APPENDIX 4

TREE INSPECTION WORK INSTRUCTION

Activity: The process of undertaking (1), recording (2), notifying the customer (3), and programming works (4), associated with the inspection of trees.

Description and Purpose: To standardise the process by which the City of Greater Bendigo undertakes, records, notifies the customer following, and programs works following; the inspection of trees located on land managed by the City of Greater Bendigo.

Performance Guideline:

<table>
<thead>
<tr>
<th>Forms Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Helmet</td>
</tr>
<tr>
<td>☐ Boots</td>
</tr>
<tr>
<td>☐ Eye</td>
</tr>
<tr>
<td>☐ Vest</td>
</tr>
<tr>
<td>☐ Gloves</td>
</tr>
<tr>
<td>☐ Hearing</td>
</tr>
<tr>
<td>☐ Breathing</td>
</tr>
<tr>
<td>☐ Harness</td>
</tr>
</tbody>
</table>

Sun Protection: ☐ Broad Brimmed hat ☐ UV rated clothing ☐ SPF30+ Sunscreen ☐ Tinted safety glasses with adequate UV protection

Coronial Actions 1-8

SCOPE

A tree inspection is the assessment of a tree by a suitably trained and qualified Arborist to determine the ‘condition’ of the tree for viability. The inspection of the tree is recorded electronically and any works deemed necessary are either undertaken, or allocated a timeframe for completion at a later date.

A request for an inspection of a tree may be made by anyone and at any time, either as an individual or on behalf of a particular Organisation. This process is commonly referred to as ‘reactive’ as the tree inspection is in response to a request. The request is made by contacting the City of Greater Bendigo via phone, mail, email, internet or in person.

Once recorded, the investigation of a request for a tree to be inspected is required to occur within a particular timeframe according to the Organisation’s Customer Service Charter. Refer to the Table 1 in ‘Activity 4’ (page 3) for more information.

A ‘proactive’ tree inspection occurs when a tree investigation occurs without the involvement of a specific individual request to do so. This usually occurs in association with a formal tree inspection program.

Note: In all situations discussed herein all individuals engaged to undertake a particular service, must have obtained the qualifications and/or training applicable to the service for which they have been engaged.

DEFINITIONS

What is a ‘Tree Defect’?
A tree ‘Defect’ is a structural abnormality within any part of a tree. The size of the tree, the size of the part of the tree, the likelihood of failure of the tree or part of the tree, and the frequency of the ‘Target’ are all factors in determining the level of risk associated with a particular tree ‘Defect’.

What is a Target?
A target can be a person, vehicle, building, or a place where people gather such as a park bench, or picnic table, in the vicinity of a particular tree.

Typical tree Defects include, but are not limited to;
• dead trees,
• dead branches,
• cracks,
• weak branch or stem unions,
• decay, cankers, root
• broken branches
• included bark
• dead or damaged roots
• structural imbalance

There are three recommended options for correcting the problem;
1. remove or reduce the target,
2. modify the tree and/or its conditions, or
3. remove the tree.

TREE RISK ASSESSMENT LEVELS (1-3):

Three Levels of Tree Inspection (considered to be industry best practice) apply to the inspection of trees by City of Greater Bendigo staff. These are as follows;

- **Level 1: Limited Visual Inspection** – a fast but non-comprehensive method for viewing large populations of trees. The tree is typically assessed from one perspective (usually whilst on the move) with the aim of identifying trees with imminent and/or probable likelihood of failure.

- **Level 2: Basic Assessment** – a standard assessment typically conducted from ground level using a method adapted from Visual Tree Assessment (Matheck & Breloer 1994). A typical Level 2 assessment;
  - Starts at the base of the tree looking for damaged roots or abnormal trunk flare.
  - Moving up the trunk observing any indication of decay or cavities.
  - Assess the major scaffold limbs for cracks or other damage.
  - Finally assess the general canopy including smaller branches and foliage for pests or disease.
  - Binoculars and sounding hammers are typical tree assessment tools for use at this level.

- **Level 3: Advanced Assessment** – normally occurs on trees that require further assessment or investigation beyond Level 2. This can include;
  - Aerial inspections and the use of decay detection devices.
  - The use of structural integrity assessment testing methods.
  - The engagement of a Consulting Arborist where specialised equipment is deemed necessary.
  - A Tree Risk Assessment Calculation Tool, where a more advanced tree risk, and target evaluation is required.
  - Review of the tree history.

Level 3 assessments are generally recommended for larger trees, with the likelihood of having significant structural or health ‘defects’, and that are located in areas considered to have a significantly high ‘target’.

CITY OF GREATER BENDIGO TREE INSPECTION REQUEST PROCESS

**Activity 1: Undertaking a tree inspection:**

A Level 1 Tree Inspection (Limited Visual Inspection) is required to be performed by an employee with a minimum qualification of Diploma (Certificate V) Arboriculture. This will typically be performed along rural roadways where high numbers of informal tree populations occur.

A Level 2 Tree Inspection (Basic Assessment) is required to be performed;
- By an employee with a qualification of Certificate III or Certificate IV Arboriculture, where;
  - they have been engaged to perform standard proactive tree pruning and/or tree removal works, or
  - they have been engaged to perform standard emergency response tree pruning and/or tree removal works.

*Note: a Certificate III or IV Arborist is always under the (direct or indirect) supervision of an Arborist with a Certificate V (Diploma) level qualification.*
An employee with a minimum qualification of Diploma (Certificate V) Arboriculture, where;

c. they have been engaged in an ‘Inspections Arborist’ capacity to undertake the inspection of trees - via Customer Requests,
d. they have been engaged to perform the inspection of trees via - a Proactive Urban Tree Inspection Program (see description below),
e. another Arborist has requested either a second opinion, or an inspection by a more qualified Arborist, or
f. they have been engaged in a capacity to act as a referral agent for internal business units.

The Arborist undertaking a tree inspection is required to use an electronic device compatible with a mobile broadband connection for operating the following software programs;

- Conquest Mobile - for recording tree inspection information and ‘Tree Defects’,
- Pozi App - for recording tree inspection information and completing ‘Tree Defects’,
- Pathway - for the undertaking of External Customer Requests Tree Inspection duties, and
- Exponare - the global imagery system (GIS) for mapping and positional location.

*Refer to Tree Risk Assessment Levels (3) above for escalating tree assessment requirements.

**Activity 2: Recording a tree inspection:**

A tree inspection undertaken by an employee engaged for Arboriculture Technician (Level III or Level IV) duties is required to be recorded in the field using an electronic device compatible for operating a specially designed Tree Management App. The information recorded is required to be uploaded to the main asset database Conquest at the end of each working day. This ensures that each tree inspection is being electronically recorded to the relevant tree asset.

A tree inspection undertaken by an employee engaged for Inspections Arborist (Level V) duties is required to be recorded in the field using an electronic device compatible for operating Conquest Mobile, along with other tree asset management software systems. The tree inspection information recorded is required to be uploaded to the main asset database Conquest at the end of each working day. This ensures that each tree inspection is being electronically recorded to the relevant tree asset, including the addition of a ‘Works Defect’ (where relevant).

**Activity 3: Notifying the customer regarding a tree inspection:**

The Tree Inspections Officer engaged for the undertaking of Customer Request Tree Inspections is required to notify the ‘client’ regarding the outcome, or status of an investigation into a particular tree related request. This is required to occur on the day of inspection, or as soon afterwards as is practical. Several notification options exist to the Tree Inspecting Officer including:

- a formal letter for mailing out,
- a formal or semi-formal email message,
- phone conversation or message, or
- meeting to discuss the matter in person.

The City of Greater Bendigo, Customer Service Charter determines the timeframes for investigation, and for response timeframes and types. Ongoing tree inspection investigations may require the customer to be contacted on multiple occasions.

*Refer to the Table 1 in ‘Activity 4’ (page 3) for more information regarding tree inspection request response timeframes.

**Activity 4: Programming ‘Works Defects’ associated with a tree inspection:**

The term ‘Defect’ is used to describe both; a structural or health related anomaly within a tree or ‘Tree Defect’ (refer to Definitions), or the electronic recording of tree works required to be undertaken. The latter are the physical works required to be carried out on a tree by a Works Crew to remedy a particular situation. A ‘Works Defect’ is electronically attributed (programmed) by the Inspections Arborist, to either;

- a tree asset
- a space deemed suitable for the planting of a new tree, or
- the location of a tree not formally recorded as an asset by using an aerial mapping layer and GPS for reference.
A number of standard fields are required to be filled when creating a ‘Works Defect’. These are;
- the date of the inspection
- a timeframe for which the works are to be completed (measured by the level of perceived risk)
- the works crew/s necessary to complete the works
- estimated time it will take to complete the works
- the name of the Inspections Arborist
- if above ground powerlines are present in the vicinity of the works site

## TREE REQUEST TYPES

Requests for tree inspection may be received in a number of ways. External Customer Requests which make up the bulk of all tree requests are almost always generated through the Customer Service Department. These are categorised with a ‘Request Type’ (see list below). Approximately 2,300 were received by the Organisation in 2015.

### Table 1: Request Type Summary:

<table>
<thead>
<tr>
<th>REQUEST TYPE</th>
<th>TIMEFRAME FOR INSPECTION</th>
<th>QUALIFICATION OF ARBORIST REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees - Powerline Clearance Rural</td>
<td>7</td>
<td>Certificate III</td>
</tr>
<tr>
<td>Trees - Elm Leaf Beetle Control</td>
<td>10</td>
<td>Certificate V</td>
</tr>
<tr>
<td>Trees - Fallen or Hanging Limbs</td>
<td>10</td>
<td>Certificate III</td>
</tr>
<tr>
<td>Trees - Powerline Clearance Urban</td>
<td>14</td>
<td>Certificate III</td>
</tr>
<tr>
<td>Trees - Surround Maintenance</td>
<td>14</td>
<td>Certificate III</td>
</tr>
<tr>
<td>Trees - Inspection</td>
<td>28</td>
<td>Certificate V</td>
</tr>
<tr>
<td>Trees - Planting Inspection New/Replacement</td>
<td>28</td>
<td>Certificate IV</td>
</tr>
<tr>
<td>Trees - Pruning &amp; Removal</td>
<td>28</td>
<td>Certificate IV</td>
</tr>
<tr>
<td>Trees - Roots</td>
<td>28</td>
<td>Certificate V</td>
</tr>
<tr>
<td>Trees - Stump Removal</td>
<td>28</td>
<td>Certificate III</td>
</tr>
</tbody>
</table>

Internal Customer Requests (often received informally) are generated via other internal departmental sources usually regarding private land developments, roads upgrades, or legal matters.

## TREE INSPECTION TYPES

Tree Inspections are carried out for the City of Greater Bendigo by qualified Arborists either as directly employed staff or indirectly appointed Contractors. Forms of Tree Inspection include;

a) **External Customer Request:** An external customer may contact the Organisation to request that a particular tree or trees be ‘reactively’ inspected, and is subject to all trees located on land managed by the City of Greater Bendigo. External customer requests are formally recorded using the Organisations electronic request management system Pathway. The request is categorized into a ‘request type’ and automatically assigned to a pre-determined Officer for investigation. Pathway is also used to record the inspection process, and for notifying the customer of the outcome of the inspection.

b) **Inspecting Trees Proactively:** The Organisation has a functional ‘Proactive’ Tree Inspection Program designed to manage its 90,000 formally recorded tree assets. The Municipality is divided into 17 ‘Zones’ with each managed and inspected on a defined schedule based on the level of perceived risk (see ‘Tree Management Programs’ below). Each tree inspection is electronically recorded to the tree asset, as are any works required to be undertaken.

Note: Only trees located in areas considered to be ‘Urban’ have been electronically recorded as assets.

c) **Internal Customer Requests:** Requests for the inspection of trees occur via a range of internal stakeholders via a range of internal processes. Internal business units that make regular Tree Inspection requests include but is not limited to; the Town Planning, Engineering, Risk Management, Works, and Open Space Design Departments. Requests received vary in formality, from those received via referral, to personal approach, and may be associated with trees either on public or private land.
**TREE MANAGEMENT PROGRAMS**

**Proactive Urban Tree Management Program:**

The City of Greater Bendigo introduced a Proactive Urban Tree Management Program in July 2015. The aim of this program is to apply a 3 level risk based tree inspection ‘frequency’, at a Level 2 – Basic Assessment standard to each of the 17 ‘Zones’.

**Zone Frequency:**

- Zones of **‘High Risk’** are serviced annually according to the CoGB Proactive Tree Pruning Specification, at Level 2 – Basic Assessment, by a Certificate V (Diploma) level Arborist. ‘High Risk’ Zones include:
  - Zone 2 - CBD & Major Parks
- Zones of **‘Intermediate Risk’** are serviced every 4 years according to the CoGB Proactive Tree Pruning Specification, and receive powerline clearance each 2 years in between. These are serviced at Level 2 – Basic Assessment, by at minimum a (supervised) Certificate III level Arborist. ‘Intermediate Risk’ Zones include:
  - Zone 1 Urban – Bendigo
  - Zone 3 Urban – Eaglehawk & Sailors Gully
  - Zone 4 Urban – East Bendigo & Ascot
  - Zone 5 Urban – Epsom & White Hills
  - Zone 6 Urban – Flora Hill & Spring Gully
  - Zone 7 Urban – Golden Square & Golden Gully
  - Zone 8 Urban – Ironbark & Long Gully
  - Zone 9 Urban – Kangaroo Flat
  - Zone 10 Urban - Kennington
  - Zone 11 Urban – North Bendigo & California Gully
  - Zone 12 Urban - Strathdale
- Zones of **‘Low Risk’** are serviced every 5 years according to the CoGB Proactive Tree Pruning Specification, and have no associated powerline clearance component. These are serviced at Level 2 – Basic Assessment, by at minimum a (supervised) Certificate III level Arborist. ‘Low Risk’ Zones include:
  - Zone 13 Rural – East
  - Zone 14 Rural – Huntly
  - Zone 15 Rural – North
  - Zone 16 Rural – Strathfieldsaye & Junortoun
  - Zone 17 Rural – West

*Note: Refer to the Proactive Urban Tree Management Program, and Proactive Tree Pruning Specification, and for more detail. The available budget is a limiting factor regarding the program scope.*

**PERFORMANCE GUIDELINE:**

Certificate III Arboriculture  
Certificate IV Arboriculture  
Diploma (Cert V) Arboriculture

**FORMS REQUIRED:**

**PPE:**
Steel cap boots, Safety vest, Sun protection Policy requirements, EWP: harness, hard hat

REFERENCES:

Customer Request Form/Process (External)
ISA Tree Risk Assessment Guide
Safe Work Method Statements (SWMS) – Arboriculture Unit – 1858
Electricity Safety (Electric Line Clearance) Regulations 2015
Proactive Tree Pruning Specification
Urban Roadside Vegetation Management 2011-2015
Roadside Management Policy
Draft – Urban Roadside Vegetation Management Plan 2010
Tree Planting Policy
Roadside Vegetation Management:
- Procedure 201: Tree Planting Site Selection
- Procedure 202: Species Selection
- Procedure 203: Planting Scheme Design
- Procedure 104: Tree Removal
- Procedure 106: Nature Strip Requests
- Procedure 208: Criteria for Tree Removal

SPECIAL COMMENTS:

I understand and will work in accordance with this work instruction.

Signature ………………………………… Date / / Employee …………………………… Date … / …

Signature ………………………………… Date / / Supervisor …………………………… Date … / …
APPENDIX 4
TREE INSPECTION
WORK INSTRUCTION

Employee:_________________________Signature______________________________Date: / /

Supervisor:________________________Signature______________________________Date: / /