REQUEST FOR PROPOSALS

FOR

CONSTRUCTION OF THE SUMMERLAND SKATEPARK

RFP #: 2018-RFP-12

ISSUED ON: MAY 3, 2018

CLOSING DATE AND TIME: MAY 17, 2018 AT 3:00PM LOCAL TIME

Summary, Contents & Instructions:

Summary:

Through this Request for Proposals, the District of Summerland invites Proposals for the construction of the Summerland Skatepark, to be located at the intersection of Jubilee Road West and Rosedale Avenue in Summerland, BC. Detailed designs and specifications are complete, and construction work is to commence as soon as possible, with Substantial Performance of the work achieved no later than November 30th, 2018.

This RFP document sets-out: the Scope of Work required; the process for submission, evaluation and award of the Contract; the terms and conditions of the Contract; plus forms which outline the information a Respondent to this RFP should submit in their Proposal.

Contents:

This Request for Proposals (the "RFP") is organized into the following parts:

- Part A: The Scope of Work – full details of the Scope of Work required
- Part B: The RFP Process – the process for submissions, evaluation and award of the Contract
- Part C: The Contract – the Contract the District will enter into with the selected Contractor
- Part D: Submission Forms – the forms a Respondent should submit in their Proposal

In addition, the following Exhibits to Part A – the Scope of Work are attached:

- **Exhibit 1 – Design Drawings for the Summerland Skatepark** (Issued for Tender/RFP)
- **Exhibit 2 – Technical Specifications for the Summerland Skatepark** (Issued for Tender/RFP)
- **Exhibit 3 – Geotechnical Report** dated March 21, 2016 (provided for information only and will not form part of the contract documents).

Instructions:

Whenever you see the following symbol and box throughout this document, this box is providing instructions to a Respondent on what this section means and/or what a Respondent must do:

Example:

Whenever you see this box throughout the RFP document, the text is providing instructions or information on what this section means and/or what a Respondent must do.

Part A: The Scope of Work

This Part A provides details on the Works required by the District of Summerland (referred to herein as the "District"). Respondents should ensure they are fully capable of providing all of the requirements outlined, as this section will form the scope of work in the final Contract.

1. Background

1.1. District of Summerland:

The District of Summerland is a municipality of approximately 11,600 residents, located in British Columbia's Okanagan Valley, between Kelowna and Penticton. Further details on the District can be found at www.summerland.ca

1.2. Summerland Skatepark:

A project to construct a new skatepark has been a long-time objective for the District, with direct community involvement in the design process, and local fundraising campaigns contributing to the proceeds for the project.

The new skatepark will be located at a key intersection for the District, on the corner of Jubilee Road West and Rosedale Avenue. As such, the skatepark will act as one of the recreational focal points for the District, in addition to providing much-needed recreational opportunities for youth, family, and other community groups.

Detailed designs and specifications for the skatepark were completed in April 2018 by a design consultant employed by the District. Through the issue of this Request for Proposals process, the District now seeks to employ an experienced skatepark construction firm (the "Contractor") to complete construction of the park, plus associated services.

2. Scope of Work:

2.1. Scope of Work – Overview:

The Scope of Work is split into the following 2 parts:

- Base Work – all work to be performed by the Contractor to complete the construction of the skatepark structure; and
- Provisional Work Items – additional works items, some of which may be added to the Base Work by the District at the District's discretion if budget allows, following completion of the RFP process.

The Base Work is all work detailed in the Drawings and Specifications, except for items labelled as "Provisional Items". Provisional Items are labelled as such in the Drawings and Specifications.

2.2. Drawings & Specifications:

In addition to the Scope of Work requirements stated in this Part A, the Scope of Work for the Contractor shall be as detailed in the following Exhibits to this Part A:

- **Exhibit 1** – Design Drawings for the Summerland Skatepark, which includes the following drawings:

Drawing Number:	Drawing Title:	Revision Number:	Revision Date:
SK-001	Context Plan	5	05.02.18
SK-002	Existing Conditions and Demolition	5	05.02.18
SK-003	Site Plan	5	05.02.18
SK-004	Trenching and Drainage	5	05.02.18
SK-005	Rough Grading and General Layout	5	05.02.18
SK-006	Site Sections	5	05.02.18
SK-007	Foundation Layout	5	05.02.18
SK-008	Walls and Ledges	5	05.02.18
SK-009	Layout and Dimensions	5	05.02.18
SK-010	Ordinate Layout	5	05.02.18
SK-011	Grading Plan	5	05.02.18
SK-012	Materials Plan	5	05.02.18
SK-013	Joint Plan	5	05.02.18
SK-D-000	Detail Reference	5	05.02.18
SK-D-001	Details Sheet 1	5	05.02.18
SK-D-002	Details Sheet 2	5	05.02.18
SK-D-003	Details Sheet 3	5	05.02.18
SK-D-004	Details Sheet 4	5	05.02.18
SK-DT-001	Typical Skatepark Details	5	05.02.18

- **Exhibit 2** – Technical Specifications for the Summerland Skatepark (Issued for Tender/RFP)

3. Construction Schedule:

The District anticipates executing a contract with the Contractor as soon as possible, and no later than May 25, 2018. The Contractor must achieve Substantial Performance for all works no later than November 30th, 2018, however the District has a preference for Substantial Performance to be achieved earlier than this date if possible.

4. Maximum Budget:

For the completion of all work to construct the Summerland Skatepark, the District has a maximum budget available of $595,000 (the "Maximum Budget"). This Maximum Budget is deemed sufficient to cover the Base Work plus all other potential Provisional Item Works at the site. The District therefore anticipates that Proposed Pricing in Part D, Appendix B for the sum of the Total Contract

Price plus all Provisional Item Work Lump Sum Prices should be less than the Maximum Budget, and the District may at its discretion reject any Proposal which exceeds this Maximum Budget.

5. Pre-Requisites for the Contractor:

Listed below are the minimum requirements for the Contractor on this Contract. Respondents that do not meet these pre-requisites should not submit a Proposal to this RFP. Determination of whether a Respondent to this RFP meets these requirements shall be at the sole discretion of the District.

- The Contractor must have completed at least five concrete skatepark facilities, which meet the following criteria:
  a) The Contractor must have had sole responsibility for the construction of the entire skatepark facility as the general contractor.
  b) The skatepark construction used cast-in-place concrete, which exceeded 700m2 of skatepark surface area.
  c) At least two of these projects must have been completed and commissioned for use since April 1, 2014.
- The Contractor's Shotcrete Nozzle Operator Sub-contractor must be qualified under the ACI Shotcrete Nozzleman Certification Program; and have at least five years of experience in performing Shotcrete for skatepark applications.
- The Contractor's Concrete Finishing Sub-contractor must have at least five years of experience in concrete finishing on skateparks.

6. WorkSafeBC Prime Contractor Responsibility:

The Contractor will be required to hold WorksafeBC coverage during the Work, covering all its employees and subcontractors. In addition, the Contractor will be the "Prime Contractor" and take on all responsibilities for the work and construction worksite, as defined for the Prime Contractor in the Worker's Compensation Act and Occupational Health & Safety Regulations. The Contractor shall be responsible for submission of the Notice of Project to WorksafeBC.

7. Contract Security:

In accordance with GC11.2 of Part C - Form of Contract (CCDC2 – 2008), the Contractor shall provide the following contract security upon execution of the Contract:

- A Performance Bond in the amount of 50% of the Total Contract Price, in the format of Performance Bond Form CCDC 221.
- A Labour & Material Payment Bond in the amount of 50% of the Total Contract Price, in the format of Labour & Material Payment Bond Form CCDC 222.

8. Disclosures By The District – Design Engineer:

For the completion of the design drawings and technical specifications used in this RFP, the District has used a design and engineering company that is experienced in designing skateparks. This same design and engineering company may submit a proposal to this RFP # 2018-RFP-12 for this construction phase of the project. The award of any Contract resulting from this RFP will be strictly on the basis of the evaluation process detailed in Part B and will in no way be influenced by any Respondent's prior work with the District. In order to ensure that no Respondent has an unfair

advantage in this RFP process, the District has made available through this RFP, all information on designs, specifications and other information that it has and would reasonably consider to be important in submitting a Proposal. Additionally, only employees of the District plus the District's Purchasing Consultant will be involved in the receipt and answer of any questions submitted by Respondents during the RFP process. If any Respondent has a concern or question about unfair advantage on this RFP process, then the Respondent should contact the RFP Contact Person named in Part B.

9. Additional Information - Geotechnical Report:

Provided in Exhibit 3 to this Part A is a geotechnical report for the site of the works, commissioned by the District in 2016. This geotechnical report is provided for information only, and will not form part of the Contract Documents in Part C. As per the Technical Specifications (Exhibit 2), the Contractor shall be responsible for its own geotechnical and other testing as part of the Quality Assurance requirements.

Part B: The RFP Process

This Part B details the terms and conditions of how this RFP process will be run by the District, and how the Contractor will be selected. Respondents to this RFP must ensure they follow all the terms detailed below. Failure to follow the terms of this Part B may result in a Proposal being rejected.

1. Key Details:

1.1. RFP Contact Person:

The point of contact at the District of Summerland for any queries or questions related to this RFP is:

- Lori Mullin, Recreation Manager
- lmullin@summerland.ca

All questions regarding this RFP must be submitted in writing prior to the Deadline for Questions detailed under Section 1.2 of this Part B. Questions received after the Deadline for Questions will be addressed if time permits. The Respondent is solely responsible for seeking any clarification required regarding this RFP, and the District shall not be held responsible for any misunderstanding by the Respondent.

1.2. Timetable:

This RFP process will run to the following timetable. This timetable may be amended at the District's discretion through the issuance of an addendum to this RFP.

Event:	Date:
Issue Date of this RFP	May 3, 2018
Deadline for Questions	May 15, 2018 at 12:00PM Local Time
Last Day for Issue of Addenda	May 15, 2018
RFP Closing Date and Time:	May 17, 2018 at 3:00PM Local Time
Latest Contract Execution Date (estimated)	May 25, 2018

1.3. Site Meeting:

No site meeting will be held for this RFP. Respondents should submit any questions they may have in accordance with Section 1.1 of this Part B.

1.4. Submission of Proposals (Address, Date & Time, Format):

Proposals to this RFP should be submitted in accordance with the following:

- **Closing Location:** Proposals must be submitted at:
  District of Summerland Municipal Hall
  PO Box 159, 13211 Henry Ave
  Summerland, BC. V0H 1Z0
- **RFP Closing Date and Time:** Proposals must be received no later than the RFP Closing Date and Time detailed in section 1.2 above.
- **Proposal Format:** One paper original, together with one paper copy and one electronic copy (on USB drive, in PDF format), in a sealed envelope containing all the information

required in the forms listed under Part D – Submission Forms. The envelope should be clearly marked with the name and address of the Respondent, as well as the words "2018-RFP-12 – Construction of the Summerland Skatepark RFP".

It is the Respondent's sole responsibility to ensure that the Proposal is received before the RFP Closing Date and Time. Proposals sent by facsimile or email will not be accepted.

2. Definitions Used in this RFP:

The following are definitions used in this RFP document. Whenever one of the following terms is used with a capitalized first letter, the term shall have the meaning as set out in this section.

2.1. "Addenda" or "Addendum" means additional information or amendments to this RFP, issued by the District in accordance with Section 5 of this Part B.
2.2. "District" means the District of Summerland
2.3. "Contract" means a written agreement for the provision of the Work that may result from this RFP, executed between the District and the successful Respondent to this RFP.
2.4. "Contractor" means the successful Respondent to this RFP who enters into the Contract.
2.5. "Closing Date and Time" means the date and time that Proposals to this RFP must be received by in accordance with Section 1.4 of this Part B.
2.6. "Proposal" means a Proposal submitted by a Respondent in response to this RFP.
2.7. "Respondent" means a person or entity that submits a Proposal to this RFP.
2.8. "RFP" means this Request For Proposals # 2018-RFP-12, including all Parts A to D.
2.9. "Section" means the numbered section of the referenced part of this RFP.
2.10. "Work", "Works", or "Scope of Work" means the construction and associated works which the District seeks to be provided by the Contractor, as outlined in Part A.
2.11. "Subcontractor" means a person, partnership, firm or corporation that the Respondent proposes to contract with to deliver part of the Work, in a subordinate relationship to the Respondent.

3. Amendment of a Proposal by Respondent:

A Respondent may amend a Proposal at any time up until the RFP Closing Date and Time. Amendments must be submitted in the same way as the original Proposal, as detailed in Section 1.4 of this Part B. Amendments to a Proposal must be clearly labelled as such, must contain the RFP reference number and title, and the full legal name and legal address of the Respondent. Amendments must clearly detail which part(s) of the Proposal is being amended or replaced.

4. Withdrawal of a Proposal by Respondent:

A Respondent may withdraw a Proposal that is already submitted at any time throughout the RFP process, including after the Closing Date and Time.

5. Addenda Issued by District:

This RFP may only be amended by way of an Addendum issued in accordance with this Section. At any time up until the Closing Date and Time, the District may issue an Addendum in order to amend,

clarify, or answer questions to this RFP. Each Addendum will be issued at the same location and in the same manner as this RFP document (at www.summerland.ca/business-economy/bid-opportunities). Each Addendum will form an integral part of this RFP. Respondents are solely responsible for checking for Addenda up until the Closing Date and Time. If the District deems it necessary to issue an Addendum after the Last Day for Issue of Addenda, as detailed in Section 1.2 of this Part B, then the District may extend the Closing Date and Time in order to provide Respondents with more time to complete their Proposal.

Proposals should confirm receipt of all Addenda in Appendix A – Certification Form of their Proposal.

6. Evaluation of Proposals & Award of Contract:

The District will conduct the evaluation of Proposals and selection of a successful Respondent in accordance with the process detailed in this Section. Evaluation of Proposals will be by an evaluation committee which may include District employees and the District's Purchasing Consultant. The District's intent is to enter into a Contract with the Respondent who has met all mandatory criteria and minimum scores, and who has the highest overall ranking based on this evaluation process.

6.1. Mandatory Criteria:

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration in the evaluation process.

Mandatory Criteria:	
1	The Proposal must be received by the Closing Date and Time, in accordance with the requirements of Section 1.4
2	The Proposal must include the following completed form: • Appendix A – Certification Form

6.2. Scored Criteria:

Proposals that meet all of the Mandatory Criteria will be further assessed against the following scored criteria.

Scored Criteria	**Weighting**	**Minimum Score** (Out of 100)
Total Contract Price for Base Work (based on Appendix B submission)	40%	NA
Suitability of Experience and References of the Respondent and Subcontractors (based on Appendix C submission)	20%	50
Suitability of Proposed Construction Schedule (based on Appendix D submission)	20%	50
Suitability of Project Team (based on Appendix E submission)	10%	50
Suitability and Experience of Subcontractors (based on Appendix F submission)	10%	50

Proposals that do not meet the minimum score within a scored criterion will not be evaluated further.

6.3. Scoring Method:

The following method will be used to score the scored criteria:

- Total Contract Price: Total Contract Price will be scored relative to other Respondents' Total Contract Prices using the following formula:
  - *Lowest Total Contract Price ÷ Respondent's Total Contract Price × Weighting = Score*
- Other Criteria: All other criterion (except Total Contract Price) will be scored by the evaluation committee out of 100, which will then be multiplied by the Weighting factor to provide a weighted score.

6.4. Clarifications & Remedy Period:

Notwithstanding the requirements for mandatory criteria and scored criteria detailed in this Section 6, the District will allow the following remedies and clarifications at it sole discretion:

- Remedy for missing Mandatory Criteria: If the District finds that a Proposal fails to meet all of the mandatory requirements detailed in Section 6.1, then the District may provide written notification to a Respondent which identifies the requirements not met and provides the Respondent with 3 calendar days to remedy and supply the requirements. The 3 calendar days shall commence upon notification by the District to the Respondent. This option to remedy missing requirements shall not apply to Proposals not received by the Closing Date and Time.
- Clarification of Proposals: During evaluation of the scored criteria, the District may at its sole option, request further details or clarification from the Respondent and/or third parties, on aspects of a Proposal by way of a written request for clarification. The written request shall clearly state the required clarification and time limit to supply the information requested. Following receipt of the clarification information, the District may use this information to reassess and/or re-score the Proposal according to the scored criteria.

6.5. Ranking of Respondents:

Following completion of the evaluation against the scored criteria, the weighted scores for each Proposal will be added together, and Proposals will be ranked according to their total weighted scores. The Respondent with the highest-ranked Proposal will be invited to conclude a Contract with the District. In the event that two or more Proposals have an equal total weighted-scored, then the Respondent with the Lowest Total Price will be invited to enter into a Contract with the District.

6.6. Conclusion and Execution of a Contract

Neither the District nor any Respondent will be legally bound to provide or purchase the Works until the execution of a written Contract. Following an invitation to a Respondent, by the

District, to conclude a Contract, it is expected that the District and that Respondent would enter into discussions which may include, among other things:

- Clarification or amendment to the scope of work, plus any resulting price adjustments, based on items submitted in the Proposal.
- Amendments to the terms and conditions of the Contract (Part C), based on items submitted in the Proposal.

The District would seek to execute a Contract within 30 days of issuing an invitation to the Respondent to conclude a Contract. If the District and Respondent do not, for any reason, execute a Contract within this time-period, the District may discontinue the process with that Respondent and invite the Respondent with the next-highest-ranked Proposal to conclude a Contract. The District may then continue this process until a Contract is executed, or there are no further Respondents, or the District otherwise elects to cancel the RFP process entirely. For clarity, the District may discontinue discussions with a Respondent if at any time the District is of the view that it will not be able to conclude a Contract with that Respondent.

7. Other Terms & Conditions of this RFP Process:

The following terms and conditions shall also apply to this RFP:

7.1. Proposals in English:

All Proposals are to be in the English language only.

7.2. Only One Entity as Respondent:

The District will accept Proposals where more than one organization or individual is proposed to deliver the Work, so long as the Proposal identifies only one entity that will be the lead entity and will be the Respondent with the sole responsibility to perform the Contract if executed. The District will only enter into a Contract with that one Respondent. Any other entity involved in delivering the Service should be listed as a Subcontractor. The Respondent may include the Subcontractor and its resources as part of the Proposal and the District will accept this, as presented in the Proposal, in order to perform the evaluation. All Subcontractors to be used in the Service must be clearly identified in the Proposal.

7.3. Proposals to Contain All Content in Prescribed Forms:

All information that Respondents wish to be evaluated must be contained within the submitted Proposal. Proposals should not reference external content in other documents or websites. The District may not consider any information which is not submitted within the Proposal or within the pre-prescribed forms set-out in this RFP.

7.4. References and Experience:

In evaluating a Respondent's experience, as per the scored criteria, the District may consider information provided by the Respondent's clients on the projects submitted in the Proposal, and may also consider the District's own experience with the Respondent.

7.5. Respondent's Expenses:

Respondents are solely responsible for their own expenses in participating in this RFP process, including costs in preparing a Proposal and for subsequent finalizations of an

agreement with the District, if required. The District will not be liable to any Respondent for any claims, whether for costs, expenses, damages or losses incurred by the Respondent in preparing its Proposal, loss of anticipated profit in connection with any final Contract, or any matter whatsoever.

7.6. Retention of Proposals and FOIPPA:

All Proposals submitted to the District will not be returned and will be retained in accordance with the Freedom of Information and Protection of Privacy Act ("FOIPPA"). Respondents should note that in accordance with the provisions of FOIPPA, certain details of this RFP and any executed Contract may be made public, including the Contractor's Name and total Contract price. Respondents should identify with their Proposal any information which is supplied in confidence, however, Respondents should be aware of and review the District's obligations under FOIPPA and the District's limited ability to refuse to disclose third party information pursuant to section 21 of FOIPPA.

7.7. Clarification of Proposals:

The District may, at its sole discretion, seek clarification from Respondents on any aspect of their Proposal, in order to clarify meaning, intent or to help inform the District's evaluation process outlined under Section 6 of this Part B.

7.8. Notification and Feedback to Unsuccessful Respondents:

At any time up until or after the execution of a written Contract with the Contractor, the District may notify unsuccessful Respondents in writing that they have not been selected to conclude a Contract. Unsuccessful Respondents may then request a feedback email or telephone call with the District in order to obtain feedback on how their Proposal faired in the evaluation. Such requests for feedback must be made within 30 days of notification of the RFP results to the unsuccessful Respondent. Details of feedback provided will be at the District's sole discretion in order to protect the confidentiality of other Respondents and the District's commercial interest.

7.9. Conflict of Interest:

All Respondents must disclose an actual or potential conflict of interest, as set-out in Appendix A – Certification Form. The District may, at its sole discretion, disqualify any Respondent from this RFP process, if it determines that the Respondent's conduct, situation, relationship (including relationships of the Respondent's employees and District employees) create or could be perceived to create a conflict of interest.

The District may rescind or terminate a Contract entered into if it subsequently determines that the Respondent failed to declare an actual or potential conflict of interest during this RFP process, as required under Appendix A – Certification Form.

7.10. Confidentiality:

All information provided to Respondents by the District as part of this RFP process is the sole property of the District and must not be disclosed further without the written permission of the District.

7.11. No Contract A and No Claims:

This RFP process is not intended to create and no contractual obligations whatsoever (including what is commonly referred to as 'Contract A') shall arise between the District and any Respondent upon the submission of a Proposal in response to this RFP. For extra clarity, both the Respondent and the District are free to cancel their participation in this RFP process at any time up until the execution of a written Contract for the Work.

Without limiting the above paragraph, no Respondent shall have any claim whatsoever against the District for any damage or other loss resulting from a Respondent's participation in this RFP, including where the District does not comply with any aspect of this RFP and including any claim for loss of profits or Proposal preparation costs should the District not execute a Contract with the Respondent for any reason whatsoever.

7.12. Right to Cancel RFP:

Although the District fully intends to conclude a Contract as a result of this RFP, the District may at its sole discretion, cancel or amend this RFP process at any time without any liability to any Respondent.

7.13. Governing Law and Trade Agreements:

This RFP is governed by the laws of the Province of British Columbia and any other agreements which exist between the Province of British Columbia and other jurisdictions.

Part C: The Contract

This Part C details the Contract terms and conditions that the District will enter into with the Contractor at the conclusion of the process outlined in Section 6.6 of Part B.

The District and the successful Respondent shall enter into a Contract for the Scope of Work using the **Canadian Construction Documents Committee CCDC2 (2008) Stipulated Price Contrac**t, as modified by the Supplementary General Conditions contained in this Part C.

SUPPLEMENTARY GENERAL CONDITIONS TO CCDC2 - 2008

SC 01: Article A-3 Contract Documents

Add the following to the list of Contract Documents:

"Supplementary General Conditions

Negotiated changes

Proposal; and

Request for Proposals".

SC 02: Article A-4 Contract Price

Add the following new Article 4.6:

"The Contract Price is the entire compensation payable by the Owner to the Contractor for performing the Work and shall be subject to adjustment only as expressly provided in the Contract Documents."

SC 03: Article A-5 Payment

5.3.1(2) replace "4%" with "2%".

SC 04: Article A-7 Language of The Contract

Delete Article A-7 in its entirety

SC 05: Definitions

Add the following definitions:

Discretion	Discretion means, when a party has "discretion", that the party has the sole, absolute and unfettered authority to act in its view of its own interest without any regard to the interests of others, and with no requirement to act reasonably or provide reasons unless specifically required under the provisions of the Contract.
District	District means Owner
District of Summerland	District of Summerland means Owner

Key Team Member	Key Team Member means the specific individuals, exclusive to the Contractor, filling the Key Team Member roles described in the Contractor's response to the RFP.
Project	Project means the Summerland Skatepark project.
Project Site	Project Site means the location of the project, as described in the Contract Documents.
Proposal	Proposal means the Contractor's response to the RFP.
Request for Proposals or RFP	Request for Proposals or RFP means RFP# 2018-RFP-12 for the Construction of the Summerland Skatepark issued by the District.

SC 06: GC 1.1 Contract Documents

Delete the entire paragraph 1.1.7.1 and replace with the following:

"1.1.7.1 The order of priority of documents from highest to lowest, shall be

- Supplementary General Conditions,
- the Agreement between the Owner and the Contractor,
- the Definitions,
- the General Conditions,
- Owner's Scope of Work (including Drawings and Technical Specifications),
- Negotiated changes,
- the Request for Proposals; and
- the Proposal.

In case of a conflict with requirements set out in the Owner's Scope of Work (including Drawings and Technical Specifications), the provisions establishing the higher quality methodology of the Work and construction of the Work shall govern.

SC 07: GC 1.4 Assignment

Delete the entire paragraph 1.4.1 and replace with the following:

"The Owner may assign all or any part of the Contract. The Contractor shall not assign all or any part of the Contract without the written consent of the Owner, which consent, in the sole discretion of the Owner, may be withheld. Notwithstanding any assignment of any part or all of the Contract, the assignor shall, together with the assignee, remain and be liable in respect of the assigned interest(s) under the Contract."

SC 08: GC 3.7 Subcontractors and Suppliers

In paragraph 3.7.4, add the following after the words "required change":

", unless the change is required to address non-performance or other valid concerns of the Owner".

SC 09: GC 3.7 Subcontractors and Suppliers

In paragraph 3.7.5, add the following after the word "object":

", unless necessary to meet specific requirements of the Contract Documents".

SC 10: GC 3.10 Shop Drawings

Delete paragraph 3.10.8 in its entirety and replace it with the following:

"The Contractor shall review all Shop Drawings before providing them to the Owner. The Contractor represents by this review that the Contractor has:

.1 determined and verified all applicable field measurements, field construction conditions, Product requirements, catalogue numbers and similar data, or shall do so,
.2 checked and coordinated each Shop Drawing with the requirements of the Contract Drawings, and
.3 had the Shop Drawings reviewed by the Consultant and Other Consultants as appropriate."

SC 11: GC 5.1 Financing Information Required of the Owner

Delete GC 5.1 in its entirety.

SC 12: GC 5.2 Applications for Progress Payment

In paragraph 5.2.2, add the following words after the word "parties":

", and shall be submitted to the Consultant on or before the tenth (10th) day of each month for work completed up to and including the last day of the payment period".

SC 13: GC 5.2 Applications for Progress Payment

Delete paragraph 5.2.3 and replace it with the following:
"As of the last day of the payment period, the amount claimed shall be:

1. For the portion of the Project completed by lump sum:
   the value proportionate to the amount of the agreed upon lump sum prices for each component of the Work performed and Products delivered to the Place of the Work for that component of the Project as of the last day of the payment period.

Claims for Products delivered to the Place of the Work but not yet incorporated into the Work may be considered for payment on an individual basis, provided such Products are Project specific and cannot readily be used elsewhere and are supported by such evidence as the Owner may reasonably require to establish the value and delivery of the Products. The Owner and Contractor shall make satisfactory arrangements such that said materials can be readily identified where they are stored."

SC 14: GC 5.3 Progress Payment

Add new paragraph 5.3.2 as follows:

"5.3.2 In addition to other amounts authorized to be retained under the Contract Documents, the Owner may retain amounts to cover deficiencies in the Work in the amount of 200% of the Owner's estimate of the cost of remedying the deficiency."

SC 15: GC 5.5 Payment of Holdback upon Substantial Performance of the Work

Delete paragraph 5.5.4 abd replace it with the following:

"In the common law jurisdictions, the holdback amount authorized by the certificate for payment of the holdback amount is due and payable on the later of the date of the certificate of payment and the calendar day following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*. Where lien legislation does not exist or apply, the holdback amount shall be due and payable in accordance with other legislation, industry practice or provisions which may be agreed to between the parties. The *Owner* may retain out of the holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the lien legislation applicable to the *Place of the Work*, other third party monetary claims against the *Contractor* which are enforceable against the *Owner*."

SC 16: GC 5.7 Final Payment

In paragraph 5.7.2, replace the words "calendar days" with the words "Working Days".

SC 17 GC 5.7 Final Payment

In paragraph 5.7.4, replace the words "5 calendar days" with the words "10 working days".

SC 18 GC 5.10 Liens

Add a new GC 5.10 Liens, including paragraphs 5.10.1 through 5.10.6 as follows:

"5.10.1 Notwithstanding anything else in this Part 5, the Owner shall be entitled to withhold from any payment otherwise due to the Contractor:

(a) the amount claimed in any claim for lien that has been registered against the Project Site;
(b) the amount claimed in legal proceedings commenced to enforce a lien against the statutory holdback for the Project;
(c) the amount claimed in any written notice of lien received by the Owner or mortgagee of the Project Site; and
(d) an amount representing the value of Products or materials in respect of which the Contractor has made an application for payment where the Owner has received a written notice that any party has purported to retain title to the Products or materials, until such time as such claims have been resolved to the satisfaction of the Owner.

5.10.2 In the event that legal proceedings are commenced to enforce a lien against the statutory holdback for the Project or a written notice of a lien is received by the Owner or mortgagee of the Project Site, the Contractor shall, within ten (10) calendar days, at its sole expense, arrange for the withdrawal, removal or cancellation of the written notice of a lien pursuant to the Builders Lien Act.

5.10.3 In the event that a claim for lien/construction lien is registered against the title of the Project Site, the Contractor shall, within ten (10) calendar days, at its sole expense, vacate or discharge the lien from title of the lands. If the lien is only vacated and not discharged, the Contractor shall be responsible, on a full indemnity basis, for the costs of the Owner's defense of any lawsuit commenced in respect of the lien.

5.10.4 In the event that the Contractor fails, delays or refuses to vacate or discharge a claim for lien/construction lien, to have dismissed any legal proceedings commenced to enforce a lien against the statutory holdback for the Project, or written notice of lien with the time prescribed above, the Owner shall, at its option, be entitled to take all steps necessary to vacate and/or discharge the lien, and all costs incurred by the Owner in so doing (including, without limitation, legal fees on a full indemnity basis and any payments which may ultimately be made out of or pursuant to security posted to vacate the lien) shall be to the account of the Contractor and the Owner may deduct such amounts from amounts otherwise due or owing, or accruing due to the Contractor.

5.10.5 Without limiting any of the foregoing, the Contractor agrees to and does hereby, indemnify and save harmless the Owner for all costs (including without limitation, legal fees on a full indemnity basis) it may incur in connection with any written notice of lien, claim for lien/construction lien, or subsequent lawsuit brought in connection with the lien or in connection with any other claim or lawsuit brought against the Owner by any person that provided services or materials to the improvement or the Project.

5.10.6 This GC 5.10 – LIENS does not apply to any written notice of lien, legal proceedings commenced to enforce a lien against the statutory holdback for the Project, or claim for lien/construction lien that may be asserted by the Contractor. Notwithstanding the non-application of the GC 5.10-LIENS to such written notices of lien, legal proceedings commenced to enforce a lien against the statutory holdback for the Project, and/or claims of lien/construction liens, if any such lien shall be asserted and found or determined to be untimely or invalid then the Contractor shall indemnify and save harmless the Owner of all costs, including legal fees on a full indemnity basis."

SC 19: GC 6.1 Owner's Right to Make Changes

In paragraph 6.1.1, add the words "Regardless of the degree of a change," to the beginning of the paragraph.

SC 20: GC 6.1 Owner's Right to Make Changes

Delete paragraph 6.1.2 and replace it with the following:

"The Contractor shall not perform a change in the Work without a Change Order or Change Directive signed by the Owner. The Contractor shall not be entitled to rely on any oral representation, site meeting discussion, site meeting minutes or other communication as approval of a change. No claim for any change in the Contract Price or the Contract Time shall be valid except as shown on a Change Order or Change Directive, as the case may be."

SC 21: GC 6.1 Owner's Right to Make Changes

Add new paragraph 6.1.3 as follows:

"If any change or deviation in, or omission from, the Work authorized by a Change Order or Change Directive results in the amount of Work to be done being decreased, or if the whole or a portion of the Work is dispensed with, no compensation is claimable by the Contractor for any loss of anticipated profit in respect thereof.

SC 22: GC 6.2 Change Order

In paragraph 6.2.1 add the following at the end of the paragraph:

"The method of adjustment or the amount of the adjustment to the Contract Price presented by the Contractor may at the discretion of the Owner be one or a combination of the following:

.1 lump sum quotation for the change in the Work, and

.2 unit price quotation for the change in the Work"

SC 23: GC 6.2 Change Order

Add paragraph 6.2.3 as follows:

"No further claim for change in Contract Time, or for delay, extended schedule, direct, indirect or impact of costs, or other such claims, shall be accepted as having resulted from a Change Order, after it has been accepted by the Owner."

SC 24: GC 6.3 Change Directive

Delete sub-paragraphs 6.3.7.1 to 6.3.7.17 in their entirety and replace them with new sub-paragraphs 6.3.7.1 to 6.3.7.16 as follows:

".1 Salaries, wages and benefits paid to personnel in the direct employ of the Contractor under a schedule of hourly rates agreed upon by the Owner and the Contractor, or in the absence of such a schedule, actual salaries, wages and benefits paid under applicable bargaining agreement, and in the absence of a salary or wage schedule and bargaining agreement, actual salaries, wages and benefits paid by the Contractor, for personnel completing the work (own forces).

.2 Any contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan, insofar as such cost is based on wages, salaries, or other remuneration paid to employees of the Contractor and included in the schedule of hourly rates.

.3 Travel and subsistence expenses of the Contractor's personnel described in sub-paragraph 6.3.7.1 only when the Contractor can demonstrate that local resources are not available to complete the work.

.4 All Products including cost of transportation thereof.

.5 Materials, supplies, construction equipment, temporary work, and hand tools not owned by the workers, including transportation and maintenance thereof, which are consumed in the performance of the Work, and cost less salvage value on such items used but not consumed, which remain the property of the Contractor.

.6 All tools and construction equipment, exclusive of hand tools used in the performance of the Work whether rented from or provided by the Contractor or others, including installation, minor repairs and replacements, dismantling, removal, transportation, and delivery cost thereof.

.7 Deposits lost.

.8 The amounts of all subcontracts.

.9 Quality assurance such as independent inspection and testing services.

.10 Charges levied by authorities having jurisdiction at the Place of the Work.

.11 Royalties and patent license fees, subject to the Contractor's obligations to indemnify the Owner as provided in paragraph 10.3.1 of GC 10.3 – PATENT FEES.

.12 Any adjustment in in premiums for all bonds and insurance which the Contractor is required, by the Contract Documents, to purchase and maintain;

.13 Any adjustment in taxes, other than Value Added Taxes, and duties for which the Contractor is liable;

.14 Removal and disposal of waste products and debris, only when the Contractor can demonstrate the Change necessitates significant additional costs.

.15 Safety measures and requirements, only when the Contractor can demonstrate the Change necessitates significant additional safety measures.

.16 The Contractor's mark-up."

SC 25: GC 6.3 Change Directive

Add new paragraph 6.3.8 as follows, and renumber old paragraphs 6.3.8 to 6.3.13 to 6.3.9 to 6.3.14:

"6.3.8 For greater clarity, the costs under paragraph 6.3.7 shall not include:

.1 Salaries, wages and benefits paid to personnel who are already involved with the Project and whose activities on site or in the office already serve the general requirements of the project such as project management, construction management, estimating, coordination, and scheduling; construction site supervision and safety; and accounting and administrative staff. These are considered overhead and are addressed by the existing Contract Price and cannot be charged directly, unless the Contractor can demonstrate a requirement for overtime to meet the Project schedule.

.2 Expenses such as field offices, site services, temporary services, charges for long distance telephone and facsimile communications, courier services, expressage, and petty cash shall all be considered overhead charges addressed by the existing Contract Price."

SC 26: GC 6.4 Concealed or Unknown Conditions

In paragraph 6.4.1.1, delete the word "indicated" and replace it with the following:

"disclosed or reasonably determinable as a possibility from the information provided by the Owner in the Contract Document or".

SC 27: GC 6.4 Concealed or Unknown Conditions

Add the word "or" at the end of paragraph 6.4.1.2.

SC 28: GC 6.4 Concealed or Unknown Conditions

Add new paragraph 6.4.1.3, as follows:

"physical conditions that could not reasonably have been ascertained by the Contractor by undertaking investigations in accordance with customary industry standards prior to submitting a proposal for the Work,".

SC 29: GC 6.5 Delays

Delete paragraph 6.5.4 and replace it with the following:

"No extension in Contract Time and no increase in Contract Price for delay shall be made unless the Contractor has given Notice in Writing to the Owner no later than 10 Working Days after the commencement of the delay. The Notice in Writing shall include the reasons for such delay and the best estimate of the Contractor as to the duration of the delay and the likely effect on Contract Time and Contract Price. No oral communication, site meeting discussion, site meeting minutes or other communication shall be sufficient notification of delay. In the case of a continuing cause of delay, only one Notice in Writing shall be necessary."

SC 30: GC 7.1 Owner's Right to Perform the Work, Terminate the Contractor's Right to Continue With the Work or Terminate the Contract

In paragraph 7.1.2, delete the words "to a substantial degree".

SC 31: GC 7.2 Contractor's Right to Suspend the Work, or Terminate the Contract

In paragraph 7.2.4, revise "5 Working Days" to read "15 Working Days".

SC 32: GC 9.1 Protection of Work and Property

Delete the period at the end of sentence 9.1.1.2 and replace with a semicolon and add to the end of the paragraph:
"provided the foregoing shall not relieve the Contractor from its own negligence or the negligence of those for whom the Contractor is at law responsible nor for any breach of the Contract by the Contractor."

SC 33: GC 9.4 Construction Safety

Add new paragraphs 9.4.2 and 9.4.3 as follows:

"9.4.2 If during the Work, the Contractor is advised by the Owner in writing that, for the purposes of the Workers Compensation Act (RSBC 1996), and for the duration of the Work of this Contract, the Contractor will be the "prime contractor" for the "Work site", as per the British Columbia, Workers Compensation Act Part 3, Division 3, Section 118 (as amended from time to time), then the Contractor will do the following:

.1 do everything that is reasonably practicable to establish and maintain a system or process that shall ensure compliance with the Act and its regulations, as required to ensure the health and safety of all persons at the "Work site";

.2 The Contractor shall direct all Subcontractors, Sub-subcontractors, Other Contractors, employers, Workers and any other persons at the "Work site" on safety related matters, to the extent required to fulfill its "prime contractor" responsibilities pursuant to the Act, regardless of:

a) whether or not any contractual relationship exists between the Contractor and any of these entities, and
b) whether or not such entities have been specifically identified in this Contract.

9.4.3 The Contractor covenants and agrees that when performing any work for the Owner, whether directly as a Contractor or indirectly as a subcontractor, it shall adhere to all of the requirements of the B.C. Employment Standards Act (RSBC 1996), as may be amended from time to time, that are applicable to the work being performed, including but not limited to:

.1 Section 36 (2); an employer must ensure that each employee has at least 8 consecutive hours free from work between each shift worked, and

.2 Section 39; despite any provision of this Part, an employer must not require or directly or indirectly allow an employee to work excessive hours or hours detrimental to the employee's health or safety."

SC 34: GC 10.2 Laws, Notices, Permits and Fees

Replace paragraph 10.2.3 with the following:

"Unless otherwise stated, the Contractor shall prior to commencing construction, obtain and pay for all necessary building permits, licenses, or certificates necessary for the performance of the Work, as required by law or regulation in effect at the time of the RFP closing. The Contract Price includes the cost of these permits, licenses, inspections, and certificates and their procurement."

SC 35: GC 10.2 Laws, Notices, Permits and Fees

Add new paragraph 10.2.8 as follows:

"The Contractor's compliance with applicable statutes, or regulations made thereunder, or by-laws, shall not relieve the Contractor of obligations set out in the Contract Documents which may be more stringent, onerous, extensive or of higher quality than the requirements of those statutes, regulations or by-laws.

SC 36: GC 10.4 Workers' Compensation

In the first line of paragraph 10.4.1, after the words "the Work," insert the following words: "again with each claim for progress payment,"

SC 37: GC 11.2 Contract Security

Add Paragraph 11.2.3:

"The Contractor shall be required to obtain the following Contract security, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, in a form acceptable to the Owner, and with the Owner named as the Obligee:

.1 50% Labour and Materials Payment Bond
.2 50% Performance Bond."

SC 38: GC 12.2 Waiver of Claims

Delete GC 12.2 WAIVER OF CLAIMS in its entirety.

SC 39: GC 12.3 Warranty

Delete paragraph 12.3.1 and replace it with the following:

"Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is two years from the date of *Substantial Performance of the Work*."

SC 40: GC 12.3 Warranty

In paragraph 12.3.3, revise "one year warranty period" to read "two year warranty period".

SC 41: GC 12.3 Warranty

In paragraph 12.3.4, revise "one year warranty period" to read "two year warranty period".

SC 42: GC 12.3 Warranty

In paragraph 12.3.6, revise “one year warranty period” to read “two year warranty period”.

SC 43: GC 12.3 Warranty

Add the following words to end of GC 12.3.4:

“The term "defect" shall not be construed as embracing such imperfections as would naturally follow misuse, failure to perform recommended maintenance, accident, or the wear and tear of normal use. For Greater certainty:

.1 Any manufactured item or material, which when used as directed, shall be capable of such use for the duration of the specified warranty period. Failure to comply with this requirement shall be considered as being a "defect".

.2 The costs of investigations, tests, repairs and/or replacement and the making good of any resulting damage shall be borne by the Contractor. The Contractor shall be responsible for ensuring that all required, corrective, remedial or replacement Work is performed without undue delay; and

.3 The carrying out of any corrective, remedial or replacement Work and making good of defects shall be executed at such times as shall be convenient for the Owner, which may entail overtime Work on the part of the Contractor. The Owner shall give notice of observed defects promptly. Additional charges for overtime Work in this regard, prior to the expiry of the warranty, shall be borne by the Contractor. The Owner reserves the right to carry out a detailed and exhaustive inspection of the Project with regard to all Work carried out under this Contract and the Contractor shall be required to make good, or correct, repair or replace the defective or unsatisfactory materials and/or workmanship such inspection shall have disclosed.”

SC 44: GC 12.3 Warranty

Add new paragraphs 12.3.7 through 12.3.8 as follows:

“12.3.7 All extended warranties obtained by the Contractor pursuant to GC 12.3.6 shall be on the terms and conditions of the warranties set out in the Owner’s Request for Proposal.

12.3.8 Any material or equipment requiring excessive servicing during the warranty period (or free maintenance period if applicable) shall be considered defective and the warranty (or free maintenance period) shall be deemed to take effect from the time that the defect has been corrected.”

Part D: Submission Forms

	This Part D contains forms detailing the information that should be included in a Proposal, as detailed under Section 6 of Part B.

Part D Contents:

This Part D contains the following forms:

- Appendix A – Certification Form
- Appendix B – Pricing Form
- Appendix C – Experience & References Form
- Appendix D – Construction Schedule Form
- Appendix E – Project Team Form
- Appendix F – Subcontractors Form

APPENDIX A – CERTIFICATION FORM

	Respondents must complete all details requested in this Appendix A – Certification Form and include this completed form in the Proposal, as detailed under Section 6.1 (Mandatory Criteria) of Part B. No changes to this form must be made, except for completing the requested information in the spaces provided.

1. Respondent Details:

Full Legal Name of Respondent:	
Other "Doing Business As" Names the Respondent Uses:	
Registered Address:	
Respondent Contact Person Name & Title:	
Contact Person Phone No.:	
Contact Person Email:	

2. Certification & Acknowledgement of RFP Process:

By signing this Appendix A – Certification Form, we the Respondent, certify and acknowledge the following:

a. We have carefully read and examined this RFP document, including all Parts, Appendices and Exhibits, and have conducted such other investigations as were prudent and reasonable in preparing this Proposal. We are able to perform the Scope of Work detailed in Part A for the pricing submitted in this Proposal.
b. We certify that the statements made in this Proposal are true and submitted in good faith.
c. We acknowledge and understand that the RFP process and the submission of this Proposal do not give rise to any contractual obligations whatsoever (including what is commonly referred to as 'Contract A') between the District and us, the Respondent, and that no contractual obligations shall arise between the District and us, the Respondent, until and unless we execute a written Contract with the District.
d. We certify that in relation to this RFP process, we have not engaged in any conduct which would constitute a conflict of interest and we understand that a conflict of interest would include the following situations:
    i. The Respondent has an unfair advantage or engages in conduct which may give it an unfair advantage;
    ii. The Respondent has had access to confidential information of the District which is not available to other Respondents to this RFP.

iii. The Respondent has influence over an employee of the District who is a decision-maker involved in this RFP process, which could reasonably be perceived as giving the Respondent an unfair advantage or preferential treatment.

3. Confirmation of Addenda Received:

We confirm receipt of the following addenda that were issued by the District up until the Closing Date and Time:

Addendum #	Issued On Date:

4. Certification Signature:

The Respondent hereby certifies that the above statements are true and that the individual signing below has the authority to bind the Respondent:

_____
Signature of Respondent Representative

_____
Name of Respondent Representative

_____
Title of Respondent Representative

_____
Date

APPENDIX B – PRICING FORM

Respondents must complete the requested pricing in all tables of this Appendix B – Pricing Form and include the completed form in the Proposal, as detailed under Section 6.2 (Scored Criteria) of Part B. No changes to this form must be made, except for completing the requested information in the spaces provided.

1. Pricing Basis:

Pricing entered into the tables of sections 2 and 3 below, shall be on the following basis:

a. All Prices are in Canadian funds, are inclusive of all applicable duties and taxes including the PST, but not the GST which shall be itemized separately where indicated.
b. Fixed Lump Sum Prices and the Total Stipulated Contract Price are all-inclusive and include for all labour, materials, supplies, travel, overheads, profit, insurance, mobilization/demobilization, disbursements, expenses and all other costs and fees necessary to perform the Work outlined in Part A.
c. Prices shall be fixed for the entire Contract term.

2. Base Scope of Work – Stipulated Contract Price Breakdown:

For the completion of all Base Work, as detailed in Part A, the Stipulated Contract Price shall be as follows:

#	Base Scope of Work Item	Fixed Lump Sum Price
1	**All Project Management & Overheads**, including; mobilization, site fencing, demolition, testing, and demobilization.	$
2	**All Earthworks,** including; stripping, filling, shaping & compaction	$
3	**Supply & Install Granular Base,** as per drawings & technical specifications	$
4	**Supply & Install all Drainage System Components,** as per drawings & technical specifications	$
5	**All walls, ledges & stair features**	$
6	**All shotcrete bank & transition features**	$
7	**All concrete flatwork**	$
8	**All miscellaneous metals including coping & handrails**	$
9	**Skatepark detailing (sawcuts finishing details, etc.)**	$
10	**All electrical duct work,** as per drawings	$
11	**Any Other Costs:** (specify if any):	$
12	**TOTAL STIPULATED CONTRACT PRICE:**	**$**
13	GST:	$

3. Provisional Items – Fixed Lump Sum Prices:

If the District elects to add Provisional Work items to the Base Scope of Work, as detailed in Part A, the additional Lump Sum Prices for individual Provisional Work items shall be as follows:

#	Provisional Item	Fixed Lump Sum Price
A	**Paved Seating Areas**: including benches per drawings and technical specifications	$
B	**Asphalt Walkways**: per drawings and technical specifications	$
C	**Landscaping:** all topsoil, sod and seeding, per drawings and technical specifications	$
D	**Integral Concrete Colour:** per drawings and technical specifications	$

APPENDIX C – EXPERIENCE & REFERENCES FORM

Proposals must include the details requested in this Appendix C – Experience & References Form, as detailed under Section 6.2 (Scored Criteria) of Part B.

Respondents should provide the details requested in sections C1, C2, and C3 below for the Respondent's experience as a general contractor and the experience of their Shotcrete and Concrete Finisher subcontractors. The details must demonstrate how the Pre-requisites for the Contract (as detailed in Section 5 of Part A) are met.

Respondents should also provide the details requested in section C4 on the Respondent's general background and experience, in order for the District to evaluate the suitability of the Respondent's Experience.

The Evaluation for Appendix C - Experience & References will be based on the following factors:

- Whether or not the Respondent and its proposed subcontractors meet the Pre-requisites stated in Section 5 of Part A.
- The most suitable experience in completing the work.
- Feedback from references provided under C1 to C3 (to be considered at the District's sole discretion).
- Consent of Surety for Contract Security

C1 Respondent's Experience as a General Contractor:

The Respondent must complete the following tables to demonstrate how the following experience requirement is met:

- *The Contractor must have completed at least five concrete skatepark facilities, which meet the following criteria:*
  - *a) The Contractor must have had sole responsibility for the construction of the entire skatepark facility as the general contractor.*
  - *b) The skatepark construction used cast-in-place concrete, which exceeded 700m2 of skatepark surface area, and contained bowls or pools in the skatepark.*
  - *c) At least two of these projects must have been completed and commissioned for use since April 1, 2014.*

Respondent's Skatepark Project Reference #1

Client / Owner Organization Name & Location:	
Value of Contract:	
Brief Description of Project and Works Respondent Performed:	
Size in M2 of Skatepark Surface Area:	
Date Respondent Started Work on Project:	
Number of Bowls or Pools in Skatepark:	
Date Respondent Completed Work on Project:	
Site Superintendent / Foreman Name:	
Client Reference Contact Name, Telephone Number and Email:	

Respondent's Skatepark Project Reference #2

Client / Owner Organization Name & Location:	
Value of Contract:	
Brief Description of Project and Works Respondent Performed:	
Size in M2 of Skatepark Surface Area:	
Number of Bowls or Pools in Skatepark:	
Date Respondent Started Work on Project:	
Date Respondent Completed Work on Project:	
Site Superintendent / Foreman Name:	
Client Reference Contact Name, Telephone Number and Email:	

Respondent's Skatepark Project Reference #3

Client / Owner Organization Name & Location:	
Value of Contract:	
Brief Description of Project and Works Respondent Performed:	
Size in M2 of Skatepark Surface Area:	
Number of Bowls or Pools in Skatepark:	
Date Respondent Started Work on Project:	
Date Respondent Completed Work on Project:	
Site Superintendent / Foreman Name:	
Client Reference Contact Name, Telephone Number and Email:	

Respondent's Skatepark Project Reference #4

Client / Owner Organization Name & Location:	
Value of Contract:	
Brief Description of Project and Works Respondent Performed:	
Size in M2 of Skatepark Surface Area:	
Number of Bowls or Pools in Skatepark:	
Date Respondent Started Work on Project:	
Date Respondent Completed Work on Project:	
Site Superintendent / Foreman Name:	
Client Reference Contact Name, Telephone Number and Email:	

Respondent's Skatepark Project Reference #5

Client / Owner Organization Name & Location:	
Value of Contract:	
Brief Description of Project and Works Respondent Performed:	
Number of Bowls or Pools in Skatepark:	
Size in M2 of Skatepark Surface Area:	
Date Respondent Started Work on Project:	
Date Respondent Completed Work on Project:	
Site Superintendent / Foreman Name:	
Client Reference Contact Name, Telephone Number and Email:	

C2 Proposed Shotcrete Subcontractor's Experience:

The Respondent must complete the following tables to demonstrate how the following experience requirement is met:

- *The Contractor's Shotcrete Nozzle Operator Sub-contractor must be qualified under the ACI Shotcrete Nozzleman Certification Program; and have at least five years of experience in performing Shotcrete for skatepark applications.*

Legal Name of Shotcrete Nozzle Operator Subcontractor:	
Is this subcontractor qualified under the ACI Shotcrete Nozzleman Certification Program? (Answer Yes or No)	
Does the subcontractor have at least 5 year's experience performing shotcrete as applied to skateparks? (Answer Yes or No)	

In addition, please provide 3 references in the tables below, for projects the Shotcrete Subcontractor has performed as a Nozzle Operator on a skatepark project:

Shotcrete Subcontractor Project Reference #1

Client / Owner Organization Name & Location:	
Value of Shotcrete Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

Shotcrete Subcontractor Project Reference #2

Client / Owner Organization Name & Location:	
Value of Shotcrete Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

Shotcrete Subcontractor Project Reference #3

Client / Owner Organization Name & Location:	
Value of Shotcrete Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

C3 Proposed Concrete Finisher Subcontractor's Experience:

The Respondent must complete the following tables to demonstrate how the following experience requirement is met:

- *The Contractor's Concrete Finishing Sub-contractor must have at least five years of experience in concrete finishing on skateparks.*

Legal Name of Concrete Finisher Subcontractor:	
Does the subcontractor have at least 5 years experience performing concrete finishing as applied to skateparks? (Answer Yes or No)	

In addition, please provide 3 references in the tables below, for projects the Concrete Finisher Subcontractor has performed for finishing on a skatepark project:

Concrete Finisher Subcontractor Project Reference #1

Client / Owner Organization Name & Location:	
Value of Concrete Finishing Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

Concrete Finisher Subcontractor Project Reference #2

Client / Owner Organization Name & Location:	
Value of Concrete Finishing Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

Concrete Finisher Subcontractor Project Reference #3

Client / Owner Organization Name & Location:	
Value of Concrete Finishing Subcontract	
Size in M2 of Skatepark Surface Area:	
Date Respondent Completed Work on Project:	
Client Reference Contact Name, Telephone Number and Email:	

C4 Respondent's General Background and Experience:

The Respondent must complete the following tables to demonstrate suitable experience for the work:

How many years has your organization been in business in its present corporate structure?	
How many years has your organization been constructing cast-in-place concrete skateparks?	
How many full-time employees does your organization employ?	
Is your organization a member of any construction or skatepark associations? If so, please provide details.	
Please provide your organization's WorksafeBC Registration Number, or if not currently WorksafeBC registered, your plan to obtain WorksafeBC coverage:	
Is your organization able to meet the contract security requirements as specified in Part A? If so, please attach to your Appendix C submission: a *Consent of Surety* from a company authorized to transact the business of suretyship in the province of British Columbia, for both of the contract security requirements required in Section 6 of Part A.	

END OF APPENDIX C

APPENDIX D – CONSTRUCTION SCHEDULE FORM

	Respondents must provide the details requested in this Appendix D – Construction Schedule Form in the Proposal, as detailed under Section 6.2 (Scored Criteria) of Part B. The Evaluation for Appendix D – Construction Schedule Form will be based on the following factors: • Suitability of the proposed schedule • Ability to meet the District's preference to achieve Substantial Performance as early as possible, and before November 30th, 2018. Note: a construction schedule showing an earlier Substantial Performance of the Work will receive a higher score.

D1 Construction Schedule for the Work:

Please provide, in a format of your choosing and on separate sheets as required, an overview of your proposed construction schedule for the works. This should detail key phases of the work, and clearly show the following milestone dates:

- Contract Execution (use May 25, 2018 as the Contract execution date)
- Mobilization to site
- Substantial Performance of all Base Work (must be no later than November 30th, 2018)
- Total Performance of all Base Work

APPENDIX E – PROJECT TEAM FORM

	Respondents must provide the details requested in this Appendix E – Project Team Form and include them in the Proposal, as detailed under Section 6.2 (Scored Criteria) of Part B.

E1 Key Team Members:

Please provide, in the space below, details of the key team members from your organization that will perform the Work. Please also attach a resume for each named team member which provides an overview of their education and experience relevant to delivering the Work.

Key Team Member Name:	Position:
	Site Superintendent / Foreman*
	Project Manager

* Note: the Site Superintendent / Foreman must be on the worksite for all significant site procedures and key site reviews by the Owner's Contract Administrator. Should the Contractor wish to substitute the Foreman from the person named above, the Contractor must make application to the Owner for approval at least two weeks in advance. The Owner reserves the right to reject any proposed replacement Foreman.

APPENDIX F – SUBCONTRACTORS FORM

	Proposals should include the details requested in this Appendix F – Subcontractors Form, as detailed under Section 6.2 (Scored Criteria) of Part B. Respondents should use this form to provide details on any Subcontractors to be used in performing the Scope of Work. Respondents should note that any Subcontractor which is not named in this Appendix F submission cannot be used in delivering the Work. No changes to named Subcontractors will be allowed for the duration of the Work.

Part of Work to be Performed	Legal Name of Subcontractor

Exhibit 1 – Design Drawings for the Summerland Skatepark

SUMMERLAND SKATEPARK

ISSUE FOR RFP

DRAWING INDEX

SHEET LIST TABLE	
Sheet Number	Sheet Title
SK-001	Context Plan
SK-002	Existing Conditions and Demolition
SK-003	Site Plan
SK-004	Trenching and Drainage
SK-005	Rough Grading and General Layout
SK-006	Site Sections
SK-007	Foundation Layout
SK-008	Walls and Ledges
SK-009	Layout and Dimensions
SK-010	Ordinate Layout
SK-011	Grading Plan
SK-012	Materials Plan
SK-013	Joint Plan
SK-D-000	Detail Reference
SK-D-001	Details Sheet 1
SK-D-002	Details Sheet 2
SK-D-003	Details Sheet 3
SK-D-004	Details Sheet 4
SK-DT-001	Typical Skatepark Details

PERSPECTIVE VIEW

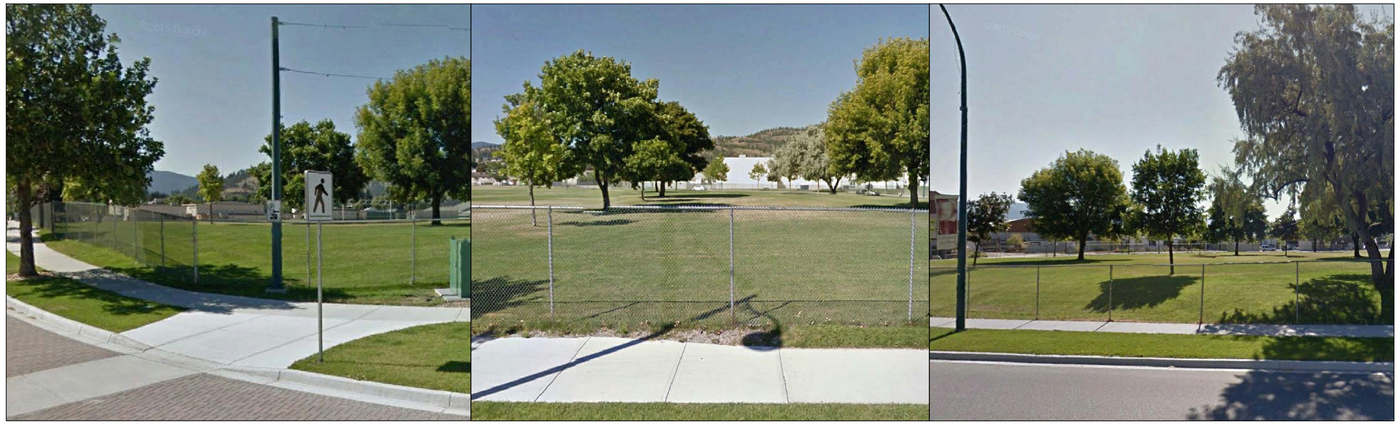
Note: perspective drawing not for construction reference.
Alterations have been made to model during detailed design phase.
Image shown to display broader design concept only.

LOCATION PLAN

NORTH NTS

Located at the intersection of Jubilee Road West and Rosedale Avenue

EXISTING SITE PHOTOS



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No	DATE	BY	DESCRIPTION
5	05,02,18	JM	ISSUE FOR RFP
4	07,13,17	SO	ISSUE FOR 100% REVIEW
3	02,23,17	SO	PROPOSED ROW UPDATE
2	01,06,17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09,30,16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

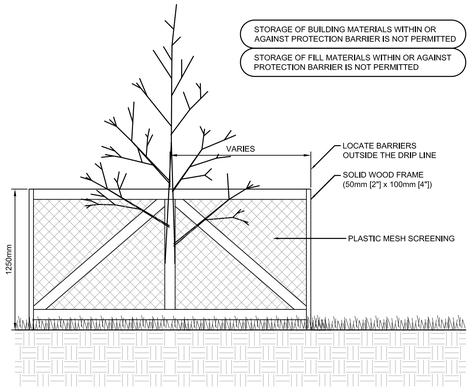
DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:
CONTEXT PLAN

SCALE:	PAGE SIZE:
N/A	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER:	REV
SK-001	5



FT TYPICAL TREE PROTECTION FENCING

SCALE 1 : 25

EXISTING ELECTRICAL DUCT RIGHT OF WAY (ROW) TO BE ABANDONED AND RELOCATED. REFER TO SK-004 TRENCHING AND SERVICING PLAN FOR MORE INFORMATION

JUBILEE ROAD

ROSEDALE AVENUE

SRW PLAN KAP72618

POTENTIAL AREA FOR SITE STAGING

STANDARD IRON POST

SOCCER NET POST

WEST CORNER OF TRANSFORMER PAD

EXISTING TURF

Rim Elev = 479.78
North Invert = 477.61
East Invert = 477.56
South Invert = 477.63
West Invert = 477.58

MH Storm

Rim Elev = 479.38
North Invert = 477.79
Catch Basin

727 0.15 Deciduous

728 0.20 Deciduous

726 0.15 Deciduous

731 0.10 Deciduous

732 0.25 Deciduous

740 0.25 Deciduous

741 0.20 Deciduous

743 0.20 Deciduous

744 0.10 Deciduous

623 0.10 Deciduous

622 0.10 Deciduous

621 0.10 Deciduous

620 0.50 Deciduous

616 0.50 Deciduous

617 0.10 Deciduous

618 0.30 Deciduous

619 0.10 Deciduous

615 0.30 Deciduous

614 0.20 Deciduous

Grass

Sidewalk

Chain Link Fence

Top of Curb

Gutter

Lamp

Transformer Pad

Let Down

0 2m 5m 10m

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LEGEND

	PROPOSED HARDSCAPE FOOTPRINT (INCLUDES SKATEPARK, PATHWAYS AND SEATING AREAS)
	LIMIT OF CONSTRUCTION/ SITE SAFETY FENCE
	EXISTING TREE TO REMAIN (DRIPLINES ARE APPROXIMATED AS THEY WERE NOT PROVIDED IN SURVEY FILE)
	TREE PROTECTION FENCING (REFER TO DETAIL)
	EXISTING TREE TO BE RELOCATED
481	EXISTING CONTOUR LINE
481.71	EXISTING SPOT ELEVATION

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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

DRAWN:	SO	START DATE: 09.01.16
CHECKED:	JM	
APPROVED:	VDZ	

DRAWING TITLE:

EXISTING CONDITIONS AND DEMOLITION

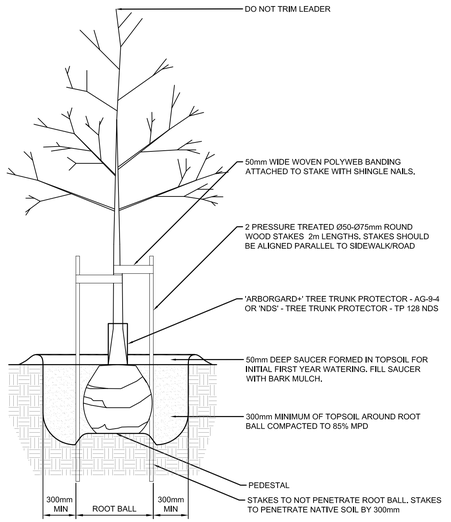
SCALE:	PAGE SIZE:
1:200	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-002

REV 5

NORTH

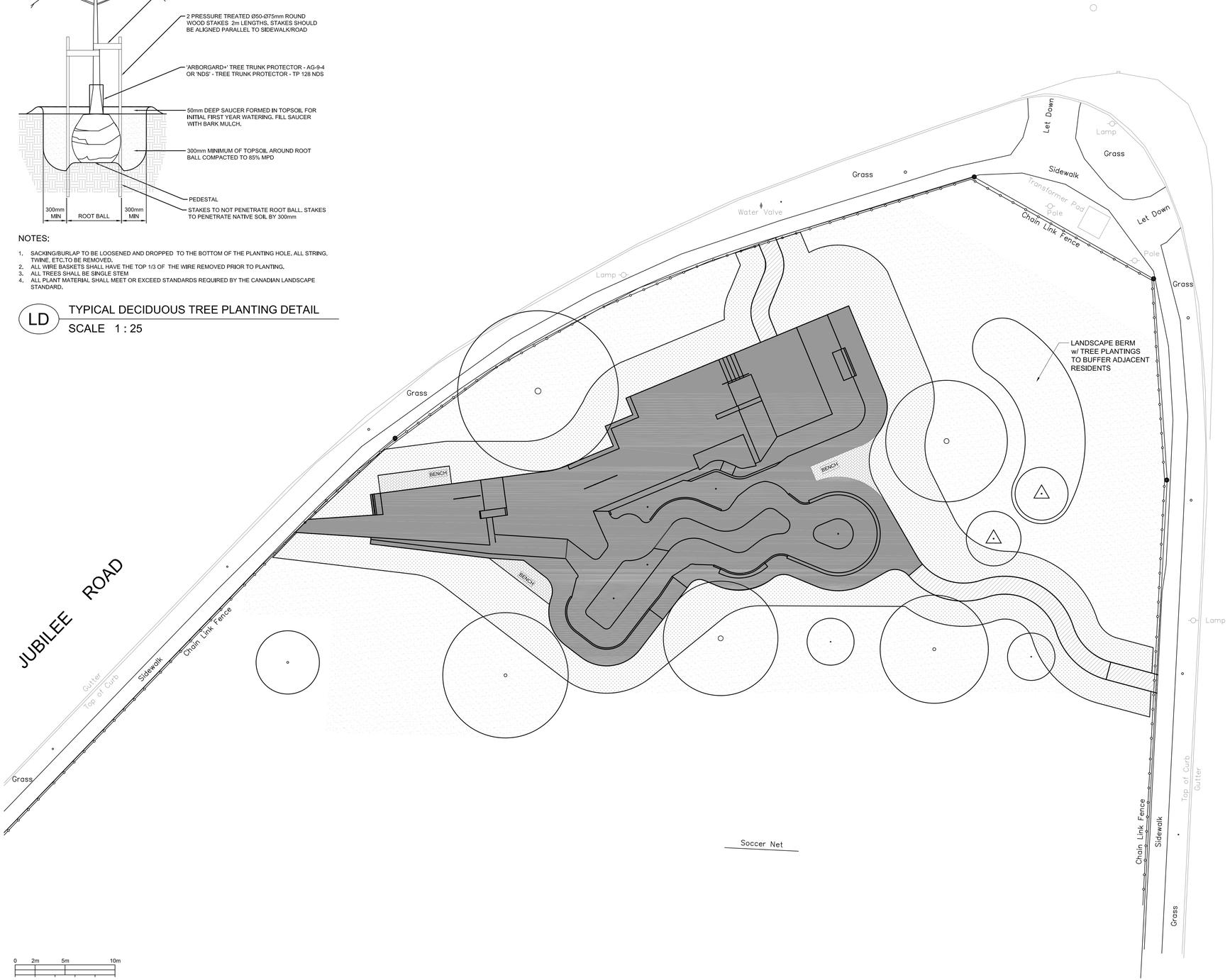


NOTES:

1. SACKING/BURLAP TO BE LOOSENED AND DROPPED TO THE BOTTOM OF THE PLANTING HOLE, ALL STRING, TWINE, ETC.TO BE REMOVED.
2. ALL WIRE BASKETS SHALL HAVE THE TOP 1/3 OF THE WIRE REMOVED PRIOR TO PLANTING.
3. ALL TREES SHALL BE SINGLE STEM
4. ALL PLANT MATERIAL SHALL MEET OR EXCEED STANDARDS REQUIRED BY THE CANADIAN LANDSCAPE STANDARD.

LD TYPICAL DECIDUOUS TREE PLANTING DETAIL

SCALE 1 : 25



NOTES:

1. CONTRACTOR TO CONFIRM UNITS AND MEASUREMENTS: SHOULD CONFLICTING INFORMATION OR AMBIGUOUS REFERENCES EXIST, THE CONTRACTOR MUST IMMEDIATELY CONTACT THE OWNER/CONSULTANT FOR CLARIFICATION OR CONFIRMATION.

2. PREVENT DAMAGE TO ALL ADJACENT NATURAL GROWTH, LANDSCAPING, BUILDINGS, STRUCTURES AND UNDERGROUND AND/OR OVERHEAD UTILITIES. MAKE GOOD ALL DAMAGE TO SATISFACTION OF OWNER/CONSULTANT.

3. CONTRACT INCLUDES THE REMOVAL AND DISPOSAL OF ALL BRANCHES, STUMPS, TIMBERS, AND OTHER MATERIALS THAT HINDER SITE DEVELOPMENT.

4. PRIOR TO CLEARING, VERIFY LIMITS OF CLEARING WITH OWNER/CONSULTANT OR THEIR REPRESENTATIVE. CLARIFY ANY RESTRICTIONS REGARDING PRESERVATION OF NATURAL FEATURES OR IMPROVEMENTS WITHIN OR ADJACENT TO SPECIFIED LIMITS OF CLEARING.

5. DISPOSE OF CLEARED AND GRUBBED MATERIAL AS WORK PROGRESSES AND DO NOT ACCUMULATE.

6. FIRES AND BURNING OF RUBBISH ON SITE NOT PERMITTED.

7. DISPOSE OF CLEARED AND GRUBBED MATERIALS TO APPROVED OFF-SITE DISPOSAL AREA.

8. WHERE POSSIBLE, BULK EXCAVATION MATERIAL MAY BE RETAINED FOR LANDSCAPE PURPOSES. STOCKPILE ONLY IN DESIGNATED AREAS. NATIVE MATERIAL IS NOT ACCEPTABLE IF IT CONTAINS HIGH MOISTURE RETENTION CHARACTERISTICS OR IF COMPACTION IS IMPOSSIBLE TO SPECIFICATIONS.

9. LEAVE GROUND SURFACE IN CONDITION SUITABLE FOR IMMEDIATE GRADING OPERATIONS.

10. REMOVE ALL BOULDERS OR LOOSE ROCK WHICH MAY SLIDE OR ROLL INTO EXCAVATED AREAS.

11. CONTROL DUST AT ALL TIMES FOR DURATION OF CONTRACT.

12. PROVIDE TEMPORARY UTILITIES AND CONSTRUCTION FACILITIES IN ORDER TO EXECUTE WORK EXPEDITIOUSLY. ERECT SITE SHELTERS OR TEMPORARY OFFICE ONLY IN DESIGNATED AREA WITHIN CONTRACT LIMITS, UNLESS APPROVED BY OWNER/CONSULTANT.

13. CONFINE WORK AND OPERATIONS OF EMPLOYEES IN ACCORDANCE WITH CONTRACT DOCUMENTS. DO NOT UNREASONABLY ENCUMBER PREMISES WITH PRODUCTS.

14. PROVIDE HOARDING AS PER CITY SPECIFICATIONS. PROTECT PUBLIC AND PRIVATE PROPERTY FROM INJURY OR DAMAGE.

15. PROVIDE TEMPORARY DRAINAGE AND PUMPING AS NECESSARY TO KEEP EXCAVATIONS AND SITE FREE FROM WATER. DO NOT DISCHARGE WATER CONTAINING SUSPENDED MATERIALS INTO EXISTING WATERCOURSES AND/OR DRAINAGE SYSTEMS.

16. MAINTAIN EXISTING CONDITIONS FOR PARKING AND TRAFFIC AROUND THE SITE THROUGHOUT CONSTRUCTION, EXCEPT IN THE STAGING AREA OR WHEN REQUIRED FOR CONSTRUCTION OF KEY PARK ELEMENTS. TAKE MEASURES TO RE-ROUTE TRAFFIC OR WARN VISITORS TO THE SITE THAT HEAVY EQUIPMENT AND WORK CREWS ARE OPERATING.

PROVISIONAL ITEMS

BIDDERS TO PRICE FOUR PROVISIONAL PRICE ITEMS OUTSIDE OF THE BASE BID AS INDICATED ON THE DRAWINGS AND IN THE SCHEDULE OF ITEMIZED PRICES.

B.1 PAVED SEATING AREAS
B.2 ASPHALT WALKWAYS
B.3 LANDSCAPING
B.4 INTEGRAL CONCRETE COLOUR

REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER INFORMATION

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LEGEND

	CONCRETE SKATEPARK FOOTPRINT
	PROVISIONAL ITEM B.1 PROPOSED SEATING AREAS (REFER TO SK-012 MATERIALS PLAN FOR FURTHER INFORMATION)
BENCH	**PROVISIONAL ITEM B.1** BENCHES **WISHBONE SITE FURNISHINGS** PHONE: 866-626-0476 MODEL: RSB-6 RUTHERFORD STRAIGHT PARK BENCH WITH ARMRESTS RECYCLED PLASTIC LUMBER: SAND FRAME: BLACK OR APPROVED ALTERNATE
	PROVISIONAL ITEM B.2 PROPOSED ASPHALT ENTRY PATHWAYS
	PROVISIONAL ITEM B.3 SOD REMEDIATION 2.5m MIN. OFFSET AROUND HARDSCAPE FOOTPRINT OR TO TOE OF BERMING TYP.
	PROVISIONAL ITEM B.3 SEED REMEDIATION TO OCCUR TO ANY AREAS DISTURBED DURING CONSTRUCTION AND NOT REMEDIATED WITH SOD. GENERALIZED AREA SHOWN ONLY.
	RELOCATED TREE TO BE INCLUDED IN BASE BID

No	DATE	BY	DESCRIPTION
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PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

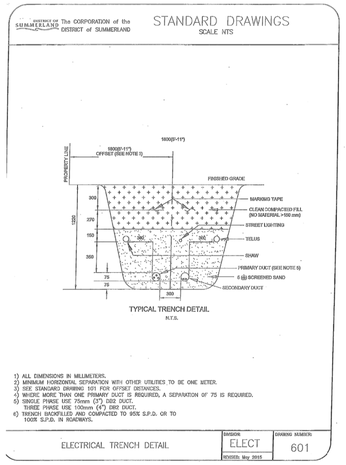
DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

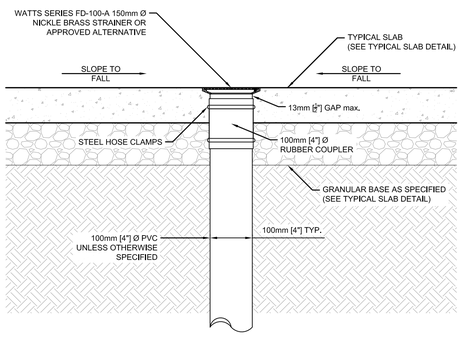
DRAWING TITLE:
SITE PLAN

SCALE: 1:200
PAGE SIZE: 24"x36"

PROJECT NUMBER: SK2015-26

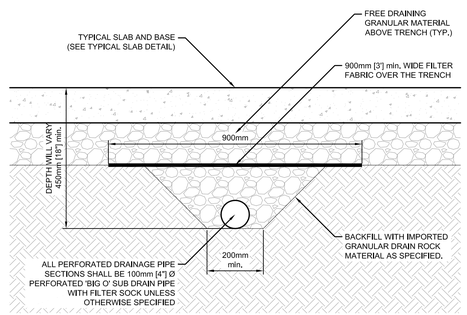
DRAWING NUMBER: SK-003
REV 5
NORTH





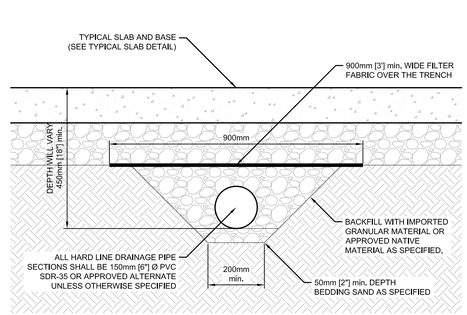
AD AREA DRAIN/CLEANOUT DETAIL

SCALE 1 : 10



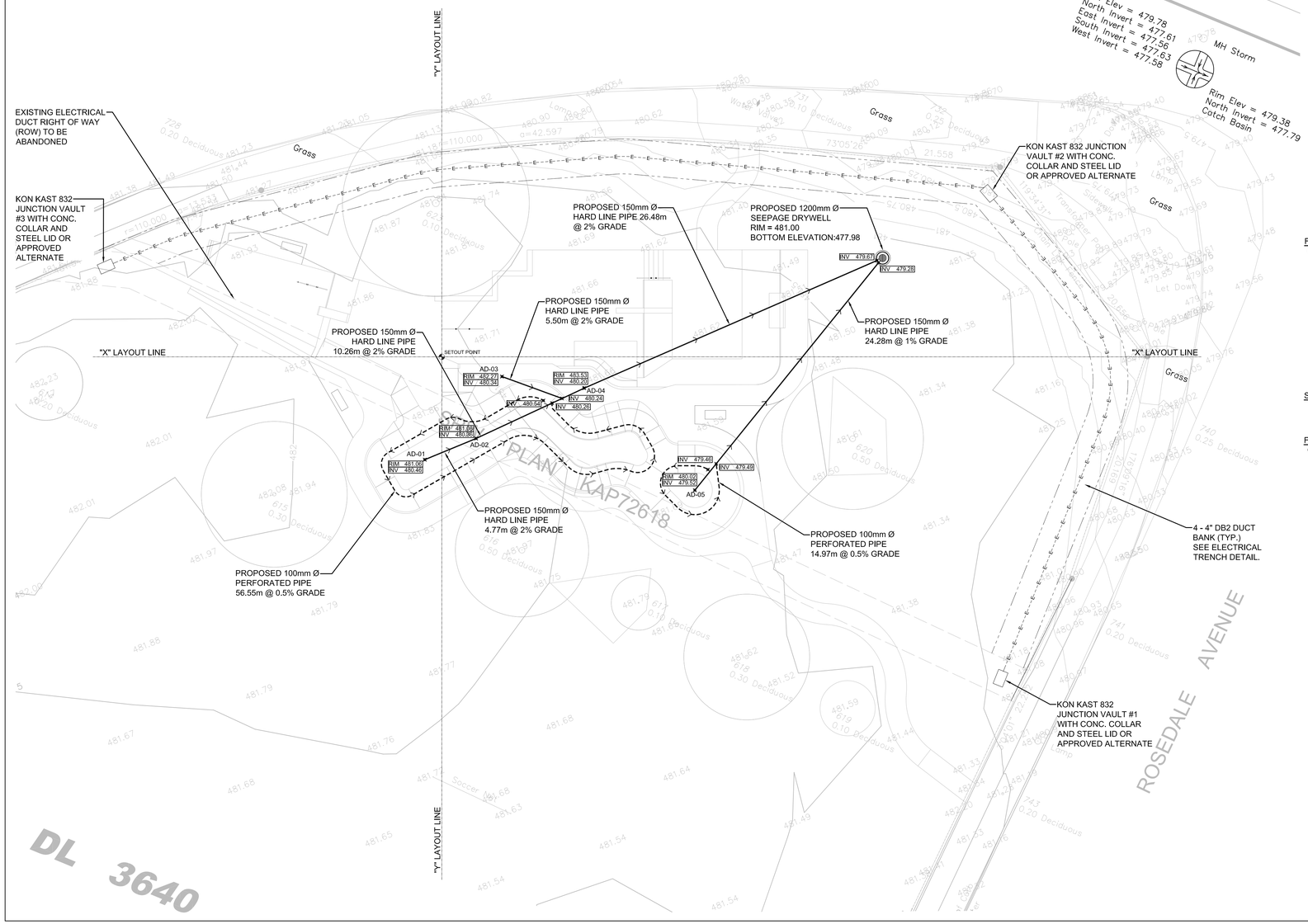
PDP PERFORATED DRAINAGE PIPE

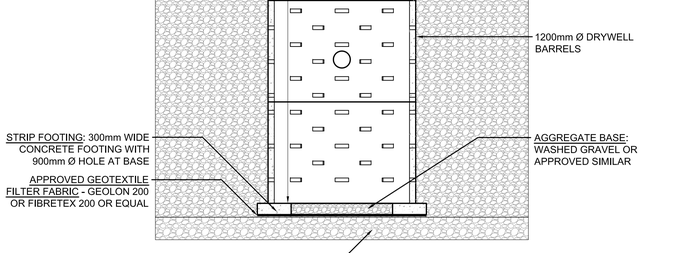
SCALE 1 : 10



HLDP HARD LINE DRAINAGE PIPE

SCALE 1 : 10





SDB SEEPAGE DRYWELL BARREL DETAIL

SCALE 1 : 25

Return Period: 10 Year
Storm Station: Summerland CS

Detention Volume Calculation:		
Q rel =	0.002	cu.m/s
R =	0.95	
SAF =	1.0	
A =	0.094	ha
Tc =	5.00	min
I 10 yr =	68.22	mm/hr
Qpf =	0.0169	cu.m./s

Hyd No.	Rainfall Duration Tr (min)	Rainfall Intensity I 10yr (mm/hr)	Peak Flow Qp10 (cu.m./s)	Inflow Runoff Volume (cu.m.)	Max Release Qrel (cu.m./s)	Required Storage Volume (cu.m.)
1	5	68.22	0.017	5	0.002	4
2	10	42.11	0.010	6	0.002	5
3	15	31.76	0.008	7	0.002	5
4	30	19.60	0.005	9	0.002	5
5	45	14.78	0.004	10	0.002	4
6	60	12.10	0.003	11	0.002	3
7	120	7.47	0.002	13	0.002	-3

Manhole Diameter:	1.2 m
Rock to Surround:	1 m
Area of Manhole:	1.13 m2
Area of Rock:	6.91 m2
Porosity:	0.4
Area Total	4.52 m2
Hydraulic Conductivity:	0.001 m/s
Safety Factor:	2
Storage Required	5 m3
Height required:	1.30 m

DC DRYWELL CALCULATIONS

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NOTES

1. ELEVATIONS ARE TO BE CONFIRMED ON SITE DURING CONSTRUCTION START-UP.
2. ALL ELEVATIONS ON THIS DRAWING ARE IN METRES.
3. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETRES.
4. ALL PIPING CONNECTIONS SHALL BE WIDE SWEEPING OR 45° CONNECTION.
6. CAUTION TAPE SHALL BE PLACED 150mm ABOVE THE PIPE TO INDICATE LOCATION OF DRAIN LINE.

LEGEND

- - - - -	PERFORATED DRAIN PIPE
———	HARD LINE DRAIN PIPE
—E—E—E—	ELECTRICAL TRENCH LINE
——— - - ———	PROPOSED 3m WIDE ELECTRICAL DUCT SROW (1.5m EITHER SIDE OF LINE)
RIM 482.25	PROPOSED ELEVATIONS

No	DATE	BY	DESCRIPTION
5	05,02,18	JM	ISSUE FOR RFP
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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:

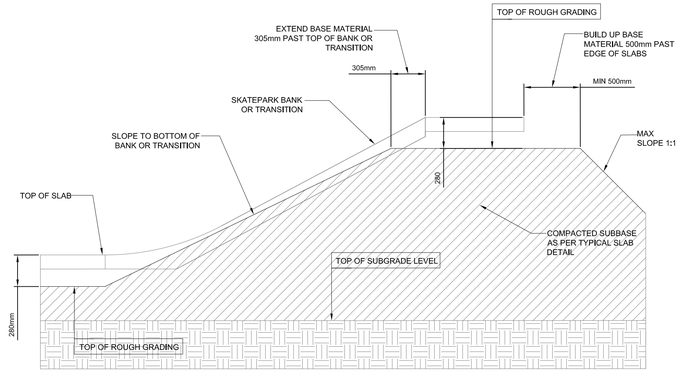
TRENCHING AND SERVICING PLAN

SCALE:	1:200	PAGE SIZE:	24"x36"

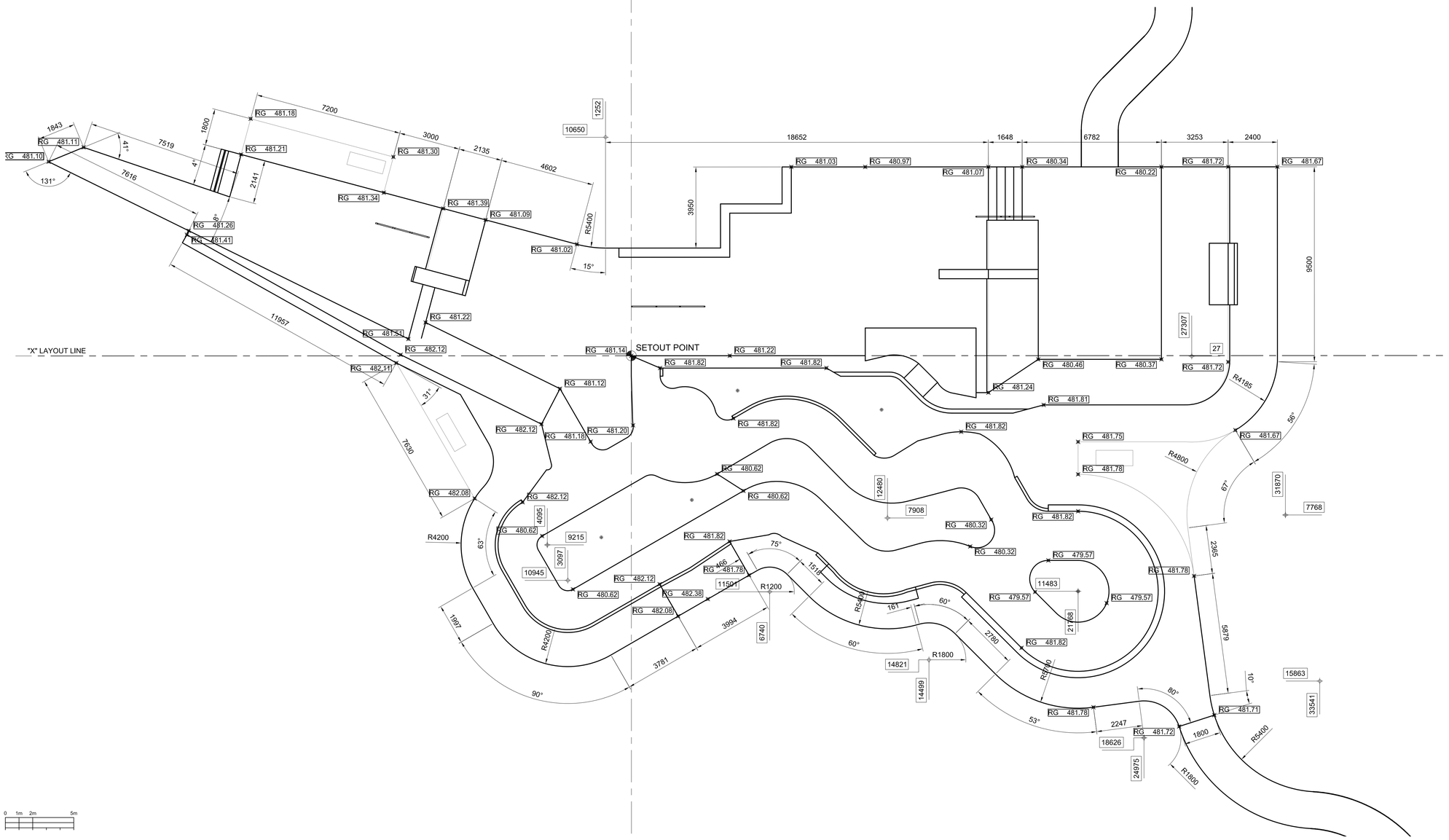
PROJECT NUMBER: SK2015-26

DRAWING NUMBER:	REV
SK-004	5

NORTH



RG2 TYPICAL OVER-BUILT DETAIL
SCALE 1 : 25



NOTES

1. ELEVATIONS IN THIS DRAWING ARE BASED ON GEODETIC INFORMATION. ELEVATIONS TO BE CONFIRMED ON SITE DURING CONSTRUCTION START UP. SEE SK-011 GRADING PLAN FOR FURTHER INFORMATION.
2. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
3. REFER TO SK-004 TRENCHING AND DRAINAGE FOR ALL SUB-SURFACE DRAIN LINE AND DRAINAGE STRUCTURE INFORMATION.
4. GRADING IN SOFTSCAPE TO NOT EXCEED (3:1).
5. REFER TO SK-DT-001 TYPICAL DETAILS 1 FOR TYPICAL SLAB DETAIL.

LEGEND

RG 480.34	ROUGH GRADE/SUB-GRADE ELEVATION

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1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

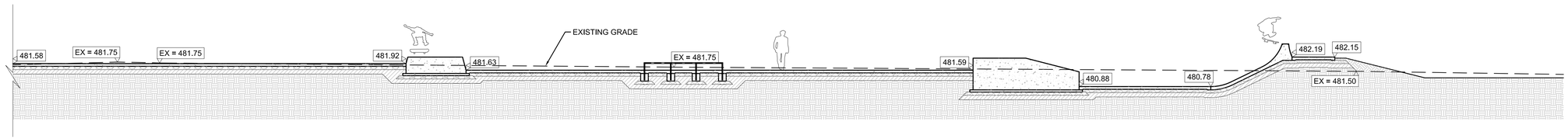
DRAWN:	SO	START DATE: 09.01.16
CHECKED:	JM	
APPROVED:	VDZ	

DRAWING TITLE:
ROUGH GRADING AND GENERAL LAYOUT

SCALE: 1:100
PAGE SIZE: 24"x36"

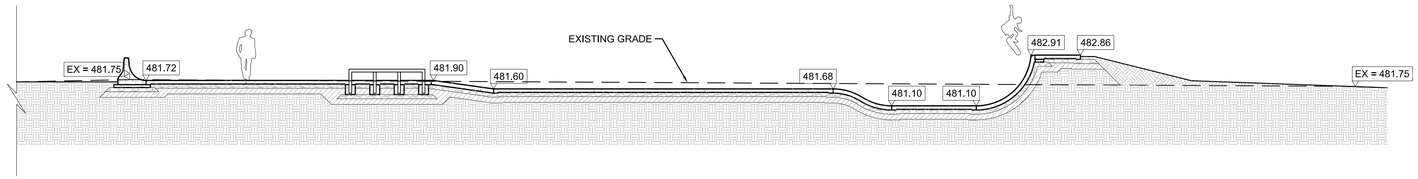
PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-005
REV: 5



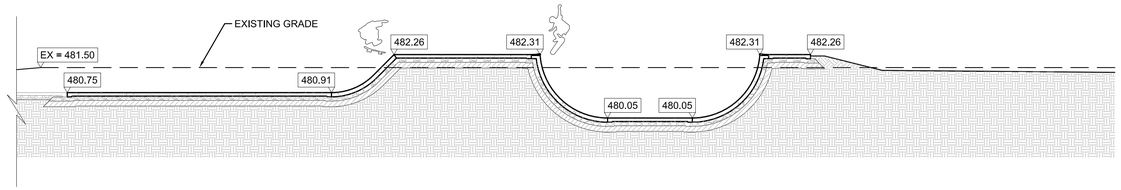
SECTION A-AA

SCALE 1:100



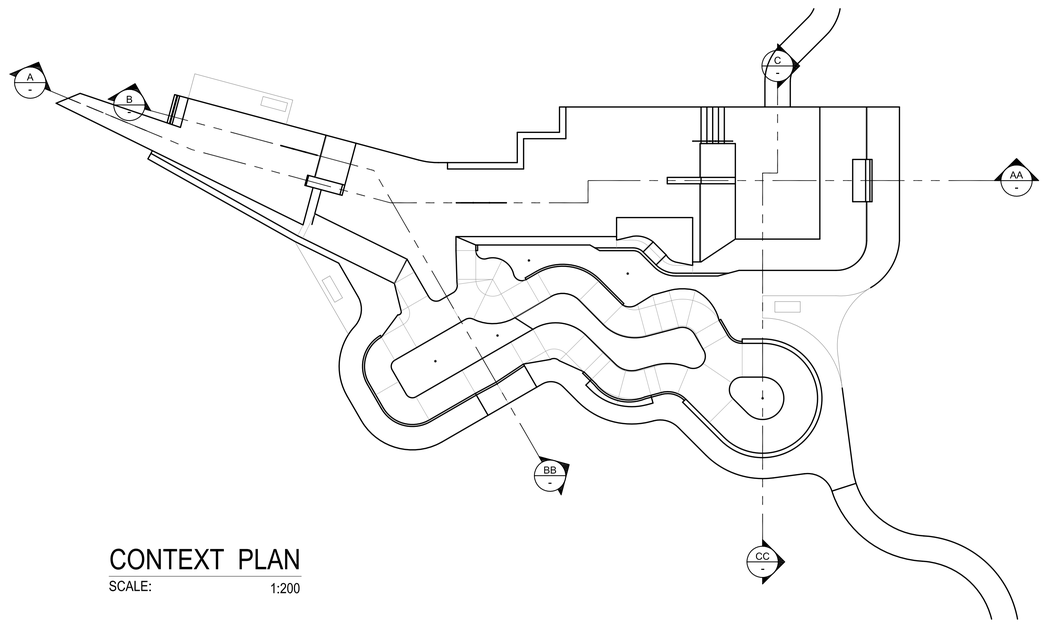
SECTION B-BB

SCALE 1:100



SECTION C-CC

SCALE 1:100



CONTEXT PLAN

SCALE: 1:200

0 1m 2m 5m

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LEGEND

	SKATEPARK CONCRETE
	BASE MATERIAL AS PER GEOTECHNICAL REPORT
	SUBBASE MATERIAL AS PER GEOTECHNICAL REPORT
	NATIVE SAND AND GRAVEL SUBGRADE AND/OR GENERAL ENGINEERED FILL AS NEEDED AS PER GEOTECHNICAL REPORT
	FILL FOR BERMING

No	DATE	BY	DESCRIPTION
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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

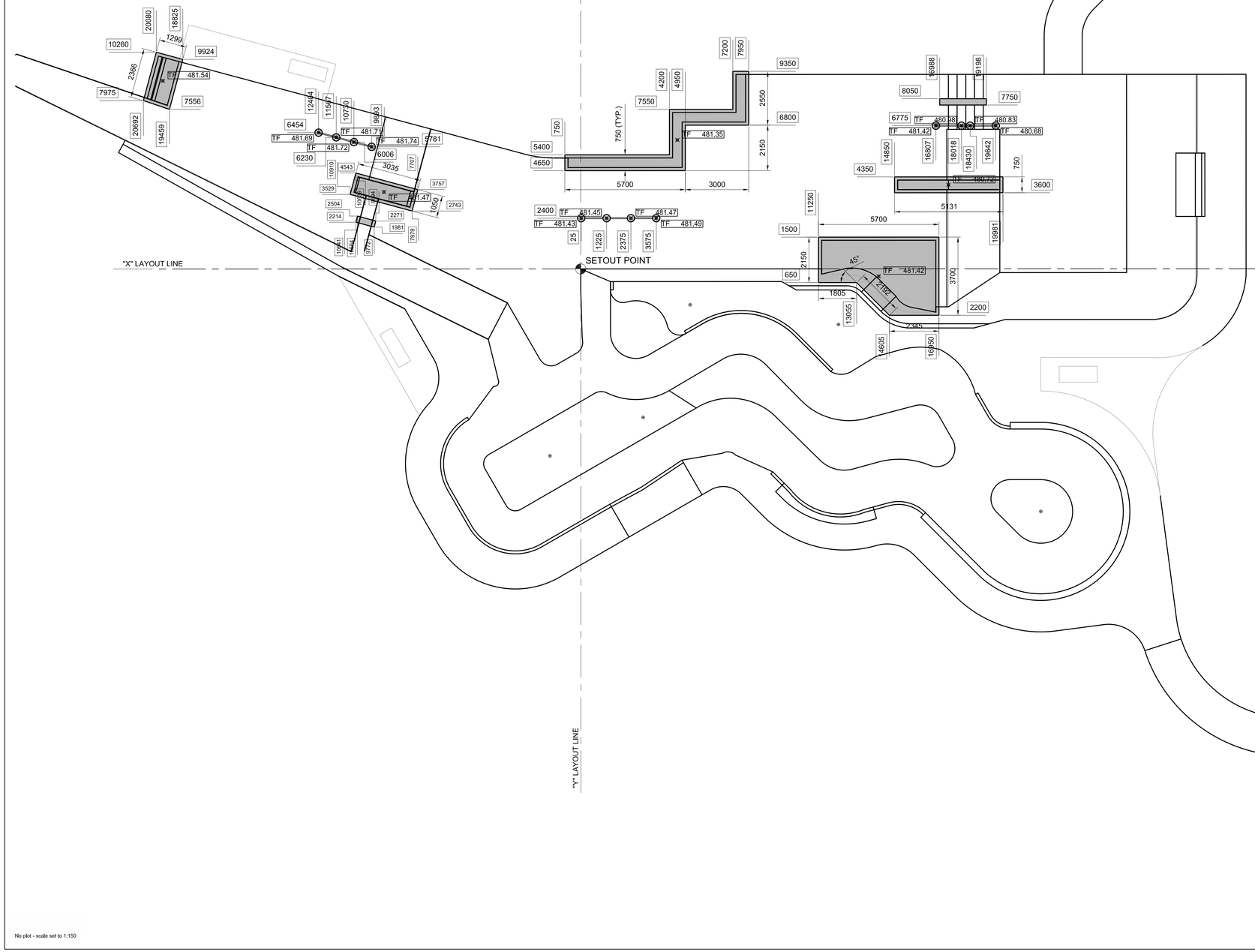
Summerland, BC

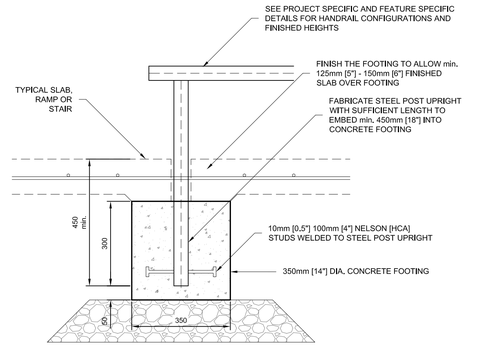
DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:

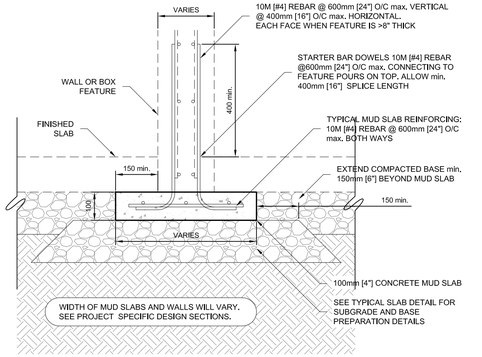
SITE SECTIONS

SCALE: AS NOTED	PAGE SIZE: 24"x36"
PROJECT NUMBER:	SK2015-26
DRAWING NUMBER: SK-006	REV 5





HM TYPICAL HANDRAIL MOUNTING DETAIL
SCALE 1 : 10



TMS TYPICAL MUD SLAB DETAIL
SCALE 1 : 10

No plot - scale set to 1:150

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NOTES

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1. ALL ELEVATIONS ON THIS DRAWING ARE IN METERS.
2. ALL MEASUREMENTS IN MILLIMETRES UNLESS OTHERWISE NOTED.

LEGEND

	MUD SLAB
	COPING MUD SLAB
	SONOTUBE RAIL ATTACHMENT FOOTING
6800	ORDINATE LAYOUT POINT (BASED OFF 0,0 SETOUT POINT)
TF 480.72	TOP OF FOOTING ELEVATION

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SUMMERLAND SKATEPARK

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APPROVED:	VDZ		

DRAWING TITLE:
FOUNDATION LAYOUT

SCALE:	PAGE SIZE:
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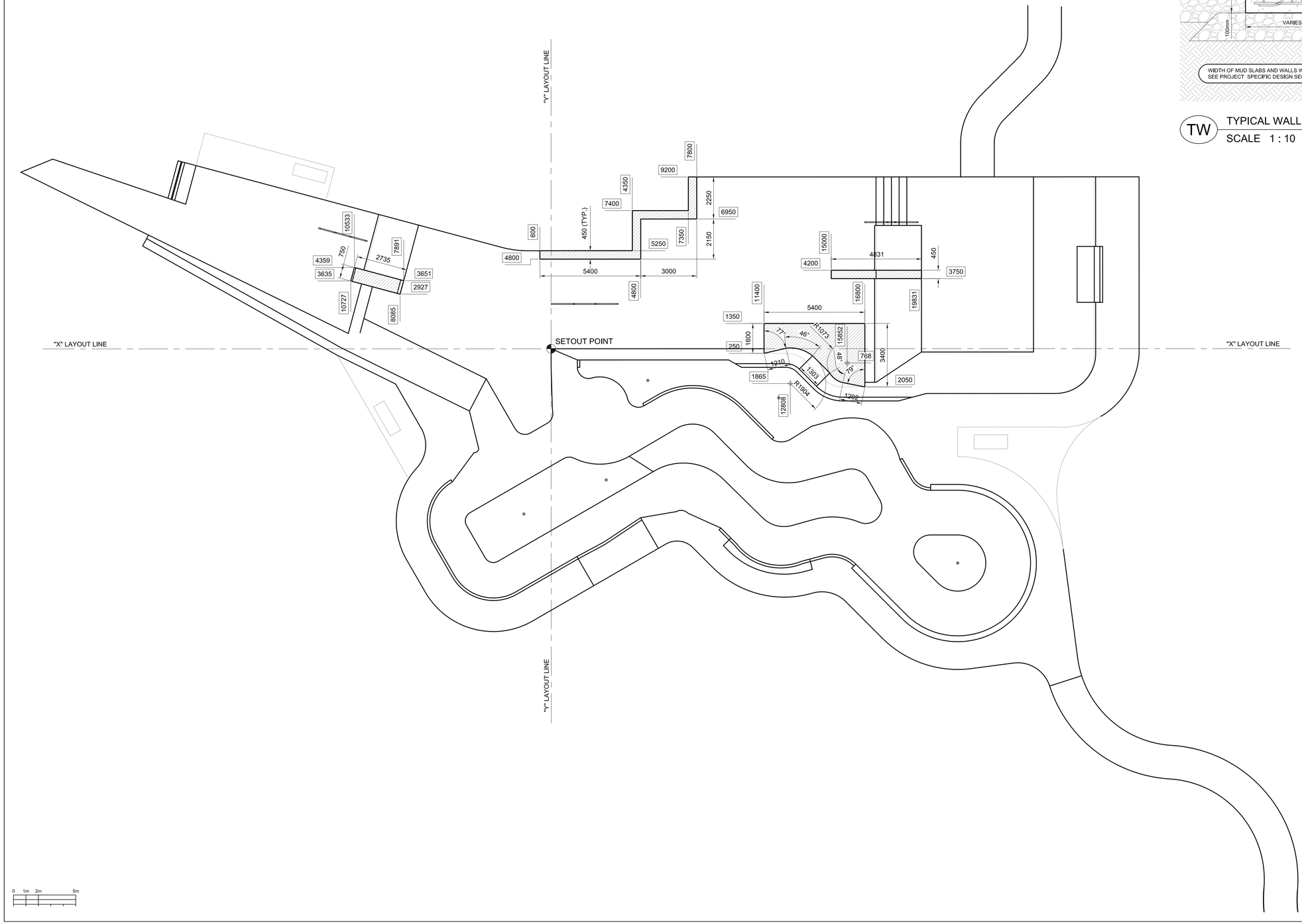
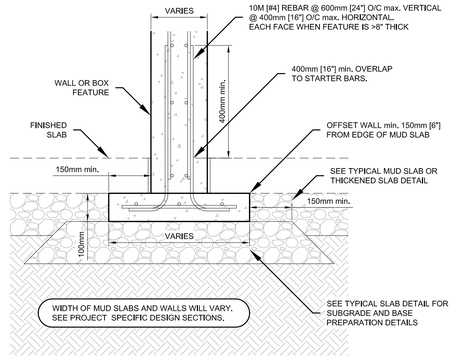
PROJECT NUMBER: SK2015-26

DRAWING NUMBER:	REV
SK-007	5





TW TYPICAL WALL DETAIL

SCALE 1 : 10

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NOTES

1. ALL MEASUREMENTS IN MILLIMETRES UNLESS OTHERWISE NOTED.

LEGEND

	VERTICAL WALL
7972	ORDINATE LAYOUT POINT (BASED OFF 0,0 SETOUT POINT).

No	DATE	BY	DESCRIPTION
5	05.02.18	JM	ISSUE FOR RFP
4	07.13.17	SO	ISSUE FOR 100% REVIEW
3	02.23.17	SO	PROPOSED ROW UPDATE
2	01.06.17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:

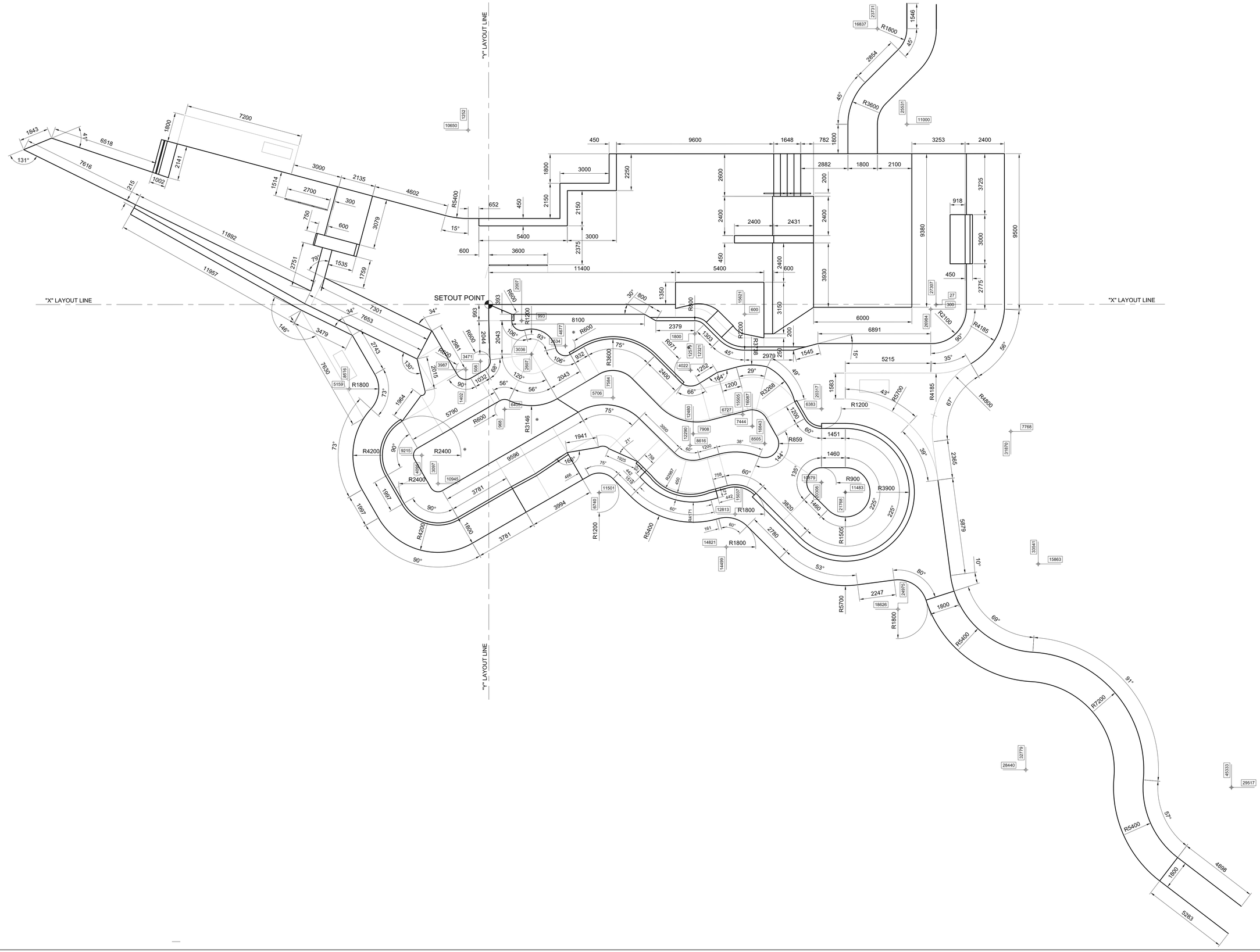
WALLS AND LEDGES

SCALE:	1:100	PAGE SIZE:	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-008

REV 5



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NOTES

1. TO BE READ IN CONJUNCTION WITH ADDITIONAL SETOUT INFORMATION ON DRAWINGS SK-003 & SK-010.
2. ALL MEASUREMENTS IN MILLIMETRES UNLESS OTHERWISE NOTED.

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5	05.02.18	JM	ISSUE FOR RFP
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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:

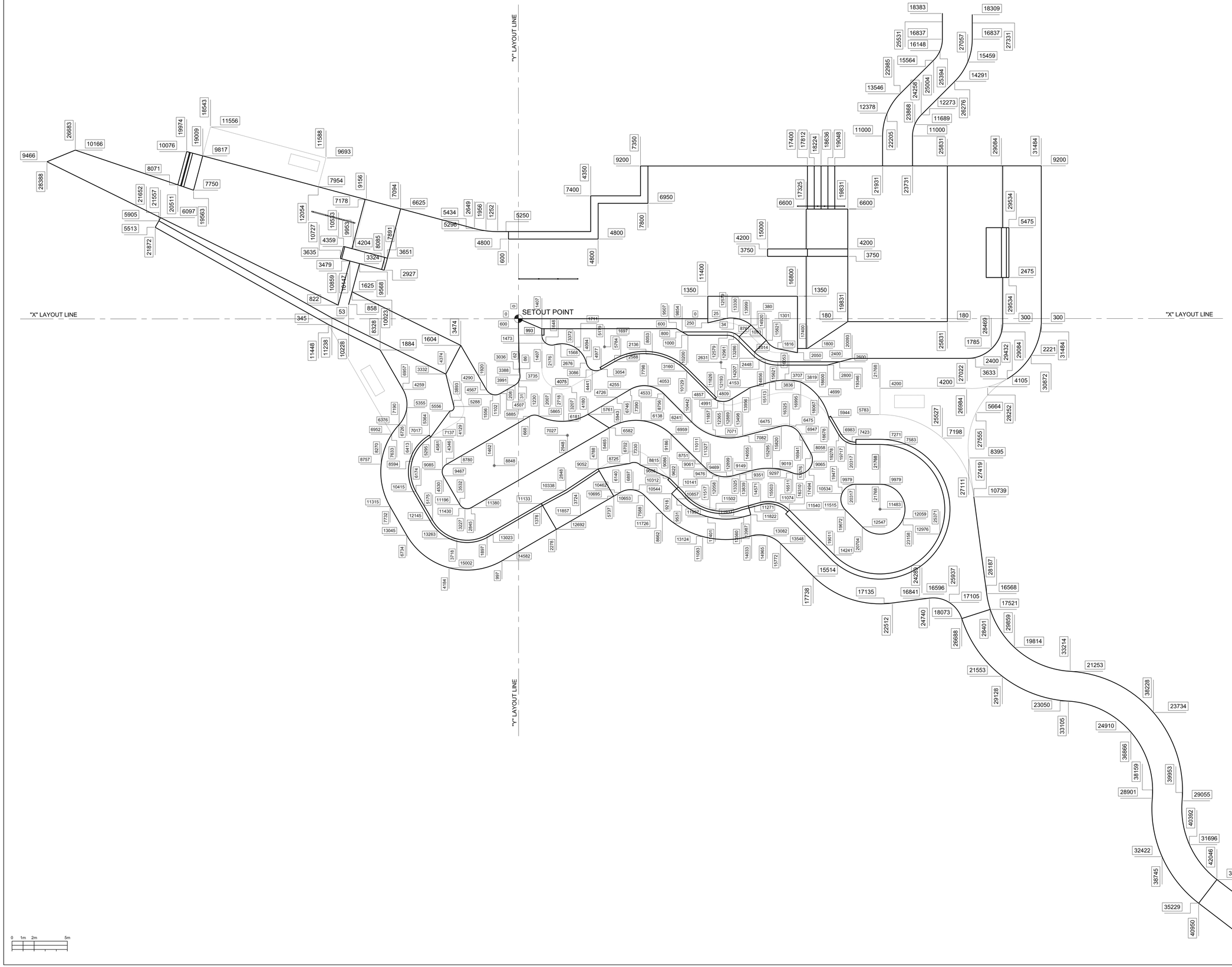
LAYOUT AND DIMENSIONS

SCALE:	1:100	PAGE SIZE:	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-009

REV 5



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1	09,30,16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

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APPROVED:	VDZ		

DRAWING TITLE:

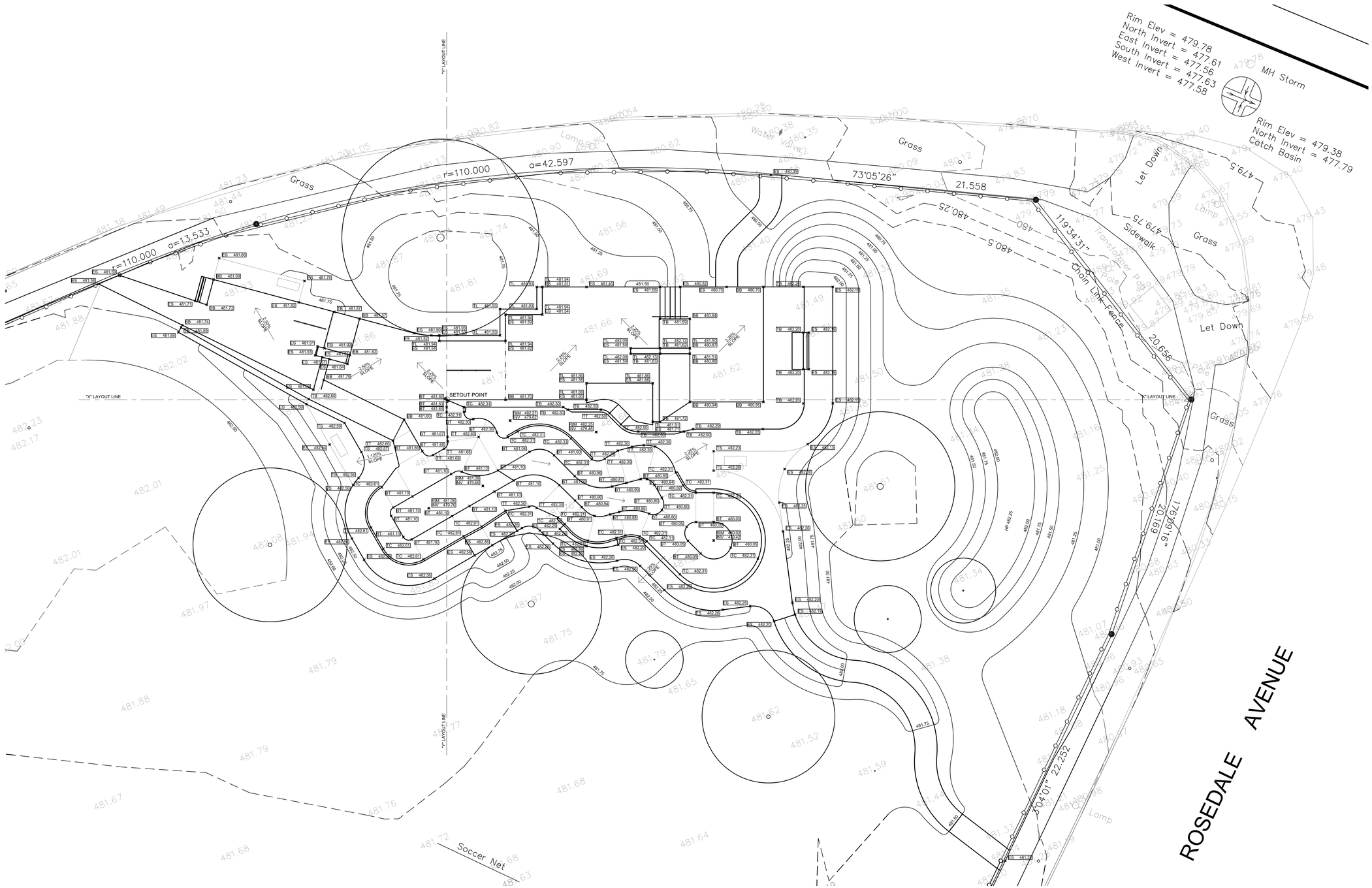
ORDINATE LAYOUT

SCALE:	1:100	PAGE SIZE:	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-010

REV 5



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NOTES

1. ELEVATIONS TO BE CONFIRMED ON SITE DURING CONSTRUCTION START-UP.
2. REFER TO SK-004 TRENCHING AND DRAINAGE FOR ALL SUB-SURFACE DRAIN LINE AND DRAINAGE STRUCTURE INFORMATION.
3. MAX SLOPE ON SLAB = 4%.
4. ALL ELEVATIONS ON THIS DRAWING ARE IN METRES.
5. GRADING IN SOFTSCAPE TO NOT EXCEED (3:1)
6. ALL DISTURBED AREAS TO BE REMEDIATED/SEEDED WITH NATIVE GRASS MIX. REFER TO SPECIFICATIONS.

LEGEND

BW	BOTTOM OF WALL
TW	TOP OF WALL
BB	BOTTOM OF BANK
TB	TOP OF BANK
BX	BOTTOM OF BOX
TX	TOP OF BOX
ES	EDGE OF SLAB
TS	TOP OF SLAB
TL	TOP OF LEDGE
BL	BOTTOM OF LEDGE
TC	TOP OF CURB
BC	BOTTOM OF CURB
TT	TOP OF TRANSITION
BT	BOTTOM OF TRANSITION
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RIM	RIM OF DRAIN
INV	INVERT
TI	TIE IN LEVEL
CO	CLEAN OUT
CB	CATCH BASIN
LB	LAWN BASIN
MH	MANHOLE
DW	DRY WELL

* RAMP = A BANK WITHOUT A RADIUS AT BOTTOM

--480--	EXISTING CONTOURS (@ 0.25m INTERVALS)
482.00	PROPOSED CONTOURS
481.50	PROPOSED SPOT ELEVATION
→	FLOW DIRECTION ACROSS SLAB
— · · —	BREAKLINE

No	DATE	BY	DESCRIPTION
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PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:
GRADING PLAN

SCALE:	1:150	PAGE SIZE:	24"x36"
PROJECT NUMBER:	SK2015-26		
DRAWING NUMBER:	SK-011	REV	5

NORTH

METAL NOTES

*REFER TO DETAILS TO CONFIRM HAND RAIL AND HUBBA LEDGE DIMENSIONS.

ALL STEEL GRINDING EDGES AND STEEL COPING SHALL BE SHOP WHEEL ABRATED AND PAINTED WITH ZINC-RICH PRIMER PRIOR TO INSTALLATION. ZINC-RICH SHOULD BE RE-APPLIED AFTER INSTALLATION. ALL STEEL WORK TO BE FINISH PAINTED WITH 'TREMCLAD' RUST PAINT OR EQUIVALENT.

2x4 HSS:	50mm x 100mm (2" x 4") RECTANGULAR HSS WITH 6mm (¼") WALL ASTM - A500
CP:	63mm (2-½") SCHEDULE 80 ASTM - A53 PIPE WITH 6mm (¼") x 100mm (4") HOT ROLLED BACK PLATE ASTM - A36
CP30:	25mm (1") SCHEDULE 40 ASTM - A53 PIPE
CP40:	42mm (1-¼") SCHEDULE 40 ASTM - A53 PIPE
FSB:	50mm (2") x 6mm (¼") FLAT STEEL BAR ASTM - A36
PBC:	PRECAST CONCRETE POOL COPING. TEDDERSTONE STANDARD BULLNOSE OR APPROVED ALTERNATIVE.
RSP:	50mm (2") SCHEDULE 80 ASTM - A53 PIPE
SST:	50mm x 50mm (2" x 2") SQUARE HSS WITH 6mm (¼") WALL ASTM - A500

ALL METAL WORK SHALL STRICTLY ADHERE TO THE SPECIFIED WALL THICKNESS. ALL METAL WORK SHALL BE GROUND IN SHOP AND PRIMED BEFORE DELIVERY TO SITE. NO MILL SCALE ON METAL SHALL BE TOLERATED. ALL SITE WELDING SHALL BE RETOUCHED AND PAINTED PRIOR TO SUBSTANTIAL COMPLETION.

CONCRETE NOTES

CONCRETE APPLICATION
ALL TRANSITION AND BANK ELEMENTS TO BE POURED VIA SHOTCRETE APPLICATION (SEE SK-013 JOINT PLAN WHERE THESE FEATURES ARE IDENTIFIED).

CONCRETE FINISHING
ALL HORIZONTAL ELEMENTS TO HAVE A POWER TROWELED SHOP FLOOR FINISH.
ALL VERTICAL AND TRANSITIONAL ELEMENTS AND FEATURES TO HAVE A HAND TROWEL SHOP FLOOR FINISH.

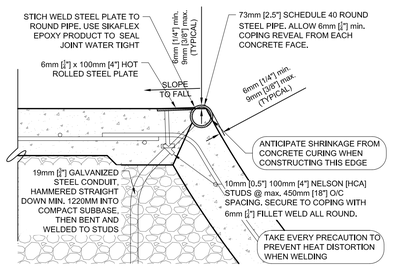
CONCRETE PROPERTIES AND REINFORCEMENT FOR CONCRETE PROPERTIES; STRENGTH, THICKNESS, REINFORCEMENT GAUGE AND SPACING, REFER TO SPECIFICATIONS AND DETAILS.

CONCRETE COLOUR SELECTION
ALL CONCRETE COLOURS ARE SELECTED FROM LAFARGE'S ARTEVIA COLOUR SELECTOR AVAILABLE ONLINE AT:
https://www.lafarge.ca/sites/canada/files/atoms/files/artevia_professional_brochure_wcan-eng.pdf

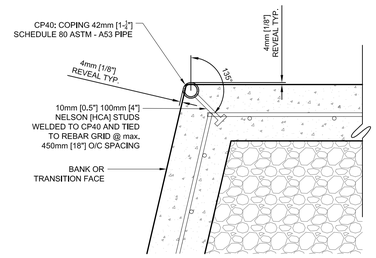
CONTRACTOR TO USE SELECTED COLOURS OR APPROVED ALTERNATIVE IN AREAS NOTED ON DOCUMENTS. CONTRACTOR TO FOLLOW MANUFACTURERS SPECIFICATIONS.

BLEND AREAS

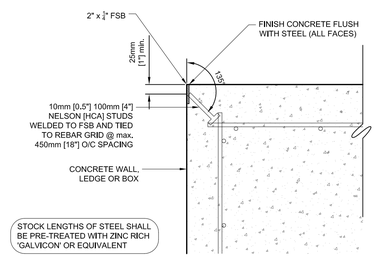
IN MANY INSTANCES THROUGHOUT THE SKATEPARK - ELEVATION, AND DEGREE OF SLOPE BETWEEN BANKS, TRANSITION SLOPES, AND VERTICAL ELEMENTS CAN VARY. WHERE INDICATED ON PLAN, PROVIDE CUSTOM CONCRETE BLENDING FOR SMOOTH TRANSITIONS. THESE AREAS TYPICALLY REQUIRE GREATER HAND WORK AND QUALITY CONTROL TO ENSURE THAT BLENDS DO NOT RESULT IN IRREGULAR CONCRETE SURFACE CONDITIONS.



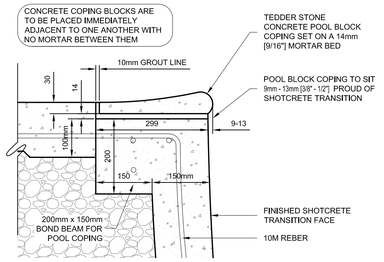
CP TYPICAL ROUND TUBE COPING
SCALE 1 : 7.5



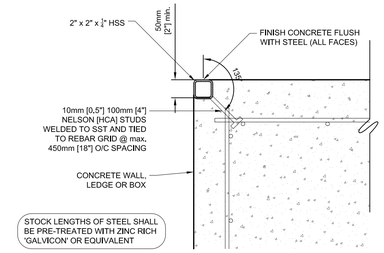
CP40 TYPICAL 40mm [1-¼"] COPING
SCALE 1 : 7.5



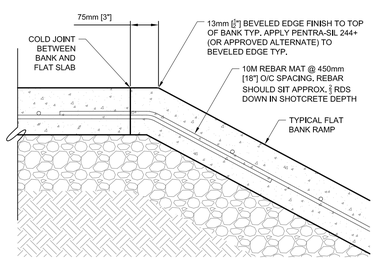
FSB TYPICAL FLAT STEEL BAR
SCALE 1 : 7.5



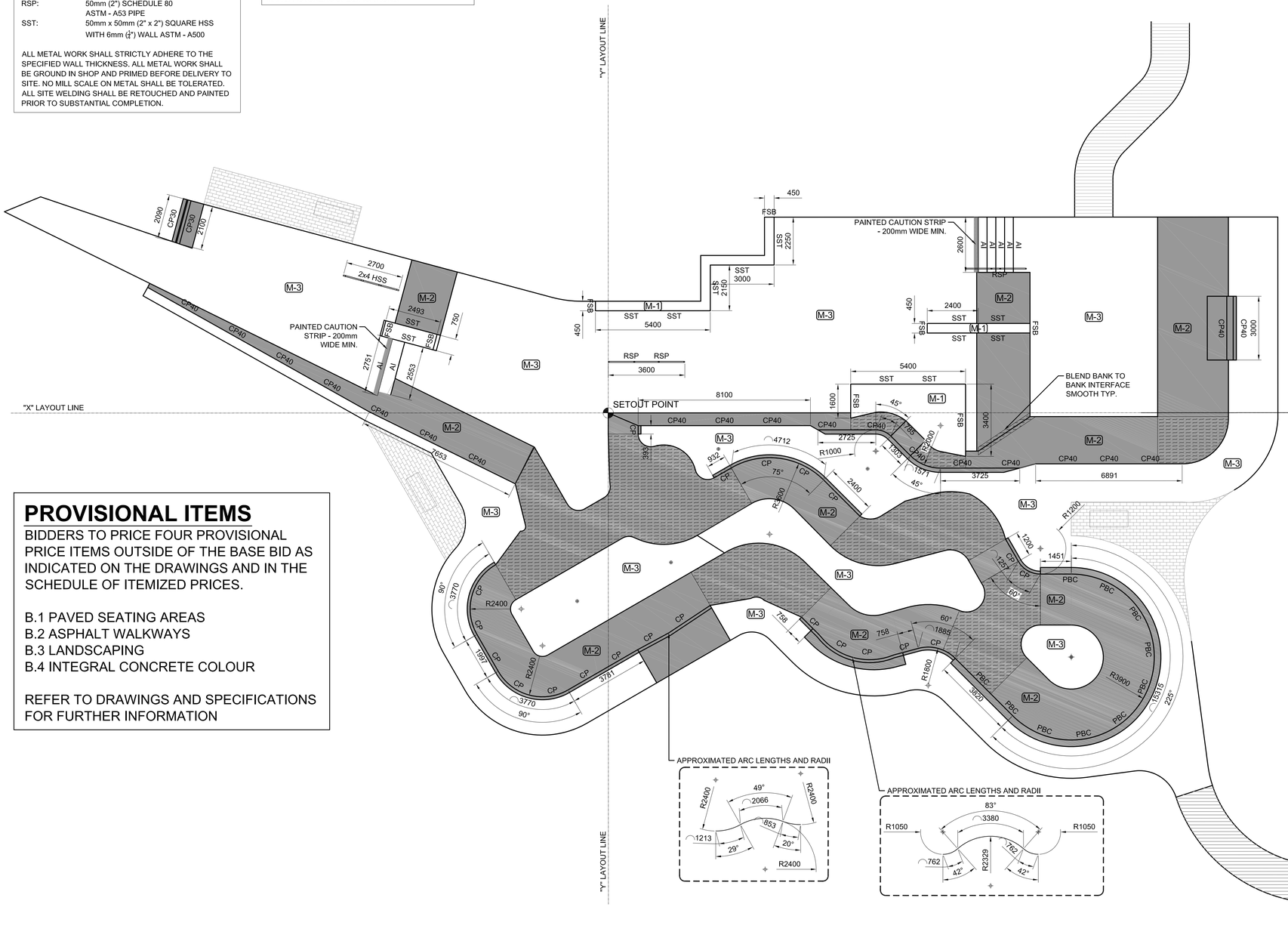
PBC TYPICAL POOL BLOCK COPING
SCALE 1 : 7.5



SST TYPICAL SQUARE TUBE COPING
SCALE 1 : 7.5



TOB TOP OF BANK EDGE TREATMENT
SCALE 1 : 7.5



PROVISIONAL ITEMS

BIDDERS TO PRICE FOUR PROVISIONAL PRICE ITEMS OUTSIDE OF THE BASE BID AS INDICATED ON THE DRAWINGS AND IN THE SCHEDULE OF ITEMIZED PRICES.

B.1 PAVED SEATING AREAS
B.2 ASPHALT WALKWAYS
B.3 LANDSCAPING
B.4 INTEGRAL CONCRETE COLOUR

REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER INFORMATION

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LEGEND

	CONCRETE TYPE #1 NATURAL GREY - NO HATCH
	PROVISION ITEM B.1 PAVED SEATING AREAS NATURAL GREY CONCRETE WITH BRICK STAMP TEXTURING
	PROVISIONAL ITEM B.2 PROPOSED ASPHALT ENTRY PATHWAYS
	PROVISIONAL ITEM B.4 INTEGRAL CONCRETE COLOUR INTEGRAL COLOUR: LAFARGE ARTEVIA TUNDRA OR APPROVED ALTERNATE - TO BE CONFIRMED WITH DISTRICT OF SUMMERLAND REPRESENTATIVE

MATERIAL LEGEND

M-1	WALL/FACING TYPE #1
M-2	SHOTCRETE CONCRETE
M-3	SMOOTH FINISH CONCRETE

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5	05.02.18	JM	ISSUE FOR RFP
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PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
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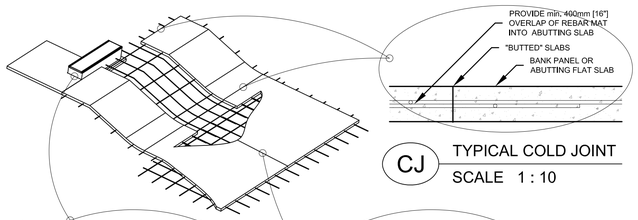
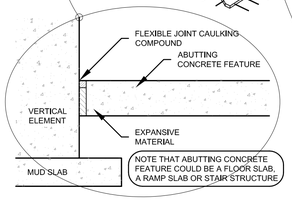
DRAWING TITLE:
MATERIALS PLAN

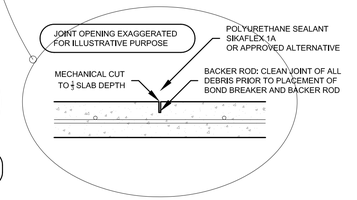
SCALE: 1:100	PAGE SIZE: 24"x36"	
PROJECT NUMBER: SK2015-26		
DRAWING NUMBER: SK-012	REV 5	NORTH



CJ TYPICAL COLD JOINT
SCALE 1 : 10



EJ TYPICAL EXPANSION JOINT
SCALE 1 : 10



SJ TYPICAL SAW-CUT JOINT
SCALE 1 : 10

NOTES

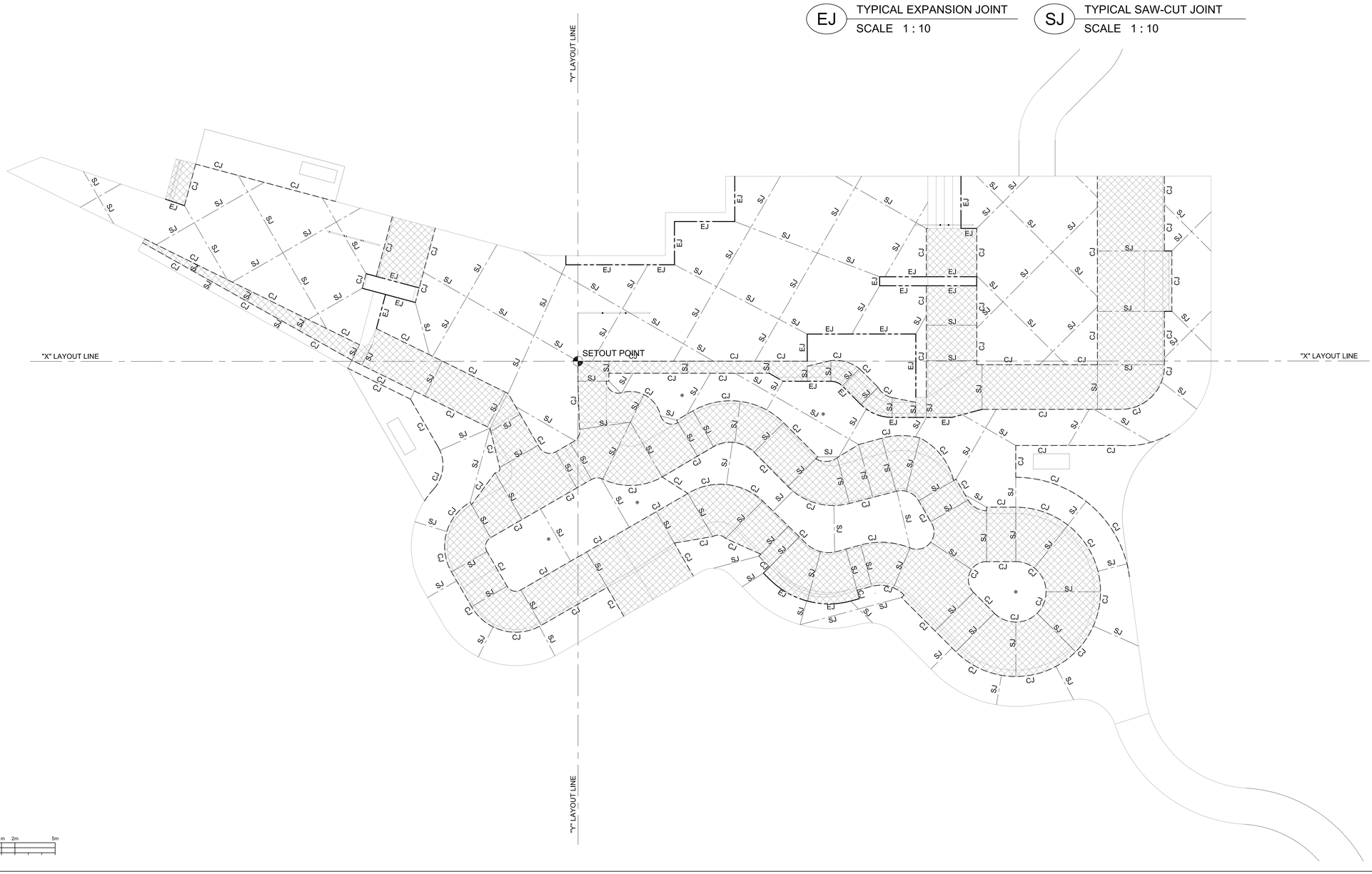
1. CONSTRUCTION OF ALL CONCRETE ELEMENTS WITHIN THE SKATEPARK ARE BEST COMPLETED IN THE FOLLOWING ORDER: A. FOOTINGS AND WALLS WITH FOOTINGS B. BANK PANELS, STEPS AND TRANSITIONS C. FLOOR SLAB D. WALL, LEDGES AND BOXES BUILT ON SLAB.

2. CAST IN PLACE CONCRETE PANELS SHALL BE CONSTRUCTED IN AN ALTERNATING ARRANGEMENT SO THAT EVERY OTHER PANEL IS COMPLETED PRIOR TO THE POURING OF THE INFILL PANEL. THIS SYSTEM PROVIDES EDGE FORMING FOR EVERY ALTERNATE PANEL AND HELPS ENSURE QUALITY CONTROL. NO PANELS SHALL EXCEED 4.0m (LINEAR) IN SIZE WITHOUT CONTROL JOINTING. -SEE CONCRETE SPECS.

3. COLD JOINTS ARE PROVIDED BETWEN EACH PANEL. PLACE TIE BARS AND DOWELS OR CONTINUOUS 10M REBAR (ROUND DEFORMED REINFORCING STEEL) THROUGH ALL PANELS AND FLOOR SLAB.

4. EXPANSION JOINTS: SHALL BE PLACED AT THE BASE OF ALL VERTICAL CONCRETE ELEMENTS SUCH AS LEDGES, STAIRS AND WALLS. UTILIZE JOINT COMPOUND NO GREATER THAN 6.25mm IN WIDTH TO HELP ELIMINATE TRIPPING OR IRREGULARITIES IN SKATING SURFACE.

5. SAW CUT PATTERN IS SHOWN TO PROVIDE DIRECTION ONLY. CONTRACTOR SHALL CUT SLAB AS NEEDED TO PREVENT CRACKING. SAW CUTS MUST BE MADE BEFORE ANY SIGNS OF THERMAL CRACKING. THERMAL CRACKING AS A RESULT OF INSUFFICIENT CRACK CONTROL MAY RESULT IN UNSKATEABLE SURFACES AND MAY NEED TO BE REPLACED.



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LEGEND

SJ SJ	SAWCUT
EJ EJ	EXPANSION JOINT
CJ CJ	COLD JOINT
	BANKS AND TRANSITIONS (TO BE POURED VIA SHOTCRETE APPLICATION).

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5	05.02.18	JM	ISSUE FOR RFP
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PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
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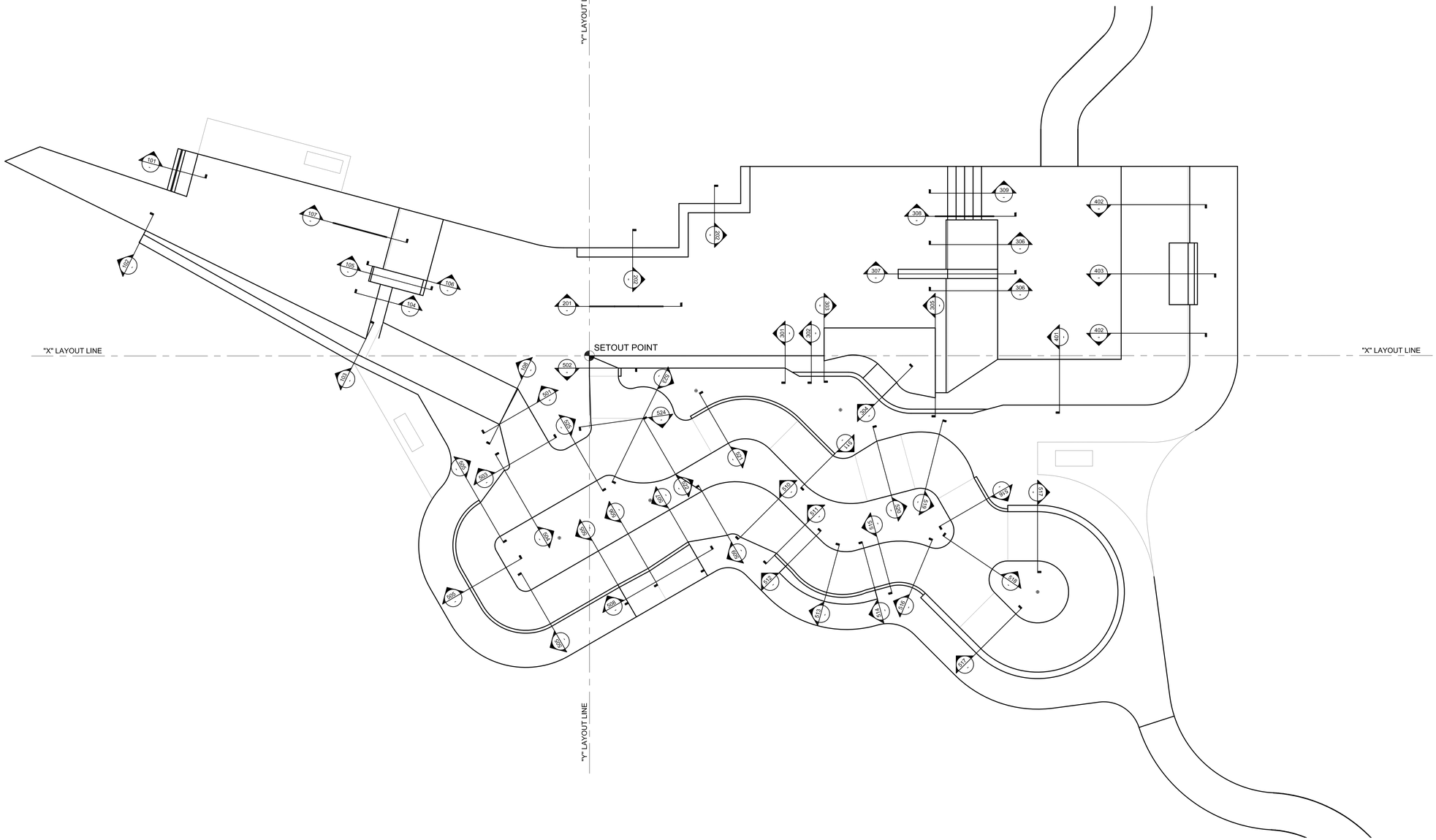
DRAWING TITLE:
JOINT PLAN

SCALE: 1:100
PAGE SIZE: 24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-013
REV 5
NORTH



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PROJECT:

SUMMERLAND SKATEPARK

LOCATION:

Summerland, BC

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DRAWING TITLE:

DETAIL REFERENCE

SCALE:	PAGE SIZE:
N/A	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER:	REV
SK-D-000	5

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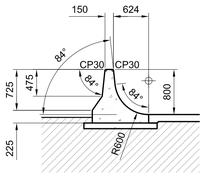
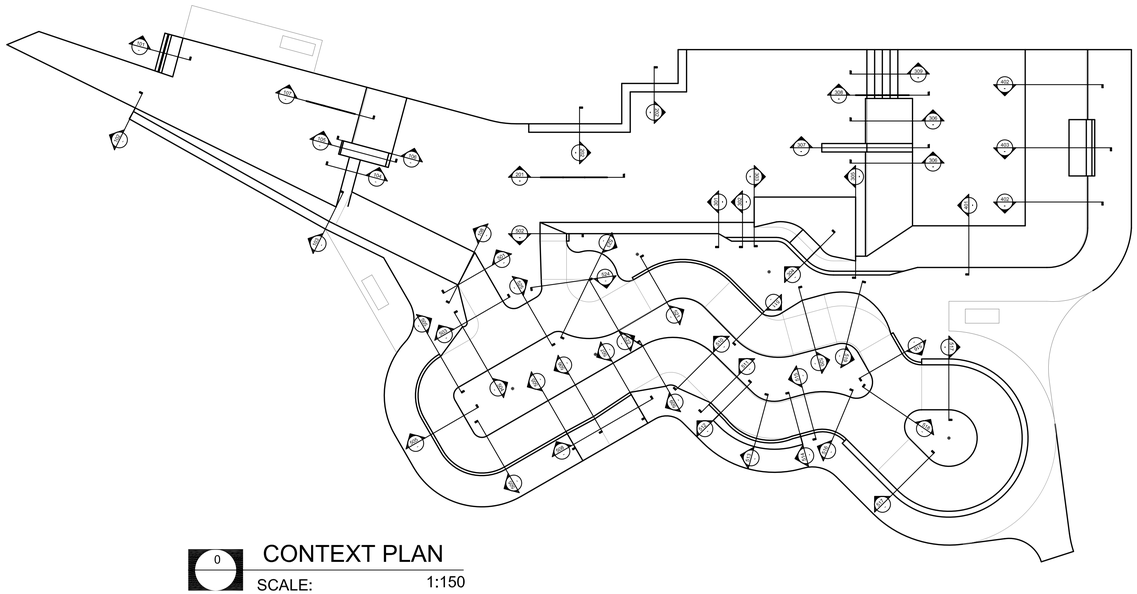
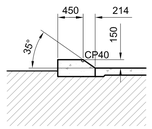


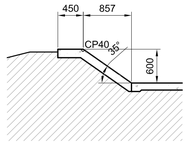
101 **BARRIER 1**
SCALE: 1:50



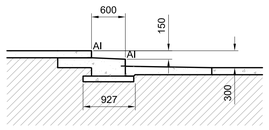
0 **CONTEXT PLAN**
SCALE: 1:150



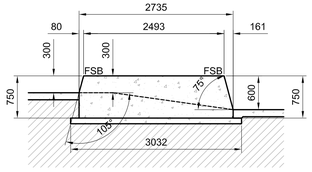
102 **SLAPPY 1 - SECTION 2**
SCALE: 1:50



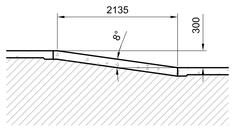
302 **SLAPPY 1 - SECTION 2**
SCALE: 1:50



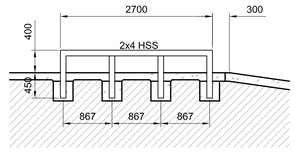
104 **2 STAIR SET**
SCALE: 1:50



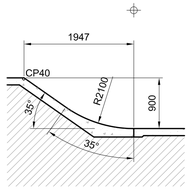
105 **LEDGE 1**
SCALE: 1:50



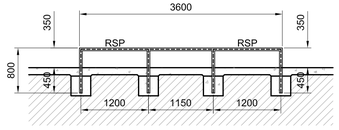
106 **BANK 1**
SCALE: 1:50



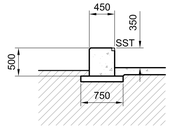
107 **RAIL 1**
SCALE: 1:50



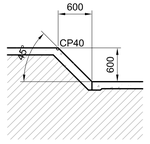
108 **BANK 2**
SCALE: 1:50



201 **RAIL 2**
SCALE: 1:50



802 **LEDGE 2**
SCALE: 1:50



301 **SLAPPY 2 - SECTION 1**
SCALE: 1:50

No	DATE	BY	DESCRIPTION
5	05.02.18	JM	ISSUE FOR RFP
4	07.13.17	SO	ISSUE FOR 100% REVIEW
3	02.23.17	SO	PROPOSED ROW UPDATE
2	01.06.17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

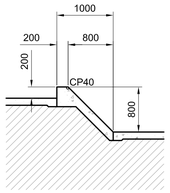
DRAWING TITLE:
DETAILS SHEET 1

SCALE:	PAGE SIZE:
AS NOTED	24"x36"

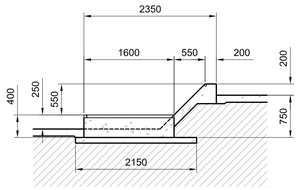
PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-D-001

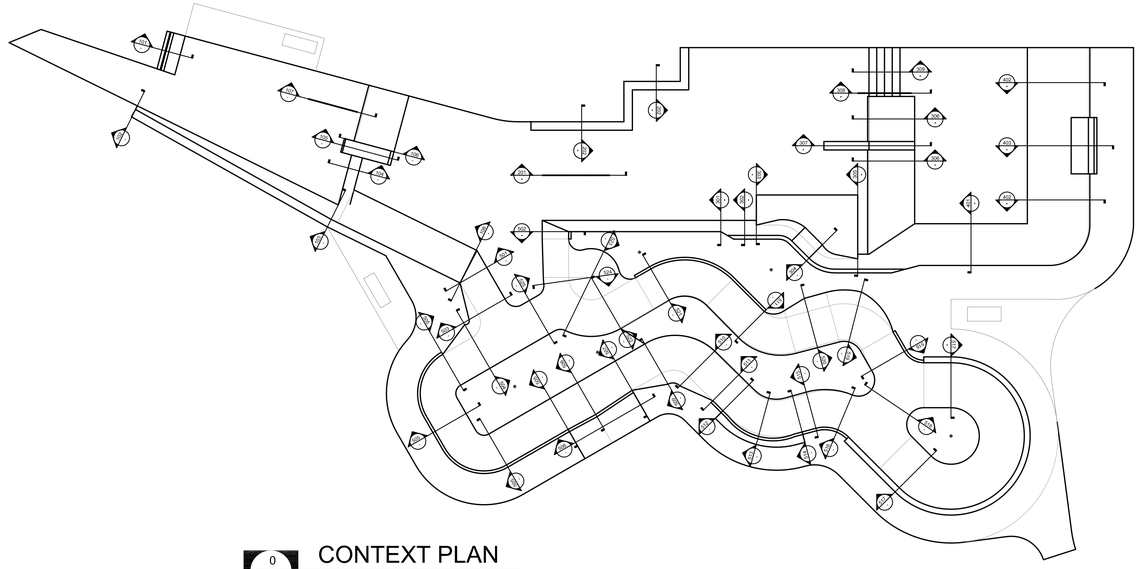
REV 5



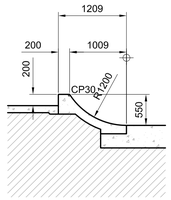
302 SLAPPY 2 - SECTION 2
SCALE: 1:50



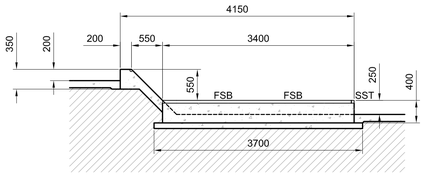
303 MANUAL PAD - SECTION 1
SCALE: 1:50



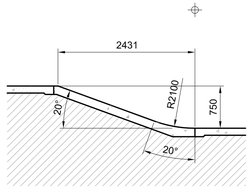
0 CONTEXT PLAN
SCALE: 1:150



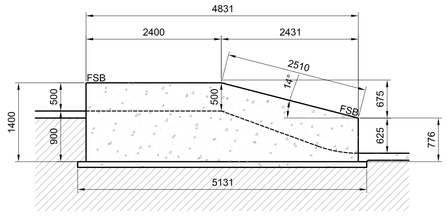
304 TRANSITION 1
SCALE: 1:50



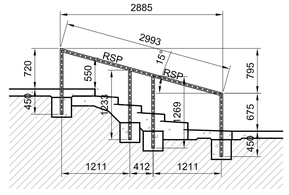
305 MANUAL PAD - SECTION 2
SCALE: 1:50



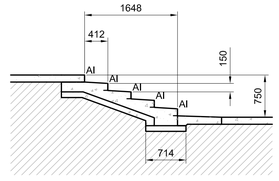
306 BANK 3
SCALE: 1:50



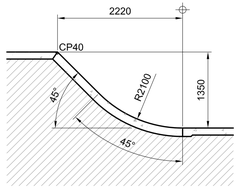
307 LEDGE 3
SCALE: 1:50



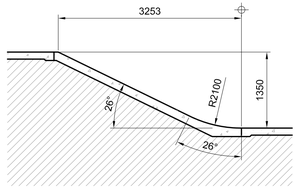
308 RAIL 3
SCALE: 1:50



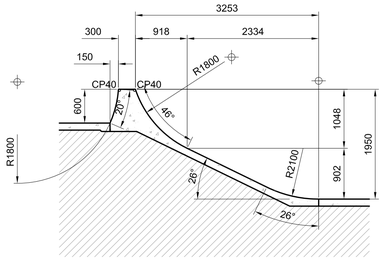
309 5 STAIR SET
SCALE: 1:50



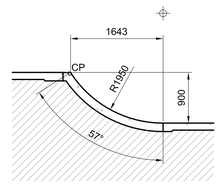
401 BANK 4
SCALE: 1:50



402 BANK 5
SCALE: 1:50



403 BANK TO BARRIER
SCALE: 1:50



501 TRANSITION 2
SCALE: 1:50

NEW LINE SKATEPARKS Inc.
BUILDING SKATEBOARDING
Unit #101 - 6249 205th Street P 604.530.1114
Langley, British Columbia F 604.530.1119
V2Y 1N7 info@newlineskateparks.com

No	DATE	BY	DESCRIPTION
5	05.02.18	JM	ISSUE FOR RFP
4	07.13.17	SO	ISSUE FOR 100% REVIEW
3	02.23.17	SO	PROPOSED ROW UPDATE
2	01.06.17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:
DETAILS SHEET 2

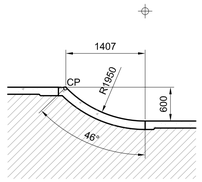
SCALE:	PAGE SIZE:
AS NOTED	24"x36"

PROJECT NUMBER: SK2015-26

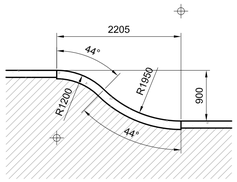
DRAWING NUMBER: SK-D-002

REV: 5

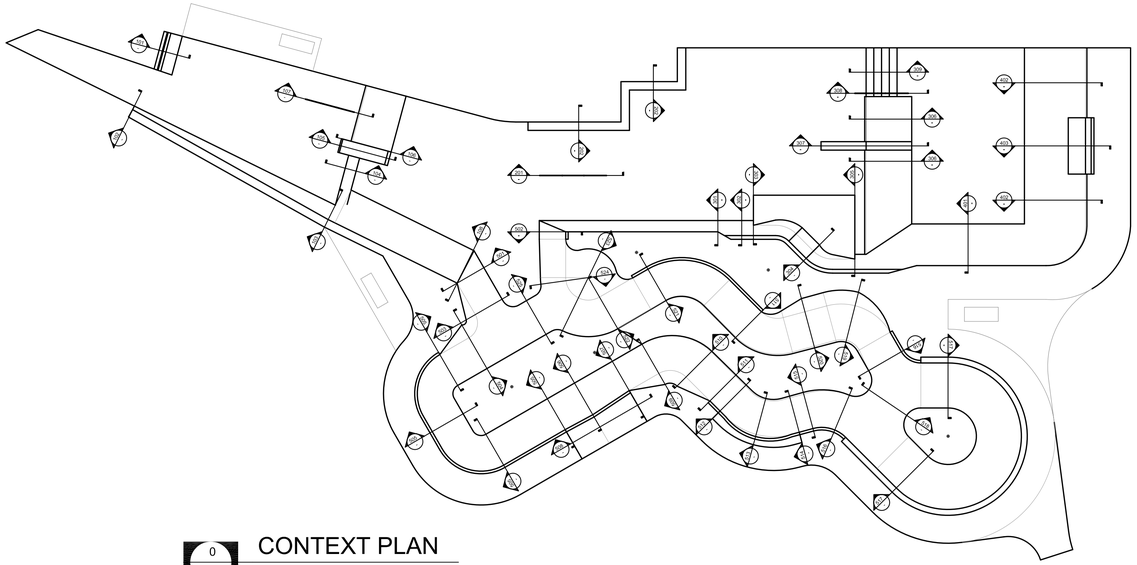
NEW LINE SKATEPARKS Inc.
BUILDING SKATEBOARDING
Unit #101 - 6249 205th Street P 604.530.1114
Langley, British Columbia F 604.530.1119
V2Y 1N7 Info@newlineskateparks.com



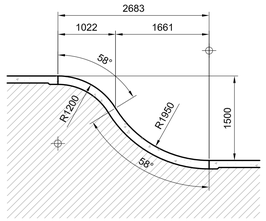
502 **TRANSITION 3**
SCALE: 1:50



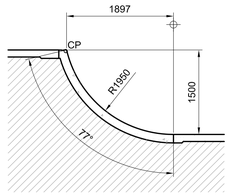
503 **TRANSITION 4**
SCALE: 1:50



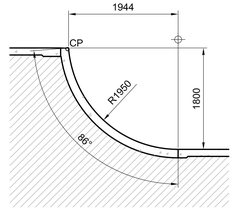
0 CONTEXT PLAN
SCALE: 1:150



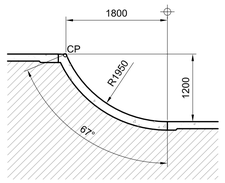
504 **ROLL IN 1**
SCALE: 1:50



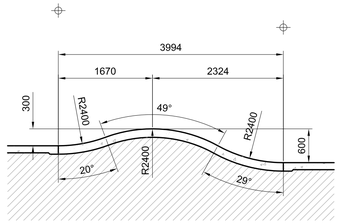
505 **TRANSITION 4**
SCALE: 1:50



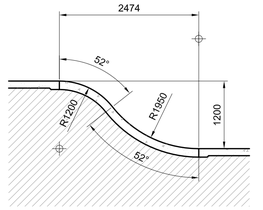
506 **TRANSITION 5**
SCALE: 1:50



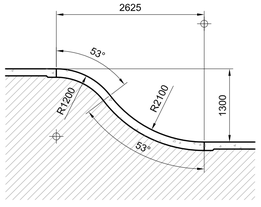
507 **TRANSITION 6**
SCALE: 1:50



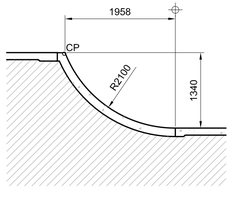
508 **PUMP ROLLER EXTENSION**
SCALE: 1:50



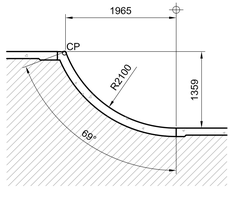
509 **ROLL IN 2**
SCALE: 1:50



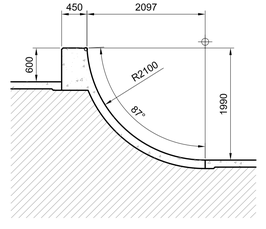
510 **ROLL IN 3**
SCALE: 1:50



511 **TRANSITION 7**
SCALE: 1:50



512 **TRANSITION 8**
SCALE: 1:50



513 **TRANSITION 9**
SCALE: 1:50

No	DATE	BY	DESCRIPTION
5	05.02.18	JM	ISSUE FOR RFP
4	07.13.17	SO	ISSUE FOR 100% REVIEW
3	02.23.17	SO	PROPOSED ROW UPDATE
2	01.06.17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

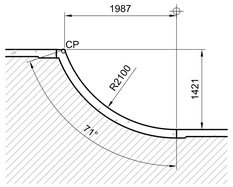
DRAWING TITLE:
DETAILS SHEET 3

SCALE:	PAGE SIZE:
AS NOTED	24"x36"

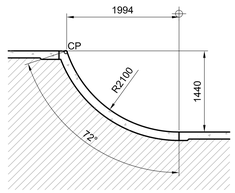
PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-D-003

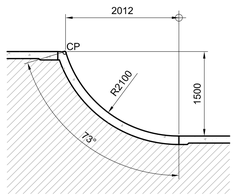
REV: 5



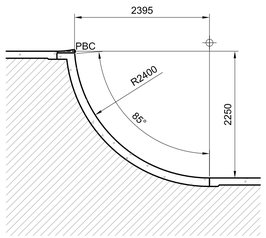
514 **TRANSITION 10**
SCALE: 1:50



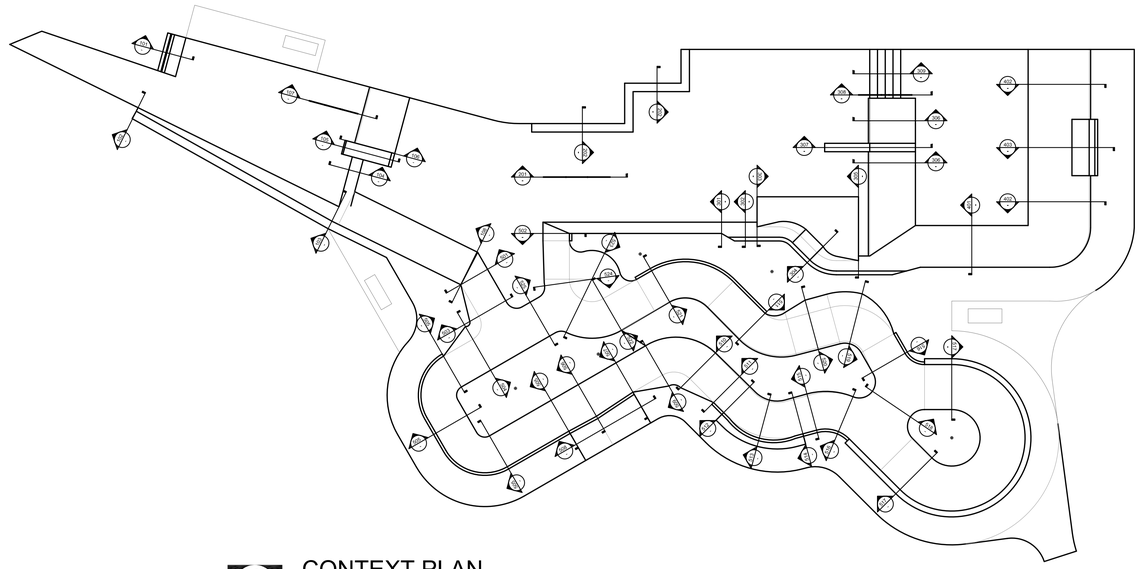
515 **TRANSITION 11**
SCALE: 1:50



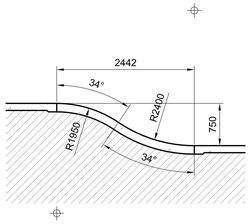
516 **TRANSITION 12**
SCALE: 1:50



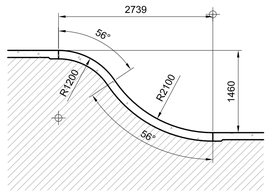
517 **TRANSITION 13**
SCALE: 1:50



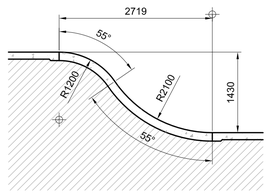
0 **CONTEXT PLAN**
SCALE: 1:150



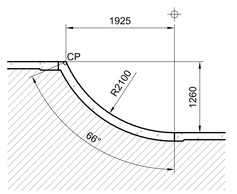
518 **WATERFALL 1**
SCALE: 1:50



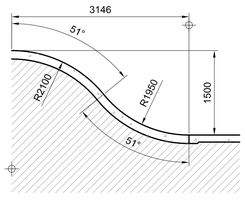
519 **ROLL IN 4**
SCALE: 1:50



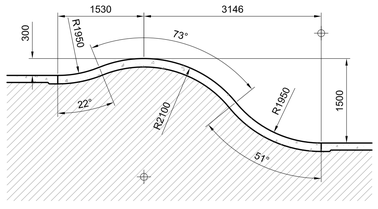
520 **ROLL IN 5**
SCALE: 1:50



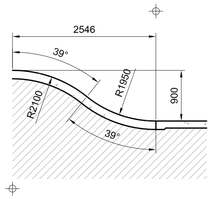
521 **TRANSITION 14**
SCALE: 1:50



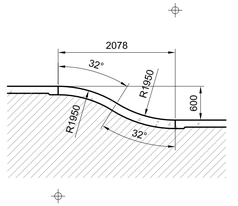
522 **PUMP ROLLER 1 - SECTION 1**
SCALE: 1:50



523 **PUMP ROLLER 1 - SECTION 2**
SCALE: 1:50



524 **PUMP ROLLER 1 - SECTION 3**
SCALE: 1:50



525 **WATERFALL 2**
SCALE: 1:50

NEW LINE SKATEPARKS Inc.
BUILDING SKATEBOARDING
Unit #101 - 6249 205th Street P 604.530.1114
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No	DATE	BY	DESCRIPTION
5	05.02.18	JM	ISSUE FOR RFP
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1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:
DETAILS SHEET 4

SCALE:	PAGE SIZE:
AS NOTED	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER: SK-D-004

REV: 5

NEW LINE SKATEPARKS Inc.
BUILDING SKATEBOARDING
Unit #101 - 6249 205th Street P 604.530.1114
Langley, British Columbia F 604.530.1119
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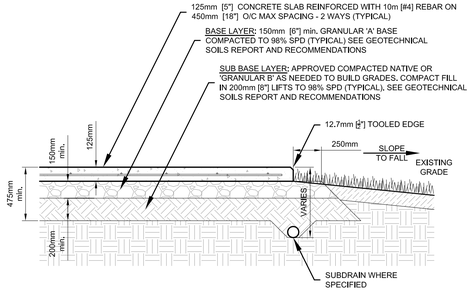

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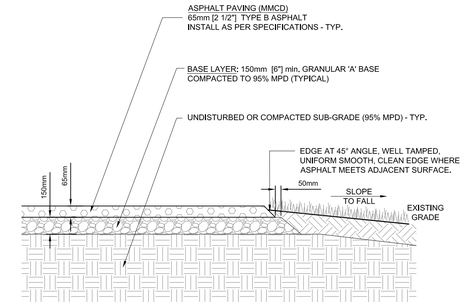
SCALE 1 : 25



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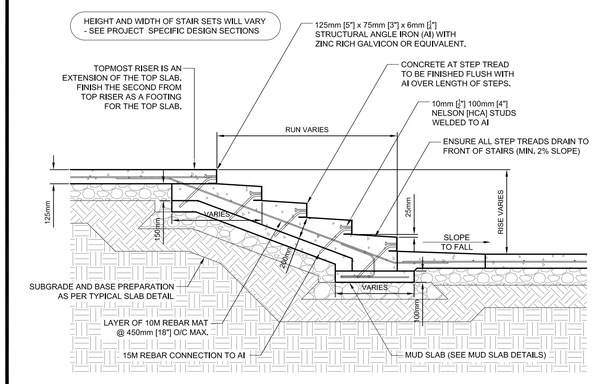
SCALE 1 : 25



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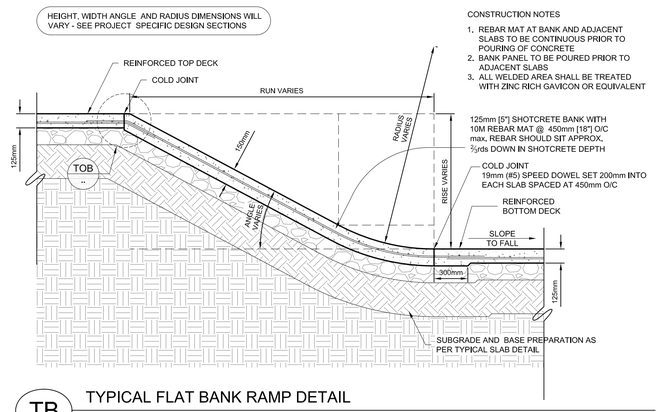

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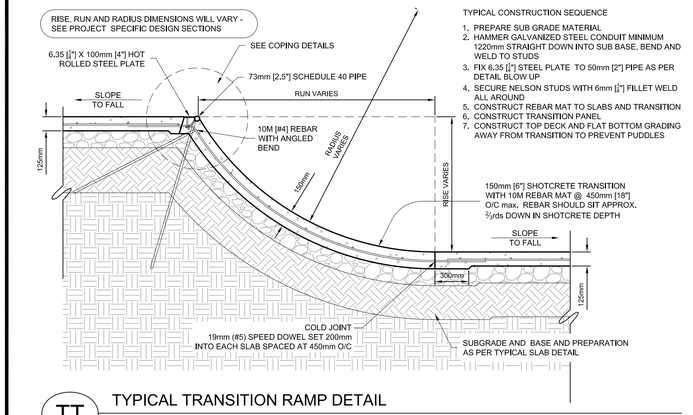

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4	07.13.17	SO	ISSUE FOR 100% REVIEW
3	02.23.17	SO	PROPOSED ROW UPDATE
2	01.06.17	SO	ISSUE FOR 75% PROGRESS REVIEW
1	09.30.16	SO	ISSUE FOR 50% PROGRESS REVIEW

PROJECT:
SUMMERLAND SKATEPARK

LOCATION:
Summerland, BC

DRAWN:	SO	START DATE:	09.01.16
CHECKED:	JM		
APPROVED:	VDZ		

DRAWING TITLE:
TYPICAL SKATEPARK DETAILS

SCALE:	1:20	PAGE SIZE:	24"x36"

PROJECT NUMBER: SK2015-26

DRAWING NUMBER:	REV
SK-DT-001	5

Exhibit 2 – Technical Specifications for the Summerland Skatepark

SUMMERLAND SKATEPARK

District of Summerland

TECHNICAL SPECIFICATIONS

April 9th, 2018

TABLE OF CONTENTS

END OF SECTION 00 00 00

Part 1 General

1.1 GENERAL

.1 Testing and inspections will be required of all materials and works as called for in the specification sections.

.2 The Contractor shall pay for all tests and inspections called for in the specifications, including but not limited to, concrete testing, compaction of backfill and soil testing.

.3 The Owner may request and undertake additional testing of materials and construction for quality control. The Contractor shall ensure that the Owner's representative and testing agency shall have free right of access for purposes of inspection or sampling to any site, including plants or mills, where work is in progress producing materials for use in this project to permit the taking of samples and conducting tests.

.4 The Owner shall pay for any tests additional to what is called for in the specifications.

.5 Minimum testing requirements on this project include the following in addition to all tests identified above and in the individual specification sections.

.1 Concrete tests including:

a. At minimum one set concrete tests for taken from pours in the completion of all walls, stairs and ledges. Provide one additional set of concrete tests for every $50m^3$ of wall, stair and ledge quantities. Concrete testing for walls, stairs and ledges to consist of three concrete cylinders tested for compressive strength at 7, 14 and 28 days as well as tests for slump and air content.

b. Shotcrete will be tested by coring three core samples from a separate test panel created outside of the finished work. Test panel to be minimum 350mm x 350mm x 140mm thick. At minimum one test panel is to be built and three core samples are to be taken. One additional test panel and three additional core samples are to be completed for every 50m3 of shotcrete. Shotcrete testing to consist of three concrete cores tested for compressive strength at 7, 14 and 28 days.

c. At minimum one set concrete tests for taken from pours in the completion of all flat slab work. Provide one additional set of

concrete tests for every 50m3 of flat slab quantities. Concrete testing for flat slabs to consist of three concrete cylinders tested for compressive strength at 7, 14 and 28 days as well as tests for slump and air content.

.2 Concrete cylinder samples and shotcrete test panels to remain on site and be protected for minimum of 5 days during the course of the work to ensure identical environmental conditions of temperature and humidity while curing.

.3 Concrete cylinder samples to be labeled along with a reference plan in order to accurately trace the date of the pour and the project location for which they represent.

.4 Compaction tests including:

a. Subgrade shall be inspected and approved by a geotechnical engineer prior to placing any sub base or granular base material.

b. Sub base compaction test location points completed for every $100m^2$.

c. Granular base compaction test location points completed for every $80m^2$.

d. compaction tests to be accompanied by a reference design layout plan.

.5 Provide original test results to the consultant.

.6 Inspection panels for concrete work will be required prior to authorization for general concrete work within the skatepark. The Contractor and the contract administrator shall agree to prepare one bank panel or one transition panel for review of shape and finish.

.1 The Contractor may choose to construct the inspection panel within the contract area but may be required to remove the work if it does not meet specification for shape and finish.

.2 The consulting team will utilize a ‘true’ dimensional straight edge to check for consistent shape over the entire panel. A radius template will be used to check the shape of the transition panel. No discrepancy greater than 6mm over 2.4m will be acceptable.

.3 Written approval from the consultant is required prior to additional

concrete pours. Additional concrete poured without written approval of the inspection panels are done so at the risk of rejection.

.4 Shotcrete must be used for all transition panels in excess of 1m height.

.5 The approved inspection panels will become the quality assurance standard for the remainder of the work.

END OF SECTION 01 43 00

Part 1 General

1.1 DESCRIPTION

.1 This section specifies the supply and Installation of skatepark concrete and workmanship and is intended to be read in conjunction with the appropriate sections listed in the index in addition to those listed below.

.2 The Site Foreman must be onsite for all significant site procedures and key site reviews by the design consultant.

1.2 REFERENCES

.1 Comply with ASTM F2480-06 Standard Guide For In-Ground Concrete Skateparks

1.3 TESTING

.1 Arrange for testing of the concrete by an independent testing agency approved by the Owner/Consultant. The contractor pays for all testing called for in the specifications. Submit all test reports to the Owner / Consultant.

.2 To facilitate testing services:

- .1 Furnish such casual labour as is necessary to obtain and handle samples at the project and at the sources of materials.
- .2 Provide and maintain for the use of the testing agency facilities acceptable for storing and curing of test cylinders.
- .3 Advise the testing agency sufficiently in advance of the operation to allow for the desired quality tests and for the assignment of personnel.

.3 Conduct routine testing of materials, and resulting concrete for compliance with the technical requirements of the specifications. Testing shall be undertaken as specified.

.4 The use of testing services does not relieve the Contractor of his responsibility to furnish materials and construction in compliance with the Contract Documents.

Part 2 Products

2.1 USE MATERIALS COMPLYING WITH CSA A23

.1 **Cement**

.1 Type 10 - Normal Portland cement or as specified in the geotechnical report and confirmed by the consultant.

.2 **Aggregates**

.1 Fine aggregate - natural sand.

.2 Coarse aggregate - gravel or crushed stone.

.3 **Additives**

.1 Air-entraining agents - as specified.

.2 Fibre reinforcement in all concrete (minimum dosage as recommended by the fiber manufacturer)

.3 Water reducing agents - use throughout.

.4 Ensure admixtures are compatible with each other and with construction materials used in contact with concrete.

.5 Do not use calcium chloride.

.4 **Reinforcement**

.1 All concrete must be reinforced. Reinforcement to be laid in accordance with design drawings and notes. Refer to details for specific areas. Reinforcing steel shall be of type and grade stated on drawings or specified. Unless otherwise noted or specified, all bars shall be deformed and in accordance with ASTM F2480-06 Standard Guide For In-Ground Concrete Skateparks, all welded bars shall be in accordance with ASTM F2480-06 Standard Guide For In-Ground Concrete Skateparks. All reinforcing steel shall bear identifying marks of specification to which it has been rolled and all bars which are not so marked shall not be used in structure. All reinforcing steel shall be a bendable grade.

.2 Welding of reinforcing is not permitted without written approval of the consultant.

.3 Clear cover for reinforcement:

- Cast against soil minimum 40mm

.4 Dowels and anchor bolts should be placed BEFORE the concrete is set.

.5 Any dowels and anchor bolts placed AFTER the concrete is set shall be anchored using proper epoxy materials and processes.

.6 Unless otherwise noted, reinforce concrete with 10M @ 450mm on centre each way.

.5 **Anchor Bolts and Anchor Assemblies**

.1 see section 05 50 00 Metal Fabrications

.6 **Angle Plates and Steel Support Brackets**:

.1 Painted with zinc-rich primer or as specified in project details.

Part 3 Execution

3.1 FORMWORK

.1 Forms shall be so constructed that the finished concrete will conform with the shapes, lines, grades and dimensions indicated on the plan.

.2 Use “paper-faced” form plywood for exposed concrete surfaces as designated on the drawings.

.3 Form walls using plastic cone ties for concrete walls. Arrange all ties in symmetrical, aligned vertical and horizontal rows. They shall be so arranged that when the forms are removed, no ties shall be within 25mm of any exposed surface. Wire ties may be permitted only on light work; they shall not be used through surfaces where discoloration will be objectionable. All wall reinforcing shall be continuous at corners and intersections. Use corner bars or hooks.

.4 Plug, tape and seal all cracks and holes in forms to withstand pressure and remain watertight.

.5 Design forms to permit removal without damage to finish.

.6 Clean and condition formwork before each use. Repair or replace any damaged form that may affect the concrete finish.

.7 After removal of plastic cone ties, plug tie holes with cement plugs or patching compound, taking care not to damage surrounding edge of concrete.

.8 Lumber used in forms shall be free from warp. For any exposed surfaces, it shall be dressed to a uniform width and thickness and be free from loose knots, decay or other defects. For unexposed surfaces and rough work, undressed lumber may be used if means be taken to prevent leakage of mortar.

.9 Unless otherwise specified, suitable molding or bevels shall be placed at angles or forms to round or bevel the horizontal concrete edges and re-entrant angles on concrete as shown on details.

.10 The inside of forms may be coated with non-staining mineral oil or other approved liquid or thoroughly wetted, (except in freezing weather). Where oil is used, it shall be applied before the reinforcement is placed.

.11 Care shall be taken to ensure that forms do not become dried and warped before concrete is deposited.

.12 Before concrete is placed, forms and reinforcement shall be checked and approved by the Owner / Consultant. 24 hours notice shall be provided to the owner / consultant. Where timely inspection is not possible a photographic record may be substituted. Any concrete poured without approval from owner / consultant is done so at the contractor's risk of rejection and removal.

.13 Forms shall not be disturbed until the concrete has adequately hardened and removed in a regular sequence of elapsed time between pour and removal.

.14 All horizontal concrete edges without steel edging shall be chamfered as applicable and where shown on drawings, minimum 19mm @1.1.

.15 Do formwork to Provincial Occupational Health and Safety Regulations and as follows:

.1 Form materials for concrete surfaces which will be exposed to view, or which require smooth and uniform surfaces for applied finishes or other purposes, shall consist of square edged smooth panels of plywood. Panels shall be made in a true plane, clean, free of holes, surface markings and defects.

.2 Form release agents and curing agents shall be compatible with applied finishes where applicable. Do not use release agents containing wax or oil in connection with concrete to receive applied coatings.

.3 Ties in exposed work shall generally be placed symmetrically about any section with plywood sheets and from each wall section.

.4 Grout all holes.

.5 Set to proper grade and alignment. Assure positive drainage.

.6 Construct straight and warp free with no bulging when concrete placed. Fit tightly at joints and corners.

3.2 MIX DESIGNS

.1 Contractor to submit mix design to Consultant for approval 2 weeks prior to first pour. The construction of concrete skateboard parks requires a high quality and 'workable' concrete mix. The mix design supplied in this specification is a starting point whereby the contractor may solicit a final mix design from the local ready-mix plant. Local granular variations require that a unique mix design be submitted by the contractor to the consulting team for review and approval prior to any delivery on site.

.2 Flat work and Vertical Elements (Reinforced)

.1 Class of Exposure C-2

.2 Minimum compressive strength at 28 days of 32MPA.
.3 Slump 80 +/- 20 max.
.4 Maximum water cement ratio 0.40
.5 Air content 5% to 8%
.6 Maximum size of coarse aggregate 19mm.
.7 Use water reducing agents throughout.
.8 Use fiber reinforcement. Minimum dosage as per manufacturers recommendation.

.3 Wet Mix Shotcrete Design for Bowl and Transition areas.
.1 Class of Exposure C-2
.2 Minimum compressive strength at 28 days of 35MPA.
.3 Slump 70 +/- 20 max.
.4 Maximum water cement ratio 0.40
.5 Air content 5% to 8%
.6 Maximum size of coarse aggregate 10mm.
.7 Use water reducing agents throughout.
.8 Use fiber reinforcement. Minimum dosage as per manufacturers recommendation.

3.3 CHEMICAL ADMIXTURES

.1 No Calcium Chloride

.2 Water reducers: accelerators and retarders where deemed necessary by the Contractor.

.3 Admixtures for flowing concrete where deemed necessary by the Contractor.

3.4 STANDARD OF WORKMANSHIP

.1 Comply with ASTM F2480-06 Standard Guide For In-Ground Concrete Skateparks.

.2 Skatepark shall be constructed in accordance with the layout plan and details provided.

.3 Finishing shall produce a first class, smooth surface, free from irregularities, or imperfections. Surface defects greater than 6mm from specified surface finishes shall be corrected.

.4 Inspect formed surfaces for defects immediately after removal of formwork.

.5 Remove or cut back to a depth of 19mm from the surface of the concrete

all bolts, ties, nails or other metal that is not required and repair immediately.

.6 Grout all steel inserts in strict conformance with grout manufacturer's printed instructions.

.7 Remove imperfections such as bulges, fins, lips and stains to permanently exposed surfaces as directed by Consultant, by chipping or grinding and patch to match adjacent surfaces. Do not proceed with grinding until the concrete has sufficiently hardened to prevent dislodgement of coarse aggregate particles.

.8 Curved and flat shapes to be screeded using accurately cut screed boards and templates in accordance with drawing sections. Reinforce screeds and templates and keep of manageable size to avoid distortion.

3.5 COORDINATION

.1 Determine the requirements of other trades, inform concerned trades and assume responsibility for location, installation and quality of all items which affect the work of this section.

.2 Have all inserts and form ties placed in the formwork before reinforcing steel is placed. Divert reinforcement around inserts as approved by the Consultant. Do not allow other trades to cut reinforcing steel to clear inserts.

3.6 TOLERANCES FOR CONCRETE

.1 Variation from Level or Plumb:
For wall and slab surfaces:
plus or minus 6mm (1/4") over 2.4m distance for all panels. Level and true concrete panels are extremely important to the safety and 'usability' of the park. All panels will be checked for imperfections in concrete finish, shape and level true to the intent of the design.

.2 Variation in size and location of sleeves and openings:
plus or minus 6mm (1/4").

.3 Variation in the thickness of slabs and walls:
plus or minus 6mm (1/4").

3.7 TOLERANCE FOR REINFORCEMENT

.1 Placing Tolerance:
.1 Place within 6mm (1/4") with respect to concrete thickness.

.2 Place within 25mm (1”) with respect to center to center spacing.
.3 Minimum 40mm (1 ½”) clear cover from any adjacent surface

3.8 JOINTS

.1 Make joints conform to detail sheets unless otherwise indicated.

.2 Leave the surface of horizontal construction joints rough with 6mm (1/4") deep ridges and valleys.

.3 Blast clean joints of loose material, laitance and form oil before the next pour is made.

.4 Locate and install control joints where shown on drawings.

.5 Except where shown otherwise, provide saw cut control joints in slab on grade in accordance with ASTM F2480-06 Standard Guide For In-Ground Concrete Skateparks and in locations as shown on the drawings.

.6 Saw cuts shall be completed when concrete has hardened sufficiently that cutting can be performed without damaging slabs. Contractor to take weather and curing times into consideration to avoid premature thermal cracking of the slab prior to cuts.

.7 Install expansion joints around catch basins and along lengths adjacent to concrete curbs, or ledges/seatwalls.

.8 Avoid re-entrant corners into flat slab areas. Curve such corners, provide extra reinforcement and place control joint or saw joint to such corners.

.9 Mark or sawcut concrete paving at intervals indicated on the drawings (control joints), strike the joint to a penetration of 30% of the paving thickness or as per drawings, mark curb only at the expansion joints, and form marked joints as indicated on the drawings with special tools.

.10 Finish exposed surfaces with a smooth finish, broom swept as per drawings, or medium sandblasted finish as per drawings, and correct surface irregularities before final set.

.11 Install 12mm or 10mm expansion joint adjacent to all vertical structures, concrete edges, curbs, walls and/or where shown and as shown on the drawings. Set pre-cut joints below finished grade and finish to surface with sealant, backing rod and pre-formed joint filler rodofoam or equal, as per drawings.

.12 Stop reinforcement on either side of expansion joint.

.13 Sawcut within 12 hours of pouring or as directed by the Consultant.

3.9 PANEL POURING

.1 Typically the skatepark concrete is placed in individual panels and segments to suit designed compound surfaces.

.2 The construction joint between panels shall have continuous rebar extended through forms for connection to neighboring panels and into the flat slabs. Flat slabs will be reinforced with 10M rebar @ 450mm on centre maximum. Tie every bar extending into flat slab (300mm minimum extensions) to rebar grid to allow some movement between unique panels.

.3 Drainage slopes must be planned with care from slab section edges to drain path shown on drawings or direct to drain.

.4 When placing, ensure good consolidation throughout and especially along joints and edges.

3.10 REMOVAL OF FORMS

.1 Ensure concrete is sufficiently cured prior to removal of the forms.

3.11 CURING AND PROTECTION

.1 Properly cure slabs using a cure and seal product or keep slabs moist for at least 7 consecutive days after placing unless otherwise approved by consultant.

.2 Cure all concrete in skatepark for 7 days prior to allowing any vehicular traffic with heavy loads on the slab.

3.12 WINTER CONCRETE

.1 Only pour unprotected concrete when temperatures are forecast to remain at least 4 degrees Celsius (40F) for a minimum period of four days. Unforeseen changes in weather after a winter concrete pour will require the use of insulating blankets or heated enclosures for a minimum period of 4 days. Should suspension of work be required for periods of cold weather the contractor shall consult with the Consultant to determine a safe manner in which to leave the site until work can resume.

.2 For winter conditions accelerating admixtures or Type III Hi-Early cement may be used in concrete mix design.

.3 Snow, ice and frost must be removed from all concrete forms and the subbase before pouring concrete.

.4 Ensure that the temperature of the subbase and any other surfaces that come in contact with the concrete are not below freezing.

.5 Never begin final finishing operations while bleed water is present.

.6 Avoid overworking of cooled slabs exhibiting delayed setting characteristics.

.7 Take care to protect edges and corners with insulting blankets during periods of low temperature (between 2-4 degrees Celsius) to limit heat loss in two or more directions.

.8 Decision making regarding pouring concrete under winter concrete conditions, along with the protective measures taken, the dates, the work completed and the ambient temperature readings shall be incorporated as part of the permanent records of the job. Make records available to consultant.

.9 The use of salts, chemicals or other foreign materials to lower the freezing point of concrete are not permitted.

3.13 FINISHING SURFACES

.1 Ensure all patching appears monolithic and uniform with the adjoining concrete.

.2 Finish surfaces to produce smooth, uniform surfaces free of open texturing and exposed aggregate. Do not work more mortar into surface than is required. Do not use neat cement as drier to facilitate finishing.

.3 Round outside edges with 10mm radius edging tool unless shown differently in details for various locations.

.4 Schedule of finishes:

<u>Smooth Finish:</u>

.1 Smooth finish all concrete surfaces in the skatepark including all walls and stair risers except where specified. Use steel or magnesium trowel to produce a smooth, dense surface with no irregularities on all flat and ramped slabs. Tolerances to flat plane shall be no greater

than 6mm in 2.4m. Smooth finish to be non-textured with no exposed aggregate except where specified.

.5 Remove defective concrete, blemishes and embedded debris; repair as required and directed by consultant.

.6 Concrete surfaces to be complete and tight against all coping and steel edges. Proper coping protection to prevent concrete build-up on steel surfaces must be maintained at all times.

.7 Prior to final completion of concrete elements, dress imperfections with dressing stone and grinder as directed by consultant. This will include slab surfaces, edges, control and construction joints, coping/slab joints and walls.

3.14 COLOURED CONCRETE

.1 Related Work: Sample colours should approximate the colour of broom finished concrete flatwork made with medium-gray cement. It is noted that concrete colour is altered by many factors, including cement colour, slump, finishing practices and curing method.

.2 As Requested: Submit product data and manufacturer's instructions for:

1. Colour admixture.
2. Expansion joint fill material.

.3 Samples:

1. Samples for Colour Selection: As requested submit colour additive manufacturer's colour chart and sample chip set; indicate colour additive number and required dosage rate. Samples indicate general colour and may vary from concrete finished in field according to Specifications.

2. Expansion Joint Fill Material: Submit one 12-inch length.

.4 Delivery Documentation: As requested record batch tags for each load of concrete, for informational purposes.

.5 Do not change brand of cement, pigment brand or source of aggregate during course of Work.

.6 Colour Additives: Mix in accordance with manufacturer's instructions. Mix until colour additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.

.7 Concrete Colour:

1. Cement: Colour shall be gray.

2. Sand: Colour shall be locally available natural sand and complying with the specifications herein.

3. Aggregate: Concrete producer's standard aggregate complying with the specifications herein.

4. Colour Additives: Dosage rate shall be based on weight of Portland Cement, fly ash, silica fume, lime and other cementitious materials but not aggregate or sand.

.8 Dosage rate of colour additive shall not exceed 10 percent of weight of cementitious materials in mix.

.9 Protect adjacent work from potential concrete stains including but not limited to dissimilar paving types, walls, columns, railing posts, light fixtures, plant materials, to satisfaction of the owner / consultant.

.10 Immediately remove unintended coloured concrete stain on adjacent work.

3.15 CLEAN-UP

.1 Promptly as the work proceeds and upon completion, clean-up and remove from the site, rubbish and surplus material resulting from the work of this section.

END OF SECTION 03 30 00

Part 1 General

1.1 REFERENCE

.1 American Society of Testing and Materials (ASTM)

A27 Specification for Steel Castings, Carbon, for General Application

A36 Specification for Structural Steel

A53 Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless

A123 Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

A153 Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

A307 Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength

A366 Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality

A500 Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

A780 Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

.2 American Welding Society (AWS)

D1.1 Structural Welding Code - Steel

.3 Steel Structures Painting Council (SSPC)

SSPC-PA 1 Paint Application Specification No. 1

SSPC Paint 12 Paint Specification No. 12 Cold Applied Asphalt Mastic (Extra Thick Film)

SSPC Paint 20 Paint Specification No. 20 Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic")

SSPC-SP1 Surface Preparation Specification No. 1 "Solvent Cleaning"

SSPC-SP2 Surface Preparation Specification No. 2 "Hand-Tool Cleaning"

SSPC-SP3 Surface Preparation Specification No. 3 "Power Tool Cleaning"

1.2 SUBMITTALS

.1 Product Data: Submit product data for products used in metal fabrications, including paint products, grout and fasteners at the request of the Consultant prior to fabrication.

.2 Shop Drawings: As requested submit detailed shop and erection drawings of each metal fabrication indicated. Shop drawings must be submitted where contractor proposes a deviation from the design drawings. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

.3 Qualification data for firm specified in 1.3.1 to demonstrate their capabilities and experience.

1.3 QUALITY ASSURANCE

.1 Fabricator Qualifications: Firm experienced in successfully producing metal fabrications similar to that shown on the drawings, with sufficient production capacity to produce required units without causing delay in the work.

.2 Use of damaged items is prohibited except by specific authorization of Consultant in writing.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials to the job site in good condition and properly protected against damage to finished surfaces.

.2 Storage on Site: Store materials in a location and in a manner to avoid damage. Stacking shall be done in a way which will prevent bending.
Store metal components and materials in a clean, dry location. Cover with waterproof paper, tarpaulin or polyethylene sheeting in a manner that will permit circulation of air inside the cover.

.3 Keep handling on-site to a minimum. Exercise care to avoid damage to finishes of material.

1.5 PROJECT CONDITIONS

.1 Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of work.

.2 Where field measurements cannot be made without delaying the work, guarantee dimensions and proceed with fabrication of products without field measurements. Coordinate construction to ensure that actual

opening dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

Part 2 Products

2.1 FERROUS METALS

.1 Metal Surfaces, General: Form metal fabrications exposed to view upon completion of the work, provide materials selected for their surface flatness, smoothness and freedom from surface blemishes. Do not use materials whose exposed surfaces exhibit pitting, seam marks, roller marks, rolled trade names, roughness.

.2 Steel Plates, Shapes, and Bars: ASTM A36.

.3 Steel Pipe: ASTM A53, Type S, Grade B, standard weight (schedule 80), black finish, unless otherwise indicated.

.4 Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.

2.2 FASTENERS

.1 General: Provide **zinc-coated** fasteners for exterior use or where built into exterior walls. Select fasteners for the type, grade, and class required. Suspect/counterfeit bolts will not be accepted and will be replaced at Contractor's expense.

.2 Bolts and Nuts: Regular hexagon head type, ASTM A307, Grade A.

2.3 PAINT

.1 Shop Primer for Ferrous Metal: Red oxide, lead- and cadmium-free, corrosion-inhibiting primer complying with performance requirements and,

.2 Galvanizing Paint: High zinc dust content paint with dry film containing not less than 94% zinc dust by weight and complying with SSPC-Paint-20 and,

.3 Finish Paint: Exterior grade Tremclad rust paint or high performance metal surface paint. – Color Black

2.4 FABRICATION

.1 Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of material indicated or specified for various components of each metal fabrication.

.2 Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

.3 Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and fasteners.

.4 Shear and punch metals cleanly and accurately. Remove burrs.

.5 Grind exposed edges to a radius of approximately 1/32 inch (0.794 mm), unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

.6 Remove sharp or rough areas on exposed traffic surfaces.

.7 Weld corners and seams continuously to comply with AWS recommendations and the following:

.1 Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

.2 Obtain fusions without undercut or overlap.

.3 Remove welding flux immediately.

.4 At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surface matched those adjacent.

.8 Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated. Locate joints where least conspicuous.

.9 Provide for anchorage of type indicated; coordinate with supporting elements. Fabricate and space anchoring devices to provide adequate support for intended use.

.10 Shop Assemblies: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

.11 Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware, screws, and similar items.

.12 Fabricate joints that will be exposed in a manner to exclude water, or provide weep holes where water may accumulate.

2.5 ROUGH HARDWARE

.1 Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes as required. Fabricate items to sizes, shapes, and dimensions required.

2.6 LEDGER ANGLES

.1 Fabricate shelf and ledger angles from steel angles of sizes indicated and for attachment to concrete. Provide slotted holes to receive 1/2 inch (12.7mm) bolts.

2.7 STEEL PIPE GUARDRAILS AND HANDRAILS

.1 General: Fabricate pipe guardrails and handrails to comply with requirements indicated for dimensions, details, finish, and member sizes, including wall thickness of pipe, post spacing, and anchorage.

.2 Interconnect guardrails and handrail members by butt-welding or welding with internal connectors, at fabricator's option, unless otherwise indicated. At tee and cross intersections, cope ends of intersecting members to fit contour of pipe to which end is joined, weld all around and grind smooth.

.3 Form changes in directions of railing members as follows:

.1 By use of welded prefabricated steel elbow fittings.

.2 By bending, of radius indicated.

.3 By mitering at elbow bends.

.4 Form simple and compound curves by bending pipe in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross-section of pipe throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of pipe.

.5 Close exposed ends of pipe by welding 3/16 inch (4.8 mm) thick steel plate in place or by use of prefabricated fittings, except where clearance of end of pipe and adjoining wall surface is 1/4 inch (6.4 mm) or less.

.6 Brackets, Flanges, Fittings and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnections of pipe and attachment of guardrails and handrails to other work. Furnish inserts and other anchorage devices for connecting guardrails and handrails to concrete or masonry work.

.7 Where indicated on plan, match to existing fencing. Use same measurements, shapes, gauge, size and finish.

2.8 STEEL AND IRON FINISHES

.1 General: Shop-paint uncoated edges and surfaces, except those to be embedded, welded or galvanized, unless otherwise indicated. Comply with requirements of SSPC-PA 1 for shop painting.

.2 Galvanizing: Unless otherwise indicated all items indicated under this section shall be galvanized with zinc coating (either Hot Dipped or Electroplated) in compliance with the following requirements:

.1 ASTM A123 for galvanizing both fabricated and non fabricated iron and steel products made of uncoated rolled, pressed, and forced shapes, plates, bars, and strip 0.0299 inch (0.7595 mm) thick and heavier.

.2 ASTM A153 for galvanizing iron and steel hardware.

.3 Surface Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below.

1. Remove oil, grease and similar contaminants in accordance with SP-1, "Solvent Cleaning".

2. Remove loose rust, scale, spatter, slag and other deleterious materials in accordance with SSPC, utilizing the following methods as required:

SP-2 "Hand-Tool Cleaning"
SP-3 "Power-Tool Cleaning"
SP-7 "Brush-Off Blast Cleaning"

.3 Finished Painting: Immediately after finished surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions and at a rate to provide dry film thickness of not less than 3.0 mils (0.076 mm)

.1 Use painting methods that result in full coverage of joints, corners, edges, and exposed surfaces.

.2 Apply 2 coats of paint to surfaces that are inaccessible after assembly or erection.

Part 3 Execution

3.1 EXAMINATION

.1 Contractor shall examine the areas and conditions under which metal fabrication items are to be installed. Notify the consultant in writing of conditions detrimental to the proper and timely completion of the work. Do

not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the contractor and consultant.

3.2 PREPARATION

.1 Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions and directions for installation of anchorages, including concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

3.3 INSTALLATION, GENERAL

.1 Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.

.2 Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment and elevation with edges and surfaces level and plumb when measured from established lines and levels.

.3 Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.

.4 Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Avoid welding, cutting, or abrading the surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections. When necessary to weld, cut or abrade surfaces of previously galvanized metals, clean up area and paint with zinc rich primer prior to finished painting.

.5 Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work and the following:

.1 Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

.2 Obtain fusion without undercut or overlap.

.3 Remove welding flux immediately.

.4 At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and contour of welded surfaces matches those adjacent.

3.4 INSTALLATION OF STEEL PIPE GUARDRAILS AND HANDRAILS

.1 Adjust railings prior to anchoring to ensure matching alignment at abutting joints. Space posts at spacing indicated. Plumb posts in each direction. Secure posts and railing ends to building construction as follows:

.1 Cast anchor plates flush with finished concrete and weld attachment points to anchor plates.

.2 Cast or core handrail posts into concrete embedded 450mm minimum. Where annular space exists, fill annular space with non-shrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's directions.

3.5 ADJUSTING AND CLEANING

.1 Touch-Up Painting of Steel Items: Immediately after erection, clean field welds, bolted connections, abraded areas of shop paint and paint exposed areas with same material as used for shop painting and finishing to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces.

.2 For galvanized surfaces clean welds, bolted connections and abraded areas and apply galvanizing repair paint to comply with ASTM A780.

END OF SECTION 05 50 00

Part 1 General

1.1 DESCRIPTION

.1 This section specifies joint sealants for masonry and concrete.

1.2 SUBMITTALS

.1 As requested, provide samples of Manufacturer's product brochures and product names, range of colours in each type of sealant for selection by Consultants.

1.3 ENVIRONMENTAL CONDITIONS

1. Do not apply any sealant at ambient temperatures below 4^{O}C without consulting Manufacturer and obtaining Consultant's approval. Apply only to completely dry surfaces.

Part 2 Products

2.1 MATERIALS

.1 All sealants utilized in the sealant system shall be compatible.

.2 Provide sealant formulation recommended by the Manufacturer for the type of joint, substrate and service conditions applicable.

.3 Colours: charcoal/grey so as to blend with surround concrete features or as specified in drawings.

.4 Sealant Type: Single-component, polyurethane base, moisture curing, non-sag, elastomeric sealant, Sikaflex 1a or approved equal meeting all standards and performance requirements.

.5 Sealant Backing: Extruded, foamed, closed cell, round, polyethylene urethane, neoprene or vinyl rod, 30% greater diameter than joint width, with Shore ‘A’ hardness of 20 and 830 - 900 KPa tensile strength, and manufactured especially for the purpose.

.6 Expansion Joint Filler: Preformed PVC closed cell, Rodofoam by Sternson Canada limited or approved equal.

.7 Joint Primer: As recommended by sealant Manufacturer for type of surface being primed.

Part 3 Execution

3.1 PREPARATION

.1 Clean joints walls and spaces, which are to be sealed and ensure that they are dry and free of dust, loose mortar, oil, grease and other foreign material. Clean ferrous metals of all rust, mill scale and foreign materials by wire brushing, grinding or sanding.

.2 Clean all metal surfaces to be sealed, except pre-coated metals, with clean rags and wipe dry with clean cloth. Clean pre-coated metals with solutions or compounds which will not injure finish and which are compatible with joint primer and sealant. Check that ferrous metal surfaces are painted before applying sealant.

3.2 APPLICATION

.1 Apply sealant using hand-operated guns fitted with suitable nozzles and equipment approved by sealant Manufacturer. Apply in strict accordance with Manufacturer's directions and recommendations.

.2 Apply sealant under pressure to assure good adhesion to sides of joints and to completely fill all voids in joint.

.3 Form surface of sealant smooth, concave, free from ridges, wrinkles, sags, air pockets and embedded foreign matter.

.4 Upon completion, remove masking, sealant smears and droppings from adjacent and other surfaces.

.5 Allow proper curing before park is utilized or allowing any traffic including foot traffic.

END OF SECTION 07 92 00

Part 1 General

1. This section specifies filling, rough grading, excavation and backfilling. This section covers work required throughout the site.

SCOPE OF WORK

1. Complete all site clearing and stripping as per specifications and drawings.

2. The Contractor shall provide grade stakes and any other necessary installation control services required during construction.

3. Complete all excavation, filling and rough grading to bring site to required sub-grade as per specifications and drawings.

4. Complete all compaction of native materials as per specifications and drawings.

5. Complete haulage of excess fill material as required. Excess clean fill may be placed on site in locations as determined by the Consultant/Owner within the limits of the contract.

6. Import and compact all structural sub-base and base as specified.

REFERENCES

1. Construction Specifications for Compacting – as per MMCD or approved provincial equivalent

2. Material Specifications for Aggregates - as per MMCD or approved provincial equivalent

Part 2 Products

1. Structural Sub Base : Compactable native material or granular fill approved for use by the geotechnical engineer.

2. Structural Base : Granular ‘A’ fill material as specified or alternative granular fill approved for use by the geotechnical engineer.

3. General Non-Structural Fill : Clean fill material, free from debris and deleterious material approved for use by the consultant or the owner.

Part 3 Execution

GENERAL EXCAVATION

1. Stake out the locations of all items requiring excavation and obtain the approval of the Consultant before commencing work.

2. Dispose of excavated material in designated site fill areas unless it is not approved for use as fill material or backfilling material by the Consultant.

3. Excavate to the elevations and dimensions indicated or required for construction work. All depths detailed are shown depth after compaction.

4. Obtain the approval of the Consultant of all excavations before proceeding with construction activities.

5. Where bearing capacity of the subsoil appears to be insufficient, obtain the written approval of the Consultant to have soil investigations carried out. Costs for such testing, if required, will be paid by the Owner, at cost.

6. Fill extra or over excavations with concrete or as directed at no cost to the Contract. Extra or over excavations are defined as excavations that exceed the requirements of the details, specifications or drawings.

7. Correct unauthorized excavation at no extra cost.

SHORING AND BRACING

1. Any shoring and bracing required shall comply with all safety requirements and applicable regulations within the Occupational Health and Safety Act latest edition.

INSTALLATION OF STRUCTURAL SUB BASE

1. Where necessary strip topsoil and deleterious materials and stockpile as directed in the drawings and specifications.

2. Fill with suitable fill material in uniform layers as per the geotechnical recommendations.

3. Shape and compact each layer to the line and cross section and density specified before placing succeeding layer. Remove stones greater than the fully compacted depth.

4. Provide finished rough grade parallel to finished grade, allowing for the placing of the specified surface material and base to a tolerance of plus or minus 50mm (2") and compact to density as per the geotechnical recommendations.

5. Compact each layer at a moisture content suitable for obtaining the required density.

INSTALLATION OF STRUCTURAL BASE

1. Place specified base material in a uniform layer.

2. Shape line and cross section as per drawings.

3. Provide finished base parallel to finished grade, allowing for the placing of the concrete to a tolerance of plus or minus 13mm (1/2") and compact to density as per the geotechnical recommendations.

4. Compact at a moisture content suitable for obtaining the required density.

EXCAVATION - PLANTING PITS AND PLANTING BEDS

1. Excavate planting pits and beds to the following depths unless specified otherwise on the drawings:

   Trees 600mm (24") below finished grade
   Shrubs 400mm (16”) below finished grade

BACKFILLING

1. Do not commence backfilling of structures, utilities, etc., until work has been approved by the owner or consultant. Photo documentation may be substituted at the discretion of the owner or consultant.

2. Ensure areas to be backfilled are free of debris, snow, ice, water or frozen ground.

3. Place specified backfill materials in continuous layers and compact as specified.

4. Backfill simultaneously on both sides of walls to equalize soil pressure.

5. Make good any settlement or subsequent damage to adjacent structures

or to other work under this contract caused by improper or inadequate compaction.

TESTING

1. Reference Quality Assurance Section 01 43 00.

MAINTENANCE

1. Maintain all grades until total performance of completed park works. Maintenance will include all filling and re-grading to retain and preserve the required shapes, tolerances and elevations.

2. Cleaning of roads and walkways as a result of mud tracking and both off and on the site is the responsibility of the Contractor.

3. Dust Control is the responsibility of the Contractor.

GUARANTEE

1. Guarantee all work in this section from slipping, sinking, eroding, or any other change in grade for a warranty period as specified within Section 01 78 36 Warranties.

END OF SECTION 31 00 00

Part 1 General

1.0 DESCRIPTION

.1 This Section specifies the requirements for demolishing, salvaging and removing wholly or in part various items designated to be removed or partially removed and for backfilling resulting trenches, holes and pits.

1.2 RELATED WORK

.1 31 23 00 - Excavation and Fill

1.3 REFERENCES

.1 New Line Skateparks Environmental Policy

1.4 SITE PERIMETER SAFETY FENCING

.1 Maintain rigid safety fence around the perimeter of the park as indicated during mandatory site meeting, during the length of the contract.

1.5 DISPOSAL OF MATERIALS

.1 Dispose off-site of the work to an approved waste disposal site all, bituminous pavements, contaminated soil, timber, metal/plastic polystyrene products, debris and concrete rubble.

1.6 PROTECTION

.1 Protect in accordance with 31 23 00 - Excavation and Fill.

.2 Protect existing items designated to remain. In event of damage to such items, immediately replace or make repairs to approval of Consultant and at no cost to Owner.

1.7 MEASUREMENT FOR PAYMENT

.1 Work to be done under this specification is considered to be included in the tendered price and will not be considered additional for payment unless circumstances unknown or unforeseen are encountered. If

circumstances unknown or unforeseen are encountered notify the owner and the consultant immediately.

1.8 PREPARATION

.1 Inspect site and verify with Consultant items designated for removal, disposal, salvage and items to remain.

.2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.

.3 Notify utility companies before starting demolition.

1.9 REMOVAL

.1 Remove items as indicated on demolition plan.

.2 Do not disturb adjacent items designated to remain in place.

1.10 BACKFILL

1. Backfill all resulting holes, pits and trenches in accordance with 31 23 00 – Excavation and Fill and appropriate individual specification sections.

1.11 RESTORATION

1. On completion of removals, grade areas in an even grade as shown on the drawings.

1.12 SITE CLEANUP

1. Upon completion of work, remove debris, trim surfaces and leave work site clean.

END OF SECTION 31 10 00

PART 1 - GENERAL

1.0 General Requirements

.1 The General Conditions and Division 1, General Instructions, Special Requirements, are part of this Section and shall apply as if written here.

1.1 Scope of Work

.1 Excavating as required for each item of this Contract.

.2 Backfilling as required for each item of this Contract.

.3 Finish rough grading in all landscape areas of the site as directed.

.4 Export and dispose of surplus materials off site. Pay disposal fees and any required analytical lab testing changes.

.5 Supply and pay for imported materials to achieve the grades and levels indicated on the drawings.

1.2 Testing

.1 Make work available for testing at any time and suspend construction if so directed by the Consultant until test results are available.

1.3 Protection

.1 Protect all excavations from freezing and water. Supply and operate as many pumps or other dewatering devices as necessary to keep excavations free of water at all times.

.2 Erect warning signs and protective barriers in accordance with all applicable regulations.

.3 Do not disturb soil within the branch spread of existing trees or shrubs that are designated for preservation or on adjacent property. If it is necessary to excavate through tree roots, it shall be done by hand methods and all roots shall be cut with a sharp hand saw. Trim neatly all cuts.

.4 Locate and protect all buried services. The Contractor shall be held responsible for all damages to utilities and structures resulting from his work.

.5 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.

.6 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered (as indicated). Obtain direction of Consultant before moving or otherwise disturbing utilities or structures.

.7 Protect existing buildings and surface features which may be affected by work from damage while work is in progress and repair damage resulting from work.

PART 2 - PRODUCTS

2.1 Materials

.1 19mm Clear Crushed Stone: Clean, hard, durable crushed gravel or stone, free from shale, clay, friable materials, organic matter and other deleterious substances and graded within the following limits when tested meet the following gradation requirements:

M.T.C. Sieve Designation	% Passing
26.5 mm	100
22.4 mm	95-100
19.0 mm	90-100
16.0 mm	65-80
13.2 mm	45-80
9.5 mm	20-55
4.75 mm	0-10

.2 Granular 'A' (pit sourced): Clean, hard, durable sand & gravel, free from shale, clay, friable materials, organic matter and other deleterious substances when tested meet the following gradation requirements.

M.T.C. Sieve Designation	% Passing
37.5 mm	100
16.0 mm	62-100
9.5 mm	48-73
4.75 mm	33-55
1.18 mm	15-45
300 um	5-22
75 um	0-8

.3 Granular 'B' (pit sourced): Clean, hard, durable sand & gravel, free from shale, clay, friable materials, organic matter and other deleterious substances when tested meet the following gradation requirements.

M.T.C. Sieve Designation	% Passing
160 mm	100
37.5 mm	*
22.4 mm	57-100
4.75 mm	25-100
1.18 mm	10-85
300 um	5-40
75 um	0-8

* When Granular 'B' is used for Granular backfill for pipe subdrains, 100% of the material shall pass the 37.5 mm sieve.

.4 Backfilling Local Site Fill Material: Selected material from excavations or other sources, free of debris, roots, organic matter, rocks over 75mm diameter, and other deleterious and toxic materials.

.5 General Use of Materials:

.1 Use appropriate materials as specified under Section of Work. If not specified under Section, refer to Construction Drawings.

.2 Use 19mm clear crushed stone in areas requiring drainage.

.3 Granular 'A' and/or 19mm crusher run recycled concrete materials are to be used under areas to be paved, and to backfill excavation, unstable areas in existing subgrade, or as a base for built structures, subject to the Consultant's approval.

.4 Local site fill materials (such as asphalt, concrete, granular, topsoil and subsoil) are to be used under areas intended for the creation of the berm, subject to the Consultant's approval.

.6 Stockpile fill materials in areas approved by Consultant. Stockpile granular materials in manner to prevent segregation.

PART 3 - EXECUTION

3.1 Excavation (see Site Specific Notes on Drawings)

.1 Prior to excavation, the Contractor shall have all services staked out.

.2 The Contractor shall carefully excavate to the elevations and dimensions indicated or required for the construction of the work.

.3 Remove concrete, masonry demolished foundations and rubble and other non functional obstructions encountered during excavation.

.4 For trench excavation, unless otherwise authorized by Consultant in writing, do not excavate more than 30m of trench in advance of installation operations and do not leave trench open overnight.

.5 Keep excavations free of water while work is in progress, and protect open excavations against flooding and damage due to surface run-off.

.6 Excavation must not interfere with normal 45 degree splay of bearing from bottom of any footing.

.7 Do not disturb soil within branch spread of trees or shrubs that are to remain. Obtain Consultant's approval prior to excavating through roots. Excavate by hand and cut roots with sharp axe or saw. Seal cuts with approved tree wound dressing.

.8 Where bearing capacity of sub-soil appears to be insufficient, the Contractor shall obtain the written approval of the Consultant before doing any further work.

.9 All excavations shall be sufficiently shored and braced to prevent caving-in and to adequately support existing structures, roads, services and any other aspect of the work.

.10 Excavated materials shall be used for filling only if approved by the Consultant

.11 All excavations for footings shall be carried to undisturbed soil and to a minimum depth of 1.2m unless shown otherwise on the drawings.

.12 Notify Consultant when soil at bottom of excavation appears unsuitable and proceed as directed by Consultant.

.13 Obtain Consultant's approval of completed excavation.

.14 Remove unsuitable material from trench bottom to extent and depth directed by Consultant.

.15 Where required due to unauthorized over-excavation, correct as follows:

.1 Fill under bearing surfaces and footings with concrete specified for footings.

.2 Fill under other areas with Granular 'A' or 'B' fill compacted to minimum of 98% Standard Proctor Density, as directed by Consultant.

.16 Dispose of surplus and unsuitable excavated material in approved location

off site.

3.2 Backfilling (see Site Specific Notes on Drawings)

.1 Ensure that all areas to be backfilled are free of debris, snow, ice, water, frozen ground, organic matter or other deleterious substances.

.2 Backfilling around installations:

.1 Place bedding and surround material as specified elsewhere.

.2 Do not backfill around or over cast-in-place concrete within 24 hours after placing.

.3 Place backfill simultaneously on either side of structures, walks, etc., to equalize soil pressures.

.4 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:

1. Permit concrete to cure for minimum 14 days or until it has sufficient strength to withstand earth and compaction pressures and obtain approval from Consultant.

.5 Place material by hand under, around and over installations until 600mm of cover is provided. Dumping material directly on installations will not be permitted.

.6 Install drainage and filter system in backfill as indicated on drawings.

.7 Place backfill material in continuous horizontal layers not exceeding 150mm in depth and compact filled and disturbed areas to minimum Standard Proctor Density of 85% under planted or grassed areas and 98% under walks and paved areas.

3.3 Testing (see section 01 43 00 Quality Assurance)

.1 Be responsible for inspection and testing of soil compaction under walks and paved areas.

.2 Make good any corrective work to paving and walks when settlement has occurred due to insufficient compaction of subgrades.

.3 Inspection and testing of soil compaction will be carried out by designated approved testing company or laboratory.

.4 Submit two (2) copies of inspection and soil testing report to Owner and one (1) copy of Consultant.

.5 Make good any settlement or damage to other work under this Contract caused by improper or inadequate compaction.

.6 The cost of testing shall be paid by the contractor.

3.4 Finish Rough Grading

.1 Finish rough grade using bulk fill material required to complete the works of this Contract.

.2 Under areas to be paved, under all structures and at any other locations specifically shown on the drawings or details, the subgrade shall be compacted to a minimum dry density of 98% Standard Proctor Density and evidence shall be provided for the required compaction.

.3 Uniform slopes shall be constructed between points for which finished grades or contours are shown. Existing grades shall be met and blended in, in a smooth manner, 2% minimum away from buildings or structures.

.4 Establish and maintain subgrade parallel to the proposed finished grade and shape to allow adequate surface run-off and prevent ponding, scouring and erosion. If directed by the Consultant, the Contractor shall provide temporary relief, or diversionary swales and ditches at no additional cost to the Owner.

.5 Finish rough grading shall not be done when soil is frozen or wet.

.6 In all areas where fill is to be placed on the existing grade, the surface shall be scarified to a minimum depth of 75mm in order to provide a good bond and prevent slipping of fill or topsoil.

3.5 Clean-Up

.1 Do final cleaning upon completion of work of this Section.

END OF SECTION

Part 1 General

1.1 DESCRIPTION

.1 Work for this Section includes, but is not necessarily limited to:
- .1 Supply and installation of all drainage pipe, services and fittings.
- .2 Trenching and excavation as necessary.

.2 Co-ordinate work in this section with work in all other sections and grading and drainage drawings.

1.2 NOTIFICATION OF UTILITIES

.1 Contractor must obtain locates from all utilities concerned and must obtain all necessary permits with regard to this installation.

1.3 INSPECTION OF MATERIALS

1. The Contractor shall inspect all materials for damage in transit. No defective material shall be accepted. Any material subsequently damaged shall be removed from the site immediately.

2. The Consultant for this project may order tests made of any material delivered to the site and may reject materials pending the result of tests.

3. Any material found to be defective in manufacture, or damaged before or after acceptance from the carrier, will be rejected by the Consultant for this project and the Contractor shall promptly remove such defective material from the site.

Part 2 Products

2.1 MATERIALS

.1 All rigid drainage lines shall be 150mm dia. hard PVC drain line unless otherwise specified.

.2 All flexible drainage lines shall be 100mm dia, perforated "Big-O" weeping tile, with filter fabric, unless otherwise specified.

.3 Pipe to be sized as per drawings.

.4 Pipe material shall be resistant to chemicals present in soils and ground water and shall be resistant to deterioration from ultraviolet light.

.5 Tubing must be of uniform colour and density, free from any defects.

.6 Use manufactured bends and fittings at any change of direction or wye connection.

.7 All ends to be capped with manufactured caps.

Part 3 Execution

3.1 TRENCHING

.1 All trenches are to be excavated starting from the lowest elevation at the outlet and proceed upgrade.

.2 All excavated material is to be removed and used as fill for surrounding areas if suitable. All unsuitable material shall be removed off-site.

.3 Remove disturbed or softened material from trench bottom before placing bedding material. Maintain trench free from water and soft materials during placement of pipe bedding, pipe installation and trench backfill to ensure proper compaction of granular materials.

.4 Backfill with imported granular material or approved native material as specified in Contract documents. The Consultant for this project may permit native material for all above uses subject to suitability of native material for said use. Native material approved for re-use to be handled, stockpiled and compacted using construction method appropriate for given moisture content and weather conditions.

.5 Restore all disturbed surfaces to condition at least equal to that which existed prior to construction. Make good any damage to adjacent lands or improvements. Install topsoil and sod in areas of soft landscape in accordance with contract documents.

3.2 PIPE CONFIGURATION

.1 Trenching alignment and depth as shown on Contract drawings.

.2 A minimum grade of 1.5% shall be maintained throughout or as otherwise specified on the Contract drawings.

.3 Invert elevations and slope on pipe as shown on Contract drawings.

.4 All intersections of pipe shall be angled to facilitate ‘snaking’ or flushing of clogged lines.

3.3 GRANULAR BEDDING

.1 Fill over-excavation below design elevation with granular bedding placed and compacted to 95% SPD.

.2 Place granular bedding material across full width of trench bottom in uniform layers to depth shown on details.

.3 Shape bed true to grade to provide continuous uniform bearing surface for pipe. Do not use blocks when bedding pipe.

.4 Use imported bedding material when native material is deemed unsuitable for backfill by the Consultant or when trench has been excavated in rock.

3.4 PIPE INSTALLATION

.1 Handle pipe in accordance with pipe manufacturer's recommendations. Do not use chains or cables passing through pipe bore so that weight of pipe bears on pipe ends.

.2 Lay and join pipes to manufacturer's instructions and specifications except as noted otherwise.

.3 Horizontal tolerance: plus or minus 50mm from specified alignment. Vertical tolerance: plus or minus 25mm from specified grade.

.4 Lay pipes on prepared bed true to line and grade. Ensure barrel of each pipe is in contact with shaped bed throughout its full length.

.5 Face socket ends up-grade.

.6 Keep jointing materials and installed pipe free of dirt, water and other foreign materials. Whenever work is stopped, install a removable watertight bulkhead at open end of last pipe laid to prevent entry of water and foreign materials.

.7 When required cut pipes as recommended by pipe manufacturer, without damaging pipe or its coating and leave a smooth end at right angles to axis of pipe.

.8 Ensure completed joints are restrained by compacting bedding material alongside and over installed pipes or as specified otherwise.

END OF SECTION 33 46 00

Exhibit 3 – Geotechnical Report

Cascade
Geotechnical Ltd.

201 – 1889 Spall Road
Kelowna, BC, V1Y 4R2
Phone: 250-878-6446
Fax: 250-762-8073

CGL File No: J15-1421

March 21, 2016

New Line Skateparks Inc.
6249 205th Street
Langley, B.C.
V2Y 1N7

Attention: Jason McMillen**,** BCSLA Intern

Dear Sir,

Subject: Geotechnical Assessment
Proposed Summerland Skate Park
Summerland, B.C.

1.0 INTRODUCTION

Cascade Geotechnical Ltd. (Cascade) understands that the District of Summerland is proposing to construct a skate park. We have carried out a geotechnical investigation of the soil and groundwater condition at this site. This report presents the results of our investigation, and geotechnical recommendations for the construction of the skate park.

- **Scope of Work:** Our scope of work for this project was provided in our proposal P15-0494, dated November 18, 2015. In summary, we proposed to excavate three test pits at the locations identified in the RFP, and prepare a letter report providing geotechnical recommendations for construction of the skate park.

- **Site Description:** The proposed skate park is located at the north end of School District 67 property, at the intersection of Jubilee Road West and Rosedale Avenue. The site is relatively flat, roughly rectangular in shape, grassed, and has several mature trees. The site is bordered to the northwest by Jubilee Road West, to the east by Rosedale Avenue, and to the south by a school playing field.

- **Proposed Development:** We understand that the proposed skate park will basically consist of a slab-on-grade concrete slab with light slab loads, and will include the construction of features such as handrails, stair sets, flat banks and ledges.

2.0 FIELD INVESTIGATION

On November 25, 2015, three test pits were excavated on the site using a Yanmar 50 mini-excavator supplied by NRG Excavating and Bobcat Ltd, of Summerland. The test pit program was supervised and logged in the field by the author of this report.

The test pits were excavated to between 2.0 and 2.3 m below existing site grades. Continuous written logs were maintained in the field and included a description of the soil types encountered, depths of changes, visual classifications and consistency of the subsurface soils. The approximate locations of the test pits, TP-01 to TP-03, are shown on the attached Figure No. 1.

3.0 SUBSURFACE CONDITIONS

The soil profile encountered at the test pit locations was consistent at all three test locations and can generally be described as:

- A layer of topsoil and grass. The topsoil was generally 150 mm thick, and was loose, damp and dark brown. The topsoil layer was found over…

- Sand and Gravel fill. The sand and gravel fill generally had some silt, some cobbles and boulders, and was compact, damp and light to medium brown. The fill generally ranged between 0.2 and 0.3 m in thickness, and was found over…

- Natural sand and gravel. The natural sand and gravel deposits had a trace of silt, some cobbles and frequent boulders, and were compact, damp and light brownish grey.

Mr. Maarten Stam**,** of the District of Summerland, reported that an inactive water line crosses the property in an east-west direction. Bedding sand from what appeared to be the trench for the water line was encountered at the north side of TP-01 at a depth of 0.6 m.

At the time of our investigation, the soil encountered in the test pits was generally damp. No ground water was encountered and we believe groundwater elevation to be at least 5 m below existing site grades. For a more detailed description of the soil conditions, please refer to the test pit logs in Appendix A.

4.0 DISCUSSION AND RECOMMENDATIONS

The soil profile encountered at the test pit locations generally consisted of a surface layer of topsoil and grass over compact, sand and gravel fill, which in turn was underlain by compact, natural sand and gravel. The following sections provide recommendations for site preparation and construction of the skate park.

4.1 Site Preparation and Excavation

All organic topsoil or vegetation, any roots or underground services, and any loose, soft, wet, weathered or disturbed soils should be removed from within the proposed skate park area to expose the underlying sand and gravel fill and/or natural deposits. The exposed subgrades, as described above, should be inspected by Cascade prior to any structural fill placement.

In the situation where a portion of the proposed skate park is found to be located over a test pit, we recommend that the test pit be over excavated and the loose soil replaced with granular structural fill compacted to a minimum of 98% of Standard Proctor maximum dry density (SPMDD) in accordance with ASTM D698, and within 2% of optimum moisture content.

4.2 Subgrade Fill

Where the subgrade beneath the concrete slab needs to be raised, the onsite sand and gravel or general engineered fill can be used (see Appendix B). The subgrade fill should be compacted to a minimum of 98% of SPMDD, and within 2% of optimum moisture content. We recommend that the density of fill should be determined with in-situ density tests.

The subgrade fill should be placed and compacted in lifts not exceeding 0.3 m. We recommend that the compaction of each lift of structural fill be determined with in situ density tests prior to placing subsequent lifts.

4.3 Subbase and Base Fill

We recommend that a minimum of 200 mm of subbase fill and 150 mm of base fill be placed. The subbase fill should generally consist of 75 mm minus granular material with less than 8% passing the #200 sieve size, and should be compacted to a minimum of 100% of SPMDD, and within 2% of the optimum moisture content.

The existing fill or natural sand and gravel deposits might be suitable as subbase material, but should be confirmed by Cascade prior to placement of base course material.

The base material should consist of crushed sand and gravel with less than 8% passing the #200 sieve size (see Appendix B), and should be compacted to a minimum of 100% SPMDD and within 2% of the optimum moisture content.

The subbase and base fill should be placed and compacted in lifts not exceeding 0.2 m. We recommend that the compaction of each lift of structural fill be determined with in situ density tests prior to placing subsequent lifts.

4.4 Bearing Capacity

The concrete slab areas should first be prepared as outlined above. The skate park may be designed with a factored Ultimate Limit States bearing resistance of 250 kPa for footings placed on the compacted subbase and base layers using a resistance factor of 0.5, and an allowable bearing pressure of 125 kPa.

For the design of the concrete slab, a modulus of subgrade reaction of 80,000 kN/m^3 can be used.

4.5 Surface Drainage

Landscaping around the new skate park should slope away from the skate park by a minimum of 3% to a distance of 5 m. Any water collected on the slab should also be drained away from the skate park area. We consider the onsite granular soils to be suitable for an infiltration pit to drain storm water from the concrete slab.

If drainage from the slab will be discharged to an infiltration pit, the pit should be located a minimum of 5 m away from the slab area. Based on the soil conditions, we recommend that a hydraulic conductivity (K) of 1 x 10^{-3} m/s be used for the design of infiltration pits constructed in the sand and gravel deposits. We recommend a factor of safety of 2.0 be used for the design of infiltration pits.

4.6 Soluble Sulphates

Based on the granular soil deposits encountered, we consider the degree of sulphate attack on concrete to be negligible. Therefore, sulphate resistant cement is not required for this project.

5.0 INSPECTIONS DURING CONSTRUCTION

We recommend the following inspections/testing during construction of the skate park:

- The skate park subgrade should be inspected by a geotechnical engineer prior to placement of structural fill.

- Insitu field density tests should be performed during placement of structural fill, and concrete testing should be performed during construction of the slab.

6.0 CLOSURE

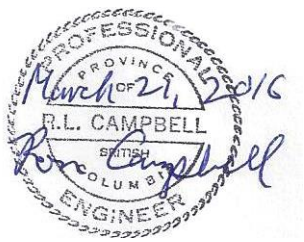
This report has been prepared in accordance with generally accepted engineering practice. Geotechnical engineering judgment has been applied in developing the recommendations in this report. No other warranty is made, either expressed or implied.

The recommendations contained in this report have been prepared for the proposed Summerland skate park, and can be relied upon by New Line Skateparks Inc., and the District of Summerland. Should the intended use for the property, at any time, vary from our understanding of the project, Cascade should be given the opportunity to review the project to ensure that our recommendations are both accurate and sufficient.

We trust that you will find our recommendations sufficient at this time. If you require any additional details please do not hesitate to contact us.

Yours truly,
Cascade Geotechnical Ltd.

Prepared by:

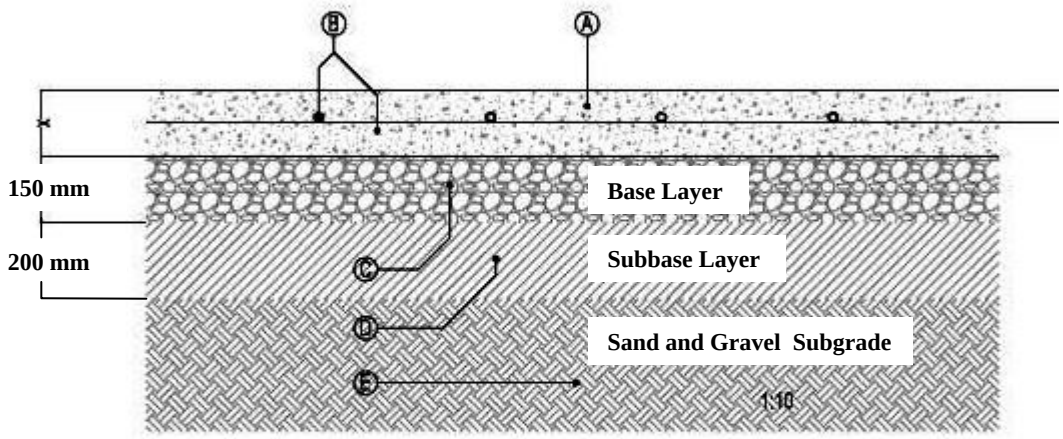


Ron Campbell, P.Eng.
Geotechnical Engineer

Attachments:

Figure 1	-	Test Pit Locations
Figure 2	-	Concrete Slab Construction
Appendix A	-	Test Pit Logs
Appendix B	-	Backfill Materials and Compaction
Appendix C	-	Geotechnical Report - General Conditions

LEGEND	*Cascade Geotechnical Ltd.*				
Test Pit Locations	Summerland Skate Park				
	Test Pit Locations				
	File No: J15-1421	Scale: NTS	Drawn By: RC	Date: Dec, 2015	Figure: 1



LEGEND	*Cascade Geotechnical Ltd.*				
	Memorial Park, West Kelowna Skate Park				
	Concrete Slab Construction				
	File No: J15-1359	Scale: NTS	Drawn By: ML	Date: Aug, 2015	Figure: 1

APPENDIX A

Project: Summerland Skate Park
Location: Jubilee Road West and Rosedale Avenue
Client: New Line Skateparks Inc.
Cascade Project No: J15-1421

Log of Testpit TP-01

Depth (ft)	Depth (m)	Description	Number	Type	Moisture Content (Percent)
0	0	Ground Surface			10 20 30 40
0	0	***TOPSOIL,*** and grass.			
		SAND and GRAVEL (FILL), some silt, some cobbles and boulders, compact, damp, light to medium brown.			
		SAND and GRAVEL, trace silt, some cobbles, frequent boulders, compact, damp, light brownish grey.			
7	2	***END OF TEST PIT AT 2.1 m.*** ***TEST PIT DRY UPON COMPLETION.***			
9	3				

Investigation Date: November 25, 2015
Contractor: NRG Exacating & Bobcat Ltd.
Equipment: Yanmar 50 Mini-Exacavtor
Logged By: RC

Northing: 0
Easting: 0
Elevation: 0
Figure No: TP-01

Cascade Geotechnical Ltd.
201-1889 Spall Road
Kelowna, B.C.

Project: Summerland Skate Park
Location: Jubilee Road West and Rosedale Avenue
Client: New Line Skateparks Inc.
Cascade Project No: J15-1421

Log of Testpit TP-02

Depth (ft)	Depth (m)	Description	Number	Type	Moisture Content (Percent)
0	0	Ground Surface			
0	0	***TOPSOIL,*** and grass.			
		SAND and GRAVEL (FILL), some silt, some cobbles and boulders, compact, damp, light to medium brown.			
		SAND and GRAVEL, trace silt, some cobbles, frequent boulders, compact, damp, light brownish grey.			
5			2-1	G	
	2	***END OF TEST PIT AT 2.0 m.*** ***TEST PIT DRY UPON COMPLETION.***			
	3				

Moisture Content: Percent — 10, 20, 30, 40

Investigation Date: November 25, 2015
Contractor: NRG Exacating & Bobcat Ltd.
Equipment: Yanmar 50 Mini-Exacavtor
Logged By: RC

Northing: 0
Easting: 0
Elevation: 0
Figure No: TP-02

Cascade Geotechnical Ltd.
201-1889 Spall Road
Kelowna, B.C.

Project: Summerland Skate Park
Location: Jubilee Road West and Rosedale Avenue
Client: New Line Skateparks Inc.
Cascade Project No: J15-1421

Log of Testpit TP-03

Depth (ft)	Depth (m)	Description	Number	Type	Moisture Content (Percent)
0	0	Ground Surface			
0		***TOPSOIL,*** grass and roots.			
		SAND and GRAVEL (FILL), some silt, some cobbles and boulders, compact, damp, light to medium brown.			
1		***SAND and GRAVEL,*** trace silt, some cobbles, frequent boulders, compact, damp, light brownish grey.			
2					
3	1				
4					
5					
6					
	2				
7					
		END OF TEST PIT AT 2.3 m. ***TEST PIT DRY UPON COMPLETION.***			
8					
9					
	3				

Moisture Content: Percent — 10, 20, 30, 40

Investigation Date: November 25, 2015
Contractor: NRG Exacating & Bobcat Ltd.
Equipment: Yanmar 50 Mini-Exacavtor
Logged By: RC

Northing: 0
Easting: 0
Elevation: 0
Figure No: TP-03

Cascade Geotechnical Ltd.
201-1889 Spall Road
Kelowna, B.C.

APPENDIX B

Maximum density as used in this section means Standard Proctor Maximum Dry Density (ASTM Test Method D698) unless specifically noted otherwise. Optimum moisture content is as defined in this test.

"General engineered fill" material should comprise clean, well-graded granular soils or inorganic low plastic clay soils. Fill material should be placed in compacted layers of not more than 12 in. General engineered fills should be compacted to 98 percent of maximum density.

Granular soils used for general engineered fills should consist of relatively clean, well graded, mixture of sand and gravel (maximum size 3 in.).

Low plastic clay with the following range of Atterberg limits in generally considered suitable for use as engineered fill.

Liquid Limit	=	20 to 40%
Plastic Limit	=	10 to 20%
Plastic Index	=	10 to 30%

Clay fill material should be compacted at or slightly above the optimum moisture content.

"Structural fill" materials should comprise clean, well-graded inorganic granular soils. Such fill should be placed in compacted lifts not exceeding 6 in. and compacted to not less than 95 percent of maximum density, at a moisture content at or slightly above optimum.

"Landscape fill" material may comprise soils without regard to engineering quality. Such soils should be place in compacted lifts not exceeding 8 in. and compacted to a density of not less than 80 percent of maximum density.

Backfill adjacent to and above footings, abutment walls, basement walls, grade beams and pile caps or below highway, street or parking lots pavement sections and base courses should comprise "general engineered fill" materials as defined above.

Backfill supporting structural loads should comprise "structural fill" materials as defined above.

Backfill adjacent to exterior footings, foundation walls, grade beams and pile caps and within 12 in. of final grade should comprise inorganic low plastic clay "general engineered fill" as defined above. Such backfill should provide a relatively impervious surface layer to reduce seepage into the subsoil.

Backfill should not me placed against a foundation structure until the structure has sufficient strength to withstand the earth pressures resulting from placement and compaction. During compaction, careful observation of the foundation wall for deflection should be carried out continuously. Where deflections are apparent, the compactive effort should be reduced accordingly.

In order to reduce potential compaction induced stresses, only hand held compaction equipment should be used in the compaction of fill within 2 ft. of retaining walls or basement walls.

Where the maximum-sized particles in any backfill material exceed 50 percent of the minimum dimensions of the cross-section to be backfilled, such particles should be removed and placed at other more suitable locations on-site or screened off prior to delivery to site. All lumps of materials should be broken down during placement.

Bonding should be provided between backfill lifts, if the precious lift has become desiccated. The previous lift should be scarified to the base of the desiccated layer, properly moisture-conditioned and recompacted and bonded thoroughly to the succeeding lift. For granular materials, the surface of the previous lift should be scarified to about 3 in. depth followed by proper moisture-conditioned and recompaction.

Recommendations for specifications for various backfill types are presented below. Gradations should be within the specified limits when tested in accordance with ASTM C136.

Pit Run Gravel

To be graded granular material, substantially free from clay lumps, organic matter and other extraneous material, screened to remove all stones in excess of maximum diameter specification in material description, and conform to following gradations:

Sieve Designation	Percent Passing
12 in.	100
8 in.	100
4 in.	100
3 in.	100
2 in.	70 - 100
1 in.	50 - 100
# 4	25 - 100
# 10	10 - 80
#200	2 - 8

Granular Bedding and Surround Material

Sieve Designation	Percent Passing	
	Type 1*	Type 2*
3/4 in.	90 - 100	90 - 100
1/2 in.	65 - 85	70 - 100
3/8 in.	50 -75	
# 4	25 - 50	40 - 70
# 8	10 - 35	
# 20	2 - 20	8 - 30
# 40	0 - 15	
# 50		3 - 20
# 80	0 - 8	
# 100	0 - 5	0 - 8

*Type 1: standard gradation
*Type 2: to be used in dry trench conditions

Select Granular Subbase

To be well graded granular material, substantially free from lumps and organic matter, screened if required to conform to following gradations:

Sieve Designation	Percent Passing
3 in.	100
1 in.	50 - 85
# 100	0 - 15
# 200	0 - 8

Granular Base

To be 19 mm crushed gravel conforming to following gradations:

Sieve Designation	Percent Passing
3/4 in.	100
1/2 in.	75 - 100
3/8 in.	60 - 90
# 4	40 - 70
# 8	27 - 55
# 20	10 - 35
# 50	5 - 20
# 200	2 - 8

APPENDIX C

This report incorporates and is subject to these "General Conditions".

1. USE OF REPORT AND OWNERSHIP

This geotechnical report pertains to a specific site, a specific development and a specific scope of work. It is not applicable to any other sites nor should it be relied upon for types of development other than that to which it refers. Any variation from the site or development would necessitate a supplementary geotechnical assessment. This report and the recommendations contained in it are intended for the sole use of Cascade's client. Cascade does not accept any responsibility for the accuracy of any of the data, the analyses or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Cascade's client unless otherwise authorized in writing by Cascade. Any unauthorized use of the report is at the sole risk of the user. This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of Cascade. Additional copies of the report, if required, may be obtained upon request.

2. NATURE AND EXACTNESS OF SOIL AND ROCK DESCRIPTIONS

Classification and identification of soils and rocks are based upon commonly accepted systems and methods employed in professional geotechnical practice. This report contains descriptions of the systems and methods used. Where deviations from the system or method prevail, they are specifically mentioned. Classification and identification of geological units are judgmental in nature as to both type and condition. Cascade does not warrant conditions represented herein as exact, but infers accuracy only to the extent that is common in practice. Where subsurface conditions encountered during development are different from those described in this report, qualified geotechnical personnel should revisit the site and review recommendations in light of the actual conditions encountered.

3. LOGS OF TEST HOLES

The test hole logs are a compilation of conditions and classification of soils and rocks as obtained from field observations and laboratory testing of selected samples. Soil and rock zones have been interpreted. Change from one geological zone to the other, indicated on the logs as a distinct line, can be, in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil or rock zone transition elevations may require further investigation and review.

4. STRATIGRAPHIC AND GEOLOGICAL INFORMATION

The stratigraphic and geological information indicated on drawings contained in this report are inferred from logs of test holes and/or soil/rock exposures. Stratigraphy is known only at the locations of the test hole or exposure. Actual geology and stratigraphy between test holes and/or exposures may vary from that shown on these drawings. Natural variations in geological conditions are inherent and are a function of the historic environment. Cascade does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of more precise locations of geological units is necessary, additional investigation and review may be necessary.

5. SURFACE WATER AND GROUNDWATER CONDITIONS

Surface and groundwater conditions mentioned in this report are those observed at the times recorded in the report. These conditions vary with geological detail between observation sites; annual, seasonal and special meteorologic conditions; and with development activity. Interpretation of water conditions from observations and records is judgmental and constitutes an evaluation of circumstances as influenced by geology, meteorology and development activity. Deviations from these observations may occur during the course of development activities.

6. PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geological materials to climatic elements (freeze/thaw, wet/dry) and/or mechanical disturbance which can cause severe deterioration. Unless otherwise specifically indicated in this report, the walls and floors of excavations must be protected from the elements, particularly moisture, desiccation, frost action and construction traffic.

7. SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise specifically advised, support of ground and structures adjacent to the anticipated construction and preservation of adjacent ground and structures from the adverse impact of construction activity is required.

8. INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and structural performance of adjacent buildings and other installations. The influence of all anticipated construction activities should be considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known.

9. OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geological deposits, the judgmental nature of geotechnical engineering, as well as the potential of adverse circumstances arising from construction activity, observations during site preparation, excavation and construction should be carried out by a geotechnical engineer. These observations may then serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein.

10. DRAINAGE SYSTEMS

Where temporary or permanent drainage systems are installed within or around a structure, the systems which will be installed must protect the structure from loss of ground due to internal erosion and must be designed so as to assure continued performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwise specified, it is a condition of this report that effective temporary and permanent drainage systems are required and that they must be considered in relation to project purpose and function.

11. BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil or rock type and condition. Construction activity and environmental circumstances can materially change the condition of soil or rock. The elevation at which a soil or rock type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geological materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil and/or rock conditions assumed in this report in fact exist at the site.

12. SAMPLES

Cascade will retain all soil and rock samples for 30 days after this report is issued. Further storage or transfer of samples can be made at the client's expense upon written request, otherwise samples will be discarded.

13. STANDARD OF CARE

Services performed by Cascade for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practiced under similar conditions in the jurisdiction in which the services are provided. Engineering judgement has been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

14. ENVIRONMENTAL AND REGULATORY ISSUES

Unless stipulated in the report, Cascade has not been retained to investigate, address or consider and has not investigated, addressed or considered any environmental or regulatory issues associated with development on the subject site.