

Appendix A

Field Notes

- A1. Mini-Piezometer Field Construction Notes
- A2. Pre-construction Dewatering Monitoring Field Notes

A1. Mini-Piezometer Field Construction Notes

Mini-Piezometer Field Construction Notes

AECOM

Date: Nov 21 2013 Project #: 6020 Pricho Field Personnel: OH, EW, SM
 Weather: 7°C overcast Site: M1 Reviewed by: _____

ID: _____ GPS Datum: _____
 Location: _____ Easting: 431392
 Photo Log #: _____ Northing: 4282510

Sketch:
 Provide dimensions and visual clues → summer growth often changes appearance of locations. (use flagging)

- Notes:**
- If possible, always visually locate on airphoto.
 - Use teflon tape on all threaded joints.
 - Do not drive on threads, use coupler as a drive head.
 - Tighten all joints with pipe wrenches, hand tightening is not enough.
 - All measurements in metres.
 - Power wash inside & out black iron pipe to remove cutting oil (if required).
 - Use longest pipe lengths possible to decrease number of joints.

- Acronyms:**
- TOS - top of screen
 - BOS - bottom of screen
 - TOP - top of pipe
 - TOC - top of coupler
 - TODP - top of drive-point
 - SU - stickup; length of pipe sticking up out of the ground
 - mbtop - metres below the top of pipe

Assembly

Single MP installation (if located in a permanent water body)
OR Shallow Mini-piezometer
 (MP_{shallow}) of a MP nest where there is no standing water year round.

Screen length (m): 0.235

Top of screen (TOS) to top of drive-point (TODP): 0.08

Top of drive-point to top of 1st coupler (TOC¹): 1.845

TOC¹ to TOC²: 0.925

TOC² to top of pipe (TOP): 0.925

Total length of MP from TOS: 2.85

*this is the number used during installation

Deep Mini-piezometer
 (MP_{deep}): use this section for MP nests where there is no standing water year round.

Screen length (m): _____

Top of screen (TOS) to top of drive-point (TODP): _____

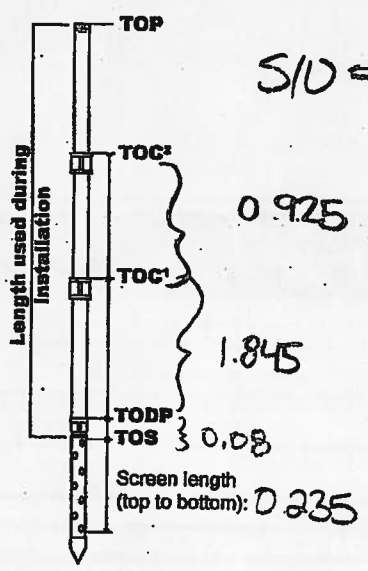
Top of drive-point to top of 1st coupler (TOC¹): _____

TOC¹ to TOC²: _____

TOC² to TOC³: _____

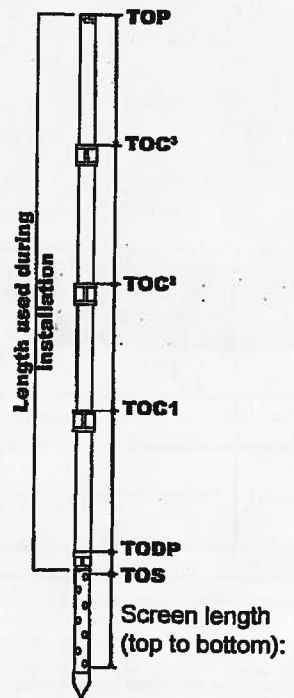
TOC³ to top of pipe (TOP): _____

Total length of MP_{deep} from TOS: _____



$S/U = 1.25$

$$\begin{array}{r} 1.92 \\ 0.925 \\ \hline 2.845 \text{ (TOS)} \\ - 1.25 \\ \hline 1.59 \end{array}$$



ADMIN-02_Crime_Field Invest_1-Mini-Piezo-Form_2011-05-03a

Remember: Measure Everything

Mini-Piezometer Field Construction Notes

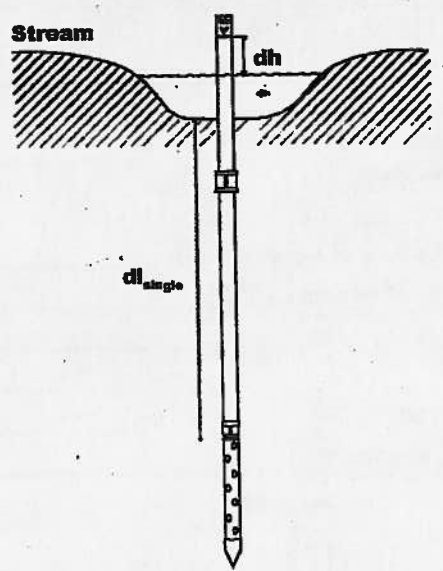
AECOM

Date: _____ Project #: _____ Field Personnel: _____
 Weather: _____ Site: _____ Reviewed by: _____

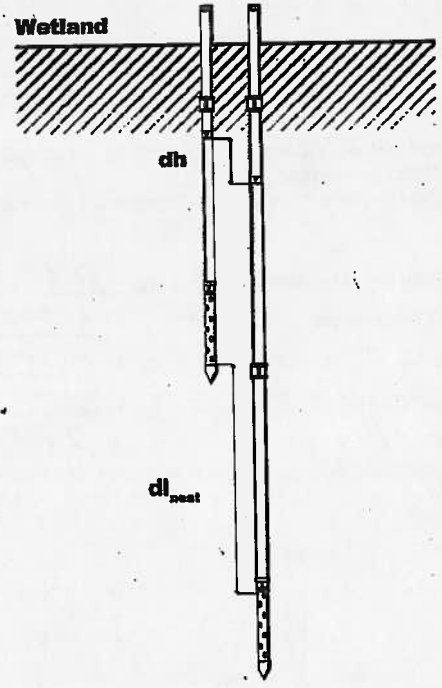
Soil Descriptions
 Pilot hole Augered: Yes No
 Pilot hole Diameter: _____ m
 Soil Description: 0 - 0.75m - dk brown silty fine sand (weathered) 0.75 to 1.5m firm silty fine sand

Single MP Installation
 Vertical distance between stream/lake/wetland bed and top of screen.
 *Total length of MP_{shallow} from TOS 2.85
 Stickup (SU) - 1.25
 dl_{single} = 1.60

MP Nest Installation
 Vertical distance between the screens.
 *Total length of MP_{shallow} from TOS + screen length - stickup - _____
 *Total length of MP_{deep} from TOS - stickup - _____
 dl_{nest} = _____



Note:
 If resistance is encountered due to fill conditions, auger down to confirm that the difficulty is due to fill and see if the augered hole can help guide the MP in. This will work in streams as well as dry land.
 While dl_{single} is usually a minimum of 1.5m, and the dh usually a minimum 1.0m the final dl depends on the needs of the project and is determined by project manager.



ID	Date/Time	Depth to Groundwater (mbtop)	Depth to Surface Water (mbtop)	Weather	Comments*
	Nov 21 @ 15:00	1.98m	0.975m		S _h = 0.475

*note if this is immediately after installation, damages etc...

Some theory:
 Piezometers are a field tool for measuring hydraulic head at the screen of the piezometer. A nest (two or more piezometers with the screens installed at different depths) allows us to calculate the vertical component of the hydraulic gradient by measuring the change in hydraulic head (dh) over a vertical distance (dl).
 The change in gradient can be measured with a single piezometer if it is installed in a permanent water body. In this case, the dh is the change between the water depth (mbtop) of the groundwater inside the pipe and the surface water outside the pipe. The dl is the distance between the stream/lake/wetland bottom and the top of the piezometer screen. Water will flow from high to low hydraulic head. Therefore if the water level is higher in the lowest measurement point, then groundwater is flowing up, and may be providing habitat for fish, etc...

Mini-Piezometer Field Construction Notes

AECOM

Date: Nov. 21 2013 Project #: 6030127 Jericho Field Personnel: EW, BM, OH
 Weather: _____ Site: RI Reviewed by: _____

ID: _____ GPS Datum: _____
 Location: _____ Easting: 0429949
 Photo Log #: _____ Northing: 4782375 ± 5343
 Sketch: Elev. 175.1
 Provide dimensions and visual clues → summer growth often changes appearance of locations. (use flagging)

Notes:

- If possible, always visually locate on airphoto.
- Use teflon tape on all threaded joints.
- Do not drive on threads, use coupler as a drive head.
- Tighten all joints with pipe wrenches, hand tightening is not enough.
- All measurements in metres.
- Power wash inside & out black iron pipe to remove cutting oil (if required).
- Use longest pipe lengths possible to decrease number of joints.

Acronyms:

TOS – top of screen
 BOS – bottom of screen
 TOP – top of pipe
 TOC – top of coupler
 TODP – top of drive-point
 SU – stickup; length of pipe sticking up out of the ground
 mibtop – metres below the top of pipe

Assembly

Single MP installation (if located in a permanent water body)
OR Shallow Mini-piezometer
 (MP_{shallow}) of a MP nest where there is no standing water year round.

Screen length (m): _____

Top of screen (TOS) to top of drive-point (TODP):	<u>0.08</u>
Top of drive-point to top of 1st coupler (TOC ¹):	<u>1.845</u>
TOC ¹ to TOC ² :	<u>0.880</u>
TOC ² to top of pipe (TOP):	<u>0.045</u>
Total length of MP from TOS:	<u>2.85</u>

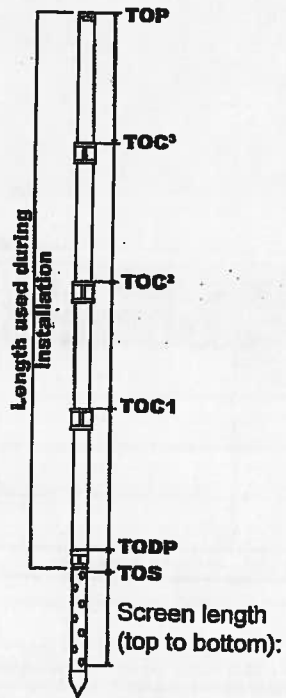
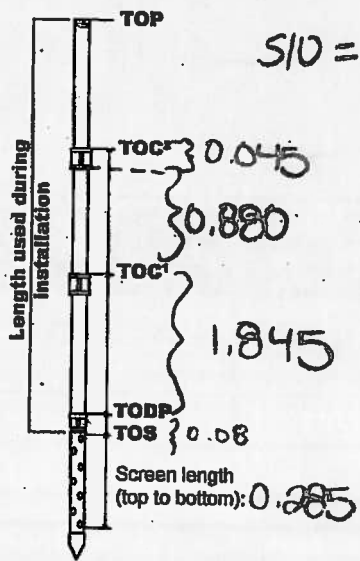
*this is the number used during installation

Deep Mini-piezometer

(MP_{deep}); use this section for MP nests where there is no standing water year round.

Screen length (m): _____

Top of screen (TOS) to top of drive-point (TODP):	_____
Top of drive-point to top of 1st coupler (TOC ¹):	_____ +
TOC ¹ to TOC ² :	_____ +
TOC ² to TOC ³ :	_____ +
TOC ³ to top of pipe (TOP):	_____ +
Total length of MP_{deep} from TOS:	_____



ADMP-02_Crims_Field_Inst_14-Mini-Piez-Front_2011-05-03.a

Remember: Measure Everything

Mini-Piezometer Field Construction Notes

AECOM

Date: _____ Project #: _____ Field Personnel: _____
 Weather: _____ Site: _____ Reviewed by: _____

Soil Descriptions
 Pilot hole Augered: Yes No
 Pilot hole Diameter: _____ m
 Soil Description: Sand + gravel, fine to med grained

Single MP Installation
 Vertical distance between stream/lake/wetland bed and top of screen:
 *Total length of MP_{shallow} from TOS 2.85
 Stickup (SU) - 1.33
 $d_{single} = 1.52$

MP Nest Installation
 Vertical distance between the screens:
 *Total length of MP_{shallow} from TOS + screen length - stickup - _____
 *Total length of MP_{deep} from TOS - stickup - _____
 $d_{nest} =$ _____

Stream

Wetland

Note:
 If resistance is encountered due to fill conditions, auger down to confirm that the difficulty is due to fill and see if the augered hole can help guide the MP in. This will work in streams as well as dry land.
 While d_{nest} is usually a minimum of 1.5m, and the d_{single} usually a minimum 1.0m the final d_i depends on the needs of the project and is determined by project manager.

ID	Date/Time	Depth to Groundwater (mbtop)	Depth to Surface Water (mbtop)	Weather	Comments*
	NOV-21-2014 @ 13:35	2.445	1.11		SG=0.48

*note if this is immediately after installation, damages etc...

Some theory:
 Piezometers are a field tool for measuring hydraulic head at the screen of the piezometer. A nest (two or more piezometers with the screens installed at different depths) allows us to calculate the vertical component of the hydraulic gradient by measuring the change in hydraulic head (dh) over a vertical distance (d_i).
 The change in gradient can be measured with a single piezometer if it is installed in a permanent water body. In this case, the dh is the change between the water depth (mbtop) of the groundwater inside the pipe and the surface water outside the pipe. The d_i is the distance between the stream/lake/wetland bottom and the top of the piezometer screen. Water will flow from high to low hydraulic head. Therefore if the water level is higher in the lowest measurement point, then groundwater is flowing up, and may be providing habitat for fish, etc...

A2. Pre-construction Dewatering Monitoring Field Notes

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>M1</u>	Observers: <u>EM, OH, EW</u>
Feature ID: <u>TWH-06</u>	Turbine ID: <u>8</u>
Natural Area: <u>498</u>	Water Body ID: <u>P3.44</u>

Date: <u>Nov 21, 2013</u>	
Start Time: <u>11:57</u>	End Time: <u>15:00</u>
Weather Conditions	
Temperature (C°): <u>7</u>	Wind (Dir.): _____ Wind (B.S.): <u>2-3</u>
Cloud Cover (%): <u>100</u>	Precipitation: <u>none</u>

Description of Local Habitat Conditions and Adjacent Land Use:
Adjacent to agricultural field (beans); pond surrounded by deciduous forest

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): <u>1.98</u>	Staff Gauge Levels: <u>0.475m</u>	Soil Moisture: <u>saturated</u>
Water Level Out (m): <u>0.975</u>		

Description of Surrounding Vegetation Health: Surrounding vegetation: ACENEGU, SHACART, POPDE
THICKET CREEPER, ULMAYER, FAG-GR, Autumn OME,
• buckweed at east side of pond near NE
• some Garlic Mustard in the around area, Milkweed, Golden Rod sp.
Vegetation going through seasonal change - No leaves on

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
• culvert feeding into pond from water course east of pond

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>R1</u>	Observers: <u>OH, EW, BM</u>
Feature ID: <u>TWH-05</u>	Turbine ID: <u>access road leading to Turbine 7</u>
Natural Area: <u>276</u>	Water Body ID: <u>P3.29</u>

Date: Nov 21, 2013
 Start Time: 10:40 End Time: 13:35

Weather Conditions
 Temperature (C°): 7° C Wind (Dir.): S Wind (B.S.): 2
 Cloud Cover (%): 100 Precipitation: none

Description of Local Habitat Conditions and Adjacent Land Use:
agriculture fields surround pond west and south, aggregate storage area east and north of pond. Riparian vegetation is 15 m.

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): <u>5.445</u>	Staff Gauge Levels: <u>0.48 m</u>	Soil Moisture: <u>Saturated</u>
Water Level Out (m): <u>7.11</u>		

Description of Surrounding Vegetation Health: riparian vegetation dominated by CORBARI, PHIBUST at edge of pond, small goldenrod species, few white spruce saplings held in field, J. DAPHN CAROTA; Great-toothed Aspen near MP; ground cover: grasses; strawberries
 → Vegetation is undergoing seasonal change
 → Hedgerow of WHITE PINE and Norway Spruce north of pond

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

- Additional Information
- Muskat den on other bank of pond across MP location
 - Culvert present at East end of pond, that feeds into the pond
 - Great Blue Heron in watercourse east of pond.

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: M1 Feature ID: TWH-06 Natural Area: 498	Observers: BM JE Turbine ID: 8 Water Body ID: P3.44
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Date: 21/1/13		Start Time: 12:45		End Time: 1:20	
Weather Conditions					
Temperature (C°): -2		Wind (Dir.): E		Wind (B.S.): 3	
Cloud Cover (%): 100		Precipitation: light snow		Mod wind	

Description of Local Habitat Conditions and Adjacent Land Use:
 agri. fields adjacent
 pond near creek to deciduous forest

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): 1.09 to water	Staff Gauge Levels: 52 cm 0.52 m	Soil Moisture: frozen
Water Level Out (m): 0.98 to ice		

Description of Surrounding Vegetation Health: dormant, no leaves, all in winter condition.

Presence of Turtle Species Observed (Yes/No): N (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information

- snow 15cm deep over pond
- Deer tracks around pond on s. side.

210
1
2
3
4
5
6
11

Photo Log

Photo ID	General Description	Photo ID	General Description
6	recreate original photo log		
7			
8			
9			
10			

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>R1</u>	Observers: <u>BW JE</u>
Feature ID: <u>TWH-05</u>	Turbine ID: <u>access road leading to Turbine 7</u>
Natural Area: <u>276</u>	Water Body ID: <u>P3.29</u>

Date: 12/15/03
 Start Time: 12:15 End Time: 12:25
Weather Conditions
 Temperature (C°): -2 Wind (Dir.): N/A Wind (B.S.): 1
 Cloud Cover (%): 100 Precipitation: Light Snow

Description of Local Habitat Conditions and Adjacent Land Use:
 • agri. fields surround pond west/south
 • aggregate storage east/north

Mini-plezometer	Staff Gauge	Soil
Water Level In (m): <u>1.15 (frozen)</u> Water Level Out (m): <u>1.105 to ice</u>	Staff Gauge Levels: <u>0.465 to ice</u>	Soil Moisture: <u>Frozen</u>

Description of Surrounding Vegetation Health: poor (in winter condition)
 • Emergents appear in good health.

Presence of Turtle Species Observed (Yes/No): NO (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
21cm deep of snow
Pond frozen - thick ice no flows.
substrate seen snow covered

Photo Log

Photo ID	General Description	Photo ID	General Description
<u>1</u>	<u>per photo log</u>		
<u>2</u>			
<u>3</u>			
<u>4</u>			
<u>5</u>			

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>M1</u>	Observers: <u>Erin Wilson, Amy Arsenault</u>
Feature ID: <u>TWH-06</u>	Turbine ID: <u>8</u>
Natural Area: <u>498</u>	Water Body ID: <u>P3.44</u>

Date: <u>Jan 24 2014</u>	
Start Time: _____	End Time: _____
Weather Conditions	
Temperature (C°): _____	Wind (Dir.): _____ Wind (B.S.): _____
Cloud Cover (%): _____	Precipitation: _____

Description of Local Habitat Conditions and Adjacent Land Use:

Pond covered in snow and ice

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): <u>Frozen @ 0.449</u>	Staff Gauge Levels: <u>16 to 0.78m</u>	Soil Moisture: <u>Frozen</u>
Water Level Out (m): <u>0.709</u>		

Description of Surrounding Vegetation Health: vegetation dormant

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)
<i>(Table is crossed out with a diagonal line)</i>			

Additional Information

Pond snow covered
signs of animal tracks
instant to the back of pond also frozen

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>R1</u>	Observers:
Feature ID: <u>TWH-05</u>	Turbine ID: <u>access road leading to Turbine 7</u>
Natural Area: <u>276</u>	Water Body ID: <u>P3.29</u>

Date: Jan 29, 2014
 Start Time: _____ End Time: _____
 Weather Conditions
 Temperature (C°): _____ Wind (Dir.): _____ Wind (B.S.): _____
 Cloud Cover (%): _____ Precipitation: _____

Description of Local Habitat Conditions and Adjacent Land Use:
Pond frozen with thick ice cover

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): <u>Frozen @ 1.04 m</u>	Staff Gauge Levels: <u>1 @ 0.35</u>	Soil Moisture: <u>Frozen</u>
Water Level Out (m): <u>1 @ 1.020</u>		

Description of Surrounding Vegetation Health: Trees and shrubs dormant

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)
/			

Additional Information
~~Trees and shrubs dormant~~
No signs of animal activity

Photo Log

Photo ID	General Description	Photo ID	General Description
①	from shore look at MP		
②	from SG looking E		
③	from SG looking W		

pond (long walk)

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>M1</u>	Observers: <u>JE/RM</u>
Feature ID: <u>TWH-06</u>	Turbine ID: <u>8</u>
Natural Area: <u>498</u>	Water Body ID: <u>P3.44</u>

Date: Feb 25 2014
 Start Time: 10:45 End Time: 11:40

Weather Conditions
 Temperature (C°): -1 Wind (Dir.): NE Wind (B.S.): 3
 Cloud Cover (%): 10% Percipitation: NONE

Description of Local Habitat Conditions and Adjacent Land Use:
Agri field adjacent
pond near creek to board.

Mini-piezometer Water Level In (m): <u>F/40cm</u> Water Level Out (m): <u>F 0.65</u>	Staff Guage Staff Guage Levels: <u>0.97</u>	Soil Soil Moisture: _____
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Description of Surrounding Vegetation Health: Dormant

Presence of Turtle Species Observed (Yes/No): N (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
Culvert feeding into pond is not visible due to snow

Photo Log

Photo ID	General Description	Photo ID	General Description
<u>in order</u>			
<u>↓</u>			

pond short water

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>R1</u>	Observers: <u>JE/BM</u>
Feature ID: <u>TWH-05</u>	Turbine ID: <u>access road leading to Turbine 7</u>
Natural Area: <u>276</u>	Water Body ID: <u>P3.29</u>

Date: Feb 25 2014
 Start Time: 10:00 End Time: 10:15
 Weather Conditions
 Temperature (C°): -11 Wind (Dir.): NE Wind (B.S.): 3
 Cloud Cover (%): 10% Precipitation: none

Description of Local Habitat Conditions and Adjacent Land Use:
agri fields surround pond
egg shell - E/N
W/S

Mini-plezometer Water Level In (m): <u>0.985</u> Water Level Out (m): <u>1.06</u> <u>105</u>	Staff Gauge Staff Gauge Levels: <u>0.45</u> <u>snow</u>	Soil Soil Moisture: _____
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Description of Surrounding Vegetation Health: Dormant.

Presence of Turtle Species Observed (Yes/No): NO (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
12am snow
Muskrat den is snow covered

Photo Log

Photo ID	General Description	Photo ID	General Description
<u>in order</u>			
<u>↓</u>			

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: <u>M1</u> Feature ID: <u>TWH-06</u> Natural Area: <u>498</u>	Observers: <u>OH JE</u> Turbine ID: <u>8</u> Water Body ID: <u>P3.44</u>
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Date: <u>March 25, 2014</u>	
Start Time:	End Time:
Weather Conditions	
Temperature (C°): <u>-3</u>	Wind (Dir.): _____ Wind (B.S.): <u>2</u>
Cloud Cover (%): <u>80</u>	Precipitation: <u>none</u>

Description of Local Habitat Conditions and Adjacent Land Use:
Agri fields adjacent, pond near creek to decid forest

ast month
0.40
0.65

Mini-piezometer <u>1 m to top of NPP pipe</u>	Staff Gauge	Soil
Water Level In (m): <u>0.08</u> <u>Frozen</u>	Staff Gauge Levels: <u>Buried over water with ice</u>	Soil Moisture: <u>frozen</u>
Water Level Out (m): <u>0.42</u> <u>ice</u>		

Description of Surrounding Vegetation Health: Winter condition

Presence of Turtle Species Observed (Yes/No): N (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
• snow in patches, significant melt since Feb visit

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: R1	Observers: Olga and Julie
Feature ID: TWH-05	Turbine ID: access road leading to Turbine 7
Natural Area: 276	Water Body ID: P3.29

Date: 10/28/04
 Start Time: 13:10 End Time: 13:25

Weather Conditions
 Temperature (C°): -4 Wind (Dir.): E Wind (B.S.): 1
 Cloud Cover (%): 100 Precipitation: none

Description of Local Habitat Conditions and Adjacent Land Use:
 - Agri fields surround WFS.
 - aggregate storage E/W

Mini-piezometer	Staff Gauge	Soil
Water Level In (m): 1.12 Water Level Out (m): 1.01	Staff Gauge Levels: 215 cm	Soil Moisture: frozen

Description of Surrounding Vegetation Health:
 Dominant vegetation

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: M1 Feature ID: TWH-06 Natural Area: 498	Observers: <u>Bm, TS</u> Turbine ID: 8 Water Body ID: P3.44
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Date: <u>Apr 28/2014</u>	
Start Time: <u>6:10 pm</u>	End Time: <u>6:20 pm</u>
Weather Conditions	
Temperature (C°): <u>10°C</u>	Wind (Dir.): _____
Cloud Cover (%): <u>100%</u>	Precipitation: <u>Rain</u>
Wind (B.S.): <u>4</u>	

Description of Local Habitat Conditions and Adjacent Land Use:
Agricultural / Ponds.

Mini-piezometer Water Level In (m): <u>0.53</u> Water Level Out (m): <u>0.620</u>	Staff Gauge Staff Gauge Levels: <u>0.94</u>	Soil Soil Moisture: <u>Dry.</u>
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Description of Surrounding Vegetation Health: Vegetation in Good Health. Immediate surrounding deciduous forest with species such as, Manitoba maple, cottonwood, blackberry, etc.

Presence of Turtle Species Observed (Yes/No): No (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information

Photo Log

Photo ID	General Description	Photo ID	General Description

Jericho Dewatering Monitoring Field Sheet

AECOM

Monitoring Location: R1	Observers: <u>TS, BM</u>
Feature ID: TWH-05	Turbine ID: <u>access road leading to Turbine 7</u>
Natural Area: 276	Water Body ID: <u>P3.29</u>

Date: Apr 28/2014
 Start Time: 5:51 PM End Time: 6:00 PM

Weather Conditions
 Temperature (C°): 10°C Wind (Dir.): _____ Wind (B.S.): 4
 Cloud Cover (%): 100% Precipitation: None

Description of Local Habitat Conditions and Adjacent Land Use:
Cultural meadow / aggregate pit. / Agriculture

Mini-plezometer	Staff Guage	Soil
Water Level In (m): <u>1.10</u>	Staff Gauge Levels: <u>0.44</u>	Soil Moisture: _____
Water Level Out (m): <u>1.12</u>		

Description of Surrounding Vegetation Health: cultural meadow with some shrubs including species such as red osier dogwood, common reed, grasses, etc. immature sugar maple, etc.

Presence of Turtle Species Observed (Yes/No): NO (If Yes, fill out table below)

Species	UTM Coordinates	# of Inds.	General Description of Behaviour and Visible Traits (length, width, etc.)

Additional Information
- machinery operating adjacent to pond.
remnants of beaver activity,
beaver lodge present

Photo Log

Photo ID	General Description	Photo ID	General Description

Appendix B

Photographic Logs

- B1. Photographic Log of Pre-construction Dewatering Monitoring on November 21, 2013**
- B2. Photographic Log of Pre-construction Dewatering Monitoring on December 18, 2013**
- B3. Photographic Log of Pre-construction Dewatering Monitoring on January 24, 2014**
- B4. Photographic Log of Pre-construction Dewatering Monitoring on February 25, 2014**
- B5. Photographic Log of Pre-construction Dewatering Monitoring on March 25, 2014**
- B6. Photographic Log of Pre-construction Dewatering Monitoring on April 28, 2014**

**B1. Photographic Log of Pre-
construction Dewatering
Monitoring on
November 21, 2013**

Appendix B1. Photographic Log of Pre-construction Dewatering Monitoring on November 21, 2013

Monitoring Location M1



Photograph 1. ↑
Pond and surrounding vegetation, facing west.



Photograph 2. ↑
East end of pond with dense cover with lesser duckweed (*Lemna minor*).



Photograph 3. ↑
Manitoba Maple (*Acer negundo*) trees surrounding pond.



Photograph 4. ↑
Location of culvert on east side of pond.

Appendix B1. Photographic Log of Pre-construction Dewatering Monitoring on November 21, 2013

Photograph 5. ↑
Location of culvert draining out into watercourse
east of and behind the pond.



Photograph 6. ↑
Mini-piezometer and staff gauge installed
at east end of pond, facing west.

Appendix B1. Photographic Log of Pre-construction Dewatering Monitoring on November 21, 2013

Monitoring Location R1



Photograph 7. ↑
Cultural meadows surrounding banks of pond,
facing east from monitoring location.



Photograph 8. ↑
Surrounding cultural meadows and Phragmites on
banks of pond, facing west from monitoring location.



Photograph 9. ↑
Red-osier thicket and cultural meadow
on north bank of pond.



Photograph 10. ↑
Possible muskrat den located on south
bank, across from monitoring location.

Appendix B1. Photographic Log of Pre-construction Dewatering Monitoring on November 21, 2013

Photograph 11. ↑
Mini-piezometer and staff gauge location.