

TASMAN ENGINEERING CONSULTANTS

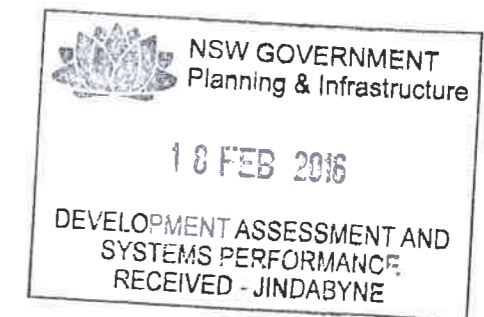
STRUCTURAL CIVIL & GEOTECHNICAL ENGINEERS ABN 87 083 813 556

Structural Buildings Bridges Towers Equipment
Civil Roads Drainage Water Supply Sewerage Subdivisions
Geotechnical Site Assessment Soil Testing and Stability
Construction Project Managers Inspections Supervision Plans

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PROPOSED WALKWAY SLAB STRUCTURAL DETAILS

FOR : PERISHER BLUE PTY. LTD.
AT : FROM PERISHER SKITUBE TERMINAL
TO SKITUBE BRIDGE
PERISHER



APPROVED BY

Mark Stoddard
B.E.(Hons), M.I.E.Aust, C.P.Eng

DATE 20th FEBRUARY 2014

ISSUE 1 Dwg No: P202/2

SHEET 1 OF 6

DRAWING LIST

SHEET 1	TITLE SHEET
SHEET 2	SPECIFICATION
SHEET 3	SITE PLAN
SHEET 4	ROAD AND STORMWATER LONGITUDINAL SECTIONS
SHEET 5	SLAB DETAILS
SHEET 6	GRATED PIT DETAILS

GENERAL SPECIFICATION

GENERAL NOTES

- G1. These drawings shall be read in conjunction with all architectural drawings and specifications, all other consultant's drawings and specifications, all other contract documents, the requirements of relevant authorities and any other documentation relating to this project. Any discrepancy shall be referred immediately to the Tasman Engineering Consultants engineer before proceeding with the work.
- G2. All materials and workmanship shall be in accordance with the relevant current Australian Standard, the Building Code of Australia and by-laws and ordinances of relevant building authorities.
- G3. Any dimensional or geometric information contained in these drawings should be verified on site. Any discrepancy shall be referred immediately to the Tasman Engineering Consultants engineer before proceeding with the work.
- G4. Do not scale from these plans.
- G5. During construction structures shall be maintained in a stable condition and no part shall be overloaded or overstressed. Provide temporary bracing and/or support as necessary.
- G6. During construction excavations shall be maintained in a stable condition. Provide temporary shoring, bracing and/or support as necessary. Engage a qualified engineer to design and/or certify works as necessary.
- G7. Implement soil and water management procedures to avoid erosion, contamination and sedimentation of site, surrounding areas and drainage systems.
- G8. The builder / contractor has a duty of care and shall verify the location of all services with each relevant authority. Any damage to services shall be rectified by the builder / contractor or the relevant authority at the contractor's expense. Services shown on these plans are only those evident at the time of survey or as determined from service diagrams. Tasman Engineering Consultants cannot guarantee the information shown nor accept any responsibility for inaccuracies or incomplete data.
- G9. All new works are to make a smooth junction with existing conditions and marry in a 'workmanlike' manner.
- G10. U.N.O. = "Unless Noted Otherwise"
- G11. Adjust existing service covers to suit new finished levels to relevant authority requirements where necessary.
- G12. Reinstate and stabilise all disturbed landscaped areas.

SITWORKS NOTES

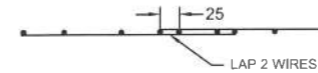
- S1. Bench Mark - top of concrete apron RL 100.00.
- S2. Contractor must verify all dimension and existing levels on site prior to commencement of work.
- S3. All work is to be undertaken in accordance with the details showing in the drawings, the specifications and the directions of the superintendent.
- S4. Where new works abut existing, the contractor shall ensure that a smooth even profile, free from abrupt changes is achieved.
- S5. The contractor shall arrange all survey setout to be carried out by a registered surveyor.
- S6. Care is to be taken when excavating near existing services. No mechanical excavations to be undertaken over Telstra or electrical services. Hand excavate in these areas.
- S7. All service trenches under pavements shall be backfilled with sand or an appropriate granular material and compacted to 98% standard maximum dry density in accordance with AS1289 e1.1.
- S8. For trenches not under pavements where excavated material may be used for backfill, the material shall be compacted to the same density as the undisturbed material either side of the trench.
- S9. On completion of pipe installation all disturbed areas must be reinstated to 'as found' condition, including kerbs, footpaths, concrete areas, gravel and grassed areas and road pavements.
- S10. Provide maximum 12 wide x 50mm deep self expanding cork expansion joint in concrete paving (top) where abutting existing buildings and structures. Fill remainder of joint with non-expanding cork unless shown otherwise. Alternative fillers may be used subject to approval by superintendent.
- S11. Contractor to obtain all authority approval where relevant.
- S12. Make smooth transition to existing surfaces and make good.
- S13. The contractor shall ensure all areas drain with a minimum fall of 1% (1:100) grade to outlets unless indicated otherwise.
- S14. These plans shall be read in conjunction with approved landscape, architectural, structural, hydraulic and mechanical drawings and specifications.
- S15. Trenches through existing road and concrete pavements shall be sawcut to full depth of concrete and a minimum of 50mm in bituminous paving.
- S16. Grades to pavements to be as implied by RL's on plan but not less than 1% grade evenly between nominated RL's. Areas exhibiting ponding greater than 50mm depth will not be accepted.

STORMWATER DRAINAGE NOTES

- SW1. Pipes to be reinforced concrete Class 3 approved spigot and socket with rubber ring joints U.N.O.
- SW2. Pipes shall be laid in accordance with AS/NZS 3725:2007 and the design drawings. HS2 pipe support shall be used throughout.
- SW3. Where trenches are in rock the pipe shall be bedded on a minimum of 50mm concrete bed (or 75mm bed of 12mm blue metal) under the barrel of the pipe.
- SW4. Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval.
- SW5. Grates and covers shall conform to AS 3996, and the design drawings.
- SW6. At all times during construction of the stormwater pits, adequate safety procedures shall be implemented to prevent persons falling down pits.
- SW7. Existing stormwater pipe locations and invert levels to be confirmed prior to commencement of construction.
- SW8. All existing stormwater drainage lines and pits that are to remain are to be inspected and cleaned during this process. Any part of the stormwater drainage system that warrants repair shall be reported to the superintendent for further directions.

CONCRETE NOTES

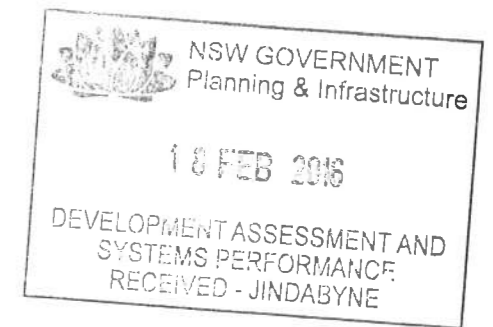
- C1. All concrete work in accordance with AS 3600-2009.
- C2. Concrete to be formed as required by AS 3610 and compacted in accordance with AS 3600 and AS 3610 to achieve specified or relevant density durability and strength.
- C3. All reinforcing fabric to be lapped one mesh panel +25mm minimum and reinforcement bars lapped 40 bar diameters U.N.O.

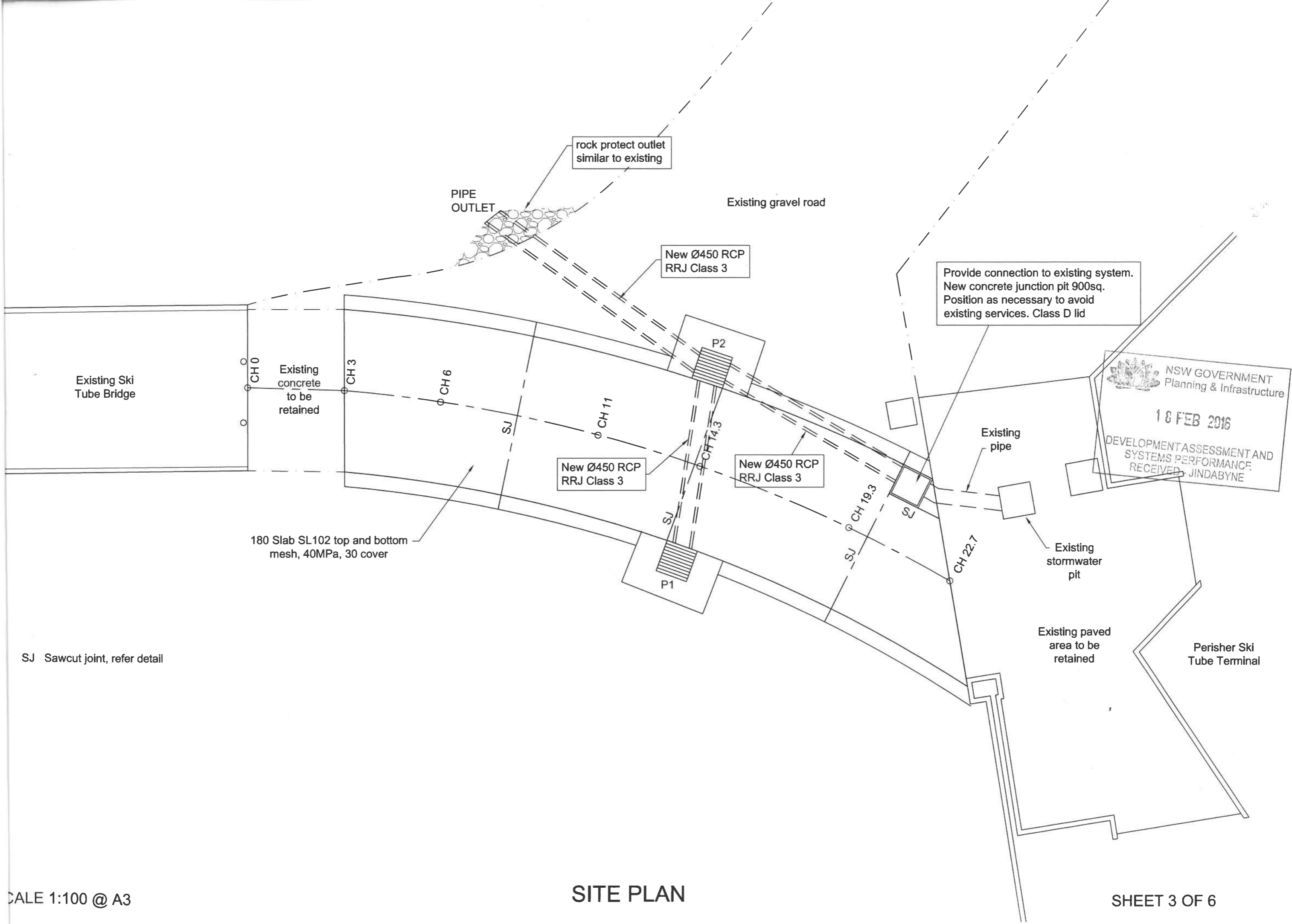


- C4. Provide concrete strengths (f'c) below to relevant structural items U.N.O.
 Slab on ground Exterior: >50km to coast 40MPa
 Maximum slump of 75 mm Maximum aggregate size 20mm
 Precautions against excessive slab shrinkage Cure slab / Control water
- C5. Sizes of concrete elements do not include thickness of applied finishes
- C6. Do not make any construction joints, holes or chases in the concrete elements unless shown or approved by the Engineer
- C7. Do not place pipes or conduits within the concrete cover to reinforcement
- C8. Reinforcement notation
 N Grade 500 deformed bar to AS 4671 T = Top of element TM = Trench Mesh
 R Grade 250 plain round bar to AS 4671 B = Bottom of element EW = Each Way
 SL Grade 500 square mesh to AS 4671 UNO = Unless Noted Otherwise CTS = Centres
 RL Grade 500 rectangular mesh to AS 4671 C/S = Courses
 L Grade 500 bar to AS 4671
 eg N16-200 = Diameter 16mm, grade 500 deformed bars spaced at 200mm centres
 4L11TM = Trench Mesh with 4 off diameter 11mm, grade 500 main bars
- C9. Project control testing shall be carried out in accordance with AS 1379
- C10. Provide clear concrete cover to reinforcement - 45mm bottom cover, 50 top cover

CONCRETE VEHICULAR PAVEMENT NOTES

- CP1. Concrete Mix Parameters
 Maximum aggregate size 20mm
 Concrete 28-day flexural strength to be 4.75MPa (f'c = 40 MPa)
 Maximum water/cement ratio = 0.45
 Maximum shrinkage limit = 600 microstrains (AS 1012.13) after 8 weeks of drying
 Minimum cement content = 300 kg/m3
 Cement to be type 'A' (normal cement) to AS 1315
 Slump = 50 mm
- CP2. Sawn joints are to be cut not sooner than 24 hours and not later than 48 hours after concrete pour to avoid damaging the surface during saw cut.
- CP3. For expansion joints, prior to the placement of concrete in the adjacent slab, self expanding cork filler shall be adhered to the already cast and cleaned concrete face, using an approved waterproof adhesive. Adhesive shall be liberally applied to the full face of the concrete slab to be covered by the filler and on the full face of the filler to be adhered.
- CP4. The builder shall provide constant supervision of concrete pours executed by sub-contractors to ensure Reinforcement displaced off chairs are replaced prior to concrete placement
 No site water is added to concrete or concrete in waiting trucks (required slumps for placement shall be achieved using super plasticiser)
 All concrete is fully compacted using a poker vibrator.
 No pours are executed when the ambient temperature equals or exceeds 36 degrees celsius.
 Pours are protected from any hot drying winds.
- CP5. Refer to compaction notes for preparation of subbase and sub-grade.
- CP6. Curing - the finished concrete shall be cured for a minimum of 7 days using at least one of the following methods:
 1. Ponding or continuous sprinkling of water
 2. The use of an absorbent cover kept constantly wet (when the ambient temperature exceeds 32 degrees celsius, curing may only be achieved using methods 1 and 2).
 3. The use of an impermeable sheet membrane over a moistened surface (the membrane shall be fixed and lapped so no air circulation can occur at the concrete surface).
 4. The use of a curing compound for 7 days, complying with AS 3799, applied uniformly in accordance with the manufacturer's recommendations and when dry, the coat should be continuous, flexible and without any visible breaks or pin holes.
- CP7. Broom concrete finish U.N.O.






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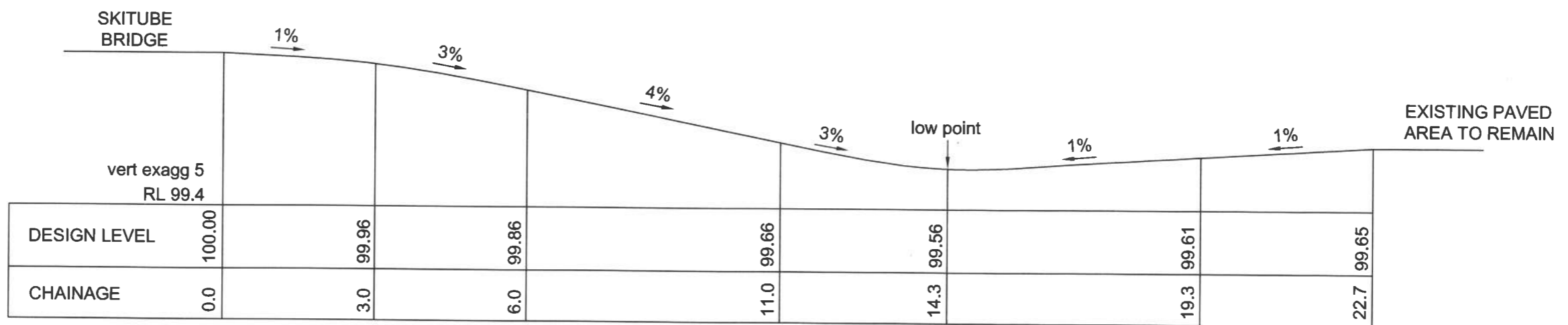
SJ Sawcut joint, refer detail

180 Slab SL102 top and bottom mesh, 40MPa, 30 cover

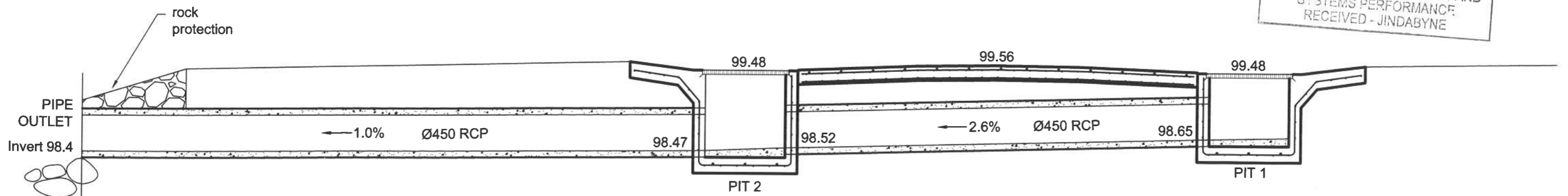
SITE PLAN

SCALE 1:100 @ A3

SHEET 3 OF 6

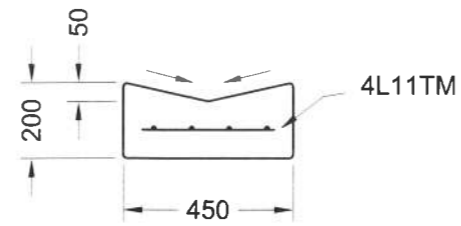


WALKWAY LONGITUDINAL SECTION (1:100)

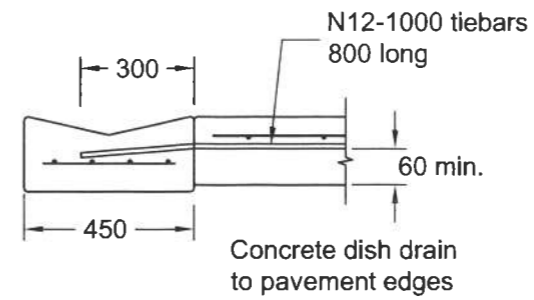


STORMWATER LONGITUDINAL SECTION (1:50)

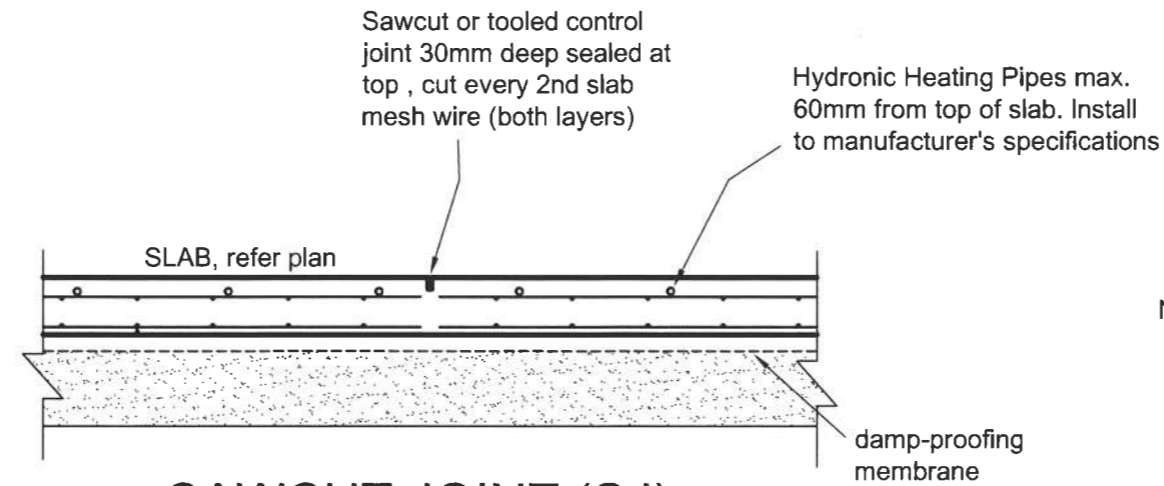
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CONCRETE DISH DRAIN

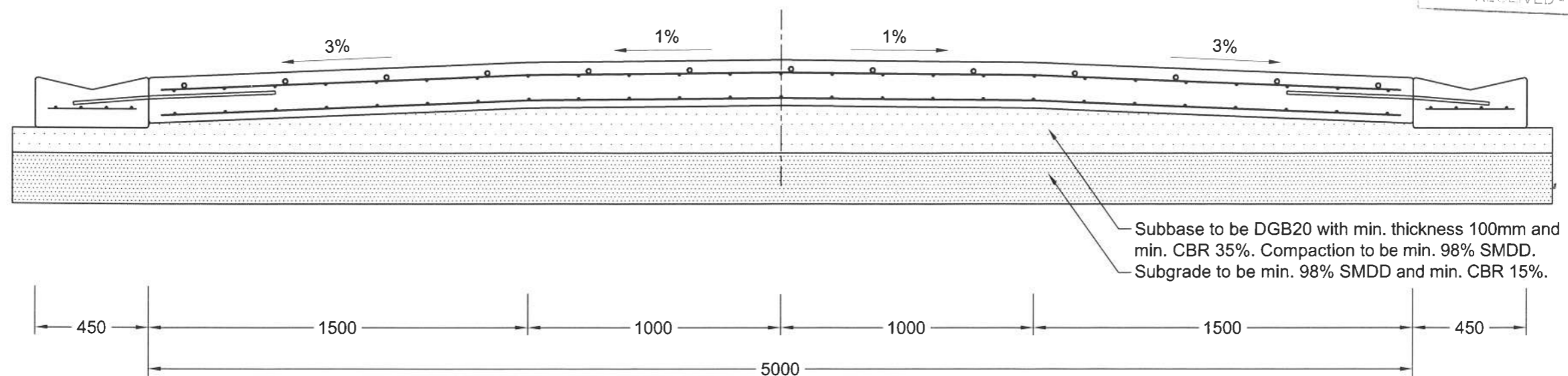
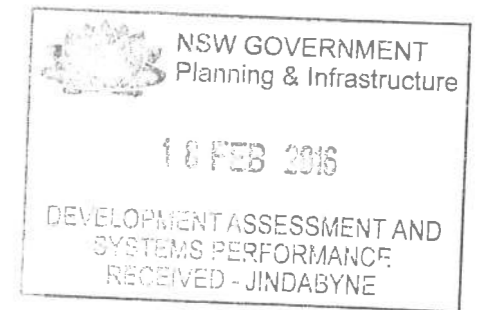


SLAB TO DISH DRAIN DETAIL

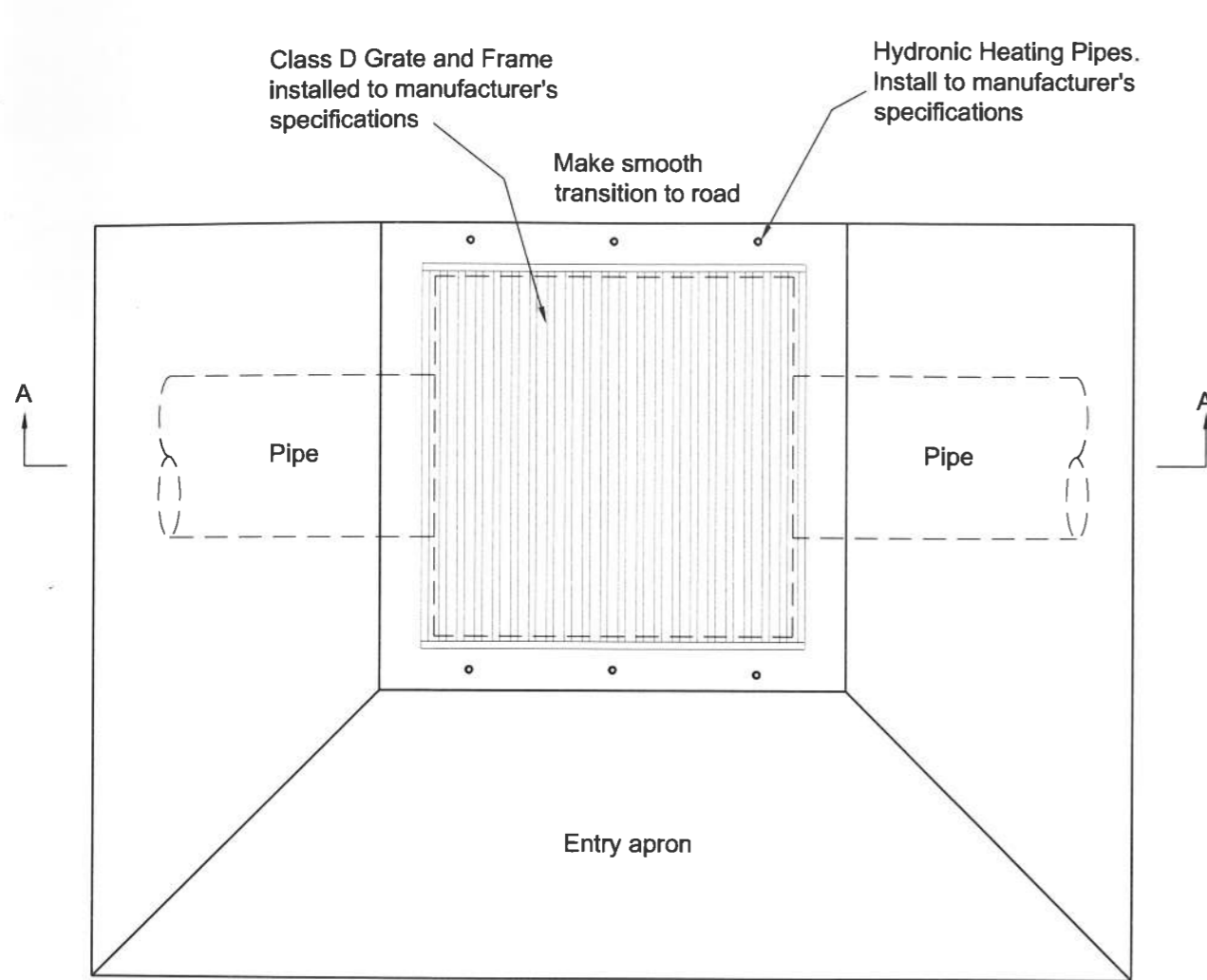


SAWCUT JOINT (SJ)

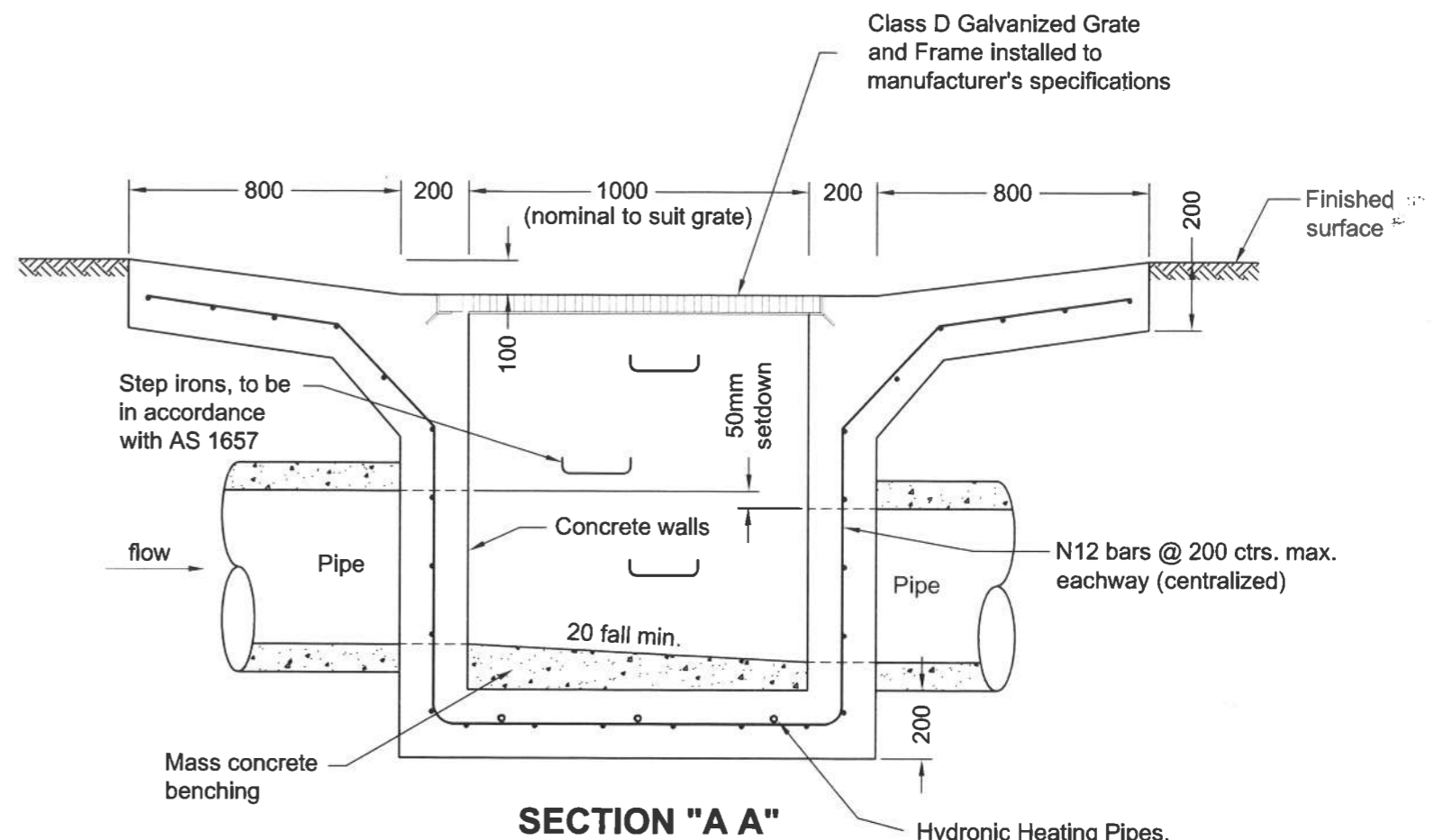
Notes: 1. Hydronic heating not to cross SJ



TYPICAL CROSS SECTION



PLAN



SECTION "A A"

PIT CONSTRUCTION NOTES:

1. Concrete to be 40 MPa.
2. Walls and base to be reinforced with N12 bars @ 200mm ctr's each way centrally located.
3. Hydronic Heating Pipes to be installed to base of pit to manufacturer's specifications.
4. Pit outlet obvert to be lower than the inlet obvert by at least 50mm.
5. Minimum cover for reinforcement to be 50mm.
6. Pit deeper than 1200mm shall be fitted with step irons for maintenance access.
7. Heavy duty covers to be used when subject to trafficable loads (AS3996 Class D - 210kN).

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GRATED PIT DETAILS