

Gundaroo Drive Duplication – Stage 1 Internal Audit –
Final Report

Transport Canberra and City Services

April 2019

 .VINCENTS

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Engagement history

Item	Timing
Period of audit	Sept-Oct 2018
Audit specification signed	3 Sept 2018
Entry meeting	4 Sept 2018
Audit Work Plan	12 Sept 2018
Discussion of initial findings	27 Sept 2018
Draft report	19 Oct 2018
Final report	11 April 2019

1. Executive Summary

1.1 Overview

Transport Canberra and City Services (TCCS) engaged Vincents to undertake a review of the Gundaroo Drive duplication – Stage 1 Project Delivery. The audit reviewed the full lifecycle of the project to date with the exception of the procurement processes. There was particular emphasis on the role that TCCS played in project delivery.

This internal audit was initiated to provide assurance on the adequacy of project delivery outcomes, with a focus on the business case, design stages, the scope of the delivery method, the governance structure and advisory mechanisms and the construction phase of the project. A trigger for this audit included significant delays in the achievement of project milestones. In general, it was found during the audit that TCCS was proactively trying to modify governance and strategic leadership arrangements to prevent further time delays where possible.

All stakeholders interviewed cooperated to provide valuable information and other evidentiary input for the audit (including additional materials, references and information on a site visit).

The audit found that the most significant delays in the project related to:

- Management of utilities (75% of the 434 total days¹ delay formally agreed to with the Contractor) – lengthy contractual and works delivery negotiations with utility providers, lack of clear utility approval processes for works, and delays in commencement of works by utility providers, as well as significantly longer timeframes than anticipated to undertake the works such as relocation and integrity testing of utilities.
- Major scope changes to the project after commencement (47% of agreed total days delay including associated utilities management or 14% without utilities i.e. some of these delays overlay with the delays caused by the management of utilities) – scope changes and associated work to incorporate signalisation at the Mirrabai intersection.

These delays could have been minimised by:

- More effective planning such as utilities planning during the design phase and direct engagement with utility providers to expedite facilities management work and reduce delays for contractor;
- A strategic framework and arrangements for streamlined management of utilities;
- Improved management information flows and reporting to provide transparency for internal and external stakeholders, including reporting based on progress against schedule, rather than spend and historical data;
- Enhanced team skills mix between TCCS, Infrastructure Finance and Capital Works (IFCW) and Principal's Authorised Person (PAP) to strategically drive project delivery and reduce overlapping key responsibilities that can interfere with project delivery;
- More effective programming, rephrasing and key documentation to manage the project;
- More extensive contractual incentives for timely delivery by the Contractor; and
- A more collaborative partnership (reducing the 'silos') within TCCS, and between TCCS and IFCW, to avoid overlapping project roles, interference with contractual responsibilities and overall, improve the quality of project decision-making and communications.

The audit has also identified the following:

¹ EOTs are to be submitted and assessed in terms of lost or unproductive working days, which under the Contract are defined as 'Business Days' for the Contractor (excludes public holidays, Christmas shutdown, Sundays etc.).

- As a result of a misinterpretation of TCCS Management's instruction to complete the project in a timely manner, whilst still observing all safety requirements, quality standards and budget requirements, operational decisions are being made by the TCCS Project Manager to strategically expedite the project that do not fall under the contractual authorisation framework or the TCCS delegations framework; and
- The TCCS Portfolio Management Office is not properly positioned with project areas in TCCS and IFCW such that it is not able to effectively centralise and coordinate project management methodology, provide a set of tools to support management of projects, and support a viable project management system.

The audit has identified that some key contributing factors encountered during the project and lessons learnt are being effectively addressed in the Gundaroo Drive duplication – Stage 2 project delivery and audit recommendations could assist TCCS with improving the timeliness of future project delivery.

1.2 Purpose, Scope and Criteria

The purpose of this audit was to assess whether the project has been (and is being) managed in adherence with sound governance, project management and contract management practices. The audit identified the root cause and any related issues for delays and recommended immediate and appropriate actions:

1. To prevent further diversions from the project deliverables for this project; and
2. To inform project management practices for future projects managed by this division.

The scope of the audit included all phases of the project from initiation to the current day and a determination of whether the ACT Government has:

- Put in place arrangements to achieve sufficient capability for project delivery;
- A thorough understanding of the implications of the GC21 contract type in relation to this project (and in particular with variation and delay entitlements within the contract);
- Satisfactorily managed the Contractor performance and stakeholder requirements;
- Established a clear understanding of accountability and decision making authority for the project;
- Effectively ensured the implementation and adherence to the contract management plan;
- Ensured appropriate governance and processes were in place to manage variations and extensions of time (having regard to arrangements in place during the course of the project and newly proposed arrangements);
- Effectively managed planning and management of interactions between the ACT Government and other stakeholders, including private sector entities (such as Utilities providers);
- Provided adequate, timely and fit for purpose project reporting across government and the Principal Authorised Person (internally and including briefings to the Minister).

The audit also identified areas for improvement in the design and operating effectiveness of internal controls.

1.3 Conduct of the Audit

1.3.1 Methodology and Approach

The specified methodology that was followed during the audit is outlined in the Final Task Specification at Appendix A.

Fieldwork for the audit involved:

- Development of a testing program to establish the reasons for project delays and consider the effectiveness of the project delivery;
- Review of the key GC21 requirements that are relevant contractual and project management arrangements for Gundaroo Drive duplication – Stage 1;
- Conducting an examination of relevant documentation (including contracts, EOT registers, project plans, reports, risk management artefacts) to develop an understanding of project and contract management practices, key controls and causes of project delays;

- Interviews and consultation with key stakeholders to gain further understanding of project delivery including:
 - Consultation with twelve key stakeholders from TCCS and IFCW involved in management, monitoring and reporting on the project, including two TCCS project managers, their Senior Manager, the substantive and Acting Director of Capital Works for TCCS, the Executive Manager Commercial for TCCS, the IFCW Director and Project Officer for the project, the CIO and Head of the TCCS Portfolio Management Office, one of his team and the Manager in charge of Capital Works Budgets and Reporting; (A detailed listing of those consulted during the audit fieldwork has been separately provided to TCCS.)
 - Analysis of the technical aspects of the project and contractual management by the audit team specialist engineer and construction project manager, including Extension of Time (EOT) analysis;
 - Provision of advice during the audit fieldwork to the TCCS Senior Manager, Audit and Compliance Programs and two Directors in the business area, the Executive Director Transport Canberra Commercial and the A/g Director of Capital Works, addressing:
 - » Consideration of inclusion of a liquidated damages clause in key contracts; and
 - » Implementation of project management delegations for TCCS project managers; and
 - A site visit to view and confirm information provided during the interviews and consider practical issues related to site management; and
- Review of other evidence and research in relation to the scope areas, including best practice and benchmarking.

1.4 Summary of Findings and Recommendations

The table below provides summary findings and recommendations from the audit and indicates the related scope areas (as per Section 1.2 above) as well as the risk rating for each finding. Please refer to the risk rating legend below the table and Appendix H for more information on how the risk ratings were determined. Detailed findings are provided in Section 3.

Ref	Finding - in Summary	Risk	Relevant Scope Area – satisfactory understanding, management, adequacy/ timeliness of:								Recommendation – in Summary
			Sufficient capability	GC21 Contract	Contractor performance and stakeholder reqts	Accountability & decision authority	Contract Management Plan	Governance, Variations & EOT	Stakeholder/ utilities relations	Project reporting	
Project Management and Governance Framework											
3.1	Project governance and authorisation arrangements are not fully compliant with the delegations and contract authorisations framework and lack clarity for effective project delivery.	High		✓	✓	✓	✓	✓	✓	✓	1- Improve the clarity and effectiveness of project governance and authorisation arrangements, and ensure compliance with contractual arrangements and the delegations framework.

			Relevant Scope Area – satisfactory understanding, management, adequacy/ timeliness of:								
Ref	Finding - in Summary	Risk	Sufficient capability	GC21 Contract	Contractor performance and stakeholder reqts	Accountability & decision authority	Contract Management Plan	Governance, Variations & EOT	Stakeholder/ utilities relations	Project reporting	Recommendation – in Summary
Concept and Planning Phases											
3.2	Planning was not adequate to facilitate timely delivery of the project milestones, and lack of effective engagement with utility providers created significant project delays.	High	✓	✓	✓	✓	✓	✓	✓	✓	2- Improve planning, risk management and design processes and implement a strategic and operational framework for management of utilities.
Construction and Landscaping Phases - Implementation											
3.3	Project management arrangements, information and programming, reporting and relationships during project implementation did not optimally support timely delivery of the project.	High	✓	✓	✓	✓	✓	✓	✓	✓	3- Establish and maintain appropriate contractual and project management arrangements and stakeholder relationships to facilitate project delivery on time as well as to required quality and budget.

Risk Rating Legend:

Extreme	<p>Extreme Risk</p> <p>This is a major internal control or risk management issue that if not mitigated, will likely lead to:</p> <ul style="list-style-type: none"> • Significant issues for the overall function of TCCS; and/or • Severely threaten TCCS’s functional goals/objectives. <p>A finding with extreme risk will require a detailed action or plan to be implemented.</p>
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High	<p>High Risk</p> <p>This is a serious internal control or risk management issue that if not mitigated, will likely lead to:</p> <ul style="list-style-type: none"> • Lack of defensibility of some aspects of a TCCS project or program; • Inefficiency or lack of effectiveness within a TCCS project or program; and/or • Significant issues to the overall function of TCCS. <p>A high-risk finding will require senior management attention and/or a detailed action or plan to be implemented.</p>
Mod	<p>Moderate Risk</p> <p>This is an internal control or risk management issue that if not mitigated, could lead to:</p> <ul style="list-style-type: none"> • Loss of controls that may threaten the efficiency and effectiveness of some aspects of a TCCS project or program; or • More significant adjustment to the overall function of TCCS or a threat to TCCS’s functional goals/objectives to which the panels contribute. <p>A finding of moderate risk will require specified management responsibility.</p>
Low	<p>Low Risk</p> <p>This is usually a minor or less significant internal control or risk management issue that if not mitigated, may lead to:</p> <ul style="list-style-type: none"> • Loss of controls that may threaten the efficiency and effectiveness of some aspects of a TCCS project or program; or • Limited consequences for TCCS which could be managed as part of day-to-day activity. <p>A low risk finding can usually be managed by routine procedures and may be addressed by one or more management improvement suggestions.</p>

1.5 Conclusion

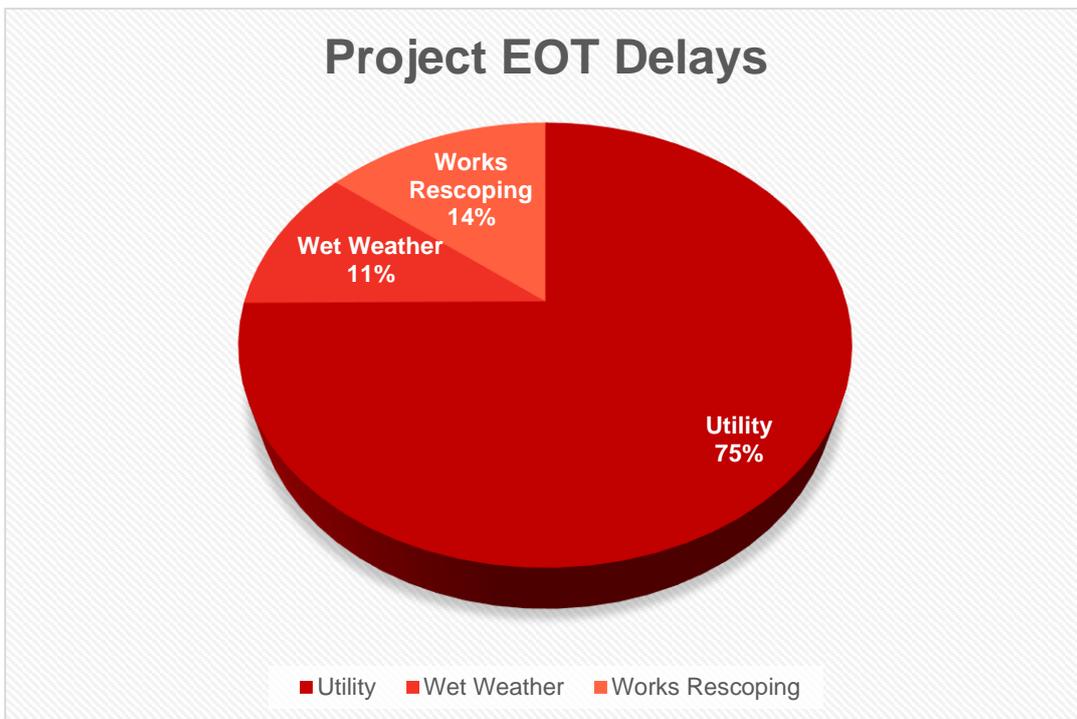
On the basis of the interviews as well as Extension of Time (EOT) analysis, benchmarking, best practice research and evidence obtained during the audit, overall it was found:

- As illustrated in the graphs below, most delays that were formally claimed by the Contractor and accepted were related to utilities management, including works planning, negotiation and utilities relocation, integrity testing and associated activity (325 days², 75% of delays). Full EOT analysis is outlined in Appendix B. These delays could be reduced through negotiating a strategic and operational management framework with the utility providers.
- 47% of delays that were formally claimed by the Contractor and accepted (203.5 days – a number of these days, 121.5, overlay with the delays for utilities management which equates to 14% without associated utilities management) were related to the significant change to the original scope of the project to construct signalisation at the Mirrabai Drive, Gundaroo Drive and Anthony Rolfe Avenue intersection and associated works, including flow on utilities management such as relocation of High Voltage underground electricity cables over the dam wall (Mirrabai Drive) after civil project works were already well advanced;
- Several other factors were identified that we believe could have minimised these project delays:
 - Better planning and contractual arrangements to facilitate timely delivery of the project milestones;
 - More effective engagement with utility providers;

² Please note that all reference to ‘days’ in this report are to Contractor working days. EOTs are to be submitted and assessed in terms of lost or unproductive working days, which under the Contract are defined as ‘Business Days’ for the Contractor (excludes public holidays, Christmas shutdown, Sundays etc.).

- Enhanced collaborative information sharing and knowledge management within TCCS (including sharing of key project information both up and down through the organisation) with IFCW and PAP and with other key external stakeholders;
- Key project staff required better strategic problem-solving/oversight skills with a solid technical grounding and 'driving mentality' to reduce or mitigate the impact of project delays;
- Appropriate project plans, reports and re-phasing/re-planning of the project to address significant scope and delay changes as well as effective programming throughout the term of the project.
- In addition the following key issues were noted:
 - As a result of a misinterpretation of TCCS Management's instruction to complete the project in a timely manner, whilst still observing all safety requirements, quality standards and budget requirements, operational decisions are being made by the TCCS Project Manager to strategically expedite the project that do not fall under the contract authorisations framework or the TCCS delegations framework; and
 - The TCCS Portfolio Management Office is not integrated with project areas in order to provide timely and appropriate advice and support.

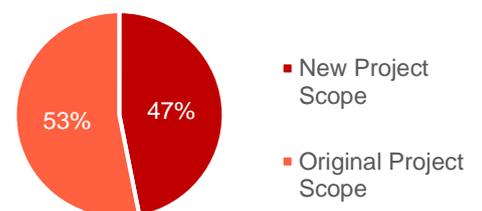
The audit identified 3 findings (refer table above), all of high risk. Further details on these findings and recommendations are provided in Section 3 of this report.



PROJECT EOT DELAYS - BY ORIGINAL & NEW PROJECT SCOPES

DAYS DELAY	Stacked Bar Data	
	Utility	Works Rescoping
Total	325	62
Original Project Scope	203.5	62
New Project Scope	121.5	0

Total EOT Delays - New vs Original Project with Associated Utilities

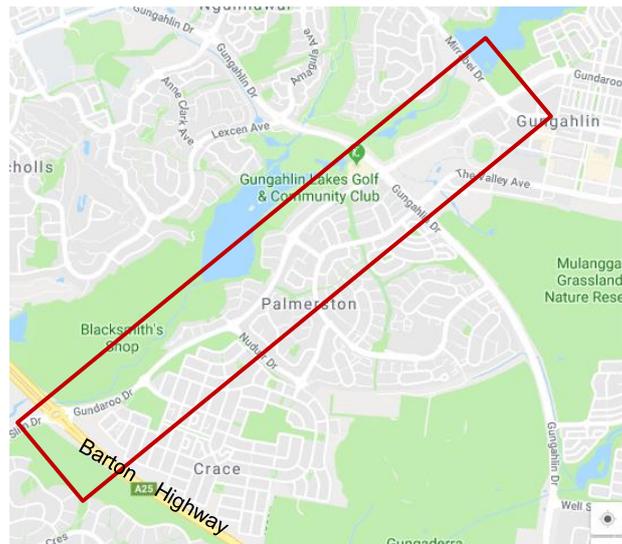


2. Background

2.1 Introduction

The design for a Gundaroo Drive Duplication between Mirrabai Drive and the Barton Highway (refer map below) was completed as part of the ACT Government 2012-13 Urban Improvement Program for \$1.5million³. This project is one of a series of capital works projects to improve the Gungahlin arterial road network. An early design assessment prior to the final design highlighted the need to establish utilities management requirements and obtain approvals as early as possible. Construction was recommended in two stages. The first priority was identified as completion of Gungahlin Drive to Mirrabai Drive followed by Gungahlin Drive to Barton Highway.

The Project Plan for the construction of the Gundaroo Drive duplication – Stage 1 was signed on 28 July 2015 (for the \$31.1 million duplication). The primary objective identified in the Project Plan was to improve the safety of Gundaroo Drive between, and including, the intersections with Gungahlin Drive and Mirrabai Drive⁴ and secondly, to reduce traffic congestion, with consideration of higher traffic flows due to the development of the suburbs of Throsby, Casey, Bonner and Moncrieff.



The Stage 1 project involved the construction of an additional carriageway for Gundaroo Drive between Gungahlin and Mirrabai Drives and was defined in 2015 to involve relocation and protection of various utilities/services including a high pressure gas main (on the north side of Gundaroo Drive between Nudurr and Gungahlin Drives⁶), TransACT optic fibre and Optus, IntACT and Telstra assets, and relocation and reconstruction of other road and local infrastructure including flag poles, CCTV cameras, and signage, as well as the primary construction of the carriageway, cycle lanes and widening of Girder

³ ACT Government. 2013-14 Capital Works Program: June 2014 Outcome Report. Attachment E.

⁴ Gundaroo Drive, between Gungahlin Drive and Mirrabai Drive experienced 239 accidents, the second highest number of accidents within the ACT in the 3 year period from 2011-2013. (ACT Territory and Municipal Services. (2015). *Project Plan: Gundaroo Drive Duplication Stage 1*. Version 2.0 March 2015. pg. 5.

⁵ Google maps 2018

⁶ The 250 mm gas main runs all the way through to Horse Park Drive however for this Gundaroo Drive duplication - Stage 1 project the part of the gas main impacted runs to Anthony Rolfe Ave/Mirrabai Drive.

Bridge (concrete I-beam bridge) for the construction of the carriageway and cycle lanes, construction of a new Super T Bridge and widening of roundabouts.

The ACT Government chose to use the GC21 General Conditions of Contract format for this Project. This form of contract is based on 'cooperative contracting' (refer further information in Appendix F).⁷ The Contractor was appointed for this project following an open and competitive tender process⁸.

Milestones and original Dates for Completion under the GC21 contract for the project were:

- Civil Phase 1 (Milestone 1) – Site establishment and approvals; relocation of all utility services; demolition of existing traffic islands; construction of new carriageway; construction of new bridge 1341; substructure widening of existing bridge 1228; construction of north side shared path and completion of street lighting, stormwater drainage and associated works – 32 weeks from Date of Contract (originally 20/09/2016);
- Civil Phase 2 (Milestone 2) – Casting of deck and remainder of works for existing bridge 1228; widening of the existing carriageway and associated works – 46 weeks from Date of Contract (originally 27/12/2016);
- Civil Phase 2 (Milestone 3) – Balance of civil and hard landscaping works; final WAE submissions for the civil works and draft WAE submission for the hard and soft landscaping works – 52 weeks from Date of Contract (originally 7/02/2017); and
- Soft Landscaping (Milestone 4) – Soft landscaping in both verges and median, including a 26 week consolidation period – 80 weeks from Date of Contract (originally 22/08/2017).

However, the full scope of the original project (including soft landscaping) was cited as due to be completed (based on Project Plan target dates) on 30 May 2017.

There was a major change to the scope of the project announced prior to the October 2016 election and included in the 2017-18 ACT Budget for the project. An additional \$2.8 million⁹ was allocated to upgrade the Gundaroo Drive and Mirrabai Drive intersection as an extension of the Stage 1 Gundaroo Drive duplication already underway. The roundabout at this intersection would be replaced with traffic lights, improving safety for pedestrians and cyclists and a second southbound lane on Mirrabai Drive would be constructed from Paul Coe Crescent to Gundaroo Drive (to provide additional capacity for vehicles turning right onto Gundaroo Drive). The change in scope resulted in a 62 Business Day Extension of Time (EOT) (claim agreed with the Contractor), which at the time, realistically would have pushed project completion of the Civil works construction phase into March-April 2017. The planned cost estimate was \$4.5million for this change in scope, actual costs are approximately \$5m¹⁰.

The original timeline for Gundaroo Drive duplication –Stage 1 is presented below based on Project Plan targets and contract timing shown by blue dots. Scope and timing changes are indicated by red dots. Stage 1 project site locations in 2015 and 2018 are also shown below the timeline.

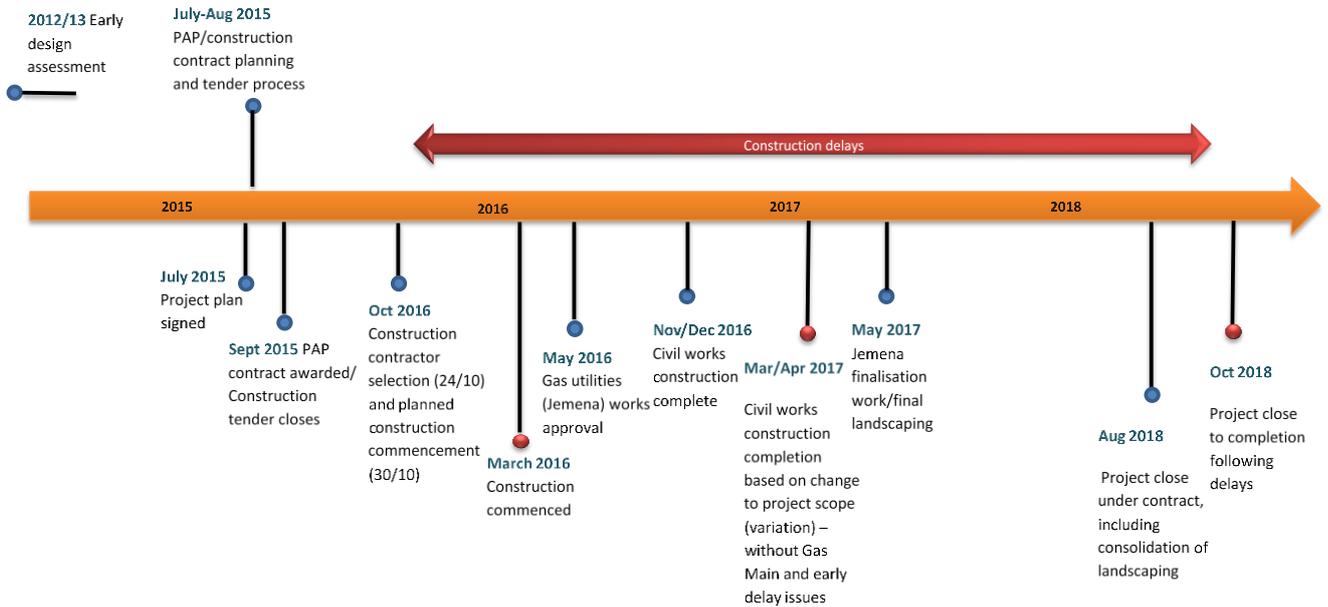
⁷ Contract numbers 2016.26677.301 and 2016.26677.401.

⁸ However please note that often there are limited tenderers who hold the necessary pre-qualification to apply for projects of this nature.

⁹ 2017-18 ACT Budget.

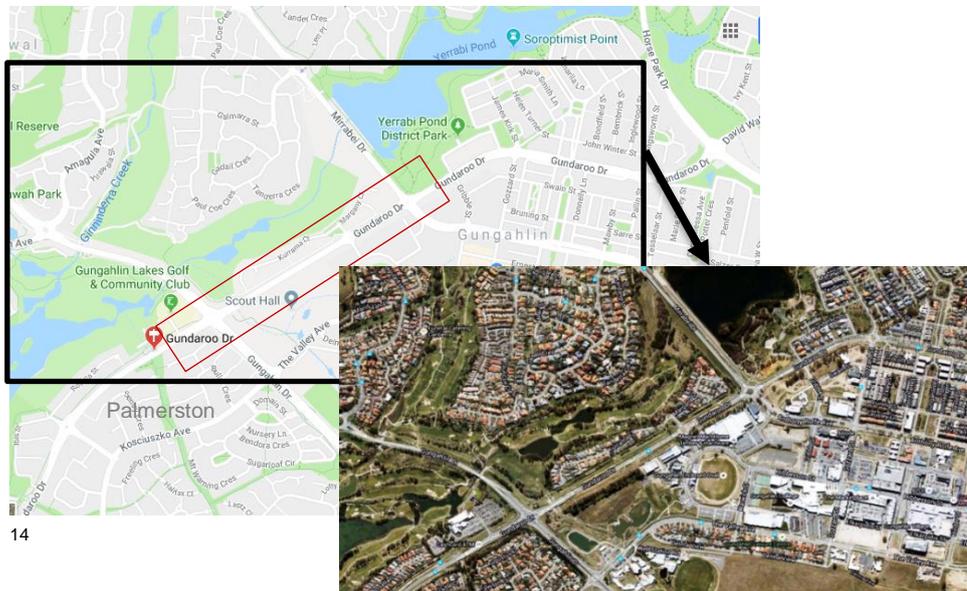
¹⁰ The total cost was approximately \$7m as at the time of the audit, \$5m is the residual after subtracting the cost for works that would have been incurred prior to the scope change.

Diagram 1 – Gundaroo Drive duplication – Stage 1 - Project Timeline



There were significant delays of 434 days¹¹ (62 weeks to 31 July 2018¹²) to the original timeframe for the project based on accepted EOTs to date (refer EOT Analysis at Appendix B) including the change in project scope. However, civil works construction is actually more than 17 months behind schedule even considering the additional scope of project work.

The Site in 2015



14

13

¹¹ EOTs are to be submitted and assessed in terms of lost or unproductive working days, which under the Contract are defined as 'Business Days' for the Contractor (excludes public holidays, Christmas shutdown, Sundays etc.).

¹² Please note that there may be more delays prior to project completion.

¹³ Google maps 2018

¹⁴ CityNews.com.au. Gundaroo Drive duplication going out to tender. 29 September 2015.

The Site in 2018 (prior to signalisation)



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16,17

2.2 Disclaimer

This report and Vincents deliverables are intended solely for Transport Canberra and City Services and other ACT Government internal use and benefit and may not be relied on by any other party. This report is provided subject to the terms of our engagement and may not be distributed to, discussed with, or otherwise disclosed to any other party without Vincents prior written consent. Vincents accepts no liability or responsibility to any other party who gains access to this report.

Our internal audit work (this audit) was limited to that described in this report and the terms of our engagement and performed as applicable in accordance with the International Professional Practices Framework (IPPF). It did not constitute an engagement in accordance with generally accepted auditing standards or assurance standards. Accordingly, we provide no opinion or other form of assurance with regard to our work or the information upon which our work was based. We did not audit or otherwise verify the information supplied to us in connection with this engagement, except to the extent specified in this report.

¹⁵ Google maps 2018

¹⁶ <http://www.wodens.com.au/project/gundaroo-drive-duplication-stage-1/>

¹⁷ The photograph is looking south from Mirrabee Drive roundabout, prior to signalisation.

3. Key Findings

3.1 Project Management and Governance Framework

FINDING

Project governance and authorisation arrangements are not fully compliant with the delegations framework and lack clarity for effective project delivery.

DETAILED OBSERVATIONS

Clear project governance (the process of project decision-making within a framework) is critically important for construction projects to ensure coherence between the realising of project objectives and the processes and resources used in a project. There were a number of issues identified in relation to the overall project management and governance framework for the Gundaroo Drive duplication – Stage 1 project. These issues are outlined below.

- **Governance arrangements are not clearly established and understood by stakeholders:**

- TCCS and IFCW each consider they have primary responsibility for project management in relation to the project.
- Technically speaking, under the contractual arrangements for the project the PAP is the sole entity charged with delivery of the construction phase of the contract, and as such, all directions to the Contractor should be resultant from the PAP, or one of their delegates (i.e. a Surveillance Officer). However, the current TCCS Project Manager is making operational decisions on the project site without delegation nor authorisation under the contract. This is based on their interpretation of an open-ended verbal directive from the TCCS Executive Director Commercial and the Acting Director of Capital Works to expedite the project, whilst addressing safety requirements, meeting quality standards and the approved budget¹⁸. Types of decisions and further information on this matter are provided in Appendix C. These actions significantly blur the lines of responsibility under the contract and on the project.

An exercise of a delegation (or a direction to spend) outside of the contract must be made in accordance with the requirements of the legislation from which the delegated power derives and the *Legislation Act 2001* (Legislation Act); and under section 232 of the Legislation Act, a delegation must be made, or evidenced, in writing and signed by the appointer.^{19,20}

- The TCCS Project Manager has also indicated adjusting Temporary Traffic Management (TTM) arrangements on site. The design and implementation of TTM Plans (TTMP) is a tightly controlled practice that requires appropriate training and certification. The Contractor/PAP should technically be refusing to make adjustments to site TTM arrangements, unless they are directly

¹⁸ As background for these observations it is noted that the Capital Works section of Capital Works and Development Support (from City Services in TCCS) was realigned within the Transport Canberra divisional structure from 1 July 2018 and the Chief Minister, Treasury and Economic Development Directorate (CMTEDD) Capital Works team joined TCCS Capital Works as part of machinery of government changes to create a single capital works group. Capital Works has reported through the Executive Director Commercial, and Transport Canberra from 1 July 2018 (and took responsibility for the project from that date); prior to 1 July 2018 Capital Works reported through City Services. The Acting Director of Capital Works commenced the acting position from 12 July 2018 (and only held responsibility for the project from this date). The current TCCS Project Manager referred to here was appointed to the project in mid-July 2018.

¹⁹ ACT Government. (2007). *Financial Delegations Better Practice Guideline*.

²⁰ The ability to sub-delegate to a public service officer only applies to Chief Executives - refer section 36(4)(a) of the *Public Sector Management Act 1994*.

issued by the Contractor’s traffic management subconsultant and are suitably certified for implementation.

- The TCCS Portfolio Management Office, responsible for TCCS project management (administering the Project Management Framework approved by the Transport Canberra and City Services Steering Board) is not involved in all project management framework discussions, including systems development for project reporting. The Executive Director Commercial is currently considering how the separate project management function, currently providing support to light rail projects, could be used to enhance delivery of capital works across TCCS.

- **Stakeholders do not have clearly understood and delineated roles and responsibilities:**

- TCCS and IFCW responsibilities have been set out in a document entitled *Responsibilities for Capital Works Management between Infrastructure, Finance and Capital Works (IFCW) and Transport Canberra and City Services (TCCS)*. The current version of this document is dated 13/9/18 and has been reported by TCCS and IFCW to be largely representative of the roles and responsibilities held during the project, these were formalised and updated in the current document from the earlier version dated 10/5/16.
- Of the 119 activities identified, 75 of these activities (63%) either need input from or are to be jointly performed by TCCS and IFCW. This indicates significant overlap of function. TCCS and IFCW could consider a more direct and efficient line of project management to reduce administration delays which is more aligned with more direct management of similar contracts in other jurisdictions (refer benchmark analysis at Appendix I).
- The responsibilities list does not include the contractual obligations of authorised persons under the contract arrangements, including the IFCW and the PAP (which are important for all parties to understand how the contracts confer rights or impose obligations on the Contractor, PAP, IFCW and TCCS and to be able to abide by the legally enforceable terms set out in the contracts).

There are four primary roles/Authorised Persons under a GC21 Contract: PAP, PSE, CAP and CSE (referred below) and it is important to understand how the contract activities relate to these roles:

- » Principal’s Authorised Person (PAP)
- » Principal’s (IFCW) Senior Executive (PSE)
- » Contractor’s Authorised Person (CAP)
- » Contractor’s Senior Executive (CSE)
- There is potentially double-handling indicated in the responsibilities listing e.g. IFCW reporting to TCCS on Program and Financial Reconciliation, when reporting against program is also performed by the PAP.
- The list does not identify when TCCS staff are required to exercise delegations. How these delegations interact with contractual rights and obligations should be clearly set out.
- Further, the distinction between key responsibilities and the nature of these responsibilities is still unclear for some activities and the list assumes that the project is managed in a static and linear fashion without any need to return to re-phase or modify the project design, plans and key project documentation (which should be performed for project scope changes and significant delays, such as have been experienced on this project). For example:
 - » It is advised that TCCS approves ‘major variations’ with input from IFCW, however a ‘major variation’ is undefined;
 - » The listing does not address who is responsible for procurement decision-making (including to prevent delays for the Contractor).
 - » The listing does not identify responsibility for updating key project documents, such as project plans and functional briefs for re-phasing based on delays and changes in project scope (outside of the ‘Procurement Stage for Design and/or Construction’). These documents were not properly updated for the project (refer more at finding 3.3).
 - » ‘Possession of site’ is identified as an IFCW responsibility however the comments note against this activity: *Issued by superintendent / project manager / PAP...* and ‘project manager’ is not defined.
- Some responsibilities identified for different activities in this list were determined not to be followed during the audit; for example:
 - » Responsibility for ‘Technical compliance review and verification of constructed works’ is allocated to IFCW, however this role is being partially performed by the TCCS Project

Manager. It is acknowledged that there is a clear need for a key member of the project team to be able to operate as the strategic 'driver' for the project and have critical thinking skills and enough technical knowledge to re-enforce the delivery of the project to time, scope and budget. Further information on this is provided in finding 3.3 below.

- » 'Reporting (update based on errors or omissions)' is by IFCW only, however significant project reporting is currently undertaken by TCCS without input from the IFCW contacts for the project. For example, project reports to ACT Treasury, the Minister and Legislative Assembly are prepared by TCCS. The accuracy and transparency of these reports is important when future decisions are made by these stakeholders based on this information, including decisions that impact on the current and future projects (this is further discussed at 3.3 below).
- » 'Financial, scope and program review and management' are identified as IFCW responsibilities 'in consultation' with TCCS. However, financial reviews are currently being led by TCCS (for external reporting), review of project scope will need to have reference to any scope changes decided by TCCS, such as implementation of the decision to signalise the Mirrabai Drive/Gundaroo Drive intersection, and programme review is the responsibility of the Contractor under the contractual arrangements.

IMPLICATION

Lack of clear governance, authorisation and accountability arrangements can significantly reduce the effectiveness of project oversight and delivery and create project delays.

As noted above, there are also potential liability issues associated with decisions that are made outside of the contract authorisation framework.

Recommendation 1			
Audit Risk Rating	Likelihood	Consequence	Risk Level
[High Risk (potential reputational risk and operational delivery risk with potentially major consequence)]	4 – Likely	4 – Major	16 – High

Improve the clarity and effectiveness of project governance and authorisation arrangements, and ensure compliance with contractual arrangements and the delegations framework:

1. Ensure all TCCS staff are following valid delegations and contract authorisations that support project delivery.
2. Develop a clear authorisations and accountabilities agreement with IFCW, the PAP and the Contractor that also reflects specific delegations under the contracts in force for delivery of the project. Link this agreement to decision process mapping for procurement and on and off site decision-making. Ensure these agreements are referenced and complied with by all parties involved in the project.
3. Consider adopting a more direct and efficient line of project management and ACT Government involvement to reduce administration delays. This should better streamline and control project oversight activity, contract and information management (including reporting) and delegated decision-making.

Management Comment

Recommendation 1.1. Agreed. TCCS will continue to provide information and training for project managers in relation to contractual arrangements, financial delegations and authorisations. TCCS note that on-site project managers will continue to make requests or suggestions through the IFCW contract manager and PAP to assist in project delivery. Decisions of the type referred to in Appendix C (the timing of tree removal, landscape treatments, removal of a guardrail barrier and undertaking asphalt works at night) are appropriately made on site where they are within project scope and budget and unhindered by financial delegation and payment authorisation arrangements.

Recommendation 1.2. Agreed. TCCS note the services agreement between IFCW and the Principal Authorised Person (PAP) already clearly establishes, among other things, the central role of the PAP acting as an agent for the Principal (TCCS). This is set out specifically in the Project Brief for PAP Consultancy Services and includes a role for the PAP in managing the main civil work contract ensuring that:

- The Principal’s contractual obligations are met;
- The programming and contract milestones are compliant with the main contract provisions;
- Contract related processes are finalised and closed in accordance with the construction contract;
- Disagreements and differences within the project team are dealt with by working cooperatively and acting sensibly to help the Contractor meet their contractual obligations;
- Every effort is made to avoid dispute escalation by using the relevant contract provisions including the Principal’s Senior Executive involvement;

Recommendation 1

- Variations, claims, issues and consequential additional funding requirements are managed in accordance with the construction contract.

TCCS also note the Project Brief specifically establishes the role of the PAP in relation to contract management, including the management of variations and circumstances in which the PAP must seek the Principal's approval of certain variations and extension of time claims.

While the contractual arrangements establish the authority of the PAP, TCCS notes that this does not preclude the Territory from making decisions on site about the asset and project delivery.

Recommendation 1.3. Partially Agreed. With respect to the general recommendation to improve the clarity and effectiveness of project governance, TCCS note that through 2018-19 new governance arrangements have been established for the delivery of capital works projects.

TCCS has established an overarching Infrastructure Delivery Committee (IDC), a decision-making body, accountable to the Deputy Director-General Transport Canberra, and ultimately the Director-General Transport Canberra and City Services.

The IDC, which meets monthly and comprises Senior Executives from across TCCS as well as representatives from IFCW and Treasury, has been established to provide support to, and governance over, the delivery of infrastructure projects managed by the Infrastructure Delivery branch of Transport Canberra. The specific objectives of the IDC are to:

- Ensure appropriate and timely coordination of the Projects and Program with the Infrastructure Finance and Capital Works branch of the CMTED Directorate and other ACT Government stakeholders;
- Ensure safety standards are maintained across individual Projects and the Program;
- Provide oversight of the Projects and Program to:
 - Ensure Project budgets are managed appropriately;
 - Ensure Project schedules are managed appropriately; and
 - Ensure Project quality is maintained;
- Provide strategic advice and make decisions in respect of the planning, procurement and delivery of individual Projects and the Program; and
- Effectively communicate relevant Project and Program information to asset owners in a clear and timely manner.

The IDC is in turn informed by two subcommittees: a Performance, Scope and Risk Subcommittee and an Urban Design Subcommittee.

TCCS has also established a specific Governance Group for the delivery of the Gundaroo Drive Stage 2 road duplication project, currently under construction from Gungahlin Drive to the Barton Highway. This executive level Governance Group meets regularly to monitor project health and progress of the works. This group offers an opportunity for setting strategic direction for the project as well as providing the executive support necessary to the project team to ensure successful delivery.

TCCS will consider the recommendation to adopt a more direct and efficient line of project management and ACT Government involvement to reduce administration delays. While acknowledging this recommendation merits investigation, TCCS note the recommendation is outside current government policy with any changes in relation to project delivery arrangements requiring agreement with IFCW as procurement and contract management partner.

In relation to project reporting, TCCS reports are reflective of IFCW input. However, given TCCS is the asset owner and the Minister for Roads does not have portfolio responsibility for IFCW, TCCS develops and tailors reporting for the Minister.

Action Officer

Damon Hall, Executive Group Manager Commercial, Transport Canberra

Recommendation 1	
Estimated Completion Date	Completed

3.2 Concept and Planning Phases

FINDING

Planning was not adequate to facilitate timely delivery of the project milestones, and lack of effective engagement with utility providers created significant project delays.

DETAILED OBSERVATIONS

Planning and contractual arrangements could have been more effective for stakeholder and project management including providing for contractual incentives for timely delivery of the project.

Utilities management was identified as the main cause of formal time delays (75%) accepted through formal extensions of time (EOTs) and above what was anticipated in the original project plan for relocation and protection of these assets (and services) (refer Diagram 1). This equated to total project delays of approximately 11 months over the duration of the project.

Approximately **\$847k** has been paid to the Contractor in delay costs on three separate occasions, all for delays related to service authorities:

- Jemena – \$600k claimed by Contractor, negotiated outcome at Senior Executive level was **\$320,792.73**
- TransACT – \$400k claimed by Contractor, negotiated outcome at Senior Executive level was **\$265,000.00**
- EvoEnergy – the variation registers in the PAP monthly report show **\$312,688.95** claimed and **\$261,284.02** approved to date.
- An additional \$32,856.89 has been claimed to date for the Ø300 watermain at Mirrabai Drive (that doesn't appear to be approved as at the July 2018 PAP report).

Utility-related delays are indicated in the table below (full EOT analysis at Appendix B).

Extension of Time Summary related to Utilities Management - Civil (Road and Bridge) Works			
Utility	Delay	Rationale for Delay	New Date for Completion
High Pressure Gas Pipeline (Jemena)	90 days (21% of all EOTs)	Delay associated with the High Pressure Gas Main issues in Gundaroo Drive (including works negotiation and integrity testing) EOT 1	29 July 2017
TransACT optic fibre	113.5 days (26% of all EOTs)	Delays associated with TransACT relocation and cutover works at Gungahlin Drive intersection EOTs 4,7 &11	Date not provided as grouped EOTs
11 kVA EvoEnergy electricity cables	71.5 days + 4 days (17% of all EOTs)	Delay associated with negotiating with ActewAGL/EvoEnergy for the High Voltage underground cable relocation at Mirrabai Drive Additional delay (15.1) due to reinstatement of the existing Mirrabai Drive pavement (associated with the underground cable relocation at Mirrabai Drive EOTs 15 and 15.1	19 September 2018

Extension of Time Summary related to Utilities Management - Civil (Road and Bridge) Works			
Icon Watermain	25 days (6% of all EOTs)	Delays caused by redesign issues with the 300mm diagram watermain to accommodate the new intersection with Mirrabai Drive EOT 21	22 October 2018
EvoEnergy column SL710-181	21 days (5% of all EOTs)	Delays associated with the removal of column SL710-181 which was in the new pavement area	21 November 2018
Total for Utilities	325 days (75% of all EOTs)		
Total all EOTs	434 days		

- Contractual and strategic engagement arrangements do not facilitate timely management of utilities relocation and associated works.**

 - Utility works negotiations favour the utility providers (in terms of cost and risk) due to limited timeframes and lack of pre-agreement / use of standard contracts. Consequently it is time-consuming to agree arrangements for utility works in relation to capital works with these providers (who want to shift all the risk to ACT Government).
 - There is no agreed stakeholder engagement and approval framework for streamlining management of utilities. However utilities management is a significant factor in whether projects will run to budget and time. Interviewed stakeholders confirmed that there are often protracted approval processes involved prior to commencement of utility works. Agreement may also be obtained at the Utility Head Office level and then the utility field staff sometimes disagree with the approved work plans, adding to the timeframe to obtain consensus.
 - There is no template contract agreed with utility providers for direct engagement in relation to utilities to improve the timeliness of utilities management (the advice we received was that the ACT Government Solicitor needed to be convinced on a case-by-case basis of the merit for a direct engagement arrangement with a utility provider – as has occurred on a lessons-learned basis for Gundaroo Drive duplication – Stage 2). A direct contractual engagement with each utility provider (rather than utilities management by the contractor) would likely improve the responsiveness of utility providers and remove interference to utilities management works.
 - For this project there was indirect engagement established via the Contractor and Designer, however this did not prove effective to streamline utilities approvals and works (refer issues noted in EOT Analysis at Appendix B).
 - The contract did not include provisions for completion of utilities works prior to Contractor possession of the site or under completely separate contract works, which would have reduced or avoided EOT delays (refer Appendix B) and associated delay costs in relation to the:
 - » Gas main, for delayed demolition, earth works and bridgeworks (EOT 1 of 90 days); and
 - » TransACT relocation of service works, impacts on Milestones 1, 2, 3 and 4 under the contract (EOTs 4, 7 and 11 of 113.5 days);
 - There was no variation of the contract to include provisions for Contractor completion of the southern part of the construction site first once the scope changed to reduce/avoid EOT delays (refer Appendices B & C) and associated delay costs in relation to the High Voltage service relocation works at Mirrabai Drive (EOT 15 of 71.5 days).
 - The Chief Engineer is currently pursuing development of a joint administrative approach to improve engagement with utility providers and outcomes for the ACT Government. This includes seeking agreement with the utility providers on high level governance arrangements (such as a public-private Steering Committee for the forward Capital Works program) to facilitate cooperation and effective interchange on long-term program planning and strategies to bring projects back on program (e.g. to avoid delays such as EOT 22 at Appendix B) (including, to manage community expectations). This may also assist TCCS to understand the technical standards and other considerations that utilities are subject to and optimise the location of utilities

at the stage of land development to avoid the need for future relocation. Facilitation of upfront utilities management to prevent avoidable project delays could require additional resourcing.

- **Contractual arrangements did not provide adequate incentive for the Contractor and IFCW to deliver on time.**
 - IFCW are funded for a flat 4% of the total contract value. This is regardless of whether the project is delivered on budget and to schedule.
 - The contract does not include the following clauses to address performance issues by the Contractor under the contract:
 - » Liquidated damages (refer further details at Appendix D); and
 - » Early completion bonuses – a bonus that will be paid to the Contractor for early substantial completion of work under the contract²¹.
- **Lack of effective planning, including utilities planning during the design phase:**
 - Planning documents do not incorporate confidence levels on project time and cost estimates for each proposed project before funding is confirmed to inform management of specific contingency requirements.
 - Insufficient potholing was initially performed in re-scoping for the intersection (design process) for the works across the dam wall (Mirrabai Drive) to determine that the depth of the 11 kVA EvoEnergy electricity cables was only 380 mm (expected to have 800mm cover) and was therefore too shallow to build over the cables, necessitating significant time to relocate the cables. This information could have been used to change the strategic management of the site.
 - Telecommunications fibre optic cable relocation was approved following completion of detailed design, but prior to project funding and commencement. This meant that AECOM (the designer) had to detail a revised alignment for the TransACT cable following identification on site (and alignment had to be revised again when the sub-contractor hit rock). The Contractor then commenced works, but had to wait for TransACT to complete the cutover from the old cable to the new cable, which impacted critical path earthworks.
 - EOT 21 (refer Appendix B) and associated delay costs may have been reduced if AECOM (the designer) had been updating designs relating to the 300mm water main more frequently based on utility requirements or the design had been better prepared initially to take account of the works.
- **Lack of effective planning for the change in project scope:**
 - As part of the decision to treat the changes to the project scope (signalised intersection at Mirrabai and Gundaroo Drives and associated works) as a variation, the project plan was not updated (it is noted that the project plan and functional brief were not updated at all during the project, and were first prepared in 2015; the dates remained inconsistent with the contract). There was no one up-to-date document that all stakeholders could refer to so as to understand the ramifications and management of the scope change (it is noted that IFCW developed their own documentation and also reported to TCCS on a frequent basis).
 - Following the scope change it was decided by the TCCS Project Manager at the time to consolidate milestone 1-3 into a single milestone that would include all the works necessary to effect the scope change. This decision was reached following consideration of alternative scenarios at a meeting attended by the TCCS Project Manager with IFCW and the Contractor in 5 May 2017 (this was negotiated by the Contractor as prerequisite to agreeing to perform the additional and changed scope of work). This may have added to the delays and uncertainty around subsequent project reporting and decision-making as it decreased the transparency and visibility of the project (especially the completion dates for the civil Milestones as they had all been absorbed into one). Efforts would have been better focused on the creation of a new Milestone to document the specific works for the change to the project scope.

²¹ It is noted that the contract does incorporate the incentive of a Completion Amount (2% of the Contract Price at Date of Contract) – where the earlier the Contractor achieves Completion, then the earlier they will receive the Completion Amount.

IMPLICATION

Inadequate early design and planning for utilities management creates flow-on delays in project delivery. Without strategic engagement management for utilities works planning and coordination, roads construction projects will continue to be significantly delayed beyond planned timeframes.

TCCS has limited leverage to ensure delivery of project outcomes to agreed minimum timeframes without adequate contractual incentives and shared plans that reflect the project scope and any changes to scope. These lessons learnt have been partially addressed on the Gundaroo Drive duplication – Stage 2 project which has used a direct engagement approach for contracting with utilities and staged possession of site.

Recommendation 2

Audit Risk Rating	Likelihood	Consequence	Risk Level
[High Risk (potential reputational risk and operational delivery risk with potential major consequence)]	4 – Likely	4 – Major	16 – High

Improve planning, risk management and design processes and implement a strategic and operational framework for management of utilities:

1. Incorporate and review the adequacy of confidence levels (and assumptions) on project time and cost estimates for each proposed project before funding is confirmed and incorporate this in project risk management.
2. Ensure designs incorporate utilities impacted by the construction (and assumptions are properly tested before being accepted).
3. Engage in regular strategic and operational meetings with nominated utility provider officers on upcoming capital works projects and the capital works program (3-5 years prior to works commencing where possible and then to facilitate completion of project including to reduce or avoid delays). Utility providers will benefit by being provided some certainty on upcoming work for cost-effective planning purposes and be able to pro-actively address community expectations in conjunction with the ACT Government.
4. Standardise operating procedures and training for utilities works management by the project team, outlining the minimum requirements to be complied with when managing relations with utilities.
5. Utilities risk management planning should be given prominence for all Capital Works projects, and should address treatments including adoption of contract terms that will reduce delay costs paid to contractors related to utility delays (such as delayed possession of part/all of construction site for up to 6 months to allow for utility-related works to be completed).
6. Consider inclusion of contractual performance incentives for timely delivery of the project (such as liquidated damages and early completion bonuses).
7. Continue to develop joint and pre-agreed administration arrangements with utility providers for utilities management.

Management Comment

Recommendation 2.1. Agreed. TCCS will continue to ensure adequate time and cost estimates are developed for each project before funding is confirmed and incorporate this in project risk management. TCCS note this is a key a requirement of the ACT Government’s Capital Framework, which was introduced in 2015-16 to guide project initiation and planning.

Recommendation 2.2. Agreed. As part of its project planning activities, TCCS will ensure designs incorporate utilities impacted by the construction (and assumptions are properly tested before being accepted).

Recommendation 2

Recommendations 2.3 and 2.7. Agreed. TCCS note the (then) Minister for Transport and City Services wrote to the Chief Minister concerning the impact that services and utilities have on the delivery of infrastructure across the ACT and requested the assistance of the whole of Government Infrastructure Planning and Advisory Committee (IPAC) to consider the issues and prepare options to address the matter.

IPAC endorsed the formation of a Services and Utilities Working Group to examine this issue and to recommend options to address these matters, including:

- Better engagement with services and utilities;
- Governance arrangements;
- Better exchange of information to facilitate better management of resources;
- How projects are best structured;

The Services and Utilities Working Group is chaired by the Chief Engineer of the ACT and is comprised of senior executives across government, including from TCCS.

More specifically to project delivery, TCCS will continue to work in conjunction with IFCW to:

- Review the role and impact of utilities in TCCS projects. Aspects of this commenced in 2018 with the establishment of a joint TCCS and IFCW utilities strikes working group which included both a focus on safety as well as delays within capital works projects.
- Establish working groups with utility providers to improve outcomes in both the planning and delivery stages of works throughout the project lifecycle.

Recommendation 2.4. Agreed. TCCS will work with IFCW and the Chief Engineer to standardise operating procedures and training for utilities works management.

Recommendation 2.5. Agreed. TCCS has adopted a risk management approach to utilities planning on Gundaroo Drive Stage 2 (between Gungahlin Drive and the Barton Highway). This has included structuring the delivery of the project to include a delayed possession of part of the construction site to allow for utility-related works to be completed.

Recommendation 2.6. Agreed. TCCS note the recommendation to consider including contractual performance incentives for timely delivery of the project (such as liquidated damages and early completion bonuses). The inclusion of these incentives is routinely considered by TCCS and IFCW on a project by project basis, with liquidated damages generally included within a tender where a genuine pre-estimate of loss arising from a project delay can demonstrated.

With respect to the Gundaroo Drive Stage 1 project, TCCS note it is unlikely that liquidated damages would have applied as the contractor was awarded extensions of time (EOT) for issues outside of their control such as third-party utilities risk, wet weather events and scope changes. Through these valid EOT claims, the contract date for completion was extended.

Action Officer	Damon Hall, Exec Group Manager Commercial, Transport Canberra
Estimated Completion Date	Recommendations 2.1, 2.2, 2.5 and 2.6 are Completed. Recommendations 2.3, 2.4 and 2.7 by 31 December 2019, noting these are not within the direct control of TCCS.

3.3 Construction and Landscaping Phases - Implementation

FINDING

Project management arrangements, information and programming, reporting and relationships during project implementation did not optimally support timely delivery of the project.

DETAILED OBSERVATIONS

The review of the Gundaroo Drive duplication – Stage 1 Project delivery found that delays during the implementation phase of the project (in addition to flow-on delays mentioned in the previous sections) were likely also caused by a lack of effective information-sharing and reporting within TCCS and also between TCCS and IFCW.

These arrangements encompass maintenance of key project documentation and reports, key stakeholder roles, responsibilities and authorisations for delivery, monitoring and support of the project.

- **Programming used for delivery of the project was not updated in a timely way to reflect critical path activity and monthly progress claims lacked detail.**
 - There were clear compliance issues by the Contractor in not updating the program as required under the contract to reflect changes to critical path activities. These issues were addressed unsuccessfully with the Contractor by TCCS during the project. The Contractor was only updating the program after an EOT was applied for, rather than to reflect progress against the critical path.
 - Up-to-date programming is critical for the PAP and IFCW to be able to properly assess EOT and delay cost claims and successfully oversee project activity under the contract.
 - The Contractor's monthly progress claims were typically lacking in information and detail, resulting in time to address matters between the PAP and the Contractor in order to certify the claim. However, under Clause 63 of GC21 General Conditions of Contract, the Contract only allowed for 10 Business Days for provision of a progress certificate, often meaning claims were rushed and improperly reviewed.
 - There were other concerns expressed by most stakeholders interviewed about the Contractor's general lack of efficiency in undertaking work under the contract, however quality was not indicated as an issue.
- **The Request for Information (RFI) process was inefficient.**
 - The RFI process for the project was particularly convoluted and inefficient in that RFIs were raised by the Contractor, passed to the PAP, who then passed these on to IFCW for ultimate submission to AECOM. The RFI response would follow the same route, but in reverse. This would add 2 – 3 days (minimum) on to the typical RFI resolution process for each individual RFI raised. This also reduced the usefulness of the PAP quite considerably in being able to take a driver's seat in raising and resolving issues from a site level in a timely manner. A typical process during a project would be Contractor > PAP > AECOM, whilst copying IFCW/TCCS into all correspondence.
 - It is noted that there were a total of 165 RFIs requiring support from the designer for the project to 31 August 2018 (the table below outlines the topics of the most common RFIs during the project).
 - There were difficulties noted in arranging for AECOM (as the design consultant) to attend site for progress meetings and review of design issues. There was a provision for RFI response and management within their engagement, but no additional provision of attendance on site to meetings etc.

Most common design support / RFI matter		Nos.	%
	Bridge	38	23%
	Stormwater, sub-soils & drainage	34	21%
	Traffic Signals & TCD's	33	20%
	Setting out	22	13%
	Noise wall	10	6%
	Landscape	6	4%
	Streetlighting & LV Supply	5	3%
	HV ActewAGL	5	3%
	HP Gas Pipeline	3	2%
	Other	9	5%
	Total to date	165	100%

Version / Source : RFI Register MPR August 2018

Project progress monitoring and reporting is ineffective.

- Fortnightly progress meetings between the PAP, IFCW, TCCS and the CAP are now not being held on the project site, limiting the understanding of practical considerations that need to be addressed and, potentially, the effectiveness of decision-making to ensure timely project delivery (refer Appendix G for the main meetings all key stakeholders attend).
- Review of project progress and reporting is based on spend rather than against schedule (based on historical financial information and financial forecasting rather than actual project delivery against milestones). See for example the extract from the June 2018 TM1 Detailed project report below which identifies that the project is still 'on track' even though it is significantly delayed from the approved timeframes in the 2015 project plan (which is mentioned further down in the report).
- TCCS project reports are open-ended and therefore the type of information being entered is very subjective (differs greatly between the TCCS Project Managers). IFCW/PAP do not review these reports.
- This reporting is produced from information entered into the TM1 interface with limited details by the TCCS Project Managers (on an 'honesty basis') without any quality assurance over this information by stakeholders with appropriate understanding of the actual state of project delivery (these reports are not reviewed by IFCW officers). The Manager then reporting this information to TCCS management and external stakeholders retains no project, risk management or procurement plans, PAP or other reports to check the accuracy of what is entered by the TCCS Project Managers.
- TM1 meetings to confirm the details of reports for external stakeholders are not attended by the IFCW officers or PAP responsible for each of the projects and therefore can only give a very high level overview of project performance (mostly around spend).
- TM1 Executive Summary and Detail Reports are not retained by TCCS 'as they change monthly' (we could only obtain the last 3 months for the audit).
- External project reporting uses information only from the achievements section (refer example report below), and provides a positive and not entirely accurate or realistic narrative on how the project has been progressing.

Achievements section – Apr to June 2018

- Jun 18 - Finalisation of asphalt in the vicinity of the Golf Club, installation of kerbs along Gundaroo Drive median, application of prime to gravels on Mirrabai Drive, asphalt works along Gundaroo Drive between Nari Street and Gungahlin Drive, installation of pedestals for pedestrian crossing lights

- May 18 - Earthworks completed and stormwater underway for Gundaroo Drive widening between Nari Street and Gungahlin Drive. LV electrical relocation near Geocon completed. Asphalt placement around Gundaroo/Mirrabei intersection. Removal of major street light and telco antenna pole in Gundaroo/Mirrabei roundabout
- Apr 18 - Earthworks for widened carriageway, earthworks, stormwater and gravel placement on Mirrabei Drive completed.

- The above issues reduce the quality and transparency of information and reporting to key internal and external stakeholders and limit the ability of these stakeholders to actually understand how the project is tracking and make informed strategic decisions in relation to the project.

Transport Canberra and City Services

Detailed Project Report - TAMS1535087C - Gungahlin Gundaroo Drive Duplication

click here for instructions

Year: 2017-2018 | Month: Jun | Scenario: Mid Year Budget | Location: X_W6000011073_Y_4188876_2660

DETAILS

Oracle Project #: 35887 | Asset Class: Infrastructure | Project Status: **On Track** | Invoices: 773-79001-211287-XX-35887-9999-9999

Work Type: Works in Progress | Funding Source: Capital Injection | Business Unit: 762_Heads

Project Stage: Active | Project Manager: Steven Hare | PCW Contract Mgr: Neel Boniface

FINANCE

Financial Indicators - Whole of Life		Financial Indicators - Current Year		Current Year Progress		
Original Approval	31,185,000	Original Approval	12,000,000	Month	Mid Year Budget	Actual / Forecast
Variations	-	Variations	-	July	358,636	1,674,944
Current Approval	31,185,000	Rollovers	1,458,000	August	1,900,000	1,356,295
Spend to Date	24,410,769	Spend to Date	9,303,095	September	900,000	901,720
Unspent Funds	6,774,231	Unspent Funds	2,775,243	October	1,200,000	1,068,983
				November	1,900,000	45,367
				December	800,000	962,993
				January	600,000	533,963
				February	950,000	50,905
				March	200,000	2,78,891
				April	1,900,000	1,273,514
				May	700,000	350,276
				June	665,304	1,052,396
				Full Year	12,076,000	9,303,095
				Variance		2,774,905
				Variance %		23.18%

MILESTONES

Milestone (Whole of Life)	Yes/No	Original Date	Revised Target	Actual Date
Is a Functional Brief Required?	Yes			
What is the Functional Brief lodgement date?		Jul-15	Jul-15	Jul-15
What is the Functional Brief acceptance date?		Jul-15	Jul-15	Jul-15
Is a tender (other than const) to be released?	Yes	Sep-15	Sep-15	Sep-15
Is a Final Sketch Plan to be completed?	No			
Is a Development Application to be lodged?	Yes	Jun-15	Jun-15	Jun-15
When will the DA be approved?		Sep-15	Sep-15	Sep-15
Are any other approvals required? (EIS, Works Approval, NCA)	No			
Is community consultation required?	No			
Is stakeholder consultation required?	No			

SCOPE

Define Project Scope: The Government will start construction of the duplication of Gundaroo Drive between Gungahlin Drive and Mirrabei Drive, and construct associated infrastructure to improve traffic flows in the Gungahlin area.

Is the project being delivered in accordance with the Project Plan? Yes

If not, why not?

SCHEDULE

Is the project on track to meet planned completion date? No

If not, what measures are being taken to minimise time impact?

The relocation of the gas in particular involved a major inspection and remediation of the high pressure gas pipeline prior to the commencement of the works. The implementation of these works undertaken by the asset owner resulted in some 5-6 months delay in the commencement of the road works. In addition, the upgrade of the Mirrabei Gundaroo Drive was additional work added to the scope of this project as part of the ACT Government's Election commitments to Gungahlin residents. The inclusion of these involved undertaking additional design and development including the relocation of High Voltage cables providing electricity to Gungahlin Town Centre which further added to the construction program. The cumulative impact of the delays in relocation of service and additional scope of works to the project have resulted in significant delays in the project not previously forecast.

BUDGET	Risks	Is the project currently tracking on budget? <input type="text" value="No"/>
	If not, provide an explanation: <div style="border: 1px solid #ccc; padding: 5px; min-height: 20px;"> Physical progress on the project has been delayed due to the relocation of High Voltage cables on Minabai Drive. </div>	
RISKS/ISSUES	Risks	<div style="border: 1px solid #ccc; min-height: 60px;"></div>
	Issues	Stage 2 gas main relocation works will start in 2018. It is a critical path, as well as construction works. The project is scheduled to be 8 months due to the issues experienced with Jemena and Transact and ACTEWAGL on site, and the extended scope due to the signalisation of the Minabai Drive intersection. An election commitment to signalise the Minabai Drive Gundaroo intersection has been made and works are underway on this component.
		Have you managed the identified risk? <input type="text" value="Yes"/>
		If not, what measures are being taken to mitigate the issue? <div style="border: 1px solid #ccc; min-height: 20px;"></div>
ACHIEVEMENTS	Achievements	
	Jan 16 - Finalisation of asphalt in the events of the Coll Club, installation of kerbs along Gundaroo Drive median, application of grime to gravels on Minabai Drive, asphalt works along Gundaroo Drive between Hill Street and Gungahlin Drive, installation of pedestrian footpath between crossing lights. May 15 - earthworks completed and storm water underpass for Gundaroo Drive widening between Hill Street and Gungahlin Drive. LV electrical relocation near Ciccon completed. Asphalt placement around Gundaroo/Minabai intersection. Removal of major street light and below emergency pole on Gundaroo/Minabai roundabout. Apr 16 - earthworks for widened carriageway, earthworks, storm water and gravel placement on Minabai Drive completed.	
PROJECT OVERVIEW	Project Overview	
	Feb 16 - Agreement reached with Jemena for gas investigation and Safety Management Study conducted. CERF submitted to EPA by contractor. Additional insurance for gas investigation works secured. Sep 15 - constructability review completed. PAP tender released, construction tender released and media release on this. Jemena proposal received and reviewed. Conversations with Jemena commenced. Proposal due 21 Aug. August 15 - Tender documentation ready. Tenders to be called in September 16.	

- **A ‘silo mentality’ exists between TCCS (at the senior management and working levels) and IFCW, that inhibits collaboration to achieve project deliverables in reduced timeframes, including through reduced flow of accurate and timely information for decision-making during the implementation of the project.** As a result:
 - On ground IFCW staff were unaware of TCCS Executive instructions to reduce/compress the timeframe to deliver the project until very late May 2018. They were however, discussing with the TCCS Project Manager whether the timeframe could be shortened and advised TCCS that compressing the program would have resource and cost implications on the Contractor that would be recoverable under Acceleration clause 56 in the contract. TCCS made it very clear they did not want another cause for extra costs until late May 2018. IFCW has indicated that if they were fully aware of the TCCS Executive priorities they would have proposed a different approach for delivery to complete the southern part of the site first (and clear this part of the site for full public use).
 - There is no single ‘source of truth’ in terms of a summarised management report that all stakeholders share and can refer to in terms of understanding current obstacles and progress. TCCS have indicated that they do not receive key reports (particularly the ‘Green Sheet’ – example provided at Appendix E) from IFCW that would provide valuable transparency on the current status of the project.
 - IFCW and TCCS Project Management staff have identified intervention in the on-ground project delivery based on un-minuted TCCS Senior Management agreements with the Contractor (refer further details in Appendix F). This has impacted on the confidence of operational staff in both TCCS and IFCW.
 - There is little evidence of communications between the TCCS Portfolio Management Office and the TCCS Manager in charge of budget and project reporting to internal and external stakeholders. The PMO has not been engaged on project management framework discussions

and systems development. This reduces the quality and consistency of project reporting, management information and practice.

- The current project management system (Microsoft Project Server 2003) is out of date and not user friendly and although there are discussions underway on implementation of two new systems, PMARS (a financial reporting system, that some stakeholders thought was a project management system) and a tool to support project management at a whole of government level, Service Now²², not all key stakeholders have been invited to participate in these meetings.
- It is important that any future system include input from all key stakeholders.
- **Project team skills mix did not always adequately address strategic ‘driver’ and technical oversight skills required to improve the timeliness of project delivery.**
 - The audit found that a key factor to a well-performing project is that at least one member the project team (PAP, IFCW or TCCS) that oversees the project delivery has the appropriate mix of strategic problem-solving and appropriate technical knowledge (years of experience) and are a ‘driving force’ for project delivery. Their experience is key to understand how to provide advice/decisions to best progress the on-ground works.
- **Risk management is not centrally controlled with input from all key stakeholders.**
 - Project risks are managed on a disparate and inconsistent basis by all the different parties in relation to the project.
 - The TCCS Project Managers manage risks on and off system in very different ways, including some management on separate Excel spreadsheets. Other TCCS Project Managers use the issues register from the Scheduling Tool (TPMO). However there was concern expressed that management did not use this tool, despite it originally being championed by management. As a result items identified in the issues and risk register were generally separately notified to management as necessary through other formal or informal communication channels, including at progress and capital works committee meetings.
 - The project risk plan prepared by IFCW following contract approval is contained in the procurement plan minute which is signed off by IFCW and the TCCS delegate.

IMPLICATION

There is (and was) no fully cohesive, high performing team and properly informed decision-makers to promote timely and effective delivery of the project.

Recommendation 3			
Audit Risk Rating	Likelihood	Consequence	Risk Level
[High Risk (potential reputational risk and operational delivery risk with potential major consequence)]	4 – Likely	4 – Major	16 – High

Establish and maintain appropriate contractual and project management arrangements and stakeholder relationships to facilitate project delivery on time as well as to required quality and budget.

To achieve this, it is recommended that TCCS:

1. Review and implement new strategies to keep Contractor programming updated and obtain appropriate monthly claim details, as well as to involve the designer to expedite their input (such as for RFIs), e.g. incorporating stronger penalty clauses in the contract and reinforcing more frequent updates.

²² <https://www.servicenow.com/solutions/role/project-management.html>

Recommendation 3

2. Consider co-locating project/contract managers on specific, significant projects from TCCS and IFCW to reduce operational and cultural silos, improve sharing of project management information and enhance decision-making (i.e. to create time savings and delivery gains through shared knowledge and experience).
3. Seek to agree with IFCW on the selection of an appropriately authorised ACT Government representative (of both TCCS and IFCW) with strategic ‘driver’ skills and significant construction experience, including with immediate approval delegations to expedite just-in-time decision-making on the project site (including timely management of RFIs).
4. Develop a single Project Management Manual with IFCW (including through joint input from TCCS PMO, TCCS/IFCW management and TCCS/IFCW project staff) that defines key project responsibilities and reporting requirements (including when programs, project, risk and procurement plans need to be updated and which system/tool to use), and quality assurance and records-management requirements to be referenced throughout the project by all key project stakeholders.
5. Ensure that key documents that explain project management are kept current (including contracts, project and risk management plans, functional briefs, procurement plans, contract programme etc.).
6. Engage a cultural transformation expert to improve cultural perceptions and working relationships (including facilitated discussions) between:
 - a. TCCS Executive Management and IFCW
 - b. TCCS Senior Management and IFCW
 - c. TCCS Project Management staff and IFCW
 - d. TCCS PMO and Executive Management
 - e. TCCS PMO and Manager of Capital Works Budgets and Financial Reporting.
7. Hold fortnightly progress meetings between the TCCS project manager, IFCW, PAP and contractor on site to facilitate close understanding of project management issues and appropriate resolution.

Management Comment

Recommendation 3.1. Partially Agreed. TCCS will work with IFCW as contract manager to review mechanisms to ensure Contractor programming is updated and appropriate monthly claim details are obtained. TCCS will also work with IFCW to assess whether improvements can be made to design input during construction.

Recommendation 3.2. Agreed. TCCS will, wherever possible, co-locate project/contract managers on specific, significant projects. The Infrastructure Delivery team has set aside space within their offices for IFCW staff to work remotely and co-located with TCCS project managers.

Recommendations 3.3 and 3.6. Not Agreed. TCCS notes the recommendations to appoint an appropriately authorised ACT Government representative (of both TCCS and IFCW) and to engage a cultural transformation expert to improve cultural perceptions and working relationships. Key personnel involved in the Gundaroo Drive Stage 1 project are no longer involved in the delivery of capital works projects. As such, this aspect is not agreed.

TCCS will continue to work closely with IFCW to achieve improvements in these areas. TCCS has included IFCW representatives in the Infrastructure Delivery Committee and Performance, Risk and Scope Subcommittee; established a Client Information Panel to provide regular updates on the progress of significant projects; and establishing an Executive level Governance Group including IFCW and the PAP to support the delivery of the Gundaroo Drive Stage 2 project.

Recommendations 3.4 and 3.5. Agreed. TCCS has developed a project management governance document, endorsed by the Project Scope and Risk Sub-committee and Infrastructure Delivery Committee, which define key project responsibilities and reporting requirements between TCCS and IFCW.

Recommendation 3.7. Partially Agreed. TCCS and IFCW will ensure regular project control meetings. Where practicable on large scale projects and depending on the phase of project delivery,

Recommendation 3

this will be fortnightly and on-site. TCCS note this approach may not be suitable for smaller urban projects.

Action Officer	Damon Hall, Exec Group Manager Commercial, Transport Canberra
Estimated Completion Date	30 July 2019

Appendix A – Final Task Specification

Provided as a separate document.

Appendix B – EOT Analysis

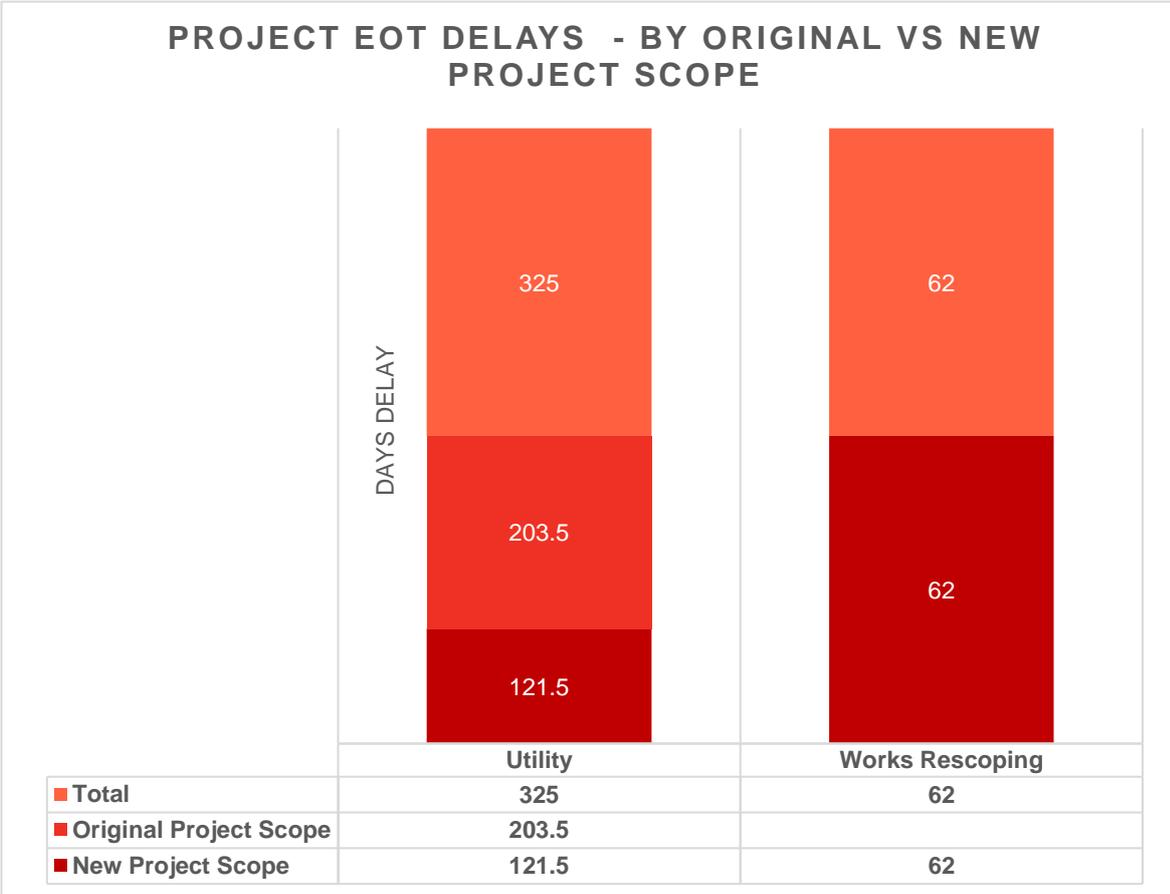
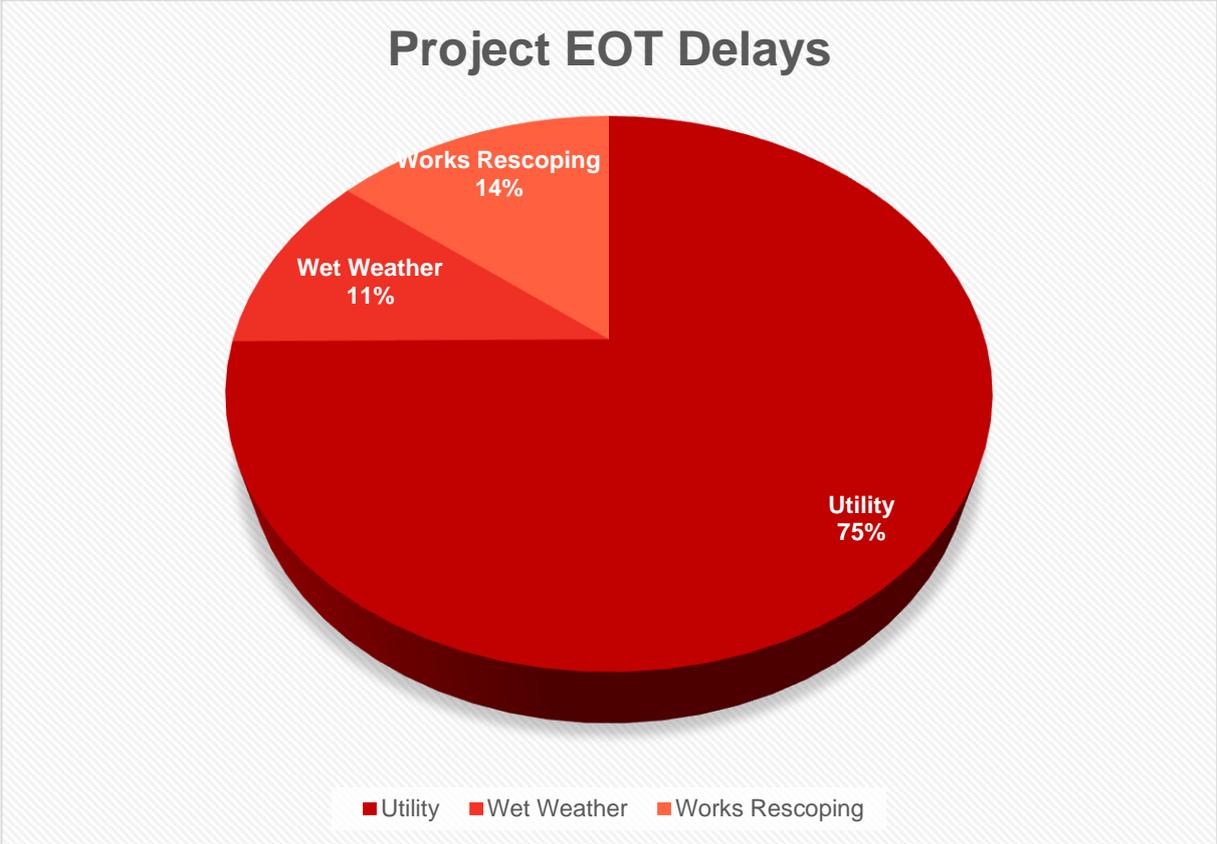
The following tables and graphical analysis present the results of the high level Extension of Time analysis (relating to review of the formally claimed and accepted extensions of time throughout the project). The last table in the attachment (in landscape) presents the full EOT assessment.

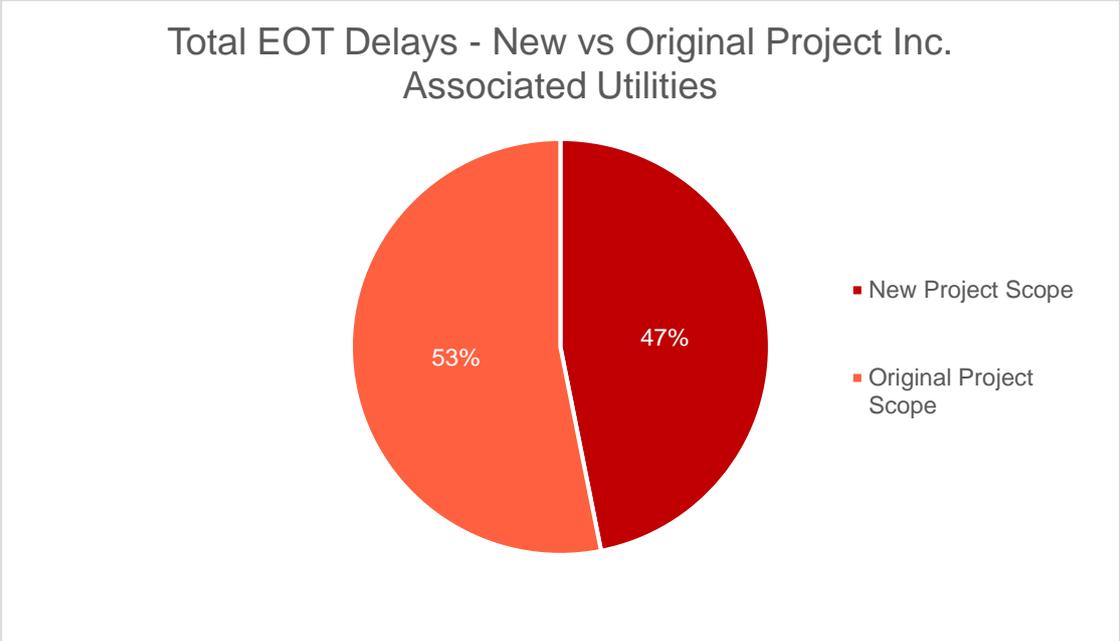
Extension of Time Summary – Civil (Road and Bridge) Works

Infrastructure / Matter	EOT and time	Summary Rationale for Delay	New Date for Completion
High Pressure Gas Pipeline (Jemena)	90 days – EOT 1	Delay associated with the High Pressure Gas Main issues in Gundaroo Drive (including works negotiation and integrity testing)	29 July 2017
TransACT optic fibre	113.5 days – EOTs 4,7 &11	Delays associated with TransACT relocation and cutover works at Gungahlin Drive intersection	Date not provided as grouped EOTs
Signalisation and associated Mirrabai Drive work	62 days – EOT 12	Delay caused adding the Mirrabai Drive variation work approved 12 July 2017	3 May 2018
11 kVA EvoEnergy electricity cables	71.5 days – EOT 15 4 days – EOT 15.1	Delay associated with negotiating with ActewAGL/EvoEnergy for the High Voltage underground cable relocation at Mirrabai Drive Additional delay (15.1) due to reinstatement of the existing Mirrabai Drive pavement (associated with the underground cable relocation at Mirrabai Drive)	19 September 2018
Icon watermain	25 days – EOT 21	Delays caused by redesign issues with the 300mm diagram watermain to accommodate the new intersection with Mirrabai Drive	22 October 2018
Streetlight controller and removal column	21 days – EOT 22	Delays associated with streetlight controller and removal column No. SL710-181 at the Mirrabai Dr intersection	21 November 2018
Wet weather	47 days - Other	Includes Adverse effects of wet weather to critical earthworks and pavement works	28 November 2018

Extension of Time Summary - Civil (Road and Bridge) Works – with reference to Scope

REASON FOR DELAY			
	Independent of Project Scope Change	Project Scope Change related	Total EOT Days
UTILITY – RELATED Utility works (including negotiation and approval, relocation and integrity testing)	203.5	121.5	325
<ul style="list-style-type: none"> High Pressure Gas Pipeline (Jemena) TransACT optic fibre EOTs 1, 4,7 &11	<ul style="list-style-type: none"> 11 kVA EvoEnergy electricity cables on Mirrabai Drive 300mm Icon Watermain (redesign issues to accommodate the new intersection with Mirrabai Drive) Delays associated with streetlight controller and removal column No. SL710-181 at the Mirrabai Dr intersection EOTs 15, 15.1, 21 & 22		
WET WEATHER Includes Adverse effects of wet weather to critical earthworks and pavement works	47		47
WORKS RESCOPING	-	62	62
	n/a	<ul style="list-style-type: none"> Delay caused adding the Mirrabai Drive variation work approved 12 July 2017 EOT 12	
TOTAL			434 Days





Extensions of Time (EOT) Assessment Analysis										
Notice of Delay		Delay Claim Reason	Work Delayed	EOT Assessment notes	Claimed Delay (days)	Granted (working Total Days)	EOT Comments (including on basis)	Specialist Assessment of EOT Claim		
No	Date Received							Is EOT basis reasonable based on high level assessment?	Could delay have been minimised or avoided?	Other
1	09-Mar-2016	Delay due to additional works associated with HP Gas main	Demolition and earth works, bridge works	Notice deemed as given with VO2 integrity dig work	78	90	Assessment by PSEs of 29/07/2016 and accepted by the CSE (Woden) on 11/08/11/2016 - 78days up to 14 July 2016 plus 12days - 14 to 29 July for RFI 6 and 11 closeout	Agree with determination. Noted 78 days claimed, but 90 days awarded by PAP. Unsure as to exactly why additional extension granted; however, based on type of delay and impacts to program, EOT appears warranted, and is resultant from discussion between Senior Executives.	Yes - if utilities works were completed prior to Contractor Possession of Site, or completed under completely separate Contract works.	Additional extension should have been properly documented. Decisions made by Senior Executives should still be conveyed to the Authorised Persons for adequate documentation to be developed.
2		Wet Weather - June to August 2016	Various activities	SK review email to DS of Tue 4/10/2016 10:43 AM and follow up PAP's letter of 31/10/16	14.5	5.5	Woden confirmed acceptance of EOT assessment (minutes of site meeting of 19/10/16)	Agree with determination. 9 days claimed not granted due to concurrent delays with EOT-01. No specific dates provided.	Unlikely. Delay only minimised due to concurrency with other delays.	
3		Wet Weather - 31 Aug to 5 Oct 2016	Various activities	PAP's letter of 31/10/16, emailed to CAP	8.5	8.5	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data with 243 mm of rain recorded in months of August - October.	No	
4	17-Jan-2017	Woden's letter dated 17 January 2017 claiming an extension of time totalling 95 days (EOT4) due to delays in TransACT relocation works to Milestones 1, 2, 3 and 4.	Milestones 1, 2,3 and 4	PAP's letter of 13/02/17 emailed to CAP	95	41.5	Based on submitted information. Woden intend to provide supporting information to claim some of the ungranted days	Substantiation within PAP's response appears reasonable and would be reflective of delays cited (further in-depth analysis of construction program current at the time of the delay would be required to confirm further).	Yes, if utilities works were completed prior to Contractor Possession of Site or works approvals/performance was streamlined.	
5	25-Jan-2017	Letters dated 25 January 2017 regarding EOT No. 5 for wet weather and its effects on 17/10/16 & 6/12/16 (EOT No. 5)	Milestones 1, 2,3 and 4	PAP's letter of 3/02/17 emailed to CAP	2.5	2.5	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data, with 7.0 and 7.4 mm recorded on days in question.	No	
6	25-Jan-2017	letters dated 25 January 2017 regarding EOT No. 6 for wet weather and its effects on 20/01/17 & 24/01/17 (EOT No. 6)	Milestones 1, 2,3 and 4	PAP's letter of 3/02/17 emailed to CAP	1	1	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data, with 3.0 and 7.8 mm recorded on days in question.	No	

Notice of Delay		Delay Claim Reason	Work Delayed	EOT Assessment notes	Claimed Delay (days)	Granted (working Total Days)	EOT Comments (including on basis)	Specialist Assessment of EOT Claim		
No	Date Received							Is EOT basis reasonable based on high level assessment?	Could delay have been minimised or avoided?	Other
7	01-Mar-2017	Three EOT letters dated 1 March 2017 regarding EOT4.1, EOT 4.2 & EOT 7 - Transact work delays	Milestones 1, 2,3 and 4	PAP's letter of 31/3/2017 emailed to CAP	84	29.5	Assessed as combined EOT as detailed on PAP's EOT letter to Woden	Substantiation within PAP's response appears reasonable and would be reflective of delays cited. Multiple programming issues noted - i.e. construction program unclear on critical path activities, therefore not possible to demonstrate critical path activities.	Yes - if utilities works were completed prior to Contractor Possession of Site, or completed under completely separate Contract works.	Programming needs to reflect critical path activities to be able to baseline EOT claim assessment.
8	11-Apr-2017	Letter dated 11 April 2017 regarding EOT 8 - wet weather and its effects	Milestones 1, 2,3 and 4	PAP's letter of 11/04/2017 emailed to CAP	6	6	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data; however, no specific dates provided.	Potentially, but not significantly.	Specific dates for EOT delay need to be provided; however, quantum of delay is negligible.
9	25-May-2017	Letter dated 25 May 2017 regarding April EOT 9 - wet weather and its effects	Milestones 1, 2,3 and 4	PAP's letter of 26/05/2017 emailed to CAP	2.5	2.5	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data, with 7.8, 16.2 and 7.2 mm recorded on days in question.	No	
10	09-Jun-2017	Letter dated 9 June 2017 regarding May EOT10 - wet weather and its effects	Milestones 1, 2,3 and 4	PAP's letter of 20/06/2017 emailed to CAP	1	1	Based on site records as agreed by Woden	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
11	21-Jun-2017	Letter dated 21 June 2017 regarding EOT claim for 54 days to Milestones 1, 2, 3 and 4 for delay caused by TransACT service relocation and cutover	Milestones 1, 2,3 and 4	PAP's letter of 11/07/2017 emailed to CAP	54	42.5	Concurrency 2 weeks for Transact liaison, RDO, P/holidays, Transact schedule to do the cutover/works	Agree with determination. Noted that concurrent delays were not awarded, nor were 10 days for presumed notice period for TransACT, which is agreed.	Yes - if utilities works were completed prior to Contractor Possession of Site, or completed under completely separate Contract works.	
12	N/A	Associated with issued VO51 - Mirrabei Dr additional works (VO51 letter of 12/07/2017) , 62 days to Milestones 3 (as combined milestone all civil works) and Milestone 2 soft landscaping 26 calendar week consolidation	Milestones 1, 2,3 and 4	PAP's letter of 12/07/2017 emailed to CAP	N/A	62		Agree in principle (further in-depth analysis of detailed design drawings and comparison to current construction program would be required to assess further)	Delay appears to be directly resultant from decision to award additional scoped works directly to Woden. However, the alternative would be to award works to separate Contractor for staged completion.	

Notice of Delay		Delay Claim Reason	Work Delayed	EOT Assessment notes	Claimed Delay (days)	Granted (working) Total Days	EOT Comments (including on basis)	Specialist Assessment of EOT Claim		
No	Date Received							Is EOT basis reasonable based on high level assessment?	Could delay have been minimised or avoided?	Other
13	N/A	Letter dated 9 August 2017 regarding EOT13 - wet weather and its effects for July 2017	Milestones 1, 2,3 and 4	PAP's letter of 31/08/2017 emailed to CAP	3	3	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
14	N/A	Letter dated 24 August 2017 regarding EOT14 - wet weather and its effects for August 2017	Milestones 1, 2,3 and 4	PAP's letter of 01/09/2017 emailed to CAP	4	4	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
15	28-Nov-2017	Letter dated 28 November 2017 claiming an extension of time of 87 working days to all Milestones due to delays caused by issues with High Voltage (HV) service relocation works at Mirrabai Drive (VO.51) and associated delay costs	Milestones 1, 2,3 and 4	PAP's letter of 05/02/2017 emailed to CAP	87	71.5	Based on facts on HV work progress/issue of instructions and site records	Agree with PAP determination, and note significant delays caused by EvoEnergy. Agree also with determination that earthworks cited not originally on critical path, hence reduction of delays by 50% is warranted.	Yes, if contractor had focused on completion of the southern part of the construction site first rather than Mirrabai Drive works to address change to scope of project.	
15.1	05-Feb-2018	Email of 5 April, 2018 3:52 PM from Woden regarding extra delays due to works not included in the assessment of EOT 15 above i.e. Reinstatement of the existing Mirrabai Dr Pavement – AC completed on 18/12/17; Traffic switched from temporary bypass track back to existing pavement – complete on 19/12/18; Xmas closedown (and prep for closedown) – 20/12/17 – 15/1/18; and Removal of additional concrete barriers, temporary pavement – complete 25/1/18	Milestones 1, 2,3 and 4	PAP's letter of 6/07/2018	39	4	Based on facts on HV work progress/site daily diary records	Apparent high-level discussion between both parties undertaken - further in-depth review of all information would be required to further confirm.	Unlikely, based on timing of HV issue and decision to proceed with additional scope. Additionally, EOT award is significantly less than EOT claimed, indicating that delays may not be as extensive as initially thought.	Information relied on for EOT claim and decision needs to be clearly documented
16	31-11-17	Letter dated 31 November 2017 claiming an extension of time of 1 working day to all Milestones due to delay caused by wet weather and its effects on 18/08/2017	Milestones 1, 2,3 and 4	PAP's letter of 15/02/2017 emailed to CAP	1	1	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
17	16-Jan-2018	Letter dated 16 January 2018 claiming an extension of time of 1 working day to all Milestones due to delay caused by wet weather and its effects on 27/10/17 (0.5 day), 3/11/17 (0.5 day), 6/11/17 (1 day) and 7/11/17 (0.5 day)	Milestones 1, 2,3 and 4	PAP's letter of 15/02/2017 emailed to CAP	2.5	2.5	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	

Notice of Delay		Delay Claim Reason	Work Delayed	EOT Assessment notes	Claimed Delay (days)	Granted (working Total Days)	EOT Comments (including on basis)	Specialist Assessment of EOT Claim		
No	Date Received							Is EOT basis reasonable based on high level assessment?	Could delay have been minimised or avoided?	Other
18	26-Feb-2018	Letter dated 26 February 2018 claiming an extension of time of 6 working days to all Milestones due to delay caused by issues with Watermain relocation works and lead supply time of additional fittings (RFI 96 response) affecting critical path	N/a	N/a	-	-	Agreed at the site meeting of 18/04/18 that Woden should revise the claim as there has been further delay after the first delay. Refer EOT No. 21 below. EOT No. 18 has been updated as EOT No. 21	No claim submitted.	N/A	
19	06-Mar-2018	Letter dated 6 March 2018 claiming an extension of time of 5 working days to all Milestones due to delay caused by wet weather and its effects on 4/12/17 (1 day), 5/12/17(1 day), 6/12/17 (0.5 day), 31/01/18 (0.5 day), 26/02/18 (1 day) and 27/02/18 (1 day)	Milestones 1, 2,3 and 4	PAP's letter of 20/03/18 emailed to CAP	5	5	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
20	15-May-2018	Letter dated 15 May 2018 claiming an extension of time of 1 working days to all Milestones due to delay caused by wet weather and its effects on 4/05/18 (1 day)	Milestones 1, 2,3 and 4	PAP's letter of 21/05/18 emailed to CAP	1	1	Based on site records as agreed by Woden on wet working days	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
21	16-May-2018	Letter dated 16 May 2018 claiming an extension of time of 57 working days to all Milestones due to delay caused 300mm diameter watermain re design issues, as an updated EOT 18 above	Milestones 1, 2,3 and 4	PAP's letter of 6/07/18 emailed to CAP	57	25	Based on facts on site, current program at the time and PAP's daily diary records	Agree with PAP determination, and note significant delays caused by Icon Water. However, it is again noted that Woden's programming has led to lack of clarity in assessing EOT.	Yes - if AECOM (designer) had been updating designs more frequently based on utility requirements or design had been better prepared initially to take account of the works relating to the water main. Secondary to this is the often protracted approval process with Icon Water - the responsibility of this delay could potentially be apportioned between Icon and AECOM.	Programming needs to reflect critical path activities to be able to baseline EOT claim assessment.
22	10-Jul-2018	Letter dated 10 July 2018 claiming an extension of time of 1 working days to all Milestones due to delay caused by delays associated with the removal of column SL710-181 which was in the new pavement area	Milestones 1, 2,3 and 4	PAP's letter of 26/07/18 emailed to CAP	21	21	Based on facts on site, current program at the time and PAP's daily diary records	Agree with PAP determination, and note delays caused due to removal of streetlight column from new pavement works, thereby impacting critical path activities.	Yes - delay could be minimised significantly with improved cooperation from EvoEnergy, as well as an improved appreciated for the criticality of the delay.	
23	10-Jul-2018	Letter dated 24 July 2018 claiming an extension of time of 11.5 working days to all Milestones due to delay caused by wet weather and its effects in the months of June and July 2018	Milestones 1, 2,3 and 4	PAP's letter of 26/07/18 emailed to CAP	11.5	3.5	Based on site records as agreed by Woden on wet working days and checks on concurrency with already granted EOT No. 22	Agree with determination, and supported by Bureau of Meteorology (BoM) rainfall data.	No	
23	10-Jul-2018	Letter dated 28 July 2018 claiming an extension of time of 4 working days to all Milestones due to delay caused by removal and replacement of unsuitable subgrade materials at the Southeast and southwest corners of Mirrabai Dr/Gundaroo Dr intersections	Milestones 1, 2,3 and 4		4		PAP's review is underway, currently Woden have been asked to provide more information to assess the claim	No review undertaken.	-	
Total Assessment to date						434	Total EOT to date			

Appendix C – Project Management Delegations

Summary

Issue: The delegation for on-site decision-making by Transport Canberra and City Services (TCCS) Project Managers was decreased from \$50K to \$nil. However, the need for an on-site delegation remains to ensure the project outcomes can be met. Spend decisions are currently being made by the current TCCS Project Manager without a valid delegation nor contract authorisation.

Matter Details

A delegation for expenditure approval by TCCS Project Managers no longer exists and only TCCS Senior Managers and upwards now hold this delegation (we understand that this was a recent decision by Senior Executive to remove this delegation dated June/August 2018) – please refer extract from delegations instrument below. The current TCCS Project Manager operates without a delegation and without the contractual authorisation to make operational decisions on the project site.

A variation (and above budget spend) process under the contract involves the Contractor applying to the PAP for a variation. The PAP then decides whether to put a recommendation to IFCW who requests and obtains approval from TCCS prior to communicating that the expenditure can go ahead to the PAP who instructs the Contractor. Sometimes immediate purchase decisions cannot be determined as to whether they will exceed the contract budget or require a formal variation, prior to the need to make these decisions. The \$50k financial delegation that the TCCS Project Managers previously held allowed enough buffer to cover the full cost of these immediate decisions to expedite and progress works.

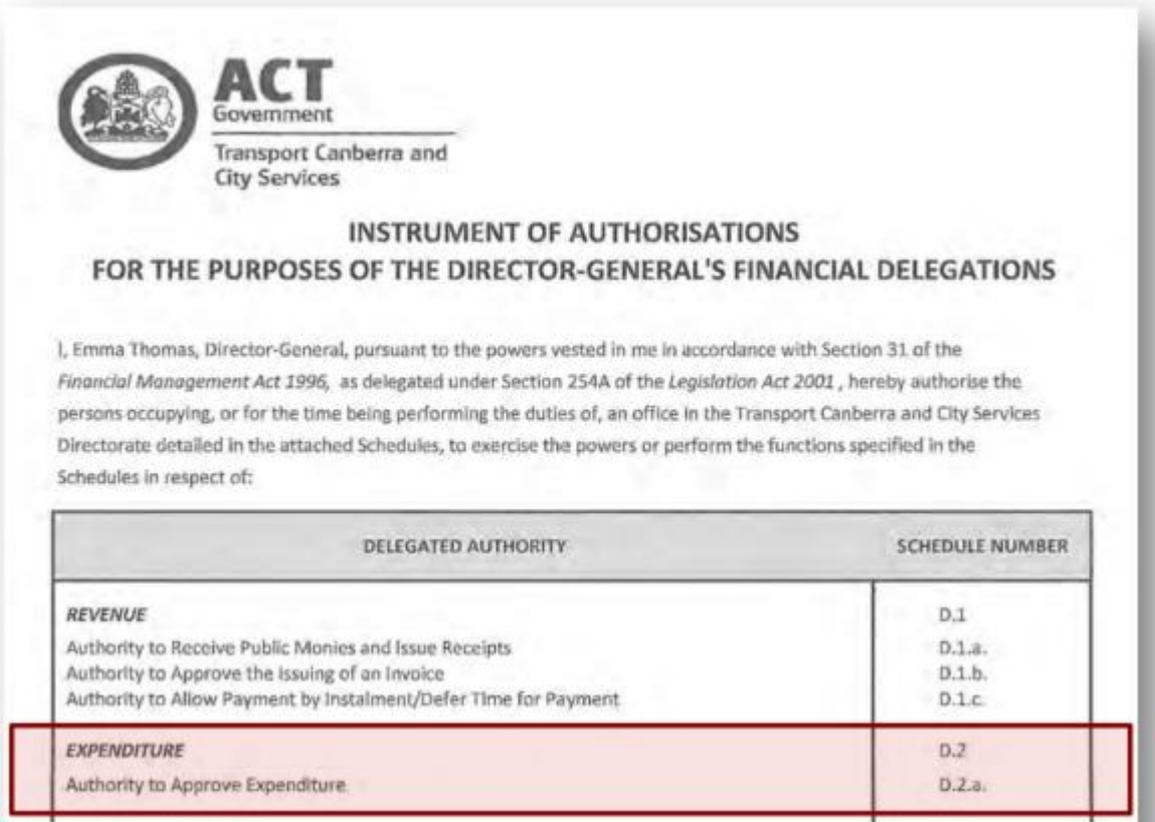
In addition, the current \$nil delegation does not facilitate timely and effective management of activity on the project to reduce project delays and potential for delay costs, particularly in relation to the need for the Project Manager to be able to make immediate minor expenditure decisions to facilitate project work by the Contractor. Previously, when TCCS Project Managers held a delegation of \$50k they could approve the expenditure immediately, however now for any additional expenditure, approval must be sought from the TCCS Senior Manager and this can produce project delays if the TCCS Senior Manager is unable to approve immediately. A recent example cited was a two week turnaround between the Project Manager requesting approval and the TCCS Manager approving the variation. This kind of delay would lead to delay costs over the term of a construction project.

As a result of a misinterpretation of TCCS Management's instruction to complete the project in a timely manner, whilst still observing all safety requirements, quality standards and budget requirements, operational decisions are being made by the TCCS Project Manager to strategically expedite the project that do not fall under the contractual authorisation framework or the TCCS delegations framework (IFCW has also advised that they and the PAP have not been consulted prior to some directions being made by the TCCS Project Manager to the Contractor).

Examples of expenditure decisions that were recently made to expedite and progress works for the Gundaroo Drive duplication – Stage 1 are as follows:

- Tree removal to prevent delays to critical path pavement construction (later raised as a variation).
- Change of the straw mulch grass to hydro mulch to accelerate growth.
- Replacement of some previously landscaped areas with decomposed granite.
- Removal of a guardrail barrier from a section of the carriageway approaching Ginn Street roundabout.

- Approving asphalt night works to speed up progress of roadworks and ensure disruption to road users is minimised.



The image shows a document titled "INSTRUMENT OF AUTHORISATIONS FOR THE PURPOSES OF THE DIRECTOR-GENERAL'S FINANCIAL DELEGATIONS". It is issued by Emma Thomas, Director-General, under the ACT Government Transport Canberra and City Services. The document authorizes persons occupying or performing the duties of an office in the Directorate to exercise powers or perform functions specified in the attached Schedules. A table below lists the delegated authorities and their corresponding schedule numbers. The "EXPENDITURE" section is highlighted with a red border.

DELEGATED AUTHORITY	SCHEDULE NUMBER
REVENUE	D.1
Authority to Receive Public Monies and Issue Receipts	D.1.a.
Authority to Approve the issuing of an invoice	D.1.b.
Authority to Allow Payment by Instalment/Defer Time for Payment	D.1.c.
EXPENDITURE	D.2
Authority to Approve Expenditure.	D.2.a.

DELEGATION OF AUTHORITY TO APPROVE EXPENDITURE

DELEGATION OF AUTHORITY SCHEDULE NO - D.2.a

These authorisations apply from the date of signature, and are subject to the directions and limitations specified below.

Introduction

This document sets out the delegation of authority for specified officers to approve expenditure. When exercising this authority an officer is confirming that the expenditure is in accordance with budget, and that the procurement process complies with the Government Procurement Act 2001 and subordinate documentation.

This delegation also covers the disposal of assets and the approval of refunds. In relation to the disposal of assets the monetary limits apply to the Written Down Value of the asset.

Directions

The authority to approve expenditure is subject to the requirements contained in the Director-General Financial Instructions, which can be found on the TCCS Intranet under finance. Before a contract is signed for a purchase or disposal with a value in excess of \$500,000, the respective Deputy Director-General or Chief Operating Officer must endorse the signing of the contract, by initialling an information minute provided to him or her. The Director-General may enter into contracts to spend public monies and enter into commitments on behalf of the Directorate in accordance with 531 and 531A of the Financial Management Act 1996.

Officers may approve recurrent expenditure only within their own area of business responsibility as listed in the delegations unless the Monetary Limitation provides specific delegation for Capital Expenditure. Exceptions to approvals outside the area of business responsibility will apply to Divisional Executive Areas for a whole of Division role and the Chief Operating Officer, TCCS Finance, TCCS Fleet manager and Shared Services as they are exercising a whole of Directorate role. **Expenditure must not exceed remaining available budget. Splitting of invoices to avoid delegation limits is prohibited.**

The following exceptions apply:

- a) Only the Director-General, respective Deputy Director-General or Chief Operating Officer may approve expenditure for common law claims where personal injury is involved, or where the claim exceeds \$2,000; and any such approvals must be reported to the Deputy Director-General or Chief Operating Officer.
- b) No employee may approve the payment of rewards. This authority is reserved for the Commissioner for Public Administration.
- c) No employee is permitted to approve her or his own personal expenses, expenses incurred by a more senior officer within the same Division, or any expenses in which she or he has a conflict of interest.
- d) The Treasurer is the only person authorised to approve Act of Grace Payments (S130 Financial Management Act 1996).
- e) The Treasurer is the only person with authorisation to make payments in respect of deceased estates (S132 Financial Management Act 1996).
- f) In addition to the above the Director-General, respective Deputy Director-General or Chief Operating Officer must approve interstate travel*. Overseas travel* requires approval from the Minister. (*Also refer to the Travel Guidelines)
- g) Only the Director-General or Deputy Directors-General may approve hospitality with the exceptions of E00605 Director People and Capability and P17419 Manager Organisational Development which have delegation to approve hospitality to a maximum of \$10,000 per financial year for scheduled training as approved by the Director General, additional hospitality for training not exceeding \$300 per event to a maximum of \$2,000 per financial year and petty cash reimbursements of hospitality for training sessions not exceeding \$20 per event to a maximum of \$1,000 per financial year.
- h) E01006 Executive Director Transport Canberra Operations and P35984 Senior Manager Business Improvement & Human Resources up to a maximum of \$7,000 per annum for driver interview panels and scheduled training, additional hospitality not exceeding \$100 per event to a maximum of \$500 per financial year and petty cash reimbursements of hospitality incidentals relating to training sessions not exceeding \$20 per event to a maximum of \$1,000 per calendar year.

Dated this 21 day of August 2018

Delegation of Authority- Schedule D.2.a - Approve Expenditure

Column 1 Position Number	Column 2 Class	Column 3 Division / Branch / Position	Column 4 Monetary Limitations (GST Inclusion)
CAPITAL WORKS AND DEVELOPMENT SUPPORT			
E00840	CE	Director, Capital Works	\$50,000 Expenditure \$150,000 for Capital Expenditure
P00491	IMS1	Manager - Urban Projects	\$50,000 for Capital Expenditure Only
P14768	IMS3	Manager, Territory Projects	\$50,000 for Capital Expenditure Only
P38351	IO4	Senior Manager, Sport & Recreation	\$50,000 for Capital Expenditure Only
TBA	TBA	Manager, New Development Trunk Infrastructure	\$50,000 for Capital Expenditure Only
SHARED SERVICES FINANCE (REPORTING TEAM)			
P09647	SPOA	Manager	\$1,000 for refunds only
P09650	S0GB	Assistant Manager	\$1,000 for refunds only
P11255	S0GC	Team Leader	\$1,000 for refunds only
P12775	S0GC	Team Leader	\$1,000 for refunds only
SHARED SERVICES FINANCIAL SERVICES (BANKING TEAM)			
P07056	S0GC	SSC - General Finance Banking Team	Unlimited for disbursement of funds collected on behalf of other parties
P09652	S0GC	SSC - General Finance Banking Team	Unlimited for disbursement of funds collected on behalf of other parties
P07083	S0GC	SSC - General Finance Banking Team	Unlimited for disbursement of funds collected on behalf of other parties
P07495	AS06	SSC - General Finance Banking Team	Unlimited for disbursement of funds collected on behalf of other parties

Appendix D – Liquidated Damages

Summary

Issue: The road duplication contracts do not incorporate a liquidated damages clause as an incentive for the Contractor to meet contract milestones, including timeframes for completion.

Without the inclusion of a liquidated damages clause in contracts, the ACT Government has significantly less recourse and ability to encourage Contractors to meet their milestones (including delivery to specified timeframes).

Matter Details

The inclusion of a liquidated damages clause in a construction or commercial contract is a common way of providing certainty as to what will happen, in the event that a breach of contract occurs. In terms of contractor performance obligations, this clause usually sets out the liability for liquidated damages and the quantum of any loss or damage for non-completion of milestones.

This clause removes the need to prove the quantum of any actual loss by either party, however the liquidated damages must be a genuine pre-estimate of loss suffered as a result of the breach to avoid being a penalty and unenforceable (such as where the amount specified is too high to be reasonable). A genuine pre-estimate for a public construction contract could include consideration for loss of public utility or delay in access to infrastructure as well as the cost of maintenance, infrastructure costs and transfer of resources.

GC21 contract templates include a standard clause where a choice is made as to whether non-performance under the contract will be subject to liquidated damages. Within the ACT, inclusion of liquidated damages in the event of non-performance is common for GC21 land development contracts and less common for GC21 roads construction contracts. This is because land development projects generate a direct revenue stream whereas publicly funded infrastructure projects do not, and the removal of a liquidated damages clause essentially removes any limitations on general damages.

However, liquidated damages are included for some significant road construction contracts in the ACT (refer below) and are commonly included within GC21 road construction contracts in other Australian jurisdictions.

A liquidated damages clause will be presented similar to the below example in a GC21 contract with amounts per day dependent on the significance of each project milestone and agreement on the terms:

B - Delay to *Completion* and liquidated damages

Mentioned in clauses 55.4 to 55.9

**Clause 55.4 applies to this Contract?
(Yes/No)**

Yes
("No" applies if not filled in.
If "No" applies, the Principal reserves its rights to claim general damages if the Contractor fails to achieve *Completion* by the *Contractual Completion Date*.)

The rates per day for liquidated damages for *Milestones are:**

Milestone 1 - \$0
Milestone 2 - \$5,000
Milestone 3 - \$700
Milestone 4 - \$700
("Not applicable" applies if not filled in).

** The rates for each are separate and distinct from each other.*

It has been identified that the relevant contract (Head Contract) for the Gundaroo Drive duplication – Stage 1 project does not allow for application of liquidated damages in the event of non-performance by the Contractor (including for delays in delivery / meeting of milestones). Liquidated damages are covered under Clause 55 of the General Conditions of Contract (specifically sub-clauses 4 to 9), and in Item 51B of the Contract Information Please refer below for an extract of the relevant section 51 of the contract.



ACT Government modified version for use in the Australian Capital Territory
**Amended GC21 (Edition 1)
General Conditions of Contract**
for Design, for the general speedway and Construction

Project Name: Construction of Gundaroo Drive Duplication – Stage 1 (Gungahlin Drive to Mirrabai Drive)

Contract No: 2016.26677.401

Prepared by: Procurement and Capital Works
PO Box 818
Dickson ACT 2602
Ref: 2016/

B - Delay to *Completion* and liquidated damages

Mentioned in clauses 55.4 to 55.9

**Clause 55.4 applies to this Contract?
(Yes/No)**

No. The Principal reserves its right to claim general damages if the Contractor fails to achieve *Completion* by the *Contractual Milestone Completion Date(s)*

GC21 (Edition 1) General Conditions of Contract
Contract No: >Insert Contract No. by overwriting this in File: Properties: Summary: Subject
File G:\Procurement Solutions\ACT Contracts\Contracts Register\2016\2016.26677.401 - Gundaroo Drive Duplication Stage 1\2016.26677.401 - GC21 Head Contract

Page 73
Revision Date: 12/02/16

GC21 (Edition 1) - General Conditions of Contract Contract Information

The rates per day for liquidated damages for *Milestones are:**

Not applicable

** The rates for each are separate and distinct from each other.*

We suggest that an infrastructure contract of this scope, value, and public interest should have included liquidated damages. The application of liquidated damages to a contractor who is late in delivering

works can be perceived to be detrimental to a contractual relationship (and could have been argued to be in conflict with collaboration); however, liquidated damages are also an important tool and motivator of the Principal to the contract.

Please note that the information in no way constitutes legal advice and legal advice should be sought by TCCS / ACT Government on any relevant contractual matters.

Inclusion of liquidated damages clauses (and rates) in ACT infrastructure contracts –examples below:

Name of Contract	Liquidated damages - S55.4 to 55.9	Rates
Construction of Gundaroo Drive Duplication – Stage 1	No, Principal reserves its right to claim general damages	<ul style="list-style-type: none"> • None specified
Construction of Gundaroo Drive Duplication – Stage 2	Ambiguous States 'Yes' <u>and</u> Principal reserves its right to claim general damages should the Contractor fail to achieve completion by the final Contractual Milestone Completion Date	<ul style="list-style-type: none"> • None specified
Majura Park Construction and Associated Works. Version 2 June 2012	Yes	<ul style="list-style-type: none"> • Milestone 1: \$9000 • Milestone 2: \$9000 • Milestone 3: \$9000
Gungahlin town Centre East Estate, Flemington Road Servicing works	Does not specify yes or no to s55.4 - 55.9, however does note that liquidated damages are to be discussed between the Contractor and Principal (s12 of the contract)	<ul style="list-style-type: none"> • To be discussed between Contractor and Principal
Majura Link Road and Bridge Construction stage 2	Yes	<ul style="list-style-type: none"> • Milestone 1: \$500 • Milestone 2: \$2,600 • Milestone 3: \$1150 • Milestone 4: \$100 • Milestone 5: \$15 • (all include GST)
Federal Highway and Old well station road Intersection signalisation upgrade	No, Principal reserves its right to claim general damages	<ul style="list-style-type: none"> • None specified

Appendix F – Determinations by CSE & PSE and the GC21 Contract Form

Summary

Issue: Frequent determinations by the CSE and PSE can interfere with project delivery as they can circumvent operational governance and information delivery protocols.

Matter Details

There are three dominant construction contract formats used in the ACT.

- AS 2124 General Conditions of Contract – originally published in 1986, amended in 1992 and most recently in 2000.
- AS 4000 General Conditions of Contract – originally published in 1997, amended in 1999, again in 2000 and most recently in 2005.
- GC21 General Conditions of Contract – originally published in 2003, and adopted in the ACT in 2017. This form of contract specifically is an ACT Government modified version of Edition 1 for use in the Australian Capital Territory.

The GC21 Contract has recently been used on larger scale (\$1M+) ACT Government projects in place of the traditional contract formats, with mixed responses received. Much of the theory of GC21 is borrowed from New Engineering Contracts (NECs) form of contracts, which are used extensively internationally. This form of contract is based on 'cooperative contracting' and provides clearly defined mechanisms for some of the nuances that differ to typical construction contracts, such as an AS 4000 or AS 2124 form of contract. Many of the provisions of GC21 are improvements over traditional contracts (cooperative, duty to notify, etc.); however, some practitioners believe that the GC21 framework can disempower contract administrators somewhat and result in delays under the contract.

The first two contracts (AS 2124 and AS 4000) are the two most commonly used formats for Head Contract Standards in Australia. There are various subsets and subcontracts that accompany these suites of documents, but they basically all stem from these two documents. Both of these contracts utilise an independent contract Superintendent (instead of each party appointing an Authorised Person; in the form of a Principal's Authorised Person (PAP) and a Contractor's Authorised Person (CAP)). A Superintendent can have more clear authority to make decisions that will progress a project more efficiently.

Another key element of a GC21 Contract is the contractual roles of Senior Executives, and the ability for these persons to provide determinations above the Authorised Person's. In theory, this is meant for issues that cannot be resolved between the Contractor's Authorised Person (CAP) and the Principal's Authorised Person (PAP) whereby the issue can be escalated to the Contractor's Senior Executive (CSE) and the Principal's Senior Executive (PSE) for determination. In practice on this project, it appears that this has been enacted with determinations reached between the Senior Executives; however the documentation of these determinations appears to be inadequate. Decisions are not being passed back down to the Authorised Persons and other key personnel with enough information to understand the basis and implementation of the directives.

Appendix G – Key Project Meetings

Project meetings that took place from project inception and input of key stakeholders are listed in the table below.

Meeting in Construction Phase	Generally attended by	Frequency
Senior Executives	<ul style="list-style-type: none"> • IFCW – PSE • Contractor - CSE 	<ul style="list-style-type: none"> • On an as required basis when an instruction or determination given at the site is disputed requiring resolution under cl.73 GC21 Ed.1
Project Control Group	<ul style="list-style-type: none"> • IFCW Project Officer/Contract Manager • TCCS: <ul style="list-style-type: none"> – Project Manager – Public Transport representative – Place Management representative – Roads ACT representative – Communications representative 	<ul style="list-style-type: none"> • Monthly, chaired by TCCS Project Manager
TM1 – Infrastructure	<ul style="list-style-type: none"> • IFCW: <ul style="list-style-type: none"> – Civil Branch Manager – One Project Officer (may not be the Gundaroo Drive duplication – Stage 1 Project Officer) • TCCS: <ul style="list-style-type: none"> – All Capital Works Project Managers – Finance representative (Chair) 	<ul style="list-style-type: none"> • Monthly, chaired by Manager Capital Budgets & Reporting (TCCS Finance)
Progress Meeting	<ul style="list-style-type: none"> • Contractor: <ul style="list-style-type: none"> – CAP – Project Manager – Other representatives (as required) • PAP • Sometimes Director of PAP Firm • IFCW: <ul style="list-style-type: none"> – Civil Branch Manager – Project Officer/Contract Manager • TCCS Project Manager 	<ul style="list-style-type: none"> • Fortnightly, chaired by PAP

Appendix H – Risk Assessment and Ratings Matrix

Risk Assessment Methodology and Risk Rating Matrix

Assessment of risk in relation to each finding in this report complies with the *Australian and New Zealand Risk Management Standard (AS/NZS ISO 31000:2009)*. This standard categorises organisational risks according to their consequence and likelihood. Risk ratings have been determined based on the ACT Insurance Authority ratings risk matrix outlined on the following page.



ACT Government Risk Matrix

		Consequence				
		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	Limited effect to something of low significance	Transient, minor effects	Moderate, short-term environmental harm	Significant, medium-term environmental harm	Long term environmental harm	
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.	
Financial	1% of Budget or <\$5K	2.5% of Budget or <\$50K	> 5% of Budget or <\$500K	> 10% of Budget or <\$5M	>25% of Budget or >\$5M	

		Frequency		Matrix	1	2	3	4	5	
Likelihood	Almost Certain	Is expected to occur in most	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	4	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

Risk Control Effectiveness

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

Priority	Suggested Timing of Treatment	Authority for controlled tolerance of risk
Extreme	Short term – normally within one month Detailed action plan required	Director-General
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

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.

Appendix I - Benchmarking

The following table identifies benchmarking of typical arrangements for similar size roads construction projects in other States (as identified) as well as a comparison against ACT arrangements for the Gundaroo Drive duplication – Stage 1 project.

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
VIC ¹	AS 4300-1995	Principal --> Principal Representative/Superintendent--> Industry Capability Network (ICN) --> Principal Contractor --> Contractor --> Subcontractor	<p>Principal Party described as such in the Contract Form by the VIC State Government (VicRoads).</p> <p>Principal's Representative <i>Person appointed by the Principal from time to time or Superintendent</i> The Superintendent will give directions and carry out all its other functions under the Contract (including the receipt of payment claims and the issue of payment certificates) as agent of the Principal (and not as an independent certifier, assessor or valuer).</p> <p>NB: Superintendent Representative Superintendent may in writing appoint one or more person(s) to exercise a particular power, duty, discretion or authority vested in him.</p> <p>Industry Capability Network ICN will assess the Contractor's performance against the Victorian Industry Participation Policy (VIPPP). ICN also provides a pivotal link between principal contractors and local suppliers.</p>	<p>Regular Performance Reports Written reports regarding the Consultant's performance under the Agreement to the Principal's Representative. Either monthly at end of each calendar month or at least 7 days prior to each meeting; or as otherwise directed by the Principal.</p> <p>Consultant Records Consultant must create and maintain complete and accurate records and time sheet relating to the performance of the Services and otherwise in connection with the Agreement.</p> <p>VIPP Monitoring Table Consultant must prepare and maintain records in the form of the VIPPP Monitoring Table demonstrating its compliance with the VIPPP Plan.</p> <p>Annual Report Consultant must provide an annual report demonstrating its progress towards implementing the VIPPP Commitments and their compliance with the LIDP (Local Industry Development Plan).</p>

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
			<p>Principal Contractor</p> <p>Principal Contractor has the meaning given to that term in regulation 333 of the Occupational Health and Safety Regulations 2017 (Vic).</p> <p>Contractor</p> <p>If the Contractor is not the Principal Contractor or is not to be appointed as the Principal Contractor, then the Contractor shall cooperate with the Principal Contractor in the discharge of the obligations as Principal Contractor and comply with any instruction given by the Principal Contractor in its capacity as Principal Contractor.</p> <p>Subcontractor</p> <p>Any subcontractor engaged by the Contractor to perform the work under the Contract or any part of the work under the contract.</p>	<p>Dilapidation Report</p> <p>Prior to commencing the performance of work under the Contract on Site, the Contractor shall prepare a full dilapidation report in consultation with and in form required by the Superintendent which shall record the existing state and conditions of all the properties and structures whose boundaries or structural elements adjoin the Site, including all streets adjacent to the Site.</p>
QLD ²	C7830.TIC	Principal --> Contract Administrator --> Contractor --> Subcontractor	<p>Principal</p> <p>The State of QLD acting through the QLD Department of Transport and Main Roads.</p> <p>Principal's Representative</p> <p>The Person appointed in writing by the Principal.</p> <p>Contractor</p> <p>i) A Local Government Authority; ii) QLD Department of Transport and Main Roads Service Delivery Unit; and/or iii) joint venture (including only local governments).</p> <p>Subcontractor</p> <p>A supplier or hirer of materials, plant or equipment.</p>	<p>Review of Current Program</p> <p>At each Site Conference, the Contractor shall provide to the Administrator a printed report which reviews the Current Program and highlights any significant impact on the project for the period up to the next Site Conference.</p> <p>Daily Report</p> <p>If specified - need to include:</p> <p>i. a workforce report listing staff and labour personnel and the Current Program activities on which labour was used</p> <p>ii .a subcontract report listing subcontract staff and labour personnel and Current Program activities on which labour was used</p>

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
				<p>iii. a plant and equipment report listing all Constructional Plant and equipment utilised, the Current Program activities on which the Constructional Plant and equipment was used, and a listing of all idle Construction Plant and equipment and reasons for it being idle</p> <p>iv. deliveries and quantities of materials delivered</p> <p>v. significant and unusual events.</p> <p>Weekly Report</p> <p>Brief written summary of the daily reports, plus any details of safety matters, industrial matters, weather conditions and lost time</p> <p>Contractor shall report to the Administrator at weekly meetings to be held between the Contractor's Community Liaison Officer, the Administrator and a representative of the Principal.</p> <p>Monthly Report</p> <p>i. Anticipated issues for coming month; and</p> <p>ii. Proposed actions in response to issues.</p> <p>Quarterly Report</p> <p>Report on key actions and achievements.</p> <p>Contract Performance Assessment</p> <p>Upon reaching Practical Completion and issuance of Final Certificate, the Administrator and the Contractor shall prepare detailed performance reports using Form C7902.</p> <p>Same Form C7902 shall be used for performance assessment at reaching milestones in the Contract or as directed by the Principal.</p>

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
				<p>Practical Completion Report</p> <p>A report prepared by the Contractor at project completion demonstrating its compliance with the requirements of Clause 29.3.</p> <p>Must be submitted within 15 Working Days of the Date of Practical Completion.</p> <p>Must be submitted through TPAS - Training Policy Administration System (electronic reporting system to report compliance with the Training Policy).</p> <p>Queensland Charter for Local Content - Project Outcome Report</p> <p>Must be completed and submitted prior to reaching a Practical Completion.</p> <p>Conformance Report</p> <p>Submitted to the Administrator of the Principal on completion of the relevant work and prior to substantial progress on subsequent work.</p> <p>Design Safety Report</p> <p>Where the Contractor provides or commissions any design for the Works, the Contractor must obtain a design safety report from any designer in accordance with the WHS Regulation and provide a copy to the Principal's Representative.</p>
NSW ³	GC21 Edition 2	Principal --> Principal's Authorised Person (PAP) --> Contractor's Authorised Person --> Contractor --> (Preferred) Subcontractor	<p>Principal</p> <p>Entity named in Contract Information by the NSW State Government.</p> <p>Principal's Authorised Person</p> <p>Person appointed to act on behalf of the Principal.</p>	<p>Exclusion of proportionate liability</p> <p>The Board Direction requires that an agency must submit a report to the Department of Finance, Services and Innovation when they enter into a construction contract that excludes or modifies the operation of the <i>Civil Liability Act 2003</i>.</p>

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
			<p>Contractor's Authorised Person Person appointed to act on behalf of the Contractor.</p> <p>Contractor Person engaged to design and contract the Works in accordance with the Contract.</p> <p>Preferred Subcontractor Subcontractor, Supplier or Consultant for a specified trade or area of work or</p> <p>Subcontractor An entity engaged by the Contractor to carry out part of the Works other than a Consultant or Supplier</p> <p>NB: Relationship between the Contractor and Subcontractor must be on a similar basis to those between the Principal and Contractor</p>	<p>Change in contract Where a change in the Contract is proposed and the change would affect compliance with the Building code, the Contractor must submit a report to the Commonwealth specifying the extent to which the Contractor's compliance with the Building Code will be affected.</p> <p>Annual Report After the end of the FY, the head contractor must provide NSW Fair Trading with an annual report for the trust account and a statement for the trust account in the prescribed form.</p>
ACT ⁴	GC21 Edition 1	Client (1 st Principal TCCS) --> Principal (2 nd Principal, IFCW) --> Principal's Authorised Person (PAP) --> Contractor's Authorised Person (CAP) --> Contractor --> Subcontractor	<p>Principal / Client First principal / client is TCCS.</p> <p>Principal Principal named in contract is IFCW.</p> <p>Principal's Authorised Person (PAP) Person appointed to act on behalf of the Principal named in the contract.</p> <p>Contractor's Authorised Person (CAP) Person appointed to act on behalf of the Contractor.</p> <p>Contractor</p>	<p>Contract programme Program for construction in Microsoft Project</p> <p>PAP Report Comprehensive monthly report with all details of progress and any issues against the construction programme</p> <p>IFCW 'Green Sheet' project report Summarising current status against budget and schedule and any risks. – refer Appendix E</p> <p>TM1 Reports</p>

State/ Territory	Type of Contract	Delivery Party Relationships	Key Roles	Key Reports
			<p>Person engaged to design and contract the Works in accordance with the Contract.</p> <p>Subcontractor</p> <p>An entity engaged by the Contractor to carry out part of the Works other than a Consultant or Supplier.</p>	<p>A number of reports supposed to present the financial and progress status of the project</p>

Source:

<p>1.</p> <p>https://www.saiglobal.com/PDFTemp/Previews/OSH/As/as4000/4300/4300.pdf,</p> <p>https://www.dtf.vic.gov.au/practitioners-toolkit/practitioners-toolkit-standard-form-contracts</p> <p>https://webapps.vicroads.vic.gov.au/VRNE/csdspeci.nsf/wabscdocs/95EA085BF11BE930CA25740B00089BCC/\$File/NPWC-RC%20V8.pdf</p>	<p>2.</p> <p>https://www.tmr.qld.gov.au/-/media/busind/techstdpubs/Contract/Road-Maintenance-Performance-Contract-Manual/GeneralConditions.pdf?la=en</p> <p>Vincents.</p>	<p>3.</p> <p>https://www.procurepoint.nsw.gov.au/documents/construction-gc21-ed2-general-conditions.docx</p>	<p>4.</p> <p>Results of internal audit fieldwork – Gundaroo Drive duplication – Stage 1 Project Delivery</p>
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 VINCENTS