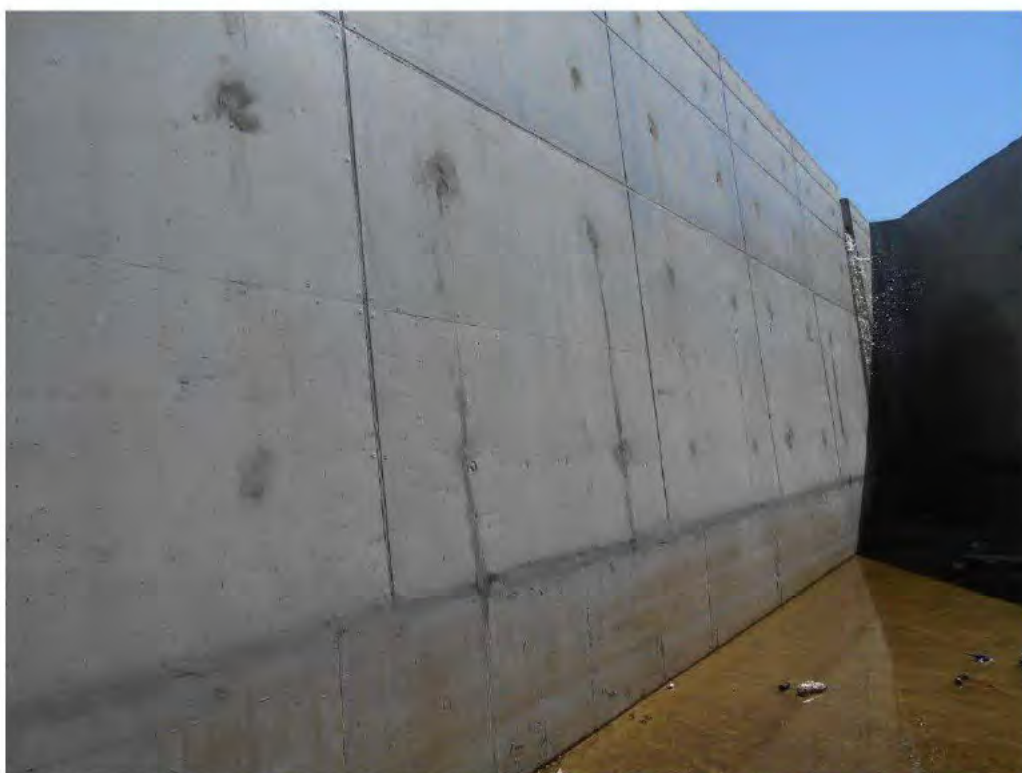


Photograph 14 – View of the ladder installed on the external face of the RHS abutment wall of the weir. There are several sharp edges (See inset). The bracket for installation of the “Recovery System” is shown in yellow arrow.



Photograph 15 – The ladder installed on the internal face of the RHS abutment wall of the weir, looking down from the top of the retaining wall.

The bracket for installation of the “Recovery System” is seen in this photograph (circled in yellow). The entry hatch is heavy, jammed and hard to open (shown in orange arrow).



Photograph 16 – General view of the RHS wall of the Bay 5 (Bays are numbered from LHS to RHS).



Photograph 17 – General view at the corner of LHS and RHS walls of the Bay 5. Close-up views of defects circled in orange and yellow are shown in Photograph 17 and Photograph 18.



Photograph 18 – A close-up view of a defect on the RHS wall of the Bay 5 (Circled in orange in Photograph 17).



Photograph 19 – A close-up view of a defect on the RHS wall of the Bay 5 (Circled in yellow in Photograph 17).



Photograph 20 – A close-up view of another defect in Bay 5.



Photograph 21 – A close-up view of another defect in Bay 5.



*Photograph 22 – General view at the corner of LHS and RHS walls of the Bay 4.
Note defects where minor seepage was evident.*



*Photograph 23 – General view at the corner of LHS and RHS walls of the Bay 3.
Note defects where minor seepage was evident.*



Photograph 24 – General view of the RHS wall of the Bay 2.



Photograph 25 – General view at the corner of LHS and RHS walls of the Bay 2. Note defects where seepage was evident.



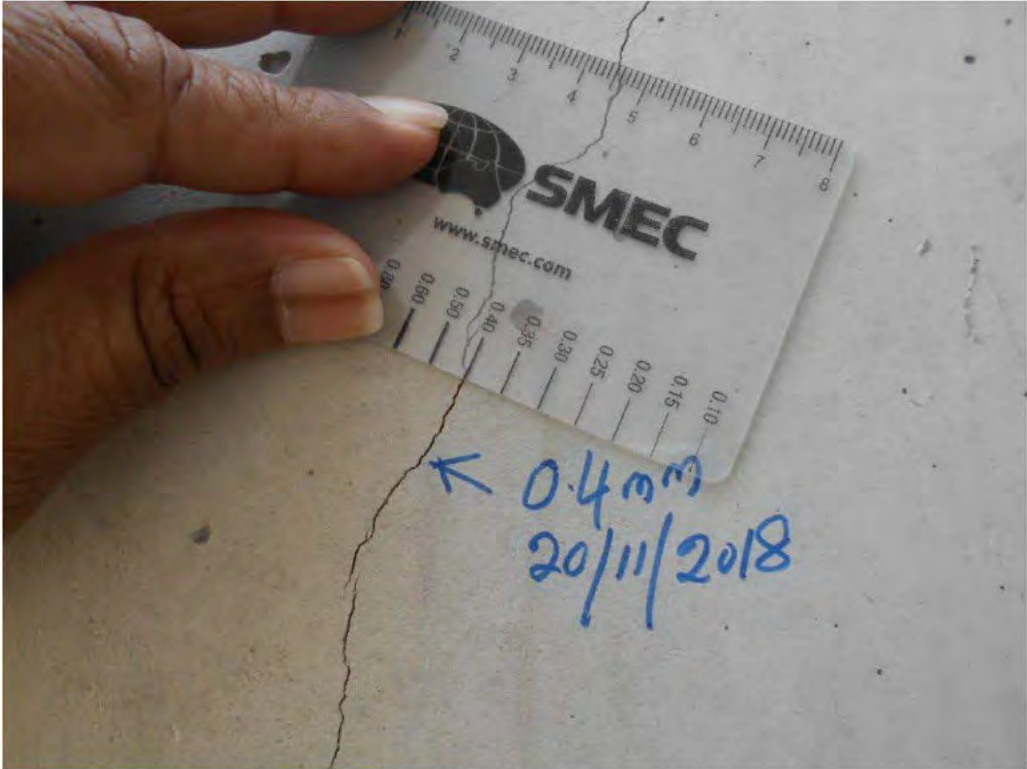
Photograph 26 – A close-up view of the defect at the corner of LHS and RHS walls of the Bay 2 and referred to in Photograph 25.



Photograph 27 – General view of the LHS wall of the Bay 2.



Photograph 28 – General view of the RHS wall of the Bay 1.



Photograph 29 – A close-up view of a typical crack on the RHS wall of the Bay 1.

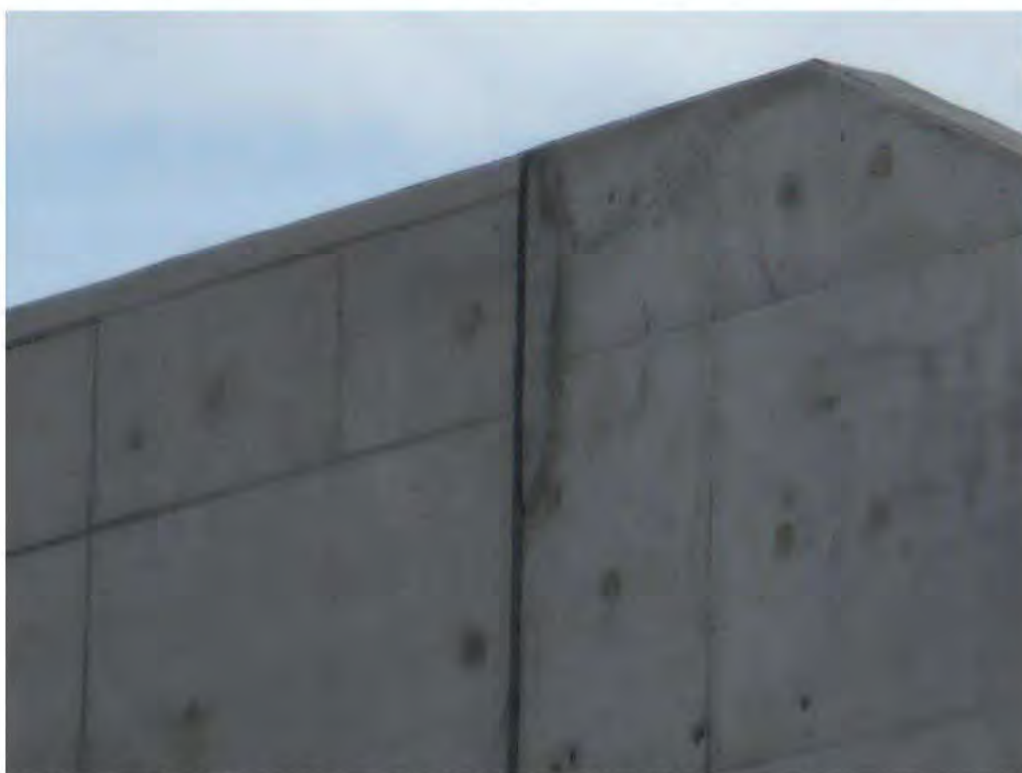


Photograph 30 – General view of the LHS wall of the Bay 1.



Photograph 31 – General view of the LHS wing wall.

There is no safe access to the downstream apron area from left abutment. Therefore, consideration should be given in providing a hand rail as shown in yellow, or similar acceptable arrangement. A close-up view of the defect repaired during the construction stage (Circled in orange) is shown in Photograph 32.



Photograph 32 – A close-up view of the defect referred to in Photograph 31.



Photograph 33 – General view of the rip-rap protection of the LHS batter immediately downstream of the weir.



Photograph 34 – General view of the LHS training wall.



Photograph 35 – General view of the crest of the LHS embankment dam.



Photograph 36 – View of the locking bolt of the outlet valve chamber with evidence of wear and rubbing due to improper installation.



Photograph 37 - Close-up view of gate valve flange showing stained surface from carbon steel contamination.



Photograph 38 – View of the underside of the stainless-steel pipework and flange showing improper preparation of works on stainless steel. There was evidence of surface corrosion. The bolt seen LHS of the photograph was found to be in loose state.



Photograph 39 – View of the upstream flange of the gate valve where one bolt was missing.



Photograph 40 – A Close-up view of the flange of the gate valve where there is evidence of stains from carbon steel contamination.



Photograph 41 - Overview of the gate valve located in the outlet valve chamber.



Photograph 42 – The operating platform of the penstock guard valve is set at too lower level. Therefore, a significant effort and time are required to operate the valve.



*Photograph 43 (19 December 2019) – Downstream view of the weir.
Spilling was not observed in Bays 1 (LHS end) and 2.*

Appendix B Piezometers and Settlement Points Installation Records



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Our ref: MD/C8624

9 October 2018

Guideline ACT Pty Ltd
16B Bass Street
QUEANBEYAN NSW 2620**Attention:** Sch 2 2.2(a)(ii)

Dear Sir

ISABELLA WEIR INSTRUMENTATION**PIEZOMETER & SETTLEMENT POINTS
INSTALLATION RECORD**

ACT Geotechnical Engineers Pty Ltd are pleased to present the installation record of embankment crest settlement survey points and piezometers for Isabella Weir. The report provides details of these instrument installations, which were installed to monitor the left and right downstream embankment settlement and the pore pressures and phreatic conditions of the embankment and foundations.

Details of the instruments and a brief maintenance and operations guide is included. The initial readings are also presented.

Should you require any further information regarding this report, please do not hesitate to contact our office.

Yours faithfully

ACT Geotechnical Engineers Pty Ltd**Sch 2 2.2(a)(ii)**

Director

GUIDELINE ACT PTY LTD
ISABELLA WEIR EMBANKMENT INSTRUMENTATION
PIEZOMETERS & SETTLEMENT POINTS
INSTALLATION RECORD

OCTOBER 2018

GUIDELINE ACT PTY LTD
ISABELLA WEIR EMBANKMENT INSTRUMENTATION

**PIEZOMETERS & SETTLEMENT POINTS
 INSTALLATION RECORD**

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TABLE 1 - Settlement Point Installations Coordinates & RLs

TABLE 2 - Standpipe Piezometers Coordinates & RLs

FIGURE 1 - Isabella Weir Locality Plan

FIGURE 2 - Location of Settlement Point and Piezometer Installations

FIGURE 3 - Standard Casagrande Type Piezometer Standpipe detail provided by client

FIGURE 4a - Standpipe Piezometer Installation Field Sketch – left abutment

FIGURE 4b - Standpipe Piezometer Installation Field Sketch - right abutment

GUIDELINE ACT PTY LTD
ISABELLA WEIR EMBANKMENT INSTRUMENTATION
SETTLEMENT POINTS & PIEZOMETERS
INSTALLATION RECORD

1 INTRODUCTION

The main instrumentation of Isabella Weir comprised the installation of two standpipe piezometers in the Isabella Weir embankments at completion of construction. ACT Geotechnical Engineers Pty Ltd, acting as the approved specialist sub-contractor to Guideline, carried out the piezometer installations.

The project designer and Superintendent was consulting engineers firm SMEC, acting as representative for the Principal, the Economic Development Directorate.

As part of the instrumentation of Isabella Weir, survey settlement monitoring points were also installed along the embankments by the main project contractor Guideline ACT Pty Ltd. ACT Geotechnical Engineers Pty Ltd overviewed the work and prepared this report which covers the installation of two standpipe piezometers in the embankments and nine settlement monitoring points on the embankments and weir abutment walls.

On Completion, the installation coordinates and levels were surveyed by Kerry Surveys Pty Ltd at the request of Guideline ACT Pty Ltd.

2 ISABELLA WEIR EMBANKMENT PIEZOMETERS

Water-level observation boreholes IW-PEI-001 and IW-PEI-002 at Isabella Weir are Casagrande type standpipe piezometers, and were installed within the abutting earth embankment foundations, on either side of the concrete weir structure. The 150mm diameter holes were bored by a mini excavator with an auger attachment on 10 September 2018 to 5.93m and 7.18m depth below crest surface level for piezometers IW-PEI-001 and IW-PEI-002 respectively. 100mm Diameter PVC pipes, slotted in the lower "pick-up" section, were installed for the full depth, and the "pick-up" zone sealed top and bottom by a bentonite layer within the annulus of the 150mm dia auger-hole. A cement/bentonite swelling grout was then poured into the annulus to the surface. A 1m long, . square-section steel outer casing pipe with lockable cap was then embedded at the surface during pouring of the concrete plinths on 10 September 2018. The typical installation arrangement is shown in Figure 3. The installation of the piezometers was in accordance with Guideline specifications.

2.1 Installation of Standpipe Piezometers

Isabella Weir standpipe piezometers were designated IW-PEI-001 (left embankment) and IW-PEI-002 (north embankment), and are shown on sketch plan Figure 4. The standpipe locations were surveyed, and the pipe-top and casing reduced levels (RLs) are included on Figure 4. Depth to water readings are provided in Table 1 below. These survey levels are the reference values for future tailwater level readings, and were all taken of the steel casing pipe. Photographs of the installations were taken for record purposes.

TABLE 1
Standpipe Piezometer Water Level

IW-PEI-001 (northern standpipe)		IW-PEI-002 (southern standpipe)	
Top of casing	RL578.637	Top of casing	RL578.760
Depth to water 9/10/2018	6.03m (RL572.607)	Depth to water 9/10/2018	No water present

2.2 Observation of Standpipe Piezometers

Water level readings in open standpipe installations are taken using a water-level indicator. These are commercially available, and usually function on a reed-switch principle. Often, the indicator is incorporated with a flat dual wire calibrated tape. Depending on the quality, readings can be made to 10mm accuracy.

Readings are taken by lowering the indicator on its tape down the pipe until a visual or sonic response occurs upon contact of the indicator tip with the water surface. The measuring tape is arrested at this point, and a reading corresponding with the open upper edge of the steel protective casing pipe is taken. Care should be taken to use the same reference location on the casing rim for all readings.

Regular survey of the reference level should be carried out. In the initial stages of the completed embankment, a monthly check may be desirable, as the surrounding area of placed embankment fill settles. Depending on observed movement, survey checks can be extended to half, then yearly determinations.

2.3 Maintenance of Embankment Standpipe Piezometers

Observation Borehole installations require very little maintenance. The solid concrete plinth and padlocked protective steel casing is usually vandal-proof, and prevents extraneous objects being dropped down the pipes, which is one of the main problems with such installations.

The surrounding clean gravel and sand backfill generally ensures the water in the pipe is clear. However, bacteriological activity in stagnant water can occasionally produce cloudiness and odours. In such cases, or if it is suspected that the installation is not functioning as anticipated, the water level can be lowered by pumping or siphoning. Water should then re-establish itself at the natural level.

3 EMBANKMENT SURFACE SETTLEMENT POINTS

The surface settlement point installations for Isabella Weir involved drilling vertical holes along the downstream embankment crests and installing 1.5m deep, 150mm diameter PVC pipes filled with 25MPa concrete. Stainless steel pins of 200mm length were embedded in the concrete surface, and a metal cover embedded around the top, set in a concrete plinth, level with the general crest. Some pins were set into the concrete weir abutment wall surface.

Final settlement points were installed in late September 2018 and accurately surveyed on 8 October 2018. The survey point measured is the top of the stainless steel pin embedded in concrete. The typical installation layout is shown in Appendix A.

3.1 Embankment Surface Settlement Point Installations

The settlement points were designated IW-DSP-001, IW-SP-001, IW-SP-002, IW-SS-001, IW-SS-002, IW-SS-003, IW-SS-004, IW-SP-003, and IW-SP-004, and Table 2 lists the coordinates and reduced levels. The survey datum used (reference benchmark) is ACT Survey Mark SR1314. Points IW-DSP-001, IWSP-001, IW-SP-002, IW-SS-001, and IW-SS-002 are located on the northern side of the weir, and points IW-SS-003, IW-SS-004, IW-SP-003, and IW-SP-004 are located along the southern side of the weir. The location of these points is shown on Figure 2, a sketch plan provided by Guideline.

TABLE 2

Pond A Embankment Settlement Installations Coordinates & RL

Settlement Point	Easting	Northing	Reduced Level
North Side – Left Embankment			
IW-DSP-001	205937.546	588215.722	RL577.963
IW-SP-001	205946.585	588208.833	RL578.192
IW-SP-002	205954.483	588195.773	RL578.165
IW-SS-001	205970.314	588189.629	RL579.321
IW-SS-002	205965.387	588182.175	579.315
South Side – Right Embankment			
IW-SP-003	206011.199	588124.247	RL578.177
IW-SP-004	206019.683	588113.480	578.201
IW-SS-003	206001.717	588138.161	RL579.314
IW-SS-004	206010.145	588140.929	RL579.308

3.2 Reading Frequency of Surface Settlement Installations

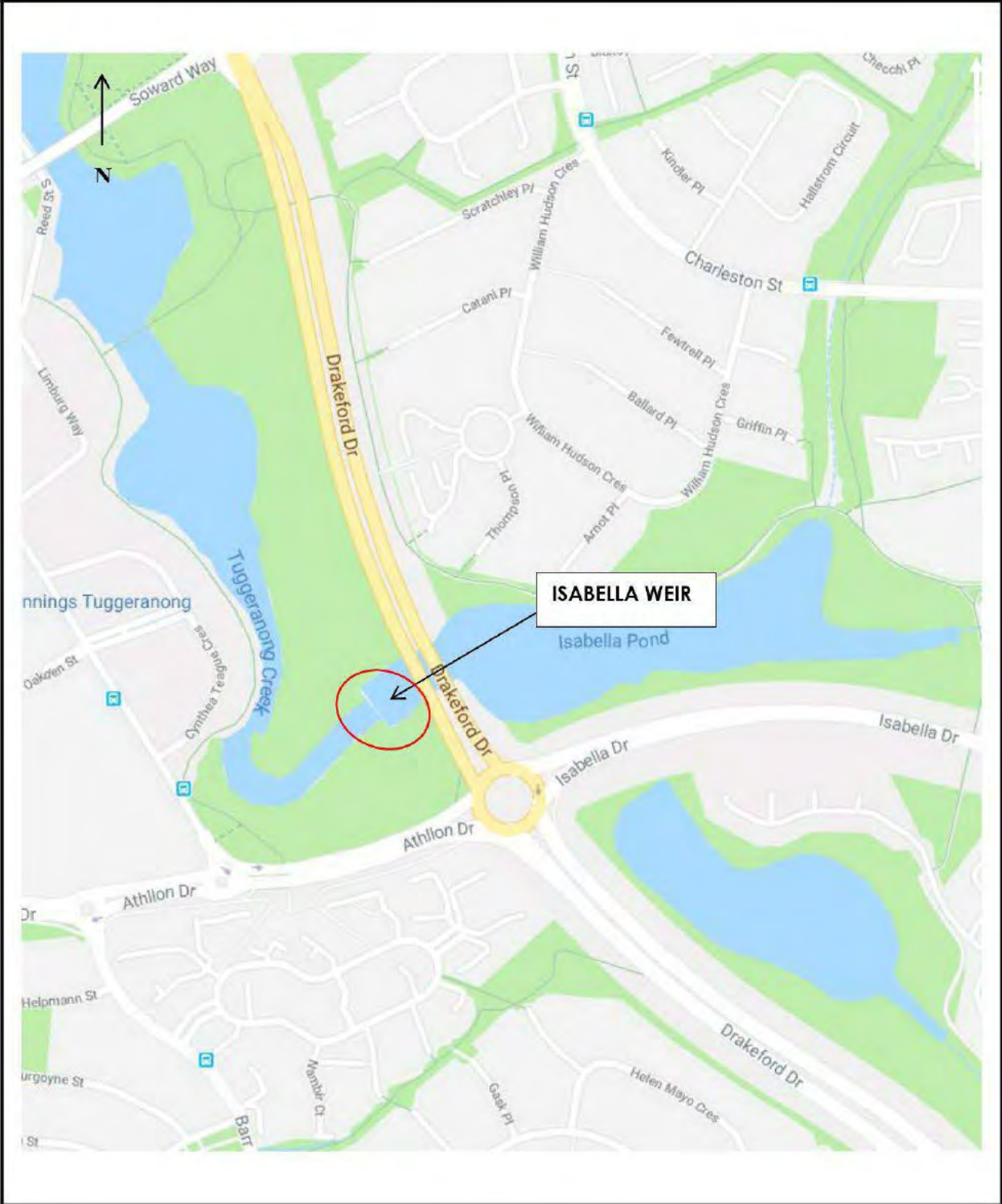
The frequency of settlement observations varies with the application, the type of structure being monitored, the rate of embankment construction, and the requirements of the designers monitoring the structure's performance.

As a guide, surface settlement points on water retaining earthfill and earth and rock dams are commonly read once or twice weekly during construction, and then monthly to completion and additionally during reservoir filling. Observation intervals can be extended thereafter, especially if a steady state is reached. Half-yearly readings are probably adequate thereafter for a few years, although events such as rapid reservoir filling or drawdown would require closer monitoring.

3.3 Maintenance of Surface Settlement Installations

The Surface Settlement Installations at Isabella Weir will require periodic inspection to ensure their continuing proper function. The actual embedded concrete post and stainless steel pin are rugged and should be very long-lasting. The protective galvanised steel cover should also be weather-proof, but water and silt should be prevented from collecting inside the box. The installations were located out of traffic lines to preclude being run over by vehicles, and if this is anticipated, a guard rail is commonly erected along the downstream crest line.

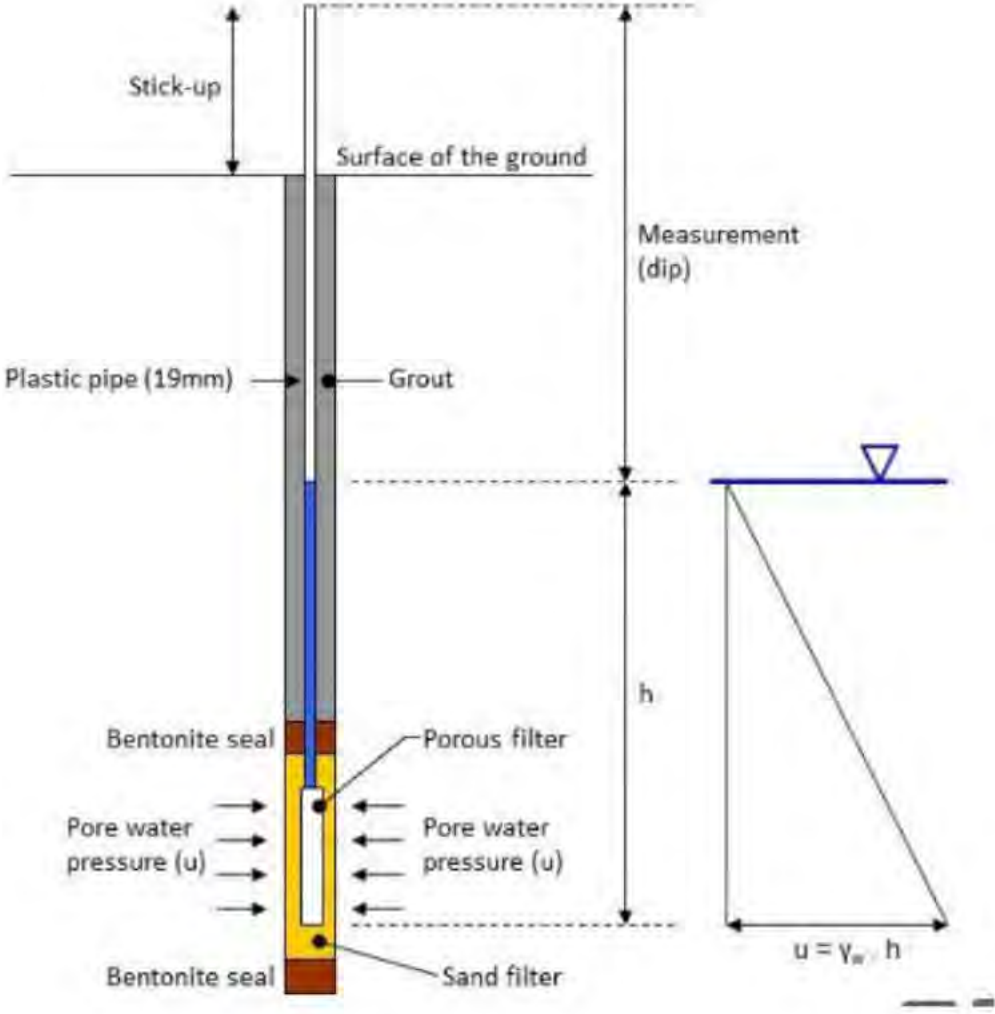
ACT Geotechnical Engineers Pty Ltd



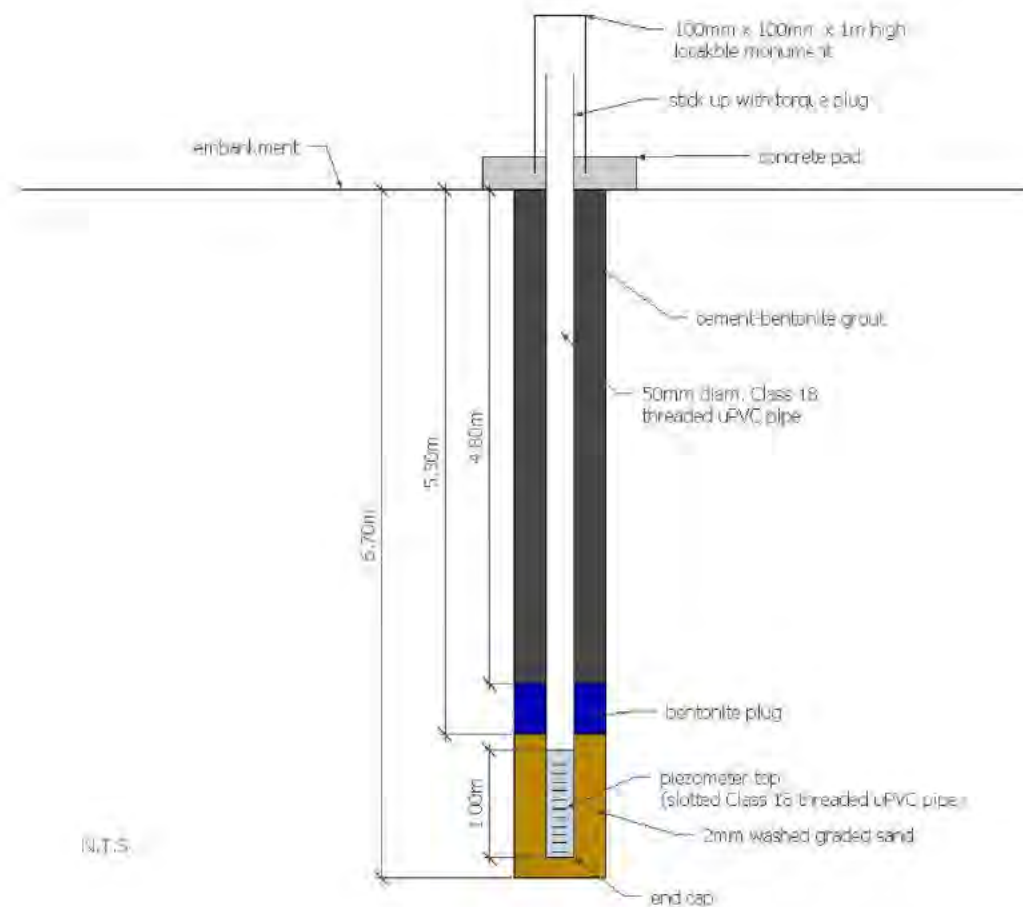
**ISABELLA WEIR
SITE LOCALITY**



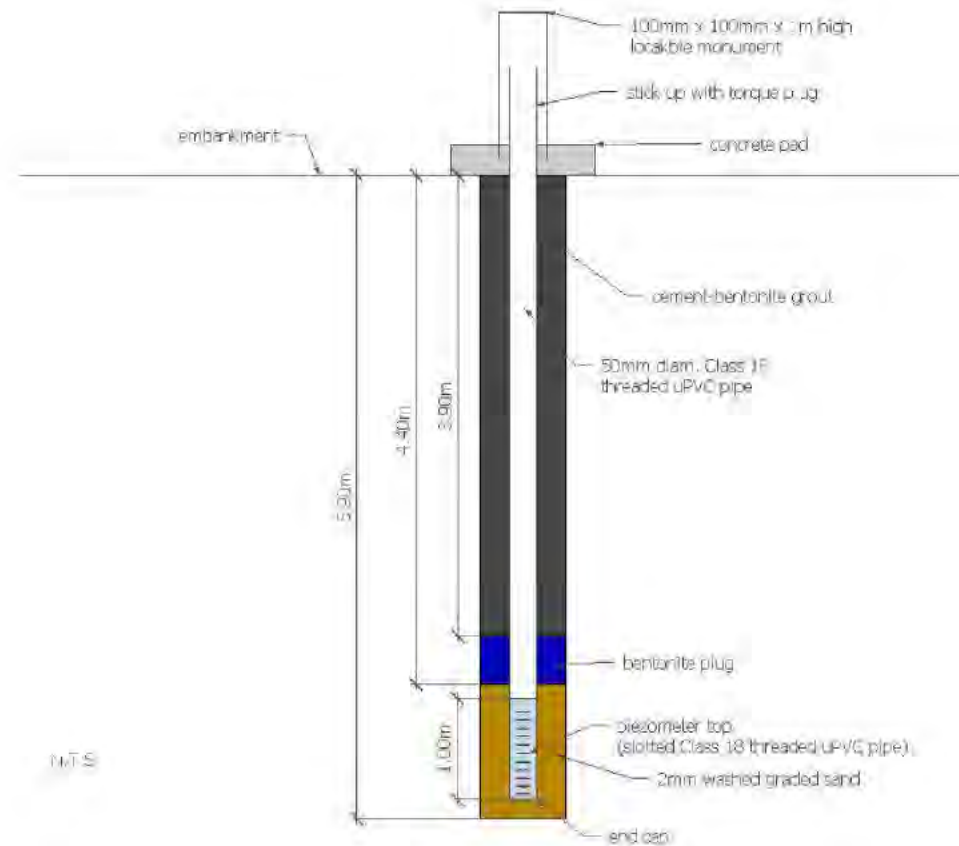
ISABELLA WEIR
LOCATION OF SETTLEMENT POIN AND PIEZOMETER INSTALLATIONS



ISABELLA WEIR
Standard Casagrande Type Piezometer Standpipe detail provided by client



ISABELLA WEIR
Standpipe Piezometer Installation Field Sketch – left abutment



M.T.S

ISABELLA WEIR
Standpipe Piezometer Installation Field Sketch – right abutment



SMEC Australia Pty Ltd

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North Sydney, NSW, 2060

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F +61 2 9925 5566

www.smec.com

From:"Harris, KimM" <KimM.Harris@act.gov.au>

Sent:27/03/2019 10:26 AM

To:"Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>;"McGrath, Michael" <Michael.McGrath@act.gov.au>

Cc:"Taylor, Nick" <Nick.Taylor@act.gov.au>

Subject:Isabella Weir Reports SMEC [SEC=UNCLASSIFIED]

Attachments:IWU Design Certification_20190320.pdf, Isabella Weir 2018 - First Fill Inspection report - Final (1).pdf

All,

Email 1 of 2

Attached reports received from SMEC this morning

Nick, have saved on your Gdrive and sent you the link

Regards

[Kim Harris](#)

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch

Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au

Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government

Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au



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21 March 2019

File No: 3002581/006/02

Infrastructure Finance Capital Works Chief Minister,
 Treasury and Economic Development Directorate
 ACT Government
 Level 2 Nature Conservation House,
 186 Emu Bank
 Belconnen ACT2617

Attention: Mr Nick Taylor

Dear Mr Taylor,

RE: Design Certification

This certificate confirms that SMEC Australia has carried out the design of the **Isabella Weir Upgrade Project** in accordance with accepted engineering practice and principles. The design has been prepared in accordance with relevant Australian National Committee on Large Dams (ANCOLD) guidelines and the Australian Capital Territory Dam Safety Code, 2017 (DSC).

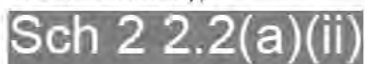
A detailed description of the assessment methodology and assumptions upon which this certificate is based is contained in SMEC's report titled: *Isabella Weir Upgrade Post-Construction Design Report, Revision 0*, dated 31/10/2018.

A list of drawings to which this certificate applies is attached.

This certification does not relieve any other party of their responsibilities, liabilities or contractual obligations.

Should you require any further information, do not hesitate to contact me on the details at the bottom of this page.

Yours faithfully,


 Sch 2 2.2(a)(ii)

Team Leader - Bridges and Structures ACT
 SMEC Australia Pty Ltd



INDEPENDENT VERIFIER'S CERTIFICATION

I have reviewed the design as represented in the design report (*Isabella Weir Upgrade Post-Construction Design Report, Revision 1*, dated 25/02/2019) and drawings listed below. I confirm that, in my opinion, the design has been prepared in accordance with accepted engineering practice and principles and with relevant ANCOLD guidelines and the Australian Capital Territory Dam Safety Code, 2017 (DSC).

Sch 2 2.2(a)(ii)

Sch 2 2.2(a)(ii) BE (Hons), FIEAust

INDEPENDENT VERIFIER

Drawing List

Document Title	Document No.	Revision Number
COVER SHEET	3002402-000	G
DRAWING INDEX AND LOCALITY PLAN	3002402-001	G
GENERAL NOTES SHEET 1	3002402-002	E
GENERAL NOTES SHEET 2	3002402-003	E
EXISTING SITE PLAN	3002402-011	E
TREE MANAGEMENT PLAN	3002402-012	E
LOCATION PLAN FOR SPOIL AND SITE COMPOUND AREAS	3002402-015	F
TEMPORARY TRAFFIC MANAGEMENT PLAN	3002402-019	F
CONSTRUCTION SEQUENCE STAGES SHEET 1	3002402-020	E
CONSTRUCTION SEQUENCE STAGES SHEET 2	3002402-021	E
CONSTRUCTION SEQUENCE STAGES SHEET 3	3002402-022	E
CONSTRUCTION SEQUENCE STAGES SHEET 4	3002402-023	E
TYPICAL ACCESS ROAD SECTION AND DETAILS	3002402-025	D
PROPOSED GAS MAIN RELOCATION PLAN AND SECTION	3002402-045	F
GENERAL ARRANGEMENT PLAN AND ELEVATION	3002402-051	E
EXCAVATION PLAN AND SECTIONS	3002402-071	H
EXISTING WEIR DEMOLITION PLAN AND ABANDONED SEWER LINE WORK	3002402-101	G
PROPOSED WEIR PLAN	3002402-102	J
WEIR ELEVATIONS CONCRETE OUTLINE	3002402-103	J
WEIR ELEVATIONS AND SECTIONS CONCRETE OUTLINE	3002402-104	J
PART PLANS AT RL 570.50 AND RL 571.20 CONCRETE OUTLINE	3002402-105	F
PART PLANS AT RL 573.20 AND RL 578.10 CONCRETE OUTLINE	3002402-106	G
WEIR SECTIONS CONCRETE OUTLINE	3002402-107	G
WEIR SECTIONS CONCRETE OUTLINE	3002402-108	F
WEIR SECTIONS CONCRETE OUTLINE	3002402-109	G
ACCESS PLATFORM STEELWORK ELEVATION	3002402-110	H
ACCESS PLATFORM STEELWORK SECTIONS	3002402-111	G
WEIR AND LABYRINTH WALL CONCRETE OUTLINE	3002402-112	G

Document Title	Document No.	Revision Number
WEIR SECTIONS CONCRETE OUTLINE	3002402-113	H
WEIR SECTIONS CONCRETE OUTLINE	3002402-114	H
TRAINING WALLS - DETAILS AND SECTIONS CONCRETE OUTLINE	3002402-115	F
ABUTMENT CUT-OFF WALL GENERAL ARRANGEMENT	3002402-116	G
LEFT ABUTMENT CUT-OFF WALL PLAN AND ELEVATION CONCRETE OUTLINE	3002402-117	H
RIGHT ABUTMENT CUT-OFF WALL PLAN AND ELEVATION CONCRETE OUTLINE	3002402-118	J
CUT-OFF WALL SECTIONS CONCRETE OUTLINE	3002402-119	H
CUT-OFF WALL SECTIONS AND DETAILS CONCRETE OUTLINE	3002402-120	J
CUT-OFF WALL SECTIONS CONCRETE OUTLINE	3002402-121	G
REINFORCEMENT WEIR FLOOR AND DETAILS	3002402-150	F
REINFORCEMENT ABUTMENT WALL ELEVATION	3002402-151	H
REINFORCEMENT SECTIONS AND DETAILS - SHEET 1	3002402-152	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 2	3002402-153	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 3	3002402-154	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 4	3002402-155	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 5	3002402-156	H
REINFORCEMENT SECTIONS AND DETAILS - SHEET 6	3002402-157	F
REINFORCEMENT SECTIONS AND DETAILS - SHEET 7	3002402-158	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 8	3002402-159	G
REINFORCEMENT SECTIONS AND DETAILS - SHEET 9	3002402-160	F
CAST-IN STEEL FRAME DETAILS	3002402-161	F
ABUTMENT CUT-OFF WALL SECTIONS - SHEET 1	3002402-180	G
ABUTMENT CUT-OFF WALL SECTIONS - SHEET 2	3002402-181	F
ABUTMENT CUT-OFF WALL SECTIONS - SHEET 3	3002402-182	G
ABUTMENT CUT-OFF WALL SECTIONS - SHEET 4	3002402-183	G
ABUTMENT CUT-OFF WALL DRAINAGE FILTER AND GRADING CURVES	3002402-185	E
DOWNSTREAM BASIN SCOUR PROTECTION	3002402-190	F

From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 28/03/2019 9:57 AM
To: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: FW: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Given Stuarts below comments, will TCCS be attending today

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT
 2601 | www.act.gov.au

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From: Oxborrow, Stuart
Sent: Wednesday, 27 March 2019 1:35 PM
To: [Sch 2 2.2(a)(ii)]@smec.com>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)]@smec.com>; [Sch 2 2.2(a)(ii)]@pes.net.au>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

[Sch 2 2.2(a)(ii)]

I've tried phoning you and [Sch 2 2.2(a)(ii)] to discuss....

Can you please confirm the reason Smec's engineers from Melbourne are visiting Isabella Weir tomorrow?

Based on the inspection on Tuesday 19/03 (minuted below) I believe we have an agreed way forward with the cracks. ie Smec (you) will map the downstream cracks and those cracks which require sealing based on the requirements of AS 3735 (ie show leaking from the downstream side) will be repaired. If Smec require any other cracks to be repaired then these will be advised to the client. A similar inspection will be undertaken on the upstream side.

Based on the map cracking report, GLA will advise how the repairs will be undertaken.

Any findings from tomorrow's inspection by Smec's Melbourne engineers should be consistent with the agreed procedures outlined above. If they recommend an alternative inspection procedure then this should be advised to the client before any alternative process is advised to GLA.

Can you please advise.

Regards

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | **ACT Government**

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>

Sent: Wednesday, 27 March 2019 12:01 PM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>; [Sch 2 2.2(a)(ii)] <[redacted]@pes.net.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Stuart,

Yes That correct.

Best Regards,

[Sch 2 2.2(a)(ii)]

Senior Engineer - Structures

SMEC (Member of the Surbana Jurong Group)

T [Sch 2 2.2(a)(ii)]

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Wednesday, 27 March 2019 11:52 AM

To: [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>; [Sch 2 2.2(a)(ii)] <[redacted]@pes.net.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Thanks [Sch 2 2.2(a)(ii)]

I presume the final crack mapping report will be issued once the upstream side is mapped also. Is this correct?

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | **ACT Government**

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>

Sent: Wednesday, 27 March 2019 11:02 AM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; [Sch 2 2.2(a)(ii)] <[redacted]@pes.net.au>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Stuart,

Isabella weir downstream labyrinth wall crack identification for repair work has been completed on yesterday afternoon.

Cracks have been marked and numbered on concrete wall. Photographic records has been made. Please find sample



W8 – Labyrinth Wall N 8

CR 2 – Crack Number 2

1.6m with arrow – require to seal or inject 1.6m length

I am waiting till tomorrow for site meeting to finalise outcome of finding and reporting.
Please find few findings on tomorrow inspection

1. Cracks injection to seal the cracks were failed.



2. Water seeping through construction joint near contraction joint 5



3. Water seeping through cracks on foundation slab (this is mainly on wall 9 and 10). Photograph is referring to wall 10, cracks 7 and 8 only.



**Best Regards,
Best Regards,**

Sch 2 2.2(a)(ii)

Senior Engineer - Structures
SMEC (Member of the Surbana Jurong Group)

TSch 2 2.2(a)(ii)

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Tuesday, 26 March 2019 9:47 AM

To: Sch 2 2.2(a)(ii) <[Sch 2 2.2\(a\)\(ii\)@pes.net.au](mailto:Sch 2 2.2(a)(ii)@pes.net.au)>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <[Sch 2 2.2\(a\)\(ii\)@smec.com](mailto:Sch 2 2.2(a)(ii)@smec.com)>; Sch 2 2.2(a)(ii)

<[Sch 2 2.2\(a\)\(ii\)@smec.com](mailto:Sch 2 2.2(a)(ii)@smec.com)>; Riley, Renee <Renee.Riley@act.gov.au>; Wadwell, Emily <Emily.Wadwell@act.gov.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

All the necessary notifications regarding lowering Isabella Pond have been made. The pond can be lowered on Friday 29/03 as proposed.

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | **ACT Government**

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) <[Sch 2 2.2\(a\)\(ii\)@pes.net.au](mailto:Sch 2 2.2(a)(ii)@pes.net.au)>

Sent: Tuesday, 26 March 2019 8:35 AM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii)

<[Sch 2 2.2\(a\)\(ii\)@smec.com](mailto:Sch 2 2.2(a)(ii)@smec.com)>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael

<Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) @smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Sch 2 2.2(a)(ii)

Access to the downstream side of the Weir is now safe. You can inspect the wall anytime from now. The water level will be maintained until Thursday. We will start draining the upstream side of the pond on Friday 29 March 2019 to provide access for your assessment on the upstream side of walls

Stuart,

Do you need to notify anyone before we start draining the upstream side of the Isabella Weir?

Thanks

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile -Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) @pes.net.au>

Sent: Monday, 25 March 2019 3:17 PM

To: 'Oxborrow, Stuart' <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii)

@smec.com>

Cc: 'Taylor, Nick' <Nick.Taylor@act.gov.au>; 'Harris, KimM' <KimM.Harris@act.gov.au>; 'McGrath, Michael' <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) @smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Kim,

Following to my visit to the weir today, currently, it is not safe to access the downstream side of the Isabella Weir. Following my conversation with you, Sch 2 2.2(a)(ii) has been advised to lower both Tuggeranong Weir and Isabella Weir. Isabella Weir is currently overflowing at the stop log level, and the water level is also required to drop at least 300mm below the bottom of the stop log level. Because, Thusitha still needs to complete the crack mapping on the same wall as the stop log is. I have told Peter to lower the water between Tuggeranong Weir and Isabella Weir just enough to access the concrete slab level at the downstream side of the Isabella Weir.

Sch 2 2.2(a)(ii) will try to go out late this afternoon to lower both ponds, and he will revisit the site in the morning to check the water level at both the Weirs.

Sch 2 2.2(a)(ii) told me that he is available for inspection tomorrow afternoon. He requested if we can advise him whether water has come down and it is safe for him to visit the site. We will be on site around 11 am for inspection at the southern wetland so I can advise him.

Sch 2 2.2(a)(ii) confirmed that SMEC's Dam Safety inspectors from Melbourne will be onsite on Thursday 28 March at 1 pm. He would like the upstream side remains filled until the inspection is carried out. We will then need to advise Sch 2 2.2(a)(ii) again to lower the upstream side for Thusitha to complete crack mapping on the upstream side of the weir.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>
Sent: Monday, 25 March 2019 9:15 AM
To: Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

Can you please liaise with Sch 2 2.2(a)(ii) to decide whether Tuggeranong Pond is still low enough to allow the downstream inspection from the toe of Isabella Weir to be completed.

Regards

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure
Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au
 Capital Works, Transport Canberra and City Services Directorate | ACT Government
 GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Sent: Friday, 22 March 2019 5:53 PM
To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Cc: Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>; Taylor, Nick <Nick.Taylor@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@guidelineact.com.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Stuart,

Sch 2 2.2(a)(ii) was not able to complete the mapping today as we considered it unsafe for him to remain in the waterway because it began raining. He did return later in the day to attempt to complete the work but again the rain became quite heavy. He will need to return next week.

Sch 2 2.2(a)(ii) will confirm on Monday his availability for Wednesday.

Regards,

Sch 2 2.2(a)(ii)
 Senior Structural Engineer
 SMEC (Member of the Surbana Jurong Group)
 T Sch 2 2.2(a)(ii)

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>
Sent: Friday, 22 March 2019 5:20 PM
To: Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>

Cc: [redacted]@pes.net.au; Taylor, Nick <Nick.Taylor@act.gov.au>; [redacted]@guidelineact.com.au; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [redacted]@smec.com

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Gents (and Kim),

The following was the agreed action from today's inspection of Isabella Weir.

- Smec ([redacted]) will map each of downstream cracks which require sealing. AS 3735 (referenced in the IW specification) states that cracks showing any evidence of leakage should be repaired from the water side. If Smec believe any cracks which are *not currently leaking* also require sealing then these should be identified separately and discussed with the client as to why they believe they should also be sealed.
- The mapping will include clear reference to which wall the cracks are in (ie Wall 1, 2,3 etc from the north), plus identification of each crack within that wall (ie crack 1a, 1b, 1c etc). Each crack referenced will be photographed and notated on the wall with permanent marker. The distance between each crack will be measured relative to the end of the wall (or some other standard reference point) so it can be determined if a corresponding crack exist on the northern side.
- Similarly, Smec will map each of the waterstop joints (ie Joints A, B, C etc form the north), plus identify each joint which is leaking and requires repairing.
- Smec ([redacted]) will **revisit the site next Wednesday** (after Isabella Pond is lowered – see below) to map the northern side, in a similar manner to that described above. Following this inspection, a consolidated mapping report will be issued. Guideline will then arrange to repair the cracks which Smec identify require sealing.

[redacted],

Can you please confirm whether you completed you downstream mapping today (as planned) and whether you will need any further access the downstream side of Isabella Weir. If you do, we will need to arrange for Tuggeranong Pond to be lowered concurrently with, or after Isabella Pond is lowered. Please also confirm that you are **still available to inspect the upstream face next Wednesday** (ie 27 March).

Kim,

Once [redacted] has confirmed he is still available for next Wednesday, can you please arrange with [redacted] to open the valve at Isabella Weir early next week, so that the pond is completely empty by Wednesday. Also, depending on whether [redacted] also requires access to the downstream side of Isabella Weir, please also arrange to have Tuggeranong Pond lowered enough to expose the toe of Isabella Weir. Please confirm with [redacted] if this is possible in the available timeframe, since he may want to lower Isabella Pond first, then Tuggeranong Pond (rather than both concurrently) since it may be difficult to control the final water level in Tuggeranong Pond if both happen at the same time.

Thanks,

Stuart

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | ACT Government

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) [REDACTED]@pes.net.au]
Sent: Tuesday, 19 March 2019 4:45 PM
To: McGrath, Michael <Michael.McGrath@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; Sch 2 2.2(a)(ii) [REDACTED]@guidelineact.com.au>; Sch 2 2.2(a)(ii) [REDACTED]@smec.com>; Sch 2 2.2(a)(ii) [REDACTED]@smec.com>
Cc: Sch 2 2.2(a)(ii) [REDACTED]@pes.net.au>; Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>
Subject: Meeting Notes from Post Completion Cracks Repair Methodology

Hi All,

Below are notes from the meeting held today at SMEC's office to discuss acceptance of the cracks repair works and the repair methodology for water stops and new cracks on southern walls and at other locations. Please let me know if you have any comments.

Please note that it is agreed to have site inspection tomorrow at 10 am.

Present:

- Sch 2 2.2(a)(ii) [REDACTED] [PES], Sch 2 2.2(a)(ii) [REDACTED] (GLA), Sch 2 2.2(a)(ii) [REDACTED] [SMEC]; Michael McGrath (MM) [TCCS], Kim Harris (KM [TCCS], Sch 2 2.2(a)(ii) [REDACTED] [SMEC];
- Apologies – Stuart Oxborrow (SO) [TCCS]

Waterstops Repair Works

Issue:

- GLA was asked whether the repair works at the downstream side is successful or not.
- GLA has received a response from the manufacturer of Megapoxy. The manufacturer stated that the Balloon System shall stay inflated at the time of cure; therefore they cannot confirm whether the repair was successful. The system shall work with continuous pressure.
- [REDACTED] advised that there are possible faults during the application of Megapoxy PF. The use of Megapoxy PF is to secure the Balloon System and to prevent any leaks from the cracks. Onsite, the Megapoxy PF should have been left to cure to achieve the strength to hold the circular base of the Balloon System which was not evident. The applied Megapoxy PF appeared lumpy and streaky therefore it is possible that the thick paste may have voids within. Evidence can be found onsite that some leaks were from the paste over the cracks and through the lumpy paste over the circular base. The Megapoxy HX is low tension then water and the resin will find the way through the voids. Therefore, SP does not believe the injection system did work, and the cracks have not sealed at the water stop location on the downstream side.
- [REDACTED] thought that the epoxy has worked and the only way to confirm its effectiveness is to check whether the cracks and water stops are leaking or not.
- SMEC concerned about the large gap at the downstream side of the water stop joint between the existing and new walls. SMEC to confirm whether the repairs are required on the upstream side of the joint.
- The water stop joint between new walls has a minor leak. SMEC to verify and confirm whether other water stops need repair on the upstream side.

Agreed Action:

- Since the water level on the upstream is high, there is enough pressure to see the evidence of the leaks. It was agreed to inspect the wall for any leaks on the downstream side at water stop locations.
- The water stop joints new to existing walls and any other water stop locations between new walls – if the joints are leaking, then GLA to repair as per GLA's suggested method i.e. Sika products. However, SMEC will confirm the acceptance of the Sika products Sikadur & Condur for repair works by COB today.
- GLA to speak to Niklas from the TCCS's roads maintenance to close the Isabella Weir and leave open the Tuggeranong Weir enough the drain enough water to the bottom of the Isabella Weir's concrete slab level on the downstream side.
- SMEC agreed to sign off the repairs once the GLA complete the works as per manufacturer requirements

Other new cracks on the upstream/ the downstream side

Issue:

- New cracks have appeared on the downstream side of the wall. The cracks are more extensive at the bottom, and reducing in size at the top of the wall.
- Some cracks are leaking. Although some cracks are dry and some are self-healing. SMEC to advise whether there is a need for repairs to these cracks.

Agreed Action:

- Inspect the cracks during site visit tomorrow 20 March. If the cracks are leaking, then GLA shall repair the cracks. SMEC will advise the repair product by COB today.
- SMEC also need to advise if there are any other measures required to close out the cracks where those cracks are currently dry and self-healing. SMEC suggested monitoring regime which is not considered acceptable by the Client to handover the Weir. SMEC to talk to their concrete expert in Melbourne and have their response ready by tomorrow 20 March.

Low Concrete Cover

Issue:

- Does SMEC accept the low concrete cover issue can be closed out?

Outcome:

- SMEC confirmed that there is no issue with the low concrete cover. The cover is satisfactory as per the design.

Cracks with staining marks on downstream face of wall

Issue:

- Does SMEC accept the repair works to the cracks with staining marks?

Outcome:

- [REDACTED] advised the repair works appeared satisfactory because the Balloon System is inflated after cure.
- SMEC also confirmed that they have no issue concerning the cracks with staining marks.

Other Defects

Issue:

- Are there any further outstanding issues and minor defects that need to be addressed now?
- [redacted] asked if SMEC could inspect and sign off the minor defects raised during the first fill inspection: 1) sharp edges on the ladder 2) the repair to the wet well chamber door and 3) bolts to cut off at the base of the ladder.

Outcome:

- SMEC advised there were no other issues.
- SMEC to inspect minor defects as outlined above for sign off.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



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From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 29/03/2019 8:36 AM
To: "Sch 2 2.2(a)(ii)" <[REDACTED]@pes.net.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>; "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Subject: Northern Wetlands [SEC=UNCLASSIFIED]

Morning [REDACTED]

I have noticed there has been very little activity on the northern wetlands in the last few days, have the works been completed??

Can you please speak to [REDACTED] and obtain a program of when the work will be done and the anticipated completion date.

As you know we have an inspection there on Monday to gauge how much more planting / work will be required for consolidation however IFCW do not want to have Joel attending endless meetings to obtain consolidation.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

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From: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Sent: 01/04/2019 4:25 AM
To: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Cc: "Sch 2 2.2(a)(ii)" >; "Wadwell, Emily" <Emily.Wadwell@act.gov.au>
Subject: FW: Water Level @ Isabella Weir [SEC=UNCLASSIFIED]
Attachments: IMG_6455.jpg, IMG_6456.jpg, IMG_6458.jpg

Nick,

For your info. The pond filled up again last night, even though the valve was open. Looks like it will drain over the next 24 hours – provided it doesn't rain again.

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure
Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au
Capital Works, Transport Canberra and City Services Directorate | ACT Government
GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) i@pes.net.au]
Sent: Monday, 1 April 2019 2:00 PM
To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>
Cc: Sch 2 2.2(a)(ii) @smec.com>; Sch 2 2.2(a)(ii) @smec.com>
Subject: Water Level @ Isabella Weir

Hi Stuart,

As discussed this morning, please see the attached photos of water level at the Isabella Weir. Water is going down, but it appears that it will take another 24 hours and may be a little bit more because there was a slight inflow of water from the upstream side this morning. I spoke to Thusitha, and we will reassess the water level tomorrow. However, my feeling is that we won't have safe access until after Wednesday afternoon.

Regards

Sch 2 2.2(a)(ii)
Principal's Authorised Person (PAP)
Professional Engineering Service Pty Limited ACN 057 633 897
Mobile - Sch 2 2.2(a)(ii)













From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 02/04/2019 12:48 PM
To: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: FW: Northern Wetland Inspection [SEC=UNCLASSIFIED]
Attachments: Sketch 1 - Outlet Control.pdf, Sketch 2 - Weir - Enkamat Grass.pdf, Sketch 3 - Weir - Rock.pdf

Stuart,

At the northern wetland inspection on Monday the extent of damage from a heavy rain event was evident, the below has been suggested by GLA to minimise future damage.

I do not agree with doing the grassing on the verge.

Can you please advise your thoughts before Sarju responds to Matt.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT
 2601 | www.act.gov.au

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From: Sch 2 2.2(a)(ii) [redacted]@guidelineact.com.au]
Sent: Tuesday, 2 April 2019 11:23 AM
To: Sch 2 2.2(a)(ii) [redacted]@pes.net.au>
Cc: Harris, KimM <KimM.Harris@act.gov.au>
Subject: RE: Northern Wetland Inspection

Hi Kim, [redacted]

As discussed onsite, please see attached sketches for potential fixes to the Sediment Basin area.

I believe the issues that have been experienced to date will continue to happen if left as is. After each storm, the damage around the weir will only increase during and after consolidation.

- Sketch 1: Outlet Control
 - Build up the rip rap in the area to direct storm flows away from the ponds. During normal events, the water will pass through the larger rock to continue to replenish the water in the ponds. The slower moving water will aid plant growth and soil retention.
- Sketch 2: Enkamat Grass
 - Put forward by Joel, continue the enkamat back towards the ramp and plant grass turf as shown.
- Sketch 3: Weir Rock
 - Increase the rip rap area to the limits shown to avoid storm damage.

Should you wish for GLA to complete any of the ideas present above, I can provide a variation upon request.

Kind regards,

Sch 2 2.2(a)(ii)

Sch 2 2.2(a)(ii) | Project Manager

16B Bass Street, Queanbeyan NSW 2620

PO Box 537, Queanbeyan NSW 2620

E: Sch 2 2.2(a)(ii); @guidelineact.com.au

M: Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) [redacted]@pes.net.au]

Sent: Monday, 1 April 2019 6:01 PM

To: Sch 2 2.2(a)(ii) [redacted]

Cc: 'Kelly, Joel'; Sch 2 2.2(a)(ii); 'Oxborrow, Stuart'; 'Harris, KimM'; Sch 2 2.2(a)(ii)

Subject: Northern Wetland Inspection

Hi [redacted] & other,

Following today's site inspection at Northern Wetland and Grassing area of the Weir, below are notes from PES/ELD.

NORTHERN WETLAND

- Sediment basin and most of the wetland have not yet been planted.
- Many weed patches evident onsite and surge of water noted in sediment pond. It may require a water pump to bring the water level down to allow for re-planting. It is up to GLA to control the water level in the pond and rest of the wetland.
- Joel Kelly talked about the possibility of grassing the small area on northern side V-notch weir. [redacted] and Kim to discuss this with the Client or other treatment.
- Recorded damage by debris and bird netting is hindering the growth and health of the plantings next to the V-notch weir. It was discussed that bird netting along V-notch weir continues to get damaged as it catches debris in storm events. It was suggested that either remove the section immediately in front of the spillway or rectify and reinforce the existing bird netting to prevent future damage to bird netting and plants.
- GLA/Able advised that the re-planting will recommence on Tuesday, 2 April after the rain event and subsequent water levels have prevented work on last week Friday.
- GLA to ensure that weed management is on-going. There are many patches with grass and other re-growth coming up in the northern wetland. GLA/Able to ensure that the wetland is actively monitored and it is treated with weed spray appropriately. Weed Sprayer noted on the southern wetland today.
- With the current storm surge, new rubbish and debris is washed into the wetland. GLA to protect and remediate as necessary. GLA to monitor and continue to remove rubbish as it comes.
- Weed piles still evident on site, ensure that these are removed from the site before next site inspection.
- PES and ELD will inspect the site at the end of this week and beginning of next to check re-plant densities and identify any other potential defects leading into pre-consolidation inspections. The pre-consolidation inspection to be booked on 12 April 2019. If the density and growth of re-plants satisfactory during PES/ELD's inspection then GLA can request early inspection provided that minimum one week is allowed from the date of the last re-planting.

GRASSING:

- Dryland grassing to be broad-leaf sprayed in the coming days.
- Area will then be re-seeded to get some additional germination.
- Areas that have been ripped for cultivation will need to be raked out, removing large dirt clumps, rocks and other debris prior to seeding.

- Grassing will be re-evaluated in 3-4 weeks.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)

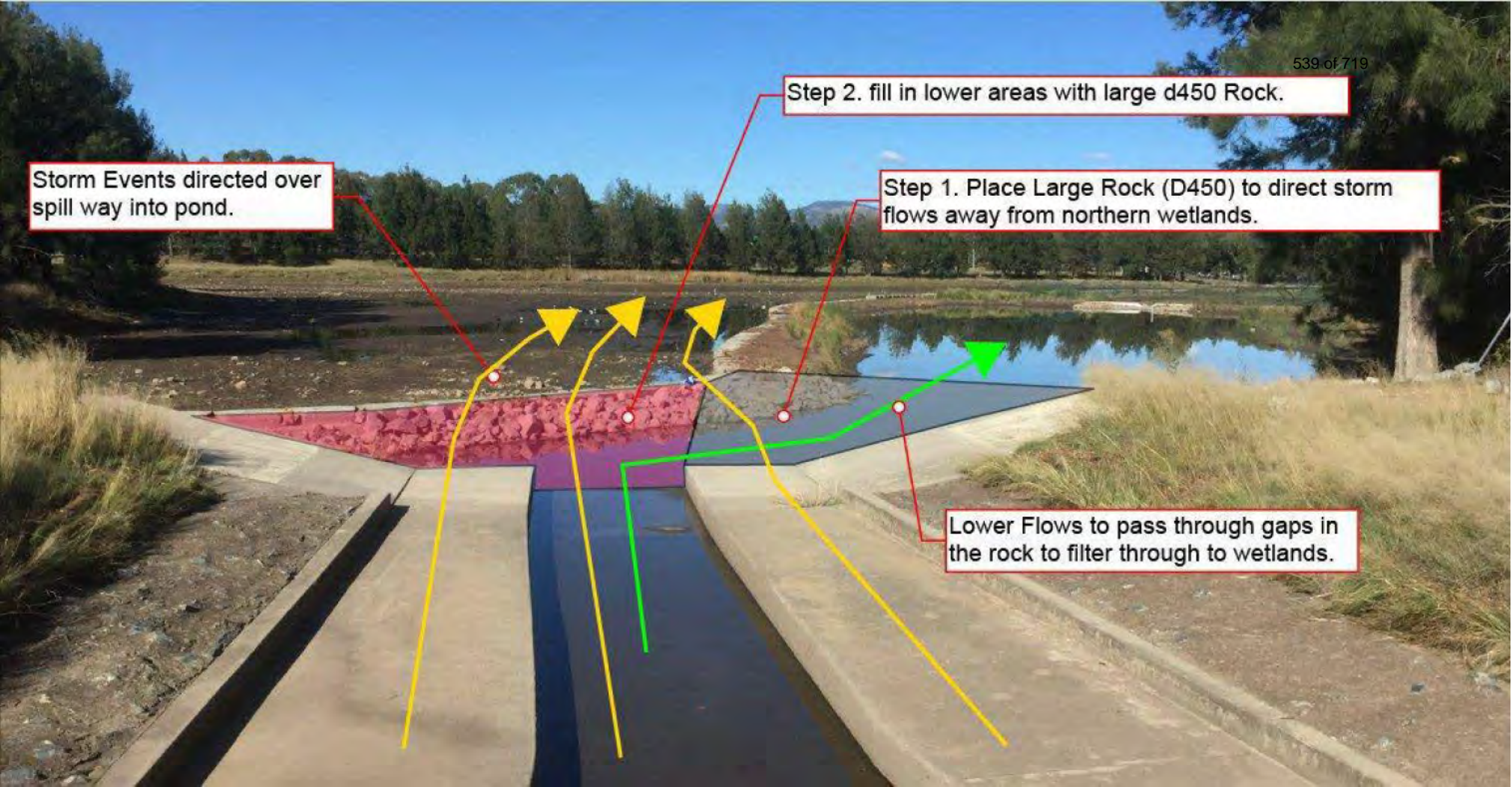


Storm Events directed over spill way into pond.

Step 2. fill in lower areas with large d450 Rock.

Step 1. Place Large Rock (D450) to direct storm flows away from northern wetlands.

Lower Flows to pass through gaps in the rock to filter through to wetlands.

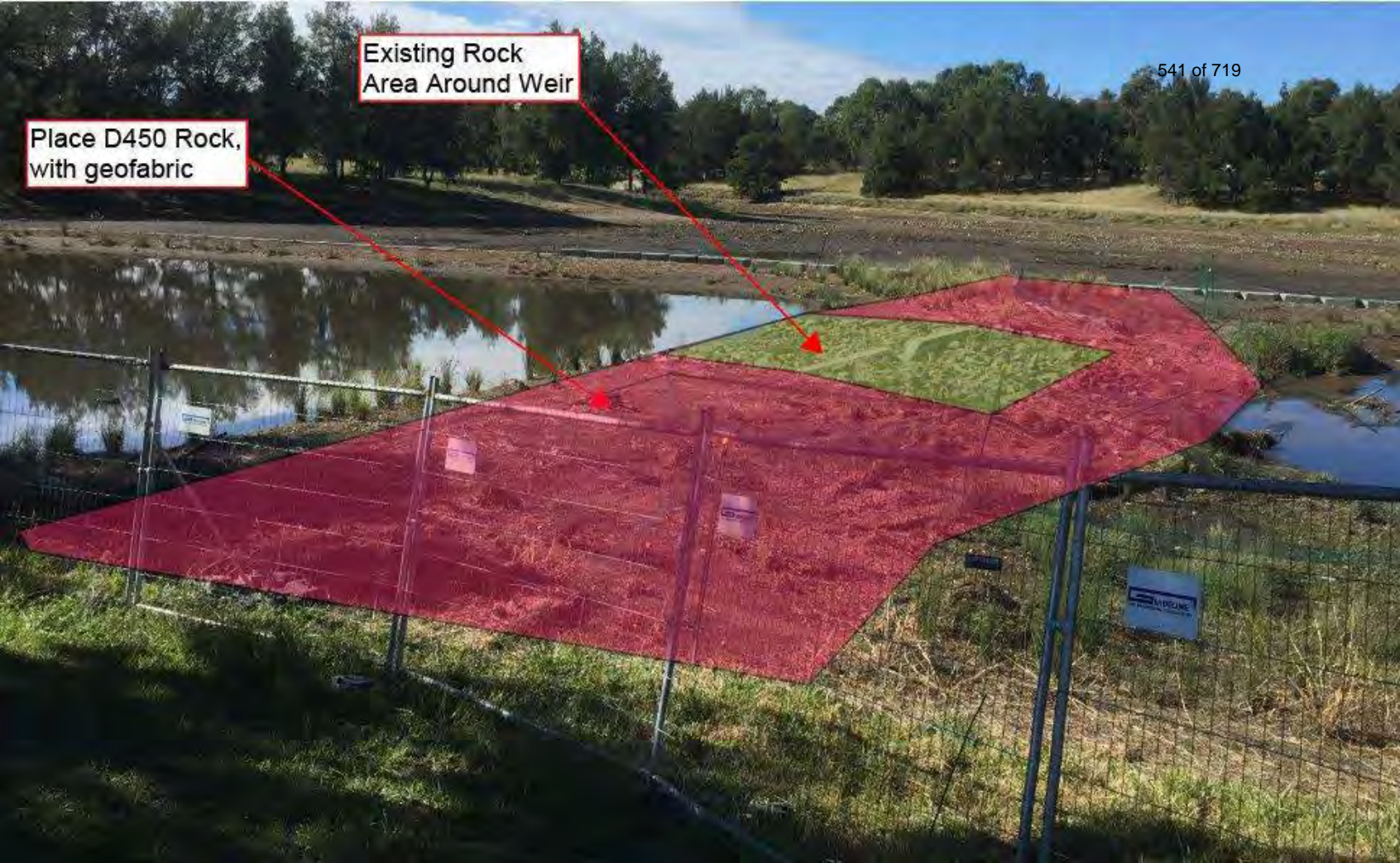


Enkamat 7018 + Turf Grassing



Existing Rock Area Around Weir

Place D450 Rock, with geofabric



From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 05/04/2019 2:38 PM
To: "Ogden, Ralph" <Ralph.Ogden@act.gov.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: RE: news on Isabella wetlands [DLM=For-Official-Use-Only]
Attachments: Certificate Water quality Soft Landscape Commencement - Isabella Wetlands.....docx

Hi Ralph,

Good timing, this arrived this afternoon for the southern wetlands.

Aim is to have the northern wetlands on consolidation by mid to late April, doing some replanting/new planting. There was a lot of damage and clean up from the last rain event we had.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

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From: Ogden, Ralph
Sent: Friday, 5 April 2019 1:24 PM
To: Harris, KimM <KimM.Harris@act.gov.au>
Subject: FW: news on Isabella wetlands [DLM=For-Official-Use-Only]

Hi Kim

Is there any update on wetlands consolidation (or acceptance of wetlands construction)?

Thanks very much.

Regards,
Ralph

Ralph Ogden | Program Manager, Healthy Waterways Project
Catchment Management and Water Policy | Environment, Planning and Sustainable Development Directorate
☎ 02 6207 2207, 0407 013 077 | ✉ Ralph.Ogden@act.gov.au

From: Harris, KimM
Sent: Wednesday, 20 March 2019 3:13 PM
To: Ogden, Ralph <Ralph.Ogden@act.gov.au>

Cc: Toomey, Richard <Richard.Toomey@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>
Subject: RE: news on Isabella wetlands [DLM=For-Official-Use-Only]

Hi Ralph,

Apologies for taking so long with this I have been swamped this week.

Isabella Weir and Wetlands Current status;

Minor repairs and maintenance have been undertaken over the last month.
Ongoing monitoring will be carried out.

The weir is substantially complete.

Risk and Consequence Assessment:

The risk and consequence assessment is ongoing, and is on program.

Wetlands Consolidation:

A meeting to inspect the Southern wetlands was undertaken on Monday 18 March.

All relevant stakeholders will undertake another inspection week of 26th March, it is anticipated the southern wetlands will commence the 26 week consolidation period by the end of March.

The Northern wetlands were also inspected and it is anticipated consolidation will commence in April, weather dependent.

Regulatory Plan:

Regulatory Plan is being worked on with an anticipated completion April / May dependent on the regulators commentary.

I have also provided sequence and staging photos to Richard.

Please do not hesitate to contact me if I can be of further assistance.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

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From: Ogden, Ralph
Sent: Monday, 18 March 2019 10:03 AM
To: Harris, KimM <KimM.Harris@act.gov.au>
Subject: RE: news on Isabella wetlands [DLM=For-Official-Use-Only]

Great, thanks!

Ralph Ogden | Program Manager, Healthy Waterways Project
Catchment Management and Water Policy | Environment, Planning and Sustainable Development Directorate

From: Harris, KimM
Sent: Monday, 18 March 2019 9:44 AM
To: Ogden, Ralph <Ralph.Ogden@act.gov.au>
Cc: McGrath, Michael <Michael.McGrath@act.gov.au>; Crisp, Sarah <Sarah.Crisp@act.gov.au>; Mangeruca, Maria <Maria.Mangeruca@act.gov.au>; Toomey, Richard <Richard.Toomey@act.gov.au>
Subject: RE: news on Isabella wetlands [DLM=For-Official-Use-Only]

Good morning Ralph,

I will have something to you before Thursday.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: Ogden, Ralph
Sent: Monday, 18 March 2019 9:25 AM
To: Harris, KimM <KimM.Harris@act.gov.au>
Cc: McGrath, Michael <Michael.McGrath@act.gov.au>; Crisp, Sarah <Sarah.Crisp@act.gov.au>; Mangeruca, Maria <Maria.Mangeruca@act.gov.au>; Toomey, Richard <Richard.Toomey@act.gov.au>
Subject: news on Isabella wetlands [DLM=For-Official-Use-Only]

Hi Kim

I am the new program manager for Healthy Waterways.

We have a Control Group meeting this Thursday. The Control Group facilitates the infrastructure component of project matters from a whole of government perspective.

We have not (to my knowledge) had an update on the Isabella Ponds work since last year. Could you please send me a brief update on the status of the site, recent progress if there's been work done and any issues arising?

Richard Toomey attends the meeting for IFCW, FYI.

Thanks,
Ralph

Ralph Ogden | Program Manager, Healthy Waterways Project
Catchment Management and Water Policy | Environment, Planning and Sustainable Development Directorate
☎ 02 6207 2207 | ✉ Ralph.Ogden@act.gov.au
Dame Pattie Menzies House | 16 Challis Street Dickson
Environment and Planning Directorate | ACT Government
GPO Box 158 Canberra ACT 2601 | www.environment.act.gov.au

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CERTIFICATE OF CONSOLIDATION COMMENCEMENT

Applicant: Transport Canberra, Infrastructure Delivery
 Address: Level 1, 496 Northbourne Avenue, Dickson ACT 2602
 Contact: Stuart Oxborrow
 Project Title: **Isabella Wetlands (South)**
 Consultant: Professional Engineering Service
 Address: Unit 3 6 St Georges Crescent Drummoyne NSW 2047
 Contact: **Sch 2 2.2(a)(ii)**
 TCCS Project Lead: Joel Kelly

Dear Stuart

Date: 05/04/2019

On behalf of Transport Canberra and City Services (TCCS) Directorate, this *Certificate of Consolidation Commencement* is issued to confirm the placement of the **Works** by TCCS into consolidation subject to the completion of all outstanding works as identified in Attachment A against the following softscape elements:

- **Water quality plants (south wetland)**

The consolidation period commenced on 26/03/2019 and is due for Soft Landscape Handover in the week commencing 23rd September 2019.

Joel Kelly

On behalf of

Gabriel Joseph | Senior Manager Place Coordination

Place Coordination and Planning | Transport Canberra and City Services | ACT Government

Note that the definition of the terms 'Consolidation Commencement', 'Consultant' and 'Works' shall be the same as that given in TCCS Reference Document 10.

Attachments:

Attachment A: List of Outstanding Works

Attachment B: Conditions for Soft Landscape Handover

ATTACHMENT A

LIST OF OUTSTANDING WORKS

Item	Description of defect or discrepancy	Status
1.	Increase planting density in nominated areas along batters and replace lost plants during consolidation.	Ongoing
2.	Continue to monitor and remove weeds in wetlands. Particularly along batters and peninsulas	Ongoing
3.	Control and monitor water levels to aid in plant success and weed suppression. Irrigate batters as required to ensure plant health.	Ongoing
4.	African love grass found in the wetland. Remove any plants of this species found on site	Ongoing

SITE OBSERVATIONS

Pond water level has been lowered to allow plants to grow and not become completely inundated, until plants are grown to sufficient height.

ATTACHMENT B

CONDITIONS FOR SOFT LANDSCAPE HANDOVER

Note that the issue of a *Certificate of Soft Landscape Handover* at the completion of the establishment phase requires the following:

1. Completion of a Consolidation Period no less than 2 years in duration or an extended period as specified.
2. Rectification of all defects and completion of outstanding works during the Consolidation period.
3. Supply of WAE Quality Records not included in the Consolidation Commencement submission or where required to be updated.
4. All documentation as specified by TCCS Reference Document, Ref-10 Requirements for Soft Landscape Consolidation & Handover including a formal covering letter requesting a site inspection to assess the landscape elements with a view to attaining the Certificate of Soft Landscape Handover.
5. Site Inspection Report listing individual defects including dates of rectification.

Note that the definition of the terms 'Soft Landscape', 'Works', 'Consultant' and 'Consolidation Period' shall be the same as those given in TCCS Reference Document 10.

From: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Sent: 10/04/2019 12:50 AM
To: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: FW: Isabella Updated 8.4.19 [SEC=UNCLASSIFIED]

Nick,

For your info.

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure
Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au
 Capital Works, Transport Canberra and City Services Directorate | ACT Government
 GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: [Sch 2 2.2(a)(ii)]@pes.net.au
Sent: Wednesday, 10 April 2019 10:00 AM
To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>
Subject: FW: Isabella Updated 8.4.19

Hi Stuart/Kim,

FYI. Following to [Sch 2 2.2(a)(ii)] email below and after my discussion with Joel Kelly; Joel asked to reschedule the pre-consolidation inspection at the northern wetland on 17 April 2019.

Regards

[Sch 2 2.2(a)(ii)]
 Principal's Authorised Person (PAP)
 Professional Engineering Service Pty Limited ACN 057 633 897
 Mobile - [Sch 2 2.2(a)(ii)]



From: [Sch 2 2.2(a)(ii)]@pes.net.au
Sent: Wednesday, 10 April 2019 9:57 AM
To: [Sch 2 2.2(a)(ii)]@guidelineact.com.au
Cc: [Sch 2 2.2(a)(ii)]@pes.net.au; [Sch 2 2.2(a)(ii)]@envirolinks.com.au
Subject: RE: Isabella Updated 8.4.19

Hi [Sch 2 2.2(a)(ii)]

Thank for your response. I spoke to Joel this morning and he advised that the re-planting should be inspected 1 week after they installed. He advised rescheduling the inspection on 17 April 2019 at 10 am. He will visit the site if he is in the area sometime on Monday.

[Sch 2 2.2(a)] will still continue his usual round of inspection for the progress and the growth of the plants. Please ensure that the irrigation system is also in place in the northern wetland. See [Sch 2 2.2(a)] comment below and also his email.

There is still no visible irrigation system in place on the northern wetland. The newly planted stock appears un-watered. Regardless of new plantings, irrigation is required to keep existing plants alive.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile -Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) <[redacted]@guidelineact.com.au>

Sent: Tuesday, 9 April 2019 2:37 PM

To: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>

Cc: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>; Sch 2 2.2(a)(ii) <[redacted]@envirolinks.com.au>

Subject: RE: Isabella Updated 8.4.19

Hi [redacted]

After talking with Able Landscaping today, they have indicated a short fall in supply of plants for Isabella Weir. I acknowledge that the agreement made onsite was that plants would be installed by no later than the 4th April, I apologise that this has not been completed.

The planting has been revised to be completed on Thursday 11th April this week. The plant densities are on track for this Friday's inspection.

I am aware that TCCS have a preference to delay inspections approx. 1 week after plants have been installed. Please confirm if the meeting can proceed on Friday or it to be rescheduled to either the 15th or 16th April?

Kind regards,

[redacted]

Sch 2 2.2(a)(ii) | Project Manager

16B Bass Street, Queanbeyan NSW 2620

PO Box 537, Queanbeyan NSW 2620

E Sch 2 2.2(a)(ii) <[redacted]@guidelineact.com.au>

M: Sch 2 2.2(a)(ii) <[redacted]>



From: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>

Sent: Tuesday, 9 April 2019 12:56 PM

To: Sch 2 2.2(a)(ii) <[redacted]>

Cc: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>; Sch 2 2.2(a)(ii) <[redacted]>

Subject: FW: Isabella Updated 8.4.19

Hi [redacted]

ELD and I inspected the northern wetland yesterday morning. Please see the [redacted] email below for you action.

I was hoping that Able would have completed the re-planting by end of last week and; we were expecting the sediment pond and the basin next to the sediment pond would have improved as discussed during the inspection on 1 April.

You are aware that we have been trying hard to place both the wetlands on consolidation. However, the current conditions of the northern wetland do not warrant for Joel to accept the wetland is ready to place on 26 Weeks maintenance period. For us to put the northern wetland on consolidation, the expectation was agreed during the process of acceptance of the southern wetland. The minimum expectation was that all re-planting plantings are completed as per designed densities and all plantings require to be in a healthy state and defects free.

I am concerned that GLA/Able has not progressed mainly the re-planting in the northern wetland as per GLA's timeline that was advised by your subcontractor(Able) since our inspection on 1 April 2019. I will revisit the northern wetland tomorrow. I am advising that if the re-planting and the densities of the plants are not improved by tomorrow and the other remediation works found unsatisfactory for plant growths then, unfortunately, I will be postponing the pre-consolidation inspection until further date advised by Joel Kelly.

Please let me know if you have any queries.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) <@envirolinks.com.au>

Sent: Monday, 8 April 2019 12:26 PM

To: Sch 2 2.2(a)(ii) <@pes.net.au>

Subject: Isabella Updated 8.4.19

Sch 2 2.2(a)(ii)

Words below from this morning's inspection of the northern wetland.

- There is still no visible irrigation system in place on the northern wetland. The newly planted stock appears un-watered. Regardless of new plantings, irrigation is required to keep existing plants alive.
- The weed piles along the fence line of the northern pond are still there. Not only are these piles making the site appear generally untidy, the large piles run the risk of killing any grass buried beneath them, which will have be rectified by the contractor. Advised to remove immediately.
- The bird netting near the weir has not been rectified. In it's current state, it runs the risk of catching birds and other animals, while also appearing untidy.
- There appears to have been no further weed management undertaken. The weeds identified during last weeks inspection are still present.
- The wetland has only been planted just over halfway, there is still a large portion of re-planting to occur.

In general the works required on the northern wetland, that were identified during last weeks inspection, have not been actioned. There appears to have been little to no action on the northern wetland.

It is likely that the inspection booked for this coming Friday will have to be postponed.

Kind regards,

Sch 2 2.2(a)(ii) BLArch (Hons) BDes



Landscape Architect

5/61 Dundas Court PHILLIP ACT 2606 | Sch 2 2.2(a)(ii) | info@envirolinks.com.au | www.envirolinks.com.au

2018 AILA ACT Landscape Architecture Award for Cultural Heritage

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From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 16/04/2019 3:55 PM
To: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Cc: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Crocker, Leigh" <Leigh.Crocker@act.gov.au>; "Stellios, George" <George.Stellios@act.gov.au>
Subject: RE: Smec : Risk and Consequence, Isabella Weir, Retaining Walls and Structures [SEC=UNCLASSIFIED]
Attachments: RE: Isabella Weir Regulator Plan planning [SEC=UNCLASSIFIED]

Hi Nick,

Please see responses below;

Also I have been in conversation with [Sch 2 2.2(a)], re; the northern wetlands consolidation. I have requested he get a full program from Guideline and to reinforce with Guideline they are to have full supervision of the site. Depending on what information he obtains I will contact Guideline tomorrow afternoon.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: Taylor, Nick
Sent: Tuesday, 16 April 2019 8:47 AM
To: Harris, KimM <KimM.Harris@act.gov.au>
Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>; Stellios, George <George.Stellios@act.gov.au>
Subject: Smec : Risk and Consequence, Isabella Weir, Retaining Walls and Structures [SEC=UNCLASSIFIED]

Morning Kim

As briefly discussed yesterday I believe Smec are seriously faltering on the works which IFCW we are all engaged with .

Risk and Consequence : Since [Sch 2 2.2(a)(ii)] has been off sick ,the work that Smec are supposed to provide to [Sch 2 2.2(a)] has been delayed ,please refer to emails from (Leigh Crocker 10/4 , [Sch 2 2.2(a)(ii)] 10/4, [Sch 2 2.2(a)(ii)]) attached above. May I request that you contact [Sch 2 2.2(a)] and inquire if [Sch 2 2.2(a)] has fulfilled all [Sch 2 2.2(a)(i)] requirements in providing the correct information. If [Sch 2 2.2(a)] has not received the information please let me know, and we will discuss how we should proceed.

I spoke with [Sch 2 2.2(a)] this morning, he is waiting for responses from Phil Prentis, who will not be back with Mynul until after the 29th April. This is far too long to wait. I emailed [Sch 2 2.2(a)(i)] questions to Mynul and have asked he or one of his team reply.

[Sch 2 2.2(a)] is also waiting for Regulatory Plan Review wording review from us.

Isabella Weir : [Sch 2.2.2(a)(ii)] was supposed to have the report back to us last Friday , we still haven't received it, the pond is still empty and we were supposed to be in there this week to repair the cracks upstream, this would have tied in nicely with the Northern Wetlands being ready to go onto consolidation allowing us to refill the pond for the last time. It look like the pond will remain empty all over Easter with no works being started on the weir until after the 29/4/19. You know the challenges around the public complaints etc Smec have definitely dropped the ball and didn't even notify us that the report was going to be late. Please chase [Sch 2.2.2(a)(ii)] and express our concerns, and attempt to get a firm date for when we may receive the report. Again we will discuss on how to proceed once you've spoken to Smec.

I have been trying to contact [Sch 2.2] and [Sch 2.2.2(a)(ii)] throughout the day, I have emailed [Sch 2.2] this afternoon stating all concerns and requesting a submission date for the report.

Retaining Wall and Structures: I sent an email which is attached, not sure if you had a chance to speak with Simon but I will not be working on this project during my tenure with Michael's team , you may need to speak with George as I believe Simon is away. Again I believe this Project is faltering maybe worth having a chat with Tim to see where this project is currently tracking , as you are aware I'm not the client for this project.

Under control, I will request you are replaced on the TET and I will complete the TER. As you know I have been managing the RFT, addendums etc.

Although the RFT was 2 days late in being issued the project can be on track to be completed in time, I will discuss de-scoping with Tim on the 29th after reading the RFT submissions and determining the budget constraints and contractor programing.

I appreciate the work you are doing

Regards Nick

Nick

Nick Taylor | A/G Director – Land Release Infrastructure

Phone 02 6207 0118 | Mobile 0451 449 331 | Email: Nick.Taylor@act.gov.au

Infrastructure Delivery | Transport Canberra and City Services | ACT Government

490 Northbourne Avenue, Dickson | GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: 'Sch 2 2.2(a)(ii)' <[REDACTED]@pes.net.au>
Sent: 03/04/2019 4:34 PM
To: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>; "Harris, KimM" <KimM.Harris@act.gov.au>; "Sarju Prajapati" <sarju.prajapati@pes.net.au>; "Crocker, Leigh" <Leigh.Crocker@act.gov.au>; "Prentice, Philip" <Philip.Prentice@act.gov.au>
Subject: RE: Isabella Weir Regulator Plan planning [SEC=UNCLASSIFIED]
Attachments: ANCOLD Compliance Checklist.docx

Stuart

See current version of Checklist against ANCOLD Guidelines. For review:

ANCOLD Clause 3.2: Needs Philip Prentice confirmation
 ANCOLD Clause 3.5.4: Commissioning: I need guidance on how to address this item
 ANCOLD Clause 5.3: Needs Philip Prentice confirmation
 ANCOLD Clause 5.7: Needs Philip Prentice advice.
 ANCOLD Clause 7: Needs Philip Prentice confirmation

Completion of revisit to O&M Manual and Surveillance Planning following LC review yet to be received.

Completeness of construction records: PAP has found register elements missing from the Construction Report submission from GLA in PAP records. We propose PAP adding these to the GLA folders rather than waiting for re-submission.

Regards

Sch 2 2.2(a)(ii)

Director, Professional Engineering Service Pty Ltd
 3/6 St Georges Crescent, Drummoyne NSW 2047
 Phone: Sch 2 2.2(a)(ii)



From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>
Sent: Friday, March 29, 2019 3:03 PM
To: Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>
Subject: FW: Isabella Weir Regulator Plan planning [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

Can you please confirm the status of the following.

- Appendix 4B – PAP records. Are they all collated and ready to package up (digitally) and issue to TCCS with the Reg plan submission?
- It appears that we now have all the required reports from Smec. Can you please review for completeness against the ANCOLD guidelines and provide a timeframe for this review. I believe these include:

- Appendix 3 – Design Report (note Smec have recently submitted 3 documents. The Post Construction Design Report, the Construction Monitoring Certification and the Design Certification which I believe should also be referenced in this section)
- Appendix 5 – First Fill Report.
- Appendix 8 – O&M manual.
- Appendix 9 - Dam Surveillance Plan.

Thanks,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | **ACT Government**

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: [Sch 2 2.2(a)(ii)] <[redacted]@pes.net.au>

Sent: Thursday, 21 March 2019 12:55 PM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>; Prentice, Philip <Philip.Prentice@act.gov.au>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] <[redacted]@pes.net.au>; [Sch 2 2.2(a)(ii)] <[redacted]@smec.com>

Subject: RE: Isabella Weir Regulator Plan planning

Team

The major PES action required from last meeting was getting the Regulatory Plan up to date reflecting current materials by the end of this week. The version appropriate to that action is attached: *Rev20190321*.

Points on content:

- Cover Page and Executive Summary had text detailing TCCS as Transport Canberra and Community Services Directorate: I've noted email signatures now have Transport Canberra and City Services Directorate and have amended the plan accordingly. Only 2 places if I got this wrong.
- Leigh:
 - When I rearranged the Appendices I lost some of the Appendix TOC links from your earlier drafts. I haven't worked out how to recover those yet so this part won't self-update pages numbers.
 - Document ID and control sections yet to complete
 - I added brief references text in Section 1. You may prefer to remove this as the detail is included in the text as well: not so obvious though.
 - There is a text detail query in Section 9.2
- Philip Prentice: please check records references for correct incorporation of your advice.
- Yet to receive final version of Design Report or Independent Certifier's elements. Also anticipate a First Fill Report update
- In preparing Appendix 4 I identified a few omissions in Guideline's Construction Report detail and have started chasing those up with Matt Treloar. Sarju will assist with the project records updating. I will need to do minor updating of Appendix 4 as well.
- The PAP Records listed in Appendix 4B are a subset of PES's database for the project. I will provide these on USB stick once the above update has been completed.
- Appendices 6, 7, 8 and 9 will need to be finalised after ongoing work on their elements is completed.

I've included an Operating Certificate Application Form draft. Contact detail was already entered in the proforma I was given. The draft appeared to be an application for all ACT dams excluding Upstream Seep Creek Dam and Isabella Weir. I have taken out general detail and put in that for Isabella Weir using text in the application for the Design and Construct Operating Certificate as a guide.

I didn't fill in the Commencement date for operation: (pg 3): not sure whether Construction Completion, Contract Completion, First Fill or other criterion applies.

Declarant ID in Section 5 on page 4 needs checking

Regards

Sch 2 2.2(a)(ii)

Director, Professional Engineering Service Pty Ltd

3/6 St Georges Crescent, Drummoyne NSW 2047

Phone Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@pes.net.au>

Sent: Friday, March 15, 2019 5:40 PM

To: 'Oxborrow, Stuart' <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@smec.com>

Cc: 'Taylor, Nick' <Nick.Taylor@act.gov.au>; 'Harris, KimM' <KimM.Harris@act.gov.au>; 'McGrath, Michael' <Michael.McGrath@act.gov.au>; 'Crocker, Leigh' <Leigh.Crocker@act.gov.au>

Subject: Isabella Weir Regulator Plan planning

Hi Team

At yesterday's IW Regulatory Plan meeting I undertook to return several elements today.

Attached are:

- An Action Plan programming ongoing elements
Note that this includes identification of changed Appendix ordering
- Layout for Appendix 4 – the Construction Overview Report.
Leigh: please alert me if I have included more or less than you want in this.

Regards

Sch 2 2.2(a)(ii)

Director, Professional Engineering Service Pty Ltd

3/6 St Georges Crescent, Drummoyne NSW 2047

Phone Sch 2 2.2(a)(ii)



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Isabella Weir: Regulatory Plan – Applications for Operating Certificate (Provision of Service): Review of completeness WRT ACT Dam Safety Code and scope mandated by ANCOLD Guidelines

Checklist to report against the Utilities (Technical Regulation) (ACT Dam Safety Code) Approval 2018

Mick Gentleman MLA, Minister for the Environment and Heritage, 15 June 2018

Code Reference	Comment
<p>1.1 Technical Codes: The Dam Safety Code (the Code) is a technical code for listed dams made under Part 8 of the <i>Utilities (Technical Regulation) Act 2014</i> (the Act).</p>	Referenced in Executive Summary and Background
<p>1.3 Operating Certificates: Under section 9 of the Act, a regulated utility service includes the owning, leasing, subleasing of a registrable dam. An unlicensed regulated utility must apply to the technical regulator for an operating certificate under section 43(1) of the Act.</p>	Provision of Service Operating Certificate application is the reason for the Regulatory Plan
<p>2.1 Application: This Code applies to owners of listed dams – see sections 8, 57 and 69 of the Act. Section 57 of the Act defines <i>owner</i>, in relation to a dam or proposed dam, as meaning a person who owns, leases, subleases or proposes to develop a dam.</p> <p>Part 8 of the Act provides for the regulation of the safety of dams. The Act requires owners of registrable dams to provide specific information to the technical regulator so that a determination can be made as to whether a dam could have a significant adverse effect on community interests. The technical regulator must then determine under section 69 of the Act whether a dam should be designated as a listed dam based on the risk of significant adverse effects on the community in the event of failure of the dam.</p>	ACT Government is owner of Isabella Weir. The Transport Canberra and Community Services Directorate (TCCS) are the ACT Government custodian. The Regulatory Plan provides the required information to the technical regulator
<p>2.2 Purpose: The purpose of this Code is to identify and regulate the safety of dams where the potential of a failure could have a significant adverse effect on the community.</p> <p>In order to achieve this purpose, this Code requires regulated utilities, both licensed and unlicensed to:</p> <p>(1) design, construct, modify, operate and maintain listed dams in accordance with currently accepted engineering standards.</p> <p>(2) have appropriate dam safety management programs (DSMP) in place for all listed dams, and fully implement program requirements.</p> <p>(3) demonstrate to the technical regulator the safety of listed dams at regular intervals.</p>	The function of the Regulatory Plan is to demonstrate that the owner's planning addresses the purpose of the Code.
<p>4 RESPONSIBILITY FOR DAM SAFETY</p> <p>The regulated utility is fully responsible for the safety of each registrable or listed dam that it owns, leases, subleases and proposes to develop.</p> <p>The role of the technical regulator is to ensure that the regulated utility properly discharges its responsibility where a registrable dam could have a significant adverse effect on the community in the event of failure of the dam (i.e. where a registrable dam is listed under section 69 of the Act).</p>	Encompassed in Regulatory Plan
<p>6. APPLICABLE GUIDELINES: Under section 73(2) of the Act, this Code adopts the current ANCOLD Guidelines (the guidelines), as guidelines for the purpose of this Code.</p>	The ANCOLD Guidelines have been closely followed generating direction to Regulatory Plan preparation
<p>7. DAM SAFETY MANAGEMENT PROGRAM: Over the whole life cycle of each listed dam, the regulated utility must implement and maintain a Dam Safety Management Program (DSMP) to identify, keep under review and control as low as reasonably practicable the risks posed by the listed dam. The DSMP must be consistent with good engineering practice, and comply fully with this Code and the guidelines.</p>	Section 4 of the Regulatory Plan shows DSMP is constituted by its Sections 5 to 10. The DSMP specified is the equivalent of TCCS Dams – Surveillance Procedures and the Annual Works Program.
<p>8. DESIGN, CONSTRUCTION, COMMISSIONING, AND DECOMMISSIONING OF DAMS:</p> <p>(1) A regulated utility must design, construct and commission any new listed dam and modify any existing dam which will be listed following its modification in accordance with the guidelines and good engineering practice.</p>	Demonstrated in Regulatory Plans: Separate Operating certificates for Design/construct and Operation.

Code Reference	Comment
<p>9 REGULATED UTILITY SUBMISSIONS</p> <p>The following submissions to the technical regulator required by this Code must include a letter of transmittal issued under the authority of the regulated utility:</p> <p>(1) Regulated utility report on compliance (see section 22).</p> <p>(2) Regulated utility submissions requiring acceptance of the technical regulator.</p>	<p>To be addressed in TCCS procedures which are referenced in the Regulatory Plan.</p>
<p>10 PEER REVIEWS</p> <p>(1) Any design documentation or safety review report submitted by the regulated utility to the technical regulator for listed dams must be accompanied by:</p> <p>(a) a separate signed report from (an) independent peer reviewer(s); and</p> <p>(b) the regulated utility's statement of its proposed response to the peer reviewer(s) report</p>	<p>To be addressed in TCCS procedures which are referenced in the Regulatory Plan.</p>
<p>11. OPERATION AND MAINTENANCE OF DAMS: A regulated utility must operate and maintain each of its listed dams in accordance with the guidelines</p>	<p>Function planned by TCCS, referenced in Regulatory Plan. TBA following SMEC review of O&M Manual addressing strenuous review by EPSDD Engineer</p>
<p>12. DAM SURVEILLANCE:</p> <p>(1) A regulated utility must develop and maintain a dam surveillance program for each listed dam. The dam surveillance program must: ETC</p> <p>(2) Details of the dam surveillance program and the documented results of listed dam surveillance must be made available, on request, to the technical regulator and in a format agreed with the technical regulator.</p>	<p>Function planned in detail by TCCS, referenced in Regulatory Plan. TBA following SMEC review of Surveillance Plan addressing strenuous review by EPSDD Engineer</p>
<p>13. SAFETY REVIEWS</p> <p>(1) A regulated utility must undertake safety reviews for listed dams in accordance with the guidelines.</p> <p>(2) Safety reviews, and accompanying peer reviews, must be submitted for acceptance by the technical regulator within 1 month of their completion.</p>	<p>Addressed in TCCS procedures which are referenced in the Regulatory Plan.</p>
<p>15.1 Dam Safety Emergency Plans: A regulated utility must have a current dam safety emergency plan for each listed dam. In order to meet this requirement a regulated utility must:</p> <p>(1) Prepare a dam safety emergency plan</p> <p>(2) Obtain approval of the plan</p> <p>(3) Following receipt of approval for a plan at section 15.1(2) above, submit the plan to the technical regulator</p> <p>(4) Obtain technical regulator acceptance for the plan.</p>	<p>Current version is included in the Regulatory Plan Operating Certificate application</p>
<p>15.2 Dam Safety Emergency Plans testing, review and updates</p> <p>(1) The regulated utility must, by 30th April each year, update dam safety emergency plans to reflect changes to particulars in that plan.....</p> <p>(2) The regulated utility must test and review each dam safety emergency plan....</p> <p>(3) Upon becoming aware of any shortcoming in a dam safety emergency plan....</p> <p>(4) The dam safety emergency plan previously accepted by the technical regulator remains valid until acceptance of the revised plan.</p>	<p>Captured in Clause 1.1 of current DSEP draft V2</p>
<p>15.3 Contents of Dam Safety Emergency Plans</p> <p>(1) The contents of a dam safety emergency plan must conform to the content requirements set out in the guidelines.</p> <p>(2) Inundation mapping and flood wave travel time</p> <p>(3) Inundation maps must be prepared</p> <p>(4) When identifying persons, organisations and agencies with responsibilities relevant to the dam safety emergency plan, the regulated utility must include:....</p> <p>(5) The notification flowchart must include position titles</p> <p>(6) The dam safety emergency plan must include a contact list</p> <p>(7) The dam safety emergency plan must include a distribution list</p>	<p>Addressed in current DSEP V2</p>

Code Reference	Comment
<p>15.4 Acceptance of Dam Safety Emergency Plans</p> <p>(1) As soon as practicable after the regulated utility submits a dam safety emergency plan to the technical regulator for acceptance, the technical regulator must either:</p> <p>(a) Accept the dam safety emergency plan; or</p> <p>(b) If the dam safety emergency plan does not adequately address a matter</p> <p>(2) If the technical regulator requires a regulated utility to amend a dam safety emergency plan</p>	Follow on action by Regulator
<p>15.5 Distribution of Dam Safety Emergency Plans</p> <p>(1) As soon as practicable after a dam safety emergency plan is accepted by the technical regulator and after each update, the regulated utility must distribute electronic copies of the accepted dam safety emergency plan to each party included in the distribution list for the plan.</p>	Addressed in TCCS procedures: Plan for Records Management section: Records/Notifications and . Confirm Records/Meetings
<p>17. REPORTING OF NOTIFIABLE INCIDENTS AND EMERGENCY EVENTS</p> <p>(1) A regulated utility must make contact by phone with the technical regulator....</p> <p>(2) A regulated utility must email the technical regulator</p> <p>(3) A regulated utility must send a written report to the technical regulator....</p> <p>(4) Written reports must be in the form required by the technical regulator.</p> <p>(5) Emergency event reports must contain the following: ETC.</p>	Addressed in TCCS procedures: Plan for Records Management section: Records/Regulator Report/Special Events
<p>19. TRAINING</p> <p>A regulated utility must ensure that its employees and officers understand and have had training in their duties, responsibilities and authorisations as required by the guidelines.</p>	Addressed in TCCS procedures: Plan for Records Management section: Records/Training
<p>20. RECORDS AND INFORMATION RELEVANT TO DAM SAFETY</p> <p>(1) A regulated utility must keep, or cause to be kept, comprehensive and accurate records of:</p> <p>(a) compliance with the requirements of the guidelines;</p> <p>(b) compliance with the requirements of this Code; and</p> <p>(c) any other matters reasonably required by the technical regulator.</p> <p>(2) The records must at least satisfy the requirements of the guidelines and must be made available for inspection as requested by the technical regulator.</p> <p>(3) If the technical regulator requests documents or other information relevant to the safety of a listed dam, the regulated utility must:</p> <p>(a) provide the requested document or information as soon as practicable; or</p> <p>(b) obtain the requested document or information and provide it to the technical regulator as soon as possible.</p> <p>Requested documents and information must be provided in a format acceptable to the technical regulator.</p>	Regulatory Plan Appendix 2
<p>22. REGULATED UTILITY TO REPORT ON COMPLIANCE</p> <p>A regulated utility must provide a written report annually to the technical regulator for each listed dam. The content and format of each annual report shall be as required by the technical regulator and advised to each regulated utility by 30 June each year.</p> <p>Completed annual reports must be received by the technical regulator by 30 September of that year.</p>	Regulatory Plan Clause 11.3 reflects TCCS procedures.

Requirements of ANCOLD Guidelines:

Checklist against ANCOLD Guidelines: will look at this format for Regulatory Plan Appendix 2, Construction Report Overview, extending that to be a report on completeness of the whole submission.

CONTENT REQUIREMENTS: ↓	Where addressed
2.5.1 Context to Register of Dams	Reg Plan Section 2
2.5.2 Owner's Information: <ul style="list-style-type: none"> • Dam Safety Emergency Plan • Operating Procedures • Operation and Maintenance Manuals • Inspection and Evaluation Reports • As Constructed (WAE) Drawings • Data Base • Design Report/Construction Report/Safety Review <i>per sections 3 and 6</i> 	Owner is identified in Reg Plan Section 1 as ACT Government. The Transport Canberra and Community Services Directorate (TCCS) are the ACT Government custodian with responsibility for ensuring compliance with the Code. Information listed is variously provided in Reg Plan Sections and Appendices. Appendix 4 – Construction Report Overview provides an index to design and construction records; Appendix 7 references the Dam Safety Emergency Plan; Appendix 8 references the Operation and Maintenance Manual
2.5.3 Permanency of Documents	Copies held by: <ul style="list-style-type: none"> • Owner: Permanent in TCCS database with programmed regular backing up and retention per ACT policy. • Regulator: partial copies • Designer / Dam Safety Engineer (contract):
2.6 Education and Training (Knowledge and Competence of Personnel Involved (Table 2.2) And Appendix A2.7 And Code Clause 19	TCCS Training/Competence requirements are documented in Position Descriptions TCCS Asset Management Planning is not specific to ANCOLD detail currently and is under review. Awaiting confirmation from PP that : TCCS will attach training requirements to the Regulatory Plan TCCS Records section specific to Training – targets in service training.
2.7 Quality Management	Design and Construction Reports quantify QA
3.2 Issues Concerning Dam Owners: Investigation, design and construction	TCCS Asset Management Plan and Strategic Risk Management Plan. (Confirmed by TCCS) Addressed in Regulatory Plan Appendix 3: Design Report, Certification.
3.3 Issues to be Addressed by Dam Engineers: points for the asset creation process: Site Geology; Foundations capability; basin impermeability; construction materials; spillway capacity; design loading integrity; outlet works; monitoring performance Environmental effects; construction safety; QA through process	Brief for Design Report from TCCS Asset Management Plan. Detail confirmed through review of Design and Design certification incl: Design Report: see Regulatory Plan Appendix 3 for contents; all design and construction carried out by entities operating under certified Quality and Safety management systems
3.4 Dams Engineering Aspects: under <ul style="list-style-type: none"> • Investigations • Design • Construction (records) 	Covered in the following elements of the Regulatory Plan: <ul style="list-style-type: none"> • Design Report: Contents detailed in Appendix 3 and records location shown in Appendices 2 and 4. • Design Verification Report: Appendix 3A

CONTENT REQUIREMENTS: ↓	Where addressed
	<ul style="list-style-type: none"> Construction Report: Appendix 4 including construction entity report referenced in App 4A and Client's supervision records referenced in Appendix 4B
<p>3.5.1 Design Records</p> <ul style="list-style-type: none"> Commensurate with Hazard and Risk: Permanently stored, easily available 	<p>Regulatory Plan Appendix 4 gives an index to report locations in records. Included in:</p> <ul style="list-style-type: none"> Design Report includes: <ul style="list-style-type: none"> construction design changes, RFIs Change recording is supported in PAP records Incl Design Certification and Construction Verification Certificate: Design Report section 15 and Appendix J. Covers modifications to design and WAE drawings TCCS Records are permanently stored in an electronic database in accordance with ACT Government requirements, including regular updating and programmed backup.
<p>3.5.2 Construction Records</p> <p>Documenting all phases covering:</p> <ul style="list-style-type: none"> Routine and special activities Changes in plans and site conditions Design changes Material and construction processes Exploration and test results (existing) Photographic record of stripped foundations. Survey and surface mapping of rock defects As constructed records incl WAE drawings Photographs, video of works Survey of works done Construction material test records. <p>Provision of records to operation and maintenance personnel and designers</p>	<p>GLA Construction Report is the primary record, supported by PAP records. The Regulatory Plan Appendix 4 provides an index to record locations for each. All specified elements are addressed.</p> <p>Record handover confirmed in project meetings.</p> <p>PES is updating the GLA Construction Report records provided to include more up-to-date versions of registered stored in PAP records.</p> <p>PES will also add the more up-to-date construction program provided by GLA (version requested March 2019).</p>
<p>3.5.3 Initial Filling and Surveillance</p>	<p>First Fill Report – final report dated March 2019 Has been subject to assessment by Independent Verifier</p>
<p>3.5.4 Commissioning:</p> <ul style="list-style-type: none"> Managed through plan from designer Operation and Maintenance Manual 	<p>Commissioning planning and report identified as different to First Fill Report. SMEC planned commissioning, GLA effecting it. Plan for Records Management location for this report: Records\Construction Report currently holds the folders: Construction Records and Report, Design Report, First Fill Report, WAE. Commissioning should be considered part of construction report?</p>
<p>4.2 Operating Procedures and 4.3 Maintenance Procedures</p>	<p>Recently updated to suit by designer, SMEC. JS review of Contents scope – shows OK. However SMEC is revisiting content based on strenuous review by EPSDD Engineer, LC. TBA</p> <ul style="list-style-type: none"> Operation and Maintenance Manual Yes

CONTENT REQUIREMENTS: ↓	Where addressed
	<ul style="list-style-type: none"> • Surveillance Procedures Yes • Dams Maintenance Plan Yes Plan for Records Management: There is a Procedures folder with these live updated documents on how to manage the asset.
4.4 Operations and Maintenance Manual	Recently updated to suit by designer, SMEC JS review of Contents scope – shows OK. However SMEC is revisiting content based on strenuous review by EPSDD Engineer, LC. TBA.
5 Surveillance	Recently updated to suit by designer, SMEC JS review of Contents scope – shows OK. However SMEC is revisiting content based on strenuous review by EPSDD Engineer, LC. TBA.
5.2 Inspections 5.2.1 Frequency of Inspection 5.2.2 Conduct of Inspections 5.2.3 Inspection Reports	JS review of Contents scope – shows OK. However SMEC is revisiting content based on strenuous review by EPSDD Engineer, LC. TBA: Then check: Content completeness Check Procedures Check Content, example. Noted 4 different types of inspection in ANCOLD Table 5.1: Comprehensive, Intermediate, Routine Visual and Special/Emergency PP checked definitions in sub-folders: updated Plan for Records Management: These folders exist under the current Surveillance folder: Dam operator inspections (routine), Dam safety surveillance (intermediate, special/emergency), Comprehensive.
5.3 Monitoring 5.3.1 Frequency of Observation 5.3.2 Principles of Monitoring	PP checked inclusion of “Monitoring: per range defined in ANCOLD Table 5.3.: This will sit under Surveillance/Dam safety surveillance. Reg Plan also has new words to define where the ANCOLD Monitoring requirements are addressed: in Section 6. Responsibility assigned to Dam Engineer under contract (current provider is SMEC) Checking Surveillance Procedures: LC has given strenuous review to content → subsequent actions per meeting Table 5.3 and App B
5.4 Data File	Reg Plan Appendix 2 shows the TCCS records layout and Appendix 4 has an index of locations for Design and Construction related records.
5.5 Surveillance Evaluation	Reg Plan also needs to define where the ANCOLD Monitoring requirements are addressed: Draft words added to Section 6 based on TCCS (PP) advice that Surveillance Evaluation will be part of Annual Report. Annual Report folder sits under Records/Regulator Report.
5.6 Comprehensive (Surveillance) Reports	Reg Plan section 11.3 deals with Annual Report. PP confirmed that this addresses both Clause 22 of the ACT Dam Safety Code 2018 (Report on Compliance and TCCS Annual Reporting to the Regulator).

CONTENT REQUIREMENTS: ↓	Where addressed
	The TCCS (database) Plan for Records Management (Appendix 2 of Regulatory Plan identifies the location for this report: Annual Report folder sits under Records/Regulator Report.
5.7 Independent Audit	Requirement of planning. Reg Plan mention in Section 6. TCCS Audit Records are specific to each dam - referenced in TCCS Asset Management Plan. Need to check PP: that Audits folder will either be created under Records or Annual Report: ^{son 22} hasn't found this in latest Records listing...
6 Safety Reviews	Per Clause 7 of Reg Plan: Has a TCCS records folder under Surveillance
7 Remedial Action	Per Clause 8 of Reg Plan. Confirm "Ongoing maintenance planning" is covered in TCCS records under "Projects" folder: TCCS advise that this includes actual remedial action projects.
8 Dam Safety Emergency Planning: per Risk Level 8.2 Dam Safety Emergency Plans (DSEP) 8.3 Disaster Plans 8.4 Responsibilities 8.5 Preparation of DSEPs 8.6 DSEP Evaluation and Maintenance	Recommended detail is well covered in the project DSEP. Regulatory Plan Appendix 7 detail contents for draft V2. Risk level assessment is under current review: Regulatory Plan Appendix 6, Consequence Assessment will record this once completed. DSEP review planning is captured.

From: "Harris, KimM" <KimM.Harris@act.gov.au>

Sent: 16/04/2019 2:42 PM

To: "Sch 2 2.2(a)(ii)" <[REDACTED]@pes.net.au>; "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Taylor, Nick" <Nick.Taylor@act.gov.au>

Cc: "Sch 2 2.2(a)(ii)" <[REDACTED]@pes.net.au>; "Sch 2 2.2(a)(ii)" <[REDACTED]@envirolinks.com.au>

Subject: RE: Isabella Updated 8.4.19 [SEC=UNCLASSIFIED]

Hi [REDACTED],

Please ask Guideline and Able for a program of works, IFCW have been requesting this for several weeks.

If Able are working over the Easter break Guideline will need to provide supervision on site.

Please inform Guideline that IFCW expect a program by COB tomorrow 17/4.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch

Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au

Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government

Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT

2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: "Sch 2 2.2(a)(ii)" <[REDACTED]@pes.net.au>

Sent: Tuesday, 16 April 2019 2:07 PM

To: Harris, KimM <KimM.Harris@act.gov.au>; Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>; Kelly, Joel <Joel.Kelly@act.gov.au>

Cc: "Sch 2 2.2(a)(ii)" <[REDACTED]@pes.net.au>; "Sch 2 2.2(a)(ii)" <[REDACTED]@envirolinks.com.au>

Subject: FW: Isabella Updated 8.4.19

Hi Joel,

Few items are outstanding before the Northern Wetland can be presented for inspection tomorrow. GLA requested to postpone the inspection until further advise. However, I have planned to inspect the wetlands at the usual time to capture the progress of the Northern Wetland and maintenance works at the Southern Wetland. I will keep you informed on the status of the wetlands.

Regards

"Sch 2 2.2(a)(ii)"

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - "Sch 2 2.2(a)(ii)"



From: Sch 2 2.2(a)(ii) [redacted]@guidelineact.com.au>
Sent: Tuesday, 16 April 2019 11:47 AM
To: Sch 2 2.2(a)(ii) [redacted]@pes.net.au>
Cc: Sch 2 2.2(a)(ii) [redacted]@pes.net.au; Sch 2 2.2(a)(ii) [redacted]@envirolinks.com.au>
Subject: RE: Isabella Updated 8.4.19

Hi [redacted]

I regretfully inform you that the site is not in and acceptable condition for the TCCS inspection planned for tomorrow at 10am.

I am escalating the issue within Guideline and Able Landscaping. Following a site meeting with my contractor onsite tomorrow, I can then confirm the date the site will be presentable for TCCS Handover.

Kind regards,

Sch 2 2.2(a) [redacted]

Sch 2 2.2(a)(ii) | Project Manager
 16B Bass Street, Queanbeyan NSW 2620
 PO Box 537, Queanbeyan NSW 2620
 E: Sch 2 2.2(a)(ii) [redacted]@guidelineact.com.au
 M: Sch 2 2.2(a)(ii) [redacted]



Kind regards,

Sch 2 2.2(a) [redacted]

From: Sch 2 2.2(a)(ii) [redacted]@pes.net.au]
Sent: Friday, 12 April 2019 2:41 PM
To: Sch 2 2.2(a)(ii) [redacted]
Cc: Sch 2 2.2(a)(ii) [redacted]@pes.net.au; Sch 2 2.2(a)(ii) [redacted]
Subject: RE: Isabella Updated 8.4.19

Hi [redacted]

Rhys visited the site today. He advised me that there are few issues in the Northern Wetland.

- The northern wetland is not yet completely planted. There is still the sediment basin and adjoining pond to the sediment basin to be planted. There was only 1 worker on site at time of inspection.
- The weed piles have not yet been removed from the fence line. I am emphasise on removal of weed stockpiles.
- There is still no visible irrigation system in place on the northern wetland. The newly planted stock appears un-watered. Regardless of new plantings, irrigation is required to keep existing plants alive.
- The bird netting near the weir has still not been rectified. In its current state, it runs the risk of catching birds and other animals, while also appearing untidy.

Can you please address the issues above and provide us an update by Tuesday, 16 April mid-day?

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



From: "Stellios, George" <George.Stellios@act.gov.au>
Sent: 16/04/2019 9:55 PM
To: "Harris, KimM" <KimM.Harris@act.gov.au>; "Taylor, Nick" <Nick.Taylor@act.gov.au>
Cc: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Crocker, Leigh" <Leigh.Crocker@act.gov.au>
Subject: RE: Smec : Risk and Consequence, Isabella Weir, Retaining Walls and Structures [SEC=UNCLASSIFIED]

Thanks Kim and Nick...

From: Harris, KimM
Sent: Tuesday, 16 April 2019 3:55 PM
To: Taylor, Nick <Nick.Taylor@act.gov.au>
Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>; Stellios, George <George.Stellios@act.gov.au>
Subject: RE: Smec : Risk and Consequence, Isabella Weir, Retaining Walls and Structures [SEC=UNCLASSIFIED]

Hi Nick,

Please see responses below;

Also I have been in conversation with Sarju, re; the northern wetlands consolidation.
 I have requested he get a full program from Guideline and to reinforce with Guideline they are to have full supervision of the site.
 Depending on what information he obtains I will contact Guideline tomorrow afternoon.

Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: Taylor, Nick
Sent: Tuesday, 16 April 2019 8:47 AM
To: Harris, KimM <KimM.Harris@act.gov.au>
Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>; Stellios, George <George.Stellios@act.gov.au>
Subject: Smec : Risk and Consequence, Isabella Weir, Retaining Walls and Structures [SEC=UNCLASSIFIED]

Morning Kim

As briefly discussed yesterday I believe Smec are seriously faltering on the works which IFCW we are all engaged with .

Risk and Consequence : Since [Sch 2 2.2\(a\)\(ii\)](#) has been off sick ,the work that Smec are supposed to provide to [Sch 2 2.2\(a\)](#) has been delayed ,please refer to emails from (Leigh Crocker 10/4 ,[Sch 2 2.2\(a\)\(ii\)](#) 10/4,[Sch 2 2.2\(a\)\(ii\)](#))

attached above. May I request that you contact John and inquire if [redacted] has fulfilled all [redacted] requirements in providing the correct information. If [redacted] has not received the information please let me know, and we will discuss how we should proceed.

I spoke with [redacted] this morning, he is waiting for responses from Phil Prentis, who will not be back with Mynul until after the 29th April. This is far too long to wait. I emailed [redacted] questions to Mynul and have asked he or one of his team reply.

[redacted] is also waiting for Regulatory Plan Review wording review from us.

Isabella Weir : [redacted] was supposed to have the report back to us last Friday , we still haven't received it, the pond is still empty and we were supposed to be in there this week to repair the cracks upstream, this would have tied in nicely with the Northern Wetlands being ready to go onto consolidation allowing us to refill the pond for the last time. It look like the pond will remain empty all over Easter with no works being started on the weir until after the 29/4/19. You know the challenges around the public complaints etc Smec have definitely dropped the ball and didn't even notify us that the report was going to be late. Please chase [redacted] and express our concerns, and attempt to get a firm date for when we may receive the report. Again we will discuss on how to proceed once you've spoken to Smec.

I have been trying to contact [redacted] and [redacted] throughout the day, I have emailed [redacted] this afternoon stating all concerns and requesting a submission date for the report.

Retaining Wall and Structures: I sent an email which is attached, not sure if you had a chance to speak with Simon but I will not be working on this project during my tenure with Michael's team , you may need to speak with George as I believe Simon is away. Again I believe this Project is faltering maybe worth having a chat with Tim to see where this project is currently tracking , as you are aware I'm not the client for this project.

Under control, I will request you are replaced on the TET and I will complete the TER. As you know I have been managing the RFT, addendums etc.

Although the RFT was 2 days late in being issued the project can be on track to be completed in time, I will discuss de-scoping with Tim on the 29th after reading the RFT submissions and determining the budget constraints and contractor programing.

I appreciate the work you are doing

Regards Nick

Nick

Nick Taylor | A/G Director – Land Release Infrastructure

Phone 02 6207 0118 | Mobile 0451 449 331 | Email: Nick.Taylor@act.gov.au

Infrastructure Delivery | Transport Canberra and City Services | ACT Government
490 Northbourne Avenue, Dickson | GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 17/04/2019 3:44 PM
To: "Sch 2 2 2(a)(ii) @pes.net.au" <Sch 2 2 2(a)(ii) @pes.net.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: Northern Wetlands

Hi [REDACTED]
I went to the wetlands this afternoon, there were 3 men on site doing planting. There are a lot of bare areas still and the established plants looked dry and in need of watering. Able workers also need to be aware of where they are driving their cars as there are areas where they have created very defined wheel ruts. Also they seem to be leaving weeds, empty pots or something else laying on the ground for a long time as there are easily observed dead grass areas outside the fence. I have taken photos and will send to you tomorrow. Will Guideline have a planting and maintenance program to IFCW today? This has been asked for on every occasion IFCW have met with Guideline for the consolation meeting.

Thanks you
Kim

Sent from my iPhone

From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 17/04/2019 3:36 PM
To: 'Sch 2 2.2(a)(ii)' @pes.net.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: Re: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]
Attachments: image002.png, image004.jpg, image006.jpg, image008.jpg, image009.jpg

Hi [Sch 2 2.2(a)(ii)]

The report was issued last night, however it has only been issued to TCSS for review before it is issued to the contractor for action. IFCW believe it would not be prudent to have the contractor do works from the report if it is inaccurate or if poor quality.

Sent from my iPhone

On 17 Apr 2019, at 1:22 pm, [Sch 2 2.2(a)(ii)] @pes.net.au > wrote:

Hi [Sch 2 2.2(a)(ii)],

I am following up with the Crack Assessment Report. Can you please advise when do we expect the report so that we can pass it on to the Contractor for the repair method and the rectification works can be started at earliest.

Regards

[Sch 2 2.2(a)(ii)]

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - [Sch 2 2.2(a)(ii)]

<image002.png>

From: [Sch 2 2.2(a)(ii)] @pes.net.au>
Sent: Friday, 12 April 2019 4:17 PM
To: [Sch 2 2.2(a)(ii)] @smec.com>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi [Sch 2 2.2(a)(ii)]

I called earlier to follow up the crack assessment report. Can you please advise when you will have a report ready?

Rregards

[Sch 2 2.2(a)(ii)]

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - [Sch 2 2.2(a)(ii)]

<image002.png>

From: [Sch 2 2.2(a)(ii)] @smec.com>
Sent: Wednesday, 3 April 2019 5:34 PM
To: Oxborrow, Stuart <stuart.oxborrow@act.gov.au>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] @smec.com>; [Sch 2 2.2(a)(ii)] @pes.net.au>; [Sch 2 2.2(a)(ii)] @smec.com>; [Sch 2 2.2(a)(ii)] @smec.com>; [Sch 2 2.2(a)(ii)] @smec.com>

Sch 2 2.2(a)(ii) @smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Stuart,

Sorry for miss your call Yesterday because I was out of office all day. Yesterday I had chance to check the water level of the Isabell weir and it was still high for inspection. As per Sch 2 2.2(a)(ii) observation made on today, it was still higher than gum boots. We are expecting water level will be down further tomorrow and expecting to conduct inspection tomorrow afternoon. I am accompanied by another engineer for map the cracks and mark ups on upstream face.

As you know, access area from abutment to upstream concrete slab is still boggy and require recovery system. Last time inspection has been organised by Sch 2 2.2(a) and everyone was in the same page for the inspection. Ladder has been use for any emergency recovery. But it was very short inspection. I got to know that this time Sch 2 2.2(a) will not be accompanied with us to manage safety staff. This time we require to spend more time to inspect cracks and mark up on the wall. It would be great if you could organise Sch 2 2.2(a) or some experience person to manage safety staff in our inspection.

Best Regards,

Sch 2 2.2(a)(ii)

Senior Engineer - Structures

SMEC (Member of the Surbana Jurong Group)

T Sch 2 2.2(a)(ii)

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Wednesday, 27 March 2019 1:35 PM

To: Sch 2 2.2(a)(ii) @smec.com>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) @smec.com>; Sch 2 2.2(a)(ii) @pes.net.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

I've tried phoning you and Steve to discuss....

Can you please confirm the reason Smec's engineers from Melbourne are visiting Isabella Weir tomorrow?

Based on the inspection on Tuesday 19/03 (minuted below) I believe we have an agreed way forward with the cracks. ie Smec (you) will map the downstream cracks and those cracks which require sealing based on the requirements of AS 3735 (ie show leaking from the downstream side) will be repaired. If Smec require any other cracks to be repaired then these will be advised to the client. A similar inspection will be undertaken on the upstream side.

Based on the map cracking report, GLA will advise how the repairs will be undertaken.

Any findings from tomorrow's inspection by Smec's Melbourne engineers should be consistent with the agreed procedures outlined above. If they recommend an alternative inspection procedure then this should be advised to the client before any alterative process is advised to GLA.

Can you please advise.

Regards

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | ACT Government

From: Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Sent: Wednesday, 27 March 2019 12:01 PM
To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Stuart,
Yes That correct.
Best Regards,
Sch 2 2.2(a)(ii)
Senior Engineer - Structures
SMEC (Member of the Surbana Jurong Group)
T +Sch 2 2.2(a)(ii)

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>
Sent: Wednesday, 27 March 2019 11:52 AM
To: Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Thanks Sch 2 2.2(a)(ii)

I presume the final crack mapping report will be issued once the upstream side is mapped also. Is this correct?

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure
Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au
Capital Works, Transport Canberra and City Services Directorate | ACT Government
GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Sent: Wednesday, 27 March 2019 11:02 AM
To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@pes.net.au>
Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <[REDACTED]@smec.com>
Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Stuart,
Isabella weir downstream labyrinth wall crack identification for repair work has been completed on yesterday afternoon.
Cracks have been marked and numbered on concrete wall. Photographic records has been made.
Please find sample
<image004.jpg>
W8 – Labyrinth Wall N 8
CR 2 – Crack Number 2
1.6m with arrow – require to seal or inject 1.6m length

I am waiting till tomorrow for site meeting to finalise outcome of finding and reporting.
Please find few findings on tomorrow inspection

1. Cracks injection to seal the cracks were failed.

<image006.jpg>

2. Water seeping through construction joint near contraction joint 5

<image008.jpg>

3. Water seeping through cracks on foundation slab (this is mainly on wall 9 and 10). Photograph is referring to wall 10, cracks 7 and 8 only.

<image009.jpg>

Best Regards,

Best Regards,

Sch 2 2.2(a)(ii)

Senior Engineer - Structures

SMEC (Member of the Surbana Jurong Group)

T +Sch 2 2.2(a)(ii)

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Tuesday, 26 March 2019 9:47 AM

To: Sch 2 2.2(a)(ii) @pes.net.au

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) @smec.com; Sch 2 2.2(a)(ii)

@smec.com; Riley, Renee <Renee.Riley@act.gov.au>; Wadwell, Emily <Emily.Wadwell@act.gov.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

All the necessary notifications regarding lowering Isabella Pond have been made. The pond can be lowered on Friday 29/03 as proposed.

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | ACT Government

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) @pes.net.au

Sent: Tuesday, 26 March 2019 8:35 AM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii)

@smec.com

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) @smec.com

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Sch 2 2.2(a)(ii)

Access to the downstream side of the Weir is now safe. You can inspect the wall anytime from now. The water level will be maintained until Thursday. We will start draining the upstream side of the pond on Friday 29 March 2019 to provide access for your assessment on the upstream side of walls

Stuart,

Do you need to notify anyone before we start draining the upstream side of the Isabella Weir?

Thanks

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)

<image002.png>

From: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@pes.net.au>

Sent: Monday, 25 March 2019 3:17 PM

To: 'Oxborrow, Stuart' <Stuart.Oxborrow@act.gov.au>; Sch 2 2.2(a)(ii)

<Sch 2 2.2(a)(ii)@smec.com>

Cc: 'Taylor, Nick' <Nick.Taylor@act.gov.au>; 'Harris, KimM' <KimM.Harris@act.gov.au>; 'McGrath,

Michael' <Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Hi Kim,

Following to my visit to the weir today, currently, it is not safe to access the downstream side of the Isabella Weir. Following my conversation with you, Peter has been advised to lower both Tuggeranong Weir and Isabella Weir. Isabella Weir is currently overflowing at the stop log level, and the water level is also required to drop at least 300mm below the bottom of the stop log level. Because, Sch 2 2.2(a)(ii) still needs to complete the crack mapping on the same wall as the stop log is. I have told Peter to lower the water between Tuggeranong Weir and Isabella Weir just enough to access the concrete slab level at the downstream side of the Isabella Weir.

Peter will try to go out late this afternoon to lower both ponds, and he will revisit the site in the morning to check the water level at both the Weirs.

Sch 2 2.2(a)(ii) told me that he is available for inspection tomorrow afternoon. He requested if we can advise him whether water has come down and it is safe for him to visit the site. We will be on site around 11 am for inspection at the southern wetland so I can advise him.

Sch 2 2.2(a)(ii) confirmed that SMEC's Dam Safety inspectors from Melbourne will be onsite on Thursday 28 March at 1 pm. He would like the upstream side remains filled until the inspection is carried out. We will then need to advise Peter again to lower the upstream side for Sch 2 2.2(a)(ii) to complete crack mapping on the upstream side of the weir.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)

<image002.png>

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Monday, 25 March 2019 9:15 AM

To: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@smec.com>

Cc: Taylor, Nick <Nick.Taylor@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael

<Michael.McGrath@act.gov.au>; Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@pes.net.au>; Sch 2 2.2(a)(ii)

<Sch 2 2.2(a)(ii)@smec.com>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Sch 2 2.2(a)(ii)

Can you please liaise with [Sch 2 2.2(a)] to decide whether Tuggeranong Pond is still low enough to allow the downstream inspection from the toe of Isabella Weir to be completed.

Regards

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | ACT Government

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: [Sch 2 2.2(a)(ii)] [@smec.com](mailto:[redacted]@smec.com)]

Sent: Friday, 22 March 2019 5:53 PM

To: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; [Sch 2 2.2(a)(ii)] [@pes.net.au](mailto:[redacted]@pes.net.au)];

[Sch 2 2.2(a)(ii)] [@smec.com](mailto:[redacted]@smec.com)>

Cc: [Sch 2 2.2(a)(ii)] [@pes.net.au](mailto:[redacted]@pes.net.au)>; Taylor, Nick <Nick.Taylor@act.gov.au>; [Sch 2 2.2(a)(ii)] [@guidelineact.com.au](mailto:[redacted]@guidelineact.com.au)>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Stuart,

[Sch 2 2.2(a)(ii)] was not able to complete the mapping today as we considered it unsafe for him to remain in the waterway because it began raining. He did return later in the day to attempt to complete the work but again the rain became quite heavy. He will need to return next week.

Thusitha will confirm on Monday his availability for Wednesday.

Regards,

[Sch 2 2.2(a)(ii)]

Senior Structural Engineer

SMEC (Member of the Surbana Jurong Group)

T [Sch 2 2.2(a)(ii)]

From: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>

Sent: Friday, 22 March 2019 5:20 PM

To: [Sch 2 2.2(a)(ii)] [@pes.net.au](mailto:[redacted]@pes.net.au)]; [Sch 2 2.2(a)(ii)]

[redacted] [@smec.com](mailto:[redacted]@smec.com)>

Cc: [Sch 2 2.2(a)(ii)] [@pes.net.au](mailto:[redacted]@pes.net.au)>; Taylor, Nick <Nick.Taylor@act.gov.au>; [Sch 2 2.2(a)(ii)] [@guidelineact.com.au](mailto:[redacted]@guidelineact.com.au)>; Harris, KimM <KimM.Harris@act.gov.au>; McGrath, Michael <Michael.McGrath@act.gov.au>; [Sch 2 2.2(a)(ii)] [@smec.com](mailto:[redacted]@smec.com)>

Subject: RE: Meeting Notes from Post Completion Cracks Repair Methodology [SEC=UNCLASSIFIED]

Gents (and Kim),

The following was the agreed action from today's inspection of Isabella Weir.

- Smec [Sch 2 2.2(a)(ii)] will map each of downstream cracks which require sealing. AS 3735 (referenced in the IW specification) states that cracks showing any evidence of leakage should be repaired from the water side. If Smec believe any cracks which are *not currently leaking* also require sealing then these should be identified separately and discussed with the client as to why they believe they should also be sealed.
- The mapping will include clear reference to which wall the cracks are in (ie Wall 1, 2,3 etc from the north), plus identification of each crack within that wall (ie crack 1a, 1b, 1c etc). Each crack referenced will be photographed and notated on the wall with

permanent marker. The distance between each crack will be measured relative to the end of the wall (or some other standard reference point) so it can be determined if a corresponding crack exist on the northern side.

- Similarly, Smec will map each of the waterstop joints (ie Joints A, B, C etc from the north), plus identify each joint which is leaking and requires repairing.
- Smec (Sch 2 2.2(a)(ii)) will **revisit the site next Wednesday** (after Isabella Pond is lowered – see below) to map the northern side, in a similar manner to that described above. Following this inspection, a consolidated mapping report will be issued. Guideline will then arrange to repair the cracks which Smec identify require sealing.

Sch 2 2.2(a)(ii)

Can you please confirm whether you completed you downstream mapping today (as planned) and whether you will need any further access the downstream side of Isabella Weir. If you do, we will need to arrange for Tuggeranong Pond to be lowered concurrently with, or after Isabella Pond is lowered. Please also confirm that you are **still available to inspect the upstream face next Wednesday** (ie 27 March).

Kim,

Once Sch 2 2.2(a)(ii) has confirmed he is still available for next Wednesday, can you please arrange with Peter to open the valve at Isabella Weir early next week, so that the pond is completely empty by Wednesday. Also, depending on whether Sch 2 2.2(a)(ii)'s also requires access to the downstream side of Isabella Weir, please also arrange to have Tuggeranong Pond lowered enough to expose the toe of Isabella Weir. Please confirm with Peter if this is possible in the available timeframe, since he may want to lower Isabella Pond first, then Tuggeranong Pond (rather than both concurrently) since it may be difficult to control the final water level in Tuggeranong Pond if both happen at the same time.

Thanks,

Stuart

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure

Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au

Capital Works, Transport Canberra and City Services Directorate | ACT Government

GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>

Sent: Tuesday, 19 March 2019 4:45 PM

To: McGrath, Michael <Michael.McGrath@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>;

Sch 2 2.2(a)(ii) <[redacted]@guidelineact.com.au>; Sch 2 2.2(a)(ii) <[redacted]@smec.com>; Sch 2 2.2(a)(ii) <[redacted]@smec.com>

Cc: Sch 2 2.2(a)(ii) <[redacted]@pes.net.au>; Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>

Subject: Meeting Notes from Post Completion Cracks Repair Methodology

Hi All,

Below are notes from the meeting held today at SMEC's office to discuss acceptance of the cracks repair works and the repair methodology for water stops and new cracks on southern walls and at other locations. Please let me know if you have any comments.

Please note that it is agreed to have site inspection tomorrow at 10 am.

Present:

- Sch 2 2.2(a)(ii) [PES], Sch 2 2.2(a)(ii) (GLA), Sch 2 2.2(a)(ii) [SMEC]; Michael McGrath (MM) [TCCS], Kim Harris (KM) [TCCS], Sch 2 2.2(a)(ii) [SMEC];
- Apologies – Stuart Oxborrow (SO) [TCCS]

Waterstops Repair Works**Issue:**

- GLA was asked whether the repair works at the downstream side is successful or not.
- GLA has received a response from the manufacturer of Megapoxy. The manufacturer stated that the Balloon System shall stay inflated at the time of cure; therefore they cannot confirm whether the repair was successful. The system shall work with continuous pressure.
- [REDACTED] advised that there are possible faults during the application of Megapoxy PF. The use of Megapoxy PF is to secure the Balloon System and to prevent any leaks from the cracks. Onsite, the Megapoxy PF should have been left to cure to achieve the strength to hold the circular base of the Balloon System which was not evident. The applied Megapoxy PF appeared lumpy and streaky therefore it is possible that the thick paste may have voids within. Evidence can be found onsite that some leaks were from the paste over the cracks and through the lumpy paste over the circular base. The Megapoxy HX is low tension then water and the resin will find the way through the voids. Therefore, [REDACTED] does not believe the injection system did work, and the cracks have not sealed at the water stop location on the downstream side.
- [REDACTED] thought that the epoxy has worked and the only way to confirm its effectiveness is to check whether the cracks and water stops are leaking or not.
- SMEC concerned about the large gap at the downstream side of the water stop joint between the existing and new walls. SMEC to confirm whether the repairs are required on the upstream side of the joint.
- The water stop joint between new walls has a minor leak. SMEC to verify and confirm whether other water stops need repair on the upstream side.

Agreed Action:

- Since the water level on the upstream is high, there is enough pressure to see the evidence of the leaks. It was agreed to inspect the wall for any leaks on the downstream side at water stop locations.
- The water stop joints new to existing walls and any other water stop locations between new walls – if the joints are leaking, then GLA to repair as per GLA's suggested method i.e. Sika products. However, SMEC will confirm the acceptance of the Sika products Sikadur & Condur for repair works by COB today.
- GLA to speak to Niklas from the TCCS's roads maintenance to close the Isabella Weir and leave open the Tuggeranong Weir enough the drain enough water to the bottom of the Isabella Weir's concrete slab level on the downstream side.
- SMEC agreed to sign off the repairs once the GLA complete the works as per manufacturer requirements

Other new cracks on the upstream/ the downstream side**Issue:**

- New cracks have appeared on the downstream side of the wall. The cracks are more extensive at the bottom, and reducing in size at the top of the wall.
- Some cracks are leaking. Although some cracks are dry and some are self-healing. SMEC to advise whether there is a need for repairs to these cracks.

Agreed Action:

- Inspect the cracks during site visit tomorrow 20 March. If the cracks are leaking, then GLA shall repair the cracks. SMEC will advise the repair product by COB today.
- SMEC also need to advise if there are any other measures required to close out the cracks where those cracks are currently dry and self-healing. SMEC suggested monitoring regime which is not considered acceptable by the Client to handover the Weir. SMEC to talk to their concrete expert in Melbourne and have their response ready by tomorrow 20 March.

Low Concrete Cover

Issue:

- Does SMEC accept the low concrete cover issue can be closed out?

Outcome:

- SMEC confirmed that there is no issue with the low concrete cover. The cover is satisfactory as per the design.

Cracks with staining marks on downstream face of wall

Issue:

- Does SMEC accept the repair works to the cracks with staining marks?

Outcome:

- [REDACTED] advised the repair works appeared satisfactory because the Balloon System is inflated after cure.
- SMEC also confirmed that they have no issue concerning the cracks with staining marks.

Other Defects

Issue:

- Are there any further outstanding issues and minor defects that need to be addressed now?
- [REDACTED] asked if SMEC could inspect and sign off the minor defects raised during the first fill inspection: 1) sharp edges on the ladder 2) the repair to the wet well chamber door and 3) bolts to cut off at the base of the ladder.

Outcome:

- SMEC advised there were no other issues.
- SMEC to inspect minor defects as outlined above for sign off.

Regards

Sch 2.2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile Sch 2.2.2(a)(ii)

<image002.png>

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W8
C.R.T.



160

170

WI

GRI

REPEAT





585 of 719

F7



From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 18/04/2019 1:26 PM
To: 'Sch 2 2.2(a)(ii) [REDACTED]' @pes.net.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: Isabella Weir Photos 17/4/19 [SEC=UNCLASSIFIED]
Attachments: Photos 190417.pdf

Hi [REDACTED]

Photos from my visit yesterday, I have only provided a few that relate to what I was talking about yesterday.

Also IFCW are still waiting for a program from Guideline and Able, I know Guideline are on leave until 29th
What plans do they have to continue working on the wetlands.

Dry plants – even the new plants not yet planted looked dry and dying.

Wheel ruts

Rubbish being left too long in one spot

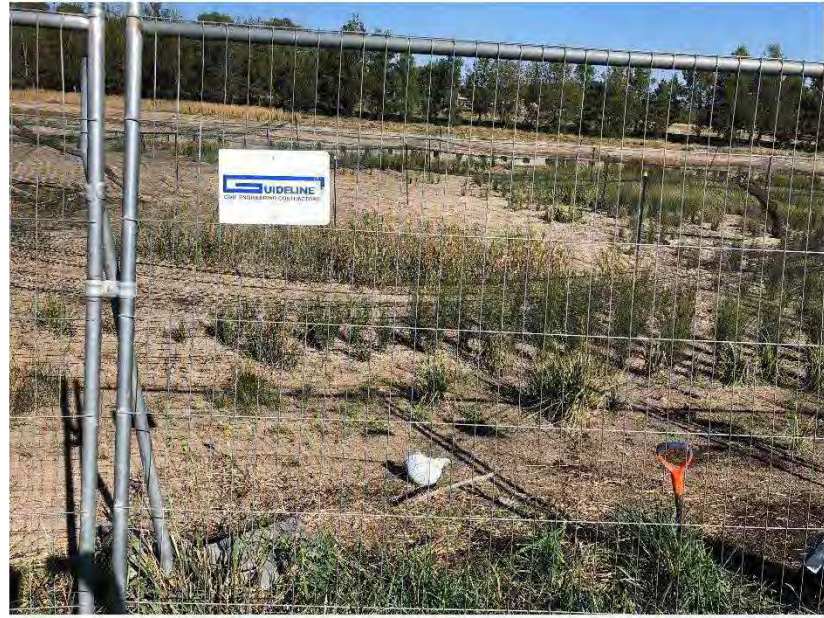
Regards

Kim Harris

Kim Harris | Senior Project Officer | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT
2601 | www.act.gov.au



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From: "Taylor, Nick" <Nick.Taylor@act.gov.au>

Sent: 16/04/2019 6:09 AM

To: 'Sch 2 2.2(a)(ii) @smec.com' 'Sch 2 2.2(a)(ii) @smec.com'; 'Sch 2 2.2(a)(ii) @smec.com'

'Sch 2 2.2(a)(ii) @smec.com'

Cc: "Harris, KimM" <KimM.Harris@act.gov.au>; "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Stellios, George" <George.Stellios@act.gov.au>

Subject: NON RESPONSIVE [SEC=UNCLASSIFIED]

Good AFTERNOON

My team have made numerous inquiries in relation to the report for the defect works at Isabella Weir and also information still required to progress the risk and consequence assessment project , , you are holding up progress on both projects, even after numerous attempts by my team and IFCW by phone and email to contact you, and still you have neglected to respond (I can only hope everything is okay in the world of Smec) My next option is to speak with the Senior Management within Smec to encourage better delivery and communications from the Smec organisation. I've always encouraged open and honest collaboration with Smec on our projects but alas since Sch 2 2.2(a)(ii) has been off this collaborative approach has diminished.

I can only hope that Smec will have the fortitude of mind to contact both Stuart Oxborrow and Kim Harris in relation to my request for an update .I'll leave this to your deliberation on your choice to respond ,before I take further action, at start of play tomorrow

Regards Nick

Nick Taylor | A/G Director – Land Release Infrastructure

Phone 02 6207 0118 | Mobile 0451 449 331 | Email: Nick.Taylor@act.gov.au

Infrastructure Delivery | Transport Canberra and City Services | ACT Government

490 Northbourne Avenue, Dickson | GPO Box 158, Canberra ACT 2601 | www.act.gov.au

From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 30/04/2019 1:01 AM
To: 'Sch 2 2.2(a)(ii)' <[REDACTED]@pes.net.au>
Cc: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: Norther Wetlands Consolidation [SEC=UNCLASSIFIED]

Hi [REDACTED],

Quick follow up to yesterday's site walk.

It is becoming increasingly frustrating that the same issues are highlighted at every consolidation visit.

The watering or lack of has been the topic of conversation from the very outset of the inspections so has planting of the bare areas.

Replanting of the dead plants was meant to have been completed after the last inspection but the same areas are still dead, or bare of plants.

I feel the situation is not being taken seriously and requests to remediate the areas are being received with some arrogance from Able.

If I were Able and Guideline I would have been on site from last week ensuring that when we arrived yesterday ALL the previous issues noted had been closed out and there were no new ones.

Both Guideline and Able need to be made aware that not only are City Services losing patience IFCW are also. As stated by Joel Kelly yesterday the whole site needs to be at 80% complete before handover is accepted.

Given we are now nearly in May time will not be on their side for much longer.

Please confirm with Guideline when the planting and watering are to occur and please ask again for a program of these works.

Regards

Kim Harris

Kim Harris | Assistant Director | Civil Infrastructure & Capital Works Branch
Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT 2601 | www.act.gov.au

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From: "Harris, KimM" <KimM.Harris@act.gov.au>
Sent: 01/05/2019 5:57 AM
To: 'Sch 2 2.2(a)(ii)' @pes.net.au>
Cc: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Taylor, Nick" <Nick.Taylor@act.gov.au>
Subject: RE: IWU Grassing Submission and Northern Wetland Inspection [SEC=UNCLASSIFIED]

Hi [Sch 2 2.2(a)(ii)]

Unless there is solid evidence the work has been completed IFCW will not endorse another meeting with City Services on the 8th.

Regards

Kim Harris

Kim Harris | Assistant Director | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT
 2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: [Sch 2 2.2(a)(ii)] @pes.net.au]
Sent: Wednesday, 1 May 2019 3:18 PM
To: Harris, KimM <KimM.Harris@act.gov.au>
Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>
Subject: RE: IWU Grassing Submission and Northern Wetland Inspection [SEC=UNCLASSIFIED]

Hi Kim,

I propose we should inspect the Northern Wetland on Monday, 6 May 2019 around 10:30 am to make sure that the Northern Wetland is ready for pre-consolidation inspection with Joel Kelly on Wednesday 8 May 2019. Please let me know if you are available @ 10:30 am on 6 May 2019.

Regards

[Sch 2 2.2(a)(ii)]
 Principal's Authorised Person (PAP)
 Professional Engineering Service Pty Limited ACN 057 633 897
 Mobile - [Sch 2 2.2(a)(ii)]



From: Harris, KimM <KimM.Harris@act.gov.au>
Sent: Wednesday, 1 May 2019 10:36 AM

To: [Sch 2 2.2(a)(ii)]@pes.net.au
 Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>
 Subject: RE: IWU Grassing Submission and Northern Wetland Inspection [SEC=UNCLASSIFIED]

Hi [Sch 2 2.2(a)(ii)]

Given the work that s required and the time frame agreed for the next inspection I would suggest that next Wednesday's inspection be delayed until an improvement to the situation has been seen.

It is an embarrassment and looks very unprofessional to continually have City Services on site to see the same issues at every inspection.

Nick, Stuart – happy to hear your thoughts.

Regards

Kim Harris

Kim Harris | Assistant Director | Civil Infrastructure & Capital Works Branch
 Phone 02 6207 9361 | Fax 02 6207 5564 | Mobile 0466 026 015 | email KimM.Harris@act.gov.au
 Infrastructure Finance and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
 Level 2 Nature Conservation House, Cnr Benjamin Way and Emu Bank Belconnen 2617 | ACT Procurement, GPO Box 158 CANBERRA ACT
 2601 | www.act.gov.au

 Please consider the environment before printing this e-mail. **Be Green** - read on screen

From: [Sch 2 2.2(a)(ii)]@pes.net.au
 Sent: Wednesday, 1 May 2019 10:22 AM
 To: [Sch 2 2.2(a)(ii)]@guidelineact.com.au
 Cc: Oxborrow, Stuart <Stuart.Oxborrow@act.gov.au>; Harris, KimM <KimM.Harris@act.gov.au>; Taylor, Nick <Nick.Taylor@act.gov.au>
 Subject: FW: IWU Grassing Submission and Northern Wetland Inspection

Hi [Sch 2 2.2(a)(ii)]

Following on from my email below and our inspection on 29 April, I advise the following:

- The preparation of the wetlands for landscape consolidation is again behind the last schedule provided and the last advised dates have already lapsed.
- The expectation of achieving consolidation was agreed during the inspection of the southern wetland on 26 Mar 2019. Moreover, GLA agreed on the action in preparation of the northern wetland on 1 April 2019. Despite these site discussions and expectations it is disappointing to see the same issues highlighted arising at every site visit.
- During each site visit, Joel Kelly has repeatedly pointed out to us that the watering is crucial for the early growth of planting. In the last visit, it was evident that the lack of watering has impacted not only new re-planting but also the existing plants. It was noted that some new re-planting are on the verge of dying. It appears that the work being carried out has not taken care of with due diligence. I advise that these bare patches need immediate remediation.
- We are concerned that the lack of attention will impact the southern wetland during the maintenance period. You are requested that GLA take control of the landscaping works and ensure ongoing daily

management of the works i.e. present the northern wetland for consolidation and ensure the works meet the 26 maintenance period. TCCS (City Service) has also expressed ongoing concerns.

- With regards to dryland grassing, as stated by Joel Kelly on site, the whole site needs to achieve 80% germination before the grassing can be accepted for consolidation. These works are now critical given the impending cold weather.

You are requested to update the landscape work program and immediately confirm when the planting and watering will occur. Please note that I cannot request TCCS site inspections until we are fully satisfied with the works on the northern wetland and dryland grassing as outlined above.

The email below is still current for your action. I have attached recent photos of bare areas for your information. I have also attached marked-up plans for your information.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



From: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@pes.net.au>

Sent: Monday, 29 April 2019 6:14 AM

To: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@guidelineact.com.au>

Cc: Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@pes.net.au>; Sch 2 2.2(a)(ii) <Sch 2 2.2(a)(ii)@envirolinks.com.au>; 'Harris, KimM' <KimM.Harris@act.gov.au>

Subject: IWU Grassing Submission and Northern Wetland Inspection

Hi Sch 2 2.2(a)(ii)

Following to ELD's inspection on Friday, 26 April; please see Sch 2 2.2(a)(ii) comments below for your action. It appears that neither the northern wetland nor the dryland grassing is in conditions to be placed on 26 weeks consolidation period. The Landscape Consultant's inspection certificates will not be issued until we are satisfied with the state of the works for the grassing and the northern wetland. However, the pre-consolidation inspection is booked today for the Northern Wetland, and we will observe Joel Kelly's comment during the inspection.

Northern Wetland:

- A majority of the planting appears to be completed and at density. However, there are few areas along the Rocla wall and grass edges where plantings do not look to be completed.
- The sediment basin weir has also been smothered with the debris during an event. This area needs attention for re-planting. Ensure that this area is checked following events to identify if plants have been damaged.
- There are new weed growth areas where mainly unwanted grasses are evident. For consolidation inspection, the evidence is required from Able Landscape that they are actively removing weeds. Please note that it will also be an ongoing issue and needs to be controlled to ensure that they do not get out of hand.
- As discussed on Friday 19 April, there does not appear to be any visible signs of an irrigation system at the far eastern and western ends of the northern wetland. Currently, the basin is wet due to recent weather event; however most the batter edges are dry, and plants are visibly drying out. GLA/Able to ensure that all new replanting and existing plants are sufficiently watered to alleviate water-stressed areas.
- GLA/Able also to rectify the water level of the open water holes as some plants appear to be under water, GLA will need to monitor the water level continually.
- Continue to monitor incoming rubbish and debris.

- Ensure bird netting is pinned down and regularly checked for any birds.

Grassing:

- The grassing on the wetlands side of Drakeford Drive has been strawed and mulched but there is not enough germination to justify submission.
- On the weir side of Drakeford Drive and Athlon Drive the tracks have been ripped, but not rock picked, seeded or strawed and not ready for submission.
- Still ongoing weed management required on both sides.

Also, please see below comments from Rhys for the southern wetland. Can you please discuss it with Able?

Southern Wetland:

- A majority of the plants have established to a size that would allow the water level to be raised another 100-150mm.
- Ensure that the terrestrial/peninsula zones are being adequately watered to ensure positive growth.
- It does not appear to have been irrigated recently. Quite dry outside of edges.
- Rocla wall edge plantings previously identified are still not at full density. Re-plant and reach density before the end of growing season.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



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ACT
Government

Chief Minister, Treasury and
Economic Development



CIVIL ENGINEERING CONTRACTORS

A.C.N. 008 462 548

A.B.N. 85 008 462 548

Progress Meeting No 51 - 01 Apr 2019

ISABELLA WEIR AND WETLANDS PROJECT

Contract № 2017.22501.30

Meeting Time: Commenced 8:00 am and Concluded 09:10 am.

Venue: TCCS Office, Emu Bank, Belconnen

MEETING MINUTES

Draft subject to confirmation by next meeting.

ACT Client, PES and SMEC Attendees	Guideline Attendees
Sch 2 2.2(a)(ii) [PES];	Sch 2 2.2(a)(ii) – Project Manager – CAP
Stuart Oxborrow (SO) [TCCS]	
Sch 2 2.2(a)(ii) [TCCS];	
Kim Harris (KH) [IFCW]	
Nick Taylor (NT) [IFCW];	
Apologies: Michael McGrath (MM) [TCCS]	


Attachments:

Item	Description	Action	By (Date)
1.	Previous Minutes / GC21 Matters		
1.1.	Acceptance ○ The previous minutes were accepted.	Y	
2.	Safety		
2.1.	Incident Register (includes safety and miscellaneous incidents) ○ Nil.		
2.2.	Monthly WH&S Report ○ Guideline ACT's (GLA) monthly WH&S report for each past month is to be forwarded to PAP and KH by the 8 th day of the following month. The next report to be submitted to PAP and KH on 7 April 2019. ○ GLA to continue to report the WH&S records until the placement of soft landscape onto consolidation. During the consolidation period, GLA to maintain onsite incident and safety register.	Note Note	Ongoing
2.3.	Safety Systems		

Item	Description	Action	By (Date)
	<ul style="list-style-type: none"> ○ GLA to secure bird nets and check them regularly. ○ [Redacted] to carry out monthly safety walkthrough until completion of the landscape of both the wetlands and the Weir off consolidation. ○ GLA to ensure that they have necessary SWMS available specifically Working At Height, dealing with cracks repair works and working in the wetlands. SWMS records to be kept. 	<p>[Redacted]</p> <p>Note</p>	<p>Ongoing</p> <p>Ongoing</p>
3.	Progress of Works.		
3.1.	<p>Landscape</p> <ul style="list-style-type: none"> ○ Dryland grassing completed around the Weir but not on consolidation. ○ Following completion of earlier dryland grassing around the Weir, separate WAE drawings were submitted by GLA for review on 5 March 2019. – <i>Post Meeting Note: WAE drawings were reviewed and forwarded to TCCS on 5 April. Formal submission acknowledged by TCCS on 24 April.</i> ○ Dryland grassing being reworked in areas where early grass seeding has not germinated. Most of access tracks on entire site and batters on both side of the Weir being reshaped by GLA. ○ Mowing of dryland grass was done in the week commencing 25 March. Initial inspection has been carried out by [Redacted] from ELD and Joel Kelly on 26 March. Joel Kelly advised dryland grass can only be placed on consolidation once 80% germination rate is achieved. ○ [Redacted] to inspect the dryland grass areas with [Redacted] today following re-seeding. ○ [Redacted] advised that old stockpile area has been fenced off and taken over by Bost Contractor where GLA had the area re-grassed. Bost Contractor have re-grassed the area as well. [Redacted] advised that GLA are no longer responsible for the area [Redacted] to send thru the photos. ○ Southern Wetland placed on consolidation commencing from 26 March 2019. [Redacted] to chase up the formal confirmation from Joel Kelly. ○ [Redacted] said hand pulling of weed is completed in the northern wetland. However, [Redacted] advised that weeds growth in northern wetland still needs to be controlled. GLA to monitor and action. ○ [Redacted] advised that northern wetland should have been ready last week. [Redacted] confirmed that northern wetland is behind the schedule. No works carried out on northern wetland during last week Wed and Thu last week. ○ GLA, PES and ELD to meet Joel Kelly today at Northern Wetland for pre-consolidation inspection. The expectation is northern wetland will be placed on consolidation one week after the re-planting is complete. ○ GLA to revise the landscape program and submit the status to all. ○ NT stressed the need for resources to monitor the progress to assure the wetlands are ready for consolidation commencement. ○ [Redacted] will make sure Able Landscape provide enough labourers available onsite. 	<p>Note</p> <p>[Redacted]</p> <p>Note</p> <p>Note</p> <p>[Redacted]</p> <p>Note</p> <p>Note</p> <p>[Redacted]</p> <p>Note</p> <p>Note</p> <p>[Redacted]</p> <p>Note</p> <p>Note</p>	<p>TBA</p> <p>1 Apr</p> <p>01 Apr</p>

Item	Description	Action	By (Date)
	<ul style="list-style-type: none"> ○ [Redacted] reiterated Joel's comment during pre-consolidation inspection that the contractor should focus on watering during early age of replanting. GLA still to provide water frequency and proposed irrigation management plan during maintenance period. ○ Enviro Links Design (ELD) to inspect the southern wetland once a week during early establishment of planting. 	<p>Note</p> <p>ELD</p>	
3.2.	<p>Post Completion Defect Works</p> <ul style="list-style-type: none"> ○ Possible low concrete cover issue at the northern labyrinth walls around cracks with the staining marks have been checked by SMEC on 21 Feb 2019. No issues identified. SMEC to confirm in writing that the concrete cover is suitable. ○ Initial crack remediation works undertaken by GLA have not been successful. ○ Following unsuccessful crack repairs, it was decided to carry out full crack assessment on both side of the walls. ○ A site inspection with GLA and SMEC was carried out on 22 March. SO circulated agreed actions by email on 22 March. ○ SMEC inspected the downstream side on 19 March. SMEC submitted the preliminary assessment report for the downstream side. SMEC engineers from Melbourne attended site on 26 March to inspect the crack remediation to confirm Thusitha's recommendations are the correct way forward. ○ No access to the upstream side yet. The water level on upstream side is being lowered. Inspection planned for later this week. ○ NT queried if there is a need to try another treatment or product. If new product is proposed, then the propose product and treatment should be approved by SMEC before it is implemented. ○ KH asked GLA to confirm the product and repair warranty. [Redacted] to find out if warranty is available. ○ It was suggested that GLA have representative from CE Industries on site to advise on correct application. ○ For repairs to the water stop at new to existing wall on upstream side, GLA proposed Sikadur product. SMEC to advise. ○ Agreed way forward with the cracks repair is - SMEC to map the downstream cracks and those cracks which require sealing based on the requirements of AS 3735 (i.e. sign of any leaks from the downstream side) to be repaired. SMEC to advise the client if any other cracks other than leaking to be repaired. SO advised that a similar inspection to be undertaken on the upstream side. SMEC to submit full crack assessment report once crack mapping completed on both sides of the walls. ○ GLA will propose the product and repair method once the report is submitted. Then SMEC will review and approve if acceptable. ○ Target to complete the crack repair works between before Easter 2019. ○ [Redacted] to advise when other post-completion defects will be completed. ○ Only door latches and the sharp edges of galvanised access ladder have been repaired. [Redacted] and [Redacted] to inspect. ○ [Redacted] believes high fill in a pond is not an issue. Digital model of aerial survey of earthwork has been requested by SO. If not available organise drone survey of the pond since the pond is 	<p>[Redacted]</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>SMEC</p> <p>[Redacted]</p>	<p>01 Apr</p> <p>TBA</p> <p>TBA</p>

Item	Description	Action	By (Date)
	<p>lowered. – Survey has been organised. [redacted] to forward pdf of survey.</p> <ul style="list-style-type: none"> ○ ACT Maintenance requested hand rail along the abutment wall of the Weir. – The Client has decided not to install the rail since people should not be encouraged to walk down the uneven rock surface. 	Note	
3.3.	<p>Icon Water – Watermain Installation</p> <ul style="list-style-type: none"> ○ [redacted] to check with ICON Water whether the valve across Drakeford Drive needs to be opened. ○ [redacted] to forward copy of Provisional Certificate to SO. 	[redacted]	01 Apr 01 Apr
3.4.	<p>WAE Records</p> <ul style="list-style-type: none"> ○ Test records for the Wetlands O&M have been forwarded to Alluvium for incorporation. SO to follow up Alluvium. ○ Grassing WAE to be submitted separately. – Joel Kelly is aware of documents. <i>Post meeting note: SP submitted WAE on 5 April.</i> 	Note Note	
4.	Construction Quality and Verification		
4.1.	<p>Contractor and PAP quality system in operation.</p> <ul style="list-style-type: none"> ○ SO confirmed that all SMEC design and certification has been received. John Sheldrick is reviewing. <p>Non-Conformance Reports</p> <ul style="list-style-type: none"> ○ No changes to the NCA register. ○ MM requested GLA submit NCR for repairs to cracks. – NCA outlining the repair methodology to be submitted and included as an addendum to the construction report. 	Note Note	TBA
4.2.	<p>RFIs</p> <ul style="list-style-type: none"> ○ Nil 		
4.3.	<p>Miscellaneous Completion Works</p> <ul style="list-style-type: none"> ○ Nil 		
5.	Environmental		
5.1.	<ul style="list-style-type: none"> ○ Nil environmental incidents. 		
5.2.	<p>Environmental Protection Authority</p> <ul style="list-style-type: none"> ○ Nil 	Note	
6.	Challenges and Issues		
6.1.	Nil		
7.	Program, Cashflow and Quantity Measurement		
7.1.	<p>Program and Cashflow</p> <ul style="list-style-type: none"> ○ The current Program is dated 25 July 2018 (Revision 15). ○ Below table is for Cost at Completion provides an estimate if there are no more substantial variations. However minimum contingency for variation is allowed for. 	Note Note	

Item	Description	Action	By (Date)																					
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7.2.	<p>Progress Claims</p> <ul style="list-style-type: none"> Currently no claim expected. 	Note																						
7.3.	<p>Contract Milestones</p> <ul style="list-style-type: none"> See Milestone table below which reflects resolution of EOT Claims 1 to 23. <table border="1"> <thead> <tr> <th>Milestone Number</th> <th>Milestone Completion Date at Contract Award 10 February 2017</th> <th>Milestone Date as amended by grant of EOT 23 (11 September 2018)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7-Apr-17</td> <td>27-Apr-17</td> </tr> <tr> <td>2</td> <td>19-May-17</td> <td>6-Jun-17</td> </tr> <tr> <td>3</td> <td>22-Jun-18</td> <td>27-Nov-18</td> </tr> <tr> <td>4</td> <td>21-Dec-18</td> <td>28-May-19</td> </tr> <tr> <td>5</td> <td>3-Nov-17</td> <td>5-Jul-18</td> </tr> <tr> <td>6</td> <td>4-May-18</td> <td>3-Jan-19</td> </tr> </tbody> </table> <ul style="list-style-type: none"> GLA's proposal to remove the 26 week consolidation period from Milestone 4 and 6 is accepted. It is agreed that 85% Completion undertaking has been released upon request from GLA. 	Milestone Number	Milestone Completion Date at Contract Award 10 February 2017	Milestone Date as amended by grant of EOT 23 (11 September 2018)	1	7-Apr-17	27-Apr-17	2	19-May-17	6-Jun-17	3	22-Jun-18	27-Nov-18	4	21-Dec-18	28-May-19	5	3-Nov-17	5-Jul-18	6	4-May-18	3-Jan-19	Note	
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5	3-Nov-17	5-Jul-18																						
6	4-May-18	3-Jan-19																						
8.	Extensions of Time																							
8.1.	<p>EOT Register</p> <ul style="list-style-type: none"> No outstanding issue. 																							
9.	Variations																							
9.1.	<p>Resolution Status</p> <ul style="list-style-type: none"> No issue. 																							
9.2.	<p>Additional Variations</p> <ul style="list-style-type: none"> No significant variations are expected. TCCS requested to secure the penstock valve in the wetlands. It was proposed to secure the penstock wheel with chain and lock.  to send through the sketch for chain and lock mechanism and price for approval 	Note																						
10.	Community and Media																							

Item	Description	Action	By (Date)
10.1.	Register of Community Communications <ul style="list-style-type: none"> ○ KH met the resident regarding complaint about damage to their property. KH has resolved the matter and close out with an email. 	Note	
11.	Regulatory Matters / Completion		
11.1.	Construction Report Timeline <ul style="list-style-type: none"> ○ The Regulatory Plan is being finalised by PES 		
11.2.	Completion Amount <ul style="list-style-type: none"> ○ The PAP letter regarding the return of the Completion Amount revised letter has been re-issued confirming when Completion Amount can be released. ○ \$ 200,000 of the Completion Amount has been returned to date. Final \$100,000 will be returned once the landscape is on to consolidation (i.e. Milestone 4 and 6 is complete). 	Note Note	
12.	Staffing and Resources		
12.1.	Leave <ul style="list-style-type: none"> ○ MM – on leave from 28 Mar 2019 ○ Sch 2 2.2(a)(ii) from SEMC is on sick leave for 3 weeks. ○ KH – on leave on 26 April ○ GLA – Shutdown for Easter from 19 April and back on 29 April. 		
13.	General Business		
13.1.	Reinforcing Steel Quantities <ul style="list-style-type: none"> ○ ACT Government has engaged a consultant to review reinforcing steel quantities estimated and actual. ○ Awaiting Sch 2 2.2(a)(ii) final assessment of steel quantities. Once assessment is received results to be provided to GLA. A meeting will be held with GLA if needed. ○ Meeting concluded at 09:10 am. 	Note Note	
14.	Next Meeting: Continue northern wetland is placed on consolidation. The next meeting suggested in second week of May -2019. A date to be advised.		

Minutes taken by: Sch 2 2.2(a)(ii) Draft Minutes issued: 01 May 2019 Distribution: Those listed above and as needed	Guideline documents: Client documents:
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Progress Meeting No 52 - 14 May 2019

ISABELLA WEIR AND WETLANDS PROJECT

Contract № 2017.22501.30

Meeting Time: Commenced 01:30 pm and Concluded 02:25 pm.

Venue: TCCS Office, Emu Bank, Belconnen

MEETING MINUTES

Draft subject to confirmation by next meeting.

ACT Client, PES and SMEC Attendees	Guideline Attendees
Sch 2 2.2(a)(ii) [PES];	Sch 2 2.2(a)(ii) – Project Manager – CAP
Stuart Oxborrow (SO) [TCCS]	
Sch 2 2.2(a)(ii) [TCCS];	
Kim Harris (KH) [IFCW]	
Nick Taylor (NT) [IFCW];	
Sch 2 2.2(a)(ii) [PES]	
Apologies: Michael McGrath (MM) [TCCS]	

Attachments:

Item	Description	Action	By (Date)
1.	Previous Minutes / GC21 Matters		
1.1.	Acceptance ○ The previous minutes were accepted.	Y	
2.	Safety		
2.1.	Incident Register (includes safety and miscellaneous incidents) ○ Nil.		
2.2.	Monthly WH&S Report ○ Guideline ACT's (GLA) monthly WH&S report for each past month is to be forwarded to PAP and KH by the 8 th day of the following month. The next report to be submitted to PAP and KH on 7 June 2019. ○ GLA to continue to report the WH&S records until the placement of soft landscape onto consolidation. During the consolidation period, GLA to maintain onsite incident and safety register.	Note Note	Ongoing
2.3.	Safety Systems		

Item	Description	Action	By (Date)
	<ul style="list-style-type: none"> ○ ^{Sch 2.2.1} to carry out monthly safety walkthrough until completion of the landscape of both the wetlands and the Weir off consolidation. – Next safety site Walkthrough has been booked on 15 May 2019. ○ GLA to ensure that they have necessary SWMS available specifically Working At Height, dealing with cracks repair works and working in the wetlands. SWMS records to be kept. ○ Bird Nets – Gaps had been left open around the edges at some locations to allow ducks to escape. No records and evidence of any birds/ducks caught recently since the opening of bird netting. 	<p>^{Sch 2.2.1}</p> <p>^{Sch 2.2.2(a)(ii)}</p> <p>Note</p> <p>Note</p>	<p>Ongoing</p> <p>15-May</p>
3.	Progress of Works.		
3.1.	<p>Landscape</p> <ul style="list-style-type: none"> ○ Dryland grassing completed around the Weir but not on consolidation. The dryland grass can only be placed on consolidation once 80% germination rate is achieved. ○ ^{Sch 2.2.1} advised 80% coverage had been achieved ^{Sch 2.2.1} to inspect the dryland grass areas and confirm whether it is ready for pre-consolidation inspection. The inspection is independent to the Wetland consolidation. ○ Four joint inspections with TCCS had been carried out to date on the Northern Wetland. The Northern Wetland was not placed on consolidation so far because of the defects identified previously are constantly reoccurring on each inspection. ○ ELD, TCCS (Joel Kelly) and ^{Sch 2.2.1} inspected the Northern Wetland on the readiness of the Northern Wetland. This inspection was to discuss some of ongoing problems whether that can be dealt with defects and be rectified in 26 weeks maintenance period. e.g., ongoing weeding and some of the replanting in the sediment pond that had been identified as a dead and some of the plants are struggling to survive. GLA wishes to get Joel's opinion on those plants. ○ Joel Kelly believed that the new planting along the Rocla Wall is dying. Mainly in the Sediment Pond and the basin next to the Sediment Pond. ○ NT asked ^{Sch 2.2.1} and ^{Sch 2.2.1} to check the specification requirements regarding the placement of plantings onto consolidation. And provide confirmation to all within next 48 hours. 	<p>Note</p> <p>^{Sch 2.2.1}</p> <p>Note</p> <p>Note</p> <p>Note</p> <p>^{Sch 2.2.2(a)(ii)}</p>	<p>16 May</p>
3.2.	<p>Post Completion Defect Works</p> <ul style="list-style-type: none"> ○ ^{Sch 2.2.1} to check low concrete cover in wall is no longer an issue with SMEC – <i>Post Meeting Note: SMEC confirmed in a meeting on 19 March 2019. It was recorded in notes of the meeting issued on 19 March 2019.</i> ○ A meeting was held on 02 May to discuss the defects. i.e. SMEC's crack mapping report and its possible rectification. ○ ^{Sch 2.2.1} was asked to provide a method statement, proposed products and details of specialist applicators for review and approval following to the meeting on 02 May. 	<p>^{Sch 2.2.1}</p> <p>Note</p> <p>Note</p>	<p>15 May</p>

Item	Description	Action	By (Date)
	<ul style="list-style-type: none"> ○ Isabella Weir water stop joints repair sketch had been provided by SMEC on 7 May confirming the details of the joint repair method and each layer of protective measures. ○ The work method was submitted by GLA on 10 May and it is forwarded to SMEC for their review and endorsement on 10 May 2019. ○ The Crack Report suggested that a two-stage injection process be undertaken from the upstream side as well as an additional protective measure in the form of membrane and aluminium cover plate. SO to check with SMEC if all layers of protection are essential or they are desirable. ○ [Sch 2.2.] was requested to provide a price for aluminium/stainless strip as suggested in SMEC's report and the sketch provided. It was also requested to provide the lineal meter rate for supply and install the strips at a different height. ○ Target to complete the crack repair works between by mid- July 2019 and dewatering the Isabella pond two weeks before the commencement date of the crack repair (around mid-June 2019.) ○ In relation to other defects, door latches and the sharp edges of galvanised access ladder have been repaired. However, the bolts on the base of the ladder in a wet well still to be repaired. MT to action. ○ KH attended the meeting with Tuggeranong community Council. KH advised the Council that the pond required lowering again in Mid-June 2019 for regular inspection of the Weir. ○ SO confirmed TCCS's Communication Team had been advised of repair works to the walls. 	<p>Note</p> <p>Note</p> <p>SO</p> <p>[Sch 2.2.]</p> <p>Note</p> <p>[Sch 2.2.]</p> <p>Note</p> <p>Note</p>	
3.3.	<p>Icon Water – Watermain Installation</p> <ul style="list-style-type: none"> ○ GLA has paid ICON Water to operate the Valve across Drakeford Drive that needs to be opened. [Sch 2.2.] had already communicated with [Sch 2.2.2(a)(ii)] to open the Valve. ○ ICON Water wants missing Fire Hydrant marker installed on the kerb on the Northern Side of the Weir. [Sch 2.2.] will install at 1m offset from the FH location. 	<p>Note</p> <p>[Sch 2.2.]</p>	
3.4.	<p>WAE Records</p> <ul style="list-style-type: none"> ○ WAE for the Weir: My Nguyen requested Asset Description Form for the Weir's WAE records. [Sch 2.2.] provided copy on 13 May and had been forwarded to My. My will advise if further information required. 	<p>Note</p>	
4.	<p>Construction Quality and Verification</p>		
4.1.	<p>Contractor and PAP quality system in operation.</p> <ul style="list-style-type: none"> ○ SO confirmed that all SMEC design and certification has been received. [Sch 2.2.2(a)(ii)] is reviewing. <p>Non-Conformance Reports</p> <ul style="list-style-type: none"> ○ No changes to the NCA register. ○ NT requested GLA to submit NCR for repairs to cracks. – NCA outlining the repair methodology to be submitted and to be included as on addendum to the construction report. ○ PES to provide full time supervision during crack repair works. 	<p>Note</p> <p>[Sch 2.2.]</p> <p>Note</p>	<p>TBA</p>

Item	Description	Action	By (Date)																					
4.2.	RFIs ○ Nil																							
4.3.	Miscellaneous Completion Works ○ Nil																							
5.	Environmental																							
5.1.	○ Nil environmental incidents.																							
5.2.	Environmental Protection Authority ○ Nil	Note																						
6.	Challenges and Issues																							
6.1.	Nil																							
7.	Program, Cashflow and Quantity Measurement																							
7.1.	<p>Program and Cashflow</p> <ul style="list-style-type: none"> ○ The current Program is dated 25 July 2018 (Revision 15). ○ Below table is for Cost at Completion provides an estimate if there are no more substantial variations. However minimum contingency for variation is allowed for. <table border="1"> <thead> <tr> <th></th> <th>Exc. GST (FCAC)</th> <th>Exc. GST (FCTC)</th> </tr> </thead> <tbody> <tr> <td>Total of Schedule of Rate Claimed Until Nov 2018</td> <td>\$13,067,831.38</td> <td></td> </tr> <tr> <td>Variations up to Nov 2018</td> <td>\$1,257,020.66</td> <td></td> </tr> <tr> <td>Completion Amount</td> <td>\$0.00</td> <td>\$100,000.00</td> </tr> <tr> <td>Outstanding to claim for Consolidation</td> <td>\$38,396.80</td> <td>\$38,396.80</td> </tr> <tr> <td>Contingency for Variation</td> <td>\$16,000.00</td> <td>\$16,000.00</td> </tr> <tr> <td>Total Forecast Cost at Completion</td> <td>\$14,379,248.84</td> <td>\$154,396.80</td> </tr> </tbody> </table>		Exc. GST (FCAC)	Exc. GST (FCTC)	Total of Schedule of Rate Claimed Until Nov 2018	\$13,067,831.38		Variations up to Nov 2018	\$1,257,020.66		Completion Amount	\$0.00	\$100,000.00	Outstanding to claim for Consolidation	\$38,396.80	\$38,396.80	Contingency for Variation	\$16,000.00	\$16,000.00	Total Forecast Cost at Completion	\$14,379,248.84	\$154,396.80	Note Note	
	Exc. GST (FCAC)	Exc. GST (FCTC)																						
Total of Schedule of Rate Claimed Until Nov 2018	\$13,067,831.38																							
Variations up to Nov 2018	\$1,257,020.66																							
Completion Amount	\$0.00	\$100,000.00																						
Outstanding to claim for Consolidation	\$38,396.80	\$38,396.80																						
Contingency for Variation	\$16,000.00	\$16,000.00																						
Total Forecast Cost at Completion	\$14,379,248.84	\$154,396.80																						
7.2.	Progress Claims ○ Currently no claim expected.	Note																						
7.3.	<p>Contract Milestones</p> <ul style="list-style-type: none"> ○ See Milestone table below which reflects resolution of EOT Claims 1 to 23. <table border="1"> <thead> <tr> <th>Milestone Number</th> <th>Milestone Completion Date at Contract Award 10 February 2017</th> <th>Milestone Date as amended by grant of EOT 23 (11 September 2018)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7-Apr-17</td> <td>27-Apr-17</td> </tr> <tr> <td>2</td> <td>19-May-17</td> <td>6-Jun-17</td> </tr> <tr> <td>3</td> <td>22-Jun-18</td> <td>27-Nov-18</td> </tr> <tr> <td>4</td> <td>21-Dec-18</td> <td>28-May-19</td> </tr> <tr> <td>5</td> <td>3-Nov-17</td> <td>5-Jul-18</td> </tr> <tr> <td>6</td> <td>4-May-18</td> <td>3-Jan-19</td> </tr> </tbody> </table>	Milestone Number	Milestone Completion Date at Contract Award 10 February 2017	Milestone Date as amended by grant of EOT 23 (11 September 2018)	1	7-Apr-17	27-Apr-17	2	19-May-17	6-Jun-17	3	22-Jun-18	27-Nov-18	4	21-Dec-18	28-May-19	5	3-Nov-17	5-Jul-18	6	4-May-18	3-Jan-19	Note	
Milestone Number	Milestone Completion Date at Contract Award 10 February 2017	Milestone Date as amended by grant of EOT 23 (11 September 2018)																						
1	7-Apr-17	27-Apr-17																						
2	19-May-17	6-Jun-17																						
3	22-Jun-18	27-Nov-18																						
4	21-Dec-18	28-May-19																						
5	3-Nov-17	5-Jul-18																						
6	4-May-18	3-Jan-19																						

Item	Description	Action	By (Date)
8.	Extensions of Time		
8.1.	EOT Register <ul style="list-style-type: none"> No outstanding issue. 		
9.	Variations		
9.1.	Resolution Status <ul style="list-style-type: none"> No issue. 		
9.2.	Additional Variations <ul style="list-style-type: none"> TCCS requested to secure the penstock valve in the wetlands. Sch 2 2.2 to submit formal VO for securing the penstock wheel with chain and lock. The existing timer log creating the soil scouring at the Northern Wetland near the V-notch weir wall. TCCS asked to remove the timber log and reinstate the hole with topsoil. MT to price option for Eco Log and option to cut the existing timber log and remove. 	Sch 2 2.2 Sch 2 2.2	
10.	Community and Media		
10.1.	Register of Community Communications <ul style="list-style-type: none"> Nil to add. 		
11.	Regulatory Matters / Completion		
11.1.	Construction Report Timeline <ul style="list-style-type: none"> The Regulatory Plan is being finalised by PES. 	Sch	
11.2.	Completion Amount <ul style="list-style-type: none"> The PAP letter regarding the return of the Completion Amount revised letter has been re-issued confirming when Completion Amount can be released. \$ 200,000 of the Completion Amount has been returned to date. Final \$100,000 will be returned once the landscape is on to consolidation (i.e. Milestone 4 and 6 is complete). 	Note Note	
12.	Staffing and Resources		
12.1.	Leave <ul style="list-style-type: none"> MMc is back from leave. Sch 2 on leave – 21 June – 5 July 		
13.	General Business		
13.1.	Reinforcing Steel Quantities <ul style="list-style-type: none"> Review of Steel Quantity completed by the Sch 2 2.2(a)(ii) Sch 2 2.2(a)(i) to discuss the steel quantities with SO. A meeting will be held with GLA as required. SO confirmed no action required by PES on this matter. No input requires from PES. Meeting concluded at 02:25 pm. 	Note Note	
14.	Next Meeting:		

Item	Description	Action	By (Date)
	The next meeting suggested in four weeks time unless the Northern Wetland is placed on consolidation.		

Minutes taken by: Sch 2 2.2(a)(ii) Draft Minutes issued: 20 May 2019 Distribution: Those listed above and as needed	Guideline documents: Client documents:
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From: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Sent: 14/05/2019 11:09 PM
To: "Harris, KimM" <KimM.Harris@act.gov.au>
Cc: "Taylor, Nick" <Nick.Taylor@act.gov.au>; "Sch 2 2.2(a)(ii) [REDACTED]@pes.net.au"; "McGrath, Michael" <Michael.McGrath@act.gov.au>
Subject: Isabella Wetlands - consolidation
Attachments: Landscaping spec IW.pdf

UNCLASSIFIED

Kim,

Attached is the landscaping specification for the Isabella Wetlands. The requirements leading up to, during and after consolidation is covered in Section 9.11. "Placing Works on Consolidation" is specifically covered in Section 9.11.2. Essentially it says the landscaping works shall be "fully completed", in a "healthy state" with "full design plant numbers" for placement onto consolidation.

This should be read in conjunction with the ACT Standard Spec – Section 9, Landscaping.

Can you please confirm with Joel that this is the Specification he is using for assessment of placing the Isabella Wetlands onto consolidation.

Regards,

Stuart Oxborrow | Senior Engineer – Land Release Infrastructure
Phone 02 6207 4502 | Mobile 0401 333 179 | Email: stuart.oxborrow@act.gov.au
Infrastructure Delivery, Transport Canberra and City Services Directorate | ACT Government
GPO Box 158, Canberra ACT 2601 | www.act.gov.au

SECTION 9: LANDSCAPE – WETLAND PART OF PROJECT

9.05 TOPSOILING

9.05.2 Topsoil Quality

ADD

Results of topsoil quality testing shall be submitted to the PAP for approval at least 7 working days prior to the delivery of any imported topsoil or of the use of existing site-won topsoil. If directed by the PAP, the Contractor shall undertake post-placement testing to ensure compliance with the specification. The cost of remediation to rectify any non-compliance shall be borne by the Contractor.

DELETE Hold Point 9.6

SUBSTITUTE

HOLD POINT 9.6	
Process Held:	Supply of topsoil Type 'A', 'B', 'S', and tree planting soil.
Submission Details:	At least seven (7) working day prior to the supply of Type Type 'A', 'B', 'S' and tree planting soil, the Contractor shall provide certificates from a NATA registered or approved non NATA registered laboratory for mechanical analysis, pH, soluble salt, hydraulic conductivity and water holding tests.
Release of Hold Point:	The PAP will review the submitted documents and may request further documentation and/or test certificates prior to releasing the Hold Point.

Table 9.2 – Subsection Type “C” Topsoil

ADD

Total dissolved salts should not exceed 120 ppm in a 1:5 ratio of soil to water.

9.05.3 Subgrade Preparation

ADD

Amendments to topsoil:

Site or imported topsoil for use beneath macrophyte planting zones shall be amended to assist macrophyte growth and encourage deep rooting. When subgrade level is reached, and prior to placement of 150mm topsoil layer, the Contractor shall spread an even layer of gypsum, blood & bone and a 60mm layer of topsoil. This layer shall be lightly cultivated with the top 50mm of subgrade material to the satisfaction of the PAP. After cultivation, the remaining 90mm of topsoil may be placed to form a total topsoil depth of 150mm. Topsoil amendments shall be spread at the following rates:

- Gypsum at 50kg/100m² (5 tonne / ha) in accordance with 9.05.6.9 below.
- Blood & Bone equal to Yates at 10 kg/100m² (1 tonne / hectare (ha))

ADD

No topsoil shall be worked in the wet, due to the propensity to compact under traffic.

9.05.4 Spreading

ADD

Topsoil is to be spread to the required depths and finished design levels. Surface of topsoil shall be finished free from humps or hollows.

(i) Grassland

- Areas to be seeded

DELETE first paragraph

SUBSTITUTE

Topsoil shall be placed and lightly compacted to the following consolidated depths.

- **Restorative dryland grassing** - 100mm of stockpiled site-won topsoil (Contractor to supply and place Type C topsoil at Contractor's expense wherever insufficient volume of suitable stockpiled site-won topsoil).

(ii) Planting Beds

ADD

Topsoil shall be placed and lightly compacted to the following consolidated depths.

- **Macrophyte and terrestrial planting bed from TED to 700mm below NWL - 150mm consolidated depth.**

All planter beds on the Isabella Ponds project shall be spade edged.

After spreading of the stockpiled topsoil and incorporation of amendments and before grassing / planting application, soil to be inspected and approved by the PAP.

HOLD POINT 9.14	
Process Held:	Grassing.
Submission Details:	At least seven (1) working day prior to grassing, the Contractor must notify the PAP that the surface will be ready for inspection.
Release of Hold Point:	The PAP will inspect the surface and may direct the removal of rocks or clumps and may direct the removal of sharp changes in finished surface height prior to releasing the Hold Point.

Avoid spreading of amendments when ground is saturated or when wind conditions will lead to aerial distribution of dust and particulates. Review prevailing climatic conditions and carry out any dust and erosion mitigation including by water truck to prevent nuisance and wind-blown distribution of soil and amendments.

The Contractor shall be responsibility for rectification of any defective areas where the specified depths of topsoil have not been achieved or where batters are at steeper than permissible grades.

9.05.6.9 Gypsum Addition to Subsoil

ADD

During subgrade preparation for grassed, turfed and planted areas, the Contractor shall allow for incorporation of gypsum in accordance with Clause 9.05.2. The subgrade shall be ripped or manually worked across the direction of slope to a depth of 300 mm and gypsum shall be spread at a rate of 50kg/100m² (5 tonne / ha). The Contractor shall ensure gypsum is distributed evenly to create a homogenous layer to a depth of 300mm

9.05.7 Frequency of Soil Testing

ADD

Where visible and distinct differences are apparent in stockpiled or imported soils, the Contractor shall take additional tests if directed by the PAP at the Contractor's expense.

9.06 GRASSING (RESTORATIVE)

9.06.1 Grass Seed

ADD

Unpaved areas disturbed by the Contractor in the course of delivering the contract Works shall be reinstated by spreading approved site-won topsoil equal to Type C topsoil to a consolidated depth of 100mm, cultivation, grassing and bitumen straw mulching, as specified in the Basic Specification for grassing.

If site stripped topsoil is unavailable, the Contractor shall allow at their cost for imported Type C topsoil as needed. This work shall be paid under pay item 906P2 – Restorative Topsoiling and Grassing to Disturbed Areas.

9.08 BITUMEN AND STRAW MULCHING

9.08.2 Materials

DELETE first and second paragraph

SUBSTITUTE

Vegetative mulch shall consist of chopped cereal straw over the entire seeded area. Under no circumstances will meadow hay be accepted. Vegetative mulch shall be free from noxious weeds and seeds.

9.09 PLANTING**9.09.1 (i) Supply of Plants by Contractor****ADD**

Native shrubs and ground covers shall be supplied by the Contractor in the sizes specified in the Planting Schedule. Only plants propagated and raised in the Canberra climatic region shall be incorporated into the Works and preferably sourced from plants endemic to the Canberra region (within a 50km radius of the ACT).

The macrophyte plantings (generally TED to NWL and below) are to have all plants propagated from plants endemic to the Canberra region and the nursery is to provide certification compliance of the provenance of each species origin.

HOLD POINT 9.9A	
Process Held:	Supply of Plants.
Submission Details:	At least 1 month from the Date of Contract, the Contractor must supply certification by a nursery that plants have been sourced or organised for propagation. The certification shall include the number and size of each species.
Release of Hold Point:	The PAP will inspect certification and may request further information prior to releasing the Hold Point.

Macrophytes are to be supplied as both:

- 550mm length x 55mm width strips equal to Wetland Flawra-Ej being an intermeshed root network holding together as a unified strip; and
- viro-tube stock

and installed as shown on Construction Drawings.

Specialist local suppliers of species include, but are not limited to:

- Warren Ganter Saunders Horticulturist ph 6154 4391 or 0418 641306;
- Provincial Plants (ph: 6262 6456);
- Hazlebrook Nursery (ph: 6297 2379);
- Yarralumla Nursery (ph: 6207 2447);
- Capital Landscapers / Seeds and Plants Australia (ph: 6247 7180).

Note that macrophytes (wetland plants) are generally specialist grown species, and not necessarily available at all nurseries.

If Flawra–Ej strips or equal are not available or only partly available, the Contractor may supply substitute container stock at the following ratios per Flawra–Ej:

- Virocells: 25 per Flawra–Ej
- Virotubes: 12 per Flawra–Ej

Note: Flawra-Ej have been proposed in the submerged marsh zone (350 – 700mm below NWL on a 1 in 3 slope) as taller plants are expected to show resilience to initial inundation compared to smaller Virotubes.

During establishment, macrophytes require some part of the foliage to be above water and often do not survive total inundation, especially if prolonged. Therefore if all macrophytes are not available in Flawra-Ej size, those macrophytes supplied in Flawra-Ej size shall be used preferentially for the submerged marsh zones.

The Contractor must provide Certification by a nursery(s) within 1 month of the Date of Contract certifying that all plants have been sourced or organised to be propagated. The Contractor shall include details of forward ordering for all species that require propagation, especially of endemic species and advise anticipated availability dates for each size specified. Certification by the nominated nurseries is to be repeated each 3 months until all plants are planted. The Contractor shall also advise what 'surplus' stock is available for replacement plants that may arise.

9.09.5 Planting

ADD

Label at least one plant in 100 of each species or variety with a durable name tag.

Preparation for Planting:

In areas of greater flow and potential erosion, the plantings are to be installed by placement into a planting medium covered with a hessian jute mat and anchored to the pond topsoil / capping layer with mild steel pins / staples. (Refer to specification 8.16.1).

Planting holes shall be minimum twice the container height and width. Each planting hole shall be backfilled with the excavated soil, a post-hydrate prepared course grain water gel such as Debco (or equivalent) and slow release (min. 12 month) Osmocote (or equivalent) mix at the rates per plant nominated in Section 9.09.8.

For mixed planting groups, generally plant in 'flowing' shapes of the one species in groups of 40 to 120 No. Virotubes of the species so dominant zones can establish. If smaller stock is used, adapt the numbers to suit the nominated ratios.

ADD**Planting works survival monitoring and replacement:**

All plants shall be continually monitored by the Contractor and replaced within 3 weeks should they be missing, damaged or die during the construction period. This monitoring shall continue through to end of consolidation period. Similarly replant any plants or planting areas as directed by the PAP or Landscape Architect within 3 weeks.

The planting works shall be inspected every three months as a more detailed inspection jointly by the Landscape Architect, PAP and Contractor. All planter beds and spot plantings will be assessed for any dead or missing plants. Selective counting will be done to confirm, in detail, what plant replacements are required. The numbers and species to be replaced in any area shall be noted. The Contractor shall replace all dead or missing plants within three weeks of the inspection, certify that they have been done. Plant replacements will be verified by the Landscape Architect and / or the PAP either immediately or at the next scheduled inspection.

Interim inspections on a 4 week regime will focus on the more visually apparent missing plants and where past inspections have noted the need for replacements so as to undertake a targeted efficient replacement program.

Contract Survival Ratio of 100% of terrestrial and ephemeral species plantings:

Terrestrial species plantings including the Carex, Juncus, Montia and others etc, are expected to be survive at 100% of the design numbers at handover.

Contract Survival Ratio of 80% of macrophyte plantings:

Planting shall extend over the full area specified on the construction drawings. The density may be varied with the written approval of the PAP.

Planting zones will be divided up into planting groups as agreed with the PAP prior to commencement of planting. These planting groups will form the basis of assessing the survival ratio. Planting groups may be defined as each line item in the plant schedule.

After completion of planting of each planting group, the PAP may count select areas and undertake random spacing density verification sample plots. The PAP may direct the Contractor to provide a full certified count of all groups which will then be selectively verified by the PAP, in the presence of the Contractor. A survival ratio of greater than 80% will be acceptable for each planting group. If any planting group experiences a survival ratio of less than 80%, the Contractor must reinstate all missing, dead or damaged plants in that planting area. Replacement plants are to be planted within 3 weeks of the identification of any deaths and at least 6 weeks prior to Handover unless otherwise agreed by the Superintendent.

Macrophyte plantings naturally expand their coverage of a site by rhizome spread, seed germination, etc, fairly effectively if there is suitable water depth, moisture and no adverse competition. Similarly they can retract over time in adverse periods. Due to the natural self-regenerating capability, total survival of all plantings is not essential.

The agreed minimum 80% survival ratio is provided to assist Contractor competitiveness and lessen Contractor risk with any replacement works for the macrophyte plantings. (This ratio is not applicable to the above Normal Water Level (NWL) ephemeral or terrestrial macrophyte species plantings including the Carex, Juncus etc. where 100% survival at handover is required under this Contract).

9.09.8 Backfilling

ADD

Each planting hole is to be backfilled with the excavated soil and a post-hydrate prepared course grain water gel e.g. Debco or similar and slow release (min.12 month) OSMOCOTE®PLUS native gardens (or equal approved slow-release fertiliser with NPK of 17:1.6:8.7) at the following rates per plant:

- Viro tubes, Forestry or Landscape Tubes: 50 mls water crystals (hydrated) and 2 gms slow release fertilizer
- Flawra-Ej strips: 250 mls water crystals (hydrated) and 10 gms slow release fertilizer.
- Viro cells, if approved use with corresponding increased density: 25 mls water crystals (hydrated) and 1 gms slow release fertilizer.

The water gel is to be pre-prepared with the water added prior to placing in the planting hole backfill to avoid expanding and forcing the plant out of the hole. The slow release fertilizer can be mixed through with the water crystals prior to adding water to assist an effective distribution.

Water gel may be omitted, at Contractor risk and only if the Contractor's strategy is to maintain moist or inundated subgrades through careful water level management.

If field checking by the PAP identifies that the water gel and/or slow-release fertiliser was not included in the backfill at the time of planting, in either the original plantings or any replacement plantings, the Contractor shall excavate three small holes around each plant in the planting group to a depth of 100mm. The water gel/fertiliser rates specified for each plant shall be evenly distributed to each of the three holes per plant, except where the Contractor can provide evidence of prior correct placement.

ADD

9.09.13 Macrophyte Planting Root Zone Moisture Levels:

Macrophytes generally require a moist root zone to sustain good health and growth in their establishment phase. Planting into a friable medium and the provision of water gels as specified under the Contract will generally assist this outcome.

The Contractor shall allow for the costs associated with supply of water, including if applicable the cost to organise and pay any applicable fees for a Water Abstraction Licence to utilise pond water. The Contractor shall allow for all pumping equipment, tanker or other permitted water supply cost, manual hose operational and temporary irrigation spraying application works necessary to maintain a suitable moisture level in the root zone to sustain health and growth of the all plantings either below or above NWL as applicable. These costs shall be deemed to be included in the rates generally.

The Contractor shall be responsible for the watering of all plants to sustain root zone moisture levels to approval when necessary.

9.10 MULCHING

9.10.2 Materials

ADD

Install tub-ground or other wood chipper waste mulch to all planter bed areas outside the pond area as indicated on the Construction Drawings. At Isabella Ponds this is limited to the select plants around the Rock Viewing Platform. Wood mulch is not required in any Coir – 9 jute matting areas or where subject to water inundation by pond rising water.

Mulch is to be free of soil, stones, metal, plastic, wires and other extraneous matter and be neither fresh nor rotten. Mulch shall not contain more than 5% fines in accordance with Australian Standards to limit ease of weed germination and possible weed source. Clean wood mulch shall be accepted, forest litter or garden mulch will not be accepted. The Contractor shall submit samples of mulch material to the PAP for approval, at least 3 days prior to placement of orders. The Contractor is to reject any deliveries which do not meet the nominated standard. Any mulch spread onsite that does not meet this standard shall be replaced at the Contractor's expense.

Mulch is to be spread to a min. 125mm depth so that after settling the mulch is not less than 100mm in consolidated depth, except localised diminishing towards the plant stem so that mulch is not in contact with the plant. The Contractor must allow for multiple 'top ups' of mulch for the entire construction period and Consolidation period so as to always maintain the consolidated depth of 100mm. The consolidated depth may be audited by the PAP at any time. Defective areas identified by the PAP must be rectified within 2 weeks.

9.11 CONSOLIDATION

9.11.1 General

DELETE entire clause

SUBSTITUTE

Provide continuous care and maintenance of the Contract area by horticultural practices regardless of the time of year or inclement weather and rectify any defects.

Consolidation includes all maintenance post construction from formal 'placement on consolidation' is awarded by TCCS to handover of the Works to TCCS. The date of acceptance of 'placement on consolidation' by TCCS marks the formal commencement of this period.

The Contractor must allow in their consolidation rates for the necessary maintenance and rectification required between undertaking any completed landscape works and the formal placement on consolidation commencement by TCCS. If the consolidation period extends beyond the specified duration due to the Contractor not attaining Handover or not undertaking rectification works in a timely manner, the Contractor shall not be entitled to claim additional costs. Additional claims based on total number of weekly duration will not be accepted.

Consolidation periods:

A) Grassing works: Minimum Twenty Six (26) weeks

B) Planting works (macrophyte / terrestrial ephemeral planting and other planting):

Minimum Twenty Six (26) weeks.

The planting works shall be inspected every three months jointly by the PAP/Design Agent and the Contractor and all planter beds, spot planting assessed for any dead or missing plants. The numbers and species to be replaced in any area shall be noted. Monthly interim inspections will also be undertaken to identify areas of visually apparent missing plants. The Contractor shall replace all dead or missing plants within three weeks of the inspection and certify that they have been done.

6 weeks prior to scheduled Handover, all beds shall be counted to verify actual plant numbers and to ensure the accuracy of WAE records. If notable numbers of missing plants are identified by the PAP any later than 6 weeks prior to scheduled Final Handover then this date shall be prolonged to 6 weeks after all plants have been replaced and the costs associated with that this additional consolidation duration shall be at the Contractor's expense.

No survival percentage of direct seeded plants is specified on the basis that their self-regenerating capacity can infill gaps as an added insurance for the Contractors benefit as the Contractor needs to achieve a solid continuous coverage limiting access to the water's edge.

All civil works must achieve PC / Operational Acceptance prior to landscape works being lodged for Placement on consolidation.

The Contractor shall prepare a consolidation program prior to the commencement of consolidation. The program shall reflect seasonal requirements and detail all works required during consolidation and in particular:

- Restorative Grassing:
 - Intervals for fertilising, weed management and mowing of all grassing
 - over seeding or improvement to bare areas
 - periodic watering (subject to rainfall) for reinstatement /improvement zones (if applicable)
 - topdressing along path edges to ensure flush levels and topdressing to planter bed edges to ensure ease of mowing

- Planting (terrestrial):
 - Intervals for fertilising, watering, weed management and replacement planting of both waterway and planter bed areas. Assess monthly and replace all missing plants within 3 weeks.

- Water basins:
 - interval for monitoring and reinstating
 - basin effectiveness to hold min 20L of water
 - maintenance of required mulch depth

- Planting (macrophyte):
 - Intervals for weed management
 - replacement planting of macrophyte zones
 - indicative watering
 - assess monthly and replace within 3 weeks.

- Mulching:
 - Intervals (minimum 2 monthly) for monitoring mulch depth and topping up as necessary to maintain 100mm minimum consolidated depth
 - additional mulch to be of an approved woodchip, not forest litter due to its greater 'silt' content and quicker breakdown

- Litter:
 - interval for litter collection to maintain a presentable site
 - include clean up after each significant storm event

- Gravel paving:
 - interval for monitoring and repairing paths to ensure no hollows, washouts, trip points, etc

The Contractor shall submit the consolidation program to the PAP for approval. The PAP may request a revision if any aspects are considered inadequate. If work in accordance with an approved program proves ineffective, or if unexpected seasonal conditions are encountered, a revised program may be requested by the PAP to reflect the new requirements needed to ensure a successful consolidation strategy and handover.

9.11.2 Placing of Works on Consolidation

ADD

At the time of request for commencement of consolidation, the Contractor shall have:

- All landscape works and associated civil works fully completed, including all plantings in a healthy state and at full design plant numbers
- A dense, even sward of grassing at 80 to 90 percent coverage with no large bare areas to both PAP and TCCS approval

- provide the following in accordance with TaMS Reference Document 10 (the current revision at the Date of Contract)
 - A proposed maintenance program for the consolidation period for all tasks and with intervals that works will be undertaken in accordance with specified requirements or other seasonal acceptable strategies approved by the PAP
 - WAE drawing records in accordance with TaMS Reference Document 08 “Works as Executed Quality Records” including any variations to the design
 - Asset description forms
 - All other relevant documents pertaining to the landscape works listed in Attachment B, form PC1 of Ref 8 (i.e. keys, locks, Warranty Documents, Conformance Certificates, etc.)

9.11.3 Works during Consolidation

ADD

If replacements of dead plants do not occur at the intervals specified in this clause, the PAP may elect to prolong handover for up to 6 weeks after the last successful replanting is completed to ensure some surety of reasonable establishment and survival. This will extend the period of all associated project consolidation tasks. It is in the Contractor’s best interest to undertake all tasks in a timely and co-ordinated manner. If the PAP directs the consolidation period to be extended for the reasons above, it shall be at the Contractor’s expense and no additional claim will be accepted for the extended duration of consolidation.

Grassing shall be kept mown, maintained, weed free and reseeded as necessary to rectify all bare areas and any loss of sward. Irrespective of seasonal conditions, grassing at handover shall be in a continuous healthy and vigorous sward with no bare areas. Dryland grassing can reflect seasonal conditions and there is no expectation of a lush green colour due to either natural rain or watering at the time of handover but it must have the required sward cover. To ensure adequate swath, the Contractor should implement selective watering to key areas in order to maintain condition or assist restoration as required, to ensure handover target timelines.

In addition to the consolidation tasks specified in the ACT Standard Specification (Clauses 9.11.1 and 9.11.3), the Contractor shall also carry out the following tasks:

- Control weed growth continually throughout the consolidation period in all planter beds, grassing areas and spot planting basins, and in all adjoining areas within the nominated extent of works. This shall include all environmental and problem weeds (including Fleabane, Wire Weed and Mustard Weed) and general weeds nominated in the DUS Pest Management Guidelines December 2004 or later issues and the ‘Weeds Australia Database’.
- Maintain grass heights to the nominated height range of 40 – 75mm at all times.

- Tree pruning to meet AS 4373 – 2007 Pruning of Amenity Trees and TCCS Urban TreeScapes Unit requirements.
- Watering of dryland grass areas where necessary to encourage growth or vigour, particularly in poor condition areas or in selective areas being reinstated if there is insufficient natural rainfall.

9.11.4 Handover

ADD

The Contractor shall prepare Construction Quality Records including Work as Executed (WAE) drawings, test results summaries and asset lists in the format specified by Territory and Municipal Services Document Requirements for Work as Executed Quality Records, Issue 2 Revision 3, 1 July 2010 (TAMS Reference Document #08) showing the "as constructed/installed" construction elements, plant, equipment and the like and as required by the auditor to meet the requirements of the ACT Dam Safety Code (draft). The information shown shall include any variation to the contract drawings by coordinate or chainage and off-set of all constructed works including invert levels of pipes, ducts and conduits at all structures and terminations. The work as executed drawings are to be certified by a surveyor, registered in the ACT. The Contractor shall submit the number of copies required by the Contract in the same sheet size and standard drawing format as the Contract Drawings works.

The Contractor shall be supplied with a copy of the contract drawings in AUTOCAD 2006-2014 (DWG) format. The Contractor shall modify the drawings to indicate any variation from the original Contract Drawings to the as constructed condition.

The amendment issue of the drawings shall be modified by the Contractor so as to reflect the 'Work-as-Executed' status.

Prior to submitting a copy of the Work-as-Executed information to the Principal, the Contractor shall supply an A3 copy of the modified drawings for comment. The Contractor shall make any modifications 'marked up' by the Principal then submit a revised A3 copy of drawings and a digital copy (AUTOCAD 2004 format).

The endorsed Work-as-Executed documentation shall be incorporated into the construction report in accordance with Clause 0.11 – Construction Report of Part 1 of the Specifications.

ADD**9.14. WEED MANAGEMENT**

The entire landscaped area shall be made weed free by spraying with Glyphosphate Biactive at the Manufacturers written directions at least 10 days and preferably 14 days prior to placement of the matting, planting or mulch. The Contractor may apply approval to use alternative products and may only use such products if written approval has been issued by the PAP. Any weed spraying shall be carried out by efficient equipment in good order and condition by experienced operators. No spraying shall be permitted when rain is anticipated within 24 hours or when winds are greater than 5kms per hour to minimise spray drift. If rain occurs within 24 hours then the Contractor must respray at no additional cost to the Principal.

Follow up herbicide treatment or spot removal is to continue to the extent of all planting beds and dryland grassed areas. All other areas (including spoil and topsoil stockpiles) that are disturbed as a result of the Works shall be managed by the Contractor to effectively control weed infestations through to Consolidation. This shall include at a minimum, repeated weed spraying and/or spot removal. The PAP may conduct weed inspections at 2 month intervals. Should inspections reveal an unsatisfactory level or weed growth, the Contractor shall submit a remedial weed control strategy within 7 days to the satisfaction of the PAP.

Prior to any planting works commencing for all terrestrial / ephemeral / macrophyte planting zones, weeds shall be controlled by herbicide treatment and planter beds are to be maintained weed free.

Weeds to be sprayed and controlled shall include all environmental and problem weeds (plus Fleabane, Wire Weed and Mustard Weed) and general weeds nominated in the DUS Pest Management Guidelines December 2004 or later issue and the '**Weeds Australia Database**' <http://www.environment.gov.au/biodiversity/invasive/weeds/>. The chemicals and method of control shall be compliant with the DUS Guideline and Manufacturers written directions.

9.12 MEASUREMENT AND PAYMENT**Pay Item 905P1 Topsoiling**

DELETE Entire Pay Item

SUBSTITUTE**Pay Item 905P1 Topsoiling**

The unit of measure shall be the square meter area for the thickness of topsoil specified.

This pay item shall include the loading and carting of topsoil from site stockpiles, any pre-treatment of site-won topsoil, the supply of specified imported types of topsoil, placement and spreading to the specified depth. Where there is a shortage of site-won topsoil, the Contractor shall import Type S topsoil to make up the balance required.

This pay item shall include conformance testing of site topsoil and imported topsoil for particle size grading and other nominated conformance criteria in accordance with Clause 9.05.7.

This pay item shall also include the preparation of subgrades prior to placement of topsoil except for areas designated to receive topsoil amendments. Subgrade preparation for these areas shall be included in the pay item for addition of amendments.

There shall be separate pay items for each area of work and specified topsoil amendments as follows:

- 905P1.1 Topsoiling to Terrestrial/Ephemeral/Macrophyte Planting Zones Planter Beds to Depth of 150mm**
- 905P1.2 Topsoiling to Rock Viewing Platform Base of Rockwork Planting Surround to Depth of 150mm**
- 905P1.3 Incorporation of Topsoiling Amendments – Gypsum and Blood & Bone to Planter Beds as Specified**

ADD

Pay Item 9.06P2 Restoration Topsoiling and Grassing to Disturbed Areas

The unit of measurement shall be lump sum and shall cover the full scope of work outlined below.

Reinstate worn and other non-paved areas damaged by the Contractor with a minimum 100mm consolidated depth of site-won stockpiled topsoil (allow for any imported Type C for the balance if insufficient quantity of site-won topsoil). Topsoiled areas shall be dryland grassed (Seed Mix A or B) and bitumen/straw mulched.

This pay item shall include all works associated with topsoiling, weed management, cultivation, grassing and bitumen straw mulching and maintenance of all disturbed non paved areas in the project within the nominated site or to its adjoining access routes or works areas including supply of all materials as necessary, labour and site works.

ADD

Pay Item 9.09P1 Planting

The tendered rates for planting shall include certification by a nursery 1 month from the Date of Contract that plants have been sourced or organised for propagation. Confirmation shall include the species and number and size of each species. The rates shall include subsequent updates every 3 months on the status of plant supply until all plants are planted.

The rates for planting shall include the management of the pond level to maintain appropriate root zone moisture levels while minimising inundation damage. The rates shall include all approvals, permits and fees required for the use of water from Isabella Pond. The rates shall include temporary watering of plants that may be required until filling of the pond occurs or if planting and pond filling cannot be coordinated with the completion of the Weir part of the project.

Rates shall include Bidum pockets and topsoil addition to planting holes as specified.

The rate for planting shall include the supply and planting of the specified plants or their pro-rata substitutes at the nominated ratio, all setting out, excavation of the planting position, planting, fertiliser and water gel application, any temporary storage, the collection and disposal of all empty plant containers, and the replacement of all dead or missing plants.

For macrophyte planting below NWL, the agreed minimum survival ratio shall be 80% and is provided to assist Contractor competitiveness and lessen Contractor risk with any replacement works. (This ratio is not applicable to the above Normal water level (NWL) terrestrial and ephemeral macrophyte species plantings including the Carex, Juncus, Montia etc. where 100% survival at Handover is required under this Contract).

Note: If submerged marsh species are not readily available in Flawra-Ej size, the Contractor may substitute with a ratio of 12:1 viro tubes:Flawra-Ej.

There shall be separate pay items for separate areas of planting, as outlined below:

- 909P1.1 Low shrub species at rock viewing platform surround mulched bed (viro tubes)**
- 909P1.2 Rock viewing platform rocky batter select pocket planting (viro tubes)**
- 909P1.3 Terrestrial / ephemeral / shallow marsh / deep marsh macrophytes (viro tubes)**
- 909P1.4 Submerged marsh macrophytes (Flawra-Ej)**

Pay Item 911P1 Consolidation

DELETE first paragraph

SUBSTITUTE

This pay item shall include the preparation of an approved consolidation activities program, the continuous care and maintenance of the entire contract area, mulch top up, weed management, the replacement of dead or missing plants, continuous rectification of deficiencies and repair of damaged or declining grassing in accordance with Clause 9.11.3 – Works During Consolidation. This item shall include attendance at site meetings and inspections with the Principal and/or PAP and any other activities necessary to keep the site neat and tidy that will be needed to achieve consolidation & handover of the areas in accordance with the Contract and ACT Standard Specification.

This item shall include mowing and fertilising of all newly grassed areas.

Note: Macrophyte planting areas below NWL have only to sustain 80% survival in any specific planting group (except if noticeable bare areas) to achieve the approved density.

Separate pay items shall exist for the discrete work areas as outlined below:

- 911P1.1 Restorative grassed areas**
- 911P1.2 Planting - Terrestrial / ephemeral / macrophyte planter beds and spot plants**

ADD**Pay Item 9.11P2 Handover Including Work as Executed Drawings**

The unit of measurement shall be lump sum.

This pay item shall include all works associated with handover and the preparation of Works as Executed drawings for the Wetlands part of the Works.

This item shall include all site review of the Works; counting, measuring and noting necessary changes and amending the drawing files as required, including completion of Asset Description Forms and other required information in accordance with TaMS Reference Document 8 and Clause 9.11.4.

This item shall also include all work required for Operational Acceptance in accordance with TaMS Reference Document 7.

ADD**Pay Item 914P1 Site Weed Management**

The unit of measurement shall be lump sum.

This pay item shall include all works associated with herbicide treatment by glyphosate Biactive spraying in accordance with Clause 9.14, or alternative herbicides approved in writing by the PAP. This item shall include physical removal and follow up inspections to determine if weed growth is active including retreatment as necessary to maintain the site weed-free for the duration of the Contract until commencement of Consolidation.

This item shall include herbicide treatments and spot removals throughout the entire construction period (excluding Consolidation period) with compliance checks and rectification at two monthly intervals. Regular and ongoing program to all terrestrial / ephemeral / macrophyte planting zones maintaining the planting and grassing areas weed free to the satisfaction of the PAP.

9.13 SCHEDULE OF HOLD POINTS

ADD

Hold Point	Clause	Description
9.5	9.05.2	Spreading of stockpiled topsoil after soil testing
9.6	9.05.2	Supply of imported topsoil after soil testing
9.7	9.05.4	Spreading of topsoil to grass areas
9.8	9.05.4	Placement of topsoil within planter beds incl. mixing in of 50mm Type A
9.9A	9.09.1 (i)	Plants supply (incl. nursery certification 1 month from project Contract and then 3 month intervals)
9.9.2	9.09.5	Planting set out (planter beds and spot planting)
9.11	9.10.2	Supply of mulch
9.12	9.11.2	Placing the landscape works onto Consolidation
9.13	9.11.4	Handover of completed landscape works after Consolidation
9.14	9.05.3	Inspection prior to grassing

From: "McGrath, Michael" <Michael.McGrath@act.gov.au>
Sent: 16/05/2019 4:09 AM
To: "Taylor, Nick" <Nick.Taylor@act.gov.au>; "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>
Subject: FW: PPM_IW_Wetlands__v0.01 [SEC=UNCLASSIFIED]
Attachments: PPM_IW_Wetlands__v0.01.doc

UNCLASSIFIED

Nick

Copy of PPM unsigned attached.

Regards

Michael

From: Toomey, Richard
Sent: Sunday, 17 July 2016 1:59 PM
To: McGrath, Michael <Michael.McGrath@act.gov.au>; Crocker, Leigh <Leigh.Crocker@act.gov.au>
Subject: PPM_IW_Wetlands__v0.01 [SEC=UNCLASSIFIED]

Hello Michael/Leigh,

Attached for your review and comment is the first draft of the Procurement Plan Minute for the Isabelle Weir and Wetlands project.

Regards,
Richard.

Richard Toomey | Senior Project Officer
Phone [02 6207 3638](tel:0262073638) | Mobile [0466 403 641](tel:0466403641) | Email: richard.toomey@act.gov.au

Procurement and Capital Works | Chief Minister, Treasury and Economic Development Directorate | ACT Government
Level 3 Annex, Macarthur House, 12 Wattle Street Lyneham ACT 2602 | PO Box 818 Dickson ACT 2602 | www.act.gov.au

Procurement Plan Minute

PROCUREMENT OVERVIEW													
To	Glenn Lacey Director, Infrastructure and Capital Works Chief Minister, Treasury and Economic Development Directorate (CMTEDD)												
Name of Project	Isabella Weir Upgrade Construction and Wetland/Water Quality Improvement Construction Works												
Purpose	This minute seeks your agreement to the engage a suitably experienced and prequalified contractor to undertake construction of the Isabella Weir Upgrade (to meet the Dam safety Guidelines) and Wetland Area to (improve Water Quality) and all other works (associated infrastructure).												
Estimated value (\$)	\$19.1 Million excluding GST for construction including contingency and allowance for Work Health and Safety Audits, and Industrial Relations and Compliance audit.												
Timing/urgency	<p>The project is the joint Weir Upgrade and Water Quality Construction Project. The critical early works will commence in Feb 2017 and the construction works to commence in April 2017 to reduce the flood risk during construction.</p> <p>The Weir and Water Quality projects have been joined to take advantage of two aspects of the construction:</p> <ul style="list-style-type: none"> ○ Both projects require Isabella Pond to be drained for a nominal 12 month period; and ○ The sediment from the Weir Upgrade can be utilised in the construction of the proposed Wetland. Eliminating the need to remove the sediment from site. <p>Providing significant cost and time savings to both projects and the impact on the surrounding community, flora and wildlife.</p> <p>ACT Government funding of the water quality project also assists the ACT in securing \$85M Commonwealth Government grant for other water quality projects in the ACT and region.</p> <p>The urgency associated with the Isabella Weir upgrade is to meet the new Dam Safety Guidelines.</p> <p>Indicative timeframe:</p> <table border="0"> <tr> <td>RFT invites</td> <td>28 July 2016</td> </tr> <tr> <td>RFT Closes</td> <td>30Aug 2016</td> </tr> <tr> <td>Tender Evaluation</td> <td>Sep/Oct 2016</td> </tr> <tr> <td>Approval of Tender Evaluation Report</td> <td>Oct 2015</td> </tr> <tr> <td>Negotiations</td> <td>Nov 2016</td> </tr> <tr> <td>Contract Awarded</td> <td>Nov 2015</td> </tr> </table>	RFT invites	28 July 2016	RFT Closes	30Aug 2016	Tender Evaluation	Sep/Oct 2016	Approval of Tender Evaluation Report	Oct 2015	Negotiations	Nov 2016	Contract Awarded	Nov 2015
RFT invites	28 July 2016												
RFT Closes	30Aug 2016												
Tender Evaluation	Sep/Oct 2016												
Approval of Tender Evaluation Report	Oct 2015												
Negotiations	Nov 2016												
Contract Awarded	Nov 2015												

PROCUREMENT OVERVIEW	
	Debrief Unsuccessful Tenderers Dec 2015 (Note: timings are estimates and may change after the PPM is signed)
Tender Number	22501.330
Is Government Procurement Board sign off required?	Yes
Is ACT Government Solicitor (ACTGS) consultation required?	Not applicable
SME Opportunities Statement – Goods and Services only	Not applicable

Objective or scope of works or services to be provided	<p>The objective of this project is:</p> <ul style="list-style-type: none"> • The upgrading of the existing Isabella Weir from a 3 Cycle Labyrinth to a 5 Cycle Labyrinth; in order to comply with the ACT Dam Safety Guidelines, • Construction of a wetland area in order to improve water quality, and maximise recreational use of the Isabella Pond. <p>NB. (and all works associated with the above works)</p>
Type	Capital Works
Funding	<p>The Isabella Weir Upgrade Project was originally funded for \$10.1M.</p> <p>A business case has been supported for the construction of both the Isabella Weir and Wetland Water Quality Project.</p> <p>In the business case an additional allowance of \$5M was approved for the Weir Upgrade and a new allowance of \$4M for the Water Quality Project.</p>
Site	<p>Refer to the Site Map (Attachment C).</p> <p>The significant part of the work area is located within the Isabella and Stranger Pond perimeter.</p>
Consultation (including pre tender)	<p>There has been extensive public consultation conducted with the communities to be impacted by the works. Public consultation will continue throughout the critical phases of the works.</p> <p>EPD have also undertaken extensive consultation with the relevant ACT Government stakeholders for the entire Project.</p>

PROCUREMENT RISK	
Risk	Following application of risk controls all risks are rated 'Medium'. Risk Plan provided in Attachment D .

PROCUREMENT METHODOLOGY	
Description of the procurement method to be used	Open Request for Tender process.

PROCUREMENT METHODOLOGY	
Evaluation	Refer to Attachment A .
Is this suitable to be a Social Procurement?	No, this project is not suitable for Social Procurement This type of service (construction of civil works) can't be sourced from a 'social enterprise'.

EVALUATION TEAM			
Name	1. Richard Toomey	2. Leigh Crocker	3. Sri Tharan
Position	Chair	Member	Member
Agency	CMTEDD, Procurement and Capital Works, Civil Infrastructure	CMTEDD,ED Capital Works Coordination	CMTEDD, Procurement and Capital Works, Civil Infrastructure
Statement on team composition	All team members are experienced in tender evaluation and the project specific requirements.		

CONTRACT MANAGEMENT	
Number of contracts	One construction contract based on the ACT Government GC21 contract.
Contract management	By Procurement and Capital Works.
Period of contract(s)	Approximately 68 weeks to Completion including allowance for delays.

AUSTRALIAN FREE TRADE AGREEMENTS (FTAs)	
Does the AUSFTA / Australia-Chile FTA apply?	Not applicable. However, the CMTEDD Prequalified Civil Contractors Panel proposed to be utilised for this procurement was established in accordance with the Free Trade Agreement.

AUSTRALIAN GOVERNMENT FUNDING	
Is there Australian Government funding attached to the procurement?	Not applicable

EXEMPTIONS	
Exemption	Not applicable
Reason for Exemption	Not applicable

PROCUREMENT AND CAPITAL WORKS RECOMMENDATION			
Position	Name	Signature	Date
Project Officer	Richard Toomey		
Phone Number	02 6207 3638		/ /
Manager	Darren Smith		/ /
Director	Glenn Lacey		/ /
Executive Director	George Tomlins		/ /

AGENCY ENDORSEMENT			
Name	Michael McGrath	Phone Number	6207 1491
Position	Senior Program Manager, Capital Works, Economic Development, CMTEDD		
Signature		Date	/ /

DIRECTOR GENERAL/DELEGATE APPROVAL			
Name	Glenn Lacey		
Position	Director, Civil Infrastructure and Capital Works, CMTEDD		
Statement	The Procurement Plan and attachments are approved.		
Signature		Date	/ /

Attachments:

- A) Evaluation Plan
- B) Probity Plan
- C) Site Plan
- D) Risk Management Plan

ATTACHMENT A – EVALUATION PLAN

1. Introduction

This Evaluation Plan relates to the tender process to engage a suitably experienced and prequalified contractor to undertake construction of the Isabella Weir Upgrade (to meet the Dam safety Guidelines) and Wetland Area to (improve Water Quality) and all other works (*associated infrastructure*).

This plan details the Evaluation Team and its responsibilities, the evaluation methodology and the evaluation criteria by which offers received will be evaluated. The Request for Tender or other procurement/tender documents must include the evaluation criteria and methodology as set out herein.

The methodology for this procurement will be an open tender using the EDD Panel of Civil Contractors and the process will be undertaken in accordance with the Government Procurement Act, supporting regulation and the endorsed procurement plan.

2. Evaluation Team

The evaluation team detailed below has been formed to evaluate the responses to the tender.

All members of the evaluation team are aware of their responsibilities and obligation to demonstrate impartiality and equity to all respondents.

2.1 Role

The evaluation team will be responsible for:

- a) maintaining probity;
- b) evaluating the responses in accordance with the criteria and methodology;
- c) documenting the evaluation process;
- d) preparing an evaluation report;
- e) seek Director General or Delegate approval to proceed with a contract with the preferred respondent; and
- f) debriefing unsuccessful respondents

2.3 Members

Members of the evaluation team are personally appointed and should not be withdrawn or replaced without the approval of the Director General or Delegate.

Position	Name	Directorate
Chair	Richard Toomey	CMTEDD, Procurement and Capital Works, Civil Infrastructure
Member	Leigh Crocker	CMTEDD, Contract Engineer EDD
Member	Sri Tharan	CMTEDD, Procurement Capital Works, Civil Infrastructure

2.4 Specialist Advice and Support

The evaluation team may, as required, utilise specialist advice to assist in the evaluation process.

The areas of experience may include:

- a) technical analysis, including advice from Consultants and PCW Directors/Managers;
- b) past performance, including advice from officers within ACT Government
- c) financial assessment;
- d) assessment of the Work Health and Safety System;
- e) probity and technical procurement advice, including from the ACT Government Solicitor and PCW Directors/Managers (such advice may include, but not be limited to, technical

drafting advice and review of draft evaluation reports for clarity and consistency with the *Government Procurement Act 2001* (ACT) and the RFT); and

- f) legal issues, including advice from the ACT Government Solicitor.

3. Evaluation Process and Criteria

3.1 Evaluation Process

- a) All tenders will be assessed using the methodology outlined below. The methodology takes into consideration the process that will be used to assess value for money. Tenderers will be required to address the Evaluation Criteria listed as part of their Tender Submission and the Evaluation Team will examine each tender received:
- i. Any tender that does not comply with the Conditions of Tender in the Contract documents or is incomplete may be deemed to be non-conforming and may be excluded from further consideration. Tenders not complying with any of the Mandatory Criteria will be excluded from further consideration.
 - ii. Public Sector Tenders: any tenders received from Government bodies (Local, State, Territory or Commonwealth) will be evaluated using the principle of 'competitive neutrality' as defined by the National Competition Policy, i.e. tenders should include all commercial costs that private sector organisations would include in their tenders.
 - iii. An Alternative tender may only be considered if it is submitted together with conforming tender. If considered, they will initially be evaluated to determine if they provide a product or service which at least equals the project objectives set out in the tender documents. Should such a tender be considered not to provide such benefit it may be excluded from further consideration.
- b) The Evaluation Team may seek in writing additional information for clarification of tenders received where this information does not materially impact on the conformance of the tender nor alter the tender price. All clarifications will be fully documented and appropriately filed.
- c) Initially the tender will be scored against the Evaluation Criteria using the scoring regime in the Risk Rating Table 1 attached to this plan. The Evaluation Team will reach a consensus score for each tender. The overall score is the cumulative total of individual criteria weighting multiplied by their respective score.
- d) Where any tender is rated a score of 3 or below, for any individual criterion, it may be excluded from further consideration where the Evaluation Team considers the tender represents an unacceptable risk to the Territory.
- e) The tenders shall then be ranked on the basis of score and may be short-listed. Tenders short-listed will be those with the highest scores. A shortlist may be made up of 2 - 4 Tenderers.
- f) The short-listed tenders may be further assessed by comparison with the lowest priced tender to test if the difference in value of the tenders represents value for money for the specific project.
- g) The preferred Tenderer will be the Tenderer offering best value for money having regard to all relevant factors and may not necessarily be the Tenderer with the highest score. These relevant factors **must** be disclosed in the RFT and must include "the level of risk to which the proposed solution exposes the interests of the ACT".
- h) If the preferred Tenderer is not the Tenderer with the highest score and/or the lowest priced tender, full justification for selection of another short listed tender will be provided.
- i) The short-listed Tenderers may be requested to attend an interview with the Evaluation Team. The full Evaluation Team will be present at the interview. All documentation

presented and minutes of the interview will be kept for inclusion into the Contract should the Tenderer be successful.

- j) The risk assessment in the approved Procurement Plan for this project may be utilised to test if reduction in identified risks justifies the selection or otherwise of the tenderer with the highest score.
- k) Once a preferred Tenderer has been identified, any post tender negotiations, if required, will take place prior to entering into a Contract.
- l) Negotiations will take place solely with the preferred Tenderer until such time as either: (i) a contract is formed; (ii) the preferred Tenderer withdraws their tender; (iii) the capacity to negotiate is exhausted; or (iv) the Territory decides to accept no tenders and may elect to recall tenders.
- m) On formation of a contract or in the event that no tenders are accepted, the unsuccessful Tenderers will be notified in writing and offered the opportunity to attend a debriefing session.

3.2 Evaluation Criteria

The table below shows the criteria that will be used to assess responses.

NO.	THRESHOLD EVALUATION CRITERIA	YES/NO
TC1	<p>Prequalification</p> <p>The Tenderer must be prequalified with the Australian Capital Territory at CE Consultant – engineering services with superintendence (includes CE-D) as at the date of close of Tenders.</p> <p>Tenderers should provide a copy of their pre-qualification certificate with their Tender.</p>	
TC2	<p>Industrial Relations and Employment Obligations (IRE)</p> <p>At the time of close of Tenders, Tenderers and each of their nominated subcontractors must hold a current Industrial Relations and Employment Certificate issued in accordance with the ACT's Compliance with Industrial Relations and Employment Obligations Strategy for ACT Government Capital Works Projects.</p> <p>You do not need to supply a copy of your Certificate; the Territory will verify your IRE status when assessing this tender.</p>	
TC3	<p>Compulsory Site Inspection and Industry Briefing</p> <p>Tenderers attendance at the compulsory Industry Briefing and Site Visit.</p>	

NO.	WEIGHTED EVALUATION CRITERIA	WEIGHTING
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<p>WC1</p>	<p>1. Past Performance in Similar Construction</p> <p>Provide and describe past performance on similar projects completed in the past 5 years including:</p> <ol style="list-style-type: none"> a. Project scope, value, date and duration; b. Contact details of referees; c. Any Liquidated Damages deducted for late time performance; d. Management of large area sites, including environmental management and safety; e. Claims history - Description of original contract price and total variations claimed for each project; f. Current litigation / arbitration with the Principal or any other contracts; g. Role of nominated personnel on the project; h. Relevance / similarities to this project; i. Past experience working under GC21 contracts including details of issues, solutions, innovation, etc; and j. Awards and commendations. <p><i>Note: The Tender Evaluation Team may also use records of performance, claims, and compliance of Codes provided by other ACT Government Directorates or Consultants engaged by the ACT Government to determine the Tenderers past performance on similar types of projects.</i></p>	<p>10</p>
<p>WC2</p>	<p>2. Technical, Managerial Skills and Resources to Complete the Project</p> <p>Provide and describe the following:</p> <ol style="list-style-type: none"> a. Management structure and personnel including CVs of key personnel (down to level of Leading Hands) that will be engaged on this project, including backup personnel; b. Professional / technical capability of key personnel to meet the requirements of this project, including details of past performance on similar or related projects; c. Current availability of key personnel, time allocation on this project and details of their other commitments, including specification of the time the key personnel will spend on site; d. An example of a Project Management Plan (including QA Plan) used on a similar project in the past 5 years, including documented performance under the Plan specifically addressing NCRs and how they were addressed; e. Details of the project specific elements of the PMP to be implemented in the delivery of this project, including coordination and facilitation with specialists and stakeholders; f. Details of proposed sub consultants and subcontractors, including independent verifier and alternative independent verifier (refer to Item 23 of the Special Conditions of Contract). Include verifier's relevant experience in the past 5 years on similar projects; and g. How the proposed project delivery team (including subcontractors) will contribute to the local economy and employment in the Territory. 	<p>20</p>

	<p><i>Note: If the nominated example PMP is from an ACT Government project, the tenderer does not need to provide a copy with the tender.</i></p>	
WC3	<p>3. A Demonstration that the Project will be Completed within the Contract Period</p> <p>Provide and describe the following:</p> <ol style="list-style-type: none"> a. Preliminary program for the project to complete the Works within the contract period, including the recognition of construction risks associated with undertaking work within a flood zone; b. Describe critical activities and methods of achieving project Milestones and project Completion dates; c. Clear understanding of the specific staging of construction, approvals, utility services and traffic management required to complete the Works within the contract period; and d. Ability to accelerate the Works, if required. <p><i>Note: Previous performance information held by the Territory may also be considered (if available) and the assessment will include consideration of any other significant risks associated with the delivery of this project.</i></p>	10
WC4	<p>4. A Clear Understanding of the Specification/contract.</p> <p>Provide and describe the following:</p> <ol style="list-style-type: none"> a. A succinct appreciation of the tasks, potential project-specific risks and how the risks will be managed during the project, including: <ul style="list-style-type: none"> • Dam safety, safe egress of workers and machinery, downstream population risk; • Damage to existing services; • Stability of partially demolished structure; • Security of the site; • Liaison with specialists and stakeholders; • Public relations; • Noise; • Vibration; • Odour; • Dealing with unexpected finds; • Sediment, erosion and environmental risks to downstream environment; • Protection of surrounding property/infrastructure including dilapidation reports; • Flood impact and mitigation measures, including the flow of water through the site; • Environmental impact including management of fauna; • Management of approvals processes (environmental, removal of sediment, waterway works licence); and b. Management of approvals processes (environmental, removal of 	10

	<p>sediment, waterway works licence).</p> <p>c. Staging/sequencing of construction including:</p> <ul style="list-style-type: none"> • Design of temporary components; • Embankment excavation and construction; • Demolition of existing structure; • Management of daily and flood flows; • Delivery of materials including; fill, concrete, reinforcement and wall block elements; and • Plant Procurement. <p>d. Materials handling including zone material separation and stockpiling;</p> <p>e. Management of water and protection of the Works for water flows up to and including 60 m³/s through the site;</p> <p>f. Compliance with Dam Safety Guidelines including Dam Safety Emergency Plan (DSEP);</p> <p>g. Emergency procedures including safe evacuation of personnel and plant;</p> <p>h. Traffic management; and</p> <p>i. Construction time restrictions.</p>	
WC5	<p>5. Demonstrated Work Health and Safety system to complete the project</p> <p>Provide and describe the following:</p> <p>a. Demonstrated ability to proactively manage the following Work Health and Safety (WHS) requirements:</p> <ul style="list-style-type: none"> • Management • Planning • Risk & Hazard Management • Training, Competency & Supervision • High risk Construction work • Consultation • Reporting <p>b. Project-specific Preliminary Risk Management Plan;</p> <p>c. Records of any fines/penalties (including Prohibition Notices) issued by WorkSafe ACT in the past 5 years and describe how the issue was closed out;</p> <p>d. Evidence that personnel have experience in implementation of a WHS site management system;</p> <p>e. Evidence of past experience working under a DSEP;</p> <p>f. How the specific WHS requirements of this project will be met;</p> <p>g. Evidence of the effective operation of the WHS site management system, including past performance related to safety including serious claims, incidence and frequency rate (serious claims per million hours worked); and</p> <p>h. Nominate an example WHS site management plan (from a similar project) suitable for implementation on this project.</p>	30
WC6	6. Financial Offer	20

	<p>Provide the following:</p> <ol style="list-style-type: none"> a. Priced Bill of Quantities and the completed Tender Schedule with the Tenderer's financial offer; and b. Daily hire rates to be used when pricing variations and day works for resources (people and plant) for the duration of the project. <p><i>Note: Analysis of the financial offer, including rates may be undertaken by the Tender Evaluation Team to assist in determining the preferred Tenderer. This may include a sensitivity analysis of costs involving the extension of provisional quantities and/or foreseeable variations.</i></p> <p><i>(No additional information is required for submission by the Tenderer)</i></p>	
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Late Tenders

Where a late tender is received, the time and date of receipt shall be noted on the document and endorsed by the recipient.

Late Tenders and incomplete Tenders may be admitted for evaluation at the absolute discretion of the Territory, and in accordance with AS4120 Code of Tendering and Probity advice.

In deciding whether to admit a late Tender for evaluation, the Territory may take into account any factors it considers relevant, including without limitation:

- a) Whether the late Tenderer is likely to have had an opportunity to obtain some unfair advantage from late submission;
- b) How late the Tender is, the reasons given for lateness and evidence available;
- c) Whether the Tender was mishandled by the Territory, by an official postal service or by a reputable delivery service; and
- d) Evidence of unfair practices.

Scoring Regime

The Evaluation Team will use the numerical scoring scale at Table 1 of this document. Each team member will use the table A to evaluate the Evaluation Criteria except for *Assessable Criterion No 6 – Financial*, where the Specified Method of Assessment will be used. The Evaluation Team will meet, discuss and reach a consensus score for each tender against each Criterion. Half scores will be allocated where appropriate.

Notwithstanding any other requirement of the Request for Tender, the Tenderer shall, if so required, submit additional information to allow further consideration of the tender before any tender is accepted.

Should the Tenderer fail to submit any of the information so required by the date and time stipulated, the tender may be treated as non-conforming.

3. Evaluation Process and Criteria

Evaluation Report

The evaluation team will prepare the following information for inclusion with the evaluation report;

- a) background to the process;
- b) the evaluation process, including comments (strengths and weaknesses) and scores against each criteria;
- c) the weighted score of each tender;

-
- d) value for money;
 - e) proposed methods for management of tender specific risks;
 - f) identification of any issues which should be resolved by negotiation; and
 - g) recommendations to the Director General or approving delegate.

Letters of Decline / Debriefings

Letters of decline will be sent to all unsuccessful Tenderers. Letters of decline and debriefings will comply with the requirements outlined in Procurement Circular 2007/05 *Debriefing Unsuccessful Tenderers*.

Table 1 - Risk Rating Table for use in Tender Evaluation

Descriptor	Sample Commentary	Rating
Superior	Highly convincing and credible. Tender demonstrates superior capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Comprehensively documented with all claims fully substantiated. Insignificant risk.	10
Outstanding	Highly convincing and credible. Tender demonstrates outstanding capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Documentation provides complete details. All claims adequately demonstrated and substantiated. Insignificant risk.	9
Excellent	Tender complies, is convincing and credible. Tender demonstrates excellent capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Some minor lack of substantiation but the Tenderer's overall claim is supported. Low risk.	8
Very Good	Tender complies, is convincing and credible. Tender demonstrates very good capability, capacity and experience, relevant to, or understanding of, the requirements of the Evaluation Criterion. Minor uncertainties and shortcomings in the Tenderer's claims or documentation. Low risk.	7
Good	Tender complies and is credible but not completely convincing. Tender demonstrates adequate capability, capacity and experience, relevant to, or understanding of, the requirements of the Evaluation Criterion. Tenderer's claims have some gaps. Low risk.	6
Adequate	Tender has minor omissions. Credible but barely convincing. Tender demonstrates only a marginal capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Medium risk.	5
Reservations	Barely convincing. Tender has shortcomings and deficiencies in demonstrating the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Medium risk.	4
Poor	Unconvincing. Tender has significant flaws in demonstrating the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. Medium risk.	3
Very Poor	Unconvincing. Tender is significantly flawed and fundamental details are lacking. Minimal information has been provided to demonstrate the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. High risk.	2
Inadequate	Tender is totally unconvincing and requirements have not been met. Tender has inadequate information to demonstrate the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the Evaluation Criterion. High risk.	1
Not Acceptable	Tenderer was not evaluated as it did not provide any requested information and/or contravened nominated restrictions. High risk.	0

1. PROBITY

Definition:

The principle of probity and ethical behaviour provides that: officers (referred to as "Public employees" in the Public Sector Management Act 1994) involved in purchasing activities are to act with honesty and maintain the highest ethical standards in all business dealings.

Additional Information:

Circular on Probity and Ethical Behaviour.

2. SPECIALIST ADVICE AND SUPPORT

The Evaluation Team may, as required, utilise specialist advice to assist in the evaluation process.

The areas of expertise may include:

- technical analysis;
- probity; and
- legal issues (ACT Government Solicitors Office).

3. PROBITY PROTOCOL

3.1 CONFIDENTIALITY OF INFORMATION

All documents and proceedings of the Tender Evaluation Team are 'Commercial-in-Confidence' and are to be secured when not in use by members of the Tender Evaluation Team. The disclosure of information contained in responses may prejudice the commercial interests of the companies concerned and the bargaining position of the Territory during subsequent contract negotiations.

3.2 HANDLING OF DOCUMENTS

Maintaining the highest levels of confidentiality is essential to ensuring the probity and fair dealing within the purchasing process.

Confidentiality is essential at all stages of the process and information should be provided to people outside the Team only on a 'need to know' basis.

Any requests for information regarding the offers and the evaluation should be addressed to the Chairperson of the Tender Evaluation Team.

3.3 CONFLICTS OF INTEREST

Tender Evaluation Team members are required by the Probity and Ethical Behaviour Circular to disclose any actual or apparent conflict of interest and take steps to avoid that conflict. The responsibility lies with each Tender Evaluation Team member to promptly identify and disclose to the chairperson any actual, perceived or potential conflicts of interest involving themselves, their immediate family or any other relevant relationship.

Public confidence in the integrity and honesty of the ACT Government is crucial to the operation of the Government. A real or apparent conflict of interest can jeopardise that confidence.

All disclosures of conflicts should be fully documented.

3.4 COMMUNICATION WITH TENDERERS

All communication with Organisations external to the Tender Evaluation Team is to be approved by the Chairperson of the Tender Evaluation Team.

All contact with Tenderers, for example, requesting additional information or holding formal interviews, is to be conducted with prior approval of the Chairperson of the Tender Evaluation Team.

3.5 RECORDING OF COMMUNICATIONS

All communications with Tenderers are to be documented during the evaluation process.

4. HOW ARE YOU GOING TO MANAGE PROBITY?

4.1 PROBITY ADVISER

If required, a probity advisor will be engaged by ACT Procurement in order to provide probity advice for this procurement.

Given that a probity advisor will not be engaged unless required, the procurement will be conducted in accordance with the endorsed procurement plan that includes an evaluation plan. The Tender Evaluation Team must ensure:

- The Tender processes is conducted with honesty, fairness and in good faith;
- Any conflict of interest or potential conflict of interest is managed as soon as possible after it has been declared or discovered;
- Participants (that is those people conducting the procurement process, including those engaged in the evaluation process) do not engage in any practice, including an improper inducement, which gives anyone an improper advantage over another;
- Tenderers are prepared to attest to their probity, and not engage in any form of collusive practice;
- Each potential Tenderer is subject to the same terms and conditions of tendering as every other potential Tenderer with respect to any particular Tender;
- All requirements are clearly specified in the Tender documents and criteria for evaluation must be clearly indicated;
- Evaluation of Tenders is based on the conditions of tendering and selection criteria defined in the Tender documents and evaluation plans;
- that the integrity of the procurement is protected and appropriate standards of confidentiality are maintained by all evaluation team members and key individuals; and
- All participants are aware and meet their legal obligations.

4.2 PROBITY AUDITOR

The procurement process will comply at all times with the ACT Government Procurement Act and Tendering guidelines.

Isabella Weir Upgrade /Wetlands Construction

SITE PLAN



Risk Management Plan – Guide Notes

This Version 7.1 template has been developed in accordance with the ACTIA Risk Matrix template and the AS/NZS ISO 31000:2009 risk management standard.

The following pages will assist in the recording the results of the risk management process.

1. Title Page, setting the context:

- Allows the project to be clearly identified and the project outcomes/objectives to be defined.
- Identifies the Directorate, Directorate contact person and the Directorates' decision maker.
- Includes a basic stakeholder analysis to determine the interested parties and the level of interest held by each stakeholder.

2. Risk Criteria – Risk Matrix

- Sets out the criteria for measuring **consequence** and **likelihood** and how they combine to form the level of risk.
- Includes definitions of **consequence**
- Includes definitions of **likelihood**
- Provides measurements for the **control effectiveness rating** – how good our controls or risk mitigation strategies are at managing the risk.

3. More Sample Consequences:

- Provides more examples of how the consequence rating can be arrived at. This list is not exhaustive; it is a guide to use when determining the level of consequence.

4. Risk Register

- Tool to use to record the risks identified, their consequences, the control measures that manage the risk and how effective those measures are.
- Template includes free text fields and drop down boxes. The drop down boxes include the **consequence, likelihood, level of risk** and **risk control effectiveness ratings** that are used within Chief Minister, Treasury and Economic Development Directorate. (CMTEDD) **Refer to the risk criteria / risk matrix.**

5. Risk Treatment Action Plan

- A risk treatment action plan is required for all risks rated as **“Extreme”** or where the control effectiveness rating is **“room for improvement”** or **“inadequate.”**
- Abbreviations used in the drop box are:

Consequence	Likelihood	Level of Risk	Risk Effectiveness Rating
Insignificant – Insig.	Rare - Rare	Low – Low	Adequate – Adq.
Minor – Min	Unlikely – U/L	Medium – Med	Room for Improvement – RFI
Moderate – Mod	Possible – Poss	High – High	Inadequate – I/ad
Major – Maj	Likely – Lkly	Extreme – Ext.	

Analysing (rating) the risk under ISO 31000:2009

1. No longer accepted practice to rate “Raw risk”.
 - “Consequences, likelihoods and levels of risk will depend on the controls that are in place and their effectiveness.” (SA/SNZ HB 89:2013).
 - Do not arrive at the risk level prior to treatment or inclusion of risk mitigation strategies
 - Must consider the current controls before rating the risk where a **Control** is a measure in place to manage risk. (ISO Guide 73:2009)
2. Must rate the consequence prior to the likelihood
 - “Risk is analysed by determining consequences and their likelihood.” (ISO 31000:2009)
3. The consequence should be defined in its most normal form and not an extreme version of the risk.
 - For example a personal injury as a result of a paper cut would result in a minor injury not requiring medical treatment.
 - It would not in the normal form result in blood poisoning and death.
4. Following the process of ISO 31000:2009 there are three questions to ask:
 - 1) What is the consequence that the risk would take in its “most normal form” (not an extreme form) should the risk occur?
 - 2) What is the likelihood of that consequence? (How likely it the consequence to occur?)
 - 3) How good are the existing controls at managing the risk?
5. Make an assessment as to the effectiveness of current controls
 - Adequate – doing everything we can
 - Room for improvement – more that could be done
 - Inadequate – controls do not treat the root cause of the risk.

<p>Control: A measure that is modifying risk</p> <p>A control can include any process, policy, practice or other action which modify risk. (ISO Guide 73:2009)</p> <p><i>This is something that is currently modifying the risk or managing the risk.</i></p>	<p>Treatment: A process to modify risk.</p> <p>Treatment can involve avoiding the risk, taking the risk to pursue an opportunity, removing the risk source, changing the likelihood, changing the consequence, sharing the risk or retaining the risk by informed decision. (ISO Guide 73:2009).</p> <p><i>A treatment is a future planned action or process to be put in place to manage the risk.</i></p>
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NOTE TO USERS – Pages 1 – 4 are guide notes and can removed from the document to be presented for approval by Delegate or GPB.

		Sample Consequence				
		Insignificant	Minor	Moderate	Major	Catastrophic
Categories of Risk	Assets	Loss or destruction of assets up to \$2,000	Loss or destruction of assets \$2,000 to \$10,000	Loss or destruction of assets \$10,000 to \$100,000	Loss or destruction of assets \$100,000 to \$5M	Loss or destruction of assets greater than \$5M
	Compliance/ regulation	Non-compliance with work policy and standard operating procedures which are not legislated or regulated	Numerous instances of non-compliance with work policy and standard operating procedures which are not legislated or regulated	Non-compliance with work policy and standard operating procedures which require self reporting to the appropriate regulator and immediate rectification.	Restriction of business operations by regulator due to non-compliance with relevant guidelines and / or significant non-compliance with policy and procedures which threaten business delivery.	Operations shut down by regulator for failing to comply with relevant guidelines and /or significant non-compliance with internal procedures could result in failure to provide business outcomes and service delivery.
	People	Injuries or ailments not requiring medical treatment.	Minor injury or First Aid Treatment Case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
	Environment	Limited effect to something of low significance	Transient, minor effects	Moderate, short-term environmental harm	Significant, medium-term environmental harm	Long term environmental harm
	Financial	1% of Budget	2.5% of Budget	> 5% of Budget	> 10% of Budget	>15% of Budget
	Technology	Interruption to electronic records and data access less than ½ day.	Interruption to electronic records and data access ½ to 1 day	Significant interruption (but not permanent loss) to data and electronic records access, lasting 1 day to 1 week	Complete, permanent loss of some electronic records and/or data, or loss of access for more than one week	Complete, permanent loss of all electronic records and data
	General management activities	No impact on business outcomes and strategic objectives.	Minor impact on business outcomes and strategic objectives. Non-essential or subsidiary services experience minor disruptions.	Moderate impact on business outcomes and strategic objectives. A number of objectives not met, minor or subsidiary services impaired.	Significant impact on business and strategic objectives. Key service delivery impaired.	Strategic business outcomes processes fail and business objectives not met. Unable to delivery necessary services.
	Reputation & Image	Internal Review	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office, or inquest, etc.	Intense public, political and media scrutiny. E.G.: front page headlines, TV, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
	Cultural & Heritage	Low-level repairable damage to commonplace structures	Mostly repairable damage	Permanent damage to items of cultural significance	Significant damage to structures or items of cultural significance	Irreparable damage to highly valued items of cultural significance
	Business Process & Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.



ACT
Government

Chief Minister, Treasury and
Economic Development

**Risk Matrix
Program /
Project**

	Insignificant	Minor	Moderate	Major	Catastrophic
People	Injuries or ailments not requiring medical treatment.	Minor injury or First Aid Treatment Case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Reputation & Image	Internal Review	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office, or Inquest, etc.	Intense public, political and media scrutiny. Eg: front page headlines, TV, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environmental Cultural & Heritage	Limited effect to something of low significance Low level repairable damage to commonplace structures	Transient, minor effects Mostly repairable damage	Moderate, short-term environmental harm Permanent damage to items of cultural significance	Significant, medium-term environmental harm Significant damage to structures or items of cultural significance	Long term environmental harm Irreparable damage to highly valued items of cultural significance
Business Process & Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy/procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Financial	1% of Budget	2.5% of Budget	> 5% of Budget	> 10% of Budget	> 15% of Budget

Likelihood	Frequency	Matrix						
		1	2	3	4	5		
Almost Certain Is expected to occur in most circumstances	Once a quarter or more	>1 in 10	5	Medium	High	High	Extreme	Extreme
Likely Will probably occur	Once a year or more	1 in 10 - 100	7	Medium	Medium	High	High	Extreme
Possible Might occur at some time in the future	Once every 1 - 5 years	1 in 100 - 1,000	3	Low	Medium	Medium	High	Extreme
Unlikely Could occur but doubtful	Once every 5 - 20 years	1 in 1,000 - 10,000	2	Low	Medium	Medium	High	High
Rare May occur but only in exceptional circumstances	Once every 20 - 100 years	1 in 10,000 - 100,000	1	Low	Low	Medium	Medium	High

Priority for Attention

Priority	Suggested Timing of Treatment	Authority for continued tolerance of risk	
		Program	Project
Extreme	Short term - normally within one month** Detailed action plan required		Director- General Under-Treasurer
High	Medium term - normally within three months Needs senior management attention		Senior Executive
Medium	Normally within 1 year Specify management responsibility		Managers
Low	Ongoing control as part of a management system Manage by routine procedures		All staff

Control Effectiveness Rating

Control Effectiveness	Guide
Adequate	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root causes and Management believes that they are effective.
Room for improvement	Most Controls are designed correctly and are in place and effective however there are some controls that are either not correctly designed or are not very effective. There may be an over-reliance on reactive controls. Some more work to be done to improve operating.
Inadequate	Significant control gaps or no credible control. Either controls do not treat root causes or they do not operate effectively. Controls if they exist are just reactive. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.

Priority for Attention - Action

Every care should be taken to act as soon as possible to implement risk control measures where ever possible or to take action to fix the problem. **Extreme Risks and High Risks** especially where the risk relates to people & personal injury require us to act immediately to take steps to fix the problem.

** The suggested timing of treatment does not mean that immediate action ought not be taken or that the timing can not be completed sooner than suggested.

Note: When identifying, analysing and rating risk consideration should be given, but not necessarily limited to, the attached categories of risk and the suggested examples of frequency and consequences.

Project Details			
Project	Isabella Weir Upgrade /Wetlands Water Quality Construction		
Project Objectives	<p>The objective of this project is to engage a suitable prequalified contractor for construction of the following infrastructure:</p> <ul style="list-style-type: none"> • Upgrade of the existing Isabella Weir to meet Dam Safety Guideline Requirements • Construction of Wetlands in existing Isabella Pond to improve Water Quality outcomes. • Carp eradication to Isabella Pond and Upper Stranger Pond as part of the ACT Government Carp eradication Program. • 		
Contact Details:			
Directorate	CMTEDD	Business Unit	Infrastructure and Capital Works
Name of Contact	Michael McGrath	EDD	Phone no. 6207 1419
Name of Decision Maker / Authority Holder	Glenn Lacey, Director, Infrastructure and Capital Works CMTEDD		

Created by: Nick Taylor
30//06/2016

Date: 29/06/2016

Reviewed by: Darren Smith

Date:

Approved by: Glenn Lacey

Date: 4/07/2016

Signature: _____

Internal and External [Name and Agency/Organisation]	Level of Influence [Ability to influence project outcomes]	Level of Interest [Level of interest in the project outcome]
CMTEDD, Infrastructure and Capital Works (ICW)	ICW are the project proponents responsible for timely project delivery within the allocated budget.	High
Procurement and Capital Works (PCW)	PCW is responsible for the procurement process implementation and project management in accordance with the relevant procurement policies and guidelines.	High
CMTEDD, Treasury	Advising Government agencies on the capital works budget and management of the financial assets and liabilities.	High
Land Development Agency (LDA)	Responsible for the adjacent Greenway development and Block 13 section 56 Monash settlement of associated land sales (requires access via this intersection)	High
Territory and Municipals Services (TAMS)	The ultimate asset owner of the road infrastructure component. Responsible for ensuring compliance with the Territory's Design Guidelines for Urban Infrastructure and asset acceptance.	High
ICON Water	ICON Water responsible for approving works and acceptance of assets under their responsibility including watermain relocation.	Medium
Jemena/ZNX	Jemena/ZNX responsible for approving works in the vicinity of the high pressure gas main.	High
Telstra	Telstar responsible for approving works in the vicinity of their assets including a mobile phone tower.	Medium
Environment and Planning Directorate (EPD)	The EPD monitor compliance with the Development Application (DA) Notice of Decision (NoD) conditions. The Environment Protections Authority (EPA), as part of EPD are responsible for compliance with the regulatory framework related to use of water during construction, sediment and erosion control, dust emission etc.	Medium

Risk Register

This risk register is consistent with AS/NZS ISO 31000:2009 risk management standard and the CMTEDD Risk Management Framework and Policy Statement; and Risk Management Policy.

Risk Ref. No.	Risk Description (source/ Cause) The risk event, source and cause What can happen (that will affect our ability to meet our objectives) and how it comes about.	Describe the consequence If what can happen does happen what is the impact or outcome? (In its most 'normal' form – not an extreme form)	Risk controls – what is in place to manage the risk. How are risks to be Managed? What ordinary policies, procedures and actions (BAU) are to be taken to manage the risk?	Risk Owner (person or entity who manages the risk)	Consequence	Likelihood	Current risk rating	Control effectiveness
1)	General contractor's inexperience with GC21 contract	– Poor project progress resulting in disputes and potential arbitrations.	– PCW project team introduced a specific assessment criterion requiring a mandatory attendance of GC21 Master Classes by prospective tenderers.	PCW Evaluation Team	Maj	Rar	Med	Adq
2)	Late project start because of changes in the Tender Evaluation Team (TET).	– Prolonged tender evaluation – Late delivery of works with potential for program of works being delayed a year to 2018'2019 Works occurring concurrently with light rail construction. Impacting availability of suitable contractor and competent skill set	– Ensure that project continuity measures are in place including back up personnel and regular briefing to management. Manage surety around RFT release July 2016 , engaging competent and skilled contractor before light rail works released for tender.	PCW project officer/ TET chair.	Maj	U/L	Med	Adq

3)	Inadequate project scope information provided in the RFT package.	<ul style="list-style-type: none"> Poor contractor's performance resulting in issues with quality of works, project budget and timely delivery. 	<ul style="list-style-type: none"> Review of the functional brief by the PCW and ICW project officers and Senior Managers. Ensure that adequate timing is allowed for tender preparation. 	PCW project officer/ TET chair.	Mod	U/L	Med	Adq
4)	Contractors' tenders exceed project budget because of insufficient information provided in the RFT.	<ul style="list-style-type: none"> Possible retendering causing delay in contract execution and the overall project program. 	<ul style="list-style-type: none"> Review of the functional brief by the PCW and ICW project officers and Senior Managers. 	PCW project officer/ TET chair.	Min	U/L	Med	Adq
5)	Delay by the Principal	<ul style="list-style-type: none"> Possible delay in contract execution and the overall project program with potential Works being constructed inside a water route and floodway Works occurring concurrently with light rail construction. 	<ul style="list-style-type: none"> Ensure effective communication between the ICW project team and the PCW project officer. Ensure the timeline specified in the functional brief is followed. 	PCW project officer/ TET chair.	Min	U/L	Med	Adq
6)	Unsatisfactory negotiations during the tender phase.	<ul style="list-style-type: none"> Possible delay in contract execution and the overall project program with potential of the Project program moving to the following year 2018/2019 which may incur higher costs 	<ul style="list-style-type: none"> Ensure effective communication between the ICW project team and the PCW project officer. Allow sufficient time for tender negotiations and Tender Evaluation Report preparations. 	PCW project officer/ TET chair.	Min	U/L	Med	Adq

7)	Poor performance by the Contractor	<ul style="list-style-type: none"> – Inadequate or inexperienced resources assigned to the Project – Contractor overcommitted on other projects – Inadequate processes and systems implemented and maintained – Contractor not experienced in Temporary works Design /Construction 	<ul style="list-style-type: none"> – Ensure contractor’s performance in accordance with the RFT requirements. – Monitor contractors’ senior staff presence on site. – Arrange Evaluation and Monitoring Meetings. – PAP to monitor Temporary Works, Check sign off on Design by competent and qualified Engineer and monitor and observe compliant implementation of Temporary Works 	PCW & ICW Project Officers	Mod	Pos	Med	Adq
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8)	Inadequate contractor's resources and construction activities spread over multiple sites	<ul style="list-style-type: none"> – Contractor doesn't understand the project timeframes and work locations – Contractor assigns inexperienced and inadequate resources to monitor multiple work sites. – Impact on road users, public outcry and political concerns – Contractor does not have adequate emergency evacuation procedures – Contractor is operating ineffective Quality Assurance Systems – Contractor is unaware of the impact of not monitoring upstream weather patterns and flow gauge station operated by ALS 	<ul style="list-style-type: none"> – Ensure contractor deployed resources in accordance with the project brief/contract requirements. – Monitor contractor's performance on site. – Arrange Evaluation and Monitoring Meetings – PAP and client Reps to monitor and test, emergency evacuation (floodway) procedures – PAP to ensure Quality Assurance , daily checklists and hold points meet conformance and are audited on a regular basis – PAP to ensure contractor is monitoring weather patterns and flow gauging stations operated by (ALS) and then implementing appropriate actions based on the information received 	PCW & ICW Project Officers	Mod	U/L	Med	Adq
----	--	--	---	----------------------------	-----	-----	-----	-----

9)	Inadequate traffic management arrangements (TTMs).	<ul style="list-style-type: none"> – Contractor doesn't have sufficient experience in managing complex traffic arrangements, associated with the project. – Contractor works outside the approved arrangements. 	<ul style="list-style-type: none"> – Ensure contractor's traffic management in accordance with their tender submission. – Use the provision for Senior Executives' involvement in dealing with disagreement/project issues under the GC21 contract. – PAP to monitor TTMs. – TTMs to be coordinated with all Estate Developments and adjacent projects. 	PCW & ICW Project Officers	Mod	U/L	Med	Adq
10)	Inadequate coordination of works with adjacent projects and service authorities (i.e. Greenway)	<ul style="list-style-type: none"> – Contractor doesn't ensure that work activities are coordinated with adjoining contractors working on other projects. – Contractor doesn't ensure that work activities over utility services are conducted in consultation with utility services providers. 	<ul style="list-style-type: none"> – Ensure contractor liaise effectively with the adjacent work sites representatives through a series of coordination meetings facilitated by the Principal's team. – Ensure contractor liaise regularly with service authorities and provide feedback via project progress meetings and reports. – TTMs to be coordinated with Estate Development and adjacent projects. 	PCW & ICW Project Officers	Min	U/L	Med	Adq

11)	Inadequate implementation of construction environmental management plans.	<ul style="list-style-type: none"> – Contractor’s activities are not conducted in accordance with the approved CEMP/AEMP. – Contractor does not follow the Unexpected Finds Protocol. 	<ul style="list-style-type: none"> – Ensure contractor works in accordance with the contract requirements. – Use the GC21 contract provision for Senior Executives’ involvement in dealing with disagreement and project issues 	PCW & ICW Project Officers	Min	U/L	Med	Adq
12)	Poor public communication during project delivery.	<ul style="list-style-type: none"> – Impact on road users, public outcry and political concerns. – Negative media coverage about the project. 	<ul style="list-style-type: none"> – Ensure contractor provides input to communication register, records public comments/complaints and liaise effectively with the PAP and the Principal’s team representatives. – CMTEDD Communication Team to coordinate project communication including: letter box drop, advertisements etc. This team to be involved in meetings with Contractors as required. – Working hours to be specified in tender documentation and to be monitored by site mangers. 	PCW & ICW Project Officers	Min	U/L	Med	Adq
13)	Delay during construction resulting in LDA not having access to Throsby Estate works.	<ul style="list-style-type: none"> – Delayed settlement of Estate blocks and contractual delay claims from estate contractor. 	<ul style="list-style-type: none"> – Examine alternative access to estate works. – Closely monitor program of works. 	PCW & ICW Project Officers	Mod	Poss	Med	Adq

From: "Liyanage, Lanka" <Lanka.Liyanage@act.gov.au> on behalf of "Shared Services Procurement, Project Support" <SharedServicesProcurementProjectSupport@act.gov.au>

Sent: 16/05/2019 4:14 AM

To: "Taylor, Nick" <Nick.Taylor@act.gov.au>

Subject: FW: Isabella Weir budget approval to create purchase orders [SEC=UNCLASSIFIED]

Attachments: 20170321152749266.pdf

Importance: High

Hi Nick,

As requested.

Regards
Lanka

-----Original Message-----

From: Hancock, Patrick

Sent: Tuesday, 21 March 2017 3:29 PM

To: Dudok, Judith <Judith.Dudok@act.gov.au>; Smith, Darren <Darren.Smith@act.gov.au>

Subject: FW: Isabella Weir budget approval to create purchase orders [SEC=UNCLASSIFIED]

Importance: High

Darren,

Approval please. Ta.

Regards,

Patrick

-----Original Message-----

From: MACHSB01L03P02@act.gov.au [<mailto:MACHSB01L03P02@act.gov.au>]

Sent: Tuesday, 21 March 2017 4:28 PM

To: Hancock, Patrick

Subject: Message from "MACHSB01L03P02"

This E-mail was sent from "MACHSB01L03P02" (MP C5503).

Scan Date: 03.21.2017 15:27:49 (+1000)

Queries to: MACHSB01L03P02@act.gov.au

MINUTE



ACT
Government

Chief Minister, Treasury and
Economic Development

Date 1 August 2016

TRIM No:
File No:

To Director-General, Economic Development

• Executive Director, Procurement and Capital Works

From Director Civil Infrastructure and Capital Works Branch

Subject Procurement Board submission for Isabella Weir

Critical date and reason

1. Wednesday 3 August for submission to the Government Procurement Board

Background

2. This minute seeks your agreement to the engage a suitably experienced and prequalified contractor to undertake construction of the Isabella Weir Upgrade (to meet the ACT's Dam (draft) Safety Code) and Wetland Area (to improve Water Quality) and all other works (associated infrastructure).
3. The objective of this project is:
 - The upgrading of the existing Isabella Weir from a 3 Cycle Labyrinth to a 5 Cycle Labyrinth; in order to comply with the draft ACT Dam Safety Code; and
 - Construction of a wetland area in order to improve water quality, and maximise recreational use of the Isabella Pond.

NB. (and all works associated with the above works)

Issues

4. The Weir and Water Quality projects have been joined to take advantage of two aspects of the construction:
 - Both projects require Isabella Pond to be drained for a nominal 12 month period; and
 - Some of the sediment from the Weir Upgrade can be utilised in the construction of the proposed Wetland. Minimizing the quantity of sediment to be removed from site.
5. This provides significant cost and time savings to both projects and the impact on the surrounding community, flora and wildlife.

Consultation

6. There has been public consultation conducted with the communities to be impacted by the works. Public consultation will continue throughout the critical phases of the works.
7. EPD have also undertaken extensive consultation with the relevant ACT Government stakeholders for the entire BPP Project.

Financial

8. The Isabella Weir Upgrade Project was originally funded for \$10.1M.
9. A business case has been supported for the construction of both the Isabella Weir and Wetland Water Quality Project.
10. In the business case an additional allowance of \$5M was approved for the Weir Upgrade and a new allowance of \$4M for the Water Quality Project.

Risks/ Sensitivities

11. The Wetlands project provides \$4M of the required \$8.5M funding by the ACT Government to secure an \$85M Commonwealth Government grant for other water quality projects in the ACT and region (the Basin Priority Project – BPP).
12. The urgency associated with the Isabella Weir upgrade is to meet the new Dam Safety Guidelines.


Media

13. A Communications strategy is being developed in association with our community engagement officers.

Recommendations

That you:

- Sign the attached Procurement Plan Minute for submission to the Government Procurement Board.


Darren Smith

Acting Director, Civil Infrastructure and Capital Works Branch.

Action Officer: Michael McGrath

Phone: 6207 1491


David Dawes

3/8/16

AGREED / NOT AGREED / NOTED / PLEASE DISCUSS



Procurement Plan Minute

PROCUREMENT OVERVIEW	
To	George Tomlins Executive Director, Procurement and Capital Works, CMTEDD Chief Minister, Treasury and Economic Development Directorate (CMTEDD)
Name of Project	Isabella Weir Upgrade Construction and Wetland/Water Quality Improvement Construction Works
Purpose	This minute seeks your agreement to the engage a suitably experienced and prequalified contractor to undertake construction of the Isabella Weir Upgrade (to meet the ACT's Dam (draft) Safety Code) and Wetland Area (to improve Water Quality) and all other works (associated infrastructure).
Estimated value (\$)	\$21.01 Million including GST for construction including contingency and allowance for Work Health and Safety Audits, and Industrial Relations and Compliance audit.
Timing/urgency	<p>The project is the Isabella Weir Upgrade and Water Quality Construction Project.</p> <ul style="list-style-type: none"> • There is a section of the existing gas main adjacent to the Isabella Weir feeding gas to the Tuggeranong Town Centre. To reduce the construction risk and the long term dam safety risk of having a gas main running through the Weir, the gas main needs to be relocated. This work is scheduled to commence in August 2016. • The critical early works (such as approvals, draining of the wetland and geotechnical investigation) will commence in Feb 2017 and the construction works are to commence in April 2017 through the winter, to reduce the flood risk during construction. • The Weir and Water Quality projects have been joined to take advantage of two aspects of the construction: <ul style="list-style-type: none"> ○ Both projects require Isabella Pond to be drained for a nominal 12 month period; and ○ Some of the sediment from the Weir Upgrade can be utilised in the construction of the proposed Wetland. Minimising the quantity of sediment to be removed from site. <p>This provides significant cost and time savings to both projects and the impact on the surrounding community, flora and wildlife.</p> <ul style="list-style-type: none"> • The Wetlands project provides \$4M of the required \$8.5M funding by the ACT Government to secure an \$85M Commonwealth Government grant for other water quality projects in the ACT and region (the Basin Priority Project – BPP). <p>The urgency associated with the Isabella Weir upgrade is to meet the new Dam Safety Guidelines.</p>

PROCUREMENT OVERVIEW															
	<p>Indicative timeframe:</p> <table border="0"> <tr> <td>RFT invites</td> <td>11 August 2016</td> </tr> <tr> <td>RFT Closes</td> <td>13 Sep 2016</td> </tr> <tr> <td>Tender Evaluation</td> <td>Sep/Oct 2016.</td> </tr> <tr> <td>Approval of Tender Evaluation Report</td> <td>Oct 2016</td> </tr> <tr> <td>Negotiations</td> <td>Nov 2016</td> </tr> <tr> <td>Contract Awarded</td> <td>Nov 2016</td> </tr> <tr> <td>Debrief Unsuccessful Tenderers</td> <td>Dec 2016</td> </tr> </table> <p>(Note: timings are estimates and may change after the PPM is signed)</p>	RFT invites	11 August 2016	RFT Closes	13 Sep 2016	Tender Evaluation	Sep/Oct 2016.	Approval of Tender Evaluation Report	Oct 2016	Negotiations	Nov 2016	Contract Awarded	Nov 2016	Debrief Unsuccessful Tenderers	Dec 2016
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Debrief Unsuccessful Tenderers	Dec 2016														
Tender Number	22501.330														
Is Government Procurement Board sign off required?	Yes														
Is ACT Government Solicitor (ACTGS) consultation required?	Not applicable														
SME Opportunities Statement – Goods and Services only	Not applicable														
Objective or scope of works or services to be provided	<p>The objective of this project is:</p> <ul style="list-style-type: none"> The upgrading of the existing Isabella Weir from a 3 Cycle Labyrinth to a 5 Cycle Labyrinth; in order to comply with the draft ACT Dam Safety Code; and Construction of a wetland area in order to improve water quality, and maximise recreational use of the Isabella Pond. <p>NB. (and all works associated with the above works)</p>														
Type	Capital Works														
Funding	<p>The Isabella Weir Upgrade Project was originally funded for \$10.1M.</p> <p>A business case has been supported for the construction of both the Isabella Weir and Wetland Water Quality Project.</p> <p>In the business case an additional allowance of \$5M was approved for the Weir Upgrade and a new allowance of \$4M for the Water Quality Project.</p>														
Site	<p>Refer to the Site Map (Attachment C).</p> <p>The significant part of the work area is located within the Isabella and Stranger Pond perimeter.</p>														
Consultation (including pre tender)	<p>There has been public consultation conducted with the communities to be impacted by the works. Public consultation will continue throughout the critical phases of the works.</p> <p>EPD have also undertaken extensive consultation with the relevant ACT Government stakeholders for the entire BPP Project.</p>														
PROCUREMENT RISK															
Risk	Following application of risk controls all risks are rated 'High'.														

PROCUREMENT OVERVIEW	
	Risk Plan provided in Attachment D.

PROCUREMENT METHODOLOGY	
Description of the procurement method to be used	Open Request for Tender process.
Evaluation	Refer to Attachment A.
Is this suitable to be a Social Procurement?	No, this project is not suitable for Social Procurement This type of service (construction of civil works) can't be sourced from a 'social enterprise'.


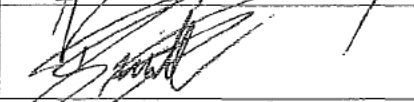

EVALUATION TEAM			
Name	1. Richard Toomey	2. Leigh Crocker	3. Sri Tharan
Position	Chair	Member	Member
Agency	CMTEDD, Procurement and Capital Works, Civil Infrastructure	CMTEDD,ED Capital Works Coordination	CMTEDD, Procurement and Capital Works, Civil Infrastructure
Statement on team composition	All team members are experienced in tender evaluation and the project specific requirements.		

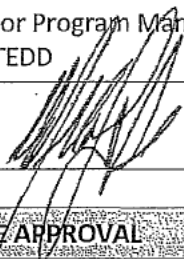
CONTRACT MANAGEMENT	
Number of contracts	One construction contract based on the ACT Government GC21 contract.
Contract management	By Procurement and Capital Works.
Period of contract(s)	Approximately 68 weeks to Completion including allowance for delays.

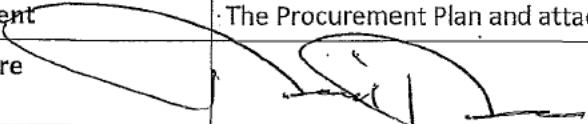
AUSTRALIAN FREE TRADE AGREEMENTS (FTAs)	
Does the AUSFTA / Australia-Chile FTA apply?	Yes.

AUSTRALIAN GOVERNMENT FUNDING	
Is there Australian Government funding attached to the procurement?	Not applicable

EXEMPTIONS	
Exemption	Not applicable
Reason for Exemption	Not applicable

PROCUREMENT AND CAPITAL WORKS RECOMMENDATION			
Position	Name	Signature	Date
Project Officer Phone Number	Richard Toomey 02 6207 3638		3/18/16
Manager	Darren Smith		3/18/16
Executive Director	George Tomlins		3/18/16

AGENCY ENDORSEMENT			
Name	Michael McGrath	Phone Number	6207 1491
Position	Senior Program Manager, Capital Works, Economic Development, CMTEDD		
Signature		Date	3/18/16

DIRECTOR GENERAL/DELEGATE APPROVAL			
Name	David Dawes		
Position	Director-General, Economic Development		
Statement	The Procurement Plan and attachments are approved.		
Signature		Date	3/18/16

Attachments:

- A) Evaluation Plan
- B) Probity Plan
- C) Site Plan
- D) Risk Management Plan

From: 'Sch 2 2.2(a)(ii)' [redacted]@pes.net.au>
Sent: 17/05/2019 10:33 AM
To: "'Sch 2 2.2(a)(ii)' [redacted]@guidelineact.com.au>
Cc: "Oxborrow, Stuart" <Stuart.Oxborrow@act.gov.au>; "Taylor, Nick" <Nick.Taylor@act.gov.au>; "Sch 2 2.2(a)(ii)" [redacted]@pes.net.au>
Subject: FW: GREE624462_ISABELLA WEIR UPGRADE_Dam Walls_Rejected [SEC=UNCLASSIFIED]

Hi [redacted],

I meant to talk to you about below queries in our Site Walkthrough at the Northern Wetland on 15 May 2019.

Please see below email from the Technical Asset Team regarding the Weir's Summary Drawing and the Asset Description Form.

I didn't go through the ADF. However, I request if you can please double check the ADF for the missing items and provide me an updated copy. Alternatively, let me know your comment.

After email below from My Nguyen, I spoke to her. She explained to me that the Summary Drawing for the Weir does not represent all new, amended and removed assets as per the requirement of Ref 11- Document and she guided me through the Ref 11 briefly. Following to my quick review of the Summary Drawing of the Weir submitted by GLA and I could only see the new walls, but I could not see any other layers/attributes in CAD file. Based on the below request from My and looking at the Ref 11 document, many details are missing from the Summary Drawing. Below is the snapshot from Ref 11 requirements of the Summary Drawings. I am happy to sit down with you and go through the summary drawing and Ref 11 to list down items required in summary drawing as needed. However, please review the summary drawing with your WAE design consultant in a first instance and then let me know if you would like me to go through the Summary Drawing and Ref 11.

Civil and Landscape Summary Drawings

TCCS Summary Drawings are AutoCAD DWG drawing files used to load work as executed (as constructed) spatial and attribute data into the TCCS asset management system and GIS systems with the correct attribute and spatial geometry.

These drawings are submitted as part of design acceptance and WAE submissions to represent all new, amended or removed assets within the submission.

Future works are not to be shown in summary drawings. In this release of the standard requirements, existing assets or features may be shown if needed as contextual data for the current works on the appropriate layers although attribute data and spatial requirements are currently excluded in the Open Spatial portal validation process. External references may be also used for existing or non TCCS assets in the summary drawings for contextual purposes.

New Assets

All new assets constructed as part of a WAE/handover package must be shown on the appropriate new layer for the asset within the summary drawing. Ref 11 standard blocks, attribute data and associated geometry must be used to represent new assets.

Existing Assets

Existing features do not need to be represented in summary drawings since CAD data representing existing assets are not validated. Attribute data is not required to be entered for Pre-existing assets or features not changed by the development however these may be shown if needed as contextual data for the current works on the appropriate layers.

Removed Assets

All assets being removed/demolished by consultants as part of a WAE/handover package must be shown on the appropriate removed layer for the asset within the summary drawing. Ref 11 standard blocks and associated geometry must be used to represent removed assets. Only essential/minimal attribute data should be entered to distinguish the asset from other similar assets in the area. For example a removed streetlight should show the streetlight number attribute, and a removed bridge should include the bridge number. As with all other Ref 11 blocks, consultants are free to resize or create different symbology for the blocks to better display the removed asset as necessary.

Future Assets

Future works are not required to be shown in summary drawings.

Common block – Project information

Project information for the summary drawing must be included in the TCCS block COMMON_BLOCK in modelspace. When submitting summary drawings via the portal, the first validation check performed is ensuring the common block exists in the summary drawing with mandatory project information. If this requirement is not met, the validation process immediately rejects the submission without performing any more checks. The data in this block (Project name, details etc.) is then transferred to all Ref 11 features when the summary drawing is validated and loaded into the asset management system.

Regards

Sch 2 2.2(a)(ii)

Principal's Authorised Person (PAP)

Professional Engineering Service Pty Limited ACN 057 633 897

Mobile - Sch 2 2.2(a)(ii)



From: TCCS_IT AssetInformation <TCCS.AssetInformation@act.gov.au>

Sent: Wednesday, 15 May 2019 10:56 AM

To: Sch 2 2.2(a)(ii)@pes.net.au; TCCS_IT AssetInformation <TCCS.AssetInformation@act.gov.au>; Chowdhury, Mynul <Mynul.Chowdhury@act.gov.au>

Subject: RE: GREE624462_ISABELLA WEIR UPGRADE_Dam Walls_Rejected [SEC=UNCLASSIFIED]

Hi Sch 2 2.2(a)(ii)

Assets to be shown on summary drawing are: paths/pavement, Stormwater, grass, rails, ladder that drafted as per Ref11 requirements and warning signs drafted according to TCD standards.

Thank you, My

From: Sch 2 2.2(a)(ii) [redacted] @pes.net.au
Sent: Wednesday, 15 May 2019 10:26 AM
To: TCCS_IT AssetInformation <TCCS.AssetInformation@act.gov.au>; Chowdhury, Mynul <Mynul.Chowdhury@act.gov.au>
Subject: RE: GREE624462_ISABELLA WEIR UPGRADE_Dam Walls_Rejected [SEC=UNCLASSIFIED]

Hi My,

I have started conversation with the Contractor. Whilst I will go through the other drawings and list out things to be shown in WAE Summary of the Weir, would you please be able to give me an example of your expectation? Because, I am not sure whether the contractor to include very minor details e.g. location of monitoring well, location of ladder, hand rails, stop valve etc.

Thanks

Sch 2 2.2(a)(ii) [redacted]
 Principal's Authorised Person (PAP)
 Professional Engineering Service Pty Limited ACN 057 633 897
 Mobile - Sch 2 2.2(a)(ii) [redacted]



From: TCCS_IT AssetInformation <TCCS.AssetInformation@act.gov.au>
Sent: Wednesday, 15 May 2019 9:57 AM
To: Sch 2 2.2(a)(ii) [redacted] @pes.net.au; Chowdhury, Mynul <Mynul.Chowdhury@act.gov.au>
Subject: RE: GREE624462_ISABELLA WEIR UPGRADE_Dam Walls_Rejected [SEC=UNCLASSIFIED]

Hi Sch 2 2.2(a)(ii) [redacted]/Mynul,

1 - CIVIL DAM WALLS

I have checked the files but the summary drawing only contains the dam walls while many other assets are missing. I expect every asset listed on the Asset Description Forms to be shown on the summary drawing according to Ref11 drafting requirements.

Please request for a resubmission.

Thank you, My

From: Sch 2 2.2(a)(ii) [redacted] @pes.net.au
Sent: Tuesday, 14 May 2019 11:43 AM
To: TCCS_IT AssetInformation <TCCS.AssetInformation@act.gov.au>
Cc: Nguyen, My <My.Nguyen@act.gov.au>
Subject: FW: Isabella Weir: IWU WAE and Close out Documents [SEC=UNCLASSIFIED]

My,

Please find attached Asset Description forms as requested.