



City of Nedlands

Technical Services Reports

Committee Consideration – 14 July 2020
Council Resolution – 28 July 2020

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Committee	14 July 2020
Council	28 July 2020
Applicant	City of Nedlands
Employee Disclosure under section 5.70 Local Government Act 1995	Nil
Director	Jim Duff – Director Technical Services
Attachments	1. Western Power Works Planning Report – Hollywood East 2. Western Power Works Planning Report – Nedlands North 3. Western Power Works Planning Report – Nedlands West
Confidential Attachments	Nil

Executive Summary

The 2020/21 operations budget includes a provisional estimate of \$180,000 for the design of underground power in Hollywood East, Nedlands North and Nedlands West. The Western Power design proposal cost of \$983,260 was received with insufficient time for its inclusion in the 2020/21 budget. An increase in the operating budget of \$803,260 is requested.

Recommendation to Committee

Council:

1. Approves an increase in the operations budget from \$180,000 to \$983,260 to fund the design of underground power in Hollywood East, Nedlands North and Nedlands West. The additional cost to come from the Underground Power Reserve Fund.
2. Approves the CEO to authorise Western Power to proceed with the scoping and planning phase of the Hollywood East, Nedlands North and Nedlands West underground power projects as detailed in the Works Planning Reports dated 16 June.

Discussion/Overview

Project Justification

Approximately 78% of the City has underground power installed to their properties, with approximately 1,700 properties remaining without underground power in Hollywood East, Nedlands North and Nedlands West, Mt Claremont.

Underground power provides the following benefits:

- Improve the standard of electricity supply by addressing reliability and network performance issues.
- Cost savings through reduced maintenance and distribution losses.
- Reduced vehicle collisions with power poles.
- Reduced accidents due to live wire contact.
- Reduced visual impact of the overhead infrastructure on the community.
- Improved street tree canopy as trees can grow unimpeded by overhead powerlines.
- Improved and more sustainable street lighting.

Expenditure to Date

Expenditure to date is \$54,000 in 2019/20 for Western Power to complete the first phase of the projects, producing Work Planning Reports for each project (see Attachments 1, 2 and 3). This expenditure was allowed for in the 2019/20 operating budget.

Cost Estimate and Schedule

The City received Works Planning Reports from Western Power on 16 June 2020 for the following proposed underground power projects:

- Hollywood East – 800 Lots
- Nedlands North (Floreat) – 233 Lots
- Nedlands West (Mount Claremont) – 620 Lots

The Works Planning Reports provide a project schedule and +/-30% cost estimate. The project schedule is shown in Table 1 and the cost estimates in Table 2.

Description	Date
LGA Approval	Mid July 2020
Business Case Approval	June 2021
Agreement Approval	July 2021
Project Start	July 2021
In Service	August 2022

Table 1 – Project Schedule

Note: Schedule assumes all three projects are undertaken concurrently.

Location	Total Cost	Western Power Contribution (Net Benefits)	Nedlands Contribution
Hollywood East	\$10.456m	\$3.210m	\$7.246m
Nedlands North	\$4.829m	\$1.430m	\$3.399m
Nedlands West	\$8.831m	\$2.449m	\$6.382m
Total	\$24.116m	\$7.089m	\$17.027m

Table 2 – Cost Estimates (+/-30%)

The Western Power contribution (net benefit) is current as of May 2020, is subject to change with ageing of assets and will be recalculated during the scoping and planning phase.

Western Power's preference is to undertake the works in the following order:

1. Hollywood East
2. Nedlands North
3. Nedlands West

Undertaking the works in this order is likely to result in the highest Western Power contribution (net benefit) as it would avoid having to commence replacement of ageing assets in Hollywood East as part of ongoing maintenance.

Western Power Design Proposal

The Western Power scoping and planning fee proposal, excluding GST and Capital Contribution Recovery Tax, is shown below in Table 3.

Location	Cost
Hollywood East	\$414,580
Nedlands North	\$205,026
Nedlands West	\$363,654
Total	\$983,260

Table 3 – Western Power Design Proposal

The scope of work comprises the following:

- RFQ for engineering and design.
- Detailed design.
- Community consultation.
- Construction RFQ (to inform the +/-10% estimate).

Key Relevant Previous Council Decisions:

Nil

Consultation

The community was notified through Your Voice in January 2020 that the City is progressing with the detailed designs for the three remaining areas (Hollywood East, Nedlands North and Nedlands West, Mt Claremont) for the installation of underground power. Western Power have been engaged to complete the detailed designs and cost estimates which is due by mid-2020. Once the designs are received a report will be presented to Council.

Western Power will undertake community consultation on behalf of the City as part of the scoping and planning phase. The City will assist Western Power with community engagement as required.

Strategic Implications

How well does it fit with our strategic direction?

Underground power is identified in the Strategic Community Plan 2018-2028 as a priority. This Strategic Community Plan and associated Long Term Financial Plan seeks to deliver underground power to all properties in the district.

Who benefits?

Approximately 78% of the City has underground power installed to their properties, with approximately 1,700 properties remaining without underground power in Hollywood East, Nedlands North and Nedlands West, Mt Claremont. Completion of the program will ensure an equitable distribution of benefits.

Does it involve a tolerable risk?

Yes, the risk is tolerable. Construction risks will be mitigated through best practice detailed design and cost estimation processes. Western Power has completed a number of these types of projects since the West Hollywood project. This has resulted in improved data to estimate costs more accurately.

Do we have the information we need?

Yes.

Budget/Financial Implications

The 2020/21 operations budget includes a provisional estimate of \$180,000 for the design of underground power in Hollywood East, Nedlands North and Nedlands West, Mt Claremont. The Western Power design cost was received with insufficient time for inclusion in the 2020/21 budget. The Administration provisional estimate of \$180,000 was based on the West Hollywood design cost of \$119,404 for 600 lots. Western Power have advised that the upfront design cost per allotment for the West Hollywood project was lower as scoping and planning costs were recovered later in the project and unit rates have increased since November 2016.

An increase in the operating budget of \$803,260 is required for the design of underground power in Hollywood East, Nedlands North and Nedlands West. The additional cost is proposed to come from the Underground Power Reserve Fund.

Can we afford it?

The installation of underground power to remaining properties within the City has been provisionally allowed for in the Long-Term Financial Plan (LTFP). Underground power is a Western Power asset with a funding contribution for design and construction from the City of Nedlands and benefiting residents. Maintenance costs will be borne by Western Power over the lifecycle of the asset.

The +/-30% cost estimate to deliver all three projects is \$17.027m. The LTFP has a provisional contribution of \$3.8m to underground power. Allowing for 50% contribution from benefiting residents the current LTFP funding capacity is \$7.6m. Additional City funding of \$4.714m will be required from borrowing to meet the shortfall.

How does the option impact upon rates?

The installation of underground power may result in rate increases if revenue in addition to current LTFP strategies is not identified.

Works Planning Report

Projects: N0513466 City of Nedlands –
Dx Undergrounding – Hollywood East

Initiation Assessment: 5 June 2020

Document Release Information

Customer name	City of Nedlands
Project name	N0513466 Dx Undergrounding Hollywood East
Document number	EDM#50537204
Document title	Works Planning Report
Revision status	Initiation Assessment Phase
Revision Date	16 June 2020

Document prepared by: Ken Lee

Western Power
ABN 18540492861

Approvals and Endorsements

Action	Name	Title	Signature	Date
Prepared by	Ken Lee	Senior Customer Project Development Engineer		5 June 2020
Reviewed by	Belinda Clarke	Relocation Consultant		8 June 2020
Endorsed by	Scott Ferguson	Access Solutions Manager		8 June 2020
Approved by	Tony Law	Customer Project Development Team Leader		8 June 2020

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This report presents an initiation assessment of network relocation options associated with the City of Nedlands' distribution undergrounding at City of Nedlands ("**Customer's Project**").

All options presented, including any corresponding assumptions, inclusions, or exclusions, are subject to change, and Western Power further reserves the right to withdraw or add options in its absolute discretion. Western Power consents to this document (EDM reference: **50537204**) being released by the City of Nedlands to its contractor(s) (and their respective personnel) who are under a duty of confidence for the purpose of obtaining a preliminary understanding of Western Power network relocation options associated with the City of Nedlands' Project.

The City of Nedlands accepts full responsibility for any unauthorised disclosure of this report by its contractors.

Report Objectives

The objective of this report is to:

- specify the customer's requirements
- identify network issues that need to be addressed to meet the customers' requirements
- identify options to meet the customer's requirements
- provide a cost estimate

The works planning report has been developed to address applications for relocations, private parallel generator connections <10MW and major capital distribution load connections.

Acronyms

Customer	City of Nedlands
FIS	Forecast In Service date
HV	High Voltage
KPI	Key Performance Indicator
LV	Low Voltage
LGA	Local Government Authorities
RUP	Retrospective Undergrounding Project
SOW	Scope of Work
SUPP	State Underground Power Program
UPP	Underground Power Projects
WP	Western Power

Customer Requirements

Summary of Customer Requirements

Table 1: Summary of Customer Requirements

Customer Name:	City of Nedlands	
Project Name:	N0513466 City of Nedlands – Dx Undergrounding – Hollywood East	
Dynamic 365 Ref.:	CS000039	
Project Number (DQM):	Project # (Ellipse)	N0513466
Application Number:	AMHJ6B	
Application (DM#):	EDM#49968060	
Customer requirement:	To provide City of Nedlands with underground power to approximately 800 allotments in the suburb of Nedlands (Hollywood East). This would be achieved by removing the overhead poles with the new underground network to align with the City of Nedlands' future development potential arising from LPS3 within this application area.	
Supply Requirement:	(N/A)	
Load:	(N/A)	
Existing CMD:	(N/A)	
Proposed Additional CMD:	(N/A)	
Total CMD:	(N/A)	
Site / Location (PID):	Hollywood East boundary bounded bordered by Aberdare Road, Stirling Highway & Smyth Road	
Existing NMI:	(N/A)	
Required in-service date:	TBC by Customer	
Special Requirements: (e.g. service level/reliability)	Not specified	

1.1 Customer Location

The City of Nedlands (CoN), has requested a desktop assessment of the work required to underground Western Power’s aerial assets in three areas, with the project areas being designated as (Figure 1):

1. Nedlands West
2. Nedlands North and
3. Hollywood East

This revised report provided an updated finding for the work required to underground the “Hollywood East” area only, along Nedlands bounded between by Aberdare Road, Stirling Highway & Smyth Road. The Western Power distribution assets affected by the work include (Figure 2):

1. Overhead HV (22 kV) aerials
2. Overhead LV (415V) aerials

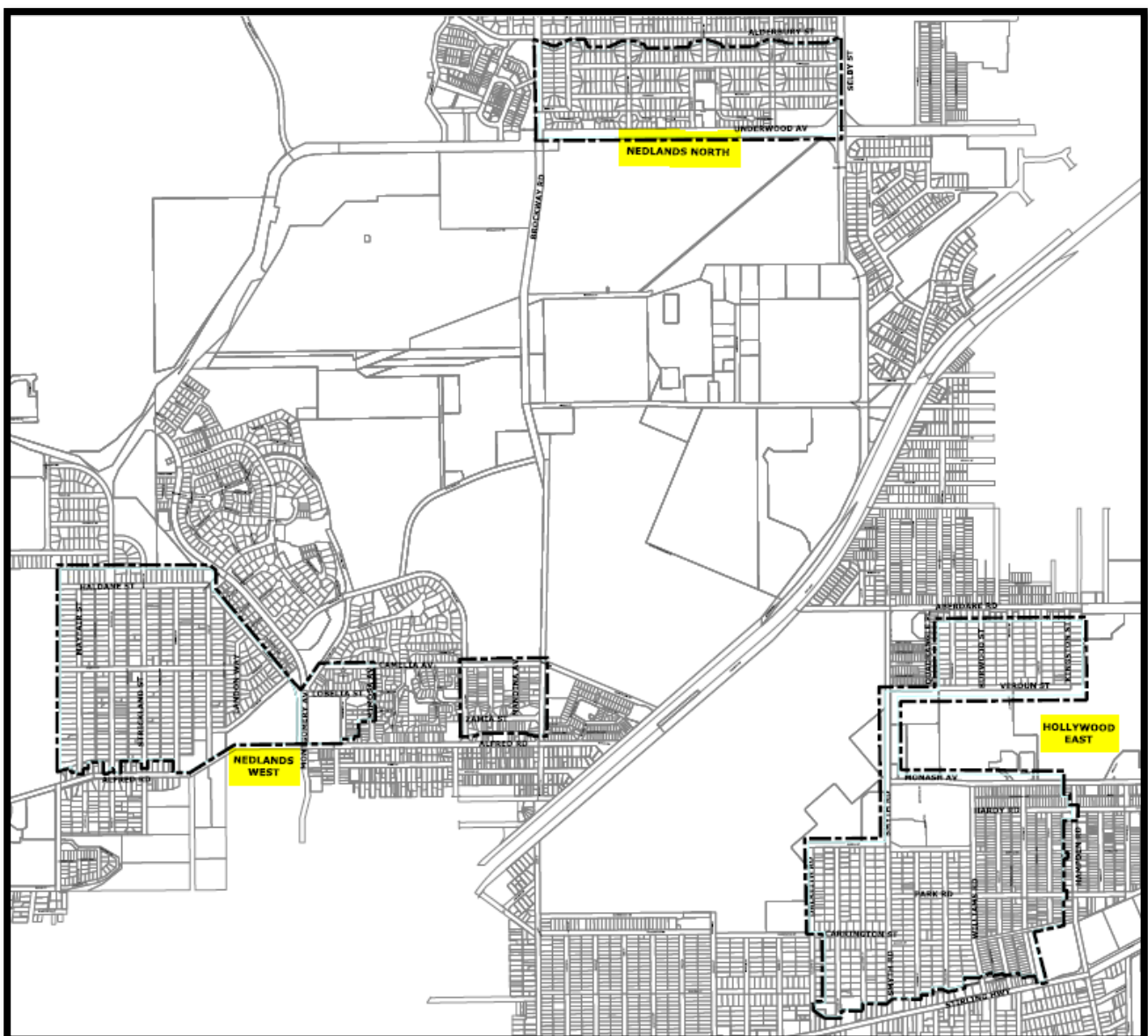


Figure 1: Overview of City of Nedlands’ three project areas

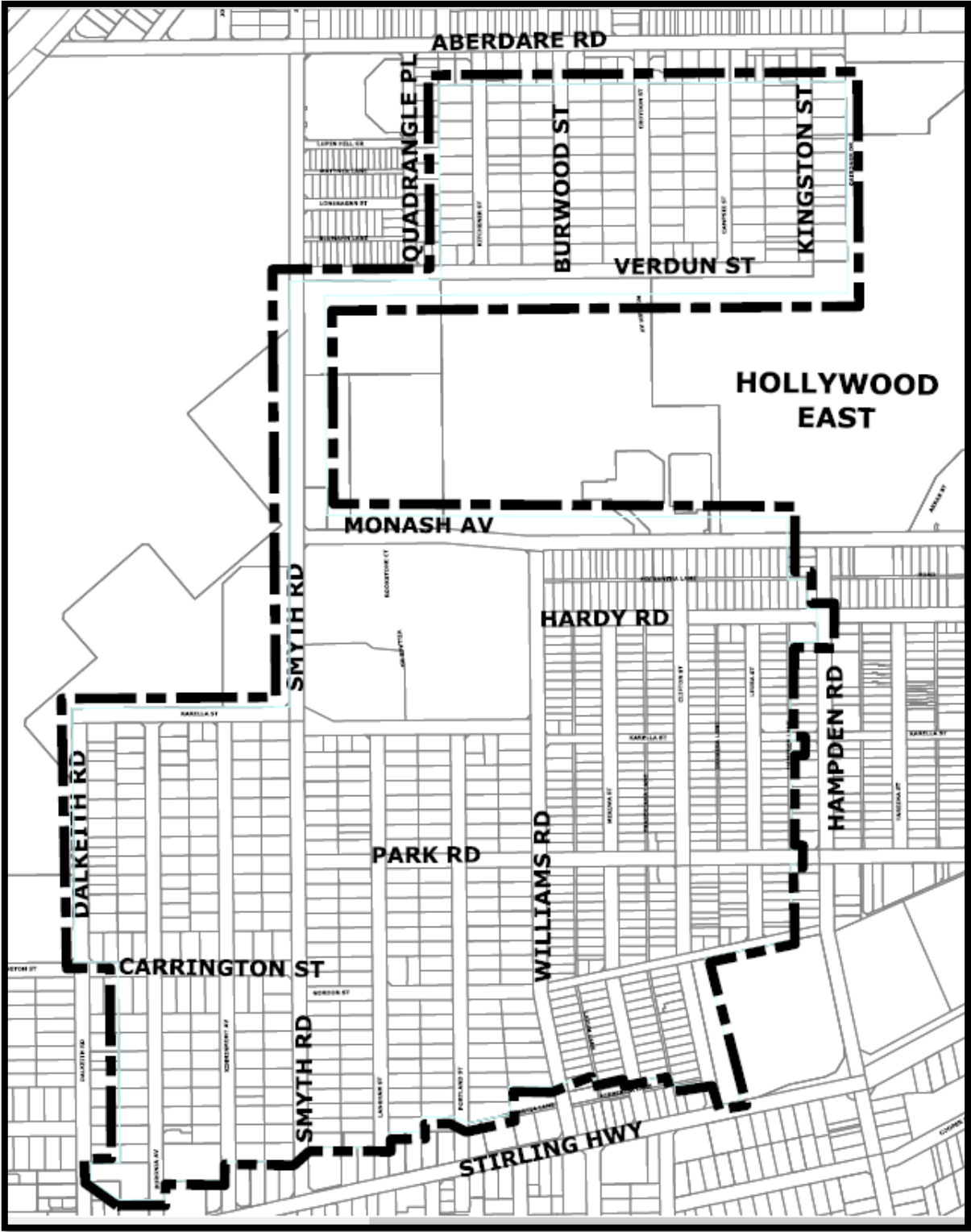


Figure 2: Overview and customer location (Hollywood East)

2 Preliminary Assessment

2.1 Background

Following the successful completion of the previous distribution undergrounding project (N0446292 - Hollywood West area), the CoN applied to Western Power in August 2019 for an Enquiry Assessment for indicative costs to underground three further areas adjacent to the Hollywood West area. These three areas are named Nedlands West, Nedlands North and Hollywood East. This revised report provided an updated finding for the Hollywood East area only, and include revised Boundary area, estimates, customer contribution and project timing.

2.2 Project Summary

The Nedlands West project area will be underground as per the CoN's requirements. The key objectives of this project are to:

- Contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area, including aligning with the successful Hollywood West project via a customer driven and substantially funded approach
- Improve the standard of electricity supply to consumers by addressing reliability and network Performance issues in Hollywood East.
- Improve power quality and public safety, and
- Achieve cost savings through reduced maintenance and distribution losses

Two options were considered to address the above purpose and identified key objectives. A detailed business case will be completed to determine the total Net Benefits to Western Power.

Before construction can begin, an Agreement will be entered into between Western Power and the CoN.

3 Project Details

3.1 Project Details

The scope of work is to remove of all the existing poles and overhead conductors and the installation of a new replacement underground network (including communication/pilot cable if applicable) within the project boundary shown in Figure 1.

The key objectives of this project are to:

- Satisfy the CoN's preference to proceed with this project following the successful Hollywood West project, which will contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area at the earliest possible opportunity
- Improve power quality and public safety; and achieve cost savings through reduced maintenance and distribution losses

The key dates for this project are listed in Table 2 below. These dates are aimed at aligning the Nedlands West project to closely align to all other UPP projects to maximise efficiencies and potential savings

Table 2: Key Dates¹

Description	Date
Planning	Commence mid July 2020
Design	Completion mid Feb 2021
Construction	Commence July 2021 (14 month timeframe)
In Service Date	August 2022

3.2 Schedule

The planned schedule dates are defined at initiation phase and are listed in Table 3 below.

Table 3: Milestone Dates

Description	Date
LGA Approval Date	Mid July 2020
Business Case Approval Date (prior to construction)	June 2021
RWC Agreement Approval Date	July 2021
Project Start Date	July 2021
In Service Date	August 2022

3.3 Scope Inclusion

The following are included in Western Power's E30 (+/- 30% accuracy) scope:

The scope of work included in the project is defined as undergrounding the distribution network (including communication/pilot cable) within the project boundary (not including transmission) including:

- Labour contract establishment and acquisition of all equipment, materials and services.
- Project, contract management and site supervision.
- Stakeholder communications planning including resolution of operational issues of concern to property owners and occupiers.
- Identification of any relevant deficiencies in the existing electrical installation of properties and notification to owners for their remedial action.
- Installation, connection, commissioning and energisation of all cables, plant and equipment and associated works that constitute the new distribution system; including street lighting systems and conversion to underground of all existing overhead service connections from each property boundary to the property building.
- All permanent reinstatement works to roadways, road verges, footpaths, driveways and gardens, directly affected by the project works.
- Removal of the redundant overhead distribution system and street lighting.
- Practical completion validation of the Project including issue of practical completion certificate.
- Asset handover of the new system including updates to SPIDAView.
- Relocate the Transmission Network Communications Pilot cables from overhead to underground where required
- Construction works will be undertaken by external resources

The scope of work will be finalised through detailed designs.

3.4 Scope Exclusions

The following are excluded from Western Power's E30 scope:

- Underground Transmission network
- Engineering assessments (e.g., EPR, Hydrology & Flood, Noise, Poles and Wires) and their mitigations if required.
- Assessment on Street lighting design against Standards (e.g., AS/ANZ 1158) has not been considered.
- Obtaining approvals – site for WP assets, route, easements, environmental or heritage, local government, landowners, etc
- Community engagement
- Allowance for potential adverse latent conditions
- Road safety audit
- Clearing of vegetation

- Costs associated with the preparation and registration of easements (if required)
- Modification of existing site conditions to bring to current standards
- Significant unforeseen environmental issues
- Major structure replacement identified during execution
- Dewatering costs

3.5 Options Analysis

To address the key objectives of this project, two options were considered. These are:

1. Proceed with Hollywood East project at earliest opportunity following detail project development
2. Do Nothing

3.5.1 Option 1 – Proceed with Project according to Hollywood East’s timeline

This option provides for the installation of underground power across the Hollywood East area starting May 2021 at a total Agreement value of \$10.456 million (accuracy of +/-30%).² This has been revised from the previous estimate³ provided at Enquiry phase in January 2020 after further consideration of the Net Benefit Model assessment conducted in May 2020.

The expected Western Power contribution is currently estimated to be \$3.21 million and have not been included in the Agreement value. The estimated customer contribution is listed in Section 3.6.

Proceeding with Hollywood East at the earliest opportunity will meet the project requirements. The benefits of proceeding with the Hollywood East project at the earliest opportunity meet all of the project requirements therefore this option is recommended.

3.5.2 Option 2 – Do not proceed with Project

This option does not provide underground power across Hollywood East area. Western Power continues to maintain the existing overhead network.

A “Do not proceed” option fails to realise any of the potential benefits of the project and would not be addressing the CoN’ requirement, and the reliability, power quality and network capacity issues identified in Hollywood East. Western Power is also likely to face adverse reaction from the Local Government.

² EDM#52644276 – ERN3354 Estimate for Hollywood East E30

³ EDM#50396928 – ERN3178 Estimate for Hollywood East E50

3.5.3 Summary of Options Analysis

An overview of the complete assessment is present in Table 4:

Table 4: Assessment of Options

#	Option Title	Total Agreement Value	Mitigates Risk	Meet Key Objectives	Technically Feasible	Deliverable
1	Proceed with Project and align with Hollywood East timeline	\$10.456 million	✓	✓	✓	✓
2	Do not proceed with the Project	N/A	✗	✗	✓	✓

3.6 Estimate of Cost and Customer Contribution

The Estimated Customer Contribution ($\pm 30\%$) for the work is \$7.246 million (including CCTR, and design fees).

Title	Estimate (million)
E30 Estimate for works	\$9.508
Capital Contribution Tax (11.63%) on CapEx	\$0.948
TOTAL Cost	\$10.456
Net Benefits (calculated as of May 2020)	\$3.210
Total Customer Contribution (as of May 2020)	\$7.246

3.7 Delivery Strategy

This project will be delivered through a specialised UPP preferred vendor contract arrangement, similar to other SUPP projects. One contractor to manage the engineering and design and one head contractor to manage the overall construction work.

3.8 Risk analysis

Table 5: Risk Analysis

Criteria	Assessment	Reason
Safe		
Public Safety	Provides a major benefit	The current Public Safety risk transitions from High to Low, as detailed in the risk assessment table
Workforce Safety	Provides a moderate benefit	The current Workforce Safety risk transitions from Medium to Low, as detailed in the risk assessment table
Environment	Provides a moderate benefit	The current Environment risk transitions from Medium to Low, as detailed in the risk assessment table

Reliable		
Customer Reliability	Provides a moderate benefit	The current Customer Reliability risk transitions from Medium to Low, as detailed in the risk assessment table
Reputation	Provides a moderate benefit	The current Reputation risk transitions from Medium to Low, as detailed in the risk assessment table
Compliance	Provides a moderate benefit	The current Compliance risk transitions from Medium to Low, as detailed in the risk assessment table
Affordable		
Financial Impact	Provides a moderate benefit	The current Financial Impact risk transitions from Medium to Low, as detailed in the risk assessment table

3.9 Assumptions

The following key assumptions were utilised in completing the analysis:

- Net Benefit Values are current as of May 2020 and may be subjected to change with the aging of the assets, and will need to be recalculated for the next phase of the project
- The schedule in 3.2 has considered all three projects (Hollywood East, Nedlands North and Nedlands West) will be executed together after the completion of the Scoping and Planning (Design Phase) to enable the efficiency of time and resource. The schedule may be subjected to change if the construction of the three projects are to be staged
- Works Relocation Contract successfully executed
- Ongoing community support throughout project duration
- Contractor has plant/resources/personnel and can meet project schedule
- Material is available from WP Logistics and cost escalation remains within allowance
- Residential development within area remains low
- Overhead aerial replacement with underground assets are assumed to be “like for like”
- The ground type is “soil/clay”
- 0-500mm and 2.4-3m alignments are available for HV/LV cable and streetlight installations respectively.
- Practical locations are available for new Primary Equipment within close proximity to the HV aerial T-offs proposed to be removed.
- Design constraints affecting existing premises have not been considered.
- Environmental assessment has not been undertaken
- Material and Construction costs are based on an actual cost for Hollywood project (N0446292) which is in a nearby location, prorated based on the number of customer connections
- It will take 45 weeks to go past Gate 3 and 57 weeks for Execution
- Formulated based on a regression model using both previous E10 estimate and forecasted cost of UPP/RUP projects

- Design cost was estimated based on an average design cost of previous E10 estimates of around \$77,500
- The preferred vendors will submit a fixed price tender as part of the underground power project RFQ process and includes items such as working outside of normal hours.
- No interference with any concurrent or conflicting projects

3.10 Long lead time materials & plant

The following will be impacted by long lead times:

- Transformer switchgear
- Powder coating for Street lights

3.11 Benefit analysis

By 2022 all properties within the project areas will be on the underground network. This will contribute to the CoN's preference to align with their Hollywood West project of providing increased underground power services in the Perth metropolitan area, improve the standard of electricity supply to consumers by addressing reliability and network performance issues in City of Nedlands and achieve cost savings through reduced maintenance and distribution losses.

Table 6: Business Benefits of the Recommended Option

Measurable Outcomes	KPI	Benefit Type	Current State	Target State	Timing / Milestone
Savings on avoided network maintenance	A positive net present value	Type 1	TBC	0 wooden poles and 0 km of O/H conductor	As project closure

3.11.1 Other Benefits

Other benefits include:

- Western Power replaces in-service overhead assets with new underground assets at a subsidised cost
- Underground power provides business benefits such as reduced maintenance costs, improved reliability and quality of electrical supply, fewer vehicle collisions with the power poles and few accidents due to live wire contact
- Underground power reduces visual impact of the overhead infrastructure on the community

3.12 Environment and Community Engagement

Distribution Undergrounding project with associated UPP related works has significant stakeholder impact with issues needing careful management (see Risk Analysis). Key stakeholders include the public, Local Government Authorities and the Local Government Association, property owners, and contractors. Accordingly, a Communications Strategy will be established as part of the UPP Stakeholder Management Plan. Public consultation includes media/newsletters, public displays and letters to property owners affected by equipment location and consultation to resolve concerns.

Increased awareness of the “Dial Before You Dig” campaign will be promoted through industry representation. Detailed communication advices are provided to property owners at each stage of the project. Property owner surveys are carried out before each project, based on projected costs, with the majority of respondents being required to support the projects before final approval.

4 Planning Assessment

Upon request, Western Power will undertake a Planning Assessment to develop a planning design and estimate, including an indicative Customer capital contribution, for the proposed Customer works.

Works Planning Report

**Projects: N0513462 City of Nedlands –
Dx Undergrounding - Nedlands North**

Initiation Assessment: 5 June 2020

Document Release Information

Customer name	City of Nedlands
Project name	N0513462 Dx Undergrounding Nedlands North
Document number	EDM#50532743
Document title	Works Planning Report
Revision status	Initiation Assessment Phase
Revision Date	16 June 2020

Document prepared by: Ken Lee

Western Power
ABN 18540492861

Approvals and Endorsements

Action	Name	Title	Signature	Date
Prepared by	Ken Lee	Senior Customer Project Development Engineer		5 June 2020
Reviewed by	Belinda Clarke	Relocation Consultant		8 June 2020
Endorsed by	Scott Ferguson	Access Solutions Manager		8 June 2020
Approved by	Tony Law	Customer Project Development Team Leader		8 June 2020

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Report Objectives

The objective of this report is to:

- specify the City of Nedlands' requirements
- identify network issues that need to be addressed to meet the City of Nedlands' requirements
- identify options to meet the City of Nedlands' requirements
- provide a cost estimate

The works planning report has been developed to address applications for relocations, private parallel generator connections <10MW and major capital distribution load connections.

Acronyms

Customer	City of Nedlands
FIS	Forecast In Service date
HV	High Voltage
KPI	Key Performance Indicator
LV	Low Voltage
LGA	Local Government Authorities
RUP	Retrospective Undergrounding Project
SOW	Scope of Work
SUPP	State Underground Power Program
UPP	Underground Power Projects
WP	Western Power

Customer Requirements

Summary of Customer Requirements

Table 1: Summary of Customer Requirements

Customer Name:	City of Nedlands	
Project Name:	N0513462 City of Nedlands – Dx Undergrounding - Nedlands North	
Dynamic 365 Ref.:	CS000038	
Project Number (DQM):	Project # (Ellipse)	N0513462
Application Number:	WBGXGB	
Application (DM#):	EDM#49970302	
Customer requirement:	To provide City of Nedlands with underground power to approximately 233 allotments situated in Floreat (Nedlands North). This would be achieved by removing old overhead poles with the new underground network to align with the City of Nedlands' future development potential arising from LPS3 within this application area.	
Supply Requirement:	(N/A)	
Load:	(N/A)	
Existing CMD:	(N/A)	
Proposed Additional CMD:	(N/A)	
Total CMD:	(N/A)	
Site / Location (PID):	Nedlands North boundary bordered bordered by Kirwan Street, Selby Street, Whitfeld Street & Brookdale Street	
Existing NMI:	(N/A)	
Required in-service date:	TBA	
Special Requirements: (e.g. service level/reliability)	Not specified	

1.1 Customer Location

The City of Nedlands (CoN), has requested a desktop assessment of the work required to underground Western Power’s aerial assets in three areas, with the project areas being designated as (Figure 1):

1. Nedlands West
2. Nedlands North and
3. Hollywood East

This revised report provided an updated finding for the work required to underground the “Nedlands North” area only, along Floreat’s boundary bordered bordered by Kirwan Street, Selby Street, Whitfeld Street & Brookdale Street. The Western Power’s distribution assets affected by the work include (Figure 2):

1. Overhead HV (22 kV) aerials
2. Overhead LV (415V) aerials

Figure 1: Overview of City of Nedlands’ three project areas

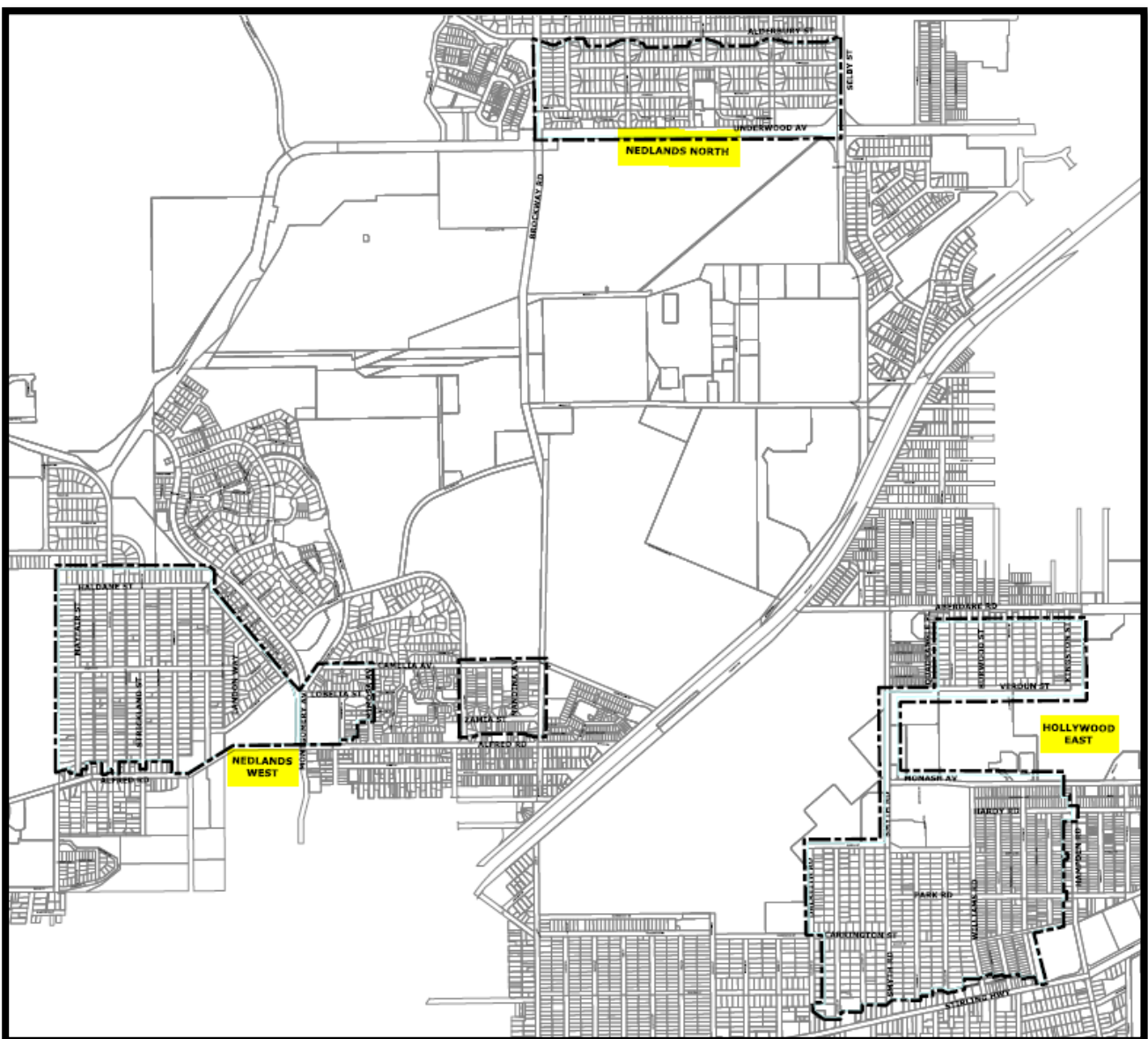


Figure 1: Overview of City of Nedlands’ three project areas

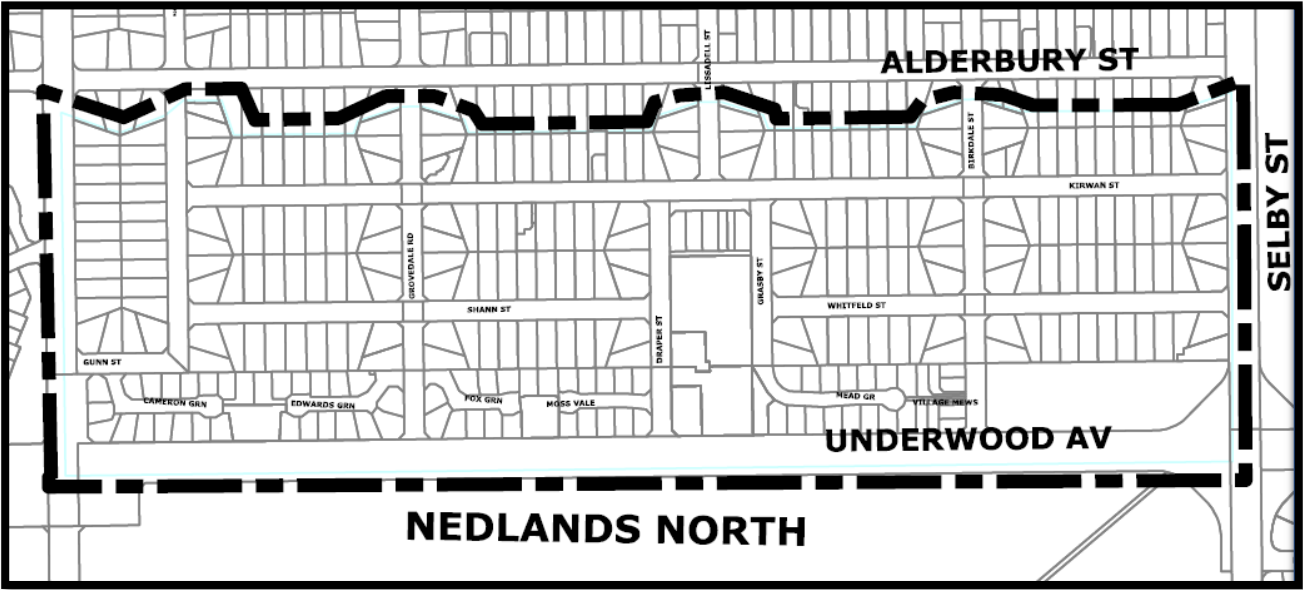


Figure 2: Overview and customer location (Nedlands North)

2 Preliminary Assessment

2.1 Background

Following the successful completion of the previous distribution undergrounding project (N0446292 - Hollywood West area), the CoN applied to Western Power in August 2019 for an Enquiry Assessment for indicative costs to underground three further areas adjacent to the Hollywood West area. These three areas are named Nedlands West, Nedlands North and Hollywood East. This revised report provided an updated finding for the Nedlands North area only, and include revised Boundary area, estimates, customer contribution and project timing.

2.2 Project Summary

The Nedlands North project area will be underground as per the CoN's requirements. The key objectives of this project are to:

- Contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area, including aligning with the successful Hollywood West project via a customer driven and substantially funded approach
- Improve the standard of electricity supply to consumers by addressing reliability and network Performance issues in Nedlands North.
- Improve power quality and public safety, and
- Achieve cost savings through reduced maintenance and distribution losses

Two options were considered to address the above purpose and identified key objectives. A detailed business case will be completed to determine the total Net Benefits to Western Power.

Before construction can begin, an Agreement will be entered into between Western Power and CoN.

3 Project Details

3.1 Project Details

The scope of work is to remove of all the existing poles and overhead conductors and the installation of a new replacement underground network (including communication/pilot cable if applicable) within the project boundary shown in Figure 1.

The key objectives of this project are to:

- Satisfy the CoN's preference to proceed with this project following the successful Hollywood West project, which contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area at the earliest possible opportunity
- Improve power quality and public safety; and achieve cost savings through reduced maintenance and distribution losses

The key dates for this project are listed in Table 2 below. These dates are aimed at aligning the Nedlands North project to closely align to all other UPP projects to maximise efficiencies and potential savings

Table 2: Key Dates¹

Description	Date
Planning	Commence mid July 2020
Design	Completion mid Feb 2021
Construction	Commence July 2021 (14 months' timeframe)
In Service Date	August 2022

3.2 Schedule

The planned schedule dates are defined at initiation phase and are listed in Table 3 below.

Table 3: Milestone Dates

Description	Date
LGA Approval Date	Mid July 2020
Business Case Approval Date	June 2021
Agreement Approval Date	July 2021
Project Start Date	July 2021
In Service Date	August 2022

3.3 Scope Inclusion

The following are included in Western Power's E30 (+/-30% accuracy) scope:

The scope of work included in the project is defined as undergrounding the distribution network (including communication/pilot cable) within the project boundary (not including transmission) including:

- Labour contract establishment and acquisition of all equipment, materials and services.
- Project, contract management and site supervision.
- Stakeholder communications planning including resolution of operational issues of concern to property owners and occupiers.
- Identification of any relevant deficiencies in the existing electrical installation of properties and notification to owners for their remedial action.
- Installation, connection, commissioning and energisation of all cables, plant and equipment and associated works that constitute the new distribution system; including street lighting systems and conversion to underground of all existing overhead service connections from each property boundary to the property building.
- All permanent reinstatement works to roadways, road verges, footpaths, driveways and gardens, directly affected by the project works.
- Removal of the redundant overhead distribution system and street lighting.
- Practical completion validation of the Project including issue of practical completion certificate.
- Asset handover of the new system including updates to SPIDAView.
- Relocate the Transmission Network Communications Pilot cables from overhead to underground where required
- Construction works will be undertaken by external resources

The scope of work will be finalised through detailed designs.

3.4 Scope Exclusions

The following are excluded from Western Power's E30 scope:

- Underground Transmission network
- Engineering assessments (e.g., EPR, Hydrology & Flood, Noise, Poles and Wires) and their mitigations if required.
- Assessment on Street lighting design against Standards (e.g., AS/ANZ 1158) has not been considered.
- Obtaining approvals – site for WP assets, route, easements, environmental or heritage, local government, landowners, etc
- Community engagement
- Allowance for potential adverse latent conditions
- Road safety audit
- Clearing of vegetation

- Costs associated with the preparation and registration of easements (if required)
- Modification of existing site conditions to bring to current standards
- Significant unforeseen environmental issues
- Major structure replacement identified during execution
- Dewatering costs

3.5 Options Analysis

To address the key objectives of this project, two options were considered. These are:

1. Proceed with Nedlands North project at earliest opportunity following detail project development
2. Do Nothing

3.5.1 Option 1 – Proceed with Project according to Nedlands West’s timeline

This option provides for the installation of underground power across the Nedlands North area starting May 2021 at a total Agreement value of \$4.829 million (accuracy of +/- 30%).² This has been revised from the previous estimate³ provided at Enquiry phase in January 2020 after further consideration of the Net Benefit Model assessment conducted in May 2020.

The expected Western Power contribution is currently estimated to be \$1.430 million and have not been included in the Agreement value. The estimated customer contribution is listed in Section 3.6.

Proceeding with Nedlands North at the earliest opportunity will meet the project requirements. The benefits of proceeding with the Nedlands North project at the earliest opportunity meet all of the project requirements therefore this option is recommended.

3.5.2 Option 2 – Do not proceed with Project

This option does not provide underground power across Nedlands North area. Western Power continues to maintain the existing overhead network.

A “Do not proceed” option fails to realise any of the potential benefits of the project and would not be addressing the CoN’s requirement, and the reliability, power quality and network capacity issues identified in Nedlands North. Western Power is also likely to face adverse reaction from the Local Government.

² EDM#52657215 – ERN3353 Estimate for Nedlands North E30

³ EDM#50409808 – ERN3179 Estimate for Nedlands North E50

3.5.3 Summary of Options Analysis

An overview of the complete assessment is present in Table 4:

Table 4: Assessment of Options

#	Option Title	Total Agreement Value	Mitigates Risk	Meet Key Objectives	Technically Feasible	Deliverable
1	Proceed with Project and align with Nedlands North timeline	\$4.829 million	✓	✓	✓	✓
2	Do not proceed with the Project	N/A	✗	✗	✓	✓

3.6 Estimate of Cost and Customer Contribution

The Estimated Customer Contribution ($\pm 30\%$) for the work is \$3.399 million (including CCTR, and design fees).

Title	Estimate (million)
E30 Estimate for works	\$4.374
Capital Contribution Tax (11.63%) on CapEx	\$0.455
TOTAL Cost	\$4.829
Net Benefits (calculated as of May 2020)	\$1.430
Total Customer Contribution (as of May 2020)	\$3.399

3.7 Delivery Strategy

This project will be delivered through a specialised UPP preferred vendor contract arrangement, similar to other SUPP projects. One contractor to manage the engineering and design and one head contractor to manage the overall construction work.

3.8 Risk analysis

Table 5: Risk Analysis

Criteria	Assessment	Reason
Safe		
Public Safety	Provides a major benefit	The current Public Safety risk transitions from High to Low, as detailed in the risk assessment table
Workforce Safety	Provides a moderate benefit	The current Workforce Safety risk transitions from Medium to Low, as detailed in the risk assessment table
Environment	Provides a moderate benefit	The current Environment risk transitions from Medium to Low, as detailed in the risk assessment table

Reliable		
Customer Reliability	Provides a moderate benefit	The current Customer Reliability risk transitions from Medium to Low, as detailed in the risk assessment table
Reputation	Provides a moderate benefit	The current Reputation risk transitions from Medium to Low, as detailed in the risk assessment table
Compliance	Provides a moderate benefit	The current Compliance risk transitions from Medium to Low, as detailed in the risk assessment table
Affordable		
Financial Impact	Provides a moderate benefit	The current Financial Impact risk transitions from Medium to Low, as detailed in the risk assessment table

3.9 Assumptions

The following key assumptions were utilised in completing the analysis:

- Net Benefit Values are current as of May 2020 and may be subjected to change with the aging of the assets, and will need to be recalculated for the next phase of the project
- The schedule in 3.2 has considered all three projects (Hollywood East, Nedlands North and Nedlands West) will be executed together after the completion of the Scoping and Planning (Design Phase) to enable the efficiency of time and resource. The schedule may be subjected to change if the construction of the three projects are to be staged
- Works Relocation Contract successfully executed
- Ongoing community support throughout project duration
- Contractor has plant/resources/personnel and can meet project schedule
- Material is available from WP Logistics and cost escalation remains within allowance
- Residential development within area remains low
- Overhead aerial replacement with underground assets are assumed to be “like for like”
- The ground type is “soil/clay”
- 0-500mm and 2.4-3m alignments are available for HV/LV cable and streetlight installations respectively.
- Practical locations are available for new Primary Equipment within close proximity to the HV aerial T-offs proposed to be removed.
- Design constraints affecting existing premises have not been considered.
- Environmental assessment has not been undertaken
- Material and Construction costs are based on an actual cost for Hollywood project (N0446292) which is in a nearby location, prorated based on the number of customer connections
- It will take 45 weeks to go past Gate 3 and 57 weeks for Execution
- Formulated based on a regression model using both previous E10 estimate and forecasted cost of UPP/RUP projects

- Design cost was estimated based on an average design cost of previous E10 estimates of around \$77,500
- The preferred vendors will submit a fixed price tender as part of the underground power project RFQ process and includes items such as working outside of normal hours.
- No interference with any concurrent or conflicting projects

3.10 Long lead time materials & plant

The following will be impacted by long lead times:

- Transformer switchgear
- Powder coating for Street lights

3.11 Benefit analysis

By 2022 all properties within the project areas will be on the underground network. This will contribute to the CoN's preference to align with their Hollywood West project of providing increased underground power services in the Perth metropolitan area, improve the standard of electricity supply to consumers by addressing reliability and network performance issues in City of Nedlands and achieve cost savings through reduced maintenance and distribution losses.

Table 6: Business Benefits of the Recommended Option

Measurable Outcomes	KPI	Benefit Type	Current State	Target State	Timing / Milestone
Savings on avoided network maintenance	A positive net present value	Type 1	TBC	0 wooden poles and 0 km of O/H conductor	As project closure

3.11.1 Other Benefits

Other benefits include:

- Western Power replaces in-service overhead assets with new underground assets at a subsidised cost
- Underground power provides business benefits such as reduced maintenance costs, improved reliability and quality of electrical supply, fewer vehicle collisions with the power poles and few accidents due to live wire contact
- Underground power reduces visual impact of the overhead infrastructure on the community

3.12 Environment and Community Engagement

Distribution Undergrounding project with associated UPP related works has significant stakeholder impact with issues needing careful management (see Risk Analysis). Key stakeholders include the public, Local Government Authorities and the Local Government Association, property owners, and contractors. Accordingly, a Communications Strategy will be established as part of the UPP Stakeholder Management

Plan. Public consultation includes media/newsletters, public displays and letters to property owners affected by equipment location and consultation to resolve concerns.

Increased awareness of the “Dial Before You Dig” campaign will be promoted through industry representation. Detailed communication advices are provided to property owners at each stage of the project. Property owner surveys are carried out before each project, based on projected costs, with the majority of respondents being required to support the projects before final approval.

4 Planning Assessment

Upon request, Western Power will undertake a Planning Assessment to develop a planning design and estimate, including an indicative Customer capital contribution, for the proposed Customer works.

Works Planning Report

Projects: N0513458 City of Nedlands –
Dx Undergrounding - Nedlands West

Initiation Assessment: 5 June 2020

Document Release Information

Customer name	City of Nedlands
Project name	N0513458 Dx Undergrounding Nedlands West
Document number	EDM#50533192
Document title	Works Planning Report
Revision status	Initiation Assessment Phase
Revision Date	16 June 2020

Document prepared by: Ken Lee

Western Power
ABN 18540492861

Approvals and Endorsements

Action	Name	Title	Signature	Date
Prepared by	Ken Lee	Senior Customer Project Development Engineer		5 June 2020
Reviewed by	Belinda Clarke	Relocation Consultant		8 June 2020
Endorsed by	Scott Ferguson	Access Solutions Manager		8 June 2020
Approved by	Tony Law	Customer Project Development Team Leader		8 June 2020

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This report presents an initiation assessment of network relocation options associated with the City of Nedlands' distribution undergrounding at City of Nedlands ("**Customer's Project**").

All options presented, including any corresponding assumptions, inclusions, or exclusions, are subject to change, and Western Power further reserves the right to withdraw or add options in its absolute discretion. Western Power consents to this document (EDM reference: **50533192**) being released by the City of Nedlands to its contractor(s) (and their respective personnel) who are under a duty of confidence for the purpose of obtaining a preliminary understanding of Western Power network relocation options associated with the City of Nedlands' Project.

The City of Nedlands accepts full responsibility for any unauthorised disclosure of this report by its contractors.

Report Objectives

The objective of this report is to:

- specify the City of Nedlands' requirements
- identify network issues that need to be addressed to meet the City of Nedlands' requirements
- identify options to meet the City of Nedlands' requirements
- provide a cost estimate

The works planning report has been developed to address applications for relocations, private parallel generator connections <10MW and major capital distribution load connections.

Acronyms

Customer	City of Nedlands
FIS	Forecast In Service date
HV	High Voltage
KPI	Key Performance Indicator
LV	Low Voltage
LGA	Local Government Authorities
RUP	Retrospective Undergrounding Project
SOW	Scope of Work
SUPP	State Underground Power Program
UPP	Underground Power Projects
WP	Western Power

Customer Requirements

Summary of Customer Requirements

Table 1: Summary of Customer Requirements

Customer Name:	City of Nedlands	
Project Name:	N0513458 City of Nedlands – Dx Undergrounding - Nedlands West	
Dynamic 365 Ref.:	CS000037	
Project Number (DQM):	Project # (Ellipse)	N0513458
Application Number:	2U8FEH	
Application (DM#):	EDM#49968760	
Customer requirement:	To provide City of Nedlands with underground power to approximately 620 allotments in the suburb of Mt Claremont. This would be achieved by removing old overhead poles with the new underground network to align with the City of Nedlands' future development potential arising from LPS3 within this application area.	
Supply Requirement:	(N/A)	
Load:	(N/A)	
Existing CMD:	(N/A)	
Proposed Additional CMD:	(N/A)	
Total CMD:	(N/A)	
Site / Location (PID):	Nedlands West boundary bounded bordered by Alfred Road, Mayfair Street & Montgomery Avenue	
Existing NMI:	(N/A)	
Required in-service date:	TBA	
Special Requirements: (e.g. service level/reliability)	Not specified	

1.1 Customer Location

The City of Nedlands (CoN), has requested a desktop assessment of the work required to underground Western Power’s aerial assets in three areas, with the project areas being designated as (Figure 1):

1. Nedlands West
2. Nedlands North and
3. Hollywood East

This revised report provided an updated finding for the work required to underground the “Nedlands West” area only, along Nedlands West bounded between by Alfred Road, Mayfair Street & Montgomery Avenue. The Western Power’s distribution assets affected by the work include (Figure 2):

1. Overhead HV (22 kV) aerials
2. Overhead LV (415V) aerials

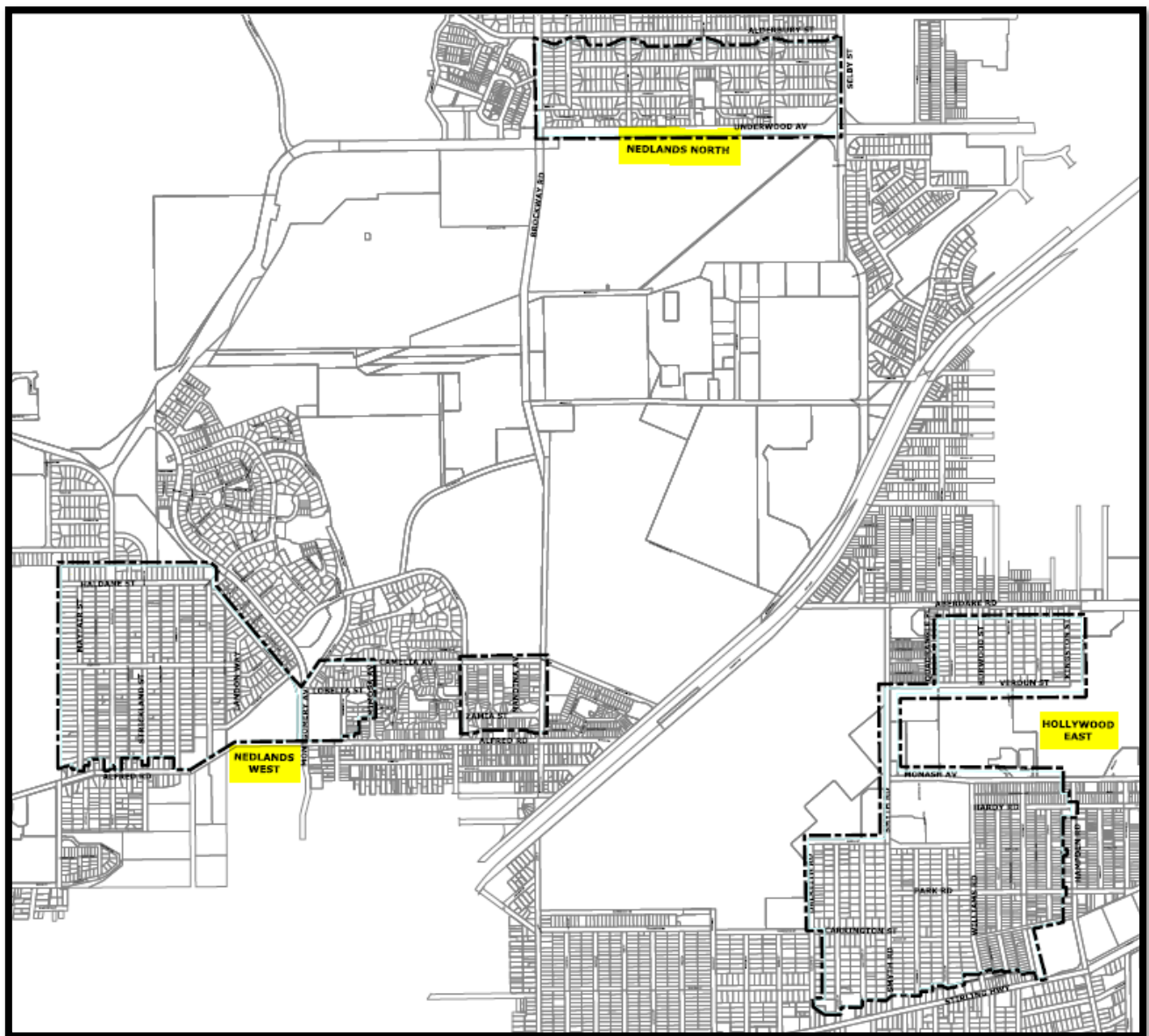


Figure 1: Overview of City of Nedlands’ three project areas

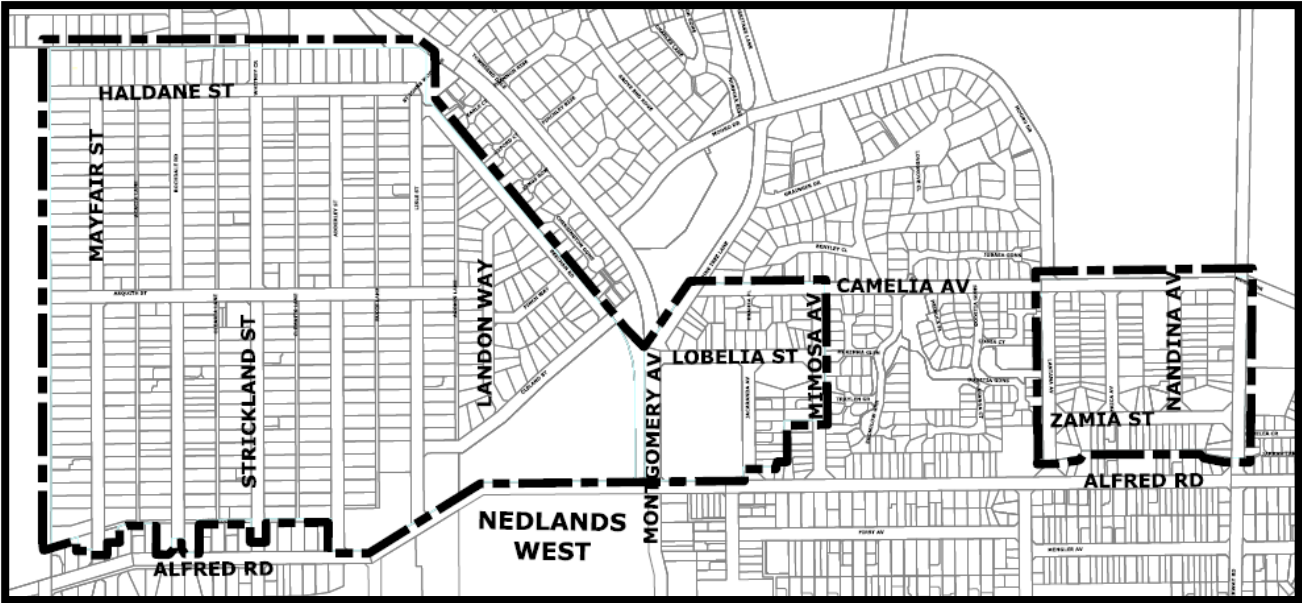


Figure 2: Boundary of Nedlands West project area

2 Preliminary Assessment

2.1 Background

Following the successful completion of the previous distribution undergrounding project (N0446292 - Hollywood West area), the CoN applied to Western Power in August 2019 for an Enquiry Assessment for indicative costs to underground three further areas adjacent to the Hollywood West area. These three areas are named Nedlands West, Nedlands North and Hollywood East. This revised report provided an updated finding for the Nedlands West area only, and include revised Boundary area, estimates, customer contribution and project timing.

2.2 Project Summary

The Nedlands West project area will be underground as per the CoN's requirement. The key objectives of this project are to:

- Contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area, including aligning with the successful Hollywood West project via a customer driven and substantially funded approach
- Improve the standard of electricity supply to consumers by addressing reliability and network Performance issues in Nedlands West.
- Improve power quality and public safety, and
- Achieve cost savings through reduced maintenance and distribution losses

Two options were considered to address the above purpose and identified key objectives. A detailed business case will be completed to determine the total Net Benefits to Western Power.

Before construction can begin, an Agreement will be entered into between Western Power and the CoN.

3 Project Details

3.1 Project Details

The scope of work is to remove of all the existing poles and overhead conductors and the installation of a new replacement underground network (including communication/pilot cable if applicable) within the project boundary shown in Figure 1.

The key objectives of this project are to:

- Satisfy the CoN's preference to proceed with this project following the successful Hollywood West project, which will contribute to the CoN's objective of providing increased underground power services in the Perth metropolitan area at the earliest possible opportunity
- Improve power quality and public safety; and achieve cost savings through reduced maintenance and distribution losses

The key dates for this project are listed in Table 2 below. These dates are aimed at aligning the Nedlands West project to closely align to all other UPP projects to maximise efficiencies and potential savings

Table 2: Key Dates¹

Description	Date
Planning	Commence mid July 2020
Design	Completion mid Feb 2021
Construction	Commence July 2021 (14 month timeframe)
In Service Date	August 2022

3.2 Schedule

The planned schedule dates are defined at initiation phase and are listed in Table 3 below.

Table 3: Milestone Dates

Description	Date
LGA Approval Date	Mid July 2020
Business Case Approval Date	June 2021
Agreement Approval Date	July 2021
Project Start Date	July 2021
In Service Date	August 2022

3.3 Scope Inclusion

The following are included in Western Power's E30 (+/-30% accuracy) scope:

The scope of work included in the project is defined as undergrounding the distribution network (including communication/pilot cable) within the project boundary (not including transmission) including:

- Labour contract establishment and acquisition of all equipment, materials and services.
- Project, contract management and site supervision.
- Stakeholder communications planning including resolution of operational issues of concern to property owners and occupiers.
- Identification of any relevant deficiencies in the existing electrical installation of properties and notification to owners for their remedial action.
- Installation, connection, commissioning and energisation of all cables, plant and equipment and associated works that constitute the new distribution system; including street lighting systems and conversion to underground of all existing overhead service connections from each property boundary to the property building.
- All permanent reinstatement works to roadways, road verges, footpaths, driveways and gardens, directly affected by the project works.
- Removal of the redundant overhead distribution system and street lighting.
- Practical completion validation of the Project including issue of practical completion certificate.
- Asset handover of the new system including updates to SPIDAView.
- Relocate the Transmission Network Communications Pilot cables from overhead to underground where required
- Construction works will be undertaken by external resources

The scope of work will be finalised through detailed designs.

3.4 Scope Exclusions

The following are excluded from Western Power's E30 scope:

- Underground Transmission network
- Engineering assessments (e.g., EPR, Hydrology & Flood, Noise, Poles and Wires) and their mitigations if required.
- Assessment on Street lighting design against Standards (e.g., AS/ANZ 1158) has not been considered.
- Obtaining approvals – site for WP assets, route, easements, environmental or heritage, local government, landowners, etc
- Community engagement
- Allowance for potential adverse latent conditions
- Road safety audit
- Clearing of vegetation

- Costs associated with the preparation and registration of easements (if required)
- Modification of existing site conditions to bring to current standards
- Significant unforeseen environmental issues
- Major structure replacement identified during execution
- Dewatering costs

3.5 Options Analysis

To address the key objectives of this project, two options were considered. These are:

1. Proceed with Nedlands West project at earliest opportunity following detail project development
2. Do Nothing

3.5.1 Option 1 – Proceed with Project according to Nedlands West’s timeline

This option provides for the installation of underground power across the Nedlands West area starting May 2021 at a total Agreement value of \$8.831 million (accuracy of +/- 30%)². This has been revised from the previous estimate³ provided at Enquiry phase in January 2020 after further consideration of the Net Benefit Model assessment conducted in May 2020.

The expected Western Power contribution is currently estimated to be \$2.449 million and have not been included in the Agreement value. The estimated customer contribution is listed in Section 3.6.

Proceeding with Nedlands West at the earliest opportunity will meet the project requirements. The benefits of proceeding with the Nedlands West project at the earliest opportunity meet all of the project requirements therefore this option is recommended.

3.5.2 Option 2 – Do not proceed with Project

This option does not provide underground power across Nedlands West area. Western Power continues to maintain the existing overhead network.

A “Do not proceed” option fails to realise any of the potential benefits of the project and would not be addressing the CoN’s requirement, and the reliability, power quality and network capacity issues identified in Nedlands West. Western Power is also likely to face adverse reaction from the Local Government.

² EDM#52673977 – ERN3355 Estimate for Nedlands West E30

³ EDM#50425302 – ERN3177 Estimate for Nedlands West E50

3.5.3 Summary of Options Analysis

An overview of the complete assessment is present in Table 4:

Table 4: Assessment of Options

#	Option Title	Total Agreement Value	Mitigates Risk	Meet Key Objectives	Technically Feasible	Deliverable
1	Proceed with Project and align with Nedlands West timeline	\$8.831 million				
2	Do not proceed with the Project	N/A				

3.6 Estimate of Cost and Customer Contribution

The Estimated Customer Contribution ($\pm 30\%$) for the work is \$6.382 million (including CCTR, and design fees).

Title	Estimate (million)
E30 Estimate for works	\$7.998
Capital Contribution Tax (11.63%) on CapEx	\$0.833
TOTAL Cost	\$8.831
Net Benefits (calculated as of May 2020)	\$2.449
Total Customer Contribution (as of May 2020)	\$6.382

3.7 Delivery Strategy

This project will be delivered through a specialised UPP preferred vendor contract arrangement, similar to other SUPP projects. One contractor to manage the engineering and design and one head contractor to manage the overall construction work.

3.8 Risk analysis

Table 5: Risk Analysis

Criteria	Assessment	Reason
Safe		
Public Safety	Provides a major benefit	The current Public Safety risk transitions from High to Low, as detailed in the risk assessment table
Workforce Safety	Provides a moderate benefit	The current Workforce Safety risk transitions from Medium to Low, as detailed in the risk assessment table
Environment	Provides a moderate benefit	The current Environment risk transitions from Medium to Low, as detailed in the risk assessment table

Reliable		
Customer Reliability	Provides a moderate benefit	The current Customer Reliability risk transitions from Medium to Low, as detailed in the risk assessment table
Reputation	Provides a moderate benefit	The current Reputation risk transitions from Medium to Low, as detailed in the risk assessment table
Compliance	Provides a moderate benefit	The current Compliance risk transitions from Medium to Low, as detailed in the risk assessment table
Affordable		
Financial Impact	Provides a moderate benefit	The current Financial Impact risk transitions from Medium to Low, as detailed in the risk assessment table

3.9 Assumptions

The following key assumptions were utilised in completing the analysis:

- Net Benefit Values are current as of May 2020 and may be subjected to change with the aging of the assets, and will need to be recalculated for the next phase of the project
- The schedule in 3.2 has considered all three projects (Hollywood East, Nedlands North and Nedlands West) will be executed together after the completion of the Scoping and Planning (Design Phase) to enable the efficiency of time and resource. The schedule may be subjected to change if the construction of the three projects are to be staged
- Works Relocation Contract successfully executed
- Ongoing community support throughout project duration
- Contractor has plant/resources/personnel and can meet project schedule
- Material is available from WP Logistics and cost escalation remains within allowance
- Residential development within area remains low
- Overhead aerial replacement with underground assets are assumed to be “like for like”
- The ground type is “soil/clay”
- 0-500mm and 2.4-3m alignments are available for HV/LV cable and streetlight installations respectively.
- Practical locations are available for new Primary Equipment within close proximity to the HV aerial T-offs proposed to be removed.
- Design constraints affecting existing premises have not been considered.
- Environmental assessment has not been undertaken
- Material and Construction costs are based on an actual cost for Hollywood project (N0446292) which is in a nearby location, prorated based on the number of customer connections
- It will take 45 weeks to go past Gate 3 and 57 weeks for Execution
- Formulated based on a regression model using both previous E10 estimate and forecasted cost of UPP/RUP projects

- Design cost was estimated based on an average design cost of previous E10 estimates of around \$77,500
- The preferred vendors will submit a fixed price tender as part of the underground power project RFQ process and includes items such as working outside of normal hours.
- No interference with any concurrent or conflicting projects

3.10 Long lead time materials & plant

The following will be impacted by long lead times:

- Transformer switchgear
- Powder coating for Street lights

3.11 Benefit analysis

By 2022 all properties within the project areas will be on the underground network. This will contribute to the CoN's preference to align with their Hollywood West project of providing increased underground power services in the Perth metropolitan area, improve the standard of electricity supply to consumers by addressing reliability and network performance issues in City of Nedlands and achieve cost savings through reduced maintenance and distribution losses.

Table 6: Business Benefits of the Recommended Option

Measurable Outcomes	KPI	Benefit Type	Current State	Target State	Timing / Milestone
Savings on avoided network maintenance	A positive net present value	Type 1	TBC	0 wooden poles and 0 km of O/H conductor	As project closure

3.11.1 Other Benefits

Other benefits include:

- Western Power replaces in-service overhead assets with new underground assets at a subsidised cost
- Underground power provides business benefits such as reduced maintenance costs, improved reliability and quality of electrical supply, fewer vehicle collisions with the power poles and few accidents due to live wire contact
- Underground power reduces visual impact of the overhead infrastructure on the community

3.12 Environment and Community Engagement

Distribution Undergrounding project with associated UPP related works has significant stakeholder impact with issues needing careful management (see Risk Analysis). Key stakeholders include the public, Local Government Authorities and the Local Government Association, property owners, and contractors. Accordingly, a Communications Strategy will be established as part of the UPP Stakeholder Management

Plan. Public consultation includes media/newsletters, public displays and letters to property owners affected by equipment location and consultation to resolve concerns.

Increased awareness of the “Dial Before You Dig” campaign will be promoted through industry representation. Detailed communication advices are provided to property owners at each stage of the project. Property owner surveys are carried out before each project, based on projected costs, with the majority of respondents being required to support the projects before final approval.

4 Planning Assessment

Upon request, Western Power will undertake a Planning Assessment to develop a Planning design and estimate, including an indicative Customer capital contribution, for the proposed Customer works.

TS14.20	Safe Active Streets Stage 2 – Variation Costs
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Committee	14 July 2020
Council	28 July 2020
Applicant	City of Nedlands
Employee Disclosure under section 5.70 Local Government Act 1995	Nil
Director	Jim Duff – Director of Technical Services
Attachments	Nil.
Confidential Attachments	Nil.

Executive Summary

The report seeks Council approval to increase the budget for the Safe Active Street project by reinstating \$300,000 of municipal funds relinquished as part of the City's 2019/20 mid-year review, and allocating a further \$100,000 to enable the completion of Stage 2 works from Dalkeith Road to the termination point at the City boundary near Bay Road.

Recommendation to Committee

Council approve an increase to the budget for the Safe Active Street project by reinstating \$300,000 of municipal funds relinquished as part of the City's 2019/20 mid-year review and allocating a further \$100,000 to enable the completion of Stage 2 works from Dalkeith Road to the agreed termination point at the City boundary near Bay Road.

Discussion/Overview

The City entered a contract in September 2019 with West Coast Profiling Civil Pty Ltd to undertake the Safe Active Streets Project in two stages.

Stage 1 of the project was completed in January 2020. During construction, several unforeseen site issues were encountered requiring additional work to be undertaken by the contractor, with the costs of the works shared between the City, Department of Transport and the Contractor.

Prior to the commencement of Stage 2 works, Administration initiated a review of the design to minimise the risk of similar issues being encountered. The revised design now reduces the potential impacts on verge reinstatements, driveway crossovers, street trees, footpath levels and utility infrastructure, while retaining the original SAS traffic calming features. However, the revised estimate for the works confirmed there will be a

shortfall in the available budget to complete the works as originally planned and agreed with the Department of Transport.

The original project budget included grant funds of \$1,900,000 from the Department of Transport, with a secondary line item of \$700,000 of municipal funds for Western Power, Main Roads WA and drainage upgrades to complete the Safe Active Street project. As part of the 2019/20 mid-year review process Administration forecast that the full \$700,000 would not be required and recommended a reduction of the overall budget by \$300,000. The revised estimate for the Stage 2 now exceeds the remaining DOT and City budget by approximately \$400,000.

Council should be aware the SAS project has been inactive for several months while the design review and negotiations with the Contractor and DOT have been ongoing. The City is under increasing pressure from the community to complete the project, with sections of the works unfinished and under temporary traffic management.

Administration has had several meetings with the Contractor to expedite an acceptable solution and is continuing to work with the DOT and the Contractor to have them remobilise to site to complete the extent of works within the available budget.

Alternatively, Council could increase the budget for the Safe Active Street project by reinstating \$300,000 of municipal funds relinquished as part of the City's 2019/20 mid-year review and allocating a further \$100,000 to enable the completion of Stage 2 works from Dalkeith Road to the agreed termination point at the City boundary near Bay Road.

Key Relevant Previous Council Decisions:

Ordinary Meeting of Council 28 November 2017, Item 12.3 Report No. TS11.17

“Council endorses the Community Engagement Plan for the Safe Active Streets Program in Elizabeth Street and Jenkins Avenue.”

Ordinary Meeting of Council 26 June 2018, Item 12.3 Report No. TS11.18

“Council recognises the level of community support for the Safe Active Streets programme in Elizabeth Street and Jenkins Avenue, and authorises the Chief Executive Officer to enter into a contractual arrangement with the Department of Transport for the delivery of the project fully funded by the Department.”

Ordinary Meeting of Council 25 June 2019, Item No. 13.7

“Council agrees to award Tender No. RFT2018-19.10 to WCP Civil Pty Ltd for the Safe Active Streets Road Rehabilitation and improvement project as per the lump sum price (confidential Attachment 1) submitted”; and

“Authorises the Chief Executive Officer (CEO) to enter into a contract with WCP Civil Pty Ltd and sign an acceptance of offer for this tender, subject to CEO negotiation on minor variations”

Consultation

Consultation has already been undertaken for this project with all properties bounded by Bay Road, Princess Road, Broadway and Stirling Highway (except for properties fronting the highway). This area includes the intersecting streets with Jenkins and Elizabeth, approximately 1400 properties. The consultation included:

- 2,092 postcards to project area
- 25 letters to specific stakeholders
- 2 x information sessions
- Reports on Your Voice and community media

The community have provided significant support for the safe active streets proposal with 73 percent of the overall consultation area in support of the project, including 56 percent of residents that are immediately impacted by the project.

Strategic Implications

How well does it fit with our strategic direction?

Section 05 of the Strategic Community Plan identifies “Renewal of community infrastructure such as roads, footpaths, community and sports facilities” and “Providing for sport and recreation” as priorities.

Who benefits?

Completing the project will benefit the community by providing a safe road environment for all road users making cycling safer, particularly children on their routes to school

Does it involve a tolerable risk?

Administration has received a significant number of enquiries from the public questioning the reasons why the project has been inactive for several months. Administration issued letters to the residents adjoining the Stage 2 works advising works would recommence on site on the 22 June 2020, however, the works remobilisation was again delayed. Given the prolonged inactivity on site this situation has the potential to cause reputational damage with the Community and DOT while recommencement of the works is delayed.

Do we have the information we need?

A new design has been produced based on the lessons learned from Stage 1.

Budget/Financial Implications

Can we afford it?

How does the option impact upon rates?

Increase to the budget for the Safe Active Street project by reinstating \$300,000 of municipal funds relinquished as part of the City’s 2019/20 mid-year review and allocating

a further \$100,000 will have no impact on the 2020/21 rates. Administration will prepare a list of lower priority projects that could be considered for deferral by Council in the 2020/21 Capital Works Program should funding become an issue.