

*Bacchus Marsh
Avenue of Honour*

Strategic Management Plan

**Moorabool Shire Council
June 2004**

Soldier Sings Of Trees

The Australian Forestry Journal July, 1919

***I think that I shall never see
A poem as lovely as a tree.
A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast;
A tree that looks at God all day,
And lifts her leafy arms to pray;
A tree that may in summer wear a nest of
robins in her hair;
Upon whose bosom snow has lain;
Who intimately lives with rain.
Poems are made by fools like me,
But only God can make a tree.***

Joyce Kilmer,
American Expeditionary Force
(killed in France),
from The Canadian Forestry Journal

Summary:

This management strategy sets out a path for the management and enhancement of the Bacchus Marsh Avenue of Honour. To be successful this plan will need the commitment of the Council, the Bacchus Marsh community, adjoining property owners and other authorities and service providers.

Only if all these groups are focussed on ensuring enhancement will the condition of the avenue improve and its longevity be ensured.

The key to success will be to ensure deleterious impacts are minimised now, in the short term, medium term and long term. Damage to the trees by works may not become apparent for in excess of a decade after the works. As the trees continue to mature they will be unable to resist disturbance and even small changes may cause decline.

The next key element will be to ensure that trees, which are currently missing or have to be removed, can be replaced with appropriate quality specimens. This will involve having trees specifically grown for the avenue. Due to the long lead time it will be necessary order trees up to 5 years in advance of the desired planting time. It is imperative that the growing of replacement trees be arranged as soon as possible.

Once replacement trees become available these trees must be planted, watered and pruned to the highest standards. Each new tree is the future of the avenue and there is only one chance to ensure that the tree develops to its potential.

With care and good management and the absence of Dutch elm disease, the avenue should see its century celebration in 2018 and be there for future generations.

Acknowledgement:

The preparation of this management strategy was guided by a steering committee comprising the following persons:

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The assistance of the following groups or organizations is also recognised:

Friends of the Avenue
RSL-Bacchus Marsh sub branch
Bacchus Marsh Historical Society
Vicroads
Southern Rural Water
Heritage Victoria.

The detailed information on the condition of each tree in the dedicated avenue and western approach is based on a study prepared for the Council by Stephen Fitzgerald Arboriculture and Trevor Lawrence.

Many of the photographs contained in this report were sourced from the State Library of Victoria - La Trobe Picture Collection online.

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1.0 Introduction

The Bacchus Marsh Avenue of Honour is dominated by Dutch Elms and extends from the Main Street to the Lerderberg River, approximately 3.3 kilometres. There are 3 distinct ages of trees within the Avenue. These include 1960's plantings from road realignments and an extension on the river end. The dedicated avenue of 1918 plantings between Crook Street and the flag poles. At the town end the trees are probably the last trees of the former Main Street plantings. They possibly relate to the 1880's. In all approximately 312 trees form the avenue that arches over the road for much of the 3.3 kilometres. Haddow (1988) considered the Avenue to be one of the most dramatic examples of its kind. Dickens (1985) in her review of Avenues of Victoria stated "Of all the Avenues of Honour visited, Bacchus Marsh had the largest trees, was well proportioned and overall was the most visually impressive". The dedicated Avenue is also remarkable as it is so intact. Over the 80 years since planting 87% (245 out of 281) trees remain in place.

With the decimation of the elm avenues of Europe and North America by Dutch Elm disease, the elm avenues of Australia are widely regarded as some of the best in the World. Australia has one of the few disease-free populations of mature European elms remaining in the world (AFFA web site).

The Avenue of Honour was part of the Western Highway from planting through to the completion of the Bacchus Marsh By-pass in 1972. Management during this period was the responsibility of the Country Roads Board. In 1972 the road was redeclared as a Main Road, Bacchus Marsh Road. The Council assumed day to day management from that time and still provides management as an agent for Vicroads.

Haddow (1988) and Peterson & Catrice (1994) have assessed the Avenue to be of State historical significance.

1.1 The Study

The objective of the study was to "Prepare a management strategy plan for the management, conservation and enhancement of the Bacchus Marsh Avenue of Honour's trees and name plaques." The plan is to be used to "Guide the restoration, conservation and enhancement of the trees and plaques within the site."

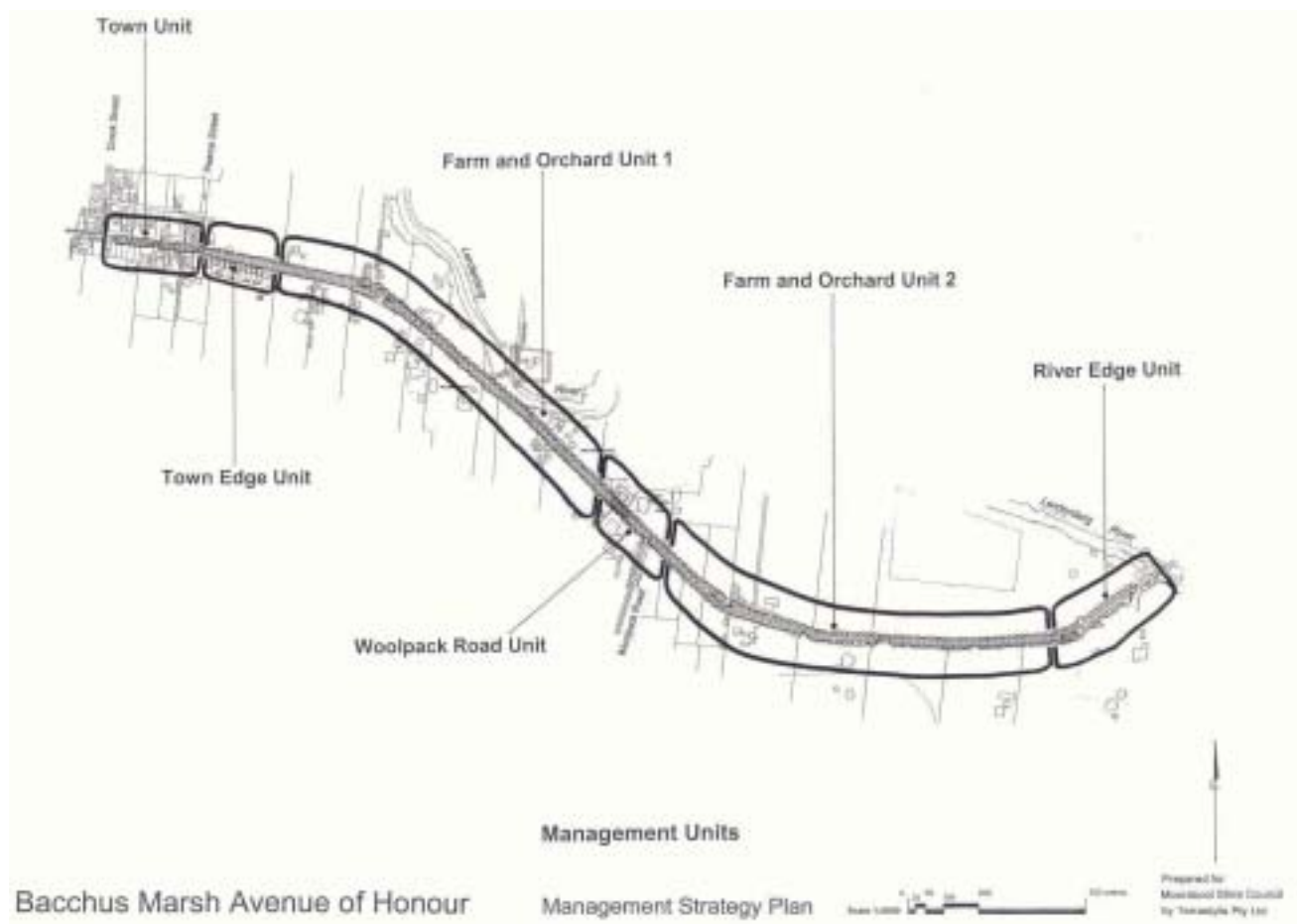
The plan is to:

- (1) Make recommendations for specific programs of tree planting, tree surgery, tree removal, tree number and plaque placement and/or refurbishment.
- (2) Cost and prioritise the implementation of the above for the short, medium and long term (less than 5 years, 5 to 20 years and greater than 20 years).
- (3) Make recommendations for the development of planning, design and management policies and practices, methods of funding nominating programs, including interpretation and ongoing community participation.
- (4) Make recommendations for managing activities and the environment within the road reserve to ensure compatibility with the avenue.

1.2 The study area

The Bacchus Marsh Avenue of Honour is located on the Bacchus Marsh Road, formerly the Western Highway, between the Fiskin Street and the Western Freeway. The Avenue currently contains 312 trees and 48 vacant sites.

Landuse changes from residential at the town end, to residential and rural, to rural with fruit stall, to industrial near Woolpack Road and back to rural to the Freeway. The plan below outlines the extent and defines the character of the study area.



1.3 Methodology

The following methodology was used for the preparation of this plan:

- (1) Preliminary site visit to become familiar with the Avenue and its environment. Discussion with Council Officers.
- (2) Collation and review of existing reports, files, plans and information held by Council.
- (3) Field based review of tree condition report prepared by Stephen Fitzgerald Arboriculture. Examination of name plates attached to or associated with trees. Cross checking and updating feature survey of Avenue.
- (4) Preliminary Steering Committee meeting.
- (5) Analysis of landscape and heritage issues. Matching 1918 planting sequence to current name plate locations. Inspection of name plates held by Council.
- (6) Literature and photographic search to source additional information
- (7) Preparation of issues papers for Steering committee meetings.
- (8) Meeting with Friends of the Avenue, RSL Bacchus Marsh sub branch and Bacchus Marsh Historical Society.
- (9) Discussions with Heritage Victoria, Southern Rural Water and Council Officers and Contractors.
- (10) Preparation of Draft Plan.

1.4 List of recommendations

Significance

- The Bacchus Marsh Avenue of Honour (dedicated Avenue) is significant to Bacchus Marsh, Moorabool Shire and Victoria as it is a substantially intact example of a Great War (WW1) memorial avenue and is one of the most dramatic avenues in Australia.
- The western approach to the AOH is significant to Bacchus Marsh and Moorabool Shire as the trees represent early (1885) street tree plantings of the main street and are amongst the oldest elms in the state.
- The dedicated Avenue is a living monument by the Bacchus Marsh community to those persons from the district who enlisted for King and Country during the Great War. Each tree is a monument to an individual service person. Over time the Avenue, including the western approach, has taken a wider significance and may now be considered to be a monument to all those persons from the district who served their Country at war.
- The Avenue is a group of mature and very large elms of clones that are no longer commercially grown.

Dedicated Avenue

- The 1918-planted trees be managed to protect their heritage value and prolong their economic life.
- That replacement trees be cloned (true to type) from the 1918 plantings and comprise both clones.
- That propagation material for the replacement trees be selected from the best form and habit trees of each clone and only from healthy and vigorous trees.
- That vacant sites be filled with replacement trees when the trees become available.
- That unless replacement trees are available for replanting, a tree only be removed when it dies or it becomes unsafe and remedial work cannot create a satisfactory level of safety.
- That if replacement trees are available for replanting then a tree may be removed if it has minimal amenity value and the amenity value cannot be improved by horticultural practices.
- That the Desert Ash (*Fraxinus angustifolia*, tree N053), be retained until poor health or safety requires removal.
- That all other species/clones be removed and replaced as funds become available.
- That where a tree is identified for removal, a suitably qualified arborist should inspect the tree and assess the appropriateness of the decision in accordance with this strategy.
- The method of planting and establishment of replacement trees be in accordance with 10.3 to 10.7 inclusive.

Western Approach

- The 1885-planted trees be managed to protect their heritage value and prolong their economic life.
- That the smaller 1918 clone (*Ulmus Xhollandica* type 2) be used for propagation of the replacement trees.
- That vacant sites be filled with replacement trees when the trees become available.

- That unless replacement trees are available for replanting, a tree only be removed when it dies or it becomes unsafe and remedial work cannot create a satisfactory level of safety.
- That if replacement trees are available for replanting then a tree may be removed if it has minimal amenity value and the amenity value cannot be improved by horticultural practices.
- That the English Oak (*Quercus robur*, tree W020), London Plane (*Platanus Xacerifolius*, tree W010) and Purple Elm (*Ulmus Xhollandica purpureascens*, tree W008) be retained until poor health or safety requires removal.
- That all other species/clones be removed and replaced as funds become available.
- That where a tree is identified for removal, a suitably qualified arborist should inspect the tree and assess the appropriateness of the decision in accordance with this strategy.
- The method of planting and establishment of replacement trees be in accordance with 10.3 to 10.7 inclusive.

Eastern Approach

- The 1960's-planted trees be removed once the road design has been completed and as funds become available or as the trees require maintenance.
- That consideration be given to replacement plantings once the road works have been completed.

Protecting the root system and tree stability

- That the optimal root zone be used as a means of determining the likely area of tree roots for consideration of potential impacts.
- Where a site contains an immature tree the optimal root zone should be considered to be the average for that type. For vacant sites the optimal root zone should be considered to be the average for the type proposed to be planted by the Council.
- New developments, which have the potential to damage roots and that encroach within the structural root zone or extend over or isolate greater than 20% of the optimal root zone, should not be approved.
- As far a possible the optimal root zone should be permanently protected from potentially damaging activities.
- That within rural areas the Council to negotiate with the property owners to: Remove car parking and hard standing areas from the road reserve, Redesign driveways and car parking to ensure these uses do not continue within the structural root zone and more than 2 trees separate entry and exit driveways and reduce the extent of hard standing and car parking areas within the optimal root zone.
- Within residential areas pruning of limbs be permitted where a limb encroaches within 2m of an existing building. The pruning must be carried out to the minimum standard of the Australian Standard. Pruning to the first pruning target outside the 2m zone is permitted rather than limbs being lopped at 2m.
- That parking in front of residential properties should be phased out and the area rehabilitated.
- That the uses or activities listed in 7.3 be not be approved within the structural root zone or if the development or use extends over 20% of the optimal root zone.
- That open fences and posts be permitted in the structural root zone in accordance with 7.4.

- That emergency repairs to existing infrastructure be permitted in accordance with 7.5.

Name plates

- A thorough inspection, perhaps with a metal detector, of the ground around the base of trees should be undertaken in order to identify and recover lost name plates.
- Further investigation should be undertaken to seek to identify the service persons associated with the trees N091 and N157 and to ensure that the information contained on the name plates is accurate and correct for the period and regiment.
- A list should be compiled giving meaning to the various abbreviation used on the name plates.
- The remaining original embossed copper name plates should be immediately removed from the Avenue and displayed in a public area. The RSL, Library/Historical Society or Council Offices would all be appropriate.
- In removing these name plates extreme care must be taken to avoid damaging the name plates.
- Seek appropriate to seek advice on the long term protection of these name plates.
- Embossed aluminium name plates (type 2A) be used as the type name plate for the Avenue.
- Until embossed aluminium 2A name plates are available the embossed aluminium 2B and cast aluminium name plates continue to be used as required.
- Name plates not required for use in the Avenue should be displayed in a public area. It is suggested that the RSL would be the appropriate location.
- Name plates be maintained is direct association with each dedicated tree and that the name plates be mounted on a post.
- After consultation with the community and affected families the name plates be relocated to along side the appropriate tree as per the 1918 listing.

Town Unit

- Fill gaps in spacing of trees where possible.
- Limit driveway crossing to one per property and use alternative access from side streets where possible.
- Care to be taken in reconstruction of kerb & channel and footpaths to limit damage to tree roots.
- All underground services to be directional bored rather than open trench construction.
- Consider redesign of road edge and on-road car parking to limit damage to tree trunks from cars.

Town Edge Unit

- Fill all vacant tree locations.
- Remove name plates from trees and remount plates on a post adjacent to the tree.
- Limit driveway crossing to one per property and use alternative access from side streets where possible.
- Care to be taken in reconstruction of kerb & channel and footpaths to limit damage to tree roots.
- All underground services to be directional bored rather than open trench construction.

- Consider redesign of road edge and on-road car parking to limit damage to tree trunks from cars.

Farm and Orchard Unit 1

- Fill all vacant tree locations.
- Remove name plates from trees and replace plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Redesign car parking for existing fruit stalls to reduce area of compacted/sealed surfaces within the optimal root radius. Fence the road reserve boundary adjacent to car parks and limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Maintain open rural landscape.
- All underground services to be directional bored rather than open trench construction.

Woolpack Unit

- Fill all vacant tree locations.
- Remove name plates from trees and remount plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Redesign car parking to reduce area of compacted/sealed surfaces under the canopy. Fence the road reserve boundary adjacent to car parks and reduce the driveway entrances to a minimum of two.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Screen planting between future buildings and the avenue are to be provided.
- All underground services to be directional bored rather than open trench construction.

Farm and Orchard Unit 2

- Fill all vacant tree locations.
- Remove name plates from trees and replace plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Maintain open rural landscape.
- All underground services to be directional bored rather than open trench construction.

River Edge Unit

- Remove all exotic trees.
- Maintain open rural landscape.
- Develop car parking and interpretation facilities at the commencement of the dedicated Avenue of Honour.
- Future signs to follow design guidelines on size, colour and style and number per property.

- Replanting strategies be developed once the potential impacts of proposed road works is fully understood.

Future Management arrangements

- The Heritage overlay be extended at the town end to include tree W38 and its optimal root area
- The Heritage Overlay be reduced in width at the river end by ending the overlay 20 metres from the original road boundary.
- Further consideration be given to removing the heritage overlay between the flag poles and the river.
- The Council actively pursue the inclusion of the AOH in the state heritage register.
- The Council pursue the inclusion of the AOH in the register of the National Estate and if necessary re nominate the Avenue.
- The Council give consideration to appointing a management committee for the Avenue possibly along similar line to the Ballarat Committee.

2.0 Defining the Avenue of Honour

The Avenue of Honour has different meanings to different persons and groups. Is the Avenue:

- All the trees between Fiskin Street and the Lerderderg River?
- All the trees between Crook Street and the Lerderderg River?
- The 281 trees planted and dedicated on the 10th August 1918?
- Are replaced trees part of the Avenue?

For the purposes of this plan all the trees between Fiskin Street and the Lerderderg River are being considered as part of the Avenue. For convenience of description the Avenue has been divided into several sections, as described below:

2.1 The Western approach

The western approach to the dedicated Avenue is the 48 trees or sites between Pearce and Fiskin streets. It appears likely that these trees are part of the earlier Main Street planting of Elms. Information suggests that these trees were planted in 1885. These trees are amongst the oldest elms in the state. The elms in the Fitzroy gardens were planted in 1859, the Geelong Botanical Gardens in 1860 and the Camperown Avenue in 1876 (Spencer et al). Further research is required to confirm the history of these trees.

2.2 The Dedicated Avenue

The dedicated Avenue is the 281 trees or sites between Pearce Street and the flag poles. Each tree or site was dedicated as a memorial to individual service persons on the 10th August 1918. These trees consist primarily of two forms of *Ulmus Xhollandica*. There are a number of replacement trees in this unit. The most noticeable are the CRB replacement trees from the early 1960's. Where 7 and 9 trees respectively were removed and replanted following road realignment. Various other individual trees have been removed over time, some of which have been replaced.

2.3 The Eastern approach

The eastern approach to the dedicated Avenue is the 36 elms between the flag poles and the Lerderderg River. These elms appear to have been planted in the mid 1960's. These trees are of poor form and average vigour.

3.0 History

3.1 Planting

In the afternoon of the 10th August 1918 a crowd of over 1000 people assembled to witness and participate in the planting ceremony. A bugle call was then sounded as the signal to commence the planting simultaneously. All two hundred and eighty one elms were planted within half an hour of the bugle call. The Express article of August 17, 1918 fully describes the event and preparations and is reproduced in this report.

Although the Great War was not over, the community of Bacchus Marsh took it upon itself to ensure that a lasting tribute to its service persons was created. Whilst the avenue was undoubtedly motivated by the success of the Lucas girls of Ballarat in the planting of the Ballarat Avenue of Honour, it is a unique dedication to the service persons of the town and district. The trees were planted and dedicated in a modified alphabetical order. No priority was given to order of enlistment, rank or to those who had paid the supreme sacrifice. It is important to recognise that although the Council stood as guarantor for the costs of the Avenue, the vast majority of the costs were borne directly by the Community. Up to the printing of the Express on 17th August 1918, 232 of the 281 trees had been sponsored by the community. The final community contribution is not known (Murphy 2001).

3.2 Avenues of Honour

The Bacchus Marsh Avenue of Honour is one of at least 128 avenues planted in Victoria between 1917 and 1921. Of the Great War Avenues in Victoria, the Bacchus Marsh Avenue of Honour is the third largest, only being overshadowed in numbers by the Avenues of Ballarat and Ballarat East. In 1987, the Avenue was one of only 52 Great War Avenues known to still exist. Some had simply died but most had been removed for road widening and straightening. Haddow (1987) suggests that about 60% of the removals were due to road works. The Bacchus Marsh Avenue of Honour may well have been another avenue lost except for community pressure which resulted in the construction of a by pass road.

The magnitude of the impact of the Great War on Australia, and smaller centres in particular, is hard to comprehend. Haddow (1988) puts the impact into perspective. *"For many of us it is difficult to comprehend the impact of World war One, but by 1918 the extremely high casualty rate (64.93% - the highest of all the allied forces) meant that every Australian was related to or closely associated with someone who had been killed during the war. For Australians the war was personalised. These facts help to explain why most Australians were involved in creating war memorials (Australia outdoes all other nations in war memorials)."*

The Australian Forestry Journal of July 1918 outlined the widespread movement for planting avenues of honour. Part of the article is quoted below:

Trees As Memorials

The Australian Forestry Journal July, 1918

Tens of thousands of homes in Australia are mourning the loss of loved ones, who have fallen on the battle fields of the old world, and it is perhaps not possible to find even a single individual in the commonwealth who was not an acquaintance at least of someone who died a hero's death. But in the magnitude of a country's bereavement, there is something, which leads to an almost callous indifference for suffering, and evolves into forgetfulness of those who have done great deeds.

It is, perhaps, only natural that it should be so; and indeed, it would not be desirable that keen sorrow should be unending. But there is no reason why there should not be a permanent record of those who have given their lives in the cause of freedom and civilisation - why there should not be something to which future generations may respect and say 'that is in memory of a man who gave his life in order that we might live in peace and comfort and safety.' Honour rolls and public memorial buildings or endowments serve the purpose to some extent; but they lack the attractiveness, the direct application and the human appeal that is obtainable by individual effort. Something is needed that will last for all time, and what could be more suitable, more easily within the reach of each bereaved family, than a memorial tree?

In Victoria a movement has been inaugurated, and has met with plenty of support, for the planting of avenues of trees, each tree being a tribute to some soldier who has died in active service. Such an example deserves to be copied, and might appropriately be applied in every township throughout the country, in the playground of every school, in fact, in many places that will suggest themselves to any interested person. By such a scheme the desired memorial is provided, a locality may be beautified, and useful purposes served.

4.0 The Express August 17, 1918



The Old Woolpack Hotel circa 1920. The site of the planting celebration.
(La Trobe Picture Collection State Library of Victoria).

The following is an extract from The Express published on August 17, 1918. The complete article from that paper has been reproduced to provide the historical context of the planting of the Avenue. Due to the quality of the copy of the article it has not been possible to reproduce all of the article and names. Blanks and question marks indicate the sections in question. The sections in bold are of particular relevance to the management of the Avenue.

T H E E X P R E S S
A U G U S T 1 7 , 1 9 1 8
B A C C H U S M A R S H
A V E N U E O F H O N O R

Within the shadows of the old Woolpack Inn (which has added a chapter or two to the history of the district) there occurred on Saturday last a memorable gathering which added still another chapter to that history—a chapter of which any district might be proud—the planting of two miles of trees as a memorial to the brave soldier lads who have left their homes to go fight for their King & Country.

The movement was only taken up a few weeks ago and the enthusiasm grew as the people became better acquainted with what was expected of them, so much so that on Saturday a crowd of over 1000 persons assembled to witness and assist in the planting ceremony. The Woolpack was chosen as the meeting place, it being about

the half-way point of the Avenue. **The trees (Canadian elms) are planted on both sides of the main Melbourne-Ballararat road, commencing from the present avenue of trees at the east end of the town and extend to within sight of the Lerderderg River at Hopetoun, a distance of nearly two miles.** Next season the Avenue may be extended to Anthony's Cutting.

Each tree stands as a silent sentry representing a gallant soldier, and the length of road so covered gives some faint idea of the district's magnificent contribution in men (the world's best soldiers) to the Empire's Army. **The trees are protected by well-made timber guards, affixed to each of which is a neat sheet-copper embossed name plate, giving the soldier's number, rank, Battalion, &c.**

The soldiers have been placed in alphabetical order and numbered-the odd on one side and the even on the other, thus placing the members of one family together.

This explanation is given for those who may wonder at the interweaving of the names, as given on the list sheet.

To plant **281 trees** in one afternoon seemed an almost impossible task, but so complete were the arrangements that the feat was accomplished without a single hitch, not only in the afternoon, but in about half-an-hour.

The holes for the trees had already been prepared by a band of willing workers in the morning. A sight that will be long remembered. So keen were the men to assist that this part of the programme almost turned itself into a competition as to who would dig the most. As an instance of this patriotic spirit, the Darley Firebrick Company closed down its works and at about 8 a.m. 30 employees took up their positions in the Avenue, where several of their comrades are represented by.....short time they had 100 holes already. Work much appreciated by the committee. Other individual workers came from all quarters, and by 11 o'clock **every hole had been sunk and by noon all the tree guards erected.** Many workers who came later were disappointed because there were no holes left for them to dig.

It was now time for the planting supervisors to take charge, each being given a section of so many trees. The soil in the holes was properly prepared by them and the trees stood in position with roots spread out, ready for the afternoon planting. This work of the supervisors is also deserving of commendation, as it not only saved valuable time but will give the young trees every opportunity to thrive, which they should do as everything is in their favor.

Planting Supervisors who assisted -Messrs. Jas. Cowan, F.J Slack, H. G. Campbell, J.A. Loaper, T.W Campbell, N.C. Woodward, A. Cameron, H. Burbidge, H. Moffatt, H. Marchant, J.G. Wells, W.E. Spurr, W. West, Thos Cowan, M.Usher, W.C. Woodward, W.F. Woodward and Joseph Lodge (the latter states he assisted his late father to plant the

trees in the vicinity of the Woodpack some 58 years ago-a case of history repeating itself).

Now the afternoon ceremony came along. All roads led to the Woolpack, whether you went per foot, motor or horse vehicle, you must get there. And what a grand gathering it was.

“Cook’s son-Duke’s son-son of a belted Earl Son of a Lambeth publican - it’s all the same today!”

All of them there to do honor to those doing their country’s work.

Major Baird, MLA, who has seen Active Service in the present war, came from Ballarat to pay homage to his comrades in arms, and, at the invitation of the Shire President Brown, **planted the honor tree.**

The people were then asked to distribute themselves along the whole length of the avenue, the relatives or friends of the soldiers (many of whom came from a distance) taking up their positions at the trees they had been invited to plant. This instruction was accomplished by the kindness of various motor and vehicle owners conveying passengers with dexterity along the route-half went eastward and the other half westward. **A bugle call was then sounded as the signal to commence the planting simultaneously.**

This again was a sight to be remembered. “Tears were hung on every tree”-tears of joy for the lad who had returned, of pride and anxiety for those still in the ranks and of sorrow for the one who had paid the supreme sacrifice; and of the latter there were quite a number, many wreaths, Battalion, colors, and other tributes of love and respect marking their places.

Of the 281soldiers honored in this way, many had gained distinctions, including a Victoria Cross, the Military Cross, the Distinguished Conduct Medal, Military Medal, &c.

As already stated, the planting ceremony occupied but half-an-hour-a most pleasant surprise to all, as it prevented the proceedings dragging. The people were then conveyed back to the meeting place in the same manner as they were distributed.

The official ceremony opened with the singing of the National Anthem, after which Shire President Brown introduced Major

Baird, and in doing so said the avenue was one of the splendid things they could do in honor of their soldiers. When the boys came back they would see they had not been forgotten. The next generation would also see by the trees what their forefathers had done for them.

Major Baird expressed his pleasure at being present, and having the honor of planting the first tree. Although Bacchus Marsh was looked upon as the hub of Victoria it was the first time that he had been here. He hoped they would be able to make room in this prosperous district for some of the gallant soldier lads to settle permanently. The avenue was a fitting memorial to these gallant men - it was one of the finest things they could do. It would some day be a feature between Melbourne and Ballarat, where the avenue idea originated, by 500 girls from one factory taking the matter up. Over 3000 trees had now been planted, covering some 10 miles of road. Whilst at the Front he had come in contact with one of their local lads-Captain Godfrey, who had given his life for his country, and one of the finest officers they had. He would always have a warm spot in his heart for him. But young Godfrey was only a representative of other gallant lads from this district, so was it any wonder that it raised the spirit within them-let that spirit grow and strengthen, so that they would not only honor their brave men today but each day of their lives. When he returned from the Front to Australia he met two classes of people; one said "When are you going back?" The other said "You've done your bit, and up to you to have a spell." One class did not care a rap what had been done for them whilst others extended the helping hand. The latter was the way to honor their returned men. He was a Britisher to the backbone. Germany was not more mightier than us. The British race transcends them all. Their soldiers were representatives of that great race. When Germany threw the challenge down in this Great War she thought that the British race was done, she thought that the manhood of the Empire had been sapped by commercialism and luxury. But was she right? With Kitchener's call to arms the

young men came to Britian's aid, and so the challenge of Germany was taken up in a way she never thought of. Germany thought she could walk through the "contemptible little army" and bring France to her knees. But before she was able to do that there were a million British soldiers there. So the same rebuff had been given to Germany in other places. In Mesopotamia (which would prove one of the richest parts of the world) Egypt and Palestine they had flung the Germans back and planted the banner of their Great Empire on the banks of the Jordan. These feats were equal to anything that Germany had done. In France the British army was holding the key to Paris, which was also the Key of France and the channel ports. If Germany got possession of these, things would be made "hot" for us. He asked them to think of that and they would recognise what the Empire and their gallant lads meant to them. He believed the Australians were the finest soldiers in the world. He did not say they were the only men who could fight, but the Australian soldier had the spirit, dash and head required in modern warfare. When they realised what these gallant lads had done for them, was it anywonder they assembled there that day to do honor to them. There would be great calls made on them repatriate these men. He would not criticise the authorities on what they had done but he believed they could have done more. No Government could do what was wanted unless it had the inspiration of the people behind it. He asked that they assist the Government to repatriate these lads, who belonged to the Greatest Empire upon which the sun ever shone. Major Baird then gave an instance of how the Australian's loved their officers, of how four men volunteered to go out into "no man's land"-every inch of which was raked by machine guns-in an attempt to bring in the body of an officer who had been killed, but the men also lost their lives-showing their last tribute to a beloved officer. Surely then, we here could do something which was no sacrifice at all. They were great men, these Australians, about whom some unkind things had been said-some deserved perhaps, as they were not all angels. He appealed to them to remember these

gallant men each day through life and if they could do anything to help them back to civil life do so. (Applause)

Mr. P. Alkemade (of Melbourne and a representative of the State War Council) also spoke, and appealed to the eligible young men to "get to it" at once and get some documentary proof that they had taken their part in this Great War, and prove themselves worthy sons of the pioneers who had come here before them. He had just planted a tree for Sgt. Major O'Brien, one of their local men who had won the D.C.M. and proved himself a man. The deeds of these men shone throughout the Empire and would be handed down as a glorious heritage. The avenue would be an evergreen monument forever and he complimented the district for undertaking it.

President Brown apologised for the absence of Sargeant Lister, M.H.R., and Hon. A. R. Robertson, M.L.A., who were present at similar function at Macedon.

Cr. McMahan moved a vote of thanks to the ladies for providing the refreshments. He always noticed they "toed the mark" in a manly, noble manner when their assistance was required. He also mentioned that the men had put up a record that morning digging 200 holes for the trees in tree hours.

The National Anthem and "God bless our splendid men" also three hearty cheers for the "Boys at the Front," closed the notable gathering.

The weather elements were kind-so kind that the ladies were able to set their refreshment tables in the open air. But to provide against any emergency, the "commercial rooms" of the old Woolpack had been prepared as a shelter pavilion - fortunately not needed. Thanks in profusion due to the ladies Sunshine Brigade (in charge of Red Cross President Anderson) who provided lunch for the workers and tasty refreshments later on for afternoon tea-all and sundry being provided for. Special thanks recorded to Mr. and Mrs. Alfred Slack and family for assistance in this same department and placing their house, grounds and everything they possessed at the disposal of the ladies. Thanks again to the members of the

Commonwealth Army (in charge of Lieut. Russell) who attended and formed a Guard of Honor when the official speeches were being made. This added the military tone necessary to the gathering.

Generalissimo Cr. W. Grant Mortan, J.P., has had many triumphs in displaying his organising power in making successes of local functions, but last Saturday's gathering (to which he acted as Hon. Organiser) can be classed as his super-triumph, and it must be very gratifying to him to know that the time which he devoted to this worthy object had such a successful climax. To organise a function without any previousto work.....difficult, but to have to cram it all into a limited space of time increases the task-a task which grew into considerable magnitude, as all the details of the soldiers had to be collected, placed in alphabetical and numerical order, which could not be done until the last moment, and see that a hundred and one other things were provided-if the odd one happened to be forgotten confusion may have resulted - but it didn't. The thanks of the community is therefore due to Mr. Mortan for his valuable services-not forgetting his motor service.

Now the work which the public did not see being carried out has to be recognised - the making of the 281 tree guards. Different proposals were put forward as to their supply, but Mr. H.E. Connor stepped into the breach and undertook to see that they were provided free of charge, if the timber was supplied him. Here again time was the essence of the contract, and timber being difficult to procure made the time shorter, which necessitated "speeding-up" on the part of Mr. Connor and his noble assistants, who, it must be remembered, worked in the night time after their usual day's toil was done. Mr. Connor says "each and everyone is willing to do the same again if occasion arises." Too much prominence cannot be given to this patriotic work, therefore the names of those who participated in it and the hours worked are given:-H. E. Connor, 47 hours or 12 nights; W.T. Wittick, 15 hours or 7 nights; J. A. Morton, 11 hours or 5 nights; E. Brazier, 8 hours or 6 nights; H. Marchant, 6 hours or 3

nights; N. C. Woodward, 6 hours or 3 nights; A. J. Grant, 6 hours or 3 nights; W. E. Spurr, 4 hours or 2 nights; L. Dugdale, 4 hours or 2 nights; D. Barry, 3 hours or 2 nights; Ern Wittick, 2 hours or 1 night; E. Barry, 2 hours or 1 night; W. C. Woodward, 2 hours or 1 night; W. F. Woodward, 2 hours or 1 night.

Mr. A. Newman can be added to the above band, as he rendered valuable assistance in free cartage of the timber for the guards. Messrs. R.H. Dugdale and J.G. Wells kindly attended to the delivery of the guards along the route.

Although the Bacchus Marsh Shire Council stood as guarantor for the work, it was relieved of much expense by almost the whole of the trees and guards being donated, and the various “working bees” also reduced the outlay. At Creswick we note that it cost the Shire 1 pound for each

tree and the nameplate; at Bacchus Marsh the work has been well executed for half that amount-evidence of good management.

We have been requested to publish the names of the soldiers represented in the Avenue and the persons who planted the trees to their memory. The following is the list, as far as we have been possible to ascertain:-

Additional trees donated to Bacchus Marsh Avenue of Honor, making a total of 232: -
Two each - A. Moon (Melbourne), James Smith (Rowsley), Employees Darley Firebrick Co. (making 7), J. D. Cameron.
One each-Miss Ida Moore, Mrs. R. G. Lyle, Mrs. McPherson (Melton), S. Whelan, D. O’Keefe, jun., W. D. Hogan, H Love, E. Moss, M McLeod (Broadlands), W. Symington, H Dawson, C.F. Hegarty, Mrs. F. Brighton.

The following list is the list from The Express. The tree numbers have been amended to refer to the current numbering system.

Tree No.	Planted in honour of	Planted by
N 001	F.L. Adams	Miss Doris Cowan
S 002	John Allan	W. Allan
N 003	J.W. Allen	Miss Queen?? Leitch
S 004	Jas. Almond	Miss M ? Pearce?
N 005	A.F. Anderson	Mrs RF Manning
S 006	Keith F Anderson	Miss Grace W. Anderson
N 007	A. Barrett	Mrs Barrett
S 008		
N 009	P. Barry	Mrs E.B. ?
S 010	P.G. Barry	Miss Peterson
N 011	J.R. Bennet	Jas. Bennett
S 012	R.K. Barry	Mrs. JJ Barry? Jun.
N 013	G.F. Bence	Miss BW Anderson
S 014	P.C. Barry	Miss Gladys Barry?
N 015	W. Bennett	Jas. Bennett
S 016	C.W. Bird	S.C. Bird?
N 017	L.E. Blake	E. Blake
S 018	L.E. Bird	S. Bird Jun.
N 019	H.N. Blake	Harley Cowan?
S 020	T.H. Booth	W.H. Booth
N 021	W. Blake	Miss E. Blake
S 022	W.C. Booth	Miss E. Campbell
N 023	E.J. Bottle	Miss Baradell
S 024	Hugh Bottle	C.E. Hosken
N 025	H.C. Bottle	Miss Unsworth
S 026	J.C. Bourke	Mrs Jas Whelan
N 027	W.H. Bourke	Mrs Bourke
S 028	Jos. Boyd	Jos. Boyd sen.
N 029	Raymond Boyd	Miss Boyd
S 030	W. Brennan	F. J. Slack

Tree No.	Planted in honour of	Planted by
N 031	F. Brighton	James Ross
S 032	I. Brunt	Mrs. M. Kerr
N 033	Jas. Bushby	R. Bulman
S 034	J. Buckley	Miss Buckley
N 035	A.J. Buckley	Miss Buckley
S 036	W. Buckley	Mrs. T. Buckley
N 037	E.W. Cameron	Miss Brydon
S 038	H.H. Campbell	H. C. Campbell?
N 039	Archie Campbell	Miss Maggie Campbell
S 040	G.L. Campbell	Mrs. H.G.Campbell
N 041	J.H. Campbell	Miss Jessie Campbell
S 042	W.A. Campbell	Miss Turner
N 043	J.R. Calderwood	Miss J. Kennewell
S 044	A.J. Carter	E.J. Carter
N 045	W.W. Carter	Mrs Carter
S 046	J. Cardell	Miss Ettie Burbidge
N 047	H.H.H. Chambers	G. Chambers
S 048	Fred Caspar	Miss Caspar
N 049	F. Chambers	Miss M. Chambers
S 050	H. Cashmore	H. Bissell
N 051	J.H. Chambers	Miss M. Chambers
S 052	W.G. Chippindale	Col. Campbell
N 053	A. Clark	Mrs W. Allan
S 054	A. Claney	Mrs Claney
N 055	W. Clark	W. Allan
S 056	R. Coates	Mrs T.H. Worthy
N 057	E. Cobham	Miss Marion Manly
S 058	D. J. Coghlan	Mrs Coghlan
N 059	H. A. Condon	Andy Connell
S 060	M. B. Coghlan	D. Coghlan

Tree No.	Planted in honour of	Planted by
N 061	Jas. Connell	Dorothy Manly
S 062	J. A. Connor	Mrs H. M. Hodgson
N 063	W. H. Connell	Thos. Kyle
S 064	W.A. Cook	Mrs Cook
N 065	W.R. Cook	W.T. Wittick
S 066	J. Cosgrove	J.A.Loeper
N 067	M. Cosgrove	M. Cosgrove sen.
S 068	W.R. Crouch	Daisy Burbidge
N 069	D.M. Crowe	J.A. Loeper
S 070	R. Croton	Mrs H. Charlton
N 071	M.R. Cuthbertson	Mrs W. Grant Morton
S 072	Chas. E. Crook	Mrs A.G. Crisp
N 073	C.D. Cumming	John Cumming
S 074	F.H. Crook	F.H. Crook sen.
N 075	N.H. Cumming	Gordon Cumming
S 076	J.R. Crook	Miss Heather Crook
N 077	A.K. Cumming	Mrs Joe? Cumming
S 078	C.W. Crook	Mrs F.H. Crook
N 079	A. Davis	A. Davis jun.
S 080	G.T. Davis	Mrs H. Bissell
N 081	L. Davis	T.W. Campbell
S 082	W.G.E. Davis	Rev. T.W. Davis
N 083	A. Davison	Miss Rene Davison
S 084	S.C. Dubout	Miss Belle Morton
N 085	A.D. Davison	Mrs J.A. Morton
S 086	V. Dubout	Mrs Gunner
N 087	R.G. Davison	Mrs T. Mathews
S 088	F. Dodemaide	Cr. J. McMahan
N 089	W. Dixon	Miss Gladys Cowan
S 090	T. Dodemaide	Doris McMahan

Tree No.	Planted in honour of	Planted by
N 091		
S 092	W. Dukelow	John Dukelow
N 093	A. Durward	W.R. Ross
S 094	W.A. Drever	Mrs Drever
N 095	C.R. Edwards	T. Edwards sen.
S 096	C.J. Earl	Mrs Earl
N 097	R.W. Edwards	J.A.Morton
S 098	G. Earl	Mrs H.M. Fagg
N 099	W.B. Edwards	E.A. Reither
S 100	W.A. Edgerton	J. Edgerton
N 101	R.R. Evans	Miss Alison Hodgson
S 102	Jas. H. Edgerton	Mrs Edgerton
N 103	R. Edols	L.M. Dugdale
S 104	J. Emmett	Mrs J. Lodge
N 105	Roy. Emmett	Mrs P.F. Emmett
S 106	Jas. B. Fagg	R. Fagg
N 107	A.E. Fairbank	Miss Violet Bence
S 108	A. Farrow	Miss Ingle
N 109	H.I. George	W. George
S 110	A.J. Gibson	Miss Irving
N 111	H.T. George	Miss Evans
S 112	T.C. Godfrey	Mrs. Godfrey
N 113	W. Goudie	Mrs. Goudie
S 114	R.T. Grant	Mrs Grant
N 115	C.A. Gladman	Miss Lily Barradell
S 116	H.S. Grant	Miss Alice Grant
N 117	Ross Grant	Mrs W. Kerr
S 118	J.W. Hammond	A. Cameron
N 119	C. Hanrahan	W. P. Grant
S 120	W.S. Harkness	Miss Annie Anderson

Tree No.	Planted in honour of	Planted by
N 121	T. Hawkins	Miss Hawkins
S 122	A.W. Hine	Arthur Hine
N 123	A.W.T. Hine	Mrs W Hine sen.
S 124	R.J. Hogg	Mrs Loeper
N 125	D.G. Hollis	H. Hilton
S 126	H. Holman	Mrs A. Greenwood
N 127	W.T. Horder	W. Horder
S 128	C.B. Hopkins	H. Burbidge
N 129	Jas. Johansen	Miss Jessie Alkemade
S 130	W. Johnston	Miss Madie Johnson
N 131	John Johansen	Robt. Alkemade jun.
S 132	C.A. Jones	Mrs J. Griffith
N 133	Harold Jones	Miss Peggy Pollock
S 134		
N 135	Percy Jones	H.E. Connor
S 136	J. Kennelly	W.R. Vigor
N 137	W.R. Kerr	M. Kerr
S 138	R.J. Kerr	Mrs R.B. Kerr
N 139	G.M. Kerr	Miss Flos. Kerr
S 140	H.J. King	Miss Jean McDonald
N 141	A.J. Knight	H. Dawson
S 142	A. Ladhams	W.H. Ladhams
N 143	T.H. Lay	Mrs Alex. Kerr
S 144	P. Leitch	Mrs P. Leitch
N 145	G.A. Little	Major Baird.
S 146	D.S. Lindsay	Miss Kitty Slack
N 147	L.P. Little	Miss Cahill
S 148	R.J. Lindsay	Cr. J.A. Brown
N 149	D. Little	Mrs.C.E. Powell
S 150	C.A. Low	Mrs. J.M. Tolmie

Tree No.	Planted in honour of	Planted by
N 151	B.P. Love	J.B. Doherty
S 152	J.A. Low	Mrs J.A. Johns
N 153	Chas. Lyle	Wm. Lyle
S 154	J.C. Low	Miss E. Burbidge
N 155	J. Main	Mrs. H. Burbidge
S 156	T.H. Manly	Mrs Thos. Manly
N 157		
S 158	E.E. Marsh	Thos. Anderson
N 159	A. Martin	Mrs E.L. Simpson
S 160	W.G. Medling	C. Medling
N 161	S. Minnett	Master Lorie G. Morton
S 162	G.S. Mitchelson	Thos. Heath
N 163	H. Moffatt	H. Moffat
S 164	R.T.V. Moon	Miss Emmett
N 165	P. Moffatt	Mrs. Moffatt
S 166	A.S. Moon	Edgar Smith
N 167	J.H. Moore	C. Moore
S 168	Ken Moore	A. Moore
N 169	G. Moore	Miss Ida Moore
S 170	W.R. Morton	Mrs Jas. Morton
N 171	D.R. Moore	Mrs F.W. Tinker
S 172	G.B. Morgan	Mrs J. McGrath
N 173	P. Moore	Roy Moore
S 174	A. Murdoch	Mrs J. Sheppard
N 175	A.S. Moore	John Wills
S 176	T. Murphy	J. Murphy
N 177	W. Murcott	Mrs A. Shaw
S 178	S.V. McDougall	Cr. H. McDougall
N 179	H.G. McFarlane	H. Marchant
S 180	Clem. J. McFarlane	H. Marchant

Tree No.	Planted in honour of	Planted by	Tree No.	Planted in honour of	Planted by
N 181			N 211	W.T. Phillips	Jack Phillips
S 182	Jas. McGregor	W. Grant	S 212	T.J. Phillips	W.E. Spurr
N 183	Jno. McGregor	Mrs McGregor	N 213	W. Platt	Mrs C. Platt
S 184	C.E. McKenzie	Mrs McKenzie	S 214	H.G. Price	Mrs G. Sloss
N 185	N. McLachlan	Mrs T.H. Pearce	N 215	C.H. Platt	Miss Platt
S 186	W.S. McKenzie	C.E. McKenzie	S 216	C.F. Ramsey	Miss Elsie Ramsey
N 187	J. McLachlan	Mark Kyle	N 217	R. McH. Ramsey	Miss N. Pearce
S 188	J.J. McPherson	Miss E Minns (Melton)	S 218	T. Rawlinson	Miss Wells
N 189	Dr. F.L. Nance	Mrs F.G. Hiscock	N 219	R. Muir Reid	Miss Jean Shaw
S 190	J.P. Nolan	Mrs W. Dugdale	S 220	G. Robson	Mrs Robson
N 191	W.H. Nolan	Mrs S. Clark	N 221	W. Rogers	Miss Annie Rogers
S 192	M.J. O'Brien	P. Alkemade	S 222	D.A. Ross	A. Ross
N 193	A.N.A. O'Hara	A.B.O'Hara	N 223	J.W. Ross	Miss May McMahon
S 194	Ern. Oliver	J.G.Wells	S 224	H. Ruddick	Miss Moffatt
N 195	Thos. Oliver	Miss Davis	N 225	Fred. Russell	Miss A. Russell
S 196	Robt. Oliver	Miss Barbara Vance	S 226	Dr. W.B. Ryan	Miss Ethel Dugdale
N 197	H.S. Oliver	Mrs A.T. Oliver	N 227	Ivan Russell	Miss L. Russell
S 198	Chas. Oliver	Mrs T.G. Pearce	S 228	E.J. Ryan	Miss M. Ryan
N 199	Ed. A. Oliver	Miss Oliver	N 229	R.J. Russell	Mrs E. Emmel
S 200	Jas. O'Leary	P. O'Leary	S 230	Jas. Ryan	W.D. Hogan
N 201	E. Orton	Mrs E. McDonald	N 231	W.T. Sergeant	Mrs J. Scott
S 202	T. O'Leary	P. O'Leary	S 232	J.S. Short	Miss Mabel Edwards
N 203	Percy B. Osborne	Mrs E.G. Jones	N 233	W. Shields	Miss Dot. Simpson
S 204	Syd. Osborne	Mrs H.E. Connor	S 234	T.J. Simmons	Alex. Kerr
N 205	P. Oswin	Miss Alice Hine	N 235	F.N. Simpson	Mrs John Simpson
S 206	M. Quinn	Cr. J. McMahon	S 236	N.P. Simpson	Miss Rose Minns (Melton)
N 207	G.G. Paterson	H. Lampe	N 237	T.H. Skene	Miss Alice Dugdale
S 208	W.J. Pezet	S. Le Cocq	S 238	A.G. Slack	Miss Maggie Slack
N 209	A.B. Paterson	Mrs H.G. Paterson	N 239	E.A. Smith	Jas. Smith
S 210	F. Pigott	D.B. Pigott	S 240	M.G. Smith	Mrs A.S. McDonald

Tree No.	Planted in honour of	Planted by
N 241	R.W. Smith	Fred. Smith
S 242	Thos. H. Smith	Miss Olly Kerr
N 243	G.T. Smith	Miss Belle Smith
S 244	Chas. J. Smythe	Robt. J. Alkemade
N 245	Chas. H. Somerton	Thos. Cowan
S 246	J.E.A. Stuart	Miss Campbell
N 247	Geo. Sutton	Mrs Sutton
S 248	H. Swanson	Mrs Jacl Cowan
N 249	H. Symington	Miss Symington
S 250	J. tancoe	H.M. Hodgson
N 251	F.J. Tinker	F.W. Tinker
S 252	C Todd	Colin Todd sen.
N 253	C. Mc. Todd	J.N. Todd
S 254	W.J. Todd	Colin Todd sen.
N 255	Wm. Toy	Thos. Cowan
S 256	W.J. Tregoning	Rev. B. Williams
N 257	J. Turnour	Mrs R. Lidgett
S 258	K.K. Turnour	R. Lidgett
N 259	D. Turnour	Miss Jobling
S 260	A. Turnour	Mrs. B. Williams
N 261	A. McK Tyers	Mrs A. Mck. Tyers
S 262	A.J. Usher	Mrs Usher
N 263	P.J. Vallenge	M. Vallenge
S 264	M. Usher	Master A. Usher
N 265	W. Vallenge	Miss Nellie Vallenge
S 266	J.W.H. Usher	Miss M. Slack
N 267	J.H. Vinning	H. Lidgett
S 268	F.D. Ward	Miss Ward
N 269	T. Warke	Miss Ruth Burbidge
S 270	T.C. Waterhouse	Mrs Cowper

Tree No.	Planted in honour of	Planted by
N 271	H. Watson	Mrs Watson
S 272	A.H. Waud	Mrs. Faulkner
N 273	N.S.R. West	Mrs. N. West
S 274	M.J. Whelan	S. Whelan jun.
N 275	W. West	Miss Minnie West?
S 276	C.D. Williams	W. Williams
N 277	C.G. West	Miss Ethel West
S 278	J. West	W. McDonald
N 279	S. Witham	H.L. Simon
S 280	A. Woodward	Mrs Woodward
S 282	Sister Kathleen Rogers	Miss G.F. Anderson

5.0 LANDSCAPE GUIDELINES

5.1 Introduction

The journey into Bacchus Marsh under the magnificent Elm trees of the Avenue of Honour is a lasting memory. The Elms are the unifying element along the journey through a changing landscape. The adjoining landscape changes as you move from the Lerderderg River and its old Redgums, past the orchards and farms and finally into the town. Through all this the avenue remains the strongest visual element.

The potential visual, heritage and physical impacts on the Avenue of Honour vary along its length as the adjoining land use changes. In order to make some sense of these changes the Avenue of Honour has been divided into management units, which recognise the differences in land uses appearance of the streetscape, heritage values and physical threats along the avenue.

5.2 Visual Qualities of the Avenue of Honour

While the avenue itself remains relatively consistent in appearance, the same cannot be said for the adjoining landscape. This changing landscape from the river past Red gum plains, orchards, open farmland, farmhouses, fruit stalls into the residential area. Many of these elements make a positive contribution to the overall visual quality of the Avenue of Honour. However, the visual appearance of adjoining development can have a detrimental impact on the integrity of the Avenue of Honour.

Key Issues:

- The regular spacing of the Elm trees is both an important symbolism and important element in the visual appeal of the avenue. The trees are marching in pairs.
- The west end of the Avenue of Honour is within the built up edge of Bacchus Marsh. The scale and age of the houses and other buildings are relatively consistent being small scale, single storey and generally older buildings (a number of houses would have been in existence when the avenue was planted. See photographs in section 6.2). The urban form theme tends to compliment the heritage of the avenue itself. The open brick lined channel is also of particular interest.
- Changing the existing rural and original town character with large new developments also lessens the visual strength of the avenue.
- The design and layout of road, car parking, kerbs, drains, footpaths, overhead services and lighting are also important considerations, especially at the west end of the avenue. Changes to any of these elements can negative impacts on visual quality of the avenue.
- Advertising signs may also detract from the avenues character. Signs which are either too numerous, too large or too modern signs detract from the character of the Avenue of Honour. However, some signs associated with the orchards and fruit stalls are now a recognised part of the avenue and an important promotion of the orcharding history of Bacchus Marsh.

5.3 Heritage Values of the Avenue of Honour

The heritage values of the Avenue of Honour are complicated by the possible different interpretations of what exactly is the avenue. The eastern and western approaches to the dedicated avenue there are groups of Elm trees which would appear, to most people, to form part of the visual avenue but are in fact not part of the 281 dedicated avenue of honour.

The trees of the western approach have heritage value in their own right due to their form and likely age. These trees are likely the last remnant of the original Elm tree avenue, which lined the main street of Bacchus Marsh for many years before the Avenue of Honour was planted.

The trees of the eastern approach have little value. These trees, planted in the 1960's continue the avenue to the Lerderderg River.

Key Issues:

- The spacing of the original 281 trees, given that each tree represents an individual serviceperson and is marked in alphabetical order with a name plate, remains an important heritage consideration.
- The entire avenue except for the section between Fiskens and Crook streets is included in a Heritage Overlay by the Moorabool Planning Scheme.

5.4 Physical Threats to the Avenue of Honour

Potential risks to the trees in the avenue come in many forms. In addition to the natural processes at work, there are the potential physical impacts of adjoining development on the physical health and longevity of individual or groups of trees. These could be classified as biological, management, services, access, buildings and consequential.

Control can be exercised through the Heritage Overlay in the Planning Scheme, which requires a permit for works within road reserve and land within 20 metres of the road reserve.

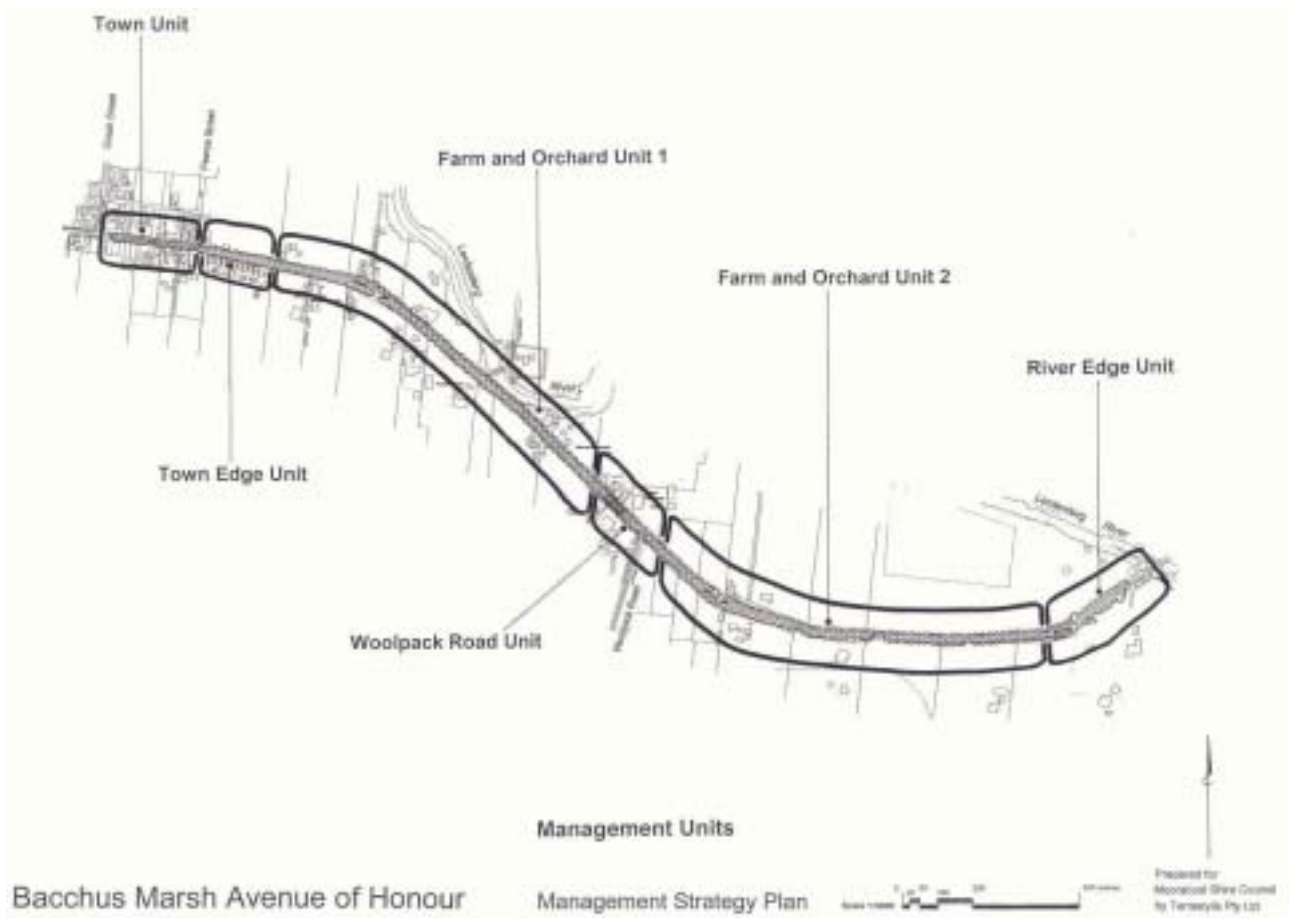
Key Issues:

- Biological – these include the threats from Elm Leaf Beetle, Dutch Elm disease and aging of the trees.
- Management – these include the threats from inappropriate tree and site management including poor pruning practice, grass cutting causing damage to the base of the trees.
- Services – these include the threats to tree roots from cutting trenches for underground services and kerb & channel and damage to tree form due to overhead services.
- Access – these include the threats from construction of driveway crossings, car parking under the tree canopy, road construction and footpath construction. This also includes the threat to tree health from compaction of ground and trunk damage at existing driveway and car park locations.
- Buildings – these include the threats from construction of buildings under the tree canopy causing damage to roots during construction and reducing the exposure of the root zone to water, air and nutrients.

- Consequential – these include the threats from excess irrigation run-off, herbicide spray drift, soil lasering and cultivation damage to root system and errant vehicle damage.

5.5 Management Units

Management units have been identified along the Avenue of Honour to identify sections of the avenue with similar management issues in terms of visual quality, heritage values and physical threats. The division of the Avenue of Honour recognises the differences in land uses, appearance of the streetscape, threats along the avenue. Six Management units have been identified and are shown diagrammatically on the plan below and are described in the following sections.



5.5.1 Town Unit

This unit comprises older residential areas on the north and south side with some infill and redevelopment occurring. From the layout of the trees in the street (less regular spacing and positioned between the table drain and the road) it appears that these trees were not planted at the same time as the Avenue of Honour. It is likely that these trees are older and form the last remnant of the Elm trees, which used to line the main street through the town. Given the age and size of these trees they have heritage value in their own right.

Issues include the building redevelopment occurring in this zone, new signs and current damage to trees from on-street car parking, kerbs, drainage, footpaths, driveway crossings and installation of underground services. There is also the issue of some of these trees lifting kerbs and footpaths.

Recommendations

- Fill gaps in spacing of trees where possible.
- Limit driveway crossing to one per property and use alternative access from side streets where possible.
- Care to be taken in reconstruction of kerb & channel and footpaths to limit damage to tree roots.
- All underground services to be directional bored rather than open trench construction.
- Consider redesign of road edge and on-road car parking to limit damage to tree trunks from cars.

5.5.2 Town Edge Unit

This unit comprises the western commencement of the dedicated Avenue at Pearce Street. There is older residential development on the south side and open farmland on the north side.

Issues include the potential for building redevelopment in this zone. On the south side there is some current damage to trees from car parking, kerbs, drainage, footpaths, driveway crossings and installation of underground services. There is also the issue of some of these trees lifting kerbs and footpaths.

Recommendations

- Fill all vacant tree locations.
- Remove name plates from trees and remount plates on a post adjacent to the tree.
- Limit driveway crossing to one per property and use alternative access from side streets where possible.
- Care to be taken in reconstruction of kerb & channel and footpaths to limit damage to tree roots.
- All underground services to be directional bored rather than open trench construction.
- Consider redesign of road edge and on-road car parking to limit damage to tree trunks from cars.

5.5.3 Farm and Orchard Unit 1

This unit comprises adjoining open farmland and orchards with occasional farm buildings of both large and small scale. Roadside fruit stalls are a feature on both sides of the road.

Issues include tree impacts from driveway and farm entrance and car parking under the canopy of trees. Ground compaction is a major issue at a number of fruit stalls. The number of standard of advertising signs is also an issue as it detracts from the visual quality of the avenue at some locations.

Recommendations

- Fill all vacant tree locations.
- Remove name plates from trees and replace plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Redesign car parking for existing fruit stalls to reduce area of compacted/sealed surfaces within the optimal root radius. Fence the road reserve boundary adjacent to car parks and limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Future signs to follow design guidelines on size, colour and style and number per property.

- Maintain open rural landscape.
- All underground services to be directional bored rather than open trench construction.

5.5.4 Woolpack Road Unit

This unit comprises adjoining light industrial, cool-stores and other larger building situated around this major intersection. The size and clutter of buildings without adequate screening from the road detracts from the visual quality of the avenue.

Issues include major tree impacts from larger number of driveways within this area and car parking and storage yards under the tree canopy. The decline in the visual quality of the avenue in this area is also a major issue.

Recommendations

- Fill all vacant tree locations.
- Remove name plates from trees and remount plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Redesign car parking to reduce area of compacted/sealed surfaces under the canopy. Fence the road reserve boundary adjacent to car parks and reduce the driveway entrances to a minimum of two.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Screen planting between future buildings and the avenue are to be provided.
- All underground services to be directional bored rather than open trench construction.

5.5.5 Farm and Orchard Unit 2

This unit comprises adjoining open farmland with occasional farm buildings of both large and small scale. Intensive vegetable growing occurs on both sides of the avenue. This unit includes the entry to the dedicated Avenue at the east. The character is defined by the regular spacing, massive size and canopy of the Elms in addition to the curves of the road and the view across the rural landscape.

Issues include tree impacts from driveway and farm entrances, and intensive horticultural practices.

Recommendations

- Fill all vacant tree locations.
- Remove name plates from trees and replace plates on a post adjacent to the tree.
- Limit driveway crossing to two entrances per property to be separated by a minimum of two trees.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Maintain open rural landscape.
- All underground services to be directional bored rather than open trench construction.

5.5.6 River Edge Unit

The dedicated Avenue of Honour ends at the flagpoles and parking area. In the 1960's a planting of Elms was continued along the Lerderberg River. This area now has a mixture of Elms, Ash and remnant and emerging Red gums. The Elms that have been planted are poor specimens. There is a very noticeable deterioration in the quality of the avenue at

this end. Extensive suckering and wildlings are present on private property adjoining these trees and along the Lerderderg River. The adjacent Red gums and those that can be seen along the river and in the adjacent paddocks are also an important theme of Bacchus Marsh.

Issues include the need to clearly define the start of the Avenue of Honour. There is also a great opportunity to emphasise the River Red gums contribution to the landscape and highlight the Lerderderg River.

Recommendations

- Remove all exotic trees.
- Maintain open rural landscape.
- Develop car parking and interpretation facilities at the commencement of the dedicated Avenue of Honour.
- Future signs to follow design guidelines on size, colour and style and number per property.
- Replanting strategies be developed once the potential impacts of proposed road works is fully understood.

6.0 Tree replacement strategies

For the purposes of management the Avenue has been divided into three sections, which are described below.

6.1 Dedicated Avenue

The dedicated Avenue comprises the 281 trees or sites that were planted in 1918. In some instances it includes replacement trees. It extends eastwards from Crook Street to the Flag poles just short of the Lerderderg River. Every tree or site has been dedicated to an individual service person as discussed in section 4. The trees are planted in pairs at spacings of approximately 20 metres.

6.1.1 Tree types

Two types of Elms dominate the plantings. Although the elms have been referred to as "Canadian Elms" the trees are clones of *Ulmus Xhollandica* or Dutch Elm. Of the two clones apparent in the original plantings it is likely that the larger elms are Huntingdons or Chichester Elm, previously described as *Ulmus Xhollandica vegeta* or *Ulmus vegeta*. The smaller clone has not been identified. Both types have been grafted or budded onto a different rootstock. The majority of the trees appear to be growing on *Ulmus glabra* rootstock. A few trees appear to be growing on *Ulmus procera* rootstock.

John Hawker (Heritage Victoria) believes that the elms referred to as Canadian elms in early nursery publications may well have been believed to be American Elm (*Ulmus americana*). A photograph of *Ulmus americana* is shown on the following page. It is now not believed that American Elm was grown in Victoria prior to 1985 when specimens were obtained from the Yarralumla Nursery in Canberra. (Spencer et al 1991).

Identification of the source of the trees can greatly assist in the identification of horticultural material. No information has been located which indicates what nursery the trees were purchased from. The records of the CA Nobelius, Gembrook Nurseries, were reviewed and a positive link could not be found. This nursery did sell Canadian Elms and Huntingdon/Chichester Elms in 1918. The 1918 catalogue also notes "These trees now worked onto the Montana stock to overcome the difficulty of suckering". Montana refers to *Ulmus montana*, which is now known as *Ulmus glabra*. Also the then Bacchus Marsh Shire Council purchased elms from this nursery for the Myrniong Avenue of Honour (6th of August 1918, 16 elm English & 80 elm Chichester for Myrniong via Bacchus Marsh. On 7th of August 1918 purchased a further 20 elm Chichester) and the Nursery also supplied trees to the Lucas girls for the Ballarat Avenue of Honour and a number of other Avenues of Honour. The Ballarat Avenue of Honour management strategy plan has identified that the Giant Canadian Elms and American Elms no longer occur in the avenue. (McWha 1997).

Whilst it is likely that CA Nobelius was the supplier of the trees, this has not been confirmed. Further research may assist in identifying the actual clones in the Avenue.



The photograph above is of *Ulmus americana*, which has a form very similar to the larger elms in the Avenue, now thought to be *Ulmus Xhollandica vegeta*.

6.1.2 Replaced trees

With one exception, all the replacement trees should be removed and replanted true to type elms. The exception is the mature Desert Ash (*Fraxinus angustifolia*, tree N053). This tree appears to be a similar age to the dedicated elms. It is considered likely that this tree was a very early replacement for an elm that had died. This tree should be retained until poor health or safety requires its removal. Upon removal it should be replaced with a true to type elm. There does not appear to be any other trees replaced until at least the 1960's.

6.1.3 True to type

The avenue was originally planted with elms described at the time as Canadian Elms. It is now recognised that these trees are two clones of Dutch Elm (*Ulmus Xhollandica*). The larger form is likely to be Huntingdons or Chichester Elms (*Ulmus Xhollandica vegeta*), the smaller clone has not been identified.

Ulmus Xhollandica vegeta is no longer commercially grown, and as the smaller clone has not been identified, it is not known whether it is commercially available. In all likelihood neither clone is likely to be currently available for purchase. If the trees are to be replaced with the same clone of elm, then it will be necessary to have the trees specifically grown for the purpose. Melbourne City Council has been propagating heritage elms for a number of years and it may be possible to obtain suitable elms from the Council.

Trees of a suitable size for replacements will take about 5 years to grow. Buds would be taken from the Avenue in late winter and budded onto *Ulmus glabra* rootstock. *Ulmus glabra* is used, as it does not have the suckering tendency of some of the other elm species. These are then grown on for about 2 years and the successful trees transplanted to about 1.5 metre spacing.

Whilst it is likely that all the current trees of each type are from the same parent material, there are some noticeable differences in form and habit. Bud wood should only be selected from the best form and habit trees of each clone and only from healthy and vigorous trees.

The existing two clones in the Avenue have performed very well and provide interesting differences in form and foliage. It is possible that the clones are of horticultural interest.

6.1.4 Replacement strategies

Whilst the Avenue is "mature" by Australian standards, it is a young avenue compared to those in Britain and Europe. These Avenues may be of 200 years old or more. Just because avenues can live for 200 years or more in Europe, does not mean we should expect the Bacchus Marsh Avenue of Honour to survive that long. Hannah and Yau (1993) have indicated that elms have a potential lifespan of about 250 years. They go on to say that "not enough data is available to estimate when street tree species located within different climatic regions and edaphic situations would need replacing due to senescence". The climate of Bacchus Marsh is very different from that of Europe. This has resulted in greater growth rates and tree size. It may also mean that the wood of the trees has very different properties and may be more susceptible to decay. However it is known that the elms of the Western approach are about 40 years older than the trees of the dedicated avenue. The elms of the Fitzroy gardens are about 60 years older than the trees of the dedicated avenue. Clearly replacement is not something that should be rushed into.

Regardless of how long the trees will live, we need to establish a strategy for replacing trees. Wright (1980) in *Large Gardens and Parks* has outlined 7 potential strategies. Other authors have largely come to the same alternatives with minor or local variations.

The alternatives for renewal of an avenue, according to Wright, are:

- (a) Clear fell and replant the entire feature. A bold, drastic decision but the visual shock is bound to be sensational. The big problem is usually of timing the felling of the avenue.
- (b) Clear fell sections of a long avenue, preferably of significant lengths, of about 30 metres at a time, and adjacent sides and replace with even age, well grown nursery stock, at 10 year intervals. Stump removal and ground preparation will have to be as thorough as possible.
- (c) Cut out every other tree and replant. This is generally never successful, since the new trees will face competition for light, and water and nutrients and may be slow to establish and become poor distorted specimens. Shade loving species such as beech and oak may stand this treatment but the long-term results will never be as dramatic as even aged trees.
- (d) Double avenues, remove the inner or outer row and replace on a phased basis. However, if the rows are too close, the row of younger trees will still be overshadowed by the mature row along side and will tend to grow out at an angle towards the light, and retain the shape in the future.
- (e) Plant a new avenue on the inside or outside of the existing line, if space allows. This can be very effective if the design is acceptable, but can be very demanding of land space.
- (f) Enjoy the old avenue as long as possible, and plant an equivalent new one somewhere else in the park.
- (g) Replace trees as they fall. The most common remedy and in the long term the least rewarding one. The avenue will always look uneven, without the fine colonnade effect.

Not all of these options are appropriate for the Bacchus Marsh AOH. In reality only options (a), (b), (c), (f) and (g) are potentially suitable. Option (e) may have limited application if road works were proposed.

The following table outlines some of the strengths and weaknesses of each option:

Option	Description	Strengths	Weaknesses
(a)	Total removal	<ul style="list-style-type: none"> Ensures even aged Avenue. Enables replacement species. Appropriate for disease management 	<ul style="list-style-type: none"> All expense at one time. Takes 50 years +/- to replace landscape value. Sound trees are removed. Infilling of failures are a problem
(b)	Block removal	<ul style="list-style-type: none"> Provides for regular expenditure Enable species replacement 	<ul style="list-style-type: none"> Sound trees are removed Landscape value reduced Infilling of gaps need to be addressed Dangerous trees not removed
(c)	Pattern removal	<ul style="list-style-type: none"> Provides for regular expenditure Enable species replacement 	<ul style="list-style-type: none"> Sound trees are removed Landscape value reduced Infilling of gaps need to be addressed Difficult to replace single trees Dangerous trees not removed
(f)	Retain Avenue	<ul style="list-style-type: none"> Landscape value maintained 	<ul style="list-style-type: none"> In long term avenue will fail Lump sum expenditure when avenue fails. Another site would need to be found. Avenue will get increasingly dangerous and expensive to maintain.
(g)	Individual removal	<ul style="list-style-type: none"> Landscape value maintained Only unsound trees removed 	<ul style="list-style-type: none"> Difficult to replace single trees. Uneven aged and randomly spaced avenue created. Difficult to change species

There is no one correct strategy. The appropriate strategy will depend on a number of issues. As the avenue is to remain the two clones of elms planted in 1918 the main issue is dealing with the cultural values attributed to each tree and the avenue.

The Avenue is:

- A monument by the local community to those people from the district who enlisted for King and Country during the Great War. Over time the avenue may well have taken a wider meaning. It may now be considered to be a monument to all those who have served their country at war.

- A group of mature and very large elms. The clone or types of elms have not been confirmed at this time. The clones may be of horticultural importance. Due to the number and size of the elms, and the decimation of mature elms in Britain, Europe and North America, by Dutch Elm disease, the Avenue may well be of national or international importance.

Each tree is:

- A monument to an individual service person planted by friends and family and maintained by the community.

These levels of significance do not take into account the major landscape or economic impact of the avenue. Haddow in 1988 estimated the amenity value of the avenue to be in excess of \$2,000,000. From preliminary analysis the avenue may well have an amenity value in excess of \$8,000,000.

Given the high level of significance applied to each tree and to the avenue, only option G appears to have widespread application. Option E has some application if trees were to be removed for road realignment. For example: If the intersection of Woolpack and Bacchus Marsh Roads was to be realigned then it may be appropriate to plant a new row outside the affected area prior to the original trees being removed. Whilst it would be inappropriate to remove healthy trees to facilitate group replacements, it is desirable that multiple tree gaps be planted in the one season. This will require a significant amount of preplanning over the short to medium term.

As far as possible replacement trees should be the same as the clone planted in 1918. Where it is not known what the original clone was, i.e. vacant sites, the replacement should match the adjoining and opposite trees. There are a small number of situations where substitution of clone will be appropriate. However it should be policy to retain the current clone wherever possible. An exception to this policy will be adjoining the residential properties in the town edge zone, where type 2 trees are proposed to be planted. Clone substitution should only be considered where the change would not interfere with the form and character of the Avenue and results in a substantial improvement in the growing environment.

6.1.5 Recommendations

- The 1918-planted trees be managed to protect their heritage value and prolong their economic life.
- That replacement trees be cloned (true to type) from the 1918 plantings and comprise both clones.
- That propagation material for the replacement trees be selected from the best form and habit trees of each clone and only from healthy and vigorous trees.
- That vacant sites be filled with replacement trees when the trees become available.
- That unless replacement trees are available for replanting, a tree only be removed when it dies or it becomes unsafe and remedial work cannot create a satisfactory level of safety.
- That if replacement trees are available for replanting then a tree may be removed if it has minimal amenity value and the amenity value cannot be improved by horticultural practices.

- That the Desert Ash (*Fraxinus angustifolia*, tree N053), be retained until poor health or safety requires removal.
- That all other species/clones be removed and replaced as funds become available.

6.2 Western approach

These trees are the trees growing west of Pearce Street, and extend through to Crook Street on the Northern side and Fiskin Street on the Southern side. Whilst the trees east of Crook Street appear to be part of the Avenue of Honour, the trees were not planted as part of the Avenue and have not been dedicated to individual service persons. These trees are likely to be part of the 1885 Main Street plantings.



The photograph above clearly shows the avenue of trees (elms) along the Main Street. The Avenue of Honour is not apparent in the photograph. This photograph dates from circa 1918. (La Trobe Picture Collection State Library of Victoria)



The photograph above is believed to be the eastern entry to Bacchus Marsh circa 1943. The canopies of these trees are clearly joined over the road. A similar photograph of the dedicated avenue circa 1950 shows little canopy over the road. This photograph is displayed in section 8.2. (Both photographs La Trobe Picture Collection State Library of Victoria).

The Express article of 1918 states "*The trees (Canadian elms) are planted on both sides of the main Melbourne-Ballarat road, commencing from the present avenue of trees at the east end of the town....*". It appears that these trees significantly predate the dedicated Avenue. A Guide to the Historic Places of Bacchus Marsh indicates that the Main Street trees were planted in 1885.

These trees should be managed to protect their heritage value and prolong their economic life. The trees of this section appear to be a similar type, both in form, foliage and size, as the *Ulmus Xhollandica* type 2 clone of the dedicated avenue. Replacement trees could be grown true to type from these trees or the smaller clone from the dedicated avenue. As there are only a small number of the 1885 trees, growing true to type will be quite expensive. The 1885 clone appears to be similar to the smaller 1918 clone; it would be appropriate for this clone to be used as the basis of replanting this area.

There are 3 alternative species/clones in this section, which should be retained. These are the English Oak (*Quercus robur*, tree W020), London Plane (*Platanus Xacerifolius*, tree W010) and Purple Elm (*Ulmus Xhollandica purpurescens*, tree W008). These trees should be retained until poor health, or safety requires removal. All other replacement trees should be removed and replaced as funds become available.

6.2.1 Recommendations

- The 1885-planted trees be managed to protect their heritage value and prolong their economic life.
- That the smaller 1918 clone (*Ulmus Xhollandica* type 2) be used for propagation of the replacement trees.

- That vacant sites be filled with replacement trees when the trees become available.
- That unless replacement trees are available for replanting, a tree only be removed when it dies or it becomes unsafe and remedial work cannot create a satisfactory level of safety.
- That if replacement trees are available for replanting then a tree may be removed if it has minimal amenity value and the amenity value cannot be improved by horticultural practices.
- That the English Oak (*Quercus robur*, tree W020), London Plane (*Platanus Xacerifolius*, tree W010) and Purple Elm (*Ulmus Xhollandica purpurescens*, tree W008) be retained until poor health or safety requires removal.
- That all other species/clones be removed and replaced as funds become available.

6.3 Eastern approach

The river approach comprises the 36 elms between the flag poles and the Lerderberg River. These elms appear to be English Elm (*Ulmus procera*). The municipal council planted these trees in the mid 1960's. The planting does not appear to have been part of any commemoration or dedication.

The trees detract from the approach to the eastern end of the Avenue. The trees are of poor form and vigour. Extensive suckering is present and encroaches on to the adjoining private property. These trees do not have any significance and will require extensive management due to the poor form. Expenditure on these trees is not warranted and the trees should be removed.

As the trees already have a suckering tendency, it may be necessary to kill the trees prior to removal. The drill and fill method of removal of woody weeds would be appropriate.

The road alignment in this area is likely to be realigned as part of the freeway extension. Removal and replacement should be considered once the road design is completed.

6.3.1 Recommendations

- The 1960's-planted trees be removed once the road design has been completed and as funds become available or as the trees require maintenance.
- That consideration be given to replacement plantings once the road works have been completed.

7.0 Protecting the root system and tree stability

For broad management purposes a tree can be considered to have two types of roots; these are the roots that (1) physically support and stabilise the tree, the structural roots, and (2) collect nutrients and water, the absorber roots. All roots to some extent provide both functions but for management it is usual to consider the roots as separate.

Using data from "Root Growth Control: Managing Perceptions and Realities" by Kim D. Coder it is possible to provide an estimate of the extent of the structural and feeder functions of the roots.

The extent of each root zone is dependent on the diameter of the tree trunk. From the data collected for the main types of trees in the Avenue the largest, smallest and average trunk diameter has been determined for *Ulmus Xhollandica* type 1, Type 2 from the dedicated avenue, and for elms in the western approach. These trunk diameters are shown below.

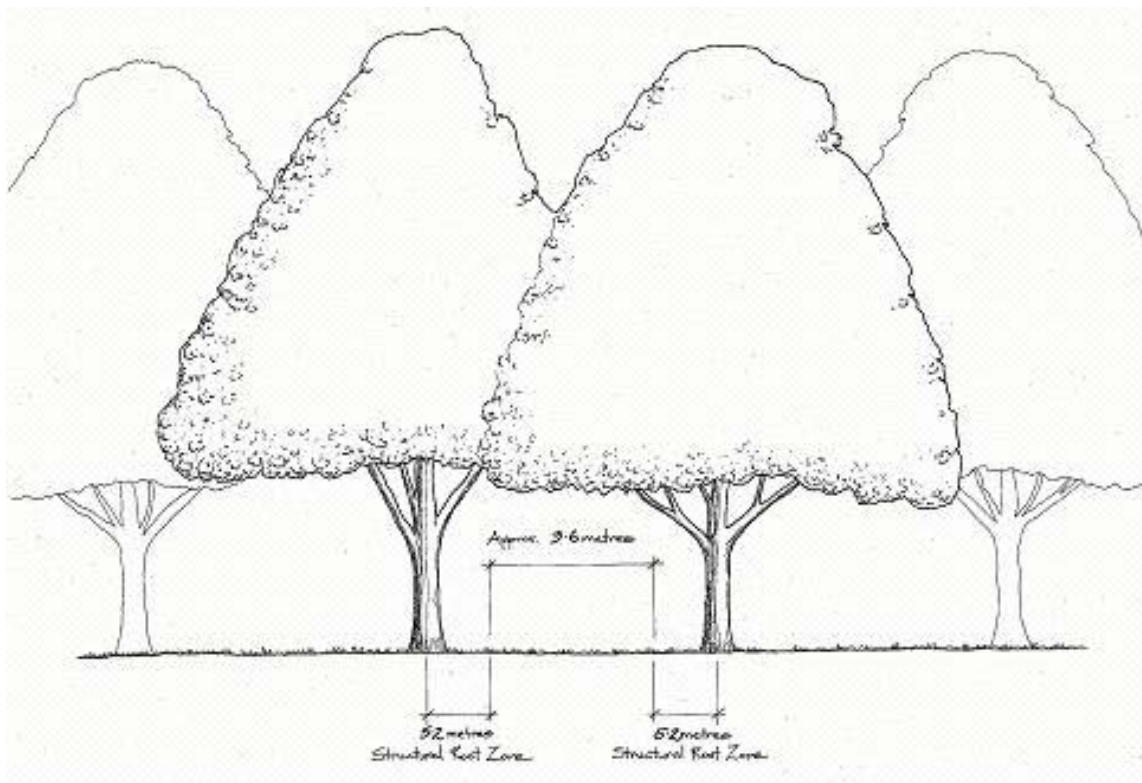
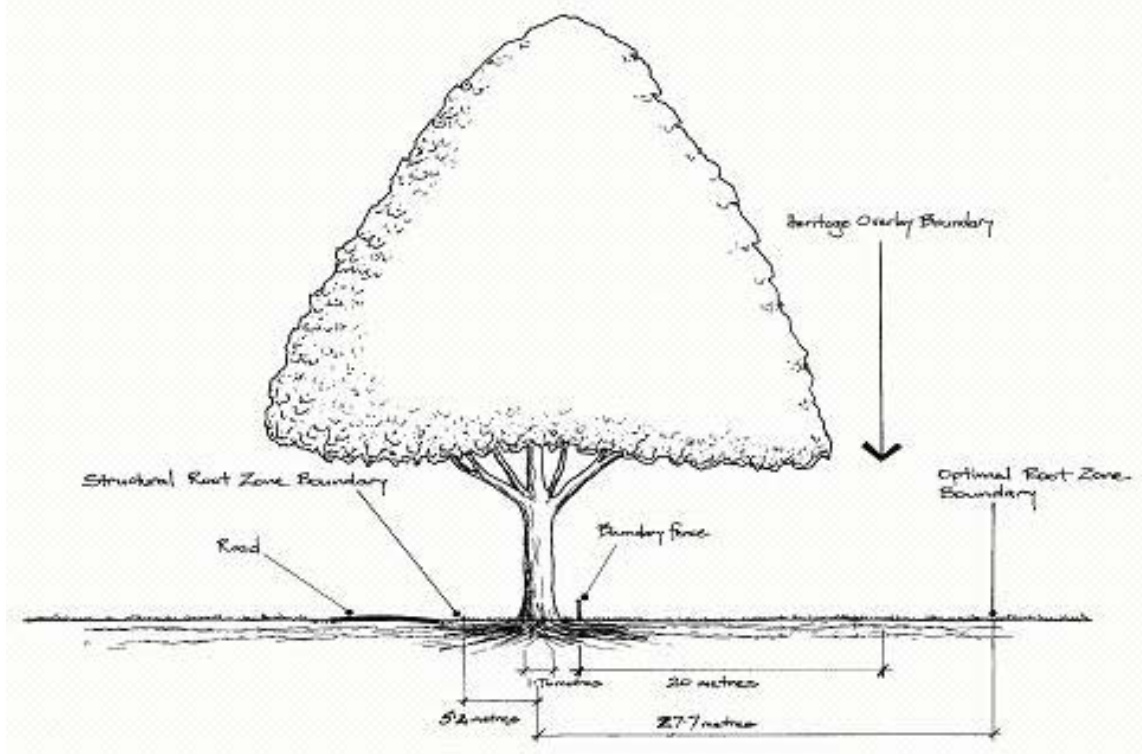
Tree No.	Trunk diameter (m)	Structural root zone (m)	Optimal root zone (m)
UH1 large	1.76	4.3	26.8
UH1 small	0.84	3.1	13.1
UH1 average	1.40	4.0	22.9
UH2 large	1.28	3.7	19.2
UH2 small	0.53	2.7	8.5
UH2 average	0.97	3.4	14.9
W large	1.02	3.4	14.9
W small	0.74	3.1	11.6
W average	0.86	3.1	13.7

The distances specified above are radius from the centre of the tree. The distances provide a good estimation of the area around a tree should be protected. To ensure that the trees remain stable in the ground roots within 3.1 to 4.3 metres must be protected for an *Ulmus Xhollandica* type 1, 2.7 to 4.0 metres for an *Ulmus Xhollandica* type 2 and 3.1 to 3.4 metres for the elms of the western approach.

7.1 Managing impacts in rural areas.

The trees that adjoin rural properties include the entire dedicated avenue, except for the southern trees of the Town Edge unit (as discussed below). These trees were planted at 20 metre spacing and approximately 2 m offset from the property boundary. The *Ulmus Xhollandica* type 1 are approximately 35 m high and the *Ulmus Xhollandica* type 2 25 m high. In order to protect all of these trees the discussion below is based on the largest trunk diameter. The structural root zone extends significantly (up to 2.3 m) into adjoining private property. The optimal root zone extends up to 24.8 metres within the private properties, and is 4.8 metres wider than the heritage overlay.

The following sections show the extent of the structural and optimal root zones.



Roots within the structural root zone should be protected from damage. For the optimal root zone the issue is less clear, with losses of up to 30% being considered acceptable under some circumstances. As a general rule not more than 20% of the optimal root zone should be lost or damaged. The onus must be placed on the proponent of any change of

use or development to show that the change will not have a detrimental impact on the trees of the Avenue.

7.1.1 New developments and uses

New developments, which have the potential to damage roots and that encroach within the structural root zone or extend over more than 20% of the optimal root zone, should not be approved.

In a practical sense driveways must be located within the centre space between the trees, must be separated by a minimum of two trees. The driveway should be at right angles to the Avenue and move out of the optimal root zone before branching or turning. Car parking, hard standing, buildings or similar uses should not be approved within the optimal root zone unless it is shown that the development will result in a loss of more than 20% and there is no reasonable alternative position for the development.

The onus should be on the proponent to show that the proposed use or development will not detrimentally impact on existing trees or unduly restrict or limit the growth of replacement trees.

As far as possible the optimal root zone should be permanently protected from potentially damaging activities. Where a site contains an immature tree the optimal root zone should be considered to be the average for that type. For vacant sites the optimal root zone should be considered to be the average for the type proposed to be planted by the Council. Consideration should be given to creating management arrangements by which this area will be appropriately managed.

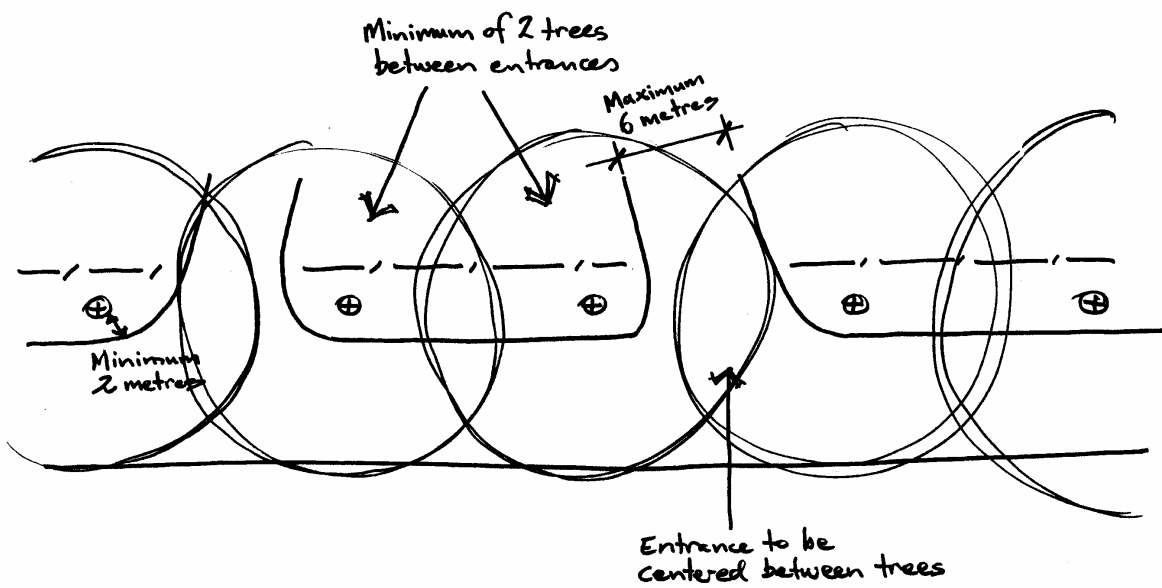
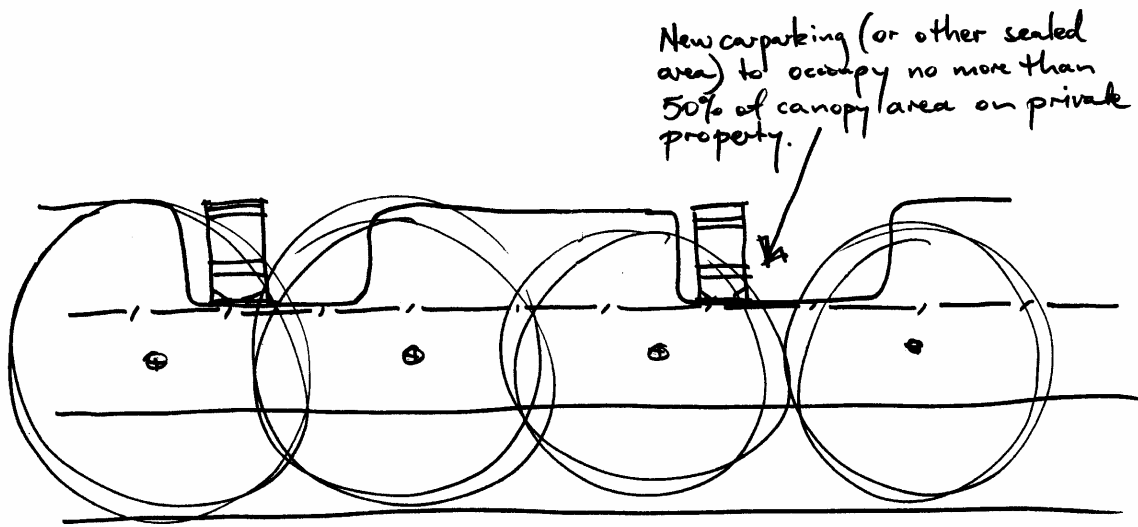
7.1.2 Existing developments and redevelopments

From the trees perspective there should be not be a different standards for new and existing uses. However, with existing uses there may be little means of reducing impacts and the damage already done to existing trees may be irreversible. Damage from works can take up to at least 10 years to become apparent. Future plantings must be provided with suitable growing space to grow and thrive.

The approach is for the Council to negotiate with the property owners. The negotiation may be initiated by Council or may be in response to development proposals. The negotiation should seek to maximise the gain to the avenue tree by:

- Removing car parking and hard standing areas from the road reserve.
- Redesigning driveways and car parking to ensure these uses do not continue within the structural root zone and more than 2 trees separate entry and exit driveways.
- Restricting development within the structural root zone.
- Reducing the extent of hard standing and car parking areas within the optimal root area.

The drawings below provide some suggestions of what approaches may reduce the impact on the trees of the Avenue.



7.2 Managing impacts in residential areas

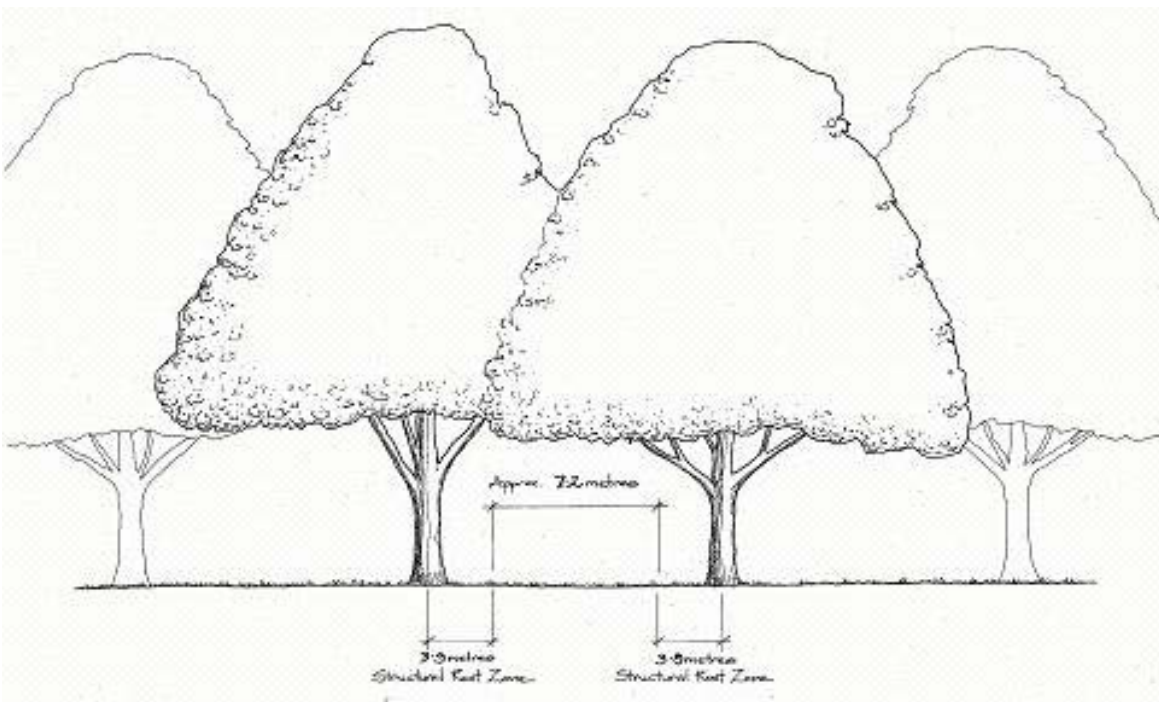
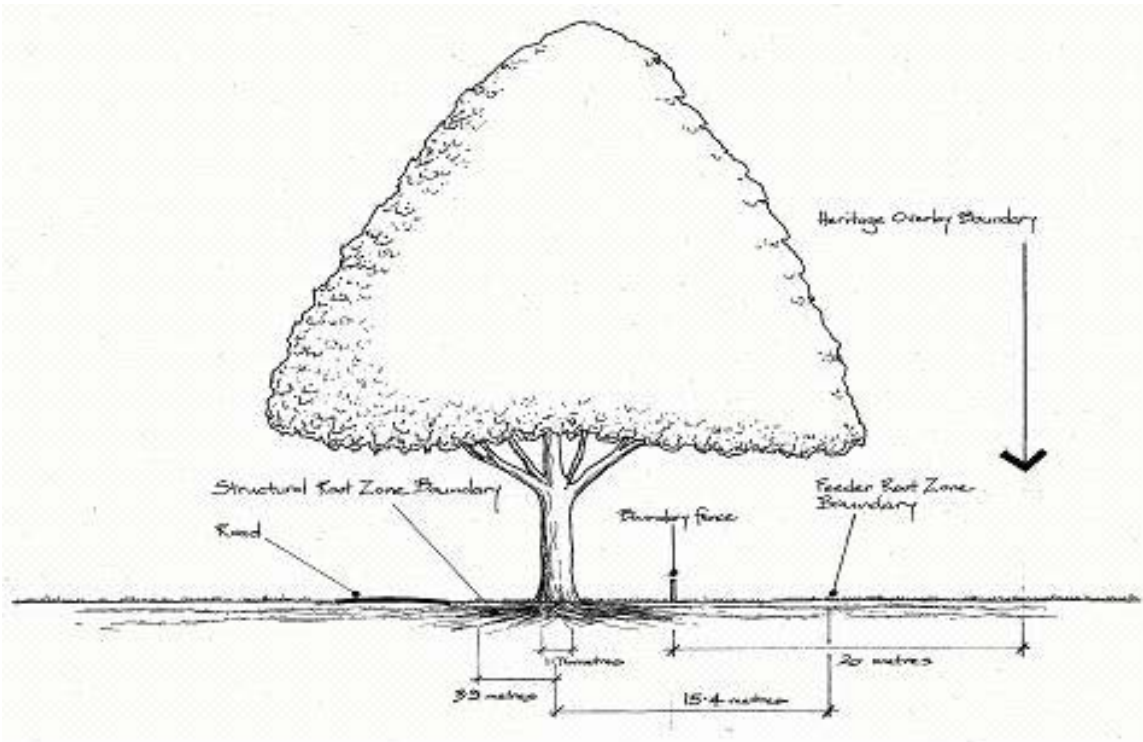
The trees that adjoin residential properties include all the trees of the Town unit (Western approach) and the southern trees of the Town Edge unit (trees S002 to S022 both inclusive), which are part of the dedicated avenue. In both these areas tree branches can extend out to over some existing developments. Pruning of limbs should be allowed where a limb encroaches within 2m of the footprint of an existing building. The pruning must be carried out to the minimum standard of the Australian Standard. Pruning to the first pruning target outside the 2m zone should be permitted rather than limbs being lopped at 2m. The Council may wish to assist property owners with such pruning works.

7.2.1 Town Unit

The trees of the Town unit are smaller than the trees of the dedicated avenue. These trees are planted at approximately 15m spacing and approximately 3m offset from the property boundary. The diagrams below show the extent of the structural root zone and optimal root zone for this situation. The structural root zone extends less than 1 m into the private property and the optimal root zone only 11.9 m.

The impacts of existing developments are minor, except for impacts within the road reserve. There are a number of vacant properties or properties suitable for redevelopment adjoining this zone. New developments, which have the potential to damage roots and that encroach within the structural root zone or extend over more than 20% of the feeder root zone on the property, should not be allowed. Where a property has frontage to another road vehicular access should not be taken from the Avenue of Honour.

In a practical sense driveways must be located within the centre space between the trees. There is not likely to be opportunity for driveways to be separated by a minimum of two trees but this should still be the objective. The driveway should be at right angles to the Avenue and move out of the optimal root zone before branching or turning. Car parking, hard standing, buildings or similar uses should not occur within the optimal root zone unless it is shown that the development will occupy less than 20% of the zone. The major impact is from within the road reserve. Car parking, footpath and drainage all are impacting on the trees.



Due to the spacing of trees and driveways, residents tend to touch park against the trees to maintain access to driveways. This is causing severe compaction, buttress and trunk damage. Parking in front of these properties should be phased out and the area rehabilitated. As previously discussed these trees should be replaced with *Ulmus Xhollandica* type 2 over time.

7.2.2 Town Edge unit

Only the southern side of the Avenue within the Town Edge Unit has residential interface. The trees in this section, trees S002 to S022 both inclusive, are a mixture of *Ulmus Xhollandica* types 1 & 2. The diameters range from 0.83 to 1.38 m, average 1.12 m. The properties adjoining this section have long been developed for residential use and impacts appear minimal. There is impact within the road reserve but this less than within the town zone due to the planting spacing of 20m and 2m offset from the property boundary. However due to the larger size of the trees, this section is dominated by *Ulmus Xhollandica* type 1, there is unlikely to be adequate distance between the structural root zone and driveways to allow parking. Parking within the structural root zone should be phased out and the areas rehabilitated. This section should be replanted with *Ulmus Xhollandica* type 2 over time.

7.2.3 Existing developments and redevelopments

As stated in 7.1.2 there should be not be a different standard for new and existing uses. However, with existing uses there may be little means of reducing impacts and the damage already done to existing trees may be irreversible. Damage from works can take up to at least 10 years to become apparent. Future plantings must be provided with suitable growing space to grow and thrive.

The approach is for the Council to negotiate with the property owners. The negotiation may be initiated by Council or may be in response to development proposals. The onus should be on the proponent to show that the proposed use or development will not detrimentally impact on existing trees or unduly restrict or limit the growth of replacement trees. As redevelopment opportunities are very infrequent the Council should ensure that every opportunity of achieving a gain is explored prior to approving a development.

The negotiation should seek to maximise the gain to the avenue tree by:

- Removing car parking and hard standing areas from the road reserve.
- Redesigning driveways and car parking to ensure these uses do not continue within the structural root zone and more than 2 trees separate entry and exit driveways.
- Restricting development within the structural root zone.
- Reducing the extent of hard standing and car parking areas within the optimal root area.

7.3 Restricted activities or uses

The following uses should not occur within the structural root zone or if the development or use extends over or isolates greater than 20% of the optimal root zone.

- Private access roads, including driveways and tracks.
- Car parking or hard standing areas, surfaced or non surfaced
- Soil lasering or levelling
- Trenching (open)
- Cultivation or ripping of the soil to a depth greater than 200 mm
- Soil sterilization
- Buildings, including houses and garages etc.
- Water channels
- Stock yards

- Loading ramps or facilities
- Stock pile sites.
- Fences requiring foundations.
- Signs

7.4 Fences and posts within the structural root zone.

Open fences and posts are acceptable within the structural root zone, providing posts are positioned to avoid the likely tree root positions. Posts should be installed in between buttress roots rather than in line with or adjoining the roots. Post holes should be dug by hand and backfilled existing soil. Where ever possible posts should be located outside the structural root zone. Name plate posts and the minimum required road sign posts are acceptable within the structural root zone providing posts are positioned to avoid likely roots.

7.5 Emergency repairs to existing infrastructure

Emergency repairs to existing infrastructure may be undertaken by excavation. Excavation must be kept to the minimum size required to affect the repair. Any excavation within the structural root zone must be undertaken by hand and roots protected as far as practicable. Damaged roots must be pruned clean and sprayed with anti fungal and root promoting material prior to backfilling with excavated material. Roots with a diameter greater than 50 mm are not to be cut or damaged.

All persons undertaking emergency repairs must advise the Council of the nature and extent of repairs.

7.6 Recommendations

- That the optimal root zone be used as a means of determining the likely area of tree roots for consideration of potential impacts.
- Where a site contains an immature tree the optimal root zone should be considered to be the average for that type. For vacant sites the optimal root zone should be considered to be the average for the type proposed to be planted by the Council.
- New developments, which have the potential to damage roots and that encroach within the structural root zone or extend over or isolate greater than 20% of the optimal root zone, should not be approved.
- As far a possible the optimal root zone should be permanently protected from potentially damaging activities.
- That within rural areas the Council to negotiate with the property owners to: Remove car parking and hard standing areas from the road reserve, Redesign driveways and car parking to ensure these uses do not continue within the structural root zone and more than 2 trees separate entry and exit driveways and reduce the extent of hard standing and car parking areas within the optimal root zone.
- Within residential areas pruning of limbs be permitted where a limb encroaches within 2m of an existing building. The pruning must be carried out to the minimum standard of the Australian Standard. Pruning to the first pruning target outside the 2m zone is permitted rather than limbs being lopped at 2m.
- That parking in front of residential properties should be phased out and the area rehabilitated.
- That the uses or activities listed in 7.3 be not be approved within the structural root zone or if the development or use extends over 20% of the optimal root zone.

- That open fences and posts be permitted in the structural root zone in accordance with 7.4.
- That emergency repairs to existing infrastructure be permitted in accordance with 7.5.

8.0 Name plates

8.1 1918

The Express article of August 17, 1918 provides the basis of our understanding of the nature of the original name plates. It states "**The trees are protected by well-made timber guards, affixed to each of which is a neat sheet-copper embossed name plate, giving the soldier's name, rank, Battalion, &c.**"

These name plates were likely not to have been directly mounted onto the timber guards, but mounted on a timber backing that was mounted onto the timber guards. The name plates could not have been mounted onto the trees at this time due to the small size of the trees.



The photograph above is of the ceremonies of 10th August 1918. From the position it is likely that the photograph is of the ceremony prior to the planting of the honour tree (N145) by Major Baird. The photograph was taken from the verandah of the Old Wool Pack Hotel. The photograph also shows the tree guard, lower left corner, already being in position. There does not appear to be a tree within the guard or the tree was very small.

There are relatively few of these name plates remaining, although a number were recovered from the base of trees during the preparation of the strategic plan. A thorough inspection, perhaps with a metal detector, of the ground around the base of trees should be undertaken in order to identify and recover lost name plates.

8.2 Post 1918

It is unclear as to the sequence of events that lead to the name plates being affixed to the trees and being of the current types. It would appear likely that the sequence would be:

- Embossed copper name plates mounted on tree guards. From photographs, these guards were triangular and made of semi durable, probably local, timber. Assuming the timber was 3x1 inch then each side of the guard would have been about 18 inches or 450 mm. The internal space would have only been 8 to 10 inches (200 to 250 mm). Without treatment it is likely that the guards would have started to collapse 15 to 20 years later. About this time the space inside the tree guard would have also been fully occupied by the trees and the trees would have been pushing the guards apart.



- As the guards collapsed the timber frames were probably removed. The photograph above from circa 1950 shows no evidence of the tree guards. It appears that at least some of the name plates were attached to the trees by this time. It would seem likely that a significant number of the copper name plates had been lost prior attachment to trees commencing. If the name plates had been attached to the trees a greater number of name plates would be expected to have survived to this time.
- In the early 1960's the then Country Roads Board removed trees on several corners. The Board planted new trees on the new alignment and installed new name plates on hardwood posts. These posts were painted white. The name plate was engraved bronze and was mounted on a green bevel edged hardwood backing plate. The posts, backing plates and name plates are still present adjoining a number of trees. It would appear that where the original copper name plates that was available it was mounted on the posts. There are no examples of the embossed aluminium name plates on these posts. It is likely that these name plates post date the engraved bronze.
- In the late 1960's or 1970's missing name plates were replaced with embossed aluminium name plates on hardwood backing plates. This would appear to have been the first systematic replacement of the name plates. There appear to be two types of

these name plates, the difference being the size of some of the embossing. These name plates are common. Some of the backing plates appear to have been stained at some time. These name plates were attached by a band of metal strapping around the trees. It would appear that this method of attachment was not effective and the name plates were later attached by metal brackets.

- By the 1980's cast aluminium name plates were being attached to the trees. These are mounted on hardwood and treated pine backing plates. Mounting was by metal brackets and some were nailed onto the trees. There are a large number of new name plates of this type in the Council depot. Dickens (1985) noted that the name plates "have all recently been replaced."
- There is a more recent name plate than the cast aluminium. This name plate was made of cast bronze and was probably mounted on the tree in the late 1990's.



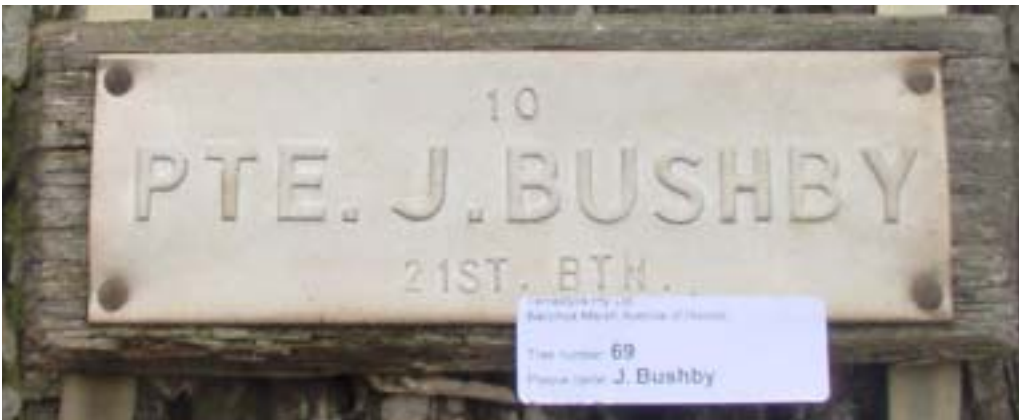
TYPE 1: Probably the original 1918 plaques. Embossed copper mounted on a wooden block. Originally mounted to the timber tree guard. This example has been remounted on a post probably by CRB in early 1960's.



TYPE 2: Engraved bronze on bevelled hardwood base. This plaque is only associated with replacement trees on realigned corners. Probably CRB from early 1960's. Originally mounted on green painted base board on a white painted OB hardwood post.



TYPE 2 (A): Embossed aluminium on a bevelled hardwood base. Mounted to trees by various straps and brackets. Differentiated from type 2 (B) by rank in smaller letters than surname.



TYPE 2 (B): Embossed aluminium on a chamfered hardwood base. Mounted to trees by various straps and brackets. Differentiated from type 2 (A) by rank in same size letters as surname.



TYPE 4: Cast aluminium with raised lettering. Mounted to a variety of boards, although predominantly treated pine and hardwood. Mounted to trees by various straps and brackets. There are a number of differences between plaques within the type. This could indicate different batches of plaques over a short time period. A large number of new plaques of this type are stored in the Council depot.



TYPE 5: Caste bronze with raised lettering on a bevelled hardwood base. Mounted to the tree by hoop iron straps. One name plate only

8.3 Wording

Over time it appears that the spelling of names and the use of abbreviations has changed. Further research is required to confirm the details for each name plate. The Express article of 1918 did not record the names associated with 5 trees. These trees being trees S008, N091, S134, N157 & N181. Through the compilation of the details recorded on the name plates it appears that names can be assigned to 3 of these trees. From reviewing the name plates it is also apparent that, at some time, the details on some of the plates has been updated. The following table lists the name plates that show a date of death after the date of the planting.

Tree number	Name	Name plate type	Date recorded
N139	Kerr	Embossed Aluminium	30/08/1918
N185	McLachlan	Caste Aluminium	18/08/1918
N221	Rogers	Caste Aluminium	29/09/1918
S232	Short	Caste Aluminium	15/12/1918

There are also a number of other errors, such as duplicate enlistment numbers associated with different people. The following table shows the information contained on name plates. Further investigation should be undertaken to ensure that the information contained on the name plates is accurate.

The following table is a compilation of the information contained on the name plates. Where a name plate was not available only the name from the 1918 listing has been shown.

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
N 001	ADAMS	F L	A-mech		44	Aust Flying Corps	
S 002	ALLAN	W J H	Tpr		57417	4th EGSR	
N 003	ALLEN	J W	Cpl		413	2 Aust Tunnel Coy	
S 004	ALMOND	J M	Tpr		95	13th Light Horse	
N 005	ANDERSON	A F	Pte		51300	GSR	
S 006	ANDERSON	K F	Pte		3620	59 Bn	
N 007	BARRETT	A.					
S 008	BARRY	H T	Pte		61823	13 GSR	

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
N 009	BARRY	P	Pte		1754	12 FAB	
S 010	BARRY	P G	Spr		5344	AEMU	
N 011	BENNETT	J R	Lt			22 Bn	
S 012	BARRY	R K	Pte		5329	14 Bn	
N 013	BENCE	G F	Pte		830	38 Bn	
S 014	BARRY	P C	Pte		7198	14 Bn	
N 015	BENNETT	W	Pte		815	AASC	
S 016	BIRD	C W	Pte		2539	43 Bn	
N 017	BLAKE	L E	Sgt		1838	1 NZ MG Coy	
S 018	BIRD	L G	Sgt		1876	59 Bn	
N 019	BLAKE	H N	Pte		5513	5 GSR	
S 020	BOOTH	T H	Pte		2819	8 Bn	K.I.A. 3 May 1917
N 021	BLAKE	W	Csm		4000	Aust Light Railways	
S 022	BOOTH	W C	Pte		3556	2 Pioneers	
N 023	BOTTLE	E J	Gnr		50	AGBD AFA	
S 024	BOTTLE	Hugh	Pte				K. I.A.
N 025	BOTTLE	H C	Pte		6711	5 Bn	
S 026	BOURKE	J.C.					
N 027	BOURKE	W.H.					
S 028	BOYD	Jos	Pte		1103	38 Bn	
N 029	BOYD	R K	Pte		7343	8 Bn	
S 030	BRENNAN	W	Pte		1899	8 Bn	
N 031	BRIGHTON	F	Tpr		311	1 Aust Remounts	
S 032	BRUNT	I.					
N 033	BUSHBY	J	Pte		10	21 Bn	
S 034	BUCKLEY	J	Pte		161	3 Pioneers	
N 035	BUCKLEY	A J	Pte		1876	56 Bn	K.I.A. 28 Sep 1917
S 036	BUCKLEY	W	Pte		6010	11 Bn	K.I.A. 6 May 1917
N 037	CAMERON	G W	Pte			8 Bn	K.I.A. 20 Sep 1917
S 038	CAMPBELL	H H	Sgt		3058	8 Bn	K.I.A. 26 Jul 1916
N 039	CAMPBELL	Archie	Pte			104 Coy	
S 040	CAMPBELL	G L	Pte		3368	59 Bn	
N 041	CAMPBELL	J H	Pte		3123	60 Bn	K.I.A. 26 Sep 1917
S 042	CAMPBELL	W A	A-mech		438	Aust Flying Corps	
N 043	CALDERWOOD	J R	Pte		1800	24 Bn	
S 044	CARTER	A J	Pte		3938	37 Bn	K.I.A. 4 Oct 1917
N 045	CARTER	W W	Pte		1833	3 Bn Pioneers	
S 046	CARDELL	J	Far		2993	15 FC Eng.	
N 047	CHAMBERS	H H H	Pte		648	7 Bn	K.I.A. 28 Apr 1915
S 048	CASPER	F	Cpl		19671	8 FAB	Died of

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
							wounds. 14 Oct 1917
N 049	CHAMBERS	F	Pte		60660	GSR	
S 050	CASHMORE	E H	Dvr		934	12 AFA	
N 051	CHAMBERS	H H	Gnr		3370	2 Bty RBA	
S 052	CHIPPENDAL E	W G	Tpr		1088	Light Horse	
N 053	CLARKE	A	Pte		3050	60 Bn	K.I.A. 19 Jul 1916
S 054	CLANEY	A	Pte		5825	22 Bn	
N 055	CLARK	W	Sgt		384	1 Anzac Bn	
S 056	COATES	R	Pte		5048	3 LH Bdge Train	
N 057	COBHAM	E	Pte		4465	6 Bn	Died of wounds 18 Sep 1916
S 058	COGHLAN	D. J.					
N 059	CONDON	H A	Pte		12-983	Auckland Bn	
S 060	COGHLAN	M B	Dvr		8282	6 FAB	
N 061	CONNELL	J	Tpr		561	13 Light Horse	
S 062	CONNOR	J R	Pte		5309	21 Bn	
N 063	CONNELL	W H	Tpr		3989	4 Light Horse	
S 064	COOK	W.A.					
N 065	COOK	W R	Cpl		3790	58 Bn	
S 066	COSGROVE	J	Dvr		1181	11 BCD	
N 067	COSGROVE	M			3113	AFA	
S 068	CROUCH	W R	Sgt			8 Bn	
N 069	CROWE	D M	Sgt		4161	1 Pioneers	
S 070	CROTON	R	Pte		1207	23 Bn	
N 071	CUTHBERTSON	M R	Lt	DCM		23 Bn	
S 072	CROOK	C E	Cpl		609	2 Anzac Mtd Regt	
N 073	CUMMING	C D	Bdr		20070	8 FAB	K.I.A. 6 Jun 1917
S 074	CROOK	F H	Sgt		1360	1 FAB	
N 075	CUMMING	N H	Pte		5671	5 Bn	K.I.A. 13 May 1917
S 076	CROOK	J R	Cpl		5333	22 Bn	
N 077	CUMMING	A K	Tpr		333	1 Aust Remounts	
S 078	CROOK	C W	Dvr		2178	3 FAB	
N 079	DAVIS	A.					
S 080	DAVIS	G T	Pte		16	24 Bn	K.I.A. 1 Aug 1916
N 081	DAVIS	L	Pte		3079	60 Bn	
S 082	DAVIS	W G E					
N 083	DAVISON	A R	Tpr		3231	8 Light Horse	
S 084	DAVISON	J T	Pte		2910	31 Bn	K.I.A. 26 Sep 1917
N 085	DAVISON	N D	Tpr		175	13 Light Horse	
S 086	DUBOUT	V	Pte			14Bn	

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
N 087	DAVISON	R G	Tpr		1555	8 Light Horse	
S 088	DODEMAIDE	F	Pte		2792	57 Bn	K.I.A. 24 Mar 1917
N 089	DIXON	W	Pte		4190	8 Bn	
S 090	DODEMAIDE	T	Pte		534	6 Bn	
N 091	Unknown service person						
S 092	DUKELOW	W H	Pte		156	2 Bn	K. I.A.
N 093	DURWARD	A.					
S 094	DREVER	W A	Pte		959	8 Bn	K.I.A.
N 095	EDWARDS	C R	Dvr		403	2nd Anzac Mtd Regt	
S 096	EARL	C J	Pte		2115	8 Light Horse	
N 097	EDWARDS	R W	Dvr		1865	12 FC Engrs.	
S 098	EARL	G.					
N 099	EDWARDS	W B	Spr		5436	12 FC Engrs.	
S 100	EDGERTON	W A	Pte		3798	46 Bn	
N 101	EVANS	R R	Pte			7 Bn	
S 102	EDGERTON	J H	Gnr		44	10 MG Coy	K.I.A. 4 Oct 1917
N 103	EDOLS	R W	Dvr		1160	2 DAC	
S 104	EMMETT	J	Pte		192	6 Bn	K.I.A. 15 May 1915
N 105	EMMETT	R	Pte		626	8 Bn	
S 106	FAGG	J B	Dvr		17647	4 LH F.A.	
N 107	FAIRBANK	A E	Pte		2710	59 Bn	
S 108	FARROW	A	Pte		614	7 Bn	
N 109	GEORGE	A J	Bdr		27511	4 F A B	
S 110	GIBSON	A J	Lt			10Bn	
N 111	GEORGE	H J	Pte		408	5 Bn	K.I.A. 27 Jul 1916
S 112	GODFREY	T C E					
N 113	GOUDIE	W	Pte		3762	6 Bn	
S 114	GRANT	R T	Pte		4198	14Bn	
N 115	GLADMAN	C A	Pte		1083	8 Bn	
S 116	GRANT	H S	Pte		3149	58 Bn	
N 117	GRANT	Ross	Capt			5 AMV Section	
S 118	HAMMOND	J W	Pte		6591	6 Bn	
N 119	HANRAHAN	S C	Pte		5682	14 Bn	
S 120	HARKNESS	W S	Pte		5841	24 Bn	
N 121	HAWKINS	T L	Pte		13950	2 LH F.A	
S 122	HINE	A W					
N 123	HINE	A W T	Pte		5368	22 Bn	
S 124	HOGG	R J	Pte		3772	46 Bn	
N 125	HOLLIS	D G	Cpl		2379	4 Pioneers	
S 126	HOLMAN	H					
N 127	HORDER	W T	Sgt		4515	58 Bn	
S 128	HOPKINS	C S	S.Capt			14 Bde HQ	K.I.A.20 July 1916
N 129	JOHANSEN	J	Pte		3818	6 Bn	Died on service 24 Feb 1918

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
S 130	JOHNSTON	O	Pte		4740	21 Bn	K.I.A. 12 Nov 1916
N 131	JOHANSEN	John E	Pte		3148	55 Bn	
S 132	JONES	C A	Pte		915	3 Div Sig Coy	
N 133	JONES	Harold	Tpr		62	13LH	
S 134	KEDDELL	J L	Gnr		1176	1&2 Btys Aust Seige Arty AIF	
N 135	JONES	P	Cpl		52572	SSD Sig Coy	
S 136	KENNELLY	J	Pte		1865		K.I.A.
N 137	KERR	W R	Pte		6349	23 Bn	K.I.A. 30 Aug 1918
S 138	KERR	R J	Gnr		3435	A.F.A.	
N 139	KERR	G M	Pte		2676	57 Bn	
S 140	KING	H.J.					
N 141	KNIGHT	A J	Pte		3367A	6 Bn	Killed in France 5 Oct 1917
S 142	LADHAMS	A W	Cpl/Mech		2134	AFC	
N 143	LAY	T H	Sgt		529	46 Bn	
S 144	LEITCH	P	Pte		4458	21 Bn	
N 145	LITTLE	G T	Lt	MC		13FCEngrs	
S 146	LINDSAY	D S	Cpl		3482	2 Aust Inf Bde	
N 147	LITTLE	L P	Lt	MC		37 Bn	
S 148	LINDSAY	R J	Dvr		34253	3DAC	
N 149	LITTLE	D	Air mech		3508	22 Reinfcts AIF	
S 150	LOW	Chas A	Dvr		1846	DAC	
N 151	LOVE	B P	Pte		623	37 Bn	
S 152	LOW	Jack A	Dvr		10540	1 DAC	
N 153	LYLE	C	Dvr		352	1 Bn	Died in service
S 154	LOW	Jack C	Pte		5045	24 Bn	
N 155	MAIN	J	Pte		2747	7 Bn	
S 156	MANLY	T H	Tpr		1386	1 Anzac Mtd. Regt	
N 157	Unknown Service person						
S 158	MARSH	E E	Drv		1139	14Bn	
N 159	MARTIN	A	Cpl		3384	6 Bn	Killed in France
S 160	MEDLING	W G	L/cpl		3412	14 Bn	
N 161	MINNETT	S	Pte		2709	29 Bn	
S 162	MITCHELSON	G S	Pte		1881	37 Bn	K.I.A.
N 163	MOFFATT	H	Pte		183	59 Bn	
S 164	MOON	R T V	Capt	VC		56 Bn	
N 165	MOFFATT	P	Spr		17046	3 Div Sig Coy	
S 166	MOON	A S R	Tpr		2134A	4 LH	
N 167	MOORE	J H	Pte		212	22 Bn	
S 168	MOORE	K E	Sgt		1932	22 Bn	
N 169	MOORE	G	Cpl		2879	1 DAC	

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
S 170	MORTON	W R	Cpt	MSM	450	15 LH	
N 171	MOORE	D R	Pte		1578	2 MG Coy	
S 172	MORGAN	G B	Sgt		2467	46 Bn	
N 173	MOORE	P	Pte		4476	21 Bn	
S 174	MURDOCH	A	Pte		552	7 Bn Anzac	K.I.A. 30 Apr 1915
N 175	MOORE	F A	Pte		2260	24 Bn	
S 176	MURPHY	T	Pte		1238	59 Bn	K.I.A. 26 Sep 1917
N 177	MURCOTT	W	Gnr		10544	51st Bty A FA	
S 178	MCDUGALL	S V	Pte		6402	22 Bn	
N 179	MCFARLANE	H G	Sgt		4190	Motor Transport	
S 180	MCFARLANE	J C	Lt		4190	HMAS Brisbane	
N 181	MORLEY	E J	Sgt		3190	60 Bn	K.I.A. 19 July 1916
S 182	MCGREGOR	Jas	Gnr		978	Aust F Arty	
N 183	MCGREGOR	John	Pte		6049A	5 Bn	
S 184	MCKENZIE	C E	Cpl		5432	5 Bn	
N 185	MCLACHLAN	N	Lt	MM		6 Bn	Killed in France 18 Aug 1918
S 186	MCKENZIE	W S	Sgt		455	4 LH	
N 187	MCLACHLAN	J J	Pte		4760	22 Bn	Killed in France 13 Nov 1916
S 188	MCPHERSON	J J	Tpr		1060	4 LH	
N 189	NANCE	F L (Dr)	Capt			AAMC	
S 190	NOLAN	J P	Tpr		1549	4 LH	
N 191	NOLAN	W H					
S 192	O'BRIEN	M J	S/sgt	DCM	1542	14 Bn	
N 193	O'HARA	A N	W/optr		4488	AFC	
S 194	OLIVER	E A	Spr			2 Coy A Lt Rlys Late HMAS ENDEAVOUR	
N 195	OLIVER	T	Pte		627	1 Pioneers	
S 196	OLIVER	R	Pte		2238	39 Bn	K.I.A.
N 197	OLIVER	H S	Pte		1143	23 Bn	
S 198	OLIVER	Chas.					
N 199	OLIVER	Ed. A.					
S 200	O'LEARY	J	Pte		709	21 Bn	
N 201	ORTON	E.					
S 202	O'LEARY	T	Pte		581	7 Bn	K.I.A. 25 Apr 1918
N 203	OSBORNE	P B				8 Bn	Died at Tidworth 2 Feb 1917
S 204	OSBORNE	S			3429	5 Pioneers	K.I.A.
N 205	OSWIN	P	Cpl		84	13LH	
S 206	QUINN	M					
N 207	PATTERSON	G G	Cpl	MM	120	1 Div Sigs	
S 208	PEZET	W J	Dvr		403	7 Bn	
N 209	PATTERSON	A B	Spr		17861	1st AAC	

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
S 210	PIGOTT	F	Pte		2034	21 Bn	
N 211	PHILLIPS	W T	Gnr		10566	3 Bty 1 F Arty	
S 212	PHILLIPS	T J	Tpr		1410	13LH	
N 213	PLATT	W H	Pte		2017	7 Bn	
S 214	PRICE	W H	Pte		2884	7 Bn	
N 215	PLATT	C H					
S 216	RAMSAY	C F	Gnr		32435	3 DAC	K.I.A. 4 Oct 1917
N 217	RAMSAY	R McH	Gnr		36528	AFA	
S 218	RAWLINSON	T	Cpl		909	42 Bn	K.I.A. 6 Jun 1917
N 219	REID	R MUIR	Sgt		7553	5 Bn	
S 220	ROBSON	G	Pte		1169	7 Bn	
N 221	ROGERS	W	Pte		3360	3 Pioneers	K.I.A. 29 Sep 1918
S 222	ROSS	D A	Sgt		5440	58 Bn	
N 223	ROSS	J W	Pte		7571	8 Bn	
S 224	RUDDICK	N	Dvr		107635	116 Bty RFA	
N 225	RUSSELL	F	Pte		3473	14 Bn	K.I.A. 10 Aug 1916
S 226	RYAN	W B (Dr)	Maj			AAMC	
N 227	RUSSELL	I J	Pte		1308	9 Bn	
S 228	RYAN	E J	Lt			59 Bn	
N 229	RUSSELL	R J	Pte		3429	4 Div Sig Coy	
S 230	RYAN	Jas	Pte		4286	3 MG Coy	
N 231	SERGEANT	W T	L/cpl		7605	14Bn	
S 232	SHORT	J S	Sgt		2684	57 Bn	K.I.A. 15 Dec 1918
N 233	SHIELDS	W F W	Lt			9 KINGS SHROPSHIRE INF	K.I.A. 25 Sep 1915
S 234	SIMMONS	T.J.					
N 235	SIMPSON	F N	Lt			3 Pioneers	Killed 29 Dec 1916
S 236	SIMPSON	N.P.					
N 237	SKENE	T H	Lt			14 Bn	
S 238	SLACK	A G	Pte		2484	2 Pioneers	K.I.A. 1 Mar 1917
N 239	SMITH	E A	Pte		5953	23 Bn	K.I.A. 3 May 1917
S 240	SMITH	M G	Pte			8 Bn	K.I.A.
N 241	SMITH	R N	Sgt		951	24 Bn	
S 242	SMITH	Thos.	Pte		246	22 Bn	K.I.A.
N 243	SMITH	G T	Pte		245	29 Bn	
S 244	SMYTHE	J C	Pte		5671	24 Bn	
N 245	SOMERTON	C A					
S 246	STUART	J E A	Lt			11 Bn	
N 247	SUTTON	G	Pte		3435	4 Pioneers	
S 248	SWANSON	H	Pte		2760	29 Bn	K.I.A.
N 249	SYMINGTON	H	Pte		5750	7 Bn	
S 250	TANCOE	J	Pte		16419	12AFA	

Tree Number	Family Name	Initials name	Rank	Decorations	Service number	Unit/Arm Service	Supreme sacrifice
N 251	TINKER	F J	Spr		18131	Sig Sqn	
S 252	TODD	C					
N 253	TODD	C M	Spr		498	4 LH	
S 254	TODD	W J	Pte		3282	1 Pioneers	
N 255	TOY	Frank	FI/Lt			RFC	
S 256	TREGONING	W J	Pte		5305	22 Bn	K.I.A. 3 May 1917
N 257	TURNOUR	John	Lt			59 Bn	K.I.A. 27 Sep 1917
S 258	TURNOUR	K E	Cpl			2AFA	
N 259	TURNOUR	Jas					
S 260	TURNOUR	A W	Pte			38 Bn	Killed in Cyprus 13 Oct 1917
N 261	TYRES	A K	Lt			AFC	
S 262	USHER	A J	Dvr		11937	3DSC	
N 263	VALLENCE	P J	Lt			4 LH	
S 264	USHER	M	Dvr		9839	3ASC	
N 265	VALLENCE	W J	Cpl	M M	541	8 LH	
S 266	USHER	J W H	Pte		1581	27 Bn	
N 267	VINNING	J H	Pte			4 Sig Coy	
S 268	WARD	F D	Pte		5747	14 Bn	K.I.A.
N 269	WARKE	T	Pte		3508	1 Div	
S 270	WATERHOUS E	T C	S/maj			AIF	
N 271	WATSON	H	Pte		1200	7 Bn	
S 272	WAUD	A H	L/cpl		2838	7 Bn	
N 273	WEST	N S R	Sgt		5432	22 Bn	
S 274	WHELAN	M J	Tpr		511	4 LH	
N 275	WEST	W	Tpr	M M	2649	1 LH Regt	
S 276	WILLIAMS	C D	Pte			23 Bn	K.I.A. 1 Oct 1917
N 277	WEST	C G	Pte		5481	22 Bn	
S 278	WEST	J	Lt			7 Bn	
N 279	WITHAM	S	Cpl			5 Bn	K.I.A.
S 280	WOODWARD	A	Pte		55705	7 Vic Reinfcts GSG	
S 282	ROGERS	Kathleen	Sister			AANS	

8.4 Management of name plates

There are now 5 types of name plates associated with the Avenue.

8.4.1 Embossed copper name plates

The 1918 plates are uncommon and are often damaged. These plates are very soft and are being damaged by corrosion. The remaining name plates should be removed from the Avenue and displayed in a public area. The RSL, Library/Historical Society or Council Offices would all be appropriate. Extreme care must be taken when removing the name plates from the trees as the plates are fragile and will be easily damaged. It would be appropriate to seek advice on the long term protection of these name plates.

8.4.2 Other name plates

For uniformity it is desirable for all the name plates to be of the one type. The following table lists the numbers of different name plates for each type.

Name plate type	Number
Embossed copper	4
Engraved Bronze	4
Embossed Aluminium	121
Caste Aluminium	132
Caste Bronze	1

These numbers are of the name plates on the trees during the study period. It does not take into account loose name plates held by the Council or new name plates in the Council Depot.

Whilst there are more caste aluminium name plates than any other type, these are generally felt to be on an incorrect style for the Avenue. It is proposed to adopt the embossed aluminium (type 2A) as the type for the Avenue. In the interim it would be appropriate for embossed aluminium (type 2B) and caste aluminium name plates to be used until funding permits replacement with the type name plate.

Name plates not required for use in the Avenue should be displayed in a public area. It is believed that the RSL would be the most appropriate location.

8.5 Mounting of Name plates

Whilst it will be acknowledged that the name plates were originally not mounted on the trees. The name plates have been attached to the trees for about the last 40 years and there is likely to be resistance to any change.

There are several options available for the mounting of the name plates. These can be grouped into two categories as discussed below.

8.5.1 Mounted in association with an individual tree

In this option the name plate remains associated an individual tree. The tree continues to be the monument, which honours the role of the individual service person. Two sub options are available, which are discussed below. For the protection of the trees and minimising of damage to name plates mounting beside the tree is recommended.

8.5.1.1 Mount on tree

If this option was adopted the name plates would continue to be mounted on the trees. Alternative mounting would be needed where there is no tree or the tree is too small for the name plate to be mounted on it. Whilst this is effectively the status quo position, it is not the most appropriate option. Mounting on the trees has not been a particularly successful method in the past. Assuming that the Embossed Aluminium name plates were made for each tree then there are less than half these name plates remaining. Due to the high growth rates of the trees, the name plates have been bent and damaged. Also the mounting straps have become broken or included into the tree trunk. The name plates are causing ongoing damage to the trees which is inappropriate. This damage can be reduced by mounting the name plates by centre screws. Whilst this will minimise the damage it will not eliminate it. Periodically the name plates will need to be removed and

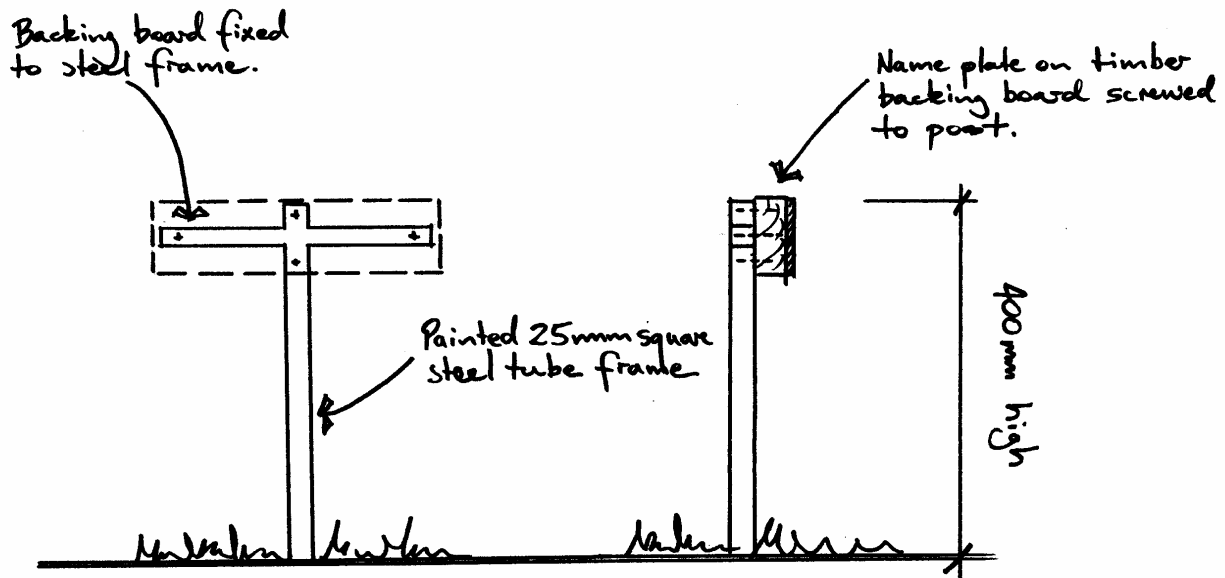
remounted to avoid the name plate being damaged by the tree. Only plastic or stainless steel screw should used for this type of mounting.

8.5.1.2 Mount beside tree

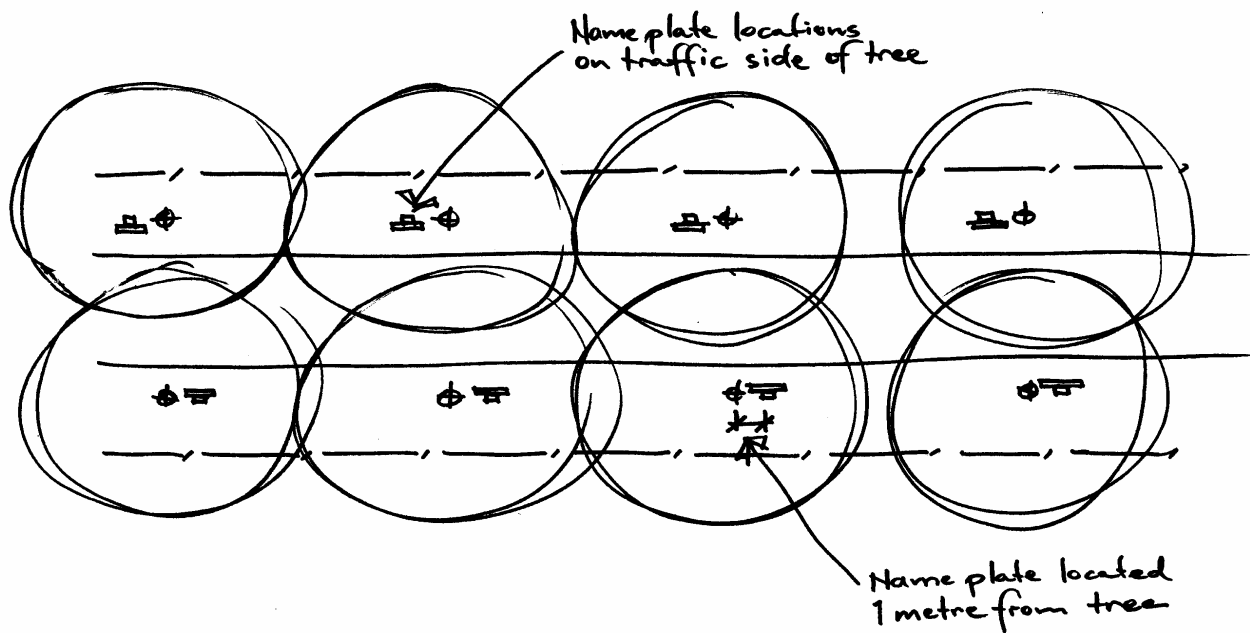
This option is the preferred option, as it eliminates virtually all damage to the trees; minor root damage may be caused by the installation of posts. It also eliminates all tree damaged to the name plates.

The attached diagram shows a mounting system. A post would be installed about 1 metre from the side of each tree with the name plate angled toward the road. Generally the name plate should be installed in line with the row of trees but on the approach side so the name plate can be seen before reaching the tree. Care would need to be taken to avoid buttress roots when installing the posts. The name plates are placed on the traffic side of the tree to ensure visibility of each name plate. There are several disadvantages with this option these are:

- (1) High initial purchase and installation costs
- (2) Increase grass cutting costs.



The location of the mounting post will need to be adjusted where existing infrastructure interferes with the standard position. In particular, the mounting post will need to be installed on the non-traffic side of the tree where access is taken between trees. The diagram below shows the typical position of the mounting posts.



8.5.2 Mount as group

This option would involve the design and construction of a wall or monument for mounting of the name plates. The direct association between the tree and the service person would be lost. Also due to the number of name plates involved, 281, a large structure would be required. There has not been any community support for this option.

8.6 The names associated with each tree

As discussed above, over the eighty years since the name plates were first attached to the tree guards it is likely that many of the name plates have become disassociated with the original tree. Whilst care may have been taken to attempt to place new name plates on the appropriate trees this has not always been successful. At this time it would appear that only about half of the name plates are associated with the correct tree. In addition there are a number of duplicate name plates on different trees.

There is no doubt that the list published in the Express on August 17, 1918 accurately represents the actual planting sequence. Not only do half the current name plates match the sequence, but the sequence matches the local history of the names being alphabetical with family groupings. It also matches brochures from the planting day.

There is the temptation to maintain the status quo and just place missing name plates on vacant trees. This approach is flawed, as the clear intent of the original planting would be lost. Also there would be no basis for determining which duplicate name plate should be removed or which name plate should be placed on a tree without a name plate.

Clearly the name plates must be returned to the appropriate tree or position. Extensive consultation with the broader community and affected families will be required. Consideration should be given to rededicating the Avenue once replacement trees are available and name plates have been returned to the correct sequence. The Avenue could be dedicated to the service persons from Bacchus Marsh which have gone to war for their country and each tree remain dedicated to the WW1 service person to whom it was originally planted. The unknown service person trees should be dedicated to unknown service persons.

The table below lists the service person to whom each tree was dedicated. Name plates will need to be repositioned where the names in the columns do not match. The three names in **larger bold** appearing in the 1918 list are the likely service person to whom the tree was dedicated.

Tree number	1918 name	Name on plate
N 001	F.L. Adams	F.L. Adams
S 002	John Allan	W.J.H. Allan
N 003	J.W. Allen	J.W. Allen
S 004	Jas. Almond	J.M. Almond
N 005	A.F. Anderson	A.F. Anderson
S 006	Keith F Anderson	K. F. Anderson
N 007	A. Barrett	R.K. Barry
S 008	H.T. Barry	P.G. Barry
N 009	P. Barry	L.G. Bird
S 010	P.G. Barry	W. Blake
N 011	J.R. Bennett	J.R. Bennett
S 012	R.K. Barry	H.T. Barry
N 013	G.F. Bence	G.F. Bence
S 014	P.C. Barry	P.C. Barry
N 015	W. Bennett	W. Bennett
S 016	C.W. Bird	C.W. Bird
N 017	L.E. Blake	P. Barry
S 018	L.E. Bird	E.J. Bottle
N 019	H.N. Blake	H.N. Blake
S 020	T.H. Booth	P.G. Barry
N 021	W. Blake	F. Brighton
S 022	W.C. Booth	W.C. Booth
N 023	E.J. Bottle	L.E. Blake
S 024	Hugh Bottle	H.C. Bottle
N 025	H.C. Bottle	Hugh Bottle
S 026	J.C. Bourke	.
N 027	W.H. Bourke	T.H. Booth
S 028	Jos. Boyd	Jos. Boyd
N 029	Raymond Boyd	R. Boyd
S 030	W. Brennan	
N 031	F. Brighton	W. Brennan
S 032	I. Brunt	W. Bennett
N 033	Jas. Bushby	J. Buckley
S 034	J. Buckley	W. Buckley
N 035	A.J. Buckley	J. Bushby
S 036	W. Buckley	A.J. Buckley
N 037	E.W. Cameron	G.W. Cameron
S 038	H.H. Campbell	H.H. Campbell
N 039	Archie Campbell	Archie Campbell
S 040	G.L. Campbell	W.A. Campbell
N 041	J.H. Campbell	J.R. Calderwood
S 042	W.A. Campbell	H.H. Chambers
N 043	J.R. Calderwood	H.H.H. Chambers
S 044	A.J. Carter	G.L. Campbell
N 045	W.W. Carter	J.H. Campbell
S 046	J. Cardell	A.J. Carter
N 047	H.H.H. Chambers	A. Clarke

Tree number	1918 name	Name on plate
S 048	Fred Caspar	F. Caspar
N 049	F. Chambers	F. Chambers
S 050	H. Cashmore	.
N 051	J.H. Chambers	H.A. Condon
S 052	W.G. Chippindale	W.G. Chippendale
N 053	A. Clark	J. Cardell (was A. Clark)
S 054	A. Claney	.
N 055	W. Clark	W. Clark (plaque missing)
S 056	R. Coates	R. Coates
N 057	E. Cobham	E. Cobham
S 058	D. J. Coghlan	M.B. Coghlan
N 059	H. A. Condon	W.W. Carter
S 060	M. B. Coghlan	R.W. Edwards
N 061	Jas. Connell	J. Connell
S 062	J. A. Connor	J. Cardell
N 063	W. H. Connell	W.H. Connell
S 064	W.A. Cook	J.A. Connor
N 065	W.R. Cook	W.R. Cook
S 066	J. Cosgrove	J. Cosgrove
N 067	M. Cosgrove	M. Cosgrove
S 068	W.R. Crouch	W.R. Crouch
N 069	D.M. Crowe	D.M. Crowe
S 070	R. Croton	M.R. Cuthbertson
N 071	M.R. Cuthbertson	N.H. Cumming
S 072	Chas. E. Crook	C.E. Crook
N 073	C.D. Cumming	C.D. Cumming
S 074	F.H. Crook	F.H. Crook
N 075	N.H. Cumming	A.K. Cumming
S 076	J.R. Crook	J.R. Crook
N 077	A.K. Cumming	R. Croton
S 078	C.W. Crook	C.W. Crook
N 079	A. Davis	L. Davis
S 080	G.T. Davis	G.T. Davis
N 081	L. Davis	R.G. Davison
S 082	W.G.E. Davis	.
N 083	A. Davison	A.R. Davison
S 084	S.C. Dubout	V. Dubout
N 085	A.D. Davison	J.T. Davison
S 086	V. Dubout	N.D. Davison
N 087	R.G. Davison	W. Dixon
S 088	F. Dodemaide	F. Dodemaide
N 089	W. Dixon	.
S 090	T. Dodemaide	T. Dodemaide
N 091	Unknown service person	W.A. Drever
S 092	W. Dukelow	W.H. Dukelow
N 093	A. Durward	J. Emmett
S 094	W.A. Drever	C.J. Earl
N 095	C.R. Edwards	.
S 096	C.J. Earl	.
N 097	R.W. Edwards	.
S 098	G. Earl	W.A. Edgerton
N 099	W.B. Edwards	C.R. Edwards

Tree number	1918 name	Name on plate
S 100	W.A. Edgerton	R. Emmett
N 101	R.R. Evans	R.R Evans
S 102	Jas. H. Edgerton	J.H. Edgerton
N 103	R. Edols	R.R.W. Edols
S 104	J. Emmett	W.E. Edwards
N 105	Roy. Emmett	A. Farrow
S 106	Jas. B. Fagg	J.B. Fagg
N 107	A.E. Fairbank	A.E. Fairbank
S 108	A. Farrow	A.J. Gibson
N 109	H.I. George	J. George
S 110	A.J. Gibson	J. Emmett
N 111	H.T. George	A.J. George
S 112	T.C. Godfrey	.
N 113	W. Goudie	C.A. Gladman
S 114	R.T. Grant	R.T. Grant
N 115	C.A. Gladman	W. Goudie
S 116	H.S. Grant	H.S. Grant
N 117	Ross Grant	Ross Grant
S 118	J.W. Hammond	J.W. Hammond
N 119	C. Hanrahan	S.C. Hanrahan
S 120	W.S. Harkness	W.S. Harkness
N 121	T. Hawkins	T.L. Hawkins
S 122	A.W. Hine	.
N 123	A.W.T. Hine	A.W.T. Hine
S 124	R.J. Hogg	R.J. Hogg
N 125	D.G. Hollis	D.G. Hollis
S 126	H. Holman	.
N 127	W.T. Horder	W.T. Horder
S 128	C.B. Hopkins	C.B. Hopkins
N 129	Jas. Johansen	P. Jones
S 130	W. Johnston	J. Johansen
N 131	John Johansen	John E. Johansen
S 132	C.A. Jones	O. Johnston
N 133	Harold Jones	Harold Jones
S 134	J.L. Keddell	C.A. Jones
N 135	Percy Jones	W.R. Kerr
S 136	J. Kennelly	J. Kennelly
N 137	W.R. Kerr	R.J. Kerr
S 138	R.J. Kerr	J.L. Keddell
N 139	G.M. Kerr	G.M. Kerr
S 140	H.J. King	.
N 141	A.J. Knight	P. Leitch
S 142	A. Ladhams	A.J. Knight
N 143	T.H. Lay	T.H. Lay
S 144	P. Leitch	A.W. Ladhams
N 145	G.A. Little	G.T. Little
S 146	D.S. Lindsay	D.S. Lindsay
N 147	L.P. Little	L.P. Little
S 148	R.J. Lindsay	R.J. Lindsay
N 149	D. Little	B.P. Love
S 150	C.A. Low	Jack A. Low
N 151	B.P. Love	D. Little

Tree number	1918 name	Name on plate
S 152	J.A. Low	Chas. A. Low
N 153	Chas. Lyle	C. Lyle
S 154	J.C. Low	Jack C. Low
N 155	J. Main	H. Moffat
S 156	T.H. Manly	T.H. Manly
N 157	Unknown service person	A. Martin
S 158	E.E. Marsh	E.E. Marsh
N 159	A. Martin	J. Main
S 160	W.G. Medling	W.G. Medling
N 161	S. Minnett	G.S. Mitchelson
S 162	G.S. Mitchelson	E.J. Morley
N 163	H. Moffatt	S. Minnett
S 164	R.T.V. Moon	R.T.V. Moon
N 165	P. Moffatt	P. Moffatt
S 166	A.S. Moon	A.S. Moon
N 167	J.H. Moore	J.H. Moore
S 168	Ken Moore	K.E. Moore
N 169	G. Moore	F.A. Moore
S 170	W.R. Morton	W.R. Morton
N 171	D.R. Moore	P. Moore
S 172	G.B. Morgan	G.B. Morgan
N 173	P. Moore	D.R. Moore
S 174	A. Murdoch	A. Murdoch
N 175	A.S. Moore	T. Murphy
S 176	T. Murphy	W. Murcott
N 177	W. Murcott	H.G. McFarlane
S 178	S.V. McDougall	J.C. McFarlane
N 179	H.G. McFarlane	John Mc Gregor
S 180	Clem. J. McFarlane	Jas. McGregor
N 181	E.J. Morley	G. Moore
S 182	Jas. McGregor	Jas. McGregor
N 183	Jno. McGregor	N. Mc Lachlan
S 184	C.E. McKenzie	C.E. McKenzie
N 185	N. McLachlan	J.J. Mc Lachlan
S 186	W.S. McKenzie	W.S. McKenzie
N 187	J. McLachlan	0
S 188	J.J. McPherson	J.J. McPherson
N 189	Dr. F.L. Nance	F.L. Nance
S 190	J.P. Nolan	S.V. McDougall
N 191	W.H. Nolan	W.H. Nolan
S 192	M.J. O'Brien	J.P. Nolan
N 193	A.N.A. O'Hara	A.N. O'Hara
S 194	Ern. Oliver	M.J. O'Brien
N 195	Thos. Oliver	T. Oliver
S 196	Robt. Oliver	R. Oliver
N 197	H.S. Oliver	H.S. Oliver
S 198	Chas. Oliver	.
N 199	Ed. A. Oliver	E.A. Oliver
S 200	Jas. O'Leary	J. O'Leary
N 201	E. Orton	E. Orton
S 202	T. O'Leary	T. O'Leary
N 203	Percy B. Osborne	P.B. Osborne

Tree number	1918 name	Name on plate
S 204	Syd. Osborne	S. Osborne
N 205	P. Oswin	P. Oswin
S 206	M. Quinn	D.A. Ross
N 207	G.G. Paterson	A. B. Patterson
S 208	W.J. Pezet	W.J. Pezet
N 209	A.B. Paterson	G.G. Patterson
S 210	F. Pigott	F. Pigott
N 211	W.T. Phillips	W.T. Phillips
S 212	T.J. Phillips	.
N 213	W. Platt	W.H. Platt
S 214	H.G. Price	W.H. Price
N 215	C.H. Platt	C.H. Platt
S 216	C.F. Ramsey	C.F. Ramsey
N 217	R. McH. Ramsey	R. McH Ramsey
S 218	T. Rawlinson	M. Quinn
N 219	R. Muir Reid	R. Reid
S 220	G. Robson	G. Robson
N 221	W. Rogers	W. Rogers
S 222	D.A. Ross	T. Rawlinson
N 223	J.W. Ross	E.W. Ross
S 224	H. Ruddick	H. Ruddick
N 225	Fred. Russell	F. Russell
S 226	Dr. W.B. Ryan	W.B. Ryan
N 227	Ivan Russell	R.J. Russell
S 228	E.J. Ryan	E.J. Ryan
N 229	R.J. Russell	I.J. Russell
S 230	Jas. Ryan	Jas. Ryan
N 231	W.T. Sergeant	J.S. Short
S 232	J.S. Short	W.T. Sergeant
N 233	W. Shields	W.F.W. Sheilds
S 234	T.J. Simmons	.
N 235	F.N. Simpson	F.N. Simpson
S 236	N.P. Simpson	.
N 237	T.H. Skene	P.H. Skene
S 238	A.G. Slack	A.G. Slack
N 239	E.A. Smith	E.A. Smith
S 240	M.G. Smith	G.T. Smith
N 241	R.W. Smith	R.N. Smith
S 242	Thos. H. Smith	Thos. Smith
N 243	G.T. Smith	M.G. Smith
S 244	Chas. J. Smythe	J.C. Smythe
N 245	Chas. H. Somerton	C.A. Somerton
S 246	J.E.A. Stuart	J.E.A. Stuart
N 247	Geo. Sutton	H. Swanson
S 248	H. Swanson	W.J. Todd
N 249	H. Symington	G. Sutton
S 250	J. Tancoe	C.M. Todd
N 251	F.J. Tinker	J. Tancoe
S 252	C Todd	H. Symington
N 253	C. Mc. Todd	W.J. Tregoning
S 254	W.J. Todd	F.J. Tinker
N 255	Wm. Toy	Frank Toy

Tree number	1918 name	Name on plate
S 256	W.J. Tregoning	K.E. Turnour
N 257	J. Turnour	WJ. Tood
S 258	K.K. Turnour	M. Usher
N 259	D. Turnour	A.W. Turnour
S 260	A. Turnour	.
N 261	A. McK Tyers	A.K. Tyres
S 262	A.J. Usher	A.J. Usher
N 263	P.J. Vallence	John Turnour
S 264	M. Usher	J.W.H. Usher
N 265	W. Vallence	P.J. Vallence
S 266	J.W.H. Usher	W.J. Vallence
N 267	J.H. Vinning	J.H. Vinning
S 268	F.D. Ward	F.D. Ward
N 269	T. Warke	T. Warke
S 270	T.C. Waterhouse	T.C. Waterhouse
N 271	H. Watson	M.J. Whelan
S 272	A.H. Waud	H. Watson
N 273	N.S.R. West	A.H. Waud
S 274	M.J. Whelan	N.S.R. West
N 275	W. West	W. West M.M
S 276	C.D. Williams	C.G. West
N 277	C.G. West	S. Witham
S 278	J. West	A. Woodward
N 279	S. Witham	Sister Kathleen Rogers
S 280	A. Woodward	C.D. Williams
S 282	Sister Kathleen Rogers	J. West

8.7 Recommendations

- (1) A thorough inspection, perhaps with a metal detector, of the ground around the base of trees should be undertaken in order to identify and recover lost name plates.
- (2) Further investigation should be undertaken to seek to identify the service persons associated with the trees N091 and N157 and to ensure that the information contained on the name plates is accurate and correct for the period and regiment.
- (3) A list should be compiled giving meaning to the various abbreviation used on the name plates.
- (4) The remaining original embossed copper name plates should be immediately removed from the Avenue and displayed in a public area. The RSL, Library/Historical Society or Council Offices would all be appropriate.
- (5) In removing these name plates extreme care must be taken to avoid damaging the name plates.
- (6) Seek appropriate advice on the long term protection of these name plates.
- (7) Embossed aluminium name plates (type 2A) be used as the type name plate for the Avenue.
- (8) Until embossed aluminium 2A name plates are available the embossed aluminium 2B and cast aluminium name plates continue to be used as required.
- (9) Name plates not required for use in the Avenue should be displayed in a public area. It is suggested that the RSL would be the appropriate location.
- (10) Name plates be maintained in direct association with each dedicated tree and that the name plates be mounted on a post.

- (11) After consultation with the community and affected families the name plates be relocated to along side the appropriate tree as per the 1918 listing.

9.0 Road and road side management

The management of the road and roadsides will have a major impact on the health, vigour and longevity of the Avenue trees. All works should be carried out to minimise impacts on the trees.

9.1 Tree setback

The trees of the avenue are far closer to the road pavement than would be acceptable under modern design. It should be recognised that although the setback does not meet current design standards, VicRoads does **not** have a policy of retrofitting clearance zones. Hence there is no requirement to increase the setback. This is fortunate as there is little opportunity to increase the setback distance. Three trees adjoining the western water land are so close to the pavement that there is little road shoulder. It would be appropriate that when these trees are to be replaced that they be shifted away from the road. It is suggested that tree N215 be shifted away from the road about 3 metres. The two adjoining trees (N213 & N217) should be shifted away from the road about 1 metre to retain an even alignment. In all other areas the existing alignment of the trees should be retained.

9.2 Traffic safety

As discussed above the proximity of the trees does not meet current design standards. There will be temptations to seek to resolve this issue through safety measures. Without installing safety railing from one end of the avenue there does not appear to be any method of ensuring that errant vehicles do not collide with trees. Installation of railing would:

- Destroy the visual character of the Avenue,
- Cause significant root damage during installation and
- Be very expensive.

Installation of railing does not appear to be appropriate for the Avenue.

The following measures will provide some assistance in improving the safety of the Avenue.

- Speed limits should be reduced as far as possible. It is suggested that the speed limit between the freeway and Woolpack road should be 80 Kph and from Woolpack road to the town 60Kph.
- Road shoulders should be maintained in an even and sound condition. Shoulders should be maintained to about 1 metre in width to avoid damage to buttress roots.
- The road pavement should be free draining and even. Drainage points could be established mid way between trees if required. The issue of road drainage should be further investigated. Pavement treatments on corners should also be investigated.
- Tactile edges should be installed instead of current edge line marking.
- Pavement and shoulders should be kept free of leaves particularly in the autumn.

9.3 Services

Many utilities use the avenue for provision of services. With the exception of electricity all these services are provided underground. The utilities, which use the Avenue, include:

- Telstra
- Gas
- Sewerage
- Domestic water

- Irrigation water, and
- Electricity.

Most of these services have been in place for many years and are not likely to be having a significant impact on the trees. However within the last 5 years a gas main was installed along the northern shoulder of the road. This main was installed by open trenching and will have caused significant damage to the trees. The full impact of this work may not be known for the next 5 to 10 years. Open trenching for services should not be permitted. Boring should be at least 750 mm below ground level to avoid most roots.

The electric lines are primarily located within the town area. These lines have been converted to insulated conductors but are still requiring a significant amount of tree pruning. Consideration should be given to undergrounding these lines. If undergrounding was to occur it should occur prior to replacement trees being planted in the western approach as there are currently a large number of vacant sites, which would reduce the need for boring. All new house services should be underground to enable easy connection if the electric lines are undergrounded.

All service authorities should be advised of the significance of the Avenue and of what approvals are required before works are undertaken.

9.4 Grass management

The Avenue is regularly mown to provide a scenic entry to the town. Mowing adjoining the buttresses of the trees is causing some damage to the trees and no doubt to the equipment. Care must be taken to ensure that buttresses are not damaged during mowing operations.

9.5 Footpaths and bike tracks

Within the town area there is a need for footpaths. Due to the proximity of trees to the paths displacement should be expected. Where the path is displaced outside acceptable limits the path should be repaired. If necessary the path should be ramped over tree roots. Cutting of roots or damaging buttresses must be avoided. Paths should be located as close to the property line and be as narrow as possible. A minimum of 100 mm gap should be provided against buttresses. Concrete paths should not be extended along the dedicated avenue, as there is inadequate separation between the trees and the property boundary.

A bike path is proposed to be installed adjoining the western water land. This path should be located within about 4 metres of the property line. This path must not be allowed to become a defacto service lane for the adjoining properties. Care must be taken during construction to avoid damage to tree roots and braches. Materials should not be stockpiled adjoining the dedicated avenue.

10.0 Implementation

10.1 Vacant sites

All vacant sites must be identified and marked. In the dedicated avenue the name plates on a post may be sufficient. It may be appropriate to have small signs produced advising when a new tree is being grown to replace the tree removed from this site. It should also advise when the planting is programmed. If vacant sites are not marked then some will be lost as driveways or services will be installed over at the planting site. (An example is site W002 which has a concrete power pole installed on the site.)

10.2 Tree supply

As the existing clones are not known to be in current production, it will be necessary for trees to be grown for the purpose. Due to the long lead time, up to 5 years, issuing the contract for growing the trees is a high priority. Sufficient trees should be grown to fill all vacant sites and replace trees where removal has been identified in the short term. 5 to 10 Additional trees of each clone should be grown to fill any additional removals over this period and to start replacing non type trees. Future cycles will need to be based on the expected number of trees to be removed and the extent of replacement of inappropriate species/clones.

10.3 Site preparation

The planting sites are likely to retain parts of previous trees. Where stumps remain these should be ground out or otherwise removed. The planting area should be ripped and cultivated to provide optimal growing conditions. Ripping should be radial from the planting site to encourage lateral root growth. Ripping should be about 600 mm deep, if services allow, and extend up to 3 metres from the planting site. In most instances these dimensions will not be able to be met due to the road, services and boundary offsets. Disturbed root material should be removed. If a stump has been ground out just prior to planting it would be appropriate to remove the soil wood mixture and replace with local soil.

10.4 Planting time

The optimal planting time is late winter to early spring. The trees must be planted just before any bud activity occurs. Late planting will retard establishment and increase maintenance costs. Early planting, particularly in frost prone areas, may cause desiccation of tree tips.

10.5 Planting

The planting hole should be excavated at the axis of the ripping. The hole should be approximately 3 times the width of the root ball of the tree to be planted. The hole should be of the same depth as the root ball. The surface of the root ball must match the surrounding ground level. Too high or low will suppress root development. Flexible drainage pipe should be installed around the base of the planting hole, with end rising to ground surface on opposite sides of the tree. Ideally both ends of the pipe should surface in line with the row of trees. A length of pipe 2.5 m long is usually sufficient and will hold about 16 litres of water during tree watering. If whipper snipping of grass is likely to be required around the base of the tree, a split section of drainage pipe can be placed around the base. This provides a high degree of protection. The hole should be refilled with excavated material and moderately compacted.

Trees should be staked with 50x50mm hardwood stakes. Two will usually be sufficient, but three may be required on larger trees. The tree should be supported by hessian ties, which are looped around the tree to restrict but not eliminate movement.

After planting the tree should be watered. The ground should be watered and the drainage pipe filled. In future watering only the drainage pipe should be filled. Consideration should be given to fertilising the trees with the initial watering. In rich soils such as Bacchus Marsh fertiliser should not be required but root promoting compounds such as seasol should be used. Some of these products come mixed with liquid fertiliser.

10.6 Watering

During the two summers after planting supplementary watering is likely to be required. The equivalent of 25mm of water per week or 50 mm per fortnight is usually recommended. If there are rainfall events during the scheduled watering period then the amount of water can be reduced by the amount of rain.

10.7 Formative pruning

Only high quality trees of good to exceptional structure should be planted in order to reduce formative pruning. But once the tree has established formative pruning should commence. Formative pruning should be undertaken regularly, and immediately after any damage. During the rapid growth period the trees should be inspected every two years and pruned as required. Failure to regularly correct poor growth tendencies can result in major scarring, loss of size or the need to remove and replace a tree.

11.0 Maintenance program

11.1 Pruning

It is important that works in the avenue are changed from reactionary to programmed. The data contained in the inspection reports will provide a sound starting point for future works. Works that have been identified as urgent should be undertaken as a priority. It should be noted that much of the urgent works have been carried out during the preparation of this plan. Once these works have been completed then more systematic works should commence. Rather than moving to the next highest priority, it will be more effective to start a system of pruning. Due to the highest risks being associated with trees adjoining residential properties, these areas should be addressed first. The objective of the pruning should be to remove all dead and suppressed limbs and other limbs that are unsound and not need to return to the area, for programmed works for say 5 years. Trees should not be removed as part of this program unless there are no alternative means of providing reasonable safety. It would be appropriate for a suitably qualified arborist to be on call during programmed pruning to provide guidance in accordance with this plan.

11.2 Detailed or elevated inspections

The inspection reports have recorded a number of instances where further assessment is required. Often this will require assessment of the upper unions of trunks. These inspections should be programmed with the completion of the urgent works. The use of decay detection or resistograph equipment on heavily decayed trees is recommended.

11.3 Inspections

The priority zones are the residential areas; the fruit stall areas, the Woolpack Road area, and the section west of Woolpack Road, excluding the 1960's plantings and the remainder.

Due to the time that will be taken in completing systematic pruning, inspections will need to be undertaken on a regular basis. A suitably qualified arborist on at least an annual basis should inspect areas that have not been pruned. There is no one optimal season for inspection and the timing of inspection should be agreed between the arborist and the Council. For consistency the inspection arrangement should be for more than one inspection. Urgent works identified during the inspections will need to be carried out expediently.

11.4 Reactive works

After storm events or prolonged dry periods works will be required to clean up damaged trees or limbs. This work is impossible to program but resources must be available to quickly remedy the situation. Where major damage has been sustained, inspection by a suitably qualified arborist is recommended.

11.5 Tree removal

Due to the condition of the trees it is likely that some trees will need to be removed. The plans objective is to sustain the trees until replacement trees are available. Whilst this should be possible for the majority of the trees, however some trees may require more immediate removal. Trees that pose an immediate danger and the risk cannot be brought to an acceptable level by alternative means must be removed. Assessment by a suitably qualified arborist is recommended.

12.0 Pest and disease management

There are three main pest or disease issues for the Avenue.

12.1 Basal Rot

Death of the cambian layer and subsequent rot of the sapwood has been observed on several trees, all being CRB planted trees. The disease has not been identified but it is likely to be Armillaria. Armillaria is an indigenous fungus that requires a woody food base from which to spread and infect susceptible plants. Removal of infected trees and removal of the stump is usually recommended. Ripping out the stump breaks the root system and disrupts the spread of the disease. Covering the stump with soil can reduce spread as other fungi more readily infect the stump. Soil samples could be taken and analysed by the Centre for Forest Trees Technology (a business unit of NRE) to positively identify the causal agent. Alternatively, as the infected trees have little value, the infected trees and stumps should be removed.

12.2 Elm Leaf Beetle

Elm leaf beetle is a serious pest of Elm trees. It has the ability to seriously defoliate elms. Untreated the beetle can cause serious decline and loss of amenity in infected trees. Elm Leaf beetle was identified in Bacchus Marsh this year. A control program has been put in place. The Avenue of Honour will need to be managed as part of an integrated program across Bacchus Marsh.

12.3 Dutch Elm disease

Dutch Elm disease has decimated most of the mature elms of Europe and North America. DED has been identified in New Zealand but it would appear that the outbreak has been controlled. A contingency plan for the disease is currently being finalised. The Council should obtain a copy of the plan from the Keith Turnbull Research Institute.

One of the methods used to assist in controlling this disease is to remove dead and declining limbs. The vector of spread for this disease, the elm bark beetle, feeds on dead and dying limbs. Vigorous trees with little dead or suppressed limbs will assist in minimising the number of elm bark beetles. Some of the significantly declining trees in the avenue will provide significant breeding opportunities for the Elm bark beetle.

The main objective is to reduce the elm bark beetle population to a very low level as a defence against a future infection with the disease.

Dutch Elm Disease has not been identified in Australia and currently appears to have been controlled in New Zealand.

13.0 Future management arrangements

The Bacchus Marsh Avenue of Honour is undoubtedly one of the most impressive in Australia. It is second to the Ballarat Avenue in length and number of trees. However it surpasses Ballarat in the size of the trees and its completeness.

To ensure not only the survival of this impressive avenue it will be necessary to ensure that all activities which may impact on the trees can be regulated and coordinated.

13.1 Heritage Overlay

The current Heritage overlay in the Moorabool planning scheme is a suitable first level control. The 20 metre overlay on adjoining properties is adequate in its width. The optimal root zone of the largest *Ulmus Xhollandica* type 1 trees extends up to about 3 metres beyond the current control but the loss of the area outside the 20 metre Heritage Overlay would have minimal impact on the health, vigour or stability of this tree. Care must be taken to ensure that incompatible uses or developments do not occur within the overlay area. Guidelines and Educative material should be prepared to assist development proponents and property owners to understand the importance of the avenue and how to enhance its value.

At the river end the heritage overlay is significantly wider than necessary. Adjoining the western water land a 20 metre strip of road was set out between the Avenue and the private lots during the subdivision of the land. The Heritage overlay however continued 20 metres within the private properties. Clearly this is illogical and an unnecessary restriction on the use of this land. It would be appropriate for the Heritage overlay to be reduced to 20 metres from the original road boundary. Consideration should be given to removing the Heritage Overlay over the River approach.

The Heritage Overlay should be extended at the western end to include tree W38 and its optimal root area. The trees and vacant sites between this tree and Fiskens Street are very poor and visually do not appear as part of the Avenue. These trees should not be covered by the Heritage overlay but should be managed by the Council generally in accordance with this strategy. Once these trees are removed the area should be considered to be part of the Main Street and landscaped accordingly.

13.2 State Heritage Register

The Bacchus Marsh Avenue of Honour is clearly of state heritage value and its inclusion on the register should be actively pursued.

Whilst the planning controls would remain the same, Heritage Victoria would become a referral authority for all permit applications. The Council would be bound to include any conditions or refuse the application if required by Heritage Victoria. The advantage of listing is that all authorities and utilities take notice of the registration and the Council may be able to access funds to assist with the management.

13.3 National Estate

It appears the Council has previously nominated the Avenue for inclusion on the register of the National Estate. The status of the nomination is unclear and does not appear on the register in any form. There are two Avenues of Honour recorded in the Register database. These are the Ballarat AOH, which is Registered and Creswick which is listed as "indicative" and is being considered for the register. It is unclear whether the Bacchus

Marsh Avenue will meet all the requirements of that register but the AOH is certainly very important. The main advantage of inclusion on this register is access to commonwealth funding. The Avenue is one of the most impressive elm avenues in Australia. Due to the decimation of elms by Dutch Elm disease in Europe and North America it may have greater significance.

13.4 Management Committee

To be successful in protecting and enhancing the Avenue the Council will need the cooperation and assistance of many other organizations. Perhaps the most successful way of achieving this would be through the creation of a management committee. The Ballarat Committee has been very effective in ensuring that all agencies recognise the significance of that avenue. It may be appropriate for the Council to adopt a similar management structure to assist in the ongoing decision making process.

13.5 Recommendations

- The Heritage overlay be extended at the town end to include tree W38 and its optimal root area
- The Heritage Overlay be reduced in width at the river end by ending the overlay 20 metres from the original road boundary.
- Further consideration be given to removing the heritage overlay between the flag poles and the river.
- The Council actively pursue the inclusion of the AOH in the state heritage register.
- The Council pursue the inclusion of the AOH in the register of the National Estate and if necessary re nominate the Avenue.
- The Council give consideration to appointing a management committee for the Avenue possibly along similar line to the Ballarat Committee.