WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT DAYLESFORD

GENERAL NOTES

G1. These Structural Engineering Drawings shall be read in conjunction with all Architectural and other Consultants Drawings, specifications and any other written instructions or amendments that may be issued during the course of the Contract.

G2. These Engineering Drawings must not be scaled. All dimensions shown shall be checked and verified by the Contractor before construction or fabrication is commenced.

G3. No substitutions are to be made or sizes of structural members varied without first obtaining the written consent of the Consulting Engineers.

G4. All dimensions are in millimetres unless stated otherwise. All levels are expressed in metres.

G5. During construction, the Contractor shall be responsible for bracing, and maintaining the structure and all excavations in a stable condition and ensuring no part is overstressed by construction activities or wind and other lateral forces.

G6. All workmanship and materials are to be in accordance with the relevant Australian Standards (including all amendments) the Specification and National Construction Code.

G7. The approval of any substitution by the Consulting Engineers is not an authorisation for an extra. Any extras involved must be taken up with the Architect and or Project Manager before work commences.

G8. The Consulting Engineers accepts no responsibility unless the work is inspected and approved by the Consulting Engineers or an Authorised Representative during construction. All inspections required shall be confirmed with the Consulting Engineers 24 hours in advance of time required (working days only included).

G9. Where additional construction loads such as mobile cranes etc. are to be imposed on the structure, the Contractor shall provide full details of the proposed temporary supports to the Consulting Engineers for approval, a minimum of 7 days prior to the proposed works commencing.

G10. Provide termite protection to base of building in accordance with Architects Specification and Local Authorities requirements.

DRAWING INDEX

FOUNDATIONS AND FOOTINGS

F1. Underside of footings and raft slab beams to be constructed at the levels and bearing on material as noted and described on footing or foundation plan and details.

F2. All grass roots, vegetation and compressible topsoil must be removed from the area of the slab.

F3. Prior to any compacted filling being placed the ground below the slab shall be rolled with a roller compacter and any 'soft spots' encountered shall be dug out and replaced with compacted crushed rock in accordance with AS Code 2870.

F4. Polythene membrane under slab is to be 0.2mm thick branded as concrete underlay, continuous, lapped 300mm minimum where required and taped at laps, punctures and service and pipe penetrations. Membrane to extend under all slabs, beams and thickenings cast against ground.

F5. Where surface silts and sands may become unworkable during the wet winter months, allowance shall be made for the immediate placement of a granular working surface of at least 200mm thick.

F6. Owners must recognise their responsibility as noted in AS Code 2870 and more importantly to the CSIRO " Guide to Homeowners on Foundation Maintenance and Footing Performance".

F7. Contract to be aware of and adhere to details outlined in Report No WGA212334-RP-GE-0001 prepared by Wallbridge Gilbert Aztec dated 30th August 2022.

F8. Concrete slabs and foundations have been designed in accordance with AS code 2870.1. Residential Slabs and Footings for Class M.

F9. The ground in the immediate of the perimeter of the building shall be graded to fall 50mm minimum away from the building of a distance of 1,000mm and shaped to prevent ponding of water.

CONCRETE

C1. Concrete shall be supplied and tested in accordance with AS Code 3600 (including all amendments), and Specification.

The concrete shall attain minimum characteristic compressive strengths f'c at 28 days as follows:

(a) Blinding concrete: 15MPa

(b) Bored Piers & Footings: 32 MPa

(c) Floor Slabs, Beams & Columns: 32 MPa

(d) Concrete in remainder of Project: 32 MPa

Where concrete strengths are indicated differently elsewhere on the Structural Drawings these strengths are to take precedence over those outlined above.

C2. No concrete shall be placed until excavation formwork and/or reinforcement has been inspected and approved by the Consulting Engineers or an Authorised Representative.

Not less than two weeks before commencement of any concrete works the Contractor shall submit a proposed mix design, for each strength category required, to the Consulting Engineers for written approval.

There shall not be an addition of water or any other materials to the concrete on the site, without approval of the Consulting Engineers.

If the concrete is to be placed by means of a concrete pump, the Contractor shall adequately support all the equipment to ensure the reinforcement is not displaced or damaged.

Construction joints shall only be located where shown or noted on these Engineering Drawings.

C3. Reinforcement in suspended slabs, beams, footings, rubs and stair slabs to be supported on approved concrete, plastic, or plastic tipped wire stools, with approved bases to avoid damage to the waterproof membrane, at not more than 750mm centres bothways for slabs and 750 mm centres for beams footings or ribs.

C4. Reinforcement to be supplied as follows:
(a) Hard drawn steel wire fabric, complying with AS Code 1303 and AS Code 1304, designated thus: "SL/RL/L"
(b) Round bars, structural grade, complying with AS Code 1302, designated thus: "R10"
(c) Grade 400 Y deformed bars, complying with AS Code 1302, designated thus: "N12"
Fabric is to be supplied in flat sheets only. Rolls will not be accepted.

Standard round or square cogs are to be used where shown or noted on these Engineering Drawings.

C5. Unless noted otherwise on Structural Engineering Drawings slabs shall be given a positive upwards camber at midspan of 3mm per 1,000 mm span. Method of cambering is to be agreed with Consulting Engineers.

NOTE
Protect all structures and surfaces, materials and planting. Seek approval prior to undertaking works.
All existing heritage fabric to be protected unless otherwise noted.

AMENDMENTS

No.	AMENDMENT	DATE
A	Notes added.	14/11/23

AMENDMENTS

No.	AMENDMENT	DATE

GbLA LANDSCAPE ARCHITECTS

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WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT

DAYLESFORD

GENERAL NOTES

DATE	November 2023	DRAWING No. S1
DRAWN		
DESIGNED	Don Moore	
APPROVED		REVISION A
JOB NO.	2986.22	

C6. Unless shown or noted otherwise on the Structural Engineering Drawings various components to have the covers to the reinforcement as outlined in AS Code 3600 Sections 4 & 5 or as outlined in Table below.

Member Type	Cover Required (mm)
Pad Footings	65
Strip Footings	65
Raft Slab Beams	65
Raft Slabs	25
Suspended Slabs on ground	
- top reinforcement	20
- bottom reinforcement	30
Suspended Slabs	20
Beams	30
Columns	35
Precast Panels Refer Drawings	40 minimum
Insitu Walls	
- face against ground	40
- external faces	45
- other faces	25

C7. Main reinforcement in footings, columns, beams, retaining walls, and stair and suspended slabs must not be spliced, except where shown or noted on the Engineering Drawings.

Distributing reinforcement in retaining walls and stair suspended slabs, and all reinforcement in slabs on ground may be spliced as necessary.

Unless shown or noted otherwise on these Structural Engineering Drawings, reinforcement to be lapped as follows at splices.:

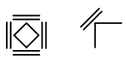
(a)Fabric to be side and end lapped thus:
(b)Deformed bars, lap 40 diameters
(c)Structural grade round bars, lap 50 diameters

Reinforcement to be securely tied at all laps and intersections, with 1.2mm black annealed wired.

Welding of reinforcement will not be permitted, unless noted on the Structural Engineering Drawings.

The Contractor shall order the fabric reinforcement in slabs so that splices in both the top and bottom layers are not coincident.

C8. Unless shown or noted otherwise, the Contractor is to ensure reinforcement is securely tied and supported in its correct position. The Contractor is to provide all extra material required to securely tie and support the reinforcement. Unless noted or detailed otherwise on Engineering Drawings, at all openings in concrete slabs and walls, provide extra 2-No. N12 bars x 750 mm long, placed 75mm apart, in each face, diagonally across corners of openings and re-entrant corners thus:



Where in placing penetrations for services through floor slabs wires in fabric are cut, additional N12 bars extending 600 beyond edge of penetration are to be placed for each wire cut.

C9. No holes chases or embedment of pipes other than those shown on the Structural Engineering Drawings shall be made in concrete members without prior approval of the Consulting Engineers.

C10. Concrete must be moist cured by an approved method for seven days after pouring and curing must commence within 2 hours of placement.

C11. Concrete shall be seperated from supporting masonry by two layers of malthoid (or an approved equivalent). For slabs on ground and paving, vertical faces of slabs, masonry walls and columns are to be seperated by 12mm thick bituminous caneite or similar.

C12. All props and formwork for beams and slabs shall be removed before construction of any masonry walls or partitions on the floor.

STRUCTURAL STEEL

S.1 All structural steelwork is to comply with the requirements of these Structural Engineering Drawings and AS Code 4100, AS Code 1538 and AS Code 1554.

Cambers are to be provided where indicated on these Structural Engineering Drawings.

All gusset plates to be 8 mm thick, welded with 6 mm fillet welds full perimeter unless noted otherwise. The ends of all tubular members shall be sealed with nominal thickness plates and continous fillet welds unless noted otherwise.

S.2 Welding electrodes shall be low hydrogen, Serious 41 XX or 48 XX.

All welding is to be carried out in strict accordance with AS Code 1554, Parts 1 and 2 using structural purpose welds. Unless noted otherwise, use 6 mm fillet welds for full perimeter throughout.

Where full welded connections have been detailed provide all necessary erection cleats and bolts. If erection cleats and bolts are exposed, after erection cleats and bolts are to be removed, bolt holes plug welded and area around ground smooth and flush.

S.3 With the exception of steel members which are required to be encased in concrete, steel surfaces adjacent to connections which are to be field welded, and contact surfaces of high strength bolted connections, all structural steel surfaces shall have protective coating applied before delivery to the site. The protective coating or coatings shall be one of the following systems as designated on the Structural Engineering Drawings:

(a) Zinc Phosphate Primer
(b) Inorganic Zinc Silicate coating (cold galvanised)
(c) Hot dip galvanising

Unless noted otherwise on the Structural Engineering Drawings, all exposed steelwork shall be hop dip galvanised with all bolts, nuts, and washers in connections galvanised.

Where hot dipped galvanised steelwork is welded on site or otherwise damaged during transport or erection the steelwork protection is to be made good by applying inorganic Zinc Silicate coating.

S.4 Bolts marked "M20 4.6/s" shall be black bolts, manufactured in accordance with AS 1111 (Bolting Procedure 4.6/S).

S5. All bolts marked "M20 8.8/s" shall be high-strength bolts, manufactured in accordance with AS Code 1252, and tightened on site to be "snug tight". (Bolting procedure 8.8/s). Unless noted otherwise on Structural Engineering Drawings, all bolts shall be high-strength, snug tight, as outlined above.

All bolts marked "M20 8.8/TF" shall be high-strength friction-grip bolts, manufactured in accordance with AS Code 1252, and tightened on site, in accordance with AS Code 1511 (Building procedure 8.8TF).

S6. The Contractor shall submit to the Consulting Engineers digital copies of the Structural Steel Shop Drawings for approval. No fabrication shall commence until approval has been obtained in writing. The shop drawings will be approved for structural sufficiency only, and no dimensions will be checked.

S7. Unless shown or noted otherwise, hole steelwork for M12 bolts at 750 mm maximum centres, or provide 6 mm cleat plates, welded full perimeter, and holes for two M12 bolts per connection, for fixing of timber work. See Architectural Drawings and the Specifications for details of timber requirements.

S.8 The Contractor shall provide and leave in place such temporary bracing as is necessary to stabilise the structure during erection and until permanent bracing elements are constructed.

TIMBER

T.1 All timber materials, workmanship and construction shall comply with the requirements of AS Code 1720.1 Timber Structures Code and AS Code 1684 Timber Framing Code.

T.2 All structural timber shall be either:

Selected Hardwood (HW)	Strength group SD4 Strenth grade F8
Seasoned Pine (SW MGP10)	Strength group SD4 Strength grade MGP10
Seasoned Pine (SW MGP12)	Strength group SD4 Strength grade MGP12
Seasoned Hardwood (KDHW)	Strength group SD3 Strength grade F17
Laminated Veneer Lumber (LVL) HySpan or Smart LVL	Radiata pine veneer F17 Grade minimum

T.3 The moisture content of any structural timber shall not exceed 15%

T.4 All stud walls are to be constructed and securely cross braced as specified in AS Code 1684.

T.5 Unless noted otherwise all framing is to be tied down, nailed and anchored with AS Code 1684 and AS Code 1720.1. All timber rafters supporting metal deck roofs and all timber nailing plates are to be securely tied down using approved "Trip-L-Grip" connectors or approved equivalent.

T.6. All beams and lintels shall have a minimum of 100mm bearing.

T.7. All roof and wall framing shall be adequately braced in accordance with the national timber framing code AS Code 1684.

T.8. Refer to AS Code 1684 for timber members and connections not shown. Multiple timber members shall be nail laminated together.

T.9. Unless shown or noted otherwise, hole steelwork for M12 bolts at 750mm maximum centres, or provide 6mm cleat plates, welded full perimeter, and holes for two M12 bolts per connection, for fixing of timber work. See Architectural Drawings and the Specification for details of timber requirements.

MASONRY

M.1 All materials and workmanship shall be in accordance with the requirements of AS Code 3700 SAA Masonry Code.

M.2 Load bearing bricks shall have a minimum characteristic unconfined compressive strength - F'uc = 34 MPa

M.3 Load bearing blocks shall have a minimum characteristic unconfined compressive strength - F'uc = 15 MPa

M.4 Provide full-height, articulation joints in accordance with Cement and Concrete Association Construction Note TN61, at 5.0m centres unless shown otherwise. Joints shall be 20mm wide with 25mm diameter closed cell polyethylene foam backing rod and polysulphide based caulking sealant to external face.

M.5 Brick veneer wall ties shall be galvanised meduim duty installed at 600 max. vertical crs. and 450 max. horizontal crs install to manufacturer's specifications. Around openings, articulation joints and at roof, vertical tie spacing is to be reduced to 300 max crs. Brick cavity wall ties shall be shall be galvanised meduim duty installed at 520 max vertical crs and 450 max horizontal crs installed to manufacturer's specifications. Around openings, articulation joints & at roof, vertical tie spacing is to be reduced to 260 maximum crs.

M.6 Refer AS Code 3700 SA Masonry code table 5.1 Durability requirements for masonry units/mortar, built in components and cover to reinforcement. Refer AS Code 3700 SA Clause 5.7 for corrosion protection requirements. The means for demonstrating compliance with the required durability class of wall ties, connectors and accessories, shelf angles and lintels are given in AS/NZ2699.1, AS/NZ Code 2699.2 and AS/NZ Code 2699.3 respectively.

AMENDMENTS

No.	AMENDMENT	DATE
A	New issue.	14/11/23

AMENDMENTS

No.	AMENDMENT	DATE

GbLA LANDSCAPE ARCHITECTS

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WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT

DAYLESFORD

GENERAL NOTES

DATE	November 2023	DRAWING No. S2
DRAWN		
DESIGNED	Don Moore	
APPROVED		REVISION A
JOB NO.	2986.22	

Grade to match with existing slab entry to Pioneer Memorial Tower.

Existing concrete slab entry to Pioneer Memorial Tower

PIONEER MEMORIAL TOWER

Hatching refers to extent of edge beams or slab thickenings.

120 thick concrete slab SL82 in top 25 concrete cover

Steel balustrade. Refer to Landscape Architects Drawings.

DAY BASIN
No works occur within Day Basin

New kerb and channel to match existing

Kerb and channel. Refer to Landscape Architects Drawings.

'SC'

DB1 DB2 DB3 DB4 DB5 DB6 DB7 DB8 DB9 DB10 DB11

Asphalt path

120 thick concrete slab SL82 in top 25 concrete cover

New kerb. Refer to Landscape Architects Drawings.

New kerb and channel to match existing

PLAN OF DAY BASIN (1:100 @ A3)

AMENDMENTS

No.	AMENDMENT	DATE
A	Plan updated.	14/11/23

AMENDMENTS

No.	AMENDMENT	DATE

GbLA LANDSCAPE ARCHITECTS

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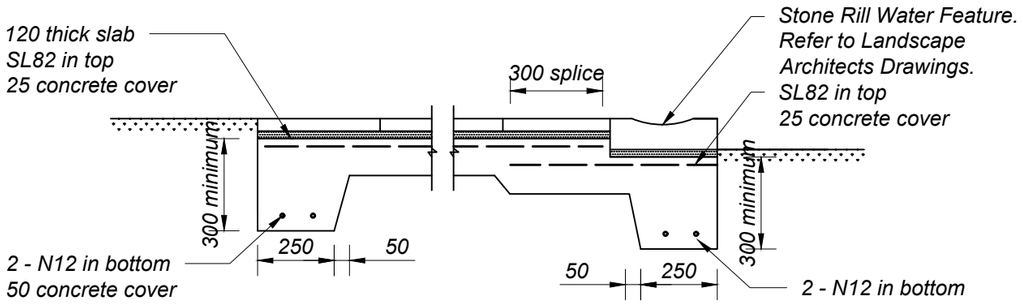
WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT

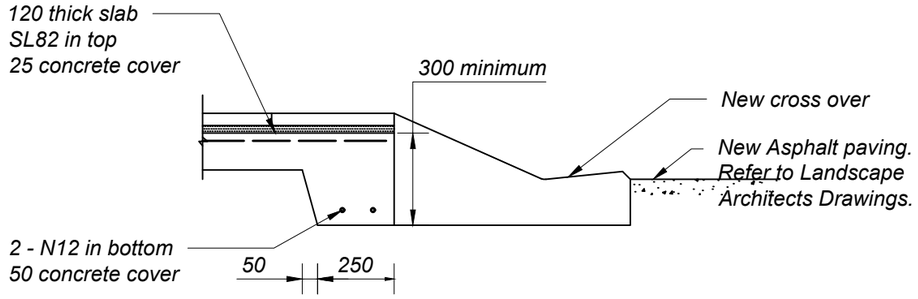
DAYLESFORD

PLAN OF DAY BASIN

DATE	November 2023	DRAWING No. S3
DRAWN		
DESIGNED	Don Moore	
APPROVED		REVISION A
JOB NO.	2986.22	



SECTION DB1 (1:20)
SECTION DB4 SIMILAR



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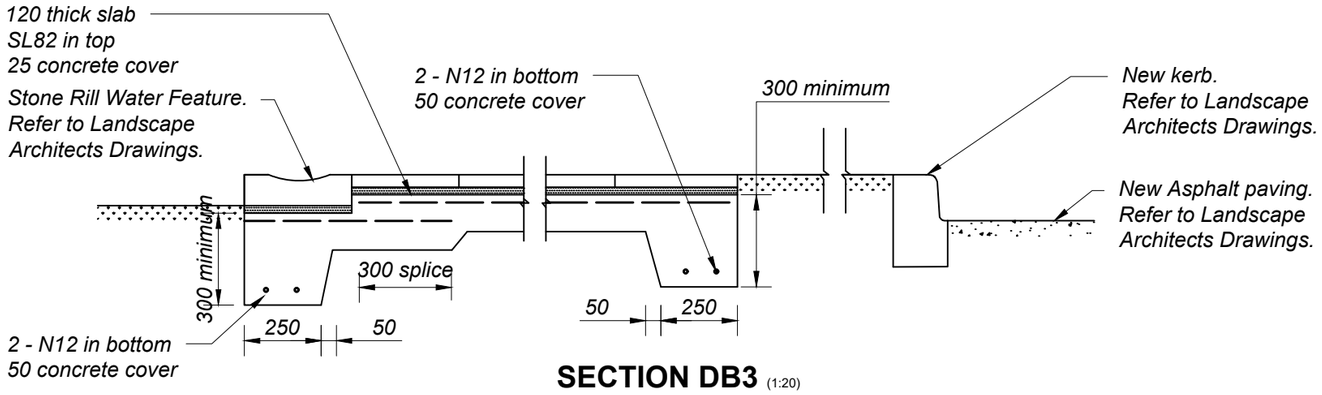

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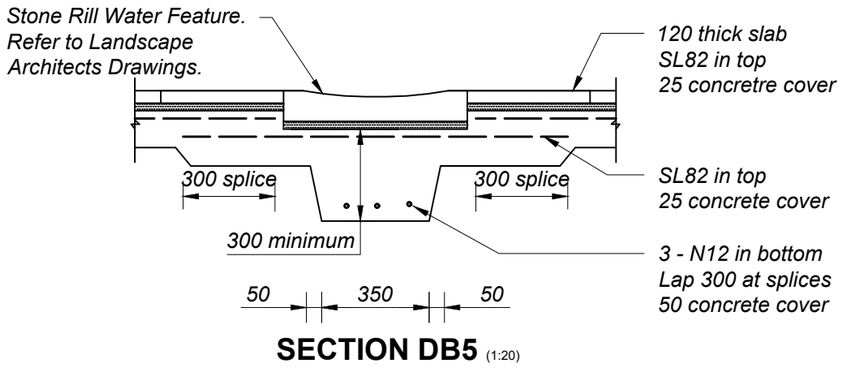

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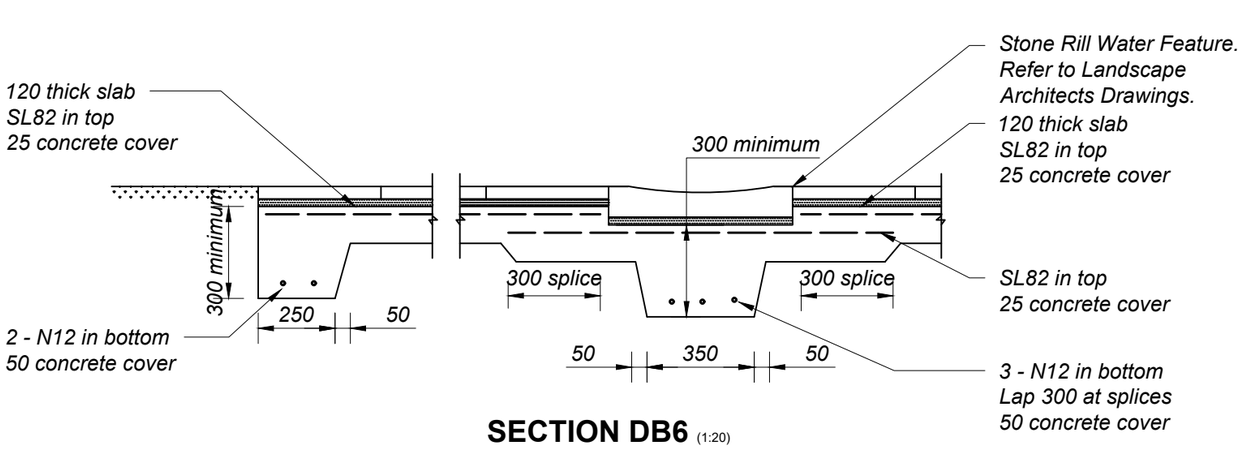

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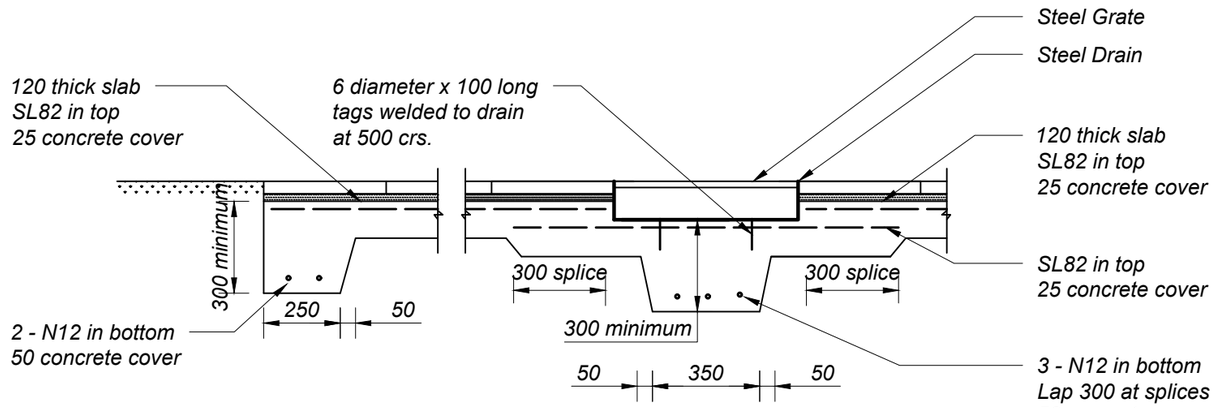

SECTION DB7 (1:20)

AMENDMENTS

No.	AMENDMENT	DATE
A	Details updated.	14/11/23

AMENDMENTS

No.	AMENDMENT	DATE

GbLA LANDSCAPE ARCHITECTS

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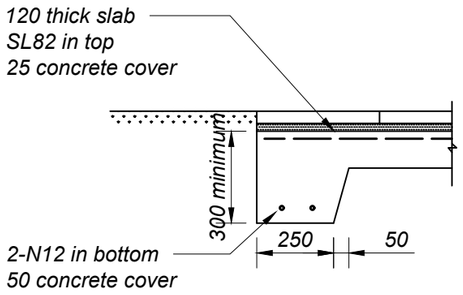
WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT

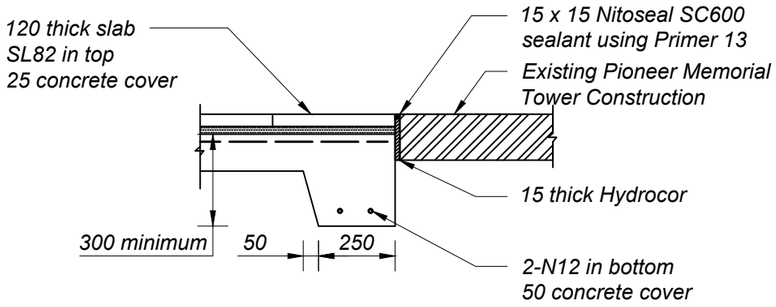
DAYLESFORD

DETAILS - 1

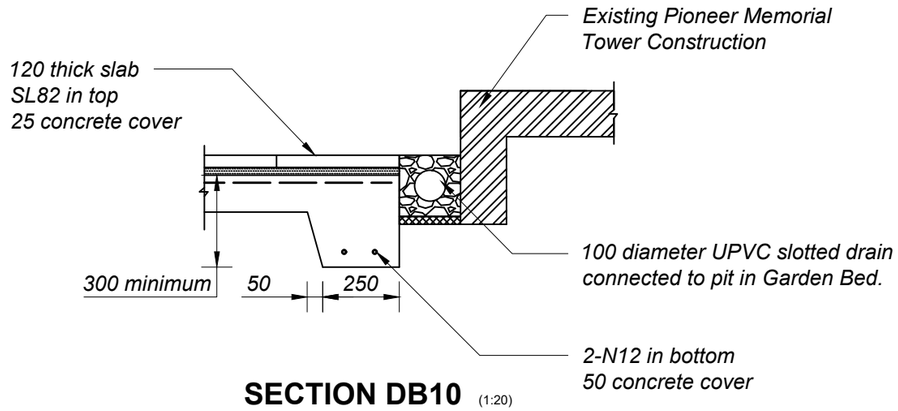
DATE	November 2023	DRAWING No. S4
DRAWN		
DESIGNED	Don Moore	
APPROVED		REVISION A
JOB NO.	2986.22	



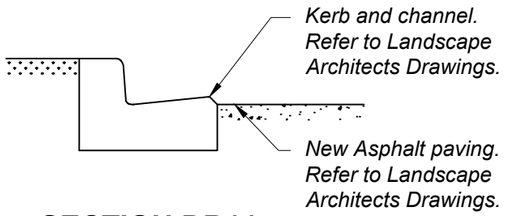
SECTION DB8 (1:20)



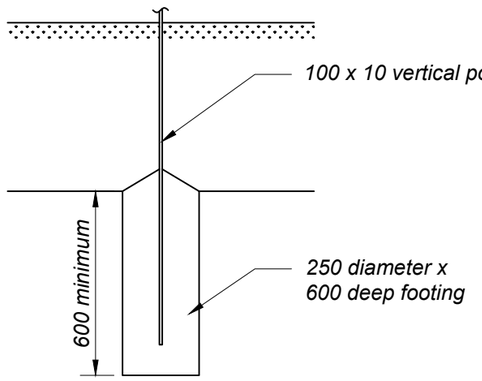
SECTION DB9 (1:20)



SECTION DB10 (1:20)

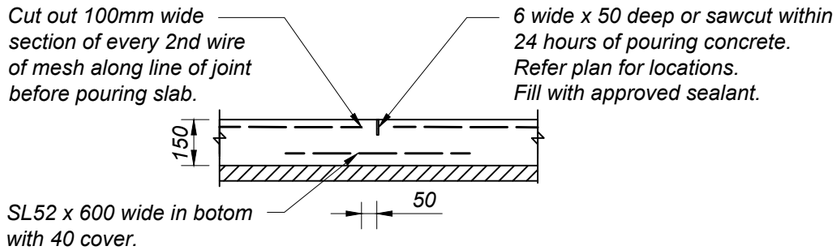


SECTION DB11 (1:20)

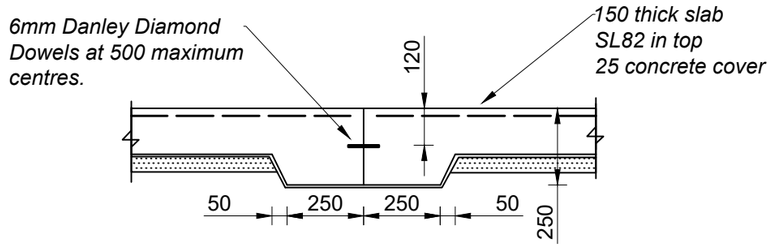


DETAIL OF DAY BASIN BALUSTRADE FOOTING (1:20)

Note:
Refer to Landscape Architects for details of steel balustrade.



TYPICAL SAWCUT DETAIL (SC) (1:20)



TYPICAL CONSTRUCTION JOINT DETAIL (CJ) (1:20)

AMENDMENTS

No.	AMENDMENT	DATE
A	Section DB's 9, 10, 11 amended.	14/11/23

AMENDMENTS

No.	AMENDMENT	DATE

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WOMBAT HILL BOTANIC GARDEN
BASIN & FORECOURT

DAYLESFORD

DETAILS - 2

DATE	November 2023	DRAWING No. S5
DRAWN		
DESIGNED	Don Moore	
APPROVED		REVISION A
JOB NO.	2986.22	

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Project Advice Notice

Date: 30 October, 2023 **Reference:** 2986.22

To: GbLA Landscape Architects

Attention: Annette Warner - Associate

From: Don Moore **Project Advice Notice No:** 1A

Re: Wombat Hill Botanical Garden
Daylesford

Protection of Day Basin Structure & Pioneer Memorial Tower.

Comments:

- It is proposed to excavate for and construct a garden bed adjacent to and around the perimeter brick wall of the Day Basin.
- A new garden bed and pavement works are to be constructed adjacent to the Pioneer Memorial Tower.
- This excavation for the garden bed around the Day Basin is to be 500 deep below the current ground level and approximately 1,200 wide.
- A perimeter steel pedestrian fence is to be constructed in the above garden bed with concrete footings located below.

Engineers Advice

- Protection to be provided to the perimeter bluestone capping at the top of the Day Basin brick wall during the construction of the garden bed and steel pedestrian fence footings.
- Excavation is to be carried out in a fashion not to damage the existing Day Basin brick wall or Pioneer Memorial Tower.
- Only hand excavation to be carried out within 300 of the existing Day Basin brick wall.
- No power tools are to be used to “break up” any material to be excavated.
- Only a hand auger to be used to excavate for the footings to the perimeter steel pedestrian fence to the Day Basin.
- If the above procedures are adhered to I am of the opinion no damage will occur to the Day Basin or the Pioneer Memorial Tower.
- If the above procedures and criteria are not able to be adhered to the Consulting Engineers shall be advised.

Don Moore FIE Aust. FIStructE. CPEng. NER
Registered Professional Engineer No. PE0003274