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STRUCTURE OF PLAN

The Management Plan has been structured to align with the relevant clauses of the Regulations.

The corresponding section of the Plan is numbered identically to the section of the Regulations to allow for cross referencing.

DISTRIBUTION BUSINESSES

The names and contact details for the Distribution Businesses that operate within the City of Wodonga are:

Ausnet Services
Danny Bridgeman
24 Maloney Drive, Wodonga
Contact number: 0408 500 002

Customer Service Number: 13 17 99

PART 2 SECTION 9 PREPARATION OF A MANAGEMENT PLAN

9(2) PREPARATION OF A MANAGEMENT PLAN BY MARCH 31ST

City of Wodonga is a Responsible Person required to prepare an Electric Line Clearance Management Plan for the purpose of the Regulations. This document is prepared in accordance with Section 9 of the Regulations.

The implementation and review of the Plan is part of Council’s strategic reporting framework and is reported within the Business Unit’s Works Quarterly Report.

- Council will conduct a review by the March 31st annually.
- Approval of the new Plan will be completed in March with the approved Plan replacing the old Plan on Council’s public website on July 1st annually.
- A complete review of the Plan will also be implemented should there be a change of Contractor or Contract methodology. This review could occur at any time.
- The Plan and the requirement to comply with the Plan will be brought to the attention of Council’s contractors annually at the monthly contract meeting following the review.
- The Plan and the requirement to comply with the Plan will be brought to the attention of relevant Council personnel following each annual review.

10(7)(A) & (B) REQUIREMENTS

The Plan is stored in Council’s document management system, which provides version control, and will be available on request by ESV and for review on the Council’s website at www.wodonga.vic.gov.au and at the Council’s Offices as named in 9(3)(c) during normal business hours.

No exemptions are in operation and therefore none are required to be displayed. Council reviews the Electric Line Clearance Management Plan prior to the March 31st deadline each year to confirm compliance requirements and the status of the Plan’s implementation. Such reviews will be recorded and reported to Council’s Authorising Officer.
9(3) MANAGEMENT PLAN REQUIREMENTS

9(3)(a) NAME, ADDRESS AND TELEPHONE NUMBER OF THE RESPONSIBLE PERSON:

Name: Mark Dixon, CEO, City of Wodonga

Address: 104 Hovell St, Wodonga, Victoria, 3690

Telephone Number: 02 6022 9300

9(3)(b) NAME, POSITION, ADDRESS AND TELEPHONE NUMBER OF THE PERSON WHO WAS RESPONSIBLE FOR THE PREPARATION OF THE PLAN:

Name: Michael Power
Position: Team Leader Gardens
Address: 1 Kendall St, Wodonga, VIC, 3690
Telephone Number: 02 6022 9300

9(3)(c) NAME, POSITION, ADDRESS AND TELEPHONE NUMBER OF THE PERSONS WHO ARE RESPONSIBLE FOR CARRYING OUT THE PLAN:

Name: Brad O'Grady
Position: Coordinator Trees
Address: 1 Kendall St, Wodonga, VIC, 3690
Telephone Number: 02 6022 9300

9(3)(d) THE TELEPHONE NUMBER OF A PERSON WHO CAN BE CONTACTED IN AN EMERGENCY THAT REQUIRES CLEARANCE OF AN ELECTRIC LINE THAT THE RESPONSIBLE PERSON IS REQUIRED TO KEEP CLEAR OF TREES OR PARTS OF TREES.

EMERGENCY TELEPHONE No: 02 6022 9300 (24 hours, 7 days a week)

9(3)(e) THE OBJECTIVES OF THE PLAN:

The following are identified as the key objectives of this Plan:

- To ensure public safety at all times in relation to fire risk, human injury and continuity of supply resulting from the contact between power lines and vegetation.
- Council employees and contractors will aim to ensure Electricity Safety.


- In the unlikely event that compliance cannot be readily achieved by pruning, Council will implement a documented process of 6-monthly inspections on these trees while developing an alternative engineering solution in conjunction with the Distribution Business.

- To ensure protection of areas of important local and significant vegetation throughout the Council’s Declared Area. This protection includes, but is not limited to, sites containing botanically, historically or culturally important vegetation, or vegetation of outstanding aesthetic or ecological significance, and/or the habitat of rare or endangered species.

- Establishing an open dialogue with relevant distribution company(s) vegetation management group to ensure both parties have a clear understanding of each other priorities. This will be achieved through an annual meeting with relevant distribution company(s) managers and City of Wodonga’s responsible employee.

- To ensure effective management of vegetation to maximise the amenity value of the city’s trees and ensure shading of pathways is continually increased to encourage physical activity in the community.

- To ensure provision of a safe working place for employees and contractors undertaking vegetation clearance pruning and any employee or contractors who conduct other maintenance vegetation works within the vicinity of powerlines.

- To ensure community satisfaction with the way the necessary works are carried out.

- To ensure a standard and practices to protect the health of trees that require cutting in accordance with the code.

Compliance with these objectives is measured by an ongoing process of auditing and Contract performance monitoring as detailed in the relevant sections of this Plan.

9(3)(f) THE LAND TO WHICH THE MANAGEMENT PLAN APPLIES TO - MAPS
The City of Wodonga comprises a geographical area of 434km² and the population in excess of 35,000.

The Declared Area that is the responsibility of the City of Wodonga comprises 19.75km². The land use for this area is classified mainly as residential with some industry. Approximately 15,000 trees are growing within the road reserve of which approximately 5,000 trees are situated within the vicinity of electric lines. Council’s public open space reserves and parks have very few electric lines that traverse through them therefore only very few trees that could impact the power lines.
The majority of the urban area of Wodonga is Declared Area and this is shown on the plan included in Appendix 1 of this document.

The majority of the Declared Area managed by Council is rated Low Bushfire Risk (LBRA) based on the CFA Fire Hazard Ratings maps 2013 Edition. Red-shaded areas are HBRA in Figure 1. Blue-shaded areas are LBRA.

The HBRA areas have been reviewed and overhead powerlines are only present in the following locations –
- Day St – 1 span of open wire LV
- Warwick Road – 8 spans of open wire HV/LV

Figure 1

Council representatives meet quarterly with CFA, DELWP, Defence and Parks Albury Wodonga as part of the Municipal Fire Management and Planning Committee. Any amendments to the boundary or Hazardous Bushfire Risk Areas (HBRA) are discussed at these meetings.
9(3)(g) EACH AREA THAT THE RESPONSIBLE PERSON KNOWS CONTAINS A TREE THAT THE RESPONSIBLE PERSON MAY NEED TO CUT OR REMOVE TO ENSURE COMPLIANCE WITH THE CODE AND THAT IS –

(i) Native
For the purposes of this Plan, Native vegetation is taken to mean species locally indigenous to the Council area and does not include commercial and ornamental Australian native species, which are commonly planted as street trees.

Council’s Declared Area consists of mixed local native species, commercial native varieties and introduced species. Areas of historical, cultural, environmental, ecological and aesthetical importance have been identified throughout the municipality and included as Heritage and Environmental Significance Overlays in Council’s Planning Scheme.

There are no known trees of habitat significance for rare or endangered species listed in Council’s Declared Area within the vicinity of powerlines that require pruning or clearing to ensure compliance with the Code of Practice.

As there has been as long-term and ongoing powerline clearance program around existing native trees, there are no known native trees that will be adversely affected by future works.

(ii) Listed in planning scheme to be of ecological, historical or aesthetic significance
Based on the historical annual line clearance program no trees of significance have been identified in the Declared Area that will be affected by electric line clearance.

The City of Wodonga has vegetation controls within the Planning Scheme, namely the Environmental Significance, Vegetation Protection and Significant Landscape Overlays. None of these apply within the Declared Area.

Tree controls do not apply within any site listed in the Schedule to the Heritage Overlay.

By their nature, these types of vegetation do not change quickly in normal circumstances. Council will review the resources listed in 9(3)(g)i and ii on a 5-yearly basis when this Plan is revised as described in 9(2).

(iii) Trees of cultural or environmental significance
Trees of Cultural or Environmental Significance for the purposes of the Plan are defined as any tree protected as Significant or Heritage by relevant State legislation or local planning controls. Based on the historical annual line clearance program, there are no identified areas of special or cultural vegetation identified in the Declared Area that will be affected by electric line clearance.

The City of Wodonga has vegetation controls within the Planning Scheme, namely the Environmental Significance, Vegetation Protection and Significant Landscape Overlays. None of these apply within the Declared Area.

Tree controls do not apply within any site listed in the Schedule to the Heritage Overlay.
By their nature, these types of vegetation do not change quickly in normal circumstances. Council will review the Planning Scheme and consult with Council’s Planning Department to identify any changes in State controls when this Plan is revised as described in 9(2). The amended Plan and any changes as a result of this briefing will be raised with Council’s contractors at the monthly contract meetings.

9(3) (h) The means which the responsible person is required to use to identify a tree specified in paragraph (g)9(3)(g)

Special trees, such as significant or habitat trees, are recorded in the ROAM system, where it is readily identifiable by personnel undertaking assessment and pruning under this Plan. As there has been an ongoing powerline clearance program around existing trees, there are no known trees from clause 9(3)(g) that will be significantly adversely affected by future powerline clearance works.

Additional resources available to identify significant native trees are -


b. Reference to the National Trust Register and regular communication with the Local History Officer. http://trusttrees.org.au/


Council will review each of these resources annually.

In February each year as part of the annual review of this Plan, Council’s Natural Resource Planner will brief the person responsible for the preparation of the Plan on changes to native vegetation mapping, controls and other relevant matters. The amended Plan and any changes as a result of this briefing will be raised with Council’s contractors at the contract meetings.
9 (3)(i) THE MANAGEMENT PROCEDURES THAT THE RESPONSIBLE PERSON IS REQUIRED TO ADOPT TO ENSURE COMPLIANCE WITH THE CODE

(i) Include details of the methods to be adopted for managing trees and maintaining a minimum clearance space as required by the Code:

Identification of Work Required
A detailed inspection of trees located within the Declared Area is conducted annually by suitably qualified Council Assessor in accordance this Plan.

Assessment and pruning of all Council trees in the vicinity of powerlines in the HBRA will be completed before the declaration of the fire season each year.

<table>
<thead>
<tr>
<th>Annual Tree Programs</th>
<th>Jan</th>
<th>Feb</th>
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<td>Tree Audits/Inspections</td>
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<td>HBRA Assessment</td>
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</table>

Each tree requiring clearance is recorded electronically on tablet computers in Council’s ROAM system.

In making these evaluations and before deciding on the most appropriate method, due consideration is given to the site's specifics, including:

- minimum clearances as prescribed in Schedule 1, Part 3, Division 1 and the charts in Schedule 2 of the Code;
- expected regrowth rate of the tree species;
- the significance of the site as a natural habitat of endangered species of both flora and fauna;
- the significance and public value of the site's aesthetics;
- the impact on the tree's amenity and utility value if subjected to pruning versus removal;
- opportunity to replace with a more suitable species based on the preferred species list;
- the environmental impact of proposed works;
- determining the most appropriate method of actioning the non-compliant vegetation;
- appropriate planning and scheduling;
- identification and quantification of equipment and accredited personnel required;
- funding;
- community and customer consultation.

Trees that the Assessor believes cannot be successfully pruned in accordance with the Electricity Safety (Electric Line Clearance) Regulations 2015 will be brought to the attention of Manager. The Manager will then inspect the tree and if they believe the tree cannot be pruned to comply with the Code, Council will investigate and implement an alternative method to ensure safety and continuity of supply.

The Assessor will also assess –
• the voltage and length of the span visually to determine the correct Applicable Distance for clearance for the middle 2/3 of each span. Longer span lengths will be verified using laser measurement or aerial photography.
• the species of the vegetation to ascertain the regrowth potential
• the tree for any other potential hazards.

In addition, any trees that are determined to be likely to breach the Code within the inspection cycle are also to be identified. This inspection also includes the identification of any hazards outside the clearance and regrowth spaces that may require assessment or correction. Non-compliant trees shall be recorded in the audit report.

Hazardous trees identified during these routine inspections are programmed for pruning or removal and scheduled according to their hazard potential.

Reports of non-compliance from relevant distribution company(s), residents or other sources will be investigated by a suitably qualified Council employee. Once the investigation has been completed Council will carry out any pruning action to rectify a confirmed non-compliance.

Where the non-compliance is caused by unanticipated regrowth, the species and growing conditions will be identified to determine if this is likely to occur again, or with other trees in the vicinity of powerlines. Appropriate inspection regimes will be implemented to address any identified issues.

Pruning records are recorded by the Council pruning personnel electronically on tablet computers in Council’s ROAM system

**Clearance Cycle**

**If Yes:**
Can the tree be pruned to allow for appropriate clearance and regrowth within the pruning cycle without loss of amenity value or increase to public risk?

**If Yes:**
Prune tree according to AS-4373-2007 Pruning of Amenity Vegetation (as amended)

**If No:**
Weigh options of a shorter pruning cycle, tree removal, or cable replacement with Aerial Bundled Cable or undergrounding, or other options as set out in the Electricity Safety (Electric Line Clearance) Regulations 2015. The decision will be based upon costing of the options in terms of tree value, works cost and the surrounding environment of the tree.

**If no:**
Inspect the tree prior to next power line pruning cycle to identify unforeseen growth and hazards.
Assessment of Regrowth Space

The Council Arborist will observe and record the rate of growth of species under the growing conditions, which prevail in the Municipality and apply these observations when determining the extent and frequency of pruning.

Council’s Parks Department has a list of more suitable species for planting under powerlines that is used to guide planting programs.

As part of the inspection of the Declared Area, the amount of clearance achieved during pruning is assessed to determine its suitability to the required clearance. Analysis of the clearance achieved is assessed in conjunction with such factors as species and soil type and rainfall rates to provide additional information on the adequacy of clearing cycles and clearances.

The responsible person assessing the vegetation will have a minimum qualification of AQF Level IV in arboriculture; this will ensure the assessor has basic knowledge in tree physiology and biology of the common species in the municipality.

Utilising this knowledge, the assessor will monitor the amount of regrowth for each species pruned. Tree pruning frequencies depending on the significance of the tree will be adjusted in light of these observed growth rates to achieve compliance with the Code. The formula used to calculate the amount of vegetation to be removed is

\[
\text{Clearance (m) = regrowth (m/year) X cycle (1 year)}
\]

Examples of this formula -

**Melaleuca linariifolia**
- regrowth 30cm per annum X 1 year = 30cm clear of the Clearance Space

**Angophora costata**
- regrowth 80cm per annum X 1 year = 80cm clear of the Clearance Space

**Fraxinus Raywood**
- regrowth 120cm per annum X 1 year = 120cm clear of the Clearance Space

The top 15 street tree species that require pruning for electric line clearance in this municipality are, in order of prevalence:

- Triadica (Sapium) sebiferum
- Callistemon viminalis
- Callistemon salignus
- Acer spp
- Melaleuca styphelioides
- Melaleuca linariifolia
- Tristaniopsis laurina
- Fraxinus Raywood
- Angophora costata
- Lophostemon confertus
- Corymbia maculata
- Corymbia eximia
- Pistacia chinensis
- Koelreuteria paniculata
- Jacaranda mimosifolia

Typically,
- Species in red are capable of rapid regrowth rates
- Species in black have moderate regrowth rates
- Species in green have slow regrowth rates and/or are unlikely to grow into the Clearance Space
Pruning to maintain the Clearance Space

Clearance pruning is undertaken by suitably qualified and trained Council personnel.

Hazardous trees identified during these routine inspections are programmed for pruning or removal and scheduled for according to their hazard potential.

All pruning works will be undertaken in accordance with industry Best Practice methods. Detailed assessment of the specific pruning requirements of each tree will be assessed and recorded during the initial inspection. Council’s crew or contractor will be directed to prune each tree in accordance with the work instructions issued by Council. The regrowth space required beyond the minimum recommended clearance space detailed within the Code will be forecast in accordance with species type, local conditions and pruning frequency.

Contractors and other staff working on behalf of Council shall at all times comply with the safe approach distances contained in the Electricity Safety (Installations) Regulations 2009. Council acknowledges its role of supervising staff and contractors to ensure that work is performed safely and consistently with the Regulations.

In the event that the safe approach distances cannot be maintained at any time work shall cease immediately and advice from the relevant power authority will be sought. This may involve shutdown or the use of live line workers with suppression of the auto reclose system.

As part of its normal contract reporting, Council will ensure that the Contractor has appropriately trained and inducted its employees are into these requirements.

Alternative methods that may be adopted to maintain the clearance space
In the unlikely event that compliance cannot be readily achieved by pruning, Council will implement a documented process of 6-monthly risk assessments on these trees while developing an alternative engineering solution in conjunction with the Distribution Business.

Where a significant tree is to be severely affected, or an affected person objects to the pruning or clearing of vegetation near powerlines, Council Officers will consult with the affected person to determine alternatives, such as removal and replanting with suitable species or alternative pruning methods. Where an affected person requests the relocation or provision of alternate services such as aerial bundle conductor, Council will refer the matter to the distribution company for further consideration.

Council may undertake a cost benefit analysis on a case by case basis where vegetation significance or public need dictates an alternative course should be pursued.

The following alternative methods may be adopted for maintaining clearance if a person objects to the methods proposed by Council:

- Reduced pruning cycle
- Removal/Replacement with suitable species (see Appendix 3 – Preferred street tree species under powerlines)
• Use of Aerial Bundled Cable
• Powerlines to be re-routed
• Undergrounding of powerlines
• Other engineering solutions

ii Specify the method for determining an additional distance that allows for cable sag and sway

Council will maintain minimum clearances in compliance with the clearance graphs in Schedule 2 of the Code (graphs 1, 2, 3 & 4 (LBRA) and 5 & 6 (HBRA)).

In the Declared Area uninsulated spans over 100m in LBRA or 45m in HBRA in length will require additional allowance for sag and sway. The number of spans affected is likely to be minimal and will be assessed and recorded in Council’s records for future reference. Where a span requiring additional allowance for sag and sway is identified the sag and sway allowances provided by the Distribution Business will be applied.

Council will liaise with the Distribution Business to identify any Uninsulated spans over 100m in LBRA or 45m in HBRA in length where sag and sway allowances will be required and make a map and list of these spans available to all relevant personnel and contractors. Council aims to complete this by the 2018 review of the Plan. Where the distribution business does not provide the required assistance, Council will liaise with ESV to resolve the issue.

9(3)(j) THE PROCEDURES TO BE ADOPTED IF IT IS NOT PRACTICABLE TO COMPLY WITH THE REQUIREMENTS OF AS 4373 WHILE CUTTING A TREE IN ACCORDANCE WITH THE CODE.

Conformance with AS4373-2007 Pruning of amenity trees (AS4373) requires observation of several factors when undertaking pruning.

These factors include
• Formative pruning of young trees
  o This is a critical requirement for trees under powerlines to develop canopy shapes that can be managed for Compliance when the tree matures.
• The amount and distribution of canopy removed
  o This is dictated by the Compliance requirements
  o The amount of canopy removed shall be the least amount required to achieve and maintain compliance, or to manage the tree in line with Clause 9(3)(i)(i) of this Plan and the canopy will be shaped to create a weight and canopy distribution as close to normal as possible.
• The size of the limb to which the pruning cut is made
• The angle of the final pruning cut

Council acknowledges that conformance with AS4373, especially in relation to the final pruning cut, cannot always be achieved when undertaking powerline pruning safely. Council requires that pruning conforms to AS4373 whenever safe to do so while also ensuring:
• safe approach distances are maintained
• a safe work environment when working at heights
• minimum clearance is achieved
• an affordable level of productivity.

In order to achieve pruning of acceptable quality, all pruning personnel, either Council employees or contractors, must have the following as a minimum –
• Formal training as outlined in 9(O) that incorporates modern tree pruning practices including awareness of AS4373 and natural target pruning principles.
• Project induction including awareness training in the Code of Practice and this Management Plan.

As part of Council’s normal contract management processes, pruning quality will be assessed and poor performance will be identified based on the standards in 9(3)(n). Normal contract management processes will be used to address poor performance, including contract meetings, increased compliance audits, remedial training and, where necessary, application of contract non-conformance penalties.

9(3)(k) A DESCRIPTION OF EACH ALTERNATIVE COMPLIANCE MECHANISM IN RESPECT OF WHICH THE RESPONSIBLE PERSON HAS APPLIED, OR PROPOSES TO APPLY, FOR APPROVAL UNDER CLAUSE 31 OF THE CODE.
Council does not intend to apply for any alternative compliance mechanisms at the time of preparation of this Plan.

9(3)(L)(I) The details of each approval for an alternative compliance mechanism that the responsible person holds
Council does not intend to apply for any alternative compliance mechanisms at the time of preparation of this Plan.

9(3)(L)(II) THE details of each approval for an alternative compliance mechanism that is in effect
Council does not intend to apply for any alternative compliance mechanisms at the time of preparation of this Plan.

9.(3)(M) A DESCRIPTION OF THE MEASUREMENTS THAT MUST BE USED TO ASSESS THE PERFORMANCE OF THE RESPONSIBLE PERSON UNDER THE MANAGEMENT PLAN:
The following criteria will be used to assess Council’s performance under this Plan:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Measurement method</th>
<th>KPIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall compliance with the Code</td>
<td>• Number of trees found in breach of the Code during the annual survey</td>
<td>• Achieve a year on year reduction in identified breaches</td>
</tr>
<tr>
<td>Completion of the annual inspection and pruning program</td>
<td>• Assessment records • Audit</td>
<td>• 100% on-time completion of program</td>
</tr>
<tr>
<td>Minimisation of fire risk and maintain continuity of supply through compliance with the Code</td>
<td>• Records of annual inspection of Exceptions (if necessary) recorded in</td>
<td>• 100% on-time completion of reporting</td>
</tr>
<tr>
<td>Criteria</td>
<td>Measurement method</td>
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<tr>
<td>Safety of public and workers</td>
<td>• Incident reports</td>
<td>• No reportable incidents</td>
</tr>
<tr>
<td>Quality of Work (Pruning Techniques)</td>
<td>• Audit of staff qualifications and training</td>
<td>• 100% completion of Contract benchmarks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 100% Compliance with 9(3)(n) of this Plan</td>
</tr>
<tr>
<td>Documentation &amp; Notification of Works</td>
<td>• Customer Requests System internal reports</td>
<td>• 100% compliance with notification requirements</td>
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<tr>
<td>Number of complaints received regarding the</td>
<td>• Customer Requests System internal reports</td>
<td>• No year-on-year increase in requests received</td>
</tr>
<tr>
<td>pruning work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of substantiated notifications of</td>
<td>• Reports received and actioned</td>
<td>• No year-on-year increase in requests received</td>
</tr>
<tr>
<td>breaches of the Code from DB</td>
<td>• Recorded in works management system</td>
<td></td>
</tr>
<tr>
<td>Number of substantiated requests for pruning</td>
<td>• Customer Requests System internal reports</td>
<td>• No year-on-year increase in requests received</td>
</tr>
<tr>
<td>from residents</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Records of the above will be kept at the Council Office for a minimum of 5 years.

Council’s supervisory personnel responsible for implementing the relevant sections of the Plan are advised of the performance standards under the Plan at the annual briefing following the seasonal pruning program and these performance standards are assessed.

**9(3)(n) DETAILS OF THE AUDIT PROCESSES THAT MUST BE USED TO DETERMINE THE RESPONSIBLE PERSON’S COMPLIANCE WITH THE CODE:**

Council’s Arborist coordinator conducts random audits of pruning works as each pruning cycle is completed based on the standards in this section to ensure that all requirements outlined in this Plan are being met and any non-conformity with the Code is identified and promptly resolved. Audits are recorded in Council’s ROAM system. Non-compliances identified in the audit will be rectified within 5 working days.

The audit results are discussed at the monthly team meetings and saved in Council’s records database.

Where assistance is required by others such as the Distribution Business, then a consultation process shall be used to assist in attending to the non-compliance as
Electric Clearance Management Plan 2020-2021

soon as possible.

Following investigation of a non-compliance and the establishment of the cause, the importance of compliance with this Plan and the Code will be drawn to the attention of the persons concerned.

- On the first occasion they will be given verbal instruction and the incident recorded on file.
- If a second occasion occurs the notification shall be in writing, and the incident recorded on file.
- After a third occasion, the training program will be reviewed and more serious action considered if it is the same offender.

All contractors or personnel undertaking line clearance pruning will be audited on the following criteria -

**Statutory Clearance of Vegetation**

*100 % compliance*

All trees pruned must comply with the clearance requirements as stipulated in the tender document and the current Code of Practice unless a specific management option has been approved for that tree, such as applying Clause 5 or 6 of the Code of Practice.

Council’s objective is to achieve a 1-year cycle. If this clearance results in the aesthetics of the tree being dramatically altered, or the tree permanently damaged, the Manager must be notified. Arborist coordinator will then conduct a site inspection and make the final decision as to the correct clearance for the tree, or if removal is the only option.

**Local Outcomes and Requirements**

*95 % compliance*

No branches that have been pruned are to be left in the tree’s canopy; these are commonly known as hangers.

**Pruning Techniques**

*95% compliance*

A minimum of 95% of final pruning cuts must be compliant with AS 4373 Pruning of amenity trees and best management practices on each tree pruned.

**Site Condition**

*95 % compliance*

All sites must be left tidy with no debris visible.
Record keeping

All records will be stored in Council’s ROAM system.

OHS

100% compliance

Any breach of OHS regulations or contractual requirements, including near misses, to be recorded and brought to the attention of Council immediately in the case of Lost Time Injury, and within 24 hours for all other incidents.

9(3)(O) THE QUALIFICATIONS AND EXPERIENCE THAT THE RESPONSIBLE PERSON MUST REQUIRE OF THE PERSONS WHO ARE TO CARRY OUT THE PRUNING OR REMOVAL OF TREES:

The Council shall ensure that all trees are pruned according to industry Best Practice as a minimum standard. They shall further ensure that all contractors and employees undertaking powerline clearance as Authorised Persons are appropriately qualified and trained and holding appropriate certificates for both themselves and their equipment that legally entitles them to undertake the work. A record of the sighting of these documents shall be kept by the Council and shall be updated annually.

The qualifications required by Council are identified in Appendix 4.

Council’s Contractors must also follow the minimum distances specified in the Electricity Safety (Installation) Regulations 2009 (specifically outlined in regulation 318 and 319) when undertaking tree clearing works and comply with the Safe Approach Distances as outlined in the Blue Book. Notification of affected parties will also be undertaken as per the requirements of the Code.

All personnel undertaking pruning will be made aware of the pruning quality requirements in 9(3)(j) during worksite induction.

Contractors’ or Council personnel found to not have the relevant training will be excluded from undertaking any work required by this Plan until all training is completed and verified by Council.

9 (3) (P) NOTIFICATION AND CONSULTATION PROCEDURES

Council understands the importance of providing notification of programmed tree pruning works to affected persons.

Council will make available the tree pruning programme to all residents which can be obtained on the Council website.

Council will place advertisements on its website and in the local paper prior the trees being pruned in each area.
Notifications will be made no less than 14 and no more than 60 days prior to the commencement of works in the local newspaper, Council website and Council newsletter.

In the event that works cannot be completed within the notification timeframe, notification will be repeated based on the amended program timeframe.

The typical form of notification is as follows -

**ELECTRICAL WIRE CLEARANCE PROGRAM**

Wodonga Council is commencing its annual street tree pruning schedule to meet legislative requirements regarding proximity to overhead power lines. There will be no disruption to power, however heavy equipment may be on site. Works are expected to be completed by late April.

For further information, please phone Wodonga Council’s Parks Team Leader on (02) 6022 9300.

By maintaining the annual inspection and cutting program and allowing for growth for individual species no urgent pruning or clearing should be required. In the case of urgent cutting or removal being required, Council will ensure that the process identified under “Emergency Cutting and Pruning” is followed, in accordance with the requirements of the Code.

**9(3)(Q) DISPUTE RESOLUTION PROCEDURES.**

The following dispute resolution procedure is in place for internal and external disputes that may arise during the period of this plan;

a. Internal Dispute Resolution

For the purposes of this plan a dispute is a situation where the normal processes of consultation and negotiation relating to trees affected by powerlines fail to provide a satisfactory result. In the case of a dispute, Council’s Complaint Handling Policy is available at Council’s principle office and on the Council website.

b. External Dispute Resolution

If Council has been unsuccessful in resolving the dispute the person will be referred to the Energy and Water Ombudsman of Victoria (EWOV) and escalation to Energy Safe Victoria if required.

**PART 2 – CLEARANCE RESPONSIBILITIES**

**DIVISION 1 – ROLE OF RESPONSIBLE PERSONS**

**9(4) EXCEPTION TO MINIMUM CLEARANCE SPACE FOR STRUCTURAL BRANCHES AROUND INSULATED LOW VOLTAGE ELECTRIC LINES**

Council does not apply currently this exception.
9(5) EXCEPTION TO MINIMUM CLEARANCE SPACE FOR SMALL BRANCHES AROUND INSULATED LOW VOLTAGE ELECTRIC LINES

Council does not apply currently this exception.

9(6) EXCEPTION TO MINIMUM CLEARANCE SPACE FOR STRUCTURAL BRANCHES AROUND UNINSULATED LOW VOLTAGE ELECTRIC LINES IN LOW BUSHFIRE RISK AREAS

Council does not apply currently this exception.

(7) NOT APPLICABLE

(8) RESPONSIBLE PERSON MAY CUT OR REMOVE HAZARD TREE

Council will undertake emergency cutting and pruning activities of Hazard Trees.

For the purpose of this Plan, a hazard tree is a tree that

- has or is likely to fail and will contact an electric line if this occurs
- regrowth into clearance space before next scheduled visit
- vegetation in HBRA found in clearance after declaration

The identification of Hazard Trees is determined through Council’s inspection program and is actioned under the urgent works provision.

During the inspection of the Declared Area, the Assessor will also inspect areas adjacent to the clearance space or regrowth space for trees that could become a hazard to the lines under adverse weather conditions.

In a situation where a tree is identified that is likely to fall onto or otherwise come into contact with an electric line, Council will assess the tree using a suitably qualified arborist (see Appendix 4).

In situations where the arborist’s assessment confirms the likelihood of contact with the electric line having regard to foreseeable local conditions including weather and ground instability, Council will remove or cut the hazard tree as per the Code. In the event of a hazard tree being identified as a culturally significant, environmentally significant or habitat tree, Council will where possible minimise the impact on the tree or fauna as previously outlined, to ensure compliance with the requirements of the code, the schedule to the code or to make an unsafe situation safe.

After undertaking the work, Council’s Team Leader Parks and Gardens will be required to notify using form in Appendix 2;

- All affected persons and
- The occupier of the land on which the tree was cut or removed and
- If a tree was removed – the owner of the land on which the tree was removed

Records of all urgent works and completion of the notification requirement will be recorded in the ROAM System;
i. Where and when the cutting or removal was undertaken
ii. Why the cutting or removal was required
iii. The last inspection of the section of the electric line where the cutting or removal was required
iv. All records will be filed at the Council office and kept for a minimum of 5 years.

The Electricity Safety Act 1998 (Victoria) Section 86B provides that a municipal council must specify, within its Municipal Fire Management Plan (MFMP):

(a) procedures and criteria for the identification of trees that are likely to fall onto, or come into contact with, an electric line (hazard trees); and
(b) procedures for the notification of responsible persons of trees that are hazard trees in relation to electric lines for which they are responsible.

City of Wodonga’s Municipal Fire Management Plan (MFMP) refers to this Electric Line Clearance Management Plan in relation to Hazard trees.

PART 2 – CLEARANCE RESPONSIBILITIES

DIVISION 2 – MANNER OF CUTTING AND REMOVING TREES

(9) SEE PART 1 9(3)(J)

(10) CUTTING OR REMOVAL OF:

- NATIVE TREES
- TREES LISTED IN A PLANNING SCHEME TO BE OF ECOLOGICAL, HISTORICAL OR AESTHETIC SIGNIFICANCE
- TREES OF CULTURAL OR ENVIRONMENTAL SIGNIFICANCE MUST BE MINIMISED

Any works to be carried out on significant trees that require excessive pruning or trees that require removal in order to comply with the Code are reported to a suitably qualified Council arborist (see Appendix 4) who is familiar with Council’s Planning Scheme to determine a suitable course of action to preserve the tree if cost-effective and safe to do so. This may include an increased inspection or pruning cycle.

All pruning will take place in accordance with industry Best Practice and where practicable, pruning may be undertaken using Elevated Work Platforms (EWP) or other similar methods in an effort to minimise overall site damage. Council will as far as practicable, restrict cutting or removal of native trees or of cultural or environmental significance to the minimum extent necessary to ensure compliance with the requirements of the Code, the schedule to the Code or to make an unsafe situation safe.

Please see also 9(3) g and 9(3) h of this Plan.

(11) CUTTING OR REMOVING HABITAT FOR THREATENED FAUNA

There are no known trees of habitat significance for rare or endangered species listed in Council’s Declared Area within the vicinity of electric lines that require pruning or clearing to ensure compliance with the Code of Practice. The presence of
any previously unidentified tree of significance will be reviewed as part of the annual review of this Plan using the processes and resources outlined in 9(3)(g).

If a tree with or likely to contain habitat hollows, is identified by Council or its Contractors as being non-compliant, the tree will be individually assessed to ensure that pruning is minimised and the environmental value of the tree is preserved. This may include an increased inspection or pruning cycle. If Council intends to cut or, on the advice of a suitably qualified arborist (see Appendix 4), remove a tree that has been identified as habitat for fauna listed as -

a) threatened in accordance with section 10 of the Flora and Fauna Guarantee Act 1988 or
b) listed in the Threatened Invertebrate Fauna List with a conservation status in Victoria of "vulnerable", "endangered" or "critically endangered" or
c) listed in the Threatened Vertebrate Fauna List with a conservation status in Victoria of "vulnerable", “endangered” or “critically endangered.”

Council will undertake cutting or removal of the tree at a time when no eggs or young are present in any nest or hollow that would indicate the breeding season for that species. Where it is not practicable to undertake cutting or removal of the tree outside of the breeding season for that species, translocation of the fauna will be undertaken wherever practicable.

All records will be filed in Council’s document management system and kept for a minimum of 5 years.

In exceptional circumstances, fauna may be required to be relocated. This is not Council’s preferred option and will be used only as a last resort, for example, if the tree is assessed to be a hazard tree.

PART 2 – CLEARANCE RESPONSIBILITIES
DIVISION 3 – NOTIFICATION, CONSULTATION AND DISPUTE RESOLUTION

(16) RESPONSIBLE PERSON MUST PUBLISH NOTICE BEFORE CUTTING OR REMOVING CERTAIN TREES

Please see 9(3) p.

PART 2 – CLEARANCE RESPONSIBILITIES
DIVISION 4 – ADDITIONAL DUTIES OF RESPONSIBLE PERSONS

(20) DUTY RELATING TO THE SAFETY OF CUTTING OR REMOVAL OF TREES CLOSE TO AN ELECTRIC LINE

Where Council is unsure of the safety of pruning or removing a tree, they will consult with the relevant Distribution Business, or if the tree affects a railway supply line, the relevant Railway Operator, to develop an appropriate action plan to mitigate the hazard or bring the tree into compliance with the Code.

The contact details of the relevant organisations are provided at the beginning of this Plan.
PART 3 – MINIMUM CLEARANCE SPACES
DIVISION 2 - ALTERNATIVE COMPLIANCE MECHANISMS

(31) APPLICATION FOR APPROVAL OF ALTERNATIVE COMPLIANCE MECHANISM

Council is not and does not currently intend to use any alternative compliance mechanisms.

If Council should apply to Energy Safe Victoria for approval to use an alternative compliance mechanism in respect of a span of an electric line or a class of spans, the application will include details of:

(i) the alternative compliance mechanism; and
(ii) a written confirmation from the Distribution Business or alternative qualified provider that includes
   a) the procedures to be adopted for commissioning, installing, operating, maintaining and decommissioning the alternative compliance mechanism; and
   b) the published technical standards that will be complied with when commissioning, installing, operating, maintaining and decommissioning the alternative compliance mechanism; and
(iii) the location of the span; or describe the class; and
(iv) the minimum clearance space that the applicant proposes is to be applied in relation to the span, or class of spans, in respect of which the application is made; and
(v) a copy of the formal safety assessment prepared by the Distribution Business or an alternative qualified provider under clause 32.
(vi) a copy of the written agreement of the owner or the operator of the span; or the owner or the operator of each span that belongs to that class.

(32) FORMAL SAFETY ASSESSMENT OF ALTERNATIVE COMPLIANCE MECHANISM

Council is not and does not currently intend to use any alternative compliance mechanisms.

As Council Officers are not qualified to provide a formal safety assessment, this will be prepared by the Distribution Business or an alternative qualified provider and will comply with the requirements as defined in Schedule1, part 3, Division 2, and Clause 1 of the Code.
APPENDIX 1 – DECLARED AREA MAP

Red-shaded areas are Declared HBRA. Blue-shaded areas are Declared LBRA.

The majority of the Declared Area managed by Council is rated Low Bushfire Risk (LBRA) based on the CFA Fire Hazard Ratings maps 2013 Edition. Red-shaded areas are HBRA. Blue-shaded areas are LBRA.

The HBRA areas have been reviewed and overhead powerlines are only present in the following locations –
- Day St – 1 span of open wire LV
- Warwick Road – 8 spans of open wire HV/LV
**APPENDIX 2 - Notice of Urgent Cutting or Removal of Tree from unexpected regrowth or other reasons as per Clause 17 (2) (a), (b) and Clause 3 (a),(b),(c) of Electricity Safety (Electric Line Clearance) Regulations 2015**

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**NOTICE OF URGENT TREE CUTTING OR REMOVAL**

Dear Resident,

The tree adjacent to your property has required urgent pruning or removal to maintain electricity safety. The works have been undertaken in accordance with the Electricity Safety (Electric Line Clearance) Regulations 2015.

Address .................................................................

Works reference # .........................................................

Date of works .............................................................

<table>
<thead>
<tr>
<th>Reason for works</th>
<th>☐ Greater than expected regrowth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ Tree has fallen or been damaged</td>
</tr>
<tr>
<td></td>
<td>☐ An arborist has assessed the tree as an imminent risk of contacting the powerlines</td>
</tr>
</tbody>
</table>

If you have any queries about the works undertaken, please contact Council on 02 6022 9300.

Date ................. Council Representative .........................
APPENDIX 3 – Preferred street tree species under powerlines

Preferred Evergreen Species

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eucalyptus eximia</em> ‘Nana’</td>
<td>Yellow Bloodwood</td>
</tr>
<tr>
<td><em>Corymbia ficifolia</em> ‘Dwarf red’</td>
<td>Red Flowering Gum</td>
</tr>
<tr>
<td><em>Callistemon viminalis</em> ‘Hanna Ray’</td>
<td>Weeping Red Bottlebrush</td>
</tr>
<tr>
<td><em>Callistemon</em> ‘Kings Park Special’</td>
<td>Kings Park Special</td>
</tr>
<tr>
<td><em>Melaleuca linariifolia</em></td>
<td>Snow in Summer</td>
</tr>
<tr>
<td><em>Angophora hispida</em></td>
<td>Dwarf Apple Box</td>
</tr>
<tr>
<td><em>Ceratonia siliqua</em></td>
<td>Carob Tree</td>
</tr>
<tr>
<td><em>Magnolia grandiflora</em> ‘Little Gem’</td>
<td>Dwarf Magnolia</td>
</tr>
</tbody>
</table>

Preferred Deciduous Species

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acer platanoidies</em> ‘Crimson Sentry’</td>
<td>Crimson Sentry</td>
</tr>
<tr>
<td><em>Acer buergerianum</em></td>
<td>Trident Maple</td>
</tr>
<tr>
<td><em>Lagerstroemia indica</em></td>
<td>Crepe Myrtle</td>
</tr>
<tr>
<td><em>Fraxinus excelsior</em> ‘Aurea’</td>
<td>Golden Ash</td>
</tr>
<tr>
<td><em>Gleditsia triacanthos</em> ‘Elegantissima’</td>
<td>Elegant Honey Locust</td>
</tr>
<tr>
<td><em>Pistachio chinensis</em></td>
<td>Chinese Pistachio</td>
</tr>
<tr>
<td><em>Pyrus fauriei</em> ‘Westwood’</td>
<td>Asian Pear/Korean Sun</td>
</tr>
</tbody>
</table>

APPENDIX 4 – Training Matrix for personnel working near powerlines

City of Wodonga identifies personnel training requirements and records of these are kept with the people in workplaces team.

<table>
<thead>
<tr>
<th>Role</th>
<th>Qualification(s)</th>
<th>Licences/Training/Refresher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree worker</td>
<td>UET20312 Certificate II in ESI – Powerline Vegetation Control</td>
<td>• Safe Approach Distances – Vegetation Work</td>
</tr>
<tr>
<td></td>
<td>Certificate III Arboriculture or equivalent</td>
<td>• Safe Approach Distances to SWER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provide cardiopulmonary resuscitation (HLTAID001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provide First Aid on and ESI environment (UETTDRRF10B)</td>
</tr>
<tr>
<td>Tree pruning and removal near powerlines</td>
<td></td>
<td>• Elevated Work Platforms High Risk Work Licence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chipper competency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chainsaw Level 1 certificate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Manual Handling Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Noise Conservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sun Smart training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Heavy rigid truck licence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Construction Induction (white card)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Traffic management – Apply Traffic Control Plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Traffic management – Select and modify Traffic Control Plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Traffic management – Design and Modify Traffic Control Plans</td>
</tr>
<tr>
<td>Role</td>
<td>Qualification(s)</td>
<td>Licences/Training/Refresher</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Supervisor                    |                                                                                  | • Safe Approach Distances – Vegetation Work  
• Safe Approach Distances to SWER  
• Provide cardiopulmonary resuscitation (HLTAID001)  
• Provide First Aid on and ESI environment (UETTDRRF10B)  
• Elevated Work Platforms High Risk Work Licence  
• Chipper competency  
• Construction Induction (white card)  
• Chainsaw Level 1 certificate  
• Manual Handling Training  
• Noise Conservation  
• Sun Smart training  
• ROAM computer software  
• Heavy rigid truck licence  
• Traffic management – Apply Traffic Control Plans  
• Traffic management – Select and modify Traffic Control Plans  
• Traffic management – Design and Modify Traffic Control Plans  
• Experienced and competent in the supervision of a large group of employees. |
| Tree pruning and removal near powerlines | UET20312 Certificate II in ESI – Powerline Vegetation Control  
Certificate III Arboriculture or equivalent |                                                                                  |
| Arborist                      | Certificate III Arboriculture                                                     | • First Aid Level 2 certificate  
• Construction Induction (white card)  
• Sun Smart training  
• ROAM computer software  
• Driver’s licence |
| Line clearance assessment     |                                                                                  |                                                                                  |
| Assessing Arborist (Suitably qualified arborist) | Certificate IV Arboriculture + Assess Trees Module or equivalent | • First Aid Level 2 certificate  
• Construction Induction (white card)  
• Sun Smart training  
• ROAM computer software  
• Driver’s licence  
• 5 years industry experience |
APPENDIX 5 – CLEARANCE TABLES

These tables and graphs are extracts from Schedule 2 the Electricity Safety (Electric Line Clearance) Regulations 2015 and are included for information. The Regulations are the primary source of this information and should be preferred.

GRAPH 1—INSULATED ELECTRIC LINES IN ALL AREAS

Graph 1 Formula
The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 24 applies is calculated is as follows:

For $0 < SD \leq 40$, $AD = 300$ mm
For $40 < SD \leq 100$, $AD = 300 + ((SD - 40) \times 10)$
For $100 < SD$, $AD = 900$ mm

Where:
SD = Span Distance
AD = Applicable Distance

Notes to Graph 1
1. The applicable distance includes allowances for sag and sway of the cable.
2. The minimum clearance space for a span of an electric line to which this Graph and clause 24 apply is partially illustrated in Figures 1, 2 and 3.
3. The applicable distance for the first and last sixths of a span of an electric line to which clause 24 applies is 300 millimetres.
**Graph 2 Formula**

The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 25 applies is calculated is as follows:

For $0 < SD \leq 45$, $AD = 1000$ mm
For $45 < SD \leq 100$, $AD = 1000 + ((SD - 45) \times (1500 ÷ 55))$
For $100 < SD$, $AD = 2500$ mm

*Where:*

- SD = Span Distance
- AD = Applicable Distance

**Notes to Graph 2**

1. The applicable distance includes allowances for sag and sway of the cable for a span up to and including 100 metres in length.
2. For a span longer than 100 metres, the applicable distance must be extended by an additional distance to allow for sag and sway of the cable. This is done by adding that distance to the applicable distance (see clause 25(2)(b)).
3. A distribution company, or an owner or operator of a railway supply network or a tramway supply network, must assist a Council, if requested, by determining the additional distance that allows for sag and sway of the cable (see clause 21(2)).
4. The minimum clearance space for a span of an electric line to which this Graph and clause 25 apply is partially illustrated in Figures 1 and 4.
5. The applicable distance for the first and last sixths of a span of an electric line to which clause 25 applies is 1000 millimetres.
**GRAPH 3—UNINSULATED HIGH VOLTAGE ELECTRIC LINE (OTHER THAN A 66 000 VOLT ELECTRIC LINE) IN LOW BUSHFIRE RISK AREA**

Clauses 3 and 26

**Graph 3 Formula**

The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 26 applies is calculated is as follows:

For $0 < SD \leq 45$, $AD = 1500$ mm
For $45 < SD \leq 100$, $AD = 1500 + ((SD - 45) \times (1000 \div 55))$
For $100 < SD$, $AD = 2500$ mm

*Where:*
SD = Span Distance
AD = Applicable Distance

**Notes to Graph 3**

1. The applicable distance includes allowances for sag and sway of the cable for a span up to and including 100 metres in length.
2. For a span longer than 100 metres, the applicable distance must be extended by an additional distance to allow for sag and sway of the cable. This is done by adding that distance to the applicable distance (see clause 26(2)(b)).
3. A distribution company, or an owner or operator of a railway supply network or a tramway supply network, must assist a Council, if requested, by determining the additional distance (see clause 21(2)).
4. The minimum clearance space for a span of an electric line to which this Graph and clause 26 apply is partially illustrated in Figures 1 and 3.
5. The applicable distance for the first and last sixthths of a span of an electric line to which clause 26 applies is 1500 millimetres.
Graph 4 Formula

The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 27 applies is calculated is as follows:

For $0 < SD \leq 45$, $AD = 2250$ mm

For $45 < SD \leq 100$, $AD = 2250 + ((SD - 45) \times (1250 \div 55))$

For $100 < SD$, $AD = 3500$ mm

Where:

$SD =$ Span Distance

$AD =$ Applicable Distance

Notes to Graph 4

1. The applicable distance includes allowances for sag and sway of the cable for a span up to and including 100 metres in length.

2. For a span longer than 100 metres, the applicable distance must be extended by an additional distance to allow for sag and sway of the cable. This is done by adding that distance to the applicable distance (see clause 27(2)(a)(ii)).

3. A distribution company, or an owner or operator of a railway supply network or a tramway supply network, must assist a Council, if requested, by determining the additional distance (see clause 21(2)).

4. The minimum clearance space for a span of an electric line to which this Graph and clause 27 apply is partially illustrated in Figures 1 and 5.

5. The applicable distance for the first and last sixthths of a span of an electric line to which clause 27 applies is 2250 millimetres.
**Graph 5 Formula**

The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 28 applies is calculated is as follows:

For $0 < SD \leq 45$, $AD = 1500 \text{ mm}$

For $45 < SD \leq 500$, $AD = 1500 + ((SD - 45) \times (500 \div 303))$

For $500 < SD$, $AD = 2250 \text{ mm}$

*Where:*

$SD = \text{Span Distance}$

$AD = \text{Applicable Distance}$

**Notes to Graph 5**

1. The applicable distance must be extended by an additional distance to allow for sag and sway of the cable. This is done by adding that distance to the applicable distance (see clause 28(2)(a)).

2. A distribution company, or an owner or operator of a railway supply network or a tramway supply network, must assist a Council, if requested, by determining the additional distance (see clause 21(2)).

3. The minimum clearance space for a span of an electric line to which this Graph and clause 28 apply is partially illustrated in Figures 1 and 5.

4. The applicable distance for the first and last sixths of a span of an electric line to which clause 28 applies is 1500 millimetres.
**Graph 6 Formula**

The formula by which the applicable distance for the middle two thirds of a span of an electric line to which clause 29 applies is calculated is as follows:

For $0 < SD \leq 45$, $AD = 2250$ mm

For $45 < SD \leq 350$, $AD = 2250 + ((SD - 45) \times (750 \div 305))$

For $350 < SD$, $AD = 3000$ mm

Where:
- $SD$ = Span Distance
- $AD$ = Applicable Distance

**Notes to Graph 6**

1. The applicable distance must be extended by an additional distance to allow for sag and sway of the cable. This is done by adding that distance to the applicable distance (see clause 29(2)(a)).

2. A distribution company, or an owner or operator of a railway supply network or a tramway supply network, must assist a Council, if requested, by determining the additional distance (see clause 21(2)).

3. The minimum clearance space for a span of an electric line to which this Graph and clause 29 apply is partially illustrated in Figures 1 and 5.

4. The applicable distance for the first and last sixths of a span of an electric line to which clause 29 applies is 2250 millimetres.
FIGURE 1—PLAN VIEW OF ELECTRIC LINES IN ALL AREAS

Clauses 24, 25, 26, 27, 28 and 29,
Graphs 1, 2, 3, 4, 5 and 6

![Plan View of Electric Lines](image)

FIGURE 2—INSULATED ELECTRIC LINES IN ALL AREAS

Clause 24, Graph 1

![Insulated Electric Lines](image)

NOT TO SCALE
FIGURE 3—INSULATED ELECTRIC LINES IN ALL AREAS AND UNINSULATED HIGH VOLTAGE ELECTRIC LINES (OTHER THAN 66 000 VOLT ELECTRIC LINES) IN LOW BUSHFIRE RISK AREAS

Clauses 24 and 26, Graphs 1 and 3

FIGURE 4—UNINSULATED LOW VOLTAGE ELECTRIC LINE IN A LOW BUSHFIRE RISK AREA

Clause 25, Graph 2
FIGURE 5—UNINSULATED 66 000 VOLT ELECTRIC LINE IN A LOW BUSHFIRE RISK AREA AND UNINSULATED ELECTRIC LINE IN A HAZARDOUS BUSHFIRE RISK AREA

Clauses 27, 28 and 29, Graphs 4, 5 and 6

NOT TO SCALE