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Assignment, Report & Laboratory Coversheet for Individual & Group Assignment

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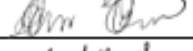
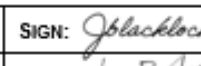
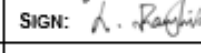
SIGN: 	SIGN: 
SIGN: 	SIGN: 
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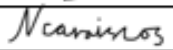
SIGN: 	SIGN:

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SYDNEY FOOTBALL STADIUM REDEVELOPMENT

GEN5505: Project Management and Engineering Practices

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1. Executive Summary

The report aims to analyse and provide recommendations to a project based on project management practices. The project chosen was the Sydney Football Redevelopment. The four different stages of the project cycle, conceptualisation, planning, execution and finalisation were identified, and all necessary documents were resourced through the internet from credible sources like government reports and media releases. Research was done based on the triple bottom approach and identified some issues that had happened during this project. Meanwhile the good aspects of project management exhibited during this project has also been highlighted.

After careful analysis of each topic of interest in the following sections of the report, the below mentioned recommendations have been laid out as the outcome of this report

- Increased assessment of stakeholder groups and the priorities and power of those groups is required.
- Consideration for having one or more project selection methods to gain a well-rounded perspective on the project is needed.
- Use of the SWOT and PESTELG framework to carry out risk identification is recommended while using the 5x5 risk priority grid to review the risks.
- Evaluation of the supplier's proficiency using the evaluation matrix before confirming the contract is advised.
- Implementation of the Earned Value Management (EVM) model to control the increase in cost and time of the project is required.

Table of Contents

1.1 List of Figures

1.2 Word count Breakdown

SECTION	RECOMMENDED	ACTUAL
A: Background	1500	1293
B: Analysis	2500	2597
C: Recommendations	2000	2292
Total	6000(+/-5%)	**6182**

2. Section A - Background

2.1 Introduction

The Sydney Football Stadium Redevelopment Project also known as The Allianz Stadium Redevelopment was announced by the Government of New South Wales on 24th November 2017. It was done as an initiative to provide world class sporting amenities that offers a flexible environment to host sports, e-sports, and other major events throughout the year. The stadium was originally opened in 1988, built on former Department of Army land and No.2 Oval site at 40 - 44 Moore Park to the south of the Sydney Cricket Ground.

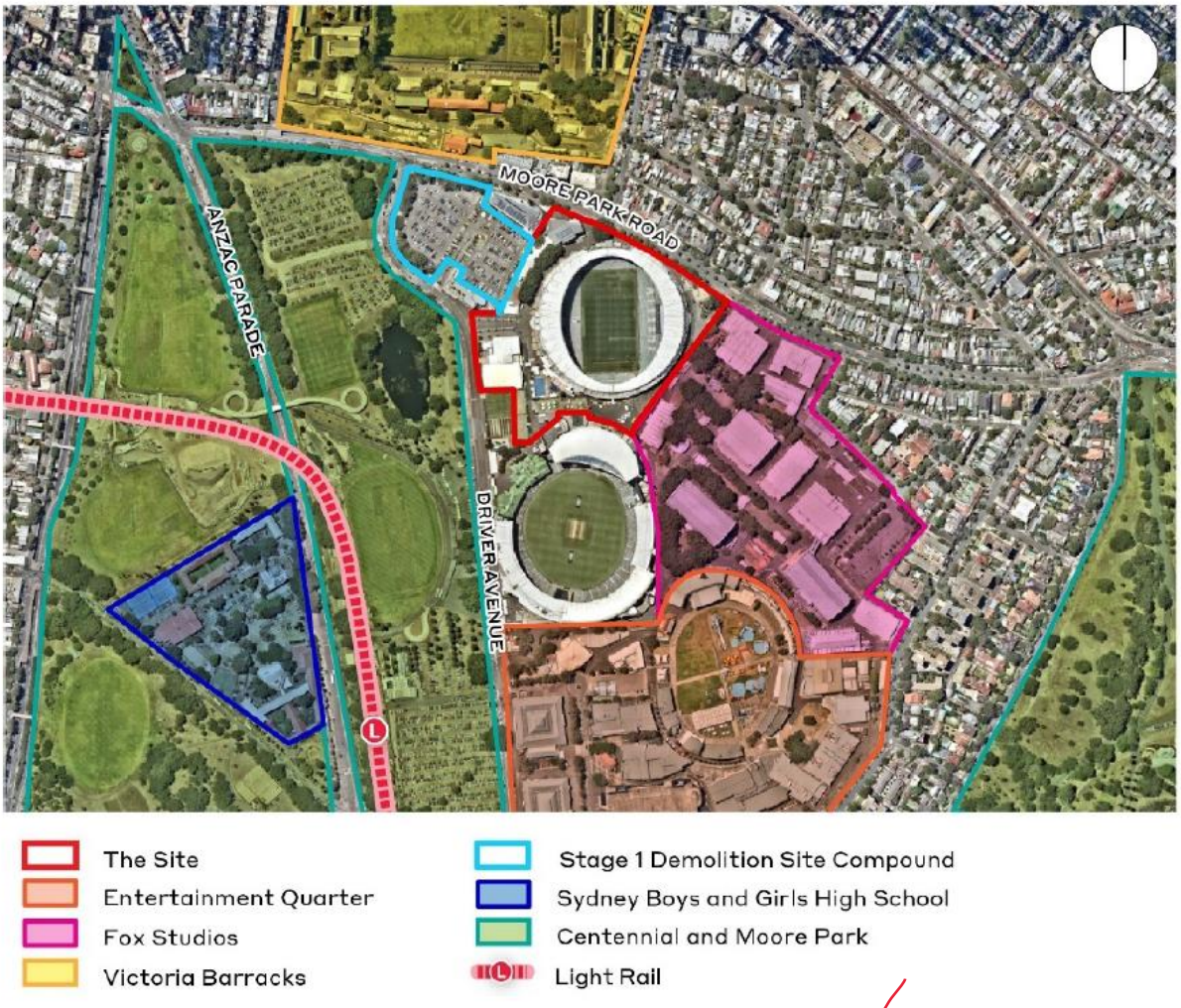

Figure 1 Site Area and Local Mapping

As the existing infrastructure was nearing the end of its life span, the redevelopment project was proposed. The project occurred in two stages, with stage 1 being the demolition of the existing

stadium and stage 2 being the design and construction of the new stadium. This report highlights and analyses important project management practices in detail during both stages of the project. The report also reflects and recommends better project management practices.

2.2 Project Overview

The SFS redevelopment project commenced its stage 1 demolition works on 8th March 2019. However, there were significant time delays and budget overruns of about 99 million dollars by the end of stage 1. Both the government as well as the project management team were criticised for the way they handled their workers and contractors during the COVID-19 crisis in order to make up for the lost time. The project also had a lot of dependencies with different companies working on the same project. Eventually, at the cost of $828 million dollars, funded by the government of NSW, the new stadium was officially opened on 28th August 2022.

Figure 2 Buildings to be demolished.

The initial proposal of this project included the demolition of the existing stadium along with a few associated administration buildings. The proposal also included a 45,000-seating capacity, with the ability to accommodate 55,000 in concert mode. In addition to this, the project also proposed a new basement, increased number of floodlights and adherence to Urban Design and Public Domain Guidelines.

As the project would be a highly utilised facility with events happening throughout the year, the project management team identified a wide range of stakeholders. Special consultations for environmental, archaeological, social, transport and urban design impact were conducted by Arup, Aurecon and SJB Architects respectively. As the stadium was part of the SCG Trust, all members, contractors and hirers had to be managed efficiently throughout the course of this project. The major stakeholders of this project on behalf of the NSW government was Infrastructure NSW. Cox Architecture was responsible for design and conceptualisation and Lendlease was part of the stage 1 demolition activities followed by John Holland who were responsible for the design and construction of the new stadium. However, it is noteworthy that the handover was inorganic and was a result of disputes between Infrastructure NSW and former contractors on wrong contract decisions.

The stadium redevelopment happened in a medium density residential area. Moreover, the neighbourhood was also equally dense, both business wise and community wise, with public schools, day-care centres, golf clubs and production studios. There were also community groups like church associations and residential associations surrounding the stadium. Finally, the end users and patrons of different sporting clubs like Sydney Roosters, Cricket NSW, NSW Rugby used the facility throughout the year to host their games. The project management team also conducted a feasibility study, setting up all the possible construction options during the conceptual stage of the project.

2.3 Scope and Structure of the Report

The report is classified into three sections Section A, B and C. Section A intends to deliver all necessary background information related to this project. Section B focuses more on the analysis of four stages of the project lifecycle. Section C provides recommendations to the issues identified in the earlier sections.

Section A provides readers a context on the scope, nature and challenges of this project. This section also enables readers to identify the problems that the management team had faced during the life cycle of this project. The project in general emphasises the four stages of the project

lifecycle that was introduced in our unit. The report also highlights the triple bottom line approach in sections B and C.

Section B in particular analyses the issues faced and things that went well for the project management team in each stage, namely Planning, Conceptualisation, Execution and Finalisation. This section also explains what went wrong and analyses the reasons behind it. At the same time, the report has also identified things that were also done well by the management team, which will also be discussed in this section.

Lastly, section C will provide recommendations on how to minimise and avoid these issues that the team has faced. These recommendations will be based on sustainable management practices. The report also encloses a one-page executive summary that highlights the purpose and recommendations outlined in this report.

2.4 Application of Triple Bottom Line and Life Cycle Thinking Approach

Sustainable growth and development are a key factor determining the success of any organisation in the long run. According to Robbins et. al, a company's ability to attain its business goals and develop long-term shareholder value by integrating economic, environmental & social opportunities into its business strategies is known as Triple Bottom Line (TBL) approach. This approach has been given special importance throughout this report, focusing on the economic, environmental, and social impacts of the project on its stakeholders with the help of impact assessment reports.

The analysis of the report in section B is also done in a way that it highlights the life cycle thinking approach in which the aspects of the start of this project in the conceptualisation and planning stage with the help of documents like site plans, 3D visualisations, risk management plans, and stakeholder engagement strategy documents. The report also discusses issues faced by the team in its execution and finalisation stage by referring to project status reports and other such documents.

2.5 Project Background

Figure 3 Pre-existing Football Stadium

The SFS redevelopment project was ideally announced by the government as an initiative to provide world-class sporting facilities to the people of NSW. The existing stadium built in 1988 was nearing the end of its economic life span and needed an upgraded urban design and disability access renovation. The existing building also did not meet the requirements of the latest Building Code of Australia and The Disability Discrimination Act. The hirers of the stadium also expressed their dissatisfaction towards the limitation in the availability of change rooms. The existing stadium also offered weather protection to only 55% of the stadium. This is the lowest level of weather protection amongst all Tier 1 stadiums in Australia.

The Allianz Stadium expects a 15% increase in its annual average attendance post redevelopment, which comprises an 11 % increase in tourist attendance as well. The project also enables the new stadium to host an increased number of events annually. In order to manage the existing limitations of narrow entrances and concourses, a huge amount of human capital was allocated. These expenses can be minimised post redevelopment.

In order to sort out all these discrepancies, Infrastructure NSW came up with a bid to facilitate the redevelopment of the existing stadium in two stages. After its announcement in 2017, the project received its Stage 1 planning approval in December 2018. The approval process had bids from two

companies, Lendlease and Multiplex. The NSW Government also lodged a state significant development application with the Department of Planning, Industry and Environment for Stage Two of the project.

In general, the SFS Football Stadium Redevelopment Project was a mega project that spanned over a substantial period of time. The project has had a few areas of concern as well as things that went well during the project.

3. Section B - Analysis

3.1 Introduction

The project life cycle is a sequence of stages from the commencement of a project to its completion. In this section, we analyse the Sydney Football Stadium redevelopment project by outlining the issues and things they did well within each stage. The four key project life cycle stages are: conceptualisation, planning, execution, and finalisation (evaluation) (Hartley, 2018).

Conceptual Stage:

This is the idea stage in which the project is conceived. Preliminary goals are discussed, problems raised, benefits are identified, alternative approaches are researched, and any provisional costs are determined (Hartley 2018). The conceptual stage began in mid-December 2017 when the government commissioned Infrastructure NSW to conduct a feasibility analysis of all the viable options for the project. Following this, within the concept proposal of stage 1 (the demolition), Infrastructure NSW prepared a risk management plan outlining all the risks, their consequences, and methods of mitigation.

Planning Stage:

Once the decision to proceed from the concept stage is made, we move to the planning stage. During this stage objectives are finalised, resources are assigned, quality is signed off, final

costings are approved, and all other administrative matters are determined (Hartley 2018). During the planning stage, the NSW government hadn't analysed their cost management plan correctly causing an eventual blowout of the project's budget. Throughout the planning stage, miscommunication, and poor final cost estimates of the project, caused the initial contractor to abandon the project as the government's expectations and budget could not be fulfilled. This resulted in significant contractual issues and caused major delays, political tension, reputation damage and stakeholder frustration for all parties involved.

Execution Stage:

At this stage the project has commenced, and emphasis is moved onto tracking progress against schedules made in the first two stages. All work is monitored, controlled, and corrected when necessary and schedules are reviewed, revised, and updated (Hartley 2018). During the execution stage the Infrastructure NSW hadn't followed their original cost management plan causing a blowout of the project's budget. The change of contract deliverables for stage 2 by Lendlease as well as the effect of the COVID-19 pandemic caused the project to be put on significant delays.

Finalisation (Evaluation) Stage:

The project has now been completed and handed over to the client. Resources are disposed of or reassigned, the contract is closed out, reports are written and presented, and the administration arm of the project is closed. We are also interested in measuring the return/benefits of the project delivered (Hartley 2018). During the finalisation stage, important stakeholder expectations and promises were not able to be upheld. This led to stakeholder discontent, reputation damage and negative public opinion on the whole project.

3.2 Conceptual Stage

3.2.1 Feasibility Analysis

The NSW government is to be commended for its work during the conceptualisation stage of the project. Following the government's initial announcement to redevelop the stadium in November 2017, they commissioned infrastructure NSW to prepare a 'business case summary'. The document outlines three options of construction 1) Base Case, 2) Refurbishing the current stadium and 3) building a new stadium (40,000 or 45,000 seats). Given the current stadium did not meet contemporary standards including safety and security, the option of doing nothing wasn't viable. The document defines the base case as the lowest level of intervention required to make the current stadium fit for purpose over the next 30 years. Infrastructure NSW outlines the economic benefits and social benefits associated with each option as well as any key risks and disruptions.

In terms of economic benefits, Infrastructure NSW uses numeric selection models such as net present value and cost benefit analysis to reflect the benefit capability of each option. This is shown in Figure 4 below.

Cost Benefit Analysis Outputs - Present Value - 7% Discount Rate - ($FY18, $m)					
	New stadium with 45,000 seats		New stadium with 40,000 seats		Refurbishing the stadium (40,258 seats)
	Original specification	*Adjusted scope*	*Original specification*	*Adjusted scope*	
Costs					
Project capital expenditure	628.75	593.66	608.67	573.58	576.85
Life cycle costs	7.30	5.29	4.23	2.34	18.12
Other project costs	27.72	27.72	20.87	20.87	4.30
Total costs	**663.78**	**626.68**	**633.77**	**596.79**	**599.27**
Benefits					
Avoided capital expenditure	292.39	292.39	292.39	292.39	292.39
Consumer benefits - Use and non-use	154.21	131.95	140.90	119.11	21.79
Business and employment benefits	157.44	141.62	140.66	125.67	59.32
Terminal value	18.65	17.33	16.89	15.63	-
Total benefits	**622.70**	**583.30**	**590.84**	**552.80**	**373.50**
Outputs					
Net benefit	(41.08)	(43.38)	(42.93)	(43.98)	(225.77)
Benefit cost ratio	**0.94**	**0.93**	**0.93**	**0.93**	**0.62**

Figure 4 - Cost Benefit Analysis of each option

Figure 4 highlights that the cost of redevelopment is higher than refurbishing, however it has greater benefits. These figures are then used to calculate a benefit cost ratio (BCR) which is compared to the base case option. As the BCR was less than one the base case was considered, however this wouldn't improve the operational efficiency or the experience of stadium users. .

A BCR of 0.62 compared to 0.94 illustrates to the NSW government the preferable option from an economic point of view. Therefore, considering all factors a full redevelopment of the Sydney football stadium occurred rather than a refurbishment.

Due to the analysis, the project now has an outline of all the reasons for and against each option. This feasibility analysis allowed the NSW government to align its preferences to each option and make a decision that led to the overall success of the project.

3.2.2 Risk Management

Following the business case summary, Infrastructure NSW needed to seek approval for the demolition and construction of the Sydney Football Stadium from the owners of the land the Sydney Cricket and Sports Ground Trust. As part of the approval process a social and economic impact assessment is written that follows the Environmental Planning and Assessment Act 1979. This impact assessment was formed as the concept proposal documentation for the demolition stage of the project. One part of the document contains a social risk management plan of all the social risks involved with the demolition.

(Hartley 2018) Risk is a potential problem, situation or perhaps an opportunity that will have a measured impact on a nominated outcome. The risk groups outlined include noise and vibration, health, and safety (Dust/ asbestos contamination) and construction traffic just to name a few. With each risk an in-depth analysis is achieved by using a 5x5 risk priority grid, very similar to the grid suggested by (Hartley 2018).

			Consequence Level				
			1	2	3	4	5
			Minimal	Minor	Moderate	Significant	Major
Likelihood Level	A	Almost certain	A1	A2	A3	A4	A5
	B	Likely	B1	B2	B3	B4	B5
	C	Possible	C1	C2	C3	C4	C5
	D	Unlikely	D1	D2	D3	D4	D5
	E	Rare	E1	E2	E3	E4	E5

Social Risk Rating: Very Low | Low | Moderate | High

Figure 5 - Social Risk 5x5 Matrix

Each risk is placed in the social risk matrix and an associated consequence level and likelihood level is given. Infrastructure NSW then places this information in a table outlining each risk and its characteristics. This is shown in figure 3.0 below.

Comment	Pre-mitigation Impact	Affected Groups	Likelihood	Consequence	Significance Rating
Construction traffic					
Primary site access for demolition works will be from Moore Park Road which is likely to be accessed via the Eastern distributor and Cross City Tunnel. Inbound and outbound construction vehicle routes are proposed along Moore Park Road, Anzac Parade, Foveaux Street, South Darling Street, Oxford Street and Cleveland Street (Arup, 2018c).	Negative	Motorists accessing the arterial roads around the SFS	Almost certain	Minor	Moderate (A2)

Figure 6 - Snippet of a table showing a risk, its consequence and impact

This is a good demonstration of using project management tools and theories to organise risks associated with the demolition. By completing the risk matrix and outlining the risks in a table infrastructure NSW was able to illustrate to all key stakeholders in the project 1) what the risk is? 2) the probability of it occurring 3) the impact it has on the project 4) the priority status (Hartley 2018). Therefore, without proper documentation (risk management plan) outlining the mitigation strategies to all risks involved in the project, infrastructure NSW would not have received approval from key stakeholders and The Sydney Cricket and Sports Ground Trust to go ahead with the demolition.

3.3 Planning Stage

3.3.1 Contract Management

Stage 1 of the project was critical to the redevelopment of the new stadium as it included the demolition of the existing stadium. However, this stage encountered significant contract issues primarily due to the delays caused by the contractors Lendlease and John Holland. The project was divided into several contracts within the planning stage, with Lendlease initially responsible for the demolition and construction of the new stadium. However, contractual issues were not able to be resolved and John Holland was later awarded the construction of the new stadium. The issues in the contracts which led to delays were initially caused by cost estimation of the final project. This occurred due to the initial contract that was agreed upon was modified - which in turn made Lendlease question their ability to deliver within the budget and time frame, resulting in them leaving the reconstruction project. The repercussions that followed were mainly political backlash and tension causing negative publicity to the public, and perhaps the most drastic cascading repercussion - major delays since it all occurred during the initial planning phase and the rest of the project could not continue without it.

The NSW sports minister John Sidoti said Lendlease's stage two offer "did not meet the government's expectations so we are looking for another builder in a competitive market." This contractual issue had a cascading effect on the entire project timeline as the new stadium's construction could not proceed until the old stadium was demolished and the site cleared. The project that was initially scheduled to be completed late 2021, finished 9 months later in the middle of 2022. Internal stakeholders pushed for as early as possible deadlines to satisfy external stakeholders; however this could not be met and in turn led to political tension, stakeholder frustration and reputation damage. Greens MP David Shoebridge said it was "always a joke" that the government priced the project at $729m before it was designed. "Now they have demolished the stadium and are just now finding out they can't get it rebuilt for their initial estimate," he tweeted. The opposition sports spokeswoman, Lynda Voltz, said Berejiklian promised at the March election she had the project under control. Before the March state election, a local community group, Local Democracy Matters, took unsuccessful legal action in the NSW land and environment court to stop the knockdown and rebuild. "The local community is very concerned about the hundreds of millions of dollars being spent on this wasteful project, from a government that can't even get the basic legal requirements in place," the group's treasurer, Chris Maltby said. The domino effect that was created from the initial contractual issue of Lendlease not being able to meet the budget caused major delays, political tension, stakeholder frustration and reputation damage for all respective parties involved in the overall project. The importance of effective project management and risk mitigation strategies in large scale construction projects need to be precisely planned to avoid such catastrophic repercussions.

3.4 Execution Stage

3.4.1 Cost Management and Time Management

During the execution stage, issues arose due to scope creep and contract management putting pressures on costs. In the business case summary, total costs for both stage 1 and 2 came to $729 million, however the actual overall cost was $828 million, $99 million over budget. At the time this analysis had been put together, all costs for stage 1 and 2 were assigned with Lendlease being in charge of both stages. However, as outlined in the planning stage the NSW government completed the demolition with Lendlease and due to terrible contract management, the deal with

Lendlease for stage 2 was breached. This breach meant that the NSW government didn't have a contract signed off on for stage 2 following the demolition. Each day that passed, cost the NSW government as overall costs increased, as well as delays for beginning construction.

Post construction, Infrastructure NSW also announced that an additional $54 million was spent on Venus NSW facilities. This included the members' facilities that had to be demolished to make way for the new construction. This cost was revised as the actual cost didn't meet the budgeted cost in the case summary.

Both of these examples illustrate the government's lack of control over costs, and it highlights elements of scope creep during the project execution. Another issue was the increase in wages during the COVID-19 pandemic. 'Crashing the schedule' (Hartley 2018) occurred as some work had to be cancelled as well as the same quality work desired from a shorter amount of time. This impacted the project as to accommodate this schedule revision additional resources were assigned, adding to the cost. (For e.g. higher wages due to workers working outside normal hours).

The impact this had on the project was that key stakeholders and external stakeholders were not happy and questions were asked to the government as to why there wasn't a proper plan put into place for these revised costs. External stakeholders were not happy with the outcome as additional taxes would be charged to subsidise these additional costs. Even though the budget was increased, key stakeholders such as Sydney Roosters and Sydney FC didn't get the additional features they asked for and questions were asked.

During the project execution, significant time delays were also encountered. These delays were due to the changes in contract deliverables from Lendlease for stage 1 and the impacts of the COVID-19 pandemic. The change in contract deliverable caused time delays as it involved identifying and reporting all significant changes prior to stage 2. The other major time delay was dealing with the COVID-19 pandemic. During this time major client John Holland had to seek work approvals so that for example, a certain number of workers could work at the same time. Seeking these approvals from the government took time and added to the delays that John Holland

couldn’t afford. These delays led to the project only just making the required deadline requested by the Sydney Roosters.

3.5 Finalisation Stage

3.5.1 Stakeholder Management and Expectations

The redevelopment project was a high-profile initiative that involved numerous stakeholders with diverse expectations and interests. Managing these stakeholder’s expectations are a crucial part to the project’s success. However, several issues related to these expectations arose leading to reputation damage and community and stakeholder discontent, unfortunately a little too late.

Important stakeholders Sydney Football Club, the Roosters and the Waratahs wanted the stadium to feature an LED curtain that would disguise empty seats during games when there is a low turnout. This demand is crucial for the stakeholders as all three teams have been plagued by poor spectator turnouts in recent years, and needed a solution as they averaged just under 15,000 fans at their home games – while the stadium was built to hold 45,000 fans. This sparked fears within the sporting teams that the stadium will look empty every week. “The LED curtain was a key feature to the original design of the stadium that we supported,” Roosters CEO Joe Kelly told the newspaper. “In the context of our regular crowds and creating the best possible match day experience, the inclusion of this technology is fundamentally important.” The plans for the highly demanded LED curtain were dropped by external reviewers in order to save $46 million on the whole project – while being almost $100 million over budget already. The repercussions of not upholding important stakeholder expectations were the threatening of their major sporting team the Sydney Football Club to question whether the stadium is the right venue in the long term – particularly given the recent success of hosting games at the Jubilee and Leichhardt ovals.

Perhaps the most important stakeholders - the public and taxpayers were also discontent with the finalisation of the project. The fact the seating capacity wasn't increased was pointed out by many on social media, while others questioned why the money wasn't spent on schooling and health care when both industries are severely struggling for staff and funding.
Many also suggested the upgrades still only appear 'minor', and that the previous SFS was often only half-full for NRL, Super Rugby and A-League games. Prominent journalist Peter Fitzsimons

had been vocal about the state government's decision to spend so much money on the stadium when they aren't relatively that old and haven't reached the general 50 year-end of life span yet. He started a petition which was signed by 223,746 people to stop the government from wasting money on rebuilding the stadium. In his regular Sydney Morning Herald column, Fitzsimons exclaimed "And yet beyond the ludicrousness of knocking down a perfectly fine stadium to build a new one that looks remarkably similar – same architectural firm, as a matter of fact – the NSW Government's largesse to NRL clubs is already well established." By not upholding important stakeholder expectations from a management perspective, the drastic repercussions were felt during and in the final and completed stages of the project. 

4. Section C - Recommendations

4.1 Feasibility Analysis

Conducting a feasibility analysis before commencing a project is an integral part, and the NSW government performed feasibility analysis consulting in all the areas. As per Section B, an environmental, social, and economic analysis was carried out in order to examine the new stadium construction. Most aspects such as performance, features, reliability, conformance, durability, serviceability, aesthetics, and perception, which are linked with the triple bottom line, were considered for the analysis and its extremely recommending. Various factors were investigated for the strategic investment of the new stadium, such as cost efficiency, competitive advantage, product mix diversity, and life cycle thinking which is recommended. In the feasibility study, a lot of aspects were recognised to be maintained during the project construction period, such as access to third-party expertise, regular monitoring, and reporting of performance, agreed standards and definitions as suggested by Hartley (2018). Considering all stakeholder advantages, profitability growth was not well observed in the feasibility study.

Section B presents a cost-benefit analysis of the project. Project selection models recommended to be conducted in two ways, e.g., non-numeric and numeric. Numeric project selection can be performed by payback period, return on investment (ROI), net present value (NPV), or benefit cost analysis (BCA). Benefit cost analysis gives a ratio between benefit and cost, and the highest value indicates the best solution. As per Section B, the most viable and feasible option was the

construction of a new stadium with 45,000 seats. Project capital expenditures, life cycle costs, and other costs were considered to calculate the BCR (Benefit Cost Ratio) against the benefits such as avoided capital expenditures, consumer benefits, business and employment benefits, and terminal values. Performing a numeric selection model for project selection is recommended, and it gives satisfaction whether it is acceptable to go with a new stadium or not. But there are certain disadvantages in numerical models, such as:

- leading to false confidence.
- acting as a validation.
- more unknown variables.
- Sometimes it does not assign specific benefit values in certain types of areas.

So, it is recommended to have one or more project selection models, either numeric or non-numeric. Some of the models are:

Non-numeric

- Sacred cow
- Operating Necessity

Numeric

- Return on investment (ROI)
- Net present value (NPV)

Feasibility studies are usually conducted in the conceptual stage, but considering the planning stage, projects won't have significant deviations, but in the actual case scenario, there were a lot of variations that happened to the project during the construction, which affected the cost benefit analysis output in Section B. Addressing all the areas in the project consideration is recommended for the feasibility study. Then it is possible to review a more realistic analysis that is more identical to the final outcome of the project.

4.2 Risk Management

The New Sydney Football Stadium construction project consisted of two stages, and the first stage was the demolition of the existing stadium. During the demolition stage, several risk factors were encountered. According to Section B, each risk factor was analysed using a 5x5 risk priority grid. Identifying every potential source of risk is essential for finding the risk factors, and these sources of risk can be divided into internal (Controllable) and external (Uncontrollable). Applying this process to the Sydney Football Stadium construction will give risk factors more accurately and it is a more recommended method.

Risk identification can be done through SWOT analysis and the PESTELG framework, as shown in Figure 7 below. Using the PESTELG framework could improve the risk management task effectively.

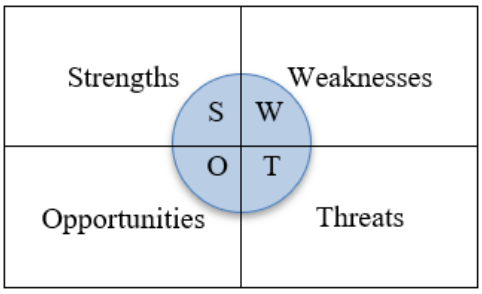

Figure 7: SWOT analysis

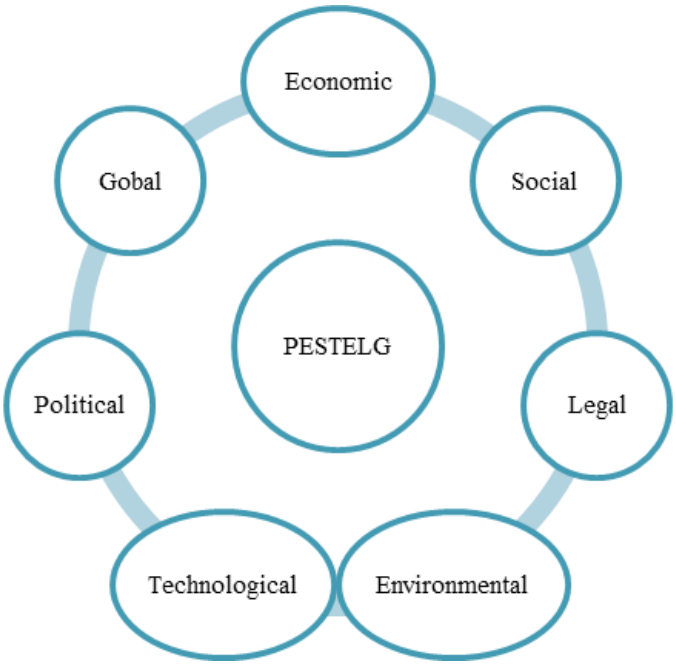

Figure 8: PESTELG Framework

Sydney Football Stadium Project risks can be identified using various tools and techniques, as recommended by Hartley (2018). Following are a few of them:

- Risk registers
- Risk specialists
- Industry databases
- Simulations
- SWOT analysis
- PESTELG framework
- Brainstorming
- Historical research

As per Section B, risk management was consulted by pre mitigation impact, impact rating, consequences, and checking with the affected group. When managing the risks, giving the possible risk responses will help to improve the efficiency of the risk analysis. Possible risk responses and recommendations to overcome the identified risks are as follows:

- Reject – modify plan to eliminate risk
- Accept – addressed as they arise
- Mitigate – proactive action to minimise the impact
- Share – Partnership with third party
- Transfer – outsourced to third party
- Enhance – actively increase the probability or positive impacts of an opportunity

Monitoring and evaluating the risk during the demolition work became essential, and occurring risks during the project phase can be illustrated by the risk management dilemma (Project Management & Engineering Practice Risk management: (Week 6a), 29 th August 2023).

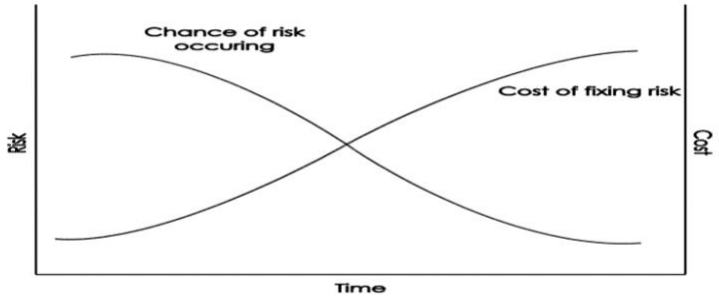

Figure 9: The risk management dilemma

Demolition of the existing stadium was carried out, managing most of the risks and uncertainties in the project, and it helped the demolition stage succeed. Monitoring and evaluating risk events, making strategies, impact ratings, prioritising, and reviewing helped to improve the risk management plan. Aligning the risk profile also improved risk management in a better way by avoiding many problems.

4.3 Contract Management

Section - B gives us an idea of why contractual issues arose. To summarise, stakeholders failed to maintain open channels of communication (extra obligations/deliverables were demanded, which was not within the capacity of Lendlease) and Lendlease's stage 2 offer not meeting expectations. To tackle the latter problem, the project team could evaluate the supplier's proficiency in delivering what is required with the help of the evaluation matrix. A simple example of an evaluation matrix is shown in fig.10.

Metrics	Weight	Supplier A		Supplier B		Supplier C	
		Rating	Score	Rating	Score	Rating	Score
Price (Cost of service)	0.15	3	0.45	2	0.3	3	0.45
Delivery (time required)	0.11	4	0.44	4	0.44	5	0.55
Environmental considerations	0.12	5	0.6	4	0.48	4	0.48

Reliability on Scope deliverables	0.2	4	0.8	2	0.4	5	1
Quality of service	0.21	3	0.63	3	0.63	4	0.84
TBL and Life Cycle approach	0.21	4	0.84	4	0.84	4	0.84
Total	1		3.76		3.09		4.16

Fig.10 Evaluation matrix

Furthermore, the project team could try to come up with additional discussions and negotiations with the chosen supplier, which can help them rectify:

(Hartley,2018)

- significant differences in cost estimates
- non-conforming responses (if this provision has been specified)
- deficiencies in the SOW or specification
- different technical approaches covering methodologies, techniques, solutions and services
- proposed amendment to the contract submitted by the seller
- clarification on contractual conditions
- performance reporting requirements.

4.4 Cost and Time Management

4.4.1 Cost Management

From the analysis section, we come to know that stage 1 works of the project were later modified to include a few more deliverables. On top of this, COVID-19 extended the project timeline through several issues. Remediation for these issues were approved swiftly without proper analysis as there was a lot of pressure from the stakeholders to deliver the results on time (negative impact of crashing the schedule). This increased the resources required, thereby the cost. All this clearly

shows the lack of assessing project progress and performance over time. EVM (Earned Value Management) can be used to mitigate this, helping to predict the future and adjust costs accordingly.

Earned value is a measure of performance (progress) in terms of scope, schedule and budget metrics (and their implications) (Hartley, 2018). There are three important metrics in EVM, planned value(PV), earned value(EV) and actual costs(AC). An example of EVM analysis is shown below:

To understand this concept, let's assume that a project is to be completed in 12 months or four quarters and the budget at completion (BAC) is $729 million. So, the planned value of the project at 3 months (quarter - I) would be $729 million * 25% = $182.25 million. Let the actual cost at the end of 3 months be $200 million, and assume that a certain discrepancy from the estimate occurred. This means that at the end of 3 months, the work that was supposed to be completed (25%) wasn't. So, only 24.5% of the work was completed, resulting in an earned value of $729 million * 24.5% = $178.61 million. Fig.11 shows all this in a graphical manner.

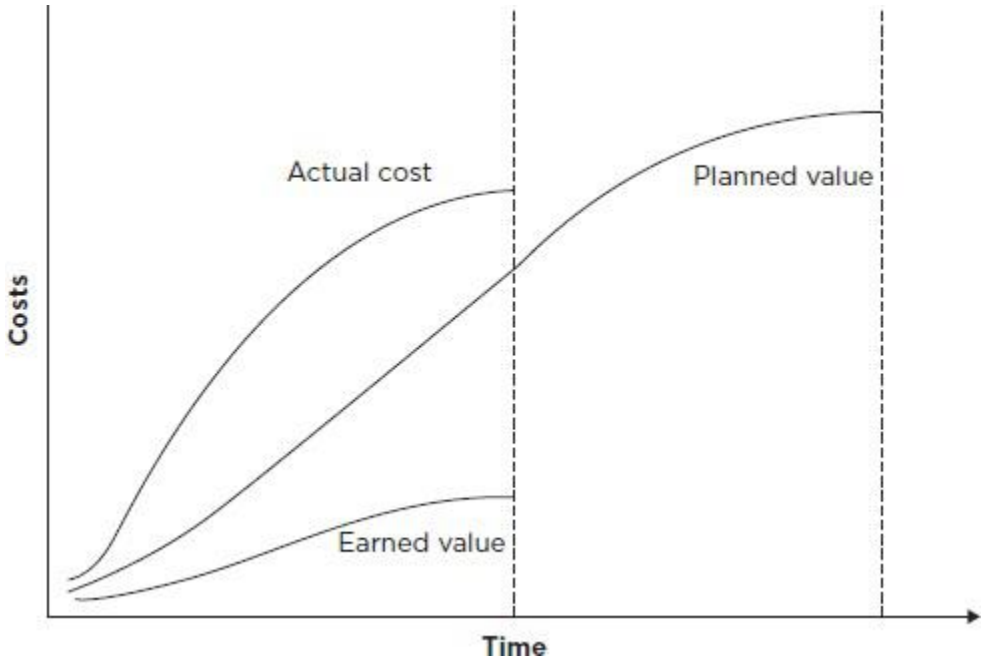

Fig.11 Planned value, earned value and actual costs

Analysing this scenario, we can infer that there's a clear indication of over budget and a significant delay in the project, as the planned value at the end of 3 months was clearly not met. We can extend this initial analysis further by introducing variance analysis and performance indexes. For explanation purposes, the analysis is extended to plan for quarter - IV and visualised in fig.12 with the above data.

BAC=$729 (in millions) Time / Metrics	**Scheduled timeline**				**Total cost/time spent**
	Year - I				
	Q-I	**Q-II**	**Q-III**	**Q-IV**	
PV	**$182.25**	**$182.25**	**$182.25**	**…**	**$546.75 (Proposed Budget)**
AC	**$200**	**$190.5**	**$196.25**	**…**	**$586.75 (Actual budget)**
EV	**$178.61**	**$182.54**	**$179.25**	**…**	**$540.4 (Work completed)**
SV (EV-PV)	**$-3.64**	**$+0.29**	**$-3**	**…**	**$-6.35 (Estimate to Complete)**
CV (EV-AC)	**$-21.39**	**-$7.96**	**$-17**	**…**	**$-46.35 (Variance at Completion)**
SPI (EV/PV)	**0.98**	**1.002**	**0.98**	**…**	**Behind schedule**
CPI (EV/AC)	**0.89**	**0.96**	**0.91**	**…**	**Over budget**
Estimate at completion (EAC) (AC+BAC-EV)					**775.35**
Funds remaining					**$142.25**

(BAC-AC)	
Work remaining (BAC-EV)	**$188.6**
To-complete performance index (BAC-EV)/(BAC-AC)	**1.33**
TCPI using target estimate (BAC-EV)/(EAC-AC)	**1**

Fig.12 Earned Value Analysis

Based on this analysis, we can conclude that for every $1 invested, the project team have to complete $1.33 of scope to restore the original budget. In a real world scenario, this would be impossible to achieve. But had this analysis been done for quarter - I and adapted for quarter - II, the project could possibly be completed with the original budget. On this basis, SFS redevelopment team could promptly identify the project stage that costs more than the planned budget for that stage and apply EVM practice to manage expenses better.

4.4.2 Time Management

In addition to controlling cost, EVM practice (Schedule Variance and Schedule Performance Index) along with certain performance measurement/reporting techniques could help with controlling schedule. 'Perhaps the real key to schedule control is the timeliness of the information reported, along with the detail and justification contained'(Hartley,2018). As mentioned earlier in Section-B, due to changes in deliverables and COVID-19, there occurred a significant delay in the project, by 9 months.

Again, from the example that was explained in the recommendation for cost management, we can infer that what was planned to be completed at the end of 3 months wasn't. By extending the initial analysis, we were able to come up with variance and performance metrics. SFS redevelopment team could use these metrics to measure how the project is doing against schedule. For example,

the Schedule Variance and Schedule Performance Index for Quarter-I were measured to be $-3.64 million and 0.98 respectively. A negative value($-3.64m) in Schedule variance shows that only a certain amount of scope was delivered against the planned value, and the project is not on track with the schedule. Similarly, a value lower than one (0.98) in Schedule Performance Index implies inefficient use of time. Fig.13 visualises how actual performance could be tracked against the baseline (planned schedule) and the current schedule using these metrics.

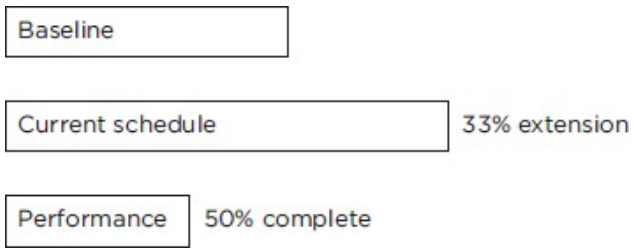

Fig.13 Tracking actual performance against planned and current schedule

Additionally, inclusion of altering critical activities, thereby the path, with EVM practice would prove to be even more effective. The critical path is found first by identifying the different activities(s), path(s) and/or milestones in the network, then by determining two pieces of information: the activity sequencing and the duration of each activity (Hartley,2018). With each change being identified and reported, and a viable solution being implemented as a result will affect the planned schedule by changing factors that are to be primarily identified to establish a critical path such as the longest path, path or activity with zero float and paths that drive the end date of the project, and finally the shortest completion time of the project. With increasing number of changes, SFS Redevelopment team could re-identify the time required for different activities, paths or milestones to complete and arrange them in proper sequence so that buffer/float time could be found thereby time could be optimised (delayed or extended) to accommodate critical activities effectively (identifying and managing delays caused by COVID-19 better by introducing effective buffers). Fig.14 visualises this idea

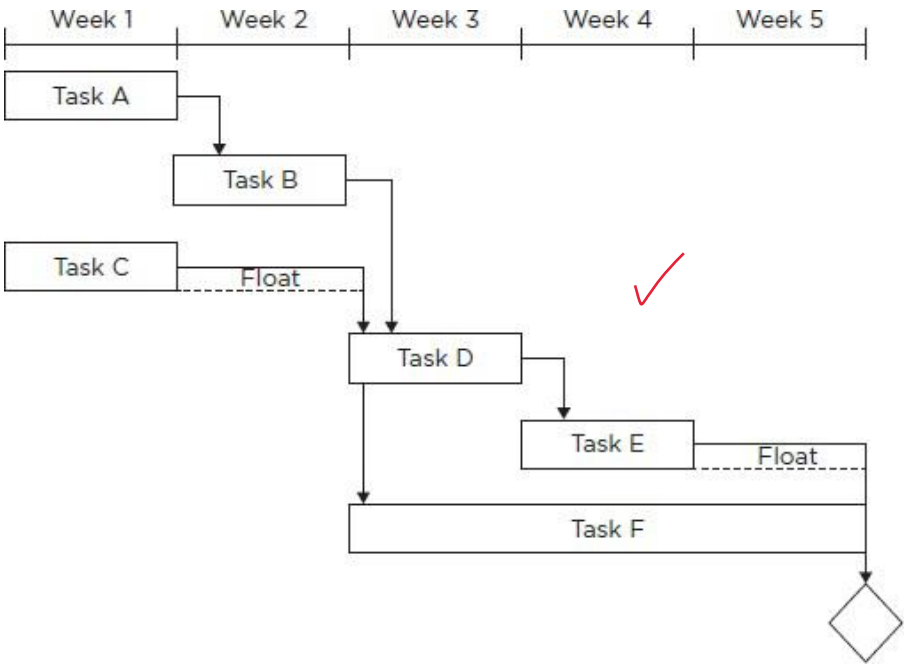

Fig.14 Critical Path (Gantt chart)

Thus, EVM along with critical path optimisation could be used to predict the cost and time required and thereby plan and adjust accordingly, to ensure that the project is completed under the initial budget and time estimation.

4.5 Stakeholder Management

The most important part of stakeholder management is identifying all stakeholders in the project. This was done in a Community Communication Strategy (CCS) by Infrastructure NSW (Infrastructure NSW). This document outlines the communication objectives and tools and a stakeholder analysis. However, the errors in the stakeholder management are shown to come from this document. A stakeholder management plan should include all stakeholders in the project. For each stakeholder it should include expectations, power, priorities, interest and a way to manage those stakeholders. A stakeholder management matrix that covers all of these points is an effective way to manage this issue.

The first issue of the management of the general public and taxpayers not being satisfied with the final project can be linked to them not being considered as a stakeholder in the stakeholder management documents. The document only considered the public in the case of immediate neighbours to the stadium who would be impacted directly by the construction. Because of this a

large group of stakeholders were not consulted in the process. It meant that it would be difficult to be able to satisfy what they wanted. Once this group has been identified as a stakeholder group then analysis of their wants, power and interest would need to be understood. A potential method for this could be to do a town hall meeting which should be used early in the process to find this information from this stakeholder group. With this information a portion of these stakeholder groups wants will be able to be incorporated into the design of the project if possible. The CCS outlines several methods including a webpage, phone line and good neighbour activities to communicate the progress of the project to the stakeholders as it was occurring.

The other issue involves the management of the expectations of the sports teams that would be using the stadium. The cause of the issue around the LED curtain is due to not understanding the levels of importance for these groups on the topics. This means that when the plans were reviewed by an external party the importance of the curtain was not conveyed and led to it being removed to save money. The current stakeholder matrix for the Sydney FC is shown below in fig 15. It shows the issues, interests and a management strategy in it but it does not show the priority of their interests. Due to this there is a disconnect between the groups which leads to the mismanagement of stakeholder's expectations. The solution is to include the importance and power the stakeholders have in the matrix.

3.6.5 Sydney FC

Responsibility	Venues NSW, in collaboration with the construction contractor and Infrastructure NSW
Description	The Sydney FC Administration headquarters are in the Precinct and will need to be relocated during the demolition and construction. They also hire the SFS throughout the year to host sporting events.
Issues and interests	• Relocation of fixtures during the demolition and construction period • Relocation of headquarters during the demolition and construction period • Design of the new stadium • Quality of the SCG playing surface • Potential project delays
Communication tools	• Meetings • Briefings • Phone/email • Website • Signage

Fig.15 Stakeholder Analysis (Infrastructure NSW)

5. Conclusion

The Sydney Football stadium redevelopment was completed in 2022 for the government by John Holland. The project management of the project excelled in certain areas but fell short in other areas throughout the project's lifecycle. Due to this management, the project resulted in being over budget and not meeting the expectations of all stakeholders in certain areas. This came from errors in contract, cost, time and stakeholder management. Various management techniques outlined above show how these issues could be resolved and the improvements to the final project if the techniques were employed. These techniques are an improved stakeholder management matrix, PESTELG risk analysis, evaluation matrix, EVM and a critical path optimisation. This analysis of the project highlights the importance of using correct project management techniques during a project.

6. References:

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3 - Fox Sports. "Led curtain to hide small crowds at Sydney Football Stadium missing from new plans." Fox Sports. Accessed [Access Date]. URL: https://www.foxsports.com.au/nrl/nrl-premiership/led-curtain-to-hide-small-crowds-at-sydney-football-stadium-missing-from-new-plans/news-story/8bd7c15b446b6f2afbf15c3d8e728610.

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6 - Queensland Government (2022). *SWOT analysis*. [online] Business Queensland. Available at: https://www.business.qld.gov.au/running-business/planning/swot-analysis.

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8 - Project Management & Engineering Practice (GENG5505) Risk management: Proactively managing uncertainty, complexity and change (Ch 10) (Week 6a) - Lecture eleven, 29th August 2023

9 - Stephen Hartley 2018, Project Management: A Practical Guide to Planning and Managing Projects, George Allen & Unwin.

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11 - Infrastructure NSW. " SYDNEY FOOTBALL STADIUM REDEVELOPMENT CONCEPT MANAGEMENT PLAN" Infrastructure NSW, December 2018 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9249%2120190314T003035.580%20GMT

7. Appendices:

Appendix 1: Snippet of one of the several approval letters for OOHW (Out of Hours Work) request (Department of Planning and Environment,2022)

Department of Planning and Environment

NSW GOVERNMENT

Stephanie Ballango
Director
Consultant to Infrastructure NSW
P.O. Box R220
Royal Exchange, NSW 1225

Our Ref: SSD-9835-PA-126

13/07/2022

Dear Ms. Ballango,

Redevelopment of Sydney Football Stadium – Stage 2 (SSD-9835)
Out of Hours Work Request, Condition C6

I refer to your submission seeking approval of the Planning Secretary for Out of Hours Work (OOHW) request for landscaping and external finishing works under condition C6 of SSD-9835. I acknowledge and thank you for your response to the Department's review comments and request for additional Information.

I note that the OOHW request application:

- has been reviewed by the Applicant and no issues have been raised;
- is limited to landscaping and finishing works with a maximum of 200 personnel onsite;
- has been submitted in advance of conducting the OOHW;
- covers the period from 6pm-12am Monday to Friday, 1pm-12am on Saturdays and 8am to 12am on Sundays.

As nominee of the Planning Secretary, I approve the OOHW landscaping and external finishes request, in accordance with condition C6 of SSD-9835 from the date of this letter until 30 August 2022, subject to:

1. OOHW is approved on a trial basis for 2 weeks. Following the conclusion of the trial period, the Planning Secretary may either:
   (a) require the OOHW to cease; or
   (b) impose further restrictions on the OOHW; or
   (c) not carry out action under point (a) or (b) above. Where this occurs, OOHW may continue until 30 August 2022.
2. Weekly reporting to the Planning Secretary of the number, nature and time of all complaints relating to the OOHW and actions taken to address complaints with the objective of resolution.
3. No high noise impact works or activities, as defined in the project consent, is permitted.
4. No simultaneous implementation of other OOHW previously approved by the Planning Secretary's nominee.
5. Notifying the affected residents, prior to the commencement of OOHW, as per the timeline specified in the project Community Communication Strategy;
6. Providing affected residents the contact details including phone number of the Site Manager so that safety and/or environmental concerns, if any, can be lodged and responded to promptly;
7. Implementing all noise control measures including staff/employee induction, supervision, etc., as per your application submitted to the Planning Secretary; and

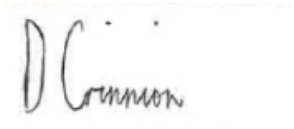
8. Managing any community complaints or concerns as per your established complaints management system under the project Construction Environmental Management Plan and Community Communication Strategy.

This approval may be reviewed should there be noise, parking or traffic complaints, or if the works are not implemented in accordance with the approved OOHW application.

Please note that if there is any inconsistency between the approved document and the conditions of consent, then the requirements of conditions of consent will prevail.

If you have any questions or would like to discuss this matter, please contact Matt Wood at matthew.wood@dpie.nsw.gov.au.

Yours sincerely

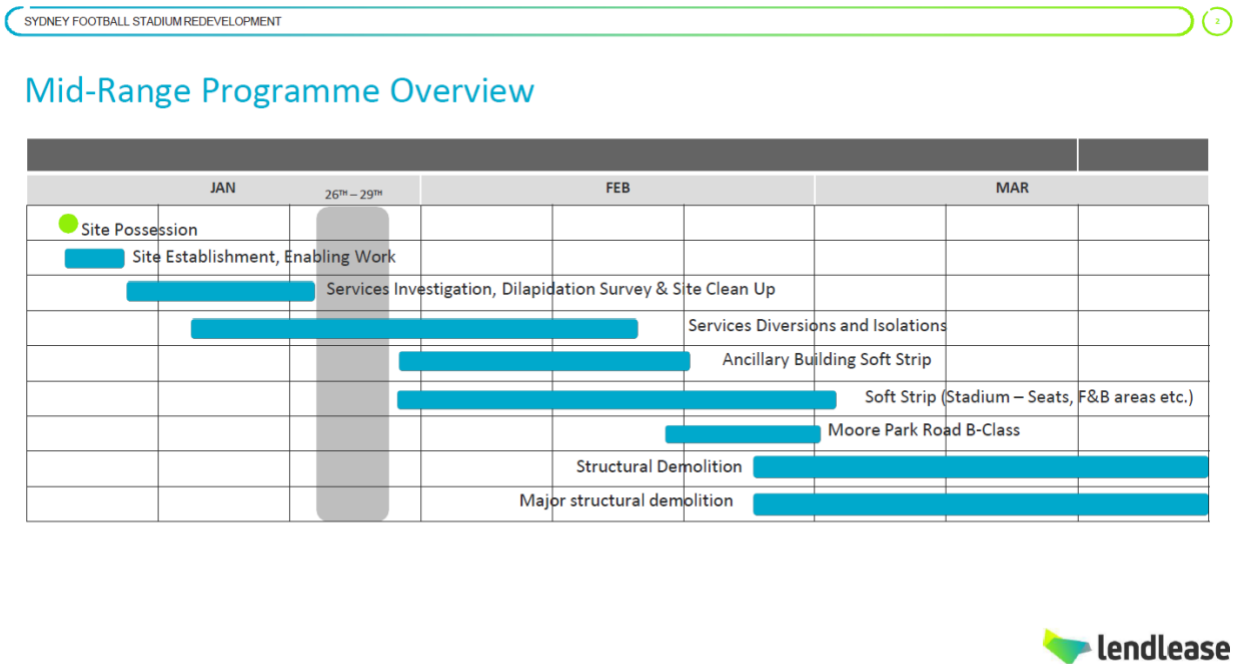


Dominic Crinnion
Acting Director
Infrastructure Management

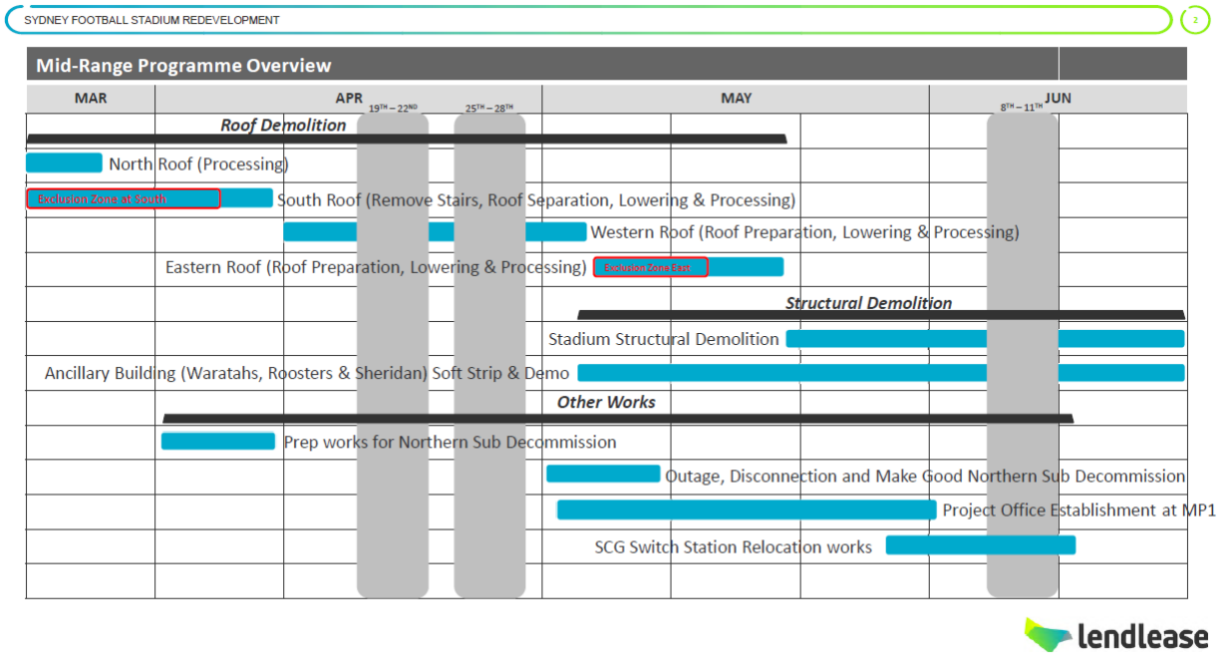
As nominee of the Planning Secretary

Appendix 2: Snippet of Lendlease's Project Schedule (Lendlease,2019)

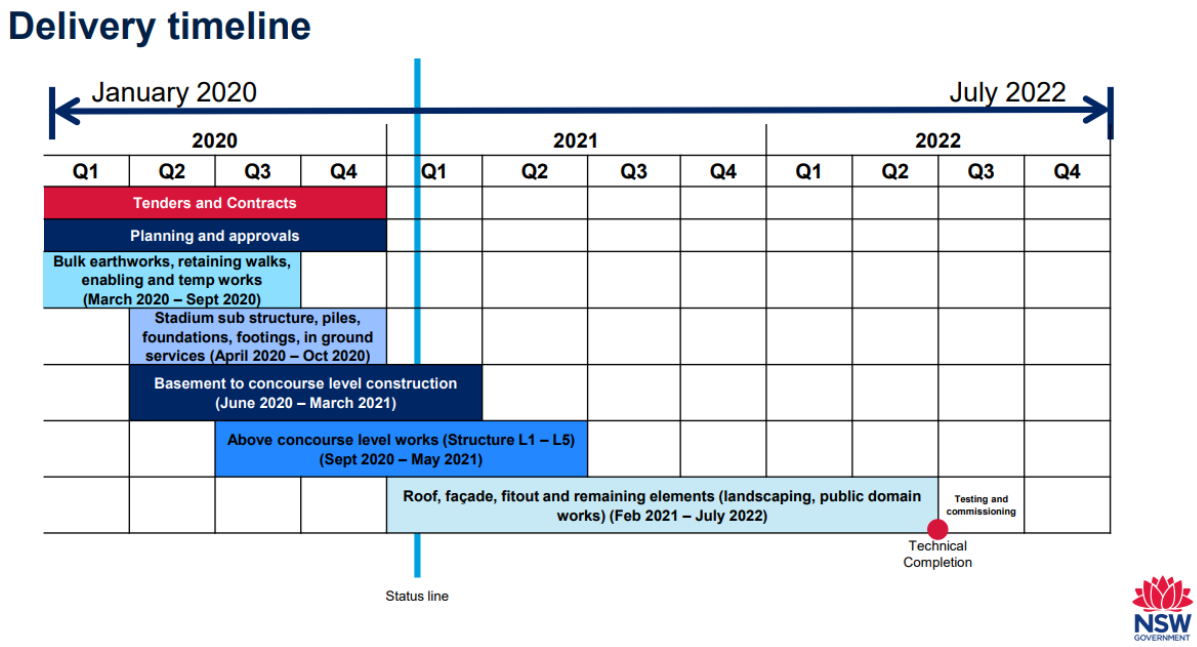
Part A:



Part B:



Appendix 3: Snippet of Stage 2 Timeline:



Appendix 4: Social impact assessment for a feasibility study (Ethos Urban. "State Significant Development Application, Concept Proposal and Stage 1 Demolition" Ethos Urban, June, 2018)

6.1 Assessment of Social Impacts

An assessment of the social impacts associated with the demolition/construction phase, and operational phase of the Sydney Football Stadium Redevelopment is provided in the following section. Impacts have been grouped in accordance with the social factors identified in **Table 4.** Where applicable, the pre-mitigation impact for each topic has been assessed in relation to specific group or community that may be impacted. An assessment of the likelihood, consequence and then overall significance of each impact has also been undertaken in reference to the Social Risk Assessment Matrix presented at **Figure 9.**

Key assumptions underlying this assessment are noted in Section 5.6 of this report.

Table 4 – Social factors and impacts considered

Project phase	Social factors	Impacts considered
Demolition & construction	• People's way of life • Community cohesion and character • Access to services and facilities • Local environment • Community health and well-being • People's personal and property rights • People's fears and aspirations	• Amenity • Accessibility • Built environment • Community • Cultural and heritage values • Environment and biodiversity • Traffic and transport • Access to professional sporting and entertainment events •
Stadium operation	• People's way of life • Community cohesion and character • Access to services and facilities • Local environment • Community health and well-being • People's personal and property rights • People's fears and aspirations	• Visitor experience • Capacity and attendance • Community • Noise and Vibration • Transport and Accessibility • Access to professional sporting and entertainment events

6.2 Impacts of demolition and construction

An assessment of the social impacts associated with the demolition, site preparation and preliminary construction of the existing stadium are discussed in the following section. These impacts have been considered in the context of their temporary and short-term nature i.e. 3-year demolition and construction period.

It is noted that the State Significant Development Application that has been submitted to the Department of Planning and Environment seeks approval for demolition only at this stage. Whilst this is the case for completeness, this social impact assessment considers impacts during both demolition and construction. Taking this into consideration, the following topics and themes are evaluated:

- Amenity
- Accessibility
- Built environment
- Community
- Cultural & heritage vales
- Environmental and biodiversity
- Traffic and transport

Appendix 5: Social Impact Assessment ((Ethos Urban. “State Significant Development Application, Concept Proposal and Stage 1 Demolition” Ethos Urban, June, 2018)

6.0 Social Impact Assessment

As outlined in the Social Impact Assessment Guideline prepared by IAIA (2015), social impacts vary in their nature and can be positive or negative, tangible or intangible, quantifiable, partly quantifiable or qualitative. Social impacts can also be experienced or perceived differently by different people and groups within a community

Ultimately there are two main types of social impacts that will arise as a result of the proposal, these being direct impacts caused by the project and which cause changes to occur within the existing community, as measured through the use of social indicators, such as population, health, and employment, and indirect impacts that are generally less tangible and more commonly relate to matters such as community values, identity and sense of place.

Taking into consideration the study area and community socio-economic profile, the following section outlines, considers and assesses the potential impacts of the proposed Sydney Football Stadium Redevelopment. For the purposes of this social impact assessment, the impacts are considered and assessed in two distinct phases as outlined earlier, being the proposed demolition and construction phase, and the operational phase. It should be noted that the State Significant Development Application submitted to the DP&E seeks consent for demolition of the stadium only at this stage.

The social risk matrix outlined in the Social Impact Assessment Guideline (IAIA, 2015) has been adapted for the purposes of undertaking the social impact assessment of the proposed Sydney Football Stadium Redevelopment. Each impact has been assessed as either ‘positive’, ‘negative’ or ‘neutral’ and assigned an overall risk that considers both the likelihood of the impact occurring and the consequence should the impact occur (Figure 9 – Social Risk Assessment Matrix). Using this approach allows for the categorisation of each impact.

			Consequence Level				
			1	2	3	4	5
			Minimal	Minor	Moderate	Significant	Major
Likelihood Level	A	Almost certain	A1	A2	A3	A4	A5
	B	Likely	B1	B2	B3	B4	B5
	C	Possible	C1	C2	C3	C4	C5
	D	Unlikely	D1	D2	D3	D4	D5
	E	Rare	E1	E2	E3	E4	E5

Social Risk Rating

Very Low | Low | Moderate | High

Figure 9 – Social Risk Assessment Matrix

Source – Ethos Urban

Appendix 6: Business Case Summary, Snippet of the Identification and assessment of each option (Infrastructure NSW)

Options identification and assessment

Base Case

Given that the stadium does not meet contemporary standards, including for safety and security, the option of "doing nothing" is not available. The Business Case therefore defines a Base Case, which is the lowest level of intervention required to make the current stadium fit for purpose for the next 30 years.

The Base Case addresses immediate safety, security and compliance issues and includes sufficient refurbishment and replacement works to keep the venue operational. The Base Case improves safety and security but does not achieve full compliance, notably in the areas of disability access and the provision of an adequate number of toilets, due to the lack of physical space in the existing structure. It also does not improve the spectator experience, or the operational efficiency of the stadium, as the seating bowl and roof line are unchanged and no basement spaces are included.

The Base Case is estimated to have a capital cost of $341 million, or $292.39 million in net present value (NPV) terms.

Having defined the Base Case, the Business Case then compares its costs and benefits with those of refurbishing the existing stadium and those of building a new stadium.

Refurbishing the current stadium

Refurbishing the stadium, the first option for upgrading the stadium over and above the Base Case, encompasses the works included in the Base Case together with a new roof covering 95 per cent of the seats and a basement with a 360-degree ring road.

This option would address immediate safety, security and compliance issues and improve the amenity of the stadium. The provision of roof coverage to most seats would improve the fan experience, and a basement and ring road would significantly improve back-of-house operations.

The capital cost of refurbishment is estimated to be $714.5 million, or $576.85 million in NPV terms.

Despite the moderate improvements in spectator experience and operability which the refurbishment would bring, many of the limitations and constraints of the current venue's structure would remain. Viewing positions within the stadium would be unchanged, much of the corporate product would remain in poor locations, and concourses, amenities and concessions would continue to fall short of relevant benchmarks.

In addition, much of the current building would be retained in the refurbishment option and the remaining useful life of the stadium after refurbishment would therefore be shorter than that of a fully redeveloped stadium built to modern standards.

Building a new stadium

Two options were developed for the construction of a new stadium – one with 40,000 seats and one with 45,000 seats. Each option would deliver a stadium with features and facilities consistent with:

- contemporary stadium amenity, such as flip seats on minimum plat depths of 825mm, food and beverage outlets evenly distributed on concourses with a minimum of one point-of-sale per 100 patrons
- operational efficiency, including a basement and service road that separates patrons from back-of-house and provides access for concert production
- "best practice" facilities for teams and outside broadcasters
- a variety of hospitality options throughout the stadium for corporate patrons and members.

Both "new build" options would comply with the standards defined by the Building Code of Australia (BCA), the Football Stadia Advisory Design Council (FSADC), the Disability Discrimination Act of Australia (DDA), and those of the governing bodies of the major sporting codes.

Under the original specification contained in the Business Case, the capital cost of building a new 40,000-seat stadium is estimated to be $750 million, or $608.67 million in NPV terms. The cost of a new 45,000-seat stadium is estimated to be $775 million, or $628.75 million in NPV terms. A reduced specification for each option – excluding certain discretionary items of scope – was also costed, reducing the estimated capital cost of each by $46 million (see Table 1 on page 8).

Appendix 7: Overview of Proposed Development (Infrastructure NSW)

1.3. Overview of Proposed Development

The SFS Redevelopment Stage 1 application includes a Concept Proposal and Early Works package. The Concept Proposal comprises:

- A new 45,000 seat stadium on the site of the existing stadium including:
  - New facilities for general admission
  - New playing pitch
  - Hospitality facilities
  - Ancillary food and beverage and entertainment facilities
- New basement with service vehicular access for servicing and bump-in/bump-out.
- New public domain Works surrounding the stadium, building on the venue's unique parkland setting.
- Urban Design and Public Domain Guidelines.
- Signage strategy.

MEETING MINUTES

MEETING #1 03/08/2023

Project Preference Submission

Date:	03/08/2023
Meeting Chairperson:	Ramshiva Lakshmanan

ATTENDED	ABSENT
Ameer Ahmed (AA)	Adharsh Sundaram Soudakar
James Blacklock (JB)	
Nicholas Caraiscos (NC)	
Tharaka Costa (TC)	
Ramshiva Lakshmanan (RL)	

Agenda Item	Discussion & Suggestions	Action
Discussion of individual project ideas	AA: Leach Highway and Welshpool Road Interchange, Australia. NC: Sydney Football Stadium Redevelopment, Australia. JB: Pinjarra-Williams Road Development, Australia. AS: Jacinth Ambrose Operations Zirconium Mines Project, Australia. TC: Kelani Bridge Development, Sri Lanka RL: Paonta-Guma Extension of Green National Highway Corridor Project, India.	Each member in the group presented details about their own project ideas and during the meeting everyone discussed it.
Creating a list of preferences	Preference 1: Leach Highway and Welshpool Road Interchange, Australia. Preference 2: Sydney Football Stadium Redevelopment, Australia. Preference 3: Pinjarra-Williams Road Development, Australia. Preference 4: Jacinth Ambrose Operations Zirconium Mines Project, Australia. Preference 5: Kelani Bridge Development, Sri Lanka Preference 6: Paonta-Guma Extension of Green National Highway Corridor Project, India.	Selected Preference 1 Major Reasons given for the first preference after discussion We have a primary source of information. A lot of publicly disclosed official documents are available. The project is located in a familiar and local environment. What next if we don't get our most preferred project approved? The group has decided that if we don't get our most preferred project approved then we work

		on projects down the list on the order of preference.
Setting up our work culture Team Objectives / Expectations	Our team's objective is to understand the fundamentals of project management by analysing a real-world project. to respect other members' place and time and be open to receiving feedback.	
How will we make decisions?	We follow group consensus and stick to the majority while taking important decisions. We will be ready to listen and look for genuine reasons to support minority decisions before we take the final call	
How often do we meet? does everyone need to be present at all meetings?	The team has agreed to meet once every weekend online apart from meeting offline during practical sessions on Tuesdays. The date and time are yet to be decided. It is encouraged to be present at all meetings, however not mandatory.	
What happens when someone doesn't attend a meeting?	The team after discussion has decided to agree on the below decisions It is mandatory to inform your absence the chair of the meeting in advance It is compulsory to leave your points of discussion to the chair It is also compulsory to complete and hand in your in advance if you are unavailable that week. You should inform any discrepancy you have while completing any task assigned to you as and when it arises.	

What do we do when someone does not complete assigned tasks?	We will split the work amongst ourselves and try to resolve the problem of completing tasks collectively as a group.	
Role of Chairperson	The role is decided to be rotated amongst the group every week to offer fair work and equal opportunities to all Set agenda for the meeting. Conduct online meetings for the team. Gather information from possible absentees. Record Meeting minutes and share them with the absentees.	
Project Timeline	WEEK 2 - Ramshiva Lakshmanan - Setting up the project preference list WEEK 3 - James Blacklock - Finding sufficient project documents and assigning roles WEEK 4 - TBD WEEK 5 - TBD WEEK 6 - TBD WEEK 7 - TBD WEEK 8 - Due on Sep 11 Mon 5 pm	
Tasks completed	Discussed project ideas. Discussed and arrived at common team objectives and expectations.	created a preference list according to the group mates. Submitted the research project preference list to the unit instructor on 3rd August 2023 at 07:07 pm AWST.
Tasks to be done before the next meeting	Discuss and decide on a common meeting time every week. Discuss and create a detailed project timeline. Assign tasks to members to begin completion of SECTION A of the report upon approval.	

Weekly Reflection:

Ramshiva:

As this was the first week, it was very important to set our expectations and working style in this assignment. Discussions on making the project preference list which was due for submission was facilitated. Tentative timelines were set. A few key decisions around our work culture were made like having a rotation chair policy and assigning the representative of the group for communications. Touchpoint expectations and communication channels were established. Setting out the agenda for the following weeks gave us a head start on how to progress in this group work. However, it is just the initial touchpoint and members in the group must get used to working together which I believe will happen in the following weeks.

MEETING #2 12/08/23

Sydney Stadium Redevelopment

Date:	12/08/2023
Meeting Chairperson:	James Blacklock

ATTENDED	ABSENT
Ameer Ahmed (AA)	
Adharsh Sundaram Soudakar (AS)	
James Blacklock (JB)	
Nicholas Caraiscos (NC)	
Tharaka Costa (TC)	
Ramshiva Lakshmanan (RL)	

Agenda Item	Discussion & Suggestions	Action
Recap previous meeting	Previous minutes Discussed project ideas and created a preference list. Discussed and arrived at common team objectives and expectations. Submitted the research project preference list to the unit instructor. Redevelopment of Sydney Football Stadium Project topic was given.	
Discussion	Discuss and decide on a common meeting time every week. Discuss and create a detailed project timeline. Gant chart Assign tasks to members to begin the report. Reach out to company asap	Each member in the group researched the project and try to find as much as documents related to conceptual stage, planning stage, execution stage and finalisation stage. James will try to contact John Holland to gather more information about the project.
What to include in report	Agreed to include all the stages of the project.	
Discussion of timeline	WEEK 2 - Ramshiva Lakshmanan - Setting up the project preference list WEEK 3 - James Blacklock - Finding sufficient project documents and assigning roles WEEK 4 - Ameer Ahmed - WEEK 5 - TBD WEEK 6 TBD *Study Break* WEEK 7 TBD WEEK 8 Due on 11 Sep Monday 5 pm	Gather the project information as much as possible to start writing the report.
Tasks to be done before the next meeting		Begin research Reach out to John Holland

MEETING MINUTES

Weekly Reflection:

James:

This week was still quite early in the process and the team was starting to work together better in terms of communicating and understanding each other. Discussions on the topic were well facilitated by the group. The ideas of what tasks needed to be completed started but was not yet delegated well enough to people and specificity of expectations may have not been clear enough which caused a lull of progress over the week after this meeting. However, it was still early in the process and hence this issue had plenty of time to be rectified, which was done.

MEETING #3 18/08/23

Project Confirmation and Task Delegation

Date:	18/08/2023
Meeting Chairperson:	Ameer Ahmed

ATTENDED	ABSENT
Ameer Ahmed (AA)	
Adharsh Sundaram Soudakar (AS)	
James Blacklock (JB)	
Nicholas Caraiscos (NC)	
Tharaka Costa (TC)	
Ramshiva Lakshmanan (RL)	

Agenda Item	Discussion & Suggestions	Action
Recap previous meeting	Previous minutes Discussed common timeline for the meeting. Discussed and created project timeline to continue the work. Assign tasks to members to do during the week.	
Discussion	Ensure everyone knows we have a 1-week extension granted. James to add his meeting minutes on the Google document. Is there still a lack of documents for the finalisation stage? Can we write a report based on all the findings we have now? We can also write about things that went right too. Was James able to contact John Holland? Ameer to wait 1 week maximum for McKay and McMartin from Main Roads to reply if we were to switch projects. Who will create a Gantt chart for our team progress?	James will add the meeting minute to the google document. Try to find more documents about the final stage of the project as much as possible.
Task to be done before next meeting	Delegation next week after hearing back from MRWA and John Holland Company. Still need more information about the final stage of the project. Split up documents and find issues/ grade them/ summary/ dot points list documents before the next meeting. If project is going to switch, the earliest switch of project should be done before 25th August 2023.	Documents gathered in the google document will be split as follows and conduct more deep analysis of the project. James: 1- 5 Ameer: 5-10 Nick: 10-15 Tharaka: 15-20 Adharsh: 20 - 27 Shiva: Overall
Discussion of timeline	● WEEK 2 - Ramshiva Lakshmanan - Setting up the project preference list ● WEEK 3 - James Blacklock - Finding sufficient project documents and assigning roles ● WEEK 4 - Ameer Ahmed - Assessing the project documents, delegating report sections and	

	potentially restarting with a different project with Main Roads ● WEEK 5 - Adharsh: ● WEEK 6 TBD ● *Study Break* ● WEEK 7 TBD ● ~~WEEK 8 Due on 11 Sep Monday 5 pm~~ WEEK 9 Due on 18 Sep Monday 5 pm	

Weekly Reflection:
Ameer:

Meeting 3 went well and was a productive one due to the time pressure finally being felt. Although we had a project that we researched well for, we could not seem to find much information on the finalisation stage, resulting in us venturing out to Main Roads WA to see if we could potentially start a different project. We were only going to switch projects if we got all the documents and an interview lined up in time, unfortunately MRWA did not get back to us in time. Nonetheless, we delegated the vast amount of research into even sections for everyone to summarise what information was found, so that we can start to work on the project. This will ensure we have enough momentum into the following week.

MEETING #4 26/08/23

Project Management Issues and Task Delegation

Date:	26/08/2023
Meeting Chairperson:	Adharsh Sundaram Soudakar

ATTENDED	ABSENT
Ameer Ahmed (AA).	James Blacklock (JB)
Adharsh Sundaram Soudakar (AS)	
Nicholas Caraiscos (NC)	
Tharaka Costa (TC)	
Ramshiva Lakshmanan (RL)	

Agenda Item	Discussion & Suggestions	Action
Recap previous meeting	Previous minutes Waiting for the reply from the John Holland company and MRWA. Switching the project or not? Split up the documents to refer to everyone with in the group. Talking about good things happened in the project can also be done.	
Discussion	Project Changing ● Not enough time to gather information from new project and delay in reply from the MRWA. ● The project is not going to change. ● Roles were assigned as follows: Workload dividing with the group ● Approximately 2 for each section. ● Executive summary - RL ● Section A - RL ● Section B - NC, AA ● Section C - AS, JB, TC ● Conclusion -AS, JB, TC ● Table of contents / references & appendices - Updated as report progresses. ● Group meetings (agendas & meetings) - TBD ● Section B was made first priority. ● Collect bullet points of everything related to the strong points raised for analysis. ● Review collected points and start creating the report. ● Come up with a good draft report by the end of study week. ● Feedback to collected points was collectively decided as very important/crucial.	As per the discussion, everyone will contribute their parts to the project report.
Strong points raised for analysis :	Point to discuss during the project report. Wrong contract delivery Over budget	

	Time delay Design delay Negative impact of COVID-19	
Agreed to be done before next meeting	• Create a draft with dot points that help with identifying issues for section B. Work on recommendations through analysis. Everyone would help to bring points for section - B. (To be delivered by the next meeting and discuss this and start with writing the report.) Create a google document to collect information to write report.	Everyone in the group make dot points of the project's important aspects. Complete it before the next project meeting. Assign roles are as follows; Executive summary -RL Section A - RL Section B - NC, AA Section C - AS, JB, TC Conclusion -AS, JB, TC
Project timeline	WEEK 2 - RL - Setting up the project preference list WEEK 3 - JB - Finding sufficient project documents and assigning roles. WEEK 4 - AA - Assessing the project documents, delegating report sections and potentially restarting with a different project with Main Roads WEEK 5 – AS - Confirming on issues that are going to be addressed in the report and delegating roles to work on the report. WEEK 6 – Tharaka. *Study Break* WEEK 7 -TBD ~~WEEK 8 - Due on 11 Sep Monday 5 pm~~ WEEK 9 - Due on 18 Sep Monday 5 pm	

MEETING MINUTES

Weekly Reflection:
Adharsh:

The deadline was fast approaching, but the decision that we made as a team to divide the documents that we had into six equal parts and researching them, paid off. We were able to find potential issues in all the stages of project life cycle that could be addressed and two practices by

the project team that are to be appreciated. This really got us going as we were able to come across the biggest problem we faced, finding enough issues to be addressed. Having found the issues, the next step was to find all the information related to these issues and consolidate them into points which will helps us when writing the report. We planned to follow the same strategy as before, dividing the issues amongst ourselves and find information related to them, with the faith that it worked last time. I was really happy with the team co-ordination and contribution, as everyone equally contributed and communicated very well in spite of their personal commitments.

MEETING #5 03/09/23

Project Management Issues and Task Delegation

Date:	03/09/2023
Meeting Chairperson:	Tharaka Costa

ATTENDED **ABSENT**

Ameer Ahmed (AA)
Adharsh Sundaram Soudakar (AS)
James Blacklock (JB)
Nicholas Caraiscos (NC)
Tharaka Costa (TC)
Ramshiva Lakshmanan (RL)

MEETING MINUTES

Agenda Item	Discussion & Suggestions	Action
Recap previous meeting	• Assign the roles for each member in the group. • Starting the report by collecting details as dot points. • Recommendation part will be concluded after the completion of the section A and section B. • Create the google document for the project report.	
Discussion	• Start to type report using the draft dot points. • Section A will be completed by 5th Sep). • Section B will be started after 5th Sep and Section C recommendation part will be started with the section B. • Come up with a good draft report by the next meeting. • Finalise the report in final week including the presentation.	Section A will finish by 5th September. Section B will finish by 7th September. Section C – Recommendation part will start write after other parts are completed.
Strong points raised for analysis to discuss in the report	Feasibility analysis Risk Management Cost Management Time Management Contract Management Stakeholder Management	
Task to be done before next meeting	Start to type report using the draft dot points. Read the project management book before writing section C and section B. Relate the project management issues in the project to the project management book. Gather the points and start writing the report. Finish the draft report before the next meeting.	According to the assign roles start the report writing.
Project timeline	• WEEK 2 - RL - Setting up the project preference list. • WEEK 3 - JB - Finding sufficient project documents and assigning roles. • WEEK 4 - AA - Assessing the project documents, delegating report sections and potentially restarting with a different project with Main Roads	

	• WEEK 5 – AS - Confirming on issues that are going to be addressed in the report and delegating roles to work on the report. • WEEK 6 – TC - Confirming the issues of the project and gathering the points for the report preparation. • *Study Break* • WEEK 7 -Nick • ~~WEEK 8 - Due on 11 Sep Monday 5 pm~~ WEEK 9 - Due on 18 Sep Monday 5 pm.	

Weekly Reflection

Tharaka:

This is the 5th week of the project and in the previous week meeting, all topic in the report (Section A, Section B and Section C) have been distributed among the group members. During this week, all the members researched about the Redevelopment of the Sydney Football Stadium and gathered more information as per the requirements of the project. Google document was maintained to collect details and dot points of each section. All members contributed for it and during the 3rd September meeting all the points were discussed and we started to formulate the report. As per the gathered information, report writing was commenced from 3rd September 2023. Section B identified issues were refined during this week's research and better points for analysis part of the report were found.

MEETING #6 13/09/23

Final Project Review/Summary

Date:	13/09/2023
Meeting Chairperson:	Nicholas Caraiscos

ATTENDED	ABSENT
Ameer Ahmed (AA)	Nicholas Caraiscos (NC)
Adharsh Sundaram Soudakar (AS)	Tharaka Costa (TC)
James Blacklock (JB)	Ramshiva Lakshmanan (RL)

Agenda Item	Discussion & Suggestions	Action
Recap previous meeting	● Starting the meeting by everyone individually discussing the work that they completed over the last wk and half. ● Team have all agreed that the final product has taken shape, initial drafts have now been edited ● Team agrees that the report is on track to be completed on time.	
Discussion	● Need to add some final additional appendices ● The Gantt Chart also requires additional information and editing ● Everyone checked-in stating the completion of their sections. ● A final review is needed of the entire report on the weekend prior to the due date.	The Gantt Chart edited and additional information added by the weekend. Once all the additions are made, the final review will begin on Saturday across the two days prior to the deadline.
Final Project Reflection	Final Questions asked now that we have a finalised section A,B and C. ● Are we happy with the introduction/Section A? Is it concise enough? ● Does the intro to section B give the reader a good understanding of what to expect in the remainder of the section? ● Do we link the recommendations well from the issues and things they did well in section B? ● Discussions on how to tackle the individual presentation occurred after the project reflection	All questions were answered and as a group are happy that we have satisfied all the points required in the report across all sections.
Project Timeline	~~● WEEK 2 - RL - Setting up the project preference list.~~ ~~● WEEK 3 - JB - Finding sufficient project documents and assigning roles.~~ ~~● WEEK 4 - AA - Assessing the project documents, delegating report sections and potentially restarting with a different project with Main Roads~~	

	~~WEEK 5 – AS – Confirming on issues that are going to be addressed in the report and delegating roles to work on the report.~~ ~~WEEK 6 – TC – Confirming the issues of the project and gathering the points for the report preparation.~~ ~~*Study Break*~~ ~~WEEK 7 -Nick~~ ~~WEEK 8 – Due on 11 Sep Monday 5 pm~~ WEEK 9 - Due on 18 Sep Monday 5 pm.	

Weekly Reflection

Nicholas:

Last week prior to the deadline and as a team we were happy with the final outcome of the report and the input each member has made. On Wednesday, we conducted a meeting and discussed all the leftover requirements. With the report finalised, our discussions moved onto the individual presentation and a deadline of next Wednesday was set.

Gantt Chart of Group Progress