

THE HILLS SHIRE COUNCIL

APPROVED
DEVELOPMENT CONSENT
860/2022/JP

Please refer to conditions of Development Consent
for details of matters which must be
complied with.

detail tree retention & tree protection plans associated with concept development application & civil works - 55 coonara avenue, west pennant hills



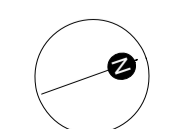
legend

- tree canopy retained
- E2 Environmental Protection Zone
- earthworks & civil works areas
- bushfire Asset Protection Zones outside civil & earthworks areas and outside E2 zoned land

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COONARA AVENUE

legend

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- Structural Root Zone of trees along interface of development based on AS 4970-2007
- E2 Environmental Protection zone
- earthworks & civil works areas
- bushfire Asset Protection Zones outside civil & earthworks areas and outside E2 zoned land
- tree protection fencing or hoarding (refer specification GTPM 1 sheet 12)
- specific works area

joins sheet 2

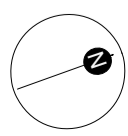
specific work area E
refer specifications STPM 7 sheet 12

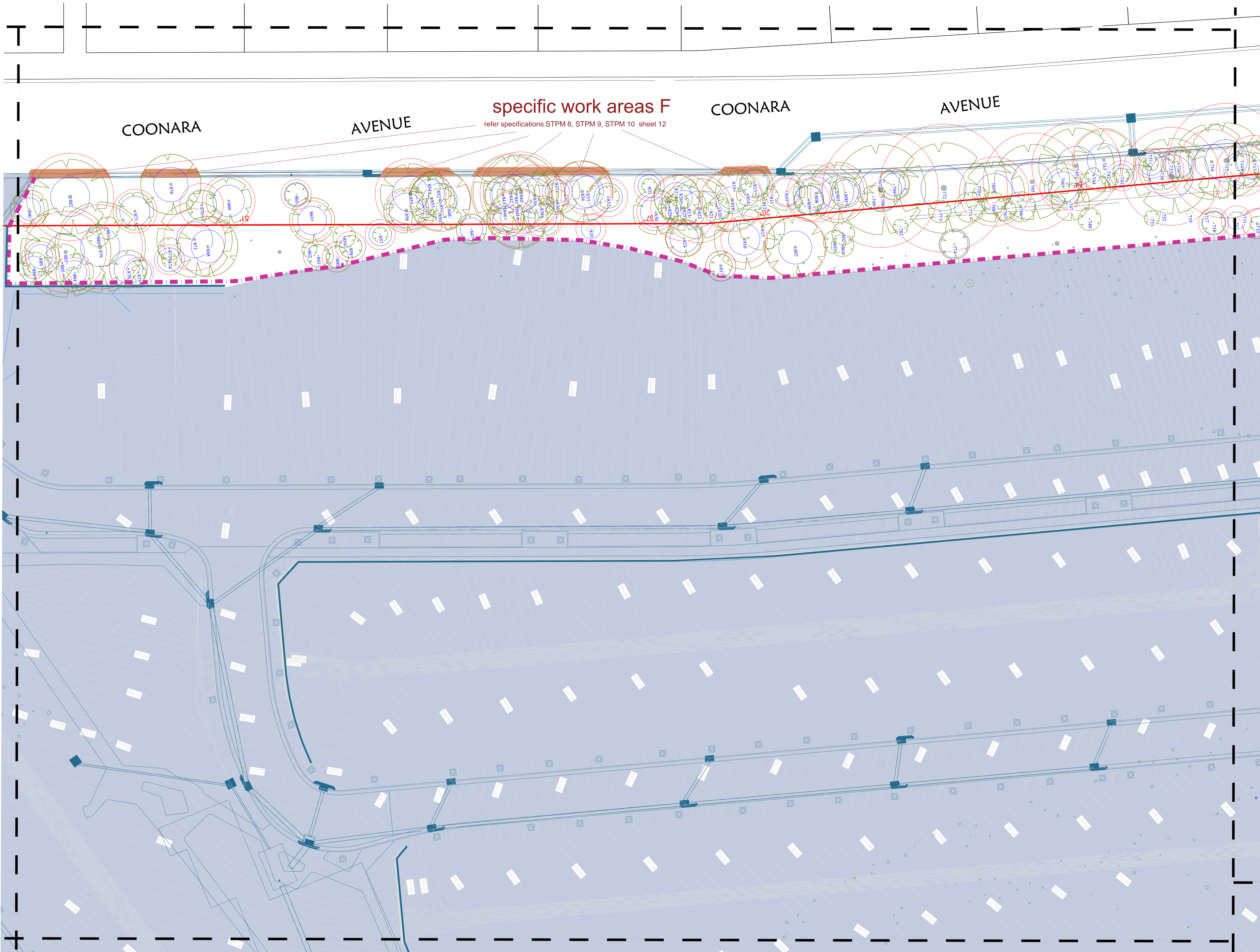
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joins sheet 1

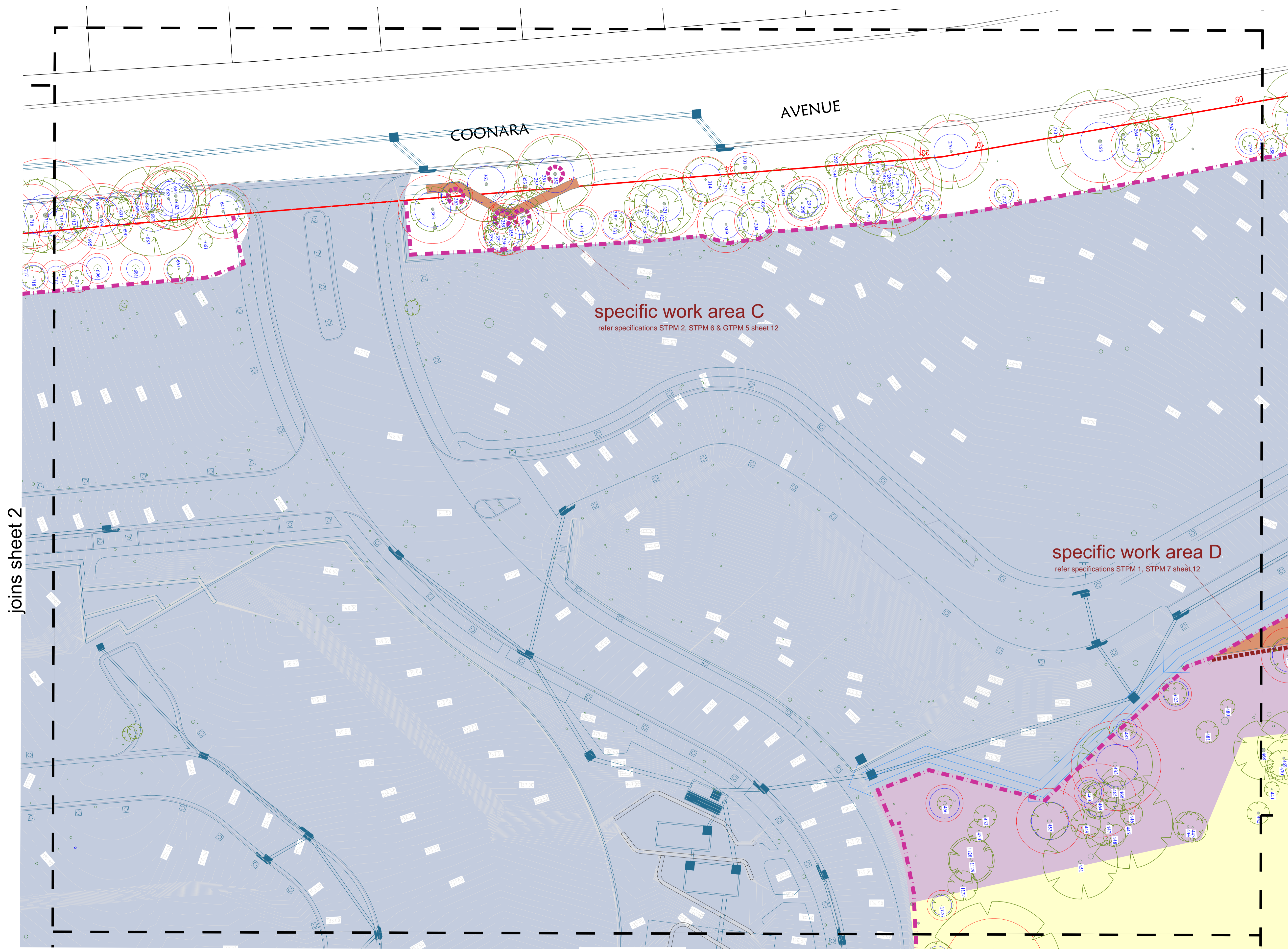
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joins sheet 6

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- specific works area (refer specification sheet 12)
- tree protection webbing (refer specification STPM 1 sheet 12)
- trunk armouring (refer specification STPM 2 sheet 12)

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joins sheet 2

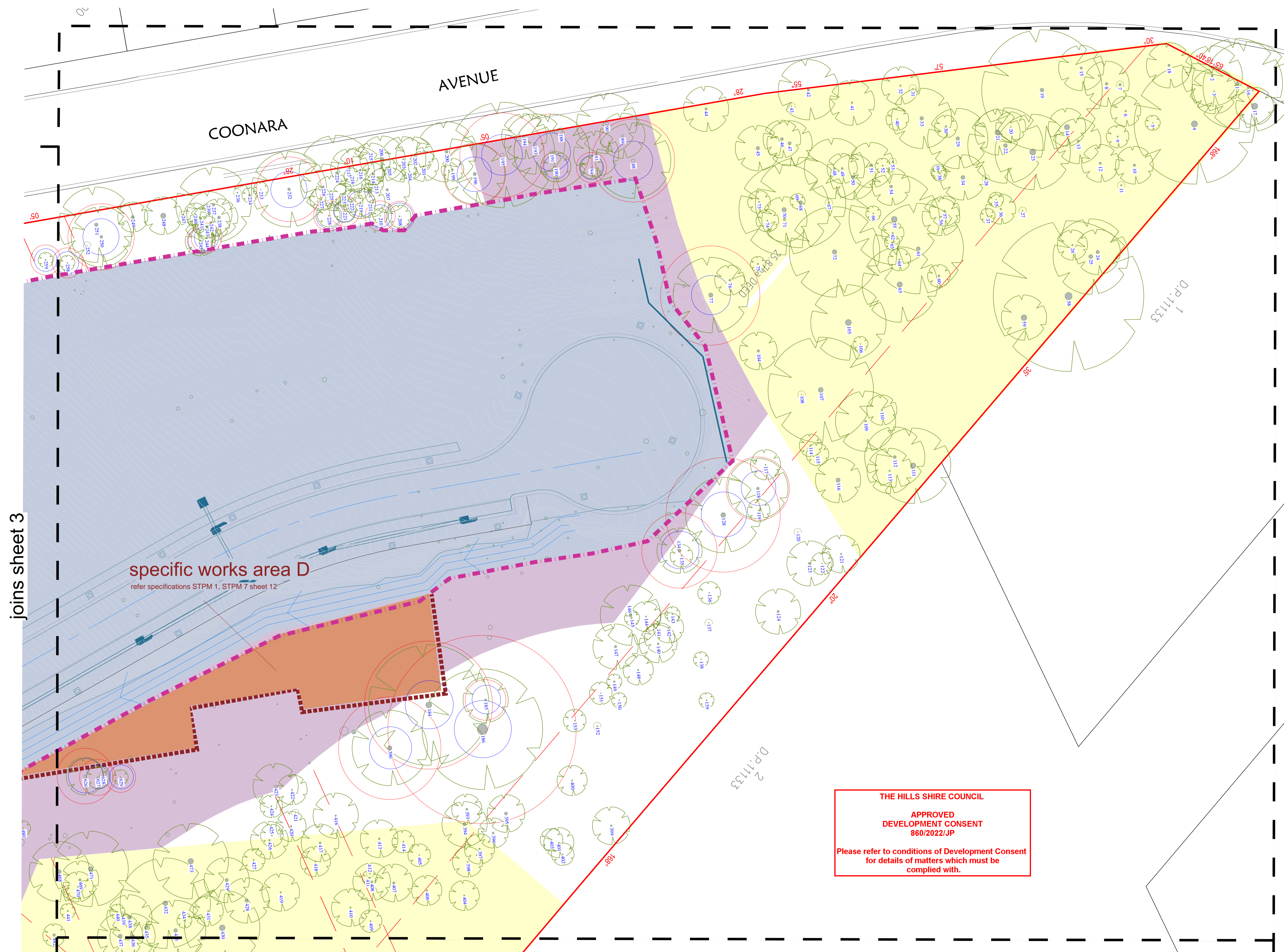
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- specific works area
- tree protection webbing (refer specification STMP 1 sheet 12)

joins sheet 3

specific works area D
refer specifications STPM 1, STPM 7 sheet 12

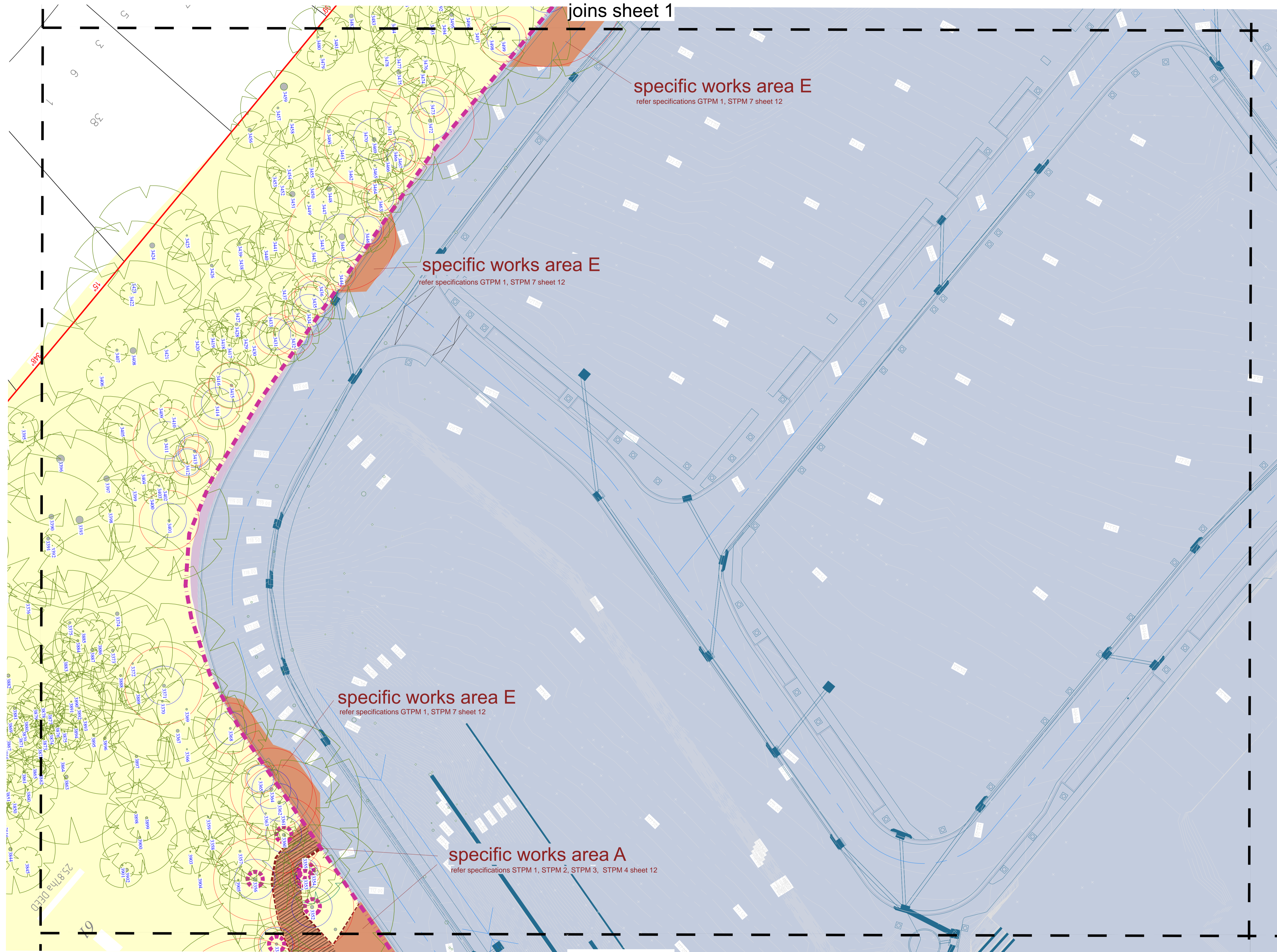
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- tree protection webbing (refer specification STPM 1 sheet 12)
- trunk armouring (refer specification STPM 2 sheet 12)
- soil & root protection (refer specification STPM 3 sheet 12)

joins sheet 6

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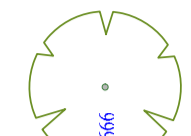
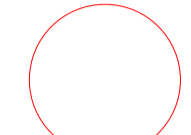
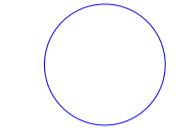
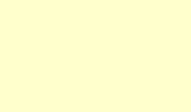




joins sheet 2

joins sheet 5

joins sheet 7

joins sheet 10

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specific works area E
refer specifications GTPM 1, STPM 7, sheet 12

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joins sheet 3

specific works areas E
refer specifications GTPM 1, STPM 7, sheet 12

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joins sheet 6

specific works areas E
refer specifications GTPM 1, STPM 7, sheet 12

demolished multi-level carpark

joins sheet 8

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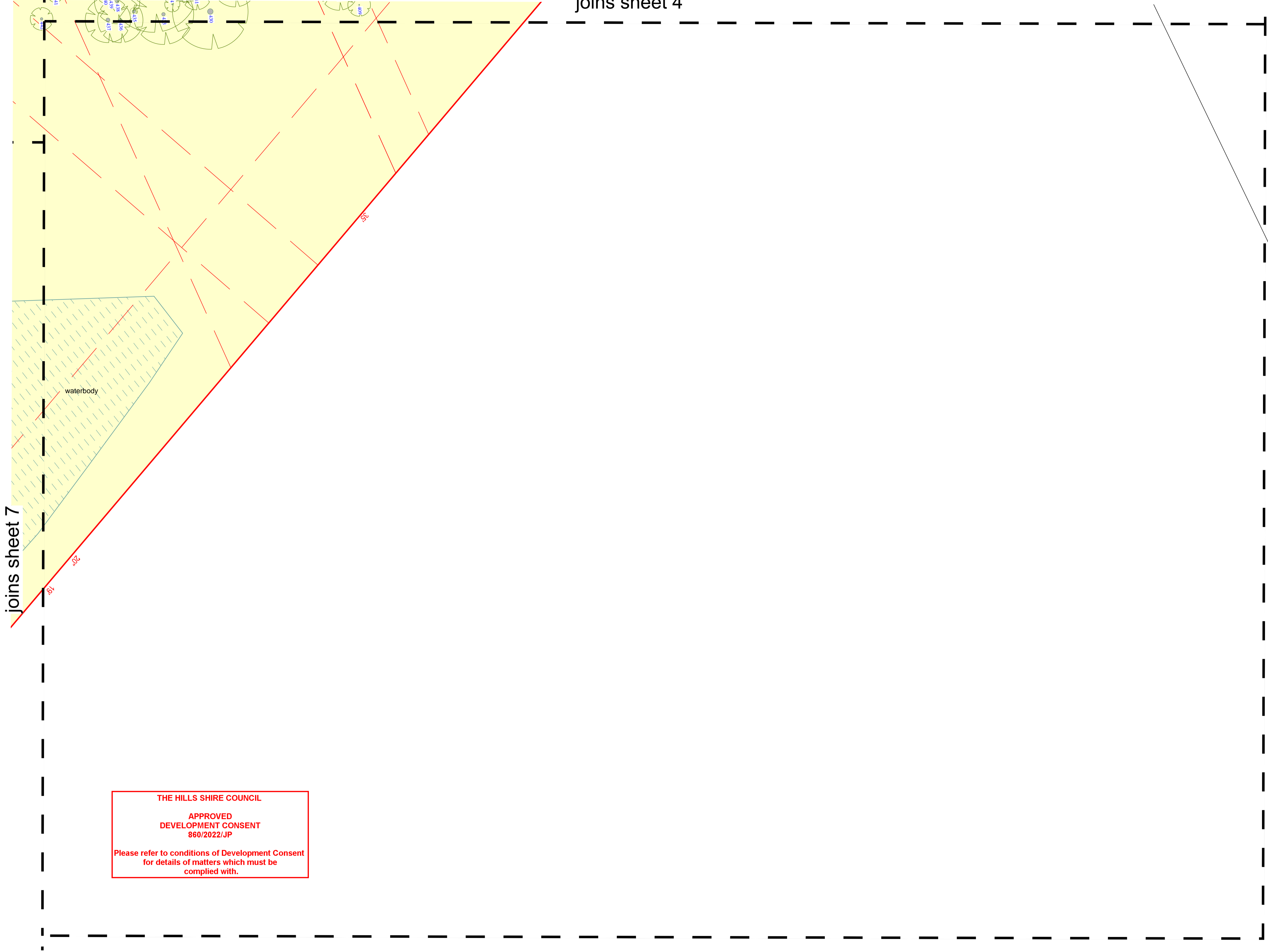
joins sheet 11

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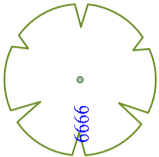
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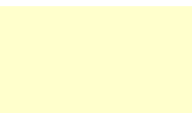
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joins sheet 4



legend

 trees to be retained

 E2 Environmental Protection zone

joins sheet 7

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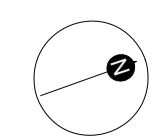
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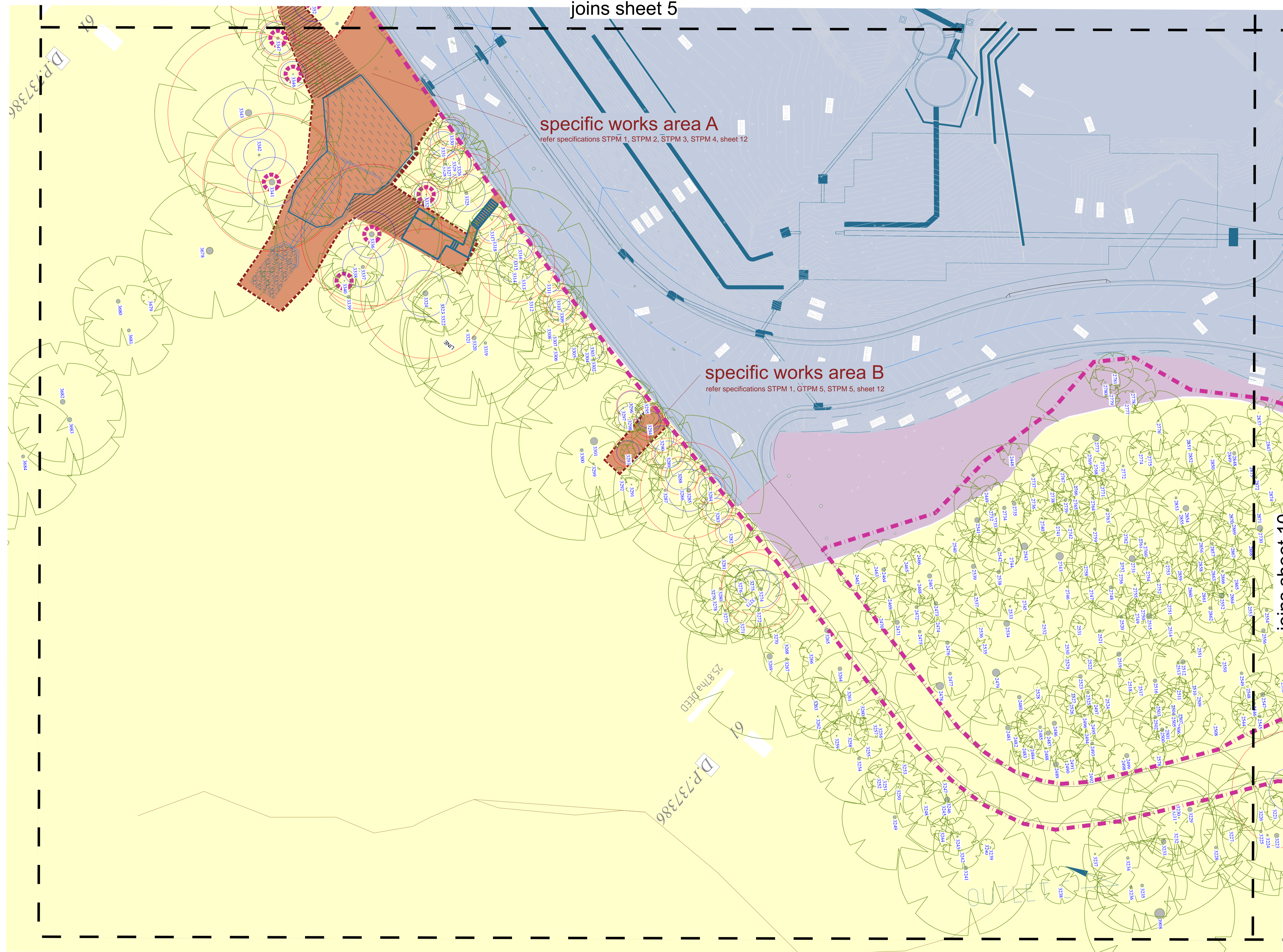
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joins sheet 5

specific works area A
refer specifications STPM 1, STPM 2, STPM 3, STPM 4, sheet 12

specific works area B
refer specifications STPM 1, GTPM 5, STPM 5, sheet 12

joins sheet 10

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joins sheet 6

specific works area E

refer specifications GTPM 1, SiPM 7, sheet 12

specific works area B

refer specifications STPM 1, GTPM 5, STPM 5, sheet 12

specific works area E

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specific works area B

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joins sheet 9

joins sheet 11

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waterbody

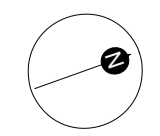
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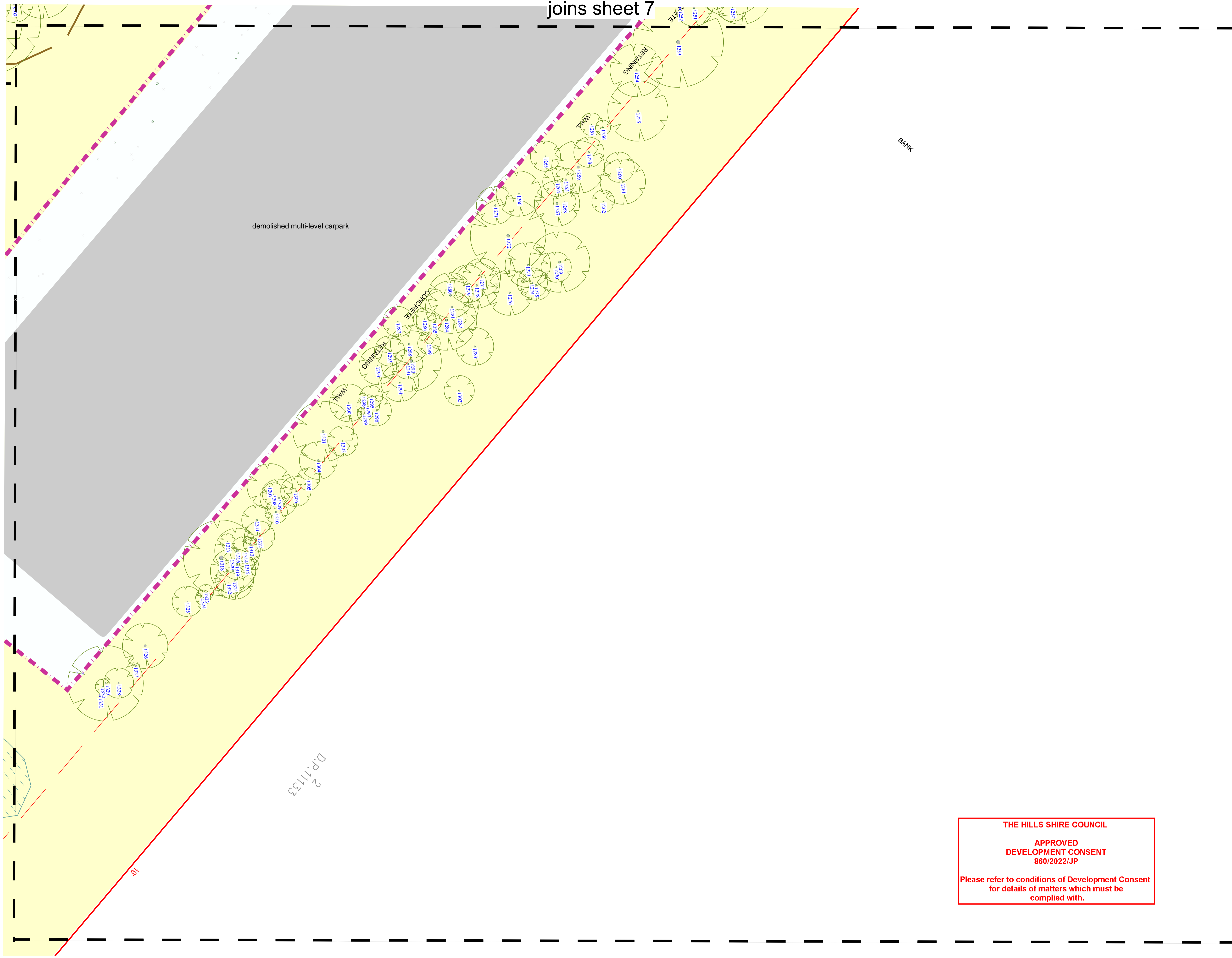
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joins sheet 7

joins sheet 10



legend

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general tree protection measures

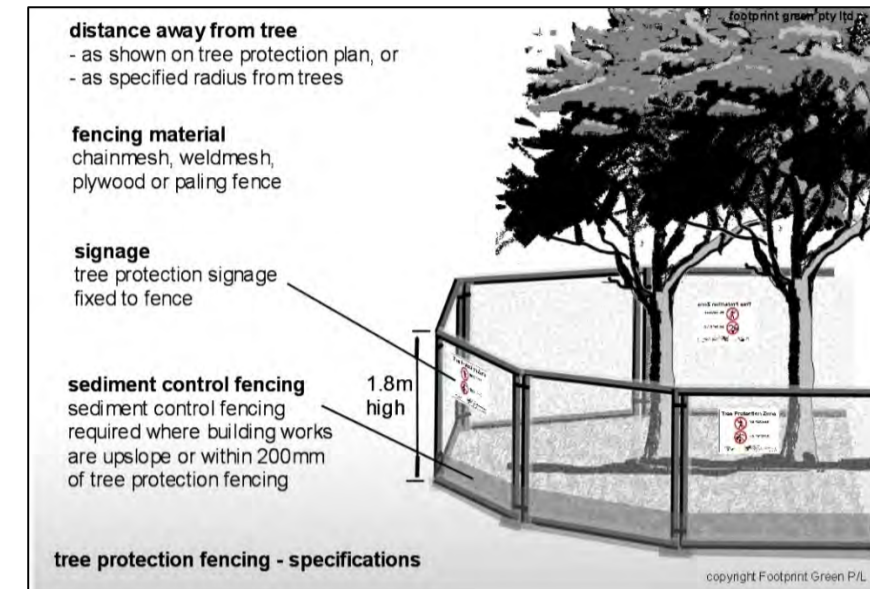
GTPM 1 - tree protection fencing or hoarding

Tree protection fencing is to be installed prior to civil works commencing to protect trees identified as being retained.

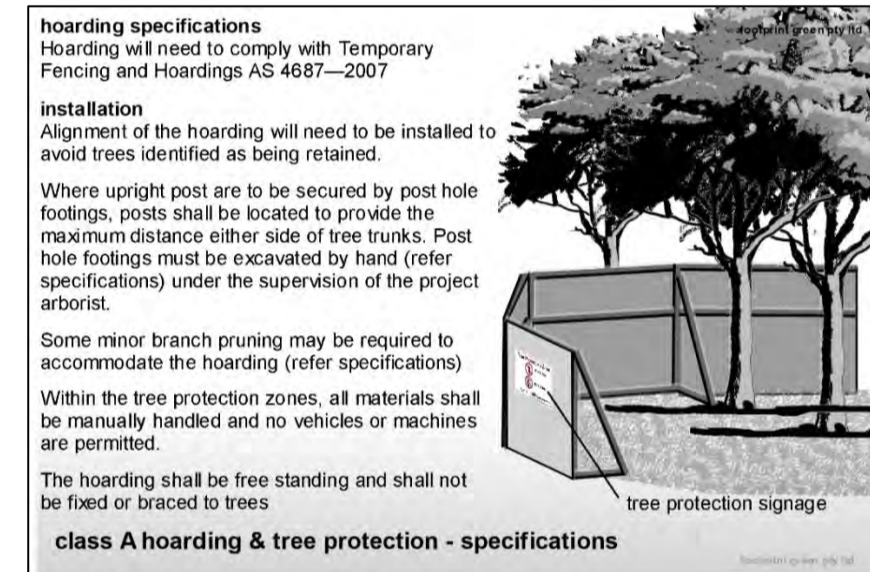
The tree protection fencing is to be erected along the alignment as shown in sheet 5 of this report or as shown on detailed plans.

Tree protection fencing is to be erected in accordance with Australian Standard, Protection of Trees on Development Sites AS 4970-2009.

Depending on the terrain, fencing posts are to be installed in accordance with typical construction industry standards and may be supported on concrete block footings above ground, fixed to existing infrastructure or may be secured by inground post holes.



In lieu of Tree Protection Fencing, Tree Protection Hoarding can be used to restrict access to and delineate tree protection zones and should be erected under the instructions of the project arborist.



Gates within the tree protection fencing to provide access for Specific Work Areas identified in this report (refer sheet 8) will be required. Gates into the tree protection zones shall remain locked and all works within the tree protection zones must be supervised by the project arborist.

GTPM 2 - tree protection signage

Tree protection signage is to be installed on tree protection fencing at minimum 10m intervals and at changes in the alignment / direction of the tree protection fencing. Tree protection signage is to be installed facing the demolition/construction area.

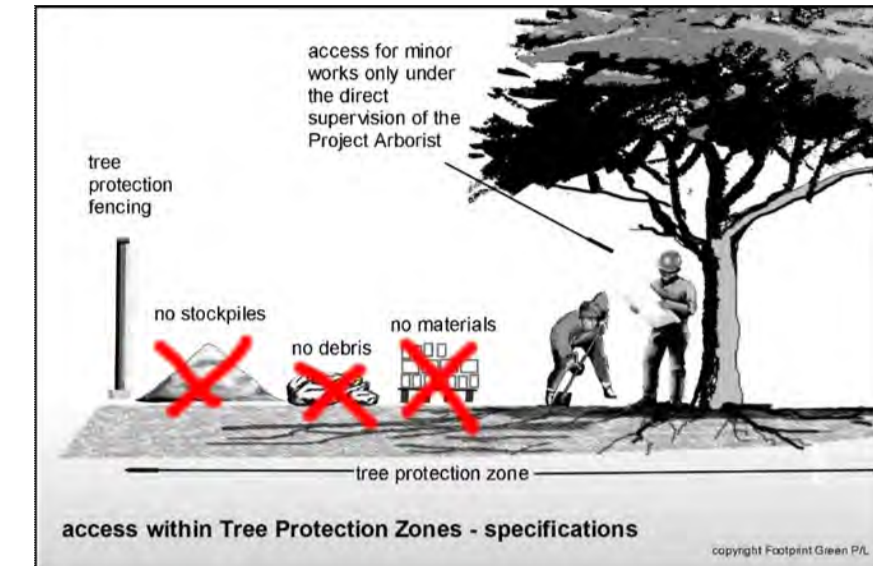
Tree protection signage is to be based on the specification below.



GTPM 3 - tree protection areas

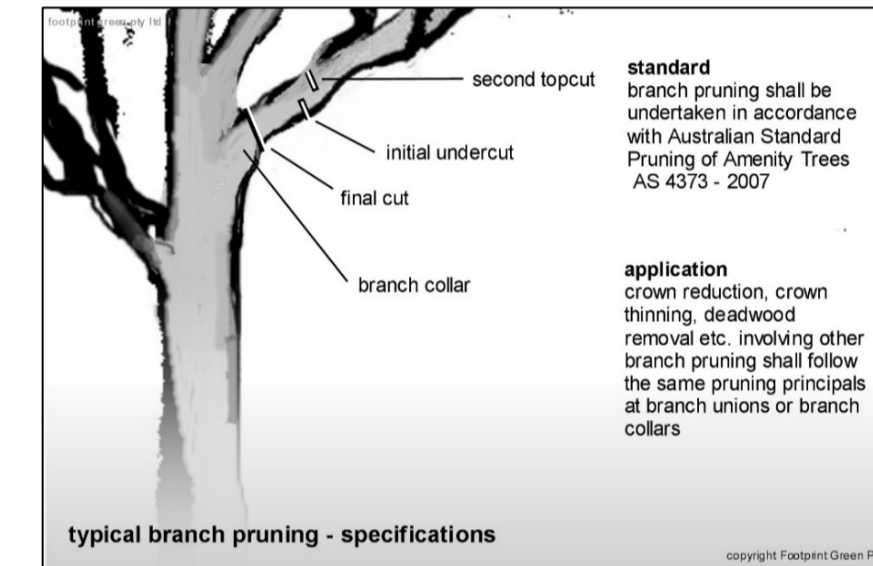
The building contractor shall ensure that at all times during site works no activities, stockpiles, storage or disposal of materials shall take place within the fenced off areas and that all Protective Fences remain secure throughout the development work period.

All access within the tree protection fencing for temporary and permanent works must be carried out under the instructions of an experienced and qualified project arborist and protective fencing shall remain in functional condition for the duration of building works.



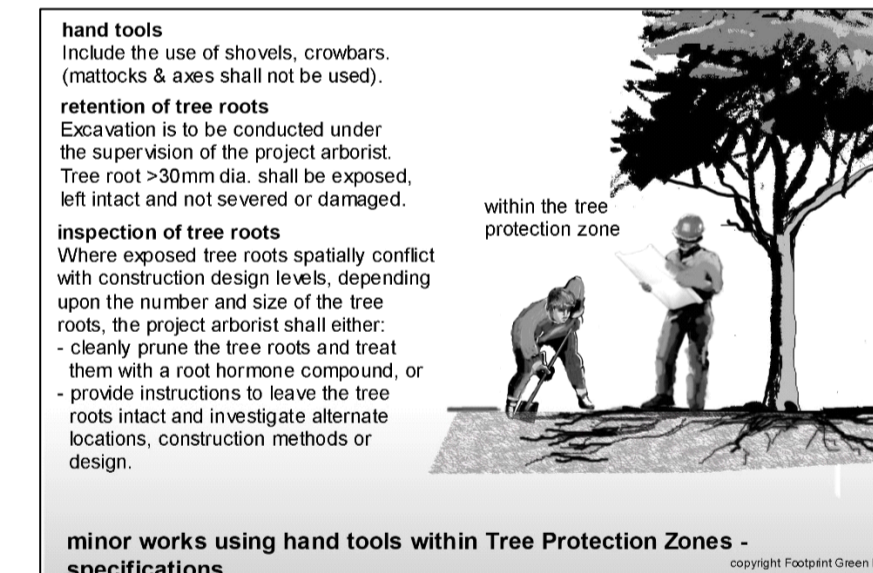
GTPM 4 - branch pruning

Should branch pruning be required to allow the erection of tree protection fencing, no more than 10% of the tree canopy shall be removed and pruning should be undertaken by an experienced arboricultural contractor in accordance with the specification below.



GTPM 5 - incidental minor works within tree protection zones

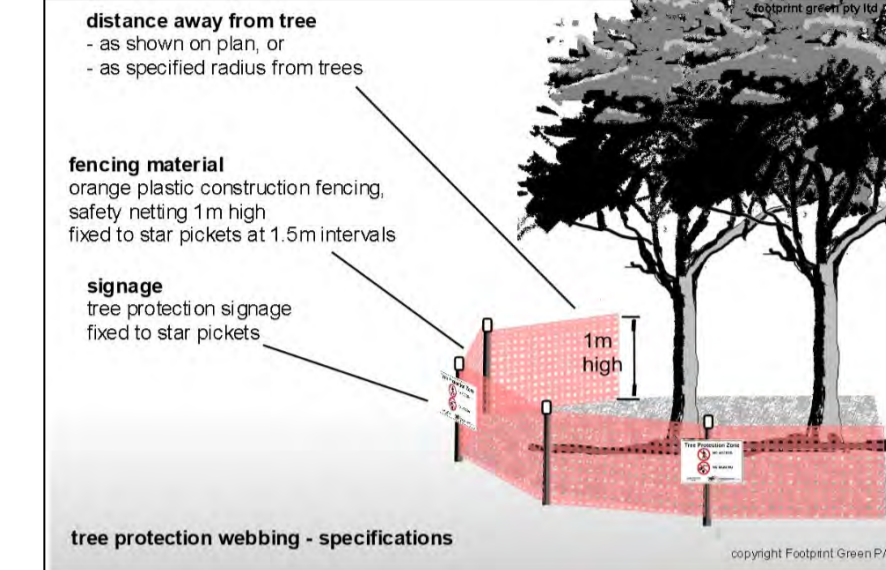
Should incidental minor works require investigations, removal of pits & paths, disconnection of services etc. within the tree protection zones, they must be carried out under supervision of the project arborist and in accordance with the specification below.



Where incidental minor works are required within the tree protection zones, hydro/vac systems can be used provided that suction and water jet hoses can reach the work area from machinery/trucks stationed outside the tree protection zone (refer STPM 5).

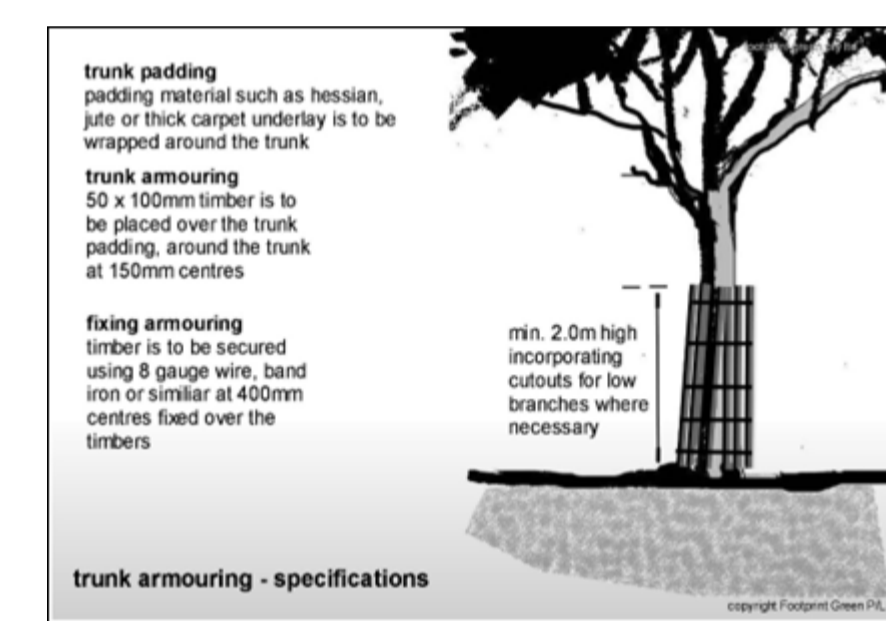
STPM 1 - tree protection webbing

Prior to works commencing within Specific Works Areas tree protection webbing is to be installed in accordance with the specifications below.



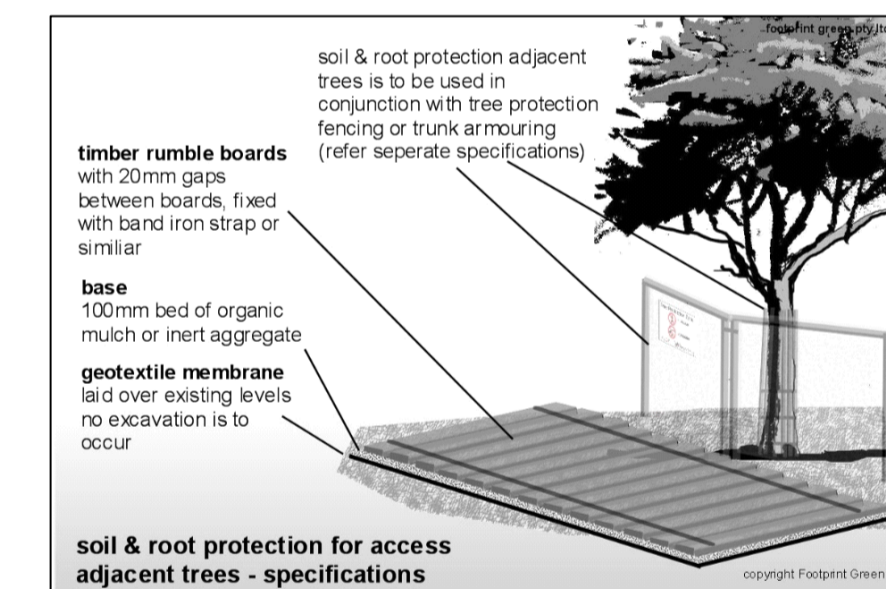
STPM 2 - trunk arming

Prior to works commencing within Specific Works Areas trunk arming are to be installed in accordance with the specification below.



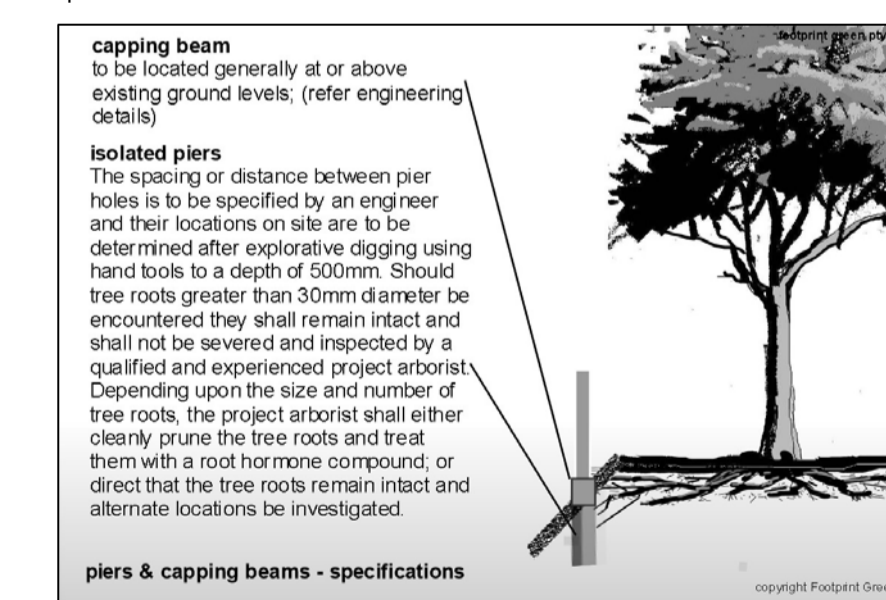
STPM 3 - soil & root protection

Soil and root protection shall be installed for construction access over tree protection zones prior to works commencing.



STPM 4 - OSD wall footings

Within the TPZ's of trees to be retained, the proposed OSD basin walls are to be constructed largely within the existing basin. The footings of the OSD basin walls are to be designed and constructed using isolated piers based on the specification below.



specific tree protection measures

STPM 5 - Hydro Vacuum Excavation

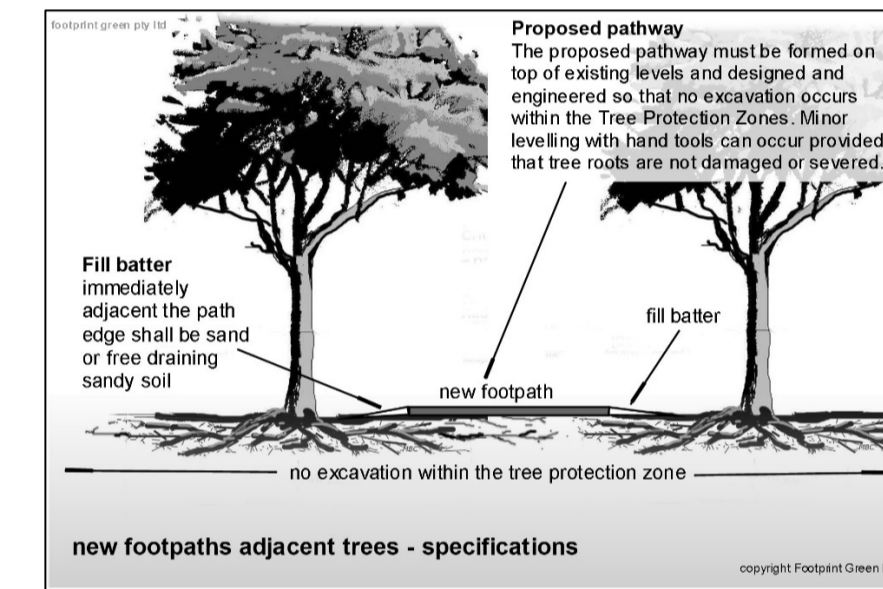
As an alternative to minor works using hand tools, Hydro (water jet) and Vacuum (sucker truck) systems can be used for minor works under the supervision of the project arborist and in accordance with the specification below.

- hydro & vacuum excavation involves softening the soil with water and then sucking the slurry into tanker trucks for fast, efficient removal. This process enables precise trenching routes while doing the least amount of damage to the soil and tree roots.
- hydro & vacuum excavation within tree protection zones must be undertaken under the supervision of the project arborist.
- vacuum sucker trucks must be located outside tree protection zones or operated in conjunction with ground and root protection measures within tree protection zones
- debris, soil, slurry or other waste material must not be discharged onto soil within the tree protection zone



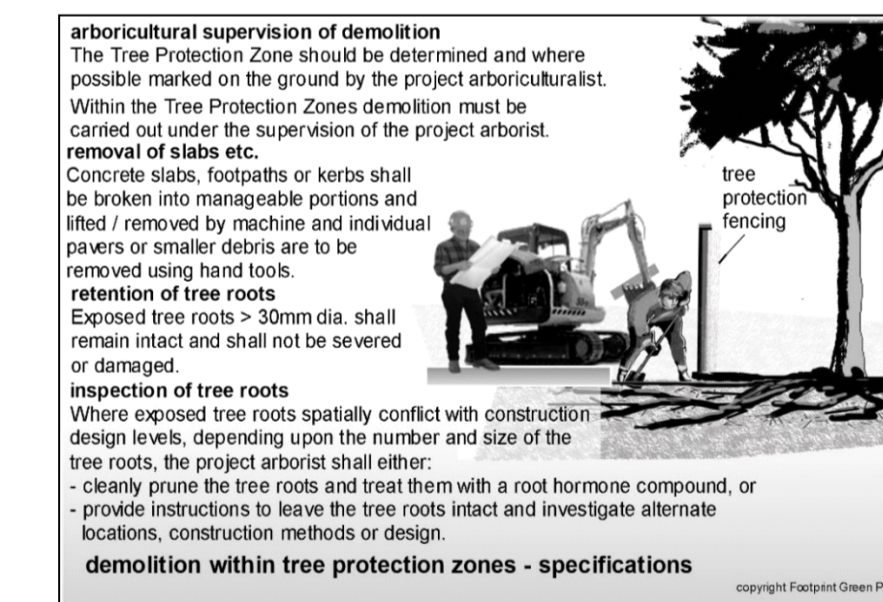
STPM 6 - footpath design and construction in Specific Works Area C

The proposed footpath in Specific Works Area C shall be designed and constructed under the supervision of the project arborist in accordance with the specification below.

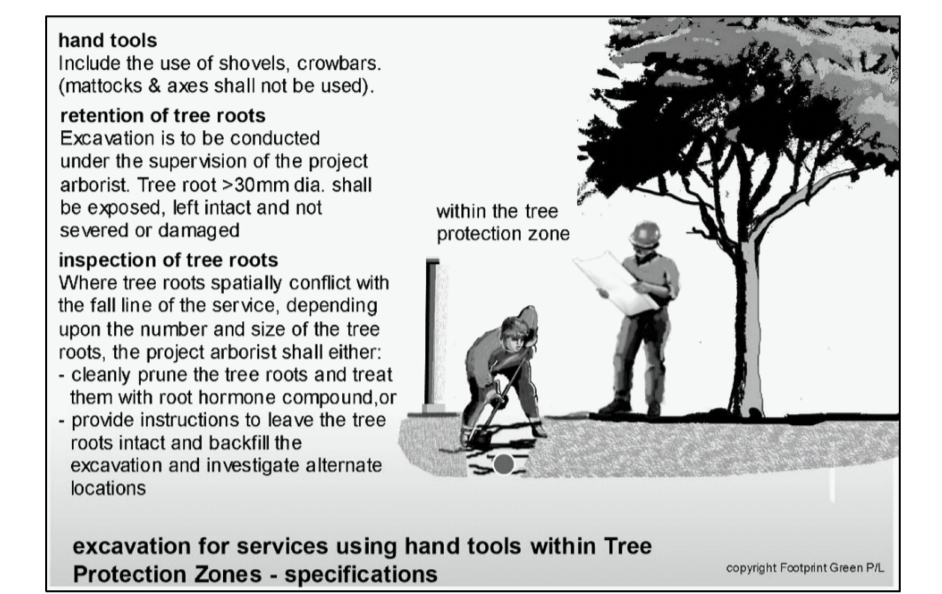


STPM 7 - demolition of kerbs & hard surfaces adjacent trees

Where structures and infrastructure are to be removed within Specific Works Area adjacent trees or within the tree protection zones, the works must be carried out under the supervision of a project arborist and in accordance with the specification below.



STPM 8 excavation for services using hand tools

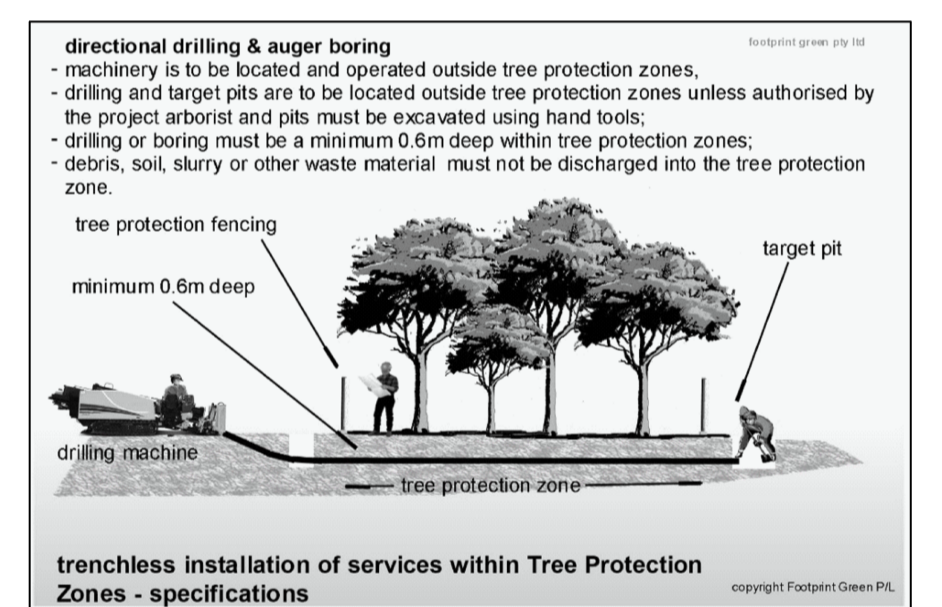


STPM 9 excavation for services using hydro & vacuum excavation

- hydro & vacuum excavation involves softening the soil with water and then sucking the slurry into tanker trucks for fast, efficient removal. This process enables precise trenching routes while doing the least amount of damage to the soil and tree roots.
- hydro & vacuum excavation within tree protection zones must be undertaken under the supervision of the project arborist.
- vacuum sucker trucks must be located outside tree protection zones or operated in conjunction with ground and root protection measures within tree protection zones
- debris, soil, slurry or other waste material must not be discharged onto soil within the tree protection zone



STPM 10 excavation for services using trenchless technology



THE HILLS SHIRE COUNCIL

APPROVED
DEVELOPMENT CONSENT
860/2022/JP

Please refer to conditions of Development Consent for details of matters which must be complied with.