2.2 Existing Trees

Trees play a vital role in shaping the character of Tamplin Field. Mature Chinese elms are located along the northern, southern, and eastern boundaries, creating a sense of enclosure, offering shade, and contributing seasonal aesthetic changes. On the western edge, a dense clump of casuarinas runs along the stormwater channel and forms a screen towards the private properties.



Figure 7: Chinese Elms on southern boundary looking towards Laurence St shops



Figure 8: Trees planted on norhtern mound



Figure 9: Clump of Casuarinas on western edge



Figure 6: Existing trees plan

2.3 Stormwater Channels

The site and its immediate surroundings includes tormwater drain age channels with concrete base. One of the channels runs along the north-west of the oval, which is fed by a culvert flowing onto the site from beneath Powell Street. A second stormwater channel enters the site from culverts under Laurence St. The two channel merge continue further north.

An embankment with two rows of trees runs along the northern channel and the western channel is lined by mature casuarinas.



Figure 11: Open concrete drainage channel through Casuarina stand



Figure 12: Drainage culvert opening



Figure 13: Mound on northern side of field



Figure 10: Stormwater channels analysis

2.4 Flood Study

The draft flood study by AT&L (2024) illustrates that currently the sports field is only moderately affected by 1% AEP flood events, with flood depths of less than 0.2m along the edges of the field, with relatively short duration periods.

The study also illustrates the site is only affected by the 0.5% (1/200Yr) AEP up to PMF from flooding in the Hawkesbury River, with durations ranging from 24-96 hours.

Upgrades to the sports field will have to ensure flooding does not worsen. Proposed design levels will be provided to the hydraulic engineers to rerun the flood model to test and confirm all flood requirements are met.





Figure 14: Flooding plan (1% AEP)

2.5 Existing Boundary Conditions

Tamplin Field is bordered by several different land uses and features. Approximately ten low-rise private residences share a boundary fence with the western edge of the site.

The site is also adjacent to two roads, Laurence Street to the south-east and Powell Street to the north-east. To the south, across Laurence Street, there is a strip of local shops accessible via a pedestrian crossing.



Figure 16: Fenced boundary between private residences and open space, with large tree on boundary



Figure 17: Close up of fenced boundary



Figure 18: View of Casuarinas and stormwater channel from boundary



Figure 15: Boundary condition plan

2.6 Entries and Movement

Access to Tamplin Field is provided from the north-east and south-east boundaries via Powell Street and Laurence Street respectively. The site's location facilitates movement to and from key surrounding areas, including Hobartville Public School to the north and the shops located to the south across Laurence Street.

Overlayed Strava heatmap data shows active movement along the North-South channel easement, as well as desire-line movement across the open space to the south of Laurence St.

A second pedestrian crossing on Powell St, north of the culvert, connects the channel easement with the school. Despite these access points, the majority of the park that is street facing is enclosed by a low wire fence, with only a limited number of designated openings or entries.



Figure 20: Open culvert running alongside school to the north of Tamplin field



Figure 21: Footpath on outside of low wire mesh fence on Powell st to the east of Tamplin field



Figure 22: Existing raised pedestrian crossing at Laurence St, connecting to shops



Figure 19: Strava heatmap overlay on movement plan

2.7 Existing Services

Underground services, including a rising main along the western side of the existing field and a sewer main on the south of the site, present design constraints.



Figure 23: Existing services plan

3. REFERENCE DESIGN REVIEW

This section provides an overview of a review of the reference Masterplan design (Figure 24), as well as the testing and assessment of various field layout options, including a summary of the preferred option.

3.1 Field layout Objectives

The following key objectives have been identified for assessment of the various options, including the reference design:

- 1. Minimise the number of trees that need to be removed
- **2.** Minimise the length of culvert required
- 3. Minimise the impact of the project on the privacy of neighbouring residents - visual/privacy impact
- noise impact
- light spillage
- flood impact
- 4. Provide ideal field of play orientation (see diagram below)
- 5. Efficient use of space, to ensure all project elements can be achieved

On the following pages a summary is provided of the impact of the reference design on each of the above criteria.

Some of the key reasons why the team has developed and assessed alternative options to this layout include:

- The proposed orientation of the athletics field falls outside the ideal orientation of play
- It requires a 107m culvert, incurring a significant cost of approximately \$1 million.
- The field is in close proximity to neighbouring properties, raising concerns about privacy issues and potential light spillage into private residences
- This option requires the removal of a substantial number of trees.





3.2 Impact on Existing Trees

The proposed orientation of the athletics field poses a significant threat to the existing tree population. Construction would necessitate the removal of trees along the south-western channel, all ten trees on the eastern side of the mound, and likely eleven trees on the western side. Furthermore, a large tree located north-east of the existing building and a large tree along the boundary fence are also slated for removal.

The current layout necessitates cutting into the mound adjacent to the south-west channel resulting in the removal of all trees on the eastern side of the mound and likely all trees on the western side (shown in orange), as approximately 30% of their structural root zones are impacted.



Figure 26: Chinese Elms on southern boundary looking towards Laurence St shops



Figure 27: Trees planted on norhtern mound



Figure 28: Clump of Casuarinas on western edge



3.3 Impact on Stormwater channels

The reference design proposes the installation of an approximately 107m long culvert on the western side of the field, to accommodate the larger athletics track.

The current layout necessitates the installation of culverts, with approximate dimensions of $5x \ 2mx \ 0.9m$, spanning an estimated 107.5 meters. This culvert construction is projected to cost \$1,075,000 (calculated as \$10,000 x 107.5m).

The levels along the site boundary will be raised by approximately 0.5m (to allow for sufficient cover for the sports field), which requires the removal of a tree on the boundary due to the placement of approximately 500mm of fill over its Structural Root Zone (SRZ). Raising the levels will also negatively impact privacy. Figure 31 is a cross section illustrating the culvert, raised levels, proximity to boundary/fence and the likely removal of the existing tree.





Figure 30: Culvert required for proposed field orientation



Figure 31: Section of culvert installation cut and fill affecting boundary tree to accommodate proposed field orientation