Tahera
Diamond Corporation

www.tahera.com

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July 15, 2005

Philippe di Pizzo
Executive Director
Nunavut Water Board
Box 119
Gjoa Haven, Nunavut
X0E 1J0

Delivered by Electronic Mail

Dear Philippe,

Please find this letter and the accompanying documents as addenda to the causeway plan submitted in April. We trust these addenda address the remaining concerns regarding the fresh water causeway required for the Jericho Diamond Mine development.

In general, the causeway is required to allow a fresh water pump to be installed for the make-up water requirements for the processing plant and infrastructure. Our water demand for the operation is estimated at an average of 40 cubic meters per hour. This quantity is based on metallurgical water balance calculations as well as other minor water requirements. The 40 cubic meters average figure takes into account operating time and non-operating time. For example, overall the plant and infrastructure requires approximately 50 cubic meters per hour of water but, with maintenance and other downtime, we expect to only physically operate the plant 80% of the time and hence the 40 cubic meters average figure. We have included stamped engineering drawings from Hatch for: the overall plant water system process and instrumentation drawing (037-26-0101); as well as the raw water tank in the plant (316996-SK-M-0007); the process flow diagram for the thickener area (036-06-0001) which contains a plant water balance table; and finally the Carat Lake Water Intake Drawing (040-04-0003) which is also duplicated within the SRK addendum letter.

The pumping system in Carat Lake is designed to meet this demand by cycling of and on to maintain the raw water tank level within a set range. Therefore when the pump is running it operates at the 100 cubic meters per hour rate until the desired level is met and then shuts off. The raw water tank also acts as the fire water reservoir so only the top portion of the tank volume is used for water balance. We have attached the stamped calculation sheet from Hatch (Description – Raw Water Average Flow, 1 page) which indicates the 'working volume' (56 cubic meters) within the process water tank level indicators and the "pump on" time required to fill this volume to be under one hour to recharge the process water fill requirements. In effect the water pump at Carat Lake will generally cycle on for approximately one hour, then off for approximately one hour, when the process plant is operating. Under non-operating conditions, the "pump on" period would decrease and the "pump off" period would increase accordingly as shown on the calculation sheet.

The intake fish screen design has been prepared in accordance with the DFO guidelines and the information was summarized on the Carat Lake Water Intake Drawing submitted with the original plan and resubmitted with these addenda. We have included the stamped engineering calculations from Hatch (Description – Water Intake Design According to DFO Guidelines, 3 pages). For the screen intake design the calculations were based on the instantaneous or maximum pumping rate, which is 28 l/s which equates to the 100 cubic meters per hour rate. The screen has been designed in accordance with the DFO guidelines to ensure the protection of fish at this maximum pumping rate. Please note only page 1 of the calculation sheet is for the alternative 2 design required by DFO. There have not been any changes made to this design since the water license hearing and the screen has always been designed based on the maximum instantaneous flow not average flows in accordance with the DFO Guidelines.

The attached SRK addendum we believe expands sufficiently on the civil design of the causeway to address other concerns raised. Included in this addendum are numerous photos of identified clean ROM rock typical of the mining operations and rock that is designated for the causeway construction. A single phase construction schedule is also shown in this addendum.

We trust these combined addenda address the NWB's remaining concerns on the Causeway Plan. Should you have any further concerns please do not hesitate to contact us at any time.

Yours truly,
Tahera Diamond Corporation

Greg Missal
Vice President, Government and Regulatory Affairs

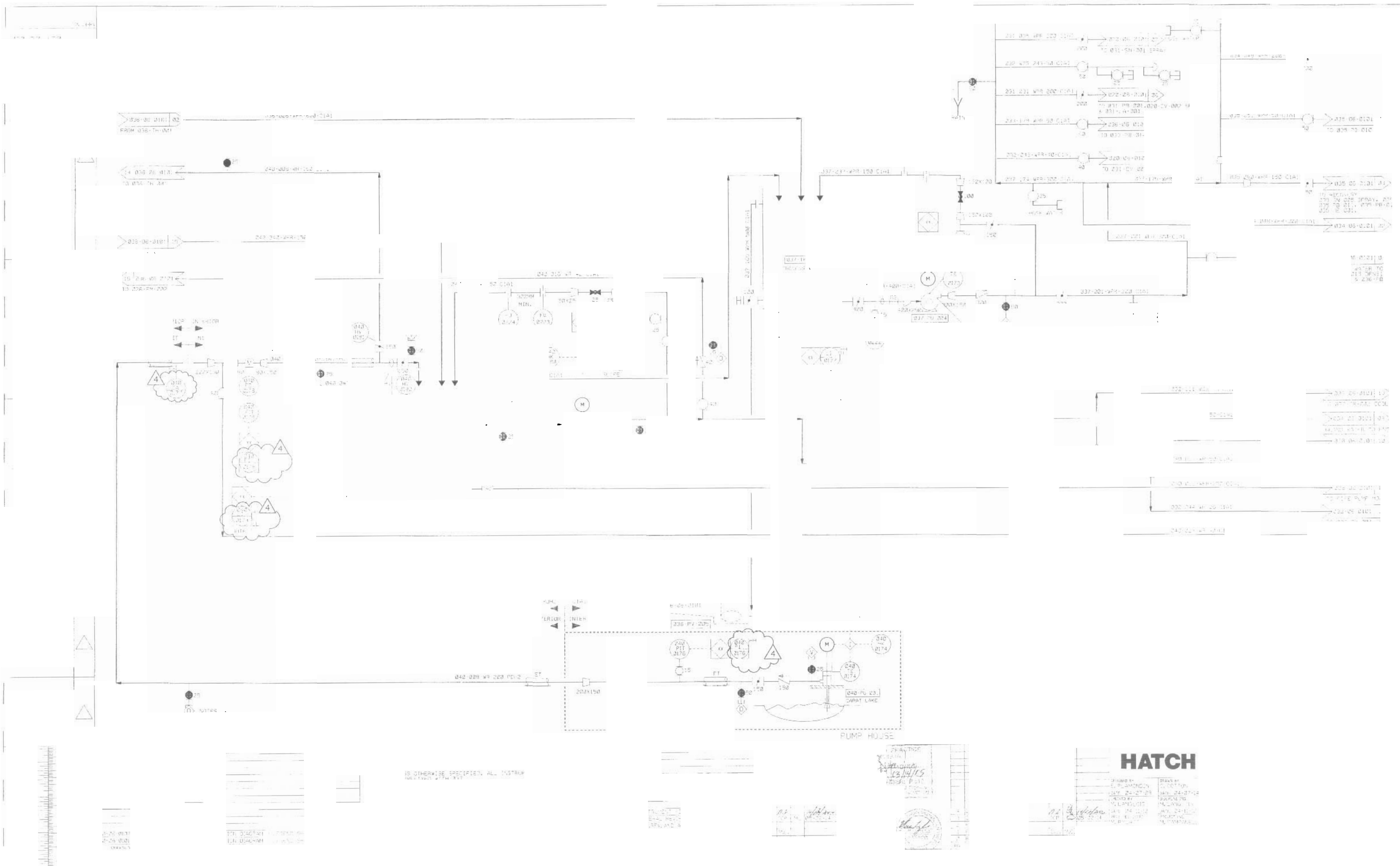
List of Attachments:

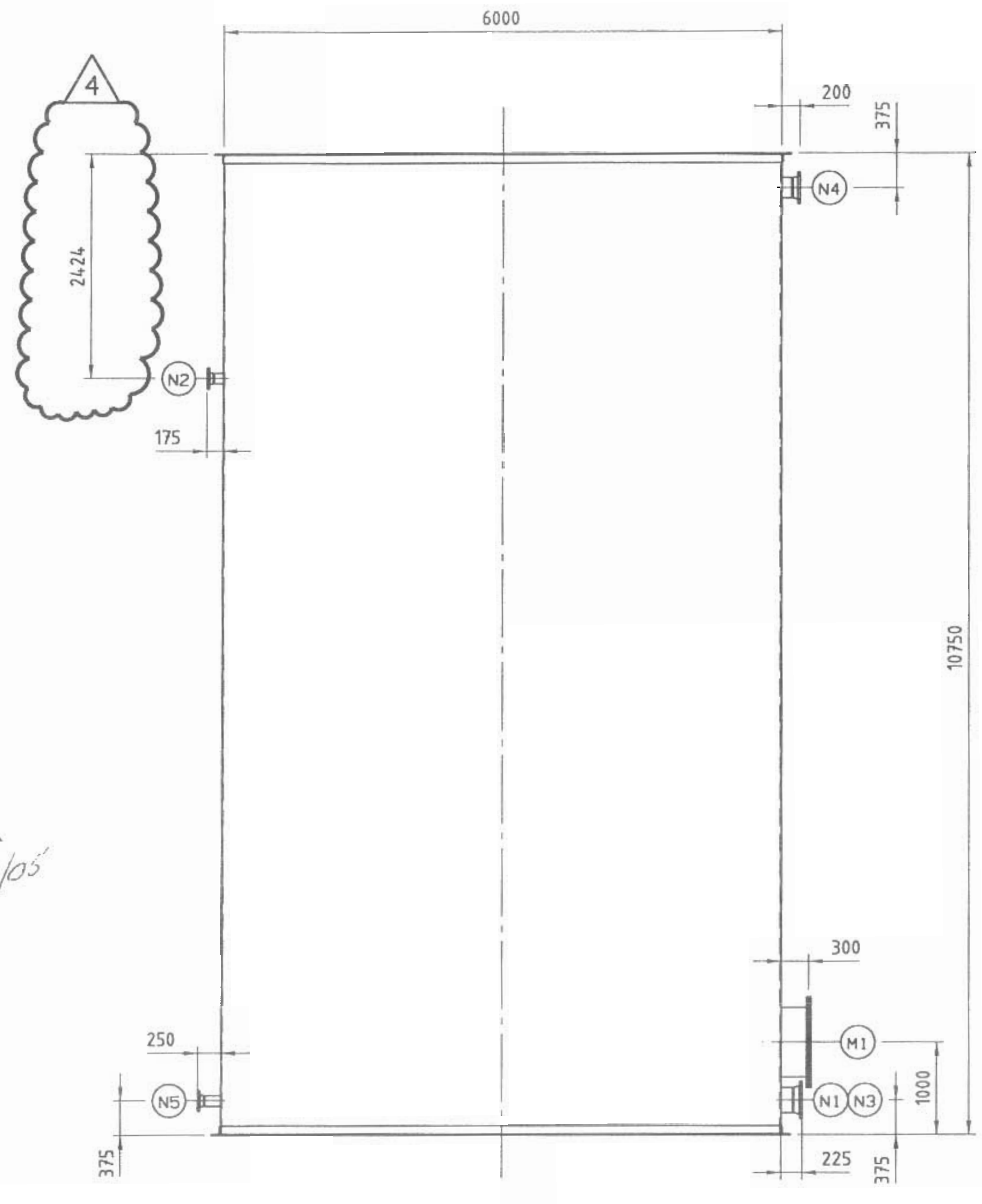
From Hatch:

- Drawing 037-26-0101: Raw and Process Water Piping & Instrumentation Diagram
- Drawing 316996-SK-M-0007: Raw Water Tank
- Drawing 036-06-0001: Thickener Area Process Flow Diagram
- Drawing 040-04-0003: Carat Lake Water Intake
- Calculation Sheets: Raw Water Average Flow
- Calculation Sheets: Water Intake Design According to DFO Guidelines

From SRK:

- Addendum to the Fresh Water Causeway Design and Construction Plan


PUMP HOUSE
HATCH



ELEVATION

NOTE

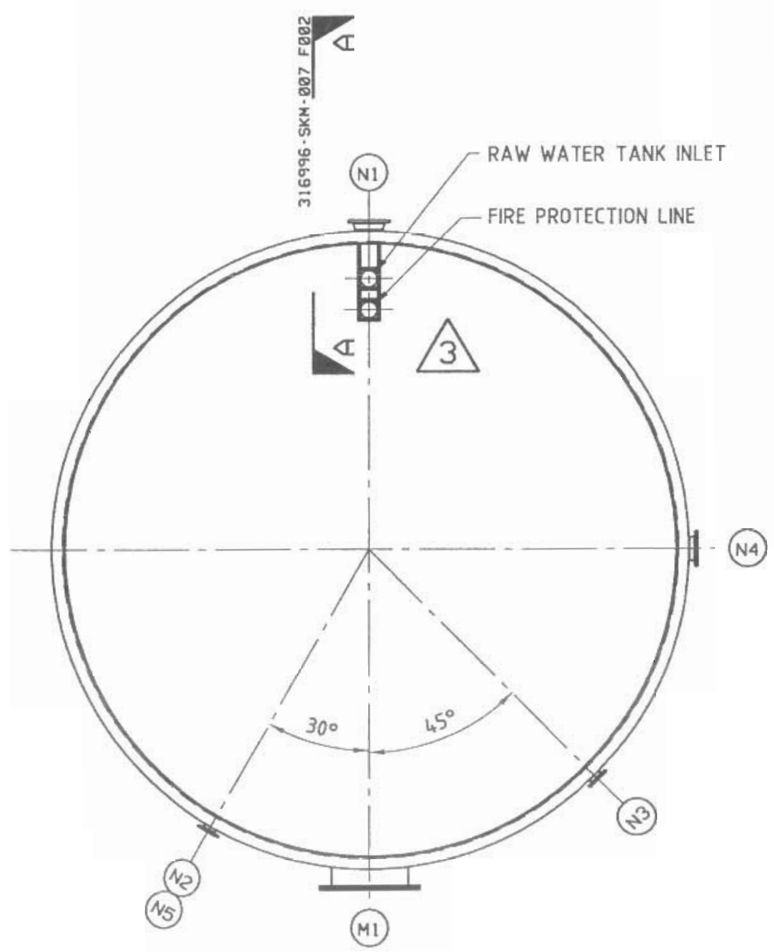
ALL DIMENSIONS ARE OUTSIDE DIMENSION

2- PL. THICKNESS TO BE DEFINE BY THE MANUFACTURER

3- TOP OF TANK OPEN TO ATMOSPHERE

4- DESIGN TO BE IN ACCORDANCE WITH API-650, LATEST EDITION

5- PROVIDE MANHOLE COVER C/W LIFTING LUG



PLAN

VESSEL SPECIFICATION SHEET

PROJECT 316996	EQUIP. NAME FIRE RAW WATER TANK
LOCATION	THICKNER AREA
MAX OPERATING TEMPERATURE:	MIN. 5 °C MAX. 20 °C
DESIGN TEMPERATURE	35 °C
MAX OPERATING PRESSURE:	0 kPa (g)
DESIGN PRESSURE	ATMOSPHERIC kPa (g)
VOLUME	
INSULATION REQ'D:	YES ☐ NO ☒
CORROSION ALLOWANCE	3 [MM]
MATERIAL OF CONSTRUCTION	STEEL
ORIENTATION:	VERTICAL ☒ HORIZONTAL ☐
SERVICE:	RAW WATER & FIRE PROTECTION WAT
SPECIFIC GRAVITY:	1.0
SLURRY % SOLIDS BY WEIGHT:	0

NOZZLES AND CONNECTIONS

NO.	SERVICE	EST. SIZE	REMARK
N1	FIRE WATER OUTLET	DN250	FL. #150
N2	RAW WATER OUTLET	DN100	FL. #15
N3	DRAIN	DN100	FL. #15
N4	OVERFLOW	DN200	FL. #15
N5	LEVEL INSTRUMENT	DN100	FL. #15
	RAW WATER INLET	DN150	SCH.40
M1	MANHOLE C/W COVER	DN750	
	FIRE WATER LINE	DN150	SCH.40

REG. PROFESSIONAL ENGINEER, NWT/NU	Original signed	Rev
V. GAVRILENCO NO. L1546	04/12/20	3
J.-C. PARADIS NO. L1541	04/10/27	2
J.-C. PARADIS NO. L1541	04/10/21	1

REGISTERED PROFESSIONAL ENGINEER J.C. PARADIS LICENSEE L1541 NWT/NU

4 7/02/05

REFERENCE DRAWINGS

DRAWING NO	DRAWING TITLE

REVISIONS

NO	DESCRIPTION	CHK	APPR	DATE
4	2424 WAS 1425	JCP	VG	7/02/05
3	ADDED FIRE PROTECTION LINE	JF.R	VG	04 12 20
2	MANHOLE ADDED, N5 RELOCATED, SK-M-0007 WAS SKM-007	JCP	VG	04 10 27
1	REVISION GENERALE	JCP	VG	04 10 21

STAMP

O.I.Q.
ORIGINAL SIGNÉ PAR JEAN-CLAUDE PARADIS
NO. 122480
22/09/04

ISSUE AUTHORIZATION

REV	ISSUE FOR	AUTH	BY	DATE
4	CONSTRUCTION			7/02/05
4	FABRICATION 316996-PM025			
3	INFORMATION CM-001			
3	FABRICATION 316996-PM025	DL		04 12 20
2	FABRICATION 316996-PM025	DL		04 10 27
1	FABRICATION 316996-PM025	VG	SB	04 10 21
P0	BID 316996-PM-025	VG	SB	04-09-20

HATCH

DESIGNED BY J-C PARADIS DATE 04 09 07	DRAWN BY M SIMONEAU DATE 04 09 07
CHECKED BY J-F ROY DATE 04 10 21	DISCIPLINE ENG J-C PARADIS DATE 04 10 21
PROJ DES COORD M BRUNET DATE 04 10 21	PROJECT ENG M RYLATT DATE 04 10 21
PROJECT MGR D LAM DATE 04 10 21	

TAHERA DIAMOND CORPORATI

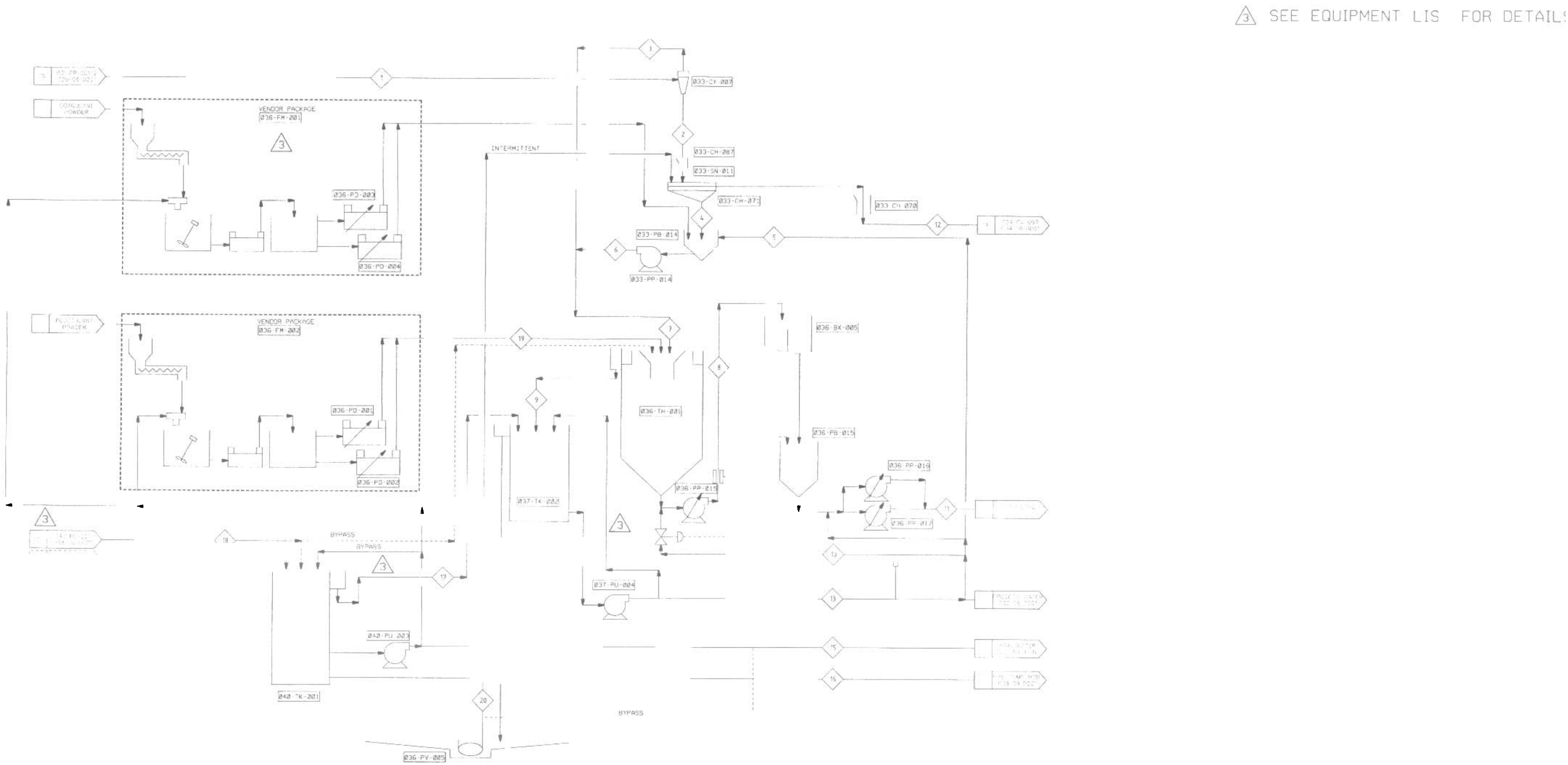
PROJECT TITLE JERICHO DIAMOND PROJECT

FIRE RAW WATER TANK
040-TK-001
ELEVATION & PLAN VIEW

HA PROJECT NO 316996

SCALE	DWG NO	SHEET NO	REV
N A	316996-SK-M-0007	001	

316996-SK-M-0007 001



STREAM	1	2	3	4	5	6	7	8	9	10	11	11 MAX	12	13	15 MAX	16 MAX	17	18	18 MAX	19	20 INT
SOLIDS T/H	51	41	10	5	-	5	15	15	-	-	15	30	36	-	-	-	-	-	-	-	NOM
M^3/H WATER	496	50	446	41	10	41	487	35	452	2	35	45	9	499	20	140	30	30	40	0.05	20
M^3/H SLURRY	516	66	450	43	-	43	493	41	-	-	41	57	-	-	-	-	-	-	-	10	20
SOLIDS SG	2.6	2.6	2.6	2.6	-	2.6	2.6	2.6	-	-	2.6	2.6	2.6	-	-	-	-	-	-	10	-
% SOLIDS W/W	9	45	2	11	-	11	3	-	-	-	30	40	80	-	-	-	-	-	-	10	-
SLURRY SG	1.06	1.39	1.01	1.07	-	1.07	1.02	1.22	-	-	1.22	1.32	-	-	-	-	-	-	-	10	-
% MOISTURE	-	-	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	10	-

REFERENCE DRAWINGS

REVISIONS

DETAILED ENG UPDATE

ISSUE AUTHORIZATION

HATCH

M. RYLATT 04.10.29
M. SIMONEAU 04.10.29
S. BIBAS 04.10.29
M. CAMPANELLI 04.10.29
D. LAM 04.10.29

TAHERA DIAMOND CORPORATI

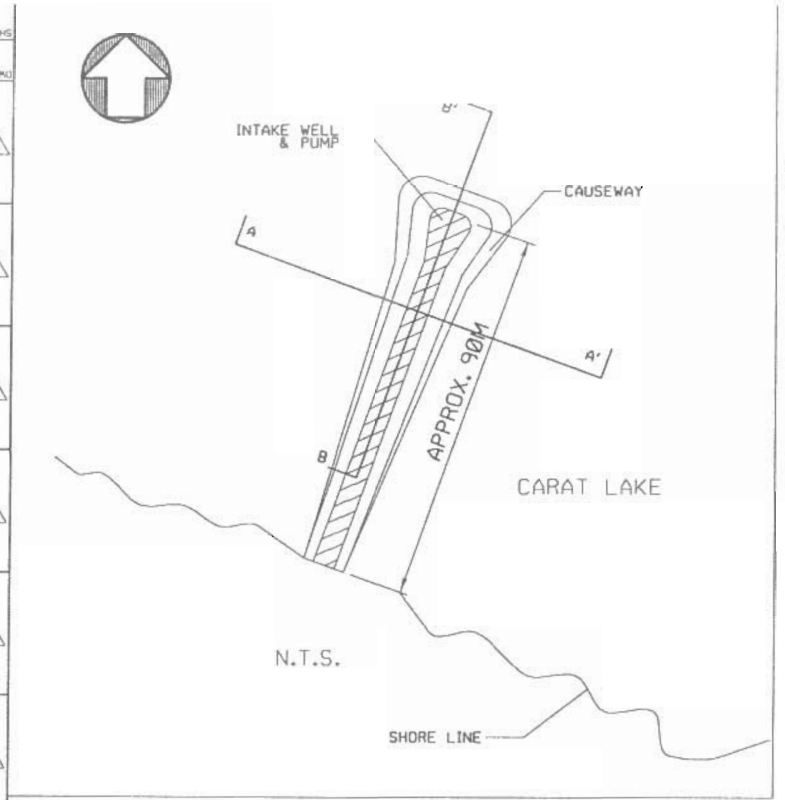
JERICHO DIAMOND PROJECT

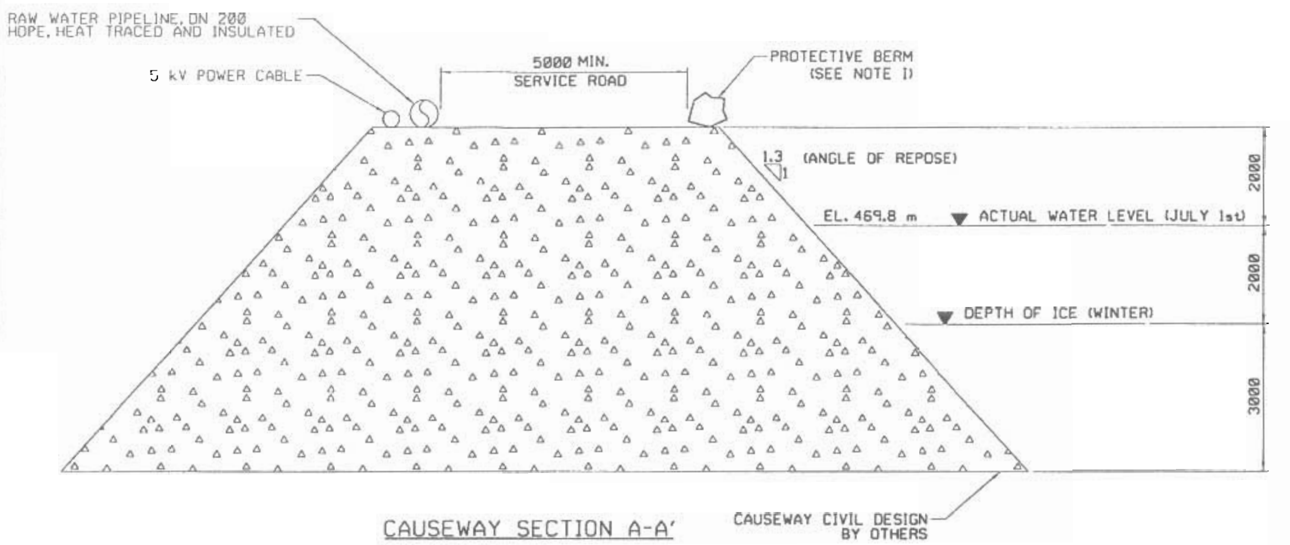
THICKENER AREA
PROCESS FLOW DIAGRAM

316996

NTS

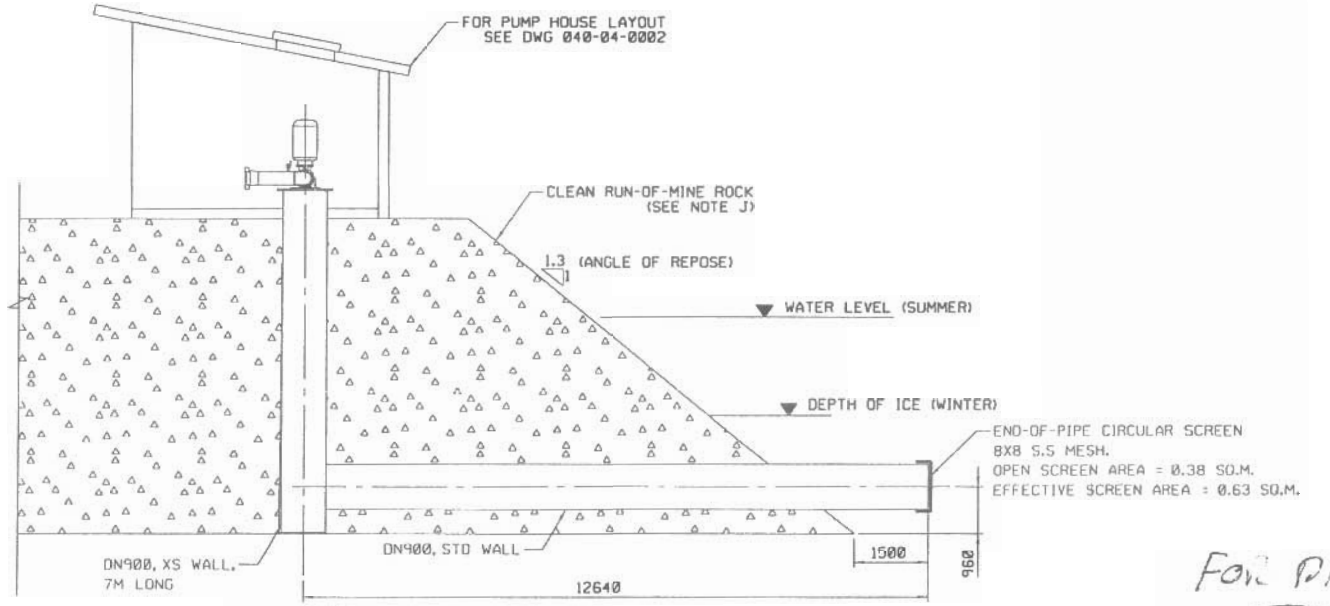
036-06-0001





CAUSEWAY SECTION A-A'

NTS



VELOCITY AT SCREEN:

A) AVERAGE FLOW (50M3/HR): 0.037 M/S
B) INSTANTANEOUS FLOW (100M3/HR): 0.074 M/S

CAUSEWAY AND INTAKE WELL - SECTION B-B'

NOTES:

1- FISH SCREEN DESIGN BASED ON DEPARTMENT OF FISHERIES AND OCEANS "FRESHWATER INTAKE END-OF-PIPE FISH SCREEN GUIDELINE" -1995 AND THE FOLLOWING CRITERIA:

A) FISH SWIMMING MODE: SUBCARANGIFORM

B) WATER INTAKE DESIGN FLOWRATES:
1. 50 M3/HR (CONTINUOUS AVERAGE)
2. 100 M3/HR (INSTANTANEOUS MAXIMUM)

C) REQUIRED AREA, BASED ON 50 M3/HR
1. OPEN SCREEN AREA: 0.13 SQ.M
2. EFFECTIVE SCREEN AREA: 0.22 SQ.M.

D) REQUIRED AREA, BASED ON 100 M3/RH
1. OPEN SCREEN AREA: 0.26 SQ.M.
2. EFFECTIVE SCREEN AREA: 0.43 SQ.M.

E) FOR ACTUAL PHYSICAL EFFECTIVE AND OPEN SCREEN AREAS, REFER TO NOTES ON EACH ALTERNATIVE SECTION.

F) SCREEN MATERIAL: 8x8 STAINLESS STEEL ALLOY MESH. ALL PIPE OPENINGS TO BE WRAPPED WITH MESH AND SECURED WITH S.S. SELF-TAPPING SCREWS AS REQUIRED.

G) SCREEN MAINTENANCE TO BE DONE MANUALLY, EITHER BY BACK-FLUSHING THE INTAKE OR BY PHYSICALLY REMOVING TRAPPED DEBRIS.

H) PUMP: WEIR/FLOWAY 10 JKM, 6 STAGES, 50 HP MOTOR

I) PLACEMENT OF PROTECTIVE ROCK BARRIER ON BERM, AS REQUIRED.

J) CLEAN RUN-OF-MINE MATERIAL, NON-ACID GENERATING MINE ROCK, FREE OF SIGNIFICANT QUANTITIES OF TILL, CLAYS OR FINES.

FOR PIPING DESIGN ONLY.

REGISTERED PROFESSIONAL ENGINEER
J.C. PARADIS
LICENSEE
L1571
NWT/NU

J.C. Paradis
13/07/2005

REFERENCE DRAWINGS	
DRAWING NO.	DRAWING TITLE

REVISIONS				
NO.	DESCRIPTION	CHK.	APPR.	DATE

ISSUE AUTHORIZATION			
REV.	ISSUE FOR	AUTH. BY	DATE
B	CONSTRUCTION PIPING ONLY		13/07/05

HATCH

TAHERA DIAMOND CORPORATION

PROJECT TITLE: JERICHO DIAMOND PROJECT

CARAT LAKE WATER INTAKE
PLAN AND SECTIONS
PIPING DESIGN

HA PROJECT NO. 316996

SCALE: N.T.S.

DWG NO. 040-04-0003

REV. A

HATCH	FEUILLE DE CALCUL CALCULATION SHEET			FEUILLE NO. SHEET NO. 1
DESCRIPTION RAW WATER, AVERAGE FLOW	PROJ. NO. 318996	FAIT PAR: MADE BY: JCP	VERIF. PAR: CHKD. BY:	DATE 13/07/2005

RAW WATER USAGE: 10 m^3/hr. (AVERAGE, FOR PUMP SEAL WATER AND GREASE TABLE)

LOSS THRU TAILINGS: 40 m^3/hr (AVERAGE)
↳ PROCESS WATER MAKE-UP WITH RAW WATER

TOTAL MAKE-UP REQUIRED: 10 m^3/hr + 40 m^3/hr = 50 m^3/hr

MAXIMUM PUMP CYCLE TIME.

RAW WATER USABLE VOLUME: 56 m^3

⇒ WITH MAXIMUM DRAW-OFF OF 20 m^3/hr.

⇒ CYCLE TIME:
PUMP OFF: 56/20 = 2.8 HOURS
PUMP ON: TIME TO FILL 56 m^3/hr.
56 m^3 / 100 m^3/hr = 0,56 HR.
= 33,6 MINUTES

REGISTERED PROFESSIONAL ENGINEER
J.C. PARADIS
LICENSEE
L1541
NWT/NU

JC Paradis
13/07/2005

HATCH	FEUILLE DE CALCUL CALCULATION SHEET			FEUILLE NO. SHEET NO. 1/3
DESCRIPTION WATER INTAKE DESIGN ACCORDING TO DFO GUIDELINES	PROJ. NO. 316996	FAIT PAR: MADE BY: JCP	VERIF. PAR: CHKD. BY:	DATE 18/11/03

1- FISH SWIMMING MODE: SUBCARANGIFORM

2- OPEN SCREEN AREA

AVERAGE FLOW : 50 m^3/hr = 14 L/s
MAX FLOW : 100 m^3/hr = 28 L/s

LICENSEE 4541

13/07/2006

⇒ OPEN SCREEN AREA (50 m^3/hr) : 0,13 m^2
(100 m^3/hr) : 0,26 m^2

3 CHECK EFFECTIVE SCREEN AREA

- USE 8X8 STAINLESS STEEL MESH
⇒ % OPEN AREA = 60%

⇒ EFFECTIVE SCREEN AREA = $\dfrac{\text{OPEN SCREEN AREA}}{\left(\frac{\text{\% OPEN AREA}}{100}\right)}$

OK /hr $\dfrac{0,13}{(0,6)} = 0,22\,m^2$

hr $\dfrac{0,26}{0,6} = 0,433\,m^2$

4- CHECK INTAKE SCREEN DIMENSIONS

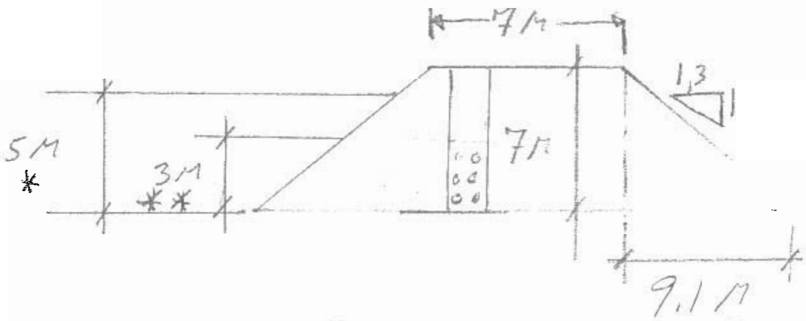
⇒ CIRCULAR PIPE, END-OF-PIPE SCREEN

$AREA = \dfrac{\pi d^2}{4} \Rightarrow d = \sqrt{\dfrac{4(AREA)}{\pi}}$

FOR 50 m^3/hr ⇒ d = 0,529 m FOR 100 m^3/hr ⇒ d = 0,742 m
IF USING 36" STD PIPE ⇒ ID = 35,25" = 0,895

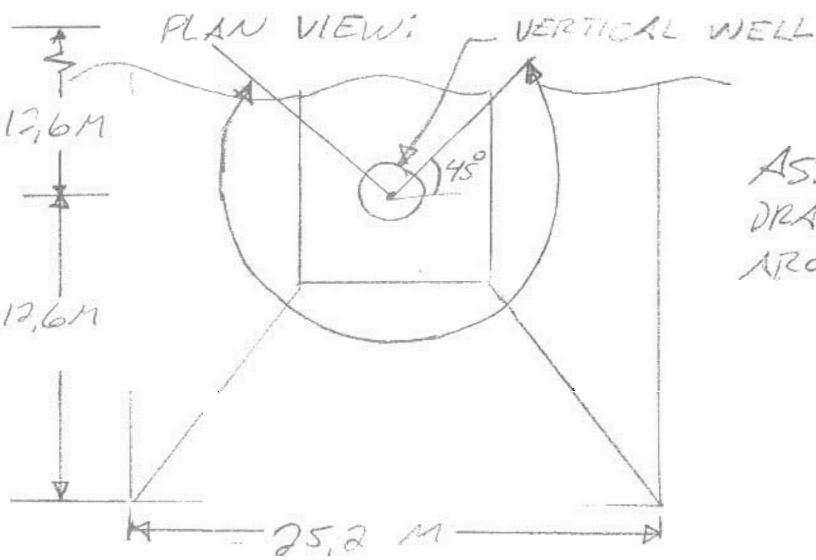
HATCH	FEUILLE DE CALCUL CALCULATION SHEET			FEUILLE NO. SHEET NO. 2/3
DESCRIPTION	PROJ. NO.	FAIT PAR: MADE BY:	VERIF. PAR: CHKD. BY:	DATE

ESTIMATED WATER VELOCITY AT EDGE OF CAUSEWAY FOR ALTERNATIVE 1



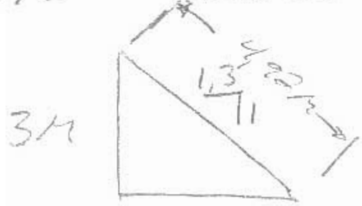
* WATER DEPTH IN SUMMER

** WATER DEPTH IN WINTER



ASSUMING WATER IS DRAWN FROM 270° AROUND THE WELL

SURFACE EXPOSED TO WATER DURING WINTER, ASSUMIN A 270° EFFECTIVE ANGLE:



SURFACE: APPROX

$[2(12,6+12,6)+25,2] \times 4,92 =$

$371,9\ m^2$

ASSUMING 30% VOID: $0,3 \times 371,9\ m^2$

OPENING $\approx 111,5\ m^2$

HATCH	FEUILLE DE CALCUL CALCULATION SHEET	FEUILLE NO. SHEET NO. 3/3

DESCRIPTION	PROJ. NO.	FAIT PAR: MADE BY:	VERIF. PAR: CHKD. BY:	DATE

VELOCITY AT EDGE OF ROCKS.

$Q = VA$

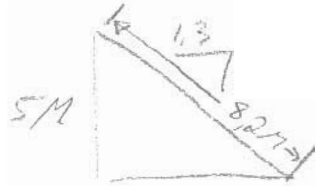
@ $50 m^3/hr \Rightarrow V = \frac{Q}{A} = \frac{50 m^3/hr \div 3600 s}{} = 1,25 \times 10^{-4} m/s$

$= 0,000125 m/s$

@ $100 m^3/hr: \Rightarrow V = \frac{100}{50} \times 0,000125 m/s = 0,00025 m/s$

SUMMER CONDITIONS

SURFACE EXPOSED TO WATER:



$\Rightarrow$ APPROX: $[2(12,6 + 12,6) + 25,2] \times 8,2$

$\Rightarrow 620 m^2$

$\Rightarrow$ @ 30% VOIDS $\Rightarrow 186 m^2$ OPENING

@ $50 m^3/hr \quad V = \frac{Q}{A} = \frac{\cancel{100}\ 50 m^3/hr \div 3600 s}{186 m^2}$

$= 7,5 \times 10^{-5} m/s = 0,000075 m/s$

@ $100 m^3/hr \Rightarrow \frac{100}{50} \times 0,000075 = 0,00015 m/s$

SRK Consulting
Engineers and Scientists

SRK Consulting (Canada) Inc.
Suite 800 – 1066 West Hastings Street
Vancouver, B.C. V6E 3X2
Canada

vancouver@srk.com
www.srk.com

Tel: 604.681.4196
Fax: 604.687.5532

July 15, 2005
1CT004.009

Tahera Diamond Corporation
Suite 803, 121 Richmond Street West,
Toronto, Ontario
Canada. M5H 2K1

Attention: Mr. Greg Missal, Vice President
Government and Regulatory Affairs

Dear Greg,

RE: Addendum to the Fresh Water Causeway Design and Construction Plan Jericho Diamond Project, Nunavut

This letter is submitted to Tahera Diamond Corporation (Tahera) as an addendum to our document of April 2005 entitled "Specification for the Fresh Water Intake Causeway." Questions and comments related to the April document were provided to the Nunavut Water Board by Indian and Northern Affairs Canada (letter from Robert Eno, dated May 12, 2005) and Fisheries and Oceans Canada (letter from Derrick Moggy, dated May 31, 2005). This letter responds to issues raised by intervenors that are applicable to the design and construction aspects of the causeway. Issues specific to the fresh water pumping system, fish protection screen and pipeline are addressed in documents prepared by Hatch and submitted to Tahera under separate cover.

For simplicity, our responses follow the order in each of the two intervenors' letters, starting with the letter from Indian and Northern Affairs Canada, since it was received first.

Where appropriate, incremental information supporting the responses in this letter have been attached for the reader's consideration.

Responses to Indian and Northern Affairs Canada

a. Detailed Implementation Schedule for Construction

The construction schedule outlined in April was based on two construction phases. The first phase was to occur in early May since it required the presence of ice on Carat Lake; the second required open water and was scheduled for late June. Since regulatory approval has not yet been obtained, the schedule has been revised to reflect a single construction stage this summer, following regulatory approval.

Table 1 provides the revised construction schedule. It indicates that the construction period will span 3 weeks. However, depending on the actual date of regulatory approval and the construction activities that are occurring at that time, it is possible that the entire causeway will be constructed in about 2 weeks.

Table 1: Construction Schedule for the Fresh Water Intake Causeway

		January 2005				February 2005				March2005				Summer 2005			
	Task	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4	Wk 1	Wk 2	Wk 3	Wk 4
1	**Procurement and delivery of materials**																
2	**Bathymetric survey, sediment assessment**																
3	**NWB Approval Issued**																
4	**Construction**																
4.1	Build causeway from shore (4,000m^3 approx.)																
4.2	Place intake pipe and well																
4.3	Place balance of fill (1,000m^3 approx.)																
4.4	Inspect and confirm only "clean" waste rock is used																
4.5	Assess suspended sediment load																

Note: Construction is shown to commence immediately after regulatory approval is received.

b. Design Criteria and Parameters

1. Length of the Causeway

Detailed bathymetric data was collected this past spring along the proposed causeway alignment by using an ice auger to drill a series of holes through the ice and then sounding the lake bottom with a weighted probe. The detailed bathymetric information provided from this exercise is summarized on Figure A1, along with the final layout of the causeway. A section through the causeway is provided on Figure A2.

Based on the depth requirements, the length of the proposed causeway, from the south edge of Carat Lake to north limit of the causeway at approximately elevation 472 m, will be 93 m. The causeway length is, therefore, within the 100 m limit specified in the Water Licence.

The bathymetric probing also provided information on the gradation of the lake bottom sediment. In particular, the response of the probe as it hit the lake bottom allowed Tahera staff to infer the nature of the lake bottom sediment. Based on the "firm" contact, the sediments are believed to be granular rather than fine grained. Since the surficial soils present in the area immediately south of the proposed causeway alignment are comprised of sand and gravel, these results indicate that little or no silt/clay has accumulated in the vicinity of the proposed causeway. The absence of fine grained soil will enhance the stability of the rock fill as the causeway is being constructed.

2. Basis for Depth Calculation

Variability of Lake Level

Water level data collected at Carat Lake over the past 4 months spans the interval over which one would expect to encounter both an annual low (April; close to the end of winter) and an annual high (end of June; shortly after the spring freshet). The surveyed measurements provided by Sub-Arctic Surveys Ltd. are as follows:

- April 2005: water level of 469.8 m (based on auger holes through the ice)
- End of June 2005: water level of 470 m
- July12, 2005: water level of 469.8 m

With a measured difference of only about 0.2 m, the lake level was relatively consistent between April and June 2005. While there is limited data to confirm the fluctuations over longer time periods, the fact that Carat Lake is part of an extensive lake system and has a relatively wide inlet and outlet suggests that the lake levels and fluctuations observed this year are probably quite representative.

Ice Thickness

Historical site experience provides regional information on ice thickness in and around Carat Lake. In particular, Tahera has utilized water from Carat Lake as the water source for its exploration camp for approximately eight years and, during this period, the measured ice thickness never exceeded 2.4 m (D. Johnson, pers. comm.). Nuna Contracting Ltd. confirmed that the thickness of ice in the vicinity of the proposed fresh water intake in April 2005 (period of maximum ice thickness) was approximately 1.7 m. The elevation of the ice surface at that time was 470.0 m.

By comparison, the ice thickness at Lynne Lake this past winter was approximately 2.4 m (D. Johnson, pers. comm.). Lynne Lake, which is situated less than 2 km to the southeast of Carat Lake, is much smaller than Carat Lake. The snow, in the area where ice thickness data was obtained, was regularly plowed to promote ice thickening in relation to the development of winter ice road access to the site. It is logical, therefore, that the ice thickness data at Lynne Lake is greater than at Carat Lake for the same period.

While theoretical calculations of ice thickness can be made, they are not warranted in this case based on:

- The existence of regional, historic ice thickness data; and
- The "safety factor" afforded by the design approach in relation to ice thickness (this point is discussed below).

Design Depth

The depth of the intake pipe is illustrated on Figure A2 and is based on the following design criteria:

- In order to provide appropriate freeboard for waves and ice, a 2 m separation between the causeway surface (elev. 471.8 m) and the typical lake level (elev. 469.8 m);
- In order to prevent freezing of the pipe, a separation of 4 m between the typical lake level and the middle of the intake pipe (approximate elev. 465.8 m) which, given the pipe thickness of about 1 m, means the top and bottom of the pipe will be about 3.5 m and 4.5 m, respectively below the typical lake level; and
- In order to prevent sediment from potentially collecting at the mouth of the intake pipe, a separation of about 0.5 m between the bottom of the pipe (approximate elev. 465.3 m) and the lake bottom (approximate elev. 464.8 m).

The 3.5 m separation between the normal lake level and the top of the intake pipe provides a safety factor to account for unusually thick ice and potential variations in the lake level. However, it should be noted that the intake system would still work satisfactorily even if the top half of the pipe was filled with ice, i.e. to a depth of 4 m. We conclude, therefore, that positioning of the center of the intake pipe 4 m below the typical lake level will be adequate to maintain full functionality of the freshwater intake system throughout winter operations.

3. Potential for Sediment Ingestion and Accumulation in the Pipe

The potential for movement of sediment into the pipe is considered to be low for the following reasons:

- The bottom of the intake pipe is set approximately 0.5 m above the lake bottom.
- Given the depth of the pipe below normal lake levels (approximately 3.5 to 4.5 m below the top and bottom of the pipe, respectively), waves several metres high would normally be required to disturb the sand and gravel sediments in the immediate vicinity of the pipe inlet.
- Waves of this size are likely to occur very infrequently, if at all, and for relatively brief periods.
- The flow velocity in the pipe under peak instantaneous pumping rates will be relatively modest (Hatch indicated a velocity of 74 mm/s at an instantaneous flow of $100m^3/s$).

Regardless of the determination that the risk of problems caused by sediment is low, the quality of the water drawn from Carat Lake will be regularly monitored. Minor quantities of sediment in the process water that reports to the plant are inconsequential. In the event that minor quantities of sediment are sufficient to affect the potable water quality, measures will be taken to address the problem.

4. Both Alternatives Shown on Drawing

The Hatch drawing that showed two alternatives for the design of the intake pipe has been revised and is attached to this letter as Figure A3. It shows only the alternative presented and approved as part of the water licensing process.

5. Ice Damage Caused by Wind Driven Rafts and Need for Berms

Based on the following factors, the 2 m design freeboard is considered adequate for the freshwater intake causeway:

- There is no recollection by Tahera exploration personnel on site prior to 2005 that ice rafting was observed (D. Johnson, pers. comm.).
- During this most recent winter, Tahera operations personnel did not observe evidence of ice rafting (D. Johnson, pers. comm.).
- Since the dominant wind directions at the Jericho site are oriented approximately east-west (as shown in Figure A4), the risk of ice rafts occurring that might affect the pumphouse is considered to be low.
- As part of regular inspections, it may be feasible to detect the onset of ice raft formation before it becomes a threat to the pump house.
- Even if the pumphouse was damaged, it is likely that worst-case impacts could be rectified in less than a week.

Despite the conclusion that 2 m of freeboard is adequate, Tahera will monitor the performance of the ice over the coming winter in order to gain additional information about the potential for damaging ice rafts. Pending the results of those observations, protective berms could be added around the pump house.

In relation to safety concerns on the main causeway, large boulders will be placed along the exposed edge, i.e. the sides not occupied by the pipeline or the pumphouse, at intervals of about 2 m. As shown in Figure A3, the roadway width, between the boulders and the pipeline, will be a minimum of 5 m.

6. Angle of Repose and Ice Damage Caused by Wind Driven Rafts and Need for Berms

The run-of-mine (ROM) waste rock is quite angular and blocky, as shown in the photos on Figures A5 and A6. Our experience indicates this material will have an angle of repose of about 1.3H:1V (horizontal to vertical), which is about 38°. Arguably variations in the material could lead to a slope approaching 1.4H:1V (36°). However, we consider it excessively conservative to assume that the angle of repose for the waste rock will be 1.6H:1V (32°).

In any case, there will be a 1.5 m extension of the pipe beyond the 1.3H:1V slope limit. This extension can accommodate a slope of 1.5H:1V (34°) without compromising access to the intake pipe screen.

As regards the INAC reference to Alternative 1, Tahera initially recommended the use of the Alternative 1 design. Tahera was, however, required to modify its plans based on the requirements of Fisheries and Oceans Canada. While we concur that many issues involving ice and construction would disappear with the implementation of the Alternative 1 design, the approved design is the Alternative 2 design (Figure A3).

7. Material Size Relative to Wave Height

The mean diameter of the waste rock, on a weight basis, will likely be about 0.1 m, with most of the coarse fraction being less than 0.5 m in diameter. The Given the short fetch in Carat Lake (typically much less than 1 km, but with a maximum of about 2 km), the favourable orientation of the dominant wind directions (see Figure A4, which is based on wind data collected at the site airstrip between 1997 and 2000, inclusive), and the fact that the strongest winds occur in winter when the lake surface is frozen, engineering judgment indicates the available waste rock will be adequate to withstand the potential waves associated with most storms. However, slopes will be monitored and if erosion becomes a problem, the slopes will be armoured with a layer of coarse waste rock.

d. Construction Sampling Monitoring of Waste Rock

This is no longer an issue because:

- With a single construction phase this summer, there will be no longer be any on-ice construction; and
- Silt fences will be used during the construction.

Responses to Fisheries and Oceans Canada

Causeway Length

The causeway length is within the 100 m limit specified in the Water Licence. Further details are provided in the response to INAC item b.1.

Use of Explosives in Water

The use of explosives in water was never, and is not now, part of the construction plan for this project.

Habitat Enhancement Monitoring

As has been indicated previously by Tahera, the requirement for causeway habitat enhancement monitoring will be included with habitat compensation monitoring, and plans will be provided in that context.

Section 1.6.1 Construction Waste Rock

For purposes of the causeway construction, clean rock is defined as run-of-mine (ROM) granite which is generally absent of significant quantities of overburden or till. Tahera engineering and environmental personnel will inspect the waste rock to be used as the causeway construction material to ensure the absence of till material or that any unsuitable material has been cleaned off.

Consideration was given to the use of conventional sieve analyses for coarse aggregates in order to evaluate the gradation of the waste rock. However, this method was rejected for the following reasons:

- The waste rock is too coarse to use conventional sieve analyses for gradation assessment; and
- The specific issue in this case is whether the waste rock is clean, i.e. free of fines, which can be evaluated quite reasonably using visual inspection.

In addition to its physical condition, waste rock is being regularly tested to evaluate its geochemical characteristics. Subsequent to testing completed during the permitting phase of the project, four representative samples of rock destined for the causeway were recently selected by site environmental and geological staff. These samples were tested using the following parameters: standard acid-base accounting using the Sobec method, paste pH, total sulfur and a 47-element ICP scan. The results of these tests, which are provided in ALS Certificate VA 05047827 (see Attachment A), are comparable to the majority of granitic waste rock samples characterized in the pre-mine characterization studies. They have low sulphur and low neutralizing potentials (NP's) and indicate a negligible potential for ARD.

The copper concentrations for three of the samples are low and in the normal range for this material. Sample 2a had a copper concentration of 508 mg/kg, which is at the upper end of the range observed previously. The waste rock will be inspected for chalcopyrite veining and the potential presence of sulphides. If such materials are observed in small pockets of the waste rock as it is handled, these pockets of rock will be hauled to the waste dump and not used in the causeway construction.

Section 2.1 Use of Explosives in Water

The use of explosives in water was never, and is not now, part of the construction plan for this project.

Section 2.2 Expansion of the Causeway

The causeway expansion mentioned in the April specification was related to the construction of the causeway in two phases. At that time, it was assumed that the pad area where the intake pipe is located would, during the initial phase of construction, be built to the minimum size required to install the intake pipe. This meant that a segment along the west side of the pad area (i.e. where the pump house is located) would remain unfilled at the completion of the first construction phase. During the second phase of construction, the causeway would be completed, including the pad area, to the shape indicated in the April document.

Now that the causeway (including the pad area) will be constructed in a single phase, the issue is no longer relevant.

Section 2.3 Silt Curtains

The issues raised here in relation to construction phases and ice is no longer relevant because:

- With a single construction phase this summer, there will be no longer be any on-ice construction; and
- Tahera is committed to using silt fences during the causeway construction.

In the event that bad weather, such as extremely windy conditions, is leading to noticeable and measurable sedimentation outside the silt fence, construction will be halted until more favourable weather arrives.