SECTION C: CONSOLIDATED TENDER COMMUNICATIONS

(a) The notification of acceptance of tender or award of Contract;
(b) Post-tender Clarifications:
(c) Contractors tender Submission
(d) Notices to tenderers:
(e) Invitation to tender

The notification of acceptance of tender or award of Contract;

ROTORUA
LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Civic Centre
1061 Haupapa Street
Private Bag 3029
Rotorua Mail Centre
Rotorua 3046
New Zealand

26 September 2019

HEB Construction Limited
PO Box 4049
Mount Maunganui South

Attention: Andrew Hiscox,

Re: Rotorua Lakefront Redevelopment Stage 1 & 1a – Contract Award.

This letter is to confirm that following a period of further clarification and negotiation, Rotorua Lakes Council (RLC) is pleased to advise that HEB Construction Limited (HEB) has been awarded as the Main Contractor for the above project based on the fixed Lump Sum contract price of Fourteen million five hundred and ninety thousand five hundred and sixteen dollars ($14,590,516.00), exclusive of GST.

In the coming days we will compile two sets of contract documents for signing by both parties. In the mean time we kindly request that HEB progresses deliverables as noted below with a view to commencing the contract works as per the current contract programme.

- Preparation and supply of insurances
- Preparation and supply of health & safety documentation
- Preparation and supply of CMP documents
- Preparation and supply of quality management plans
- Arrangement of bond provision
- Completion of continuity schedule
- Preparation of traffic management plans
- Supply of any documentation required under conditions of the resource consent.

Please also note that requirements of the Provincial Growth Fund will require regular (monthly) reporting on the Contractor's commitment to job creation and local market expenditure, reporting on these aspects will be required from the outset of the works. We will arrange a meeting in due course to agree the format for reporting going forward.

We look forward to delivering this land mark project with HEB in a collaborative manner to ensure overall project success.

Regards

Craig McMichael
On Behalf of Rotorua Lakes Council

ROTORUA LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Civic Centre
1061 Haupapa Street
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New Zealand

28 June 2019

File Ref: 27-18-029

Doc No:

HEB Construction Limited
PO Box 4049
Mount Maunganui South

Attention: Andrew Hiscox,

Andrew

Re: Rotorua Lakefront Redevelopment Stage 1 & 1a – Notification of Preferred Contractor Status.

This letter is to confirm that following evaluation, Rotorua Lakes Council (RLC) is pleased to advise HEB Construction Limited (HEB) has been identified as the preferred Main Contractor for the above project.

As you are aware, RLC are still required to identify further cost reductions for the proposed works, obtain resource consent, and secure a lease of the construction of the works over TALT owned areas of the lake before works can commence. On the basis that the above items are resolved, HEB is able to maintain current pricing and work with RLC to identify the required cost reductions. RLC's intention is to then enter into a formal agreement with HEB for the construction of the works.

Our current expectation is that the above issues shall be resolved in the coming month and works are able to commence late July/early August 2019.

Preferred contractor status in no way obligates RLC to enter into any formal contract. Whilst RLC remains 100% committed to the project, the above items are required to be resolved before any contract shall be entered into. Should the project not proceed, HEB shall not be eligible to recoup any costs for precontract inputs provided prior to any formal contract being executed.

For the avoidance of doubt, neither party shall be bound until formal contract documents are executed by both parties.

RLC will work exclusively with HEB in good faith and collaboratively over the coming period to negotiate a final contract works price within RLC budgets. RLC does, however, reserve the right to redress the Main Contractor market should it be required to.

We now request that HEB confirm acceptance of the preferred contractor status and acknowledgement of the expectations of this role as outlined above. We look forward to your response and continuing to progress Stage 1 of the Lakefront Redevelopment project in a collaborative manner with you.

Regards

Kerry Starling
Procurement Lead

cc. Craig McMichael
Veros Property Services

Post-tender Clarifications:

18/029 - ROTORUA LAKEFRONT REDEVELOPMENT - STAGE 1 & 1A
POST TENDER CLARIFICATIONS REGISTER

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
1						
1.1	21-May-19	*1.1 Our tender is based on the enclosed schedule of prices.*	Noted, however to be clear reliance and responsibility is placed on the contractor in terms of all stated quantities. The Principal shall not be liable for any misinterpretation of the drawings and specifications.	No response required.	29-May-19	
1.2	21-May-19	*3.1 For the purpose of valuing variations our onsite over heads will be 30% and offsite overheads and profit 15%. Working day rate $2650.00/day*	Noted, however should considerable delay occur we would reserve the right to agree a fair and reasonable compensation, whilst looking to minimise activities on site during the delay period.	Agreed.	29-May-19	
1.3	21-May-19	*4.2 We have made no allowance to obtain building or resource consents, this is to be arranged prior by RLC, including the costs associated with these consents. We have allowed for the site by RLC, including the costs associated with these consents. We have allowed for the site management of these consents including arranging the relevant inspections.*	Noted, Cost of consent applications and approvals shall be completed by RLC. Any costs for services connection applications, and temporary works shall be by the contractor.	We have allowed for temporary service connections for our site facilities, however no allowance has been made for Unison Network charges for the permanent lighting, as per tender tag / clarification 10.5	29-May-19	7.5
1.4	21-May-19	*4.4 Resource Consent - As per our methodology we have allowed to install sheetpile coffer dams and use submersible pumps to dewater the coffer dams. We have also allowed for standard silt fences to control water runoff, temporary stockpiles will be covered in filter cloth and accessways will be stabilised with metal. Additional requirements to meet the resource conditions will be treated as a variation.*	Please review the attached draft resource consent conditions. Please confirm the draft conditions are allowed for. It is the contractor's responsibility to ensure their methodology complies with any consenting requirements.	We have reviewed the draft resource consent, issued with clarification 001, and have the following comments; Item 5 - we have made no allowance to monitor for or translocate Koura /vifauna habitat or any other wildlife from the work site. This is a specialist operation and we would need to engage a experienced ecologist. We suggest the RLC manage this or nominate a provisional sum amount to include in the tender. We have also not made any allowance for the affect that breeding seasons may have on the programmed works Item 6 - refer item 1.6 below, we have allowed for liaison only At times due to the nature of the works maybe discolouration of the water.	29-May-19	7.4
1.5	21-May-19	*5.1 We have made no allowance for Iwi monitors or archaeologists to be on site during the works. If required these are to be supplied by RLC.*	Noted, however the contractor is to allow for liaison and inspection for iwi monitors as required by the resource consent. The cost for Iwi to attend site will be covered by RLC.	Yes we have allowed for liaison and access to site for the relevant parties in our tender.	29-May-19	
1.6	21-May-19	*7.1 We have allowed a provisional sum for the sun loungers (item 11.5), final details & costs to be agreed, if it is decided by RLC to install sun loungers.*	Sun loungers will be removed from stage 1 and 1a. No pricing required.	Scheduled item 11.5 has been removed	29-May-19	
1.7	21-May-19	*9.1 We have allowed to install 25mm dia hot dipped galvanised DSI GEWI bar, with 3 domed nuts per pile.*	It is acceptable to replace Reidbars with DYWIDAG GEWI Threadbar. However HEB's proposed domed nuts are not appropriate replacements for the ReidBar Flange Nut. Correctly sized GEWI Flanged Nuts plus lock nuts as shown in Dywidag's GEWI Threadbar System technical product brochure should be used as replacements.	Item 8.5.1 has been amended and now includes for flange nuts.	29-May-19	
1.8	21-May-19	*9.2 We have made no allowance for trial nails prior to starting the production drilling.*	This will not be accepted. The Ground Improvement field trial (Specification 3.5.3) and Anchor Proof Load Testing (Specification 4.7.3) are required to assess both the cement dosing requirements, consistency and the capacity of the anchors. This will need to be completed prior to undertaking the main ground improvements and installation of anchors.	Item 8.5.2 now allows to install and proof test (tension load test) of 3m max overall length, 25mm GEWI bar non-production trial micropiles as per table 4-2 in the T + T technical specification	29-May-19	
1.9	21-May-19	*9.3 We have allowed to proof test 12 No. anchors by tension loading in accordance with table 4-2 and acceptance test 230 No. production anchors by tension load testing in accordance with table 4-4 of the Tonkin & Taylor specification.*	Please remove tag relating to 230No. production anchors, reliance is placed on the contractor to quantify the correct No. of anchors without placing risk on the principal.	accepted - Tag removed. Proof testing SOP item 8.5.2 now allows for 3 separate visits to site (4 sacrificial piles per visit)	29-May-19	
1.10	21-May-19	*9.4 We have allowed for testing as per the specification, which we estimate will take 12 weeks.*	The time estimate is a Contractor risk, please remove this tag.	Accepted - Tag removed.	29-May-19	
1.11	21-May-19	*9.5 We have made no allowance for dealing with artesian water if encountered while drilling.*	The drilling will be within cement stabilised ground. The cement will require time to cure. If the Contractor undertakes his drilling too soon following the cement stabilisation there is a risk of blow out of hole. The Contractor shall ensure he has sufficient time for cement curing within his programme prior to drilling. We believe this tag is not applicable, please remove this tag.	Accepted - Tag removed.	29-May-19	
1.12	21-May-19	*9.6 We have allowed to take 1 x set of 3 grout samples per day.*	Specification requires: • Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used; and • Not loss than 1 set of 4 test samples for each additional batch of grout mixed. Please remove this tag.	Item 12.6 has been added for additional grout samples (above the included 1 set per day). This includes collecting samples and compressive testing. Please Note that groundfix's grout plant is a continuous batching cycle unit providing uniform mixes across all batches.	29-May-19	4.1
1.13	21-May-19	*9.8 Grout use allowed for is based on 110% of the theoretical borehole volume. Extra grout will be charged at $1.75/kg batched.*	The boreholes are within cement stabilised material. There is not expected to be grout loss provided that sufficient curing has been undertaken. This item can be managed through contractor methodology and quality assurance. Please remove this tag.	Accepted – tag removed.	29-May-19	
1.14	21-May-19	*9.9 No allowance has been made for installing temporary casings if required to keep the drill holes open.*	The boreholes are within cement stabilised material. There is not expected to be borehole collapse provided that sufficient curing has been undertaken. This item can be managed through contractor methodology and quality assurance. Please remove this tag.	Accepted – tag removed.	29-May-19	
1.15	21-May-19	*9.10 The Specification calls for an exceptionally large volume of proof and acceptance testing, which we estimate will take 12 weeks to complete. There would be a considerable time and cost saving if the specified testing requirement were relaxed.*	The design of the boardwalk structure is critically reliant on the strength and consistency of the cement stabilised ground, and the resultant capacity of the micropiles. It also is the decision point around the quantity of cement to be used in the main production works. Given the criticality of these elements to the design, expect this quantity of testing is required.	ok	29-May-19	
1.16	21-May-19	*11.2 We have been advised by a few timber suppliers that the detailed tukutuku decking timber will waste a considerable amount of timber and there is a risk that the exposed grains may split. So, our timber supplier has indicated that they won't warranty the product as its currently designed.*	Can you clarify that this comment only relates to the small tukutuku bridges. The Main boardwalk is able to be warranted. We will work with the supplier to agree a detail, we expect this will be similar to the large tukutuku bridges and should result in a saving.	Yes this comments relates to the original tukutuku bridge designs. As per tender tag / clarification # 18.4 we can offer 12 month warranties for the revised large tukutuku design.	29-May-19	3.1
1.17	21-May-19	*11.3 NTT # 9 provides a revised timber detail for the large tukutuku bridges, the cost saving to install this would be $328,570.00*	Alternative tukutuku timber details as per NTT #9 is approved based on saving of $328,570, please amend pricing.	Scheduled items 7.6,7.7 & 7.8 have been amended, to reflect the cost saving	29-May-19	
1.18	21-May-19	*12.3 All plants are subject to availability (the contract specification does not allow substitution) Evergreen Landcare can recommend substitutes if specified species are not available.*	All substitutions to be approved by the Architect.	ok	29-May-19	
1.19	21-May-19	*12.4 Irrigation of specified lawn areas which is based on the following parameters.* *- Design, supply and installation of an automated irrigation system for two lawn areas.* *- A minimum flow of 31.5 litres per minute (l/m) at 300kpa is available from the existing water supply* *- All pipework to be LDPE pipe and MDPE pipe for the mainline.* *- Insolation valves will be installed to control the irrigation system* *- Installation of 21 x rainbird 5004 sprinklers in lawn areas* *- As built drawings will be provided* *- Lawn area irrigation consists of 4 zones* *- No allowance has been made for the irrigation water main connection, not known at this stage* *- Irrigation equipment as per existing RLC local systems;* *• 25mm LDPE pipe* *• PN15 rain bird 5004 SAM sprinkler assemblies.* *• Rainbird PEB solenoid valves* *• Rainbird 7-Stars control system* *• Carson std rectangular valve enclosure*	We note the described scope provided, however we also note irrigation is a design and build item. It is expected the scope put forward is suitable and fit for purpose for the area and nature of the works. Should any additional equipment etc be required to provide a fit for purpose solution, this shall be the contractors cost. Contractor shall confirm where the irrigation system is to be connected to the water main. We require this to check the water pressure at offtake location. RLC indicate that the water pressures is the local mains is between 400 and 550kPa on the 150mm water main. . Please allow for the mains water connection as required to operate the irrigation system. Ensure that the connection location has double check valve, water meters etc if connecting to the 150 mm main line. Contractor should allow for this. However, if connecting to the new 50mm there will be a new water meter & double check valve installed so could potentially utilise this. It is recommended the contractor submits proposed layout for review.	Evergreen Landcare Response; It is accepted the irrigation of the lawns is a design & build system. Any cost associated with the design, supply and install is accepted as being on the contractor. The pressure in the mains is sufficient to operate the irrigation system. The flow from the 50mm line will also be appropriate. There is no extra cost to connect to this line downstream of the meter and backflow device. However if the 50mm line with meter and double check is being used for another service (such as drinking fountains), we will need to fit our own backflow preventor to protect the other services. Cost to provide connection to 50mm line downstream of water meter is $2,100.00 (excluding GST) A design will be provided for approval, on award of the contract to Evergreen Landcare for the landscaping component of the project.	29-May-19	
1.2	21-May-19	*13.2 The cost saving to install 2No. 14g 120mm x/s decking screws as per NTT#1 would be $12,635.00 + GST*	Alternative timber deck fixings as per NTT#1 is approved based on quality and cost saving of $12,635 please amend pricing.	Addition schedule item added 12.1	29-May-19	
1.21	21-May-19	*14.1 As detailed in our methodology we have allowed to cast the concrete piers insitu rather than precast. The design is more suited to cast them insitu. We would construct steel moulds that would be secured to the foundation slab and then propped.*	Agree provided architectural finish is achieved.	Piers will be constructed with the same F4/P5 finish as detailed below item 1.34	29-May-19	
1.22	21-May-19	*15.4 Our stone supplier Design Source has allowed to supply G3027, which is subject to availability at the time of order. The material is currently in short supply due to the government currently upgrading factories around the G3027 quarry.*	We will work with stone supplier to meet quality requirements and understand where design/detailing can be adapted to reduce risk. We are happy to investigate alternative stone types with supplier to reduce this risk. Please advise current stone cladding supply and install allowance in the event an alternative is to be sourced.	We believe that you are in discussions already with design source and they have provided you with an alternative?	29-May-19	
1.23	21-May-19	*15.5 Design Source require a prepayment of 50% before the order will be placed with their supplier.*	Please advise if samples are available for viewing in NZ.	We are waiting for design source to confirm what samples are available in NZ	29-May-19	

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
1.24	21-May-19	*16.2 The sulphate resistance cement contains a blend of fly ash, which may slow the strength gain and inevitably full strength may only be determined at 56 days.*	The contractor is responsible for mix design. The contractor may elect to use alternative additives to achieve sulphate resistance.	BPC - removed tag	29-May-19	
1.25	21-May-19	*16.3 The GI specification is very onerous, BPC have worked with Tonkin and Taylor in Christchurch on several GI project over the years and have together developed specifications and testing methods that would be more suitable for this project. There would be a considerable cost saving if the previously developed specification and testing could be used.*	The typical application of cement stabilisation in Christchurch is to prevent liquefaction / settlement in the foundation. The RLC boardwalk design incorporating cement stabilisation and micropiles to support a lakebed structure subject to waves. The two design approaches are not comparable. As noted in response to Tag 9.2 the cement stabilisation consistency and micropile capacity is critical to the design.	BPC - removed tag	29-May-19	
1.26	21-May-19	*16.4 BPC's programme is based on being able to track on the previous days stabilised material, if the stabilised material does not gain enough strength due to the fly ash content then standing time may be charged.*	The time for curing for cement stabilisation will be based on the cement dosing rate and the Contractor is best placed to assess plant access requirements. This item can be managed through contractor methodology and quality assurance. Please remove this tag.	BPC - removed tag	29-May-19	
1.27	21-May-19	*16.5 Field trial testing (table 3-3) and stabilised material verification testing (table 3-4) – borehole samples in 2MPa improved soil will not be achievable as the cores will disintegrate. BPC propose to use dual tube soil sampling methods to obtain core samples from the freshly mixed soil layer for subsequent laboratory testing. BPC have allowed for the full suite of testing as per (table 3-3), however due to what appears to be a double up, have only allowed for the insitu sampling and laboratory testing from (table 3-4).*	Core samples should be recovered using rotary coring techniques with a diamond coring bit. Provided the stabilised soil has cured sufficiently to achieve a compressive strength of 2MPa, and drilling works are undertaken with due care, damage to the core should be minimal. There is no double up? Table 3.3 for the field cell and Table 3.4 for the 'production' testing. Rows for "Strength – Laboratory Testing" the sample is obtained from a freshly mixed sample on site and placed in cylinders for subsequent testing. Rows for "Insitu sampling and Laboratory Testing" the sample is obtained from a partially cured insitu material for subsequent laboratory testing.	BPC - removed tag	29-May-19	
1.28	21-May-19	*17.1 We believe that it would be considerably cheaper to excavate the material from within the sheetpile coffer dam, run it through a pug mill mixed with cement and place back in the excavation or completely replace the excavated material and replace with low strength concrete.*	T+T may consider this approach an acceptable alternative subject to the following comments and agreement on the methodology, consistency of end product, and construction risk allocation. Initial comments are: • Contractor's temporary works will need to allow for dewatering to depth. Would likely require sheet piles both sides on Stage 1A – will need sheet piles both sides in Stage 1 anyway. Contractor will need to consider issues with potential issues with hot ground. • Our experience with ex-situ (i.e. pug mill) mixing is that the density is not as great as insitu mixing. The density of the material is design critical so will need to be assessed. Preference would be concrete rather than ex-situ mixing. However would need to use sulphate resisting cement. Please provide an indication of potential cost saving associated with this.	We are currently working though the details and costs of this alternative and will have something through to you in the next couple of days. We have reviewed the costs for the proposed alternative ground improvements and it has worked out to be more expensive that the designed insitu mixed option, reasons being; - Longer sheetpiles will be required, with a waler system - Excavating, handling and disposal of 6500m³ of lakebed material is challenging and expensive - Additional dewatering will be required - Low strength sulphate resistant concrete is expensive / m³	29-May-19	
1.29	21-May-19	*17.2 The sheetpile lengths and temporary works design would need to be amended to allow for the excavation and it's likely that walers would be required.*	Should be included as part of tenderers cost as comment in 17.1	As above	29-May-19	
1.30	21-May-19	*18.1 No bio oil has been allowed for in the machinery, all machinery working on site will be new and well maintained. Services and refuelling will take place at least 20m away from the lakefront and within a bunded area.*	Contractor to comply with any relevant resource consent conditions	ok	29-May-19	
1.31	21-May-19	*18.2 We have made no allowance to test or undercut unsuitable subgrade material. If required, this will be treated as a variation and dayworks rates would be applicable.*			29-May-19	2.2
1.32	21-May-19	*19.1 We have allowed a provisional sum of $100k (item 1.10) for sampling and prototypes, upon award we would confirm the requirements with the designers and provide detailed pricing. RLC and the designers can then confirm which samples and prototypes they would like us to trial.*	The samples schedule lists all architectural samples required. The list includes a variety of finishes to the same concrete specifications which will limit the number of pours required. Samples also include precasting, the sample can simply be the first pour for these elements but they may be rejected if they do not meet the specified quality requirements. Our thoughts are that $100k is too much and covering the current schedule is manageable below this amount. Please review this sum and advise if a fixed price for the sampling schedule can be provided.	At this stage we don't believe that we can offer an accurate fixed price for the sampling and prototypes. There are currently too many variables and as per tags / clarifications item 22.1 we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. We would prefer that the $100k provisional sum item remained so that there was sufficient coverage here.	29-May-19	4.5
1.33	21-May-19	*20.1 We have made no allowance to undertake vibration monitoring. If required by the resource consent, engineer or a complaint, then the cost to undertake vibration monitoring will be treated as a variation.*	There will be vibrations generated from both installation of steel sheet piles and crane / plant movements. The level of vibration is dictated by the construction methodology and plant. The contractor is to allow to comply with any consenting requirements.	The resource consent attached to clarification C001 doesn't reference vibration monitoring. T & T specification item 1.5 states that vibration monitoring shall be undertaken by the contractor when; - Required by the resource consent - In the opinion of the engineer, construction operations are likely to result in (or are likely resulting in) the vibration limits being exceeded at the site boundaries or - If any vibration complaints are received from neighbours If required for one of the above reasons, 1 x seismograph unit will cost $2,710/week + GST to hire, this includes setting up and monitoring by our site engineer. The unit will also be fitted with a flashing light to indicate if the max limits has been exceeded. item 12.2 added to the SOP	29-May-19	
1.34	21-May-19	*21.1 We have made allowance for an off the form finish from our steel moulds, in accordance with NZS3114 clause 105.4 (F4 finish). This finish is not completely free of blemishes, blow holes and mould joints maybe visible.*	F4 is generally not to the required standard. Please note F5 & F6 is specified and needs to be allowed for. F4 finish may be applicable to low visibility areas as specified.	The underside of the units which is not visible will be finished as an F4/F5 off the mould surface. A U3 trowel finish has been allowed elsewhere. This finish is not completely free of blemishes, blow holes, and moulding joints maybe visible.	29-May-19	
1.35	21-May-19	*21.3 We have only made allowance for tolerances and concrete tests in accordance with NZS3109. We have not made allowance for any additional samples or trial batch tests.*	Samples are to be provided to meet the design and quality specifications. Provided the sample meets this they will be accepted. The principal should not be charged additional costs if the contractor does not meet the design or spec.	Item 12.5 has been added for manufacturing one sample of all the major items, which should be a good enough reflection of the finish to be expected of all the different variants. If the samples are accepted they will be used in the permeant works and item 12.5 wont be claimed.	29-May-19	
1.36	21-May-19	*21.5 We have allowed to use one (adjustable) mould to achieve all the inner deck curve profiles and one (adjustable) mould to achieve all the outer deck curve profiles. The procurement of additional moulds will incur additional costs.*	The principal shall not be responsible for replacement or new moulds. Please remove this tag.	Tag removed	29-May-19	
1.37	21-May-19	*21.6 For the 3m wide and 5m wide boardwalk decks as well as edge units, we have allowed for the recess underneath to be a local recess to the pile head only, and not tapered.*	Please provide a mark up of this detail for review, initial thoughts are that it is an acceptable change.	Please see the attached marked up detail	29-May-19	
1.38	21-May-19	*21.7 We have allowed for 150 kg/m3 of reinforcing steel in the pre stressed decks.*	Precast Panels are a design build item. The contractor shall allow for the required amount of reinforcing to deliver the work. Please remove this tag.	Tag removed	29-May-19	

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
1.39	21-May-19	*22.1 Due to the varying specified mix designs and their makeup complexities we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. So, our tender allows for the following plain concrete mixes;* ***Mix*** ***Tender Rate*** *25MPa 19mm std str AA2519AW $231.60/m³* *25MPa 19mm std pump AP2519AW $235.20/m³* *50MPa 19mm 8% microsilica super pump mix AP5019GSW $337.20/m³* *Factors of concern from our concrete supplier (Firth Concrete) are as follows;* *- Sourcing specified products and aggregates (some of the aggregates specified may no longer be available or expensive to source)* *- Plant contamination (there would be a considerable cost associated with cleaning the plant to ensure there is no contamination during mixing, this would need to be done prior to each pour because a common plant would be used)* *- There are too many trial mixes required and to undertake would be expensive, sourcing and mixing small quantities is costly. Ideally the number of trial mixes required would need to be reduced.* *- Storage and handling of specific aggregates and products can be problematic in a common batching plant.* *All the above can be worked through and a suitable solution can be agreed. If we become the preferred contractor, we propose to work with the designers to undertake trials and confirm mixes and agree extra over concrete rates to the above.*	All structural concrete for the boardwalk, foundations, retaining walls, terracing and footpaths where reinforcing is incorporated shall be 50MPa for durability. If there are references to the 25MPa mixes in the drawings or specification these should not be used for any structural concrete. Please advise a) if and where this reference to 25MPa comes from and b) confirm with the Contractor where he has allowed for 25MPa concrete, and where 50MPa to ensure there is no inconsistency in the tender documentations.	Drawing 4010 1_0.100 Rev F - Insitu concrete notes, item 5 refers to 25MPa concrete. Isthmus specification 3101 Concrete works also references various strenth concrete. T & T specification, section 7 concrete works refers to 50MPa concrete. So there is some inconsistency. 25Mpa has been allowed for in the following areas; Paving P01, P02, P03, Edging E02,E03,E04, E07 tukutuku foundations, E08, W501, Boardwalk B04, B05, large & small tukutuku bridge foundaions TBL01, TBL02, TBL 03, TBS01, TBS02, TBS03 50MPa concrete has been allowed for in the following areas; All precast items, Piers and foundations, retaining walls, E06, LW01, LW02,LW03,LW04, boardwalk B01, B02, B03, stone pavilion foundation We would also just like to highlight that our tender only allows for plain grey concrete, as per our tender tag 22.1 no allowances have been made for the specified colours or aggregates.	29-May-19	4.6
2						
2.1	22-May-19		Please advise if you have made any allowance for general signage installation. If not please allow a provisional sum of $40,000 for these works.	No signage allowed for, item 12.3 added to the schedule of prices	29-May-19	5.9
2.2	22-May-19	*18.2 We have made no allowance to test or undercut unsuitable subgrade material. If required, this will be treated as a variation and dayworks rates would be applicable.*	Please delete this tag. Please make provisional sum allowance for $50,000 for removal/ replacement of any unsuitable materials or objects.	Tag removed Item 12.4 added to the SOP	29-May-19	
2.3	22-May-19	*3.1 For the purpose of valuing variations our onsite over heads will be 10% and offsite overheads and profit 15%. Working day rate $2650.00/day*	On review of the onsite and offsite costs proposed, we believe this is unreasonable to incur 25% cost on variations. We request this be reviewed as it is substantially higher than other providers. We query why offsite cost are higher than onsite.	Typically our onsite overheads are between 10-20% this is because we are a self performing contractor who manage our own staff and resources, you may be comparing our rates to a building contractor who predominantly engage subcontractors to undertake the works, so have significantly lower overheads. Offsite overheads and profit are higher than onsite because they cover HEB Constructions head office, support services, senior management etc as well as profit.	29-May-19	4.7
2.4	22-May-19		P&G costs appear high, specifically cost for contract establishment and administration. Is there the ability to review this pricing for	1.1 Establishment, includes; - Site facilities, office, lunch room, toilets etc, including transport setup and de-mob costs - Mob / de-mob of plant required for the works - Subcontractor establishment costs - Temporary works - Transport of materials to / from site - Additional labour costs - Materials not included elsewhere - Tools 1.2 Construction Administration, includes; - Project Manager - Site Engineer - Site Supervisor - Vehicles - Phones, computers, stationary - QA testing	29-May-19	
2.5	22-May-19		Even with revised detailing, tukutuku bridge costs are very high in relation to anticipated costs and comparative pricing. Can you please review this pricing or provide a breakdown for review.	We have reviewed the Tukutuku bridge items and believe the costs are fair. Even with the revised design they are intricately detailed and the bridges have high material and labour costs.	29-May-19	
2.6	22-May-19		Items 8.4.1 & 8.4.2 include P & G sums of $682K and $227K respectively, we assume this would be subcontractors P & G. Main contractors P & G are 16% of construction works, can HEB confirm that there is no double allowance for it as these two items may not need as much allowance/supervision as compared to the rest of the works.	We can confirm that there isn't a double up here	29-May-19	
3						
3.1	26-May-19	*17.2 We have been advised by a few timber suppliers that the detailed tukutuku decking timber will waste a considerable amount of timber and there is a risk that the exposed grains may split. So, our timber supplier has indicated that they won't warranty the product as its currently designed.*	It has been noted that the current small Tukutuku details require a U shaped cut out timber decking that has significant wastage and is a risk of edge sections separating. We have updated the details to mimic the changes made to the larger Tukutuku Bridge. The relevant 800-1500mm tukutuku decking details have been revised to separate the edge form from the decking boards. This reduces the wastage of timber in removing cut outs and adds additional fixings to the edges. The drawing revisions include the following; - Separating the edge timber from the decking boards to remain fixed in from the side. - Increase in fixings with decking timbers now fixed from above. Revised drawings are: 1_3.607, 1_3.608, 1_3.609, 1_3.610, 1_3.611, 1_3.618, 1_3.619 and 1_3.61 20 Tenderers are requested to price the revised details as an alternative to the tender details.			
3.2	26-May-19	*18.4 No guarantees have been allowed for, guarantees and warrantees listed in 1237, section 2 are for residential buildings and aren't applicable.*	The following warranties are requested: - Insitu Concrete Works: 1 year - Precast Concrete Works: 1 year - Prestressed D&B elements: tbc - General Concrete and paving: 1 year - Timber Decking and boardwalks: 1 year - Timber edging: 1 year - Light fittings: 2 years - Light fitting led drivers: 5 years - Lighting controls: 2 years - Distribution boards: 2 years - Power cables: 2 years - Power outlets: 2 years - Electrical workmanship: 1 year - Stone work: 1 year - Furniture: 10 years, as per spec - Paint: 10 years, as per spec.			

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
4						
4.1	2-Jun-19	*9.6 We have allowed to take 1 x set of 3 grout samples per day*	Your item 12.6 Additional grout samples $171,072 appears high: As per clarification #001 - we will likely only require 2 sets of 4 samples per day (#No. samples per day). Considering your two-week programme for these works this equates to 112 samples in total (including weekends). 112 samples @ $118.80 per sample equates to $13,306 Please advise how you calculated the 1440 samples required?	Please note that there were 2 programmes submitted with our tender, one for each of the stages (stage 1 and 1a) Stage 1, Micro Piling (Task 89) - 2 weeks and stage 1a, Micro Piling (Task 22) - 3 weeks, that's a total of 5 weeks for micro pile installation T & T specification, section 4.6.3 and tender clarification C001/1.12 states that the following testing is required; - Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used, and - Not less than 1 set of 4 test samples for each additional batch of grout mixed. 5 weeks x 6 days x 8 samples per day = 240 samples We have calculated that there are a total of 493 micro piles, and each pile has 53L of grout, that's a total of 26,129L of grout required. Each batch makes a volume of 77L, 26,129L / 77L = 340 batches required to complete the works. On average we will be batching 12 times per day, the first batch will be sampled as above "2 sets of 4 samples for the first batch used" the remaining batches will be sampled as above "1 set of 4 samples for each additional batch of grout mixed" 340 batches total - (30 days x 1 batches) = 310 batches 310 batches x 4 samples = 1240 samples 1240 + 240 = 1480 samples total Email received 11/06/19 provided a revised specification which reduced the sampling requirements, item 12.6 has been reduced accordingly.	12-Jun-19	
4.2	2-Jun-19	*9.7 Standing time for delays outside of our control will be charged at $475.00 +GST per hr per rig.*	This tag appears to be a sub-contractor tag. We cannot accept this tag. It is main contractors' responsibility to manage any delays within your programme. Please remove this tag.	Tag removed	6-Jun-19	
4.3	2-Jun-19	*12.1 Our tender allows to use Evergreen Landcare to undertake the landscaping works. At the time of tender, they provided HEB with a complete package, including maintenance as per the specification (scheduled items 9.13 & 9.14). If you wish to use Infracare then the landscaping works would cost an additional $34k + GST. Infracare would also need to supply maintenance costs.*	please advise cost saving available to revert to 1 year maintenance period for landscaping and planting	There would be a costs saving of $80,447.76, if scheduled item 9.14 was reduced to 12 months, this has been amended in our revised SOP	12-Jun-19	
4.4	2-Jun-19	*15.8 Prices are based on Forex rates of US$0.665 and €0.581*	The works are being procured as a Fixed price Lump Sum contract to NZS3910, tenderers are expected to manage procurement of offsite materials and timing with exchange rates. Tag to be removed.	Tag removed	6-Jun-19	
4.5	2-Jun-19	*19.1 We have allowed a provisional sum of $100k (item 1.10) for sampling and prototypes, upon award we would confirm the requirements with the designers and provide detailed pricing. RLC and the designers can then confirm which samples and prototypes they would like us to trial.*	Please find attached revised sample schedule (1_0.303 Samples Schedule Sheet 1, 1_0.304 Samples Schedule Sheet 2) Please review this sum and advise if a fixed price for the sampling schedule can be provided..	The specified stevenson mixes are confidential and not available in Rotorua, alternative mixes would need to be agreed. We have reviewed the sampling schedules provided with C004 and have provided a lump sum price (item 1.10) for the following mixes. Please note this item now includes the precast units and excludes pavilion samples PA01 & PA02. **PS01:** Firth Alternative Mix to Stevenson's lacks Mix. 40Mpa 19mm Limestone Pebble 80kg. 19mm Awatoto Pebble and Shell Mix. Peter Fell 172 Oxide dosed at 20kg per m3. **PS02:** Firth 40Mpa 35% 10mm Limestone Chip, 65% 10mm Greywacke Chip. **PS03:** Firth 50Mpa 10mm Greywacke Chip Mix. Permacolour F9635 Black Oxide dosed at 6kg per m3. **PS08:** Firth 50Mpa 10mm Greywacke Chip Mix. Permacolour F9635 Black Oxide dosed at 12kg per m3. **PS12A:** Firth Alternative Mix to Stevenson's Te Oneroa Mix. 50Mpa 13mm Otorohonga Rounded Pebble Mix. Peter Fell 172 Oxide dosed at 21kg per. **PmS312B:** Firth Alternative Mix to Stevenson's Awariuku Mix. 50Mpa 13mm Awatoto Pebble and Shell Mix. Permacolour F9635 Black Oxide dosed at **6E35g0 p1e:** rF mirt3h Alternative Mix to Stevenson's Hawkes Bay Mix. 50Mpa 50% 13mm Awatoto Pebble, 50% 10mm Greywacke Chip Mix. Peter Fell 518 Oxide dosed at 21kg per m3. **ES02:** Firth 50Mpa 10mm Greywacke Chip Mix, plain grey concrete **WS01:** Firth 50Mpa 10mm Greywacke Chip Mix, plain grey concrete	6-Jun-19	
4.6	2-Jun-19	*22.1 Due to the varying specified mix designs and their makeup complexities we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. So, our tender allows for the following plain concrete mixes;* ***Mix*** ***Tender Rate*** *25MPa 19mm std str AA2S19AW $231.60/m³* *25MPa 19mm std pump AP2S19AW $235.20/m³* *50MPa 19mm 8% microsilica super pump mix AP5019GSW 337.20/m³* *Factors of concern from our concrete supplier (Firth Concrete) are as follows;* *- Sourcing specified products and aggregates (some of the aggregates specified may no longer be available or expensive to source)* *- Plant contamination (there would be a considerable cost associated with cleaning the plant to ensure there is no contamination during mixing, this would need to be done prior to each pour because a common plant would be used)* *- There are too many trial mixes required and to undertake would be expensive, sourcing and mixing small quantities is costly. Ideally the number of trial mixes required would need to be reduced.* *- Storage and handling of specific aggregates and products can be problematic in a common batching plant.* *All the above can be worked through and a suitable solution can be agreed. If we become the preferred contractor, we propose to work with the designers to undertake trials and confirm mixes and agree extra over concrete rates to the above.*	T&T specification is to take precedence and be allowed for for all concrete MPA requirements. Please allow for any specified colours or aggregates.	As above, we are expecting pricing from Firth concrete early next week. We have revised our tender to allow for colours and aggregates, please see the attached spreadsheet detailing the mixes that have been allowed for. Please note the following: - Specified stevensons mixes are confidential and not available to Firth or Allied concrete in Rotorua - Mpa strenghts are listed below, mixes containing lime aggregate may not achieve 50MPa - All mixes include 8% microsilica - mixes are not designed for pumping	06/06/2019 12/06/2019	
4.7	2-Jun-19	*3.1 For the purpose of valuing variations our onsite over heads will be 30% and offsite overheads and profit 15%. Working day rate $2650.00/day*	We would request further discussion in this item to better understand services provided within these costs	ok, we can discuss this further.	6-Jun-19	
5						
5.1	24-Jun-19		Please see attached revised details for the stone cladding to the pavilion. Stage 1 & 1a_1_3.401 Pavilion Plans_Rev C Stage 1 & 1a_1_3.402 Pavilion Details_Rev C Stage 1 & 1a_1_3.403 Pavilion Patten Layout_Rev C Stage 1 & 1a_1_3.404 Pavilion Cutting Plan_Rev C The revised pavilion details attached reduce the stone to 100mm thick with recessed edges to the sides and steps. stone is to be changed to Black Granite. Please advise cost saving for amended design.	We are waiting on suppliers and subcontractors to respond with revised pricing. Their initial response was that it was unlikely to be much cheaper with the level of detail and number of curved pieces.	3-Jul-19	
5.2	24-Jun-19	*2.1 Our tender is based on the enclosed programme, completing stage 1 first before moving onto stage 1a. Tukutuku bridges shown in stage 1 would be constructed in stage 1a with the other tukutuku bridges.*	Please provide an optimised programme that completes the works in one single stage and reduces time on site and associated costs. Please advise any associated cost savings..	Please find attached our updated construction programme, to complete the works as 1 package. The overall construction period hasn't reduced due to the quantum of work still being the same. The main cost savings are around subcontractor establishments being optimised. We have also added 4 weeks of contractors float (Task 111) Please see the attached updated SOP which reflect the cost savings	3-Jul-19	
5.3	24-Jun-19	*19.1 We have allowed a provisional sum of $100k (item 1.10) for sampling and prototypes, upon award we would confirm the requirements with the designers and provide detailed pricing. RLC and the designers can then confirm which samples and prototypes they would like us to trial.*	The architects have further refined/ reduced the sampling requirements in order to reduce cost and to align with finishes available via Firth. Please see attached revised drawings: 1_0.301 Paving, Edge & Wall Schedule 1_0.303 Samples Schedule Sheet 1 1_0.304 Samples Schedule Sheet 2 Also note the following in regards to sampling: Tukutuku timber edge profiles and finish - recommend we agree with contractor to inspect first section; no prototype required. Seating bench and table - recommend we agree with contractor to inspect elements throughout fabrication ie, first steel section, first cut of timber, first finished seat. Light poles - recommend we agree with contractor to inspect first finished pole Ladder - recommend we agree with contractor to inspect first ladder Bollard - this is a simple design, no prototype needed. Please advise any associated cost savings.	The sampling schedule forwarded with C005 appears to have the same quantity of sampling required as per the schedule sent with C004. The schedule has been changed to match the available mix designs offered by HEB in C004. Item 10.1 in our schedule of prices allowed for the concrete paving, edge beams, wall, precast boardwalk and decking and aggregate samples only as per the schedules provided with C004. There would be a cost saving of $34,333.20 if the precast samples can be used in the permanent works. Tukutuktu timber edge profiles and finish - Agreed, there was no allowance for prototypes in our tender offer Seating bench and table - Agreed, there was no allowance for prototypes in our tender offer Light poles - Agreed, there was no allowance for prototypes in our tender offer Ladder - Agreed, there was no allowance for prototypes in our tender offer Bollard - Agreed, there was no allowance for prototypes in our tender offer Savings of $34,333.20 if the precast samples can be used in the permanent works. Item 1.10 has been updated to reflect the cost saving.	3-Jul-19	

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
5.4	24-Jun-19		As a further cost saving option; please advise impact on programme and cost for a reduction in the pavilion jetty length by a 5m segment. Depending on overall project cost the client may elect to reduce this jetty length by 5-10m. Your sum provided should therefore be able to be applied as a multiple of 5m depending on final length. We would anticipate reduction in 5m segments would result in reduction of: - Board walk structure - Pilings, footings, micro piles - Reduced concrete stabilisation - Reduced programme - Reduced dewatering, damming & P&G cost - Reduced proofing & testing	The cost saving to reduce the pavilion jetty would be $82,500.00 per 5m segment, this rate can be applied in multiples of 5m.	3-Jul-19	
5.5	24-Jun-19		Please provide the following additional information to allow identification of further cost saving opportunities: - Please provide a breakdown of electrical costs. - Please provide a breakdown of current soil mixing trial costs	Our electrical subcontractor said its difficult to provide a detailed breakdown, there are items in each stage that relate to each other and if removed would affect the overall system. As per our tender tags (item 10.2) our offer includes future stages 1,2 & 3 works, which are all required for stage 1 & 1a to operate. Below is a high level breakdown of item 10.1 - Electrical; Description LED Strip Lighting Supply and Install 124,800.00 Type R1 Lights Supply and Install 40,800.00 Type R2 Lights Supply and Install 10,200.00 Switchboards Supply and Install 36,600.00 Mains Cabling and Lighting Cabling 40,800.00 Ducting 44,400.00 Pull pits / civil work (digging and backfilling) / earthing etc, Junction Boxes, enclosures for LED Drivers, wiring and labour for drivers, labour to recess lighting into structures. 163,964.40 upgrade to s/s cabinet 13,735.20 Aluminium extrusion 14,229.60 Total 489,529.20 BPC have confirmed that the following testing is included in scheduled item 8.4.9 Tests Required: - 14 Borehole Samples - 66 CBR - 92 UCS - 28 Triaxial - 92 Bulk Density	3-Jul-19	
5.6	24-Jun-19		We can advise that as built drawings for electrical work and any underground services are required. Please advise any associated cost savings	As built drawings have been allowed for in our tender offer, no cost saving	3-Jul-19	
5.7	24-Jun-19		We note the large cost to remove and store cobble stones. Please advise if there is any saving to the rate if these were to be dumped.	yes there would be a cost saving to dump the existing cobblestones, which equates to $41,056.00. Items 2.1.1 & 2.2.1 have been updated, in the attached SOP.	3-Jul-19	
5.8	24-Jun-19		Please advise of any impact on time and cost if the required soil mixing trial were to be completed precontract.	As discussed at the meeting 17/06/19, undertaking initial testing of the existing soil would confirm the required cement content (kg/m³). There would be a price adjustment if the required kg/m³ was above or below the tender allowance of 300kg/m³	3-Jul-19	
5.9	24-Jun-19		Please revise provisional sum allowance to $20,000.	item 12.3 has been reduced to $20,000	3-Jul-19	
5.10	24-Jun-19	*12.2 Trees identified to be removed will have their stumps ground to a max depth of 300mm.*	For the avoidance of doubt, the contractor is required to allow to remove any stumps necessary to undertake the contract works	Agreed, where stumps clash with the permanent works they will be fully removed. No additional costs.	3-Jul-19	
6						
6.1	3-Jul-19		Specifications for concrete paths P01 & P03 as per the attached mark-ups have been reduced to provide cost savings. Pavement thickness can be reduced for 200mm to 150mm. Reinforcement mesh can be reduced from 335 mesh to 665 mesh. Please allow for these items. Please also provide cost option to utilise 30MPA concrete for the below items in lieu of the specified 50MPA: - All concrete paving outside of the lake, types P01 and P03. - All 200x200 and 200x300 garden edge beams. - Concrete seat walls.	sheduled items 4.1 & 4.3 have been updated to reflect the change in pavement thickness. scheduled items 4.1, 4.3, 5.1 & 5.2 have been amended to allow for 30MPa concrete. The new rates exclude microsilica and would not comply with XA3, as per NZS3101. please see the below updated spreadsheet, detailing the tendered mix designs and Mpa strengths for each scheduled item.	8-Jul-19	
6.2	3-Jul-19		Please provide a breakdown of electrical costs for review.	refer to HEB response to C005, item 5.5	8-Jul-19	
7						
7.1	30-Aug-19		Please find attached updated finishes schedule to align with previous communication; • IGL_4010_Rotorua Lakefront_1_0.301 Paving and Wall Schedule_Rev H • IGL_4010_Rotorua Lakefront_1_0.303 Samples Schedule Sheet 1_Rev D Note key change to: 10mm Greywacke Chip: Peter Fel 651 Oxide Peter Fel Natural Sealer Please confirm concrete strength of all elements should be 50MPa except elements noted in NTT 006 which have been revised to 30MPa	Please see the below updated spreadsheet, detailing the tendered mix designs and MPa strengths for each scheduled item. Please note that some of these may vary from the revised schedule provided in C007. As previously mentioned its not possible to achieve 50MPa with limestone chip. As previously mentioned we have allowed for F4 finish in lieu of F5	13-Sep-19	
7.2	30-Aug-19		Please find attached outline plan of works approval for information	Received thanks	13-Sep-19	
7.3	30-Aug-19		The contractor should be aware that although Hail reports advise no soil contamination in the immediate area, we are aware the previous history of the site presents this as a risk when excavating at lower levels (possibly 1.5- 2m deep). In the event that any removal of contaminated soil is required to an authorised tip we request the following; - Please advise a suitable provisional sum as a contingency should this be required. - Please advise rates for disposal. The client shall arrange for an independent testing to verify soil types if required.	Without knowing the potential scope of works its difficult to quantify the value, we suggest a provisional sum of $50k is added. Provisional sum added (scheduled item 12.7)	13-Sep-19	
7.4	30-Aug-19	*4.4 Resource Consent - As per our methodology we have allowed to install sheetpile coffer dams and use submersible pumps to dewater the coffer dams. We have also allowed for standard silt fences to control water runoff; temporary stockpiles will be covered in filter cloth and accessways will be stabilised with metal. Additional requirements to meet the resource conditions will be treated as a variation.*	Please find attached draft resource consent conditions, along with record of informal correspondence with current understanding of status inputs to be provided by the client. Please allow to comply with all contractor managed aspects of the resource consent conditions.	Scheduled item 1.17 has been amended accordingly.	13-Sep-19	
7.5	30-Aug-19	*4.2 We have made no allowance to obtain building or resource consents, this is to be arranged prior by RLC, including the costs associated with these consents. We have allowed for the site by RLC, including the costs associated with these consents. We have allowed for the site management of these consents including arranging the relevant inspections.*	Please find attached building consent compliance schedule for works in the lake - please confirm you have allowance within your proposal for management of requirements of the consent.	Our tender allows for arranging the relevant inspections, liaison and supervisor of the inspectors while on site. We have made no allowance for fee or costs associated with the building consent.	13-Sep-19	
7.6	30-Aug-19		We understand Heb propose to substitute the original concrete stabilization contractor (Brian Perry), with Highway Geostabilization (soon to be GSI). A number of queries where raised by Heb in respect to this pricing, following further discussion, please see attached response to queries raised. We note client expectation is that this substitution shall result in a cost, programme and risk reduction to the project. Also due to the relatively new nature of the substitute subcontractor we would like to reiterate that Heb needs to satisfy themselves as the ability of the revised subcontractor. Please advise final pricing and impact to programme etc, and confirmation of Heb endorsement that the revised subcontractor has been suitably vetted.	Yes correct our revised pricing allows to use Hiway Geostabilization Thanks, this is reflective of what was discussed at the meeting. Please find attached our updated schedule of prices and programme. Unfortunately there isn't a time saving, this is mainly due to the testing regime. And the fact that the testing, ground improvements and micro piles are all on the critical path. HEB have under taken due diligence and are comfortable using Hiway Geostabilizations, they have provided us with track record and relevant experience information. (which we can provide if necessary) We have also worked successfully with them in the past on the access to water project.	13-Sep-19	

Clarification #	Date Issued	Tender Tag reference	Clarification Description	Contactor Response	Date Responded	Further response
7.7	30-Aug-19		Please see attached revised pavilion design. • 1_1.003 Stage 1 Temporary Works Plan - Sheet 3 • 1_1.100 Stage 1 General Arrangement • 1_1.103 Stage 1 Surface Finishes - Sheet 3 • 1_1.203 Stage 1 Planting Plan - Sheet 3 • 1_1.303 Stage 1 Furniture & Edging - Sheet 3 • 1_1.403 Stage 1 Levels Plan - Sheet 3 • 1_3.401 Pavilion Plans • 1_3.402 Pavilion Details • 1_3.403 Pavilion Stone Pattern Layout • 1_3.404 Pavilion Elevations & Wall Cutting Plan • 1_3.405 Pavilion Stone Cutting Plan • 1_3.508 3000mm Boardwalk Details • 1_3.516 3000mm Boardwalk B06 Details Sheet 1 • 1_3.517 3000mm Boardwalk B06 Details Sheet 2 • 1_3.518 3000mm Boardwalk B06 Details Sheet 3 • 1_3.519 3000mm Boardwalk B06 Details Sheet 4 • 1_3.520 3000mm Boardwalk B06 Details Sheet 5 • 190826_IGL_4010_Rotorua Lakefront Development_Boardwalk B06 Details.dwg • 190826_IGL_4010_Rotorua Lakefront Development_Landscape Master.dwg https://www.dropbox.com/sh/l0foxa8ithcjzzc/AADPztQtXKaUHQRrvYd-Uqaa?dl=0 The revised pavilion design attached reduce the scope of the pavilion significantly. Updated Tonkin & Taylor engineering drawings are expected to be issued mid next week. Please advise cost and programme saving for amended design.	Please find attached our updated schedule of prices, which refects these changes	13-Sep-19	
7.8	30-Aug-19		To formalise previous discussions and expectations regarding weather delays, it is our expectation that the contractor has suitably allowed for any inclement weather that may occur throughout the course of the project. No additional costs shall be applicable for delays as a result of weather.	This is new to us, we suggest that a suitable number of wet weather days is agreed. Then as per NZS3910 additional wet weather days over and above the allowable will be claimed as an extension of time without costs.	13-Sep-19	
8						
8.1	5-Sep-19		Please find attached updated Tonkin & Taylor Engineering drawings to align with previous updated isthmus drawings regarding the revised pavilion design: • 1007467.3000-101 Rev C • 1007467.3000-200 Rev B • 1007467.3000-203 Rev B • 1007467.3000-252 Rev C • 1007467.3000-301 Rev B • 1007467.3000-309 Rev B • 1007467.3000-327 Rev A • 1007467.3000-412 Rev C • 1007467.3000-370 Deleted • 1007467.3000-371 Deleted • 1007467.3000-372 Deleted • 1007467.3000-373 Deleted Please advise cost and programme saving for amended design.	Please find attached our updated schedule of prices, which refects these changes	13-Sep-19	

Veros PROPERTY SERVICES

YOUR PROPERTY BUSINESS & IN THE RIGHT HANDS

ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment				
Contractor:	HEB Construction	**Date:**		5th September 2019	
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**		008	
Email:	Andrew.Hiscox@heb.co.nz				
Attention:	Andrew Hiscox				
Subject:	**Price Clarifications – Various**		**Pages:**	1 + attachments	

Price Clarification Details:

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description
8.1	N/A	Further to Pricing Clarification 007.7	Please find attached updated Tonkin & Taylor Engineering drawings to align with previous updated isthmus drawings regarding the revised pavilion design; • 1007467.3000-101 Rev C • 1007467.3000-200 Rev B • 1007467.3000-203 Rev B • 1007467.3000-252 Rev C • 1007467.3000-301 Rev B • 1007467.3000-309 Rev B • 1007467.3000-327 Rev A • 1007467.3000-412 Rev C • 1007467.3000-370 Deleted • 1007467.3000-371 Deleted • 1007467.3000-372 Deleted • 1007467.3000-373 Deleted Please advise cost and programme saving for amended design.

Signed [signature]

Craig McMichael
Veros Property Services

Contact No's: **DDI:** **07 579 9747**
Mobile: **027 508 9625**
Email: **craig@veros.co.nz**

ROTORUA LAKES COUNCIL
ROTORUA LAKEFRONT DEVELOPMENT
STAGE 1 AND 1A
Tender Issue

DRAWING	Rev	Title
GENERAL INFORMATION		
1007467.3000-100	A	SITE LOCATION PLAN
• 1007467.3000-101	C	DRAWING LIST
1007467.3000-110	A	EXISTING SITE PLAN
BOARDWALK, BRIDGES AND LAKE WALLS		
• 1007467.3000-200	B	STAGE 1 AND 1a LAYOUTS
1007467.3000-201	A	LAYOUT - SHEET 1 OF 3
1007467.3000-202	A	LAYOUT - SHEET 2 OF 3
• 1007467.3000-203	B	LAYOUT - SHEET 3 OF 3
EARTHWORKS - STAGE 1		
1007467.3000-250	B	CUT FILL PLANS - SHEET 1 OF 3
1007467.3000-251	B	CUT FILL PLANS - SHEET 2 OF 3
• 1007467.3000-252	C	CUT FILL PLANS - SHEET 3 OF 3
BOARDWALK, BRIDGES AND LAKE WALLS		
1007467.3000-300	A	DESIGN ALIGNMENTS - WESTERN EXTENT
• 1007467.3000-301	B	DESIGN ALIGNMENTS - EASTERN EXTENT
1007467.3000-302	A	ALIGNMENTS AND DETAILS - SHEET 1 OF 8
1007467.3000-303	A	ALIGNMENTS AND DETAILS - SHEET 2 OF 8
1007467.3000-304	A	ALIGNMENTS AND DETAILS - SHEET 3 OF 8
1007467.3000-305	A	ALIGNMENTS AND DETAILS - SHEET 4 OF 8
1007467.3000-306	A	ALIGNMENTS AND DETAILS - SHEET 5 OF 8
1007467.3000-307	A	ALIGNMENTS AND DETAILS - SHEET 6 OF 8
1007467.3000-308	A	ALIGNMENTS AND DETAILS - SHEET 7 OF 8
• 1007467.3000-309	B	ALIGNMENTS AND DETAILS - SHEET 8 OF 8
5.0m BOARDWALK DESIGN		
1007467.3000-310	A	TYPICAL FOUNDATION SECTION
1007467.3000-311	A	TYPICAL FOUNDATION LONGSECTION
1007467.3000-312	A	FOUNDATION LAYOUT
1007467.3000-313	A	TYPICAL PIER AND DECK SECTION
1007467.3000-314	A	TYPICAL PIER AND DECK LONGSECTION
1007467.3000-315	A	STEELWORK ARRANGEMENT - SHEET 1 OF 2
1007467.3000-316	A	STEELWORK ARRANGEMENT - SHEET 2 OF 2

DRAWING	Rev	Title
3.0m BOARDWALK DESIGN		
1007467.3000-320	A	TYPICAL F(
1007467.3000-321	A	TYPICAL F(
1007467.3000-322	A	FOUNDATI(
1007467.3000-323	A	TYPICAL PI
1007467.3000-324	A	TYPICAL PI
1007467.3000-325	A	STEELWOR
1007467.3000-326	A	STEELWOR
• 1007467.3000-327	A	END UNIT [
2.4m TUKUTUKU BRIDGE DESIGN		
1007467.3000-330	A	TYPICAL F(
1007467.3000-331	A	TYPICAL F(
1007467.3000-332	A	TYPICAL PI
1007467.3000-333	A	TYPICAL PI
1007467.3000-334	A	STEELWOR
1007467.3000-335	A	STEELWOR
1007467.3000-336	A	TYPICAL PI
1.05m TUKUTUKU BRIDGE DESIGN		
1007467.3000-340	A	TYPICAL CI
1007467.3000-341	A	TYPICAL L(
1007467.3000-342	A	TYPICAL PI
1007467.3000-343	A	TYPICAL PI
1007467.3000-344	A	STEELWOR
1007467.3000-345	A	TYPICAL TU
LAKEWALL DESIGN		
1007467.3000-350	A	SECTION -
1007467.3000-351	A	SECTION -
1007467.3000-352	A	SECTION -
1007467.3000-353	A	SECTION -
1007467.3000-354	A	SECTION A
ABUTMENT DESIGN		
1007467.3000-360	A	PLAN - 5.0m
1007467.3000-361	A	PLAN - TUK
1007467.3000-362	A	PLAN - 5.0m
1007467.3000-363	A	PLAN - 3.0m
1007467.3000-364	A	TYPICAL SE

• Denotes drawing this issue: 4/09/2019

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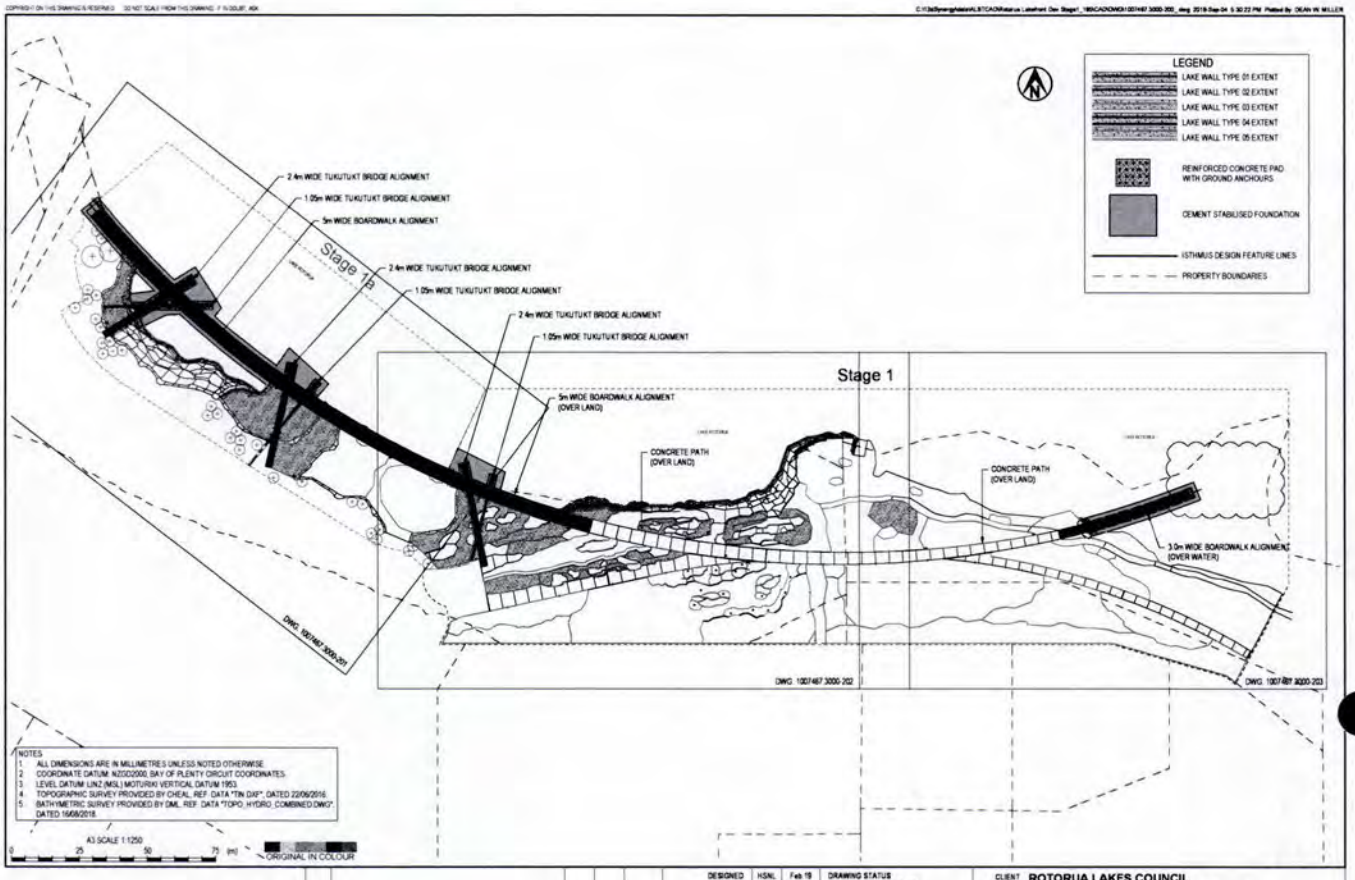
REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	NEW REVISION - include drawing 420/421/422	DWM	CDAV	10.04.19
C	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19



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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.20

DESIGNED	HSNL	Feb 19	DRAWING STATUS: TENDER ISSUE
DRAWN	DWM	Feb 19	
DESIGN CHECKED	LDP	05.02.19	
DRAWING CHECKED	CDAV	05.02.19	

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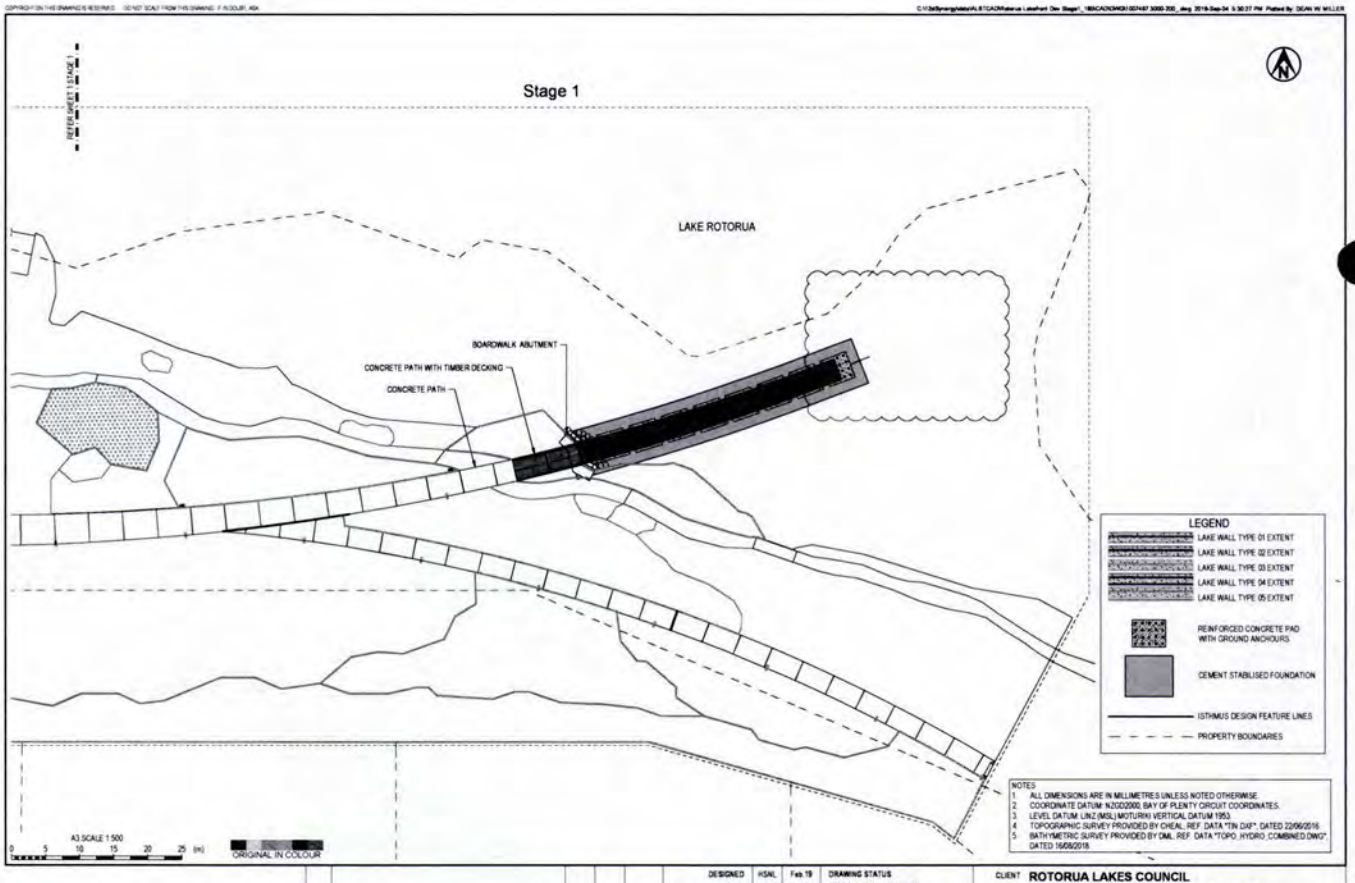
APPROVED DATE

CLIENT: ROTORUA LAKES COUNCIL

PROJECT: ROTORUA LAKEFRONT DEVELOPMENT

TITLE: BOARDWALK, BRIDGES AND LAKE WALLS STAGE 1 AND 1a LAYOUTS

SCALE (A3): 1:1250 DWG No. 1007467.3000-200 REV B



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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19

DESIGNED	HSNL	Feb 19	DRAWING STATUS: TENDER ISSUE
DRAWN	DWM	Feb 19	
DESIGN CHECKED	LDP	05.02.19	
DRAWING CHECKED	CDAV	05.02.19	

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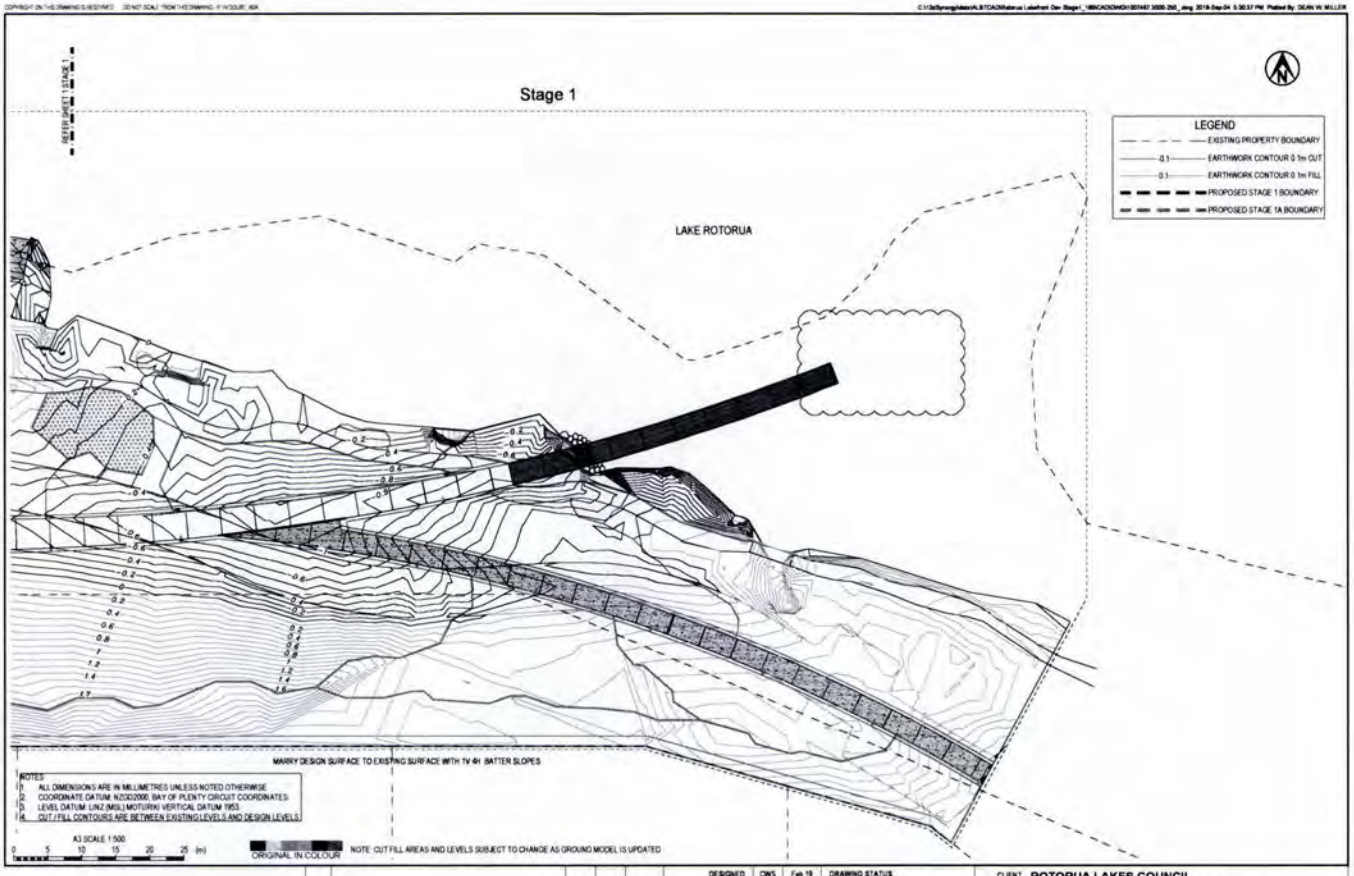
CLIENT: ROTORUA LAKES COUNCIL

PROJECT: ROTORUA LAKEFRONT DEVELOPMENT

TITLE: BOARDWALK, BRIDGES AND LAKE WALLS LAYOUT - SHEET 3 OF 3

SCALE (A3): 1:500 DWG No. 1007467.3000-203 REV B



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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	REVISED CONTOURS	DWM	CDAV	19.02.19
C	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19

DESIGNED	CWS	Feb 19	DRAWING STATUS
DRAWN	BLI	Feb 19	TENDER ISSUE
DESIGN CHECKED	LDP	05.02.19	
DRAWING CHECKED	CDAV	05.02.19	

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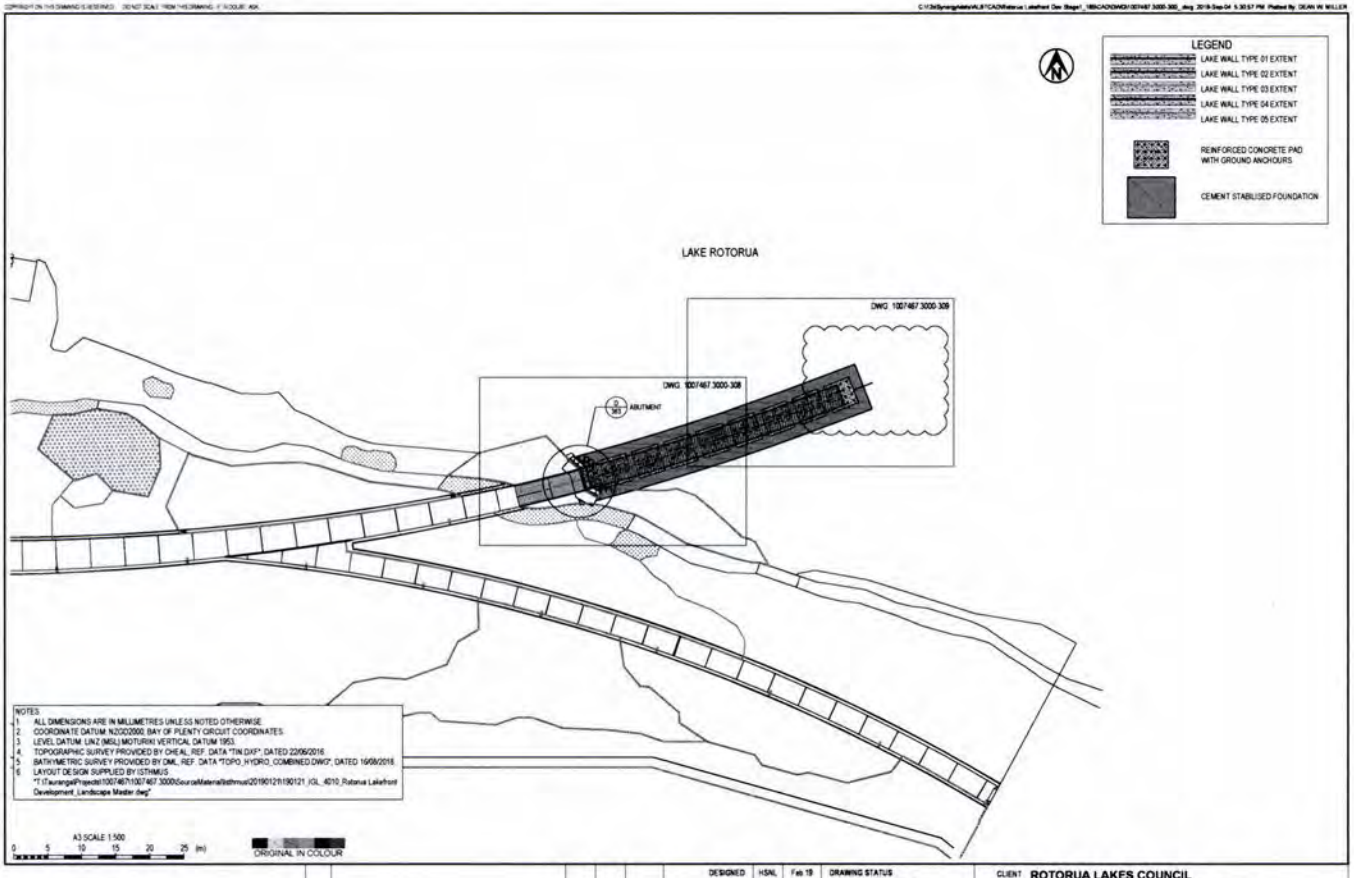
CLIENT **ROTORUA LAKES COUNCIL**
PROJECT **ROTORUA LAKEFRONT DEVELOPMENT**
TITLE EARTHWORKS - STAGE 1
CUT FILL PLANS - SHEET 3 OF 3
SCALE (A3) 1:500 DWG No. 1007467.3000-252 REV C



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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19

DESIGNED	HSNL	Feb 19	DRAWING STATUS
DRAWN	DWM	Feb 19	TENDER ISSUE
DESIGN CHECKED	LDP	05.02.19	
DRAWING CHECKED	CDAV	05.02.19	

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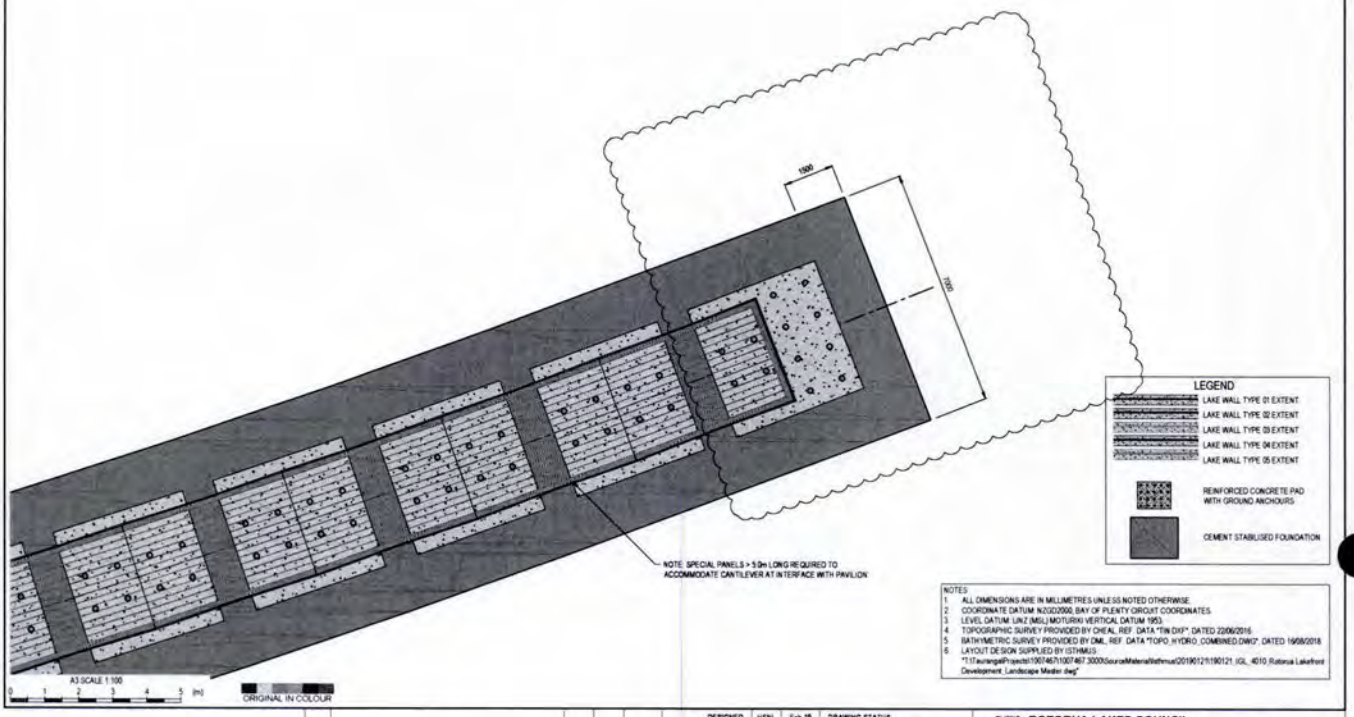
APPROVED DATE

CLIENT **ROTORUA LAKES COUNCIL**
PROJECT **ROTORUA LAKEFRONT DEVELOPMENT**
TITLE BOARDWALK, BRIDGES AND LAKEWALLS
DESIGN ALIGNMENTS - EASTERN EXTENT
SCALE (A3) 1:500 DWG No. 1007467.3000-301 REV B



NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: NZGD2000, BAY OF PLENTY ORCUIT COORDINATES.
3. LEVEL DATUM: LINZ (MSL) MOTURIKI VERTICAL DATUM 1953.
4. TOPOGRAPHIC SURVEY PROVIDED BY CHEAL, REF. DATA "TIN.DXF", DATED 22/06/2016.
5. BATHYMETRIC SURVEY PROVIDED BY DML, REF. DATA "TOPO_HYDRO_COMBINED.DWG", DATED 19/08/2018.
6. LAYOUT DESIGN SUPPLIED BY ISTHMUS: "T:\Tauranga\Projects\1007467\1007467.3000\Source\Material\Isthmus\20190121\190121_IGL_4010_Rotorua Lakefront Development_Landscape Master.dwg"

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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19

DESIGNED	HSNL	Feb 19	DRAWING STATUS: TENDER ISSUE
DRAWN	DWM	Feb 19	
DESIGN CHECKED	LDP	05.02.19	
DRAWING CHECKED	CDAV	05.02.19	

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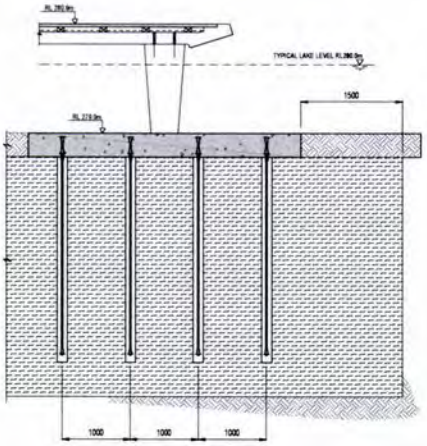
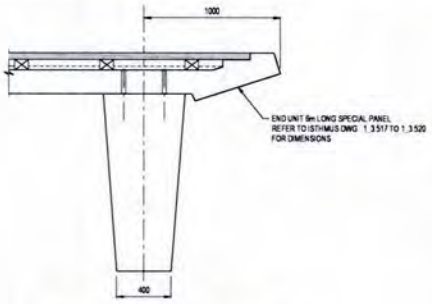
APPROVED DATE

CLIENT: ROTORUA LAKES COUNCIL
PROJECT: ROTORUA LAKEFRONT DEVELOPMENT
TITLE: BOARDWALK, BRIDGES AND LAKEWALLS ALIGNMENTS AND DETAILS - SHEET 8 OF 8
SCALE (A3) 1:100 DWG No. 1007467.3000-309 REV B

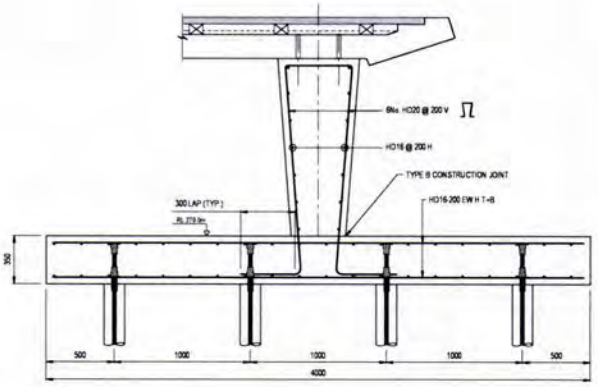
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. SECTIONS DO NOT ILLUSTRATE FINAL FORM OF CONCRETE. REFER TO 3D MODEL FOR FACED FORM OF PRECAST PANELS, HEADSTOCK AND PIERS.
3. THE CONTRACTOR SHALL DESIGN THE PRESTRESSED PRECAST CONCRETE SLAB IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
   a. MEET REQUIREMENTS OF NZS 3101:1:2006
   b. LIVE LOAD 10 kPa
   c. WAVE LOAD (UPLIFT AND DOWNWARD PRESSURE)
      - 5.0m BOARDWALK, 3.0m BOARDWALK, 2.4m TUKUTUKU BRIDGE = 22 kPa
      - 1.05m TUKUTUKU BRIDGE = 27 kPa
   d. HORIZONTAL SEISMIC ACTION COEFFICIENT C(dT) = 0.72.
   e. CHEMICAL EXPOSURE CLASSIFICATION XA2 (NZS 3101:1:2006).
   f. PRESTRESSED PRECAST CONCRETE SLAB DESIGNER TO LIAISE WITH T+T FOR DESIGN ACTIONS INDUCED BY CONNECTIONS.
   g. PROVIDE A PRODUCER STATEMENT - DESIGN (PS1) FOR THE PRESTRESSED PRECAST CONCRETE SLAB DESIGN.
5. PRESTRESSED PRECAST CONCRETE SLAB FINISHES: REFER TO ARCHITECTURAL DRAWINGS.
6. CONCRETE STRENGTH TO BE f'c' = 50MPa @ 28 DAYS.
7. REINFORCING SHALL BE GRADE 500E MA.
8. REFER TO T+T SPECIFICATION FOR CONCRETE MIX REQUIREMENTS.
9. CONCRETE COVER TO BE 50mm UNLESS NOTED OTHERWISE.
10. ALL STAINLESS STEEL TO BE GRADE 316.



TYPICAL LONGSECTION - 3.0m BOARDWALK END UNIT
SCALE 1:50



TYPICAL LONGSECTION - PIER AND DECK END UNIT
SCALE 1:25



LONGSECTION - TYPICAL REINFORCING ARRANGEMENT - 3.0m BOARDWALK END UNIT
SCALE 1:25

A3 SCALE 1:25
0 0.5 1.0 1.5 (m)
ORIGINAL IN COLOUR

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REV	DESCRIPTION	CAD	CHK	DATE
A	RE-TENDER-NEW DRAWING	DWM	CDAV	4.09.19

DESIGNED	HSNL	Sept 19	DRAWING STATUS: TENDER ISSUE
DRAWN	DWM	Sept 19	
DESIGN CHECKED	LDP	04.09.19	
DRAWING CHECKED	CDAV	04.09.19	

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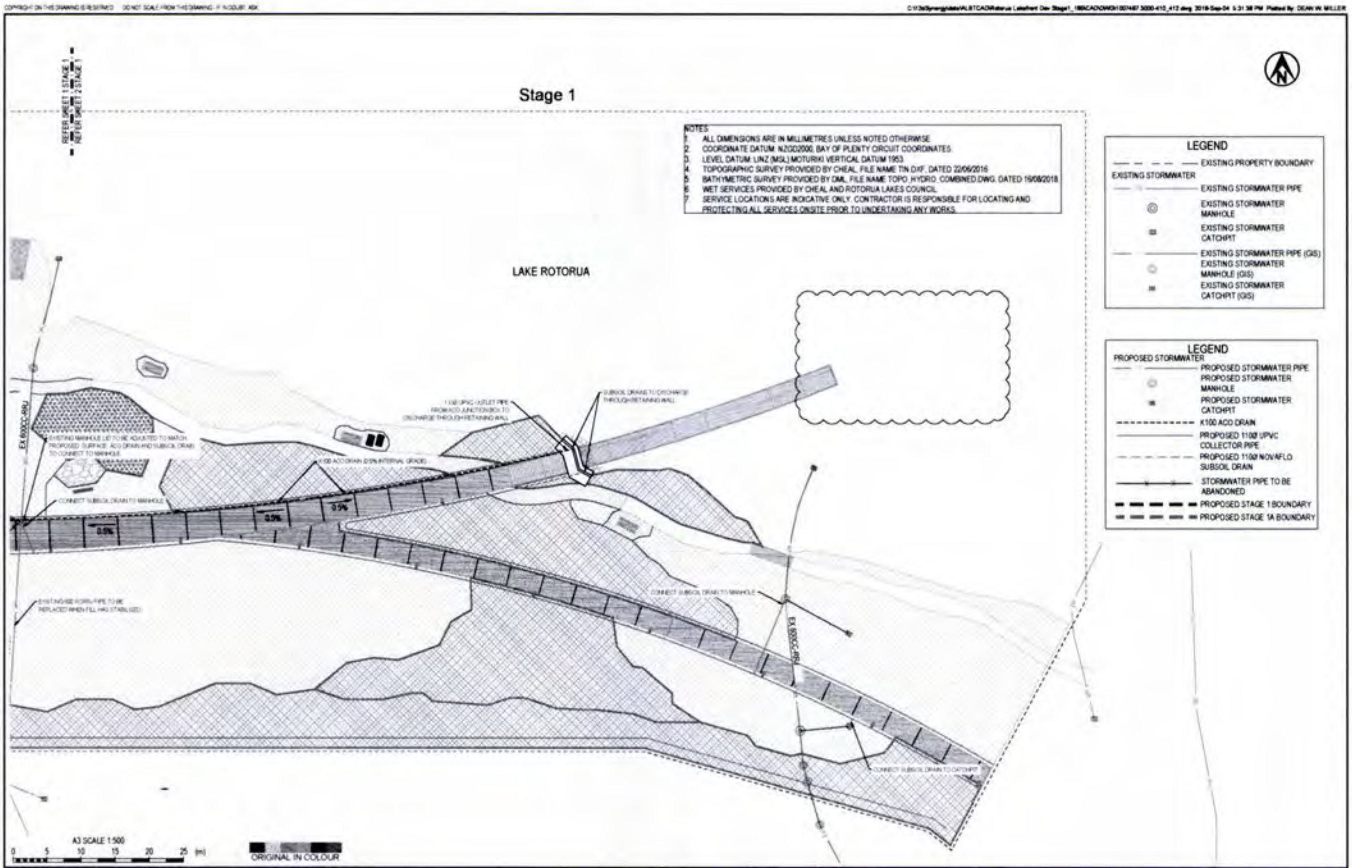
APPROVED DATE

CLIENT: ROTORUA LAKES COUNCIL
PROJECT: ROTORUA LAKEFRONT DEVELOPMENT
TITLE: 3.0m BOARDWALK DESIGN END UNIT DETAILS
SCALE (A3) 1:25 DWG No. 1007467.3000-327 REV A



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REV	DESCRIPTION	CAD	CHK	DATE
A	TENDER ISSUE	DWM	CDAV	05.02.19
B	ACO DRAIN PLACEMENT	DWM	CDAV	19.02.19
C	RE-TENDER-PAVILION REMOVED	DWM	CDAV	4.09.19

DESIGNED	CWS	Feb 19
DRAWN	DDAL	Feb 19
DESIGN CHECKED	LDP	05.02.19
DRAWING CHECKED	CDAV	05.02.19

APPROVED DATE

DRAWING STATUS: TENDER ISSUE

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CLIENT: ROTORUA LAKES COUNCIL

PROJECT: ROTORUA LAKEFRONT DEVELOPMENT

TITLE: PROPOSED STORMWATER LAYOUT STAGE 1 - SHEET 2 OF 2

SCALE (A3): 1:500 DWG No. 1007467.3000-412 REV C

Scheduled Item	Description	Concrete Mix allowed for
4.1	PQ1 - Insitu concrete paving (200mm thick, honed 150 grit)	PS01 - Firth 30MPa 19mm limestone pebble 80kg, 19mm awatutu pebble and shell mix, peter fell 172 oxide dosed at 17kg/m³.
4.2	PQ2 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	PS02 - Firth 40MPa 35% 10mm limestone chip, 65% 10mm greywacke chip.
4.3	PQ3 - Insitu concrete paving (200 thick, acid wash)	PS03 - 30MPa 10mm greywacke chip mix, permacolour F9635 black oxide dosed at 4kg/m³
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
5.4	E07 - Tukutuku bridge - Foundations large	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
5.4	E07 - Tukutuku bridge - large Piers	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
5.5	E07 - Tukutuku bridge - Foundations small	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
5.5	E07 - Tukutuku bridge - small Piers	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
6.1	LW01 - Concrete lake wall, type 1 & 5 - Insitu	Firth 50MPa 10mm greywacke, permacolour F9635 black oxide dosed at 18kg/m³
6.1	LW01 - Concrete lake wall, type 1 & 5 - precast	Firth 50MPa 10mm greywacke, permacolour F9635 black oxide dosed at 18kg/m³
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4 - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4 - Precast	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
6.3	WS01 - Concrete wall seat	PS02 - Firth 40MPa 35% 10mm limestone chip, 65% 10mm greywacke chip.
7.1	B01 - precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS. Firth email dated 31/7/19
7.2	B02	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.3	B03 - precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.4	B04	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.5	B05	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.6	TBL01 - Large tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.6	TBL01 - Large tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.7	TBL02 - Large tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.7	TBL02 - Large tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.8	TBL03 - Large tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.8	TBL03 - Large tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.9	TBS01 - Small tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.9	TBS01 - Small tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.10	TBS02 - Small tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.10	TBS02 - Small tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.11	TBS03 - Small tukutuku bridge - Insitu	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.11	TBS03 - Small tukutuku bridge - Precast	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.13	Boardwalk piles & foundations - 5m wide - foundations	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.13	Boardwalk piles & foundations - 5m wide - piles	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.
7.14	Boardwalk piles & foundations - 3m wide - foundations	Firth 50MPa 19mm 8% Microsilica super pump mix, plain grey
7.14	Boardwalk piles & foundations - 3m wide - piles	Firth 50MPa 10mm greywacke chip, peter fell 651 oxide dosed at 45kg/m³ + 8% MS.

Project: Rotorua Lakefront Redevelopment
Contractor: HEB Construction
Address: PO Box 4049, Mt Maunganui
Date: 13/09/2019
Attention: Craig McMichael
Subject: **HEB Response to Price Clarification 007 & 008**

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description	HEB Response - Date 8/07/19
7.1	N/A	NTT 6.1 - Concrete Finish	Please find attached updated finishes schedule to align with previous communications. - IGL_4010_Rotorua lakefront_1_0 301 paving and wall schedule Rev H - IGL_4010_Rotorua lakefront_1_0 303 samples schedule sheet 1_Rev D note key change to: 10mm greywacke chip Peter fel 651 oxide Peter fel natural sealer Please confirm concrete strength of all elements should be 50MPa except elements noted on C006 which have been revised to 30Mpa	Please see the below updated spreadsheet, detailing the tendered mix designs and MPa strengths for each scheduled item. Please note that some of these may vary from the revised schedule provided in C007. As previously mentioned its not possible to achieve 50MPa with limestone chip As previously mentioned we have allowed for F4 finish in lieu of F5
7.2	N/A	Outline plan of works	Please find attached outline plan of works approval for information	Received thanks
7.3	N/A	Contaminated soil contingency	The contractor should be aware that although hail reports advise no soil contamination in the immediate area, we are aware the previous history of the site presents a risk when excavating at lower levels (possibly 1.5-2m deep) In the event that any removal of contaminated soil is required to an authorised tip we request the following: - please advise a suitable provisional sum as a contingency should this be required - please advise rates for disposal The client shall arrange for an independent testing to verify soil types if required	Without knowing the potential scope of works its difficult to quantify the value, we suggest a provisional sum of $50k is added. Provisional sum added (scheduled item 12.7)
7.4	N/A	Resource consent draft conditions	Please find attached draft resource consent conditions, along with record of informal correspondence with current understanding of status inputs to be provided by the client. Please allow to comply with all contractor managed aspects of the resource consent conditions.	Scheduled item 1.12 has been amended accordingly
7.5	N/A	Building Consent	Please find attached building consent compliance schedule for works in the lake. Please confirm you have allowance within your proposal for management of requirements of the consent.	Our tender allows for arranging the relevant inspections, liaison and supervisor of the inspectors while on site. We have made no allowance for fee or costs associated with the building consent.
7.6	N/A	Hiway Geostabilization tags	We understand HEB propose to substitute the original concrete stabilization contractor (Brian Perry), with Hiway Geostabilization (soon to be GSI) A number of queries were raised by HEB in respect to this pricing, following further discussion, please see the attached response to queries raised. We note client expectation is that this substitution shall result in a cost, programme and risk reduction to the project. Also due to the relatively new nature of the substitute subcontractor we would like to reiterate that HEB needs to satisfy themselves as the ability of the revised subcontractor. Please advise final pricing and impact to programme etc. and conformation of HEB endorsement that the revised subcontractor has been suitably vetted.	Yes correct our revised pricing allows to use Hiway Geostabilization. Thanks, this is reflective of what was discussed at the meeting. Please find attached our updated schedule of prices and programme. Unfortunately there isn't a time saving, this is mainly due to the testing regime. And the fact that the testing, ground improvements and micro piles are all on the critical path. HEB have under taken due diligence and are comfortable using Hiway Geostabilizations, they have provided us with track record and relevant experience information (which we can provide if necessary) We have also worked successfully with them in the past on the access to water project.
7.7	N/A	Pavilion Design	Please see the attached revised pavilion design. The revised pavilion design attached reduce the scope of the pavilion significantly. Updated T+T engineering drawings are expected to be issued mid next week. Please advise cost and programme saving for amended design.	Please find attached our updated schedule of prices, which reflects these changes.
7.8	N/A	Clarification on effect of weather	To formalise previous discussions and expectations regarding weather delays, it is our expectation that the contractor has suitably allowed for any inclement weather that may occur throughout the course of the project. No additional costs shall be applicable for delays as a result of weather.	This is new to us, we suggest that a suitable number of wet weather days is agreed. Then as per NZS3910 additional wet weather days over and above the allowable will be claimed as an extension of time without costs.
7.9	N/A	Programme	Please find attached an updated programme with a commencement date of 25th October 2019.	Please see the attached amended programme with an award date of 27/09/19 and possession of site date of 25/10/19.

Contract Name: Rotorua Lakefront Redevelopment (Stage 1 & 1a)
Contract No. 18/029

Revision: 06
Date: 18/09/2019

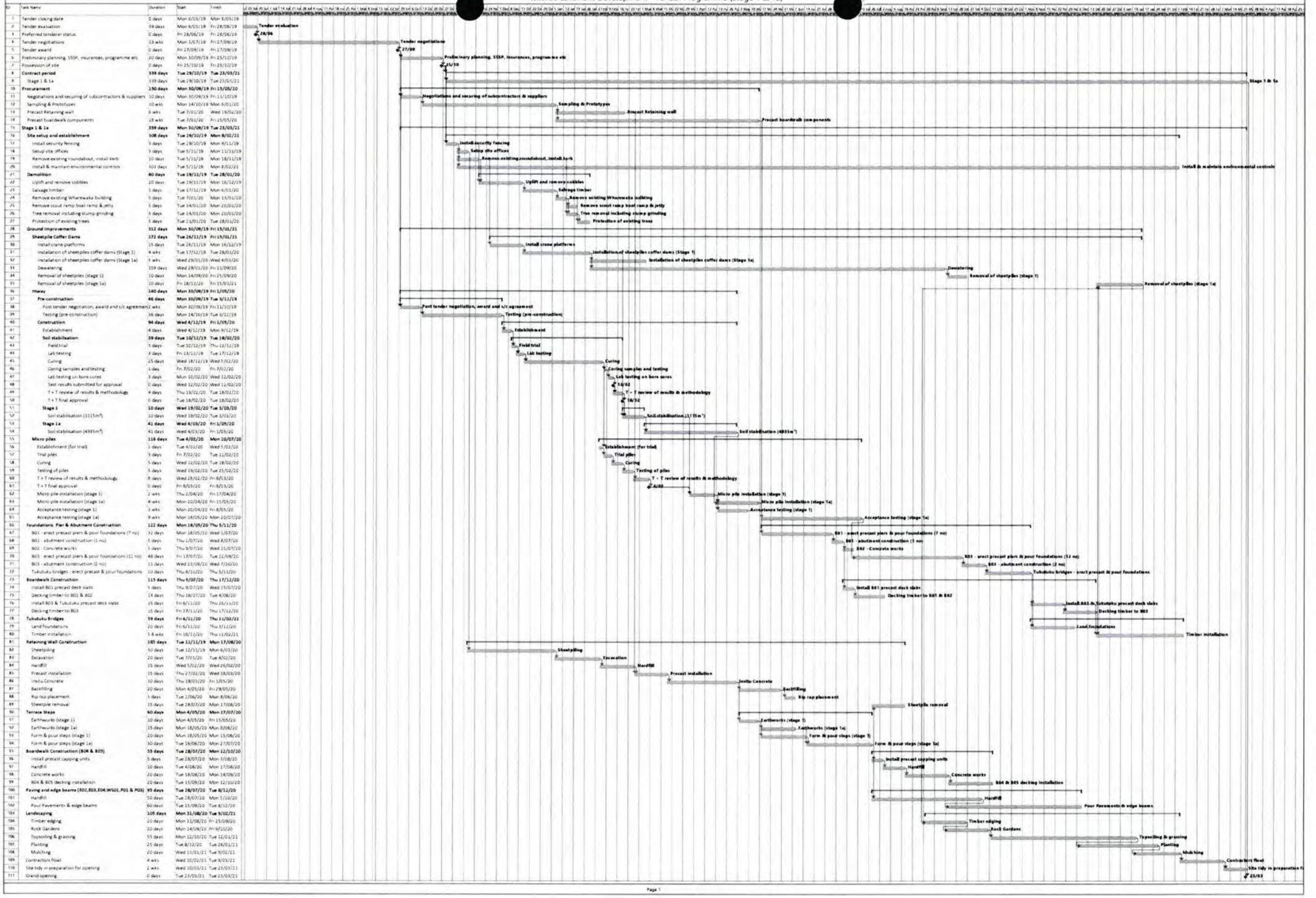
Item	Description	Unit	s7(2)(b)(ii) LGOIMA
1.0	**Preliminary and General**		
1.1	Establishment.	LS	
1.2	Construction administration.	wks	
1.3	Liaison, location and protection of existing services.	LS	
1.4	Setout of works	LS	
1.5	Site clean-up and disestablishment.	LS	
1.6	As-built drawings (are these required?, if so whats required)	LS	
1.7	Insurances	LS	
1.8	Site fencing and hoarding (stage 1)	m	
1.9	Site fencing and hoarding (stage 1a)	m	
1.10	prototypes & Sampling (refer to spec & dwgs 1_0.303 & 1_0.304 for details)	LS	
1.11	Traffic / Pedestrian Management	wks	
1.12	Environmental controls	wks	
	Subtotal for Preliminary and General		
2.0	**Demolition**		
2.1	Stage 1		
2.1.1	Uplift cobble stone & dispose	m2	
2.1.2	Salvage timber and transport to depot	LS	
2.1.3	Remove existing wharewaka building, carvings to be protected & stored	LS	
2.1.4	Remove scout hall boat ramp & jetty	LS	
2.1.5	salvage existing rubish bins for reuse	ea	
2.1.6	Remove existing roundabout, install new kerb	LS	
2.1.7	Protection of trees	ea	
2.1.8	remove existing roadway (300m x 7.5m)	m2	
2.2	Stage 1a		
2.2.1	Uplift cobble stone & dispose	m2	
2.2.2	Salvage timber and transport to depot	LS	
2.2.3	Remove jettys	ea	
2.2.4	salvage existing rubish bins for reuse	ea	
2.2.6	Temporary timber edge	m	
	Subtotal for Demolition		
3.0	**Site Clearance / Earthworks / Drainage / watermain**		
3.1	Strip topsoil and stockpile (on site)	m^3	
3.2	Remove surplus material from site - loose measure	m^3	
3.3	Remove existing cesspits	ea	
3.4	Remove cesspit leads	m	
3.5	K100 aco drain	m	
3.6	110mm dia novaflo drain	m	
3.7	110mm dia UPVC subsoil collector pipe	m	
3.8	Replace 600mm dia RCRRJ pipe - class 4	m	
3.9	150mm UPVC pipe	m	
3.10	New field catchpit	ea	
3.11	New 1050mm dia manhole	ea	
3.12	Watermain installation inc, valves, thrustblocks etc	LS	
	Subtotal for Site Clearance / Earthworks / Drainage / watermain		
4.0	**Paving**		
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	m^2	
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	m^2	
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	m^2	
4.4	P04 - Hoggin	m^2	
4.5	P05 - Compacted aggregate	m^2	
	Subtotal for Paving		
5.0	**Edge materials and precast**		
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	m	

s7(2)(b)(ii) LGOIMA

Item	Description	Unit
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	m^2
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	m
5.4	E07 - Tukutuku bridge - Foundations & Large Piers	ea
5.5	E07 - Tukutuku bridge - foundations & small piers	ea
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	m
	Subtotal for Edge materials and precast	
6.0	**Walls**	
6.1	LW01 - Concrete lake wall, type 1 & 5	m
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4	m
6.3	WS01 - Concrete wall seat	m
	Subtotal for Walls	
7.0	**Boardwalks & bridges**	
7.1	B01	ea
7.2	B02	ea
7.3	B03	ea
7.4	B04	ea
7.5	B05	ea
7.6	TBL01 - Large tukutuku bridge	ea
7.7	TBL02 - Large tukutuku bridge	ea
7.8	TBL03 - Large tukutuku bridge	ea
7.9	TBS01 - Small tukutuku bridge	ea
7.10	TBS02 - Small tukutuku bridge	ea
7.11	TBS03 - Small tukutuku bridge	ea
7.12	Small Tukutuku bridge butterfly joints	ea
7.13	Boardwalk piles & foundations- 5m wide	ea
7.14	Boardwalk piles & foundations- 3m wide	ea
~~7.15~~	~~Stone Pavilion~~	~~ea~~
	Subtotal for Boardwalks & bridges	
8.0	**Ground Improvements**	
8.1	Sheetpile coffer dam (stage 1)	m
8.2	Sheetpile coffer dam (stage 1a)	m
8.3	Dewatering (Stage 1 & stage 1a)	LS
8.4	Mass cement stabilisation - 3.5m deep	
8.4.1	Stage 1 & 1a - P & G	LS
~~8.4.2~~	~~Stage 1a - P & G~~	~~LS~~
8.4.3	excavate material and removal from site to waste	m^3
8.4.4	Soil Mixing trial	m^3
8.4.5	Trial testing	LS
8.4.6	Soil mixing standby rate	day
8.4.7	Stage 1 - insitu cement stabilisation with Sulphate resistant cement (300kg	m^3
8.4.8	Stage 1a - insitu cement stabilisation with Sulphate resistant cement ($300kg/m^3$) - baseline design	m^3
8.4.9	Soil mixing lab testing	LS
8.5	Micro piles	
8.5.1	Micro piles	ea
8.5.2	Proof tests (tension load test) as per table 4-2	ea
8.5.3	Acceptance testing (tension load test) as per table 4-4	ea
	Subtotal for Ground Improvements	
9.0	**Landscaping**	
9.1	Remove trees - as per the information within the drawings	sum
9.2	Uplift from stockpile,place and prepare soil to gardens areas (400m	m2
9.3	Uplift from stockpile, place and prepare soil to lawn areas (150mm)	m2
9.4	Design, supply and install Irrigation to irrigated lawn areas	m2
9.5	Supply and install Bark mulch to bark mulched gardens (100mm)	m2
9.6	Supply and install gravel stone mulch to gravel stone gardens (100m	m2
9.7	Supply and install Rock to rock garden areas	m2
9.8	Supply and install timber edging between lawns and gardens	lin/m
9.9	Supply and install timber edging between hoggin and lawns	lin/m

Item	Description	Unit	s7(2)(b)(ii) LGOIMA
9.10	Excavate Tree pits	ea.	
9.11	Supply and install grass areas as per specification provided	m2	
9.12	Supply and install of planting	sum	
9.13	DLP maintenance of Grass areas	month	
9.14	DLP maintenance of Landscape garden areas	month	
	Subtotal for Landscaping		
10.0	**Electrical**		
10.1	Electrical	LS	
10.2	Lamp posts	ea	
	Subtotal for Electrical		
11.0	**Street Furniture (Supply and Install)**		
11.1	Bench seat (type A)	ea	
11.2	Bench seat (type B)	ea	
11.3	Picnic tables	ea	
11.4	Bollards	ea	
~~11.5~~	~~Sun loungers (provisional)~~	~~ea~~	
11.6	Reinstate rubish bins	ea	
	Subtotal for Street Furniture (Supply and Install)		
12.0	**Variations**		
12.1	Decking fixing variation	LS	
12.2	seismograph hire (x 1)	week	
12.3	General signage	PS	
12.4	Removal / replacement of any unsuitable materials or objects	PS	
12.5	Precast samples of major items (now inclided in item 1.10)		
12.6	Additional grout samples	ea	
12.7	Contaminated soil	PS	
	Subtotal for Variations		

Rotorua Lakefront Development - Tender Programme (Stage 1 & 1a)



ID	Task Name	Duration	Start	Finish
1	Tender closing date	0 days	Mon 6/05/19	Mon 6/05/19
2	Tender evaluation	39 days	Mon 6/05/19	Fri 28/06/19
3	Preferred tenderer status	0 days	Fri 28/06/19	Fri 28/06/19
4	Tender negotiations	13 wks	Mon 1/07/19	Fri 27/09/19
5	Tender award	0 days	Fri 27/09/19	Fri 27/09/19
6	Preliminary planning, SSSP, insurances, programme etc	20 days	Mon 30/09/19	Fri 25/10/19
7	Possession of site	0 days	Fri 25/10/19	Fri 25/10/19
8	**Contract period**	**339 days**	**Tue 29/10/19**	**Tue 23/03/21**
9	Stage 1 & 1a	339 days	Tue 29/10/19	Tue 23/03/21
10	**Procurement**	**150 days**	**Mon 30/09/19**	**Fri 15/05/20**
11	Negotiations and securing of subcontractors & suppliers	10 days	Mon 30/09/19	Fri 11/10/19
12	Sampling & Prototypes	10 wks	Mon 14/10/19	Mon 6/01/20
13	Precast Retaining wall	6 wks	Tue 7/01/20	Wed 19/02/20
14	Precast boardwalk components	13 wks	Tue 7/01/20	Fri 15/05/20
15	**Stage 1 & 1a**	**359 days**	**Mon 30/09/19**	**Tue 23/03/21**
16	**Site setup and establishment**	**308 days**	**Tue 29/10/19**	**Mon 8/02/21**
17	Install security fencing	5 days	Tue 29/10/19	Mon 4/11/19
18	Setup site offices	5 days	Tue 5/11/19	Mon 11/11/19
19	Remove existing roundabout, install kerb	10 days	Tue 5/11/19	Mon 18/11/19
20	Install & maintain environmental controls	103 days	Tue 5/11/19	Mon 8/02/21
21	**Demolition**	**40 days**	**Tue 19/11/19**	**Tue 28/01/20**
22	Uplift and remove cobbles	20 days	Tue 19/11/19	Mon 16/12/19
23	Salvage timber	5 days	Tue 17/12/19	Mon 6/01/20
24	Remove existing Whakewaka building	5 days	Tue 7/01/20	Mon 13/01/20
25	Remove scout ramp boat ramp & jetty	5 days	Tue 14/01/20	Mon 20/01/20
26	Tree removal including stump grinding	5 days	Tue 14/01/20	Mon 20/01/20
27	Protection of existing trees	5 days	Tue 21/01/20	Tue 28/01/20
28	**Ground improvements**	**312 days**	**Mon 30/09/19**	**Fri 15/01/21**
29	**Sheetpile Coffer Dams**	**272 days**	**Tue 26/11/19**	**Fri 15/01/21**
30	Install crane platforms	15 days	Tue 26/11/19	Mon 16/12/19
31	Installation of sheetpiles coffer dams (Stage 1)	4 wks	Tue 17/12/19	Tue 28/01/20
32	Installation of sheetpiles coffer dams (Stage 1a)	5 wks	Wed 29/01/20	Wed 4/03/20
33	Dewatering	159 days	Wed 29/01/20	Fri 11/09/20
34	Removal of sheetpiles (stage 1)	10 days	Mon 14/09/20	Fri 25/09/20
35	Removal of sheetpiles (stage 1a)	10 days	Fri 18/12/20	Fri 15/01/21
36	**Hiwy**	**140 days**	**Mon 30/09/19**	**Fri 1/05/20**
37	**Pre-construction**	**46 days**	**Mon 30/09/19**	**Tue 3/12/19**
38	Post tender negotiation, award and s/c agreement	2 wks	Mon 30/09/19	Fri 11/10/19
39	Testing (pre-construction)	36 days	Mon 14/10/19	Tue 3/12/19
40	**Construction**	**94 days**	**Wed 4/12/19**	**Fri 1/05/20**
41	Establishment	4 days	Wed 4/12/19	Mon 9/12/19
42	**Soil stabilisation**	**39 days**	**Tue 10/12/19**	**Tue 18/02/20**
43	Field trial	5 days	Tue 10/12/19	Thu 12/12/19
44	Lab testing	3 days	Fri 13/12/19	Tue 17/12/19
45	Curing	25 days	Wed 18/12/19	Wed 5/02/20
46	Coring samples and testing	1 day	Fri 7/02/20	Fri 7/02/20
47	Lab testing on bore cores	3 days	Mon 10/02/20	Wed 12/02/20
48	Test results submitted for approval	0 days	Wed 12/02/20	Wed 12/02/20
49	T + T review of results & methodology	4 days	Thu 13/02/20	Tue 18/02/20
50	T + T final approval	0 days	Tue 18/02/20	Tue 18/02/20
51	**Stage 1**	**10 days**	**Wed 19/02/20**	**Tue 3/03/20**
52	Soil stabilisation (1115m²)	10 days	Wed 19/02/20	Tue 3/03/20
53	**Stage 1a**	**41 days**	**Wed 4/03/20**	**Fri 1/05/20**
54	Soil stabilisation (4935m²)	41 days	Wed 4/03/20	Fri 1/05/20
55	**Micro piles**	**116 days**	**Tue 4/02/20**	**Mon 20/07/20**
56	Establishment (for trial)	1 days	Tue 4/02/20	Wed 5/02/20
57	Trial piles	3 days	Fri 7/02/20	Tue 11/02/20
58	Curing	5 days	Wed 12/02/20	Tue 18/02/20
59	Testing of piles	5 days	Wed 19/02/20	Tue 25/02/20
60	T + T review of results & methodology	8 days	Wed 26/02/20	Fri 6/03/20
61	T + T final approval	0 days	Fri 6/03/20	Fri 6/03/20
62	Micro pile installation (stage 1)	2 wks	Thu 2/04/20	Fri 17/04/20
63	Micro pile installation (stage 1a)	4 wks	Mon 20/04/20	Fri 15/05/20
64	Acceptance testing (stage 1)	1 wks	Mon 20/04/20	Fri 8/05/20
65	Acceptance testing (stage 1a)	9 wks	Mon 18/05/20	Mon 20/07/20
66	**Foundations, Pier & Abutment Construction**	**122 days**	**Mon 18/05/20**	**Thu 5/11/20**
67	B01 - erect precast piers & pour foundations (7 no)	32 days	Mon 18/05/20	Wed 1/07/20
68	B03 - abutment construction (1 no)	5 days	Thu 2/07/20	Wed 8/07/20
69	B02 - Concrete works	5 days	Thu 9/07/20	Wed 15/07/20
70	B01 - erect precast piers & pour foundations (12 no)	48 days	Fri 17/07/20	Tue 22/09/20
71	B03 - abutment construction (2 no)	15 days	Wed 23/09/20	Wed 7/10/20
72	Tukutuku bridges - erect precast & pour foundations	20 days	Thu 8/10/20	Thu 5/11/20
73	**Boardwalk Construction**	**115 days**	**Thu 9/07/20**	**Thu 17/12/20**
74	Install B01 precast deck slabs	5 days	Thu 9/07/20	Wed 15/07/20
75	Decking timber to B01 & B02	14 days	Thu 16/07/20	Tue 4/08/20
76	Install B03 & Tukutuku precast deck slabs	15 days	Fri 6/11/20	Thu 26/11/20
77	Decking timber to B03	15 days	Fri 27/11/20	Thu 17/12/20
78	**Tukutuku Bridges**	**59 days**	**Fri 6/11/20**	**Thu 11/02/21**
79	Land foundations	20 days	Fri 6/11/20	Thu 3/12/20
80	Timber installation	5.8 wks	Fri 18/12/20	Thu 11/02/21
81	**Retaining Wall Construction**	**185 days**	**Tue 12/11/19**	**Mon 17/08/20**
82	Sheetpiling	30 days	Tue 12/11/19	Mon 6/01/20
83	Excavation	20 days	Tue 7/01/20	Tue 4/02/20
84	Handfill	15 days	Wed 5/02/20	Wed 26/02/20
85	Precast installation	15 days	Thu 27/02/20	Wed 18/03/20
86	Insitu Concrete	30 days	Thu 19/03/20	Fri 1/05/20
87	Backfilling	20 days	Mon 4/05/20	Fri 29/05/20
88	Rip rap placement	5 days	Tue 2/06/20	Mon 8/06/20
89	Sheetpile removal	15 days	Tue 28/07/20	Mon 17/08/20
90	**Terrace Steps**	**60 days**	**Mon 4/05/20**	**Mon 27/07/20**
91	Earthworks (stage 1)	10 days	Mon 4/05/20	Fri 15/05/20
92	Earthworks (stage 1a)	15 days	Mon 18/05/20	Mon 8/06/20
93	Form & pour steps (stage 1)	20 days	Mon 18/05/20	Mon 15/06/20
94	Form & pour steps (stage 1a)	30 days	Tue 16/06/20	Mon 27/07/20
95	**Boardwalk Construction (B04 & B05)**	**55 days**	**Tue 28/07/20**	**Mon 12/10/20**
96	Install precast capping units	5 days	Tue 28/07/20	Mon 3/08/20
97	Handfill	10 days	Tue 4/08/20	Mon 17/08/20
98	Concrete works	20 days	Tue 18/08/20	Mon 14/09/20
99	B04 & B05 decking installation	20 days	Tue 15/09/20	Mon 12/10/20
100	**Paving and edge beams (E02,E03,E04,WS01,P01 & P03)**	**95 days**	**Tue 28/07/20**	**Tue 8/12/20**
101	Handfill	50 days	Tue 28/07/20	Mon 5/10/20
102	Pour Pavements & edge beams	60 days	Tue 15/09/20	Tue 8/12/20
103	**Landscaping**	**105 days**	**Mon 31/08/20**	**Tue 2/02/21**
104	Timber edging	20 days	Mon 31/08/20	Fri 25/09/20
105	Rock Gardens	20 days	Mon 14/09/20	Fri 9/10/20
106	Topsoiling & grassing	55 days	Mon 12/10/20	Tue 12/01/21
107	Planting	25 days	Tue 8/12/20	Tue 26/01/21
108	Mulching	20 days	Wed 13/01/21	Tue 9/02/21
109	Contractors float	4 wks	Wed 10/02/21	Tue 9/03/21
110	Site tidy in preparation for opening	2 wks	Wed 10/03/21	Tue 23/03/21
111	Grand opening	0 days	Tue 23/03/21	Tue 23/03/21

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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

			We note client expectation is that this substitution shall result in a cost, programme and risk reduction to the project. Also due to the relatively new nature of the substitute subcontractor we would like to reiterate that Heb needs to satisfy themselves as the ability of the revised subcontractor. Please advise final pricing and impact to programme etc, and confirmation of Heb endorsement that the revised subcontractor has been suitably vetted.
7.7		Pavilion Design	Please see attached revised pavilion design. • 1_1.003 Stage 1 Temporary Works Plan - Sheet 3 • 1_1.100 Stage 1 General Arrangement • 1_1.103 Stage 1 Surface Finishes - Sheet 3 • 1_1.203 Stage 1 Planting Plan - Sheet 3 • 1_1.303 Stage 1 Furniture & Edging - Sheet 3 • 1_1.403 Stage 1 Levels Plan - Sheet 3 • 1_3.401 Pavilion Plans • 1_3.402 Pavilion Details • 1_3.403 Pavilion Stone Pattern Layout • 1_3.404 Pavilion Elevations & Wall Cutting Plan • 1_3.405 Pavilion Stone Cutting Plan • 1_3.508 3000mm Boardwalk Details • 1_3.516 3000mm Boardwalk B06 Details Sheet 1 • 1_3.517 3000mm Boardwalk B06 Details Sheet 2 • 1_3.518 3000mm Boardwalk B06 Details Sheet 3 • 1_3.519 3000mm Boardwalk B06 Details Sheet 4 • 1_3.520 3000mm Boardwalk B06 Details Sheet 5 • 190826_IGL_4010_Rotorua Lakefront Development_Boardwalk B06 Details.dwg • 190826_IGL_4010_Rotorua Lakefront Development_Landscape Master.dwg https://www.dropbox.com/sh/l0foxa8lthcjzzc/AADPztQtXKaUHQRryiYd-Uqaa?dl=0 The revised pavilion design attached reduce the scope of the pavilion significantly. Updated Tonkin & Taylor engineering drawings are expected to be issued mid next week. Please advise cost and programme saving for amended design.
7.8		Clarification on effect of weather	To formalise previous discussions and expectations regarding weather delays, it is our expectation that the contractor has suitably allowed for any inclement weather that may occur throughout the course of the project. No additional costs shall be applicable for delays as a result of weather.
7.9		Programme	Please provide an updated programme with a commencement date of 25th October 2019.

Signed _____

Craig
McMichael
Veros Property Services

Contact No's:
DDI: **07 579 9747**
Mobile: **027 508 9625**
Email: **craig@veros.co.nz**

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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment		
Contractor:	HEB Construction	**Date:**	30th August 2019
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	007
Email:	Andrew.Hiscox@heb.co.nz		
Attention:	Andrew Hiscox		
Subject:	**Price Clarifications – Various**	**Pages:**	3 + attachments

Price Clarification Details:

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description
7.1	N/A	NTT 6.1 – Concrete finish	Please find attached updated finishes schedule to align with previous communication; • IGL_4010_Rotorua Lakefront_1_0.301 Paving and Wall Schedule_Rev H • IGL_4010_Rotorua Lakefront_1_0.303 Samples Schedule Sheet 1_Rev D Note key change to: 10mm Greywacke Chip Peter Fel 651 Oxide Peter Fel Natural Sealer Please confirm concrete strength of all elements should be 50MPa except elements noted in NTT 006 which have been revised to 30MPa
7.2		Outline Plan of Works	Please find attached outline plan of works approval for information
7.3		Contaminated soil contingency	The contractor should be aware that although Hail reports advise no soil contamination in the immediate area, we are aware the previous history of the site presents this as a risk when excavating at lower levels (possibly 1.5- 2m deep). In the event that any removal of contaminated soil is required to an authorised tip we request the following: - Please advise a suitable provisional sum as a contingency should this be required. - Please advise rates for disposal. The client shall arrange for an independent testing to verify soil types if required.
7.4		Resource Consent Draft conditions	Please find attached draft resource consent conditions, along with record of informal correspondence with current understanding of status inputs to be provided by the client. Please allow to comply with all contractor managed aspects of the resource consent conditions.
7.5		Building consent	Please find attached building consent compliance schedule for works in the lake – please confirm you have allowance within your proposal for management of requirements of the consent.
7.6		Highway Geostabilization tags	We understand Heb propose to substitute the original concrete stabilization contractor (Brian Perry), with Highway Geostabilization (soon to be GSI). A number of queries where raised by Heb in respect to this pricing, following further discussion, please see attached response to queries raised.

07B4B RLC Lakefron Redevelopment HEB Price Clarification 007

PAVING, EDGE & WALL SCHEDULE

Boardwalk and terrace concrete selections revised

CODE	MATERIAL / PRODUCT	SIZE (W X L X THK.)	COLOR / CODE	FINISH / DEPTH EXPOSURE	LOCATION	SUPPLIER	REMARKS
PAVING							
P01	INSITU CONCRETE PAVING	-	Firth Elements 01 Oxide with 80kg/m³ Limestone Pebble, 19mm Awatoto Pebble and Shell Mix	FINISH: Honed to 150 Grit to comply with slip resistance standard - AS/NZS 4586:2004	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P02	INSITU CONCRETE PAVING		35% 10mm limestone chip, 65% 10mm Greywacke Chip, No oxide	HORIZONTAL FINISH: Pipe Rolled VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P03	INSITU CONCRETE PAVING		10mm Greywacke Chip with 4% Black Oxide	FINISH: Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P04	HOGGIN		55% 1.5 to 3.75mm fines grade Limestone chip, 20% AP 7 Scoria (Grey), 25% Pumice 5mm aggregate	FINISH: Compacted to create firm surface	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent. Contractor is to allow for sampling of blend as per specifications for the selection of final finishes.
P05	COMPACTED AGGREGATE		Cement stabilised Grab 7 - To match existing aggregate path that is being retained	FINISH: To match existing path	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
EDGE MATERIAL & PRECAST							
E01	HARDWOOD TIMBER EDGE	140 X 19mm	Plain Hardwood Decking Timber	Dressed	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
E02	CONCRETE EDGE BEAM	200 X VARIES X 200	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light Sandblast Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E03	CONCRETE EDGE BEAM	200 X VARIES X 300	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light Sandblast Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E04	TERRACE CONCRETE EDGE BEAM	200 X VARIES X 300	10mm Greywacke Chip Peter Fel 651 Oxide Peter Fel Natural Sealer	HORIZONTAL FINISH: Light Sandblast VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E05	HARDWOOD TIMBER EDGE	140 X 19mm	Plain Hardwood Decking Timber	Dressed	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
E06	PRECAST CONCRETE BOARDWALK LAKE WALL BOARDWALK EDGE EDGE BEAM TIE INS AND BOARDWALK PILES		10mm Greywacke Chip Peter Fel 651 Oxide Peter Fel Natural Sealer	Finish: Acid Washed, F5	Boardwalk types B01, B03 and B06		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes. Allow for precast edge specials where TukuTuku decking cuts through. Raised edge to drop to allow for decking to run through.
E07	PRECAST CONCRETE PILES AND STRUCTURAL BEAMS ON TUKUTUKU BRIDGES	-	Standard Chip. No oxide	Finish: Acid Washed, F5	TukuTuku types TBL and TBS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E08	INSITU CONCRETE EDGE BEAM	175 X VARIES X 295	10mm Greywacke Chip Peter Fel 651 Oxide Peter Fel Natural Sealer	Finish: Acid Washed, F5	Boardwalk types B02, B04 and B05		
WALLS							
LW01	CONCRETE LAKE WALL TYPE 1		10mm Greywacke Chip with 4% Black Oxide	F5 - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW02 LW03 LW04	CONCRETE LAKE WALLS TYPE 2, 3 AND 4	-	Standard Chip. No oxide	F5 - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW05	CONCRETE LAKE WALL TYPE 5	-	10mm Greywacke Chip with 4% Black Oxide	F5 - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
WS01	CONCRETE WALL SEAT		Colour to match P02	HORIZONTAL FINISH: Light Sandblast VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.

No.	Revision	By	Chk	Date
H	Tender Amendment		TM	TM 30.08.19
G	Tender		MC	TM 19.06.19
F	Tender		MC	TM 18.02.19
E	100% Detailed Design		MC	TM 14.12.18
D	Draft Detailed Design		MC	TM 30.11.18
C	Draft Detailed Design		MC	TM 15.11.18
B	Draft Detailed Design		MC	TM 19.10.18
A	Draft Detailed Design		MC	TM 28.09.18

Isthmus.

Rotorua Lakes Council

Job Name: Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

Drawing Title: Paving, Edge & Wall Schedule

Job No: 4010

Drawing Number: 1_0.301

Revision: H

Issued For: Tender

SAMPLES SCHEDULE SHEET 1

CODE	MATERIAL / PRODUCT	COLOR / CODE	FINISH / DEPTH EXPOSURE	SUPPLIER	REMARKS
CONCRETE PAVING SAMPLES					
PS01	INSITU CONCRETE PAVING	Firth Elements 01 Oxide with 80kg/m³ Limestone Pebble, 19mm Awatoto Pebble and Shell Mix	FINISH: Honed to 150 Grit		1000 x 1000 x 100mm sample
PS02	INSITU CONCRETE PAVING/TERRACES	35% 10mm limestone chip, 65% 10mm Greywhacke Chip No oxide	FINISH 1: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Heavy depth bush hammered		1000 x 1000 x 150mm sample per finish
PS03	INSITU CONCRETE PAVING	10mm Greywacke Chip with 4% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS04	INSITU CONCRETE PAVING	10mm Greywacke Chip with 8% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS05	INSITU CONCRETE PAVING	Firth Elements 02 Oxide with 19mm Awatoto Pebble and Shell Mix	FINISH 1: Medium exposed FINISH 2: Honed to 150 Grit		1000 x 1000 x 100mm sample per finish
PS06	INSITU CONCRETE PAVING	Firth Waipa Mix with 4% black oxide	FINISH 1: Medium exposed FINISH 2: Honed to 150 Grit		1000 x 1000 x 100mm sample per finish
EDGE BEAM SAMPLES					
ES01	INSITU CONCRETE BEAM	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light sandblast to all visible faces		1000mm sample to be formed to match 300 x 200mm edge beam design, refer to details
ES02	INSITU CONCRETE BEAM	10mm Greywacke Chip. No oxide	FINISH 1: Horizontal surface: Light sandblast Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast Vertical surface: Heavy depth bush hammered		1000mm sample to be formed to match terrace edge beam design, refer to details
WALL SAMPLES					
WS01	INSITU CONCRETE SEAT WALL	10mm Greywacke Chip, 4% black oxide	FINISH 1: Horizontal surface: Light sandblast Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast Vertical surface: Heavy depth bush hammered		1000mm wide sample to be formed to match seat wall design, refer to details
BOARDWALK AND BRIDGE CONCRETE SAMPLES					Boardwalk concrete selections revised
BS01	PRECAST CONCRETE BOARDWALK DECKING	10mm Greywacke Chip, Peter Fel 651 Oxide, Peter Fel Natural Sealer	FINISH: F5, acid wash		Full size boardwalk edge prototype to be created to confirm finish and quality
BS02	PRECAST CONCRETE BOARDWALK PILE	10mm Greywacke Chip, Peter Fel 651 Oxide, Peter Fel Natural Sealer	FINISH: F5, acid wash		Full size pile prototype to be created to confirm finish and quality

Note: All other precast elements will be inspected after first pour samples will act as quality control for concrete colour and surface finishes. All precast elements will be inspected prior to installation to ensure they meet the details and agreed sample.

NOTE:

1. Notes applicable for all drawings including plans, sections, details and schedules.
2. To be read in conjunction with Project Specification.
3. All concrete samples are to be sealed as per specifications to determine final finish, surface colour and quality.

No.	Revision	By	Chk	Date
D	Tender Amendment		TM	TM 30.08.19
C	Tender		TM	TM 19.06.19
B	Tender		TM	TM 31.05.19
A	Tender		MC	TM 18.02.19

Isthmus.

Client: Rotorua Lakes Council

Job Name: Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

Drawing Title: Samples Schedule Sheet 1

Job No: 4010

Drawing Number: 1_0.303

Revision: D

Issued For: Tender

- One tukutuku bridge forms the western edge of Stage 1, located where the walkway starts its curve south and east across the reserve. It projects up to 2m from the lake edge and walkway with the eastern bridge less than 2m long.
- Contouring the lake edge by up to 0.8m deep and rock placement will form habitat for kōura.
- Contouring inland either side of the walkway involves a cut generally in the range of 0.1 to 0.3m.

Stage 1a Development Area:

- Curving walkway generally following the existing lake edge.
- Two tukutuku bridges connecting the curving walkway and the land. Beyond the walkway they project over the lake bed
- Excavating south from the lake edge to a depth of up to 1.3m between the western and central tukutuku bridges and generally contouring within a range 0.1 to 0.5m between the central and eastern tukutuku bridges to create a grassed area through to the lake edge.
- General landscaping and planting.
- Earthworks in this stage comprise 3,480m3 cut and 165m3 fill.

Stage 2 and 2a Development Areas:

- Walkways, cycleways, decks and boardwalks,
- Landscaping (hard and soft),
- Lake edge treatments such as promenades, beaches and reed planting,
- Jetties and connections to jetties,
- Public toilets and shelters in the Village Green area.
- Alter the roading pattern to remove Lakefront Drive, part of Oruawhata Drive and a section of Memorial Drive and replace with walking/cycle path along the lakefront, adjust the footpath and Tutanekai St and provide pedestrian crossing and add more parking to northern end of Fenton St (Memorial Drive),
- Provide a new play area north-east of the current playground and remove part of the existing playground, and
- Undertake earthworks in relation to the above works.
- landscaping and planting.
- Earthworks in this stage comprise 2,395m3 cut and 3,060m3 fill.
- The Sea Scouts building and jetty have been removed as part of site preparation works.

Stage 3 Development Area:

- Contouring and forming shallow terraces to the shared walking/ cycle path as well as grassing and planting.

Stage 4 Development Area:

- Walkways and cycleways,
- Landscaping (hard and soft),

ROTORUA LAKES COUNCIL
Te Kaunihera o ngā roto o Rotorua

Civic Centre
1061 Haupapa Street
Private Bag 3029
Rotorua Mail Centre
Rotorua 3046
New Zealand

18 June 2019

File Ref: RC16589
Doc No: RDC-924846

SIGMA CONSULTANTS LIMITED
PO Box 553,
Rotorua 3040

Attn: Ann Nicholas

Dear Ann

RLC – LAKEFRONT RESERVE (RC16589)
OUTLINE PLAN ACCEPTANCE PURSUANT TO SECTION 176A(4)
RESOURCE MANAGEMENT ACT 1991

The Rotorua Lakes Council has considered the outline plan submitted to it by the requiring authority in relation to Designation RDC 839 Lakefront Reserve.

The site comprises the following legal descriptions :

Title	1	1a	2	2a	3	4
Pt Sec 7 Blk V Town of Rotorua (SO 59238)	X	X	X		X	
Pt Sec 1 SO 59925	X		X	X		X
Pt Sec 1 Blk V Town of Rotorua (SO 4062)	X		X	X		X
Section 1 SO 59891			X	X	X	
Section 6 Blk V Town of Rotorua (SO 38952)					X	
Pt Sec 2 Blk 1 Tarawera SD (SO 32358)	X					
Section 2 SO 59238	X					

The site is designated in the Rotorua District Plan for Civic Purposes and is subject to both general conditions and specific conditions as set out in Appendix A6.

The requiring authority is seeking outline plan approval to the following works:

Stage 1 Development Area:

- Curving walkway across the reserve before projecting out east over the lake. The eastern end of
- the walkway is designed to provide a place for contemplation, including the pavilion at the end. All of this walkway is located within the land ward side of the title boundary until it reaches the eastern end and leaves behind the lake edge.

P: +64 7 348 4199 | F: +64 7 346 3143 | E: info@rotorualc.nz | W: rotorualakescouncil.nz

Resource Consent

BAY OF PLENTY REGIONAL COUNCIL
TOI MOANA

Resource Consent RM19-0288-AP

Rotorua Lakes Council

Consent(s) to:

RM19-0288-BC.01	Lake Structure
RM19-0288-BC.02	Lake Structure
RM19-0288-BC.03	Lake Structure
RM19-0288-DC.01	Discharge to Land
RM19-0288-LC.01	Earthworks or Excavation

Thriving together - mō te taiao, mō ngā tāngata

The consent(s) are subject to the conditions specified on the attached schedule(s) for each activity. Advice notes are also provided as supplementary guidance, and to specify additional information to relevant conditions.

- Internal access roads and parking areas,
- Undertake earthworks in relation to the above works.

The following advisory notes form part of this decision:

(a) It is noted that a separate regional consent process is required for earthworks on and along the margins of Lake Rotorua and the requiring authority has applied for these consents accordingly.

(b) This decision does not apply to any works outside the designation footprint or to any works not identified in the outline plan application.

(c) Council Land Development Engineers have requested the opportunity to review the final engineering plans for the pump station and for the final car park design.

I am pleased to advise that the outline plan is accepted and no change is requested pursuant to section 176A(4) of the Resource Management Act.

If you have any queries, please do not hesitate to contact Todd Whittaker (Consultant Planner) on (021) 676 377 or email todd@planningworks.co.nz.

Yours faithfully

.....

Todd Whittaker
Consultant Planner

Signed for and on behalf of the
Rotorua Lakes Council

6.1 The Bay of Plenty Regional Council may serve notice on the consent holder at any time under section 128(1) of the Resource Management Act 1991 of its intention to review the conditions of the consent. The purpose of such a review is to deal with any adverse environmental effect which may result from the consented activity.

7.0 Term of Consent

7.1 This consent shall expire on 31 August 2020.

8.0 Resource Management Charges

8.1 The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

9.0 The Consent

9.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1 Notification required by this consent shall be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, Box 364, Whakatāne 3158, or email notify@boprc.govt.nz. Notification should include reference to the consent number RM19-0288.

2 No archaeological sites, whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 can be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi is unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand and all relevant iwi/hapū for advice. Heritage New Zealand contact details: infolowernorthern@heritage.org.nz or phone 07 577 4530. The Bay of Plenty Regional Council is able to advise of the contact details for the relevant iwi and hapū in this area.

3 The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.

4 The Bay of Plenty Regional Council has a transfer agreement in accordance with section 33 of the Resource Management Act 1991 with Rotorua District Council. This transfer agreement transfers duties, powers and functions under section 9 of the Resource Management Act, in relation to some activities on the Rotorua Lakes, from Rotorua District Council to the Bay of Plenty Regional Council. This consent is issued in accordance with this transfer agreement.

5 Where machinery operation in the lake is necessary, the consent holder and/or their contractors are required to ensure that all machinery used in the water is cleaned before and after use in the water to the standards prescribed by Biosecurity NZ (https://www.mpi.govt.nz/travel-and-recreation/outdoor-activities/check-clean-dry/).

6 This consent will lapse (no longer be valid) five years after the granting of the consent (section 125 Resource Management Act 1991) unless the consent is given effect to (usually some work being carried out under the authority of the consent). An application can be made to the Regional Council to extend the lapse period, but only before the consent lapses.

7 The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.

8 The consent holder is advised to surrender consent 50108 which authorises the existing boardwalk and two L-Shaped Jetties to avoid on-going administrative charges.

Bay of Plenty Regional Council

Resource Consent

A resource consent:

- **Under section 13(1)(a) of the Resource Management Act 1991 and Rule BW R36 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being to disturb the bed of Lake Rotorua associoated with the removal of lake structures.**

subject to the following conditions:

1.0 Purpose

1.1 The purpose of this resource consent is to authorise and set conditions for the removal of the existing walkway along the lake edge and two L-shaped jetties (INSERT PLATE NUMBERS) adjacent to the Lake Rotorua Lakefront.

2.0 Location

2.1 The activity authorised by this resource consent shall be located:
(a) At or about map reference NZTM2000 1885205, 5774661
(b) As shown on BOPRC Consent Plan RM19-0288/01

3.0 Legal Description

3.1 Lake Rotorua - Section 1 SO 338985

4.0 Notification of Works

4.1 No less than five working days prior to the overall start of works under this consent the consent holder shall request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions (see Advice Note 1).

5.0 Removal of Lake Structures

5.1 All lake structure removal works shall be carried out in a manner that minimises lakebed disturbance and discolouration and shall be completed as soon as practicable after commencement.

5.2 The consent holder shall ensure all materials comprising the lake structures are removed from Lake Rotorua upon dismantling of the structures. Upon dismantling of the structures, the construction materials shall be disposed of at an appropriately licenced facility.

5.3 Where practicable, machinery shall be kept out of the lake during removal works. If machinery is to be used in the water, machinery must be thoroughly cleaned before and after use in the water to prevent the spread of unwanted organisms.

6.0 Review of Consent Conditions

Bay of Plenty Regional Council

Resource Consent

A resource consent:

- **Under section 9(3)(a) of the Resource Management Act 1991 and Rule 10.5.62 and 10.5.72 of the Rotorua District Plan, to carry out a discretionary activity being to Place, Use and Maintain a series of Lake Walls within an Outstanding Natural Feature and Landscape and Significant Natural Area, being the surface of Lake Rotorua;**
- **Under section 13(1)(a) of the Resource Management Act 1991 and Rule BW R36 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being to Erect, Use and Maintain a series of Lake Walls in, on and over the bed of Lake Rotorua**

subject to the following conditions:

1.0 Location

1.1 The activity authorised by this resource consent shall be located:
(a) At or about map reference NZTM2000 1885141, 5774663
(b) As shown on BOPRC Consent Plan RM19-0288/01

2.0 Purpose

2.1 The purpose of this resource consent is to authorise and set conditions on the erection, use and ongoing maintenance of a series of Lake Walls in, on and over the bed of Lake Rotorua.

3.0 Legal Description

3.1 Lake Rotorua - Section 1 SO 338985

4.0 Notification Works

4.1 No less than five working days prior to the overall start of works under this consent the consent holder shall request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions (see Advice Note 1).

4.2 No less than five working days prior to the completion of works under this consent (prior to the removal of erosion and sediment controls), the consent holder shall notify and request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council.

4.3 No less than five working days prior to undertaking the works the consent holder shall contact a representative of **Ngati Whakaue and Te Arawa Lakes Trust** and invite a representative on-site as a cultural monitor during the top-soil stripping phase of works. Evidence of this invitation shall be kept and provided to the Bay of Plenty Regional Council within 48 hours of a request (see Advice Note 1).

4.4 Within 30 working days of completion of the construction works associated with the lake wall(s) under this consent, the consent holder shall submit a statement signed by a suitably qualified professional verifying that the lake structures have been installed as required by this consent and in accordance with

good engineering practice.

5.0 Design and Construction of Lake Walls

5.1 The lake wall shall be designed in general accordance with BOPRC Consent Plan RM19-0288/XX (location) and RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Wall Type W01 *Drawing No. 1007467, 3000-350 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Wall Type W02 *Drawing No. 1007467, 3000-351 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Section – Wall Type W03 *Drawing No. 1007467, 3000-352 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Wall Type W04 *Drawing No. 1007467, 3000-353 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Section and Detail *Drawing No. 1007467, 3000-354 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Lakewall Design – Wall Type W01 *Drawing No. 1007467, 3000-350 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

5.2 Construction and installation work shall be carried out in accordance with the relevant sections of the resource consent application and further information (refer condition 4.1 RM19-0288-LC-01), the Construction Management Plan (refer condition 4.2 RM19-0288-LC-01) and conditions 4.3 and 4.4 (RM19-0288-LC-01) to minimise lakebed disturbance and discolouration.

5.3 The area occupied by the lake structures (the footprint) authorised by this consent, shall not exceed the dimensions outlined in the as-built plans required by condition 4.4 of this consent (see Advice Note 6).

6.0 Construction works

6.1 The consent holder shall ensure that all kōura at the site are translocated prior to the commencement of structure works and shall notify the Bay of Plenty Regional Council upon the completion of translocation (see Advice Note 1).

6.2. All plant, machinery, equipment and debris associated with this operation shall be removed from the lake shore area at the completion of the operation.

6.2 Where practicable, machinery shall be kept out of the lake during construction works. If machinery is to be used in the water, machinery must be thoroughly cleaned before and after use in the water to prevent the spread of unwanted organisms.

6.3 No vegetation, soil, or other debris shall be deposited in the lake, or left in a position where the material could enter water.

6.4 No fuel storage or machinery refuelling shall occur where fuel could enter a water body if spilt

6.5 The consent holder shall take all practicable measures to prevent concrete or cement based-substances from entering surface water. These measures shall include, but not be limited to, the following:

I. Ensure appropriate controls are in place before the use of cement begins to contain and remove all cement contaminated waste, and to prevent any discharge of waste water to fresh or storm water;
II. Ensure clean storm water is diverted away from the work area; '
III. Immediately contain and clean up any spills that occur;
IV. All cement particles and dust must be contained and removed from the works area during the work and immediately after the completion of the work. Cement waste must be reused within

explanation shall be provided as part of the details setting out the process and consultation by which the designs were developed and the consultation undertaken to reach agreement on the design. Design elements include but are not limited to:

1 Design elements such as tumu, artwork, materials, planting;
2 Interpretation displays showing changes at the site over time, historical photographs, original vegetation, Māori use of the site prior to European settlement, avifauna and other fauna;
3 Safety measures for sections of the 5.0m wide boardwalk where the structure is over water should be in general accordance with: a minimum 50mm raised edge with contrasting colour and edge lighting such as an LED lighting strip;
4 Low level lighting;
5 Habitat enhancement measures.

Note this condition has been proffered by the Rotorua District Council and is imposed on an augier basis.

10.0 Review of Consent Conditions

10.1 In accordance with section 128(1)(a) of the Resource Management Act 1991, within one month of the fifth, tenth, fifteenth, twentieth and/or twenty-fifth anniversary of the date this resource consent is granted, the Bay of Plenty Regional Council may serve notice on the consent holder of its intention to review the conditions of this resource consent in order to deal with any adverse effect on the environment or on the relationship of tangata whenua with the lake that occurs as a result of the exercise of this consent, and which it is appropriate to deal with at a later stage.

11.0 Term of Consent

11.1 This consent shall expire on 31 August 2049

Resource Management Charges

12.1 The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

13.0 The Consent

13.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1 Notification required by this consent shall be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, Box 364, Whakatāne 3158, or email notify@boprc.govt.nz. Notification should include reference to the consent number RM19-0288.

2 No archaeological sites, whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 can be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi is unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand and all relevant iwi/hapū for advice. Heritage New Zealand contact details: infolowernorthern@heritage.org.nz or phone 07 577 4530. The Bay of Plenty Regional Council is able to advise of the contact details for the relevant iwi and hapū in this area.

3 The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents

4 This consent does not authorise any activities associated with any vessel using the facility. In particular, discharges from vessels are likely to require other authorisations.

the work area or disposed of at an appropriate facility;

v Create a designated wash down area on site for any vehicles and equipment to be used in or near the lake bed and ensure staff know this is available.

6.6 The consent holder shall ensure that no water associated with the mixing, pouring, placing and cleaning of concrete structures and/or equipment is released into a water body.

7.0 Maintenance

7.1 The consent holder shall ensure that the boardwalk, Tukutuku Bridges and Pavilion authorised by this consent are adequately maintained in a structurally sound condition at all times.

7.2 Notwithstanding condition 7.1, the consent holder shall undertake any maintenance works, including those relating to structural integrity of the Boardwalk, Tukutuku Bridges and Pavilion authorised under this consent if so directed by the Bay of Plenty Regional Council as soon as is reasonably practicable.

7.3 In the event the consent holder is requested to carry out maintenance works as required by condition 7.2 , and the consent holder does not consider those maintenance works necessary, the consent holder shall engage a suitable independent professional (see Advice note 13) to undertake an urgent structural integrity survey of any of the lake structures authorised by this consent. The consent holder shall report the findings of that survey to the Bay of Plenty Regional Council and undertake necessary maintenance on the relevant structure(s) as identified by that survey as soon as reasonably practicable.

7.4 The consent holder shall ensure that any maintenance works undertaken on the Boardwalk, Tukutuku Bridges and Pavilion authorised under this consent does not increase or alter the footprint of any of these structures within the lake as per conditions 5.3 (see Advice Note 6).

7.5 The consent holder shall not alter the Boardwalk, Tukutuku Bridges and Pavilion to the extent that they are visually obtrusive or detracts from the natural character of the lake. Alteration includes, but is not limited to, attachments; colour, and/or materials.

7.6 No maintenance works shall be undertaken during:

- The dabchick breeding season, which is between 1 September and 25 December; or
- The native fish spawning season, which is between 15 August and 15 October.

unless the works are required to avoid serious harm to the general public and the consent holder is able to provide the Bay of Plenty Regional Council with a copy of the Department of Conservation's written approval for the works beforehand (see Advice Note 1).

7.7 No maintenance works shall be undertaken in the bed of the lake between 1 May and 30 August, which is the peak trout spawning period, unless the consent holder is able to provide the Bay of Plenty Regional Council with a copy of Fish and Game NZ's written permission for the works beforehand (See Advice Note 1).

7.8 The consent holder shall maintain records of the date/s of any maintenance activities carried out on the structure authorised by this consent, and shall forward a copy of these records to the Bay of Plenty Regional Council within 48 hours of its request (see Advice Note 16).

7.9 The consent holder shall inform the Bay of Plenty Regional Council, in writing, before starting any maintenance works on any of the structures authorised by this consent (see Advice Note 16).

8.0 Monitoring and Reporting

8.1 The consent holder shall maintain records of the date that any maintenance activities are carried out on the structures authorised by this consent.

8.2 The consent holder shall forward a copy of records required by condition 8.1 to the Regional Council within 48 hours of its request (see Advice Note 1).

9.0 Tangata Whenua Narrative

9.1 The consent holder shall provide to the Bay of Plenty Regional Council plans showing the detailed design of the proposed design elements, including artwork, interpretative panels and displays, landscaping, treatments and signage, including materials and colour schemes, prior to the inclusion, erection or construction of such elements. Where designs incorporate cultural references an

Bay of Plenty Regional Council

Resource Consent

A resource consent:

- **Under section 9(3)(a) of the Resource Management Act 1991 and Rule 10.5.62 and 10.5.72 of the Rotorua District Plan, to carry out a discretionary activity being to Place, Use and Maintain a Public Boardwalk, Two Public Tukutuku Bridges and a Pavilion within an Outstanding Natural Feature and Landscape and Significant Natural Area, being the surface of Lake Rotorua;**

- **Under section 13(1)(a) of the Resource Management Act 1991 and Rule BW R36 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being to Erect, Use and Maintain a Public Boardwalk, Two Public Tukutuku Bridges and a Pavilion in, on and over the bed of Lake Rotorua;**

subject to the following conditions:

1.0 Purpose

1.1 The purpose of this resource consent is to authorise and set conditions on the erection, use and ongoing maintenance of a public Boardwalk and two public Tukutuku Bridges in, on and over the bed of Lake Rotorua.

2.0 Location

2.1 The activity authorised by this resource consent shall be located:
(a) At or about map reference NZTM 1885174, 5774681, and
(b) As shown on BOPRC Consent Plan RM19-0288/XX

3.0 Legal Description

3.1 Lake Rotorua - Section 1 SO 338985

4.0 Notification of Works

4.1 No less than five working days prior to the overall start of works under this consent the consent holder shall request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions (see Advice Note 1).

4.2 No less than five working days prior to the completion of works under this consent (prior to the removal of erosion and sediment controls), the consent holder shall notify and request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council.

4.3 No less than five working days prior to undertaking the works the consent holder shall contact a representative of Ngati Whakaue and Te Arawa Lakes Trust and invite a representative on-site as a cultural monitor during the top-soil stripping phase of works. Evidence of this invitation shall be kept and provided to the Bay of Plenty Regional Council within 48 hours of a request (see Advice Note 2).

5 This activity may require authorisation under the Building Act 1991.

6 The footprint of the structure is the area which the structure currently occupies, either on the lake bed, within the lake, or above the lake. This consent does not authorise any increase to the size of the footprint of any structure identified as part of this consent.

7 This consent does not constitute landowner approval, which is approval from the owners of the lakebed (Te Arawa Lakes Trust), the Crown Stratum which is the water and air space above the lake bed (administered by Land Information New Zealand on behalf of the Crown) or DOC Marginal Strip (administered by the Department of Conservation on behalf of the Crown) where applicable.

8 In addition to the resource consent, Lease/Right to Occupy agreements are issued for a period of 10 years. The lessee/grantee is required to re-apply for a lease/RTO prior to the Lease/RTO expiring.

9 This consent does not allow for use of the lake structures for commercial purposes.

10 The Bay of Plenty Regional Council has a transfer agreement in accordance with section 33 of the Resource Management Act 1991 with Rotorua District Council. This transfer agreement transfers duties, powers and functions under section 9 of the Resource Management Act, in relation to some activities on the Rotorua Lakes, from Rotorua District Council to the Bay of Plenty Regional Council. This consent is issued in accordance with this transfer agreement.

11 Where machinery operation in the lake is necessary, the consent holder and/or their contractors are required to ensure that all machinery used in the water is cleaned before and after use in the water to the standards prescribed by Biosecurity NZ (https://www.mpi.govt.nz/travel-and-recreation/outdoor-activities/check-clean-dry/).

12 This consent will lapse (no longer be valid) five years after the granting of the consent (section 125 Resource Management Act 1991) unless the consent is given effect to (usually some work being carried out under the authority of the consent). An application can be made to the Regional Council to extend the lapse period, but only before the consent lapses.

13 A suitably qualified professional denotes a qualified builder or a structural engineer with experience in building or designing the relevant type of structure.

14 This consent does not authorise vegetation or sediment clearance within Lake Rotorua, upon completion of the construction works.

15 The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.

16 Maintenance works include replacement/reconstruction of the structure within the existing footprint on a like-for-like basis.

17 The storytelling mechanisms are to enhance the understanding of residents and visitors about the original occupation and mana whenua of the area.

4.4 Within 30 working days of completion of the construction works associated with the timber boardwalk and tukutuku bridges under this consent, the consent holder shall submit a statement signed by a suitably qualified professional verifying that the lake structures have been installed as required by this consent and in accordance with good engineering practice.

5.0 Design and Construction of Lake Structures

5.1 The Boardwalk and Tukutuku Bridges shall be designed in general accordance with BOPRC Consent Plan RM19-0288/XX (location) and the following plans:

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development, Bridges and Lake Walls Stage 1 and 1a Layouts *Drawing No. 1007467, 3000-200 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Bridges and Lake Walls Layout – Sheet 1 of 3 *Drawing No. 1007467, 3000-201 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Bridges and Lake Walls Layout – Sheet 2 of 3 *Drawing No. 1007467, 3000-202 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Bridges and Lake Walls Layout – Sheet 3 of 3 *Drawing No. 1007467, 3000-203 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Bridges and Lake Walls Design Alignments – Western Extent, *Drawing No. 1007467, 3000-200 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk, Bridges and Lake Walls Design Alignments – Western Extent, *Drawing No. 1007467, 3000-300 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Design Alignments – Eastern Extent, *Drawing No. 1007467, 3000-301 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 1 of 8, *Drawing No. 1007467, 3000-302 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 2 of 8, *Drawing No. 1007467, 3000-303 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 3 of 8, *Drawing No. 1007467, 3000-304 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 4 of 8, *Drawing No. 1007467, 3000-305 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 5 of 8, *Drawing No. 1007467, 3000-306 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 6 of 8, *Drawing No. 1007467, 3000-307 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 7 of 8, *Drawing No. 1007467, 3000-308 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Boardwalk Bridges and Lake Walls Alignment and Details Sheet 8 of 8, *Drawing No. 1007467, 3000-309 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Typical Foundation Section, *Drawing No. 1007467, 3000-310 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Typical Foundation Longsection *Drawing No. 1007467, 3000-311 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Typical Foundation Layout *Drawing No. 1007467, 3000-312 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Typical Pier and Deck Section *Drawing No. 1007467, 3000-313 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Typical Pier and Deck Longsection *Drawing No. 1007467, 3000-314 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Steelwork Arrangement – Sheet 1 of 2 *Drawing No. 1007467, 3000-315 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 5.0m Boardwalk Design Steelwork Arrangement – Sheet 2 of 2 *Drawing No. 1007467, 3000-316 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Typical Foundation Section *No. 1007467, 3000-320 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Typical Foundation Longsection *Drawing No. 1007467, 3000-321 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Foundation Layout *Drawing No. 1007467, 3000-322 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Typical Pier and Deck Cross Section *Drawing No. 1007467, 3000-323 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Boardwalk Design Typical Pier and Deck Longsection *Drawing No. 1007467, 3000-324 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Boardwalk Design Steelwork Arrangement – Sheet 1 of 2 *Drawing No. 1007467, 3000-325 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 3.0m Boardwalk Design Steelwork Arrangement – Sheet 2 of 2 *Drawing No. 1007467, 3000-326 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Bridges Design Typical Foundation Cross Section *Drawing No. 1007467, 3000-330 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Bridges Design Typical Foundation Longsection *Drawing No. 1007467, 3000-331 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Pavillion Design Plan – Steelwork Arrangement *Drawing No. 1007467, 3000-370 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Pavillion Design Sections – Steelwork Arrangement *Drawing No. 1007467, 3000-371 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Pavillion Design Base – Steelwork Arrangement *Drawing No. 1007467, 3000-372 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Pavillion Design Sections – Steelwork Arrangement *Drawing No. 1007467, 3000-373 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Pavillion Design Sections – Steelwork Arrangement *Drawing No. 1007467, 3000-371 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

5.2 Construction and installation work shall be carried out in accordance with the relevant sections of the resource consent application and further information (refer condition 4.1 RM19-0288-LC-01), the Construction Management Plan (refer condition 4.4 RM19-0288-LC-01) and conditions 4.3 and 4.4 (RM19-0288-LC-01) to minimise lakebed disturbance and discolouration.

5.3 The public shall have the right to access and use the Boardwalk and Tukutuku Bridges for private recreational purposes.

5.4 The area occupied by the lake structures (the footprint) authorised by this consent, shall not exceed the dimensions outlined in the as-built plans required by condition 4.4 of this consent (see Advice Note 6).

6.0 Construction works

6.1 All plant, machinery, equipment and debris associated with this operation shall be removed from the lake shore area at the completion of the operation.

6.2 Where practicable, machinery shall be kept out of the lake during construction works. If machinery is to be used in the water, machinery must be thoroughly cleaned before and after use in the water to prevent the spread of unwanted organisms.

6.3 No vegetation, soil, or other debris shall be deposited in the lake, or left in a position where the material could enter water.

6.4 No fuel storage or machinery refuelling shall occur where fuel could enter a water body if spilt

6.5 The consent holder shall take all practicable measures to prevent concrete or cement based-substances from entering surface water. These measures shall include, but not be limited to, the following:

I. Ensure appropriate controls are in place before the use of cement begins to contain and remove all cement contaminated waste, and to prevent any discharge of waste water to fresh or storm water;
II. Ensure clean storm water is diverted away from the work area; '
III. Immediately contain and clean up any spills that occur;
IV. All cement particles and dust must be contained and removed from the works area during the work and immediately after the completion of the work. Cement waste must be reused within the work area or disposed of at an appropriate facility;
V. Create a designated wash down area on site for any vehicles and equipment to be used in or near the lake bed and ensure staff know this is available.

6.6 The consent holder shall ensure that no water associated with the mixing, pouring, placing and cleaning of concrete structures and/or equipment is released into a water body.

7.0 Maintenance

7.1 The consent holder shall ensure that all kōura at the site are translocated prior to the commencement of structure works and shall notify the Bay of Plenty Regional Council upon the completion of translocation

Tukutuku Bridge Design Typical Pier and Deck Cross Section Foundation Longsection *Drawing No. 1007467, 3000-332 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Bridge Design Typical Pier and Deck Cross Longsection Foundation Longsection *Drawing No. 1007467, 3000-333 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Bridge Design Steelwork Arrangement Sheet 1 of 2 *Drawing No. 1007467, 3000-334 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Bridge Design Steelwork Arrangement Sheet 2 of 2 *Drawing No. 1007467, 3000-335 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 2.4m Tukutuku Typical Pier and Deck Cross Longsection *Drawing No. 1007467, 3000-336 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Typical Cross Section *Drawing No. 1007467, 3000-340 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Typical Longsection *Drawing No. 1007467, 3000-341 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Typical Pier and Deck Cross Section *Drawing No. 1007467, 3000-342 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Typical Pier and Deck Longsection *Drawing No. 1007467, 3000-343 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Steel Work Arrangement *Drawing No. 1007467, 3000-344 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development 1.05m Tukutuku Bridge Design Typical Tukutuku Bridge Longsection *Drawing No. 1007467, 3000-343 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Design Plan – 5.0m Boardwalk Northwest Abutment *Drawing No. 1007467, 3000-360 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Design Plan – 5.0m Tukutuku Bridge Abutment *Drawing No. 1007467, 3000-361 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Design Plan – 5.0m Boardwalk South East Abutment *Drawing No. 1007467, 3000-362 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Design Plan – 3.0m Boardwalk Abutment *Drawing No. 1007467, 3000-363 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Design - Typical Section – Boardwalk Abutment *Drawing No. 1007467, 3000-364 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor construction plans entitled Rotorua Lakefront Development Abutment Typical Section - Tukutuku Bridge Abutment *Drawing No. 1007467, 3000-365 Rev A (05/02/2019)* and referenced as BOPRC Consent Plan RM19-0288/XX

(see Advice Note 1).

7.2 The consent holder shall ensure that the boardwalk, Tukutuku Bridges and Pavilion authorised by this consent are adequately maintained in a structurally sound condition at all times.

7.3 Notwithstanding condition 7.2, the consent holder shall undertake any maintenance works, including those relating to structural integrity of the Boardwalk, Tukutuku Bridges and Pavilion authorised under this consent if so directed by the Bay of Plenty Regional Council as soon as is reasonably practicable.

7.4 In the event the consent holder is requested to carry out maintenance works as required by condition 7.3 , and the consent holder does not consider those maintenance works necessary, the consent holder shall engage a suitable independent professional (see Advice note 13) to undertake an urgent structural integrity survey of any of the lake structures authorised by this consent. The consent holder shall report the findings of that survey to the Bay of Plenty Regional Council and undertake necessary maintenance on the relevant structure(s) as identified by that survey as soon as reasonably practicable.

7.5 The consent holder shall ensure that any maintenance works undertaken on the Boardwalk, Tukutuku Bridges and Pavilion authorised under this consent does not increase or alter the footprint of any of these structures within the lake as per conditions 5.4 (see Advice Note 4).

7.6 The consent holder shall not alter the Boardwalk, Tukutuku Bridges and Pavilion to the extent that they are visually obtrusive or detracts from the natural character of the lake. Alteration includes, but is not limited to, attachments; colour, and/or materials.

7.7 No maintenance works shall be undertaken during:

- The dabchick breeding season, which is between 1 September and 25 December; or
- The native fish spawning season, which is between 15 August and 15 October.

unless the works are required to avoid serious harm to the general public and the consent holder is able to provide the Bay of Plenty Regional Council with a copy of the Department of Conservation's written approval for the works beforehand (see Advice Note 1).

7.8 No maintenance works shall be undertaken in the bed of the lake between 1 May and 30 August, which is the peak trout spawning period, unless the consent holder is able to provide the Bay of Plenty Regional Council with a copy of Fish and Game NZ's written permission for the works beforehand (See Advice Note 1).

7.9 The consent holder shall maintain records of the date/s of any maintenance activities carried out on the structure authorised by this consent, and shall forward a copy of these records to the Bay of Plenty Regional Council within 48 hours of its request (see Advice Note 16).

7.10 The consent holder shall inform the Bay of Plenty Regional Council, in writing, before starting any maintenance works on any of the structures authorised by this consent (see Advice Note 16).

8.0 Monitoring and Reporting

8.1 The consent holder shall maintain records of the date that any maintenance activities are carried out on the structures authorised by this consent.

8.2 The consent holder shall forward a copy of records required by condition 8.1 to the Regional Council within 48 hours of its request (see Advice Note 1).

8.3 The consent holder shall inspect the boardwalk, tukutuku and Pavilion structures annually and following large storm events to ensure that the structures remain in a fit for purpose condition.

9.0 Tangata Whenua Narrative

9.1 The consent holder shall provide to the Bay of Plenty Regional Council plans showing the detailed design of the proposed design elements, including artwork, interpretative panels and displays, landscaping, treatments and signage, including materials and colour schemes, prior to the inclusion, erection or construction of such elements. Where designs incorporate cultural references an explanation shall be provided as part of the details setting out the process and consultation by which the designs were developed and the consultation undertaken to reach agreement on the design. Design elements include but are not limited to:

1 Design elements such as tumu, artwork, materials, planting;

2 Interpretation displays showing changes at the site over time, historical photographs, original vegetation, Māori use of the site prior to European settlement, avifauna and other fauna;
3 Safety measures for sections of the 5.0m wide boardwalk where the structure is over water should be in general accordance with: a minimum 50mm raised edge with contrasting colour and edge lighting such as an LED lighting strip;
4 Low level lighting;
5 Habitat enhancement measures.

Note this condition has been proffered by the Rotorua District Council and is imposed on an augier basis.

10.0 Review of Consent Conditions

10.1 In accordance with section 128(1)(a) of the Resource Management Act 1991, within one month of the fifth, tenth, fifteenth, twentieth and/or twenty-fifth anniversary of the date this resource consent is granted, the Bay of Plenty Regional Council may serve notice on the consent holder of its intention to review the conditions of this resource consent in order to deal with any adverse effect on the environment or on the relationship of tangata whenua with the lake that occurs as a result of the exercise of this consent, and which it is appropriate to deal with at a later stage.

11.0 Term of Consent

11.1 This consent shall expire on 31 August 2049.

12.0 Resource Management Charges

12.1 The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

13.0 The Consent

13.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1 Notification required by this consent shall be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, Box 364, Whakatāne 3158, or email notify@boprc.govt.nz. Notification should include reference to the consent number RM19-0288.

2 No archaeological sites, whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 can be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi is unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand and all relevant iwi/hapū for advice. Heritage New Zealand contact details: infolowernorthern@heritage.org.nz or phone 07 577 4530. The Bay of Plenty Regional Council is able to advise of the contact details for the relevant iwi and hapū in this area.

3 The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.

4 This consent does not authorise any activities associated with any vessel using the facility. In particular, discharges from vessels are likely to require other authorisations.

5 This activity may require authorisation under the Building Act 1991.

6 The footprint of the structure is the area which the structure currently occupies, either on the lake bed, within the lake, or above the lake. This consent does not authorise any increase to the size of

Consent Number: **RM19-0288-DC.01**
TEMPORARY DISCHARGE SEDIMENT CONTAMINATED STORMWATER

Bay of Plenty Regional Council

Resource Consent

A resource consent:

- **Under section 15(1)(a) of the Resource Management Act 1991 and Rule 37 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being to Temporarily Discharge Sediment Contaminated Stormwater to Land where it may enter Water;**
- **Under section 15(1)(a) of the Resource Management Act 1991 and Rule 37 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being to Temporarily Discharge Contaminants (Flocculant) to Water.**

subject to the following conditions:

1 Purpose

1.1 The purpose of this resource consent is to authorise and set conditions for the discharge of sediment contaminated stormwater to land where it may enter water within the Rotorua Lakefront and associated reserve.

2 Location

2.1 The activity authorised by this resource consent shall be located:
(a) At or about map reference NZTM2000 1885141, 5774663
(b) As shown on BOPRC Consent Plan RM19-0288/01

3 Notification of Works

3.1 No less than five working days prior to the overall start of works under this consent the consent holder shall request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions (see Advice Note 3).

3.2 No less than five working days prior to the completion of works under this consent, the consent holder shall notify and request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council.

5 Temporary Stormwater Management and Treatment

5.1 Erosion and sediment controls for the treatment of sediment contaminated stormwater shall be designed and constructed in accordance with the certified version of the Construction Management Plan (CMP) for the relevant stage of works (refer condition 4.2, 4.3 and 4.4 RM19-0288-LC-01).

5.2 All sediment contaminated stormwater generated at the site shall be treated in an onsite treatment device, as detailed in the Construction Management Plan (CMP), prior to discharging off site and/or to Lake Rotorua.

the footprint of any structure identified as part of this consent.

7 This consent does not constitute landowner approval, which is approval from the owners of the lakebed (Te Arawa Lakes Trust), the Crown Stratum which is the water and air space above the lake bed (administered by Land Information New Zealand on behalf of the Crown) or DOC Marginal Strip (administered by the Department of Conservation on behalf of the Crown) where applicable.

8 In addition to the resource consent, Lease/Right to Occupy agreements are issued for a period of 10 years. The lessee/grantee is required to re-apply for a lease/RTO prior to the Lease/RTO expiring.

9 This consent does not allow for use of the lake structures for commercial purposes.

10 The Bay of Plenty Regional Council has a transfer agreement in accordance with section 33 of the Resource Management Act 1991 with Rotorua District Council. This transfer agreement transfers duties, powers and functions under section 9 of the Resource Management Act, in relation to some activities on the Rotorua Lakes, from Rotorua District Council to the Bay of Plenty Regional Council. This consent is issued in accordance with this transfer agreement.

11 Where machinery operation in the lake is necessary, the consent holder and/or their contractors are required to ensure that all machinery used in the water is cleaned before and after use in the water to the standards prescribed by Biosecurity NZ (https://www.mpi.govt.nz/travel-and-recreation/outdoor-activities/check-clean-dry/).

12 This consent will lapse (no longer be valid) five years after the granting of the consent (section 125 Resource Management Act 1991) unless the consent is given effect to (usually some work being carried out under the authority of the consent). An application can be made to the Regional Council to extend the lapse period, but only before the consent lapses

13 A suitably qualified professional denotes a qualified builder or a structural engineer with experience in building or designing the relevant type of structure

14 This consent does not authorise vegetation or sediment clearance within Lake Rotorua, upon completion of the construction works.

15 The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.

16 Maintenance works include replacement/reconstruction of the structure within the existing footprint on a like-for-like basis.

17 The storytelling mechanisms are to enhance the understanding of residents and visitors about the original occupation and mana whenua of the area.

18 The consent holder is advised to surrender consent 50108 which authorises the existing board walk and two L-Shaped Jetties to avoid on-going administrative charges.

8.1 If in the event that treatment chemical(s) are to be used to treat sediment contaminated storm-water generated from the site, then the consent holder shall submit for approval to the Chief Executive of the Regional Council or delegate a Chemical Treatment Plan detailing the following:

1. The results of testing of samples of sediment contaminated storm-water from the site which demonstrates the effectiveness, suitability and optimal rates of application of the specific treatment chemical proposed to be applied (including assumptions);
2. Manufacturers data on the specific treatment chemical, including but not limited to Material Safety Data Sheets or successor and recommendations regarding use and application of treatment chemicals;
3. Details of the types of erosion and sediment controls to be treated;
4. Situation(s) (including batch treatment) and timing that the treatment chemical(s) is to be applied;
5. Details on the type of treatment chemical proposed to be applied and method of application;
6. Details of sampling and monitoring that is to be undertaken to illustrate the effects of the use of the chemical on the receiving environment during the chemical application (including pH);
7. Records of application, maintenance regime of any relevant structures;
8. Chemical spill contingencies; and
9. An analysis of whether any other specific measures are required in relation to the application of the treatment chemical(s) in order to ensure that the application results in adverse environmental effects on the receiving environment that are no more than minor.

8.2 The consent holder shall not apply treatment chemicals on site, including to storm-water, until certification in writing for the Chemical Treatment Plan provided through these conditions has been provided by the Chief Executive of the Regional Council or delegate (see Advice Note 3).

8.3 No material amendments may be made to the approved Chemical Treatment Plan or implemented unless prior written approval from Chief Executive of the Regional Council or delegate is obtained.

8.4 Upon certification of the Chemical Treatment Plan under condition 4.2, the consent holder shall only administer treatment chemicals as per the approved Chemical Treatment Plan.

8.5 If treatment chemicals are applied, the discharge of storm-water from any chemically treated sediment pond(s) shall have a pH between the range of 5.5 to 8.0 (inclusive).

8.6 The dilution and application rates of treatment chemicals (flocculant) shall be in accordance with the manufacturers recommendations. The consent holder shall maintain records of the volume of the product, the dilution, the location of its discharge and the application rates, for the entirety of the term of this consent. The records shall be provided to the Bay of Plenty Regional Council upon request.

10 Maintenance

10.1 The consent holder shall ensure that the erosion and sediment controls and associated erosion protection devices and dust controls are maintained in an effective capacity at all times during works and until the site is stabilised.

10.2 The consent holder will be responsible for any ongoing maintenance of the outfall and erosion protection works authorised under this consent.

10.3 The stormwater system and outfall shall be operated and maintained in good working order at all times, to the satisfaction of the Chief Executive of the Regional Council or delegate.

10.4 The consent holder shall ensure that, any necessary maintenance of erosion and sediment controls identified by inspection, or by Regional Council staff, is completed as soon as practicable.

11 Documentation

11.1 The consent holder shall maintain records of:

(i) Every inspection carried out under condition [Inspection Condition];

(ii) The date and description of any maintenance work carried out;

5.3 Stormwater discharged shall be substantially free of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials.

5.4 An easily accessible sampling point must be available at each outlet of the treatment device(s) to the receiving environment. The sampling point shall be designed and constructed in accordance with the certified version of the Construction Management Plan (CMP) for the relevant stage of works (refer condition 4.4 RM19-0288-BC-01).

5.5 Where applicable, the outlet from the treatment device(s) shall be kept visible and clear of vegetation, to allow for regular inspection.

5.6 Where applicable the outlet(s) to any surface water bodies shall be protected from erosion and scour in accordance with the certified version of the Construction Management Plan (CMP) for the relevant stage of works (refer condition 4.4 RM19-0288-BC-01).

Advice Note
The outlet structure must comply with Rule 53 of the Bay of Plenty Regional Water & Land Plan, otherwise additional consent may be required (applicable to outlet structures in rivers and streams only).

7 Temporary Discharge of Stormwater - Discharge Quality

7.1 During the period 16 September to 31 May (inclusive) of any year within this consent, the concentration of Total Suspended Solids (TSS) in the stormwater discharge from any sediment retention pond shall not exceed 150 g/m3. The discharge shall cease immediately if this limit is exceeded except where a 12 hour duration 50% AEP storm event (2 year return period storm) occurs.

7.2 During the period 16 September to 31 May (inclusive) of any year within this consent, the turbidity of any stormwater discharge from any sediment retention pond shall not exceed 300 NTU. The discharge shall cease immediately if this limit is exceeded, except where a 12 hour duration 50% AEP storm event (2 year return period storm) occurs.

7.3 During the period 1 June to 15 September (inclusive), the consent holder shall not discharge any storm-water from any sediment retention pond, unless the sample, collected under condition 7.1 and 7.2 following analysis, is shown to have:

- Total Suspended Solids (TSS) concentration of less than 150 g/m^3 except where where a 24 hour 1% AEP storm event (100 year return period storm) is exceeded; and
- Turbidity of less than 300 NTU except where where a 24 hour 1% AEP storm event (100 year return period storm) is exceeded.

7.4 During the period 1 June to 15 September (inclusive), the consent holder shall, prior to discharging any storm-water from any sediment retention pond, collect a representative sample of storm-water from a point within the pond, adjacent to the outlet, and have the sample analysed for:

- Total Suspended Solids (TSS) and
- Turbidity (NTU).

7.5 The consent holder shall collect a representative sample of the stormwater being released downstream from the works area if directed to do so by the Bay of Plenty Regional Council.

7.6 Analysis of samples under this consent shall be carried out by an IANZ accredited laboratory.

8 Treatment Chemicals

Consent Number: **RM19-0288-LC.01**

UNDERTAKE LARGESCALE EARTHWORKS

Bay of Plenty Regional Council

Resource Consent

A resource consent:

- **Under s 9(2)(a) of the Resource Management Act 1991 and Rule LM R4 of the Bay of Plenty Regional Natural Resources Plan to undertake a discretionary activity being the disturbance of land and soil as a result of earthworks.**

subject to the following conditions:

1 Purpose

1.1 The purpose of this resource consent is to authorise and set conditions on earthworks associated with the Phase 1 development of the Rotorua Lakefront.

2 Location

2.1 The activity authorised by this resource consent shall be located:
(a) At or about map reference NZTM2000 1885141, 5774663 and
(b) As shown on BOPRC Consent Plan RM19-0288/01

3 Notification of Works

3.1 No less than five working days prior to the overall start of works under this consent the consent holder shall request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions (see Advice Note 3).

Advice Note
Reporting, notification and submission of plans required by conditions of this consent be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, PO Box 364, Whakatāne or fax 0800 884 882 or email notify@boprc.govt.nz, this notification shall include the consent number RM19-0288.

3.2 No less than five working days prior to the completion of works under this consent, the consent holder shall notify and request (in writing) a site meeting between the consent holder and a representative of the Bay of Plenty Regional Council.

3.3 No less than five working days prior to undertaking the works the consent holder shall contact a representative of Ngati Whakaue and Te Arawa Lakes Trust and invite a representative on-site as a cultural monitor during the top-soil stripping phase of works. Evidence of this invitation shall be kept and provided to the Bay of Plenty Regional Council within 48 hours of a request (see Advice Note 3).

Advice Note
Reporting, notification and submission of plans required by conditions of this consent be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, PO Box 364, Whakatāne or fax 0800 884 882 or email notify@boprc.govt.nz, this notification shall include the consent number RM19-0288

(iii) The date of any spill greater than five litres and spill response works carried out;

(iv) The disposal documentation;

(v) The contact details of the waste pick-up contractor;

(vi) Contact details of the final waste disposal facility(s);

(vii) All water analysis results.

11.2 The consent holder shall keep all records required by BOPRC for the duration of the consent.

11.3 The CMP shall be maintained to reflect all current on-site activities.

11.4 The consent holder shall make documents and records required under this consent available to the Chief Executive of the Regional Council or delegate on request.

12 Review of Consent Conditions

12.1 The Bay of Plenty Regional Council may serve notice on the consent holder at any time under section 128(1) of the Resource Management Act 1991 of its intention to review the conditions of the consent. The purpose of such a review is to deal with any adverse environmental effect which may result from the consented activity.

13 Resource Management Charges

13.1 The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

14 Term of Consent

14.1 This consent shall expire on 31 August 2024

15 The Consent

15.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1 This consent does not authorise the holder to modify or disturb any archaeological or historic sites within the area affected by this consent. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by this operation, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.

2 The Regional Council is able to advise of contact details for the relevant iwi authority.

3 Reporting and notification required by conditions of this consent shall be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, PO Box 364, Whakatāne or fax 0800 884 882 or email compliance_data@boprc.govt.nz, this notification shall include the consent number RM19-0288.

4 The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.

5 The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.

6 The outlet structure must comply with Rule 53 of the Bay of Plenty Regional Natural Resources Plan, otherwise additional consent may be required (applicable to outlet structures in rivers and streams only)

Plans, Plan Drawing No 1007467.4000-106, Revision A, and referenced as BOPRC Consent Plan RM19-0288/XX

- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, Service Plans – Existing Services Sheet 1 of 4, Plan Drawing No 1007467.4000-110, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, Service Plans – Existing Services Sheet 2 of 4, Plan Drawing No 1007467.4000-111, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, Service Plans – Existing Services Sheet 3 of 4, Plan Drawing No 1007467.4000-112, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, Service Plans – Existing Services Sheet 4 of 4, Plan Drawing No 1007467.4000-113, Revision A;* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, New Stormwater – Enabling Works Design Layout – Sheet 1 of 2, Plan Drawing No 1007467.4000-120, Revision A;* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, New Stormwater – Enabling Works Design Layout – Sheet 2 of 2, Plan Drawing No 1007467.4000-121, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development New Water Supply - Enabling Works Design Layout Drawing No 1007467.4000-130, Revision A;* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development Drinking Fountain Details - Enabling Works, Design Layout Drawing No 1007467.4000-141, Revision A;* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development Pre Works Design Enabling Works, Preload Plan Drawing No 1007467.4000-180, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development Pre Works Design Enabling Works, Preload Sections Drawing No 1007467.4000-181, Revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development Instrumentation Setout Plan Drawing No 1007467.4000-190 revision A,* and referenced as BOPRC Consent Plan RM19-0288/XX
- HEB Construction Environmental Management Table referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor, Earthworks – Stage 1a Cut Fill Plans – Sheet 1 of 3, Drawing No 1007467.3000-250 Revision B, 19/02/2019 and referenced as BOPRC Consent Plan RM19-0288/XX
- Tonkin and Taylor, Earthworks – Stage 1 Cut Fill Plans – Sheet 2 of 3, Drawing No 1007467.3000-251 Revision B, 19/02/2019 and referenced as BOPRC Consent Plan RM19-0288/XX

3.4 A copy of the works programme shall be provided for information to Te Arawa Lakes Trust and Ngāti Whakaue and updated as necessary.

Note this condition has been proffered by the Rotorua District Council and is imposed on an augier basis.

4 Earthworks

4.1 All earthworks operations are carried out in general accordance with the following:

- The Resource Consent Application received by the Bay of Plenty Regional Council on 21/05/2019 specifically sections;
  - 2.8 – Bay-form Timber Boardwalk (stages 1 and 1a),
  - 2.8 - Te Ara Tukutuku; The Pathway of waka (Stage 1 and 1a)
  - 2.8 – Headlands and scalloped shoreline Terraces (Stage 3)
  - 3.0 – Description of proposed works
  - 3.5 – Stage 1a of the works includes:-
  - 3.8 – Stage 1 includes:-
  - 10.2.3 - Earthworks
- Further information provided in support of the application on 12/07/2019 :
  - Tonkin and Taylor - Erosion and Sediment Control Strategy, referenced as BOPRC Consent Plan RM19-0288/XX
  - Sigma Consultants RFI document entitled *Rotorua Lakefront Re-development RFI Response Earthworks 120719* specifically the paragraphs referenced as *'Additional Works'* & *'Proposed Earthworks'* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor Earthworks Plan entitled *Rotorua Lakefront Development, General Information Existing Site Plan* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor enabling works plans entitled *Rotorua Lakefront Development, Boardwalk, Bridges and Lakes Walls Stage 1 and 1a Layouts Drawing No. 1007467, 3000-200 Rev A 18/06/2019* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor enabling works plans entitled *Rotorua Lakefront Development, Boardwalk, Bridges and Lakes Walls Stage 1 and 1a Layouts Drawing No. 1007467, 3000-200 Rev A Sketch AMH 002 18/06/2019* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor enabling works plans entitled *Rotorua Lakefront Development, Boardwalk, Bridges and Lakes Walls Stage 1 and 1a Layouts Drawing No. 1007467, 3000-200 Rev A Sketch AMH 003 18/06/2019* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor enabling works plans entitled *Rotorua Lakefront Development, Boardwalk, Bridges and Lakes Walls Stage 1 and 1a Layouts Drawing No. 1007467, 3000-200 Rev A Sketch AMH 004 18/06/2019* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor enabling works plans entitled *Rotorua Lakefront Development, Boardwalk, Bridges and Lakes Walls Stage 1 and 1a Layouts Drawing No. 1007467, 3000-200 Rev A Sketch AMH 005 18/06/2019* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development General Information Existing Site Plan Drawing No 1007467.4000-105* and referenced as BOPRC Consent Plan RM19-0288/XX
  - Tonkin and Taylor Preload and Enabling works plans entitled *Rotorua Lakefront Development, General Information Works Site Plan – Preload and Enabling Service*

- Tonkin and Taylor, Earthworks – Stage 1a Cut Fill Plans – Sheet 3 of 3, Drawing No 1007467.3000-252, Revision B, 19/02/2019 and referenced as BOPRC Consent Plan RM19-0288/XX

4.2 Despite condition 4.1, at least 20 working days prior to the commencement of each stage of works under this consent (including site preparation, earthworks and construction), the consent holder shall submit for certification by the Regional Council a Construction Management Plan (CMP). No works shall commence until the CMP has been certified.

4.3 The purpose of the CMP required by condition 4.2 is to:

(a) provide the site-specific erosion and sediment controls to minimise the amount of sediment discharged from the site; and

(b) incorporate the principles, procedures and practices identified in the Erosion and Sediment Control Strategy (referenced as RM19-0288/XXX) into the specific design and controls used throughout the site

4.4 The CMP required by condition 4.2 shall as a minimum contain the following:

(a) A detailed erosion and sediment control plan (ESCP) for each stage of works which demonstrates how the erosion and sediment controls will comply with the Bay of Plenty Regional Council 'Erosion and Sediment Control Guidelines for Land Disturbing Activities - Guideline 2010/01' and accompanying report including;

(i) The location and timing of each stage of earthworks

(ii) An assessment of the total area to be earthworked at any one time which takes into account the different erosion and sediment control design requirements for the summer and winter earthworking seasons;

(iii) Specific design calculations and detailed design drawings including hydrological catchment analysis;

(iii) details showing the controls that are to be adopted, how these controls were selected, sized and where they will be located;

(iv) the specific erosion and sediment controls that will be installed to either prevent the discharge of contaminated stormwater from the site or treat the contaminated stormwater in a treatment device prior to discharge;

(v) Location and Management of Stockpiles

(vi) How dust will be managed, to comply with the principles of dust management as set out in the Bay of Plenty Regional Council Guideline No. 2010/01 - "Erosion and Sediment Control Guidelines for Land Disturbing Activities" or its successor, so as to prevent a dust nuisance from occurring beyond the property boundary

(vii) location and design of each outlet point from each treatment device(s) which enables ease of access for sampling

(viii) how the outlet(s) from treatment devices to surface water bodies will be protected from erosion and scour.

(ix) Detail the maintenance regime for the erosion and sediment controls that are installed throughout the site;

(x) Management of the location and timing of works to minimise impact on kōura and avifauna habitat, especially when coinciding with breeding seasons, confirmed if required by a report from a suitably qualified and experienced ecologist;

(b) A Chemical Treatment Plan which details how, when and where flocculants will be (if applicable) and demonstrates compliance with condition 8.1 of RM19-0288-DC.01)

(c) The management of fuel and oils on site (including how fuel and oil spills will be dealt with)

(d) Contact details of who is to be responsible for site management and compliance with consent

conditions;

(e) Cultural monitoring arrangements with representatives of Ngāti Whakaue during the period when the existing lake edge structures are removed;

(f) Protocol to be followed in the event of an accidental discovery of archaeological site or koiwi;

4.5 Following certification of the CMP, earthworks shall be undertaken in accordance with the certified version of the CMP for the relevant stage of works.

4.6 The consent holder shall ensure that no more than 1 hectare of earth is exposed on site at any one time during the summer season being from 15 September to 1 May.

4.7 The consent holder shall ensure that all earthworks operations (including stabilisation of earthworks sites to effectively prevent erosion) are completed by 1 May each year for the duration of this consent, unless certification from the BOPRC has been provided for the consent holder to undertake earthworks during the winter season.

4.8 Prior to 1 April of every year for the duration of this consent, the consent holder shall submit to the Bay of Plenty Regional for certification, the CMP or an updated CMP including all relevant plans and calculations (in accordance with conditions 4.2, 4.3 and 4.4). The CMP (or updated CMP) shall indicate the works to be undertaken over the winter earthworks season, and include an updated Erosion and Sediment Control Plan in accordance with the design standards as set out for winter earthworks in Bay of Plenty Regional Council Bay of Plenty Regional Council 'Erosion and Sediment Control Guidelines for Land Disturbing Activities – Guideline 2010/1'.

4.9 The consent holder shall ensure that any imported fill is classified as 'cleanfill' as defined by 'A Guide to the Management of Cleanfills' published by the Ministry for Environment in 2002, and the Bay of Plenty Natural Resources Plan (see Advice Note 8).

4.10 Where works are to be undertaken within the lake bed, the consent holder shall ensure that all kōura at the site are translocated prior to the commencement of works in this area and shall notify the Bay of Plenty Regional Council upon the completion of translocation (see Advice Note 1).

5 Erosion and Sediment Control

5.1 The consent holder shall ensure that erosion and sediment controls for each stage are designed and constructed in accordance with the certified CMP for that stage of works.

5.2 All erosion and sediment controls shall be installed prior to the commencement of construction works.

5.3 The consent holder shall ensure that all exposed areas of earth resulting from works authorised by this consent are effectively stabilised against erosion by vegetative groundcover or suitable alternative as soon as practicable and following the completion of each stage of works.

5.4 The consent holder shall divert uncontaminated catchment runoff away from the area of works.

5.5 No vegetation, soil, or other debris shall be left in a position where the material could become mobile by stormwaters during heavy rainfall.

5.6 The consent holder shall ensure that the erosion and sediment controls and associated erosion protection devices are maintained in an effective capacity and good working order at all times during works and until the site is stabilised (see Advice Note 7).

5.7 The consent holder shall ensure that any necessary maintenance of erosion and sediment controls identified by inspection under conditions of this consent or by Bay of Plenty Regional Council staff is completed within 24 hours.

5.8 The consent holder shall ensure that all-weather machinery access is maintained to the sediment control devices.

5.9 The consent holder shall ensure that there is no tracking of soil or sediments off-site.

(i) The consent holder

(ii) The main site contractor;

(iii) A 24 hour contact telephone number for the consent holder or appointed agent;

(iv) A clear explanation that the contact telephone number is for the purpose of receiving complaints and information from the public about dust nuisance or any other problem resulting from the exercise of this consent.

9 Construction Hours

9.1 Except for demolition activities that may be timed to avoid peak periods for adjacent land uses, construction activities on site shall be limited to the following hours:

- Weekdays and Saturdays – 7am to 7pm
- No construction work shall be undertaken outside of these hours, nor shall construction activities occur at any time on a Sunday nor on a Public Holiday

Note this condition has been proffered by the Rotorua District Council and is imposed on an augier basis.

Monitoring and Reporting

9.1 The consent holder shall ensure that the erosion and sediment controls are inspected:

(i) At least weekly during the duration of this consent; and

(ii) Within 12 hours of each rainstorm event which is likely to impair the function or performance of the erosion and sediment controls.

9.2 The consent holder shall maintain records of:

(i) The date and time of every inspection of erosion and sediment controls on the site;

(ii) The date, time and description of any maintenance work carried out.

9.3 The consent holder shall forward a copy of records required by these conditions to the Bay of Plenty Regional Council within 48 hours of its request.

9.4 The Erosion and Sediment Control Plan shall remain on-site at all times and be made available for the Council Compliance Officers to refer to as required during site inspections.

10 Review of Consent Conditions

10.1 The Bay of Plenty Regional Council may serve notice on the consent holder at any time under section 128(1) of the Resource Management Act 1991 of its intention to review the conditions of the consent. The purpose of such a review is to deal with any adverse environmental effect which may result from the consented activity.

11 Resource Management Charges

11.1 The consent holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the Regional Council in accordance with section 36 of the Resource Management Act 1991.

12 Term of Consent

12.1 This consent shall expire on 15 August 2024

5.10 Stockpiled material that is to be stored for longer than 3 months shall be located and managed in accordance with the Certified CMP for that stage of works (see Conditions 4.2, 4.3 and 4.5 RM19-0288-LC-01).

5.11 The consent holder shall ensure that where runoff controls (such as diversion channels, bunds, contour drains etc.) have slopes greater than 2%, then the runoff controls shall be protected from erosion by the use of geotextile materials, rock or other suitable materials.

5.12 Where a sediment retention pond or ponds are proposed, the consent holder shall ensure that it is constructed as quickly as possible within a dry period of weather and includes a stabilised inlet and outlet in order to prevent erosion at both the inlet and outlet of the pond.

6 Site Stabilisation

6.1 All exposed areas of the site shall be fully stabilised prior to 31 May of any year during this consent, and no earthworks shall be undertaken between 1 May and 15 September (inclusive) except where winter earthworks have been authorised in accordance with condition 4.8 of RM19-0288-LC-01.

6.2 To achieve compliance with Condition 6.1 (except where winter earthworks are authorised), the consent holder shall ensure that works associated with the following stabilisation methods are completed by the respective dates listed below:

- Topsoiling and grassing by 30 April of each year within the duration of the consent ;
- Hydroseeding (or by use of a comparably effective method) by 15 May of each year within the duration of this consent; or
- Using hay or straw mulching (or by use of a comparably effective method) by 31 May of each year within the duration of the consent.

7 Dust Control

7.1 The consent holder shall ensure that dust is managed in accordance with the certified CMP for that stage of works.

7.2 The consent holder shall ensure that an adequate supply of water for dust control (sufficient to apply a minimum of five millimetres per day to all exposed areas of the site), and an effective means for applying that quantity of water, is available on site at all times during construction and until such time as the site is fully stabilised.

7.3 The consent holder shall ensure that, at all times, the soil moisture level of exposed areas is sufficient, under prevailing wind conditions, to prevent dust generated by normal earthmoving operations from remaining airborne beyond the boundary of the work site.

7.4 The consent holder shall, in the event that wind conditions render dust control impracticable, ensure that any machinery generating airborne dust ceases to operate until such time as effective dust control can be re-established.

7.5 The consent holder shall ensure that, outside of normal working hours, staff are available on-call to operate the water application system for dust suppression, as required by Regional Council compliance staff or following a substantiated public complaint.

8 Signage

8.1 Prior to the commencement of works under this consent, the consent holder shall erect a prominent sign adjacent to the entrance of site works, and maintain it throughout the period of the works. The sign shall clearly display, as a minimum, the following information:

13 The Consent

13.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Advice Notes

1 All conditions must be fulfilled to the satisfaction of the Chief Executive of the Bay of Plenty Regional Council, or representative.

2 No archaeological sites whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 can be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand and all relevant iwi/hapu for advice. Heritage New Zealand contact details: email - infolowernorthern@heritage.org.nz; phone - 07 577 4530. The Bay of Plenty Regional Council is able to advise of the contact details for the relevant iwi and hapu in this area.

3 Reporting, notification and submission of plans required by conditions of this consent be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, PO Box 364, Whakatāne or fax 0800 884 882 or email notify@boprc.govt.nz, this notification shall include the consent number RM19-0288

4 The consent holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.

5 The consent holder is advised that non-compliance with consent conditions may result in enforcement action against the consent holder and/or their contractors.

6 In the event that potential contamination is identified during the earthworks, through the presence of soil staining, odour, uncharacterised fill, construction and demolition waste, or asbestos, all activities in the vicinity of the discovery shall cease immediately. The Bay of Plenty Regional Council should be notified, and if the material is deemed contaminated, another resource consent or consent variation may be required.

7 In order to maintain erosion and sediment controls in effective capacity as required by Condition 5.6, accumulated sediment should be removed from sediment retention devices before it reach 25% of that device's volume and all sediment removed should be placed in a stable position where it cannot re-enter a sediment retention device or enter any water body.

8 The Bay of Plenty Regional Water and Land Plan defines cleanfill material as:

Natural materials such as clay, soil, rock and such other materials as concrete, brick or demolition products that are free of:

- Combustible or putrescible components (including green waste) apart from up to 10 percent by volume untreated timber in each load;
- Hazardous substances or materials (such as municipal waste) likely to create leachate by means of biological or chemical breakdown;
- Any products or materials derived from hazardous waste treatment, stabilisation or disposal processes.

The Ministry for Environment Guide for the Management Cleanfills (2002) defines cleanfill material as:

Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- combustible, putrescible, degradable or leachable components,
- hazardous substances,
- products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices,
- materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances, liquid waste.

9 The consent holder is advised that the dewatering of construction sites is a permitted activity under Rule 42 of the Regional Natural Resources Plan. Based on information provided in the consent application it is understood that all of the requirements permitted rule can be met, however if this changes, then additional consent may be required.

6.5.IV	All cement particles and dust must contained and removed	Cement for the ground improvements will be delivered to site and stored in silos, so containment of all cement particles may be difficult.	As previous
7.1	Translocation of Koura	No allowance to undertake this	As previous
9	Tangata Whenua narrative	This is to be undertaken prior by RLC and Veros	As previous
12	Resource management charges	RLC to cover consent charges	Agreed
Advice notice - 2	Heritage NZ & Iwi	No allowance for HEB to consult with HNZ of Iwi	Agreed
Advise notice - 13	Qualified builder	Is this referring to a licenced building practitioner? Or are HEB considered qualified builders?	As previous
Consent # RM19-0288-DC.01		**Temp discharge sediment contaminated stormwater**	
Condition	Description	HEB comment	
5.4 & 5.5	Refers to condition 4.4, RM10-0288-BC-01	Think this should be referring to RM19-0288-LC-01	Correct, this should be referring to RM19-0288-LC-01
Advice Note	Compliance with Rule 53	Do you have details of rule 53?	See attached BW R6 (Rule 53)
7	Discharge quality	This is all new and may have some cost and programme implications	Heb will need to allow for in the event it is required
8	Treatment chemicals	This is all new and may have some cost and programme implications	Heb will need to allow for in the event it is required
13	Resource management charges	RLC to cover consent charges	Agreed
Consent # RM19-0288-LC.01		**Undertaking large scale earthworks**	
Condition	Description	HEB comment	
3.3 & 4.4(e)	Cultural monitoring	No allowance for cultural monitoring, costs of monitors to be covered by RLC	As previous
4.4 (a)(x)	Impact on Koura & avifauna habitat	This is new and we haven't allowed to have an qualified ecologist to undertake a report. Might be better arranged by RLC	We have a report...we will review with Wildlands who did this. Report found no koura in the area.
4.1	Translocation of Koura	No allowance to undertake this	As previous
6.1	No earthworks permitted between 1/5 & 15/9	Winter earthworks consent will need to be applied for and there is a risk that it wouldn't be approved.	Discussing with planners
Advice notice - 2	Heritage NZ & Iwi	No allowance for HEB to consult with HNZ of Iwi	As previous
Advice notice - 6	Contaminated material	We have made no allowance to test or handle contaminated material, this would be treated as a variation.	Need to advise rate for disposal and prov sum. We could organise testing
Advice notice - 8	Contaminated material	We have made no allowance to test or handle contaminated material, this would be treated as a variation.	Need to advise rate for disposal and prov sum. We could organise testing

Consent # RM19-0288-BC.01		**Removal of Structures**	**Veros comment**
Condition	Description	HEB comment	
5.2	"appropriately licenced facility"	This may affect the disposal rates	There is a chance of some contaminated (non-cleanfill material) throughout the site, we will need you to advise a rate for this and perhaps we put a side a sum to deal with it if it occurs. Will ask you to provide this in the clarification we issue.
7.1	Consent expires 31/08/20	Just need to me mindful of this when planning the works	Ok....
Advice notice - 2	Heritage NZ & Iwi	No allowance for HEB to consult with HNZ of Iwi	OK, we can do...covered this query already in clarifications issued previously.
Consent # RM19-0288-BC.02		**Installation of lake walls**	
Condition	Description	HEB comment	
4.3	Cultural monitoring	No allowance for cultural monitoring, costs of monitors to be covered by RLC	OK, we can do...covered this query already in clarifications issued previously.
4.4	Suitably qualified professional	Is this referring to the PS4 being supplied by T+T?	I take this as being t&t, MAYBE YOURSELVES FOR ANY d&b ASPECTS.
6.1	Translocation of Koura	No allowance to undertake this	ok
6.5.II	Ensure clean stormwater is diverted away from the work area	This can be challenging at times if its enforced. This site is fairly flat and there is no kerb and channel between the carpark and site, I'm not sure where the carpark water currently drains to, if it runs towards the site then we will need to divert it somehow.	OK, I guess its part of your CMP and doing the best we can within reason. Will need to show you have taken all reasonable avenues to complete.
6.5.IV	All cement particles and dust must contained and removed	Cement for the ground improvements will be delivered to site and stored in silos, so containment of all cement particles may be difficult.	Guessing cement would be covered and located away from the immediate lake edge to mitigate risk...Heb will need to manage
9	Tangata Whenua narrative	This is to be undertaken prior by RLC and Veros	Agreed
Advise notice - 7	Landowner approval	This is to be arranged prior by RLC and Veros	Agreed
Advise notice - 13	Qualified builder	Is this referring to a licenced building practitioner? Or are HEB considered qualified builders?	In that sentence you would both be considered qualified professionals to undertake your element of the works.
Consent # RM19-0288-BC.03		**Installation of boardwalk, tukutuku bridges & pavilion**	
Condition	Description	HEB comment	
4.3	Cultural monitoring	No allowance for cultural monitoring, costs of monitors to be covered by RLC	Agreed
4.4	Suitably qualified professional	Is this referring to the PS4 being supplied by T+T?	As previous
6.5.II	Ensure clean stormwater is diverted away from the work area	This can be challenging at times if its enforced. This site is fairly flat and there is no kerb and channel between the carpark and site, I'm not sure where the carpark water currently drains to, if it runs towards the site then we will need to divert it somehow.	As previous

The use, erection, reconstruction, placement, alteration and extension of a discharge structure in, on, under or over the bed of a river, stream, or lake, and associated bed disturbance, is a permitted activity subject to the following conditions:

(a) The structure shall not restrict the cross sectional area by more than five square metres, or 5% of the width of the river, stream, or lake; whichever is the lesser.

(b) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.

(c) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:

  (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.

  (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).

(d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.

(e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.

(f) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.

(g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.

(h) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:

  (i) Instability of land or the banks of the surface water body.

  (ii) Scour to the bed of the surface water body.

(i) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.

(j) The activity shall not prevent the passage of migrating fish.

(k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).

(l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.

(m) The activity shall not alter the natural course of the river.

(n) All machinery shall be kept out of the bed of the stream, river or lake where practicable.

(o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.

(p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

(q) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.

(r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.

(s) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.

(t) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.

(u) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Building Consent No: 78978
Section 51, Building Act 2004
Issued: 10 Jun 2019

ROTORUA LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Civic Centre
1061 Haupapa Street
Private Bag 3029
Rotorua Mail Centre
Rotorua 3046
New Zealand

Owner
ROTORUA DISTRICT COUNCIL
PRIVATE BAG 3029
ROTORUA MAIL CENTRE
ROTORUA 3046

The Building

Property ID:	P32557 - P00035 - P00006
Street Address:	LAKE ROTORUA, LAKEFRONT DRIVE, 20 QUEENS DRIVE
Valuation number:	06500 007 02 - 06500 001 00
Legal Description:	Pt Owhatiura 2B3 ML11105 OWHATIURA 2B3 Part Section 7 SO59238 Part Section 2 SO32356

First point of contact for communication with the building consent authority:
VEROS PROPERTY SERVICES
PO BOX 324
TAURANGA 3140
katem@veros.co.nz

Building Work

The following building work is authorised by this consent:

Project is for:	BOARD WALK AND RETAINING WALL
Intended Use:	COMMERCIAL RETAINING WALL (ANCILLARY)
Intended Life:	Indefinite but not less than 50 years

This Building Consent is issued under section 51 of the Building Act 2004. This Building Consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This Building Consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

All building work associated with this building consent must comply with the NZ Building Code.

This Building Consent is subject to the following conditions:

Phone 07 349 5646 to book inspections.

INSPECTIONS BY BUILDING CONSENT AUTHORITY
Authorisation under Section 90 of the Building Act 2004 to undertake the following inspections.

P: +64 7 348 4199 | F: +64 7 346 3143 | E: info@rotorualc.nz | W: rotorualakescouncil.nz
Rotorua Lakes Council is the operating name of Rotorua District Council.

10 June 2019

ROTORUA LAKES COUNCIL
Te kaunihera o ngā roto o Rotorua

Civic Centre
1061 Haupapa Street
Private Bag 3029
Rotorua Mail Centre
Rotorua 3046
New Zealand

ROTORUA DISTRICT COUNCIL
C/- VEROS PROPERTY SERVICES
PO BOX 324
TAURANGA 3140

File Ref: P32557, P00035, P00006
Building Consent No: 78978

Dear Sir/Madam,

BUILDING CONSENT

Address of Project: LAKE ROTORUA, LAKEFRONT DRIVE, 20 QUEENS DRIVE

Please find enclosed your Building Consent and its relevant Plans and Specifications.
You should take time to read the Conditions that are attached to your Building Consent and Plans, including the stamps on those plans.

You should also be aware that in some instances although you have received your Building Consent, there may still be outstanding issues regarding land use, etc. You will need to finalise these before you undertake any building work.

However, if you have received your Resource Consent (if required) and have satisfied all the Conditions set out in this document, you are free to start your building work.

Remember, you need to arrange for all the inspections that have been estimated and are listed as Conditions to your Building Consent. When requesting an inspection a minimum of 24 hours' notice should be given. Remember also that you or your agent/builder, etc, needs to attend and/or be on site for any inspection.

To avoid potential delays on site and help you understand what Council will be inspecting it is suggested you reference the suite of inspection checklists that are available on Council's web site.

Please note Council's Valuers (Opteon Technologies Ltd) may also carry out an inspection.

"Please remember also to quote your Building Consent No. 78978 when making any inspection bookings." The direct dial number for inspections is (07) 349 5646.

We wish you well with your project and look forward to working alongside you to achieve a satisfactory completion of your project.

Please feel free to phone Council's Building Services should you require further information.

Yours faithfully

Darrell Holder
Manager, Building Services

P: +64 7 348 4199 | F: +64 7 346 3143 | E: info@rotorualc.nz | W: rotorualakescouncil.nz
Rotorua Lakes Council is the operating name of Rotorua District Council.

ADDITIONAL FEES

During consent processing Council estimates the number, type and grouping of inspections required to complete a project.

Should additional inspections be required to confirm compliance with the approved Building Consent/Building Code, Council reserves the right to seek payment for these prior to the issue of Code Compliance Certificate.

Processing of As-built plans received may also attract a fee payable prior to the issue of Code Compliance Certificate.

Signed for and on behalf of the Council:

Name: Rachel Kennedy Position: Business Support Advisor, Planning & Development Solutions

Signed: R Kennedy Date: 10 June 2019

FINAL
Ensure that all building work has been completed in accordance with the Building Consent and all certificates from appropriate parties have been obtained.

IMPORTANT ENDORSEMENTS

SECTION 52 BUILDING ACT 2004 (LAPSE OF BUILDING CONSENT)
A Building Consent lapses and is of no effect if the building work to which it relates does not commence within 12 months of the date of issue unless prior arrangements are made with the Building Consent Authority.

GEOTECHNICAL REPORT
The applicant shall comply with the recommendations of the geotechnical report provided to Council and the owner shall retain the same Consultants, or other approved Geotechnical Engineer or engineering geologist to carry out the necessary inspections. A producer statement or certificate and supporting documentation that includes but is not limited ot date, scope, outcome of inspection and other relevant information is to be submitted to Council on completion of this work.

ENGINEERING SUPERVISION - AUTHORISATION UNDER SECTION 90 OF THE BUILDING ACT 2004
The Design Engineer or their representative shall be retained by the owner to supervise the foundations and site works, and confirm that the building work complies with the building consent/code. A producer statement and supporting documentation that includes but is not limited to date, scope, outcome of inspection and other relevant information is to be submitted to Council on completion of this work.

ENERGY WORKS CERTIFICATES
Energy works certificate to be supplied for any gas or electrical installation with the Code Compliance Certificate application.

SITING
The owner of the property is responsible for the correct siting of buildings or additions in accordance with the approved building consent through the use of one or a combination of the following;
- o Existing boundary pegs
- o Boundary reinstatement (monumentation) survey
- o A siting certificate from a Licensed Cadastral Surveyor
- o Boundary offset survey with accompanying certificate from a Licensed Cadastral Surveyor

COMPLETION OF WORK
At completion of work authorised by this consent the Building Act requires you to apply for a Code of Compliance Certificate (use Form 6) as soon as practicable after the Building work is completed.

OTHER
Location of Board Walk to be confirmed by Cadastral Surveyor to comply with site plan.

COMPLIANCE SCHEDULE

A Compliance Schedule is not required for the building.

1.	We note T+T's preference for design strengths being achieved at 7 days. We would not expect to achieve design strengths until 28 days, even with the relatively high cement application rates.	The specification states that the test sample curing period can be increased to 28 days at the Engineer's discretion.
2.	The cement application rates and expected design strengths are a lot higher than is normal for this type of ground improvements, HGS would welcome the opportunity to review this with the designer to optimize the project.	The strength of the ground improvements is imperative to the design strength of the ground anchors. No reduction in design strength is acceptable. However, we can discuss with the HGS to look at opportunities.
3.	Whilst the specification is performance based to achieve the criteria stipulated by T+T, it's also based on cement application rates nominated by the engineer. As such we would not be able to accept the terms of clause 3.8.2, whereby areas not achieving the required strengths are to be remediated at the contractor's expense.	The specification is performance based. Field trials are to be completed to verify appropriate mix design. Clause 3.8.2 ensures minimum strengths are achieved and places an onus on the contractor to remediate non-conforming material. This Clause is intended to ensure the Contractor's workmanship achieves the required minimum criterion. This Clause would not apply in the case of unforeseen ground conditions.
4.	From the T+T GIR report we note the presence of some organic materials and the sensitive nature of the silts that may affect the stabilization process. These characteristics are risks that should not be borne by the contractor. Similarly the geothermal conditions of the site, with pockets of very high temperatures, may have unknown effects that need to be considered.	The soil stabilisation works are intended to target soft sensitive silts. If high temperatures associated with geothermal conditions are encountered it is reasonable that any additional measures required to overcome this would constitute a variation. Likewise if organic material is encountered (organic content >5%), such materials may be considered unforeseen ground conditions.
5.	HGS would install 3 test panels for a range of cement application rates based on the data obtained from the pre-construction laboratory testing. The T+T report specifies coring at 7 days, this can be undertaken and would only demonstrate the homogenous mix of the in situ mass stabilization. Cores drilled at 7 days provide friable cores, with limited samples recovered for laboratory testing. As such we would recommend the specified laboratory testing be undertaken only on samples recovered from the 2nd borehole core at 28 days, namely; • 2 UCS samples per borehole per cell including bulk densities • 2 Triaxial tests per borehole per cell • Temperature checks at the base of the borehole	Field trials shall be in accordance with Clause 3.5.3 of the specification. We highlight that Table 3-3 also specifies cylinder sampling can also be used for testing. In the event that samples recovered at 7 days are not deemed viable for testing, the samples need not be sent for testing. Please confirm cost saving to the Principal if 7 day samples are not tested.

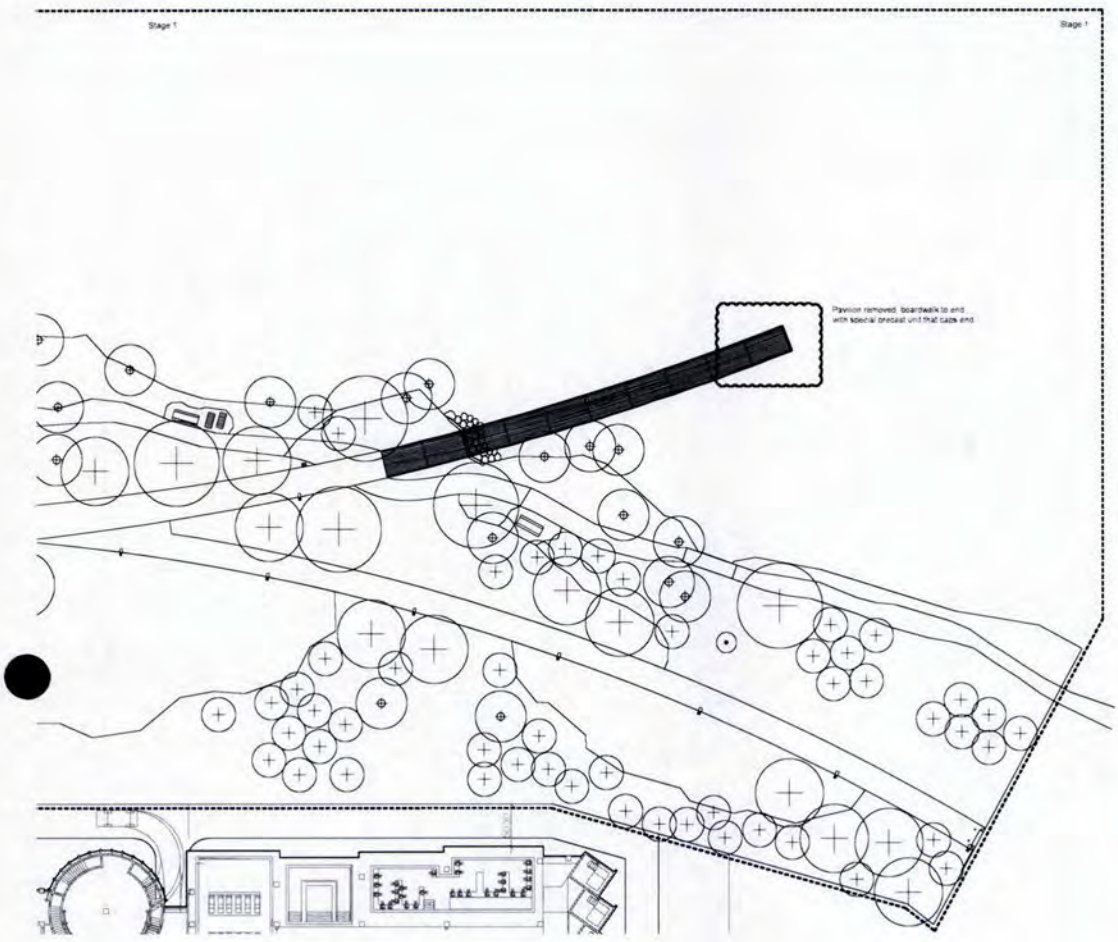
	HGS would need to excavate trial pits along the line of the treatment area to confirm suitability of soils for mass stabilizing and take samples to confirm the mix design.	
6.	HGS offer is based on RLC request for tender, contract No. 18/029, contract documentation for the Rotorua lakefront development Stage 1 and 1a, plus NTT's # 1 & 2.	Please find attached register of communication through the tender period, it is expected HEB's proposal is inclusive of all elements within the attached register.
7.	HGS offer is based on using the wet grout method of in situ mass stabilizing.	Ok
8.	Areas of sampling and trials to be agreed and in areas that are representative and within close proximity of the main works.	Ok
9.	HGS methodology is based on the site investigation data provided in the referenced documents, T+T GIR report dated Feb 2019. Should the ground conditions vary significantly from the information provided, they would expect to recover additional costs due to unforeseen ground conditions.	Ok
10	Design strengths to be reviewed and agreed following pre-construction laboratory testing and test panel construction.	Design mix to be reviewed and agreed following laboratory testing and completion of test panels. However, we highlight that the specified minimum design criteria are required to ensure ground anchors achieve required pull-out resistance.

Contract 18/029

Lakefront Development

Summary of Addenda and Notices to Tenderers Issued as at 18 April 2019

Date Issued	Description / Explanation	ID / Reference
20/02/2019	Two additional documents inadvertently omitted from the initial upload: the T&T drawing package labelled 20190219 1007467.3000 and the Schedule of Rates	20190219 1007467.3000.pdf RLC Lakefront Stage 1 & 1a Schedule of Rates Template.xlsx
21/02/2019	SEG Electrical Layout Drawings and Electrical Specification which form part of the RFT documents	2019.02.21_SEG_Rotorua Lakefront_Electrical Drawings.pdf; 2019.02.21_SEG_Rotorua Lakefront_SEG Document Transmittal.pdf; 2019.02.21_SEG_Rotorua Lakefront_Electrical Specification.pdf
12/03/2019	Addendum uploaded in response to Forum Question regarding additional drawing dimensions.	190311_IGL_4010_Rotorua Lakefront Development_Landscape Master -.zip
15/03/2019	Notice to Tenderers No.1 re query related to timber boardwalk loaded as an addendum	190314_IGL_4010_Rotorua Lakefront Development_Tender_NTT 01.pdf
20/03/2019	Notice to Tenderers No. 2 - Labelling of Hoggin Paths. Tenderers are advised that five additional drawings showing Surface Finishes for Stages 1 and 1a of the Lakefront Development have been uploaded as addenda. The drawings have been revised to correct the labelling of hoggin paths	1_1.101 Stage 1 Surface Finishes - Sheet 1.pdf; 1_1.102 Stage 1 Surface Finishes - Sheet 2.pdf; 1_1.103 Stage 1 Surface Finishes - Sheet 3.pdf; 1a_1.101 Stage 1a Surface Finishes - Sheet 1.pdf; 1a_1.102 Stage 1a Surface Finishes - Sheet 2.pdf
26/03/2019	Notice to Tenderers No.3 from Isthmus re Timber Species and Timber Finish	NTT#3 from Isthmus re Timber Species and Timber Finish.pdf
05/04/2019	Notice to Tenderers No.4 - Provincial Growth Fund Reporting Requirements: Explanatory notice and two attachments	NTT No.4 PGF Reporting Requirements.docx; Attachment 1 - PGF and RLC Objectives.pdf; Attachment 2 - Prompter Questions.docx
05/04/2019	Notice to Tenderers No.5. Refer to attached temporary works to Memorial Drive and Lake Road roundabout - 15586T4A-1.pdf. Drawing to be read in conjunction with Isthmus drawing 1_1.000 & 1_1.001. Note: Site fencing setbacks, Protection to lamp post & Contractor to allow for any temporary road line markings	15586T4A-1.pdf
16/04/2019	Notice to Tenderers No. 6 Tenderers need to allow to supply and install the water supply system as per the following Tonkin & Taylor drawings which have been uploaded as addenda	1007467.3000-420 1007467.3000-421 1007467.3000-422
16/04/2019	Notice to Tenderers No.7 - Alternative Tenders - see addendum uploaded today.	NTT No.7 - Alternative Tenders.docx
18/04/2019	Notice to Tenderers No.8 – 3D model for timber boardwalk	190417_IGL_4010_Rotorua Lakefront Development_Tender_NTT8.docx



Stage Boundary
Asphalt
Gravel
Lawn Batter
Existing Kerb retained
New Kerb
Temporary Timber Edge

No.	Revision	By	Chk	Date
D	Tender Amendment	TM	TM	26.08.19
C	Tender	TM	TM	18.02.19
B	100%Detailed Design	TM	TM	14.12.18
A	Draft Detailed Design	TM	TM	30.11.18

Isthmus.
AKL 09 309 9442 | WTN 04 499 9832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
1:200 @A1
1:400 @A3

Drawing Title
Stage 1 Temporary Works Plan - Sheet 3

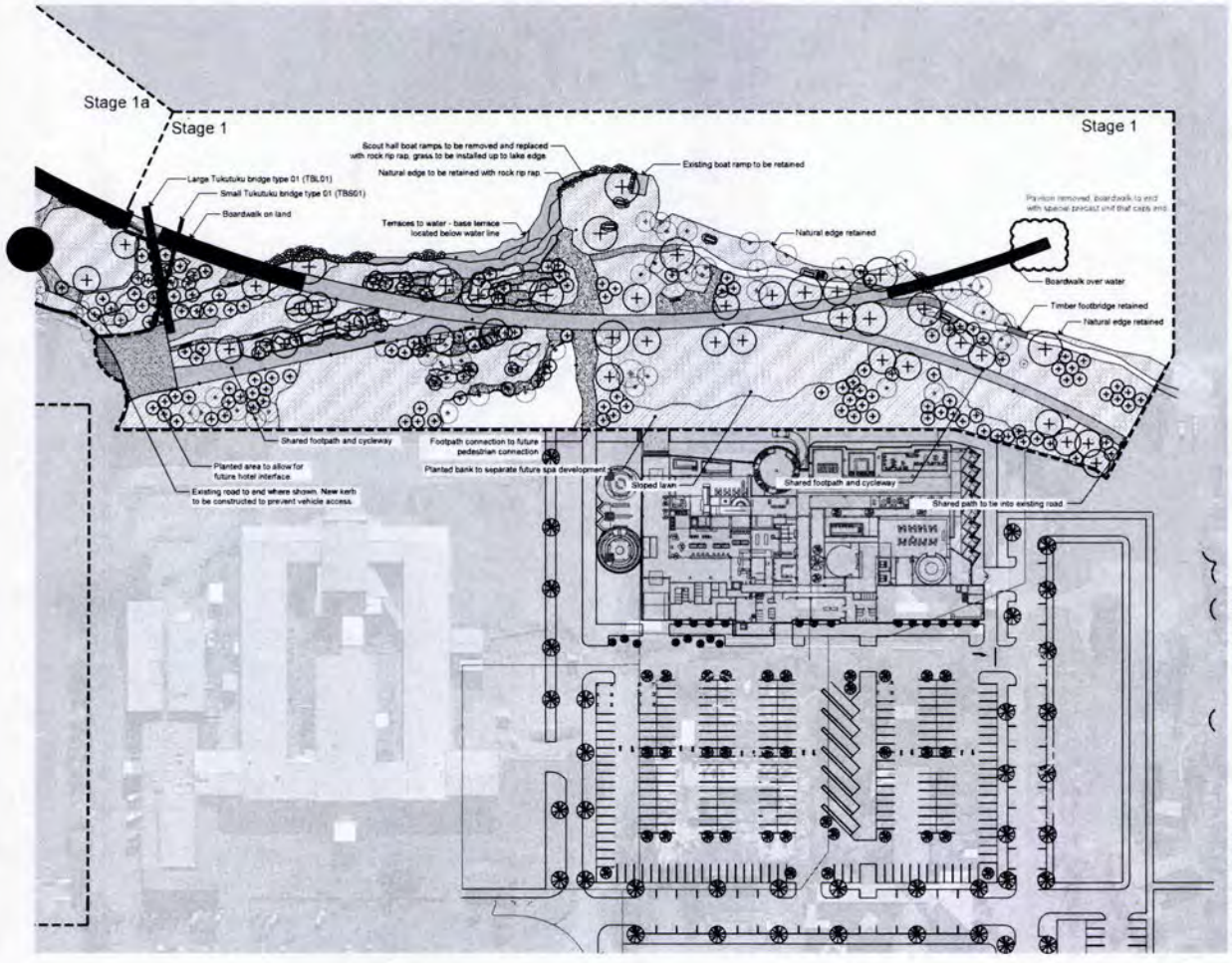
Job No
4010

Drawing Number
1_1.003

Revision
D

North

Issued For
Tender



Stage Boundary
Existing Tree retained
Proposed Tree
Concrete
Hoggin (P04)
Aggregate Path (P05) - to match existing
Rock Garden (RG) - 50% rock, 50% planting
Planting (PL1) - refer to planting plans
Lawn (LA1)
Irrigated Lawn (LA2)
TBL01 - 03 Tukutuku Bridge Type - refer to details 1_3.607
TBS01 - 03
Cultural Marker (placeholder only)
Bench Seat
Sun Lounger - Provisional Only
Picnic Table
Rubbish Bin
Pedestrian Light
Bollard

No.	Revision	By	Chk	Date
G	Tender Amendment	TM	TM	26.08.19
F	Tender	TM	TM	18.02.19
E	100%Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus.
AKL 09 309 9442 | WTN 04 499 9832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
1:200 @A1
1:1000 @A3

Drawing Title
Stage 1 General Arrangement

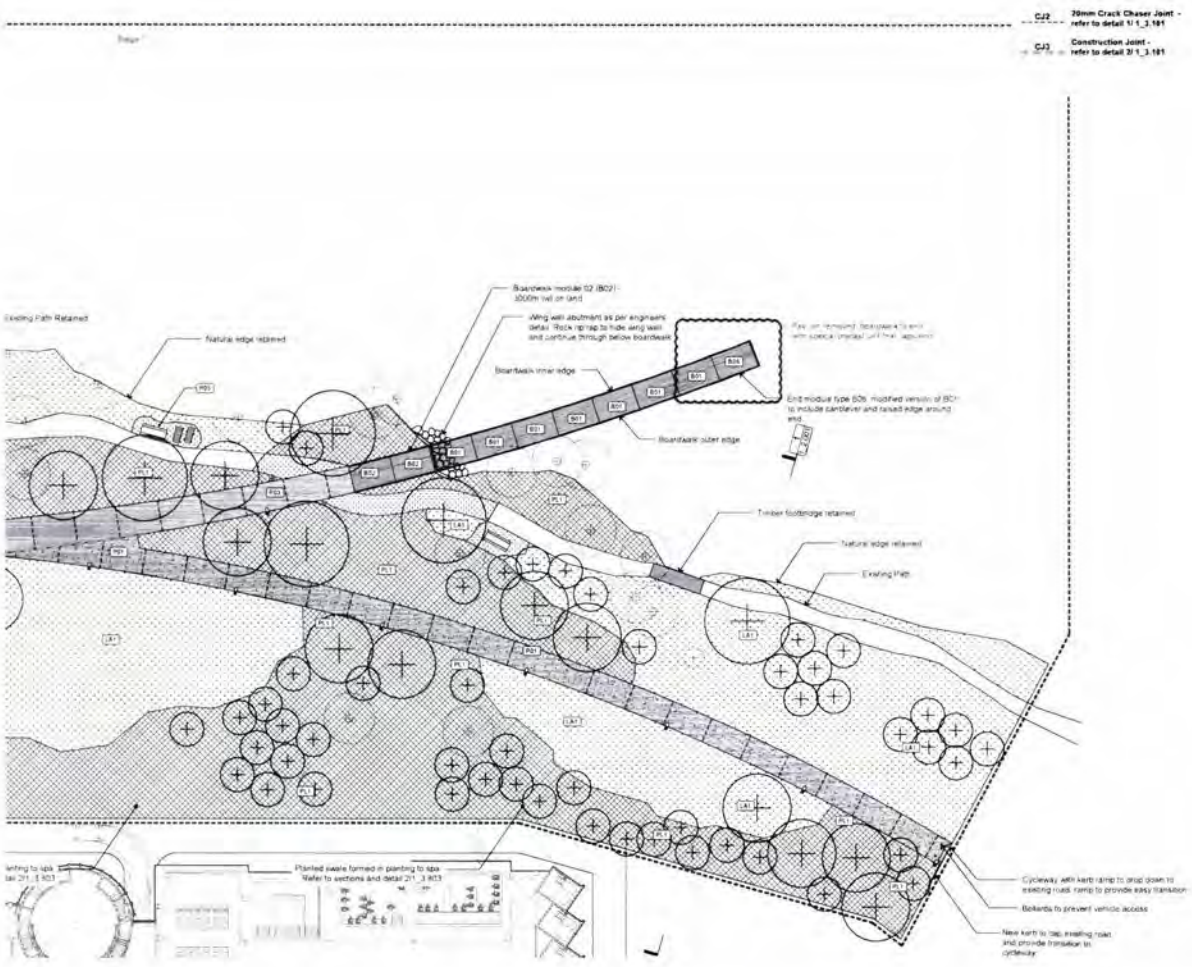
Job No
4010

Drawing Number
1_1.100

Revision
G

North

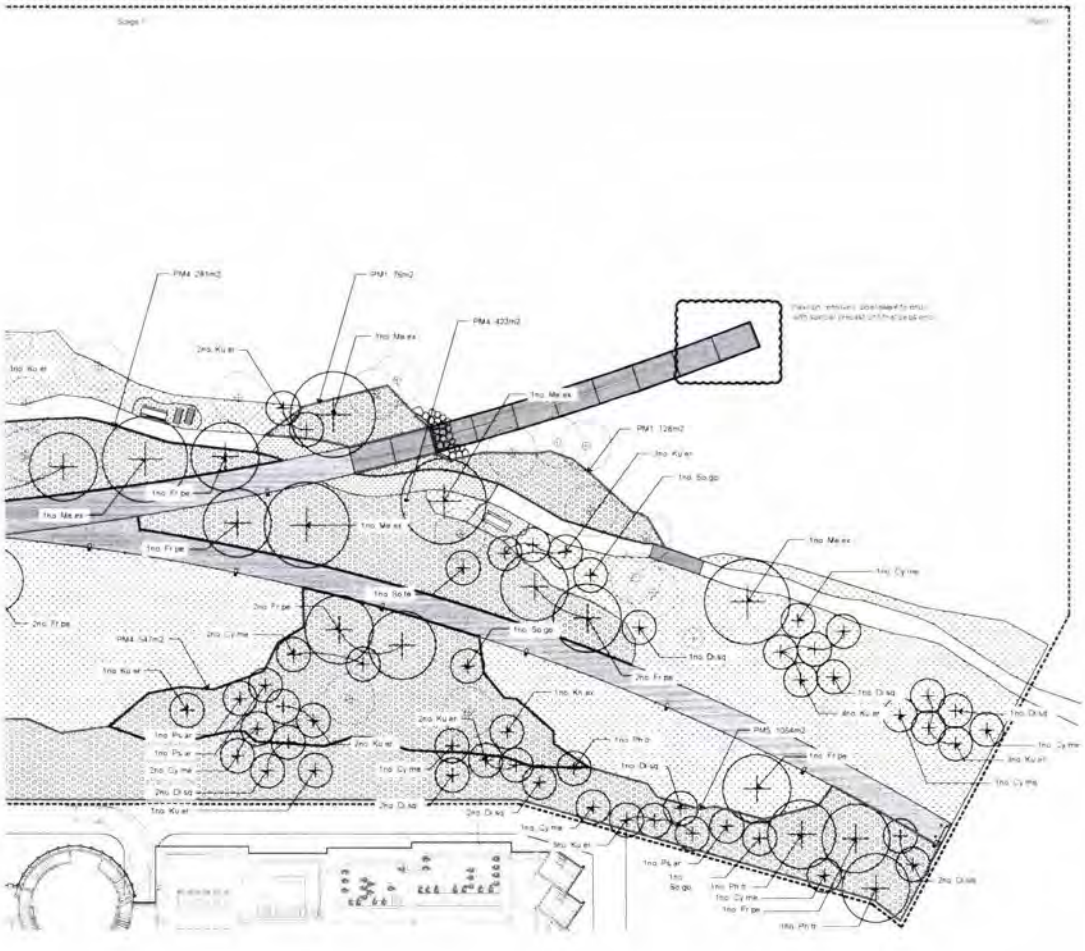
Issued For
Tender



Stage Boundary
Existing Tree retained
Proposed Tree
Concrete Type 1 (P01) - refer to detail 1/ 1_3.101
Concrete Type 2 (P02) - refer to detail 1/ 1_3.101
Concrete Type 3 (P03) - refer to detail 1/ 1_3.101
Hoggin (P04) - refer to details 3/ 1_3.101
Aggregate Path (P05) - refer to details 1_3.101
Rock Garden (RG) - 50% rock, 50% planting refer to detail 3/ 1_3.801
Planting (PL1) - refer to planting plans & detail 2/ 1_3.801
Lawn (LA1) - refer to detail 1/ 1_3.801
Irrigated Lawn (LA2)
LW01 - LW05 Lake Wall Type - refer to details 1_3.701
TBL01 - 03 TBS01 - 03 Tukutuku Bridge Type - refer to details 1_3.907
B01 - B02 Boardwalk Modules - 3000mm boardwalk refer to details 1_3.508 - 1_3.515
B03 - B05 Boardwalk Modules - 5000mm boardwalk refer to details 1_3.508 - 1_3.515
WS01 Concrete Wall Seat- refer to details 1_3.702
CJ1 3mm Saw Cut - refer to detail 1/ 1_3.101

No.	Revision	By	Chk	Date
H	Tender Amendment	TM	TM	26.06.19
G	Tender	TM	TM	18.02.19
F	Tender	MC	TM	18.02.19
E	100% Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus.
Client: Rotorua Lakes Council
Job Name: Rotorua Lakefront Development
Scale: 1:200 @A1, 1:400 @A3
Drawing Title: Stage 1 Surface Finishes - Sheet 3
Job No: 4010
Drawing Number: 1_1.103
Revision: H
North
Issued For: Tender
Do not scale. Verify dimensions at site before commencing any work.

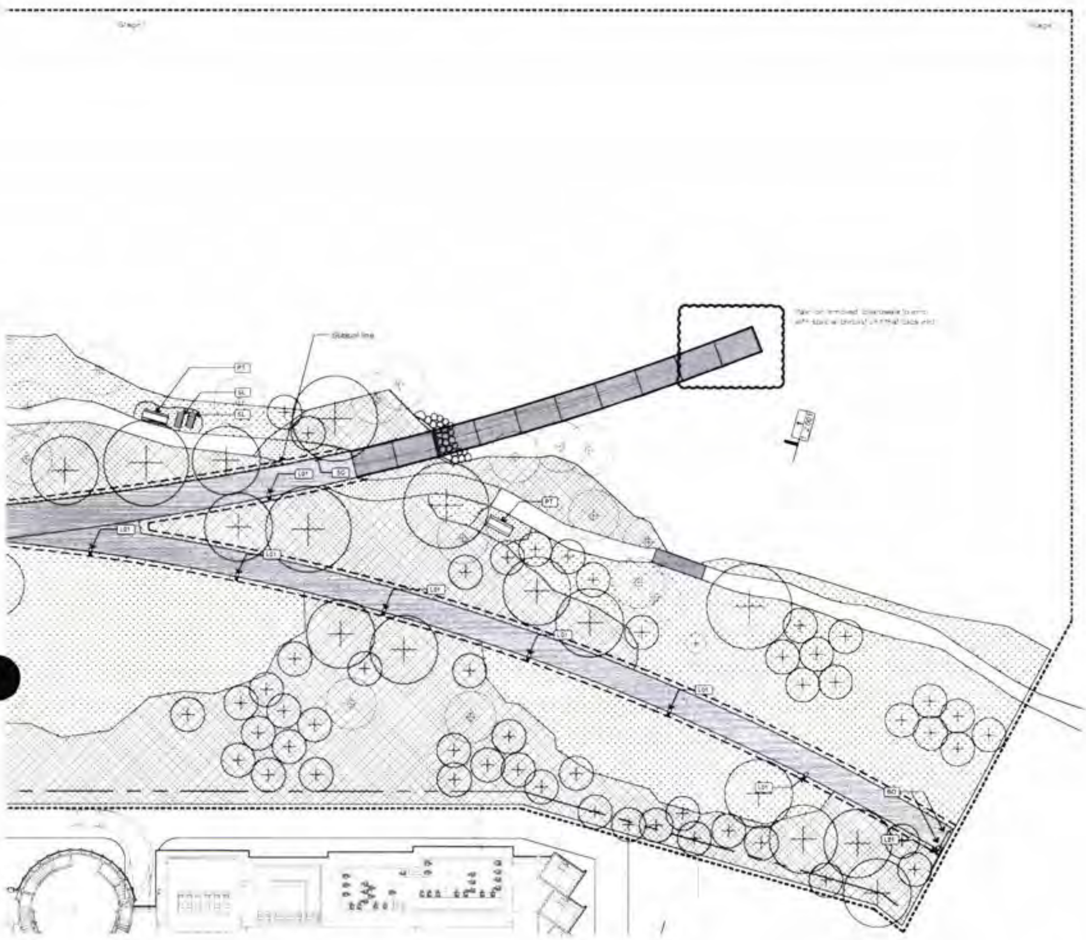


Stage Boundary
Existing Tree retained
Proposed Tree
Concrete
Hoggin (P04)
Aggregate Path (P05) - to match existing
Lawn (LA1)
Irrigated Lawn (LA2)
TP1 - TP2 Tree Pit Type - refer to details 1_3.803 & 1_
Rock Garden (RG) - 50% rock, 50% planting refer to detail 3/ 1_3.801
Gravel Mulch (GM)
Bark Mulch (BM)

Planting Mixes
PM01
PM02
PM03
PM04
PM05

No.	Revision	By	Chk	Date
D	Tender Amendment	TM	TM	26.06.19
F	Tender	TM	TM	18.02.19
E	100% Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus.
Client: Rotorua Lakes Council
Job Name: Rotorua Lakefront Development
Scale: 1:200 @A1, 1:400 @A3
Drawing Title: Stage 1 Planting Plan - Sheet 3
Job No: 4010
Drawing Number: 1_1.203
Revision: G
North
Issued For: Tender
Do not scale. Verify dimensions at site before commencing any work.



Symbol	Legend
☒	Plaque - Moved
	Stage Boundary
	Existing Tree retained
	Proposed Tree
W	Water Toby Box (WTB)
E1	ElectricFr.pennection Type 1 (EC01) - below boardwalk deckir
E2	ElectricFr.pennection Type 2 (EC02) - in face of terrace wall
	110Ø Subsoil Line (SL) - refer to details 1_3.104
	Slot Drain (SD) - refer to details 1_3.104
	Timber Edge (E01) - refer to details.
	Timber Edge (E05) - refer to detail 5/ 1_3.101
E02 - E05	Concrete Edge Type - Refer to Details 1_3.101 - 1_3.10
	5m Boardwalk Module - refer to surface finishes plans
	3m Boardwalk Module - refer to surface finishes plans
L01 L02	Pedestrian Light Type L01 or L02
CM	Cultural Marker (placeholder only)
BS	Bench Seat Type A or B
SL	Sun Lounger - Provisional Only
PT	Picnic Table
RB	Rubbish Bin
BO	Bollard
☐	Plaque - Retained

No.	Revision	By	Chk	Date
G	Tender Amendment	TM	TM	26.08.19
F	Tender	TM	TM	18.02.19
E	100%Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus.

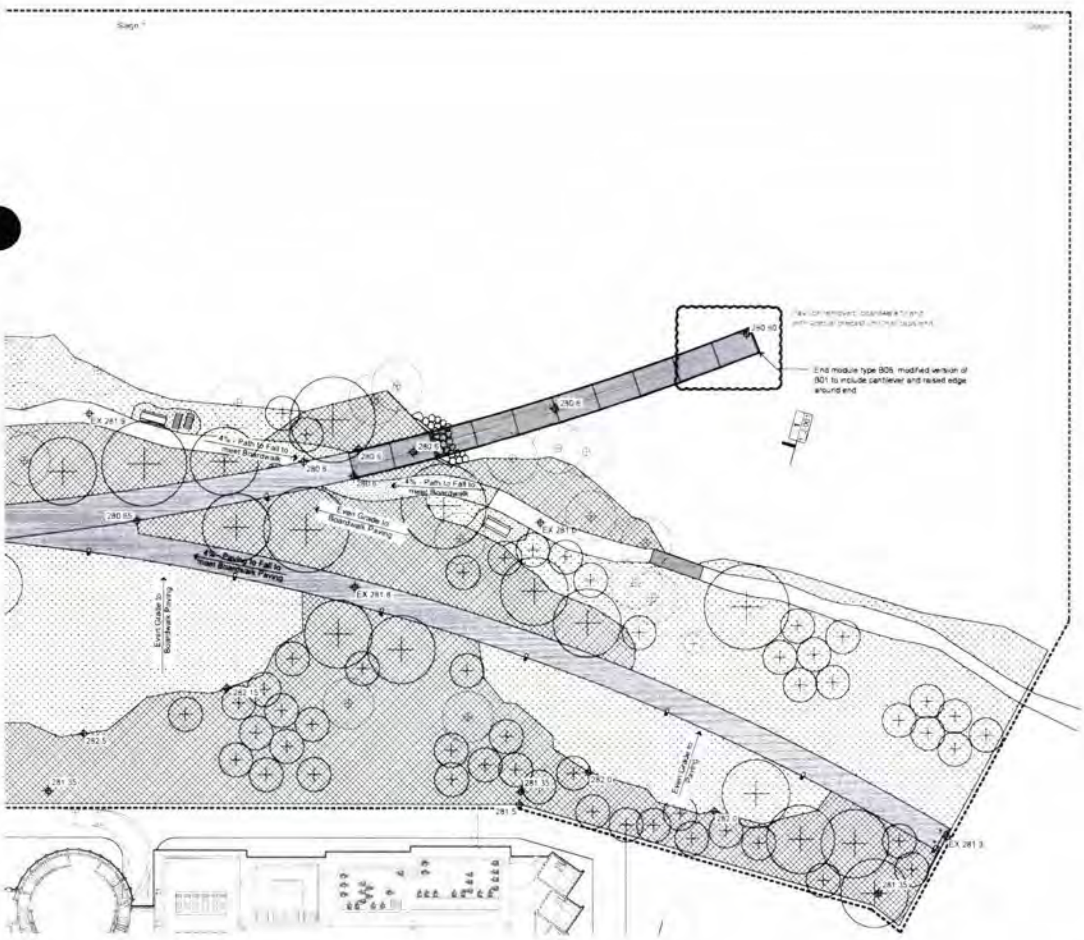
Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Drawing Title
Stage 1 Furniture & Edging - Sheet 3

Job No 4010 | Drawing Number 1_1.303 | Revision G

North ^ | Issued For Tender



Symbol	Legend
	Stage Boundary
	Existing Tree retained
	Proposed Tree
	Concrete
	Hoggin (P04)
	Aggregate Path (P05) - to match existing
	Rock Garden (RG) - 50% rock, 50% planting
	Planting (PL1) refer to planting plans
	Lawn (LA1)
	Irrigated Lawn (LA2)
	5m Boardwalk Module - refer to surface finishes plans
	3m Boardwalk Module - refer to surface finishes plans
X.XX	Spot Level
EX	Existing Level
TOW	Top of Wall
BOW	Bottom of Wall
TOS	Top of Step
BOS	Bottom of Step
→	Surface grade/fall

No.	Revision	By	Chk	Date
G	Tender Amendment	TM	TM	26.08.19
F	Tender	TM	TM	18.02.19
E	100%Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Drawing Title
Stage 1 Levels Plan - Sheet 3

Job No 4010 | Drawing Number 1_1.403 | Revision G

North ^ | Issued For Tender

Pavilion drawings removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk BO6 details

No.	Revision	By	Chk	Date
D	Tender Amendment	MC	TM	26.08.19
C	Revised Details	MC	GB	18.06.19
B	Tender	MC	GB	18.02.19
A	100%Detailed Design	MC	GB	14.12.18

Isthmus

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Pavilion Plans

Job No
4010

Drawing Number
1_3.401

Revision
D

Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.

Pavilion drawings removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk BO6 details

No.	Revision	By	Chk	Date
D	Tender Amendment	MC	TM	26.08.19
C	Revised Details	MC	GB	18.06.19
B	Tender	MC	GB	18.02.19
A	100%Detailed Design	MC	GB	14.12.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Pavilion Details

Job No
4010

Drawing Number
1_3.402

Revision
D

Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.

Pavilion drawings removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk 305 details

No.	Revision	By	Chk	Date
E	Tender Amendment	MC	TM	26.06.19
D	Revised Details	TM	TM	27.06.19
C	Revised Details	TM	TM	18.06.19
B	Tender	MC	GB	18.02.19
A	100%Detailed Design	MC	GB	14.12.18

Isthmus.

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Pavilion Stone Pattern Layout

Job No.
4010

Drawing Number
1_3.403

Revision
E

Issued For
Tender

Pavilion drawings removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk 305 details

No.	Revision	By	Chk	Date
B	Tender Amendment	MC	TM	26.06.19
A	Tender	TM	TM	27.06.19

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Pavilion Elevations & Wall Cutting Plan

Job No.
4010

Drawing Number
1_3.404

Revision
B

Issued For
Tender

Pavilion drawings removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk B06 details

No.	Revision	By	Chk	Date
D	Tender Amendment	MC	TM	26.06.19
C	Revised Details	MC	GB	18.06.19
B	Tender	MC	GB	18.02.19
A	100%Detailed Design	MC	GB	14.12.18

Isthmus

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @A1
A3 SHOWN @A3

Drawing Title
Pavilion Stone Cutting Plan

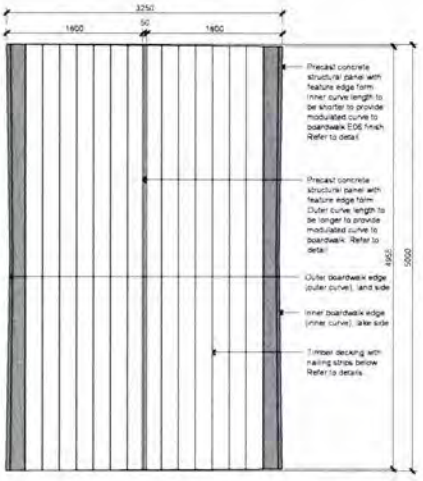
Job No.
4010

Drawing Number
1_3.405

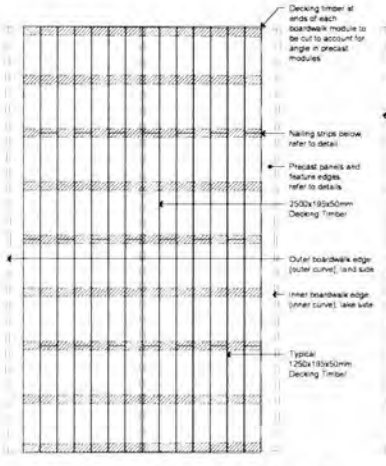
Revision
D

Issued For
Tender

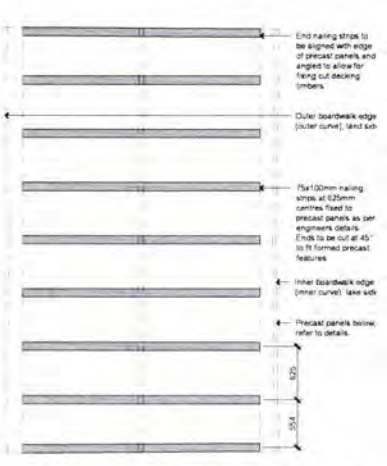
Do not scale. Verify dimensions on site before commencing any work.



1 Typical 3000mm Wide Boardwalk (B01) Detail - Layout Plan
Scale: 1:20@ A1 | 1:40@A3



2 Typical 3000mm Wide Boardwalk Detail - Decking Plan
Scale: 1:20@ A1 | 1:40@A3



3 Typical 3000mm Wide Boardwalk Detail - Nailing Strip Plan
Scale: 1:20@ A1 | 1:40@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts, arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Decking to be fixed from above with 2no. 1[illegible] SS decking screw fixings to each nailing strip. Screws to be counter sunk by 10mm. Refer to details 3/1_3.503 & 4/1_3.503.

Timber
All Hardwood Timber to be FSC certified, unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast concrete and edge beam tie ins are to be type E06 finish, refer to finishes schedule for selections.

Lighting
Strip lighting mounting profile to be allowed for with recessed notch in precast's feature edge, driver boxes to be hidden below timber decking.

Details removed, boardwalk to end with special precast unit that caps end. Refer to boardwalk B06 details

No.	Revision	By	Chk	Date
F	Tender Amendment	MC	TM	26.06.19
E	Tender	MC	TM	18.02.19
D	100%Detailed Design	MC	TM	14.12.18
C	Draft Detailed Design	MC	TM	30.11.18
B	Draft Detailed Design	MC	TM	15.11.18
A	Draft Detailed Design	TM	TM	19.10.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @A1
A3 SHOWN @A3

Drawing Title
3000mm Boardwalk Details

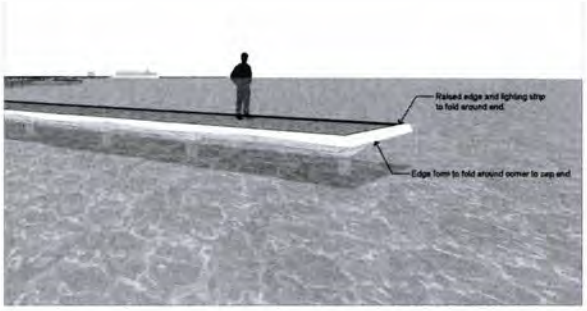
Job No.
4010

Drawing Number
1_3.508

Revision
F

Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.



1 **3000mm Wide Boardwalk End Unit (B06) - Isometric Drawings**
Not To Scale

No.	Revision	By	Chk	Date
A	Tender Amendment	TM	TM	23.08.19

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

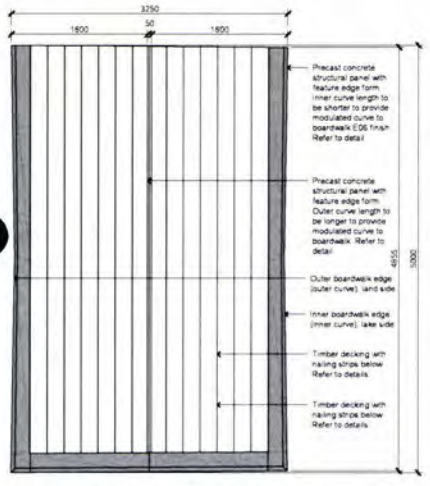
Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
3000mm Boardwalk B06 Details Sheet 1

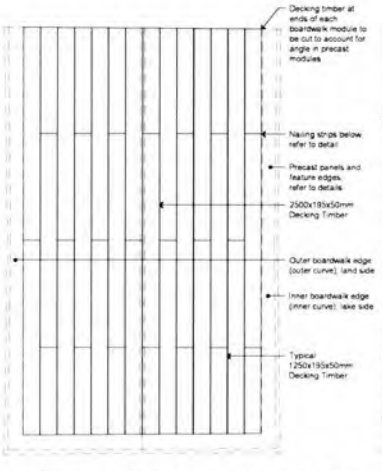
Job No: 4010
Drawing Number: 1_3.516
Revision: A

North

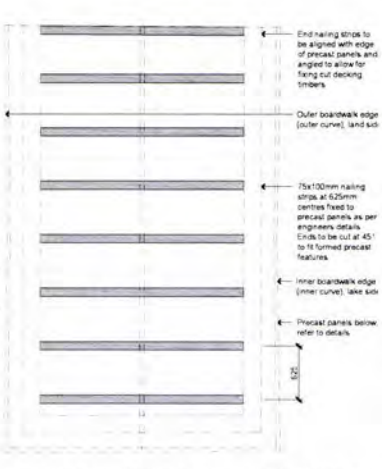
Issued For
Tender



1 **3000mm Wide Boardwalk End Unit (B06) - Layout Plan**
Scale: 1:20@ A1 | 1:40@A3



2 **3000mm Wide Boardwalk End Unit (B06) - Decking Plan**
Scale: 1:20@ A1 | 1:40@A3



3 **3000mm Wide Boardwalk End Unit (B06) - Nailing Strip Plan**
Scale: 1:20@ A1 | 1:40@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Decking to be fixed from above with 2no. 14G SS decking screw fixings to each nailing strip. Screws to be counter sunk by 10mm. Refer to details 3/1_3.503 & 4/1_3.503.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast concrete and edge beam be in-s are to be type ED6 finish, refer to finishes schedule for selections.

Lighting
Strip lighting mounting profile to be allowed for with recessed notch in precasts feature edge, driver boxes to be hidden below timber decking.

No.	Revision	By	Chk	Date
A	Tender Amendment	TM	TM	23.08.19

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

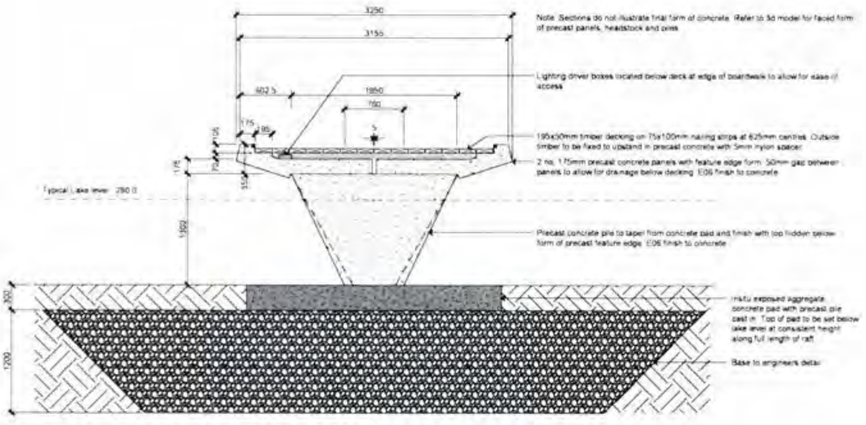
Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
3000mm Boardwalk B06 Details Sheet 2

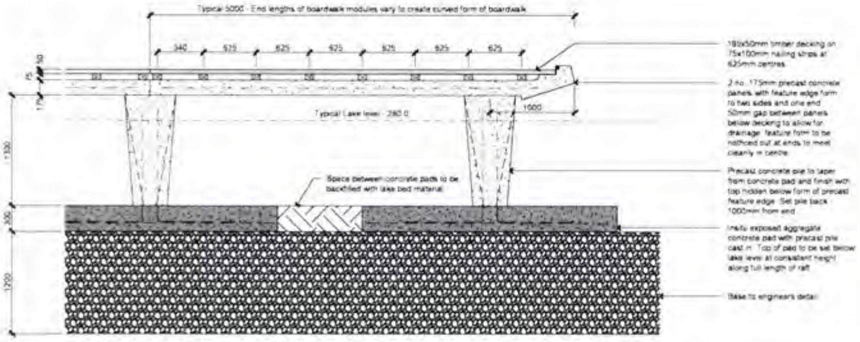
Job No: 4010
Drawing Number: 1_3.517
Revision: A

North

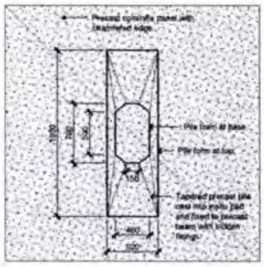
Issued For
Tender



1 3000mm Wide Boardwalk End Unit (B06) - Cross Section
Scale: 1:20@ A1 | 1:40@A3



2 3000mm Wide Boardwalk End Unit (B06) - Long Section
Scale: 1:20@ A1 | 1:40@A3



3 Typical 3000mm Boardwalk Detail - Pile Plan
Scale: 1:20@ A1 | 1:40@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings, Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast concrete and edge beam tie ins are to be type E06 finish, refer to finishes schedule for selections.

No.	Revision	By	Chk	Date
A	Tender Amendment	TM	TM	23.08.19

Isthmus.

Client: Rotorua Lakes Council

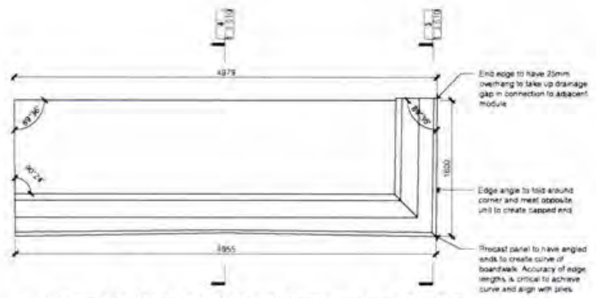
Job Name: Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

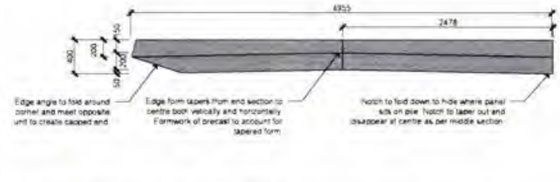
Drawing Title: 3000mm Boardwalk B06 Details Sheet 3

Job No: 4010 | Drawing Number: 1_3.518 | Revision: A

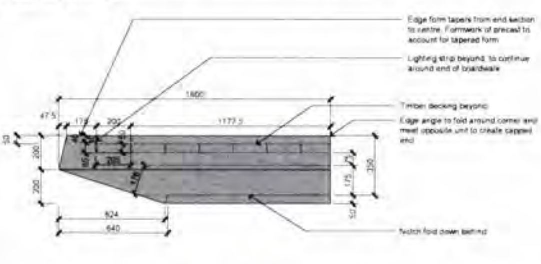
North: ^ | Issued For: Tender



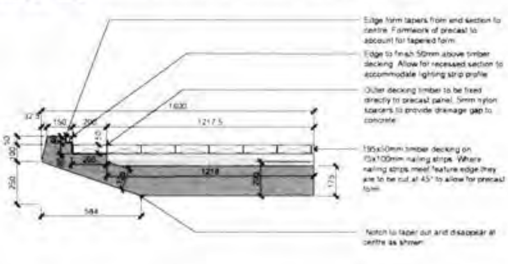
1 3000mm Wide Boardwalk End Unit (B06) Precast Inner Curve Edge - Plan
Scale: 1:20@ A1 | 1:40@A3



2 3000mm Wide Boardwalk End Unit (B06) Precast Inner Curve Edge - Elevation
Scale: 1:20@ A1 | 1:40@A3



3 3000mm Wide Boardwalk End Unit (B06) Precast Inner Curve Edge - End Section
Scale: 1:10@ A1 | 1:20@A3



4 3000mm Wide Boardwalk End Unit (B06) Precast inner Curve Edge - Middle Section
Scale: 1:10@ A1 | 1:20@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings, Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast concrete and edge beam tie ins are to be type E06 finish, refer to finishes schedule for selections.

Lighting
Strip lighting mounting profile to be allowed for with recessed notch in precast feature edge, driver boxes to be hidden below timber decking.

No.	Revision	By	Chk	Date
A	Tender Amendment	TM	TM	23.08.19

Isthmus.

Client: Rotorua Lakes Council

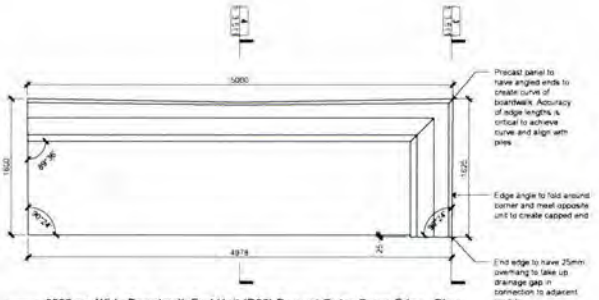
Job Name: Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

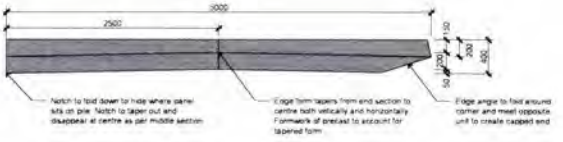
Drawing Title: 3000mm Boardwalk B06 Details Sheet 4

Job No: 4010 | Drawing Number: 1_3.519 | Revision: A

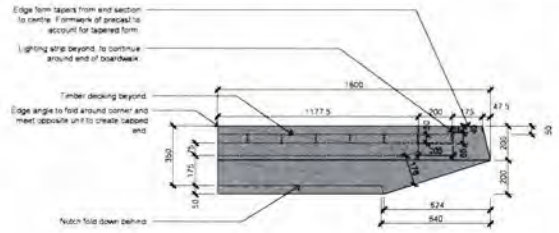
North: ^ | Issued For: Tender



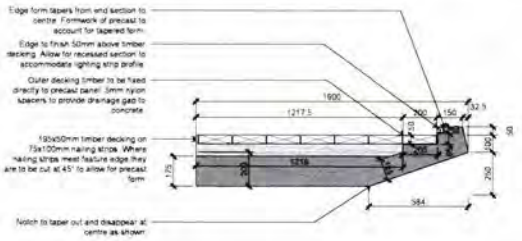
1 3000mm Wide Boardwalk End Unit (B06) Precast Outer Curve Edge - Plan
Scale: 1:20@ A1 | 1:40@A3



2 3000mm Wide Boardwalk End Unit (B06) Precast Outer Curve Edge - Elevation
Scale: 1:20@ A1 | 1:40@A3



3 3000mm Wide Boardwalk End Unit (B06) Precast Outer Curve Edge - End Section
Scale: 1:10@ A1 | 1:20@A3



4 3000mm Wide Boardwalk End Unit (B06) Precast Outer Curve Edge - Middle Section
Scale: 1:10@ A1 | 1:20@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast concrete and edge beam tie ins are to be type E06 finish, refer to finishes schedule for selections.

Lighting
Strip lighting mounting profile to be allowed for with recessed notch in precast feature edge. Driver boxes to be hidden below timber decking.

No.	Revision	By	Chk	Date
A	Tender Amendment	TM	TM	23.08.19

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @A1
AS SHOWN @A1

Drawing Title
3000mm Boardwalk B06 Details Sheet 5

Job No
4010

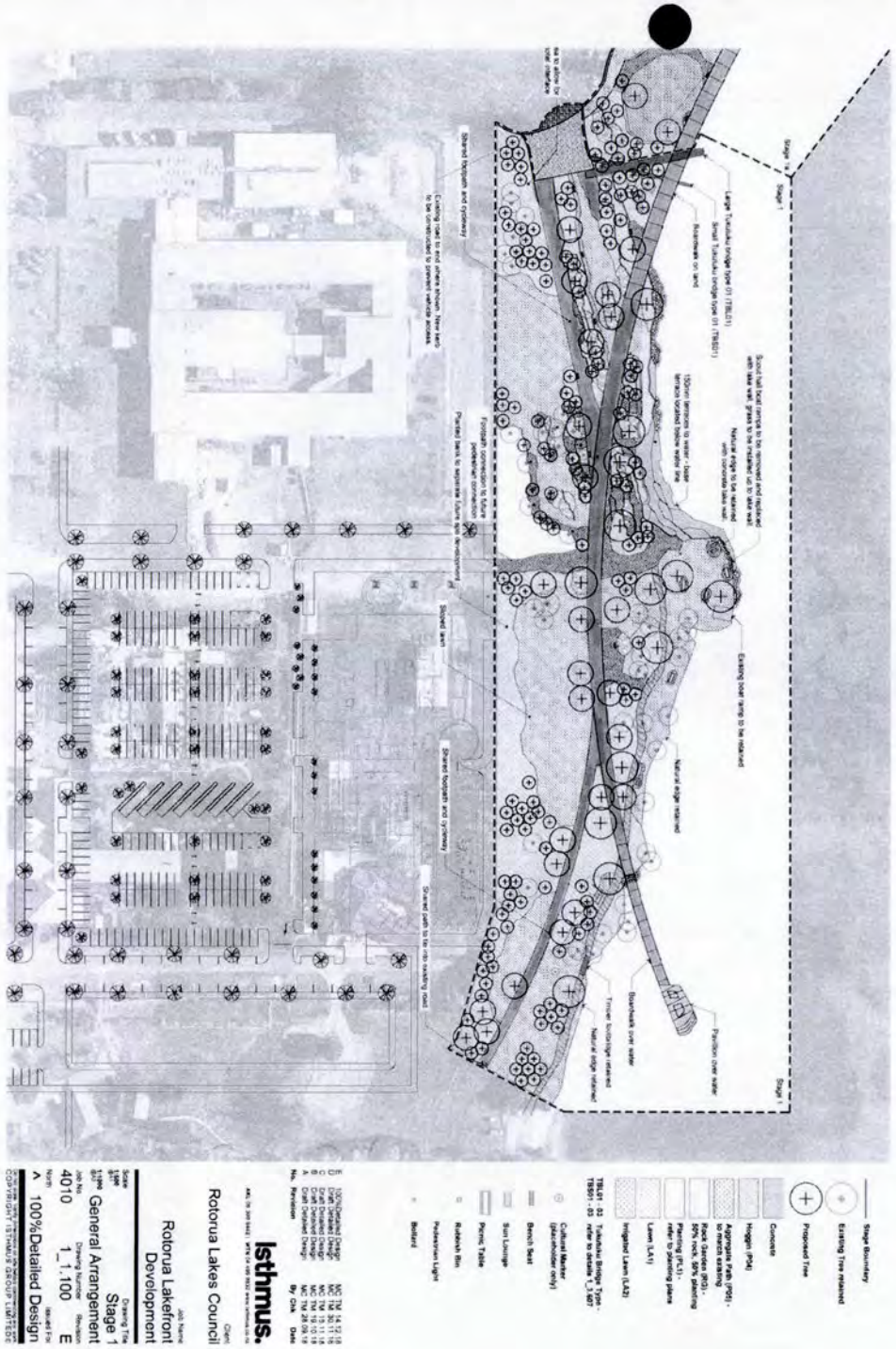
Drawing Number
1_3.520

Revision
A

North

Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.



No.	Revision	By	Date
C	100%Detailed Design	MC	TM 14.7.19
B	Draft Detailed Design	MC	TM 21.11.18
A	Draft Detailed Design	MC	TM 19.10.18
	Draft Detailed Design	MC	TM 28.09.18

Isthmus.

Client: Rotorua Lakes Council

Job Name: Rotorua Lakefront Development

Drawing Title: Stage 1 General Arrangement

Scale: 1:500 @ A1, 1:1000 @ A3

Job No: 4010

Drawing Number: 1_1.100

Revision: E

North

Issued For: A 100%Detailed Design

Veros PROPERTY SERVICES

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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment		
Contractor:	HEB Construction	**Date:**	3rd July 2019
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	006
Email:	Andrew.Hiscox@heb.co.nz		
Attention:	Andrew Hiscox		
Subject:	**Price Clarifications – Various**	**Pages:**	1 + attachments

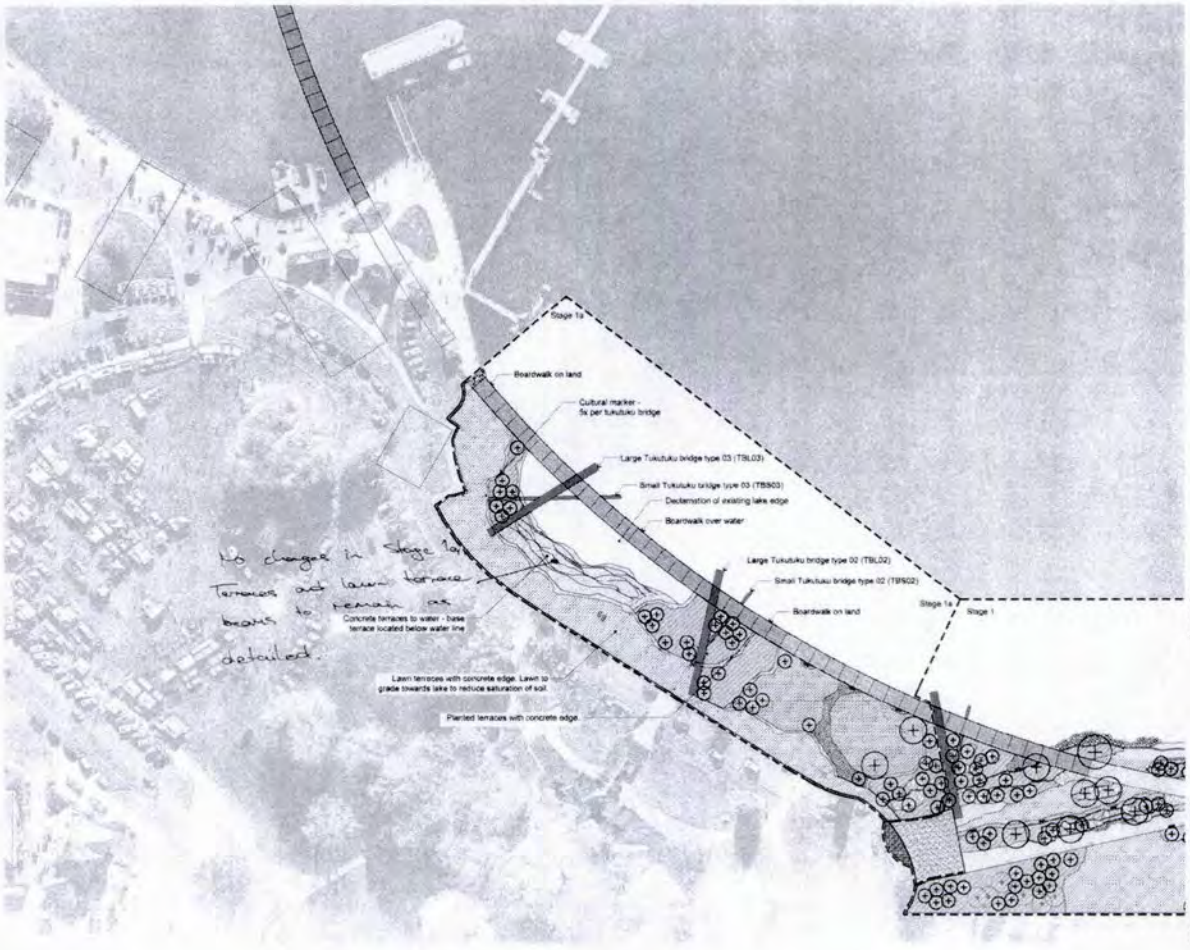
Price Clarification Details:

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description
6.1	N/A	P01 & P03 concrete specification.	Specifications for concrete paths P01 & P03 as per the attached mark-ups have been reduced to provide cost savings. Pavement thickness can be reduced for 200mm to 150mm. Reinforcement mesh can be reduced from 335 mesh to 665 mesh. Please allow for these items. Please also provide cost option to utilise 30MPA concrete for the below items in lieu of the specified 50MPA: - All concrete paving outside of the lake, types P01 and P03. - All 200x200 and 200x300 garden edge beams. - Concrete seat walls.
6.2	N/A	Electrical	Please provide a breakdown of electrical costs for review.

Signed

Craig McMichael
Veros Property Services

Contact No's:
DDI: 07 579 9747
Mobile: 027 508 9625
Email: craig@veros.co.nz



Stage Boundary
Existing Tree retained
Proposed Tree
Concrete
Hoggin (PG4)
Aggregate Path (PG5) - to match existing
Rock Garden (RG) - 50% rock, 50% planting
Planting (PL1) - refer to planting plans
Lawn (LA1)
Irrigated Lawn (LA2)
TBL01 - 03 Tukutuku Bridge Type - refer to details 1_3.007
TBS01 - 03
Cultural Marker (placeholder only)
Bench Seat
Sun Lounge
Picnic Table
Rubbish Bin
Pedestrian Light
Bollard

No.	Revision	By	Chk	Date
E	100%Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

Isthmus
AKL 09 309 3442 | WTN 04 499 9832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: 1:500 @A1, 1:1000 @A3
Drawing Title: Stage 1a General Arrangement
Job No: 4010
Drawing Number: 1a_1.100
Revision: E
North
Issued For: 100%Detailed Design

Do not scale. Verify dimensions on site before commencing any work.

PAVING, EDGE & WALL SCHEDULE

CODE	MATERIAL / PRODUCT	SIZE (W X L X THK.) (mm)	COLOR / CODE	FINISH / DEPTH EXPOSURE	LOCATION	SUPPLIER	REMARKS
PAVING							
P01	INSITU CONCRETE PAVING	Reduce MPa. Reduce thickness.	Light Grey/Brown Oxide (156, 172, 184) with Limestone, Pebble and Shell Mix to match Stevenson's 'Jacks Mix'	FINISH: Honed to 150 Grit	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P02	INSITU CONCRETE PAVING No changes!	-	-	HORIZONTAL FINISH: Pipe Rolled. VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P03	INSITU CONCRETE PAVING	Reduce MPa Reduce thickness	2% Black Oxide	FINISH: Acid Washed	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P04	HOGGIN	-	-	FINISH: Compacted to create firm surface	REFER TO PLANS	-	Landscape architect will accept only specified materials or approved equivalent. Contractor is to allow for sampling of blend as per specifications for the selection of final finishes.
P05	COMPACTED AGGREGATE	-	-	FINISH: To match existing path	REFER TO PLANS	-	Landscape architect will accept only specified materials or approved equivalent
EDGE MATERIAL & PRECAST							
E01	CORTEN STEEL	VARIES	-	Prerusted and sealed as per specifications	REFER TO PLANS	-	Landscape architect will accept only specified materials or approved equivalent
E02	CONCRETE EDGE BEAM	200 X VARIES X 200 Reduce MPa	OXIDE: Peter Fell 518 or approved equivalent (172, 184)	FINISH: Light Sandblast. Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut.	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E03	CONCRETE EDGE BEAM	200 X VARIES X 300 Reduce MPa.	OXIDE: Peter Fell 518 or approved equivalent (172, 184)	FINISH: Light Sandblast. Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut.	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E04	TERRACE CONCRETE EDGE BEAM No changes.	200 X VARIES X 300	-	HORIZONTAL FINISH: Light Sandblast. VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E05	TIMBER EDGE	BOARDS: 1500 X 150 X 25 THK. STAKES: 50 X 800 X 50 THK	STAIN COLOUR: Black	TIMBER TYPE: PINE GRADE: H5 TREATED FINISH: ROUGH SAWN (TANALISED)	REFER TO PLANS	-	Landscape architect will accept only specified materials or approved equivalent
E06	PRECAST CONCRETE BOARDWALK, LAKE WALL BOARDWALK EDGE AND EDGE BEAM TIE INS	-	19mm Atlas supplied white lime chip, white sand. Peter fell 'Super White Plus' (cement and oxide)	FINISH: Acid Washed. F5	Boardwalk types B01 and B03.	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes. Allow for precast edge specials where tukutuku decking cuts through. Raised edge to drop to allow for decking. 5mm gap from decking timber to raised edge.
E07	PRECAST CONCRETE PILES ON TUKUTUKU BRIDGES	-	To match E06	FINISH: To match E06	Tukutuku types TBL and TBS.	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E08	INSITU CONCRETE EDGE BEAM	175 X VARIES X 295	19mm Atlas supplied white lime chip, white sand. Peter fell 'Super White Plus' (cement and oxide)	FINISH: Acid Washed. F5	Boardwalk types B02, B04 and B05		
WALLS							
LW01	CONCRETE LAKE WALL TYPE 1	-	EX F5 - VERTICAL EX U3 - HORIZONTAL	FINISH: Acid Washed	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW02 LW03 LW04	CONCRETE LAKE WALLS TYPE 2, 3 AND 4	-	EX F6 - VERTICAL EX U3 - HORIZONTAL	FINISH: Acid Washed	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW05	CONCRETE LAKE WALL TYPE 5	-	EX H5 - VERTICAL EX U3 - HORIZONTAL	FINISH: Acid Washed	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
WS01	CONCRETE WALL SEAT	Reduce MPa.	EX F8 - VERTICAL OXIDE: 4% Black oxide, colour to match P02	HORIZONTAL FINISH: Light Sandblast VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS	-	Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.

NB: Samples to be provided for:

- All concrete
- Stone - grout - mortar - silicone
- Hoggin - blend

No.	Revision	By	Chk	Date
E	100%Detailed Design	MC	TM	14.12.18
D	Draft Detailed Design	MC	TM	30.11.18
C	Draft Detailed Design	MC	TM	15.11.18
B	Draft Detailed Design	MC	TM	19.10.18
A	Draft Detailed Design	MC	TM	28.09.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: A1 SHOWN @A1, A3 SHOWN @A3
Drawing Title: Paving, Edge & Wall Schedule
Job No: 4010
Drawing Number: 1_0.301
Revision: E
Issued For: 100%Detailed Design

Do not scale. Verify dimensions on site before commencing any work.

Contract Name: Rotorua Lakefront Redevelopment (Stage 1 & 1a)
Contract No. 18/029

Revision: 04
Date: 7/07/2019

s7(2)(b)(ii) LGOIMA

Item	Description
1.0	**Preliminary and General**
1.1	Establishment.
1.2	Construction administration.
1.3	Liaison, location and protection of existing services.
1.4	Setout of works
1.5	Site clean-up and disestablishment.
1.6	As-built drawings (are these required?, if so whats required)
1.7	Insurances
1.8	Site fencing and hoarding (stage 1)
1.9	Site fencing and hoarding (stage 1a)
1.10	prototypes & Sampling (refer to spec & dwgs 1_0.303 & 1_0.304 for details)
1.11	Traffic / Pedestrian Management
1.12	Environmental controls
	Subtotal for Preliminary and General
2.0	**Demolition**
2.1	Stage 1
2.1.1	Uplift cobble stone & dispose
2.1.2	Salvage timber and transport to depot
2.1.3	Remove existing wharewaka building, carvings to be protected & stored
2.1.4	Remove scout hall boat ramp & jetty
2.1.5	salvage existing rubish bins for reuse
2.1.6	Remove existing roundabout, install new kerb
2.1.7	Protection of trees
2.1.8	remove existing roadway (300m x 7.5m)
2.2	Stage 1a
2.2.1	Uplift cobble stone & dispose
2.2.2	Salvage timber and transport to depot
2.2.3	Remove jettys
2.2.4	salvage existing rubish bins for reuse
2.2.6	Temporary timber edge
	Subtotal for Demolition
3.0	**Site Clearance / Earthworks / Drainage / watermain**
3.1	Strip topsoil and stockpile (on site)
3.2	Remove surplus material from site - loose measure
3.3	Remove existing cesspits
3.4	Remove cesspit leads
3.5	K100 aco drain
3.6	110mm dia novaflo drain
3.7	110mm dia UPVC subsoil collector pipe
3.8	Replace 600mm dia RCRRJ pipe - class 4
3.9	150mm UPVC pipe
3.10	New field catchpit
3.11	New 1050mm dia manhole
3.12	Watermain installation inc, valves, thrustblocks etc
	Subtotal for Site Clearance / Earthworks / Drainage / watermain
4.0	**Paving**
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)
4.3	P03 - Insitu concrete paving (200 thick, acid wash)
4.4	P04 - Hoggin
4.5	P05 - Compacted aggregate
	Subtotal for Paving
5.0	**Edge materials and precast**
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300

Project	Rotorua Lakefront Redevelopment
Contractor	HEB Construction
Address	PO Box 4049, Mt Maunganui
Date	8/07/2019
Attenion	Craig McMichael
Subject	**HEB Response to Price Clarification 006**

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description	HEB Response - Date 8/07/19
6.1	N/A	P01 & P03 concrete specification	Specificaion for concrete paths P01 & P03 as per the attached marks ups have been reduced to provide costs savings. Pavement thickness can be reduced for 200mm to 150mm. Reinforcing mesh can be reduced from 335 mesh to 665 mesh. Please allow for these items. please also provide cost option to utilise 30Mpa concrete for the below items in lieu of the specified 50MPa - all concrete paving outside of the lake, types P01 & P03 - all 200 x 200 and 200 x 300 garden edge beams - concrete seat walls	sheduled items 4.1 & 4.3 have been updated to reflect the change in pavement thickness. scheduled items 4.1, 4.3, 5.1 & 5.2 have been amended to allow for 30MPa concrete. The new rates exclude microsilica and would not comply with XA3 as per NZS3101 please see the below updated spreadsheet, detailing the tendered mix designs and Mpa strengths for each scheduled item.
6.2	N/A	Electrical	Please provide a breakdown of the electrical costs for review	refer to HEB response to C005 item 5.5

Scheduled Item	Description	Concrete Mix allowed for
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	**Firth Alternative Mix to Stevenson's Jacks Mix. 30Mpa 19mm Limestone Pebble 60kg. 19mm Awatoto Pebble and Shel Mix. Peter Fell 172 Oxide dosed at 20kg per m3**
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	Firth 40Mpa 35% 10mm Limestone Chip, 65% 10mm Greywacke Chip + 8% microsilica
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	**Firth 30Mpa 10mm Greywacke Chip Mix. Permacolour FB635 Black Oxide dosed at 6kg per m3**
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	**Firth Alternative Mix to Stevenson's Hawkes Bay Mix. 30Mpa 50% 13mm Awatoto Pebble. 50% 10mm Greywacke Chip Mix. Peter Fell518 Oxide dosed at 21kg per m3**
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	**Firth 30MPa 10mm 8% microsilica, plain grey**
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.4	E07 - Tukutuku bridge - Foundations large	Firth 50Mpa 19mm 8% microsilica, plain grey
5.4	E07 - Tukutuku bridge - large Piers	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.5	E07 - Tukutuku bridge - Foundations small	Firth 50Mpa 19mm 8% microsilica, plain grey
5.5	E07 - Tukutuku bridge - small Piers	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
6.1	LW01 - Concrete lake wall type 1 & 5 - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
6.1	LW01 - Concrete lake wall type 1 & 5 - precast	Firth 50Mpa 19mm 8% microsilica, plain grey
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4 - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4 - Precast	Firth 50Mpa 19mm 8% microsilica, plain grey
6.3	WS01 - Concrete wall seat	Firth 50Mpa 10mm Greywacke Chip Mix, no oxide + 8% microsilica
7.1	B01 - precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.2	B02	Firth 50Mpa 19mm 8% microsilica, plain grey
7.3	B03 - precast	Firth 50Mpa 19mm 8% microsilica, plain grey
7.4	B04	Firth 50Mpa 19mm 8% microsilica, plain grey
7.5	B05	Firth 50Mpa 19mm 8% microsilica, plain grey
7.6	TBL01 - Large tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.6	TBL01 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.7	TBL02 - Large tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.7	TBL02 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.8	TBL03 - Large tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.8	TBL03 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.9	TBS01 - Small tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.9	TBS01 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.10	TBS02 - Small tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.10	TBS02 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.11	TBS03 - Small tukutuku bridge - Insitu	Firth 50Mpa 19mm 8% microsilica, plain grey
7.11	TBS03 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.13	Boardwalk piles & foundations - 5m wide - foundations	Firth 50Mpa 19mm 8% microsilica, plain grey
7.13	Boardwalk piles & foundations - 5m wide - piles	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.14	Boardwalk piles & foundations - 3m wide - foundations	Firth 50Mpa 19mm 8% microsilica, plain grey
7.14	Boardwalk piles & foundations - 3m wide - piles	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.15	Stone Pavilion - Foundations	Firth 50Mpa 19mm 8% microsilica, plain grey

s7(2)(b)(ii) LGOIMA

Item	Description	Unit
9.10	Excavate Tree pits	ea.
9.11	Supply and install grass areas as per specification provided	m2
9.12	Supply and install of planting	sum
9.13	DLP maintenance of Grass areas	month
9.14	DLP maintenance of Landscape garden areas	month
	Subtotal for Landscaping	
10.0	**Electrical**	
10.1	Electrical	LS
10.2	Lamp posts	ea
	Subtotal for Electrical	
11.0	**Street Furniture (Supply and Install)**	
11.1	Bench seat (type A)	ea
11.2	Bench seat (type B)	ea
11.3	Picnic tables	ea
11.4	Bollards	ea
~~11.5~~	~~Sun loungers (provisional)~~	~~ea~~
11.6	Reinstate rubish bins	ea
	Subtotal for Street Furniture (Supply and Install)	
12.0	**Variations**	
12.1	Decking fixing variation	LS
12.2	seismograph hire (x 1)	week
12.3	General signage	PS
12.4	Removal / replacement of any unsuitable materials or objects	PS
12.5	Precast samples of major items (now inclided in item 1.10)	
12.6	Additional grout samples	ea
	Subtotal for Variations	

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Item	Description	Unit
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	m^2
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	m
5.4	E07 - Tukutuku bridge - Foundations & Large Piers	ea
5.5	E07 - Tukutuku bridge - foundations & small piers	ea
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	m
	Subtotal for Edge materials and precast	
6.0	**Walls**	
6.1	LW01 - Concrete lake wall, type 1 & 5	m
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4	m
6.3	WS01 - Concrete wall seat	m
	Subtotal for Walls	
7.0	**Boardwalks & bridges**	
7.1	B01	ea
7.2	B02	ea
7.3	B03	ea
7.4	B04	ea
7.5	B05	ea
7.6	TBL01 - Large tukutuku bridge	ea
7.7	TBL02 - Large tukutuku bridge	ea
7.8	TBL03 - Large tukutuku bridge	ea
7.9	TBS01 - Small tukutuku bridge	ea
7.10	TBS02 - Small tukutuku bridge	ea
7.11	TBS03 - Small tukutuku bridge	ea
7.12	Small Tukutuku bridge butterfly joints	ea
7.13	Boardwalk piles & foundations- 5m wide	ea
7.14	Boardwalk piles & foundations- 3m wide	ea
7.15	Stone Pavilion	ea
	Subtotal for Boardwalks & bridges	
8.0	**Ground Improvements**	
8.1	Sheetpile coffer dam (stage 1)	m
8.2	Sheetpile coffer dam (stage 1a)	m
8.3	Dewatering (Stage 1 & stage 1a)	LS
8.4	Mass cement stabilisation - 3.5m deep	
8.4.1	Stage 1 & 1a - P & G	LS
~~8.4.2~~	~~Stage 1a - P & G~~	~~LS~~
8.4.3	excavate material and removal from site to waste	m^3
8.4.4	Soil Mixing trial	m^3
8.4.5	Trial testing	LS
8.4.6	Soil mixing standby rate	day
8.4.7	Stage 1 - insitu cement stabilisation with Sulphate resistant cement (300	m^3
8.4.8	Stage 1a - insitu cement stabilisation with Sulphate resistant cement (300kg/m^3) - baseline design	m^3
8.4.9	Soil mixing lab testing	LS
8.5	Micro piles	
8.5.1	Micro piles	ea
8.5.2	Proof tests (tension load test) as per table 4-2	ea
8.5.3	Acceptance testing (tension load test) as per table 4-4	ea
	Subtotal for Ground improvements	
9.0	**Landscaping**	
9.1	Remove trees - as per the information within the drawings	sum
9.2	Uplift from stockpile,place and prepare soil to gardens areas (400r	m2
9.3	Uplift from stockpile, place and prepare soil to lawn areas (150mm	m2
9.4	Design, supply and install Irrigation to irrigated lawn areas	m2
9.5	Supply and install Bark mulch to bark mulched gardens (100mm)	m2
9.6	Supply and install gravel stone mulch to gravel stone gardens (100	m2
9.7	Supply and install Rock to rock garden areas	m2
9.8	Supply and install timber edging between lawns and gardens	lin/m
9.9	Supply and install timber edging between hoggin and lawns	lin/m

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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

5.4	N/A	Pavilion	As a further cost saving option; please advise impact on programme and cost for a reduction in the pavilion jetty length by a 5m segment. Depending on overall project cost the client may elect to reduce this jetty length by 5-10m. Your sum provided should therefore be able to be applied as a multiple of 5m depending on final length. We would anticipate reduction in 5m segments would result in reduction of: - Board walk structure - Pilings, footings, micro piles - Reduced concrete stabilisation - Reduced programme - Reduced dewatering, damming & P&G cost - Reduced proofing & testing
5.5	N/A	General	Please provide the following additional information to allow identification of further cost saving opportunities: - Please provide a breakdown of electrical costs. - Please provide a breakdown of current soil mixing trial costs
5.6	N/A	As built drawings	We can advise that as built drawings for electrical work and any underground services are required. Please advise any associated cost savings.
5.7	N/A	Cobble stone storage	We note the large cost to remove and store cobble stones. Please advise if there is any saving to the rate if these were to be dumped.
5.8	N/A	Soli Mixing Trial	Please advise of any impact on time and cost if the required soil mixing trial were to be completed precontract.
5.9	N/A	General Signage provisional sum	Please revise provisional sum allowance to $20,000.
5.10	12.2 Landscaping	Stump Grinding	For the avoidance of doubt, the contractor is required to allow to remove any stumps necessary to undertake the contract works.

Signed

Craig McMichael
Veros Property Services

Contact No's:
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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment				
Contractor:	HEB Construction	**Date:**	24th June 2019		
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	005		
Email:	Andrew.Hiscox@heb.co.nz				
Attention:	Andrew Hiscox				
Subject:	**Price Clarifications – Various**			**Pages:**	2 + attachments

Price Clarification Details:

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description
5.1	N/A	Stone Pavilion	Please see attached revised details for the stone cladding to the pavilion. Stage 1 & 1a_1_3 401 Pavilion Plans_Rev C Stage 1 & 1a_1_3 402 Pavilion Details_Rev C Stage 1 & 1a_1_3 403 Pavilion Patten Layout_Rev C Stage 1 & 1a_1_3 404 Pavilion Cutting Plan_Rev C The revised pavilion details attached reduce the stone to 100mm thick with recessed edges to the sides and steps. stone is to be changed to Black Granite. Please advise cost saving for amended design.
5.2	N/A	Programme	Please provide an optimised programme that completes the works in one single stage and reduces time on site and associated costs. Please advise any associated cost savings.
5.3	N/A	Architectural samples	The architects have further refined/ reduced the sampling requirements in order to reduce cost and to align with finishes available via Firth. Please see attached revised drawings: 1_0.301 Paving, Edge & Wall Schedule 1_0.303 Samples Schedule Sheet 1 1_0.304 Samples Schedule Sheet 2 Also note the following in regards to sampling: Tukutuktu timber edge profiles and finish - recommend we agree with contractor to inspect first section, no prototype required. Seating bench and table - recommend we agree with contractor to inspect elements throughout fabrication ie, first steel section, first cut of timber, first finished seat. Light poles - recommend we agree with contractor to inspect first finished pole Ladder - recommend we agree with contractor to inspect first ladder Bollard - this is a simple design, no prototype needed. Please advise any associated cost savings.

07B4B RLC Lakefron Redevelopment HEB Price Clarification 005

PAVING, EDGE & WALL SCHEDULE

CODE	MATERIAL / PRODUCT	SIZE (W X L X THK.)	COLOR / CODE	FINISH / DEPTH EXPOSURE	LOCATION	SUPPLIER	REMARKS
PAVING							
P01	INSITU CONCRETE PAVING	-	Firth Elements 01 Oxide with 80kg/m³ Limestone Pebble, 19mm Awatoto Pebble and Shell Mix	FINISH: Honed to 150 Grit	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P02	INSITU CONCRETE PAVING	-	35% 10mm limestone chip, 65% 10mm Greywhacke Chip. No oxide	HORIZONTAL FINISH: Pipe Rolled VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P03	INSITU CONCRETE PAVING		10mm Greywacke Chip with 4% Black Oxide	FINISH: Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
P04	HOGGIN		55% 1.5 to 3.75mm finer grade Limestone chip, 20% AP 7 Scoria (Grey), 25% Pumice 5mm aggregate	FINISH: Compacted to create firm surface	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent. Contractor is to allow for sampling of blend as per specifications for the selection of final finishes.
P05	COMPACTED AGGREGATE		Cement stabilised Gap 7. To match existing aggregate path that is being retained.	FINISH: To match existing path	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
EDGE MATERIAL & PRECAST							
E01	HARDWOOD TIMBER EDGE	140 X 19mm	Plain Hardwood Decking Timber	Dressed	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
E02	CONCRETE EDGE BEAM	200 X VARIES X 200	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light Sandblast Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut.	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E03	CONCRETE EDGE BEAM	200 X VARIES X 300	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light Sandblast Saw cuts are to be calculated a 3m centres for pricing. Final cuts to be set out on site by landscape architect prior to being cut.	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E04	TERRACE CONCRETE EDGE BEAM	200 X VARIES X 300	10mm Greywacke Chip. No oxide	HORIZONTAL FINISH: Light Sandblast VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E05	HARDWOOD TIMBER EDGE	140 X 19mm	Plain Hardwood Decking Timber	Dressed	REFER TO PLANS		Landscape architect will accept only specified materials or approved equivalent
E06	PRECAST CONCRETE BOARDWALK LAKE WALL BOARDWALK EDGE, EDGE BEAM TIE INS AND BOARDWALK PILES		Allied E06 super white lime mix	Finish: Acid Washed, FS	Boardwalk types B01 and B03		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes. Allow for precast edge specials where tukutuku decking cuts through. Raised edge to chop to allow for decking. 5mm gap from decking timber to raised edge.
E07	PRECAST CONCRETE PILES AND STRUCTURAL BEAMS ON TUKUTUKU BRIDGES	-	Standard Chip. No oxide	Finish: Acid Washed, FS	Tukutuku types TBL and TBS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
E08	INSITU CONCRETE EDGE BEAM	175 X VARIES X 295	Allied E06 super white lime mix	Finish: Acid Washed, FS	Boardwalk types B02, B04 and B05		
WALLS							
LW01	CONCRETE LAKE WALL TYPE 1	-	10mm Greywacke Chip with 4% Black Oxide	FS - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW02 LW03 LW04	CONCRETE LAKE WALLS TYPE 2, 3 AND 4		Standard Chip. No oxide.	FS - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
LW05	CONCRETE LAKE WALL TYPE 5		10mm Greywacke Chip with 4% Black Oxide	FS - VERTICAL U3 - HORIZONTAL Acid Washed	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.
WS01	CONCRETE WALL SEAT		Colour to match P02	HORIZONTAL FINISH: Light Sandblast VERTICAL FINISH: Medium Depth Bush Hammered	REFER TO PLANS		Colours and Finishes provided are for pricing purposes only. Contractor is to allow for sampling process as per specifications for the selection of final finishes.

No.	Revision	By	Chk	Date
G	Tender		MC	TM 19.06.19
F	Tender		MC	TM 18.02.19
E	100% Detailed Design		MC	TM 14.12.18
D	Draft Detailed Design		MC	TM 30.11.18
C	Draft Detailed Design		MC	TM 15.11.18
B	Draft Detailed Design		MC	TM 19.10.18
A	Draft Detailed Design		MC	TM 28.09.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Paving, Edge & Wall Schedule

Job No.
4010

Drawing Number
1_0.301

Revision
G

Issued For
Tender

SAMPLES SCHEDULE SHEET 1

CODE	MATERIAL / PRODUCT	COLOR / CODE	FINISH / DEPTH EXPOSURE	SUPPLIER	REMARKS
CONCRETE PAVING SAMPLES					
PS01	INSITU CONCRETE PAVING	Firth Elements 01 Oxide with 80kg/m³ Limestone Pebble, 19mm Awatoto Pebble and Shell Mix	FINISH: Honed to 150 Grit		1000 x 1000 x 100mm sample
PS02	INSITU CONCRETE PAVING/TERRACES	35% 10mm limestone chip, 65% 10mm Greywhacke Chip No oxide	FINISH 1: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Heavy depth bush hammered		1000 x 1000 x 150mm sample per finish
PS03	INSITU CONCRETE PAVING	10mm Greywacke Chip with 4% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS04	INSITU CONCRETE PAVING	10mm Greywacke Chip with 6% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS05	INSITU CONCRETE PAVING	Firth Elements 02 Oxide with 19mm Awatoto Pebble and Shell Mix	FINISH 1: Medium exposure FINISH 2: Honed to 150 Grit		1000 x 1000 x 100mm sample per finish
PS06	INSITU CONCRETE PAVING	Firth Waipa Mix with 4% black oxide	FINISH 1: Medium exposed FINISH 2: Honed to 150 Grit		1000 x 1000 x 100mm sample per finish
EDGE BEAM SAMPLES					
ES01	INSITU CONCRETE BEAM	Firth Elements 01 Oxide with 10mm greywacke chip	FINISH: Light sandblast to all visible faces		1000mm sample to be formed to match 300 x 200mm edge beam design, refer to details.
ES02	INSITU CONCRETE BEAM	10mm Greywacke Chip. No oxide	FINISH 1: Horizontal surface: Light sandblast. Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast. Vertical surface: Heavy depth bush hammered		1000mm sample to be formed to match terrace edge beam design, refer to details.
WALL SAMPLES					
WS01	INSITU CONCRETE SEAT WALL	10mm Greywacke Chip. 4% black oxide	FINISH 1: Horizontal surface: Light sandblast. Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast. Vertical surface: Heavy depth bush hammered		1000mm wide sample to be formed to match seat wall design, refer to details.
BOARDWALK AND BRIDGE CONCRETE SAMPLES					
BS01	PRECAST CONCRETE BOARDWALK DECKING	Allied E06 super white lime mix	FINISH: FS, acid wash		Full size boardwalk edge prototype to be created to confirm finish and quality
BS02	PRECAST CONCRETE BOARDWALK PILE	Allied E06 super white lime mix	FINISH: FS, acid wash		Full size pile prototype to be created to confirm finish and quality

Note: All other precast elements will be inspected after first pour. samples will act as quality control for concrete colour and surface finishes. All precast elements will be inspected prior to installation to ensure they meet the details and agreed sample.

NOTE:

1. Notes applicable for all drawings including plans, sections, details and schedules
2. To be read in conjunction with Project Specification
3. All concrete samples are to be sealed as per specifications to determine final finish surface colour and quality

No.	Revision	By	Chk	Date
C	Tender		TM	TM 19.06.19
B	Tender		TM	TM 31.05.19
A	Tender		MC	TM 18.02.19

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Samples Schedule Sheet 1

Job No.
4010

Drawing Number
1_0.303

Revision
C

Issued For
Tender

SAMPLES SCHEDULE SHEET 2

CODE	MATERIAL / PRODUCT	COLOR / CODE	FINISH / DEPTH EXPOSURE	SUPPLIER	REMARKS
PAVILION SAMPLES					
PA01	STONE FINISH	Sample of each stone finish required. Selections are: • Honed • Bush Hammer • Hewn split face • CNC machined 3d texture/form	To be coordinated between supplier and Landscape architect	-	Samples to be approved prior to ordering stone
PA02	STONE FIXING MATERIAL	Sample of each stone fixing product required. Selections are: • Grout • Mortar • Silicone	As per specifications	-	
AGGREGATE SAMPLES					
AS01	AGGREGATE PAVING - HOGGIN	55% 1.5 to 3.75mm finer grade Limestone chip. 20% AP 7 Scoria (Grey). 25% Pumice 5mm aggregate	FINISH: Compacted		Compacted sample to be left exposed to the weather for a trial period of 3 months to ensure durability
AS02	AGGREGATE PAVING	Cement stabilised Gap 7 - To match existing aggregate path that is being retained	FINISH: To match existing	-	

NOTE:

1. Notes applicable for all drawings including plans, sections, details and schedules
2. To be read in conjunction with Project Specification
3. All concrete samples are to be sealed as per specifications to determine final finish surface colour and quality

No.	Revision	By	Chk	Date
C	Tender	TM	TM	19.06.19
B	Tender	TM	TM	31.05.19
A	Tender	MC	TM	18.02.19

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AKL 09 308 9442 | WTN 04 499 8832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

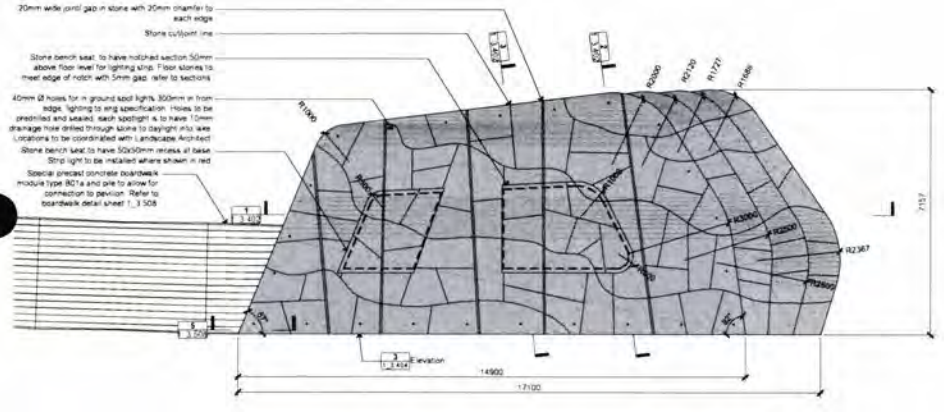
Drawing Title: Samples Schedule Sheet 2

Job No: 4010

Drawing Number: 1_0.304

Revision: C

Issued For: Tender



1 Stage 1 - Pavilion - Stone Finish Plan
Scale: 1:50@ A1 | 1:100@A3

north

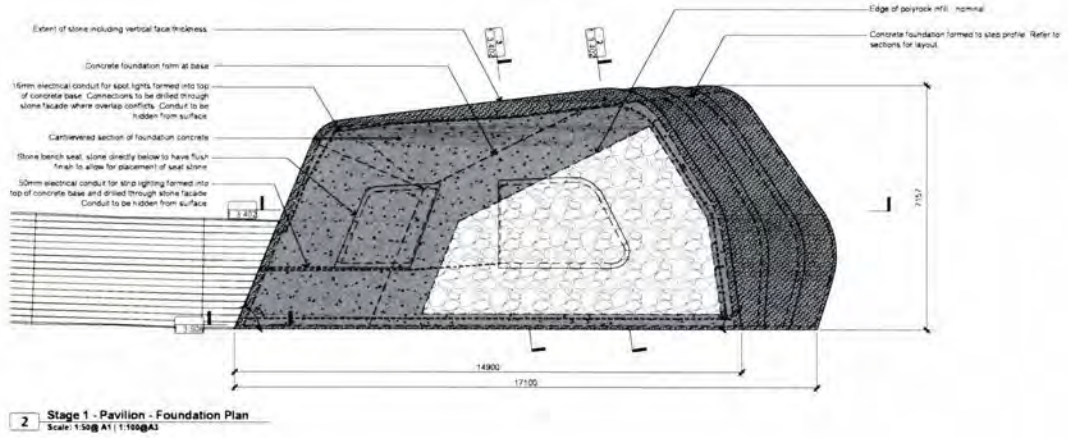
Notes:

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.



2 Stage 1 - Pavilion - Foundation Plan
Scale: 1:50@ A1 | 1:100@A3

north

No.	Revision	By	Chk	Date
C	Revised Details	MC	GR	18.09.19
B	Tender	MC	GR	18.02.19
A	100%Detailed Design	MC	GR	14.12.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3

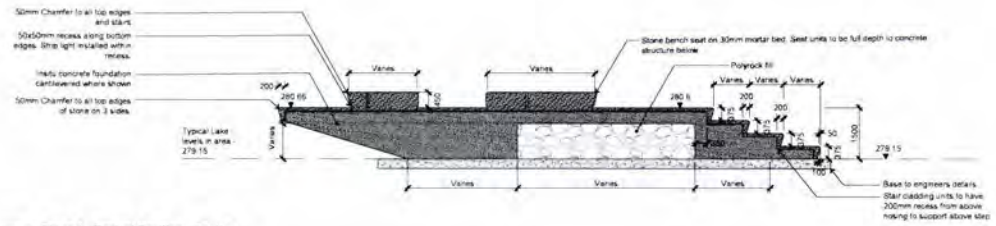
Drawing Title: Pavilion Plans

Job No: 4010

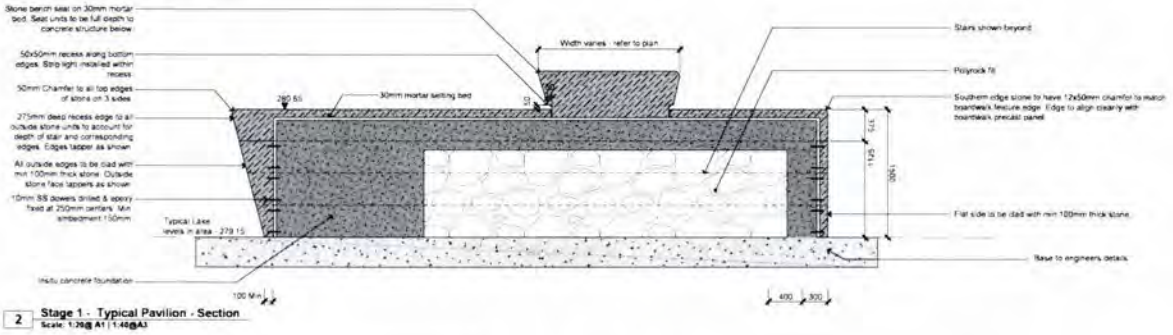
Drawing Number: 1_3.401

Revision: C

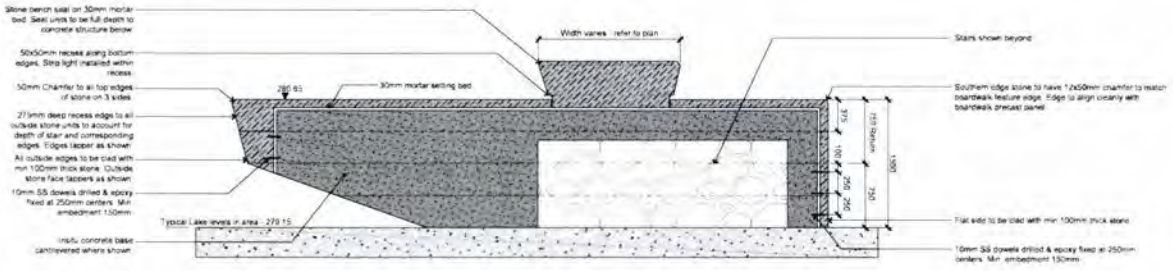
Issued For: Tender



1 **Stage 1 - Typical Pavilion - Section**
Scale: 1:50@ A1 | 1:100@A3



2 **Stage 1 - Typical Pavilion - Section**
Scale: 1:20@ A1 | 1:40@A3



3 **Stage 1 - Typical Pavilion - Section**
Scale: 1:20@ A1 | 1:40@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

No.	Revision	By	Chk	Date
C	Revised Details		MC	08.06.19
B	Tender		MC	08.02.19
A	100%Detailed Design		MC	08.12.18

Isthmus.

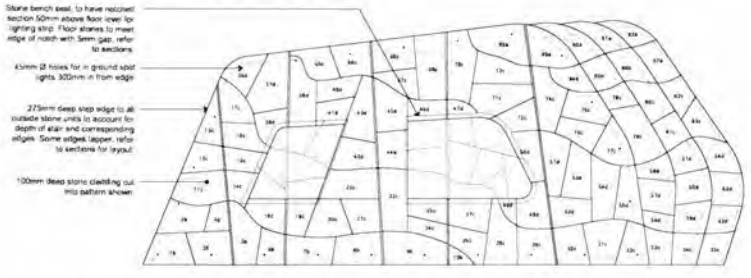
Client
Rotorua Lakes Council

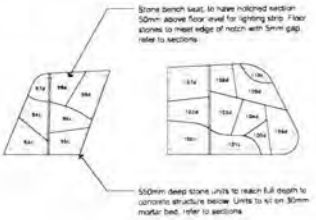
Job Name
Rotorua Lakefront Development

Scale: A3 SHOWN / A1 AS SHOWN
Drawing Title: Pavilion Details

Job No: 4010
Drawing Number: 1_3.402
Revision: C

Issued For: Tender





1 **Stage 1 - Pavilion - Stone Cutting Plan**
Scale: 1:50@ A1 | 1:100@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

Dimension provided for purposes pricing only and not for construction.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

NB

Concrete surface finish types:

a Hone
b Bush hammer
c Flamed
d CNC machined 3d texture/form

Surface finish types to be applied to both horizontal and vertical faces of stone.

No.	Revision	By	Chk	Date
C	Revised Details		MC	08.06.19
B	Tender		MC	08.02.19
A	100%Detailed Design		MC	08.12.18

Isthmus.

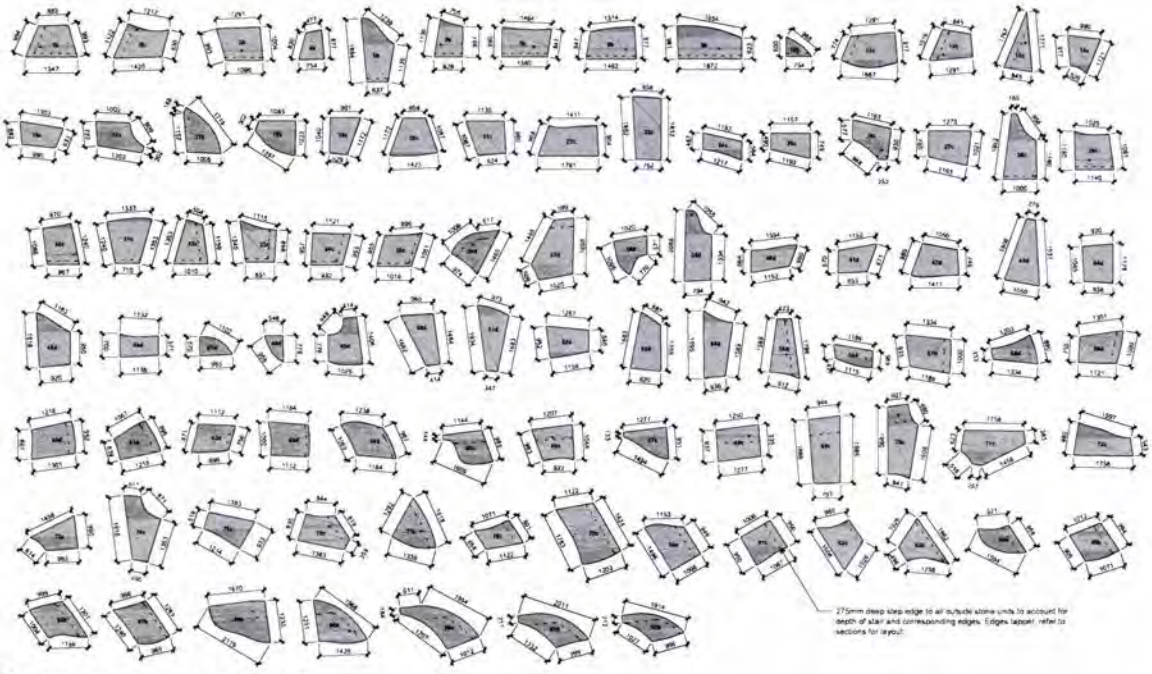
Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: A3 SHOWN / A1 AS SHOWN
Drawing Title: Pavilion Stone Pattern Layout

Job No: 4010
Drawing Number: 1_3.403
Revision: C

Issued For: Tender



1 **Stage 1 - Pavilion - Cladding Stone Cutting Units**
Scale: 1:50@ A1 | 1:100@A3

2 **Stage 2 - Pavilion - Seat Stone Cutting Units**
Scale: 1:50@ A1 | 1:100@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

Dimension provided for purposes pricing only and not for construction.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

NB

Concrete surface finish types

a Hone
b Bush Hammer
c Flamed
d CNC machined 3d texture/form

Surface finish types to be applied to both horizontal and vertical faces of stone.

No.	Revision	By	Chk	Date
C	Revised Details		MC	08.05.19
B	Tender		MC	08.02.19
A	100%Detailed Design		MC	08.12.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @1
A1 SHOWN @1

Drawing Title
Pavilion Stone Cutting Plan

Job No
4010

Drawing Number
1_3.404

Revision
C

Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.

5.7	N/A	Cobble stone Storage	We note the large cost to remove and store cobble stones. Please advise if there is any saving to the rate if these were to be dumped	yes there would be a co[illegible] to dump the existing cobblestones, which equates to $41,056.00. Items 2.1.1 & 2.2.1 have been updated, in the attached SOP
5.8	N/A	Soil mixing trial	Please advise of any impact on time and cost if the required soil mixing trial were to be completed precontract	As discussed at the meeting 17/06/19, undertaking initial testing of the existing soil would confirm the required cement content (kg/m³). There would be a price adjustment if the required kg/m³ was above or below the tender allowance of 300kg/m³
5.9	N/A	General signage provisional sum	Please revise provisional sum allowance to $20,000	Item 12.3 has been reduced to $20,000
5.10	12.2 landscaping	Stump grinding	For the avoidance of doubt, the contractor is required to allow to remove any stumps necessary to undertake the contract works	Agreed, where stumps clash with the permanent works they will be fully removed. No additional costs

Project: Rotorua Lakefront Redevelopment
Contractor: HEB Construction
Address: PO Box 4048, Mt Maunganui
Date: 3/07/2019
Attention: Craig McMichael
Subject: **HEB Response to Price Clarification 005**

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description	HEB Response - Date 03/07/19
5.1	N/A	Stone Pavilion	Please see attached revised details for the stone cladding to the pavili Stage 1 & 1a_1_3.401 Pavilion Plans_Rev C Stage 1 & 1a_1_3.402 Pavilion Details_Rev C Stage 1 & 1a_1_3.403 Pavilion Patten Layout_Rev C Stage 1 & 1a_1_3.404 Pavilion Cutting Plan_Rev C The revised pavilion details attached reduce the stone to 100mm thick with recessed edges to the sides and steps stone is to be changed to Black Granite Please advise cost saving for amended design	We are waiting on suppliers and subcontractors to respond with revised pricing. Their Initial response was that it was unlikely to be much cheaper with the level of detail and number of curved pieces
5.2	N/A	Programme	Please provide an optimised programme that completes the works in one single stage and reduces time on site and associated costs Please advise any associated cost savings	Please find attached our updated construction programme, to complete the works as 1 package. The overall construction period hasn't reduced due to the quantum of work still being the same. The main cost savings are around subcontractor establishments being optimised. We have also added 4 weeks of contractors float (Task 111) Please see the attached updated SOP which reflect the cost savings
5.3	N/A	Architectural sampling	The architects have further refined/ reduced the sampling requirements in order to reduce cost and to align with finishes Please see attached revised drawings 1_0.301 Paving, Edge & Wall Schedule 1_0.303 Samples Schedule Sheet 1 1_0.304 Samples Schedule Sheet 2 Also note the following in regards to sampling Tukutuktu timber edge profiles and finish - recommend we agree with contractor to inspect first section, no prototype required Seating bench and table - recommend we agree with contractor to inspect elements throughout fabrication ie. first steel section, first cut of timber, first finished seat Light poles - recommend we agree with contractor to inspect first finished pole Ladder - recommend we agree with contractor to inspect first ladder Bollard - this is a simple design, no prototype needed Please advise any associated cost savings	The sampling schedule forwarded with C005 appears to have the same quantity of sampling required as per the schedule sent with C004. The schedule has been changed to match the available mix designs offered by HEB in C004. Item 10.1 in our schedule of prices allowed for the concrete paving, edge beams, wall, precast boardwalk and decking and aggregate samples only as per the schedules provided with C004. There would be a cost saving of $34,333.20 if the precast samples can be used in the permanent works Agreed, there was no allowance for prototypes in our tender offer Agreed, there was no allowance for prototypes in our tender offer Agreed, there was no allowance for prototypes in our tender offer Agreed, there was no allowance for prototypes in our tender offer Agreed, there was no allowance for prototypes in our tender offer Savings of $34,333.20 if the precast samples can be used in the permanent works, item 1.10 has been updated to reflect the cost saving
5.4	N/A	Pavilion	As a further cost saving option, please advise impact on programme and cost for a reduction in the pavilion jetty length by a 5m segment. Depending on overall project cost the client may elect to reduce the jetty length by 5-10m. Your sum provided should therefore be able to be applied as a multiple of 5m depending on final length We would anticipate reduction in 5m segments would result in reduction of - Board walk structure - Pilings, footings, micro piles - Reduced concrete stabilisation - Reduced programme - Reduced dewatering, damming & P&G cost - Reduced proofing & testing	The cost saving to reduce the pavilion jetty would be $82,500.00 per 5m segment, this rate can be applied in multiples of 5m
5.5	N/A	General	Please provide the following additional information to allow identification of further cost saving opportunities - Please provide a breakdown of electrical costs - Please provide a breakdown of current soil mixing trial costs	Our electrical subcontractor said its difficult to provide a detailed breakdown, there are items in each stage that relate to each other and if removed would affect the overall system. As per our tender tags (item 10.2) our offer includes future stages 1.2 & 3 works, which are all required for stage 1 & 1a to operate. Below is a high level breakdown of item 10.1 - Electrical; **Description** LED Strip Lighting Supply and Install 124,800.00 Type R1 Lights Supply and Install 40,800.00 Type R2 Lights Supply and Install 10,200.00 Switchboards Supply and Install 36,600.00 Mains Cabling and Lighting Cabling 40,800.00 Ducting 44,400.00 Pull pits / civil work (digging and backfilling) / earthing etc. Junction Boxes, enclosures for LED Drivers, wiring and labour for drivers, labour to recess lighting into structures 163,964.40 upgrade to s/s cabinet 13,735.20 Aluminium extrusion 14,229.60 **Total 489,529.20** BPC have confirmed that the following testing is included in scheduled item 8.4.9 Tests Required - 14 Borehole Samples - 66 CBR - 92 UCS - 28 Triaxial - 92 Bulk Density This is based on the volume and frequency from table 3-4
5.6	N/A	As-built drawings	We can advise that as built drawings for electrical work and any Please advise any associated cost savings	As built drawings have been allowed for in our tender offer no cost saving

s7(2)(b)(ii) LGOIMA

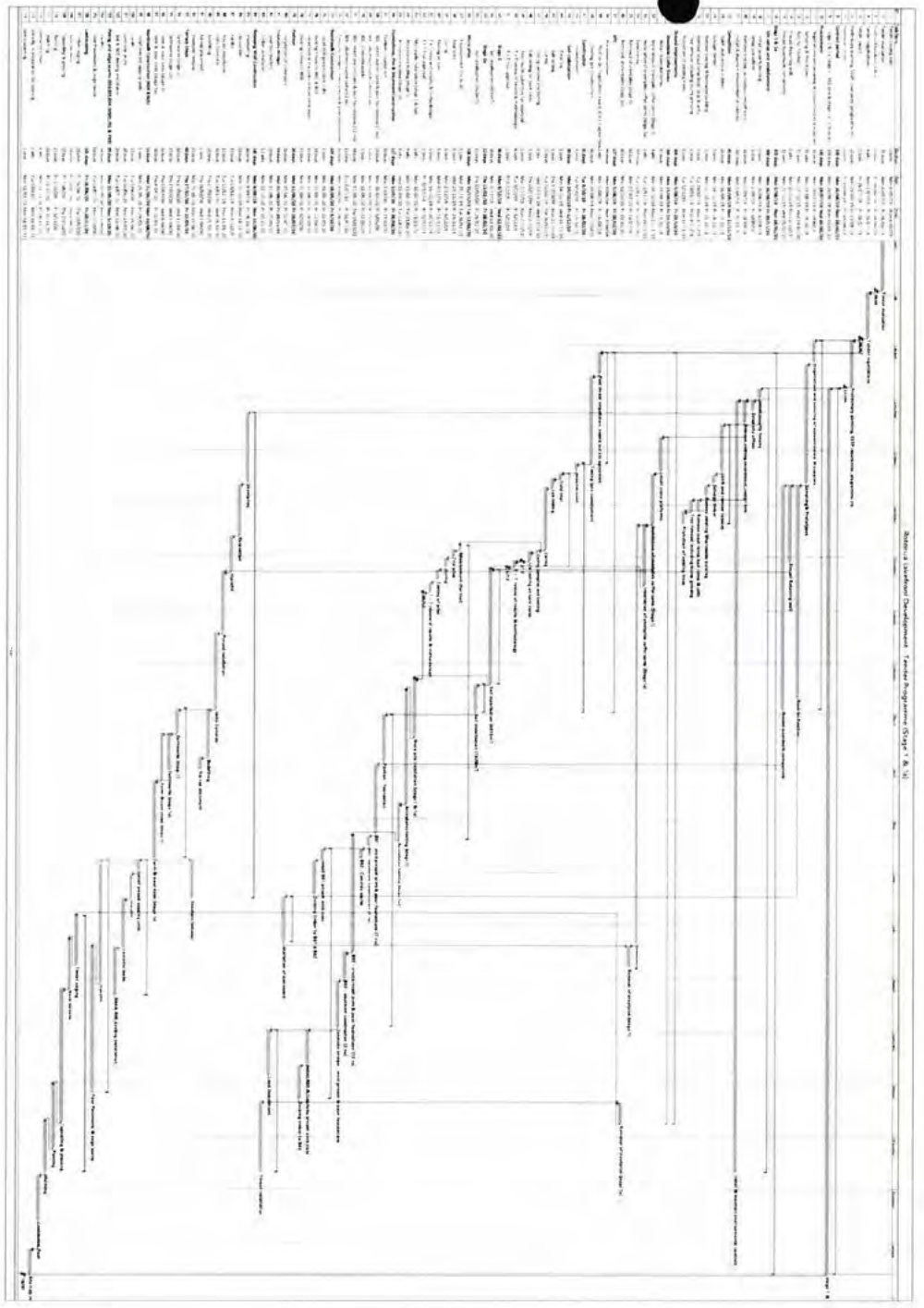
Item	Description	Unit
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	m^2
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	m
5.4	E07 - Tukutuku bridge - Foundations & Large Piers	ea
5.5	E07 - Tukutuku bridge - foundations & small piers	ea
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	m
	Subtotal for Edge materials and precast	
6.0	**Walls**	
6.1	LW01 - Concrete lake wall, type 1 & 5	m
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4	m
6.3	WS01 - Concrete wall seat	m
	Subtotal for Walls	
7.0	**Boardwalks & bridges**	
7.1	B01	ea
7.2	B02	ea
7.3	B03	ea
7.4	B04	ea
7.5	B05	ea
7.6	TBL01 - Large tukutuku bridge	ea
7.7	TBL02 - Large tukutuku bridge	ea
7.8	TBL03 - Large tukutuku bridge	ea
7.9	TBS01 - Small tukutuku bridge	ea
7.10	TBS02 - Small tukutuku bridge	ea
7.11	TBS03 - Small tukutuku bridge	ea
7.12	Small Tukutuku bridge butterfly joints	ea
7.13	Boardwalk piles & foundations- 5m wide	ea
7.14	Boardwalk piles & foundations- 3m wide	ea
7.15	Stone Pavilion	ea
	Subtotal for Boardwalks & bridges	
8.0	**Ground Improvements**	
8.1	Sheetpile coffer dam (stage 1)	m
8.2	Sheetpile coffer dam (stage 1a)	m
8.3	Dewatering (Stage 1 & stage 1a)	LS
8.4	Mass cement stabilisation - 3.5m deep	
8.4.1	**Stage 1 & 1a - P & G**	LS
~~8.4.2~~	~~Stage 1a - P & G~~	~~LS~~
8.4.3	excavate material and removal from site to waste	m^3
8.4.4	Soil Mixing trial	m^3
8.4.5	Trial testing	LS
8.4.6	Soil mixing standby rate	day
8.4.7	Stage 1 - insitu cement stabilisation with Sulphate resistant cement (300	m^3
8.4.8	Stage 1a - insitu cement stabilisation with Sulphate resistant cement (300kg/m^3) - baseline design	m^3
8.4.9	Soil mixing lab testing	LS
8.5	Micro piles	
8.5.1	Micro piles	ea
8.5.2	Proof tests (tension load test) as per table 4-2	ea
8.5.3	Acceptance testing (tension load test) as per table 4-4	ea
	Subtotal for Ground Improvements	
9.0	**Landscaping**	
9.1	Remove trees - as per the information within the drawings	sum
9.2	Uplift from stockpile,place and prepare soil to gardens areas (400m	m2
9.3	Uplift from stockpile, place and prepare soil to lawn areas (150mm	m2
9.4	Design, supply and install Irrigation to irrigated lawn areas	m2
9.5	Supply and install Bark mulch to bark mulched gardens (100mm)	m2
9.6	Supply and install gravel stone mulch to gravel stone gardens (100	m2
9.7	Supply and install Rock to rock garden areas	m2
9.8	Supply and install timber edging between lawns and gardens	lin/m
9.9	Supply and install timber edging between hoggin and lawns	lin/m

Contract Name: Rotorua Lakefront Redevelopment (Stage 1 & 1a)
Contract No. 18/029

Revision: 03
Date: 3/07/2019

s7(2)(b)(ii) LGOIMA

Item	Description	Unit
1.0	**Preliminary and General**	
1.1	Establishment.	LS
1.2	Construction administration.	wks
1.3	Liaison, location and protection of existing services.	LS
1.4	Setout of works	LS
1.5	Site clean-up and disestablishment.	LS
1.6	As-built drawings (are these required?, if so whats required)	LS
1.7	Insurances	LS
1.8	Site fencing and hoarding (stage 1)	m
1.9	Site fencing and hoarding (stage 1a)	m
1.10	prototypes & Sampling (refer to spec & dwgs 1_0.303 & 1_0.304 for details)	LS
1.11	Traffic / Pedestrian Management	wks
1.12	Environmental controls	wks
	Subtotal for Preliminary and General	
2.0	**Demolition**	
2.1	Stage 1	
2.1.1	**Uplift cobble stone & dispose**	m2
2.1.2	Salvage timber and transport to depot	LS
2.1.3	Remove existing wharewaka building, carvings to be protected & stored	LS
2.1.4	Remove scout hall boat ramp & jetty	LS
2.1.5	salvage existing rubish bins for reuse	ea
2.1.6	Remove existing roundabout, install new kerb	LS
2.1.7	Protection of trees	ea
2.1.8	remove existing roadway (300m x 7.5m)	m2
2.2	Stage 1a	
2.2.1	**Uplift cobble stone & dispose**	m2
2.2.2	Salvage timber and transport to depot	LS
2.2.3	Remove jettys	ea
2.2.4	salvage existing rubish bins for reuse	ea
2.2.6	Temporary timber edge	m
	Subtotal for Demolition	
3.0	**Site Clearance / Earthworks / Drainage / watermain**	
3.1	Strip topsoil and stockpile (on site)	m^3
3.2	Remove surplus material from site - loose measure	m^3
3.3	Remove existing cesspits	ea
3.4	Remove cesspit leads	m
3.5	K100 aco drain	m
3.6	110mm dia novaflo drain	m
3.7	110mm dia UPVC subsoil collector pipe	m
3.8	Replace 600mm dia RCRRJ pipe - class 4	m
3.9	150mm UPVC pipe	m
3.10	New field catchpit	ea
3.11	New 1050mm dia manhole	ea
3.12	Watermain installation inc, valves, thrustblocks etc	LS
	Subtotal for Site Clearance / Earthworks / Drainage / watermain	
4.0	**Paving**	
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	m^2
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	m^2
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	m^2
4.4	P04 - Hoggin	m^2
4.5	P05 - Compacted aggregate	m^2
	Subtotal for Paving	
5.0	**Edge materials and precast**	
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	m



Item	Description	Unit
9.10	Excavate Tree pits	ea.
9.11	Supply and install grass areas as per specification provided	m2
9.12	Supply and install of planting	sum
9.13	DLP maintenance of Grass areas	month
9.14	DLP maintenance of Landscape garden areas	month
	Subtotal for Landscaping	
10.0	**Electrical**	
10.1	Electrical	LS
10.2	Lamp posts	ea
	Subtotal for Electrical	
11.0	**Street Furniture (Supply and Install)**	
11.1	Bench seat (type A)	ea
11.2	Bench seat (type B)	ea
11.3	Picnic tables	ea
11.4	Bollards	ea
~~11.5~~	~~Sun loungers (provisional)~~	~~ea~~
11.6	Reinstate rubish bins	ea
	Subtotal for Street Furniture (Supply and Install)	
12.0	**Variations**	
12.1	Decking fixing variation	LS
12.2	seismograph hire (x 1)	week
12.3	General signage	PS
12.4	Removal / replacement of any unsuitable materials or objects	PS
12.5	Precast samples of major items (now inclided in item 1.10)	
12.6	Additional grout samples	ea
	Subtotal for Variations	

[redacted]

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ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

		25Mpa has been allowed for in the following areas; Paving P01, P02, P03, Edging E02,E03,E04, E07 tukutuku foundations, E08, WS01, Boardwalk B04, B05, large & small tukutuku bridge foundaions TBL01, TBL02, TBL 03, TBS01, TBS02, TBS03 50MPa concrete has been allowed for in the following areas; All precast items, Piers and foundations, retaining walls, E06, LW01, LW02,LW03,LW04, boardwalk B01, B02, B03, stone pavilion foundation We would also just like to highlight that our tender only allows for plain grey concrete, as per our tender tag 22.1 no allowances have been made for the specified colours or aggregates.	
4.7	Clarification Item 3.3	***Clarification response*** Typically our onsite overheads are between 10-20% this is because we are a self performing contractor who manage our own staff and resources, you may be comparing our rates to a building contractor who predominantly engage subcontractors to undertake the works, so have significantly lower overheads. Offsite overheads and profit are higher than onsite because they cover HEB Constructions head office, support services, senior management etc as well as profit.	We would request further discussion on this item to better understand services provided within these costs.

Signed Craig McMichael

Craig McMichael
Veros Property Services

Contact No's:
DDI: 07 579 9747
Mobile: 027 508 9625
Email: craig@veros.co.nz

Veros PROPERTY SERVICES
YOUR PROPERTY BUSINESS ▲ IN THE RIGHT HANDS

ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment				
Contractor:	HEB Construction	**Date:**	2nd June 2019		
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	004		
Email:	Andrew.Hiscox@heb.co.nz				
Attention:	Andrew Hiscox				
Subject:	**Price Clarifications – Various**			**Pages:**	2

Price Clarification Details:

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description
4.1	9.6 Micro Piles	***Response to Clarification #001*** item 12.6 has been added for additional grout samples (above the included 1 set per day). This includes collecting samples and compressive testing Please Note that ground fix's grout plant is a continuous batching cycle unit providing uniform mixes across all batches.	Your item 12.6 Additional grout samples $171,072 appears high; As per clarification #001 - we will likely only require 2 sets of 4 samples per day (8No. samples per day). Considering your two-week programme for these works this equates to 112 samples in total (including weekends). 112 samples @ $118.80 per sample equates to $13,306 Please advise how you calculated the 1440 samples required?
4.2	9.7 Micro Piles	Standing time for delays outside of our control will be charged at $475.00 +GST per hr per rig.	This tag appears to be a sub-contractor tag. We cannot accept this tag. It is main contractors' responsibility to manage any delays within your programme. Please remove this tag.
4.3	N/A	N/A	Please advise cost saving available to revert to 1-year maintenance period for landscaping and planting.
4.4	15.8 Stone	Prices are based on Forex rates of US$0.665 and €0.581	The works are being procured as a Fixed price Lump Sum contract to NZS3910, tenderers are expected to manage procurement of offsite materials and timing with exchange rates. Tag to be removed.
4.5	19.1 Sampling and Prototypes	***Clarification Response*** At this stage we don't believe that we can offer an accurate fixed price for the sampling and prototypes. There are currently too many variables and as per tags / clarifications item 22.1 we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. We would prefer that the $100k provisional sum item remained so that there was sufficient coverage here.	Please find attached revised sample schedule (1_0.303 Samples Schedule Sheet 1, 1_0.304 Samples Schedule Sheet 2) Please review this sum and advise if a fixed price for the sampling schedule can be provided
4.6	22.1 Concrete Supply	***Clarification Response*** Drawing 4010 1_0.100 Rev F - Insitu concrete notes, item 5 refers to 25MPa concrete. Isthmus specification 3101 Concrete works also references various strenth concrete. T & T specification, section 7 concrete works refers to 50MPa concrete. So there is some inconsistency.	T&T specification is to take precedence and be allowed for for all concrete MPA requirements. Please allow for any specified colours or aggregates.

07B4B RLC Lakefron Redevelopment HEB Price Clarification 004

SAMPLES SCHEDULE SHEET 1

CODE	MATERIAL / PRODUCT	COLOR / CODE	FINISH / DEPTH EXPOSURE	SUPPLIER	REMARKS
CONCRETE PAVING SAMPLES					
PS01	INSITU CONCRETE PAVING	Peter Fell 172 Oxide with 80kg/m³ Limestone, Pebble and Shell Mix to match Stevenson's Jacks Mix	FINISH: Honed to 150 Grit	Peter Fell Oxide	1000 x 1000 x 100mm sample
PS02	INSITU CONCRETE PAVING/TERRACES	35% 10mm limestone chip, 65% 10mm Greywacke Chip No oxide	FINISH 1: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Pipe rolled with a 100mm pipe along the terrace (downward weight required to avoid ripple) Vertical surface: Heavy depth bush hammered		1000 x 1000 x 150mm sample per finish
PS03	INSITU CONCRETE PAVING	10mm Greywacke Chip with 4% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS08	INSITU CONCRETE PAVING	10mm Greywacke Chip with 8% Black Oxide	FINISH: Light acid wash		1000 x 1000 x 100mm sample
PS12	INSITU CONCRETE PAVING	Peter Fell 172 Oxide with Stevenson's Te Ohensal Mix	FINISH 1: Medium exposed FINISH 2: Honed to 150 Grit	Peter Fell Oxide	1000 x 1000 x 100mm sample per finish
PS12	INSITU CONCRETE PAVING	Stevenson's Awanuiku Mix with 4% black oxide	FINISH 1: Medium exposed FINISH 2: Honed to 150 Grit	Peter Fell Oxide	1000 x 1000 x 100mm sample per finish
EDGE BEAM SAMPLES					
ES01	INSITU CONCRETE BEAM	Peter Fell 518 Oxide with 50% Stevenson's Hawkes Bay Mix and 50% 10mm Greywacke Chip	FINISH: Light sandblast to all visible faces	Peter Fell Oxide	1000mm sample to be formed to match 300 x 200mm edge beam design refer to details
ES02	INSITU CONCRETE BEAM	10mm Greywacke Chip. No oxide	FINISH 1: Horizontal surface: Light sandblast Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast Vertical surface: Heavy depth bush hammered		1000mm sample to be formed to match terrace edge beam design refer to details
WALL SAMPLES					
WS01	INSITU CONCRETE SEAT WALL	10mm Greywacke Chip. No oxide	FINISH 1: Horizontal surface: Light sandblast Vertical surface: Medium depth bush hammered FINISH 2: Horizontal surface: Light sandblast Vertical surface: Heavy depth bush hammered		1000mm wide sample to be formed to match seat wall design, refer to details
BOARDWALK AND BRIDGE CONCRETE SAMPLES					
BS01	PRECAST CONCRETE BOARDWALK DECKING	10mm atlas supplied white lime chip, white sand, Peter Fell 'super white plus' oxide	FINISH: Fb, acid wash	Peter Fell Oxide	Full size boardwalk edge prototype to be created to confirm finish and quality
BS02	PRECAST CONCRETE BOARDWALK PILE	10mm atlas supplied white lime chip, white sand, Peter Fell 'super white plus' oxide	FINISH: Fb, acid wash	Peter Fell Oxide	Full size pile prototype to be created to confirm finish and quality
Note: All other precast elements will be inspected after first pour. samples aswell will act as quality control for concrete colour and surface finishes. All precast elements will be inspected prior to installation to ensure they meet the details and agreed sample.					

NOTE:

1. Notes applicable for all drawings including plans, sections, details and schedules
2. To be read in conjunction with Project Specification
3. All concrete samples are to be sealed as per specifications to determine final finish surface colour and quality

B Tender TM TM 31 05 19
A Tender MC TM 16 03 19
No. Revision By Chk Date

Isthmus.
AKL 09 309 8442 | WTN 04 499 6832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3
Drawing Title: Samples Schedule Sheet 1
Job No: 4010
Drawing Number: 1_0.303
Revision: B
Issued For: Tender

SAMPLES SCHEDULE SHEET 2

CODE	MATERIAL / PRODUCT	COLOR / CODE	FINISH / DEPTH EXPOSURE	SUPPLIER	REMARKS
PAVILION SAMPLES					
PA01	STONE FINISH	Sample of each stone finish required. Selections are: • Honed • Bush Hammer • Hewn split face • CNC machined 3d texture/form	To be coordinated between supplier and Landscape architect		Samples to be approved prior to ordering stone
PA02	STONE FIXING MATERIAL	Sample of each stone fixing product required. Selections are: • Grout • Mortar • Silicone	As per specifications		
AGGREGATE SAMPLES					
AS01	AGGREGATE PAVING - HOGGIN	55% 1.5 to 3.75mm fines grade Limestone chip, 20% AP 7 Scoria (Grey) 25% Pumice 5mm aggregate	FINISH: Compacted		Compacted sample to be left exposed to the weather for a trial period of 3 months to ensure durability
AS02	AGGREGATE PAVING	Cement stabilised Clap 7 - To match existing aggregate path that is being retained	FINISH: To match existing		

NOTE:

1. Notes applicable for all drawings including plans, sections, details and schedules
2. To be read in conjunction with Project Specification
3. All concrete samples are to be sealed as per specifications to determine final finish surface colour and quality

B Tender TM TM 31 05 19
A Tender MC TM 16 03 19
No. Revision By Chk Date

Isthmus.
AKL 09 309 8442 | WTN 04 499 6832 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: AS SHOWN @A1, AS SHOWN @A3
Drawing Title: Samples Schedule Sheet 2
Job No: 4010
Drawing Number: 1_0.304
Revision: B
Issued For: Tender

Do not scale. Verify dimensions on site before commencing any work.
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Project:	Rotorua Lakefront Redevelopment
Contractor:	HEB Construction
Address:	PO Box 4049 Mt Maunganui
Date:	12/06/2018
Attention:	Craig McMichael
Subject:	**HEB Response to Price Clarification 004**

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description	HEB Response - Date 06/06/18
4.1	9.6 Micro piles	Response to Clarification # 001 Item 12.6 has been added for additional grout samples (above the included 1 set per day). This includes collecting samples and compressive testing. Please Note that groundlife's grout plant is a continuous batching cycle unit providing uniform mixes across all batches.	Your item 12.6 Additional grout samples $171,072 appears high. As per clarification #001 - we will likely only require 2 sets of 4 samples per day (8 No. samples per day) Considering your 2 week programme for these works this equates to 112 samples in total (including weekends) 112 samples @ $118.60 per sample equates to $13,308. Please advise how you calculated the 1440 samples required?	Please note that there were 2 programmes submitted with our tender, one for each of the stages (stage 1 and 1a). Stage 1, Micro Piling (Task 39) - 2 weeks and stage 1a, Micro Piling (Task 22) - 3 weeks, that's a total of 5 weeks for micro pile installation. T & T specification, section 4.6.3 and tender clarification C001/1.12 states that the following testing is required: - Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used, and - Not less then 1 set of 4 test samples for each additional batch of grout mixed. 5 weeks x 6 days x 8 samples per day = 240 samples We have calculated that there are a total of 493 micro piles, and each pile has 53L of grout, that's a total of 26,129L of grout required. Each batch makes a volume of 77L, 26,129L / 77L = 340 batches required to complete the works. On average we will be batching 12 times per day, the first batch will be sampled as above "2 sets of 4 samples for the first batch used" the remaining batches will be sampled as above "1 set of 4 samples for each additional batch of grout mixed" 340 batches total - (30 days x 1 batches) = 310 batches 310 batches x 4 samples = 1240 samples 1240 + 240 = 1480 samples total Email received 11/6/918 provided a revised specification which reduced the sampling requirements. Item 12.6 has been reduced accordingly.
4.2	9.7 Micro piles	Standing time for delays outside of our control will be charged at $475.00 + GST per hr per rig.	This tag appears to be a subcontract tag. We cannot accept this tag. It is main contractors responsibility to manage any delays within your programme. Please remove this tag.	Tag removed.
4.3	N/A	N/A	please advise cost saving available to revert to 1 year maintenance period for landscaping and planting.	There would be a costs saving of $80,447.76, if scheduled item 9.14 was reduced to 12 months, this has been amended in our revised SOP.
4.4	15.8 Stone	Prices are based on Forex rates of US $0.665 & €0.581.	The works are being procured as a fixed price lump sum contract to NZS3910. tenderers are expected to manage procurement of offsite materials and liming with exchange rates. Tag to be removed.	Tag removed.
4.5	19.1 Sampling and prototypes	Response to Clarification # 001 At this stage we don't believe that we can offer an accurate fixed price for the sampling and prototypes. There are currently too many variables and as per tags / clarifications item 22.1 we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. We would prefer that the $100k provisional sum item remained so that there was sufficient coverage here.	Please find attached revised sampling schedule (1_0 303 sample schedule sheet 1. 1_0 304 samples schedule sheet 2) Please review this sum and advise if a fixed price for the sampling schedule can be provided.	The specified stevenson mixes are confidential and not available in Rotorua, alternative mixes would need to be agreed. We have reviewed the sampling schedules provided with C004 and have provided a lump sum price (item 1.10) for the following mixes. Please note this item now includes the precast units and excludes pavilion samples PA01 & PA02 PS01: Firth Alternative Mix to Stevenson's Jacks Mix: 40Mpa 19mm Limestone Peobls 8Okg: 19mm Awatoto Pebble and Shell Mix: Peter Fell 172 Oxide dosed at 20kg per m3 PS02: Firth 40Mpa 35% 10mm Limestone Chip: 65% 10mm Greywacke Chip PS03: Firth 50Mpa 10mm Greywacke Chip Mix: Permacolour F9635 Black Oxide dosed at 6kg per m3. PS08: Firth 50Mpa 10mm Greywacke Chip Mix: Permacolour F9635 Black Oxide dosed at 72kg per m3. PS12A: Firth Alternative Mix to Stevenson's Te Oneroa Mix: 50Mpa 13mm Otorohonga Rounded Pebble Mix: Peter Fell 172 Oxide dosed at 21kg per PS12B: Firth Alternative Mix to Stevenson's Awarutu Mix: 50Mpa 13mm Awatoto Pebble and Shell Mix: Permacolour F9635 Black Oxide dosed at ES01: Firth Alternative Mix to Stevenson's Hawkes Bay Mix: 50Mpa 50% 13mm Awatoto Pebble: 50% 10mm Greywacke Chip Mix: Peter Fell 518 Oxide dosed at 21kg per m3. ES02: Firth 50Mpa 10mm Greywacke Chip Mix: plain grey concrete WS01: Firth 50Mpa 10mm Greywacke Chip Mix: plain grey concrete
4.6	22.1 Concrete Supply	Response to Clarification # 001 Drawing 4010 1_0 100 Rev F - insitu concrete notes, item 5 refers to 25MPa concrete. Isthmus specification 3101 Concrete works also references various strength concrete. T & T specification, section 7 concrete works refers to 50MPa concrete. So there is some inconsistency. 25Mpa has been allowed for in the following areas. Paving PD1, PD2, PD3. Edging EC2,E03,E04, E07 tukutuku foundations. E08, WS01, Boardwalk B04, B05, large & small tukutuku bridge foundations. TBLC1, TBLC2, TBL 03, TBS01, TBS02, TBS03. 50MPa concrete has been allowed for in the following areas. All precast items. Piers and foundations, retaining walls, ES0, LW01, LW02,LW03,LW04, boardwalk B01, BC2, B03, stone pavilion foundation. We would also just like to highlight that our tender only allows for plain grey concrete, as per our tender tag 22.1 no allowances have been made for the specified colours or aggregates.	T & T specification is to take precedence and be allowed for. for all concrete Mpa requirements. Please allow for any specified colours or aggregates.	We have revised our tender to allow for colours and aggregates, please see the attached spreadsheet detailing the mixes that have been allowed for. Please note the following: Specified stevensons mixes are confidential and not available to Firth or Allied concrete in Rotorua. Mpa strengths are tested below, mixes containing lma aggregate may not achieve 50MPa. All mixes include 8% microsilica. mixes are not designed for pumping.
4.7	Clarification item 3.3	Response to Clarification # 002 Typically our onsite overheads are between 10-20% this is because we are a self performing contractor who manage our own staff and resources, you may be comparing our rates to a building contractor who predominantly engage subcontractors to undertake the works, so have significantly lower overheads. Offsite overheads and profit are higher than onsite because they cover HEB Constructions head office, support services, senior management etc as well as profit.	We would request further discussion in this item to better understand services provided within these costs.	ok, we can discuss this further.

Project:	Rotorua Lakefront Redevelopment
Contractor:	HEB Construction
Address:	PO Box 4049 Mt Maunganui
Date:	12/06/2018
Attention:	Craig McMichael
Subject:	**HEB Response to Price Clarification 004**

No.	Tag Ref.	Tag Details / Correspondence	Clarification Description	HEB Response - Date 06/06/18
4.1	9.6 Micro piles	Response to Clarification # 001 Item 12.6 has been added for additional grout samples (above the included 1 set per day). This includes collecting samples and compressive testing. Please Note that groundlife's grout plant is a continuous batching cycle unit providing uniform mixes across all batches.	Your item 12.6 Additional grout samples $171,072 appears high. As per clarification #001 - we will likely only require 2 sets of 4 samples per day (8 No. samples per day) Considering your 2 week programme for these works this equates to 112 samples in total (including weekends) 112 samples @ $118.60 per sample equates to $13,308. Please advise how you calculated the 1440 samples required?	Please note that there were 2 programmes submitted with our tender, one for each of the stages (stage 1 and 1a). Stage 1, Micro Piling (Task 39) - 2 weeks and stage 1a, Micro Piling (Task 22) - 3 weeks, that's a total of 5 weeks for micro pile installation. T & T specification, section 4.6.3 and tender clarification C001/1.12 states that the following testing is required: - Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used, and - Not less then 1 set of 4 test samples for each additional batch of grout mixed. 5 weeks x 6 days x 8 samples per day = 240 samples We have calculated that there are a total of 493 micro piles, and each pile has 53L of grout, that's a total of 26,129L of grout required. Each batch makes a volume of 77L, 26,129L / 77L = 340 batches required to complete the works. On average we will be batching 12 times per day, the first batch will be sampled as above "2 sets of 4 samples for the first batch used" the remaining batches will be sampled as above "1 set of 4 samples for each additional batch of grout mixed" 340 batches total - (30 days x 1 batches) = 310 batches 310 batches x 4 samples = 1240 samples 1240 + 240 = 1480 samples total
4.2	9.7 Micro piles	Standing time for delays outside of our control will be charged at $475.00 + GST per hr per rig.	This tag appears to be a subcontract tag. We cannot accept this tag. It is main contractors responsibility to manage any delays within your programme. Please remove this tag.	Tag removed.
4.3	N/A	N/A	please advise cost saving available to revert to 1 year maintenance period for landscaping and planting.	There would be a costs saving of $80,447.76, if scheduled item 9.14 was reduced to 12 months.
4.4	15.8 Stone	Prices are based on Forex rates of US $0.665 & €0.581.	The works are being procured as a fixed price lump sum contract to NZS3910. tenderers are expected to manage procurement of offsite materials and liming with exchange rates. Tag to be removed.	Tag removed.
4.5	19.1 Sampling and prototypes	Response to Clarification # 001 At this stage we don't believe that we can offer an accurate fixed price for the sampling and prototypes. There are currently too many variables and as per tags / clarifications item 22.1 we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. We would prefer that the $100k provisional sum item remained so that there was sufficient coverage here.	Please find attached revised sampling schedule (1_0 303 sample schedule sheet 1. 1_0 304 samples schedule sheet 2) Please review this sum and advise if a fixed price for the sampling schedule can be provided.	The concrete mixes specified are Stevenson's mixes who are based in Auckland. Our concrete supplier Firth are currently preparing alternative mixes and will have pricing back to us early next week, we can then supply pricing for this item.
4.6	22.1 Concrete Supply	Response to Clarification # 001 Drawing 4010 1_0 100 Rev F - insitu concrete notes, item 5 refers to 25MPa concrete. Isthmus specification 3101 Concrete works also references various strength concrete. T & T specification, section 7 concrete works refers to 50MPa concrete. So there is some inconsistency. 25Mpa has been allowed for in the following areas. Paving PD1, PD2, PD3. Edging EC2,E03,E04, E07 tukutuku foundations. E08, WS01, Boardwalk B04, B05, large & small tukutuku bridge foundations. TBLC1, TBLC2, TBL 03, TBS01, TBS02, TBS03. 50MPa concrete has been allowed for in the following areas. All precast items. Piers and foundations, retaining walls, ES0, LW01, LW02,LW03,LW04, boardwalk B01, BC2, B03, stone pavilion foundation. We would also just like to highlight that our tender only allows for plain grey concrete, as per our tender tag 22.1 no allowances have been made for the specified colours or aggregates.	T & T specification is to take precedence and be allowed for. for all concrete Mpa requirements. Please allow for any specified colours or aggregates.	As above, we are expecting pricing from Firth concrete early next week.
4.7	Clarification item 3.3	Response to Clarification # 002 Typically our onsite overheads are between 10-20% this is because we are a self performing contractor who manage our own staff and resources, you may be comparing our rates to a building contractor who predominantly engage subcontractors to undertake the works, so have significantly lower overheads. Offsite overheads and profit are higher than onsite because they cover HEB Constructions head office, support services, senior management etc as well as profit.	We would request further discussion in this item to better understand services provided within these costs.	ok, we can discuss this further.

Contract Name: Rotorua Lakefront Redevelopment (Stage 1 & 1a)
Contract No. 18/029

s7(2)(b)(ii) LGOIMA

[redacted]

Item	Description	Unit
1.0	**Preliminary and General**	
1.1	Establishment.	LS
1.2	Construction administration.	wks
1.3	Liaison, location and protection of existing services.	LS
1.4	Setout of works	LS
1.5	Site clean-up and disestablishment	LS
1.6	As built drawings (are these required?, if so whats required)	LS
1.7	Insurances	LS
1.8	Site fencing and hoarding (stage 1)	m
1.9	Site fencing and hoarding (stage 1a)	m
1.10	prototypes & Sampling (refer to spec & dwgs 1_0.303 & 1_0.304 for details)	LS
1.11	Traffic / Pedestrian Management	wks
1.12	Environmental controls	wks
	Subtotal for Preliminary and General	
2.0	**Demolition**	
2.1	Stage 1	
2.1.1	Uplift cobble stone place on pallets and transport to depot	m2
2.1.2	Salvage timber and transport to depot	LS
2.1.3	Remove existing wharewaka building, carvings to be protected & stored	LS
2.1.4	Remove scout hall boat ramp & jetty	LS
2.1.5	salvage existing rubish bins for reuse	ea
2.1.6	Remove existing roundabout, install new kerb	LS
2.1.7	Protection of trees	ea
2.1.8	remove existing roadway (300m x 7.5m)	m2
2.2	Stage 1a	
2.2.1	Uplift cobble stone place on pallets and transport to depot	m2
2.2.2	Salvage timber and transport to depot	LS
2.2.3	Remove jettys	ea
2.2.4	salvage existing rubish bins for reuse	ea
2.2.6	Temporary timber edge	m
	Subtotal for Demolition	
3.0	**Site Clearance / Earthworks / Drainage / watermain**	
3.1	Strip topsoil and stockpile (on site)	m^3
3.2	Remove surplus material from site - loose measure	m^3
3.3	Remove existing cesspits	ea
3.4	Remove cesspit leads	m
3.5	K100 aco drain	m
3.6	110mm dia novaflo drain	m
3.7	110mm dia UPVC subsoil collector pipe	m
3.8	Replace 600mm dia RCRRJ pipe - class 4	m
3.9	150mm UPVC pipe	m
3.10	New field catchpit	ea
3.11	New 1050mm dia manhole	ea
3.12	Watermain installation inc, valves, thrustblocks etc	LS
	Subtotal for Site Clearance / Earthworks / Drainage / watermain	
4.0	**Paving**	
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	m^2
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	m^2
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	m^2
4.4	P04 - Hoggin	m^2
4.5	P05 - Compacted aggregate	m^2
	Subtotal for Paving	
5.0	**Edge materials and precast**	
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	m

Scheduled Item	Description	Concrete Mix allowed for
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	Firth Alternative Mix to Stevenson's Jacks Mix 40Mpa 19mm Limestone Pebble 8kg 19mm Awaiti Pebble and Shell Mix Peter Fell 172 Oxide dosed at 20kg per m3 + 8% microsilica
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	Firth 40Mpa 35% 10mm Limestone Chip 65% 10mm Greywacke Chip + 8% microsilica
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	Firth 50Mpa 10mm Greywacke Chip Mix Permacolour FW35 Black Oxide dosed at 6kg per m3 + 8% microsilica
5.1	E02 & E03 - Concrete edge beams 200 x varies x 200 or 300	Firth Alternative Mix to Stevenson's Hawkes Bay Mix 50Mpa 50% 10mm Awaiti Pebble 50% 10mm Greywacke Chip Mix Peter Fell 518 Oxide dosed at 21kg per m3 + 8% microsilica
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	Firth 50Psa 19mm 8% microsilica, plain grey
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.4	E07 - Tukutuku bridge - Foundations large	Firth 50Psa 19mm 8% microsilica, plain grey
5.4	E07 - Tukutuku bridge - large Piers	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.5	E07 - Tukutuku bridge - Foundations small	Firth 50Psa 19mm 8% microsilica, plain grey
5.5	E07 - Tukutuku bridge - small Piers	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
6.1	LW01 - Concrete lake wall type 1 & 5 - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
6.1	LW01 - Concrete lake wall type 1 & 5 - precast	Firth 50Psa 19mm 8% microsilica, plain grey
6.2	LW02 03 & 04 - Concrete lake walls type 2 3 & 4 - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
6.2	LW02 03 & 04 - Concrete lake walls type 2 3 & 4 - Precast	Firth 50Psa 19mm 8% microsilica, plain grey
6.3	WS01 - Concrete wall seat	Firth 50Mpa 10mm Greywacke Chip Mix, no oxide + 8% microsilica
7.1	B01 - precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.2	B02	Firth 50Psa 19mm 8% microsilica, plain grey
7.3	B03 - precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.4	B04	Firth 50Psa 19mm 8% microsilica, plain grey
7.5	B05	Firth 50Psa 19mm 8% microsilica, plain grey
7.6	TBL01 - Large tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.6	TBL01 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.7	TBL02 - Large tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.7	TBL02 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.8	TBL03 - Large tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.8	TBL03 - Large tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.9	TBS01 - Small tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.9	TBS01 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.10	TBS02 - Small tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.10	TBS02 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.11	TBS03 - Small tukutuku bridge - insitu	Firth 50Psa 19mm 8% microsilica, plain grey
7.11	TBS03 - Small tukutuku bridge - Precast	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.13	Boardwalk piles & foundations - 5m wide - foundations	Firth 50Psa 19mm 8% microsilica, plain grey
7.13	Boardwalk piles & foundations - 5m wide - piles	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.14	Boardwalk piles & foundations - 3m wide - foundations	Firth 50Psa 19mm 8% microsilica, plain grey
7.14	Boardwalk piles & foundations - 3m wide - piles	Allied Concrete 25Mpa E08 super white lime mix + 8% microsilica
7.15	Stone Pavilion - Foundations	Firth 50Psa 19mm 8% microsilica, plain grey

s7(2)(b)(ii) LGOIMA

Item	Description	Unit
9.10	Excavate Tree pits	ea.
9.11	Supply and install grass areas as per specification provided	m2
9.12	Supply and install of planting	sum
9.13	DLP maintenance of Grass areas	month
9.14	DLP maintenance of Landscape garden areas	month
	Subtotal for Landscaping	
10.0	**Electrical**	
10.1	Electrical	LS
10.1	Lamp posts	ea
	Subtotal for Electrical	
11.0	**Street Furniture (Supply and Install)**	
11.1	Bench seat (type A)	ea
11.2	Bench seat (type B)	ea
11.3	Picnic tables	ea
11.4	Bollards	ea
~~11.5~~	~~Sun loungers (provisional)~~	~~ea~~
11.6	Reinstate rubish bins	ea
	Subtotal for Street Furniture (Supply and Install)	
12.0	**Variations**	
12.1	Decking fixing variation	LS
12.2	seismograph hire (x 1)	week
12.3	General signage	PS
12.4	Removal / replacement of any unsuitable materials or objects	PS
12.5	Precast samples of major items (now inclided in item 1.10)	
12.6	Additional grout samples	ea
	Subtotal for Variations	

s7(2)(b)(ii) LGOIMA

Item	Description	Unit
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	m^2
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	m
5.4	E07 - Tukutuku bridge - Foundations & Large Piers	ea
5.5	E07 - Tukutuku bridge - foundations & small piers	ea
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	m
	Subtotal for Edge materials and precast	
6.0	**Walls**	
6.1	LW01 - Concrete lake wall, type 1 & 5	m
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4	m
6.3	WS01 - Concrete wall seat	m
	Subtotal for Walls	
7.0	**Boardwalks & bridges**	
7.1	B01	ea
7.2	B02	ea
7.3	B03	ea
7.4	B04	ea
7.5	B05	ea
7.6	TBL01 - Large tukutuku bridge	ea
7.7	TBL02 - Large tukutuku bridge	ea
7.8	TBL03 - Large tukutuku bridge	ea
7.9	TBS01 - Small tukutuku bridge	ea
7.10	TBS02 - Small tukutuku bridge	ea
7.11	TBS03 - Small tukutuku bridge	ea
7.12	Small Tukutuku bridge butterfly joints	ea
7.13	Boardwalk piles & foundations- 5m wide	ea
7.14	Boardwalk piles & foundations- 3m wide	ea
7.15	Stone Pavilion	ea
	Subtotal for Boardwalks & bridges	
8.0	**Ground Improvements**	
8.1	Sheetpile coffer dam (stage 1)	m
8.2	Sheetpile coffer dam (stage 1a)	m
8.3	Dewatering (Stage 1 & stage 1a)	LS
8.4	Mass cement stabilisation - 3.5m deep	
8.4.1	Stage 1 - P & G	LS
8.4.2	Stage 1a - P & G	LS
8.4.3	excavate material and removal from site to waste	m^3
8.4.4	Soil Mixing trial	m^3
8.4.5	Trial testing	LS
8.4.6	Soil mixing standby rate	day
8.4.7	Stage 1 - insitu cement stabilisation with Sulphate resistant cement (300	m^3
8.4.8	Stage 1a - insitu cement stabilisation with Sulphate resistant cement (300kg/m^3) - baseline design	m^3
8.4.9	Soil mixing lab testing	LS
8.5	Micro piles	
8.5.1	Micro piles	ea
8.5.2	Proof tests (tension load test) as per table 4-2	ea
8.5.3	Acceptance testing (tension load test) as per table 4-4	ea
	Subtotal for Ground Improvements	
9.0	**Landscaping**	
9.1	Remove trees - as per the information within the drawings	sum
9.2	Uplift from stockpile,place and prepare soil to gardens areas (400r	m2
9.3	Uplift from stockpile, place and prepare soil to lawn areas (150mm	m2
9.4	Design, supply and install Irrigation to irrigated lawn areas	m2
9.5	Supply and install Bark mulch to bark mulched gardens (100mm)	m2
9.6	Supply and install gravel stone mulch to gravel stone gardens (100	m2
9.7	Supply and install Rock to rock garden areas	m2
9.8	Supply and install timber edging between lawns and gardens	lin/m
9.9	Supply and install timber edging between hoggin and lawns	lin/m

Veros PROPERTY SERVICES
YOUR PROPERTY BUSINESS & IN THE RIGHT HANDS

ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Signed _____ **Contact No's:** **DDI:** **07 579 9747**

Craig McMichael
Veros Property Services

Mobile: **027 508 9625**
Email: **craig@veros.co.nz**

Veros PROPERTY SERVICES
YOUR PROPERTY BUSINESS & IN THE RIGHT HANDS

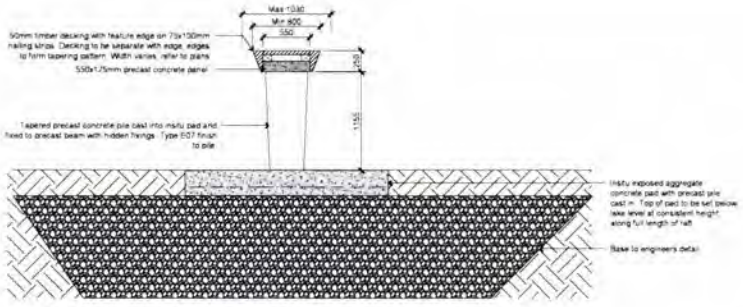
ROTORUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment		
Contractor:	HEB Construction	**Date:**	26th May 2019
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	003
Email:	Andrew.Hiscox@heb.co.nz		
Attention:	Andrew Hiscox		
Subject:	**Price Clarifications - Various**	**Pages:**	2

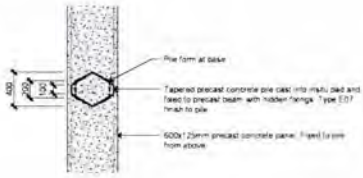
Price Clarification Details:

No.	Tag Ref.	Tag Details	Clarification Description
3.1	11.2 Tukutuku Timber Decking	We have been advised by a few timber suppliers that the detailed tukutuku decking timber will waste a considerable amount of timber and there is a risk that the exposed grains may split. So, our timber supplier has indicated that they won't warranty the product as its currently designed.	It has been noted that the current small Tukutuku details require a U shaped cut out timber decking that has significant wastage and is a risk of edge sections separating. We have updated the details to mimic the changes made to the larger Tukutuku Bridge. The relevant 800-1500mm tukutuku decking details have been revised to separate the edge form from the decking boards. This reduces the wastage of timber in removing cut outs and adds additional fixings to the edges. The drawing revisions include the following: - Separating the edge timber from the decking boards to remain fixed in from the side. - Increase in fixings with decking timbers now fixed from above. Revised drawings are: 1_3.607, 1_3.608, 1_3.609, 1_3.610, 1_3.611, 1_3.618, 1_3.619 and 1_3.61 20 Tenderers are requested to price the revised details as an alternative to the tender details. Please confirm the revised arrangement is able to be warranted.
3.2	18.4 General	We have allowed for warrantee as detailed in 1237, section 3.1. No durations have been supplied so we have allowed for 12 months.	The following warranties are requested: Insitu Concrete Works: 1 year Precast Concrete Works: 1 year Prestressed D&B elements: tbc General Concrete and paving: 1 year Timber Decking and boardwalks: 1 year Timber edging: 1 year Light fittings: 2 years Light fitting led drivers: 5 years Lighting controls: 2 years Distribution boards: 2 years Power cables: 2 years Power outlets: 2 years Electrical workmanship: 1 year Stone work: 1 year Furniture: 10 years, as per spec. Paint: 10 years, as per spec.

07B4B RLC Lakefron Redevelopment HEB Price Clarification 003



3 Typical 800 - 1050mm Tukutuku Bridge (TBS01 - TBS03) Detail - Cross Section
Scale: 1:20@ A1 | 1:40@A3



4 Typical 800 - 1050mm Tukutuku Bridge Detail - Pile Plan
Scale: 1:20@ A1 | 1:40@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts, arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

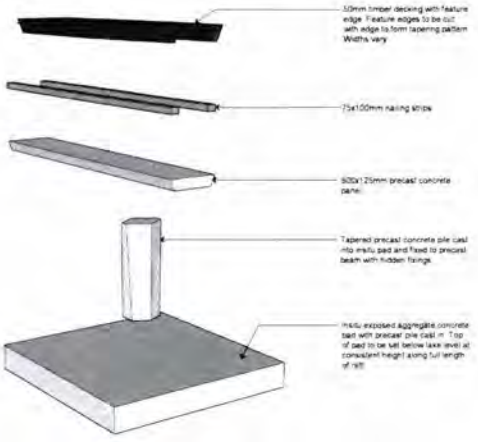
Fixings
All fixings to be stainless steel

All fixings on decking timbers to be timber plugged with timber and grain direction to match decking

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
Type EG7 finish to all concrete piles. Refer to finishes schedule for selections.



3 Typical 800 - 1050mm Tukutuku Bridge (TBS01 - TBS03) Detail - Exploded Axonometric
Not To Scale

No.	Revision	By	Chk	Date
F	Revised Details	TM	TM	24.05.19
E	Tender	MC	TM	18.02.19
D	100%Detailed Design	MC	TM	14.12.18
C	Draft Detailed Design	MC	TM	30.11.18
B	Draft Detailed Design	MC	TM	15.11.18
A	Draft Detailed Design	TM	TM	19.10.18

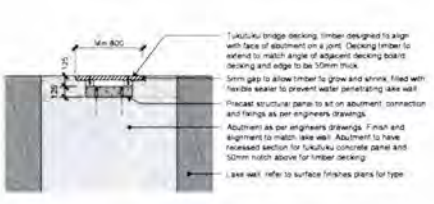
Isthmus.

Client
Rotorua Lakes Council

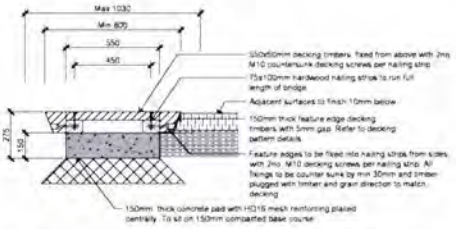
Job Name
Rotorua Lakefront Development

Scale: A3 SHOWN, A1 AS SHOWN
Drawing Title: Typical 800-1050mm Tukutuku Bridge Details
Job No: 4010
Drawing Number: 1_3.607
Revision: F
Issued For: Tender

Do not scale. Verify dimensions on site before commencing any work.



1 Tukutuku Type 3 (TBS03) Bridge to Lakewall - Connection Detail
Scale: 1:20@ A1 | 1:40@A3



2 Typical 1200mm Tukutuku Bridge - Bridge On Land Section
Scale: 1:10@ A1 | 1:20@A3

Notes

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

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All dimensions, levels and grades are to be confirmed on site prior to fabrication.

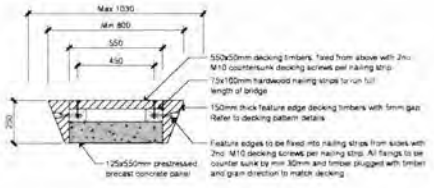
Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel

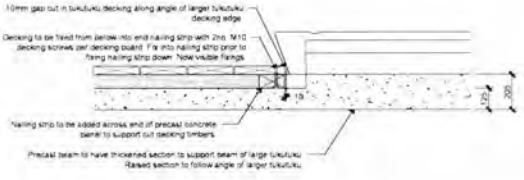
All fixings on outside edge timbers to be timber plugged with timber and grain direction to match decking

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.



3 Typical 1200mm Tukutuku Bridge - Bridge Build Up Section
Scale: 1:10@ A1 | 1:20@A3



4 Typical 1200mm Tukutuku Bridge to Larger Tukutuku 2400mm Transition- Detail
Scale: 1:10@ A1 | 1:20@A3

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	MC	TM	14.12.18
A	Draft Detailed Design	TM	TM	30.11.18

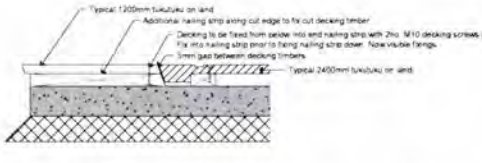
Isthmus.

Client
Rotorua Lakes Council

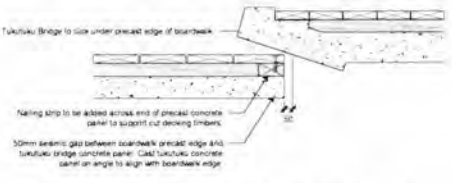
Job Name
Rotorua Lakefront Development

Scale: A3 SHOWN, A1 AS SHOWN
Drawing Title: Typical 800-1050mm Tukutuku Bridge Details
Job No: 4010
Drawing Number: 1_3.608
Revision: D
Issued For: Tender

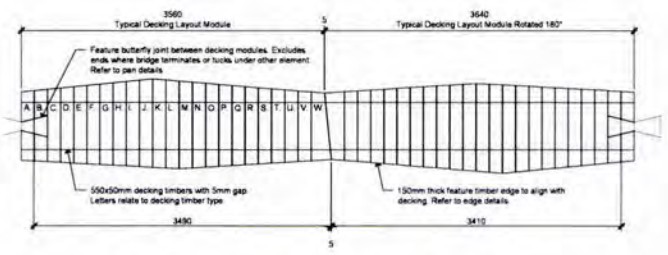
Do not scale. Verify dimensions on site before commencing any work.



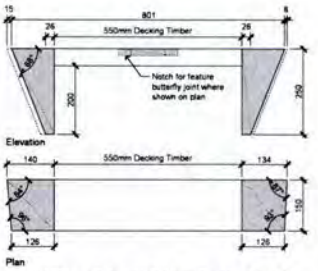
5 Typical 1200mm Tukutuku Bridge to Larger Tukutuku Flush Transition- Detail
Scale: 1:10@ A1 | 1:20@A3



6 Typical Tukutuku Bridge to Boardwalk - Seismic Connection Detail
Scale: 1:10@ A1 | 1:20@A3



1 1200mm Tukutuku Bridge - Typical Decking Module Layout Detail
Scale: 1:20@ A1 | 1:40@A3



2 1200mm Tukutuku Bridge - Decking Type A
Scale: 1:5 @ A1 | 1:10 @A3

Notes

Refer to drawing 1_0.100 for all general, paving, furniture, timber and planting notes.

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All dimensions, levels and grades are to be confirmed on site prior to fabrication.

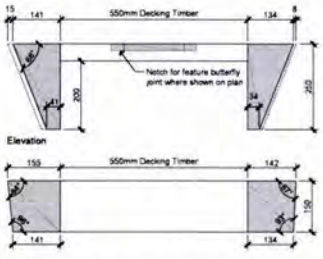
Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel

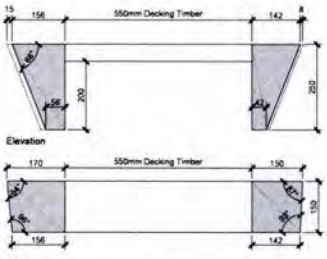
All fixings on outside edge timbers to be timber plugged with timber and grain direction to match decking.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

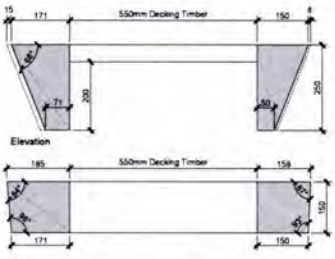
All timbers to have 5mm rounded chamfer along all exposed edges.



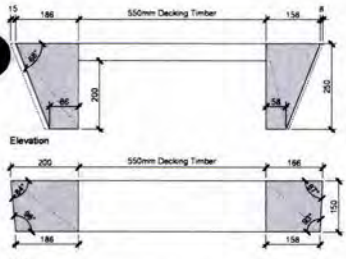
3 1200mm Tukutuku Bridge - Decking Type B
Scale: 1:5 @ A1 | 1:10 @A3



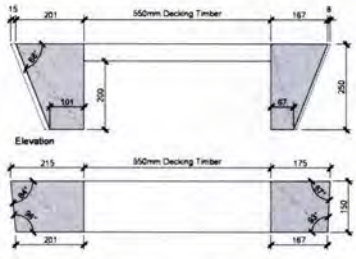
4 1200mm Tukutuku Bridge - Decking Type C
Scale: 1:5 @ A1 | 1:10 @A3



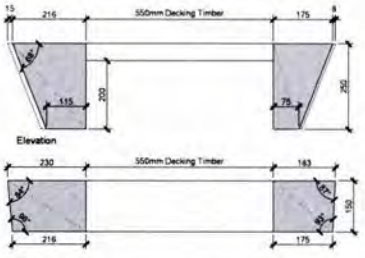
5 1200mm Tukutuku Bridge - Decking Type D
Scale: 1:5 @ A1 | 1:10 @A3



6 1200mm Tukutuku Bridge - Decking Type E
Scale: 1:5 @ A1 | 1:10 @A3



7 1200mm Tukutuku Bridge - Decking Type F
Scale: 1:5 @ A1 | 1:10 @A3



8 1200mm Tukutuku Bridge - Decking Type G
Scale: 1:5 @ A1 | 1:10 @A3

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	TM	TM	14.12.18
A	Draft Detailed Design	TM	TM	30.11.18

Isthmus.
AKL 09 309 5442 | WTN 04 499 5852 www.isthmus.co.nz

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN
@A1
AS SHOWN

Drawing Title
Typical 800-1050mm Tukutuku Bridge Details

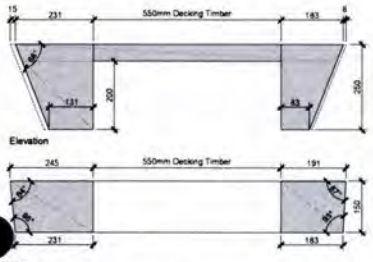
Job No
4010

Drawing Number
1_3.609

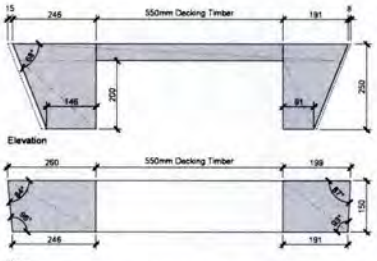
Revision
D

Issued For
Tender

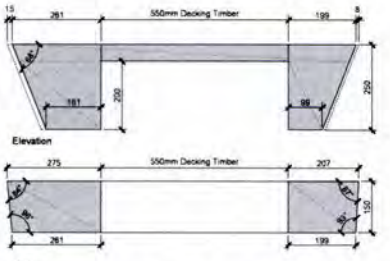
Do not scale. Verify dimensions on site before commencing any work.



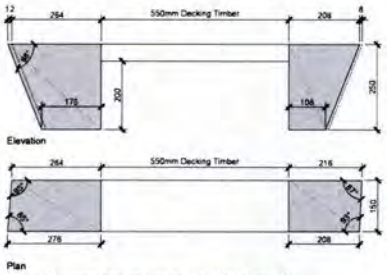
1 1200mm Tukutuku Bridge - Decking Type H
Scale: 1:5 @ A1 | 1:10 @A3



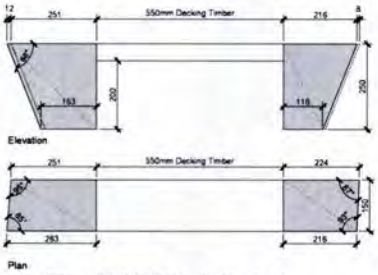
2 1200mm Tukutuku Bridge - Decking Type I
Scale: 1:5 @ A1 | 1:10 @A3



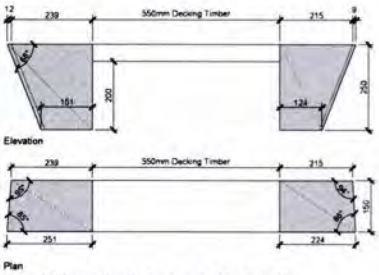
3 1200mm Tukutuku Bridge - Decking Type J
Scale: 1:5 @ A1 | 1:10 @A3



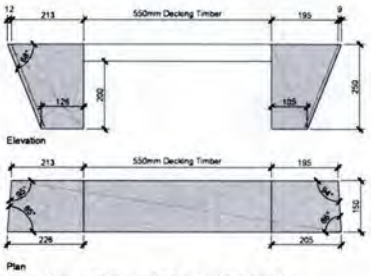
4 1200mm Tukutuku Bridge - Decking Type K
Scale: 1:5 @ A1 | 1:10 @A3



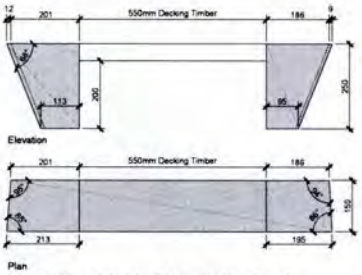
5 1200mm Tukutuku Bridge - Decking Type L
Scale: 1:5 @ A1 | 1:10 @A3



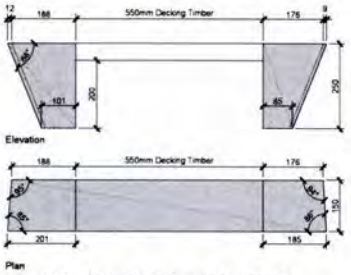
6 1200mm Tukutuku Bridge - Decking Type M
Scale: 1:5 @ A1 | 1:10 @A3



7 1200mm Tukutuku Bridge - Decking Type O
Scale: 1:5 @ A1 | 1:10 @A3



8 1200mm Tukutuku Bridge - Decking Type P
Scale: 1:5 @ A1 | 1:10 @A3



9 1200mm Tukutuku Bridge - Decking Type Q
Scale: 1:5 @ A1 | 1:10 @A3

Notes

Refer to drawing 1_0.100 for all general, paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts, arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel

All fixings on outside edge timbers to be timber plugged with timber and grain direction to match decking.

Timber
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	TM	TM	14.12.18
A	Draft Detailed Design	TM	TM	30.11.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN
@A1
AS SHOWN

Drawing Title
Typical 800-1050mm Tukutuku Bridge Details

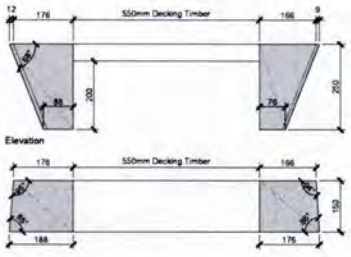
Job No
4010

Drawing Number
1_3.610

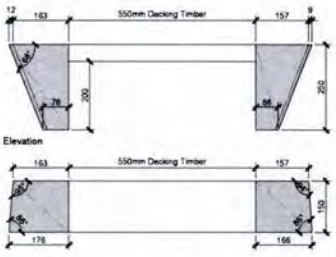
Revision
D

Issued For
Tender

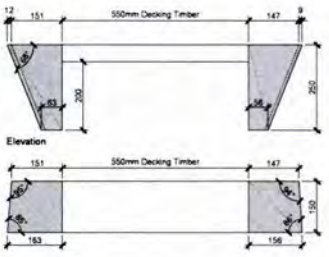
Do not scale. Verify dimensions on site before commencing any work.



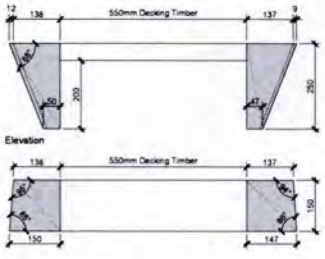
1 **1200mm Tukutuku Bridge - Decking Type R**
Scale: 1:5 @ A1 | 1:10 @A3



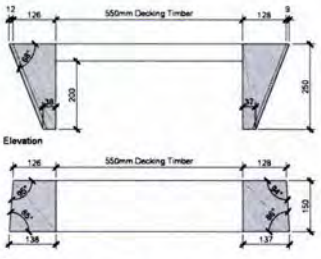
2 **1200mm Tukutuku Bridge - Decking Type S**
Scale: 1:5 @ A1 | 1:10 @A3



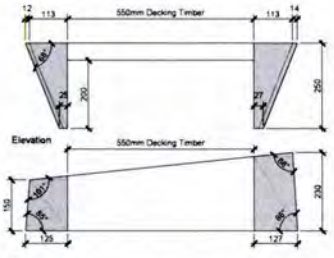
3 **1200mm Tukutuku Bridge - Decking Type T**
Scale: 1:5 @ A1 | 1:10 @A3



4 **1200mm Tukutuku Bridge - Decking Type U**
Scale: 1:5 @ A1 | 1:10 @A3



5 **1200mm Tukutuku Bridge - Decking Type V**
Scale: 1:5 @ A1 | 1:10 @A3



6 **1200mm Tukutuku Bridge - Decking Type W**
Scale: 1:5 @ A1 | 1:10 @A3

Notes:

Refer to drawing 1_0.100 for all general paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings, Isthmus drawings are for form and finish only. Where structural detail conflicts arise engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings:
All fixings to be stainless steel.

All fixings on outside edge timbers to be timber plugged with timber and grain direction to match decking.

Timber:
All Hardwood Timber to be FSC certified unless otherwise labeled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	TM	TM	14.12.18
A	Draft Detailed Design	TM	TM	30.11.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Typical 800-1050mm Tukutuku Bridge Details

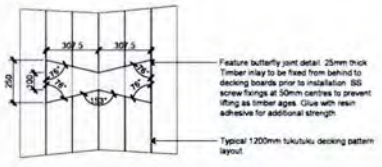
Job No.
4010

Drawing Number
1_3.611

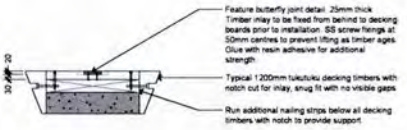
Revision
D

Issued For
Tender

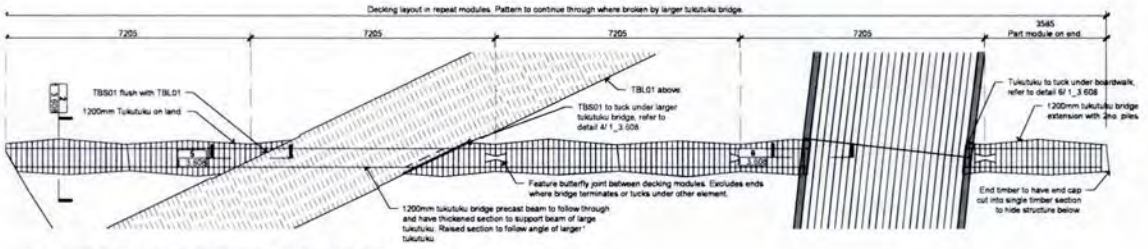
Do not scale. Verify dimensions on site before commencing any work.



7 **1200mm Tukutuku Bridge Feature Butterfly Joint - Plan**
Scale: 1:10 @ A1 | 1:20 @A3

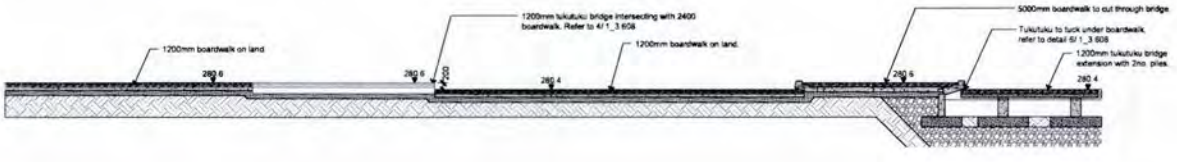


8 **1200mm Tukutuku Bridge Feature Butterfly Joint - Detail**
Scale: 1:10 @ A1 | 1:20 @A3



1 **Stage 1a - 1200mm Tukutuku Type 1 (TBS01) Bridge - Plan**
Scale: 1:50@ A1 | 1:100@A3

north



2 **Stage 1a - 1200mm Tukutuku Type 1 (TBS01) Bridge - Section**
Scale: 1:50@ A1 | 1:100@A3

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	MC	TM	14.12.18
A	Draft Detailed Design	MC	TM	30.11.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
AS SHOWN @A1
AS SHOWN @A3

Drawing Title
Tukutuku Bridge TBS01 Details

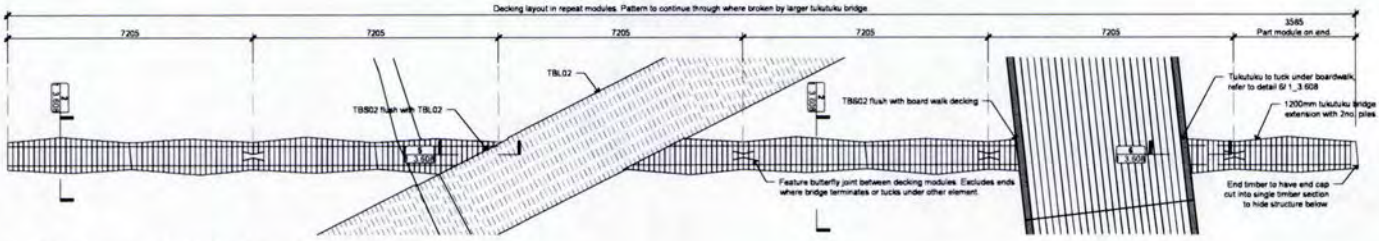
Job No.
4010

Drawing Number
1_3.618

Revision
D

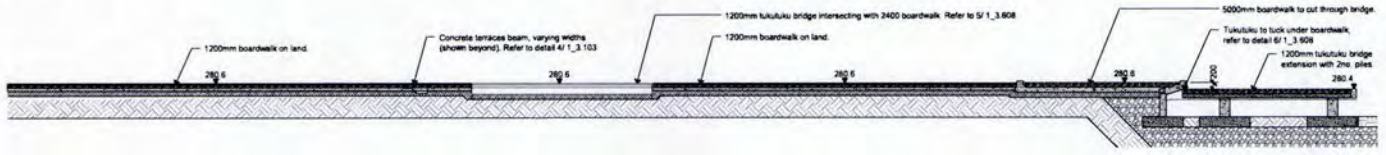
Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.



1 **Stage 1a - 1200mm Tukutuku Type 2 (TBS02) Bridge - Plan**
Scale: 1:50@ A1 | 1:100@A3

north



2 **Stage 1a - 1200mm Tukutuku Type 2 (TBS02) Bridge - Section**
Scale: 1:50@ A1 | 1:100@A3

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	MC	TM	14.12.18
A	Draft Detailed Design	MC	TM	30.11.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @A1
A1 SHOWN @A1

Drawing Title
Tukutuku Bridge TBS02 Details

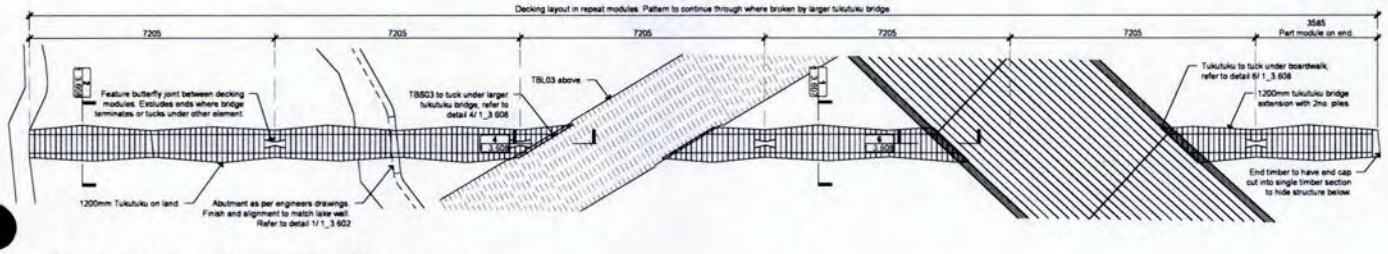
Job No.
4010

Drawing Number
1_3.619

Revision
D

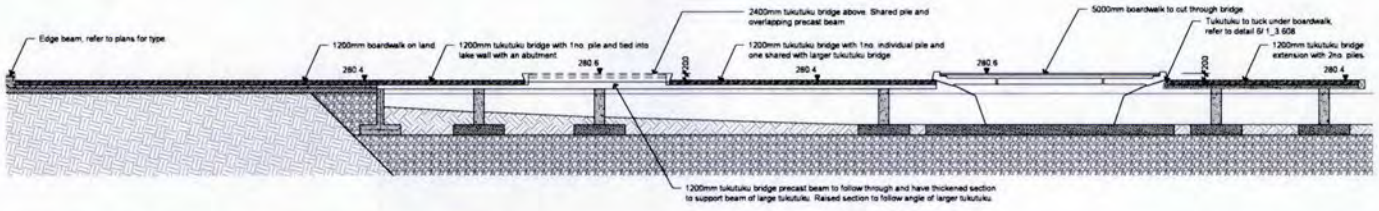
Issued For
Tender

Do not scale. Verify dimensions on site before commencing any work.



1 **Stage 1a - 1200mm Tukutuku Type 3 (TBS03) Bridge - Plan**
Scale: 1:50@ A1 | 1:100@A3

north



2 **Stage 1a - 1200mm Tukutuku Type 3 (TBS03) Bridge - Section**
Scale: 1:50@ A1 | 1:100@A3

No.	Revision	By	Chk	Date
D	Revised Details	TM	TM	24.05.19
C	Tender	MC	TM	18.02.19
B	100%Detailed Design	MC	TM	14.12.18
A	Draft Detailed Design	MC	TM	30.11.18

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Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale
A3 SHOWN @A1
A1 SHOWN @A1

Drawing Title
Tukutuku Bridge TBS03 Details

Job No.
4010

Drawing Number
1_3.620

Revision
D

Issued For
Tender

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ROTORUA LAKEFRONT REDEVELOPMENT

PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment		
Contractor:	HEB Construction	**Date:**	22nd May 2019
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	002
Email:	Andrew.Hiscox@heb.co.nz		
Attention:	Andrew Hiscox		
Subject:	**Price Clarifications - Various**	**Pages:**	1

Price Clarification Details:

No.	Tag Ref.	Tag Details	Clarification Description
1.1	N/A	-	Please advise if you have made any allowance for general signage installation. If not please allow a provisional sum of $40,000 for these works.
1.2	18.2 General	We have made no allowance to test or undercut unsuitable subgrade material. If required, this will be treated as a variation and dayworks rates would be applicable.	Please delete this tag Please make provisional sum allowance for $50,000 for removal/ replacement of any unsuitable materials or objects.
1.3	3.1 Variations	For the purpose of valuing variations our onsite over heads will be 10% and offsite overheads and profit 15%. Working day rate $2,650.00/day	On review of the onsite and offsite costs proposed, we believe this is unreasonable to incur 25% cost on variations. We request this be reviewed as it is substantially higher than other providers. We query why offsite cost are higher than onsite.
1.4	N/A	Tender Summary – Preliminary & General	P&G costs appear high, specifically cost for contract establishment and administration. Is there the ability to review this pricing for
1.5	N/A	Tender Summary – Tukutuku bridge costs	Even with revised detailing, tukutuku bridge costs are very high in relation to anticipated costs and comparative pricing. Can you please review this pricing or provide a breakdown for review.
1.6	N/A	Tender Summary – Ground Improvements	Items 8.4.1 & 8.4.2 include P & G sums of $682K and $227K respectively, we assume this would be subcontractors P & G. Main contractors P & G are 16% of construction works, can HEB confirm that there is no double allowance for it as these two items may not need as much allowance/supervision as compared to the rest of the works.

Signed

Craig McMichael
Veros Property Services

Contact No's:

DDI: **07 579 9747**
Mobile: **027 508 9625**
Email: **craig@veros.co.nz**

No.	Tag Ref.	Tag Details	Clarification Description	HEB Response - Date 29/05/19
		A minimum flow of 31.5 litres per minute (l/m) at 300kpa is available from the existing water supply All pipework to be LDPE pipe and MDPE pipe for the mainline Isolation valves will be installed to control the irrigation system Installation of 21 x rainbird 5004 sprinklers in lawn areas As built drawings will be provided Lawn area irrigation consists of 4 zones No allowance has been made for the irrigation water main connection, not known at this stage Irrigation equipment as per existing RLC local systems 25mm LDPE pipe PN15 rain bird 5004 SAM sprinkler assemblies Rainbird PEB solenoid valves Rainbird T Bose control system Carson std rectangular valve enclosure Associated fitting and installation	Contractor shall confirm where the irrigation system is to be connected to the water main. We require this to check the water pressure at offtake location. RLC indicate that the water pressures in the local mains is between 400 and 550kPa on the 150mm water main Please allow for the mains water connection as required to operate the irrigation system Ensure that the connection location has double check valve, water meters etc if connecting to the 150 mm main line. Contractor should allow for this. However, if connecting to the new 50mm there will be a new water meter & double check valve installed so could potentially utilise this It is recommended the contractor submits proposed layout for review	contractor The pressure in the mains is sufficient to operate the irrigation system. The flow from the 50mm line will also be appropriate. There is no extra cost to connect to this line downstream of the meter and backflow device However if the 50mm line with meter and double check is being used for another service (such as drinking fountains), we will need to fit our own backflow preventer to protect the other services. Cost to provide connection to 50mm line downstream of water meter is $2,100.00 (excluding GST) A design will be provided for approval, on award of the contract to Evergreen Landcare for the landscaping component of the project
1.2	13.2 Hidden decking fixings	The cost saving to install 2No. 14g 120mm s/s decking screws as per NTT#1 would be $12,635.00 + GST	Alternative timber deck fixings as per NTT#1 is approved based on quality and cost saving of $12,635, please amend pricing	Addition schedule item added 12.1
1.21	14.1 Concrete Piers	As detailed in our methodology we have allowed to cast the concrete piers insitu rather than precast. The design is more suited to cast them insitu. We would construct steel moulds that would be secured to the foundation slab and then propped	Agree provided architectural finish is achieved	Piers will be constructed with the same FAF5 finish as detailed below item 1.34
1.22	15.1 Stone	Our stone supplier Design Source has allowed to supply G3027, which is subject to availability at the time of order. The material is currently in short supply due to the government currently upgrading factories around the G3027 quarry	We will work with stone supplier to meet quality requirements and understand where design/detailing can be adapted to reduce risk. We are happy to investigate alternative stone types with supplier to reduce this risk Please advise current stone cladding supply and install allowance in the event an alternative is to be sourced	We believe that you are in discussions already with design source and they have provided you with an alternative?
1.23	15.6 Stone	Due to the long lead time it may not be possible to produce prototypes and samples	Please advise if samples are available for viewing in NZ	We are waiting for design source to confirm what samples are available in NZ
1.24	16.2 Ground Improvements	The sulphate resistance cement contains a blend of fly ash, which may slow the strength gain and inevitably full strength may only be determined at 56 days	The contractor is responsible for mix design. The contractor may elect to use alternative additives to achieve sulphate resistance	BPC - removed tag
1.25	16.3 Ground Improvements	The GI specification is very onerous, BPC have worked with Tonkin and Taylor in Christchurch on several GI project over the years and have together developed specifications and testing methods that would be more suitable for this project. There would be a considerable cost saving if the previously developed specification and testing could be used	The typical application of cement stabilisation in Christchurch is to prevent liquefaction / settlement in the foundation The RLC boardwalk design incorporating cement stabilisation and micropiles to support a lakebed structure subject to waves The two design approaches are not comparable. As noted in response to Tag 8.2 the cement stabilisation consistency and micropile capacity is critical to the design	BPC - removed tag
1.26	16.4 Ground Improvements	BPC's programme is based on being able to track on the previous days stabilised material. If the stabilised material does not gain enough strength due to the fly ash content then standing time may be charged	The time for curing for cement stabilisation will be based on the cement dosing rate and the Contractor is best placed to assess plant access requirements. This item can be managed through contractor methodology and quality assurance Please remove this tag	BPC - removed tag
1.27	16.5 Ground Improvements	Field trial testing (table 3-3) and stabilised material verification testing (table 3-4) - borehole samples in 2MPa improved soil will not be achievable as the cores will disintegrate. BPC propose to use dual tube soil sampling methods to obtain core samples from the freshly mixed soil layer for subsequent laboratory testing. BPC have allowed for the full suite of testing as per (table 3-3), however due to what appears to be a double up, have only allowed for the insitu sampling and laboratory testing from (table 3-4)	Core samples should be recovered using rotary coring techniques with a diamond coring bit. Provided the stabilised soil has cured sufficiently to achieve a compressive strength of 2MPa, and drilling works are undertaken with due care, damage to the core should be minimal There is no double up? Table 3-3 for the field cell and Table 3-4 for the 'production' testing Rows for 'Strength – Laboratory Testing' the sample is obtained from a freshly mixed sample on site and placed in cylinders for subsequent testing Rows for 'Insitu sampling and Laboratory Testing' the sample is obtained from a partially cured insitu material for subsequent laboratory testing	BPC - removed tag
1.28	17.1 GI Alternatives	We believe that it would be considerably cheaper to excavate the material from within the sheetpile coffer dam, run it through a pug mill mixed with cement and place back in the excavation or completely replace the excavated material and replace with low strength concrete	T+T may consider this approach an acceptable alternative subject to the following comments and agreement on the methodology, consistency of end product, and construction risk allocation. Initial comments are: Contractor's temporary works will need to allow for dewatering to depth. Would likely require sheet piles both sides on Stage 1A – will need sheet piles both sides in Stage 1 anyway. Contractor will need to consider issues with potential issues with hot ground Our experience with ex situ (i.e. pug mill) mixing is that the density is not as great as insitu mixing. The density of the material is design critical so will need to be assessed Preference would be concrete rather than ex situ mixing. However would need to use sulphate resisting cement Please provide an indication of potential cost saving associated with this	We are currently working though the details and costs of this alternative and will have something through to you in the next couple of days
1.29	17.2 GI Alternatives	The sheetpile lengths and temporary works design would need to be amended to allow for the excavation and it's likely that walers would be required	Should be included as part of tenderers cost as comment in 17.1	As above
1.3	18.1 General	No bio oil has been allowed for in the machinery, all machinery working on site will be new and well maintained. Services and refuelling will take place at least 20m away from the lakefront and within a bunded area	Contractor to comply with any relevant resource consent conditions	ok
1.31	18.2 General	We have made no allowance to test or undercut unsuitable subgrade material. If required, this will be treated as a variation and dayworks rates would be applicable		
1.32	19.1 Sampling & Prototypes	We have allowed a provisional sum of $100k (item 1.10) for sampling and prototypes, upon award we would confirm the requirements with the designers and provide detailed pricing. RLC and the designers can then confirm which samples and prototypes they would like us to trial	The samples schedule lists all architectural samples required. The list includes a variety of finishes to the same concrete specifications which will limit the number of pours required. Samples also include precasting, the sample can simply be the first pour for these elements but they may be rejected if they do not meet the specified quality requirements Our thoughts are that $100k is too much and covering the current schedule is manageable below this amount Please review this sum and advise if a fixed price for the sampling schedule can be provided	At this stage we don't believe that we can offer an accurate fixed price for the sampling and prototypes. There are currently too many variables and as per tags / clarifications item 22.1 we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. We would prefer that the $100k provisional sum item remained so that there was sufficient coverage here
1.33	20.1 Vibration Monitoring	We have made no allowance to undertake vibration monitoring. If required by the resource consent, engineer or a complaint, then the cost to undertake vibration monitoring will be treated as a variation	There will be vibrations generated from both installation of steel sheet piles and crane / plant movements. The level of vibration is dictated by the construction methodology and plant. The contractor is to allow to comply with any consenting requirements	The resource consent attached to clarification C001 doesn't reference vibration monitoring. T & T specification item 1.5 states that vibration monitoring shall be undertaken by the contractor when: - Required by the resource consent - In the opinion of the engineer, construction operations are likely to result in (or are likely resulting in) the vibration limits being exceeded at the site boundaries or - If any vibration complaints are received from neighbours

Project: Rotorua Lakefront Redevelopment

Contractor: HEB Construction

Address: PO Box 4049, Mt Maunganui

Date: 29/05/2019

Attention: Craig McMichael

Subject: **HEB Response to Price Clarification 001**

No.	Tag Ref.	Tag Details	Clarification Description	HEB Response - Date 29/05/19
1.1	1.1 Schedule of Prices	Our tender is based on the enclosed schedule of prices	Noted, however to be clear reliance and responsibility is placed on the contractor in terms of all stated quantities. The Principal shall not be liable for any misinterpretation of the drawings and specifications	No response required
1.2	3.1 Variations	For the purpose of valuing variations our onsite over heads will be 10% and offsite overheads and profit 15%. Working day rate $2650.00/day	Noted, however should considerable delay occur we would reserve the right to agree a fair and reasonable compensation, whilst looking to minimise activities on site during the delay period	Agreed
1.3	4.2 Design & Consents	We have made no allowance to obtain building or resource consents, this is to be arranged prior by RLC including the costs associated with these consents. We have allowed for the site by RLC including the costs associated with these consents. We have allowed for the site management of these consents including arranging the relevant inspections	Noted. Cost of consent applications and approvals shall be completed by RLC. Any costs for services connection applications, and temporary works shall be by the contractor	We have allowed for temporary service connections for our site facilities however no allowance has been made for Unison Network charges for the permanent lighting as per tender tag / clarification 10.5
1.4	4.4 Design & Consents	Resource Consent - As per our methodology we have allowed to install sheet pile coffer dams and use submersible pumps to dewater the coffer dams. We have also allowed for standard silt fences to control water runoff, temporary stockpiles will be covered in filter cloth and accessways will be stabilised with metal. Additional requirements to meet the resource conditions will be treated as a variation	Please review the attached draft resource consent conditions. Please confirm the draft conditions are allowed for It is the contractor's responsibility to ensure their methodology complies with any consenting requirements	We have reviewed the draft resource consent issued with clarification C01 and have the following comments: Item 5 - we have made no allowance to monitor for or translocate Koura avifauna habitat or any other wildlife from the work site. This is a specialist operation and we would need to engage a experienced ecologist. We suggest the RLC manage this or nominate a provisional sum amount to include in the tender. We have also not made any allowance for the affect that breeding seasons may have on the programmed works. Item 6 - refer item 1.8 below, we have allowed for liaison only At times due to the nature of the works maybe discolouration of the water
1.5	5.1 Archaeological	We have made no allowance for iwi monitors or archaeologists to be on site during the works. If required these are to be supplied by RLC	Noted, however the contractor is to allow for liaison and inspection for iwi monitors as required by the resource consent. The cost for iwi to attend site will be covered by RLC	Yes we have allowed for liaison and access to site for the relevant parties in our tender
1.6	7.1 Sun Loungers	We have allowed a provisional sum for the sun loungers (item 11.5), final details & costs to be agreed, if it is decided by RLC to install sun loungers	Sun loungers will be removed from stage 1 and 1a. Please remove this sum from your costs	Scheduled item 11.5 has been removed
1.7	8.1 Micro Piles	We have allowed to install 25mm dia hot dipped galvanised DSI GEWI bar, with 3 domed nuts per pile	It is acceptable to replace Reidbars with DYWIDAG GEWI Threadbar. However HEB's proposed domed nuts are not appropriate replacements for the ReidBar Flange Nut. Correctly sized GEWI Flanged Nuts plus lock nuts as shown in Dywidag's GEWI Threadbar System technical product brochure should be used as replacements	Item 8.5.1 has been amended and now includes for flange nuts
1.8	9.2 Micro Piles	We have made no allowance for trial nails prior to starting the production drilling	This will not be accepted. The Ground Improvement field trial (Specification 3.5.3) and Anchor Proof Load Testing (Specification 4.7.3) are required to assess both the cement dosing requirements, consistency and the capacity of the anchors. This will need to be completed prior to undertaking the main ground improvements and installation of anchors	Item 8.5.2 now allows to install and proof test (tension load test) of 3m max overall length, 25mm GEWI bar non-production trial micropiles as per table 4-2 in the T + T technical specification
1.9	9.3 Micro Piles	We have allowed to proof test 12 No. anchors by tension loading in accordance with table 4-2 and acceptance test 230 No. production anchors by tension load testing in accordance with table 4-4 of the Tonkin & Taylor specification	Please remove tag relating to 230No. production anchors, reliance is placed on the contractor to quantify the correct No. of anchors without placing risk on the principal	Accepted - Tag removed. Proof testing SOP item 8.5.2 now allows for 3 separate visits to site (4 sacrificial piles per visit)
1.10	9.4 Micro Piles	We have allowed for testing as per the specification, which we estimate will take 12 weeks	The time estimate is a Contractor risk, please remove this tag	Accepted - Tag removed
1.11	9.5 Micro Piles	We have made no allowance for dealing with artesian water if encountered while drilling	The drilling will be within cement stabilised ground. The cement will require time to cure. If the Contractor undertakes his drilling too soon following the cement stabilisation there is a risk of blow out of hole. The Contractor shall ensure he has sufficient time for cement curing within his programme prior to drilling. We believe this tag is not applicable, please remove this tag	Accepted - Tag removed
1.12	9.6 Micro Piles	We have allowed to take 1 x set of 3 grout samples per day	Specification requires: Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used, and Not less than 1 set of 4 test samples for each additional batch of grout mixed Please remove this tag	Item 12.5 has been added for additional grout samples (above the included 1 set per day). This includes collecting samples and compressive testing Please Note that groundfix's grout plant is a continuous batching cycle unit providing uniform mixes across all batches
1.13	9.8 Micro Piles	Grout use allowed for is based on 110% of the theoretical borehole volume. Extra grout will be charged at $1.75/kg batched	The boreholes are within cement stabilised material. There is not expected to be grout loss provided that sufficient curing has been undertaken This item can be managed through contractor methodology and quality assurance Please remove this tag	Accepted – tag removed
1.14	9.9 Micro Piles	No allowance has been made for installing temporary casings if required to keep the drill holes open	The boreholes are within cement stabilised material. There is not expected to be borehole collapse provided that sufficient curing has been undertaken. This item can be managed through contractor methodology and quality assurance Please remove this tag	Accepted - tag removed
1.15	9.10 Micro Piles	The Specification calls for an exceptionally large volume of proof and acceptance testing, which we estimate will take 12 weeks to complete. There would be a considerable time and cost saving if the specified testing requirement were relaxed	The design of the boardwalk structure is critically reliant on the strength and consistency of the cement stabilised ground, and the resultant capacity of the micropiles. It also is the decision point around the quantity of cement to be used in the main production works. Given the criticality of these elements to the design, expect this quantity of testing is required	ok
1.16	11.2 Tukutuku Decking	We have been advised by a few timber suppliers that the detailed tukutuku decking timber will waste a considerable amount of timber and there is a risk that the exposed grains may split. So, our timber supplier has indicated that they won't warranty the product as its currently designed	Can you clarify that this comment only relates to the small tukutuku bridges. The Main boardwalk is able to be warranted We will work with the supplier to agree a detail, we expect this will be similar to the large tukutuku bridges and should result in a saving	Yes this comments relates to the original tukutuku bridge designs. As per tender tag / clarification # 18.4 we can offer 12 month warranties for the revised large tukutuku design
1.17	11.3 Tukutuku Decking	NTT # 9 provides a revised timber detail for the large tukutuku bridges, the cost saving to install this would be $328,570.00	Alternative tukutuku timber details as per NTT #9 is approved based on saving of $328,570, please amend pricing	Scheduled items 7.6, 7.7 & 7.8 have been amended to reflect the cost saving
1.18	12.3 Landscaping	All plants are subject to availability (the contract specification does not allow substitution). Evergreen Landcare can recommend substitutes if specified species are not available	All substitutions to be approved by the Architect	ok
1.19	12.4 Landscaping	Irrigation of specified lawn areas, which is based on the following parameters: Design, supply and installation of an automated irrigation system for two lawn areas	We note the described scope provided, however we also note irrigation is a design and build item. It is expected the scope put forward is suitable and fit for purpose for the area and nature of the works. Should any additional equipment etc be required to provide a fit for purpose solution, this shall be the contractors cost	Evergreen Landcare Response: It is accepted the irrigation of the lawns is a design & build system. Any cost associated with the design, supply and install is accepted as being on the

Project	Rotorua Lakefront Redevelopment
Contractor	HEB Construction
Address	PO Box 4049, Mt Maunganui
Date	29/03/2019
Attention	Craig McMichael
Subject	**HEB Response to Price Clarification 001**

No.	Tag Ref.	Tag Details	Clarification Description	HEB Response - Date 29/03/19
1.1	N/A		Please advise if you have made any allowance for general signage installation. If not please allow a provisional sum of $40,000 for these works	No signage allowed for. Item 12.3 added to the schedule of prices
1.2	18.2 General	We have made no allowance to test or undercut unsuitable subgrade material. P	Please delete this tag Please make provisional sum allowance for $50,000 for removal/replacement of any unsuitable materials or objects	Tag removed Item 12.4 added to the SOP
1.3	3.1 Variations	For the purpose of valuing variations our onsite over heads will be 10% and offsite overheads and profit 15%. Working day rate $2,650- 20/day	On review of the onsite and offsite costs proposed, we believe this is unreasonable to incur 25% cost on variations. We request this be reviewed as it is substantially higher than other providers. We query why offsite cost are higher than onsite	Typically our onsite overheads are between 10-20%. This is because we are a self-performing contractor who manage our own staff and resources, you may be comparing our rates to a building contractor who predominantly engage subcontractors to undertake the works, so have significantly lower overheads. Offsite overheads and profit are higher than onsite because they cover HEB Construction's head office, support services, senior management etc, as well as profit
1.4	N/A	Tender Summary - Preliminary & General	P&G costs appear high, specifically cost for contract establishment and administration. Is there the ability to review this pricing for	1.1 Establishment, includes; Site facilities, office, lunch room, toilets etc. including transport setup and de-mob costs Mob / de-mob of plant required for the works Subcontractor establishment costs Temporary works Transport of materials to / from site Additional labour costs Materials not included elsewhere Tools 1.2 Construction Administration, includes; Project Manager Site Engineer Site Supervisor Vehicles Phones, computers, stationery QA testing
1.5	N/A	Tender Summary - Tukutuku bridge costs	Even with revised detailing, Tukutuku bridge costs are very high in relation to anticipated costs and comparative pricing. Can you please review this pricing or provide a breakdown for review	We have reviewed the Tukutuku bridge items and believe the costs are fair. Even with the revised design they are intricately detailed and the bridges have high material and labour costs
1.6	N/A	Tender Summary - Ground Improvements	Items 8.4.1 & 8.4.2 include P & G sums of $682K and $227K respectively. We assume this would be subcontractor P & G. Main contractors P & G are 15% of construction works, can HEB confirm that there is no double allowance for if as these two items may not need as much allowance/supervision as compared to the rest of the works	We can confirm that there isn't a double up here

No.	Tag Ref.	Tag Details	Clarification Description	HEB Response - Date 29/03/19
				If required for one of the above reasons, 1 x seismograph unit will cost $2,710/week + GST to hire. this includes setting up and monitoring by our site engineer. The unit will also be fitted with a flashing light to indicate if the max limits has been exceeded. Item 12.2 added to the SOP
1.34	21.1 Precast	We have made allowance for an off the form finish from our steel moulds, in accordance with NZS3114 clause 105.4 (F4 finish). This finish is not completely free of blemishes, blow holes and mould joints maybe visible	F4 is generally not to the required standard. Please note F5 & F6 is specified and needs to be allowed for. F4 finish may be applicable to low visibility areas as specified	The underside of the units which is not visible will be finished as an F4/F5 off the mould surface. A U3 trowel finish has been allowed elsewhere. This finish is not completely free of blemishes, blow holes, and moulding joints maybe visible
1.35	21.3 Precast	We have only made allowance for tolerances and concrete tests in accordance with NZS3109. We have not made allowance for any additional samples or trial batch tests	Samples are to be provided to meet the design and quality specifications. Provided the sample meets this they will be accepted. The principal should not be charged additional costs if the contractor does not meet the design or spec	Item 12.5 has been added for manufacturing one sample of all the exact items, which should be a good enough reflection of the finish to be expected of all the different variants. If the samples are accepted they will be used in the permanent works and item 12.5 won't be claimed.
1.36	21.5 Precast	We have allowed to use one (adjustable) mould to achieve all the inner deck curve profiles and one (adjustable) mould to achieve all the outer deck curve profiles. The procurement of additional moulds will incur additional costs	The principal shall not be responsible for replacement or new moulds. Please remove this tag	Tag removed
1.37	21.6 Precast	For the 3m wide and 5m wide boardwalk decks as well as edge units, we have allowed for the recess underneath to be a local recess to the pile head only, and not tapered	Please provide a mark up of this detail for review. Initial thoughts are that it is an acceptable change.	Please see the attached marked up detail
1.38	21.7 Precast	We have allowed for 150 kg/m3 of reinforcing steel in the pre stressed decks	Precast Planks are a design build item. The contractor shall allow for the required amount of reinforcing to deliver the work. Please remove this tag	Tag removed
1.39	22.1 Concrete Supply	Due to the varying specified mix designs and their make up complexities we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. So, our tender allows for the following plain concrete mixes. **Mix** — **Tender rate** 25MPa 19mm std slr AA2518AW — $231.60/m³ 25MPa 19mm std pump AA2519AW — $235.20/m³ 50MPa 19mm 8% microsilica super pump mix AP5019GSW - $235.20/m³ Factors of concern from our concrete supplier (Firth Concrete) are as follows; - Sourcing specified products and aggregates (some of the aggregates specified may no longer be available or expensive to source) - Plant contamination (there would be a considerable cost associated with cleaning the plant to ensure there is no contamination during mixing, this would need to be done prior to each pour because a common plant would be used) - There are too many trial mixes required and to undertake would be expensive, sourcing and mixing small quantities is costly. Ideally the number of trial mixes required would need to be reduced - Storage and handling of specific aggregates and products can be problematic in a common batching plant. All the above can be worked through and a suitable solution can be agreed. If we become the preferred contractor we propose to work with the designers to undertake trials and confirm mixes and agree extra over concrete rates to the above	All structural concrete for the boardwalk, foundations, retaining walls, terracing and footpaths where reinforcing is incorporated shall be 35MPa for durability. If there are references to the 25MPa mixes in the drawings or specification these should not be used for any structural concrete. Please advise a) if and where this reference to 25MPa comes from and b) confirm with the Contractor where he has allowed for 25MPa concrete, and where 50MPa to ensure there is no inconsistency in the tender documentation.	Drawing A010 1_5 100 Rev F - Insitu concrete notes: item 5 refers to 25MPa concrete - Isithmus specification 3101 Concrete works also references various strenth concrete. T & T specification, section 7 concrete works refers to 50MPa concrete. So there is some inconsistency. 25MPa has been allowed for in the following areas; Paving PS1, PC2, PS3, Edging ES2 ES3 ES4, ES7 tukutuku foundations ES8, WS01 Boardwalk BC4, BS5, large & small tukutuku bridge foundations TBL01, TBL02, TBL 03, TBS01, TBS02, TBS03. 50MPa concrete has been allowed for in the following areas; All precast items, Piers and foundations, retaining walls ES6, LWG1, LWG2, LWG3, LWG4, boardwalk BS1, BS2, BS3, stone pawnon foundation. We would also just like to highlight that our tender only allows for plain grey concrete, as per our tender tag 22.1 no allowances have been made for the specified colours or aggregates

Item	Description	Unit
5.2	E04 - Terrace concrete edge beam 200 x varies x 300	m^2
5.3	E06 - Precast conc boardwalk edge & edge beam tie ins	m
5.4	E07 - Tukutuku bridge - Foundations & Large Piers	ea
5.5	E07 - Tukutuku bridge - foundations & small piers	ea
5.6	E08 - Insitu concrete edge beams 175 x varies x 295	m
	Subtotal for Edge materials and precast	
6.0	**Walls**	
6.1	LW01 - Concrete lake wall, type 1 & 5	m
6.2	LW02, 03 & 04 - Concrete lake walls, type 2,3 & 4	m
6.3	WS01 - Concrete wall seat	m
	Subtotal for Walls	
7.0	**Boardwalks & bridges**	
7.1	B01	ea
7.2	B02	ea
7.3	B03	ea
7.4	B04	ea
7.5	B05	ea
7.6	TBL01 - Large tukutuku bridge	ea
7.7	TBL02 - Large tukutuku bridge	ea
7.8	TBL03 - Large tukutuku bridge	ea
7.9	TBS01 - Small tukutuku bridge	ea
7.10	TBS02 - Small tukutuku bridge	ea
7.11	TBS03 - Small tukutuku bridge	ea
7.12	Small Tukutuku bridge butterfly joints	ea
7.13	Boardwalk piles & foundations- 5m wide	ea
7.14	Boardwalk piles & foundations- 3m wide	ea
7.15	Stone Pavilion	ea
	Subtotal for Boardwalks & bridges	
8.0	**Ground Improvements**	
8.1	Sheetpile coffer dam (stage 1)	m
8.2	Sheetpile coffer dam (stage 1a)	m
8.3	Dewatering (Stage 1 & stage 1a)	LS
8.4	Mass cement stabilisation - 3.5m deep	
8.4.1	Stage 1 - P & G	LS
8.4.2	Stage 1a - P & G	LS
8.4.3	excavate material and removal from site to waste	m^3
8.4.4	Soil Mixing trial	m^3
8.4.5	Trial testing	LS
8.4.6	Soil mixing standby rate	day
8.4.7	Stage 1 - insitu cement stabilisation with Sulphate resistant cement (300	m^3
8.4.8	Stage 1a - insitu cement stabilisation with Sulphate resistant cement (300kg/m^3) - baseline design	m^3
8.4.9	Soil mixing lab testing	LS
8.5	Micro piles	
8.5.1	Micro piles	ea
8.5.2	Proof tests (tension load test) as per table 4-2	ea
8.5.3	Acceptance testing (tension load test) as per table 4-4	ea
	Subtotal for Ground Improvements	
9.0	**Landscaping**	
9.1	Remove trees - as per the information within the drawings	sum
9.2	Uplift from stockpile,place and prepare soil to gardens areas (400r	m2
9.3	Uplift from stockpile, place and prepare soil to lawn areas (150mm	m2
9.4	Design, supply and install Irrigation to irrigated lawn areas	m2
9.5	Supply and install Bark mulch to bark mulched gardens (100mm)	m2
9.6	Supply and install gravel stone mulch to gravel stone gardens (100	m2
9.7	Supply and install Rock to rock garden areas	m2
9.8	Supply and install timber edging between lawns and gardens	lin/m
9.9	Supply and install timber edging between hoggin and lawns	lin/m

s7(2)(b)(ii) LGOIMA

Contract Name: Rotorua Lakefront Redevelopment (Stage 1 & 1a)
Contract No. 18/029

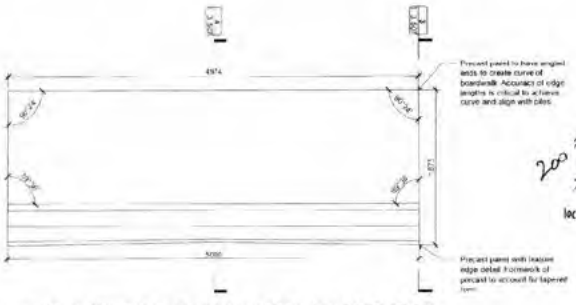
Item	Description	Unit
1.0	**Preliminary and General**	
1.1	Establishment.	LS
1.2	Construction administration.	wks
1.3	Liaison, location and protection of existing services.	LS
1.4	Setout of works	LS
1.5	Site clean-up and disestablishment.	LS
1.6	As-built drawings (are these required?, if so whats required)	LS
1.7	Insurances	LS
1.8	Site fencing and hoarding (stage 1)	m
1.9	Site fencing and hoarding (stage 1a)	m
1.10	prototypes & Sampling (refer to spec & dwgs 1_0.303 & 1_0.304 for details)	PS
1.11	Traffic / Pedestrian Management	wks
1.12	Environmental controls	wks
	Subtotal for Preliminary and General	
2.0	**Demolition**	
2.1	Stage 1	
2.1.1	Uplift cobble stone place on pallets and transport to depot	m2
2.1.2	Salvage timber and transport to depot	LS
2.1.3	Remove existing wharewaka building, carvings to be protected & stored	LS
2.1.4	Remove scout hall boat ramp & jetty	LS
2.1.5	salvage existing rubish bins for reuse	ea
2.1.6	Remove existing roundabout, install new kerb	LS
2.1.7	Protection of trees	ea
2.1.8	remove existing roadway (300m x 7.5m)	m2
2.2	Stage 1a	
2.2.1	Uplift cobble stone place on pallets and transport to depot	m2
2.2.2	Salvage timber and transport to depot	LS
2.2.3	Remove jettys	ea
2.2.4	salvage existing rubish bins for reuse	ea
2.2.6	Temporary timber edge	m
	Subtotal for Demolition	
3.0	**Site Clearance / Earthworks / Drainage / watermain**	
3.1	Strip topsoil and stockpile (on site)	m^3
3.2	Remove surplus material from site - loose measure	m^3
3.3	Remove existing cesspits	ea
3.4	Remove cesspit leads	m
3.5	K100 aco drain	m
3.6	110mm dia novaflo drain	m
3.7	110mm dia UPVC subsoil collector pipe	m
3.8	Replace 600mm dia RCRRJ pipe - class 4	m
3.9	150mm UPVC pipe	m
3.10	New field catchpit	ea
3.11	New 1050mm dia manhole	ea
3.12	Watermain installation inc, valves, thrustblocks etc	LS
	Subtotal for Site Clearance / Earthworks / Drainage / watermain	
4.0	**Paving**	
4.1	P01 - Insitu concrete paving (200mm thick, honed 150 grit)	m^2
4.2	P02 - Insitu concrete paving (200 thick, pipe rolled & bush ham)	m^2
4.3	P03 - Insitu concrete paving (200 thick, acid wash)	m^2
4.4	P04 - Hoggin	m^2
4.5	P05 - Compacted aggregate	m^2
	Subtotal for Paving	
5.0	**Edge materials and precast**	
5.1	E02 & E03 - Concrete edge beams, 200 x varies x 200 or 300	m

s7(2)(b)(ii) LGOIMA

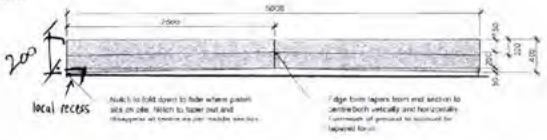
s7(2)(b)(ii) LGOIMA

[redacted]

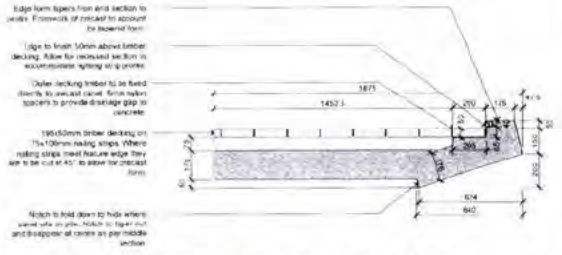
Item	Description	Unit
9.10	Excavate Tree pits	ea.
9.11	Supply and install grass areas as per specification provided	m2
9.12	Supply and install of planting	sum
9.13	DLP maintenance of Grass areas	month
9.14	DLP maintenance of Landscape garden areas	month
	Subtotal for Landscaping	
10.0	**Electrical**	LS
10.1	Electrical	LS
10.1	Lamp posts	ea
	Subtotal for Electrical	
11.0	**Street furniture (Supply and Install)**	
11.1	Bench seat (type A)	ea
11.2	Bench seat (type B)	ea
11.3	Picnic tables	ea
11.4	Bollards	ea
11.5	Sun loungers (provisional)	ea
11.6	Reinstate rubish bins	ea
	Subtotal for Street Furniture (Supply and Install)	
12.0	**Variations**	LS
12.1	Decking fixing variation	week
12.2	seismograph hire (x 1)	PS
12.3	General signage	PS
12.4	Removal / replacement of any unsuitable materials or objects	PS
12.5	Precast samples of major items	LS
12.6	Additional grout samples	ea
	Subtotal for Variations	



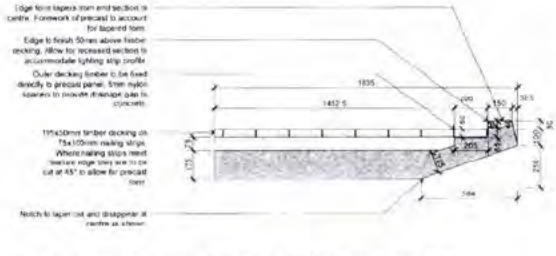
1 Typical 5000mm Boardwalk (B03) Precast Outer Curve Edge Detail - Plan
Scale: 1:20@ A1 | 1:40@A3



2 Typical 5000mm Boardwalk Precast Outer Curve Edge Detail - Elevation
Scale: 1:20@ A1 | 1:40@A3



3 Typical 5000mm Boardwalk Precast Outer Curve Edge Detail - End Section
Scale: 1:10@ A1 | 1:20@A3



4 Typical 5000mm Boardwalk Precast Outer Curve Edge Detail - Middle Section
Scale: 1:10@ A1 | 1:20@A3

Notes:

Refer to drawing 1_3.100 for all generic paving, furniture, timber and planting notes.

All structural elements are as per engineers drawings. Isthmus drawings are for form and finish only. Where structural detail conflicts unlike engineers details take precedence.

All dimensions, levels and grades are to be confirmed on site prior to fabrication.

Shop drawings are required and are to be reviewed by landscape architect prior to construction. Prototypes to follow shop drawings and be reviewed again prior to fabrication of remaining modules.

Fixings
All fixings to be stainless steel.

Timber
All Hardwood Timber to be FSC certified, unless otherwise labelled. All timber to be fully seasoned No. 1 grade, free from splitting, knots, cupping of warping.

All timbers to have 5mm rounded chamfer along all exposed edges.

Concrete
All boardwalk precast horizontal and edge beam to be as per type 'E08 finish, refer to finishes schedule for selections.

Lighting
Step lighting mounting profile to be allowed for with recessed notch in precast feature edge, driver boxes to be hidden below timber decking.

No.	Revision	By	Chk	Date
E	Tender	MC	TM	18.02.19
D	100% Detailed Design	MC	TM	14.12.18
C	Draft Detailed Design	MC	TM	30.11.18
B	Draft Detailed Design	MC	TM	19.11.18
A	Draft Detailed Design	TM	TM	19.10.18

Isthmus.

Client
Rotorua Lakes Council

Job Name
Rotorua Lakefront Development

Scale: As shown @ A3
Drawing Title: 5000mm Boardwalk Inner Curve Edge Details

Job No: 4010
Drawing Number: 1_3.506
Revision: E

Issued For: Tender

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ROTRUA LAKEFRONT REDEVELOPMENT
PRICE CLARIFICATION

Project:	Rotorua Lakefront Redevelopment		
Contractor:	HEB Construction	**Date:**	21st May 2019
Address:	PO Box 4049 Mt Maunganui South	**Price Clarification No:**	001
Email:	Andrew.Hiscox@heb.co.nz		
Attention:	Andrew Hiscox		
Subject:	**Price Clarifications - Various**	**Pages:**	6

Price Clarification Details:

No.	Tag Ref.	Tag Details	Clarification Description
1.1	1.1 Schedule of Prices	Our tender is based on the enclosed schedule of prices.	Noted, however to be clear reliance and responsibility is placed on the contractor in terms of all stated quantities. The Principal shall not be liable for any misinterpretation of the drawings and specifications.
1.2	3.1 Variations	For the purpose of valuing variations our onsite over heads will be 10% and offsite overheads and profit 15%. Working day rate $2650.00/day	Noted, however should considerable delay occur we would reserve the right to agree a fair and reasonable compensation, whilst looking to minimise activities on site during the delay period.
1.3	4.2 Design & Consents	We have made no allowance to obtain building or resource consents, this is to be arranged prior by RLC, including the costs associated with these consents. We have allowed for the site by RLC, including the costs associated with these consents. We have allowed for the site management of these consents including arranging the relevant inspections.	Noted, Cost of consent applications and approvals shall be completed by RLC. Any costs for services connection applications, and temporary works shall be by the contractor.
1.4	4.4 Design & Consents	Resource Consent - As per our methodology we have allowed to install sheet pile coffer dams and use submersible pumps to dewater the coffer dams. We have also allowed for standard silt fences to control water runoff; temporary stockpiles will be covered in filter cloth and accessways will be stabilised with metal. Additional requirements to meet the resource conditions will be treated as a variation.	Please review the attached draft resource consent conditions. Please confirm the draft conditions are allowed for. It is the contractor's responsibility to ensure their methodology complies with any consenting requirements.
1.5	5.1 Archaelogical	We have made no allowance for Iwi monitors or archaeologists to be on site during the works. If required these are to be supplied by RLC.	Noted, however the contractor is to allow for liaison and inspection for iwi monitors as required by the resource consent. The cost for Iwi to attend site will be covered by RLC.
1.6	7.1 Sun Loungers	We have allowed a provisional sum for the sun loungers (item 11.5), final details & costs to be agreed, if it is decided by RLC to install sun loungers.	Sun loungers will be removed from stage 1 and 1a. Please remove this sum from your costs.
1.7	9.1 Micro Piles	We have allowed to install 25mm dia hot dipped galvanised DSI GEWI bar, with 3 domed nuts per pile.	It is acceptable to replace Reidbars with DYWIDAG GEWI Threadbar. However HEB's proposed domed nuts are not appropriate replacements for the ReidBar Flange Nut. Correctly sized GEWI Flanged Nuts plus lock nuts as shown in Dywidag's GEWI Threadbar System technical product brochure should be used as replacements.

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1.8	9.2 Micro Piles	We have made no allowance for trial nails prior to starting the production drilling.	This will not be accepted. The Ground Improvement field trial (Specification 3.5.3) and Anchor Proof Load Testing (Specification 4.7.3) are required to assess both the cement dosing requirements, consistency and the capacity of the anchors. This will need to be completed prior to undertaking the main ground improvements and installation of anchors.
1.9	9.3 Micro Piles	We have allowed to proof test 12 No. anchors by tension loading in accordance with table 4-2 and acceptance test 230 No. production anchors by tension load testing in accordance with table 4-4 of the Tonkin & Taylor specification.	Please remove tag relating to 230No. production anchors, reliance is placed on the contractor to quantify the correct No. of anchors without placing risk on the principal.
1.10	9.4 Micro Piles	We have allowed for testing as per the specification, which we estimate will take 12 weeks.	The time estimate is a Contractor risk, please remove this tag.
1.11	9.5 Micro Piles	We have made no allowance for dealing with artesian water if encountered while drilling.	The drilling will be within cement stabilised ground. The cement will require time to cure. If the Contractor undertakes his drilling too soon following the cement stabilisation there is a risk of blow out of hole. The Contractor shall ensure he has sufficient time for cement curing within his programme prior to drilling. We believe this tag is not applicable, please remove this tag.
1.12	9.6 Micro Piles	We have allowed to take 1 x set of 3 grout samples per day.	Specification requires: • Two sets of 4 test samples each day that grouting is proposed, with not less than 2 sets of 4 test samples for the first batch of grout mixed and used; and • Not less than 1 set of 4 test samples for each additional batch of grout mixed. Please remove this tag.
1.13	9.8 Micro Piles	Grout use allowed for is based on 110% of the theoretical borehole volume. Extra grout will be charged at $1.75/kg batched.	The boreholes are within cement stabilised material. There is not expected to be grout loss provided that sufficient curing has been undertaken. This item can be managed through contractor methodology and quality assurance. Please remove this tag.
1.14	9.9 Micro Piles	No allowance has been made for installing temporary casings if required to keep the drill holes open.	The boreholes are within cement stabilised material. There is not expected to be borehole collapse provided that sufficient curing has been undertaken. This item can be managed through contractor methodology and quality assurance. Please remove this tag.
1.15	9.10 Micro Piles	The Specification calls for an exceptionally large volume of proof and acceptance testing, which we estimate will take 12 weeks to complete. There would be a considerable time and cost saving if the specified testing requirement were relaxed.	The design of the boardwalk structure is critically reliant on the strength and consistency of the cement stabilised ground, and the resultant capacity of the micropiles. It also is the decision point around the quantity of cement to be used in the main production works. Given the criticality of these elements to the design, expect this quantity of testing is required.
1.16	11.2 Tukutuku Decking	We have been advised by a few timber suppliers that the detailed tukutuku decking timber will waste a considerable amount of timber and there is a risk that the exposed grains may split. So, our timber supplier has indicated that they won't warranty the product as its currently designed.	Can you clarify that this comment only relates to the small tukutuku bridges. The Main boardwalk is able to be warranted. We will work with the supplier to agree a detail, we expect this will be similar to the large tukutuku bridges and should result in a saving.

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1.17	11.3 Tukutuku Decking	NTT # 9 provides a revised timber detail for the large tukutuku bridges, the cost saving to install this would be $328,570.00	Alternative tukutuku timber details as per NTT #9 is approved based on saving of $328,570, please amend pricing.
1.18	12.3 Landscaping	All plants are subject to availability (the contract specification does not allow substitution) Evergreen Landcare can recommend substitutes if specified species are not available.	All substitutions to be approved by the Architect.
1.19	12.4 Landscaping	Irrigation of specified lawn areas, which is based on the following parameters;.....	We note the described scope provided, however we also note irrigation is a design and build item. It is expected the scope put forward is suitable and fit for purpose for the area and nature of the works. Should any additional equipment etc be required to provide a fit for purpose solution, this shall be the contractors cost. Contractor shall confirm where the irrigation system is to be connected to the water main. We require this to check the water pressure at offtake location. RLC indicate that the water pressures is the local mains is between 400 and 550kPa on the 150mm water main. Please allow for the mains water connection as required to operate the irrigation system. Ensure that the connection location has double check valve, water meters etc if connecting to the 150 mm main line. Contractor should allow for this. However, if connecting to the new 50mm there will be a new water meter & double check valve installed so could potentially utilise this. It is recommended the contractor submits proposed layout for review.
1.20	13.1 Hidden decking fixings	The cost saving to install 2No. 14g 120mm s/s decking screws as per NTT#1 would be $12,635.00 + GST	Alternative timber deck fixings as per NTT#1 is approved based on quality and cost saving of $12,635, please amend pricing.
1.21	14.1 Concrete Piers	As detailed in our methodology we have allowed to cast the concrete piers insitu rather than precast. The design is more suited to cast them insitu. We would construct steel moulds that would be secured to the foundation slab and then propped.	Agree provided architectural finish is achieved.
1.22	15.1 Stone	Our stone supplier Design Source has allowed to supply G3027, which is subject to availability at the time of order. The material is currently in short supply due to the government currently upgrading factories around the G3027 quarry.	We will work with stone supplier to meet quality requirements and understand where design/detailing can be adapted to reduce risk. We are happy to investigate alternative stone types with supplier to reduce this risk. Please advise current stone cladding supply and install allowance in the event an alternative is to be sourced.
1.23	15.5 Stone	Due to the long lead time it may not be possible to produce prototypes and samples.	Please advise if samples are available for viewing in NZ.
1.24	16.2 Ground Improvements	The sulphate resistance cement contains a blend of fly ash, which may slow the strength gain and inevitably full strength may only be determined at 56 days.	The contractor is responsible for mix design. The contractor may elect to use alternative additives to achieve sulphate resistance.
1.25	16.3 Ground	The GI specification is very onerous, BPC have	The typical application of cement stabilisation in

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	Improvements	worked with Tonkin and Taylor in Christchurch on several GI project over the years and have together developed specifications and testing methods that would be more suitable for this project. There would be a considerable cost saving if the previously developed specification and testing could be used.	Christchurch is to prevent liquefaction / settlement in the foundation. The RLC boardwalk design incorporating cement stabilisation and micropiles to support a lakebed structure subject to waves. The two design approaches are not comparable. As noted in response to Tag 9.2 the cement stabilisation consistency and micropile capacity is critical to the design.
1.26	16.4 Ground Improvements	BPC's programme is based on being able to track on the previous days stabilised material, if the stabilised material does not gain enough strength due to the fly ash content then standing time may be charged.	The time for curing for cement stabilisation will be based on the cement dosing rate and the Contractor is best placed to assess plant access requirements. This item can be managed through contractor methodology and quality assurance. Please remove this tag.
1.27	16.5 Ground Improvements	Field trial testing (table 3-3) and stabilised material verification testing (table 3-4) – borehole samples in 2MPa improved soil will not be achievable as the cores will disintegrate. BPC propose to use dual tube soil sampling methods to obtain core samples from the freshly mixed soil layer for subsequent laboratory testing. BPC have allowed for the full suite of testing as per (table 3-3), however due to what appears to be a double up, have only allowed for the insitu sampling and laboratory testing from (table 3-4).	Core samples should be recovered using rotary coring techniques with a diamond coring bit. Provided the stabilised soil has cured sufficiently to achieve a compressive strength of 2MPa, and drilling works are undertaken with due care, damage to the core should be minimal. There is no double up? Table 3.3 for the field cell and Table 3.4 for the 'production' testing. Rows for "Strength – Laboratory Testing" the sample is obtained from a freshly mixed sample on site and placed in cylinders for subsequent testing. Rows for "Insitu sampling and Laboratory Testing" the sample is obtained from a partially cured insitu material for subsequent laboratory testing.
1.28	17.1 GI Alternatives	We believe that it would be considerably cheaper to excavate the material from within the sheetpile coffer dam, run it through a pug mill mixed with cement and place back in the excavation or completely replace the excavated material and replace with low strength concrete.	T+T may consider this approach an acceptable alternative subject to the following comments and agreement on the methodology, consistency of end product, and construction risk allocation. Initial comments are: • Contractor's temporary works will need to allow for dewatering to depth. Would likely require sheet piles both sides on Stage 1A – will need sheet piles both sides in Stage 1 anyway. Contractor will need to consider issues with potential issues with hot ground • Our experience with ex-situ (i.e. pug mill) mixing is that the density is not as great as insitu mixing. The density of the material is design critical so will need to be assessed. Preference would be concrete rather than ex-situ mixing. However would need to use sulphate resisting cement. Please provide an indication of potential cost saving associated with this
1.29	17.2 GI Alternatives	The sheetpile lengths and temporary works design would need to be amended to allow for the excavation and it's likely that walers would be required.	Should be included as part of tenderers cost as comment in 17.1

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1.30	18.1 General	No bio oil has been allowed for in the machinery, all machinery working on site will be new and well maintained. Services and refuelling will take place at least 20m away from the lakefront and within a bunded area.	Contractor to comply with any relevant resource consent conditions
1.31	18.2 General	We have made no allowance to test or undercut unsuitable subgrade material. If required, this will be treated as a variation and dayworks rates would be applicable	
1.32	19.1 Sampling & Protoypes	We have allowed a provisional sum of $100k (item 1.10) for sampling and prototypes.....	The samples schedule lists all architectural samples required. The list includes a variety of finishes to the same concrete specifications which will limit the number of pours required. Samples also include precasting, the sample can simply be the first pour for these elements but they may be rejected if they do not meet the specified quality requirements. Our thoughts are that $100k is too much and covering the current schedule is managable below this amount. Please review this sum and advise if a fixed price for the sampling schedule can be provided.
1.33	20.1 Vibration Monitoring	We have made no allowance to undertake vibration monitoring. If required by the resource consent, engineer or a complaint, then the cost to undertake vibration monitoring will be treated as a variation.	There will be vibrations generated from both installation of steel sheet piles and crane / plant movements. The level of vibration is dictated by the construction methodology and plant. The contractor is to allow to comply with any consenting requirements.
1.34	21.1 Precast	We have made allowance for an off the form finish from our steel moulds, in accordance with NZS3114 clause 105.4 (F4 finish). This finish is not completely free of blemishes, blow holes and mould joints maybe visible.	F4 is generally not to the required standard. Please note F5 & F6 is specified and needs to be allowed for. F4 finish may be applicable to low visibility areas as specified.
1.35	21.3 Precast	We have only made allowance for tolerances and concrete tests in accordance with NZS3109. We have not made allowance for any additional samples or trial batch tests.	Samples are to be provided to meet the design and quality specifications. Provided the sample meets this they will be accepted. The principal should not be charged additional costs if the contractor does not meet the design or spec.
1.36	21.5 Precast	We have allowed to use one (adjustable) mould to achieve all the inner deck curve profiles and one (adjustable) mould to achieve all the outer deck curve profiles. The procurement of additional moulds will incur additional costs.	The principal shall not be responsible for replacement or new moulds. Please remove this tag
1.37	21.6 Precast	For the 3m wide and 5m wide boardwalk decks as well as edge units, we have allowed for the recess underneath to be a local recess to the pile head only, and not tapered	Please provide a mark-up of this detail for review, initial thoughts are that it is an acceptable change.
1.38	21.7 Precast	We have allowed for 150 kg/m3 of reinforcing steel in the pre-stressed decks.	Precast Panels are a design build item. The contractor shall allow for the required amount of reinforcing to deliver the work. Please remove this tag.
1.39	22.1 Concrete Supply	Due to the varying specified mix designs and their makeup complexities we have been unable to source a concrete supplier who would supply rates for all of the varying mixes. So, our tender allows for the following plain concrete mixes;.....	All structural concrete for the boardwalk, foundations, retaining walls, terracing and footpaths where reinforcing is incorporated shall be 50MPa for durability. If there are references to the 25MPa mixes in the drawings or specification these should not be used for any structural concrete. Please advise a) if and where this reference to 25MPa comes from and b) confirm with the Contractor where he has allowed for 25MPa concrete, and where 50MPa to ensure there is no inconsistency in the tender documentations.

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			comes from and b) confirm with the Contractor where he has allowed for 25MPa concrete, and where 50MPa to ensure there is no inconsistency in the tender documentations.

Signed

Craig McMichael
Veros Property Services

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ROTORUA LAKEFRONT REDEVELOPMENT – SUGGESTED CONDITIONS

#	Condition
	General
1.	The proposal shall proceed in general accordance with the following: ▪ The resource consent application received by the Bay of Plenty regional Council on [insert date]; ▪ The reports lodged as part of that application, being [insert reports, titles, authors and dates] ▪ The plans [list by title and date] and references as B.O.P.R.C Plan Number RM [insert reference numbers] except where modified by any conditions of this consent.
2.	Subject to changes made to comply with other conditions of this consent, all works under this consent shall be constructed in general accordance with the information listed in condition 1 above.
	Design Elements
3.	Plans showing the detailed design of the proposed design elements, including artwork, interpretative panels and displays, landscaping, treatments and signage, including materials and colour schemes, shall be provided to the Bay of Plenty Regional Council prior to the inclusion, erection or construction of such elements. Where designs incorporate cultural references an explanation shall be provided as part of the details setting out the process and consultation by which the designs were developed and the consultation undertaken to reach agreement on the design. Design elements include but are not limited to: ▪ Design elements such as tumu, artwork, materials, planting; ▪ Interpretation displays showing changes at the site over time, historical photographs, original vegetation, Māori use of the site prior to European settlement, avifauna and other fauna; ▪ Safety measures for sections of the 5.0m wide boardwalk where the structure is over water should be in general accordance with: a minimum 50mm raised edge with contrasting colour and edge lighting such as an LED lighting strip; ▪ Low level lighting; ▪ Habitat enhancement measures.
	Final Plans
4.	Final plans shall be provided to the Bay of Plenty Regional Council at least 5 working days prior to work commencing on site, as follows: ▪ Final engineering plans; ▪ Landscape plans.
	Kōura Habitat Protection and Restoration
5.	The consent holder shall ensure that all kōura at the site are translocated prior to the commencement of structure works and shall notify the Bay of Plenty Regional Council upon the completion of translocation (see Advice Note 1).
	Cultural Monitoring
6.	The consent holder shall liaise with representatives of Ngāti Whakaue to enable cultural monitoring to be undertaken during the works to remove the existing lake edge structures.
7.	A copy of the works programme shall be provided for information to Te Arawa Lakes Trust and Ngāti Whakaue and updated as necessary.
	Construction Management Plan
8.	A Construction Management Plan shall be prepared and provided to the Bay of Plenty Regional Council for certification prior to work commencing on site that it addresses the following matters: ▪ A confirmed site plan showing the land affected, site office and any proposed staging; ▪ Contact details for the Consent Holder's representative and Contractor's representative who shall be responsible for the works and procedures for dealing with complaints; ▪ Details of expected construction traffic, proposed routes (including how congestion will be avoided at the Lake Road / Rangiuru Street roundabout), numbers of movements and types, timing; ▪ Proposals for public safety and site security during construction; ▪ How the works will be carried out to minimise lakebed disturbance and discolouration and to avoid contamination entering the lake; ▪ Management of the location and timing of works to minimise impact on kōura and avifauna habitat, especially when coinciding with breeding seasons, confirmed if required by a report from a suitably qualified and experienced ecologist; ▪ Cultural monitoring arrangements with representatives of Ngāti Whakaue during the period when the existing lake edge structures are removed; ▪ Protocol to be followed in the event of an accidental discovery of archaeological site or koiwi; ▪ Measures to ensure compliance with conditions of this consent.
	Notification of Works
10.	No less than five working days prior to the overall start of works under this consent, the consent holder shall request (in writing) a site meeting between the principal site contractor and the Bay of Plenty Regional Council. This request shall include details of who is to be responsible for site management and compliance with consent conditions.
11.	Within 30 working days of completion of the construction works associated with the timber boardwalk and tukutuku bridges under this consent, the consent holder shall submit a statement signed by a suitably qualified professional verifying that the lake structures have been installed as required by this consent and in accordance with good engineering practice.
12.	No less than five working days prior to undertaking the works the consent holder shall contact a representative of Ngāti Whakaue and invite a representative on-site to undertake cultural monitoring of topsoil stripping / earthworks. Evidence of this invitation shall be kept and provided to the Bay of Plenty Regional Council within 48 hours of a request
	Construction Works
13.	No refuelling activities or fuel storage associated with the construction works authorised by this consent shall be carried out within 20 metres of Lake Rotorua. The consent holder shall

#	Condition
	employ methods to avoid or minimise any fuel spillage, including the provision of appropriate security and containment measures, where necessary
14.	Works or maintenance activities shall be carried out in a manner that minimises lakebed disturbance and discolouration, and that results in no contamination entering the lake.
15.	All plant, machinery, equipment and debris associated with this operation shall be removed from the lake shore area at the completion of the operation.
16.	Where practicable, machinery shall be kept out of the lake during construction works and are not permitted in the lake once construction works are complete
17.	All machinery is to be thoroughly cleaned prior to and following use in the water to prevent the spread of unwanted organisms
18.	No vegetation, soil, or other material associated with the construction works that is not part of the final design shall be deposited in Lake Rotorua or left in a position where the material could enter water
	Earthworks
19.	All earthworks operations shall be carried out in general accordance with the following: • The Resource Consent Application received by the Bay of Plenty Regional Council on [insert date]; • The [insert technical reports]; and • The [insert plan(s)] and referenced as B.O.P.R.C Plan Number RM [insert plan number].
20.	The Consent Holder shall ensure that all earthworks operations (including stabilisation of earthworks sites to effectively prevent erosion) are completed by [insert date/ timing].
21.	The consent holder shall ensure that any imported fill is classified as 'cleanfill' as defined by *'A Guide to the Management of Cleanfills'* published by the Ministry for Environment in 2002, and the Bay of Plenty Regional Natural Resources Plan.
	Erosion and Sediment Controls
22.	The consent holder shall ensure that erosion and sediment controls are designed and constructed in general accordance with the following: • The [insert title name of company that prepared plan] Erosion and Sediment Control Plan dated [insert date] and referenced as B.O.P.R.C Plan Number RM [insert]; or • Any subsequent plan that has received written certification from the Bay of Plenty Regional Council.
23.	The consent holder shall ensure that all sediment and erosion controls are installed prior to works commencing.
24.	The consent holder shall ensure that all exposed areas of earth resulting from works authorised by this consent are effectively stabilised against erosion by vegetative groundcover or suitable alternative as soon as practicable and following the completion of each stage of works.
25.	The consent holder shall divert uncontaminated catchment runoff away from the area of works.
26.	No vegetation, soil, or other debris shall be left in a position where the material could

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	become mobile by stormwater during heavy rainfall.
27.	The consent holder shall ensure that the erosion and sediment controls and associated erosion protection devices are maintained in an effective capacity and good working order at all times during works and until the site is stabilised.
28.	The consent holder shall ensure that any necessary maintenance of erosion and sediment controls identified by inspection under conditions of this consent or by Bay of Plenty Regional Council staff is completed within 24 hours.
29.	The consent holder shall ensure that all-weather machinery access is maintained to the sediment control devices.
30.	The consent holder shall ensure that there is no tracking of soil or sediments off-site.
	Dust
31.	The consent holder shall adopt a proactive strategy for dust control, specifically by complying with the principles of dust management as set out in the Bay of Plenty Regional Council *'Erosion and Sediment Control Guidelines for Land Disturbing Activities – Guideline 2010/01'* so as to prevent a dust nuisance from occurring beyond the property boundary.
32.	The consent holder shall ensure that an adequate supply of water for dust control (sufficient to apply a minimum of five millimetres per day to all exposed areas of the site), and an effective means for applying that quantity of water, is available on site at all times during construction and until such time as the site is fully stabilised.
33.	The consent holder shall ensure that, at all times, the soil moisture level of exposed areas is sufficient, under prevailing wind conditions, to prevent dust generated by normal earthmoving operations from remaining airborne beyond the boundary of the work site.
34.	In the event that wind conditions render dust control impracticable the consent holder shall ensure that any machinery generating airborne dust ceases to operate until such time as effective dust control can be re-established.
35.	The consent holder shall ensure that, outside of normal working hours, staff are available on-call to operate the water application system for dust suppression.
	Construction Hours
36.	Except for demolition activities that may be timed to avoid peak periods for adjacent land uses, construction activities on site shall be limited to the following hours: ▪ Weekdays and Saturdays – 7am to 7pm ▪ No construction work shall be undertaken outside of these hours, nor shall construction activities occur at anytime on a Sunday nor on a Public Holiday.
37.	The consent holder shall ensure that all construction activities on site shall comply with the requirements of NZS6803:1999 Acoustics – Construction Noise.
	Signage
38.	Prior to the commencement of works under this consent, the Consent Holder shall erect a prominent sign adjacent to the entrance of site works, and maintain it throughout the period of the works. The sign shall clearly display, as a minimum, the following information: • The consent holder; • The main site contractor; • A 24 hour contact telephone number for the consent holder or appointed agent;

#	Condition
	• A clear explanation that the contact telephone number is for the purpose of receiving complaints and information from the public about dust nuisance resulting from the exercise of this consent.
	Lighting and Glare
39.	Direct or indirect lighting on the boardwalk and tukutuku bridges shall be low level and directed downwards and shall be shielded to limit light spill [add more detail as appropriate].
	Monitoring, recording and reporting
40.	The consent holder shall inspect the boardwalk and other structures annually and following large storm events to ensure that the structures remain in a fit for purpose condition
41.	The consent holder shall maintain records of the date that any maintenance activities are carried out on the structures authorised by this consent
42.	The consent holder shall forward a copy of records required by condition 41. to the Regional Council within 48 hours of its request
	Review
43.	Conditions 3 and 39 may be reviewed under Section 128 of the Resource Management Act 1991 one year after completion of the construction works and associated landscaping and thereafter at yearly intervals for up to five years. The purpose of such review shall be to determine whether additional measures are required to provide additional information, safety measures and habitat enhancement measures.
	Advice Notes
1.	*Unless otherwise stated, all notification required under this consent shall be directed (in writing) to the Regulatory Compliance Manager, Bay of Plenty Regional Council, Box 364, Whakatāne 3158, (or fax 0800 884 882 or email notify@boprc.govt.nz) including the consent number*
2.	*All archaeological sites whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 cannot be destroyed, damaged, or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand and all relevant iwi/hapū for advice. Heritage New Zealand Contact Details: email - infolowernorthern@heritage.org.nz; phone - 07 577 4530. The Bay of Plenty Regional Council is able to advise of the contact details for the relevant iwi/ hapū in this area*
3.	*This consent does not constitute landowner approval, that is approval from the owners of the lakebed (Te Arawa Lakes Trust) or the Crown Stratum which is the water and air space above the lake bed (administered by Land Information New Zealand on behalf of the Crown). Landowner approval must be obtained for the structure before this consent can be given effect.*
4.	*The Bay of Plenty Regional Council has a transfer agreement in accordance with section 33 of the Resource Management Act 1991 with Rotorua District Council. This transfer agreement transfers duties, powers and functions under section 9 of the Resource Management Act, in relation to some activities on the Rotorua Lakes, from Rotorua District Council to the Bay of Plenty Regional Council. This consent is issued in accordance with this transfer agreement.*
5.	*This consent will lapse (no longer be valid) five years after the granting of the consent (section*

#	Condition
	125 Resource Management Act 1991) unless the consent is given effect to (usually some work being carried out under the authority of the consent). An application can be made to the Regional Council to extend the lapse period, but only before the consent lapses
6.	*This consent does not authorise any bed disturbance after the structures or works have been constructed.*