Shire of Dardanup

INFRASTRUCTURE DIRECTORATE

APPENDICES – PART 2

Items: 12.3.4 – 12.3.5

ORDINARY COUNCIL MEETING

To Be Held

Wednesday, 28th of April 2021

Commencing at 5.00pm

At

Shire of Dardanup

ADMINISTRATION CENTRE EATON

1 Council Drive - EATON

This document is available in alternative formats such as:

~ Large Print

~ Electronic Format [disk or emailed]

Upon request.

RISK ASSESSMENT TOOL

OVERALL RISK EVENT: Final cost of construction and award of contract

RISK THEME PROFILE:

6 - Engagement Practices
7 - Environment Management
13 - Project/Change Management

RISK ASSESSMENT CONTEXT: Strategic Operational

CONSEQUENCE CATEGORY	RISK EVENT	PRIOR TO TREATMENT OR CONTROL			RISK ACTION PLAN (Treatment or controls proposed)	AFTER TREATEMENT OR CONTROL		
		CONSEQUENCE	LIKELIHOOD	INHERENT RISK RATING		CONSEQUENCE	LIKELIHOOD	RESIDUAL RISK RATING
HEALTH	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
FINANCIAL IMPACT	Final cost of construction exceeds available budget.	Moderate (3)	Possible (3)	Moderate (5 - 11)	Shire Officers to closely monitor construction costs.	Moderate (3)	Unlikely (2)	Moderate (5 - 11)
SERVICE INTERRUPTION	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
LEGAL AND COMPLIANCE	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
REPUTATIONAL	Failure to award a contract and expend capital grant funding.	Moderate (3)	Possible (3)	Moderate (5 - 11)	Council to award contract.	Moderate (3)	Rare (1)	Low (1 - 4)
ENVIRONMENT	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.

(Appendix ORD: 12.3.4A)

(Appendix ORD: 12.3.4B)

Shire of Dardanup

Request for Tender

Eaton Skate Park and Pump Track

Administration Centre – Eaton
1 Council Drive | PO Box 7016
EATON WA 6232
Tel: 9724 0000 | Fax: 9724 0091
www.dardanup.wa.gov.au

Request for Tender	Eaton Skate Park and Pump Track

Deadline:	14:00 AWST, Friday 26 March 2021

Address for Delivery:	www.tenderlink.com/dardanup/ Subject: Eaton Skate Park and Pump Track

RFT Number:	RFT F0196739

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Tender Brief

Tenders closing at **14:00 AWST on 26 March 2021**, are called for the Eaton Skate Park and associated works.

The tender documents comprise the following: -

1. General Conditions of Tendering;
2. Specifications and Scope of Work;
3. Tenderer's Offer; and
4. AS 4000 — 1997 General Conditions of Contract (not supplied).

Tenders are to be submitted as per conditions stated in this tender document. Tenderers will be notified of Council's decision.

André Schönfeldt
Chief Executive Officer

24/02/2021

1 General Conditions of Tendering

1.1 Contract Requirements in Brief

A full statement of the tender required under the proposed contract appears in the Specifications and Scope of Work of the Contract.

1.2 Request for Tender Documents

This Request for Tender is comprised of the following parts:

a) Part 1 - General Conditions of Tender (read and keep this part);

b) Part 2 – Specifications and Scope of Work (read and keep this part);

c) Part 3 - Tenderer's Offer (Complete and return this part).

The following documents are also deemed to be incorporated into the Request for Tender:

a) Appendix A – Tender Drawings

b) Appendix B – Technical Specification

c) Appendix C – Geotechnical Investigation Report

d) Appendix D – AS4000-1997 Annexure Part A

1.3 Definitions

Below is a summary of some of the important defined terms used in this Expression of Interest:

Attachments:	The documents you attach as part of your Tender.
Deadline:	The deadline for lodgement of your Tender.
Contractor:	Means the person or person, corporation or corporations who's Tender is accepted by the Principal, including the executors or administrator, successors and assignments of such person or person, corporation or corporations.
General Conditions of Contract	Means AS 4000 — 1997.
Offer	Your offer to be selected to supply the Requirements.

Principal:	Shire of Dardanup.
Request or RFT or Request for Tender	This Document.
Requirements	The services requested by the Local Government;
Selection Criteria:	The criteria used by the Local Government in evaluating your Tender;
Special Conditions	The additional contractual terms;
Specification:	The statement of Requirements that the Local Government request you to provide if selected.
Tender	Completed Offer form, Response to the Selection Criteria and Attachments
Tenderer	Someone who has or intends to submit an Offer to the Principal.

1.4 How to Prepare Your Response

a) Carefully read all parts of this document;

b) Ensure you understand the Requirements; (See clauses 2.1 and 2.2).

c) Complete, sign and return the Tenderer's Offer (Part 3) in all respects and include all Attachments;

d) Make sure you have responded to all of the Selection Criteria; and

e) Lodge your Tender before the Deadline.

1.5 Contact Persons

Tenderers will not rely on any information provided by any person(s) other than the Shire's Procurement Officer via www.tenderlink.com/dardanup/

1.6 Tender Briefing / Site Inspection

Not applicable.

1.7 Evaluation Process

This is a Request for Tender (RFT). Your Tender will be evaluated using information provided in your Tender.

The following evaluation methodology will be used in respect of this Request:

a) Tenders are checked for completeness and compliance. Tenders that do not contain all information requested (e.g. completed Offer form and Attachments) may be excluded from evaluation;
b) Tenders are assessed against the Selection Criteria. Contract costs are evaluated, e.g. tendered prices and other relevant whole of life costs are considered; and
c) The most suitable Tenderer's may be short listed and may also be required to clarify their Tender, make a presentation, demonstrate the product/solution offered and /or open premises for inspection. Referees may also be contacted prior to the selection of successful Tenderer.

A contract may then be awarded to the Tenderer or Tenderer's who's Tender(s) are considered the most advantageous Tender/s to the Principal.

1.8 Selection Criteria

The Contract may be awarded to a sole or panel of Tenderer(s) who best demonstrates the ability to provide quality products and/or services at a competitive price. The tendered prices will be assessed together with the qualitative and compliance criteria to determine the most advantageous outcome to the Principal.

The Principal has adopted a best value for money approach to this Request. This means that, although price is considered, the tender containing the lowest price will not necessarily be accepted, nor will the Tender ranked the highest on the qualitative criteria.

A scoring system will be used as part of the assessment of the qualitative criteria. Unless otherwise stated, a Tender that provides all the information requested will be assessed as satisfactory. The extent to which a Tenderer demonstrates greater satisfaction of each of these criteria will result in a greater score. The aggregate score of each Tender will be used as one of the factors in the final assessment of the qualitative criteria and in the overall assessment of value for money.

1.8.1 Compliance Criteria

These criteria are detailed within Part 3 of this document and will not be point scored. Each Tender will be assessed on a Yes/No basis as to whether the criterion is satisfactorily met. An assessment of "No" against any criterion may eliminate the Tenderer from consideration.

1.8.2 Qualitative Criteria

In determining the most advantageous Tender, the Evaluation Panel will score each Tender against the qualitative criteria as detailed within Part 3 of this document. Each criterion will be weighted to indicate the relative degree of importance that the Principal places on the technical aspects of the goods or services being purchased.

Assessment of the most favourable Tender will be based on the following points:

- Relevant experience
- Key personnel skills and experience
- Respondent's resources
- Demonstrated understanding
- Sustainability; and
- Price

Demonstrated Understanding and Appreciation of the Principal's vision and ambition with respect to its Wood Encouragement Policy.

NOTE: It is essential that Tenderers address each qualitative criterion. Information that you provide addressing each qualitative criterion will be point scored by the Evaluation Panel. Failure to provide the specified information may result in elimination from the evaluation process or a low score.

1.8.3 Price Considerations

The weighted price method is used where price is considered to be crucial to the outcome of the contract. The price is then assessed with quality. Price is weighted at 50%, which is assessed as follows:

Criteria	Weighting
Most competitive pricing structure. Council's assessment of the most advantageous service arrangement over the Tender contract period	50%

1.9 Price Basis

- No Rise and Fall of prices will be considered, all prices are to be fixed for the duration of the contract terms;
- Tendered prices must include Goods and Services Tax (GST);
- Tendered prices shall include all applicable taxes and duties;

- Unless otherwise indicated prices tendered must include design, supply, installation and construction.
- The Tenderer shall also submit a payment schedule, as part of their submission

Any charge not stated in the Tender as being additional will not be allowed as a charge for any transaction under any resultant Contract.

1.10 The Principal's Acts and Policies that may affect selection

The following acts and policies may affect this selection:

a) Local Government Act 1995;
b) Local Government (Functions & General) Regulations 1996;
c) Occupational Safety & Health Act 1984 (State);
d) Occupational Safety & Health Regulations 1996 (State);
e) State Records Act 2000;
f) Freedom of Information Act 1992;
g) Public Interest Disclosure Act 2003;
h) Shire of Dardanup's Policies; and
i) The Disability Services act 1993.

1.11 Conditions of Tendering

1.11.1 Lodgement of Tender and Delivery Method

The Tender must be lodged by the Deadline. The Deadline for this Tender is shown on the front page of this document, which must be submitted via www.tenderlink.com/dardanup/

1.11.2 Rejection of Tenders

A Tender may be rejected without consideration of its merits in the event that:

a) the Tender is not submitted at the time and at the place specified in the Request; or
b) the Tenderer does not submit an Offer Form which has been completed and signed together with all the required Attachments; or
c) the Tender fails to comply with any other requirements of the Tender.

1.11.3 Late Tenders

Tenders received:

a) After the Deadline; or
b) In a place other than that stipulated in this Request,

will not be accepted for evaluation.

1.11.4 Acceptance of Tenders

Unless otherwise stated in this Request, Tenders may be for all or part of the Requirement and may be accepted by the Principal either wholly or in part. The Principal is not bound to accept the lowest Tender and may reject any or all Tenders submitted.

The Request and Tenders will both form part of the final contract.

1.11.5 Disclosure of Contract Information and Documents

Documents and other information relevant to the contract may be disclosed when required by law under the *Freedom of Information Act 1992* or under a Court order.

All Tenderers will be given particulars of the successful Tenderer(s) or advising that no Tender was accepted.

1.11.6 Alternative Tender

All Alternative Tenders MUST be accompanied by a conforming Tender.

Tenders may be submitted as Alternative Tenders or made subject to conditions other than the General and Special Conditions of Contract must in all cases arising be clearly marked "ALTERNATIVE TENDER".

The Principal may in its absolute discretion reject any such Alternative Tender as invalid.

If the Tender is marked as an Alternative Tender, any printed "General Conditions of Contract" shown on the reverse of a Tender's letter or quotation form will not be binding on the Principal in the event of a Contract being awarded, unless the Tender is marked as an Alternative Tender.

1.11.7 Tender Validity Period

All Tenders will remain valid and open for acceptance for a minimum period of ninety (90) days from the Deadline or forty-five (45) days from Council's resolution for determining the Tender, whichever is the later unless extended on mutual agreement between the Principal and the Tenderer in writing.

1.11.8 General Conditions of Contract

Tenders will be deemed to have been made on the basis of and to incorporate the AS 4000 — 1997 General Conditions of Contract.

1.11.9 Precedence of Documents

In the event of there being any conflict or inconsistency between the terms and conditions herein and those in the General Conditions of Contract the terms and conditions appearing in this Request will have precedence.

1.11.10 Tenderers to Inform Themselves

Tenderers will be deemed to have:

a) Examined the Request and any other information available in writing to Tenderers for the purpose of responding;
b) Examined all further information relevant to the risks; contingencies, and other circumstances having an effect on their Tender which is obtainable by the making of reasonable enquires;
c) Satisfied themselves as to the correctness and sufficiency of their Tender including tendered prices which will be deemed to cover the cost of complying with all the Conditions of Responding and of all matters and things necessary for the due and proper performance and completion of the work described therein;
d) Acknowledged that the Principal may enter into negotiations with a chosen Tenderer and that negotiations are to be carried out in good faith; and
e) Satisfied themselves they have a full set of the Request documents and all relevant Attachments.

1.11.11 Alterations

The Tenderer must not alter or add to the Request documents unless required by the Conditions of Tendering.
The Principal will issue an addendum to all registered Tenderers where matters of significance make it necessary to amend the issued Request documents before the Deadline. Final date Tenders can request information is two weeks before the RFT closing date.

1.11.12 Ownership of Tenders

All documents, materials, articles and information submitted by the Tenderer as part of or in support of a Tender will become upon submission the absolute property of Principal and will not be returned to the Tenderer at the conclusion of the Tender process PROVIDED that the Tenderer is entitled to retain copyright and other intellectual property rights therein, unless otherwise provided by the Contract.

1.11.13 Canvassing of Officers

If a Tenderer, whether personally or by an agent, canvasses any of the Principal's Commissioners or Councillors (as the case may be), or Officers with a view to influencing the acceptance of any Tender made to it or any other Tenderer, then regardless of such canvassing having any influence on the acceptance of such Tender, the Principal may at its discretion omit the Tenderer from consideration.

1.11.14 Identity of the Tenderer

The identity of the Tenderer and the Contractor is fundamental to the Principal.

The Tenderer is the person, persons, corporation or corporations named as the Tenderer in Part 3 and whose execution appears on the Offer Form in Part 3 of this Request. Upon acceptance of the Tender, the Tender will become the Contractor.

1.11.15 Costs of Tendering

The Principal will not be liable for payment to the Tenderer for any costs, losses or expenses incurred by the Tenderer in preparing their offer.

1.11.16 Risk Assessment

The Principal may have access to and give consideration to:

a) any risk assessment undertaken by any credit rating agency;
b) any financial analytical assessment undertaken by any agency; and
c) any information produced by the Bank, financial institution, or accountant of a Tenderer.

so as to assess that Tender and may consider such materials as tools in the Tender assessment process. Tenderers may be required to undertake to provide to the Principal (or its nominated agent) upon request all such information as the Principal reasonably requires to satisfy itself that Tenderers are financially viable and have the financial capability to provide the Services for which they are submitting and meet their obligations under any proposed Contract. The Principal reserves the right to engage (at its own cost) an independent financial assessor as a nominated agent to conduct financial assessments under conditions of strict confidentiality. For this assessment to be completed, a representative from the nominated agent may contact you concerning the financial information that you are required to provide.

1.12 Tender Opening

Tenders will be opened in the Principal's offices, following the advertised Deadline. All Tenderer's and members of the public may attend or be represented at the opening of Tenders.

The names of the persons who submitted a Tender by the due Deadline will be read out at the tender opening. No discussions will be entered into between Tenderers and the Principal's officers present or otherwise, concerning the Tenders submitted.

The Tender opening will be held at 14:30 on the day of the deadline stated on the front page of this document, at the Eaton Administration Centre, 1 Council Drive, Eaton. WA 6232.

1.13 Tendered Submission by the Shire of Dardanup

The Principal will not be submitting a Tender for this Contract.

2 Specification and Scope of Work

2.1 General

The Shire of Dardanup is seeking the services of a suitably qualified contractor to construct a new Eaton Skate Park and associated works.

2.2 Scope of Work

The Tender is to construct a new Skate Park and Pump Track, as detailed on the Drawings, and as described elsewhere in this Request for Tender.

Note that the following items are excluded from the scope of this Tender:

- Rubbish Bin Enclosure
- Featured Painted Zones
- Lighting and Electrical fixtures and fittings all conduits and pits to be included
- Timber Decking

  Landscaping Works

2.3 Handover

Documentation must be provided to the Principal appropriate for the Principal's ongoing operation and maintenance of the building. Document must include, but not be limited to:

- Handling of Defects Liability Period
- Operation & Maintenance documentation
- Equipment schedules with equipment specification sheets
- Material specification sheets
- Final Issued For Construction (IFC) documentation (with modifications to reflect 'as-built').

  The Shire will provide digital copies of the Drawings to the successful tenderer.

2.4 Specific Requirements of the Contract

The Contract will under AS 4000-1997 General Conditions of Contract.

A draft copy of Annexure Part A is included in Appendix D.

A copy of AS 4000-1997 General Conditions of Contract is not supplied by the Principal with this Request for Tender.

2.4.1 Principal-Supplied Goods and Services

The Principal will not supply any goods or services in relation to this Contract.

2.4.2 Building Permit

The Shire has obtained the necessary planning approvals for this project.

The Contractor shall submit a BA1, Certified Building Application to the Shire of Dardanup and secure a Building Permit prior to commencement of construction work. The application must include a BA3, Certificate of Design Compliance.

The Shire will waive the Building Application fee. The BCITF Levy and the Building Services Levy cannot be waived.

2.4.3 Standards, Codes and Regulations

The Works shall, where applicable, conform to the legislated requirements and regulations of the relevant statutory bodies of Western Australia, and of the Commonwealth of Australia. Where this specification contradicts the requirements of the legislation, the legislation shall take precedence.

The Contractor shall ensure that all aspects of the Works comply with all Laws, both State and Federal.

Standards are not supplied with this Contract and it is the responsibility of the Contractor to obtain a copy of each and ensure its compliance.

2.4.4 Buried Services Location

The Contractor shall be responsible for contacting Dial Before You Dig, and shall locate (using potholing where necessary) and accurately mark out on Site, all buried services in the vicinity of the Works. The Principal will provide the Contractor with its knowledge of buried services in the vicinity of the Works, which the Contractor shall use and mark out on Site.

2.4.5 Temporary Works and Reinstatement

The Contractor shall make allowance in its price for any necessary temporary works in order to complete the Works, including removal and full reinstatement to the satisfaction of the Principal.

2.4.7 Survey and As-Constructed Information

The Contractor shall professionally survey the completed Works, including all buried services, and supply this information to the Principal in AutoCAD format on USB.

2.4.8 Reporting Requirements and Progress Meetings

The Contractor shall provide progress reports when requested to the Principal with accurate and up to date information, including but not limited to:

- Construction Schedule;
- Procurement Items; and
- Construction Activities.

The Contractor shall attend progress meetings, as required, at the Principal's offices in Eaton.

2.4.9 Ownership and Maintenance of Records

Records related to the services delivered under this contract are determined to be State Records. The

Contractor shall maintain complete records of all work carried out during the period of the Contract.

The Contractor is obligated to maintain records in accordance with record keeping standards and associated legislation and as determined by the Principal.

Outcome generated documents created as result of the delivery of this service or provision of goods may include; Strategies for the delivery of the service, an Asset Plan, any financial operational documents, business decision documents, working papers and any other documents generated under this contract.

2.4.10 Access to Contract Records

The Contractor shall provide access or make available to the Principal, the State Supply Commission, the Ombudsman or the Office of the Auditor General all records, documents and information relating to the Contract and its performance, upon receipt of a written request by the Contractor from any of these bodies. Any requested access to or availability of required documents shall be provided within 14 days of receipt of the written request.

2.4.11 Records on Contract Completion

The Principal may, at its discretion, take custody of all records related to this service at a time to be determined by the Principal, no later than 6 months after completion of the contract.

2.5 Implementation Timetable

The following table:

RFT Close	26/03/2021
Council Meeting	28/04/2021
Notifications to Tenderers	29/04/2021
Contract Commencement	3/05/2021
Practical Completion	20/08/2021

Part 3	COMPLETE AND RETURN

3 Tenderer's Offer

3.1 Offer Form

THE CHIEF EXECUTIVE OFFICER
SHIRE OF DARDANUP
PO BOX 7016
1 COUNCIL DRIVE, EATON, WA 6232

I/We

Name: [BLOCK LETTERS] :

Address:

ABN/GST Status: **ACN (if any):**

Telephone No: **Facsimile No:**

Email:

In response to Request for Tender (RFT) F0196739 EATON SKATE PARK AND PUMP TRACK

I/We agree that I am/We are bound by, and will comply with this Request and its associated schedules, Attachments, all in accordance with the Conditions of Responding contained in this Request signed and completed.

The tendered price is valid up to three ninety (90) calendar days from the date of the Tender closing or forty-five (45) days from the Council's resolution for determining the Tender, whichever is the later, unless extended on mutual agreement between the Principal and the Tenderer in writing.

I/We agree that there shall be no cost payable by the Principal towards the preparation or submission of this Tender irrespective of its outcome.
The tendered consideration is as provided under the schedule of rates of prices in the prescribed format and submitted with this Tender
Dated this _____ day of _____20_____

Signature of authorised Signatory of Tenderer:	
Name of Authorised Signatory	
Position:	
Address:	

Witness Signature:	
Name of Witness: (BLOCK LETTERS):	
Position:	
Address:	

Part 3	COMPLETE AND RETURN

3.2 Selection Criteria

The Contract may be awarded to a Tenderer who best demonstrates the ability to provide quality products and/or services at a competitive price. The tendered prices will be assessed together with the qualitative and compliance criteria to determine the most advantages outcome for the Principal.

The Principal has adopted a best value for money approach to this Request. This means that, although price is considered, the Tender containing the lowest price will not necessarily be accepted, not will the Tender ranked the highest on the qualitative criteria.

A scoring system will be used as part of the assessment of the qualitative criteria. Unless, otherwise stated, a Tender that provides all the information requested will be assessed as satisfactory. The extent to which a Tender demonstrates greater satisfaction of each of these criteria will result in a greater score. The aggregate score of each Tender will be used as one of the factors in the final assessment of the qualitative criteria and in the overall assessment of value for money.

(NOTE: All pages within Part 3 are to be completed and returned to the Principal as they form part of your Tender).

Compliance Criteria

These criteria will not be point scored.

Each Tender will be assessed on a Yes/No basis as to whether the criterion is satisfactorily met.

Organisation Profile

Attach a copy of your organisation structure and provide background information on your company and label it **"Organisation Structure"**.	**"Organisation Structure"**	Tick if attached ☐
If companies are involved, attach their current ASC company extracts search including latest annual return and label it **"ASC Company Extracts"**.	**"ASC Company Extracts"**	Tick if attached ☐

Referees

Attach details of your referees, and label it **"Referees"**. You should give examples of work provided for your referees where possible.	**"Referees"**	Tick if attached ☐

Agents

Are you acting as an agent for another party?	Yes / No

Part 3	COMPLETE AND RETURN

If Yes, attach details (including name and address) of your principal and label it **"Agents"**.	**"Agents"**	Tick if attached ☐

Trusts

Are you acting as a trustee of a trust?	Yes / No	
If Yes, in an attachment labelled **"Trusts"**: (a) give the name of the trust and include a copy of the trust deed (and any related documents);and (b) if there is no trust deed, provide the names and addresses of beneficiaries.	**"Trusts"**	Tick if attached ☐

Subcontractors

Do you intend to subcontract any of the Requirements?	Yes / No	
If Yes, in an attachment labelled **"Subcontractors"** provide details of the subcontractor(s) including: (a) the name, address and the number of people employed; and (b) the Requirements that will be subcontracted.	**Sub-contractors**	Tick if attached ☐

Conflicts of Interest

Will any actual or potential conflict of interest in the performance of your obligations under the Contract exist if you are awarded the Contract, or are any such conflicts of interest likely to arise during the Contract?	Yes / No	
If Yes, please supply in an attachment details of any actual or potential conflict of interest and the way in which any conflict will be dealt with and label it **"Conflicts of Interest"**.	**"Conflicts of Interest"**	Tick if attached ☐

Financial Position

Are you presently able to pay all your debts in full as and when they fall due?	Yes / No
Are you currently engaged in litigation as a result of which you may be liable for $50,000 or more?	Yes / No
If you are awarded the Contract, will you be able to fulfil the Requirements from your own resources or from resources readily available to you and remain able to pay all of your debts in full as and when they fall due?	Yes / No

Part 3	COMPLETE AND RETURN

In order to demonstrate your financial ability to undertake this contract, in an attachment labelled **"Financial Position"** include a profit and loss statement and the latest financial return for you and each of the other proposed contracting entities, together with a list of financial referees from your bank and/or accountant.	**"Financial Position"**	Tick if attached ☐

Insurance Coverage

The insurance requirements for this Request are stipulated in the Special Conditions. Tenderers are to supply evidence of their insurance coverage in a format as outlined below or in an attachment labelled **"Insurance Coverage"**. A copy of the Certificate of Currency is to be provided to the Principal within 10 days of acceptance.	**"Insurance Coverage"**	Tick if attached ☐

Type	Insurer – Broker	Policy Number	Value ($)	Expiry Date
Public Liability				
Professional Indemnity				
Workers Compensation			As required by law at the time of contract	

Qualitative Criteria

Before responding to the following qualitative criteria, Tenderers must note the following:

a) All information relevant to your answers are to be contained within your response to each criterion;
b) Tenderers are to assume that the Evaluation Panel has no previous knowledge of your organisation, its activities or experience;
c) Tenderers are to provide full details for any claims, statements or examples used to address the qualitative criteria; and
d) Tenderers are to address each issue outlined within a qualitative criterion.

Part 3	COMPLETE AND RETURN

A. Relevant Experience Describe your experience in completing/supplying similar Requirements. Respondents must, as a minimum, address the following information in an attachment and label it **"Relevant Experience"**:	**Weighting** **10%**	
a) Provide details of work completed on similar Skate Parks. *b) Provide scope of the Respondent's involvement with the building process including details of outcomes.* *c) Provide details of issues that arose during the project and how these were managed.* *d) Demonstrate sound judgement and discretion.* e) *Demonstrate competency and proven track record of achieving outcomes.*	**"Relevant Experience"**	**Tick if attached** ☐

B. Key Personnel Skills and Experience Respondents must address the following information in an attachment and label it "**Key Personnel Skills and Experience**":	**Weighting** **10%**	
a) Their role in the performance of the Contract. *b) Provide details of the concrete team to be included in the project team and projects they have undertaken.* *c) Membership to any professional or business associations of key personnel and organisation.* *d) Qualifications, with particular emphasis on experience of personnel in projects of a similar requirement.* *e) Any additional information.*	**"Key Personnel"**	**Tick if attached** ☐
Supply any other relevant details in an attachment and label it "**Key Personnel Skills and Experience**".		

Part 3	COMPLETE AND RETURN

C. Respondent's Resources Respondents should demonstrate their ability to supply and sustain the necessary:	**Weighting** **10%**	
a) Plant, equipment and materials. *b) Any contingency measures or backup of resources including personnel (where applicable).*	**"Respondent's Resources"**	**Tick if attached** ☐
As a minimum, Respondents should provide a curre6nt commitment schedule and plant/equipment schedule in an attachment and label it "**Respondent's Resources**".		

D. Demonstrated Understanding Respondents should detail the process they intend to use to achieve the Requirements of the Specification. Areas you may wish to cover include:	**Weighting** **15%**	
a) A project schedule/timeline (where applicable); *b) The process for the delivery of the Goods/Services;* *c) Demonstrated understanding of the Scope of Work as outlines in section 2.2.*	**"Demonstrated Understanding"**	**Tick if attached** ☐
Supply details and provide an outline of your proposed methodology in an attachment labelled "**Demonstrated Understanding**".		

Part 3	COMPLETE AND RETURN

E. Sustainable Procurement Attach a document of maximum 2 A4 pages in length that addresses the following (half page summary for each criterion) and label it "**Sustainable Procurement**".	**Weighting** **5%**	
a) Environmentally Sustainable Businesses Provide commentary on how your organisation and the solutions being offered minimise its impact on the environment. This may include any policies and procedures that have been implemented, generating less waste by reviewing how supplies, materials and equipment are manufactured, purchased, packaged, used and disposed of. Encouragement of waste prevention, recycling, market development and the use of recycled/recyclable materials **b) Local Economic Benefit** Tenderer is located within the Shire's boundary firstly, and secondly with its broader region. **c) Disability Enterprises** Provide commentary on employment opportunities that your business provides for people with disabilities (The Disability Services Act 1993) **d) Aboriginal Business** Provide commentary on opportunities provided by your business for Aboriginal Businesses and if the Aboriginal Business id registered in the current Aboriginal Business Directory	**"Sustainability"**	**Tick if attached** ☐

F. Price Most competitive pricing structure. Council's assessment of the most advantageous service arrangement over the Tender contract period	**Weighting** **50%**

Part 3	COMPLETE AND RETURN

3.3 Price Information

The Contractor shall execute and complete the Works in accordance with the requirements of the Contract. The Shire of Dardanup will compensate the Contractor for performance of all of its obligations under the Contract on a lump sum basis as described in Breakdown of Tender Sum below ("**Lump Sum**").

3.3.1 Lump Sum

The Contractor shall execute and complete the Works for the Lump Sum. The Lump Sum shall be the maximum amount payable by the Shire of Dardanup to the Contractor for performance of all obligations under the Contract subject only to adjustment (if any) pursuant to the Conditions of Contract.

All prices are fixed for the duration of the Contract and are not subject to escalation for any cause. Payment of the Lump Sum shall constitute full payment for performance of the Works and covers all costs of whatever nature incurred by Contractor in accomplishing the Works in accordance with the provisions of this Contract.

3.3.2 Tender Sum

The Lump Sum payable to the Contractor for performance of the Works shall be the fixed lump sum stated in this section.

Description	Tender Price Amount ($) Ex GST	GST	Tender Price Amount ($) Inc GST
Eaton Skate Park and Pump Track			

Itemised Breakdown

Item	Description	Cost ($) Inc GST
1	**SKATE PARK WORKS**	
1.1	Preliminaries	
1.2	Civil Works	
1.3	Concrete Skate Park	
1.4	Fabricated Skate Steel	
1.5	Balustrading and Handrails	
1.6	Concrete Pump Track	
2	**SKATE PARK WORKS**	
2.1	Shade Structures	

Part 3	COMPLETE AND RETURN

2.2	Drinking Fountain	
	TOTAL	

Part 3	COMPLETE AND RETURN

3.4 Contractor to Sign this Form and Return with Document

Safety and Work Practice Requirements

The Shire of Dardanup is committed to ensuring that all activities undertaken by Council and its contractors are undertaken in a safe manner without causing risk to Council's employees, contractors and community.

All tenderers shall ensure that they, their plant, equipment and personnel comply with the Occupational Safety and Health Act 1984 and the Occupational Health Safety and Welfare Regulations of 1988.

In addition all personnel working for the Shire of Dardanup shall comply with the Shire's OSH Policy.

POLICY

To ensure that procedures that account for WA OSH Act 1994 legislative requirements and give due consideration to Australian Standards and Codes of Practice are established and maintained to ensure that contractors have safety systems in place for themselves, their employees and sub-contractors to carry out work safely. To effectively manage contractor safety, Council will develop and continuously improve the process and procedures for the effective and consistent identification, evaluation, selection, monitoring and surveillance of its contractors. This policy applies to all Council employees and contractors. A contractor is anyone who is paid a remuneration to work for Council.

This policy must be read in conjunction with Council's Contractor Management Procedure, intended to support Council and its contractors in integrating occupational health and safety requirements into contractor management.

Preliminary Hazard Identification

Prior to the engagement of any contractor a preliminary assessment of the likely hazards involved in the work is to be undertaken. The assessment team must include the Shire of Dardanup employee/s that initiate the contract, the Shire of Dardanup Emergency and Safety Officer and other stakeholders as required. The process is to allow a preliminary assessment of likely hazards and selection of the appropriate category of contractor for the work.

Contractor Evaluation and Appointment

Council is required to measure and assess the capacity of contractors to comply with the *W.A. OSH Act 1984 and the W.A. OSH Regulations 1996* specifications and requirements as required by the legislation, guidance notes, Australian standards or codes of practice and shall seek sufficient information from contractors when seeking submissions for the work. This evaluation is to be incorporated into the selection of contractors prior to appointment. Council uses an online Safety Induction in order for contractors to be listed on Council's pre accredited list of contractors.

All contractors are to submit to Council the following information prior to being assessed for suitability to carry out work:

- Workers Compensation Certificate of Currency
- All insurances including public liability, products liability and vehicle insurance.

- Copy of all licenses for self-propelled mobile equipment that requires an appropriate licence including high risk work qualifications.
- Copy of training records for General Occupational Health and Safety Construction Induction (White Card)
- Copy of registrations for all vehicles used on Council's worksites.
- Copy of Australian Company Number (for major contracts only)
- Current MSDS for all chemicals used.

Pre-Commencement

The following Shire Dardanup documentation will be provided to contactors upon acceptance of the tender by the relevant contractor manager.

- CP027 Occupational Safety and Health Policy

Council will ensure suitable OSH management requirements are implemented by the contractor before work on site commences, that may include: Contractor Safety Induction and Site Specific Contractor Safety Induction

- Site Specific Safety Management Plans (SSSMP)
- Safe Work Method Statements (SWMS)
- Licences
- Permits as required.

The Contractor shall at all times conform strictly to the provisions of all site regulations as issued. Breaches may jeopardise future work with Council. You are urged to consider these issues and to ask questions if unsure.

Signature (s) _____

Company (Print) _____

Tender for: **RFT F0196739 EATON SKATE PARK AND PUMP TRACK**
Date _____

Appendix A

Tender Drawings

Appendix B

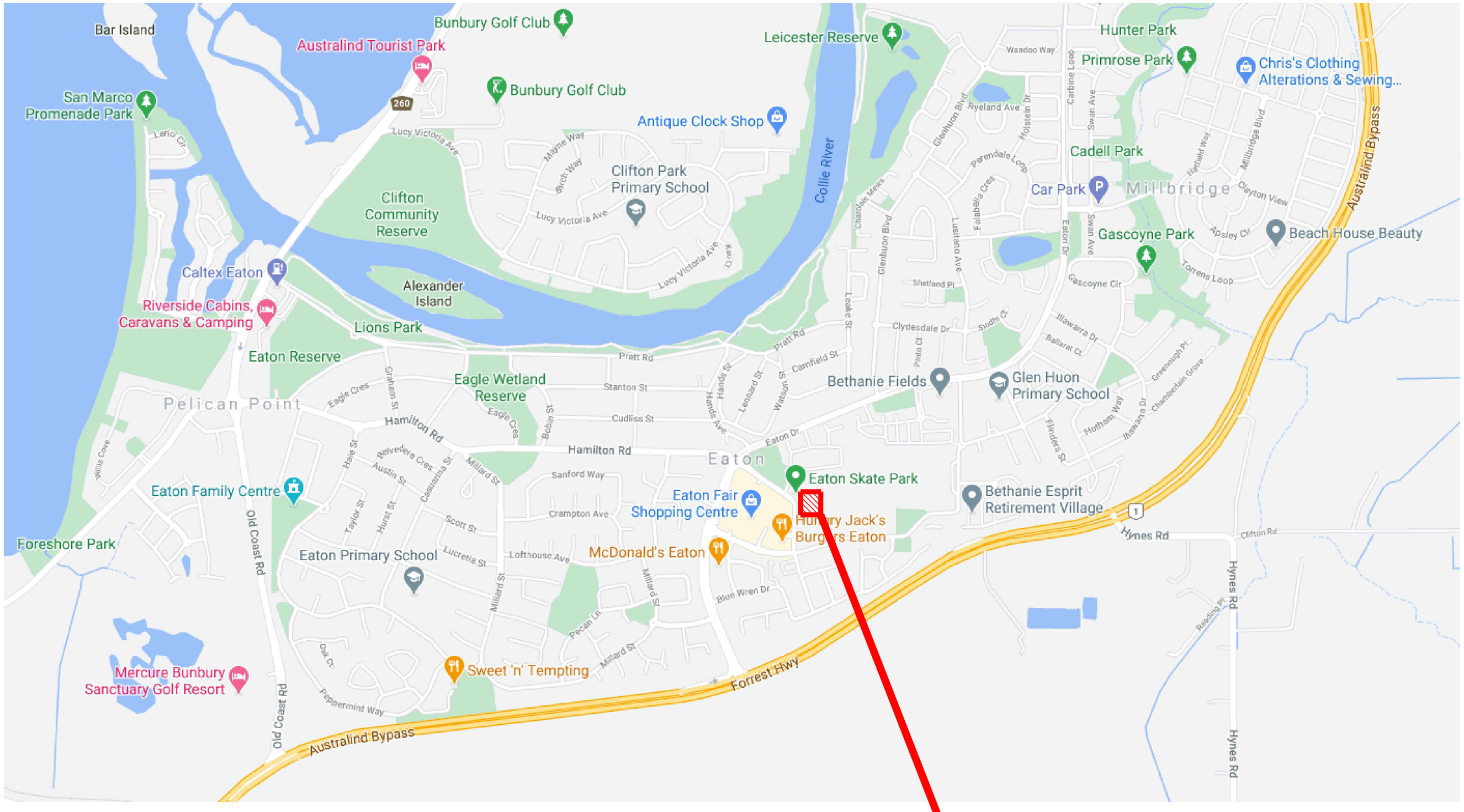
Technical Specification

Appendix C

Geotechnical Investigation Report

EATON

SKATE PARK



DRAWING INDEX

NO.	DRAWING TITLE
20085_CD000	Title Page and Drawing Index
20085_CD001	General Notes
20085_CD010	Existing Conditions Plan
20085_CD011	Demolition Plan
20085_CD012	Site Plan
20085_CD013	Drainage Plan
20085_CD100	Grading Plan 01
20085_CD101	Grading Plan 02
20085_CD102	XY Coordinate Plan 01
20085_CD103	XY Coordinate Plan 02
20085_CD104	Dimension Plan 01
20085_CD105	Dimension Plan 02
20085_CD106	Surface Finishes Plan 01
20085_CD107	Surface Finishes Plan 02
20085_CD108	Concrete Joint Plan 01
20085_CD109	Concrete Joint Plan 02
20085_CD110	Steel work & coping Plan 01
20085_CD111	Steel work & coping Plan 02
20085_CD112	Planting Plan 01
20085_CD113	Planting Plan 02
20085_CD114	Section Key 01
20085_CD115	Section Key 02
20085_CD200	Sections 01
20085_CD201	Sections 02
20085_CD202	Sections 03
20085_CD203	Sections 04
20085_CD204	Sections 05
20085_CD300	Details 01 - Slab
20085_CD301	Details 02 - Transitions
20085_CD302	Details 03 - Seat Details
20085_CD303	Details 04 - Skate Steel Details
20085_CD304	Details 05 - Skate Steel Details
20085_CD305	Details 06 - Modwood Deck Details
20085_CD306	Details 07 - Modwood Deck Details
20085_CD320	Drainage Details
20085_CD330	Shelter Details
00000_CD500	Landscape Details 01
00000_CD501	Landscape Details 02
00000_CD701	Electrical Plan 01
00000_CD702	Electrical Plan 02
00000_CD703	Electrical Details 01
00000_CD704	Electrical Details 02
00000_CD705	Electrical Details 03

FOR TENDER

CONVIC
UNIT 13, 46-50 REGENT STREET
RICHMOND VIC 3121 AUSTRALIA
T +61 3 9486 9899 F +61 3 9486 9088
WWW.CONVIC.COM

CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH
SCALE
NORTH POINT

C	FOR TENDER	19.02.21
B	65% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
TITLE & DRAWING INDEX

DRAWING NUMBER **20085_CD000** REV **C**

(Appendix ORD: 12.3.4B)

GENERAL NOTES:

ENGINEERING:

1. ALL ENGINEERING DETAILS, SPECIFICATIONS AND CONCRETE JOINTS SHALL BE REVIEWED AND CERTIFIED BY THE DESIGNER (CONVIC).

SITE:

1. CONTRACTOR TO VERIFY LOCATION OF AND ISOLATE ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORKS (LOCATIONS SHOWN ON PLANS ARE APPROXIMATE). ALL EXISTING SERVICES TO BE RETAINED AND PROTECTED THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE.
2. HEIGHT DATUM, SET OUT BASE POINT/LOCAL GRID TO BE LOCATED ON SITE BY LICENSED SURVEYOR. NEW WORKS TO BE SETOUT FROM LOCAL GRID AND LOCATIONS DOUBLE CHECKED FOR DISCREPANCIES FROM KNOWN FIXED POINTS ON SITE.
3. SITE SCRAPE TO AREA OF PROPOSED CONCRETE WORKS TO DEPTH APPROVED BY GEOTECHNICAL ENGINEER.
4. CONTRACTOR TO CHECK ALL DIMENSIONS AS SHOWN. ANY DISCREPANCIES OR LACK OF CLARITY SHALL BE INDICATED BY CONTRACTOR TO DESIGNER (CONVIC) FOR CLARIFICATION IN WRITING PRIOR TO WORKS COMMENCING/CONTINUING.
5. CONTRACTOR TO ENSURE ALL EXISTING TREES AND EXISTING SITE FEATURES ARE RETAINED AND PROTECTED THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE ON DEMOLITION PLAN.

EARTHWORKS:

1. REFER TO GEOTECHNICAL REPORT NUMBER CSWA0162_P234 ON 13/11/2020 BY CONSTRUCTION SCIENCES.
2. SITE SCRAPE AREA UNDER NEW CONCRETE PAVEMENT TO A MINIMUM DEPTH OF 300mm AND MAXIMUM DEPTH OF 500mm AS SPECIFIED IN GEOTECHNICAL REPORT.
3. STOCK PILE ALL EXCAVATED TOP SOIL FOR RE-USE AS REINSTATEMENT LANDSCAPING PURPOSES ONLY.
4. ALL SUBGRADE PREPARATION WORK UNDER ALL CONCRETE PAVEMENT AREAS AND LOW PROFILE RETAINING WALLS ARE TO BE PROTECTED, ROLLED AND COMPACTED AS PER RECOMMENDATIONS SET OUT IN THE GEOTECHNICAL REPORT IN ACCORDANCE WITH AS1289.5.1.1:2003. VIBRATION MODES SHOULD BE AVOIDED DUE TO THE SHALLOW PRESENCE OF GROUNDWATER. ANY LOOSE/ SOFT AREAS SHOULD BE REMOVED AND REPLACED WITH A SELECT FILL UNDER 'CONTROLLED' CONDITIONS.
5. INSTALL STABLE CLEAN FILL COMPACTED TO 95 % (SMDD) TO ACHIEVE DESIGN LEVELS. FILL SHALL BE PLACED AND COMPACTED IN 200mm LAYERS TO THICKNESS STATED IN GEOTECHNICAL REPORT IN ACCORDANCE WITH AS1289.5.5.1:2003
6. ALL NEW AND DISTURBED FINISHED EARTH AREAS TO BE NEAT, CLEAN, PRESENTABLE AND EVENLY GRADED TO TIE INTO NATURAL GROUND LEVELS. EARTH SURFACE SHALL BE GRADED AWAY FROM HARDSCAPE TO ENSURE NO POOLING OF WATER OCCURS AGAINST HARDSCAPE EDGES.

IRRIGATION

1. CONTRACTOR TO SUPPLY AND INSTALL SUITABLE DRIP IRRIGATION TO ALL GARDEN BED AREAS TO INCLUDE SYSTEM DESIGN, PREPARATION OF DOCUMENTATION, DOCUMENT REVIEW AND AUTHORITY APPROVALS, SUPPLY AND INSTALLATION OF ALL IRRIGATION WORKS, LATERAL PIPEWORK, PRESSURE MAIN, FITTINGS, VALVES, CONTROLLERS AND VACUUM BREAKERS BACKFLOW PREVENTION ASSEMBLIES, AND SYSTEM MAINTENANCE UNTIL PRACTICAL COMPLETION.
2. THE SYSTEM SHOULD COMPLY WITH ALL REQUIREMENTS OF THE LOCAL WATER SUPPLY AUTHORITY AND BE INSTALLED IN ACCORDANCE WITH AS/NZ 3500, AS 3500.1, AS 1289, AS 1477, AS1610, AS2032 & AS2566.
3. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS AND PERMITS FROM ALL RELEVANT AUTHORITIES.
4. ALL FITTINGS SHALL BE HIGH QUALITY, VANDAL RESISTANT PRODUCTS AND SHALL BE NOMINATED FOR APPROVAL BY THE PRINCIPAL.
5. THE CONTRACT WILL VERIFY A POINT FOR THE SOURCE OF WATER TO SUPPLY THE IRRIGATION SYSTEM. TO BE APPROVED BY THE PRINCIPAL ON SITE.
6. THE CONTRACTOR SHALL ALLOW FOR ALL NECESSARY EXCAVATION AND TRENCHING WORKS.
7. DRIP IRRIGATION PIPE WORK SHALL BE UPVC OR HDPE AND BURIED APPROX.50MM BELOW THE FINISHED TOPSOIL LEVEL TO PREVENT DAMAGE OR VANDALISM.

CONCRETE:

1. ALL MATERIALS, WORKMANSHIP, HANDLING PLACEMENT SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE SPECIFICATION.
2. ALL CONCRETE TO BE 32MPa. LIMIT MOISTURE CONTENT. (UNO)
3. REFER TO SHOTCRETE SPECIFICATION FOR SHOTCRETE MIX REQUIREMENTS
   ALL OTHER CONCRETE SHALL BE N32 MIX WITH MINIMUM 14mm AGGREGATE SIZE. (UNO)
4. ENSURE ADEQUATE VIBRATION OF CONCRETE IS ACHIEVED. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
5. SLUMP OF CONCRETE 70mm -100mm. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
6. CONCRETE THICKNESS (UNO):
   - 150mm THICK RAMPS.
   - 130mm PLATFORMS AND FLAT BOTTOMS.
7. PROVIDE EDGE BEAMS OR DOWNTURN WALLS TO APPROPRIATE DEPTH WHERE CONCRETE WORKS TERMINATE AGAINST EARTH MOUNDING.
8. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED AS PER DETAILS.
9. SAW CUTS TO BE SAWN AS SHOWN ON PLANS. SAW CUT DEPTH TO BE 30MM DEEP. LOCATION OF STEEL REINFORCEMENT SHALL BE MARKED (ON FORM WORK OR SIMILAR) PRIOR TO CONCRETE POUR TO ENABLE ACCURATE POSITIONING OF SAW CUTS. REFER TO 'NOMINAL SAW CUT' DETAIL. SAW CUTS TO BE ACCURATE, STRAIGHT AND TRUE. SAW CUT ALL SLABS MAX 24 HRS AFTER POUR.
10. ALL CONCRETE SKATE SURFACES (PLATFORMS, BASES, FLAT BANKS, TRANSITIONS ETC) TO HAVE BURNISHED STEEL TROWEL FINISH.
11. VERTICAL OFF FORM CONCRETE SURFACES (THAT IS NOT A SKATE SURFACE) SHALL HAVE CLASS 2 OFF FORM FINISH AS PER A.S. 3610 - FORMWORK FOR CONCRETE.
12. CONCRETE BLEND ZONE
    DESCRIBES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES, ENSURE NO KINKS IN CONCRETE.
13. FOR CURING, COVER FOR SEVEN DAYS WITH PLASTIC OR APPLY LIQUID MEMBRANE AS PER A.S. 3799 - LIQUID MEMBRANE-FORMING CURING COMPOUNDS FOR CONCRETE WITHIN 1 HOUR OF CONCRETE FINISHING.
14. ALL EXPOSED CONCRETE SURFACES TO BE APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR SIMILAR APPROVED. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
15. SOME SURFACE CRACKING TO CONCRETE SLABS IS TO BE EXPECTED AS THE CONCRETE CURES. THIS PROBLEM IS OF NO STRUCTURAL SIGNIFICANCE AND WILL NOT AFFECT THE PERFORMANCE OF THE SLAB. REFER TO A.S.3600 - CONCRETE STRUCTURES AND A.S.2870-1996 - RESIDENTIAL SLABS AND FOOTINGS FOR FURTHER INFORMATION.
16. CONCRETE SURFACE TO BE GRADED AS PER PLANS TO ENSURE NO POOLING OF WATER WILL OCCUR ON CONCRETE SURFACE OR AGAINST WALLS, SEATS, SKATE ELEMENTS ETC.

CONCRETE REINFORCEMENT:

1. REINFORCEMENT SHALL BE GRADE 500 MPa CONFORMING TO AUSTRALIAN STANDARD AS 4671 STEEL REINFORCING.
2. CONCRETE COVER 50mm MIN.
3. TRIMMER BARS - 2xN12x2000 LONG TO ALL INTERNAL SLAB CORNERS. LAYED OUT AS INDICATED ON PLANS. TRIMMER BARS MAY BE BENT TO AVOID CROSSING SAW CUTS.
4. FLAT SLABS - SL92 MESH OR N12 @ 200 CRS EW (UNO).
5. VERTICAL WALLS - SL92 MESH OR N12 @ 300 CENTERS EW.
6. SLOPES (TRANSITIONS, BANKS, ROLLOVERS ETC) - SL92 MESH OR N12 @ 300 CENTERS EW.
7. ALL REINFORCEMENT SHALL BE HELD RIGIDLY IN POSITION WITHIN THE SPECIFIED TOLERANCES BEFORE AND DURING CONCRETE PLACING WITH APPROVED BAR CHAIRS , NON CORROSIVE BAR CHAIRS SHALL BE USED FOR ALL OFF FORM SURFACES.
8. CONDUITS AND OTHER CAST IN ITEMS SHALL BE FABRICATED AND INSTALLED SO THAT NO CUTTING, BENDING OR DISPLACEMENT OF THE REINFORCEMENT FROM ITS PROPER POSITION WILL BE REQUIRED.
9. SPLICES SHALL ONLY BE USED AS SHOWN ON THE DRAWINGS OR WHEN BARS LONGER THAN NORMAL STOCK LENGTH WOULD BE REQUIRED. IN LAP SPLICES, THE OVERLAP LENGTH SHALL BE TO THE REQUIREMENTS OF AS 3600 OR AS OTHERWISE DIMENSIONED ON THE DRAWINGS.

SKATE STEEL WORK:

1. REFER TO PLANS AND SECTIONS FOR COPING OR MEMBER TYPE AND PROFILE. ALL STEEL PLATE AND MEMBER WALLS SHALL BE MINIMUM 5mm THICK (UNO).
2. EXPOSED ENDS OF MEMBERS SHALL BE CAPPED, FULLY WELDED AND GROUND SMOOTH.
3. ALL CONNECTIONS OF STEEL MEMBERS SHALL BE MITRED, FULLY WELDED AND GROUND SMOOTH.
4. ALL WELDS SHALL BE 6CFW (UNO)
5. ALL RADIUSED COPING PIECES TO JOIN AT TANGENT POINTS TO ENSURE A SMOOTH AND SEAMLESS JOIN (FREE OF KINKS) BETWEEN ALL COPING.
6. COPING SHALL BE INSTALLED INTO CONCRETE AS DETAILED.
7. ENSURE BLOW HOLES REQUIRED FOR HOT DIP GALVANISING PROCESS ARE ON INTERNAL NON-VISIBLE FACES.
8. ENSURE NO SHARP EDGES ON ANY STEEL WORK.
9. CHS COPING:
   9.1. SHALL BE 50NB 4.5mm THICK (UNO).
   9.2. ALL LENGTH AND RADIUS MEASUREMENTS ARE TAKEN ALONG THE CENTERLINE OF CHS COPING.
   9.3. WHERE CHS COPING CHANGES GRADE A 3000mm (UNO) RADIUS CHS PIECE MUST BE INSTALLED BETWEEN THE ADJACENT COPING PIECES TO ENSURE A SMOOTH AND SEAMLESS JOIN (FREE OF KINKS) BETWEEN ALL COPING.
10. PREFABRICATED STEEL ELEMENTS:
    10.1. SHALL BE FABRICATED OFF SITE.
    10.2. ALL MEMBER SIZES AS DETAILED.
    10.3. ALL MEMBERS SHALL BE MITRED, FULLY WELDED, ENDS CAPPED, WELDS GROUND SMOOTH, REO WELDED AND ENTIRE PIECE HOT DIP GALVANISED AS ONE UNIT. NO ONSITE WELDS ARE PERMITTED.
    10.4. ENSURE ALL REINFORCING IS FABRICATED TO ALLOW MINIMUM 50mm CONCRETE COVER.
11. COATINGS
    11.1. ALL STEELWORK SHALL HAVE GALVANISED FINISH. ALL STEEL ELEMENTS NOMINATED AS 'PREFABRICATED' SHALL BE HOT DIP GALVANISED. ALL OTHER STEELWORK SHALL HAVE PROPRIETARY DURAGAL COATING.
    11.2. HOT DIP GALVANISING SHALL BE CARRIED OUT TO COMPLY WITH RELEVANT AUSTRALIAN STANDARDS.
    11.3. ALL ON SITE WELDS OR DAMAGED GALVANISED COATING SHALL BE (PRIOR TO CASTING STEEL ELEMENTS INTO CONCRETE) COATED AS FOLLOWS:
    11.3.1. ENSURE ALL SURFACE CONTAMINANTS ARE REMOVED AND AREAS TO BE TREATED ARE RUST FREE, CLEAN AND DRY.
    11.3.2. PRIMED WITH "DY-MARK ZINC GAL " OR "DULUX METAL SHIELD COLD GALV PRIMER" ORGANIC ZINC RICH PRIMER OR SIMILAR APPROVED ZINC PRIMER CONFORMING TO AS3750.9:2009TYPE 1. APPLIED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
    11.3.3. TOP COAT WITH "DY-MARK SILVER GAL" OR SIMILAR APPROVED CONFORMING GAL PROTECTIVE COATING IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

STRUCTURAL STEEL

1. ALL MATERIALS, WORKMANSHIP, FABRICATION AND ERECTION SHALL COMPLY WITH THE REQUIREMENTS OF THE RELEVANT AUSTRALIAN STANDARDS AS WELL AS WITH THE PROJECT SPECIFICATION.
2. UNLESS OTHERWISE SHOWN ALL STRUCTURAL STEEL SHALL BE: GRADE 300PLUS FOR UB, UC, WB, WC, PFC, ANGLES, FLATS AND HOT ROLLED PLATES.
   GRADE 350 FOR RHS, CHS AND SHS.
3. ALL ROLL FORMED PURLINS, GIRTS, BRIDGING AND ACCESSORIES SHALL BE BHP BUILDING PRODUCTS, GRADE 450 MINIMUM COMPLYING WITH AS1397 AND AS4600 UNLESS NOTED OTHERWISE. ALTERNATIVE PRODUCTS CAN ONLY BE USED FOLLOWING SUBMISSION OF SECTION PROPERTIES, PURLIN CAPACITY CALCULATIONS AND BRIDGING CAPACITY CALCULATIONS, PRODUCED AND DETAILED FOR THIS PROJECT. ALL SECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, WITH PARTICULAR REGARD TO BOLT LOCATIONS AND LAP SIZES. ALL WORK SHALL BE COMPLETED IN A WORKMANLIKE MANNER PRIOR TO INSTALLATION OF THE CLADDING MATERIAL. ALL HANGERS TO BE HUNG FROM PURLIN WEBS NOT FLANGES.
4. ALL EXPOSED STEELWORK SHALL BE HOT DIP GALVANISED OR OTHERWISE PAINT PROTECTED IN ACCORDANCE WITH AS2312 AS SPECIFIED IN DRAWINGS.
5. GALVANIZED STEELWORK THAT IS SITE WELDED OR SUSTAINS ANY OTHER KIND OF SURFACE DAMAGE IS TO BE PREPARED TO AS 1627.2 CLASS 3 AND PRIMED WITH 2 COATS OF GALVANITE (MANUFACTURED BY JOTUN) TO MANUFACTURERS SPECIFICATION OR SIMILAR APPROVED.
6. ALL STEELWORK BELOW GROUND OR FINISHED SURFACE LEVEL SHALL BE ENCASED IN 75mm MINIMUM CONCRETE ALL ROUND.
7. BOLT DESIGNATION
   8.8/S
   DENOTES HIGH STRENGTH STRUCTURAL BOLTS OF STRESS GRADE 8.8 TO AS1252 TIGHTENED TO A SNUG TIGHT CONDITION.
   8.8/TB
   DENOTES HIGH STRENGTH STRUCTURAL BOLTS OF STRESS GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A BEARING JOINT.
   8.8/TF
   DENOTES HIGH STRENGTH STRUCTURAL BOLTS OF STRESS GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A FRICTION JOINT
   4.6/S
   DENOTES COMMERCIAL GRADE BOLTS OF STRESS GRADE 4.6 TO AS1252 TIGHTENED TO A SNUG TIGHT CONDITION
8. ALL BOLT HOLES SHALL BE 2mm LARGER THAN THE NOMINAL BOLT DIAMETER, UNLESS OTHERWISE NOTED.
9. ALL WELDS SHALL BE SP (SPECIAL PURPOSE) IN ACCORDANCE WITH AS1554. ALL ELECTRODES SHALL BE CLASS E48. ALL BUTT WELDS SHALL BE FULL STRENGTH COMPLETE PENETRATION WELDS.
10. UNLESS NOTED OTHERWISE ON THE DRAWINGS, CONNECTIONS SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:
    - ALL STIFFENER AND CLEAT PLATES TO BE 10mm THICK
    - ALL CAP PLATES TO BE 10mm THICK
    - ALL BASE PLATES TO BE 20mm THICK
    - ALL BOLTS TO BE M20 8.8/S, WITH A MINIMUM OF TWO BOLTS PER CONNECTION
    - PURLIN AND GIRT BOLTS TO BE M12 8.8/S, WITH A MINIMUM OF TWO BOLTS PER MEMBER END
    - ALL WELDS SHALL BE 6mm CONTINUOUS FILLET WELDS ALL ROUND
11. THE ENDS OF ALL TUBULAR MEMBERS SHALL BE SEALED WITH NOMINAL THICKNESS PLATES AND CONTINUOUS FILLET WELDS UNLESS NOTED OTHERWISE. GALVANISED TUBULAR MEMBERS ARE TO BE PROVIDED WITH THE APPROPRIATE PROVISION FOR VENTING DURING GALVANISING OR SITE WELDED IN ACCORDANCE WITH NOTE 3.5.

FURNITURE:

1. ALL PROPRIETARY FURNITURE TO BE INSTALLED AS PER MANUFACTURERS DETAILS.
2. ALL INSTALLATION FIXINGS SHALL BE MARINE GRADE 316 STAINLESS STEEL.
3. LOCATION OF ALL FURNITURE ITEMS AS SHOWN ON PLANS.
4. BIN ENCLOSURES - ENSURE DOORS ARE IN EASILY ACCESSIBLE AND FREELY OPENING TO ENTIRE SWING.
5. DRINKING FOUNTAINS - ENSURE ALL WASTE WATER IS CAPTURED AND DRAINS AS DETAILED. NO WASTE WATER TO FLOW ONTO SKATE SURFACE

DRAINAGE AND PLUMBING:

1. PROVIDE STORMWATER DRAINAGE WORKS TO THE DESIGN REQUIREMENTS AS DOCUMENTED ON THE DRAWINGS AND COMPLYING WITH AS/NZS 3500.3.
2. UNLESS OTHERWISE NOTED, PROVIDE AND LAY ALL PIPES WITH EVEN FALLS AT MIN 1:100 GRADE. ALL PIPES TO BE SEWER QUALITY PVC STORMWATER PIPES. TO BE LAID ON A BED OF B GRADE CRUSHED ROCK WITH150mm COVER.
3. PROVIDE INSPECTION OPENINGS (IO'S) AT CHANGES OF DIRECTION.
4. PROVIDE MIN 100mm DIAMETER SLOTTED AGRICULTURAL DRAINS WHERE SHOWN ON THE DRAWINGS AS PER DETAILS.
5. SITE SHOULD BE GRADED AND DRAINED TO ENSURE WATER CANNOT POND AGAINST OR NEAR PAVED AREAS. THE GROUND IMMEDIATELY ADJACENT TO ANY PAVEMENT OR STRUCTURE SHALL BE GRADED AWAY AT MIN 1:100. ENSURE SITE FALLS TOWARDS DRAINS WHERE APPLICABLE.
6. ALL LANDSCAPE PITS SHALL BE COMMERCIAL PLASTIC STORMWATER PITS WITH HDG GRATED LIDS (UNO). CONCRETE GROUT PIPE CONNECTION. MORTAR BENCHING TO LOWEST INVERT LEVEL.
7. ALL SKATEPARK PITS SHALL BE CAST INSITU AS PER DETAIL (UNO)

TIMBER:

1. ALL TIMBER SPECIES, GRADE, STRENGTH, SIZE, FINISH AND TREATMENT AS SPECIFIED ON TIMBER DRAWINGS UNLESS OTHERWISE APPROVED BY CONVIC.
2. JOINTS AND JUNCTIONS OF ALL TIMBERS SHALL BE AS PER THE DRAWINGS AND FIT FLUSH, NEATLY AND CLOSELY. ALL EXPOSED EDGES SHALL BE SANDED FREE OF SHARP, ROUGH POINTS AND SPLINTERS, BE FREE OF BLEMISHES CAUSED THROUGHOUT CONSTRUCTION. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR IS TO USE THEIR OWN SYSTEM OF FRAMING FOR THE TIMBERWORKS IN ACCORDANCE WITH AS1684.2.
3. GAPS BETWEEN CLADDING/DECKING BOARDS SHALL BE NOMINALLY 5MM (8MM MAX TO AVOID ENTRAPMENT ISSUES).
4. SETOUT ALL CLADDING/DECKING BOARDS TO MINIMISE CUTS AND THIN SLITHERS.
5. ALL DECKING BOARDS TO ALIGN.
6. LENGTHS OF BOARDS TO BE STAGGERED.

FIXINGS AND BRACKETS

1. ALL FIXINGS AND BRACKETS SHALL BE FIT FOR PURPOSE GRADE 304 STAINLESS STEEL.
2. STIRRUPS TO BE HDG TO MIN. 300g/m2.
3. ALL FIXING HEADS SHALL BE COUNTERSUNK FLAT AND FINISH FLUSH WITH BOARD FACE.
4. SCREW LENGTHS TO ACHIEVE A MIN 40MM EMBEDMENT. 2/FIXINGS EACH DECKING BOARD PER JOIST.
5. WHERE TIMBER CLADDING BOARDS FIXED TO CONCRETE, USE M10 MECHANICAL FIXINGS, MIN. 4 PER BOARD. FIXING HEAD SHALL BE COUNTERSUNK FLAT AND FINISH FLUSH WITH BOARD FACE. 5MM SPACER BETWEEN TIMBER AND CONCRETE FACE.

APPLIED FINISHES:

1. CONCRETE SURFACES TO BE PAINTED:
   1.1. ENSURE CONCRETE SURFACES HAVE CURED FOR A MINIMUM OF 28 DAYS OR IN ACCORDANCE WITH MATERIAL DATA SHEET.
   1.2. NO CONCRETE CURING MEMBRANE IS PERMITTED TO BE APPLIED ON SURFACES TO BE PAINTED.
   1.3. PREPARE CONCRETE SURFACES BY ACID ETCHING OR MECHANICAL ABRASION TO ACHIEVE ADEQUATE PAINT ABSORPTION AND PAINT ADHESION.
   1.4. ENSURE ALL SURFACE CONTAMINANTS ARE REMOVED AND AREAS TO BE PAINTED ARE CLEAN AND DRY.
   1.5. APPLY DULUX PRIMER 'DUREBILD STE - PC237' TO MANUFACTURE'S SPECIFICATION AND ALLOW TO DRY.
   1.6. APPLY MINIMUM 2 COATS OF DULUX 'WEATHERMAX HBR TWO PACK' PAINT TO ACHIEVE UNIFORM COLOUR AND COVERAGE. COLOUR AS SPECIFIED ON DRAWINGS.
   1.7. ONCE PAINT HAS TO MANUFACTURER'S SPECIFICATIONS, APPLY CONCRETE SEALER OVER THE TOP OF PAINTED AREAS. REFER TO CONCRETE SEALER NOTE.
2. GALVANISED STEEL WORK TO BE PAINTED
   2.1. SURFACE PREPARATION IS CRITICAL TO THE DURABILITY OF THE PAINT, ALL GALVANISED STEEL WORK TO BE PAINTED SHALL BE PREPARED WITH POWER TOOL CLEANING/SANDING AS PER DULUX SPECIFICATION ENSURING ALL SURFACE CONTAMINANTS ARE REMOVED AND AREAS TO BE PAINTED ARE CLEAN AND DRY.
   1.2. APPLY TWO COATS OF DULUX DUREMAX GPE ZP AS PER MANUFACTURER'S SPECIFICATIONS
   1.3. APPLY TOP COAT OF DULUX WEATHERMAX HBR TWO PACK GLOSS TO MANUFACTURER'S SPECIFICATION ACHIEVING UNIFORM COLOUR AND COVERAGE. COLOUR AS SPECIFIED ON DRAWINGS.

SKATE PARK WORKS TOLERANCES:

AREAS NOMINATED AS 'SKATEPARK AREA' SHALL BE BUILT TO STRICT TOLERANCES TO ENSURE SAFETY AND FUNCTIONALITY FOR FACILITY USERS. SKATEPARK WORKS SHALL BE CARRIED OUT TO COMPLY WITH THE FOLLOWING TOLERANCES. ANY ITEMS CONSTRUCTED OUTSIDE OF TOLERANCES SHALL BE RECTIFIED TO SUPERINTENDENT'S APPROVAL.

1. SAW CUTS
   NOMINATED WIDTH OF SAW CUT IS 4MM +/- 1MM.
   DEPTH AS NOMINATED WITHIN CONCRETE GENERAL NOTES.
   LOCATION OF SAW CUTS ARE SHOWN ON SAWCUT PLAN WITH AN ALLOWABLE DEVIATION TOLERANCE OF +/- 50MM GENERALLY AND WITHIN +/-10MM WHERE CUTS MEET CORNERS OF CONCRETE SLABS/OBSTACLES.
2. CONSTRUCTION JOINTS
   CONSTRUCTION JOINTS HAVE BEEN DESIGNED AND LOCATED TO MITIGATE SHRINKAGE AND MOVEMENT CRACKING. LOCATION OF CONSTRUCTION JOINTS FALL WITHIN +/- 50MM UNLESS OTHERWISE APPROVED BY SUPERINTENDENT.
3. CONCRETE CRACKS
   MAXIMUM ALLOWABLE CRACK WIDTH IS 1.5MM AND IN ACCORDANCE WITH RESIDENTIAL SLABS AND FOOTING CODE AS2870
4. STEPPING IN CONCRETE SURFACE
   FSL DEVIATION BETWEEN CONSTRUCTION JOINTS SHALL HAVE A MAXIMUM ALLOWABLE TOLERANCE OF +/- 0.50MM
5. COPING
   COPING OFFSETS SHALL BE INSTALLED TO A MAXIMUM ALLOWABLE TOLERANCE OF +/- 2MM AND AS DETAILED.
   COPING OFFSET SHALL BE CONSISTENT ALONG LONGITUDINAL LENGTH OF COPING WITH MAXIMUM ALLOWABLE DEVIATION OF 1MM OVER 3M LENGTH.
   FINISHING OF CONCRETE EDGE ADJACENT ALL COPINGS SHALL BE MICRO TOOLED WITH 6MM +/-1MM RADIUS
6. STEEL SKATE OBSTACLES & GRIND RAILS
   STEEL SKATE OBSTACLES & GRIND RAILS BE INSTALLED AS PER DIMENSIONS SPECIFIED ON DRAWINGS WITH A MAXIMUM HEIGHT DEVIATION OF +/- 10MM PERMISSIBLE.
   VERTICAL INSTALLATION SHALL COMPLY WITH A MAXIMUM PERMISSIBLE +/- 2 DEGREE ALLOWANCE
7. POOL COPING:
   POOL COPING SHALL BE INSTALLED TO THE FOLLOWING TOLERANCES;
   MAXIMUM VERTICAL STEP BETWEEN POOL COPING BLOCKS IS +/-1MM.
   JOINTS BETWEEN POOL COPING SHALL BE 3.0MM +/-1MM.
8. CONCRETE SURFACE FINISH:
   SKATE AREA FINISH:
   SHALL BE INSTALLED WITH A BURNISHED STEEL FLOAT FINISH IN ACCORDANCE WITH CCAA SPECIFICATION OF BURNISHED CONCRETE FINISH DATA SHEET TO ENSURE SURFACE HAS BEEN DENSIFIED AND HARDENED BY NATURE OF TROWELLING PROCESS . CONCRETE SURFACE SHALL TAKE ON A FLAT POLISHED FINISH FREE FROM TROWEL MARKS PRIOR TO CURING

   FORMED FINISH:
   SURFACES NOMINATED AS OFF-FORM CONCRETE SURFACES SHALL HAVE CLASS 2 OFF-FORM FINISH AS PER AS 3610 - FORMWORK FOR CONCRETE.

   FLATNESS (APPLIES TO FORMED AND 'SKATE AREA' FINISHES:
   ALL CONCRETE SURFACES SHALL MEET THE FOLLOWING FLATNESS TOLERANCE. MAXIMUM DEVIATION OVER 3M STRAIGHT EDGE, DEFINED RADIUS OR FREE FORM SHAPE SHALL NOT EXCEED 3MM.

   GRADING:
   GRADE ALL CONCRETE SURFACES EVENLY AND CONSISTENTLY AS PER DOCUMENTATION TO PREVENT ANY WATER PONDING.

FURNITURE SCHEDULE

ITEM	NO.	SPECIFICATION	NOTES
DRINKING FOUNTAIN	X 1	CIVIQ 'AQUAFIL BOLD 850BF' DRINKING FOUNTAIN AND BOTTLE REFILL STATION WITH DRAINAGE PIT	REFER TO MANUFACTURER SPECIFICATION AND DETAILS FOR INSTALLATION.
RUBBISH BIN	X2	'GRILLEX HAMILTON BIN ENCLOSURE' DELUXE (240L) SURFACE MOUNT HBE-SC-DEL-001. COLOUR DULUX 'BLACK SG6G9'	REFER TO MANUFACTURER SPECIFICATION AND DETAILS FOR INSTALLATION.
BALUSTRADE	APPROX. 115M	MODDEX CONECTABAL CB10 COMMERCIAL BALUSTRADE TOP MOUNTED, COLOUR DULUX 'BLACK SG6G9'	REFER TO MANUFACTURER SPECIFICATION AND DETAILS FOR INSTALLATION.
SHELTER	X2	'GRILLEX AKORA CANTILEVER SHELTER' DELUXE (5x4m) SURFACE MOUNT ACS-SM-DEL-004. COLOUR DULUX 'BLACK SG6G9'	REFER TO DETAILS CD500

FOR TENDER

CONVIC
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RICHMOND VIC 3121 AUSTRALIA
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH
SCALE
NORTH POINT

C	FOR TENDER	19.04.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
GENERAL NOTES

DRAWING NUMBER **20085_CD001** REV **C**

(Appendix ORD: 12.3.4B)

LEGEND:

- EXISTING HARDSTAND
- EXISTING TREE
- 25.00 EXISTING CONTOUR - MAJOR
- 24.80 EXISTING CONTOUR - MINOR
- EXISTING FENCELINE
- SW UNDERGROUND STORMWATER PIPE
- D DRAINAGE PIT
- T TESLTRA PIT

LOCATION OF EXISTING LIGHT POST.

LOCATION OF EXISTING ELECTRICAL SUB BOX. LOCATION OF ANY CONNECTIONS TO BE DETERMINED ON SITE.

LOCATION OF EXISTING SIGN TO BE RETAINED AND PROTECTED THROUGHOUT WORKS.

EXISTING UNDERGROUND STORMWATER PIPE TO BE RELOCATED BEFORE START OF OF NEW SKATE PARK WORKS. BY OTHERS.

EXISTING FENCE TO BE DISMANTLED AND REMOVED BEFORE START OF SKATE PARK WORKS. BY OTHERS.

TEMP. BENCH MARK. LOCATE ON SITE.

LOCATION OF EXISTING ELECTRICAL SWITCHBOARD TO BE RETAINED AND PROTECTED THROUGHOUT WORKS. EXACT LOCATION TO BE CONFIRMED ON SITE.

LOCATION OF EXISTING WATER SERVICES TO BE RETAINED AND PROTECTED THROUGHOUT WORKS. EXACT LOCATION TO BE CONFIRMED ON SITE.

EXISTING STORMWATER MANHOLE TO BE RELOCATED BEFORE START OF OF NEW SKATE PARK WORKS. BY OTHERS.

LOCATION OF EXISTING DRAINAGE PIT TO BE RETAINED AND RE CONNECTED TO WITH NEW SKATE PARK WORKS.

LOCATION OF EXISTING PLAY SPACE AND SUPPORTING AMENITIES TO BE RETAINED AND PROTECTED THROUGHOUT WORKS.

EXACT LOCATION TO BE CONFIRMED ON SITE.

LOCATION OF EXISTING TELSTRA PIT TO BE RELOCATED BEFORE START OF NEW WORKS. BY OTHERS.

ROAD SIDE STORMWATER DRAIN. EXACT LOCATION TO BE CONFIRMED ON SITE. COUNCIL TO VERIFY ANY FUTURE WORKS.

FOOTY OVAL

BASEBALL

EATON FOOTBALL CLUB

COUNCIL

TOW 10.97

SHELTER

Drink Fountain

BBQ

SINK

CONCRETE

PLAYGROUND

Shade Sail Post

MULCH

SHELTER

Drink Fountain

MULCH

MULCH

SWITCHBOARD

BORE

OLD BITUMEN DRIVEWAY

OLD KERB

Bottom of Kerb

TBM RL 10.28

FK

BK

10.70 10.60 10.50 10.40 10.30 10.20

Y: 60,000
Y: 50,000
Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,000
Y: 0
Y: -10,000
Y: -20,000

X: -20,000 (Y)
X: -10,000 (Z)
X: 0 (A)
X: 10,000 (B)
X: 20,000 (C)
X: 30,000 (D)
X: 40,000 (E)
X: 50,000 (F)
X: 60,000 (G)
X: 70,000 (H)
X: 80,000 (I)
X: 90,000 (J)
X: 100,000 (K)
X: 110,000 (L)

FOR TENDER

(Appendix ORD: 12.3.4B)

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:200 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

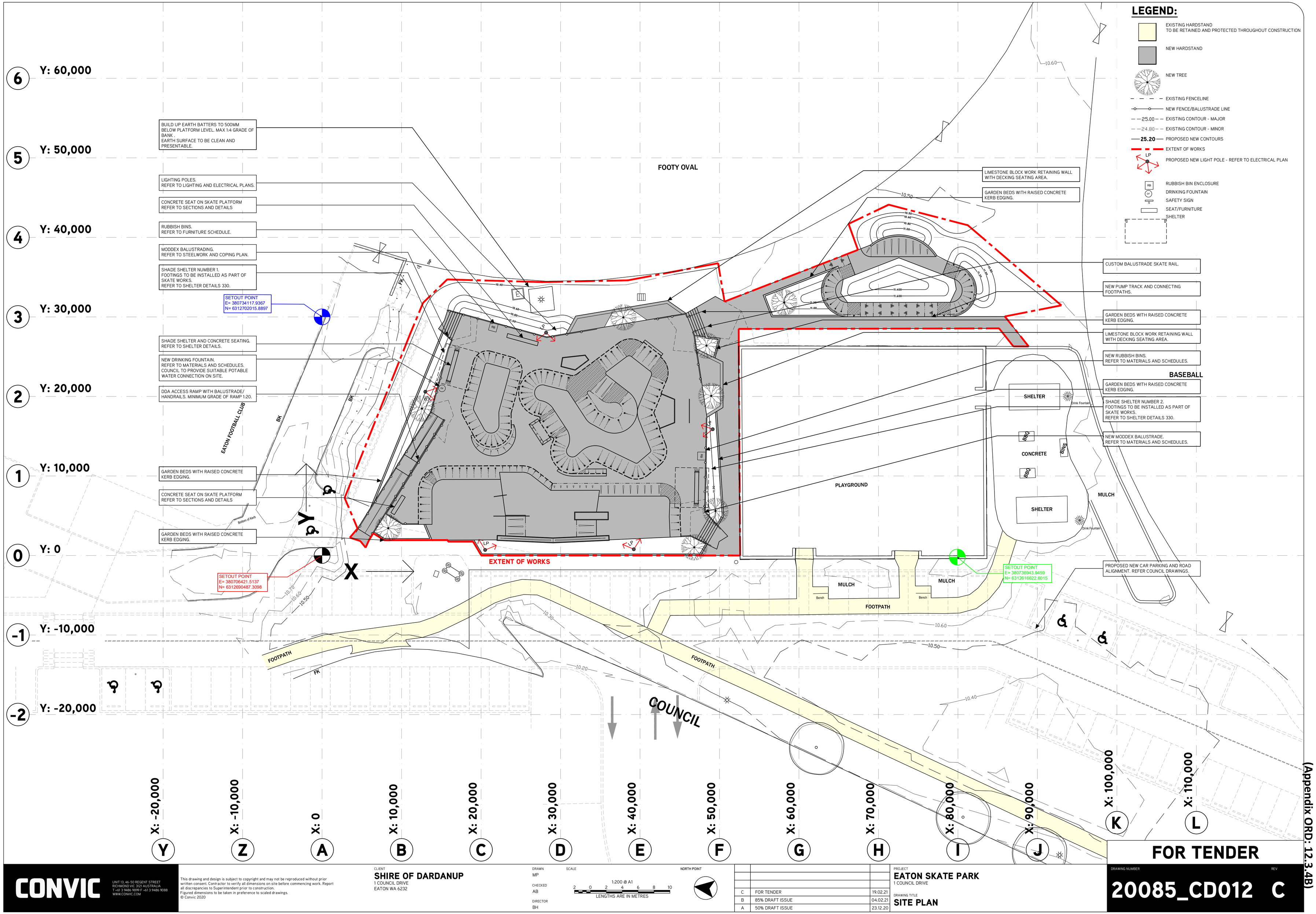
NORTH POINT

REV		DATE
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
EXISTING CONDITIONS PLAN

DRAWING NUMBER **20085_CD010** REV **C**



FOR TENDER

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EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:200 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SITE PLAN

DRAWING NUMBER 20085_CD012 REV C

(Appendix ORD: 12.3.4B)

LEGEND:

- NEW STORMWATER PIPE
- NEW STORMWATER PIT WITH SKATEPARK LID
- NEW STORMWATER PIT WITH GRATED LID
- NEW STORMWATER POINT DRAIN
- NEW STORMWATER POINT DRAIN
- EARTH SWALE DRAIN GRADE AT MIN 1:100 TO ENSURE NO POOLING OF WATER OCCURS
- PLANTING AREA

Y: 60,000
Y: 50,000
Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,000
Y: 0
Y: -10,000
Y: -20,000

X: -20,000 (Y)
X: -10,000 (Z)
X: 0 (A)
X: 10,000 (B)
X: 20,000 (C)
X: 30,000 (D)
X: 40,000 (E)
X: 50,000 (F)
X: 60,000 (G)
X: 70,000 (H)
X: 80,000 (I)
X: 90,000 (J)
X: 100,000 (K)
X: 110,000 (L)

EXISTING STORMWATER PIT.
TOP: 10.500
IL: 8.550* TO BE CONFIRMED ON SITE.

NEW 450 X 450 STORMWATER PIT WITH LANDSCAPE LID. REFER TO DETAILS.
TOP: 11.300
IL: 10.900

NEW 450 X 450 STORMWATER PIT WITH LANDSCAPE LID. REFER TO DETAILS.
TOP: 10.792
IL: 10.150

NEW STORMWATER PIT WITH SKATE LID. REFER TO DETAILS.
TOP: 10.025
IL: 9.525

NEW STORMWATER PIT WITH SKATE LID. REFER TO DETAILS.
TOP: 10.640
IL: 10.100

NEW POINT DRAIN WITH SKATE LID. REFER TO DETAILS.
TOP: 11.555
IL: 11.105

NEW 450 X 450 STORMWATER PIT WITH LANDSCAPE LID. REFER TO DETAILS.
TOP: 10.815
IL: 10.315

NEW STORMWATER PIT WITH SKATE LID. REFER TO DETAILS.
TOP: 10.050
IL: 9.465

NEW STORMWATER PIT WITH SKATE LID. REFER TO DETAILS.
TOP: 10.050
IL: 9.520

NEW STORMWATER PIT WITH SKATE LID. REFER TO DETAILS.
TOP: 11.530
IL: 11.030

NEW 450 X 450 STORMWATER PIT WITH LANDSCAPE LID. REFER TO DETAILS.
TOP: 10.800
IL: 10.400

FOOTY OVAL
EATON FOOTBALL CLUB
PLAYGROUND
SHELTER
CONCRETE
MULCH
FOOTPATH
COUNCIL
Bench
Drink Fountain
BBQ
BK
PK
Bottom of Kerb

FOR TENDER

(Appendix ORD: 12.3.4B)

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:200 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DRAINAGE PLAN

DRAWING NUMBER
20085_CD013

REV
C

LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES, ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- CHS COPING
  - REFER TO DETAILS
- FLAT BANK
  BANK ANGLE & HEIGHT - SEE SECTIONS
- QUARTER PIPE
  RADIUS & HEIGHT - SEE SECTIONS
- ROLL-IN / WATERFALL
  RADIUS & HEIGHT - SEE SECTIONS
- ROLL-OVER - REFER TO SECTIONS FOR RADIUS
- +24.150 EXISTING SURFACE LEVEL SHOWN IN METRES
- +24.150 PROPOSED SURFACE LEVEL SHOWN IN METRES
- +FGL 24.150 PROPOSED FINISHED GROUND LEVEL SHOWN IN METRES
- +24.150 PROPOSED LEVEL AT TOP OF BLOCK/WALL SHOWN IN METRES
- INDICATES DIRECTION OF FALL ACROSS CONCRETE SURFACE GRADE EVENLY AND ENSURE NO POOLING OF WATER OCCURS - TYPICAL GRADE @ 1:66 FALL

Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,000
Y: 0
X: 0
X: 10,000
X: 20,000
X: 30,000
X: 40,000
X: 50,000
X: 60,000
X: 70,000
A
B
C
D
E
F
G
1
2
3
4

PROPOSED FUTURE WORKS TO ENSURE FLUSH CONNECTION TO FOOTPATHS AND ENTRY POINTS.

+150mm CONCRETE KERB GARDEN BED EDGE. KERB TO MEET FLUSH TO EDGE OF FIRST STEP.

+150mm CONCRETE KERB GARDEN BED EDGE. KERB TO MEET FLUSH TO EDGE OF RAMP.

CREATE LOCAL FALL TO ENSURE NO POOLING OF WATER OCCURS

CREATE LOCAL FALL TO ENSURE NO POOLING OF WATER OCCURS IN FRONT OF KERB EDGE.

+150mm CONCRETE KERB GARDEN BED EDGE.

PROPOSED FUTURE WORKS TO ENSURE FLUSH CONNECTION TO FOOTPATHS AND ENTRY POINTS.

+150mm CONCRETE KERB GARDEN BED EDGE. KERB TO MEET FLUSH TO EDGE OF FIRST STEP.

REFER TO SHEET 101

Bench

(Appendix ORD: 12.3.4B)

FOR TENDER

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

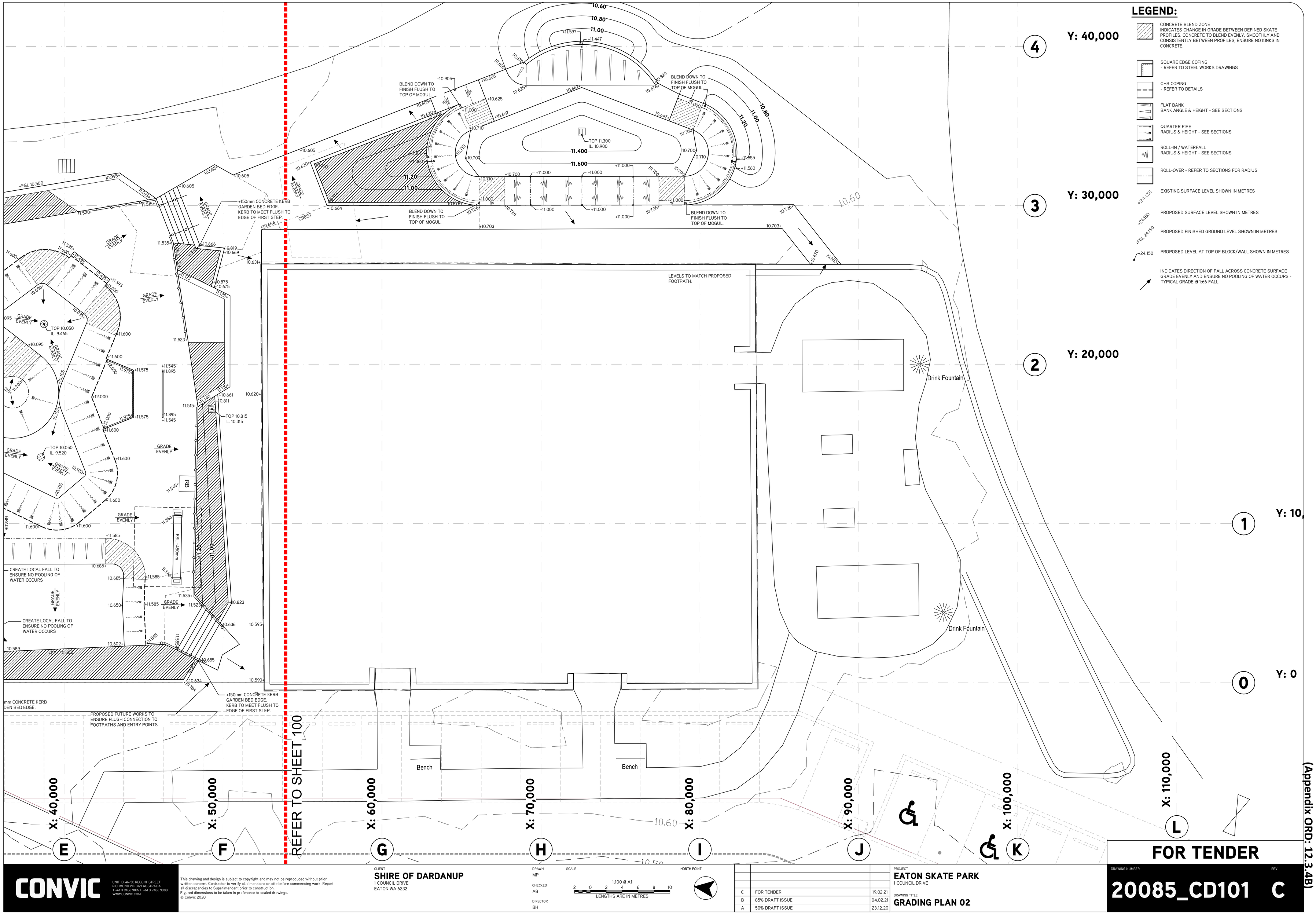
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
GRADING PLAN 01

DRAWING NUMBER
20085_CD100

REV
C



FOR TENDER

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

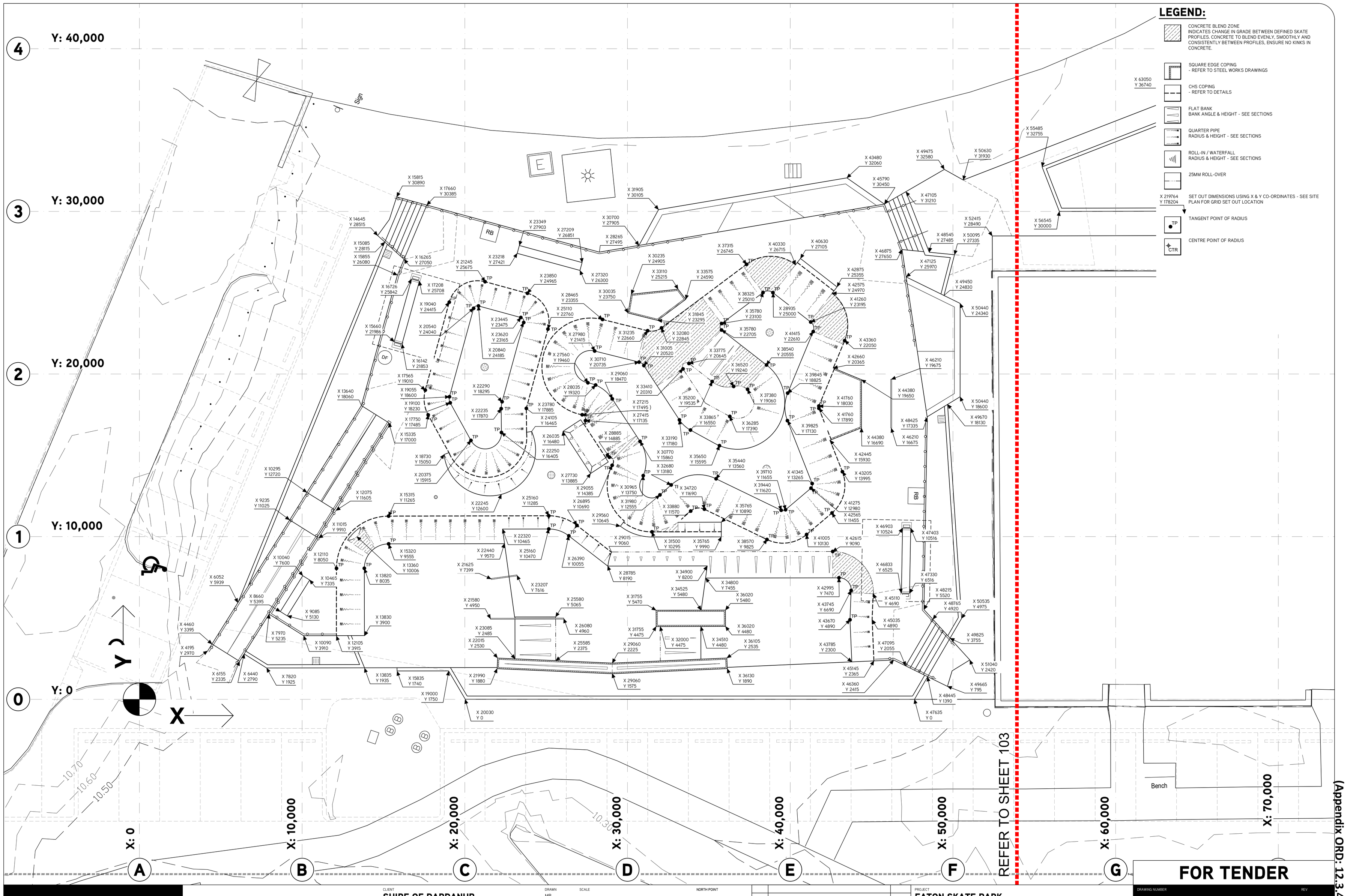
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
GRADING PLAN 02

DRAWING NUMBER
20085_CD101

REV
C

(Appendix ORD: 12.3.4B)



CONVIC

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

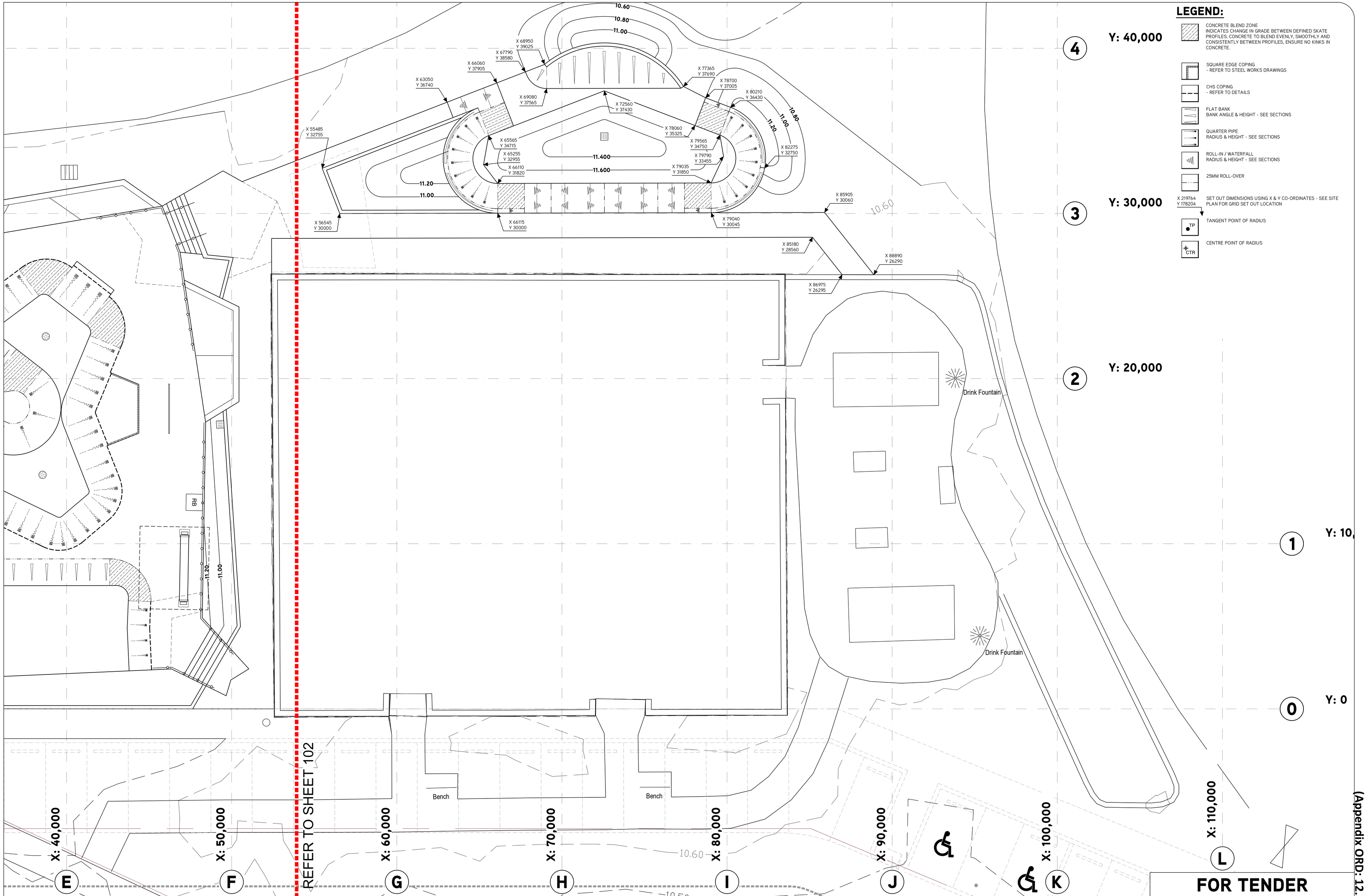
DRAWING TITLE
XY COORDINATE PLAN 01

FOR TENDER

DRAWING NUMBER
20085_CD102

REV
C

(Appendix ORD: 12.3.4B)



LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES. ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- CHS COPING
  - REFER TO DETAILS
- FLAT BANK
  BANK ANGLE & HEIGHT - SEE SECTIONS
- QUARTER PIPE
  RADIUS & HEIGHT - SEE SECTIONS
- ROLL-IN / WATERFALL
  RADIUS & HEIGHT - SEE SECTIONS
- 25MM ROLL-OVER
- X 219764 Y 178204 — SET OUT DIMENSIONS USING X & Y CO-ORDINATES - SEE SITE PLAN FOR GRID SET OUT LOCATION
- TP — TANGENT POINT OF RADIUS
- CTR — CENTRE POINT OF RADIUS

FOR TENDER

(Appendix ORD: 12.3.4B)

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

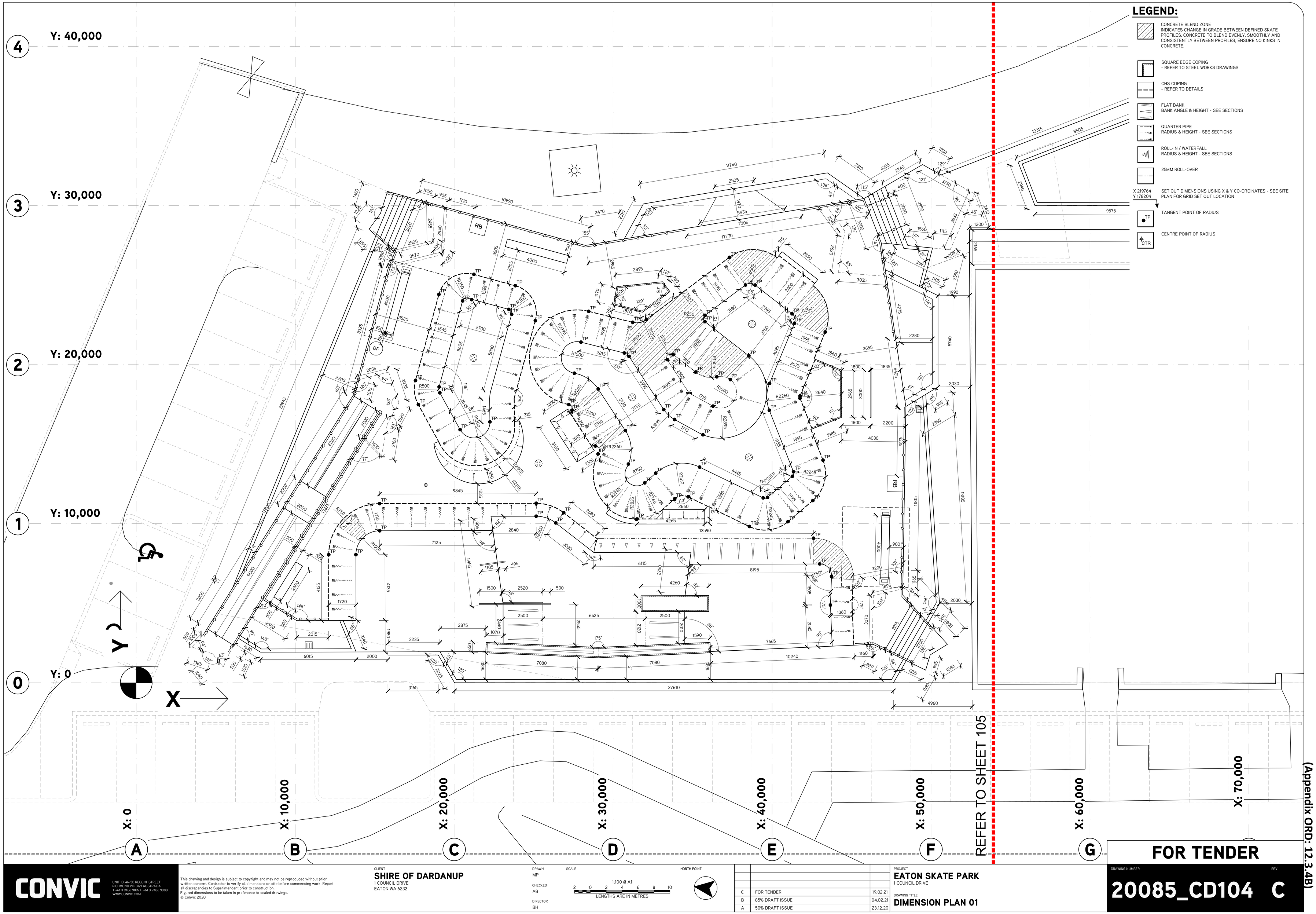
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
XY COORDINATE PLAN 02

DRAWING NUMBER
20085_CD103

REV
C



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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

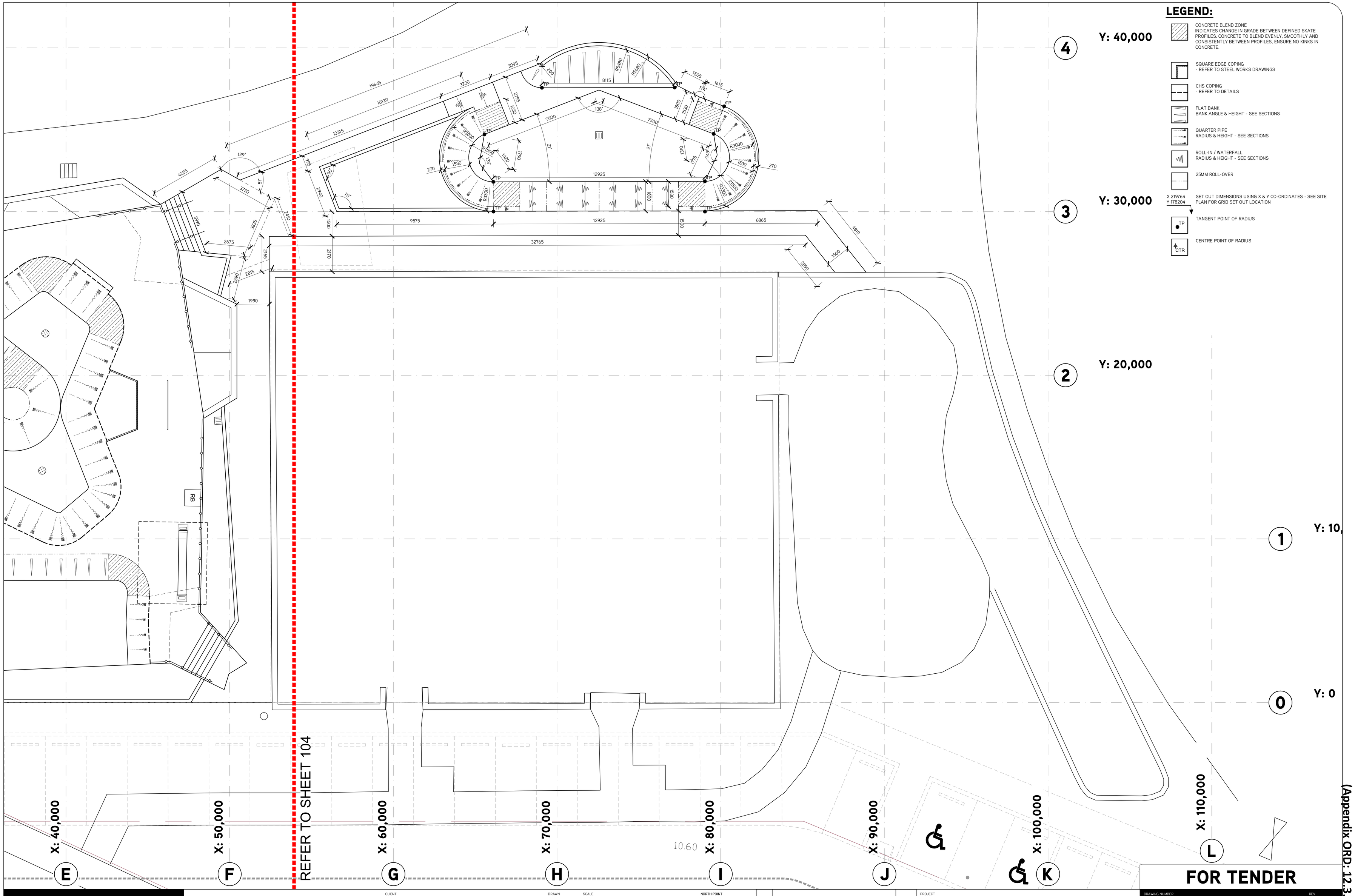
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DIMENSION PLAN 01

FOR TENDER

DRAWING NUMBER **20085_CD104** REV **C**

(Appendix ORD: 12.3.4B)


LEGEND:
CONCRETE BLEND ZONE
INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES. ENSURE NO KINKS IN CONCRETE.
SQUARE EDGE COPING
- REFER TO STEEL WORKS DRAWINGS
CHS COPING
- REFER TO DETAILS
FLAT BANK
BANK ANGLE & HEIGHT - SEE SECTIONS
QUARTER PIPE
RADIUS & HEIGHT - SEE SECTIONS
ROLL-IN / WATERFALL
RADIUS & HEIGHT - SEE SECTIONS
25MM ROLL-OVER
X 219764
Y 178204
SET OUT DIMENSIONS USING X & Y CO-ORDINATES - SEE SITE PLAN FOR GRID SET OUT LOCATION
TP
TANGENT POINT OF RADIUS
CTR
CENTRE POINT OF RADIUS
4
Y: 40,000
3
Y: 30,000
2
Y: 20,000
1
Y: 10,
0
Y: 0
X: 40,000
X: 50,000
X: 60,000
X: 70,000
X: 80,000
X: 90,000
X: 100,000
X: 110,000
E
F
G
H
I
J
K
L
REFER TO SHEET 104
RB
10.60
19645
10120
13315
3230
3095
200
R5480
8115
1505
1615
174°
1820
1530
138°
7500
2795
21°
R3030
R3500
1420
1790
132°
1530
270
12925
1800
1500
R2300
190
1710
145°
111°
995
2940
1500
9575
6865
4810
32765
2890
2170
2165
2815
2590
1990
4255
129°
3750
51°
3960
3835
2410
2675
FOR TENDER
CONVIC
UNIT 13, 46-50 REGENT STREET
RICHMOND VIC 3121 AUSTRALIA
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Figured dimensions to be taken in preference to scaled drawings.
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232
DRAWN
MP
CHECKED
AB
DIRECTOR
BH
SCALE
1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES
NORTH POINT
C FOR TENDER 19.02.21
B 85% DRAFT ISSUE 04.02.21
A 50% DRAFT ISSUE 23.12.20
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE
DRAWING TITLE
DIMENSION PLAN 02
DRAWING NUMBER
20085_CD105
REV
C
(Appendix ORD: 12.3.4B)

LEGEND:

- SKATE AREA SLAB. PORTLAND GREY CONCRETE. BURNISHED STEEL FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR APPROVED.
- SKATE AREA SLAB. BLACK COLOURED CONCRETE. COLOUR - CONCRETE COLOUR SYSTEMS 'ZEUS' INTEGRAL MIX IN GREY CEMENT. BURNISHED STEEL FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR SIMILAR APPROVED.
- PEDESTRIAN AREA SLAB. PORTLAND GREY CONCRETE. NON SLIP FINE WOOD FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR SIMILAR APPROVED. REFER TO DETAILS & SPECIFICATION - SAMPLE REQUIRED.
- MODWOOD TIMBER DECKING. JARRAH SMOOTH WITH FLAME SHIELD FINISH
- RETAINING WALLS. LIMESTONE BLOCK WORK.
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX BRIGHT DELIGHT A97
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLDEN ORANGE A1331
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLD RUSH A169
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX LEMON DELICIOUS A182
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX BRIGHT DELIGHT A97
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLDEN ORANGE A1331
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX COLOUR : DULUX GOLD RUSH A169
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX LEMON DELICIOUS A182
- COPING LINE INCLUDING COPING/ EDGE AND 125mm BELOW AND ABOVE TO BE PAINTED COLOUR: DULUX LEMON DELICIOUS A182

NOTES:

1. LIGHT POLES SHALL BE PAINTED BLACK.
2. SHELTER TO BE PAINTED BLACK.
3. BALUSTRADE SHALL BE PAINTED BLACK.

FOR TENDER

(Appendix ORD: 12.3.4B)

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SURFACE FINISHES PLAN 01

DRAWING NUMBER
20085_CD106

REV
C

LEGEND:

- SKATE AREA SLAB. PORTLAND GREY CONCRETE. BURNISHED STEEL FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR APPROVED.
- SKATE AREA SLAB. BLACK COLOURED CONCRETE. COLOUR - CONCRETE COLOUR SYSTEMS 'ZEUS' INTEGRAL MIX IN GREY CEMENT. BURNISHED STEEL FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR SIMILAR APPROVED.
- PEDESTRIAN AREA SLAB. PORTLAND GREY CONCRETE. NON SLIP FINE WOOD FLOAT FINISH. ALL EXPOSED SURFACES APPLIED WITH 'PARCHEM LUSTRESEAL EXTENDED WEAR PLUS' OR SIMILAR APPROVED. REFER TO DETAILS & SPECIFICATION - SAMPLE REQUIRED.
- MODWOOD TIMBER DECKING. JARRAH SMOOTH WITH FLAME SHIELD FINISH
- RETAINING WALLS. LIMESTONE BLOCK WORK.
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX BRIGHT DELIGHT A97
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLDEN ORANGE A1331
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLD RUSH A169
- PORTLAND GREY CONCRETE WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX LEMON DELICIOUS A182
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX BRIGHT DELIGHT A97
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX GOLDEN ORANGE A1331
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX COLOUR : DULUX GOLD RUSH A169
- PORTLAND GREY CONCRETE NON SLIP FINE WOOD FLOAT FINISH. WITH PAINT. SOLID PAINT ON CONCRETE. COLOUR : DULUX LEMON DELICIOUS A182
- COPING LINE INCLUDING COPING/ EDGE AND 125mm BELOW AND ABOVE TO BE PAINTED COLOUR: DULUX LEMON DELICIOUS A182

NOTES:

1. LIGHT POLES SHALL BE PAINTED BLACK.
2. SHELTER TO BE PAINTED BLACK.
3. BALUSTRADE SHALL BE PAINTED BLACK.

Y: 40,000 (4)
Y: 30,000 (3)
Y: 20,000 (2)
Y: 10,
Y: 0 (0)

10.60

Drink Fountain
Drink Fountain
Bench
Bench
RB

REFER TO SHEET 106

X: 40,000 (E)
X: 50,000 (F)
X: 60,000 (G)
X: 70,000 (H)
X: 80,000 (I)
X: 90,000 (J)
X: 100,000 (K)
X: 110,000 (L)

(Appendix ORD: 12.3.4B)

FOR TENDER

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

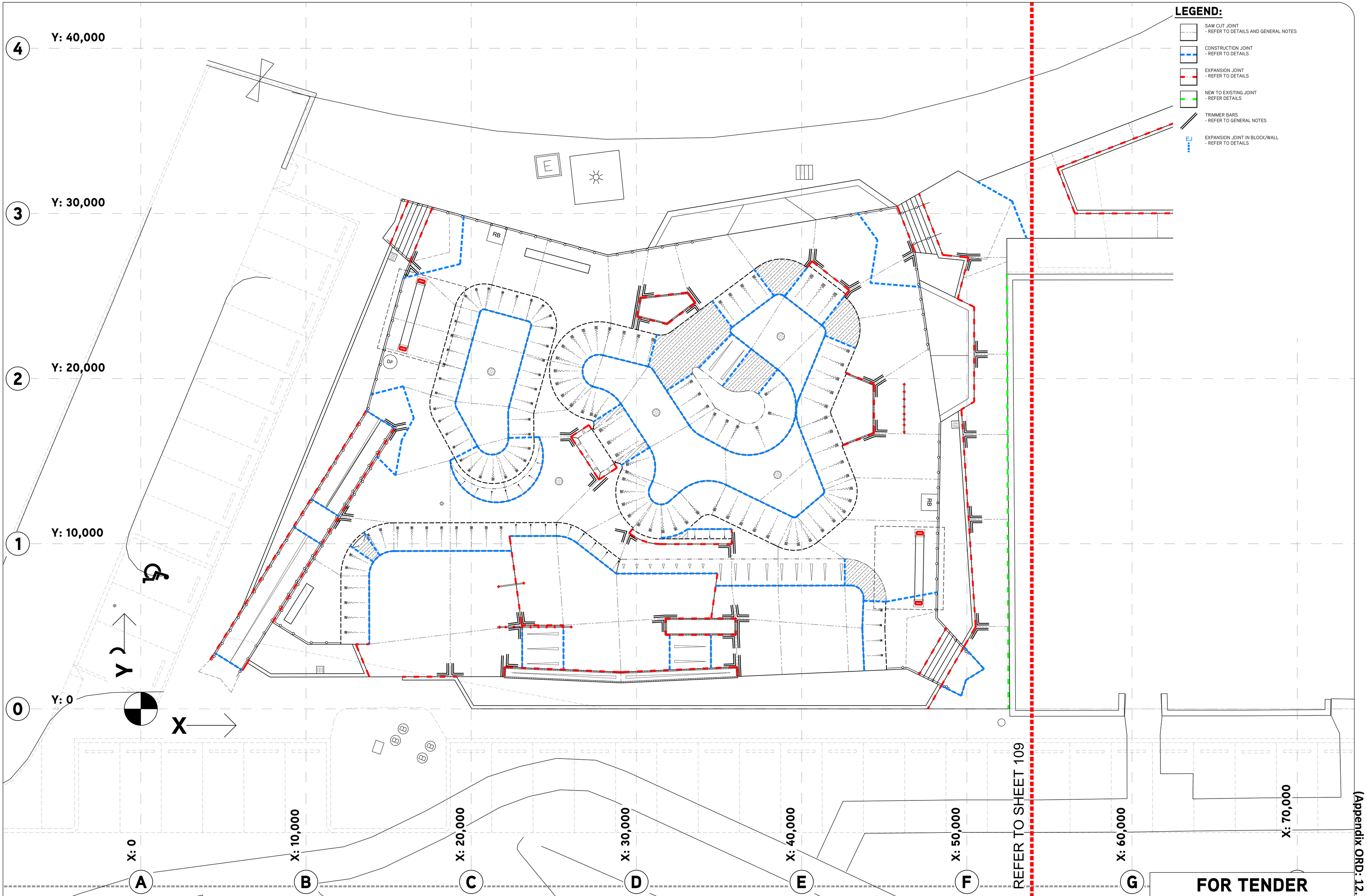
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SURFACE FINISHES PLAN 02

DRAWING NUMBER
20085_CD107

REV
C



(Appendix ORD: 12.3.4B)

FOR TENDER

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
CONCRETE JOINT PLAN 01

DRAWING NUMBER
20085_CD108

REV
C

LEGEND:

- SAW CUT JOINT - REFER TO DETAILS AND GENERAL NOTES
- CONSTRUCTION JOINT - REFER TO DETAILS
- EXPANSION JOINT - REFER TO DETAILS
- NEW TO EXISTING JOINT - REFER DETAILS
- TRIMMER BARS - REFER TO GENERAL NOTES
- EJ EXPANSION JOINT IN BLOCK/WALL - REFER TO DETAILS

RB

10.60

REFER TO SHEET 108

Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,
Y: 0

X: 40,000
X: 50,000
X: 60,000
X: 70,000
X: 80,000
X: 90,000
X: 100,000
X: 110,000

E F G H I J K L

1 2 3 4

(Appendix ORD: 12.3.4B)

FOR TENDER

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
CONCRETE JOINT PLAN 02

DRAWING NUMBER
20085_CD109

REV
C

LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES, ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- CENTERLINE OF CHS COPING
  - REFER TO DETAILS
- 25MM ROLL-OVER
- TP — TANGENT POINT OF RADIUS
- L=2400 — COPING LENGTH SHOWN IN MILLIMETRES
- R=1800 — COPING CENTERLINE RADIUS SHOWN IN MILLIMETRES

NOTES:

1. EXPOSED ENDS OF MEMBERS SHALL BE CAPPED, FULLY WELDED, AND GROUND SMOOTH.
2. * INDICATES WHERE COPING IS NOT FLAT AND SHOWS ACTUAL STEEL LENGTH.

STEEL ELEMENT CUSTOM SKATE-ABLE HANDRAIL.
RAIL CAST INTO CONCRETE.
REFER DRAWING CD304

STEEL ELEMENT 'C'.
RAIL CAST INTO CONCRETE.
REFER DRAWING CD304

CURVED STEEL ELEMENT.
RAIL CAST INTO CONCRETE.
REFER DRAWING CD304

STEEL ELEMENT 'B'.
RAIL CAST INTO CONCRETE.
REFER DRAWING CD304

REFER TO SHEET 111

Y: 40,000 (4)
Y: 30,000 (3)
Y: 20,000 (2)
Y: 10,000 (1)
Y: 0 (0)
X: 0 (A)
X: 10,000 (B)
X: 20,000 (C)
X: 30,000 (D)
X: 40,000 (E)
X: 50,000 (F)
X: 60,000 (G)
X: 70,000

(Appendix ORD: 12.3.4B)

FOR TENDER

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

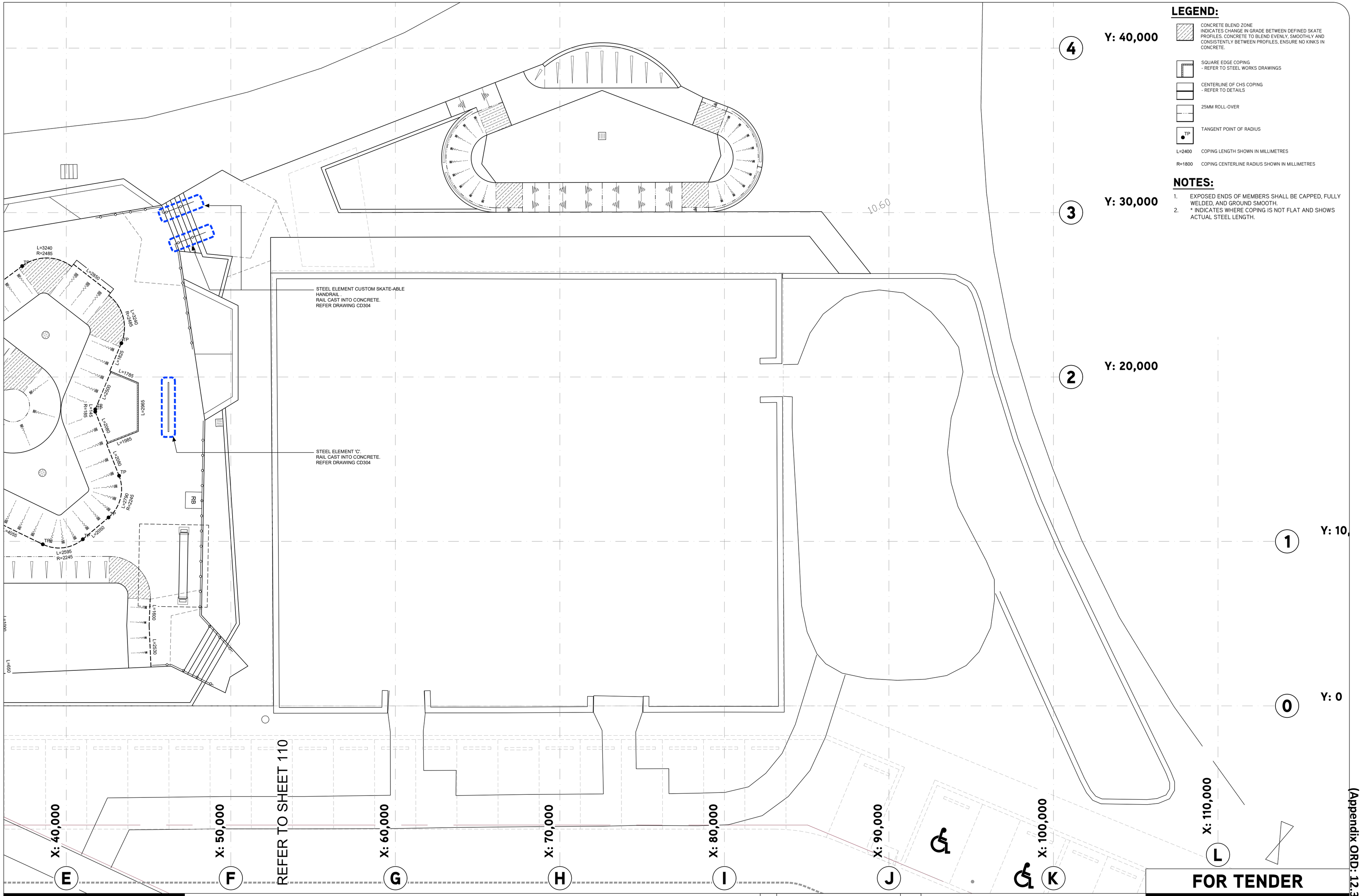
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
STEEL WORK & COPING PLAN 01

DRAWING NUMBER
20085_CD110

REV
C



LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES. ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- CENTERLINE OF CHS COPING
  - REFER TO DETAILS
- 25MM ROLL-OVER
- TP — TANGENT POINT OF RADIUS
- L=2400 — COPING LENGTH SHOWN IN MILLIMETRES
- R=1800 — COPING CENTERLINE RADIUS SHOWN IN MILLIMETRES

NOTES:

1. EXPOSED ENDS OF MEMBERS SHALL BE CAPPED, FULLY WELDED, AND GROUND SMOOTH.
2. * INDICATES WHERE COPING IS NOT FLAT AND SHOWS ACTUAL STEEL LENGTH.

FOR TENDER

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
STEEL WORK & COPING PLAN 02

DRAWING NUMBER **20085_CD111** REV **C**

(Appendix ORD: 12.3.4B)

LEGEND:

- INSTANT TURF - SEEDED LAWN
- PLANTING AREA - REFER SCHEDULE FOR SPECIES
- TREE PLANTING
  REFER SCHEDULE FOR SPECIES
  PROVIDE AS TREE SPECIMEN
  2.5 - 3.5M HIGH
- LOCAL BOULDERS
  MEDIUM TO LARGE SIZES TO
  BEST FIT GARDEN BED AREAS

PLANT SCHEDULE: EATON SKATE PARK - CD110

TREES		SIZE	QTY
Ht	Hibiscus tiliacsus	200L	4
Tli	Tipuana tipu	200L	3

SHRUBS		SPACE	SIZE	QTY
AiY	Anigozanthus flavidus 'Yellow'	500mm	140mm	75
Lsq	Lepidosperma squamatum	500mm	140mm	24
LfS	Lomandra fluviatilis 'Shara'	500mm	140mm	94
LKD	Lomandra longifolia 'Katrinus Deluxe'	500mm	140mm	60
Poc	Patersonia occidentalis	500mm	140mm	10

Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,000
Y: 0

X: 0
X: 10,000
X: 20,000
X: 30,000
X: 40,000
X: 50,000
X: 60,000
X: 70,000

A B C D E F G

10.40
10.60
10.80
11.00
11.20
11.00
10.70
10.60
10.50
10.30

RB
DF
GR

12No. Lsq
6m2
1No. Tli
1No. Tli
10No. AiY
5m2
12No. Lsq
6m2
1No. Ht
28No. LKD
14m2
14No. AiY
7m2
1No. Ht
30No. AiY
15m2
1No. Ht
34No. LfS
17m2
1No. Tli
5No. AiY
2m2
22No. LfS
11m2
10No. Poc
5m2
38No. LfS
19m2
32No. LKD
16m2
1No. Ht
16No. AiY
8m2

REFER TO SHEET 113

FOR TENDER

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CLIENT
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1 COUNCIL DRIVE
EATON WA 6232

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CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
PLANTING PLAN 01

DRAWING NUMBER
20085_CD112

REV
C

(Appendix ORD: 12.3.4B)

LEGEND:

INSTANT TURF - ROLL ON LAWN

PLANTING AREA - REFER SCHEDULE FOR SPECIES

TREE PLANTING
REFER SCHEDULE FOR SPECIES
PROVIDE AS TREE SPECIMEN
2.5 - 3.5M HIGH

LOCAL BOULDERS
MEDIUM TO LARGE SIZES TO
BEST FIT GARDEN BED AREAS

PLANT SCHEDULE: EATON SKATE PARK - CD110

TREES		SIZE	QTY
Ht	Hibiscus tiliacsus	200L	4
Tti	Tipuana tipu	200L	3

SHRUBS		SPACE	SIZE	QTY
AIY	Anigozanthus flavidus 'Yellow'	500mm	140mm	75
Lsq	Lepidosperma squamatum	500mm	140mm	24
LfS	Lomandra fluviatilis 'Shara'	500mm	140mm	94
LKD	Lomandra longifolia 'Katrinus Deluxe'	500mm	140mm	60
Poc	Patersonia occidentalis	500mm	140mm	10

FOR TENDER

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SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
PLANTING PLAN 02

DRAWING NUMBER
20085_CD113

REV
C

(Appendix ORD: 12.3.4B)

LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES, ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- 50MM N.B. 'DURAGAL' CHS COPING
  - REFER TO DETAILS
- FLAT BANK
  BANK ANGLE & HEIGHT - SEE SECTIONS
- QUARTER PIPE
  RADIUS & HEIGHT - SEE SECTIONS
- ROLL-IN / WATERFALL
  RADIUS & HEIGHT - SEE SECTIONS
- 25MM ROLL-OVER
- 200 A — REFER TO SKATE SECTIONS CD200 FOR FURTHER INFORMATION
- 201 A — REFER TO SKATE SECTIONS CD201 FOR FURTHER INFORMATION
- 202 A — REFER TO SKATE SECTIONS CD202 FOR FURTHER INFORMATION
- 204 A — REFER TO SKATE SECTIONS CD204 FOR FURTHER INFORMATION

Y: 40,000
Y: 30,000
Y: 20,000
Y: 10,000
Y: 0
X: 0
X: 10,000
X: 20,000
X: 30,000
X: 40,000
X: 50,000
X: 60,000
X: 70,000
A
B
C
D
E
F
G

REFER TO SHEET 115

FOR TENDER

CONVIC
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EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:100 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

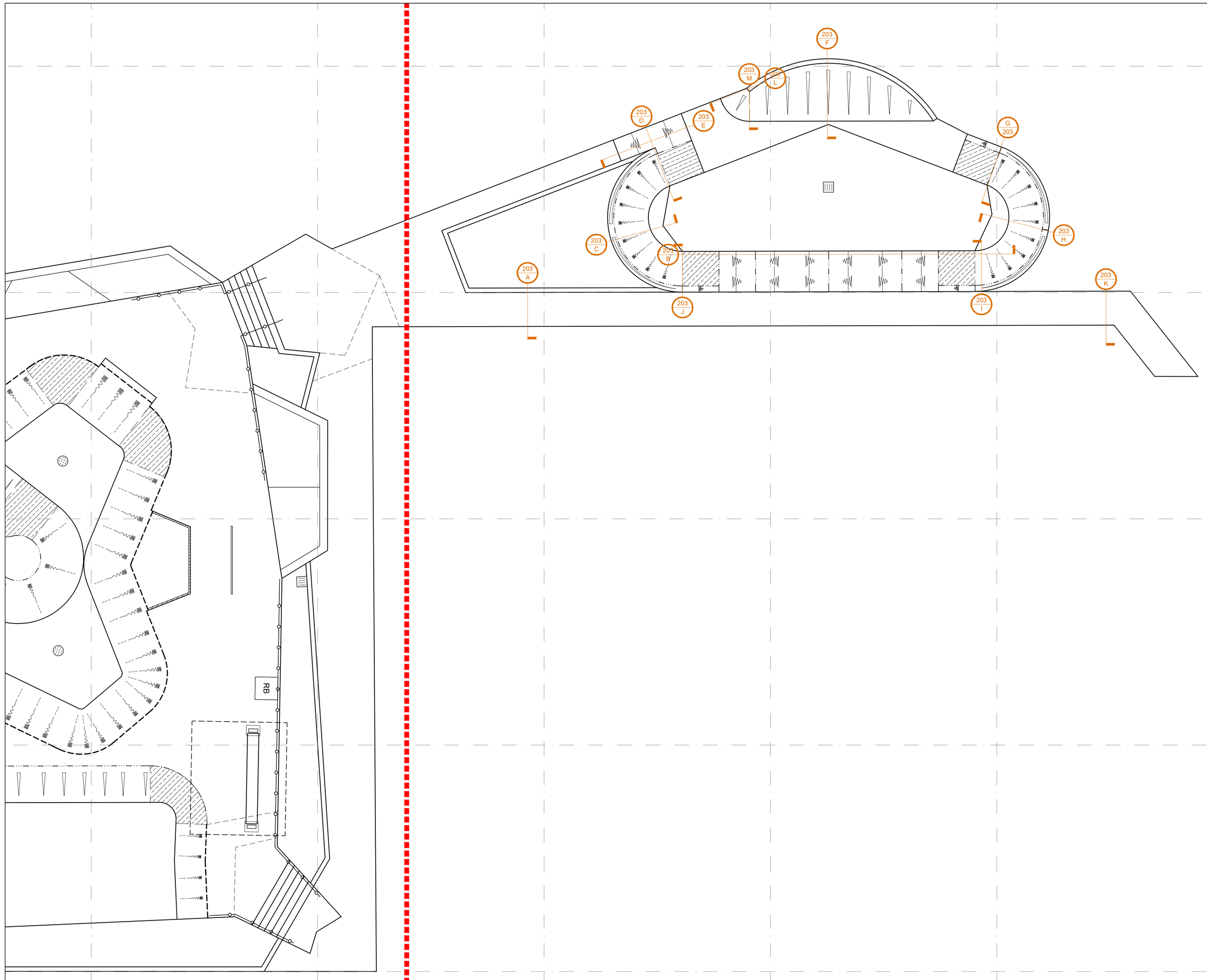
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SECTION KEY PLAN 01

DRAWING NUMBER **20085_CD114** REV **C**

(Appendix ORD: 12.3.4B)



LEGEND:

- CONCRETE BLEND ZONE
  INDICATES CHANGE IN GRADE BETWEEN DEFINED SKATE PROFILES. CONCRETE TO BLEND EVENLY, SMOOTHLY AND CONSISTENTLY BETWEEN PROFILES, ENSURE NO KINKS IN CONCRETE.
- SQUARE EDGE COPING
  - REFER TO STEEL WORKS DRAWINGS
- 50MM N.B. 'DURAGAL' CHS COPING
  - REFER TO DETAILS
- FLAT BANK
  BANK ANGLE & HEIGHT - SEE SECTIONS
- QUARTER PIPE
  RADIUS & HEIGHT - SEE SECTIONS
- ROLL-IN / WATERFALL
  RADIUS & HEIGHT - SEE SECTIONS
- 25MM ROLL-OVER
- 203 A — REFER TO SKATE SECTIONS CD203 FOR FURTHER INFORMATION

4 Y: 40,000

3 Y: 30,000

2 Y: 20,000

1 Y: 10,

0 Y: 0

X: 40,000 E

X: 50,000 F

REFER TO SHEET 114

X: 60,000 G

X: 70,000 H

X: 80,000 I

X: 90,000 J

X: 100,000 K

X: 110,000 L

FOR TENDER

(Appendix ORD: 12.3.4B)

CONVIC
UNIT 13, 46-50 REGENT STREET
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

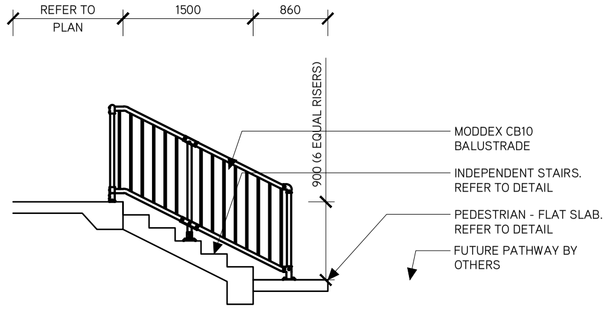
DRAWN MP
CHECKED AB
DIRECTOR BH
SCALE
NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

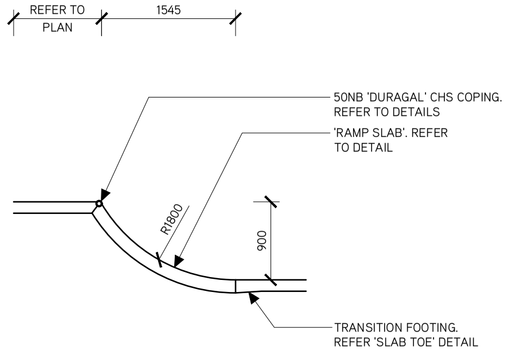
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SECTION KEY PLAN 02

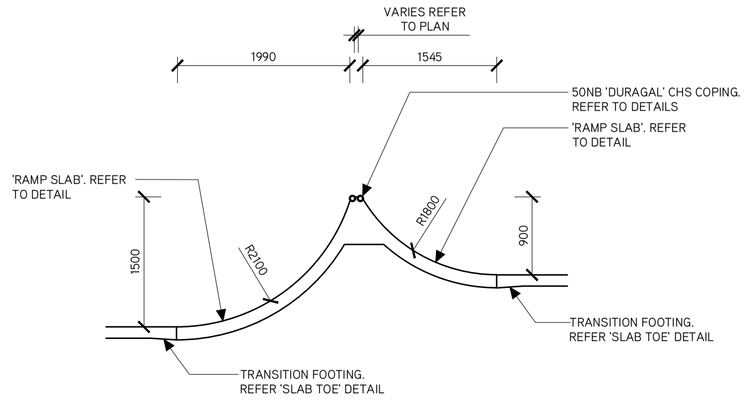
DRAWING NUMBER **20085_CD115** REV **C**



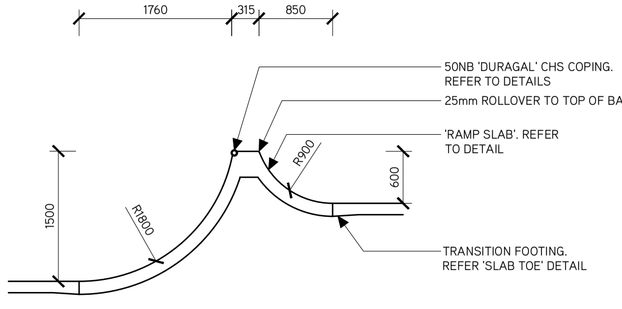
200 A **900H SKATE PARK ENTRY STAIRS**
SECTION SCALE 1:50



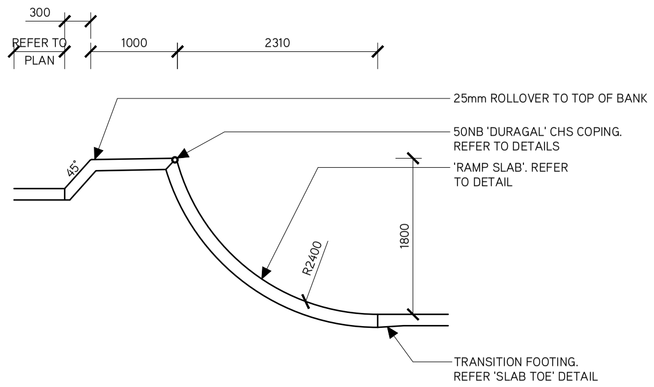
200 B **900H BOWL TRANSITION**
SECTION SCALE 1:50



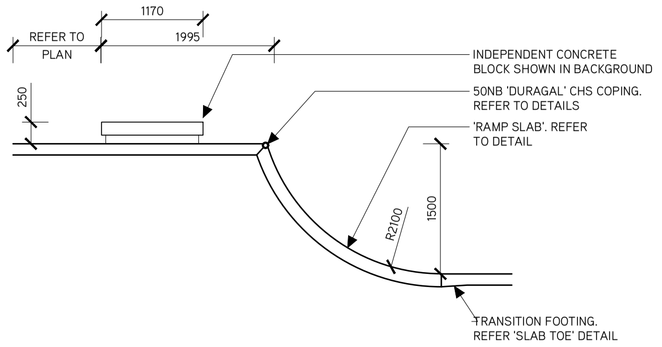
200 C **1500H TO 900H BOWL TRANSITION**
SECTION SCALE 1:50



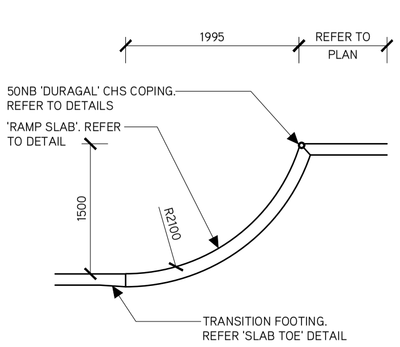
200 D **1500H BOWL TACO**
SECTION SCALE 1:50



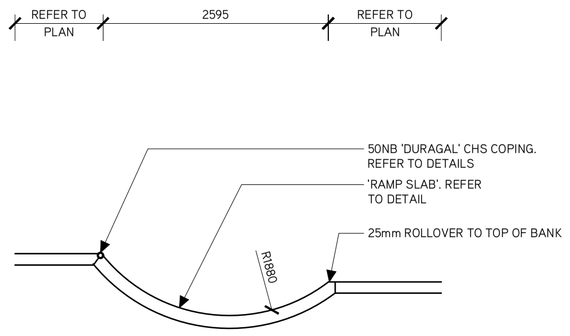
200 E **1800H BIG BOWL TRANSITION**
SECTION SCALE 1:50



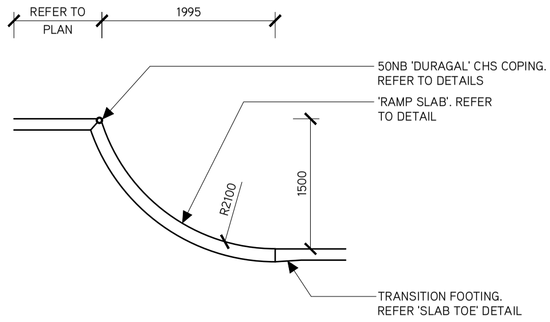
200 F **1500H BIG BOWL TRANSITION & 250HLEDGE**
SECTION SCALE 1:50



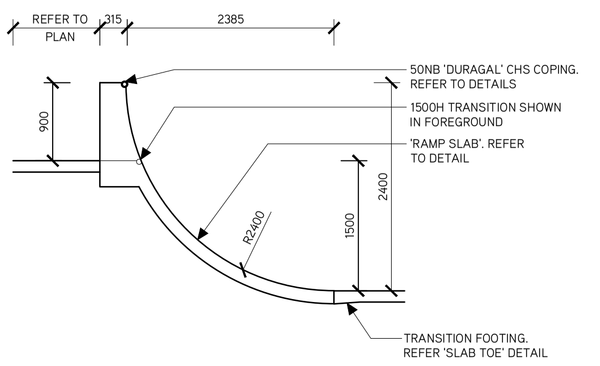
200 G **1500H BIG BOWL TRANSITION**
SECTION SCALE 1:50



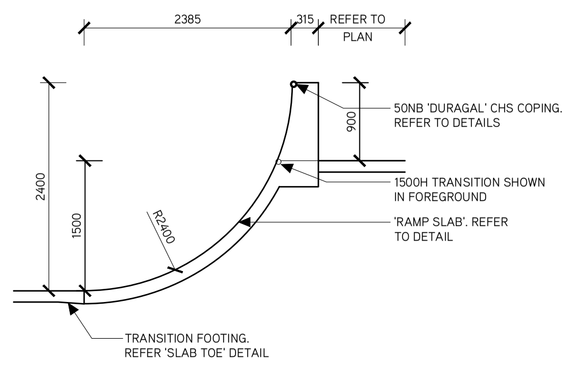
200 H **BLEND AROUND CENTRAL VOLCANO AREA**
SECTION SCALE 1:50



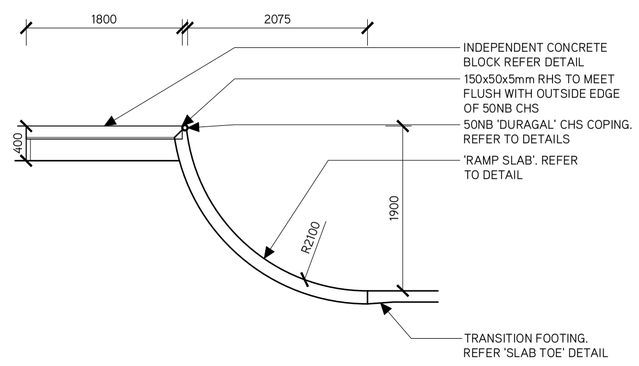
200 I **1500H BIG BOWL TRANSITION**
SECTION SCALE 1:50



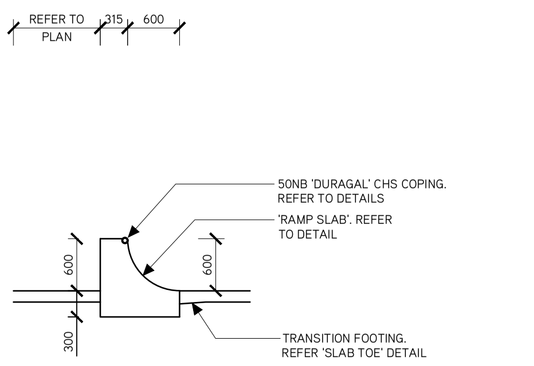
200 J **2400H QUARTER PIPE EXTENSION**
SECTION SCALE 1:50



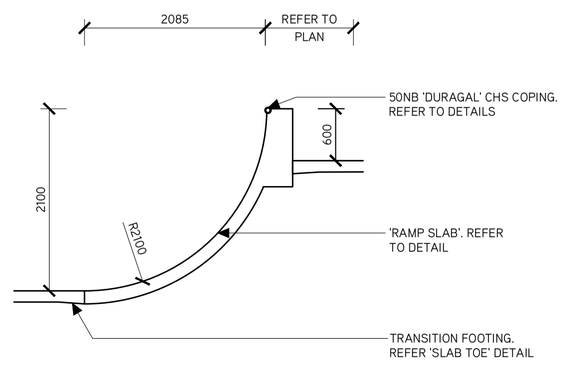
200 K **2400H QUARTER PIPE EXTENSION**
SECTION SCALE 1:50



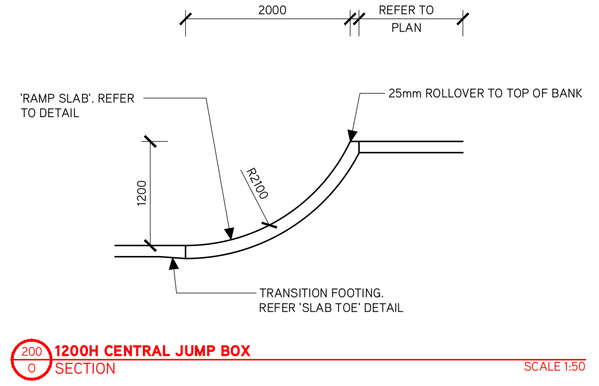
200 L **1900H HIP EXTENSION**
SECTION SCALE 1:50



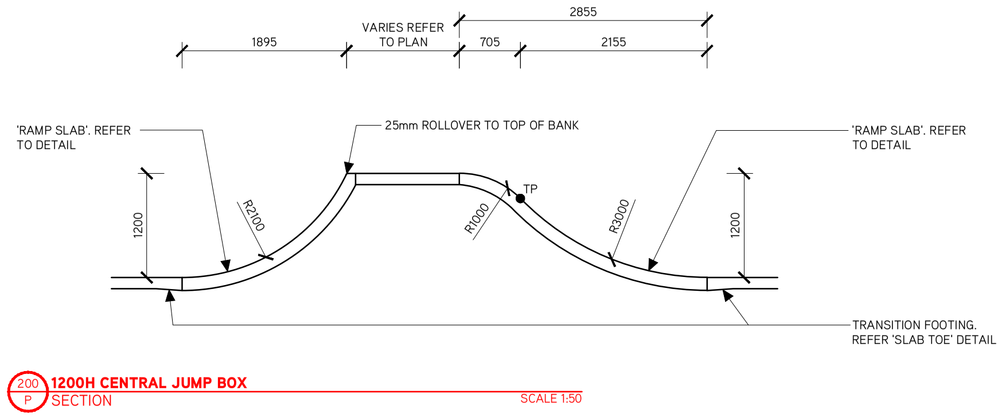
200 M **600H BIG BOWL EXTENSION**
SECTION SCALE 1:50



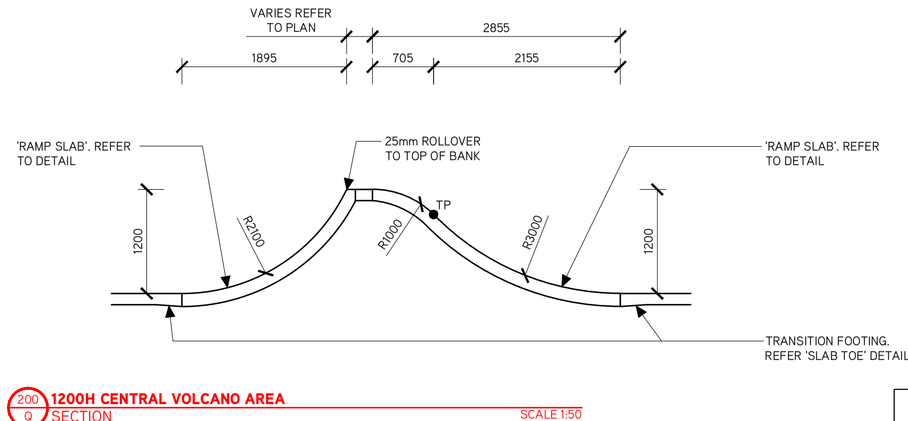
200 N **2100H BIG BOWL EXTENSION**
SECTION SCALE 1:50



200 O **1200H CENTRAL JUMP BOX**
SECTION SCALE 1:50



200 P **1200H CENTRAL JUMP BOX**
SECTION SCALE 1:50



200 Q **1200H CENTRAL VOLCANO AREA**
SECTION SCALE 1:50

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EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:50 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

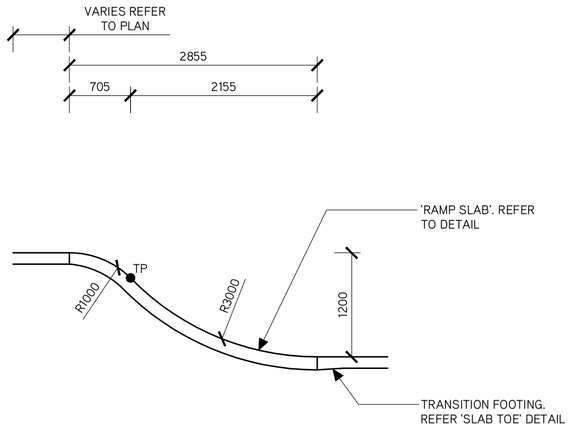
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SECTIONS 01

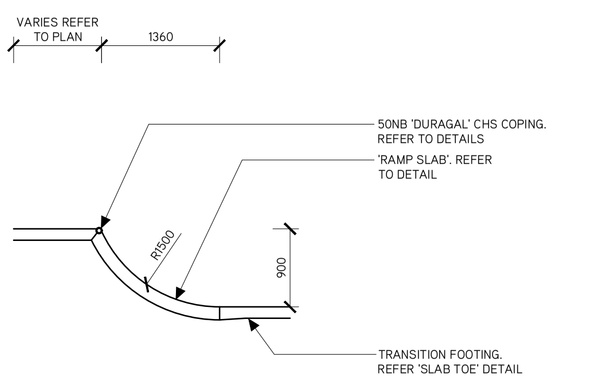
DRAWING NUMBER
20085_CD200

REV
C

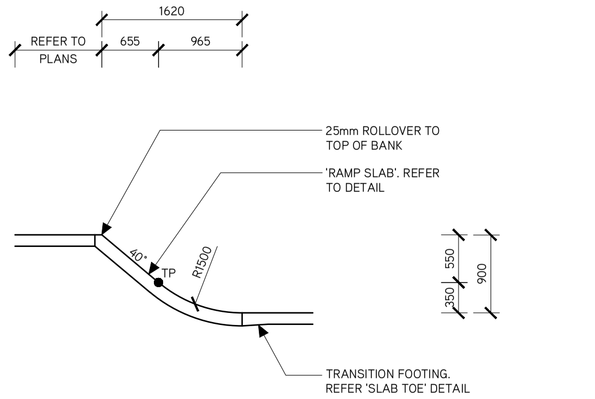
(Appendix ORD: 12.3.4B)



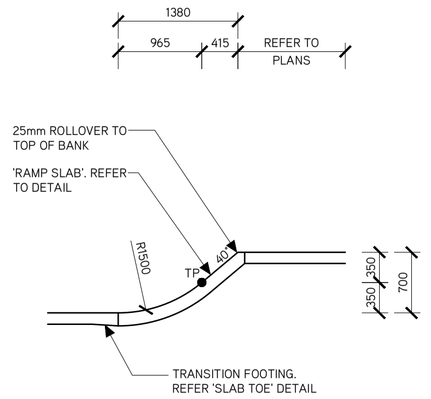
201 A **1200H JUMPBOX LANDING**
SECTION SCALE 1:50



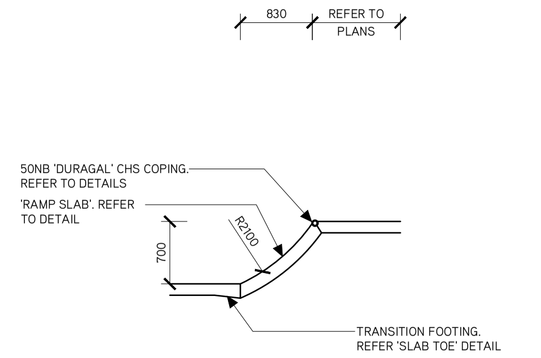
201 B **900H WHIPPY QUARTER PIPE HIP**
SECTION SCALE 1:50



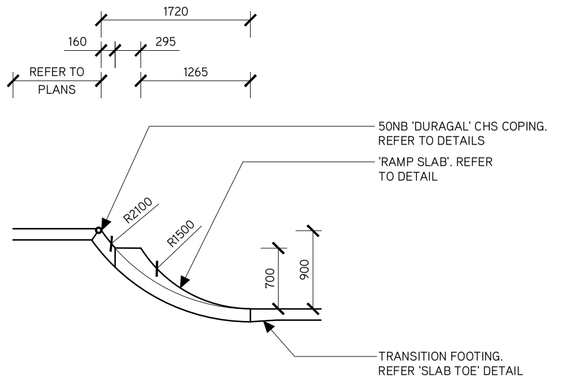
201 C **900H 'CHINA BANK'**
SECTION SCALE 1:50



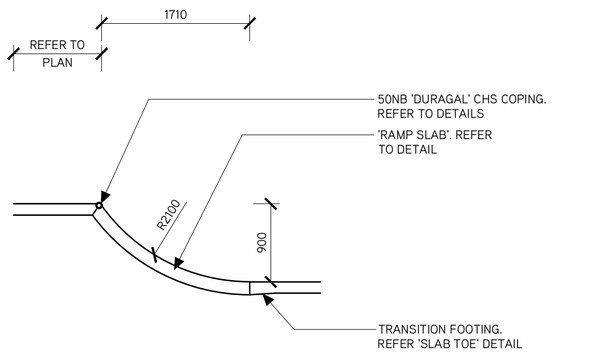
201 D **700H 'CHINA BANK'**
SECTION SCALE 1:50



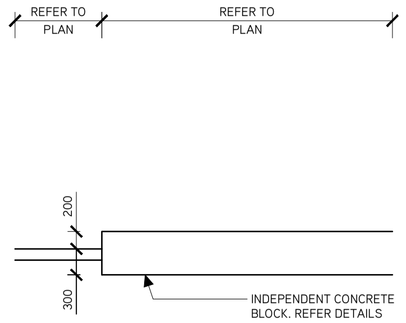
201 E **700H QUARTER PIPE ON TOP OF RAISED PAD**
SECTION SCALE 1:50



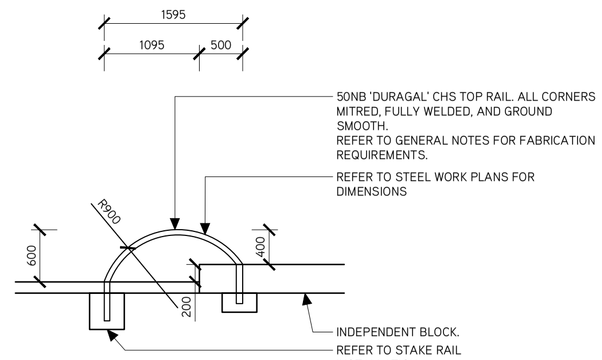
201 F **700H LOVE SEAT IN 900H QUARTER PIPE**
SECTION SCALE 1:50



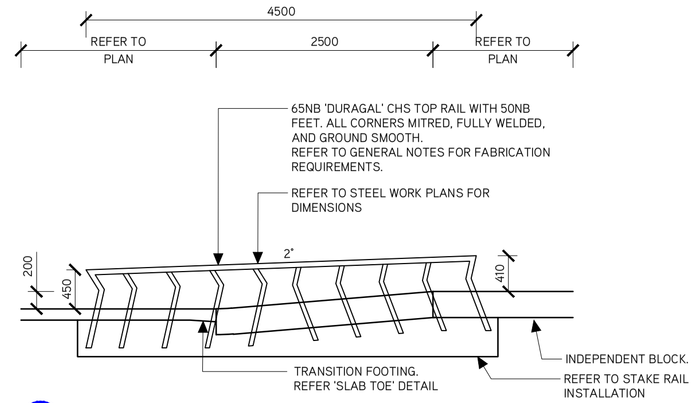
201 G **900H QUARTER PIPE**
SECTION SCALE 1:50



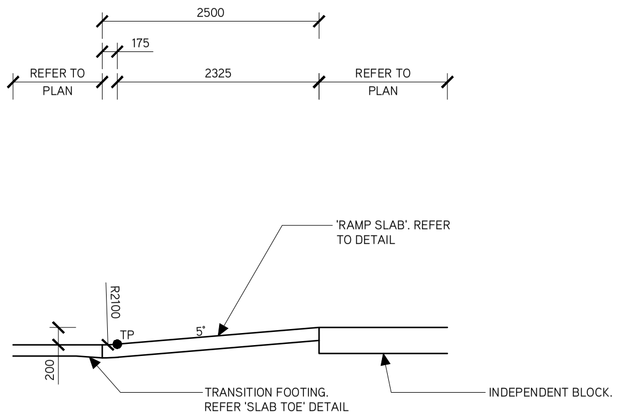
201 H **200H RAISED CENTRAL PAD**
SECTION SCALE 1:50



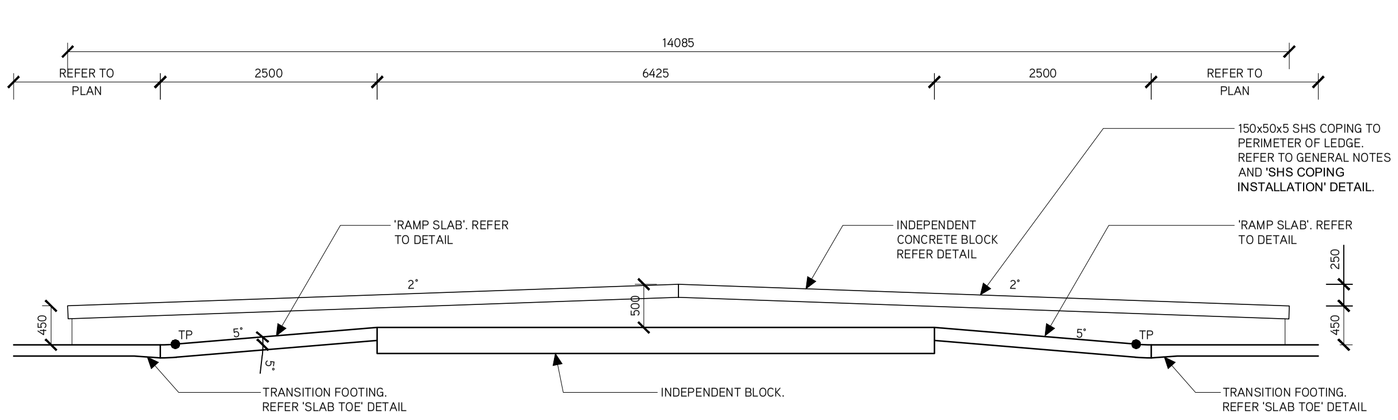
201 I **600H CURVED SKATE ELEMENT**
SECTION SCALE 1:50



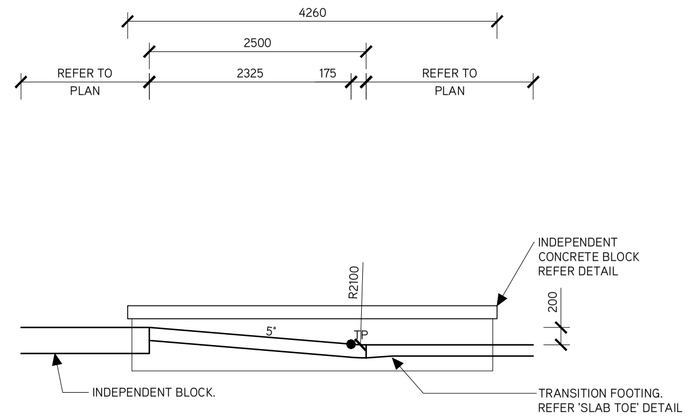
201 J **450H SKATE ELEMENT 'B'**
SECTION SCALE 1:50



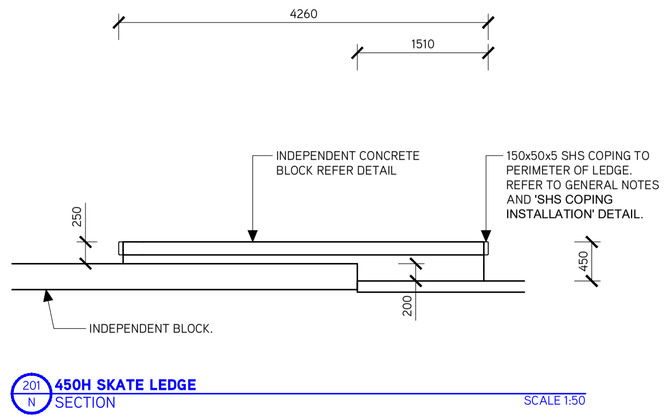
201 K **200H BANK TO RAISED CENTRAL PAD**
SECTION SCALE 1:50



201 L **200H CENTRAL STREET PAD**
SECTION SCALE 1:50



201 M **200H CENTRAL STREET PAD**
SECTION SCALE 1:50



201 N **450H SKATE LEDGE**
SECTION SCALE 1:50

FOR TENDER

(Appendix ORD: 12.3.4B)

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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:50 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

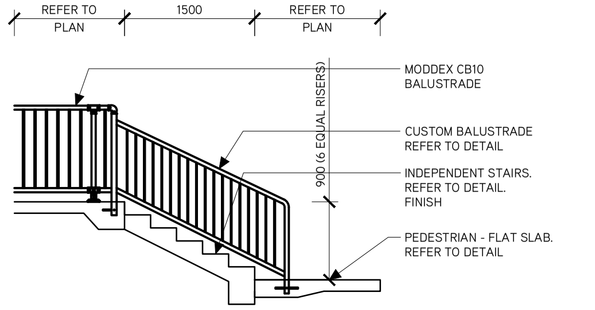
NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

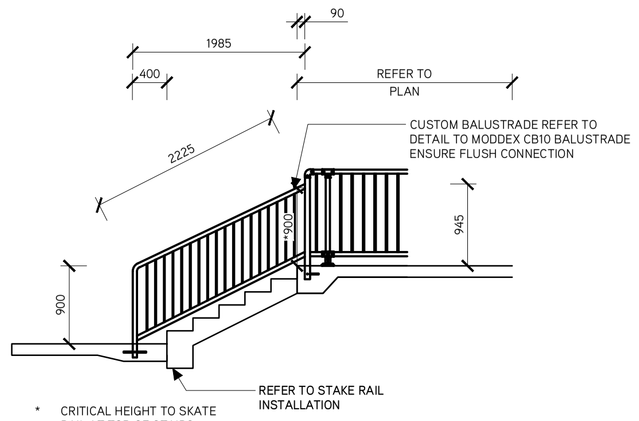
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SECTIONS 02

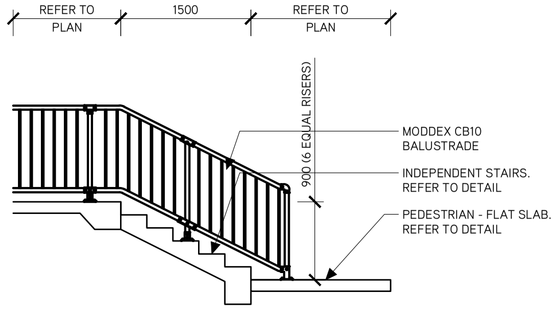
DRAWING NUMBER REV
20085_CD201 C



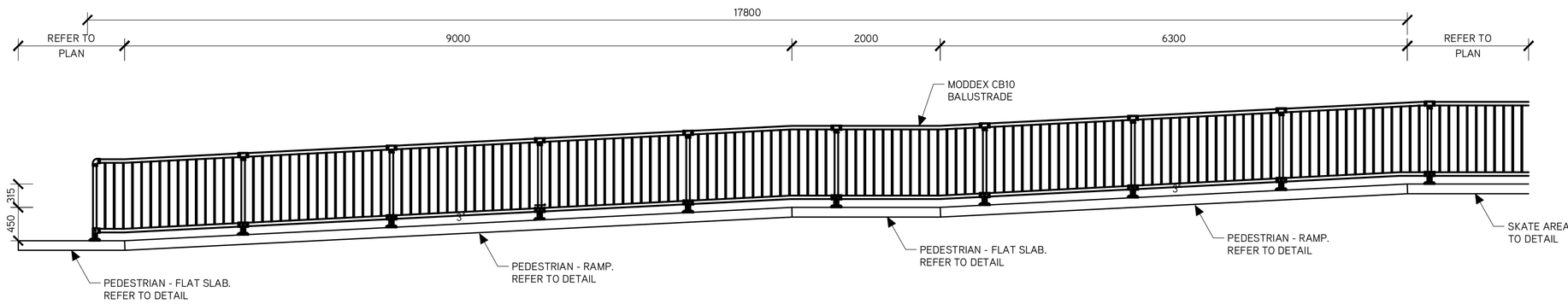
202 A **900H SKATE PARK TO PUMP TRACK STAIRS**
SECTION
SCALE 1:50



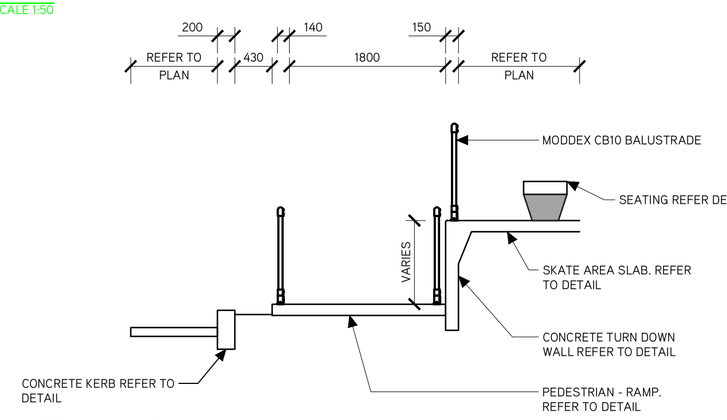
202 B **900H SKATE PARK TO PUMP TRACK STAIRS**
SECTION
SCALE 1:50



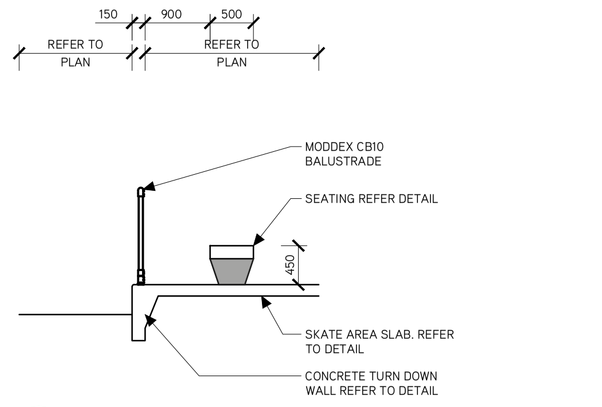
202 C **900H SKATE PARK TO PARKING STAIRS**
SECTION
SCALE 1:50



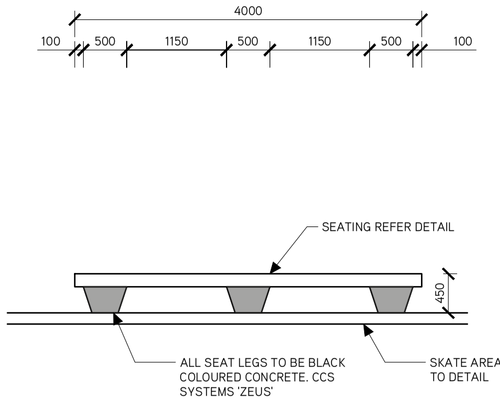
202 D **SKATE PARK ENTRY RAMP**
SECTION
SCALE 1:50



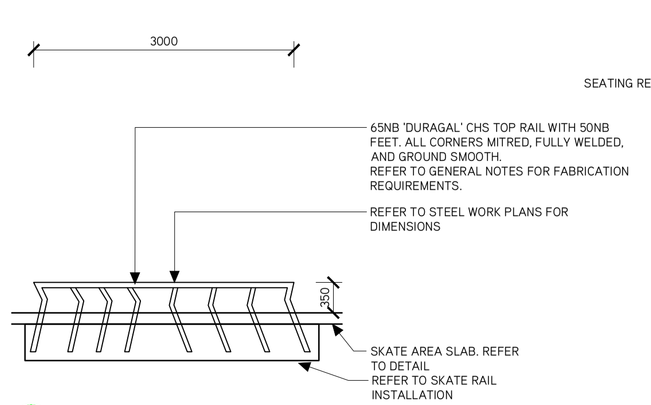
202 E **SKATE PARK ENTRY RAMP**
SECTION
SCALE 1:50



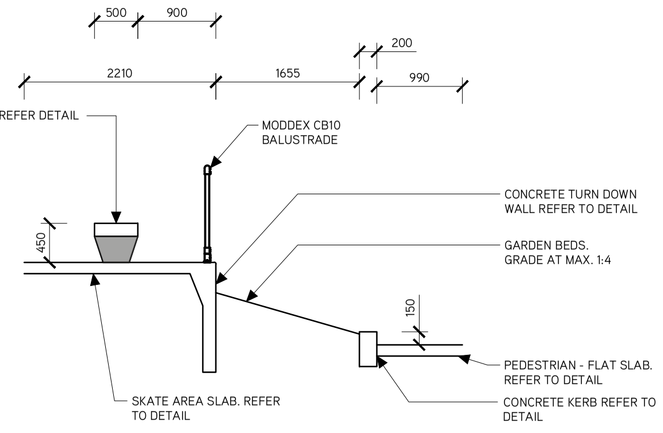
202 F **SKATE PARK SEAT**
SECTION
SCALE 1:50



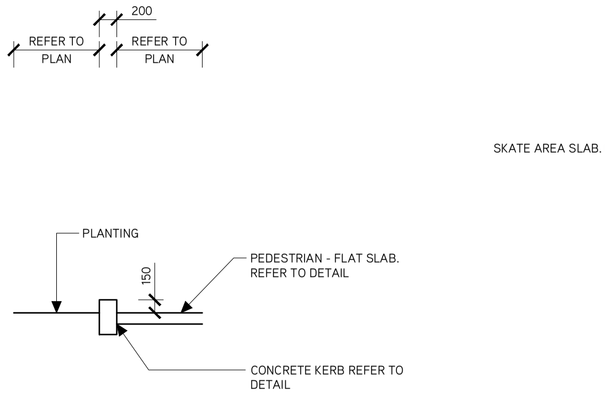
202 G **SKATE PARK SEAT**
SECTION
SCALE 1:50



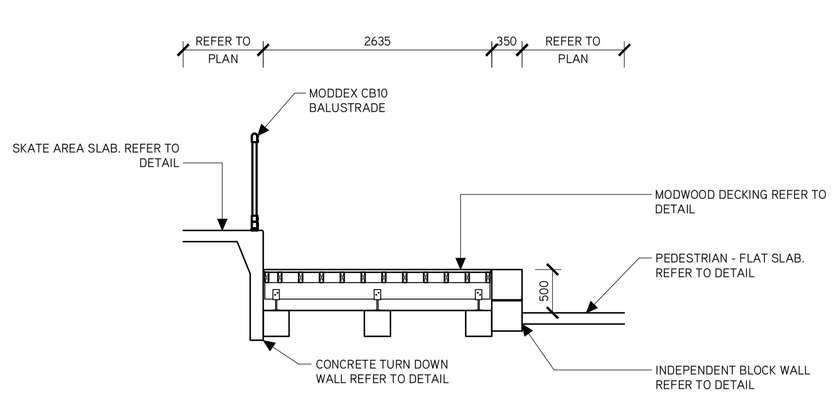
202 H **350H SKATE ELEMENT 'C'**
SECTION
SCALE 1:50



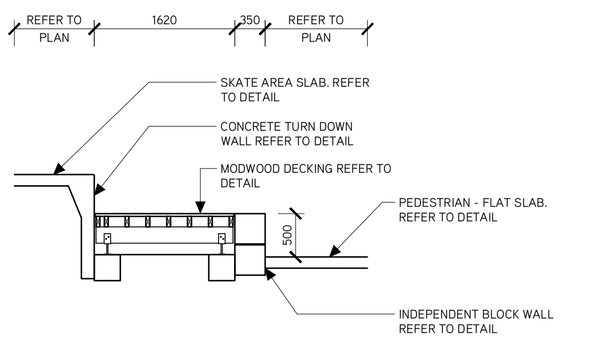
202 I **SKATE PARK SEAT**
SECTION
SCALE 1:50



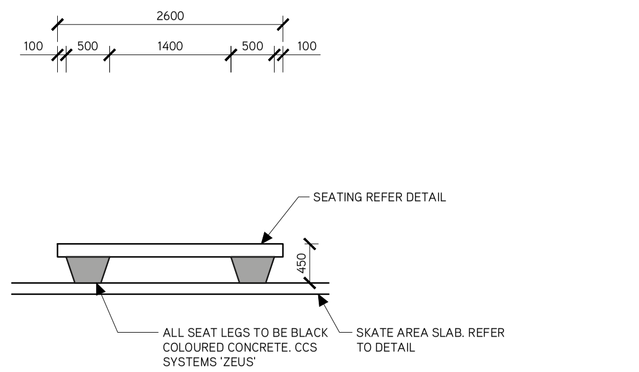
202 J **INDEPENDENT BLOCK WALL**
SECTION
SCALE 1:50



202 K **MODWOOD DECK SECTION**
SECTION
SCALE 1:50



202 L **MODWOOD DECK SECTION**
SECTION
SCALE 1:50



202 M **SKATE PARK SEAT**
SECTION
SCALE 1:50

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SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
1:50 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

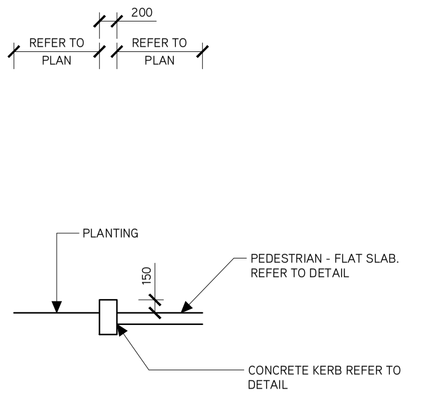
DRAWING TITLE
SECTIONS 03

FOR TENDER

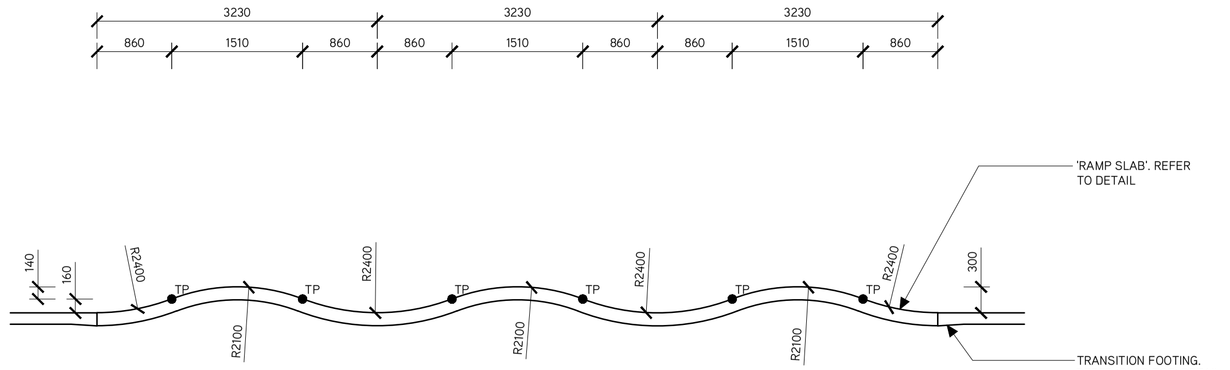
DRAWING NUMBER
20085_CD202

REV
C

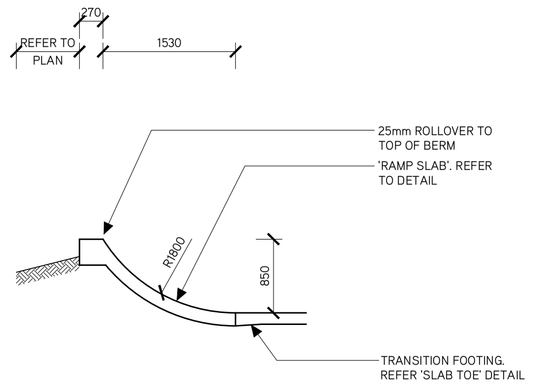
(Appendix ORD: 12.3.4B)



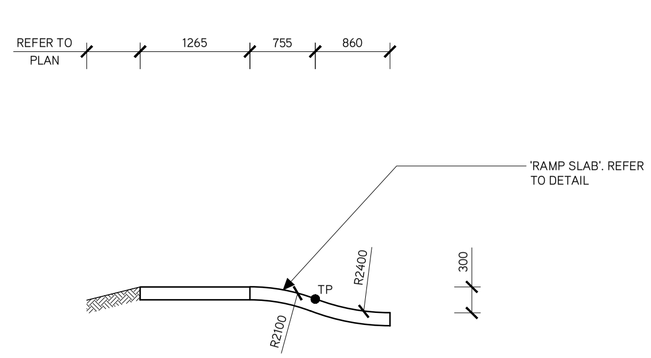
203 A **CONCRETE KERB**
SECTION
SCALE 1:50



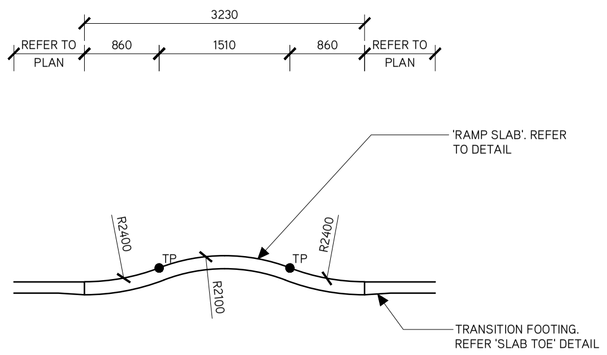
203 B **300H PUMP TRACK MOGULS**
SECTION
SCALE 1:50



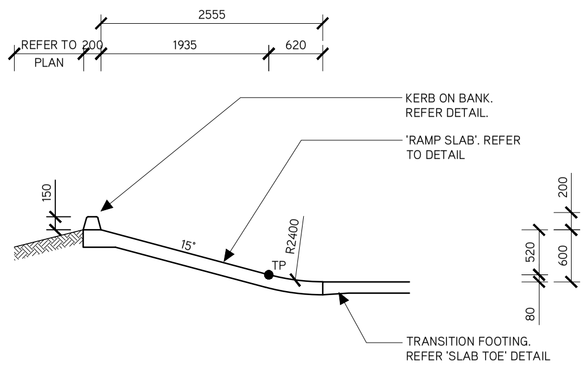
203 C **850H QUARTER PIPE BERM**
SECTION
SCALE 1:50



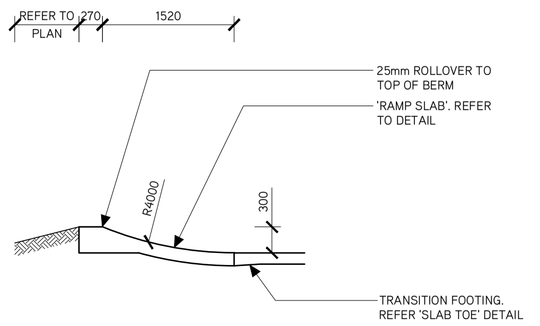
203 D **300H PUMP TRACK MOGUL TRANSITION**
SECTION
SCALE 1:50



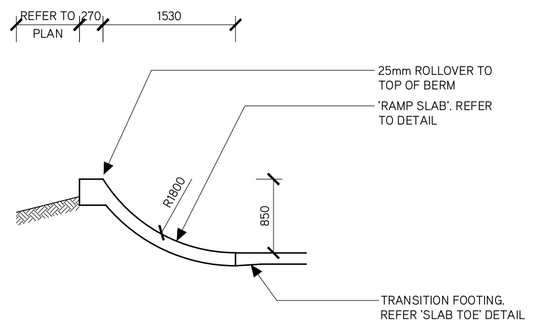
203 E **300H PUMP TRACK MOGULS**
SECTION
SCALE 1:50



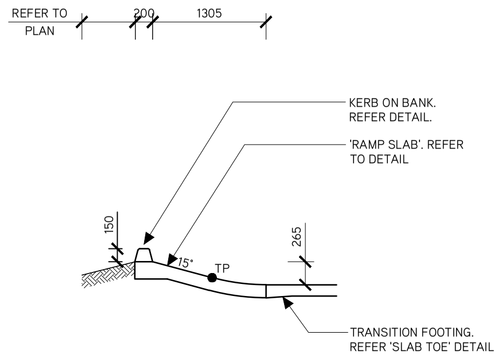
203 F **600H BANK TO KERB**
SECTION
SCALE 1:50



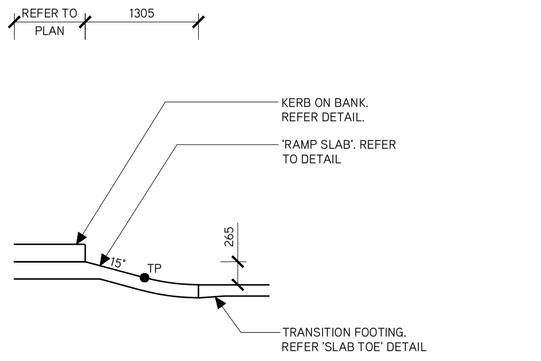
203 G **300H QUARTER PIPE BERM**
SECTION
SCALE 1:50



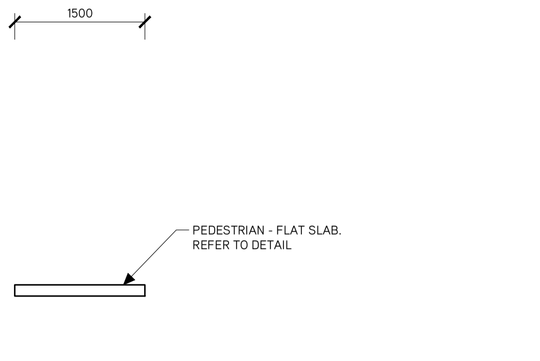
203 H **850H QUARTER PIPE BERM**
SECTION
SCALE 1:50



203 F **BANK TO KERB**
SECTION
SCALE 1:50



203 F **BANK TO KERB**
SECTION
SCALE 1:50



203 K **FOOTPATH**
SECTION
SCALE 1:50

FOR TENDER

CONVIC
UNIT 13, 46-50 REGENT STREET
RICHMOND VIC 3121 AUSTRALIA
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
1:50 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

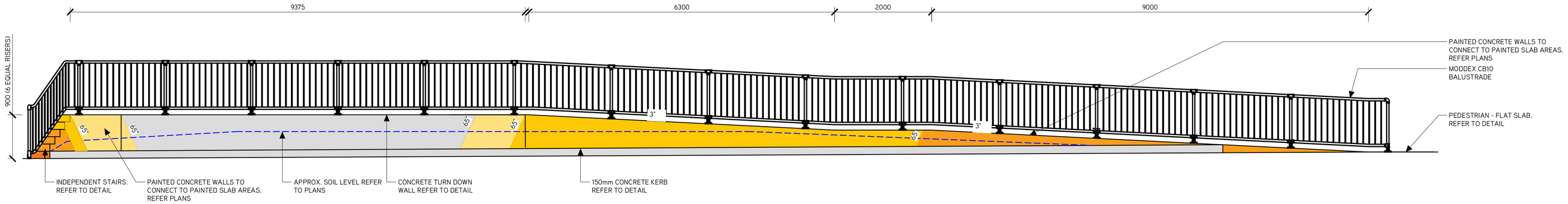
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
SECTIONS 04

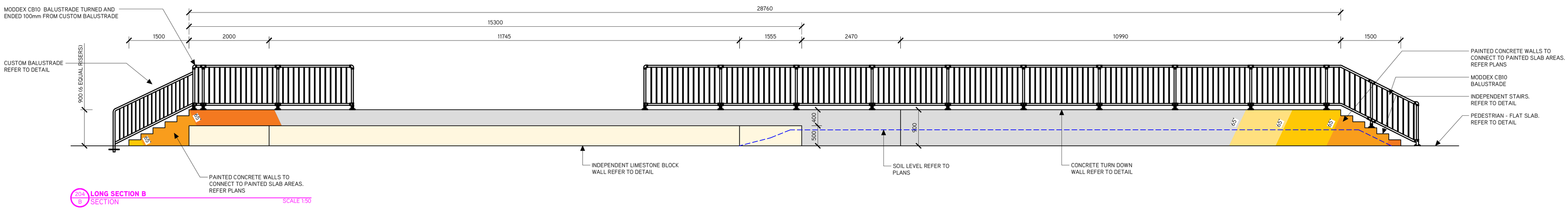
DRAWING NUMBER
20085_CD203

REV
C

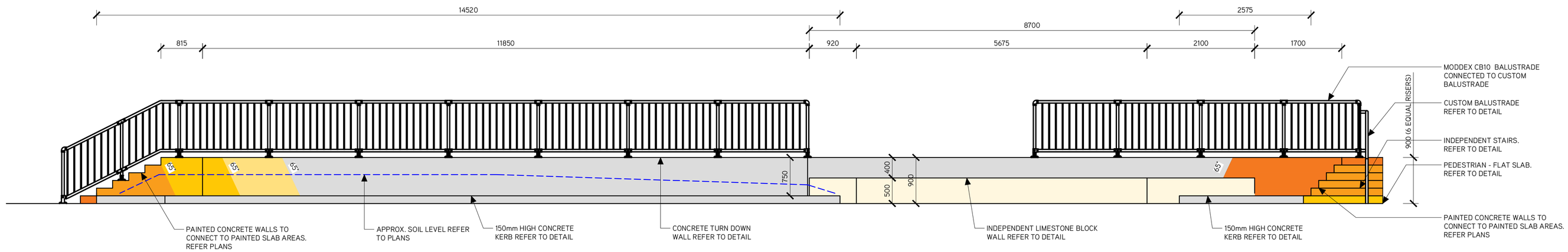
(Appendix ORD: 12.3.4B)



204 A **LONG SECTION A** SECTION — SCALE 1:50



204 B **LONG SECTION B** SECTION — SCALE 1:50



204 C **LONG SECTION C** SECTION — SCALE 1:50

FOR TENDER

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE 1:50 @ A1
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

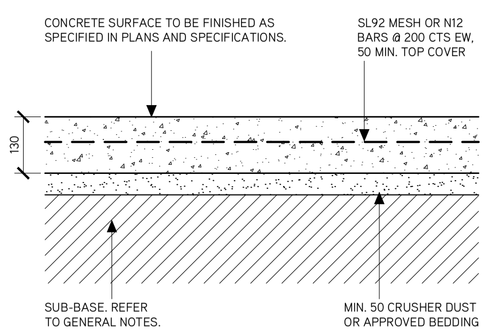
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

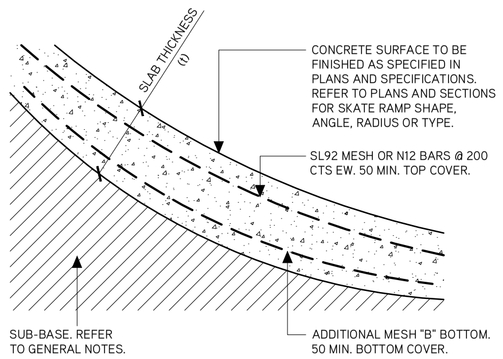
DRAWING TITLE
SECTIONS 05

DRAWING NUMBER **20085_CD204** REV **C**

(Appendix ORD: 12.3.4B)



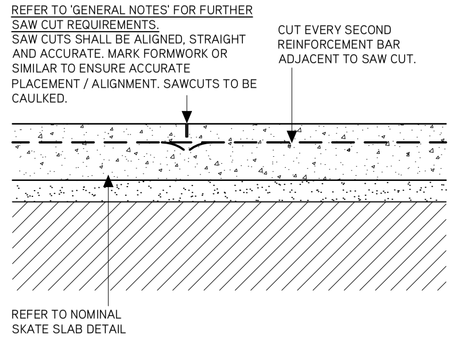
300 A **SKATEPARK - FLAT SLAB**
SECTION SCALE 1:10



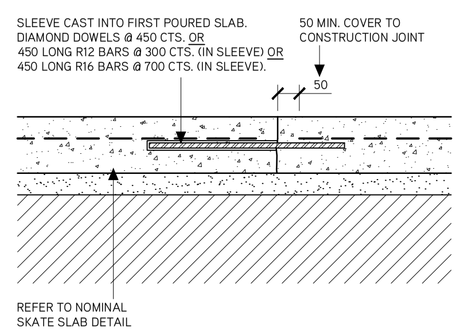
NOMINAL SKATE RAMP SLAB TABLE

SLAB THICKNESS (t) (mm)	ADDITIONAL MESH "B" BOTTOM
150 (Min) - 175	NOT REQUIRED
176 - 200	SL 62 BOTTOM OR N12 @ 400 CTS.
201 - 250	SL 72 BOTTOM OR N12 @ 400 CTS.
251 - 300 (Max)	SL 92 BOTTOM OR N12 @ 300 CTS.

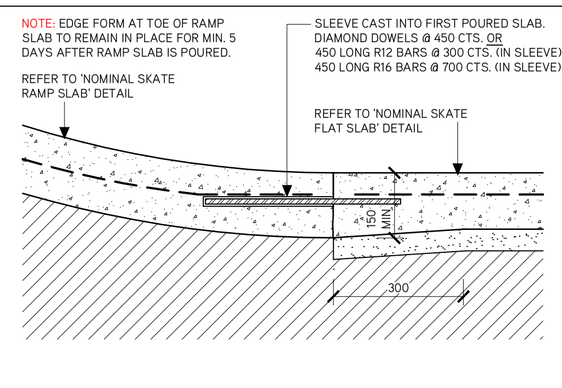
300 B **SKATEPARK - RAMP SLAB**
SECTION SCALE 1:10



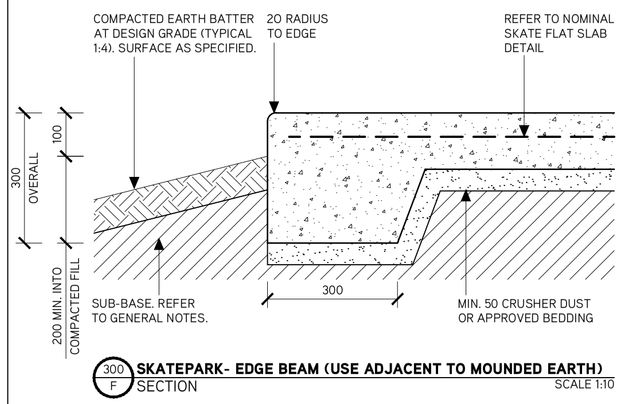
300 C **SKATEPARK - SAW CUT**
SECTION SCALE 1:10



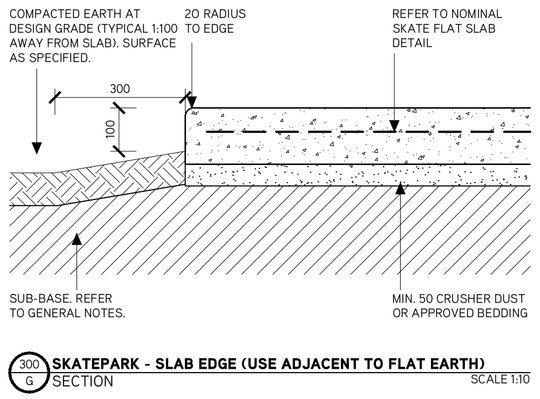
300 D **SKATEPARK - CONSTRUCTION JOINT**
SECTION SCALE 1:10



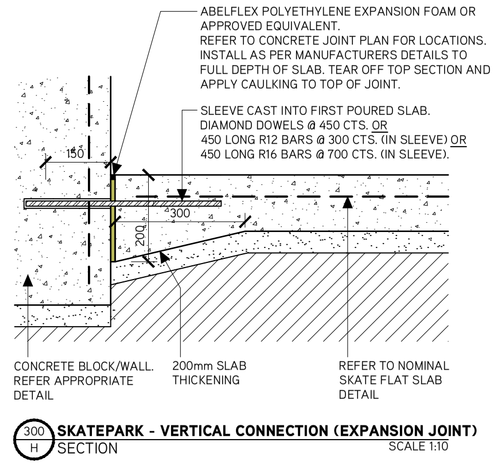
300 E **SKATEPARK - RAMP TOE**
SECTION SCALE 1:10



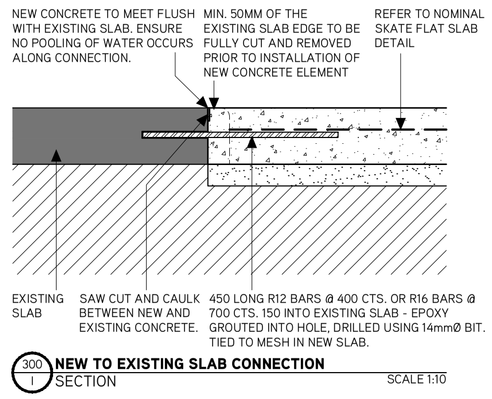
300 F **SKATEPARK- EDGE BEAM (USE ADJACENT TO MOUNDED EARTH)**
SECTION SCALE 1:10



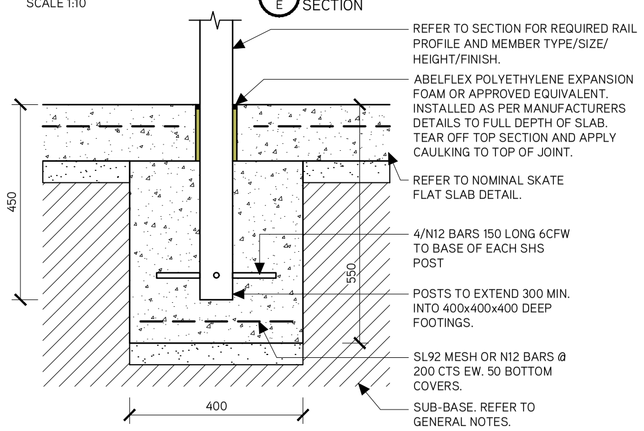
300 G **SKATEPARK - SLAB EDGE (USE ADJACENT TO FLAT EARTH)**
SECTION SCALE 1:10



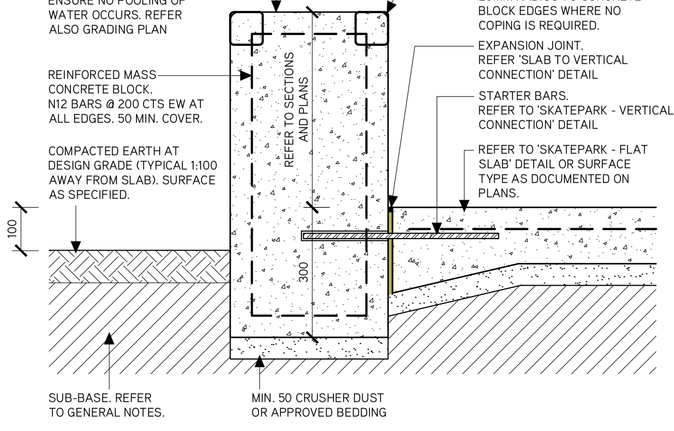
300 H **SKATEPARK - VERTICAL CONNECTION (EXPANSION JOINT)**
SECTION SCALE 1:10



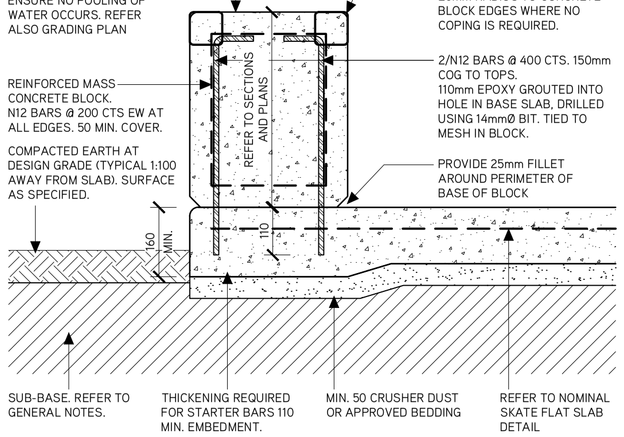
300 I **NEW TO EXISTING SLAB CONNECTION**
SECTION SCALE 1:10



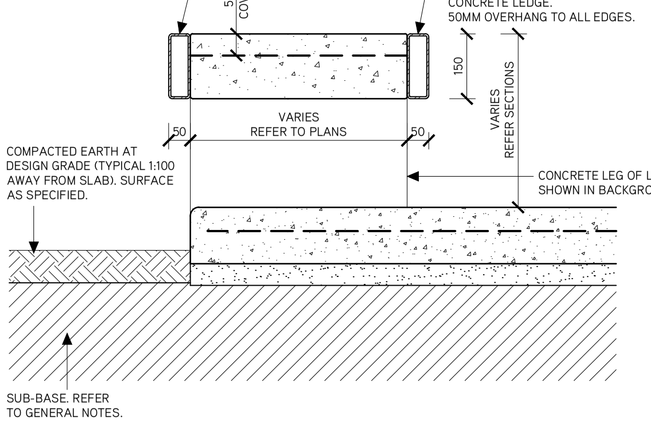
300 J **SKATEPARK - SKATE RAIL INSTALLATION**
SECTION SCALE 1:10



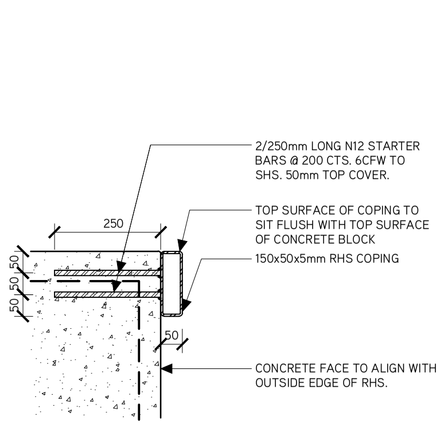
300 K **INDEPENDENT BLOCK**
SECTION SCALE 1:10



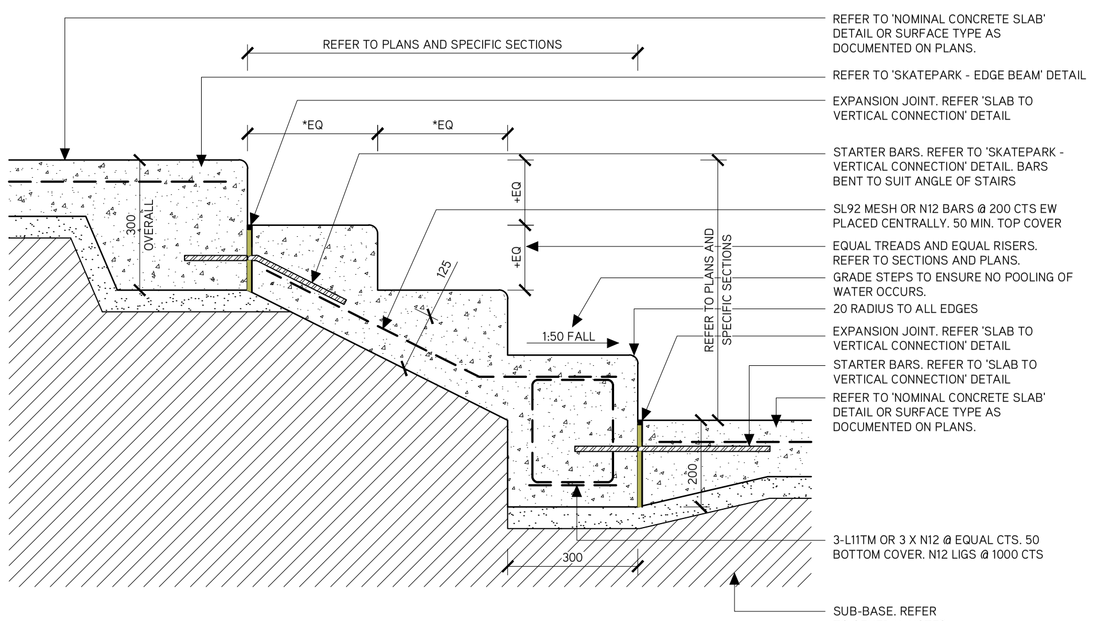
300 L **BLOCK ON SLAB**
SECTION SCALE 1:10



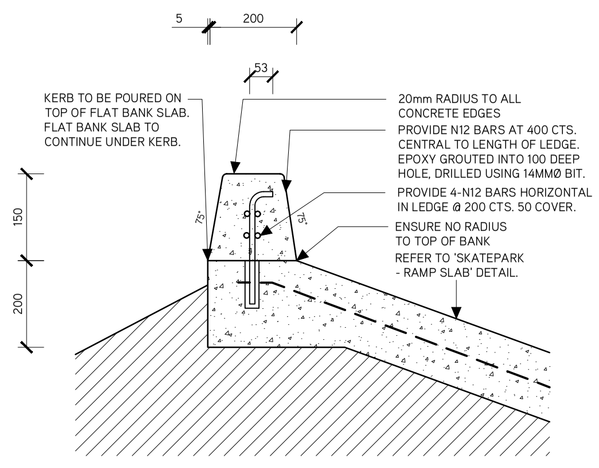
300 M **CANTILEVER SKATE LEDGE**
SECTION SCALE 1:10



300 N **RHS COPING INSTALLATION**
SECTION SCALE 1:10



300 O **INDEPENDENT STAIR**
SECTION SCALE 1:10



300 P **BANK TO PARKING BLOCK**
SECTION SCALE 1:10

CLIENT
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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

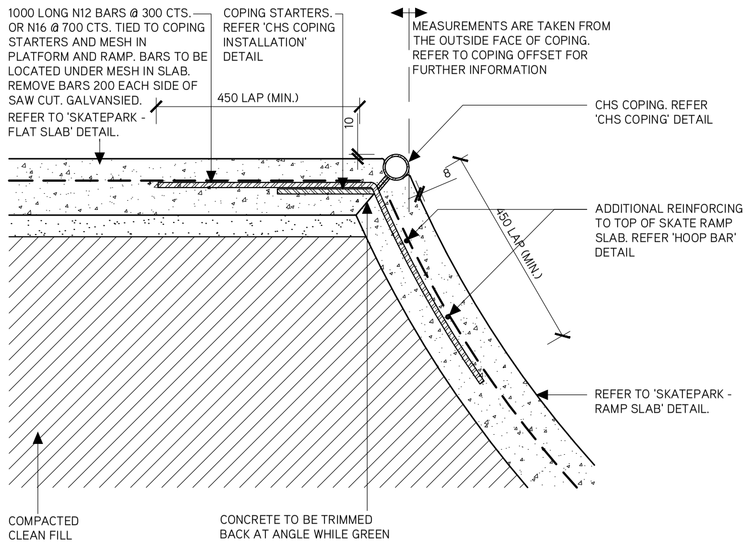
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DETAILS 01

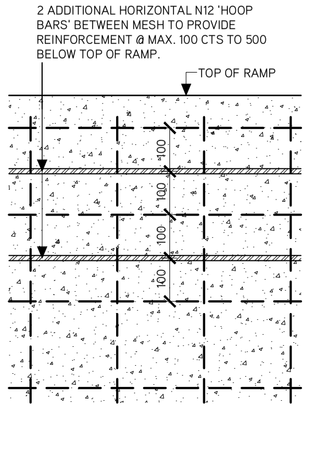
FOR TENDER

DRAWING NUMBER **20085_CD300** REV **C**

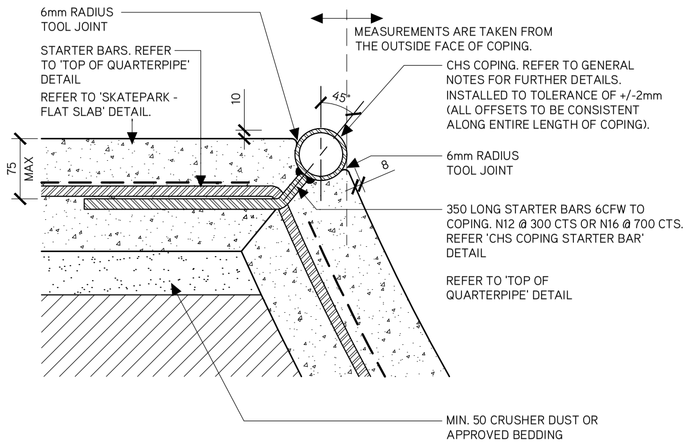
(Appendix ORD: 12.3.4B)



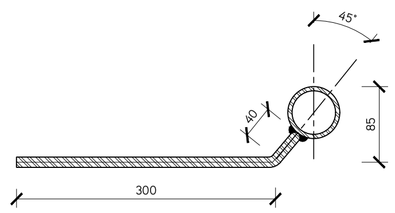
301 A **TOP OF QUARTER PIPE**
SECTION — SCALE 1:10



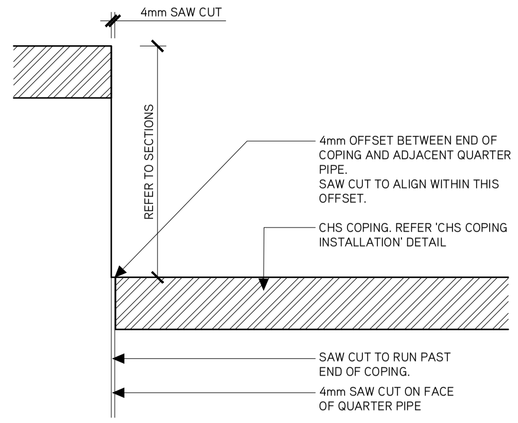
301 B **HOOP BAR DETAIL**
ELEVATION — SCALE 1:10



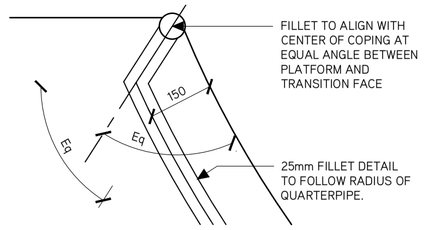
301 C **CHS COPING INSTALLATION**
SECTION — SCALE 1:5



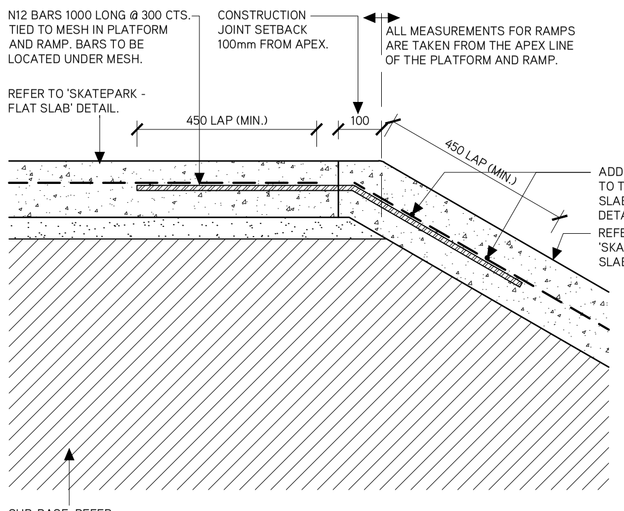
301 D **CHS COPING STARTER BAR**
SECTION — SCALE 1:5



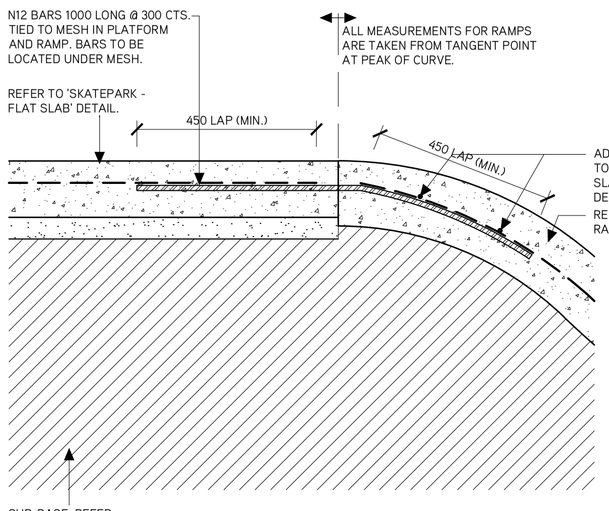
301 E **QUARTERPIPE EXTENSION SAW CUT**
ELEVATION — SCALE 1:5



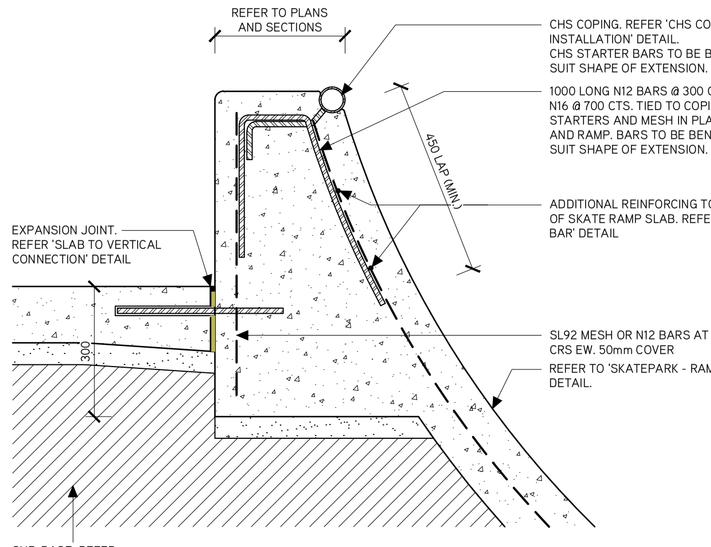
301 F **QUARTERPIPE TERMINATION**
ELEVATION — SCALE 1:10



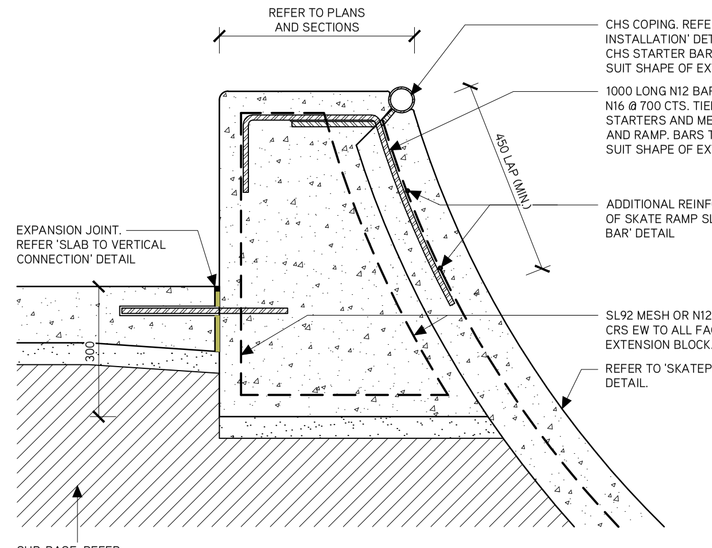
301 G **TOP OF RAMP**
SECTION — SCALE 1:10



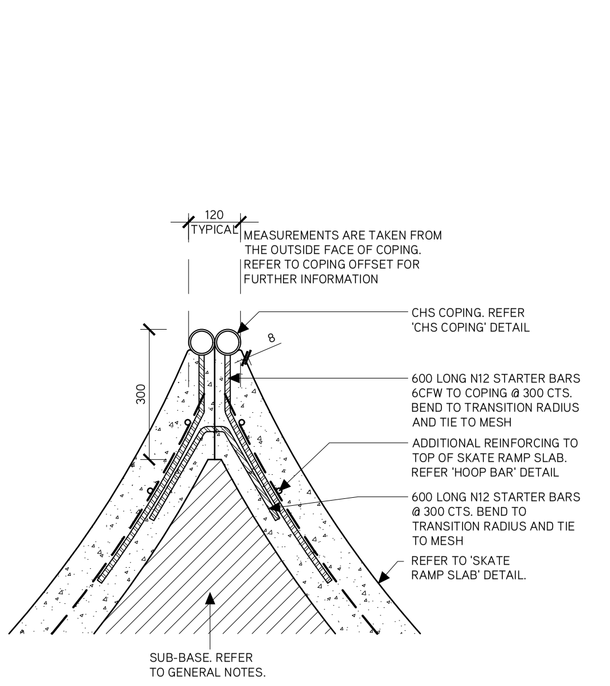
301 H **TOP OF WATERFALL**
SECTION — SCALE 1:10



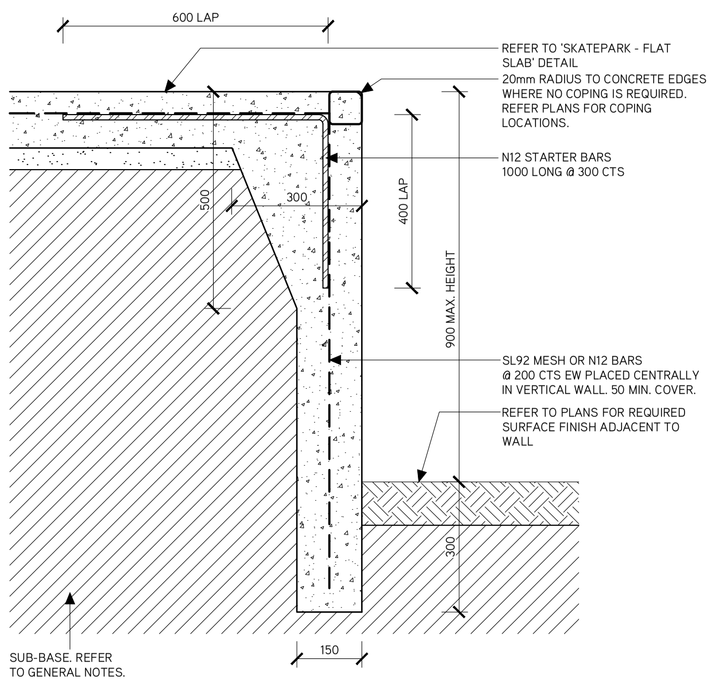
301 I **QUARTER PIPE EXTENSION**
SECTION — SCALE 1:10



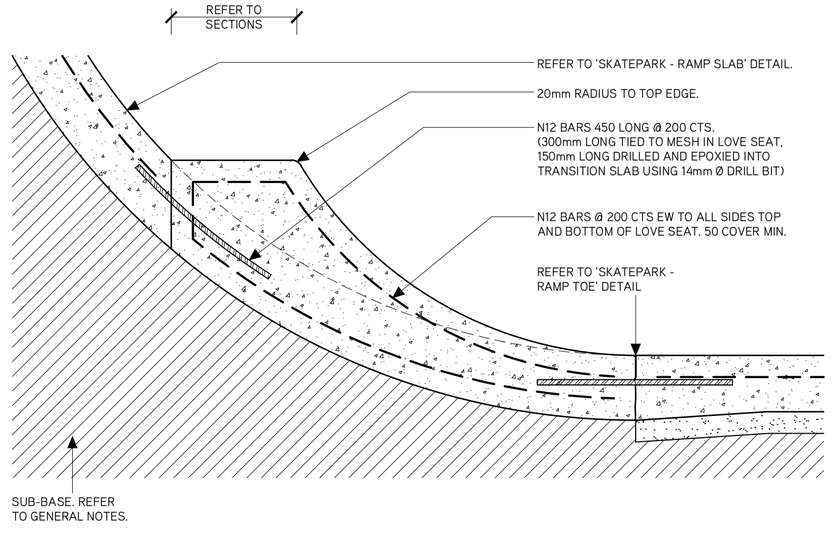
301 J **QUARTER PIPE EXTENSION - IMPENDENT**
SECTION — SCALE 1:10



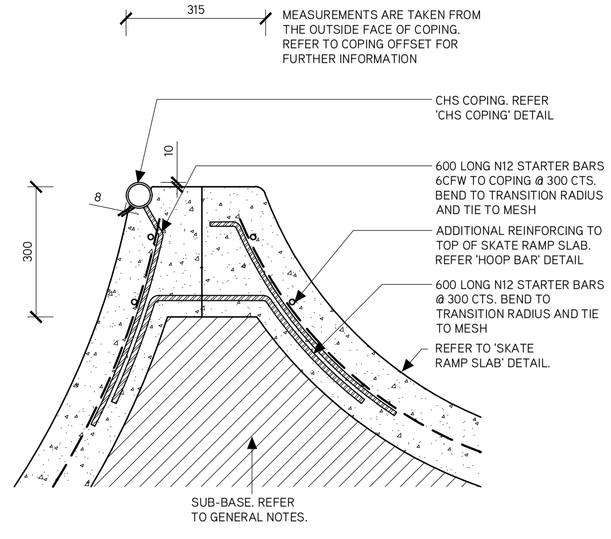
301 K **SPINE**
SECTION — SCALE 1:10



301 L **DOWNTURN WALL**
SECTION — SCALE 1:10



301 M **LOVE SEAT DETAIL**
SECTION — SCALE 1:10



301 N **TACO EXTENSION**
SECTION — SCALE 1:10

FOR TENDER

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

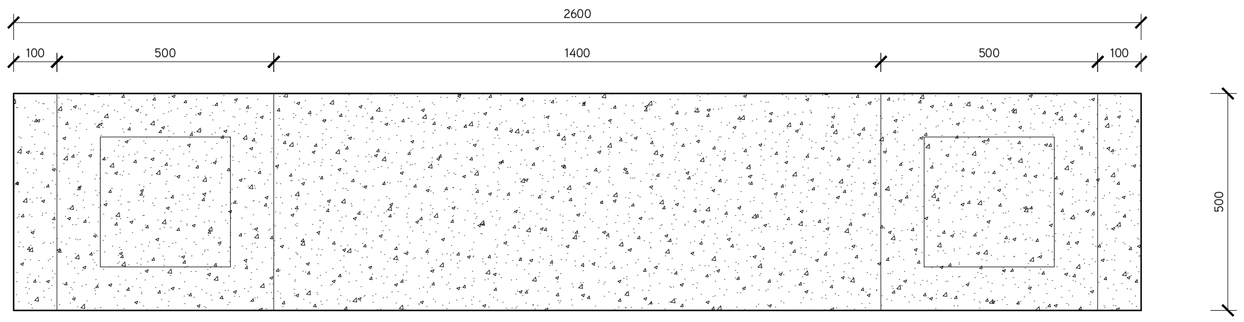
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

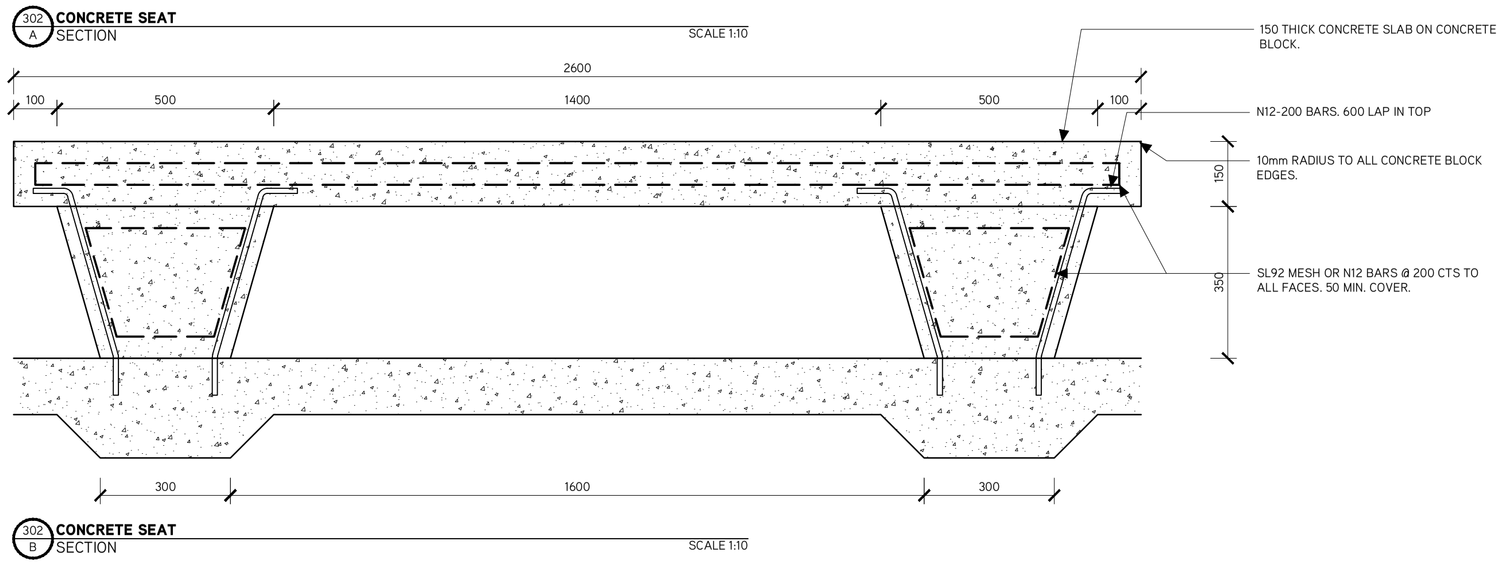
DRAWING TITLE
DETAILS 02

DRAWING NUMBER
20085_CD301

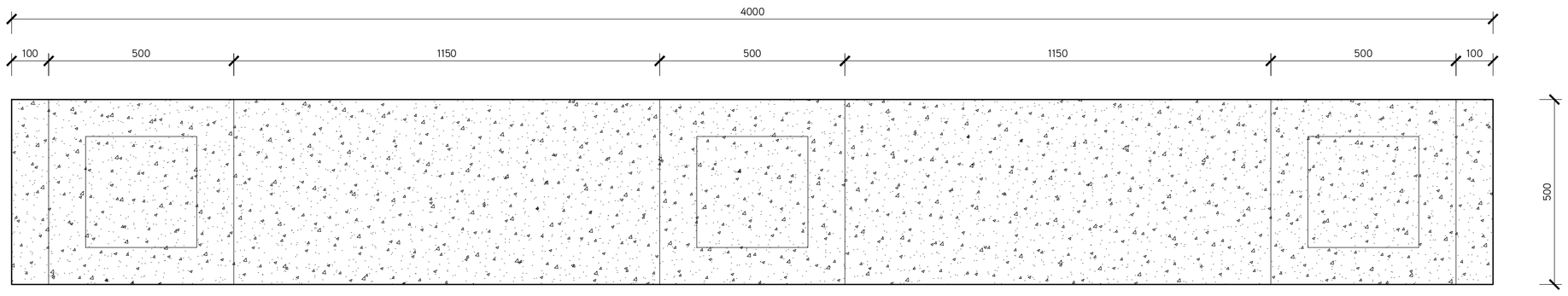
REV
C



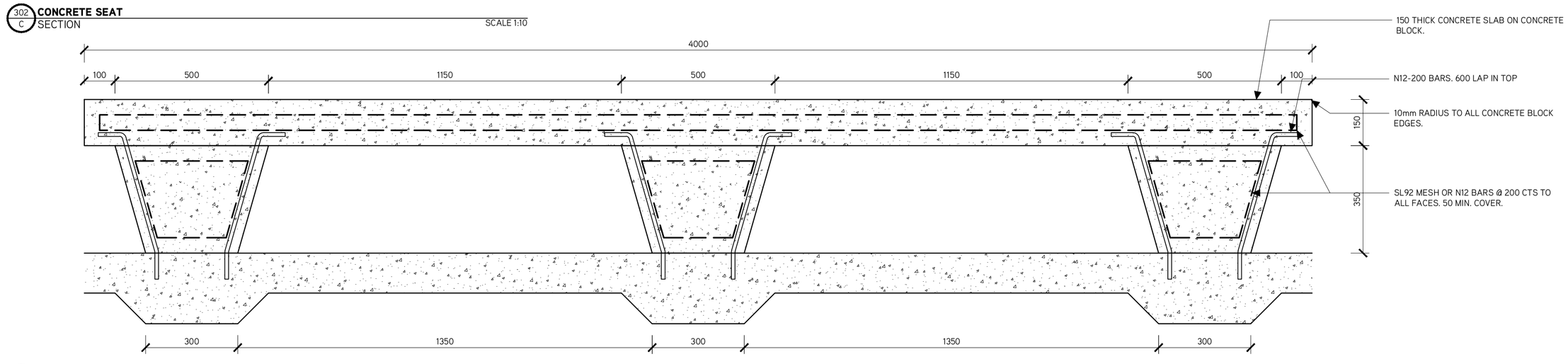
302 A **CONCRETE SEAT**
SECTION
SCALE 1:10



302 B **CONCRETE SEAT**
SECTION
SCALE 1:10



302 C **CONCRETE SEAT**
SECTION
SCALE 1:10



302 D **CONCRETE SEAT**
SECTION
SCALE 1:10

FOR TENDER

CONVIC
UNIT 13, 46-50 REGENT STREET
RICHMOND VIC 3121 AUSTRALIA
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

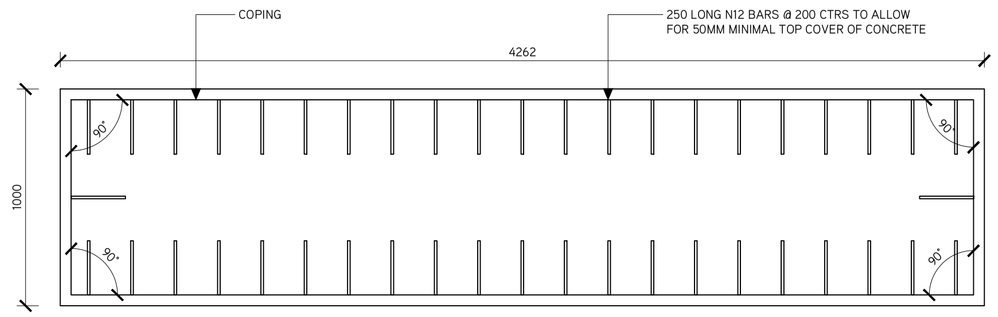
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DETAILS 03

DRAWING NUMBER
20085_CD302

REV
C

(Appendix ORD: 12.3.4B)

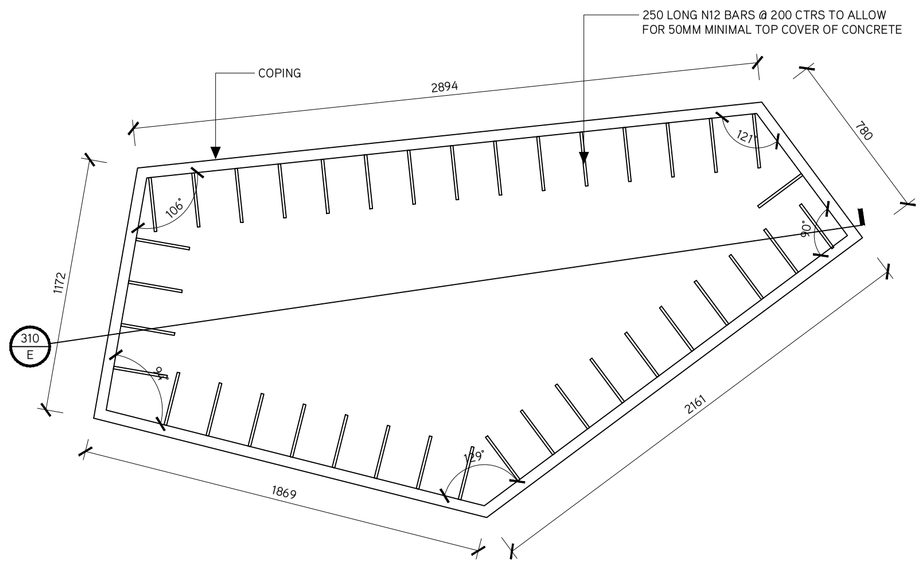


303 A **STEEL ELEMENT - RAISED PLINTH 1**
PLAN SCALE 1:20

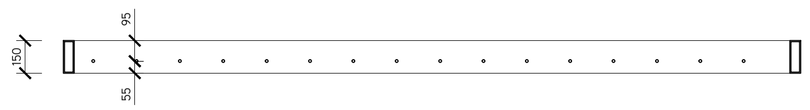
303 B **STEEL ELEMENT - RAISED PLINTH 1**
SECTION SCALE 1:20

RAISED PLINTH 1

MEMBER	SIZE	FINISH
COPING	150 x 50 x 5mm THICK RHS	HDG AND PAINTED REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9



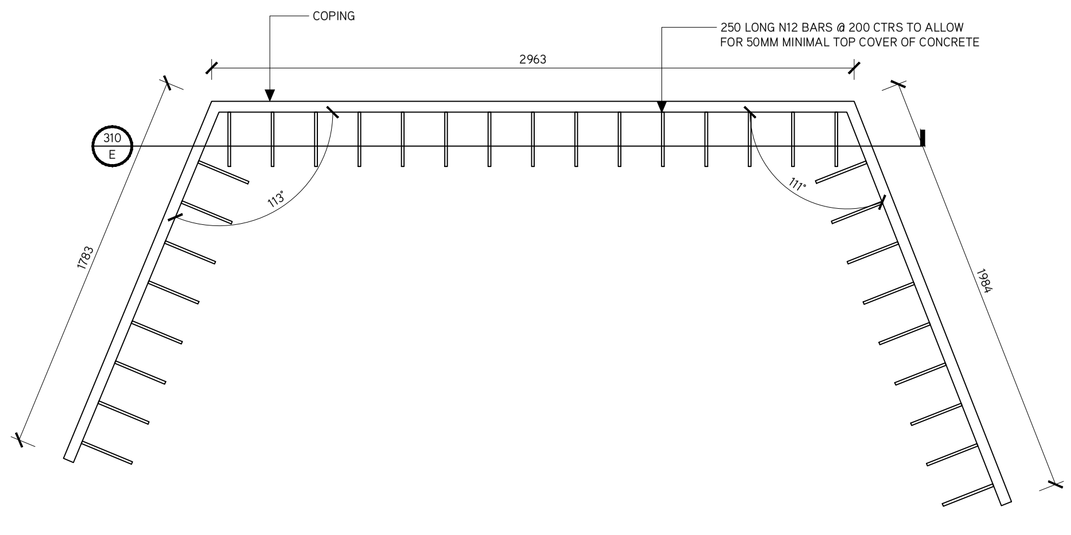
303 C **STEEL ELEMENT - RAISED PLINTH 2**
PLAN SCALE 1:20



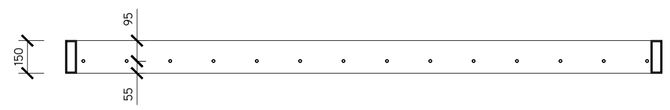
303 D **STEEL ELEMENT - RAISED PLINTH 2**
SECTION SCALE 1:20

RAISED PLINTH 2

MEMBER	SIZE	FINISH
COPING	150 x 50 x 5mm THICK RHS	HDG AND PAINTED REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9



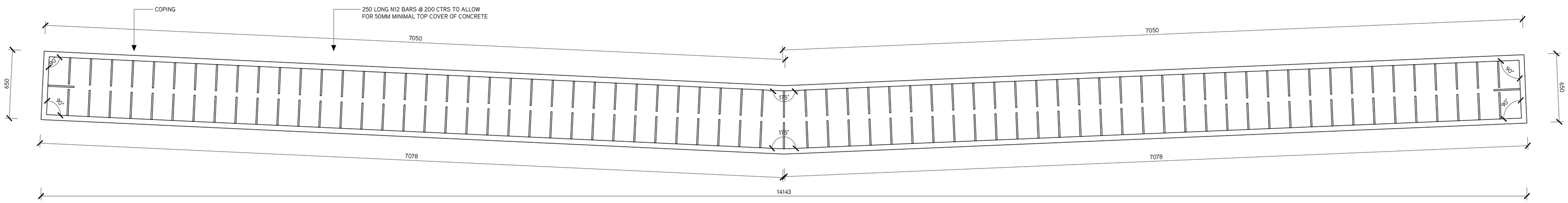
303 E **STEEL ELEMENT - RAISED PLINTH 3**
PLAN SCALE 1:20



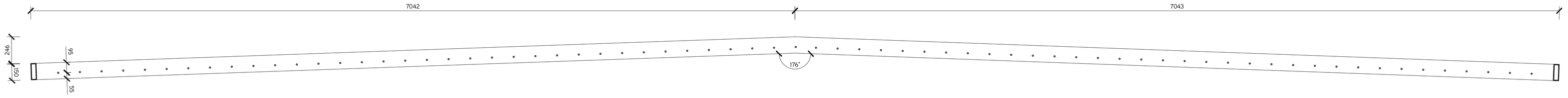
303 F **STEEL ELEMENT - RAISED PLINTH 3**
SECTION SCALE 1:20

RAISED PLINTH 3

MEMBER	SIZE	FINISH
COPING	150 x 50 x 5mm THICK RHS	HDG AND PAINTED REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9



303 G **STEEL ELEMENT - RAISED PLINTH 4**
PLAN SCALE 1:20



303 H **STEEL ELEMENT - RAISED PLINTH 4**
SECTION SCALE 1:20

RAISED PLINTH 4

MEMBER	SIZE	FINISH
COPING	150 x 50 x 5mm THICK RHS	HDG AND PAINTED REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9

FOR TENDER

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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

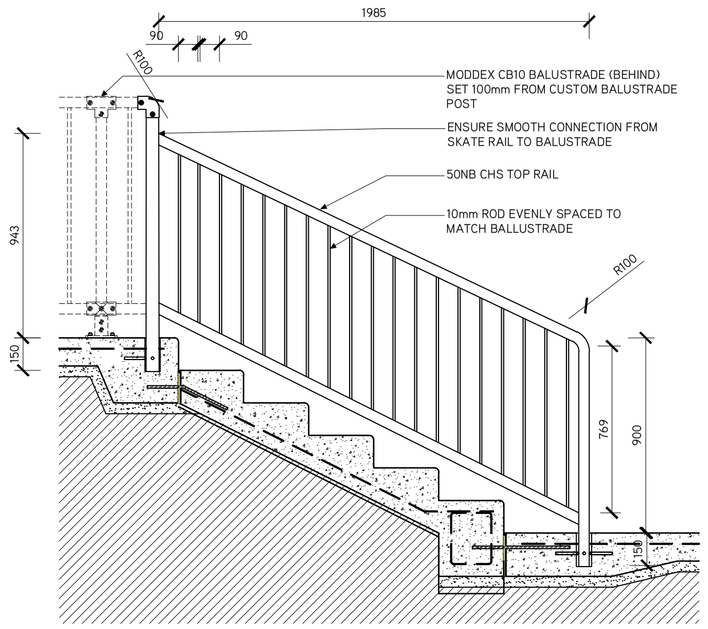
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DETAILS 04

DRAWING NUMBER **20085_CD303** REV **C**

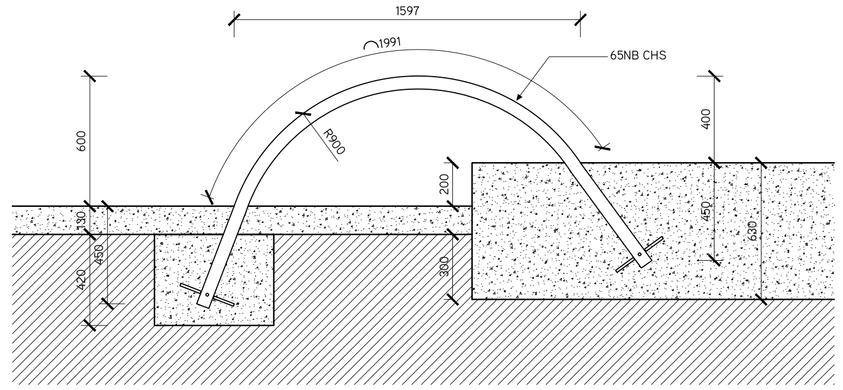
(Appendix ORD: 12.3.4B)



303 A **BALUSTRADE - SKATEABLE**
SECTION
SCALE 1:20

BALUSTRADE ELEMENT - SKATEABLE

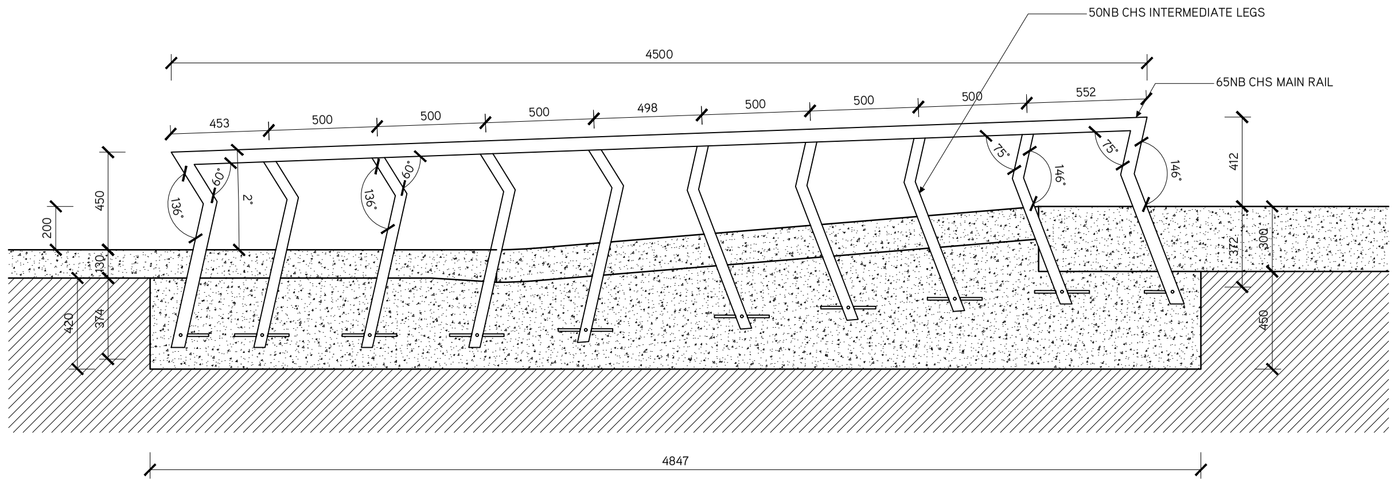
MEMBER	SIZE	FINISH
RAIL & LEGS	50NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9
VERTICAL RAILS	10mm ROD	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9



303 A **STEEL ELEMENT - CURVED ELEMENT**
SECTION
SCALE 1:20

STEEL ELEMENT - CURVED RAIL

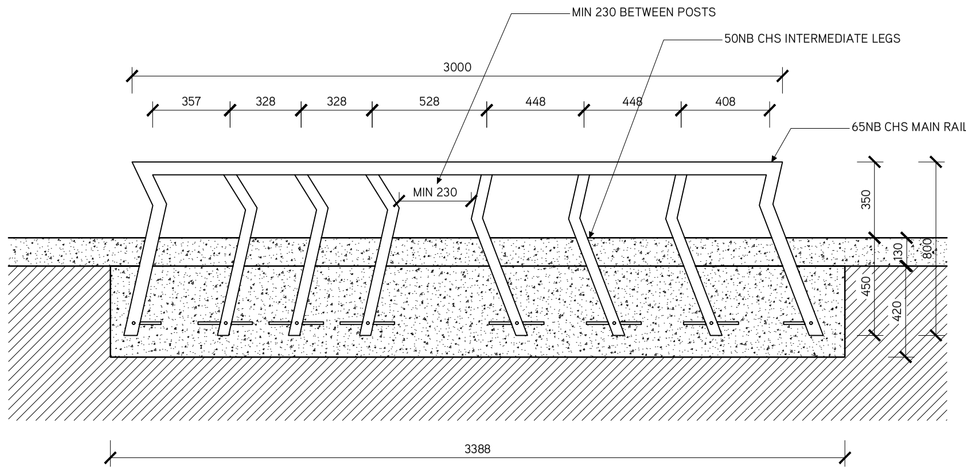
MEMBER	SIZE	FINISH
RAIL & LEGS	65NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9



303 A **STEEL ELEMENT - ELEMENT 'B'**
SECTION
SCALE 1:20

STEEL ELEMENT - ELEMENT 'B'

MEMBER	SIZE	FINISH
MAIN RAIL	65NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9
LEGS	50NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BRIGHT DELIGHT A97



303 A **STEEL ELEMENT - ELEMENT 'C'**
SECTION
SCALE 1:20

STEEL ELEMENT - ELEMENT 'C'

MEMBER	SIZE	FINISH
MAIN RAIL	65NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BLACK SG6G9
LEGS	50NB 4.5mm THICK CHS	HDG AND PAINTED TBC REFER TO GENERAL NOTES COLOUR: DULUX BRIGHT DELIGHT A97

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1 COUNCIL DRIVE
EATON WA 6232

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DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

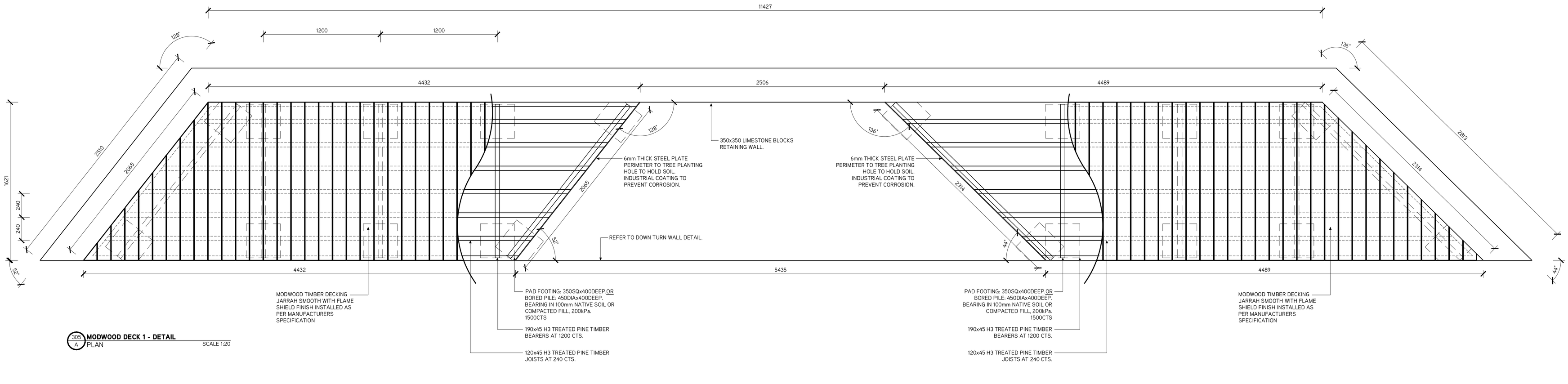
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DETAILS 05

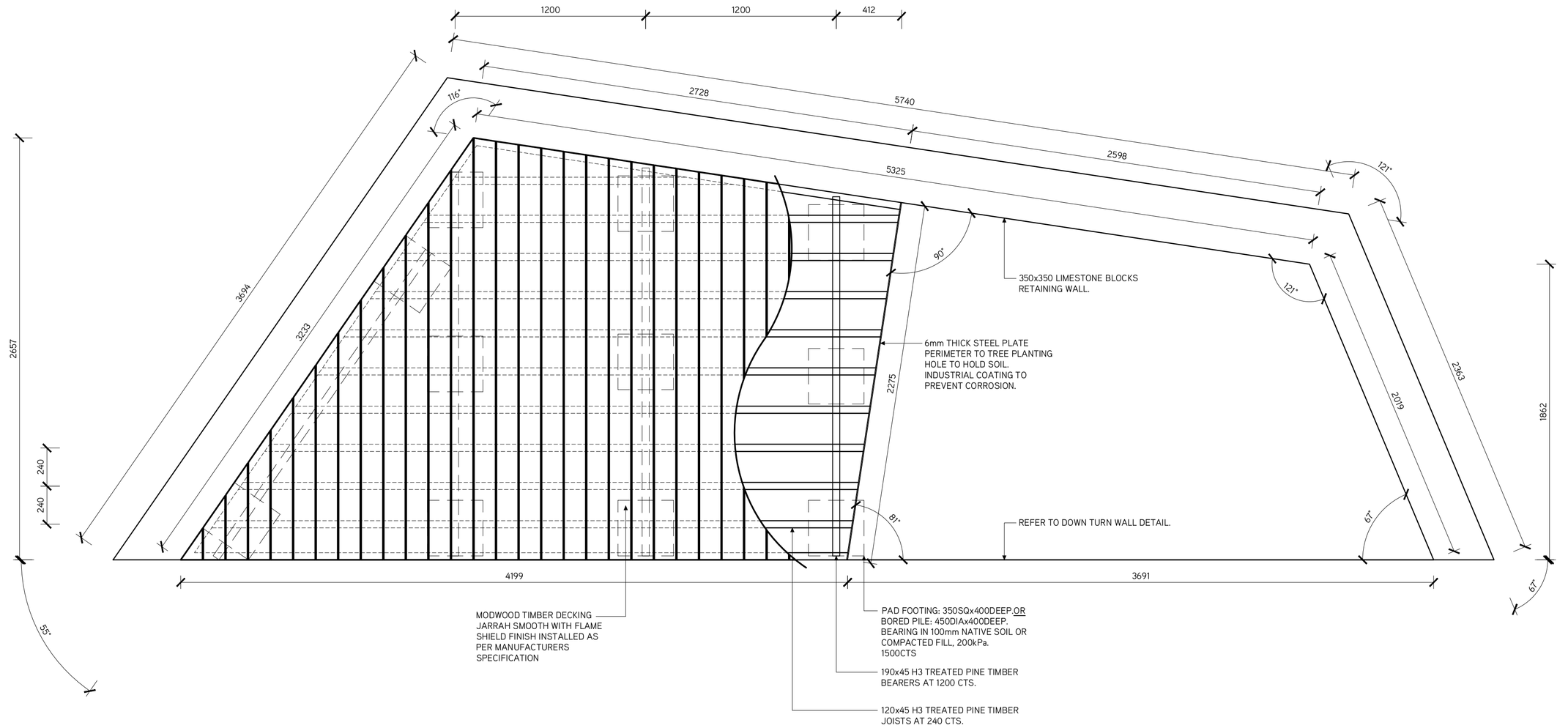
DRAWING NUMBER
20085_CD304

REV
C

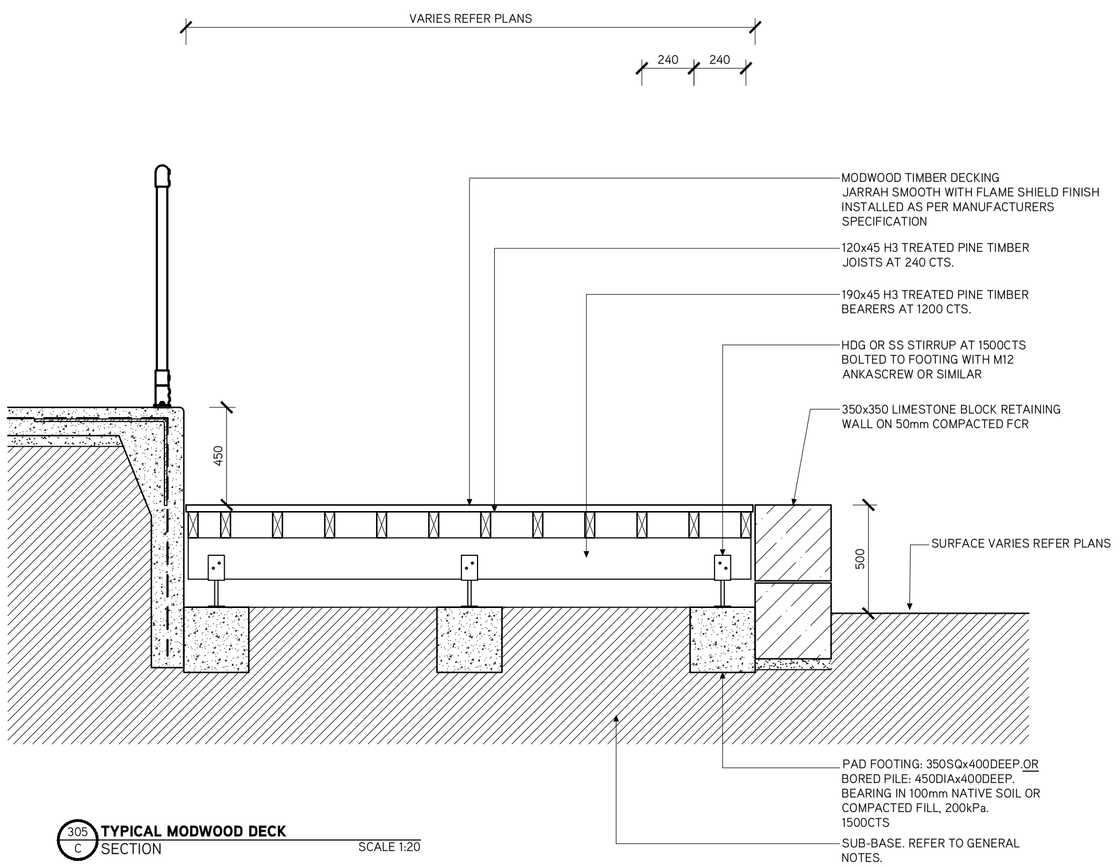
(Appendix ORD: 12.3.4B)



305 A **MODWOOD DECK 1 - DETAIL**
PLAN SCALE 1:20



305 B **MODWOOD DECK 2 - DETAIL**
PLAN SCALE 1:20



305 C **TYPICAL MODWOOD DECK**
SECTION SCALE 1:20

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DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

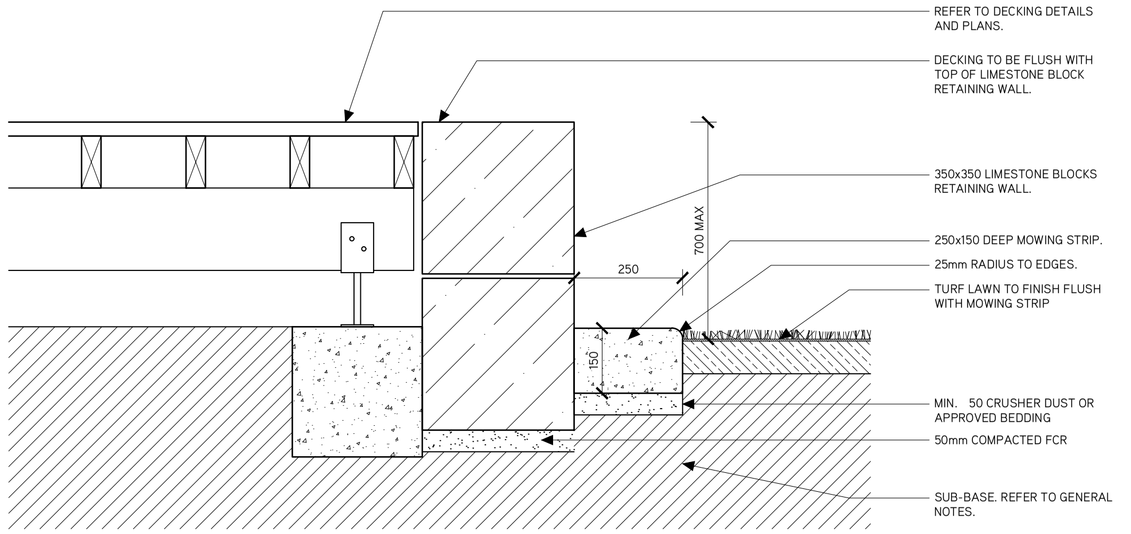
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

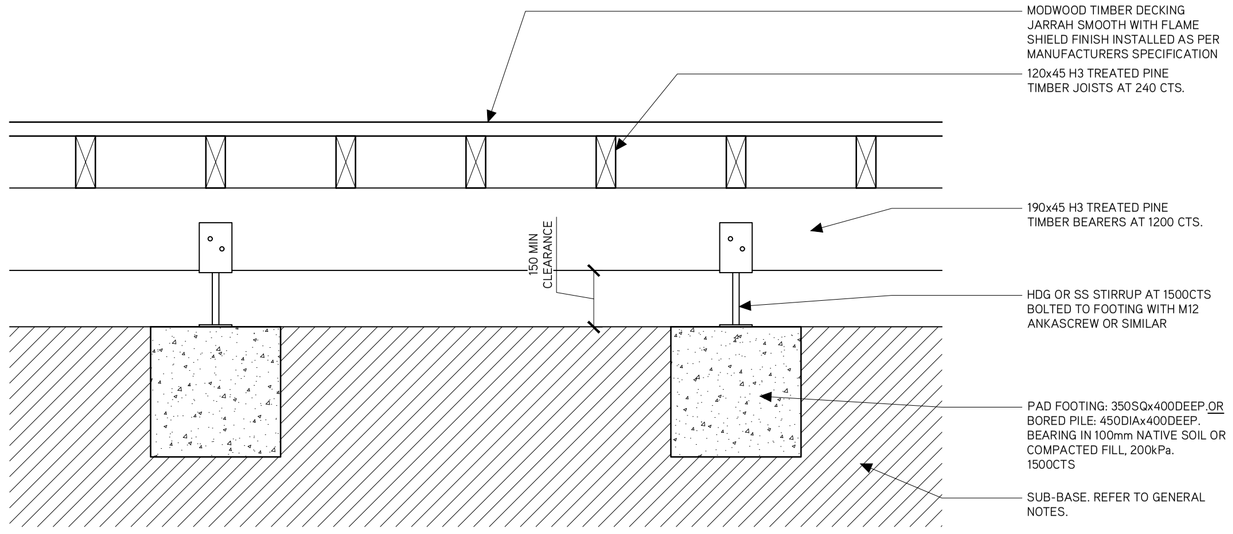
DRAWING TITLE
DETAILS 06

DRAWING NUMBER
20085_CD305

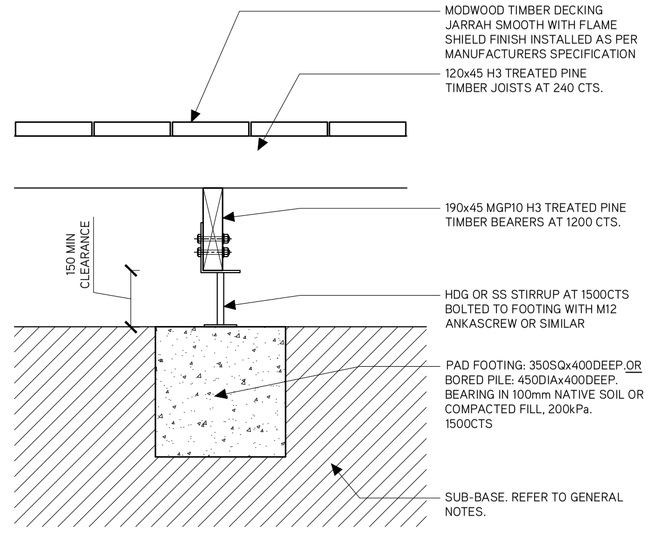
REV
C



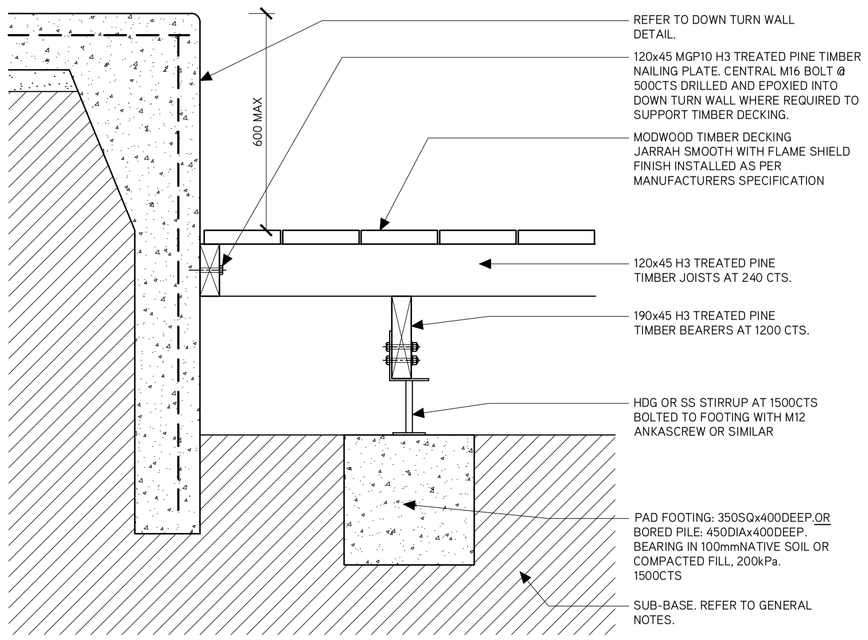
306 A **DECKING / LAWN LIMESTONE BLOCK RETAINING WALL**
SECTION SCALE 1:10



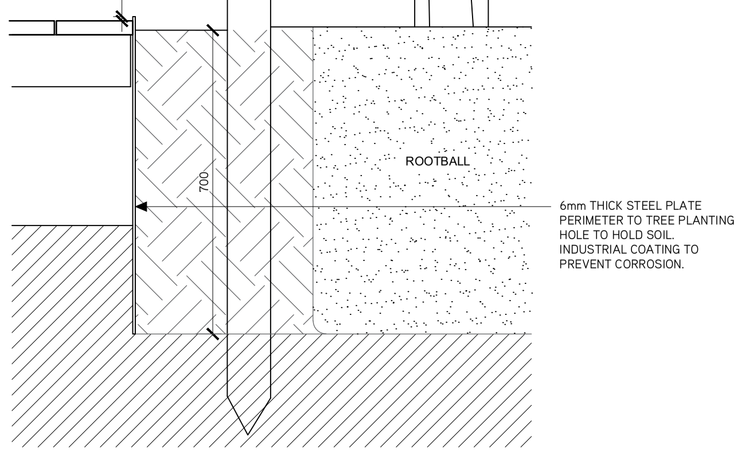
306 B **DECKING DETAIL LONG SECTION**
SECTION SCALE 1:10



306 C **DECKING DETAIL CROSS SECTION**
SECTION SCALE 1:10



306 D **DECKING DETAIL / DOWNTURN WALL INTERFACE DETAIL**
SECTION SCALE 1:10



306 E **DECKING DETAIL CROSS SECTION**
SECTION SCALE 1:10

FOR TENDER

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DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

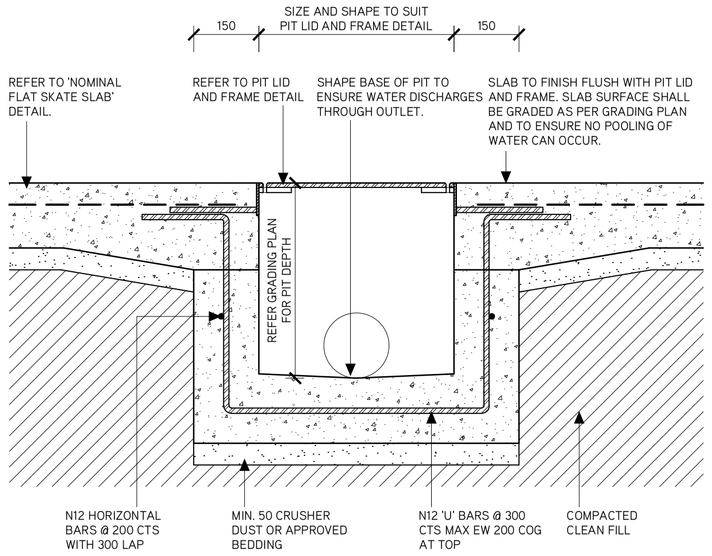
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

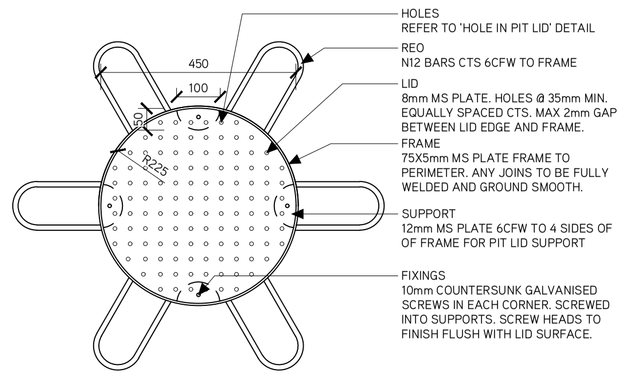
DRAWING TITLE
DETAILS 07

DRAWING NUMBER REV
20085_CD306 C

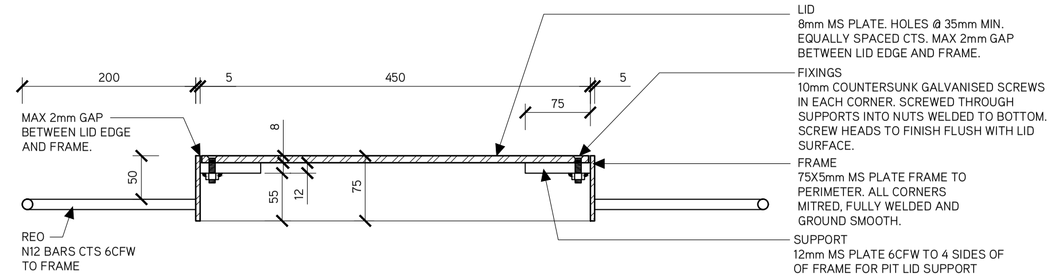
(Appendix ORD: 12.3.4B)



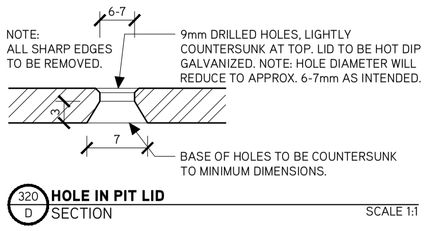
320 A **SKATEPARK PIT INSTALLATION**
SECTION
SCALE 1:10



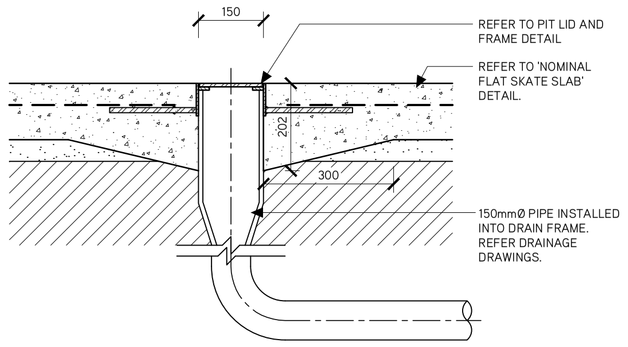
320 B **SKATE PIT LID AND FRAME**
PLAN
SCALE 1:10



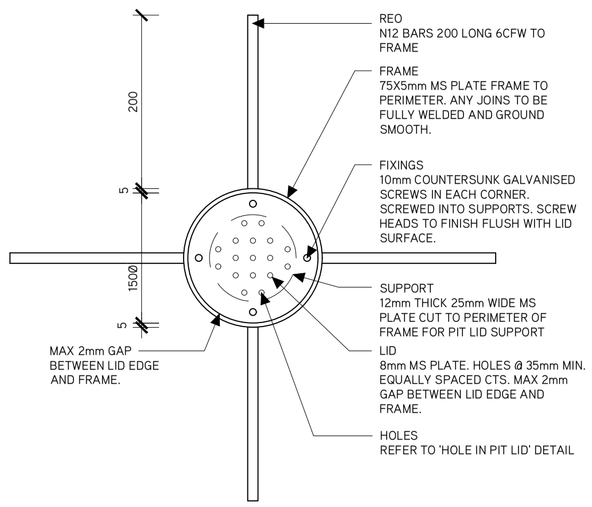
320 C **SKATE PIT LID AND FRAME**
SECTION
SCALE 1:5



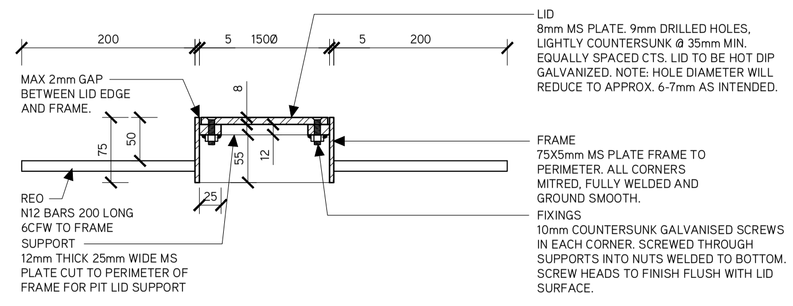
320 D **HOLE IN PIT LID**
SECTION
SCALE 1:1



320 E **POINT DRAIN DETAIL**
SECTION
SCALE 1:10



320 F **POINT DRAIN SKATE PIT LID**
PLAN
SCALE 1:5



320 G **POINT DRAIN SKATE PIT LID**
SECTION
SCALE 1:5

FOR TENDER

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CLIENT
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1 COUNCIL DRIVE
EATON WA 6232

DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
DRAINAGE DETAILS

DRAWING NUMBER
20085_CD320

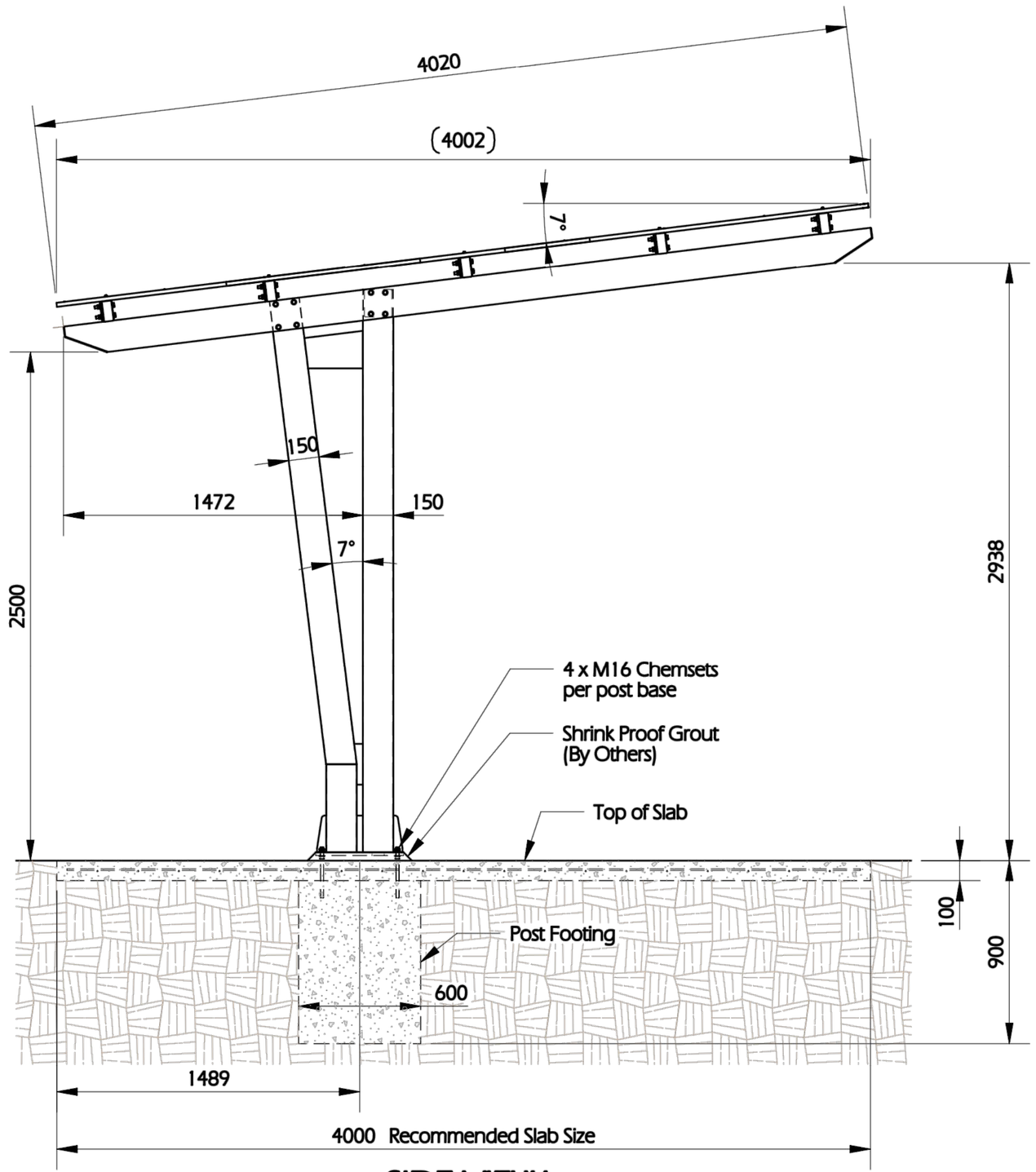
REV
C

(Appendix ORD: 12.3.4B)

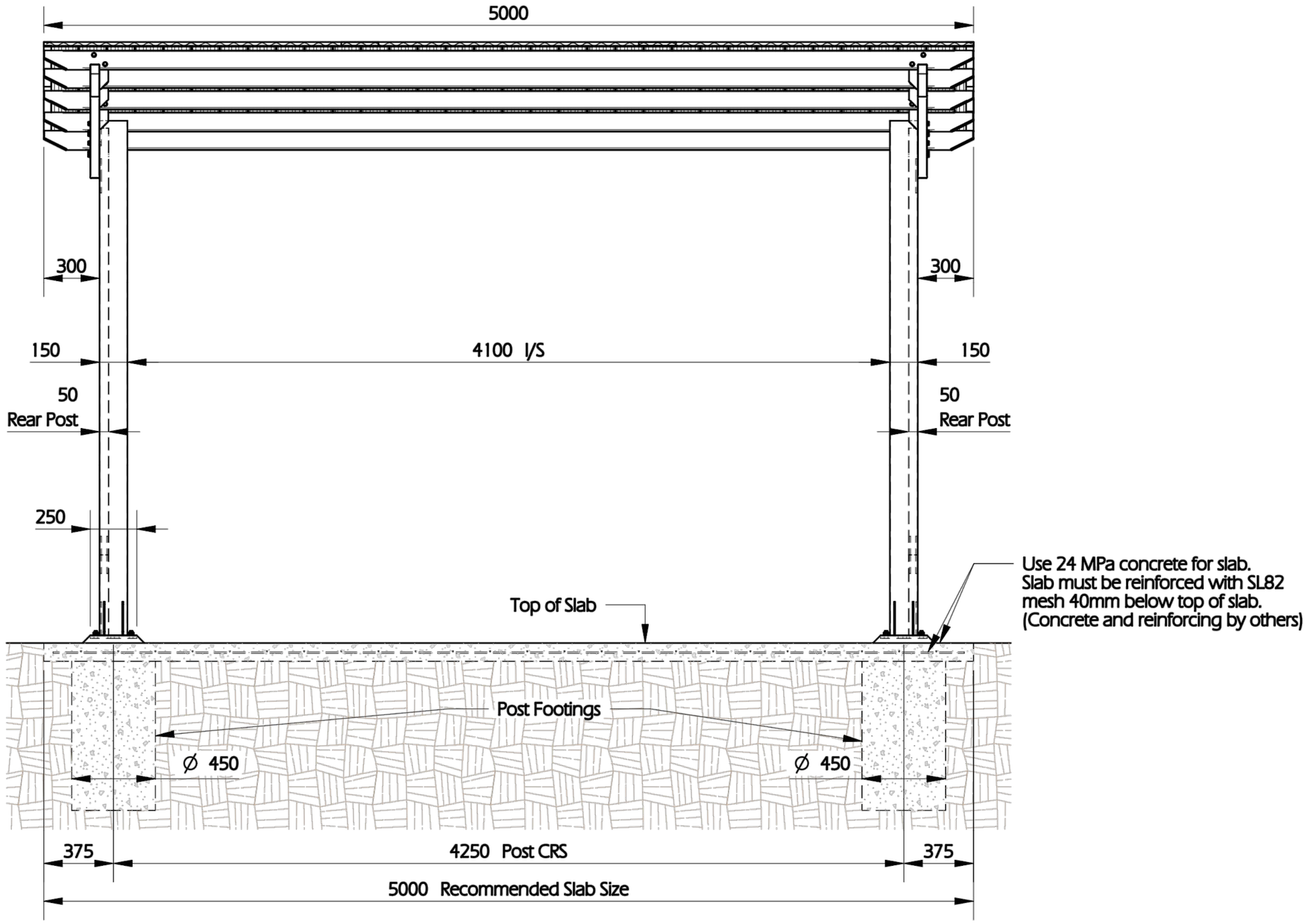
DRAWING No.: ACS-SM-DEL-006-PD

REVISION: 0

PICTORIAL VIEW



SIDE VIEW
SCALE: NTS



FRONT VIEW
SCALE: NTS

grillex together outdoors

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grillex.com.au

PROJECT:
AKORA CANTERLEVER SHELTER
PRODUCT DRAWING

DESCRIPTION:
5Lx4D SHELTER ASSEMBLY - SURFACE MOUNT DEL FINISH

ALL DIMENSIONS IN MM

LINEAR TOLERANCE: X ±1.0 X.X ±0.2
ANGULAR TOLERANCE: ALL ±1.0°

FOR TENDER

CONVIC
UNIT 13, 46-50 REGENT STREET
RICHMOND VIC 3121 AUSTRALIA
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CLIENT
SHIRE OF DARDANUP
1 COUNCIL DRIVE
EATON WA 6232

DRAWN: MP
CHECKED: AB
DIRECTOR: BH
SCALE: AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES
NORTH POINT

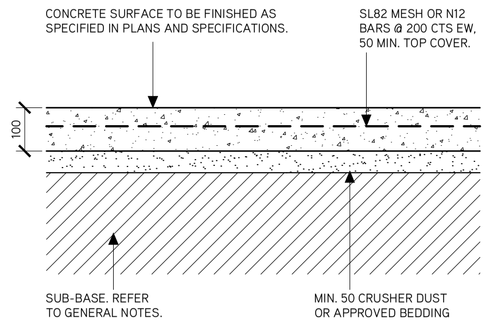
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

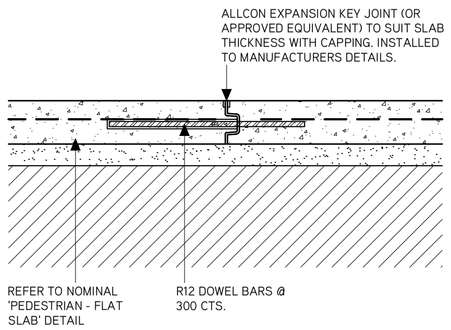
DRAWING TITLE
SHELTER DETAILS

DRAWING NUMBER: 20085_CD330
REV: C

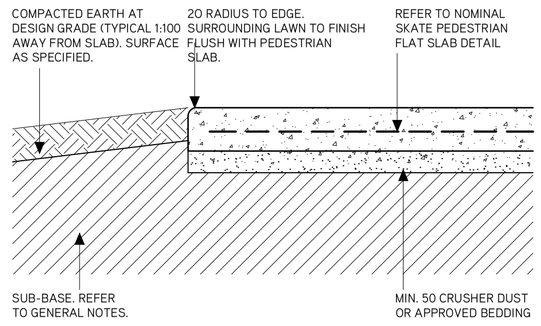
(Appendix ORD: 12.3.4B)



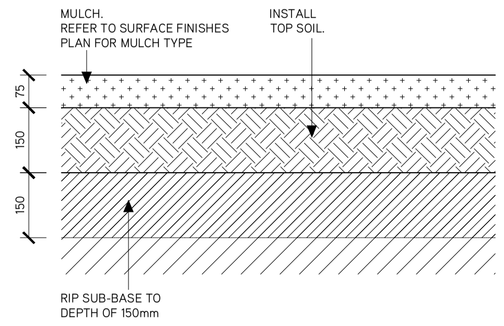
500 A **PEDESTRIAN - FLAT SLAB**
SECTION SCALE 1:10



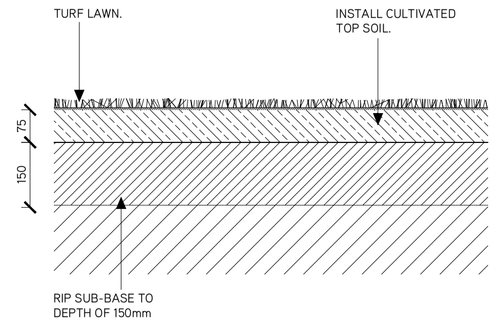
500 B **PEDESTRIAN - CONSTRUCTION JOINT**
SECTION SCALE 1:10



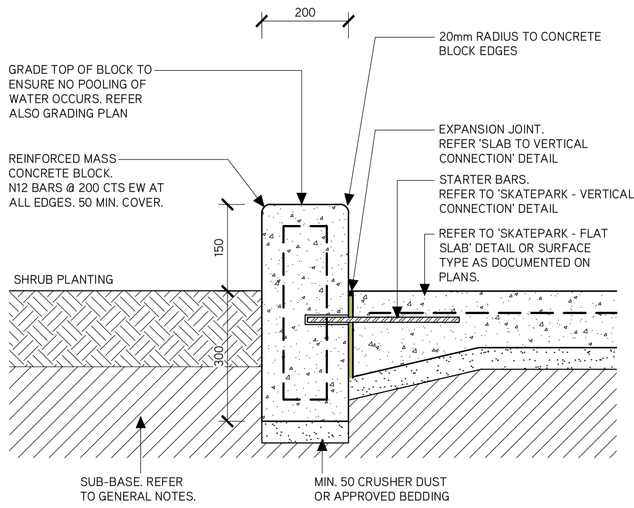
500 C **PEDESTRIAN - SLAB EDGE**
SECTION SCALE 1:10



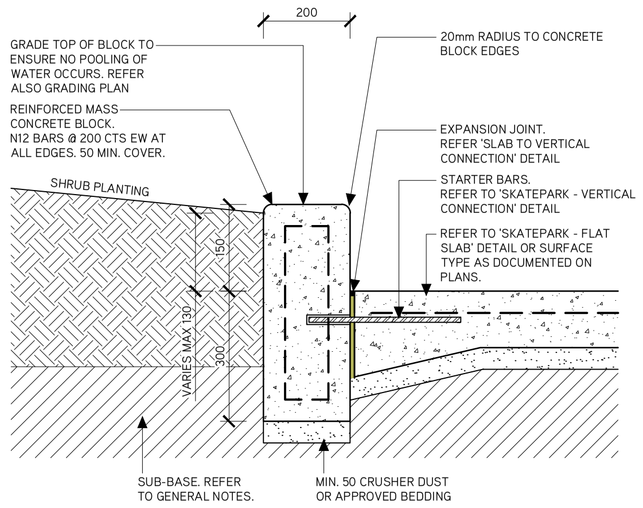
500 D **GARDEN BED MULCH DETAIL**
SECTION SCALE 1:10



500 E **TURF LAWN DETAIL**
SECTION SCALE 1:10



500 F **CONCRETE KERB**
SECTION SCALE 1:10



500 G **CONCRETE KERB TO RAISED PLANTER BED**
SECTION SCALE 1:10

FOR TENDER

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DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

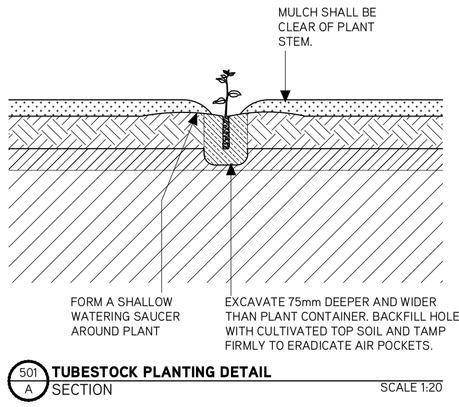
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

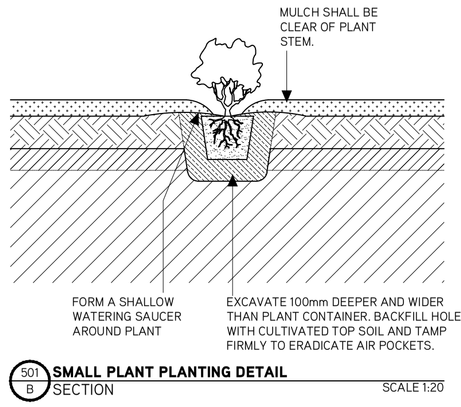
DRAWING TITLE
LANDSCAPE DETAILS 01

DRAWING NUMBER **20085_CD500** REV **C**

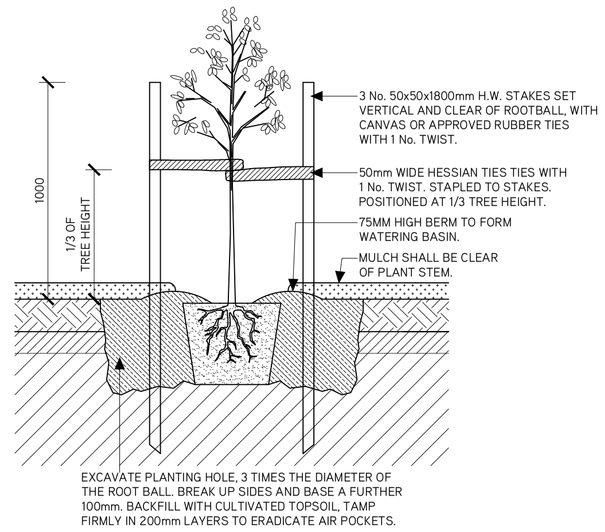
(Appendix ORD: 12.3.4B)



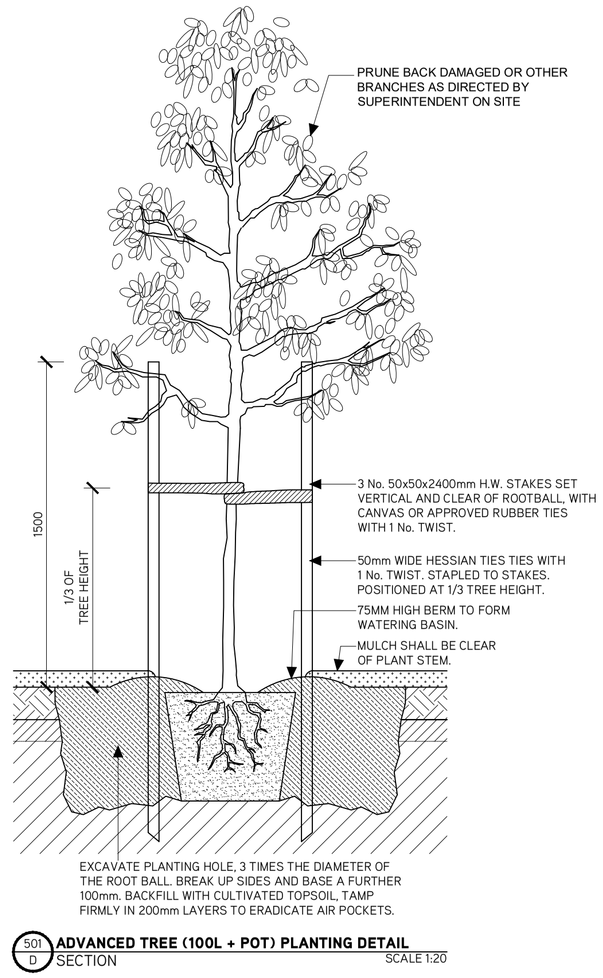
501 A **TUBESTOCK PLANTING DETAIL**
SECTION SCALE 1:20



501 B **SMALL PLANT PLANTING DETAIL**
SECTION SCALE 1:20



501 C **SEMI ADVANCED TREE (25L-45L POT) PLANTING DETAIL**
SECTION SCALE 1:20



501 D **ADVANCED TREE (100L + POT) PLANTING DETAIL**
SECTION SCALE 1:20

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DRAWN MP
CHECKED AB
DIRECTOR BH

SCALE
AS SHOWN
2 0 2 4 6 8 10
LENGTHS ARE IN METRES

NORTH POINT

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
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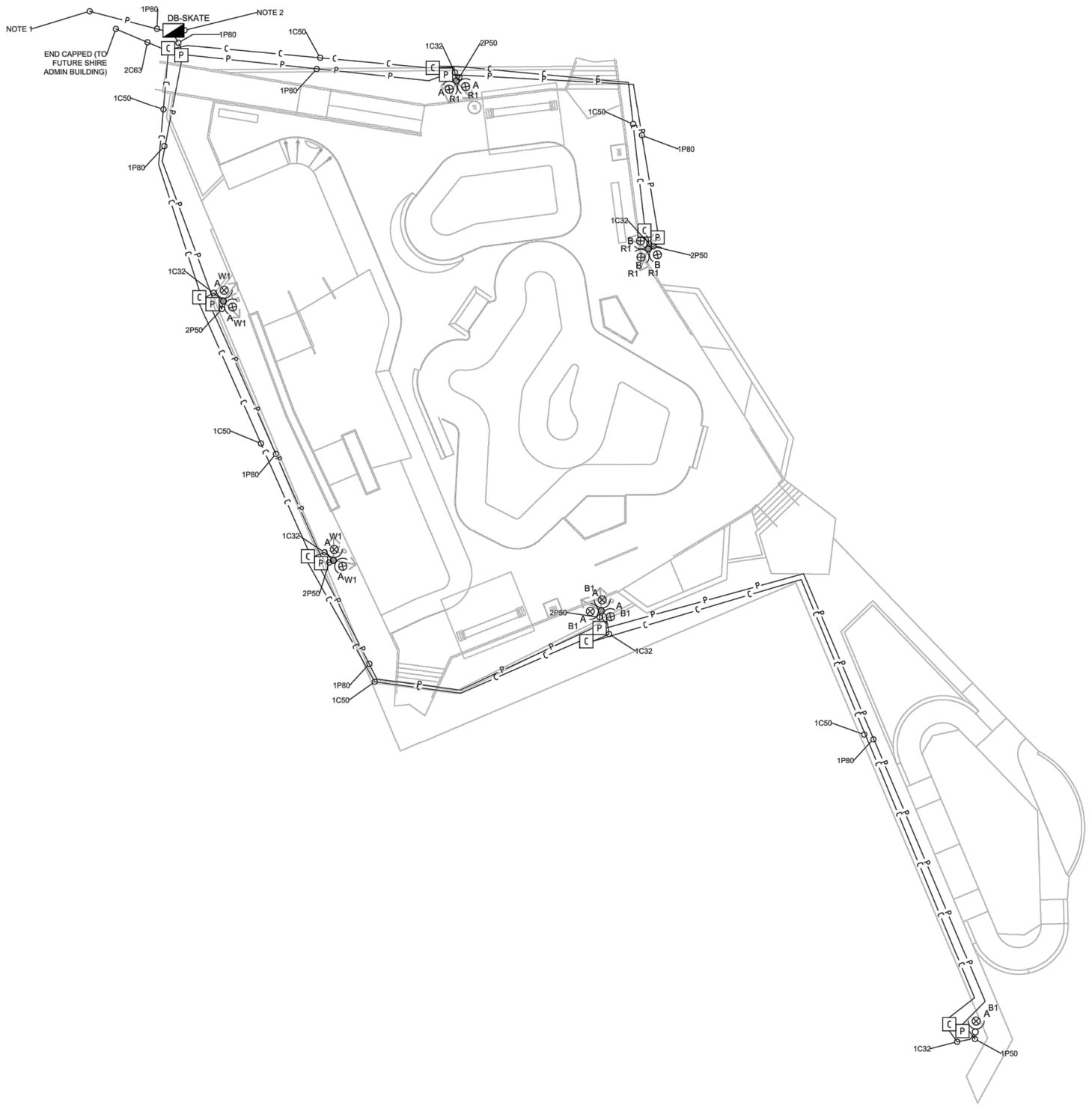
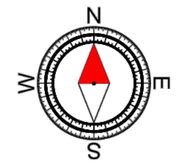
DRAWING TITLE
LANDSCAPE DETAILS 02

DRAWING NUMBER **20085_CD501** REV **C**

(Appendix ORD: 12.3.4B)





NOTES

1. REFER TO E202 FOR RETICULATION AND CONDUIT LAYOUT.
2. SUPPLY AND INSTALL TWO WEATHERPROOF GPO'S ON SIDE OF DB-SKATE IN LOCKABLE COVER BOX, KEYED TO CLIENT APPROVAL.

PRELIMINARY ISSUE
REFER TO REVISION COLUMN

REV	DETAILS	DATE	BY
C	PRELIMINARY ISSUE	18/02/21	EHK
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SHIRE OF DARDANUP

PROJECT TITLE
EATON SKATE PARK
COUNCIL DRIVE,
EATON

DRAWING TITLE
ELECTRICAL SERVICES
LIGHTING, COMMS & CONDUIT RETICULATION LAYOUT

DESIGN	D.K.	DATE	17/12/2020
DRAWN	E.H.K.	SCALE	1:200 (A1)

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CHECKED AB
DIRECTOR BH
SCALE
NORTH POINT

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B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
ELECTRICAL PLAN

DRAWING NUMBER
20085_CD014
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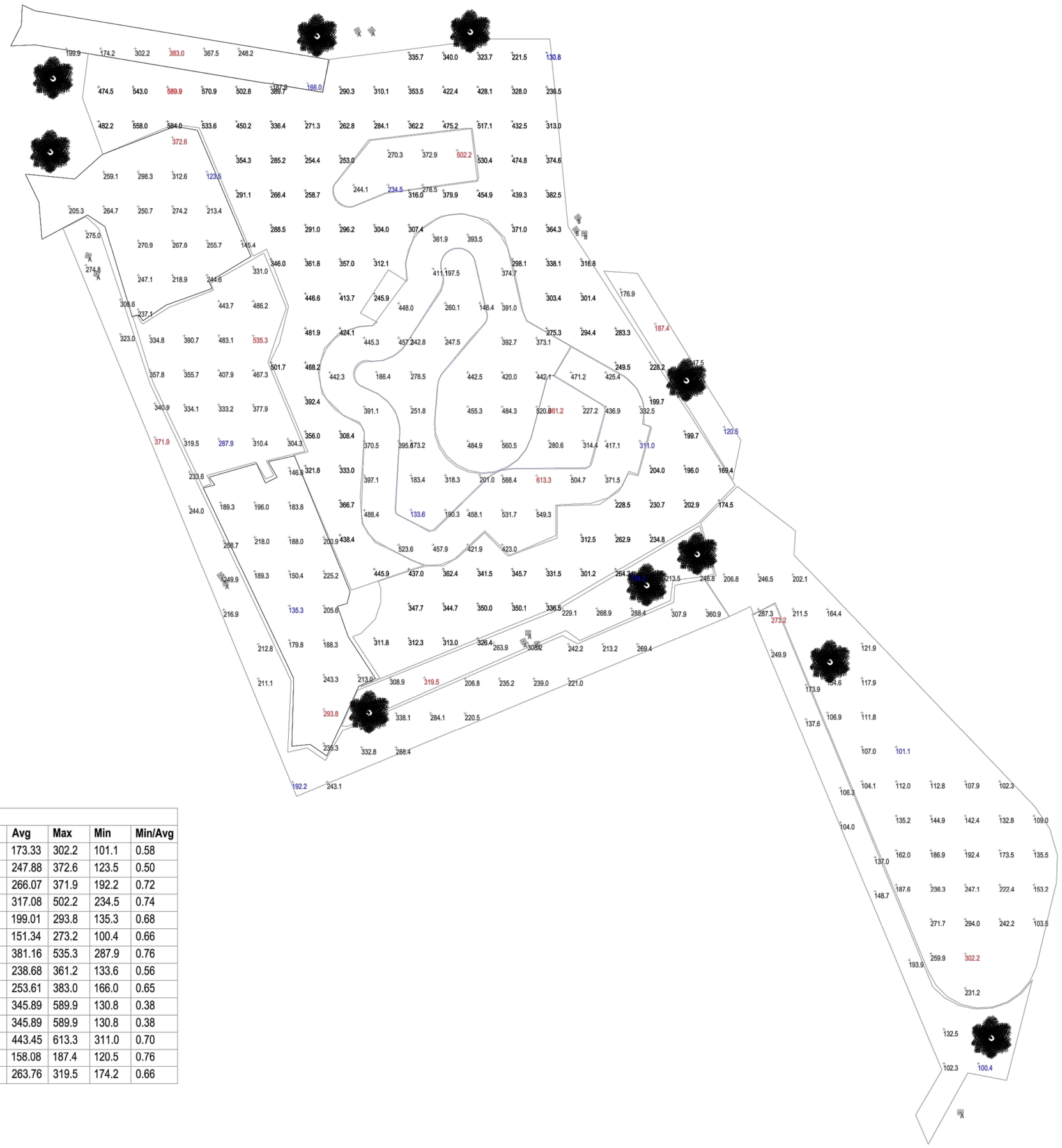
(Appendix ORD: 12.3.4B)



Calculation Summary					
Label	Units	Avg	Max	Min	Min/Avg
+10-5_Planar	Lux	173.33	302.2	101.1	0.58
+10-6-1_Top	Lux	247.88	372.6	123.5	0.50
+10-6-2_Planar	Lux	266.07	371.9	192.2	0.72
+10-6-3_Planar	Lux	317.08	502.2	234.5	0.74
+10-6_Top	Lux	199.01	293.8	135.3	0.68
+10-7_Planar	Lux	151.34	273.2	100.4	0.66
+10-8_Planar	Lux	381.16	535.3	287.9	0.76
+10_Planar	Lux	238.68	361.2	133.6	0.56
+11-050_Top	Lux	253.61	383.0	166.0	0.65
+11-5_Planar	Lux	345.89	589.9	130.8	0.38
+11-5_Planar_1	Lux	345.89	589.9	130.8	0.38
+11-9_Planar	Lux	443.45	613.3	311.0	0.70
+11_Planar	Lux	158.08	187.4	120.5	0.76
+11_Planar_1	Lux	263.76	319.5	174.2	0.66

Luminaire Schedule						
Label	Tag	Description	Total Lamp Lumens	LLF	Symbol	Qty
A	W03_GL75_700_4K_11B	629 WATT IP66 86000LM 40 DEGREE ASYMMETRIC FLOODLIGHT	85882.91	0.800		10
B	W02_GL42_700_4K_11B	358WATT IP66 490000 40 DEGREE ASYMMETRIC FLOODLIGHT	48713.16	0.800		3

N
W E
S

PRELIMINARY ISSUE
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REV	DETAILS	DATE	BY
B	PRELIMINARY ISSUE	21/01/21	EHK
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PROJECT TITLE
EATON SKATE PARK
COUNCIL DRIVE,
EATON

DRAWING TITLE
ELECTRICAL SERVICES
LIGHTING CALCULATION

DESIGN	D.K.	DATE	17/12/2020
DRAWN	E.H.K.	SCALE	N.T.S. (A1)

PROJECT NUMBER
P2020-050

DRAWING NUMBER E 201 | REV B

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DIRECTOR BH
SCALE
NORTH POINT

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PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
ELECTRICAL PLAN 02

DRAWING NUMBER 20085_CD702 REV C

(Appendix ORD: 12.3.4B)

LIGHTING SYMBOLS
(REFER TO LUMINAIRE SCHEDULE FOR FURTHER DETAILS)

RECESSED CIRCULAR PROFILE LUMINAIRE.

SPOTLIGHT OR FLOODLIGHT.

SWITCHING SYMBOLS

PE — PE CELL LOCATION

SECURITY SYMBOLS

CCTV — CLOSED CIRCUIT TELEVISION SYSTEM CONTROLLERS.

PTZ / F — CCTV DOME CAMERA:
PTZ - DENOTES POINT/TILT/ZOOM CAPABILITIES.
F - DENOTES FIXED.

VARIANTS

AFF	ABOVE FINISHED FLOOR
CCTV	CLOSED CIRCUIT TELEVISION
DGPO	DOUBLE SOCKET OUTLET
GPO	SINGLE SOCKET OUTLET
HL	HIGH LEVEL - ARCHITECT TO NOMINATE FINAL HEIGHT
UOS	UNLESS OTHERWISE SHOWN
WP	WEATHERPROOF DEVICE IP56 RATED.
(E)	EXISTING DEVICE TO REMAIN
(R)	EXISTING DEVICE TO BE REMOVED.
(R,R)	EXISTING DEVICE TO BE REMOVED & RELOCATED TO THE NEW POSITION.

NOTES

1. UNLESS OTHERWISE INDICATED ALL COLOURS OF LUMINAIRES MUST BE SELECTED BY THE SUPERINTENDENT PRIOR TO MANUFACTURE.
2. ALL LED LAMPS UNLESS OTHERWISE INDICATED SHALL BE 4000K.
3. ALL LOW VOLTAGE LAMPS SHALL BE COMPLETE WITH ELECTRONIC MOUSE TRANSFORMERS.
4. ALL PITS (ACO TYPE) LISTED SHALL HAVE LIDS FLUSH MOUNTED TO ADJACENT SURFACE FINISH, WITH A CONCRETE COVER SURROUNDING THE PIT. ALL PITS SHALL BE INSTALLED ON A 200mm BED OF BLUE METAL FOR EASY ACCESS OF DRAINAGE.
5. ALL POLES (BLACK POWDER COATED) SHALL BE BASE PLATE MOUNTED & BOLTED TO CONCRETE FOUNDATIONS. FOUNDATIONS SHALL BE SIZED AND CERTIFIED BY A PRACTISING STRUCTURAL ENGINEER TO SUIT THE WIND & SOIL CONDITION OF THE SITE. TOP OF POLE BASE PLATES TO BE 100mm BELOW FINISHED GROUND LEVEL FOLLOWING ERECTION. ALL METAL COMPONENTS BELOW GROUND INCLUDING BASE PLATE & HOLDING DOWN BOLTS SHALL BE COATED IN A BITUMINOUS COATING PRIOR TO BACK FILL. A SAND AND CEMENT MIXED SCREED SHALL BE INSTALLED BETWEEN THE TOP OF THE CONCRETE FOUNDATION & UNDERSIDE OF POLE BASE PLATE FOLLOWING ERECTION & LEVELLING OF POLES.
6. ALL EXTERNAL LUMINAIRE EXPOSED FIXINGS SHALL HAVE TOROX SNAKE EYE OR TOROX TAMPERPROOF 316 GRADE STAINLESS STEEL SECURITY SCREWS.
7. ALL SUSPENDED LUMINAIRES SHALL BE STAINLESS STEEL WIRE UNLESS OTHERWISE INDICATED.
8. ALLOW WITHIN THE TENDER FOR 2 OFF NIGHT AIMING TEST TO BE CONDUCTED AT TIMES NOMINATED BY THE SUPERINTENDENT. ALLOW FOR ALL MATERIALS AND LABOUR AS REQUIRED TO COMPLETE THE TESTING FOR LUMINAIRE TYPES.
9. REFER TO ARCHITECTURAL FIT OUT & WALL ELEVATION DRAWINGS FOR EXACT LOCATION FOR ALL EQUIPMENT PRIOR TO PROGRESSING WITH ANY INSTALLATION.

POWER SYMBOLS

SITE MAIN SWITCHBOARD.

SWITCHBOARD.
DB = DISTRIBUTION BOARD

POINT OF ATTACHMENT - ELECTRICAL
(LIAISE WITH WPC FOR EXACT REQUIREMENTS BEFORE INSTALLING ANY SERVICES)

DOUBLE GENERAL PURPOSE SOCKET OUTLET MOUNTED AT 300AFF UOS

P — UNDERGROUND POWER CONDUIT

T — UNDERGROUND COMMUNICATIONS CONDUIT

C — UNDERGROUND TELSTRA CONDUIT

CONDUITS
2P50
DENOTES SIZE
DENOTES SERVICE TYPE:
P - POWER
C - COMMUNICATIONS
S - SPARES
DENOTES No. OF CONDUITS

DENOTES CONDUIT CAPPED OFF UNDERGROUND

P — POWER PIT. FIBRE CONCRETE INDUSTRIES

T — TELSTRA PIT (TO TELSTRA REQUIREMENTS)

C — COMMUNICATIONS PIT.

COMMUNICATIONS SYMBOLS

COMMUNICATIONS RACK.

PABX.

SINGLE RJ45, COMMUNICATIONS SOCKET OUTLET MOUNTED AT 300AFF UOS.

MISCELLANEOUS SYMBOLS

ZONE DEMARCATION AREA

SINGLE LINE SYMBOLS

X/Y — CIRCUIT BREAKER X=AMPS, Y=# PHASES.

X/Y — COMBINED RCD / MCB (RCBO)
30mA RATED UNLESS NOTED OTHERWISE. X=AMPS, Y=# PHASES

MANUALLY OPERATED SWITCH

PUSH-BUTTON SWITCH MAKE CONTACT AND AUTOMATIC RETURN

PULL-SWITCH WITH MAKE CONTACT AND AUTOMATIC RETURN

TURN-SWITCH WITH MAKE CONTACT WITHOUT AUTOMATIC RETURN

OFF LOAD ISOLATOR

LOAD BREAK/FAULT MAKE ISOLATOR

A/B — HRC FUSE A = CARTRIDGE SIZE, B = HOLDER RATING

A — CONTACT NORMALLY OPEN A = RELAY OR CONTACT NUMBER

A — CONTACT NORMALLY CLOSED A = RELAY OR CONTACT NUMBER

THERMAL OVERLOAD CONTACT

EMERGENCY STOP

A — CURRENT TRANSFORMER A = No. OF PHASES

TERMINAL

SURGE DIVERTER

I > ϕ — DELAYED OVER-CURRENT RELAY WITH EARTH FAULT

TIME SWITCH. REFER TO THE SPECIFICATION FOR FURTHER DETAILS.

PHOTO ELECTRIC SWITCH. REFER TO THE SPECIFICATION FOR FURTHER DETAILS.

TRANSFORMER

C / No. — CONTACTOR COIL
No. = CONTACTOR NUMBER

R / No. — RELAY COIL
No. = RELAY NUMBER

T / No. — TIMER COIL
No. = TIMER NUMBER

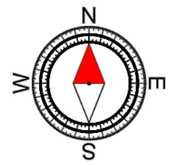
KWHR — kWH METER COMPLETE WITH FUSES.
WPC = WESTERN POWER METER

SINGLE PHASE LINE

THREE PHASE LINE

EARTH

Type	Luminaire Description	Manufacture / Model / Cat No	Picture of Luminaire	Lamp (Watts)	Lumen output	Lamp Colour (K)	IP rating	IK rating	CRI rating	Lifespan	Warranty	Ballast Type
A	40 DEGREE ASYMMETRIC FLOODLIGHT POLE MOUNTED @ 12 METRES (BLACK POWDER COATED POLE)	W03-GL75-700-4K-11B		629W	85882Lm	4000K	66	9	80	100000Hrs	5yrs	REMOTE ELECTRONIC
B	40 DEGREE ASYMMETRIC FLOODLIGHT POLE MOUNTED @ 12 METRES (BLACK POWDER COATED POLE)	W02-GL42-700-4K-11B		358W	48713Lm	4000K	66	9	80	10000Hrs	5yrs	REMOTE ELECTRONIC



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B	PRELIMINARY ISSUE	21/01/21	EHK
A	PRELIMINARY ISSUE	17/12/20	EHK

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PROJECT TITLE
EATON SKATE PARK
COUNCIL DRIVE,
EATON

DRAWING TITLE
ELECTRICAL SERVICES
LEGEND AND DETAILS

DESIGN	D.K.	DATE	17/12/2020
DRAWN	E.H.K.	SCALE	N.T.S. (A1)

PROJECT NUMBER
P2020-050

DRAWING NUMBER
E 000

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DRAWN MP
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NORTH POINT
CHECKED AB
DIRECTOR BH

C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
A	50% DRAFT ISSUE	23.12.20

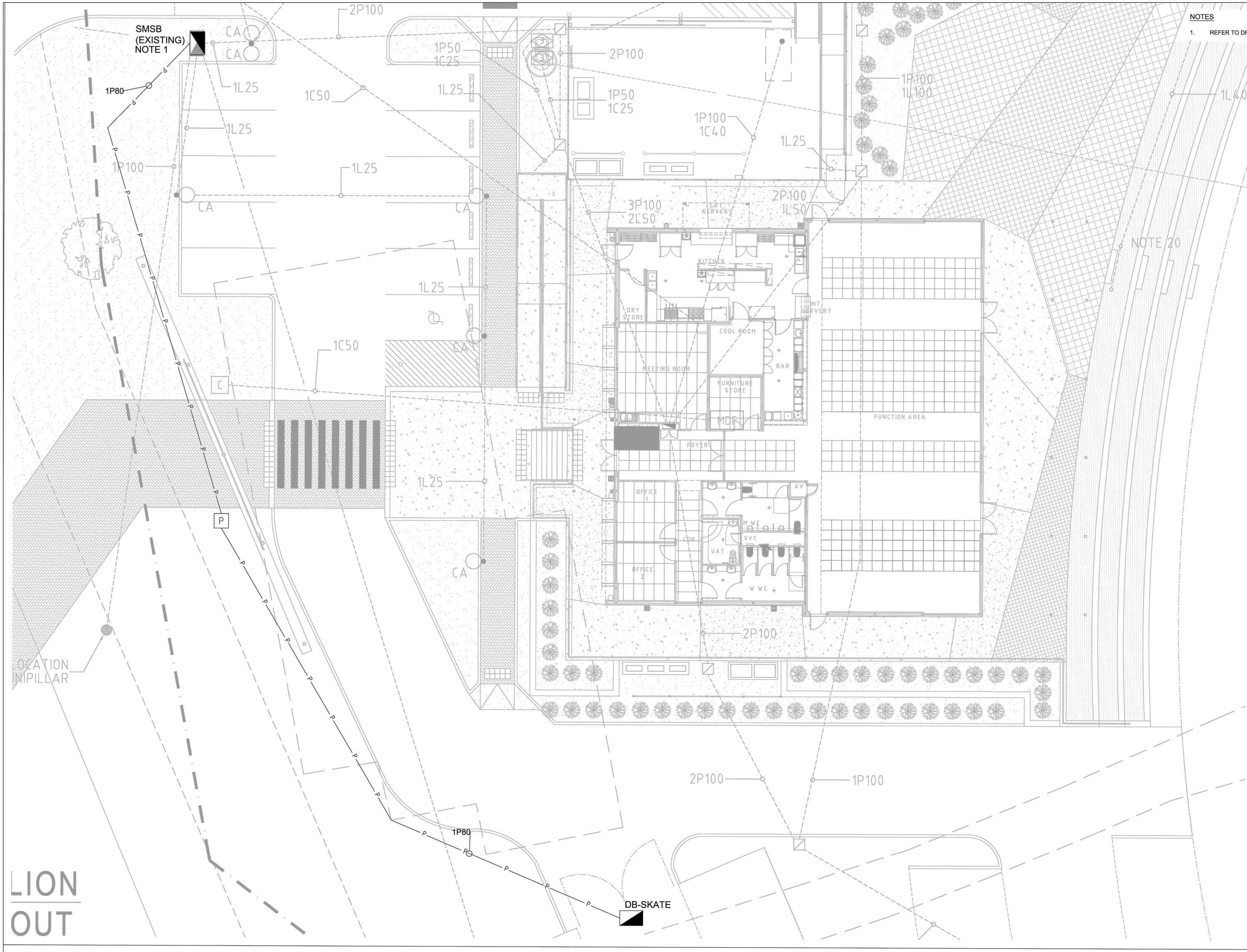
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
ELECTRICAL DETAILS 01

DRAWING NUMBER
20085_CD703

REV
C

(Appendix ORD: 12.3.4B)



NOTES

1. REFER TO DRAWING E203 FOR SMSB MODIFICATIONS.

PRELIMINARY ISSUE
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PROJECT TITLE
EATON SKATE PARK
COUNCIL DRIVE,
EATON

DRAWING TITLE
ELECTRICAL SERVICES
SITE RETICULATION LAYOUT

DESIGN	D.K.	DATE	17/12/2020
DRAWN	E.H.K.	SCALE	1:125 (A1)

PROJECT NUMBER
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E 202 | A

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REV	DESCRIPTION	DATE
C	FOR TENDER	19.02.21
B	85% DRAFT ISSUE	04.02.21
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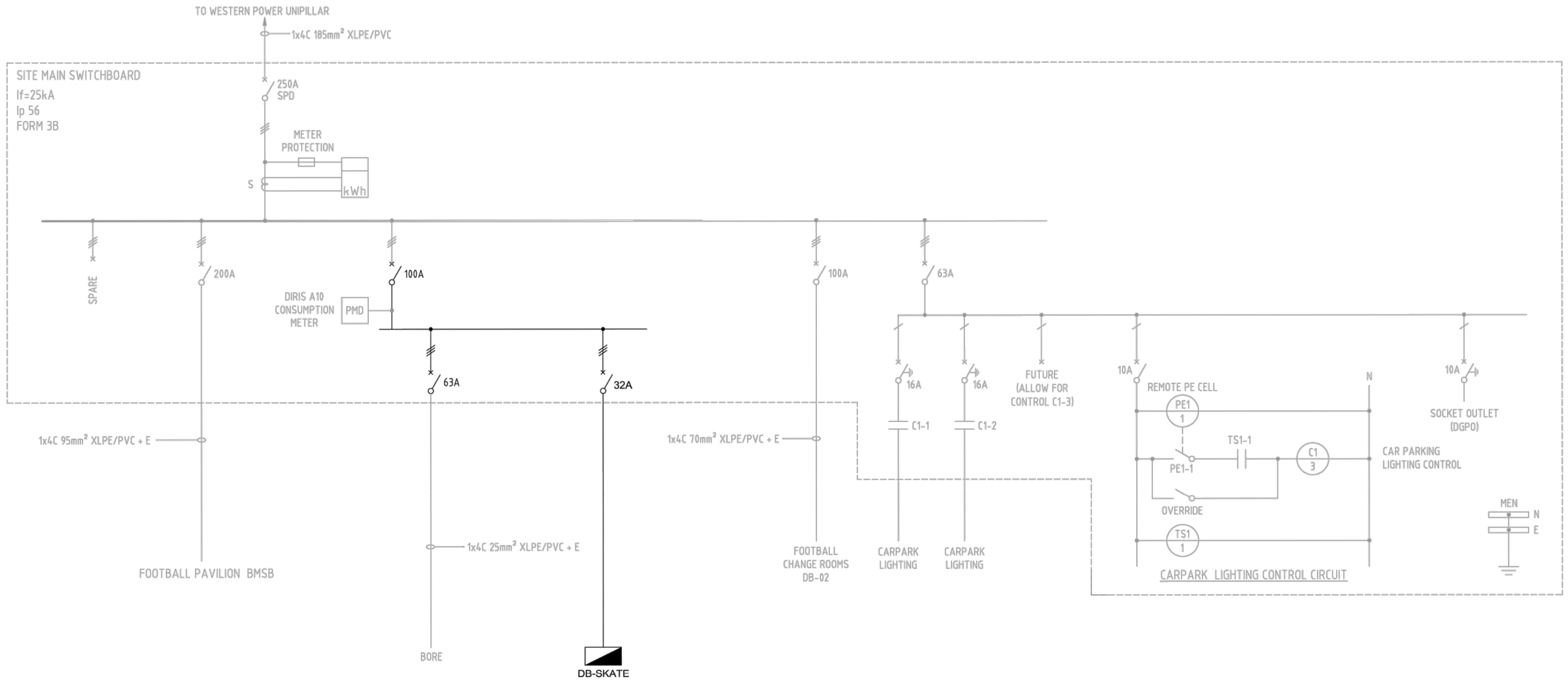
PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
ELECTRICAL DETAILS 02

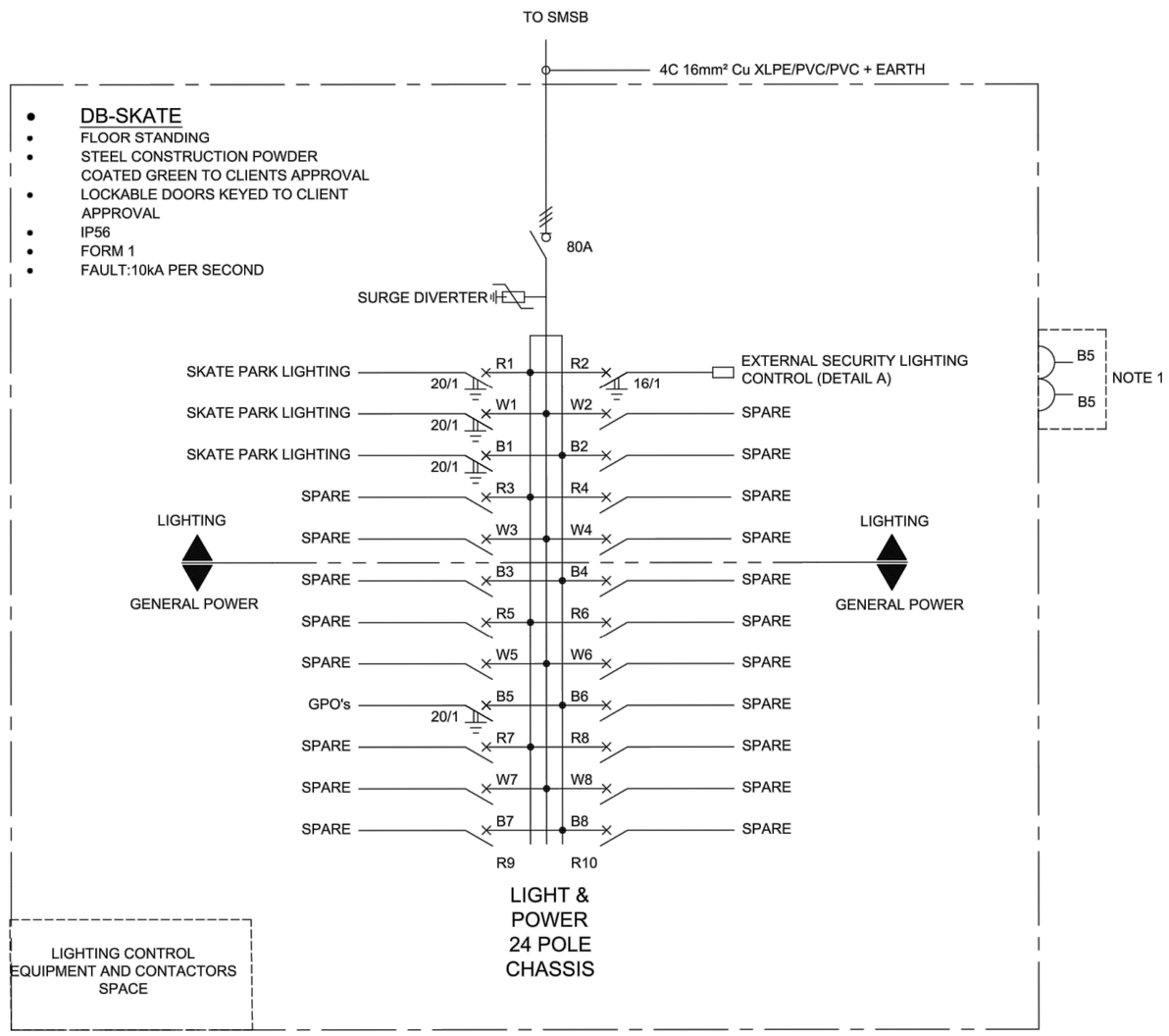
DRAWING NUMBER | REV
20085_CD704 C

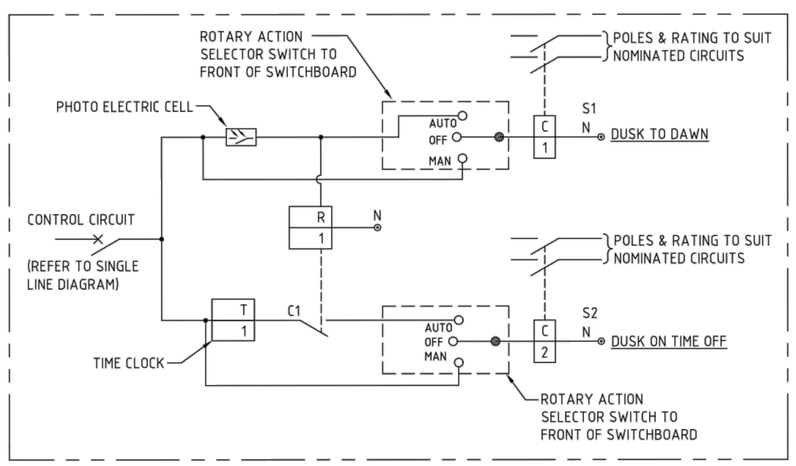
(Appendix ORD: 12.3.4B)



NOTES

1. SUPPLY AND INSTALL 2x WEATHERPROOF GPO'S (1200AFFL) ON SIDE OF DB-SKATE IN A LOCKABLE COVER BOX WITH DOOR (STEEL CONSTRUCTION POWDER COATED GREEN TO CLIENTS APPROVAL) AND KEYED TO CLIENT APPROVAL.





DETAIL A - TYPICAL SECURITY LIGHTING CONTROL DIAGRAM FOR DISTRIBUTION BOARD

NOTES

1. THE PE CELL SERVING CONTACTOR GROUP C1 SHALL BE A LEGRAND.
2. THE TIME CLOCK SERVING CONTACTOR GROUP C2 SHALL BE A LEGRAND '2 HOUR'.

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PROJECT TITLE
EATON SKATE PARK
COUNCIL DRIVE,
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DRAWING TITLE
ELECTRICAL SERVICES
EXISTING SMSB MODIFICATIONS AND DB-SKATE

DESIGN	D.K.	DATE	17/12/2020
DRAWN	E.H.K.	SCALE	N.T.S. (A1)

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CHECKED AB
DIRECTOR BH
SCALE
NORTH POINT

C	FOR TENDER	19.02.21
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PROJECT
EATON SKATE PARK
1 COUNCIL DRIVE

DRAWING TITLE
ELECTRICAL DETAILS 03

DRAWING NUMBER
20085_CD705

REV
C

(Appendix ORD: 12.3.4B)

EATON SKATE PARK

Technical Specification

Document No: 20085_TS

Revision: A

Ref: 20085

Prepared by: MP

Revision History:

Revision	Date	Details	Authorised	
			Name / Position	Signature
A	22.02.21	For Tender	MP / Senior Designer	

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CONTENTS

1. DEMOLITION

1.1. GENERAL

This section of the specification covers demolition to allow the installation of new works.

1.2. STANDARDS

Comply with the following:

- AS 2436 Guide to noise control on construction, maintenance and demolition sites.
- AS 2601 The demolition of structures.

1.3. SUBMISSIONS, TESTS AND INSPECTIONS

1.3.1. Submissions

The Contractor must submit the following for approval before proceeding with further works:

- If any demolition is proposed that is not nominated on drawings, submit a report requesting permission for approval prior to undertaking the works.
- For any items nominated to be removed and salvaged the contractor shall submit a report detailing proposed method of removal, timing and delivery for approval.
- For any items damaged during demolition, submit a report detailing proposed methodology to repair for approval.

1.3.2. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Site and adjacent site features prior to commencement of works.
- Site and adjacent site features after removal of demolished materials.

1.4. REQUIREMENTS

1.4.1. Generally

Carry out site preparation and demolition in an orderly manner, removing material and cleaning up progressively.

Unless noted otherwise, all existing site features shall be retained and protected throughout construction. Except for materials to be salvaged for re-use or possession, demolished materials shall become the property of the Contractor and shall be removed from the site to be disposed of legally.

1.4.2. Execution

Carry out site preparation and demolition in an orderly manner, removing material and cleaning up progressively.

Preserve, protect, structurally support and retain any existing site features to be retained.

Where sections of existing site features are to be part demolished, ensure edges of items to be retained are demolished neatly and made good.

2. EARTHWORKS

2.1. GENERAL

This section of the specification covers the excavation of existing material, sub-grade preparation and installation of new material to meet proposed design levels. This section should be read in conjunction with the drawings and the geotechnical report.

2.1.1. Site Scrape

Site scrape area of proposed works to allow installation of new works.

2.1.2. Excavation

Excavate existing material to allow installation of new works at the documented design levels.

2.1.3. Fill

Install compacted fill to required bearing capacity to allow installation of new works at the documented design levels.

2.2. STANDARDS

Comply with the following:

- AS 3798 Guidelines on earthworks for commercial and residential developments

2.3. SUBMISSIONS, TESTS AND INSPECTIONS

2.3.1. Submissions

The Contractor must submit the following for approval before proceeding with further works:

- Test results – Bearing Capacity

2.3.2. Test – Bearing Capacity

Submit test result to verify that specified minimum bearing capacity requirements are met.

2.3.3. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Areas to be cleared and/or stripped of topsoil.
- Areas stripped of topsoil.
- Excavation completed to contract levels or founding material.
- Identification and treatment of unsuitable/excluded material.
- Proof roll subgrade or subgrade replacement before placing fill
- Filling completed to contract levels.
- Re-presentation of subgrade or founding surface following failed inspection or deterioration.
- Stockpiled topsoil before spreading.
- Following construction of all earthworks including, mounding, embankments, swales and making good existing ground surface.

2.4. REQUIREMENTS

2.4.1. Generally

Carry out all earthworks in accordance with relevant Australian Standards to allow installation of new works. Construct all mounding, swales and topography as per design to tie new facility into existing surface levels. Finished surface levels shall ensure free drainage and run off of all surface water.

2.4.2. Existing Services

Service locations provided in the drawings are indicative only. The Contractor is to locate disused and existing services prior to commencing any excavation on site. Site Scrape

Area of proposed cut, fill, pavements, embankments and new works shall be scraped of all top soil, organic and deleterious material. If the existing top soil is to be reused, stockpile clean material free from weeds, debris and contamination in approved location.

2.4.3. Excavation

Excavate existing site material to conform to the finished levels and profiles indicated on the drawings as the basis for structures, pavements, filling and landscaping. Excavate for footings, pits, services, wells and shafts, to the required sizes and depths. Confirm that the foundation conditions meet the design bearing capacity. Where filling is required, all approved available clean site fill shall be used before clean imported fill is brought on to site.

Do not use explosives for excavating any material, including rock. If excavation is required within the zone of influence, use methods including (temporary) shoring or underpinning which maintain the support of the footing and ensure that the structure and finishes supported by the footing are not damaged.

Allow for excavating in whatever type of material is encountered. Do not use explosives for excavation purposes. Make good the extra dimensions with approved material for over excavations at no cost to the Principal.

Excavate for all drains, sumps, units, service lines conduits etc., as necessary to complete the works. Excavations are to provide falls to points of discharge where so required. Trenches are to be kept clear of buildings and paths.

Existing clean excavated material which meets requirements may be utilised as fill material unless noted otherwise in geotechnical report. Utilise available existing fill before using imported fill. Fill material shall be clean free of organic material and debris, compactable and fit for purpose. If the existing material is to be reused, stockpile in approved location for reuse.

2.4.4. Fill

Provide suitable material that is to AS 3798 clause 4.4. Ensure that all subgrade fill material is clean, free of organic matter, rubbish and debris. Do not provide filling with sulphur content exceeding 0.5 % within 500 mm of cement bound elements (for example concrete structures or masonry) unless such elements are protected by impermeable membranes or equivalent means. Do not use rocks or hard lumps of material greater than 75mm in the upper 200mm of the fill. Evenly spread the fill material in horizontal layers no more than 200mm thick and compact each layer to 95% Standard Maximum Dry Densities (at depths below formation levels).

A water cart and an appropriate roller is to be used to ensure specified compaction requirements. Before placing subsequent fill layers, ensure that previously accepted layers still conform to requirements. Protect existing site features from damage due to compaction operations. Where necessary, limit the size of compaction equipment or compact by hand. Commence compacting each layer at the structure and proceed away from it. Prevent fill material from escaping beyond the embankment slope limits by erecting approved barriers of rock, boulder or earth. Partially completed structures are vulnerable to damage during compaction. Do not disturb or damage the protective covering of membranes during backfilling.

Engage a NATA registered laboratory to carry out field dry density tests on the compacted material under concrete areas before the concrete is laid. Notify the Superintendent of any tests that do not

conform to the compaction density requirements. All testing shall be in accordance with AS 1289 Methods of Testing Soil for Engineering Purposes.

Where required cut-out, refill, re-compact and re-test areas of compacted fill which do not achieve the required density under test.

Separate the earth and rock material and stockpile in a preapproved location, for reuse in backfilling operations. Do not stockpile excavated material against tree trunks, buildings, fences or obstruct the free flow of water along gutters where stockpiling is permitted along the line of the trench excavation.

Throughout construction keep excavated, levelled and filled areas free of water by temporary catch drains, sumps, pumping, bailing or whatever means are suitable and effective. Immediately before placing concrete or masonry on ground, remove all free water and foreign matter and prevent any water flow over freshly laid work.

2.4.5. Topsoil

Retain and stockpile top soil on site for reuse that contains organic matter, supports plant life, conforms generally to the fine to medium texture classification to AS 4419 (loam, silt, clay loam) and is free from:

- Stones > 25 mm diameter.
- Clay lumps > 75 mm diameter.
- Weeds and tree roots.
- Sticks and rubbish.
- Material toxic to plants.

Stockpiled topsoil should not exceed a maximum height of 1.5 m and should be marked to identify stockpiles of different soil types. Do not burn off or remove plant growth that may occur during storage and provide drainage and erosion protection. Do not allow traffic on stockpiles. If a stockpile is to remain for more than four weeks, sow with temporary grass and protect against contamination by other excavated material, weeds and building debris.

2.4.6. Existing Trees

No growing trees and/or shrubs shall be destroyed or damaged by the contractor other than those specified or directed to be cleared. The Superintendent may inspect the site and determine whether any trees and/or shrubs in the area specified to be cleared are of an ornamental; nature. The Superintendent will mark or otherwise indicate to the contractor those trees and/or shrubs which he desires to be preserved for ornamental or other reasons, and the contractor shall take particular care during the operations of clearing not to remove and/or damage such trees and/or shrubs.

Trees and/or shrubs to be retained are to be adequately protected at all times and particular care shall be taken to avoid any damage to the roots, trunks and branches.

If necessary for this purpose, equipment shall be kept clear of trees and/or shrubs and hand methods of excavation shall be adopted to avoid damage.

All costs necessary to adequately protect trees and/or shrubs over the period of the contract shall be included in the contract sum.

ROOTS

Before any excavation is carried out over the roots of trees and/or shrubs to be retained, the contractor shall obtain a direction from the Superintendent as to whether the levels in the vicinity of the tree can be adjusted to protect the roots. Roots shall not be ripped out.

When any excavation is required in the vicinity of trees to be retained, hand excavation first shall be made to locate any roots. Roots that are then seen to be affected by the line of the proposed work shall be cleanly severed clear of the work before the machine excavation commences.

TRUNKS

If considered necessary, the Superintendent may direct the contractor to protect the trees marked to be retained. This protection shall be given by lashing pine or other suitable off-cuts upright around the trunks, leaving gaps of no more than 150 mm.

The off-cuts shall be 1.5 m high and shall extend down to ground level so as to protect the boles. The flat side of the off-cuts shall face outwards and, if necessary, shall be painted white.

BRANCHES

Where branches of trees marked to be retained protrude into the working area so that these cannot be avoided, arrangement shall be made, on approval by the Superintendent, for their removal by the contractor.

If, in the opinion of the Superintendent, any tree or shrub to be preserved contains branches which are dangerous, such branches shall be removed and disposed of as provided in this Specification.

DAMAGE TO TRUNKS

Where the trunks of trees are slightly damaged by equipment in lieu of replacement, the Superintendent may direct the contractor to effectively cover the damaged portion of the trunk with an approved bituminous paint. The contractor, at their own cost, shall carry out this work in a satisfactory manner within forty-eight hours of being so directed by the Superintendent.

3. DRAINAGE AND PLUMBING

3.1. GENERAL

Drainage and plumbing works shall include all work and supply of all materials for the excavation and trimming of trenches, bedding, laying of pipes, pits and covers associated with the landscape drainage, new stormwater pipework, within the site as specified and shown on the Drawings.

Connect new stormwater lines to the existing stormwater system. Arrange for inspection of the works by the Superintendent. The work described in this section of the Specification shall be carried to the satisfaction of the Superintendent.

Contractor is to keep a record of all drainage work during construction so that "Work as Executed" drawings can be prepared upon Practical Completion if so required.

All excavation work carried out must comply with WHS Regs 304, 305, 306 and SafeWork code of practice for Excavation Work.

3.2. STANDARDS

Comply with the following:

- AS 3500 Plumbing and Drainage

3.3. SUBMISSIONS, TESTS AND INSPECTIONS

3.3.1. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Excavated surfaces before placing pipe bedding material.
- Pipe joints before covering.
- Upon completion.

3.4. REQUIREMENTS

3.4.1. Generally

Provide drainage infrastructure as per documentation to allow free drainage or water, prevent ponding and discharge or disperse water as documented.

3.4.2. Sub Soil Drainage

Unless otherwise specified, subsoil drainage shall be laid in a 300mm wide trench with a varying depth, minimum 300mm below finished level, falling at 1:100. Refer to drawings.

Install inspection / flush out points for subsoil drains in locations nominated on drawings. Inspection point covers to be cast iron with a rigid PVC stem located at the high point of the subsoil drain pipe.

Connect the lowest end of the subsoil drainage line to the stormwater pit. The bottom of the subsoil drainage line is to be min 50mm higher than the bottom of the outlet pipe from the pit. Seal around the drainage line to prevent aggregate or soil from entering the pit.

3.4.3. Landscape Stormwater Inlet Pit

Unless otherwise specified, stormwater inlet pits in landscape area shall be nominal 450 x 450mm proprietary plastic pits to depth documented on drawings. Unless otherwise specified, lids shall be galvanised steel lids to fit installed pit. Pits and lids shall be installed to allow for the capture and discharge of surface drainage and prevent pooling of water.

3.4.4. 'Skate Park Area' Stormwater Inlet Pit

Unless otherwise specified, 'Skate Park Area' stormwater inlet pits shall be nominal 450 x 450mm 32Mpa reinforced in-situ concrete. Speacialist inlet shall be fabricated and installed as detailed. Is it critical to the safety and functionality of the 'Skate Park Area' that lids are fabricated and installed to the detail, size and dimensions shown on drawings.

3.4.5. Stormwater Drainage Pipe

Unless otherwise specified, drainage pipe shall be 150 mm diameter UPVC pipe.

Provide drainage pipe connections from pits to nominated point of discharge. All pit and pipework construction including excavations, compaction, placing, sealing, backfilling and testing shall be carried out in accordance with relevant standards

3.4.6. Grassed Swales

Form swales to areas as shown on the drawings, prior to spreading topsoil. Evenly grade swales to terminate at locations and levels shown on plan when topsoil has been added on top of subsoil preparation. Ensure water will flow freely and discharge and pooling of water will not occur.

3.4.7. Drinking Water Supply

New plumbing and fixtures are to be connected to water supply system. Excavation as necessary is to be carried out, to locate and expose the connection point. On completion surfaces and elements which have been disturbed such as lawns, pavements and landscaping shall be reinstated. Rainwater tank(s) provided by the Owner shall be connected where applicable and if required.

Pipe work shall be installed in straight lines and uniform grades. Pipe work is to be arranged and supported so that it remains free from vibration, whilst permitting thermal movement. The number of joints is to be kept to a minimum. Direct contact between incompatible metals is to be prevented.

4. CONCRETE

4.1. GENERAL

This section of specification covers insitu concrete works.

This includes (but not limited to) the supply, installation, finishing and curing of concrete, formwork, reinforcing, footings, pavement, wall and blocks to the design requirements and details as documented on drawings.

4.1.1. Form Work

Provide suitable rigid formwork required to achieve the designed concrete finish.

4.1.2. Reinforcing

Supply and install all reinforcing steel complying with relevant Australian Standards and as documented on drawings.

4.1.3. Skate Area and Pedestrian Area

Supply and install areas nominated on drawings as 'Skate Area' and 'Pedestrian Area' strictly to the documented tolerances to ensure the designed functionality and safety is achieved. This includes all platforms, bases, ramps, transitions, kerbs, obstacles, stairs and features.

4.1.4. Walls and Blocks

Supply and install formed walls and blocks as documented.

4.2. STANDARDS

Comply with the following:

- AS 1012 Methods of testing concrete
- AS 1302 Steel reinforcing bars for concrete
- AS 1303 Steel reinforcing wire for concrete
- AS 1304 Welded wire reinforcing fabric for concrete
- AS 1379 Specification and supply of concrete
- AS 1478 Chemical admixtures for concrete
- AS 2350 Methods for testing Portland and blended cements
- AS 2758.1 Aggregates and rock for engineering purposes
- AS 2870 Residential slabs and footings
- AS 3600 Concrete structures
- AS 3610 Formwork for concrete
- AS 3799 Liquid membrane-forming cuing compounds for concrete
- AS 3972 General purpose and blended cements
- AS 4671 Steel reinforcing Materials
- AS 6669 Plywood Formwork

4.3. SUBMISSIONS, TESTS AND INSPECTIONS

4.3.1. Submissions

The Contractor must submit the following for approval before proceeding with further works:

- Plan detailing proposed areas, location, size and details of 'Skate Area Sample Panel'.
- Coloured Concrete samples for integral mixed pigments
- Report detailing any variance from concrete joint plan.
- Report detailing any variance from documented reinforcement.

- Report detailing curing methodology of concrete if placing concrete outside of acceptable ambient temperature range.
- Test results – Concrete Strength

4.3.2. Tests – Concrete Strength

Take 1 sample every 20m3 of concrete used. Ensure a minimum of 2 samples are taken from each of the following feature types:

- Pathways
- Ramps (including Flat banks or quarter pipes)
- Platforms
- Base Slabs
- Blocks (including ledges, seats or stairs)

Submit test result to verify that specified minimum strength characteristics are met. Sample the concrete on site, after mixing and before site handling to Australian Standard AS 1012.

The average strength of all samples must exceed the required value documented and the strength of any one sample must be at least 0.85 of the required value.

The testing authority must be the concrete supplier or a NATA registered laboratory. Site cure all test cylinders for early age testing. Cure by the same method as the construction element and leave test cylinders on site until the morning of the test. Provide certification to the Superintendent to prove compliance. If the slump test fails, take a secondary test to confirm failure. If both tests fail the concrete batch shall be rejected.

4.3.3. Inspections - General

Where building permit is required, give notice to the Superintendent so that all required inspections for the building permit can be made. This may include but not limited to the following:

- Base, subgrade or excavated earth before covering
- Completed formwork, reinforcement, fixings and embedments fixed in place

4.3.4. Inspections – Skate Area Sample Panels

It is critical that the concrete finishes meet the tolerances specified in the 'concrete finishing' section of specification and are to the dimensions set out on the drawings. The 'Skate Area Sample Panels' are required for the purpose of demonstrating that the Contractor has the ability to achieve the nominated design intent and finishes that are critical to the functionality and safety of the skatepark. If the sample panels are constructed outside of the nominated dimensions and tolerances, they shall be demolished and reconstructed until they meet the nominated requirements at the Contractors expense.

Construct the following test items for inspection and approval by the Superintendent:

Test Item	Area
One curved quarter pipe panel incorporating the coping	Minimum 2.5m length, full height of quarter pipe
One flat bank	Minimum 2.5m length, full height of flat bank

Test Item	Area
One curved quarter pipe panel incorporating the coping	Minimum 2.5m length, full height of quarter pipe
One blend zone	Full length blend zone between two defined profiles, full height of blended area.
One flat concrete platform slab adjacent to the quarter pipe incorporating the coping	Minimum 3x3m
One saw cut joint	Minimum 3m long
Construction joint at toe of ramp (between ramp slab and base slab)	Minimum 3m long

Acceptance will be subject to achieving the tolerances and surface finished specified. Do not proceed with construction of similar works items until the test items have been approved by the Superintendent. If approved, the test item can be incorporated into the permanent works and construction of the remaining similar items can proceed.

The Contractor shall provide a suitable measuring tool that shall be approved by the Superintendent in writing that enables the checking of desired radii and surface tolerances of concrete surfaces to ensure tolerances are met. Testing shall be undertaken as requested by the Superintendent to ensure tolerances are met.

4.4. REQUIREMENTS

4.4.1. Generally

The methodology for timing, supply, placement, finish and curing of concrete is the contractor's responsibility and shall be carried out to suitably achieve the documented strengths, dimensions, finishes, tolerances and loading.

All concrete shall accommodate loads imposed by pedestrians, skatepark traffic, small maintenance and delivery vehicles without damage and abrasion.

All concrete surfaces shall be graded evenly to ensure a free draining surface is achieved and no pooling of water will occur.

SKATE AREA

Skate area is designed to strict critical tight tolerances to ensure the safe use and functionality of the facility. Non-conformance with these tolerances will require rectification at the contractor's expense.

4.4.2. Form Work

The design of the formwork is the contractor's responsibility and shall be carried out to suitably achieve the documented dimensions, surface quality, finished concrete tolerances and required loading.

Fix embedments through formwork to prevent movement, or loss of slurry or concrete, during concrete placement. Before placing reinforcement, apply a release agent to form linings and facings. If steel linings are used, clean off any rust and apply rust inhibiting agent prior to reuse. For concrete of surface finish classes 1, 2 or 3, set out the formwork to give a regular arrangement of panels, joints, bolt holes, and similar visible elements in the formed surface.

Before placing concrete, remove free water, dust, debris and stains from the forms and the formed space. Formwork joints are to be sealed consistent with the surface finish class.

If 'starter' or other bars project beyond reinforcement mats or cages, through formwork or from cast concrete, provide a plastic protective cap to each bar until it is incorporated into subsequent work.

4.4.3. Reinforcing

Reinforcement position to comply with drawings and relevant Australian Standards. The reinforcement shall be rigidly held in position and located accurately within the following tolerances:

- Where the nominal reinforcement cover specified is more than 25mm, the accuracy of reinforcement placement shall be +6mm / - 6mm.
- Where the nominal reinforcement cover specified is less than 25mm, the accuracy of reinforcement placement shall be +3mm / - 3mm.

Secure the reinforcement against displacement by tying at intersections with either wire ties, or clips. Bend the ends of wire ties away from nearby faces of forms or unformed faces so that the ties do not project into the concrete cover. The maximum spacing for support of bars is ≤ 60 diameters and support of mesh ≤ 800 mm. Prevent damage to waterproofing membranes or vapour barriers and if appropriate, place a metal or plastic plate under each support.

Secure longitudinal column reinforcement to all ties at every intersection. For bar reinforcement in the form of a mat, secure each bar at alternate intersections. If welding of reinforcement is proposed, provide details.

4.4.4. Concrete Delivery

Ensure that the elapsed time between the wetting of the mix and the discharge of the mix at the site is in conformance with the Elapsed delivery time table.

Elapsed Delivery Time Table	
Concrete temperature at time of discharge (˚C)	Maximum elapsed time (minutes)
10 – 24	120
24 – 27	90
27 – 30	60
30 – 32	45

Mode must prevent segregation, loss of material and contamination of the environment, and must not adversely affect placing or compaction

4.4.5. Concrete Mix

The concrete mix and supply is the contractor's responsibility and shall be suitable to achieve the documented dimensions, surface quality, finished concrete tolerances and required loading.

Concrete may be pre-mixed or mixed on site. Shall concrete be placed by shotcreting method, refer also shotcrete section.

Pre-mix concrete is to conform to all requirements of AS 1379 "Specification and Supply of Concrete". All pre mixed concrete is to be delivered to site in a mechanically powered revolving drum and unless otherwise specified.

Normal class concrete mix and supply is to conform to Australian Standard AS 1379 clause 1.5.3 and Special class is to conform to Australian Standard AS 1379 clause 1.5.4.

Cement is to be Portland cement and must comply with Australian Standards AS 2350, be less than six months old. Kept thoroughly dry, uncontaminated and stored under cover above ground.

Aggregate shall be free of deleterious material that is likely to adversely affect the strength or durability of the concrete or concrete reinforcement and is to comply with Australian Standards AS 2758.1. The aggregate is to consist of crushed basalt or hard stone free from honeycomb particles, stone dust and thin or flaky particles. Nominal size of the aggregate is to comply with sizes outlined in Australian Standards AS 2758.1 or nominal size specified on drawings.

If water is to be added, comply with Australian Standard AS 1379 Section 4.2.3. Water shall be clean and comply with Australian Standards AS 1379, free from oil, acid, alkali, organic or vegetable matter and including note more that 500mg/l of chloride irons.

If Chemical admixtures are added, they shall be free of chlorides, fluorides and nitrates and comply with Australian Standard AS 1478.1.

Concrete Mix Design Table	
Class	32 MPa
Wet Concrete	
Maximum water/cement ratio	0.53
Cementitious Content - Minimum - Maximum	 350kg/m^3 400kg/m^3
Maximum aggregate size	20mm
Slump (AS 1012 Part 3)	80mm +/- 10mm
Hardened Concrete	
7-day required strength	18 MPa
28-day required strength	32 MPa
Maximum drying shrinkage at 28 days (AS 1012 Part 13): - Approved trial mix - Insitu concrete	 600μ 600μ

4.4.6. Shotcrete

Provide shotcrete that is in conformance with the design details as documented on the drawings to comply with Australian Standards AS 3600, AS 1379 and AS 3799.

Only dense uniform concrete without discernible weakness of bond (between layers) is acceptable. Provide a uniform consistency in order to maximise binding, bonding, cohesion and density, minimise rebound and prevent sagging of the applied shotcrete. Remove all laitance, loose material and rebound and sound the surface with a hammer to locate any voids, aggregate pockets or unbonded areas.

Provide shotcrete that is readily sprayed into corners and around reinforcement and built-in items without segregation or vertical slumping or sag. The shotcrete should not be porous, cracked or honeycombed, have an acceptable level of plastic shrinkage cracking and can be readily worked to the required finish.

Shotcrete is to be Portland cement concrete, containing aggregate up to 13 mm in size, applied from a spray nozzle by means of compressed air. Shotcrete is to contain only additives suitable to attain quick set and high early strengths as specified.

4.4.7. Integral Mixed Pigments

Batch mix materials by weight to achieve uniformity between mixes delivered to site over a period of several days.

Colouring pigments shall be suitable proprietary products and in accordance with the product data and relevant standards:

- AS 1478 – Chemical admixtures for use in concrete, mortar and grout.
- BS EN 12878:2005 – Pigments for colouring of building materials based on cement and/or lime.

Pigments shall be insoluble metallic oxides or synthetic types, resistant to lime bloom or efflorescence.

4.4.8. Concrete Placement

Using appropriate protection against weather and temperature conditions during the placement of concrete is the contractor's responsibility.

Concrete shall be placed when ambient air temperature is above 5˚C and below 35˚C. When placing concrete outside of this acceptable temperature range, contractor must submit proposed curing methodology for Superintendents approval.

4.4.9. Concrete Finishing

SKATE AREA WORKS

Areas nominated as 'Skate Area' shall not comply with slip resistance.

Shall be class 1 flatness as per Flatness Tolerance Class Table.

Unless noted otherwise, Skate Area Works shall be burnished steel trowel finish. The surface shall be thoroughly consolidated by trowelling operations. The finished surface shall be free from any trowel marks, uniform in texture and appearance, and shall be placed within the required tolerance.

Provide 20mm radius to all exposed edges where there is no flush connection with adjacent concrete surface to be provided.

PEDESTRIAN AREA WORKS

Areas nominated as 'Pedestrian Area' shall comply with slip resistance AS/NZS 4663 'wet pendulum test' or 'dry floor friction' test.

Unless noted otherwise, Pedestrian Area concrete surface to allow adequate slip resistance however texture or roughness shall be limited to allow a smooth riding surface for skateboard wheels.

Shall be class 2 flatness as per Flatness Tolerance Class Table.

Provide 20mm radius to all exposed edges where there is no flush connection with adjacent concrete surface to be provided.

WALLS AND BLOCKS

All vertical surfaces of 'Walls and Blocks' shall be off form finish Class 2 complying with AS3610.2 unless noted otherwise. Note, some vertical surfaces may be nominated as a 'skate area' surface. Refer to 'skate area works' for required finishing of these areas.

Corners of walls and blocks shall be fillet with 25 mm chamfer unless documented otherwise. Top edges shall have a tooled 20mm radius.

Tops of walls or blocks shall be finished as specified on drawings.

FLATNESS TOLERANCE CLASS TABLE

Class	Measurement	Maximum deviation (mm)
1	3 m straight edge or curved edge to defined radius	3mm
2	3 m straight edge	6mm
3	600 mm straight edge	6mm

4.4.10. Joints

SKATE AREA – CONSTRUCTION JOINTS

Construction joints in skate area shall be constructed to strict tolerances as nominated on drawings.

Construction Joints shall be butt joined ensuring flush surfaces of adjoining pours. Ensure the joint is straight, true, and free from blemishes.

Do not relocate, eliminate, or make construction joints that are not documented. If emergency construction joints are made necessary by unforeseen interruptions to the concrete pour, submit a report on the action taken for approval.

SKATE AREA – SAW CUTS

Saw cuts to be sawn as shown on plans and as detailed. Ensure the joint is straight, accurate, true, and free from blemishes. Do not over cut into adjoining slabs or into cast in steel work.

Determining the timing of saw cutting depending on temperature, weather conditions and curing process is the contractor's responsibility. The timing shall be determined to ensure concrete cracking is minimised and within acceptable tolerances.

All saw cuts shall be caulked.

PEDESTRIAN AREA

Provide construction joints and saw cuts in pedestrian areas as detailed on drawings.

All saw cuts shall be caulked.

WALLS AND BLOCKS

Provide joints in walls and blocks as detailed on drawings.

4.4.11. Patching

SKATE AREA WORKS

Areas finished as 'Concrete Finishing - Skate Area Works - Slab' are not permitted to be patched. Contractor to propose method of remediation or repair to imperfections or damage of skate area works surfaces for approval by superintendent prior to carrying out works. Repairs to skate area shall be appropriate for the high impact environment of the skate area.

WALLS AND BLOCKS

Where off form finishes do not comply with AS3610.2 contractor shall propose method and extent of remediation or repair to imperfections for approval by superintendent prior to carrying out works.

4.4.12. Applied Finishes

CONCRETE SEALER

Apply two coats of clear concrete sealer to all exposed concrete surfaces (including formed and unformed surfaces) as documented in drawings to manufacturer's specifications unless noted otherwise

COLOURED TRAFFICABLE CONCRETE AREAS

In locations where a coloured applied finish is specified on trafficable concrete areas, prepare surface as per manufactures recommendations including curing time. Surface preparation is critical to the adherence of the product. Apply sufficient coats of coloured concrete sealer to manufacturer's specifications to form an even consistent colour.

PAINTED SURFACES

Apply paint finish to nominated vertical concrete and steel surfaces as documented in drawings to manufacturer's specifications. Ensure appropriate surface preparation is carried out as per manufactures recommendations. Surface preparation is critical to the adherence of the product.

5. METALWORK

5.1. GENERAL

This section of specification covers all metalwork. This includes (but not limited to) the supply, fabrication, installation, finishing, fixings, fastenings and accessories.

Supply and install the following:

5.1.1. Skate Area Metalwork

Supply and install all steel skate coping and obstacles strictly to the documented tolerances to ensure the designed functionality is achieved.

5.1.2. Other Metalwork

Supply and install all steelwork as documented.

5.1.3. Finishes

Supply and install finishes to metalwork as documented.

5.2. STANDARDS

Comply with the current edition of the following standards:

- AS 1074 Steel tubes and tubulars for ordinary service.
- AS 1111 ISO Metric Hexagonal Commercial Bolts and Screws
- AS 1112 ISO Metric Hexagonal Nuts, Including Nuts, Slotted Nuts and Castle Nuts
- AS 1163 Structural Steel Hollow Sections
- AS 1252 High Strength Steel Bolts with Associated Nuts and Washers for Structural engineering
- AS 1397 Steel sheet and strip - Hot-dipped zinc-coated or aluminium/zinc coated.
- AS 1443 Carbon Steels and Carbon Manganese Steels - Cold-Finished Bars
- AS 1554 Structural Steel Welding.(SAA Structural Steel Welding Code)
- AS 1594 Hot-Rolled Steel Flat Products
- AS1650 Hot-Dip Galvanised Coating on Ferrous Articles
- AS 3566 Screws - Self-drilling - For the building and construction industries.
- AS 3678 Structural Steel - Hot-Rolled Plates, Floor plates and Slabs
- AS 3679 Structural Steel
- AS 4100 Steel Structures
- AS 4600 Cold formed steel structures
- Relevant parts of the Building Code

5.3. SUBMISSIONS, TESTS AND INSPECTIONS

5.3.1. Shop Drawings:

- Prepare and submit for approval shop drawings for all fabricated metal items to specify:
    - Fabricator name
    - Welding methods and extents
    - Fixing and connection details
    - Steel member sizes and dimensions
    - Rebates and fixings for any joining or connecting features (eg electrical)
    - Setout and site dimensions
    - Details of finishes
    - Holes and lifting lugs that may be are required to facilitate handling, filling, venting and draining during galvanizing

5.4. REQUIREMENTS

5.4.1. Generally

Materials and products, including fixings, concealed and structural components, shall be corrosion resistant or protective coated to prevent corrosion.

Before delivery, provide suitable and sufficient marks or other means for identifying each member including bolts and loose items, and for the correct setting out, location, erection and connection of the Steelwork. Markings shall not be visible on installed steelwork.

5.4.2. Steel

Cold formed - to AS1204, Grade 250, or AS1163, Grade C350, as appropriate and galvanised, unless otherwise specified.

Hot rolled - to AS3678, Grade 250, or AS3679, Grade C350, as appropriate and galvanised, unless otherwise specified.

All other metalwork as specified on drawings.

5.4.3. Fabrication and Welding

Ensure all work is neat and tidy. All edges and surfaces shall be smooth, flush, consistent and free from sharp edges, corners or burs. All joins shall be fully welded, corner connections shall be mitred and exposed ends of members shall be capped.

All items nominated on drawings as 'pre-fabricated' shall be fabricated off-site.

5.4.4. Hot Dip Galvanised Steel

Supply all labour and equipment to provide hot dip galvanised coatings that control corrosion to structural steelwork or steel products. Coating shall be continuous, adherent, smooth or evenly textured and uniform, free from defects detrimental to the end use of the finished article, such as lumps, blisters, gritty areas, uncoated spots, acids and black spots, dross and flux.

If holes and lifting lugs are required to facilitate handling, filling, venting and draining during galvanizing, submit details on size and location.

If design and fabrication of items to be galvanized leads to difficulties or deformities during galvanizing, identify these and submit details for improvement.

Coating: Comply with the requirements of AS/NZS 4680.

Durability: Conform to the requirements of AS 2309.

Methods: To AS 1627.

Coating mass/thickness minima: To AS/NZS 4680.

5.4.5. Applied Finishes

Apply finish to nominated steel surfaces as documented in drawings to manufacturer's specifications. Ensure appropriate surface preparation is carried out as per manufactures recommendations. Surface preparation is critical to the adherence of the product. Apply base coats and primers as per manufacture's specifications.

5.4.6. Installation

METHOD: Erect Steelwork such that members are fixed in their correct positions without distortion or overstress in members or connections. Do not use mechanical means to force members into position at connection.

Separate incompatible metals by concealed layers of suitable materials and thicknesses.

FIXINGS: Drill holes and weld cleats, lugs, ties and other fixings necessary before applying protective coatings.

WELDING: To comply with AS 1554. Finished welds shall be free of surface and internal cracks, slag inclusion, and porosity. All welds shall be ground flush and smooth, all corners and sharp edges to be ground to a radius.

SITE COATING REINSTATEMENT

Any coatings damaged by transport, site welding, site flame cutting, site handling, or erection shall be repaired. Where item is to be cast into concrete, repair coating prior to pouring concrete. Coating reinstatement shall be carried out as per product manufacturer's specifications and recommendations.

6. FIXINGS, FIXTURES AND FURNITURE

6.1. GENERAL

Provide fabricated and proprietary fixing, fixtures and furniture complete with all required fixings and accessories. Refer to Furniture schedule on drawings.

6.2. STANDARDS

Proprietary fixings and fixtures shall be installed to manufacture's details and specifications. Fabricated items shall be installed as detailed. Installation of all fixings and fixtures shall be in compliance with the relevant Australian Standards including:

Bicycle Racks

- AS 2890.3 – Bicycle parking facilities
- AS/NZS 2890 – Parking facilities

Handrails, Stair Nosing and Tactile Indicators

- AS 1428.1 – Design for access and mobility

Playground Equipment

- AS 4685 – Playground Equipment
- AS 4486 – Playgrounds and Playground Equipment

6.3. SUBMISSIONS, TESTS AND INSPECTIONS

6.3.1. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Fixings and fixtures prior to installation
- Installed fixings and fixtures

6.4. REQUIREMENTS

6.4.1. Generally

Supply and install proprietary and custom fixings as detailed. Ensure all items function as intended. Should for any reason a fixing or fixture not function as intended in the documented location, notify the superintendent for further instruction.

7. CULTIVATION AND SOILS

7.1.GENERAL

Provide topsoil to garden bed, lawn and other areas nominated on drawings.

7.2. STANDARDS

Comply with the current edition of the following standards:

- AS 4419 Soils for landscaping and garden use

7.3. SUBMISSIONS, TESTS AND INSPECTIONS

7.3.1. Submissions

- Submit product data or sample (as per superintendent's requirements) of proposed imported top soil for approval.

7.3.2. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Stockpliled existing top soil for reuse
- Cultivation of all garden beds and lawn areas.
- Final Placement and grading of top soil

7.4. REQUIREMENTS

7.4.1. Stockpiled Topsoil

Stockpiled topsoil shall meet criteria as per 'Earthworks' section of this document.

Utilise stockpiled site topsoil to depths as noted on the drawings. Where it is necessary for imported topsoil to be used on the site, rough mix the two prior to final placement and grading.

7.4.2. Imported Topsoil

Topsoil shall be an approved clean mix of soil, mulch, sand and fertilizer, free of debris and contamination, in accordance with the relevant standards.

Site topsoil shall be used wherever possible, in preference to imported topsoil. Topsoil is defined as the weathered surface layer of soils that includes organic matter.

The Contractor shall be responsible for ensuring the growing medium supports normal healthy growth of the specified planting. The Contractor shall undertake soil testing and amelioration in accordance with this specification.

The Contractor shall notify the Superintendent's Representative of any topsoil characteristic which may reduce the performance of any plant species or grass mix.

7.4.3. Cultivation

Mechanically cultivate all areas to be applied with top soil as follows:

- Garden beds. Cultivate to a depth of 300 mm
- Rolled Turf or Seeded Grass Area. Cultivate to a depth of 100mm

7.4.4. Placing of topsoil

Place and spread topsoil in 100mm layers and lightly compact progressively to required contours and levels. The final surface shall be:

- Smooth and finish to design levels.

- Without mounds and hollows.
- Without differential subsidence or excess compaction.
- Free from stones or lumps of soil.
- Evenly graded to drain freely without ponding to catchment joints.
- Merged with adjacent ground surfaces.
- Ready for planting or applying lawn.

Unless otherwise indicated, finish topsoil 25mm below level of adjacent hard surfaces. Topsoil for grassed areas shall be finished flush with adjacent hard surfaces to accommodate settlement. Note that skate areas generally have a stepdown from concrete slab to topsoil, refer to drawings. Lightly water topsoil to aid settlement, fill any areas with subsidence to maintain grades and tolerances.

Install topsoil to the following nominal depths. Where these depths differ to the drawings or material schedule, the drawings or schedule shall take precedence:

- Grassed areas – 100mm.
- Irrigated grassed areas – 150mm.
- Planting beds – 200mm.
- Trees – depth to match root ball, width 3 x diameter of root ball.

8. LAWN AND TURF

8.1. GENERAL

Carry out grassing to the required cover and density by suitable methods, complete with all required cultivation, mulching and rectification to damaged areas.

8.2. SUBMISSIONS, TESTS AND INSPECTIONS

8.2.1. Submissions

Submit product data for approval before ordering for the following:

- Proposed fertilisers, including chemical analysis.
- Rolled Turf, including species and supply source.
- Documentation of the seeded grass installation method proposed to provide optimum growth under climatic and seasonal conditions.

8.2.2. Inspections

Give notice to the Superintendent so that the following inspections can be made:

- Germinated grass seed for approval

8.3. REQUIREMENTS

8.3.1. Seeded Grass Areas

PREPARE: Cultivate the top soil seed bed to a depth of 25mm by raking soil to give a loose surface to received seed.

FERTILISER: Spread Pivot 900 fertiliser at 30gms/m2 and supply and spread pre-approved seed blend.

SEEDING: Broadcast seed from an approved seeding machine. Seed may also be sown by hand. Lightly rake the seed bed to cover the seed. Immediately after sowing, wet the top 50mm of soil using a fine spray and maintain favourable growing conditions.

PROTECTION: A protection fence should be constructed at the completion of seeding consisting of steel pickets at 5 metre centres driven into the ground. To top and bottom strands of wire fence tie red and white striped tape, spanning full height and length of the fence and achieve secure fastening. Ensure tape remains fixed throughout the maintenance and establishment period.

CARE: Water seeded area regularly to ensure a dense sward of grass is established.

Once satisfactory germination has taken place seeded area shall be reviewed and any isolated patches over 2m2 with less than 50% grass cover shall be re-seeded.

8.3.2. Turf

GENERAL: Turf shall be obtained from an approved nursery, and shall be selected, supplied and installed as appropriate for the site and environmental conditions. Turf shall be delivered and installed within 36 hours of being cut.

SEED: Turf shall be grown from pre-packed certified commercially prepared seed mix.

FERTILISER: Fertiliser shall be thoroughly mixed into the topsoil before placing turf.

STORAGE: Where there is delay of greater than 36 hours between cutting and laying, the turf shall be un-rolled on a flat surface, grass side up, and water as necessary to healthy condition. The turf shall not be allowed to dry out.

LAYING: Topsoil surface to be moistened to a depth of 100mm prior to laying. Lay turf in rows with joints staggered. Butt edges closely to minimise gaps. Edges of turf area and any small gaps shall be backfilled with sand. Where on slope, turf shall be laid parallel to contours. The surface shall be tamped to provide an even finish.

CARE: Grass areas shall be maintained until a dense, even, continuous sward of healthy grass is achieved over the whole area, regardless of season.

WATERING: Grass areas shall be initially watered as necessary to keep the surface damp and the soil moist but not waterlogged. Then water as necessary to maintain the grass in a healthy condition, progressively hardened off to the natural climatic conditions prevailing in the locality at the time.

PROTECTION: Protect the newly sown areas against traffic throughout the establishment period.

9. IRRIGATION

9.1. GENERAL

The works in this specification include but are not limited to the design, supply and installation, and the commissioning of a complete automatic irrigation system. The system shall be designed to supply the nominated areas on the landscape drawings.

Included in the irrigation contract will be the system design, preparation of documentation, document review and authority approvals, supply and installation of all irrigation works, lateral pipework, pressure main, fittings, valves, controllers and vacuum breakers backflow prevention assemblies, and system maintenance until Practical Completion.

9.2. STANDARDS

The system should comply with all requirements of the local water supply authority.

The following and any other relevant standards shall apply:

- AS/NZS 3500 – National plumbing & drainage code
- AS 3500.1 – Water supply
- AS 1289 – Method
- AS1477 - P.V.C. pipes and fittings for pressure applications
- AS1610 - Brass couplings for taps and watering appliances
- AS2032 - Installation of uPVC pipe systems
- AS2566 - Plastic pipe laying design.

9.3. SUBMISSIONS, TESTS AND INSPECTIONS

9.3.1. Authorities and Approvals

Prior to commencing any work, the Contractor shall obtain all necessary approvals and permits from all relevant Authorities. The Contractor shall observe all served notices, shall obtain all necessary permits and shall pay all fees in connection with such notices and as required for the connection of the automatic irrigation system.

During the works the Contractor shall co-ordinate the inspection of all the works by the necessary authorities. The Contractor shall provide evidence to the Principal that all authority requirements have been complied with.

9.4. REQUIREMENTS

9.4.1. Design Guidelines

All soft landscape areas indicated on the landscape drawings shall be irrigated.

The irrigation system shall consist of:

- Appropriate valve connection to nominated supply point.
- Pop-up sprinklers to all lawn areas
- Water sensors in appropriate locations, to determine soil water levels and to trigger activation of the automatic irrigation system.
- Automatic controller. Location and power supply to be verified on site with client and/or their nominated representative.

All fittings shall be high quality, vandal resistant products and shall be nominated on the design drawings for approval by the Principal.

All provisions for the irrigation system shall be the responsibility of the Contractor. The Contractor shall ensure all underground provisions as required (ie. pipe sleeves, conduits and block outs) are installed prior to the completion of hard surfaces, pavements, roadways, buildings, stairs, walls etc. The Contractor shall ensure the installation is coordinated into the site works at the appropriate stages of the construction program.

The irrigation flows, programme timing etc. shall be carefully planned for the particular site conditions, grades and soil type, and designed to ensure no excessive runoff or over irrigation which may cause excessive infiltration or runoff.

9.4.2. Water Supply

The source of water for the irrigation system shall be shall be as nominated on the landscape drawings. Where no supply has been nominated, the contractor shall verify a point on site to be approved by the Principal. Connections shall be under constant mains pressure.

Supply and install an approved vacuum breaker backflow prevention assembly at the point of supply (refer performance requirements section of this specification).

The Contractor shall state in their design the quantity of water required for the system. The Contractor shall confirm, prior to installation of individual areas that required flow rates are available. Prior to installing any materials or equipment, the contractor shall perform a flow/pressure test at the point of supply to verify capacity to deliver the required pressure head to run the system. If required, the contractor shall undertake such measures determine to ensure adequate flow can be achieved. Failure to undertake such verification will result in rectification works at the Contractors own expense.

The Contractor shall accept responsibility for the proper performance of the system. If, after installation, the system fails to deliver the approved design performance, the Contractor shall adjust or alter the system to achieve at their own expense.

No payment shall be made for alterations or adjustments unless the causes are due to unforeseen circumstances, beyond the Contractor's control. Incorrect determination of the available water supply pressure and flow rate will not be regarded as an unforeseen circumstance.

9.4.3. Electrical Supply

The contractor shall verify an approved point of power supply on site in conjunction with the Principal. Power shall be supplied to the controller, in the form of an isolation switch or GPO with a locking device to prevent accidental disconnection of power to the controllers.

All electrical works shall be undertaken by a licensed electrical tradesperson, registered to undertake the works and deliver the required documentation / verification that the works have been installed and approved in accordance with the relevant standards and authority requirements.

9.4.4. Irrigation Installation

Irrigation Installation work shall be carried out by a licensed plumber, registered to undertake the works and deliver the required documentation / verification that the works have been installed and approved in accordance with the relevant standards and authority requirements.

9.4.5. Excavation Work

The Contractor shall allow for all necessary excavation works. Trenching shall be carried out progressively to suit the work program with no trench remaining open for longer than necessary to allow installation, testing and inspection of the section affected.

The Contractor shall co-ordinate the irrigation works to ensure that all required conduits under roads, pathways, driveways etc. are placed as works are being constructed.

No claim will be accepted for the Contractors failure to do so, and any boring required under sealed paths due to failure to install a conduit will be done at the Contractors own expense.

Trenches across existing sealed roads, paths and driveways where applicable shall be bored and only after agreement by the Principal.

9.4.6. Trenches

One trench shall be provided for each pipe and electrical wiring laid alongside the main line.

The Irrigation Contractor shall be responsible for the safety and maintenance of trenching for the duration of the contract and for a period of one month after completion of the contract.

9.4.7. Backflow Prevention

Supply and install an approved vacuum breaker backflow prevention assembly at the point of supply.

The pressure type vacuum breaker backflow prevention assembly shall be of approved fittings for the particular application and shall incorporate the following:

- A positive acting force loaded ventilating valve
- At least one positive acting force loaded check valve
- Provision for testing the installation against malfunction
- Isolating valves installed immediately upstream, and downstream of the vacuum breaker fitting.

Pressure type vacuum break backflow prevention assemblies shall be inspected and tested in accordance with the requirements of the Water Supply Authority standard after installation and before being put into service and thereafter at no more than yearly intervals.

Pressure type vacuum breaker backflow prevention assemblies are only effective against back-syphon and shall be installed such that:

- Ready access is provided for inspection and servicing
- The level of the vacuum breaker shall be not less than 300mm above the spill levels of all receptacles, storage tanks, fixtures, etc... served, or above all water supply outlets served
- The vacuum breaker vent is given free ventilation to the atmosphere at all times.

Backflow preventers shall be of a heavy-duty brass construction incorporating stainless steel hood ball valve test cocks and gate valves with operating ranges as follows:

- Temperature: 0º to 100ºc
- Pressure: 103kPa to 1400kPa
- Pressure Loss: 13kPa to 69kPa

9.4.8. Controller

The type of controller shall be nominated on the design drawings and be approved prior to installation. The Controller shall have the appropriate number of stations required for the connection of the entire site.

Unless otherwise indicated, the general location of the controller shall be in the vicinity of the water supply. The actual location on site shall be confirmed on site with the Principal.

The irrigation controller shall be housed in an approved, ventilated, weather proof and lockable cabinet. The cabinet shall be painted in a colour nominated by the Principal.

All required electrical connections shall be made within the cabinet.

When the installation has been completed, a program shall be set on the automatic controller. The program shall consist of the following:

- Days of operation.
- Assigning controller stations to Programs
- Times for each start.
- Watering durations for each start.

9.4.9. Valves

All valves shall be housed in a reinforced green plastic valve box (rectangular or circular as approved by the Principal) of sufficient size to allow servicing without digging.

Valve boxes shall not be placed in pavement areas under any circumstances.

The valve boxes shall have a removable lid and shall be secured by a means of a stainless-steel bolt. Valve boxes shall be installed so the top of the cover finishes flush with the surrounding ground level. Only one valve shall be installed within a valve box. Valve boxes shall be supported by bricks or another approved block support.

MASTER VALVE

A master valve shall be installed at the supply connection and shall be detailed on the design drawings.

ISOLATING VALVES

Isolating valves shall be brass gate valves with female B.S.P threads and approved by the relevant water authority. Isolating gate valves shall be installed to enable individual solenoid valves to be isolated.

SOLENOID VALVES

All solenoid valves shall be normally closed, of plastic construction, 24V AC actuated and have a minimum pressure rating of 1400kPa. Solenoid valves shall have a means of flow control and a manual bleeding device that can be operated without complete removal. They shall be constructed in such a manner that they can be serviced in-line.

PRESSURE REDUCING VALVES

Pressure reducing valves if required shall be adjustable within the pressure range of 50kPa to 200kPa.

9.4.10. Sprinklers, Sprays and Drip Emitters

The type and model of sprinklers, sprays and drip emitters shall be nominated on the design drawings for the approval of the Principal.

Where nominated to grassed/lawn areas, sprinkler heads shall have a nominal 75mm pop-up.

Where nominated to garden bed areas, Sprinklers or sprays shall have a nominal 300mm pop-up or riser.

Drip irrigation shall be buried 50mm below the finished topsoil level to prevent damage or vandalism.

Drip irrigation pipework shall be uPVC or HDPE.

Particular attention should be paid by the contractor to ensure that overspray onto buildings and pathways is minimised by correct sprinkler placement and adjustment of sprinklers arc patterns.

Sprinklers shall be spaced at a maximum 50% of diameter in all areas.

9.4.11. Pipework

GENERAL

All above ground pipework shall be minimum 18-gauge copper.

All lateral pipework shall be minimum Class 12 uPVC. All pipework passing under paved areas shall be either copper or uPVC. installed in conduits.

COVER

All uPVC. pipework shall have a minimum cover from the finished surface level of 350mm in garden areas.

In paved/trafficable areas, all pipes shall be placed in a 100mm diameter class SH sewer pipe conduit. The conduit shall have a minimum cover of 600mm.

FITTINGS

All tee fittings shall be at least equal in size to the largest pipe feeding them.

Fittings shall be installed with a minimum of 300mm between each fitting.

ASSEMBLY

All connections between plastic pipe and metal valves shall be made using plastic male adapters. All threads shall be sealed with Teflon thread sealing tape.

SOLVENT CEMENT JOINTED PIPE INSTALLATION

Ensure inside of pipe is free from debris.

Remove all burrs from cut pipe.

Prepare all socket and spigot ends with priming fluid ensuring all dirt and grease is removed,

Apply solvent cement inside the socket then to the spigot. Join the pipe with a twisting motion immediately after applying the solvent cement and hold firm until initial set is achieved, and do not pressurise the line for 24 hours.

9.4.12. Backfilling

Backfilling will commence as soon as possible after jointing of pipework is complete. Ends of piping left open at night shall be protected from foreign matter by capping or other means. Backfill materials shall be selected from trenching soil or sand depending on the condition of excavated material and trench bottom. Where the trench bottom consists of rock or other hard material the excavation shall be taken to a depth of 50mm lower than the pipe invert and the trenches backfilled with approved loam or sand to a depth of 50mm above the pipework.

Trenching topsoil may be used to backfill between the top of the sand layer and the finished ground level but shall not contain pieces of rock or other hard material having a diameter greater than 50mm. If subsidence takes place additional backfilling shall be used to restore the surface.

9.4.13. Electrical Wiring

All wiring for 24 V AC control of solenoid valves shall be sized to ensure a minimum of 20 volts at the valve when calculated on the inrush amperage of the valve solenoid. All wiring shall be a minimum size of 7/0.50 building wire or 1/0.8 multi core cable.

Wherever possible, wiring shall be laid beneath the pipework and individual wires will be grouped together and taped every 3 metres.

All wire other than that laid underground shall be run in 20mm electrical conduits.

Jointing of cable will be kept to an absolute minimum and wherever possible will be a continuous length between the irrigation controller and the solenoid valve. All wire jointing will be carried out in such a way as to ensure a completely waterproof seal.

9.4.14. Flushing the System

After the installation of a section of sprinkler piping and risers or drip irrigation lines, and prior to installation of sprinkler heads and drippers, all control valves shall be opened and water used to flush out the system.

Before commissioning of the system, the Contractor shall flush out the irrigation system to remove all material that may have been left in the system during installation.

9.4.15. Commissioning

Upon completion of construction, all tests shall be carried out in the presence of the Principal to assess the irrigation system and its operation. Any defects or deficiencies discovered as a result of testing shall be repaired immediately and the tests repeated until the test requirements are fully complied with.

All air, dirt and foreign matter will be flushed from the system and the Irrigation Contractor will check all components for proper operation.

The Irrigation Contractor shall adjust the various components of the system to ensure that the overall operation is efficient.

This includes a synchronization of the controllers, adjustments to part circle sprinkler heads, and individual station adjustments on the controllers.

9.4.16. Defects Liability

The defects liability period for the irrigation works shall be as per those nominated in the preliminaries for the general contract.

During the Defects Liability Period any defective part or any breakage which, in the opinion of the Principal, was obviously not due to fair wear and tear or accidental damage beyond the Contractors control, shall be replaced and /or made good at the Contractors own expense.

9.4.17. Maintenance

The maintenance period for the irrigation works shall be as per those nominated in the technical specifications for the landscape works.

During this period the maintenance requirements shall be as per those nominated in the technical specifications for the landscape works.

9.4.18. Warranty

Unless otherwise specified on the drawings or specified herein, all materials and equipment used in the system shall be new and without defects or flaws of any type. All new materials used shall have a minimum guarantee of one (1) year against defects.

9.4.19. Final Completion

The following items shall be made available by the Contractor and accepted by the Principal in writing prior to the request for Final Completion:

- "As-Built" plans of the irrigation system. The “as-built” plan shall include locations of all valves with triangulated measurements to each location as well as any deviations in location of piping and heads as represented by the contract documents.
- Two copies of the operation and maintenance booklet, including technical specifications, product guarantees and a list of spare parts.
- Tools or keys required for the adjustment or opening of any valve, spray and control cabinet.

At completion of the Defects Liability Period and Maintenance Period, and acceptance of the works by the Principal, the Contractor shall instruct the Principal or a person appointed by the Principal, in the operation, maintenance and repair of the system.

Construction Sciences

Our Ref: CSWA0162_P234
Contact: Johnathon Brisk

13 November 2020

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Attention: James Reilly

Dear James,

GEOTECHNICAL INVESTIGATION
PROPOSED SKATE PARK
LOT 602 COUNCIL DRIVE, EATON, WA

Introduction

This letter reports the results of a geotechnical investigation completed by Construction Sciences Pty Ltd (CS) for the proposed Skate Park located at Lot 602 Council Drive, Eaton, WA ("the site").

The geotechnical study was authorised by the client via a signed Purchase issued to Construction Sciences on the 27 October 2020.

Client Supplied Documents

- Locality and site survey drawings (SurveyEatonSkateParkV1);
- Geotechnical Survey Brief.

Site Description and Proposed Development

The proposed skate park site is located at Lot 602 Council Drive, Eaton and forms part of a recreational area comprising a playground to the south, and sports ovals to the east and south-east. The proposed skate park site borders a commercial shopping complex to the west. A 1.5 m high chain mesh fence line runs through the centre of the proposed site in a north-west to south-east direction. Based on available aerial imagery and field inspection, the site was partially developed with carparking and bordering footpaths to the north and west, and patches of well-maintained turfing throughout. Evidence of a historic access track or roadway running along the western portion of the site was made apparent by surficial road base gravels observed during a site walkover, and subsurface sandy gravel (crushed limestone material) observed underneath the topsoil at TP02 and TP03. No trees were observed at the time of the investigation. The figure below shows the approximate site location.

Figure 1 – Approximate Site Location

The topographical nature of the site was observed to be generally and between about RL 10 m AHD and about RL 11 m AHD, based on publicly available information.

It is understood that the proposed development will include the design and construction of an above ground skate park facility.

Photographs depicting the typical site conditions at the time of the investigation are presented in Figures 1 to 3 below.

Figure 2 – Looking North from the approximate centre of the site .

Figure 3 – Looking South from the approximate centre of the site.

Figure 4 – Looking South from the approximate centre of the site.

Objectives

The objectives of the investigation were outlined in our Proposal Ref: WA0746.20 dated 18 May 2020 and are summarised below:

- assess the subsurface soil and groundwater conditions within the proposed building envelope;
- quantify the CBR of existing fill and natural soils across the site;
- Provide the safe bearing capacity and advice on ground preparation (surface stripping, compaction recommendations, fill replacement recommendations) all with the intent to achieve a minimum 3% CBR under skate park pavements;
- Provide advice on the use of existing fill or mounding as subgrade. Including advice on whether fill is controlled or uncontrolled, the depth of fill to natural subgrade, and the prospectivity of existing fill for use as subgrade with proposed improvement treatments if required.

- Provide advice on differential settlement and seasonal movement.
- Indicate bearing capacities at corresponding depths for isolated pad, strip and bored pier footings to support light poles, shade shelters and other bespoke skatepark or landscape features. Confirm recommended bearing material for skate park slab and the depths below ground;
- Provide a classification of the site in accordance with AS2870-2011;
- Provide retaining wall design parameters by soil identification including passive and active soil pressure coefficients to facilitate retaining wall and cantilevered bored pier design..

Investigation Fieldwork

Fieldwork for the investigation was carried out on the 29 October 2020, and comprised:

- a site walkover to observe existing surface features and to take record photographs;
- excavation of test pits at four (4) locations within the site, extending to depths between 2.8 m and 3.0 m below the existing ground surface;
- testing with a dynamic cone penetrometer (DCP) adjacent each test pit, extending to a depth of 1.0 m; and
- collection of representative disturbed soil samples for laboratory testing.

A geotechnical engineer from CS completed the fieldwork, logged the test pits, completed the field testing and recovered samples for laboratory testing. Test pits were excavated using an 11 tonne excavator provided and operated by Picton Civil Pty Ltd.

The soil descriptions included on the test pit logs are in general accordance with AS1726-2017 *'Geotechnical Site Investigations'*. All test pits were backfilled using in-situ soils, compacted in layers using a bucket and back-tracked with the excavator. The test pit logs and soil profiles are presented in Attachment A.

The DCP tests were completed in accordance with AS 1289.6.3.2 *'Determination of the Penetration Resistance of a Soil – 9 kg Dynamic Cone Penetrometer Test'*. DCP blow counts are included on the test pit logs in Attachment A.

The summary of the investigations completed is presented in Table 1 below.

Table 1: Summary of Fieldwork

Summary of Fieldwork				
Test Reference	Termination Depth*1 (m)	Reason for termination	Depth to Groundwater (m)	Stratigraphy (depths in "m" below ground level)
TP01	3.0	target depth	0.9	0.0-0.3 TOPSOIL: SAND (SP) - MD 0.3-0.7 AEOLIAN: SAND (SP) - MD 0.7-0.1.3 ALLUVIUM: CLAY (CH) - St 1.3-TD ALLUVIUM: Silty Sandy CLAY (Cl - CH) - St
TP02	2.9	target depth	2.2	0.0-0.15 TOPSOIL: SAND (SP) - MD 0.15-0.5 FILL: Sandy GRAVEL (Crushed Limestone) (GP - GW) - MD 0.5-0.7 AEOLIAN: SAND (SP) – MD - D 0.7-1.0 ALLUVIUM: CLAY (CH) – St 1.0-2.90 ALLUVIUM: Silty CLAY (Cl - CH) – St

Summary of Fieldwork				
Test Reference	Termination Depth*1 (m)	Reason for termination	Depth to Groundwater (m)	Stratigraphy (depths in "m" below ground level)
TP03	3.0	target depth	Not observed	0.0-0.05 TOPSOIL: SAND (SP) - MD 0.05-0.15 FILL: Sandy GRAVEL (Crushed Limestone) (GP - GW) - MD 0.15-0.5 AEOLIAN: SAND (SP) - MD 0.5-1.5 ALLUVIUM: CLAY (CH) – St 1.5-1.9 ALLUVIUM: Clayey SAND (SC) – MD 1.9-2.4 ALLUVIUM: Silty CLAY (CI - CH) – St 2.4-2.8 ALLUVIUM: Clayey Silty SAND (SC - SM) – MD
TP04	2.8	target depth	1.8	0.0-0.05 TOPSOIL: SAND (SP) - MD 0.05-0.10 FILL: Sandy GRAVEL (Crushed Limestone) (GP - GW) - MD 0.1-0.5 AEOLIAN: SAND (SP) – MD 0.5-0.7 ALLUVIUM: CLAY (CH) – St 0.7-1.8 ALLUVIUM: SAND (SP) – MD 1.8-2.8 ALLUVIUM: Silty CLAY (CI – CH) - St

Notes:

- *All depths measured in metres below ground level at the time of the investigation*
- *TD: Termination Depth*
- *MD: Medium Dense*
- *St: Stiff*

Laboratory Testing

The laboratory testing was undertaken by Construction Sciences NATA accredited laboratory in Bunbury. The following tests were carried out on the recovered samples:

- Particle size distribution on 1 selected samples;
- Atterberg Limits and Linear Shrinkage on 1 selected samples;
- Dry density-moisture content relationship using modified compactive effort (MDD) on 1 selected sample; and
- 4-day soaked CBR on 1 selected sample.

The laboratory testing was carried out in accordance with Australian Standard AS1289 *'Methods of Testing Soils For Engineering Purposes'*.

The laboratory test certificates are presented in Attachment B and the results are summarised in Tables 2 and 3 below.

Table 2: Summary of Soil Classification Test Results

Particle Size Distribution and Atterberg Limits							
BH No.	Depth (m)	% Gravel	% Sand	% Clay & Silt	Liquid Limit (%)	Plasticity Index (%)	Linear Shrinkage (%)

TP 3	1.9 – 2.4	0	34	66	71	53	15.0

Notes:

- *All depths measured in metres below ground level at the time of the investigation*

Table 3: Summary of CBR Test Results (4-day soaked)

CBR Test Results					
BH No.	**Depth (m)**	**MMDD[*1] (t/m^3)**	**Optimum Moisture Content[*1] (%)**	**Laboratory Density Ratio – MMDD (%)**	**Soaked CBR[*2] (%)**
TP 3	1.9 – 2.4	1.75	14	95	1

Notes:

- ***[*1]MODIFIED COMPACTIVE EFFORT***
- *[*2]CBR value at 5.0 mm penetration*

Subsurface Profile

Published Geology

The Western Australia 1:50,000 scale Urban Geology Series map for Bunbury - Burekup indicates that the site in its natural state is underlain by a thin layer of Bassendean Sand over the Guildford Formation comprising mainly alluvial sandy clay material.

Based on the history of the site and its proximity to the existing creek, it is expected that the site be underlain by a variably thick layer of fill over natural alluvial deposits, comprising sand and clay.

We are not aware of any published groundwater information for the site.

Encountered Subsurface Conditions

The results of the fieldwork indicated relatively consistent subsurface conditions across the site. A thin layer of crushed limestone FILL material was observed at TP02, 03 and 04 and is likely the results of a remnant access track or roadway that had previously traversed the site.

Groundwater

Groundwater was observed in all test pits at depths ranging from 0.9-2.2 m below existing ground surface. Groundwater seepage may be expected through granular fill layers during or after heavy rainfall events, with water likely to perch on top of low-permeability alluvial soils. Groundwater levels can be influenced by many factors including regional groundwater level, local and regional drainage, geology, rainfall, changes in land use and groundwater extraction.

Geotechnical Assessment

Based on the information provided it is understood that the proposed development will involve the design and construction of an above ground skate park facility. It is expected that the following design and construction elements are of relevance to this geotechnical investigation report:

- Clearing and grubbing of the site;
- Associated civil works including grading and levelling of the building footprint;
- Provisioning of surface and subsurface drainage, construction of carpark pavements, excavation and backfilling of service trenches;
- Construction of suitable foundation systems for all structures/

Based on our understanding of the proposed development the following sections have been provided to assist

with the geotechnical aspects of the design and construction process.

Earthworks

All earthworks and site preparation works shall be carried out in accordance with AS 3798-2007 *"Guidelines for Earthworks for Commercial and Residential Developments"*. The site should be stripped of any topsoil containing tree roots and organics from any proposed building footprints, pavement footprints or service trenches, and stockpiled for later use, if required. This material is not considered suitable for use as trench backfill or structural fill but may be stockpiled for final reinstatement landscaping purposes. A topsoil stripping depth would generally be in the order of up to 0.3m based on the test pit logs across the investigation locations, however, variations to this depth may be encountered over the site

Any existing fill must be considered to be uncontrolled unless construction certification can be provided to state otherwise. It is generally recommended to remove any fill and replace it with select fill material if below proposed foundations, at or below the subgrade level of proposed roads/tracks or at or below proposed pipe invert levels. A layer of uncontrolled fill was observed to a maximum depth of 0.5m below existing ground level. It is recommended that this material be ripped and recompacted within the footprint of the proposes carpark to ensure a uniform platform is in place for pavement construction above.

After the removal / stripping of unsuitable material, and prior to the placement of any select fill for any structural or civil infrastructure, the site should be proof rolled using a heavy, self-propelled, smooth drum roller. Vibration modes should be avoided due to the shallow presence of groundwater and susceptibility for clayey alluvial soils to soften. Any loose/soft areas should be removed and replaced with a select fill under 'controlled' conditions.

Depressions formed by the removal of any vegetation, existing structures, underground services etc, should have all disturbed soil cleaned out and be backfilled with compacted select fill material.

At the time of writing, no details about proposed earthworks were available. CS would be please to review and refine our previously mentioned earthworks and site preparation recommendations once more information about proposed foundation levels or any cut/fill information is made available.

Excavatability

It is expected that all excavation works will be undertaken in order to facilitate the completion of the following tasks as part of the solar farm construction project:

- Clearing/stripping of all unsuitable material topsoil at proposed access roads/tracks and building footprints;
- Footing excavations;
- Excavations of service trenches.

It is expected that all encountered strata layers will undergo 'easy digging' and should be able to be excavated using standard earthmoving equipment.

However, the excavation contractor should inspect the engineering test pit logs obtained during our ground investigation to make their own judgement as to likely productivity, bulking factors, or suitability of specific plant

Structural Fill

Material won from any excavation of the site would generally comprise of sandy GRAVEL Fill material near surface, or Alluvial CLAY / Silty CLAY material at further depth. The Sandy GRAVEL Fill and SAND material would be considered of good quality material for reuse provided that there is no deleterious material and organics present. The Alluvial CLAY / Silty CLAY material would generally not be considered a good source of fill and should be avoided. It is also noted that the excavation of natural (Alluvial) soils may intersect groundwater which may result in the need for dewatering equipment.

Any structural free draining sand fill should be placed in loose layers not greater than 200mm thick, flooded, if necessary, and compacted to a minimum density index of 75% as per AS1289 5.5.1 using a static smooth roller drum not less than 10 tonnes in static weight.

It is recommended that the placement of all structural fill be inspected and tested to a Level 1 requirement during the earthworks operations to ensure that all fill is placed in a 'controlled manner', in accordance with AS 3798-2007 *"Guidelines for Earthworks for Commercial and Residential Developments"*.

Structural Footings

Based on the nature of the proposed development and the subsurface conditions encountered via shallow test pit excavation it is considered that either high level or deep footing systems could be suitable subject to the loading conditions and required functions of structural elements. It is considered that bored piers or slab/strip footings placed onto suitable stiff natural strata or dense controlled fill may be suitable however subject to further discussion with the client to better understand the function of the proposed development.

It is recommended that an inspection and insitu testing be undertaken by an experienced and qualified geotechnical engineer during the excavation of all shallow footings and deep foundations (and prior to placing reinforcing steel) to verify the competence of the foundation strata and confirm the options, capacities and parameters provided as part of this preliminary bearing capacity assessment.

In general, it is recommended to avoid wet foundation soils and as such it would be preferable to carry out any construction works during the dry season. However, if construction in the wet season is necessary, then the bases of all foundation excavations should be blinded to restrict wetting of the foundation soils and to provide a working platform for construction of the footings.

Preliminary Site Classification in accordance with AS2870-2011

Ground movement as a result of moisture change in the soil can be estimated based on the guidelines presented in AS2870 – 2011 *'Residential Slab and Footings'*, which provides a system of site classification as shown in the table below for residential slabs and footing design. The standard is intended to be used as a guide for the design of footings for residential buildings but can be applied to commercial buildings if the imposed loads are similar to those imposed by residential structures.

Table 4: General Definitions of Site Classification

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay or silt sites with slight ground movement from moisture changes
M	Moderately reactive clay or silt sites which can experience moderate ground movement from moisture changes
H1	Highly reactive clay site, which can experience high ground movement from moisture changes
H2	Highly reactive clay site, which can experience very high ground movement from moisture changes
E	Extremely reactive sites, which can experience extreme ground movement from moisture changes
A to P	Filled sites
P	Sites which include: soft soils, such as soft clays, silts or organic soils, loose sands, landslip, mine subsidence, collapsing soils, soils subject to erosion, reactive sites subject to abnormal moisture conditions, sites with highly variable conditions such as weathered dolerite dykes, and sites which cannot be classified otherwise.

In the absence of available site specific construction records, all fill material encountered at the site is required to be assessed as 'uncontrolled'. The presence of uncontrolled fill encountered to a depth of up to 0.5 m below the ground surface requires that the site be classified a "Class P" in accordance with AS 2870-2011 *'Residential Slabs and Footings'*.

Based on the above, new structures would need to be supported on shallow or deep level footings founded below any 'uncontrolled' fill or alternatively be founded on fill material improved to a 'controlled' condition. Based on the subsurface conditions across the site, and presence of highly reactive clay material below the depth of uncontrolled fill, it is likely that high level footings for "residential style buildings" would be required to be designed for a Class H2, which can experience very high ground movement up to 64mm due to variations in the moisture condition of subsoils to the depth of design soils suction change.

Guidance on earthworks to achieve a 'controlled' fill condition has been provided above.

This final site classification should be confirmed during and after site preparation and earthworks by an experienced geotechnical engineer, as earthworks can result in a change in the site classification.

Shallow Foundations

As a preliminary, following the site preparation and earthwork completed as per the recommendations provided in the preceding sections, a preliminary allowable bearing pressure of 100 kPa may be used for shallow pad or strip footings embedded a minimum of 0.5m into controlled fill or natural stiff or better clay. For foundations designed using this allowable bearing pressure, settlements of up to 25 mm are expected for isolated footings.

Settlement should be checked when the loading conditions and footing details are known at the design stage. To mitigate the risk of differential settlement, it is recommended that all footings for each structural element be founded in similar strata. Where variations in founding depths/materials are expected across a single or connected structural element, it is recommended that allowances are made for potential differential settlement, including structural articulation.

Deep Foundations

A deep level foundation solution conducive with the encountered site conditions and proposed development would include driven piers due to the presence of a shallow groundwater level, and clayey soils at depth.

The parameters shown in Table 5-2 may be used for footing design purposes. However, if bored piles are adopted, the base of the piles must be inspected during construction to ensure that material of adequate capacity supports each pile. The designer/construction contractor is directed AS2159-2009 'Piling - Design and Installation' for further details regarding the minimum requirements of bored pier construction.

Table 5: Allowable Bearing Capacities for Shallow Footings

Allowable Bearing Capacities for Shallow Footings				
Material Description	**Design Equivalent Skin Friction (kPa)**		**Design Equivalent Base Bearing Capacity (kPa)**	
	Allowable	**Ultimate**	**Allowable**	**Ultimate**
Uncontrolled Fill	NR	NR	NR	NR
Aeolian – SAND (Medium Dense)	5	12.5	150	375
Alluvium – CLAY (Stiff)	18	45	150	375

NOTES:

- *NR = Not recommended*
- *Ignore top 1.5m of profile in pile capacity calculations.*
- *The above values were compiled assuming that the pile depth will be at least 5 times that of its pile diameter.*
- *A geotechnical strength reduction factor (ϕg) of 0.4 has been applied to the ultimate parameters in the calculation of the above*
- *design equivalent capacities.*

Settlement calculations would depend upon the loads applied and proposed founding strata. However, shallow or deep level footings founded into Stiff or better strata would not be expected to settle significantly (less than 20mm) provided the applied loads are less than the capacities provided above**.**

Pavement Subgrade

One bulk subgrade sample was selected for testing from the natural (Alluvial) clay soils below natural (Aeolian) sands. The CBR test was performed on clay sample compacted to a target density ratio of 95% of modified maximum dry density (MMDD) at a target moisture content of modified optimum. The soaked CBR produced a test result of 1% as shown in Table 3 above. In order to adopt a design subgrade CBR of 3% for flexible pavement, it is considered appropriate that the existing sandy GRAVEL Fill and Aeolian SAND to a depth of 0.5m are retained above the clay subgrade and compacted to a controlled condition to a minimum density ratio of 95% MMDD. Should any cut/fill works be planned on site, including placement of fill material, the design CBR will require review.

Further subgrade CBR assessment will be required once all earthworks are completed and the design levels are known. It is anticipated that an improved design CBR value could be adopted if imported filling was to take place. CS would be pleased to review the provide Design CBR in the event that the earthworks functions of the site requires.

Geotechnical Design Parameters

Based on the nature of the materials encountered in the test pits and the laboratory testing undertaken, the following geotechnical parameters may be adopted in the design after completion recommended earthworks:

Table 6: Geotechnical Design Parameters

Geotechnical Design Parameters					
Soil Type	**Density / Consistency**	**Bulk Unit Weight γ (kN/m^3)**	**Drained Cohesion c' (kPa)**	**Friction Angle, φ' (°)**	**Undrained Shear Strength c_u (kPa)**
FILL: Sandy GRAVEL (GP-GW)	Medium dense	18.0	NI	34	NI
AEOLIAN: SAND (SP)	Medium dense	18.0	NI	32	NI
ALLUVIUM: CLAY / Silty CLAY (CH)	Stiff	18	12	24	75

Notes:

- *NA: Not Applicable*

Earth Retaining Structures

Retaining structures must be designed in accordance with AS4678 (2002) *"Earth-Retaining Structures"*. At the time of writing this report, there was no information provided on the types of retaining walls that will be used for this project, if any. We recommend that retaining walls be backfilled with free-draining fill (e.g. sand with less than 5% fines). Design soil parameters for retaining wall design are provided in Table 5.

Table 7: Retaining Wall Design Parameters

Retaining Wall Parameters				
Soil Type	**Density / Consistency**	**Coefficient of At Rest Earth Pressure, K_o**	**Wall Interface Friction Angle**	
			δ= 0°	
			Coefficient of Active Earth Pressure K_a	**Coefficient of Passive Earth Pressure K_p**
FILL: Sandy GRAVEL (GP-GW)	Medium dense (well-compacted)	0.441	0.283	3.54

Retaining Wall Parameters				
Soil Type	**Density / Consistency**	**Coefficient of At Rest Earth Pressure, K_o**	**Wall Interface Friction Angle**	
			$\delta = 0^\circ$	
			Coefficient of Active Earth Pressure K_a	**Coefficient of Passive Earth Pressure K_p**
AEOLIAN: SAND (SP)	Medium dense (well-compacted)	0.470	0.307	3.25
ALLUVIUM: CLAY / Silty CLAY (CH)	Stiff	0.593	0.422	2.37

Notes:

- *Alternative design values of K_o may need to be assessed, depending on the wall construction method*
- *Earth pressure coefficients are provided in the table of conditions of zero friction between the wall and soil and with wall friction of 0.5φ. The retaining wall designer should make an independent assessment of the parameters appropriate to the construction method to be used, including alternative wall friction. A horizontal ground surface behind the wall has been assumed.*

Compaction plant can augment the lateral earth pressure acting on retaining walls. Hand operated compaction equipment is recommended within 2 m of the back of any retaining wall to minimise pressures.

Retaining walls can move and rotate under imposed soil loading, resulting in settlement behind the wall. This must be considered during the design and construction of the retaining walls in order that adjacent structures, services and footings are not adversely affected. It is important to note that some ground movement is to be expected behind any soil retaining system, including gravity retaining walls. This must be considered by the wall designer.

Drainage

Based on the existing subsurface conditions that include low-permeable soils and a high-water table, poor drainage conditions are expected on site, particularly during and after wet season.

A suitably designed surface and subsoil drainage will be required to ensure water is drained away from the site and the proposed structures, and that the structures do not become saturated in service.

The importance of avoiding leakage from underground services and drains near the proposed development is stressed.

Construction Inspections

It is recommended that all site preparation works, the placement of all structural fill and all footing excavations be inspected, tested and certified where necessary, by Construction Sciences Pty Ltd to ensure recommendations made in this report have been adhered to.

Should subsurface conditions other than those described in this report be encountered, Construction Sciences Pty Ltd should be consulted immediately and appropriate modifications developed and implemented if necessary.

Closure

We trust that the above and attached meet your present requirements. If you have any questions, or need more information please contact the undersigned.

We draw your attention to the attached “General Notes” included with this letter report. This information sheet is intended to provide additional information about this letter report and information included within it. This information is provided not to reduce the level of responsibility accepted by Construction Sciences, but to ensure that all parties that rely on this report, and the information contained herein, are aware of the responsibilities that each assumes in so doing.

Yours faithfully,

Johnathon Brisk
Geotechnical Engineer
For Construction Sciences

Joe Oo
Senior Geotechnical Engineer

Attachments:

Construction Sciences - General Notes (1 page)
Figure 1 – Site Investigation Plan (1 page)
Attachment A – Test Pit Logs & Photographs (8 pages)
Attachment B – Laboratory Test Certificates (4 pages)

GENERAL NOTES

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March 2017

GENERAL

This report comprises the results of an investigation carried out for a specific purpose and client as defined in the introduction section(s) of the document. The report should not be used by other parties or for other purposes as it may not contain adequate or appropriate information.

TEST HOLE LOGGING

The information on the Test Hole Logs (Boreholes, Backhoe Pits, Exposures etc.) has been based on a visual and tactile assessment except at the discrete locations where test information is available (field and/or laboratory results).

Reference should be made to our standard sheets for the definition of our logging procedures (Soil and Rock Descriptions).

GROUNDWATER

Unless otherwise indicated the water levels given on the test hole logs are the levels of free water or seepage in the test hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeabilities. Further variations of this level could occur with time due to such effects as seasonal and tidal fluctuations or construction activities. Final confirmation of levels can only be made by appropriate instrumentation techniques and programmes.

INTERPRETATION OF RESULTS

The discussion and recommendations contained within this report are normally based on a site evaluation from discrete test hole data. Generalised or idealised subsurface conditions (including any cross-sections contained in the report) have been assumed or prepared by interpolation/extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

CHANGE IN CONDITIONS

Local variations or anomalies in the generalised ground conditions used for this report can occur, particularly between discrete test hole locations. Furthermore, certain design or construction procedures may have been assumed in assessing the soil structure interaction behaviour of the site.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed in this report should be referred to this firm for appropriate assessment and comment.

FOUNDATION DEPTH

Where referred to in the report, the recommended depth of any foundation (piles, caissons, footings, etc.) is an engineering estimate of the depth to which they should be constructed. The estimate is influenced and perhaps limited by the fieldwork method and testing carried out in connection with the site investigation, and other pertinent information as has been made available. The depth remains, however, an estimate and therefore liable to variation. Footing drawings, designs and specifications based upon this report should provide for variations in the final depth depending upon the ground conditions at each point of support.

REPRODUCTION OF REPORTS

Where it is desired to reproduce the information contained in this report for the inclusion in the contract documents or engineering specification of the subject development, such reproduction should include at least all the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature.

Shire of Dardanup

Eaton Skatepark
Eaton, WA
CSWA0162_P234

Legend

Test pit

N

Not to Scale

Construction Sciences

Map Produced by Construction Sciences WA (5204)
Date: 2020-11-9
Coordinate System: GDA 1994 MGA Zone 52
Map: 5204P234 Site Plan Rev 1.mxd

(Appendix ORD: 12.3.4B)

(Appendix ORD: 12.3.4B)

Construction Sciences

TEST PIT LOG SHEET

Client: Shire of Dardanup
Project: Eton Skate Park
Location: Eaton

Hole No: TP01

Job No: CSWA0162 **Sheet:** 1 of 1

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Machine Type: 11 tonne Excavator **Excavation Method:** Excavator

Excavation Dimensions: **Contractor:** Picton Civil

Date Excavated: 29/10/20 **Logged By:** DM **Checked By:** JB

Excavation				Sampling & Testing			Material Description					
Method	Resistance	Stability	Water	Sample or Field Test	DCP	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX					2 2 5	0		SP	TOPSOIL: SAND: brown-grey, (grass)	D to M		TOPSOIL
					4 6 6 8	0.5		SP	SAND: medium grained, grey 0.30m	M	MD	AEOLIAN
			▽	D 0.70 - 0.90 m	12 7 3	1.0		CH	CLAY: high plasticity, dark gey/blue 0.70m	M (>PL) to M (<LL)	St	ALLUVIUM
						1.5		CI-CH	Silty Sandy CLAY: medium to high plasticity, brown-grey, medium sand 1.30m	M (≈PL)	St	
						2.0						
						2.5		CI	Silty CLAY: medium plasticity, grey with orange/brown 2.40m	M (≈PL)		
						3.0			3.00m TERMINATED AT 3.00 m Target depth			

METHOD
- EX Excavator bucket
- R Ripper
- HA Hand auger
- PT Push tube
- SON Sonic drilling
- AH Air hammer
- PS Percussion sampler
- AS Short spiral auger
- AD/V Solid flight auger: V-Bit
- AD/T Solid flight auger: TC-Bit
- HFA Hollow flight auger
- WB Washbore drilling
- RR Rock roller

PENETRATION
- VE Very Easy (No Resistance)
- E Easy
- F Firm
- H Hard
- VH Very Hard (Refusal)

WATER
- Water Level on Date shown
- water inflow
- water outflow

FIELD TESTS
- SPT - Standard Penetration Test
- PP - Hand/Pocket Penetrometer
- DCP - Dynamic Cone Penetrometer
- PSP - Perth Sand Penetrometer
- MC - Moisture Content
- PBT - Plate Bearing Test
- IMP - Borehole Impression Test
- PID - Photoionisation Detector
- VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
- B - Bulk disturbed sample
- D - Disturbed sample
- ES - Environmental sample
- U - Thin wall tube 'undisturbed'

MOISTURE
- D - Dry
- M - Moist
- W - Wet
- PL - Plastic limit
- LL - Liquid limit
- *w* - Moisture content

SOIL CONSISTENCY
- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard

RELATIVE DENSITY
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

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Figure 5 – TP01 profile and reinstatement

(Appendix ORD: 12.3.4B)

Construction Sciences

TEST PIT LOG SHEET

Client: Shire of Dardanup
Project: Eton Skate Park
Location: Eaton

Hole No: TP02

Job No: CSWA0162 **Sheet:** 1 of 1

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Machine Type: 11 tonne Excavator **Excavation Method:** Excavator

Excavation Dimensions: **Contractor:** Picton Civil

Date Excavated: 29/10/20 **Logged By:** DM **Checked By:** JB

Excavation				Sampling & Testing				Material Description					
Method	Resistance	Stability	Water	Sample or Field Test	DCP	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX					6 15	0.0		SP	TOPSOIL: SAND: brown-grey, (grass) 0.15m	D		TOPSOIL
					15 7 7				FILL: Sandy GRAVEL: medium, grey, medium sand 0.50m	M		FILL
					13 16	0.5		SP	SAND: medium grained, grey 0.70m	M	MD	AEOLIAN
					10 3 4			CH	CLAY: high plasticity, gey/dark blue 1.00m	M (≈PL)	F to St	ALLUVIUM
			▽			1.0		CI-CH	Silty CLAY: medium to high plasticity, grey mottled yellow/brown 2.90m	M (≈PL) M (>LL)	St	
						3.0			TERMINATED AT 2.90 m Target depth			

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
PP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
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VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY
VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CONSTRUCTION SCIENCES PTY LTD

Figure 6 – TP02 profile and spoil

(Appendix ORD: 12.3.4B)

Construction Sciences

TEST PIT LOG SHEET

Client: Shire of Dardanup
Project: Eton Skate Park
Location: Eaton

Hole No: TP03

Job No: CSWA0162 **Sheet:** 1 of 1

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Machine Type: 11 tonne Excavator **Excavation Method:** Excavator

Excavation Dimensions: **Contractor:** Picton Civil

Date Excavated: 29/10/20 **Logged By:** DM **Checked By:** JB

Excavation			Water	Sampling & Testing		Depth (m)	Material Description					
Method	Resistance	Stability		Sample or Field Test	DCP		Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX					7	0		SP	0.05m TOPSOIL: SAND: brown-grey, (grass)	D		TOPSOIL
					5				FILL: Sandy GRAVEL: medium, grey, medium sand 0.15m	D		FILL
					6			SP	SAND: medium grained, grey/brown	M	MD	AEOLIAN
					4							
					7	0.5			0.50m			
					5			CH	CLAY: high plasticity, dark gey/blue		St	ALLUVIUM
					5							
					8							
					5	1.0				M (≈PL)		
					5						St	
						1.5			1.50m			
								SC	Clayey SAND: medium grained, grey, low to medium plasticity clay	M	MD	
				B 1.90 - 2.40 m					1.90m			
						2.0		CI	Silty CLAY: medium plasticity, grey	M (≈PL)	St	
									2.40m			
						2.5		SM-SC	Clayey Silty SAND: medium grained, grey, low plasticity clay	M	MD	
									2.80m			
						3.0			TERMINATED AT 2.80 m Collapse			

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

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MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

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D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY
VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CONSTRUCTION SCIENCES PTY LTD

Figure 7 – TP03 profile and spoil

(Appendix ORD: 12.3.4B)

Construction Sciences

TEST PIT LOG SHEET

Client: Shire of Dardanup
Project: Eton Skate Park
Location: Eaton

Hole No: TP04

Job No: CSWA0162 **Sheet:** 1 of 1

Position: **Angle from Horizontal:** 90° **Surface Elevation:**

Machine Type: 11 tonne Excavator **Excavation Method:** Excavator

Excavation Dimensions: **Contractor:** Picton Civil

Date Excavated: 29/10/20 **Logged By:** DM **Checked By:** JB

Excavation				Sampling & Testing			Material Description					
Method	Resistance	Stability	Water	Sample or Field Test	DCP	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
EX			▽		10	0.0		SP	0.05m TOPSOIL: SAND: medium grained, brown-grey, (grass)	D		TOPSOIL
									0.10m FILL: Sandy GRAVEL: medium, grey, medium sand			FILL
					15							AEOLIAN
					10				SAND: medium grained, grey/brown			
					7			SP		D to M	MD	
					7							
					5	0.5			0.50m			
					6			CH	CLAY: high plasticity, dark gey/blue	M (≈PL)	St	ALLUVIUM
					5				0.70m			
					4				SAND: medium grained, grey			
					4	1.0		SP		M	MD	
						1.5			1.80m			
									Silty CLAY: medium plasticity, grey			
						2.0		CI		M (>LL)	St	
						2.5			2.80m			
									TERMINATED AT 2.80 m Collapse			
						3.0						

METHOD
- EX Excavator bucket
- R Ripper
- HA Hand auger
- PT Push tube
- SON Sonic drilling
- AH Air hammer
- PS Percussion sampler
- AS Short spiral auger
- AD/V Solid flight auger: V-Bit
- AD/T Solid flight auger: TC-Bit
- HFA Hollow flight auger
- WB Washbore drilling
- RR Rock roller

PENETRATION
- VE Very Easy (No Resistance)
- E Easy
- F Firm
- H Hard
- VH Very Hard (Refusal)

WATER
- Water Level on Date shown
- water inflow
- water outflow

FIELD TESTS
- SPT - Standard Penetration Test
- PP - Hand/Pocket Penetrometer
- DCP - Dynamic Cone Penetrometer
- PSP - Perth Sand Penetrometer
- MC - Moisture Content
- PBT - Plate Bearing Test
- IMP - Borehole Impression Test
- PID - Photoionisation Detector
- VS - Vane Shear; P=Peak, R=Residual (uncorrected kPa)

SAMPLES
- B - Bulk disturbed sample
- D - Disturbed sample
- ES - Environmental sample
- U - Thin wall tube 'undisturbed'

MOISTURE
- D - Dry
- M - Moist
- W - Wet
- PL - Plastic limit
- LL - Liquid limit
- *w* - Moisture content

SOIL CONSISTENCY
- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard

RELATIVE DENSITY
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CONSTRUCTION SCIENCES PTY LTD

Figure 8 – TP04 profile and spoil

Construction Sciences

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ABN: 74 128 806 735

Address:
72 McCombe Road,
Davenport WA 6230

Laboratory: Bunbury
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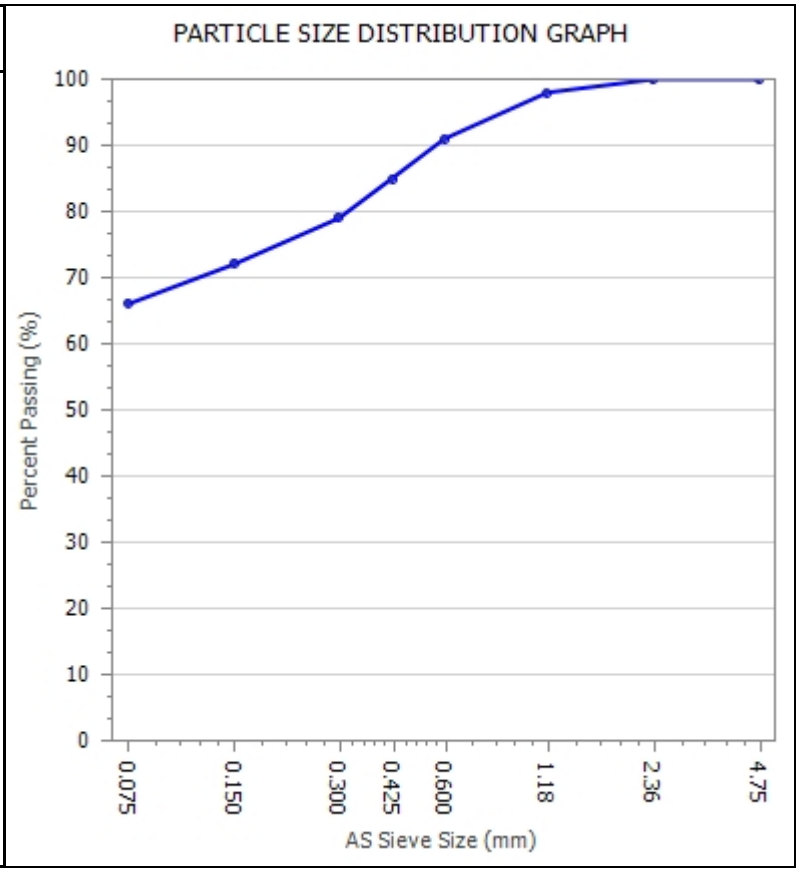
Fax: 08 9721 2348
Email: Bunbury@constructionsciences.net

PARTICLE SIZE DISTRIBUTION REPORT

Client:	Construction Sciences Engineers	Report Number:	5022/R/42607-1
Client Address:	72 McCombe Road, Bunbury	Project Number:	5022/P/1719
Project:	Shire of Dardanup - Eaton Skate Park	Lot Number:	TP03
Location:	Eaton WA	Internal Test Request:	5022/T/13049
Supplied To:	Shire of Dardanup	Client Reference/s:	
Area Description:		Report Date / Page:	4/11/2020 Page 1 of 1

Test Procedures:	AS1289.3.6.1		
Sample Number	5022/S/69729	Sample Location	
Sampling Method	Tested As Received	Test Request	
Date Sampled	30/10/2020	Area	
Sampled By	Client Sampled	Location	
Date Tested	3/11/2020	Sample No.	
Material Source	Insitu Material	Material Type	Grey CLAY

AS Sieve (mm)	Specification Minimum (%)	**Percent Passing (%)**	Specification Maximum (%)
4.75		**100**	
2.36		**100**	
1.18		**98**	
0.600		**91**	
0.425		**85**	
0.300		**79**	
0.150		**72**	
0.075		**66**	



Remarks	Results apply to the sample/s as received.

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 5022

Approved Signatory: Janine Fischer
Form ID: W9Rep Rev 2

Construction Sciences

Construction Sciences Pty Ltd
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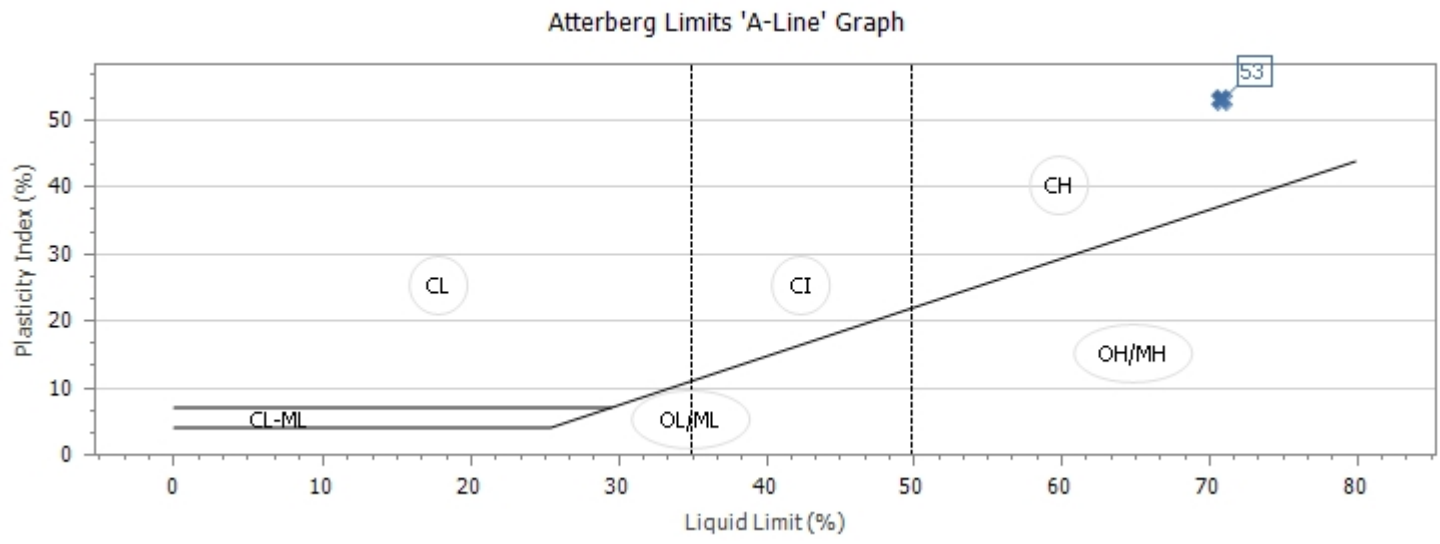
ATTERBERG LIMITS REPORT

Client:	Construction Sciences Engineers	Report Number:	5022/R/42649-1
Client Address:	72 McCombe Road, Bunbury	Project Number:	5022/P/1719
Project:	Shire of Dardanup - Eaton Skate Park	Lot Number:	TP03
Location:	Eaton WA	Internal Test Request:	5022/T/13049
Supplied To:	Shire of Dardanup	Client Reference/s:	
Area Description:		Report Date / Page:	5/11/2020 Page 1 of 1

Test Procedures:	AS1289.3.1.1, AS 1289.3.3.1, AS1289.3.2.1, AS1289.3.4.1, AS1289.2.1.1, AS1726 (Tables 9/10)		
Sample Number	5022/S/69729	Sample Location	
Sampling Method	Tested As Received	Test Request	
Date Sampled	30/10/2020	Area	
Sampled By	Client Sampled	Location	
Date Tested	4/11/2020	Sample No.	
Att. Drying Method	Oven Dried	Material Source	Insitu Material
Atterberg Preparation	Dry Sieved	Material Type	Grey CLAY
Material Description	Grey Sand CLAY		

Atterberg Limits Results

Atterberg Limit	Specification Minimum	Test Result	Specification Maximum
Liquid Limit (%)		**71**	
Plastic Limit (%)		**18**	
Plasticity Index (%)		**53**	
Linear Shrinkage (%)		**15.0**	
Linear Shrinkage Defects:	Curl		



Remarks	Results apply to the sample/s as received.

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 5022

Approved Signatory: Janine Fischer
Form ID: W11Rep Rev 1

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Email: Bunbury@constructionsciences.net

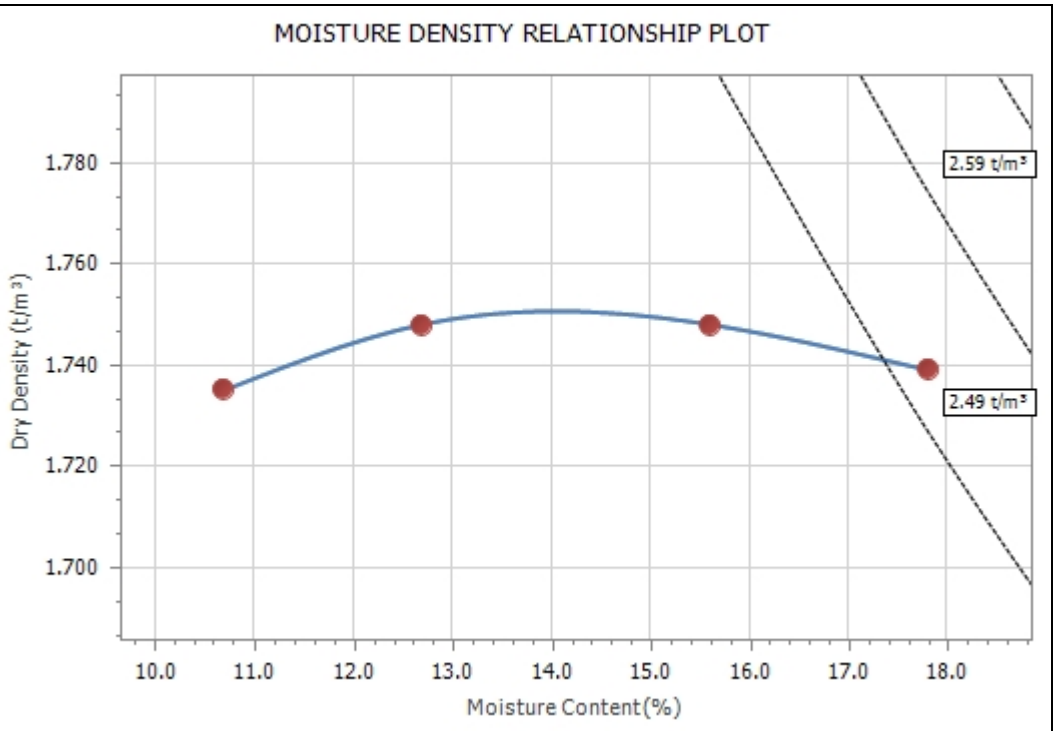
MOISTURE DENSITY RELATIONSHIP REPORT

Client:	Construction Sciences Engineers	Report Number:	5022/R/42552-1
Client Address:	72 McCombe Road, Bunbury	Project Number:	5022/P/1719
Project:	Shire of Dardanup - Eaton Skate Park	Lot Number:	TP03
Location:	Eaton WA	Internal Test Request:	5022/T/13049
Supplied To:	Shire of Dardanup	Client Reference/s:	
Area Description:		Report Date / Page:	2/11/2020 Page 1 of 1

Test Procedures	AS1289.5.2.1, AS1289.2.1.1	Sample Location	
Sample Number	5022/S/69729	Test Request	
Sampling Method	Tested As Received	Area	
Date Sampled	30/10/2020	Location	
Sampled By	Client Sampled	Sample No.	
Date Tested	30/10/2020	Compactive Effort	Modified
Material Source	Insitu Material	Fraction Tested (mm)	< 19.0mm
Material Type		Percent Oversize (%)	0.0
Liquid Limit Method	Estimation	Total Curing Time (hrs)	48.0
Material Description	Grey Sand CLAY		

Moisture / Density Relationship Data

Moisture Content (%)	Dry Density (t/m³)
10.7	1.735
12.7	1.748
15.6	1.748
17.8	1.739



Maximum Dry Density (t/m³):	1.75	Optimum Moisture Content (%):	14.0

Remarks	Results apply to the sample/s as received.

Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 5022

Approved Signatory: Janine Fischer
Form ID: W4Rep Rev2

Construction Sciences

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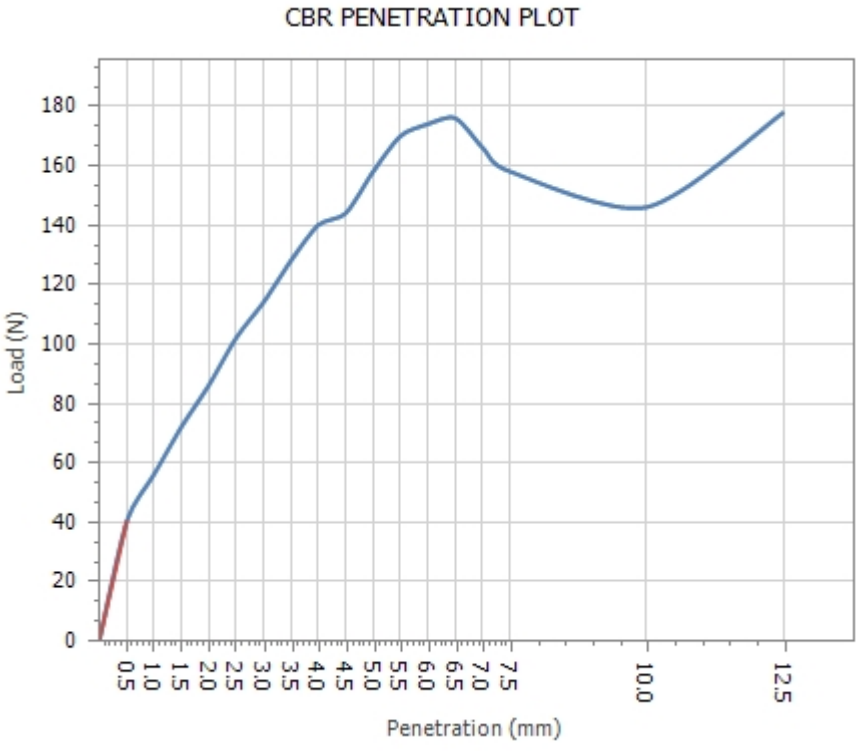
Email: Bunbury@constructionsciences.net

CALIFORNIA BEARING RATIO REPORT

Client:	Construction Sciences Engineers	Report Number:	5022/R/42711-1
Client Address:	72 McCombe Road, Bunbury	Project Number:	5022/P/1719
Project:	Shire of Dardanup - Eaton Skate Park	Lot Number:	TP03
Location:	Eaton WA	Internal Test Request:	5022/T/13049
Supplied To:	Shire of Dardanup	Client Reference/s:	
Area Description:		Report Date / Page:	9/11/2020 Page 1 of 1

Test Procedures	AS1289.6.1.1, AS1289.5.2.1, AS1289.2.1.1		
Sample Number	5022/S/69729	Sample Location	
Sampling Method	Tested As Received	Test Request	
Date Sampled	30/10/2020	Area	
Sampled By	Client Sampled	Location	
Date Tested	6/11/2020	Sample No.	
Material Source	Insitu Material	Material Limit Start	-
Material Type	Grey CLAY	Material Limit End	-
Client Reference	-	Compactive Effort	Modified
Material Description	Grey Sand CLAY		

Maximum Dry Density (t/m³):	1.75
Optimum Moisture Content (%):	14.0
Field Moisture Content (%):	22.0
Sample Percent Oversize (%)	0.0
Oversize Included / Excluded	Excluded
Target Density Ratio (%):	95
Target Moisture Ratio (%):	100
Placement Dry Density (t/m³):	1.66
Placement Dry Density Ratio (%):	94.5
Placement Moisture Content (%):	14.3
Placement Moisture Ratio (%):	102.0
Test Condition / Soaking Period:	Soaked / 4 Days
CBR Surcharge (kg)	4.5
Dry Density After Soak (t/m³):	1.53
Total Curing Time (hrs)	72
Liquid Limit Method	Estimation
Moisture (top 30mm) After Soak (%)	40.0
Moisture (remainder) After Soak (%)	23.2
CBR Swell (%):	8.5
Minimum CBR Specification (%):	-
CBR Value @ 5.0mm (%):	**1.0**



Remarks	Results apply to the sample/s as received.

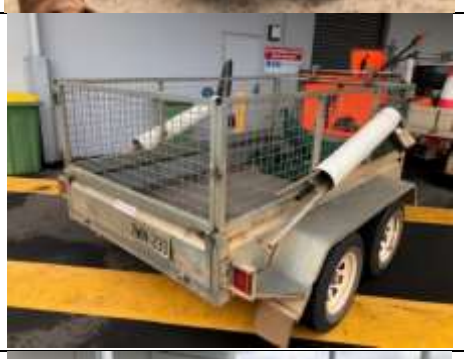
Accredited for compliance with ISO/IEC 17025 – Testing

NATA

Accreditation Number: 1986
Corporate Site Number: 5022

Approved Signatory: Janine Fischer
Form ID: W2ASRep Rev2

(Appendix ORD: 12.3.5A)

Plant Details		Description		(2021/22 Budget)	Integrated Planning Committee Meeting (14 April 2021)				
Asset No.	Rego	Trailer Type, Condition, Use	Photo	2020/21 ($)	2023/24 ($) IPC	2025/26 ($)	2026/27 ($)	2029/30 ($)	2030/31 ($)
SV001	1TCK914	TRAILER CMADE FLAT-TOP (SIGNS) Fair Condition. Not used. Surplus to requirements.		1,838					2,790
SV021	1TJU113	2009 LDSTAR BOXTOP TRAILER – 8x5 Average Condition Modified configuration needs to be managed to meet load limits						3,108	
SV024	DA9429	2012 ALUM TRAILOR (TORO LAWNMOWER) Good Condition To be replaced with Lawn Mower RFQ		5,013					7,609
SV025	7WN233	8x5 BOXTOP TRAILER Good Condition Suits purpose			2,650				
SV026	1TMX103	2012 8x5 BOXTOP TIP TRAILER Good condition Ram reach too short – dense, damp or heavy loads have to be moved manually			2,760				
SV027	DA4311	8x5 BOXTOP TRAILER Fair Condition Modified configuration suits road verge / road edge works			2,429				
SV029	1TPB147	TRAILER MOUNTED MESSAGE BOARD ??				29,886			

Plant Details		Description		(2021/22 Budget)	Integrated Planning Committee Meeting (14 April 2021)				
Asset No.	Rego	Trailer Type, Condition, Use	Photo	2020/21 ($)	2023/24 ($) IPC	2025/26 ($)	2026/27 ($)	2029/30 ($)	2030/31 ($)
SV030	DA15303	COASTMAC 7x4 BOXTOP TRAILER Good Condition. Needs some repairs. Manoeuvrability suits purpose.					2,226		
SV031	DA15304	COASTMAC 8x5 BOXTOP TRAILER Good Condition Modified configuration to suit purpose.					3,175		
SV032	DA15305	COASTMAC 8x5 BOXTOP TRAILER Excellent Condition. Modified configuration to suit purpose.					3,175		
SV033	DA15309	COASTMAC 10x5 TRAILER Good Condition Used daily. Extra length uselful					6,093		
SV034	DA15307	8x5 BOXTOP FUEL TRAILER Fair Condition Used to support plant in remote locations					5,741		
SV999	1TFN139	PLANT AND EQUIPMENT TRAILER Fair Condition Used infrequently for odd shaped loads or larger loads		12,534					19,024
00330	1TBF066	1997 CMADE TRAILER (WITH AUGER) Good Condition Auger method redundant Not used. Surplus to requirements.							
SV023	1TKW681	2010 LDSTAR TANDEM TRAILER Poor Condition Periodic utility use							

Plant Details		Description		(2021/22 Budget)	Integrated Planning Committee Meeting (14 April 2021)				
Asset No.	Rego	Trailer Type, Condition, Use	Photo	2020/21 ($)	2023/24 ($) IPC	2025/26 ($)	2026/27 ($)	2029/30 ($)	2030/31 ($)
SV035	DA15316	2016 COASTMAC 8x5 TRAILER (EVENTS / EMERGENCY) Excellent Condition Modified to suit events / emergencies Infrequent use							

RISK ASSESSMENT TOOL

OVERALL RISK EVENT: Plant Program – Trailer Renewals

RISK THEME PROFILE:

1 - Asset Sustainability Practices
14 - Safety and Security Practices
15 - Supplier and Contract Management

RISK ASSESSMENT CONTEXT:

CONSEQUENCE CATEGORY	RISK EVENT	PRIOR TO TREATMENT OR CONTROL			RISK ACTION PLAN (Treatment or controls proposed)	AFTER TREATEMENT OR CONTROL		
		CONSEQUENCE	LIKELIHOOD	INHERENT RISK RATING		CONSEQUENCE	LIKELIHOOD	RESIDUAL RISK RATING
HEALTH	Operator injury.	Moderate (3)	Possible (3)	Moderate (5 - 11)	Not required.	Not required.	Not required.	Not required.
FINANCIAL IMPACT	Renewal of redundant plant. Future non-renewal of required plant.	Minor (2)	Likely (4)	Moderate (5 - 11)	Not required.	Not required.	Not required.	Not required.

(Appendix ORD: 12.3.5B)