

Water Bodies Assessment Field Collection Form

R4.60
Page 1 of 4

AECOM																			
General Information																			
Study Area: <u>Jericho</u> Goshen Bluewater Land Parcel# <u>JER382</u> Site ID: <u>R4.60 new</u>																			
Date: <u>May 29/12</u> Start time: <u>8:00</u> End Time: <u>11:00</u>																			
Weather Conditions: <u>Deatly cover 25°C</u>	Field Crew: <u>CHarding S DAVAICHE</u>																		
	Field Notes By: <u>S DAVAICHE</u>																		
Site Location																			
<u>South Thompson</u> <u>east Jericho</u>																			
UTM Co-ordinates (continue on page 3 if necessary)																			
Easting: <u>426333</u> Northing: <u>4777041</u> Description: <u>003</u>																			
Easting: _____ Northing: _____ Description: _____																			
Easting: _____ Northing: _____ Description: _____																			
Easting: _____ Northing: _____ Description: _____																			
<table border="0"> <tr> <th colspan="2">Surrounding Landuse</th> </tr> <tr> <td>Residential <input type="checkbox"/></td> <td>Meadow <input type="checkbox"/></td> </tr> <tr> <td>Agriculture <input type="checkbox"/></td> <td>Wetland <input type="checkbox"/></td> </tr> <tr> <td>Forest <input checked="" type="checkbox"/></td> <td>Livestock <input type="checkbox"/></td> </tr> <tr> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>	Surrounding Landuse		Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Agriculture <input type="checkbox"/>	Wetland <input type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Other <input type="checkbox"/>		<table border="0"> <tr> <th colspan="2">Type of Watercourse</th> </tr> <tr> <td>Intermittent <input checked="" type="checkbox"/></td> <td>Channelized <input checked="" type="checkbox"/></td> </tr> <tr> <td>Permanent <input type="checkbox"/></td> <td>Natural Channel <input type="checkbox"/></td> </tr> <tr> <td>Ephemeral <input type="checkbox"/></td> <td></td> </tr> </table>	Type of Watercourse		Intermittent <input checked="" type="checkbox"/>	Channelized <input checked="" type="checkbox"/>	Permanent <input type="checkbox"/>	Natural Channel <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Surrounding Landuse																			
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>																		
Agriculture <input type="checkbox"/>	Wetland <input type="checkbox"/>																		
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>																		
Other <input type="checkbox"/>																			
Type of Watercourse																			
Intermittent <input checked="" type="checkbox"/>	Channelized <input checked="" type="checkbox"/>																		
Permanent <input type="checkbox"/>	Natural Channel <input type="checkbox"/>																		
Ephemeral <input type="checkbox"/>																			
Description: <u>-</u>	Description: <u>Straight in forest</u>																		
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)																			
<u>None</u>																			
Is any portion of the water body underground or not as mapped? <u>Y</u> N																			
If Yes describe: <u>From GPS 003 to the Road (Jericho)</u>																			
GPS Coordinate: Easting - _____ Northing - _____ Description - _____																			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)																			
<u>rolling hills</u>																			
In-Situ Water Quality																			
WT (°C): _____ AT (°C): _____																			
pH: _____ Cond (s/cm): _____																			
D.O. (mg/L) _____																			
Water Clarity: Clear <input type="checkbox"/> Turbid <input type="checkbox"/>																			
Water Colour: _____																			
Notes: <u>No water - Dry</u>																			
Ground Water and Seepage Indicators																			
Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/>																			
Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/>																			
Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>																			
Other <input type="checkbox"/>																			
Details: _____																			

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): <u>300m</u>			Bank Stability:			
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): <u>—</u>	Mean Wetted Depth (m): <u>—</u>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mean Bankfull Width (m): <u>1.10</u>	Mean Bankfull Depth (m): <u>0.30</u>					Right Bank <input checked="" type="checkbox"/>
Mean Top of Bank Width (m): <u>1.40</u>	Mean Top of Bank Depth (m): <u>0.45</u>	Description: <u>forest plants</u>				
Flow Description: (high or low flow conditions, stagnant, etc) <u>No flow at the assessment</u>						
Habitat						
Substrate (<=>)		Description		Morphological Structure (%)		
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay	
MK - Muck	DT - Detritus	<u>S, > MK</u>		Pool	Riffle	
				Run	Flat	
				Notes:		
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	
	<u>15</u>					
					Undercut Banks	
					Average Depth:	
					(% Cover) <u> </u>	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)						
Canopy Cover (% closed cover):						
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Types of Cover (% cover)		
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Trees <u>70</u>	Shrubs <u> </u>	
60-30%	<input type="checkbox"/>			Grasses <u> </u>	Herbaceous <u> </u>	
				Man-made structures <u> </u>	Other <u> </u>	
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures) <u>ASH</u>						
Riparian Vegetation						
Width and Description of riparian vegetation:		LB - <u>220</u>	RB - <u>70</u>			
		<u>Forest plants</u>		<u>forest plants</u>		
Overhanging Vegetation Present <u>Y/N/P</u>		% Overhanging Vegetation: <u> </u>				
Description of Overhanging Vegetation: <u> </u>						
Obstructions to Fish Passage						
None Observed	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	
				Low Flow Barrier	<input checked="" type="checkbox"/>	
Description of Barrier: <u>Dry at the moment of assessment.</u>						
Height of Barrier (m): <u> </u>		GPS Coordinates: <u> </u>				

Water Bodies Assessment Field Collection Form

24.60

AECOM

Date: May 29/12

Land Parcel/Site ID: JER 3382 / R4/16 new

Page 3 of 4

Other General Comments Regarding the Study Area:

→ Straight channel channelized in forest area
 → intermittent stream and dry in may 29/12

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1020	Face 015		
1021	Face D15		
1022	Face west		
1023	" east		
1024	" east		

Water Bodies Assessment Field Collection Form

R4.60

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:



Goshen

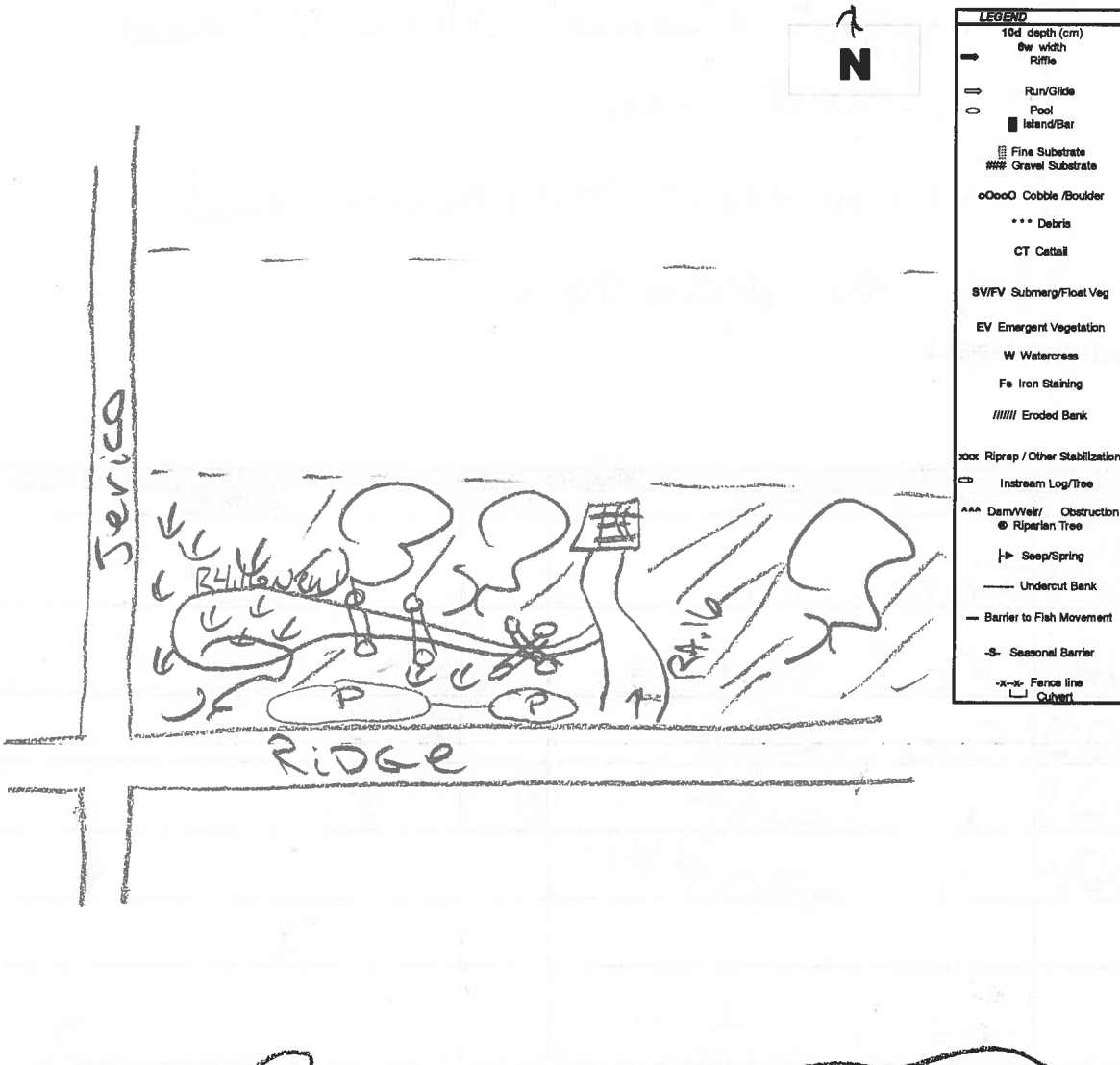
Bluewater

Land Parcel#

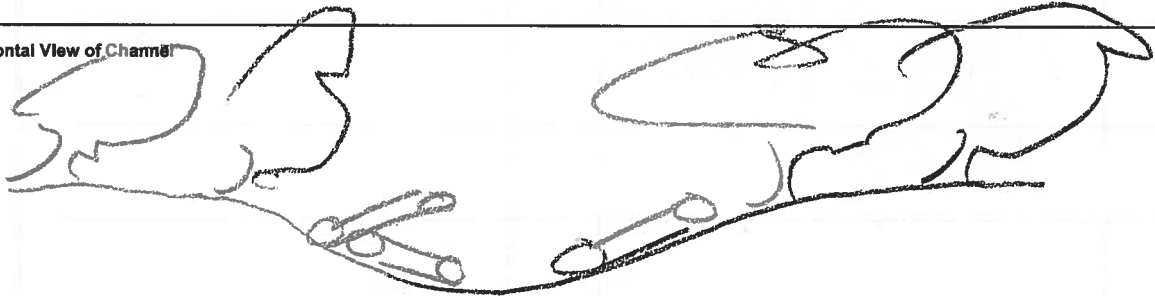
JER3382

Site ID

R4.60NEW



Horizontal View of Channel



Initial QA/QC By:

Jgm

Date:

Oct 2/12

Technical QA/QC By:

Mutko

Date:

Oct 2/12

Property ID: ~~R41617 ST~~ Date: MAY 29 11Z
 426264 4777075

Property Access: JR 3382 Start Time: 8:00
R 4.16 New End Time: 11h10

Field Investigators: CHARDINE S DANICHE Weather: part cloud

Terrestrial Feature Present: No Yes

Provide brief description (i.e. hedgerow, treerow, woodlot, valleylands, deciduous vs coniferous, crop)

deciduous - forest

Photos: 1020 U/S 1021 D/S

GPS: 003 (426333 - 477704) ←

Photograph Numbers: 1022 → Facing west } R4New END
1023 → " east } (GPS)
1024 → ~~||~~ VEGETATION }
at the point

Aquatic Feature Present: No Yes

Provide brief description (i.e. drainage ditch, watercourse, intermittent, permanent)

same characteristics as R4.16 on JER3382

ADD → Water HORSETAIL

Between → R4NewST (TO) R4New end
(426464-4777075) (426149-477696) ←

Photograph Numbers: IMG P1020 - IMG P1024

* see the sketch on R4.16 and map

Water Bodies Assessment Field Collection Form

24.16A

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 119 Site ID: R4.16
 Date: May 29/12 Start time: 8:00 End Time: 11:10
 Weather Conditions: Partially covered 25°C Field Crew: S. Harding SDAWAICHE
 Field Notes By: SDAWAICHE

Site Location

South of Thompson and east of Jerico.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 438107 Northing: 4775113 Description: R4.16 ST
 Easting: 426724 Northing: 4777703 Description: R4.16 END
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other _____

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

Crop: corn

Description:

Very low flow

Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)

R4.16 ST -> Ditch and culvert

Is any portion of the water body underground or not as mapped? Y/N
 If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

Flat and ~~sloped~~ to Water Body
sloped

In-Situ Water Quality

WT (°C): 18.8 AT (°C): 24.9
 pH: 7.55 Cond (s/cm): 740
 D.O. (mg/L): 2.57
 Water Clarity: Clear Turbid

Water Colour: clear

Notes:

in the field (middle)

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology				
Site Length (m): 375m		Bank Stability:		
Channel Dimensions		Stable	Slightly unstable	
Mean Wetted Width (m): 1.20	Mean Wetted Depth (m): 0.10	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	
Mean Bankfull Width (m): 2.00	Mean Bankfull Depth (m): 0.50	Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>	
Mean Top of Bank Width (m): 6.00	Mean Top of Bank Depth (m): 2.25	Description: Grassed		
Flow Description: (high or low flow conditions, stagnant, etc)				
low flow stocked by the plants vegetation				
Habitat				
Substrate (<=>)		Morphological Structure (%)		
Bo - Boulder	Description Si	Pool	Riffle	
Co - Cobble		Run	Flat	
Gr - Gravel			50	50
Sa - Sand		Notes: -		
Si - Silt				
Cl - Clay				
MK - Muck				
DT - Detritus				
Instream Cover (%)				
Other	Woody Debris	Boulders	Cobble	
	10		90	
			Aquatic Vegetation* 90	
			None	
			Undercut Banks	
			Average Depth: None	
			(% Cover)	
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)				
Sirpus sp., Phragmites, CAT TAIL, wild calla, northern Blue Flag				
Canopy Cover (% closed cover):		Types of Cover (% cover)		
100-90% <input checked="" type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees	Shrubs 10	
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>	Grasses 10	Herbaceous 80	
60-30% <input type="checkbox"/>		Man-made structures		
		Other		
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%				
Notes: (vegetation species, types of structures)				
Memopantus, Populus.				
Width and Description of riparian vegetation:		Riparian Vegetation		
LB - 2m	wild roses, grasses, wild raspberry	RB - 4m	wild roses, grasses, Populus deltoides, wild raspberry	
Overhanging Vegetation Present <input checked="" type="checkbox"/> Y/N		% Overhanging Vegetation: 10		
Description of Overhanging Vegetation: Mountain Holly, SALIX sp.				
Obstructions to Fish Passage				
None Observed <input type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input checked="" type="checkbox"/>	
Description of Barrier: Vegetation				
Height of Barrier (m)		GPS Coordinates:		

Water Bodies Assessment Field Collection Form

AECOM

Date:

MAY 29/12

Land Parcel/Site ID:

JER1119/
R4.16A

Page 3 of 4

Other General Comments Regarding the Study Area:

- > low flow (vegetation and flat)
- > mostly dry section
- > in field straight stream
- > follow a farming access

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1008	culvert and Ditch FACING east (input)		
1009	FACING south MAIN Reach From Thompson line		
1010	FACING south Stream		
1011	Stream Facing north		
1012	END Stream Facing north		
1013	END Stream Facing south		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

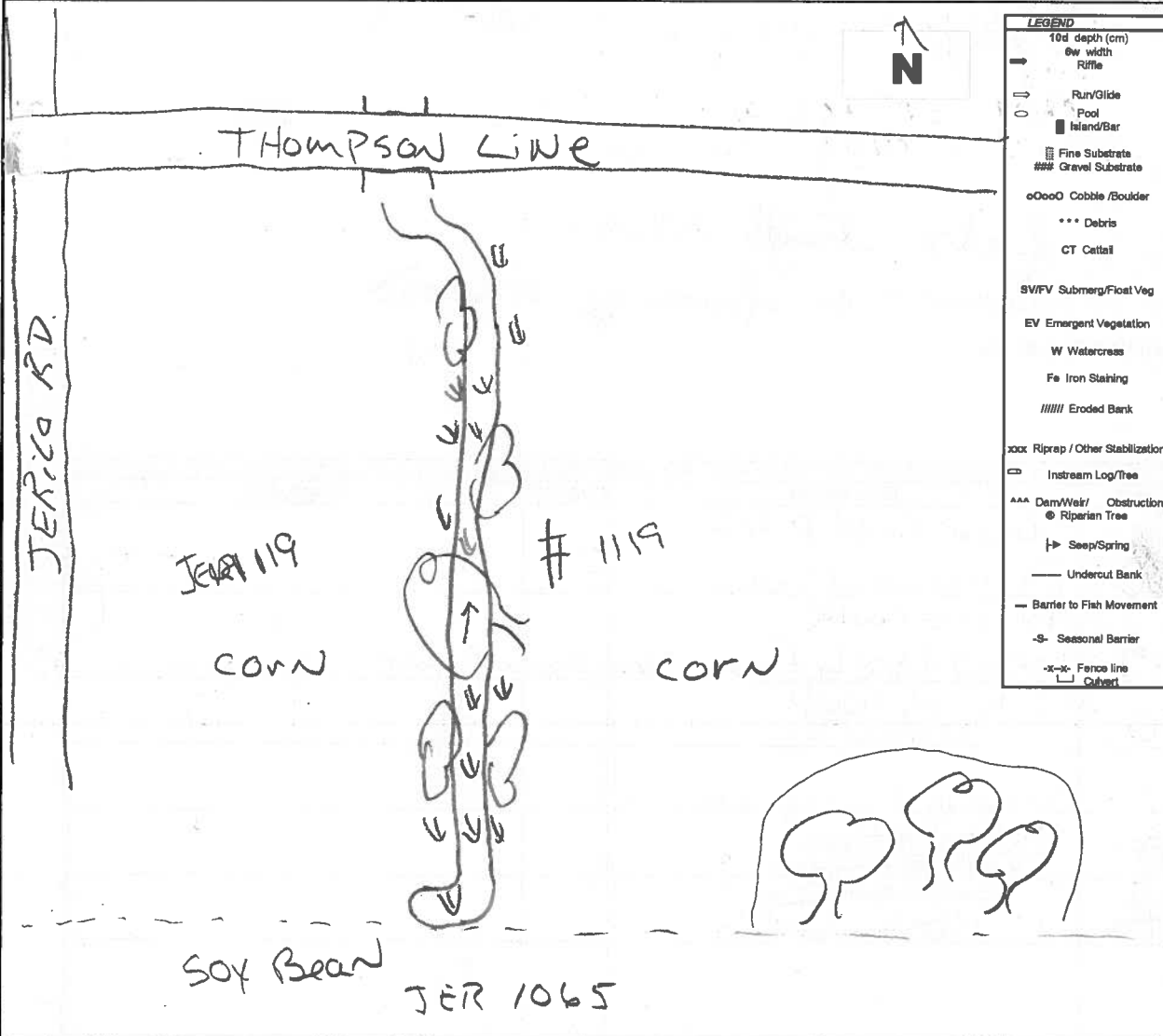
Bluewater

Land Parcel#

JER1119

Site ID

R4.16A.



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 4 2012

Technical QA/QC By: [Signature]

Date: Oct 2/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

Page 1 of 2

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JEL 1065 Site ID: R4.16A (Field Section)
 Date: May 29/12 Start time: 8:00 hr. End Time: 11:10

Weather Conditions: part cloud Field Crew: S. Dandiche
29°C Field Notes By: C. Hardline
S. Dandiche

Site Location

South of Thompson
East of Jericho

UTM Co-ordinates

none - see map.

Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Ground Water and Seepage indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling

Description: soy bean now
crop.

Details: none observed.

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? Y / (N)
- 2) Temporary channel for surface drainage, that can be tilled or driven through? (Y) / N
- 3) Rock chutes or spillways? Y / (N)
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? Y / (N)
- 5) Temporarily ponded areas that are normally farmed? Y / (N)
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / (N)
- 8) Any other:

Description: (i.e. length of change, if it reappears, if there is evidence of water)

→ ploughed under.
should be tilled.

→ no surface features observed

Photo log

Picture #	Description	Picture #	Description
<u>1012</u>	<u>Facing north (JEL 1119)</u>		
<u>1013</u>	<u>Facing south (JEL 1065)</u>		

Assessment of Non-Water Body
(update to mapping required)

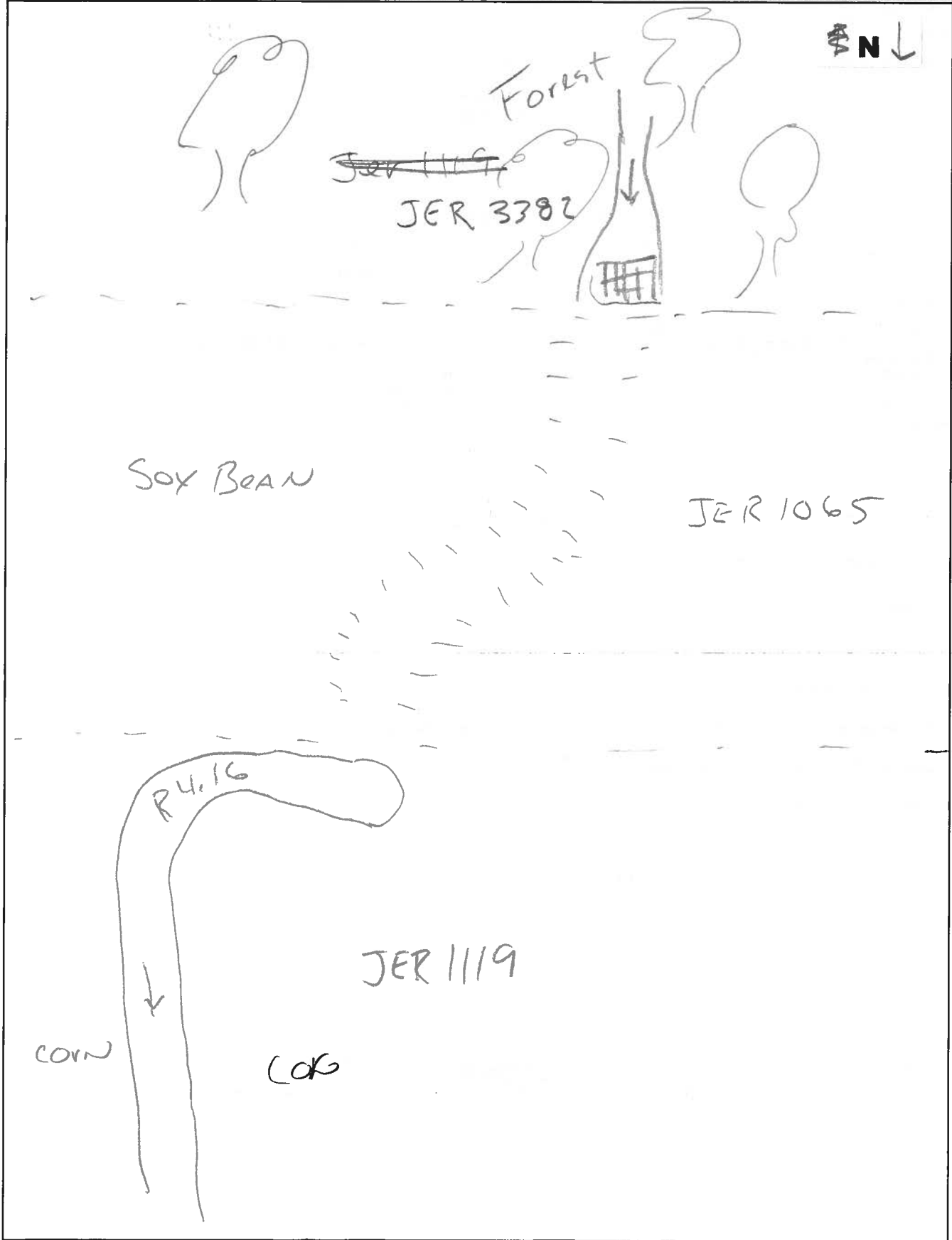
AECOM

Date: MAY 29

Land Parcel/Site ID: JER 1065 / R 4.16 A

Page 2 of 2

Site Sketch



Initial QA/QC: L Bentley June 4, 2012
Further Oct 9/12

Water Bodies Assessment Field Collection Form

AECOM

General Information *JER*

Study Area: Jericho Goshen Bluewater Land Parcel# 3342/3341 Site ID: R4H

Date: May 20/12 Start time: 13:00 End Time: 14:30 HR

Weather Conditions: SUNNY DAY - HOT 32°C Field Crew: C. HARDING S DARAICHE
Field Notes By: S DARAICHE

Site Location

South of Ravenswood Rd. and east of Army Camp Rd

ASA
3341

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 474806 Northing: 4780054 Description: R4ST
Easting: 474820 Northing: 4780230 Description: R4END
Easting: _____ Northing: _____ Description: _____
Easting: _____ Northing: _____ Description: _____

Surrounding Landuse

Residential Meadow
Agriculture Wetland
Forest Livestock
Other _____

Type of Watercourse

Intermittent Channelized
Permanent Natural Channel
Ephemeral _____

Description: MAPLE - ASH

Description: _____

Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)

NONE observed

Is any portion of the water body underground or not as mapped? Y/N
If Yes describe: _____

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

- Slopped to the water body
- Forest Land

In-Situ Water Quality

WT (°C): 20.6 AT (°C): 31.8
pH: 8.00 Cond (µs/cm): 469
D.O. (mg/L) 5.71
Water Clarity: Clear Turbid

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling _____
Other

Water Colour: grey light

Details: _____

none observed

Notes: Forest Area

Water Bodies Assessment Field Collection Form

Stream Morphology											
Site Length (m): 200m			Bank Stability:								
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable					
Mean Wetted Width (m): 2.60	Mean Wetted Depth (m): 0.76	Left Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>									
Mean Bankfull Width (m): 4.0	Mean Bankfull Depth (m): 1.20	Right Bank <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>									
Mean Top of Bank Width (m): 8.0	Mean Top of Bank Depth (m): 2.0	Description: vegetated									
Flow Description: (high or low flow conditions, stagnant, etc) low flow											
Habitat											
Substrate (<=>)		Description		Morphological Structure (%)							
Bo - Boulder	Co - Cobble	Gr - Gravel	Sa - Sand	Si - Silt	Cl - Clay	MK - Muck	DT - Detritus	Pool	Riffle	Run	Flat
		Si = Gr > Co						10	20	40	30
		50% down stream		50% up stream		Notes:		3 old Beaver dams and one new near the culvert			
Instream Cover (%)											
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
	5	2	2	<input checked="" type="checkbox"/>		Average Depth: 25cm					
						(% Cover) 5% RB 5% LB					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
only moss on rocks											
Canopy Cover (% closed cover):			Types of Cover (% cover)								
100-90%	<input type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees	4/5	Shrubs	Man-made structures				
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	5	Herbaceous	Other				
60-30%	<input checked="" type="checkbox"/>										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
Grass seed and willow shrub											
Width and Description of riparian vegetation:		Riparian Vegetation		Riparian Vegetation							
>30m #3342 and 25m #3341		MAPLE - ASH		>30m #3342 and ~25m #3341							
MARSH willowherb		MARSH willowherb									
Overhanging Vegetation Present <input checked="" type="checkbox"/>		% Overhanging Vegetation: 2									
Description of Overhanging Vegetation: marsh willowherb											
Obstructions to Fish Passage											
None Observed	<input type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input checked="" type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>				
Description of Barrier: 2 old BEAVER DAM and one active											
Height of Barrier (m): 0.50m		GPS Coordinates: R4END									

Water Bodies Assessment Field Collection Form

AECOM

Date: May 28/12

Land Parcel/Site ID: JER 3342/R4H
3341

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Other General Comments Regarding the Study Area:

- 3341 - D ASA
- Baby Fish observed and cyprinidae
- A lot of green Frog observed (F. // Fours)
- Fish habitat. We saw a adulte dead white sucker
- Active Beaver Dam near the Ravenswood Road (R4END)

Additional UTM Coordinates:

ASA -> 3341: The first 50 meters are opened habitat. After is the same description of 3342.

Photo log

Picture #	Description	Picture #	Description
965	(R4ST) FACE UPstream		
966	(R4ST) Face DOWNstream		
967	RB (R4ST)		
968	Old Beaver DAM		
969	Riffle FACE upstream		
970	Bridgand Beaver Dam under Ravenswood		
971	UP From Ravenswood		
972	white sucker (CACO)		
973	UP From Ravenswood Rd		
974	FACE DS		

↑
AKA
3341

Water Bodies Assessment Field Collection Form

AECOM

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Watercourse Sketch

Study Area:

Jericho

Goshen

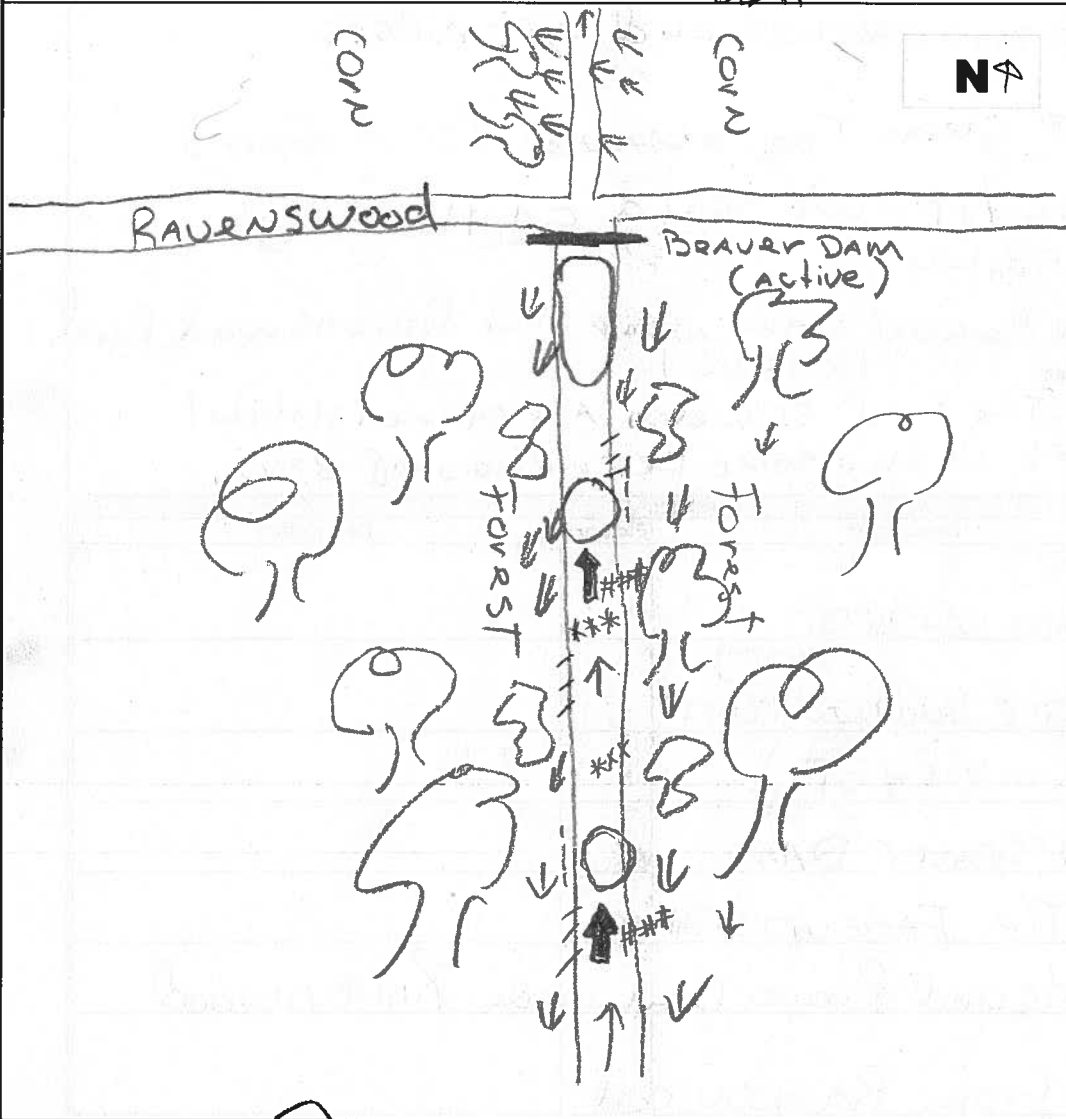
Bluewater

Land Parcel#

JER
3342
334A

Site ID

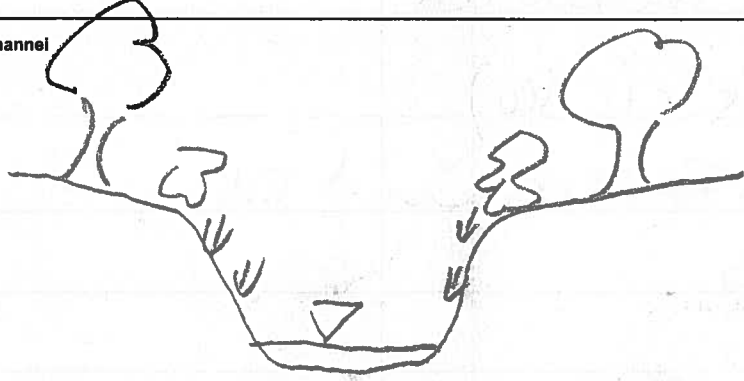
R4H



LEGEND

- 10d depth (cm)
- 0w width
- Rifle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- ### Gravel Substrate
- oOoo Cobble/Boulder
- *** Debris
- CT Cattail
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercross
- Fe Iron Staking
- ///// Eroded Bank
- xxx Riprap / Other Stabilization
- ☐ Instream Log/Tree
- AAA Dam/Weir/ Obstruction
- Riparian Tree
- ↳ Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- S- Seasonal Barrier
- x-x- Fence line
- ☐ Culvert

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: June 4, 2012

Technical QA/QC By: Rutke

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER 1012/3489 Site ID: R4.8B
 Date: July 30/12 Start time: 15:25 End Time: 15:40
 Weather Conditions: Sunny 30°C Field Crew: C. Boros, T. Shorney
 Field Notes By: C. Boros

Site Location

Decher Rd, east of Northville

Roadside Survey

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>0429115</u>	Northing: <u>4778875</u>	Description: <u>R4.8</u>
Easting:	Northing:	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:

Surrounding Landuse

Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>
Other <input type="checkbox"/>	

Type of Watercourse

Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Ephemeral <input type="checkbox"/>	

Description: Soy bean, wheat

Description: Straight

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

Tile drains - not flowing

Is any portion of the water body underground or not as mapped? Y/N

If Yes describe:

GPS Coordinate: Easting - Northing - Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): <u>24.75</u>	AT (°C): <u>30</u>
pH: <u>7.8</u>	Cond (µs/cm): <u>827</u>
D.O. (mg/L) <u>16.58</u>	
Water Clarity: Clear <input type="checkbox"/> Turbid <u>5</u> <input checked="" type="checkbox"/>	
Water Colour: <u>5/1 brown</u>	
Notes: <u>pool by culvert</u>	

Ground Water and Seepage Indicators

Watercress <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>	
Details: <u>small clumps</u>	

Water Bodies Assessment Field Collection Form

Site Length (m): 50		Could not assess		Bank Stability:			
Channel Dimensions				Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m):	1	Mean Wetted Depth (m):	↑	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m):	2	Mean Bankfull Depth (m):	↑	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m):	4	Mean Top of Bank Depth (m):	↑	Description: well vegetated			

Flow Description: (high or low flow conditions, stagnant, etc)
no visible flow

Substrates (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Description <i>mk = cl = sa = si</i>	Morphological Structure (%)			
	Pool	Riffle	Run	Flat
	3			3 97
Notes: <i>pool at culvert</i>				

Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
	2			30		Average Depth: (% Cover)

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%
 *Aquatic Vegetation Species Present (algae, submergent, emergent etc.)
grasses

Canopy Cover (% closed cover):				Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	Shrubs	Man-made structures	
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>10</i>	Herbaceous	Other
60-30%	<input type="checkbox"/>				<i>90</i>		

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%
 Notes: (vegetation species, types of structures)

Riparian Vegetation	
Width and Description of riparian vegetation: LB - <i>1m - meadow</i>	RB - <i>1m - meadow</i>

Overhanging Vegetation Present N % Overhanging Vegetation: *2*
 Description of Overhanging Vegetation:
one dogwood shrub overhanging half stream

None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>
Description of Barrier:							
Height of Barrier (m)				GPS Coordinates:			

Water Bodies Assessment Field Collection Form

AECOM

Date: *July 30/12*

Land Parcel/Site ID:

*JER 1012/
3489*

Page 3 of 4

24.83

Other General Comments Regarding the Study Area:

*Straight channelized watercourse, low canopy
cover - dominated by grasses. Instream cover mostly
grasses (emergent >> submergent).*

- School of 400 fish at culvert.

Additional UTM Coordinates:

- green frog heard.

Photolog			
Picture #	Description	Picture #	Description
<i>1-3</i>	<i>looking south</i>		
<i>4-5</i>	<i>looking north</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Study Area:

Jericho

Goshen

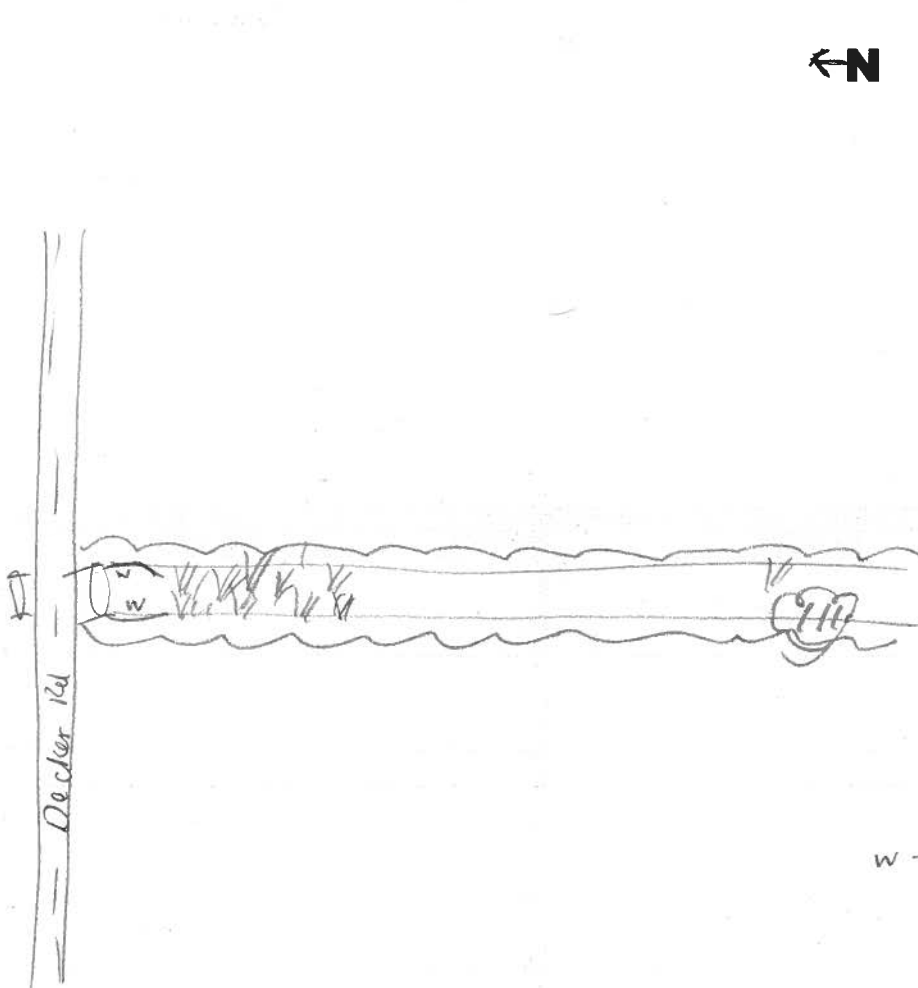
Bluewater

Land Parcel#

1012/3489

Site ID

R 4.8 B



LEGEND	
10d depth (cm)	
6w width	
→	Riffle
⇔	Run/Glide
○	Pool
■	Island/Bar
•••	Fine Substrate
###	Gravel Substrate
oOoO	Cobble /Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercress
Fe	Iron Staining
	Eroded Bank
xxx	Riprap / Other Stabilization
☐	Instream Log/Tree
AAA	Dam/Weir/ Obstruction
⊙	Riparian Tree
>	Seep/Spring
—	Undercut Bank
—	Barrier to Fish Movement
-S-	Seasonal Barrier
-x-x-	Fence line
⌊	Culvert

w - watercress

Horizontal View of Channel



Initial QA/QC By: L Bentley

Date: August 14, 2012

Technical QA/QC By: Jutke

Date: Oct 2/12

Water Bodies Assessment Field Collection Form

(24.8B)

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER3489/3488 Site ID: R4.8-JER3489/3488

Date: May 22/12 Start time: 16:20 End Time: 17:50

Weather Conditions: Sunny, 15°C Field Crew: C. Boros, J. Epp
Field Notes By: C. Boros

Site Location

East side of Northville Rd., North of Decker St.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>434144</u>	Northing: <u>479080</u>	Description: <u>R4.8 JER3488S</u>
Easting: <u>429068</u>	Northing: <u>4779151</u>	Description: <u>R4.8 JER3488W</u>
Easting: <u>429112</u>	Northing: <u>4778891</u>	Description: <u>R4.8 JER3488 end.</u>
Easting: _____	Northing: _____	Description: _____

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input checked="" type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other _____			
Description: <u>Cattle grazing field - active JER3488</u>		Description: <u>straight</u>	
<u>planted corn - JER3489</u>			

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile pipe observed - no flow

Is any portion of the water body underground or not as mapped? Y/N
If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 16.93 AT (°C): 15°C
pH: 7.33 Cond (µs/cm): 621
D.O. (mg/L) 17.01
Water Clarity: Clear Turbid
Water Colour: n/a

Ground Water and Seepage Indicators

Watercress Bank Seepage
Iron Staining None
Bubbling water
Other Speedwell
Details: Cattle field - mats of wc + speedwell throughout
agri field - small patches throughout

Notes: wq taken in cattle field

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 300			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center">Stable</td> <td align="center">Slightly unstable</td> <td align="center">Moderately unstable</td> <td align="center">Unstable</td> </tr> <tr> <td>Left Bank</td> <td align="center"><input type="checkbox"/></td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td align="center"><input type="checkbox"/></td> <td align="center"><input checked="" type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> <td align="center"><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): 1.2	Mean Wetted Depth (m): 0.20																			
Mean Bankfull Width (m): 1.4	Mean Bankfull Depth (m): 0.30																			
Mean Top of Bank Width (m): 3	Mean Top of Bank Depth (m): 1.75	Description: well veg in cattle field but slumping erosion in agri field - lacking bank veg in trees + shrubs shrubs area																		
Flow Description: (high or low flow conditions, stagnant, etc) slow flow																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Cl=Si=mk			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td align="center">100</td> </tr> </table>			Pool	Riffle	Run	Flat				100							
Pool	Riffle	Run	Flat																	
			100																	
			Notes: straight channelized																	
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	5-agri	/	/	80-cattle 80-agri	/	Average Depth: (% Cover) /														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) cattle - watercress, spinedwell, grasses agri - algae - attached + blooms																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/> cattle	Trees	80	Shrubs	15	Man-made structures												
90-60%	<input checked="" type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	1=100 5	Herbaceous		Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) Elm, hawthorn, cherry, dogwood																				
Riparian Vegetation																				
Width and Description of riparian vegetation:	LB - cattle 0m	agri 2.5m - trees + grass	RB - cattle 0m	agri 2.5m - trees + grass																
Overhanging Vegetation Present	<input checked="" type="checkbox"/> / N																			
Description of Overhanging Vegetation:	% Overhanging Vegetation: 20 not completely covering stream but some overhanging dogwood + grasses																			
Obstructions to Fish Passag																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: May 22/12

Land Parcel/Site ID: JEP 3489/3488 RA. BB Page 3 of 4

Other General Comments Regarding the Study Area:

- cyprinids observed (>15)
- green frog observed

- Chummy crayfish observed in ditch on Decker Rd.

Watercourse changes with respect to instream + canopy cover as it flows from the agri field to the cattle pasture. In the agri field there is high canopy cover - trees and low instream cover - mostly algae. In the cattle field there is no canopy cover but high instream cover - dense aquatic veg.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1a 15-11	Sheet overview of channel in 3488		
17-21	overview of channel in 3489		
22	view of channel in 1012		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

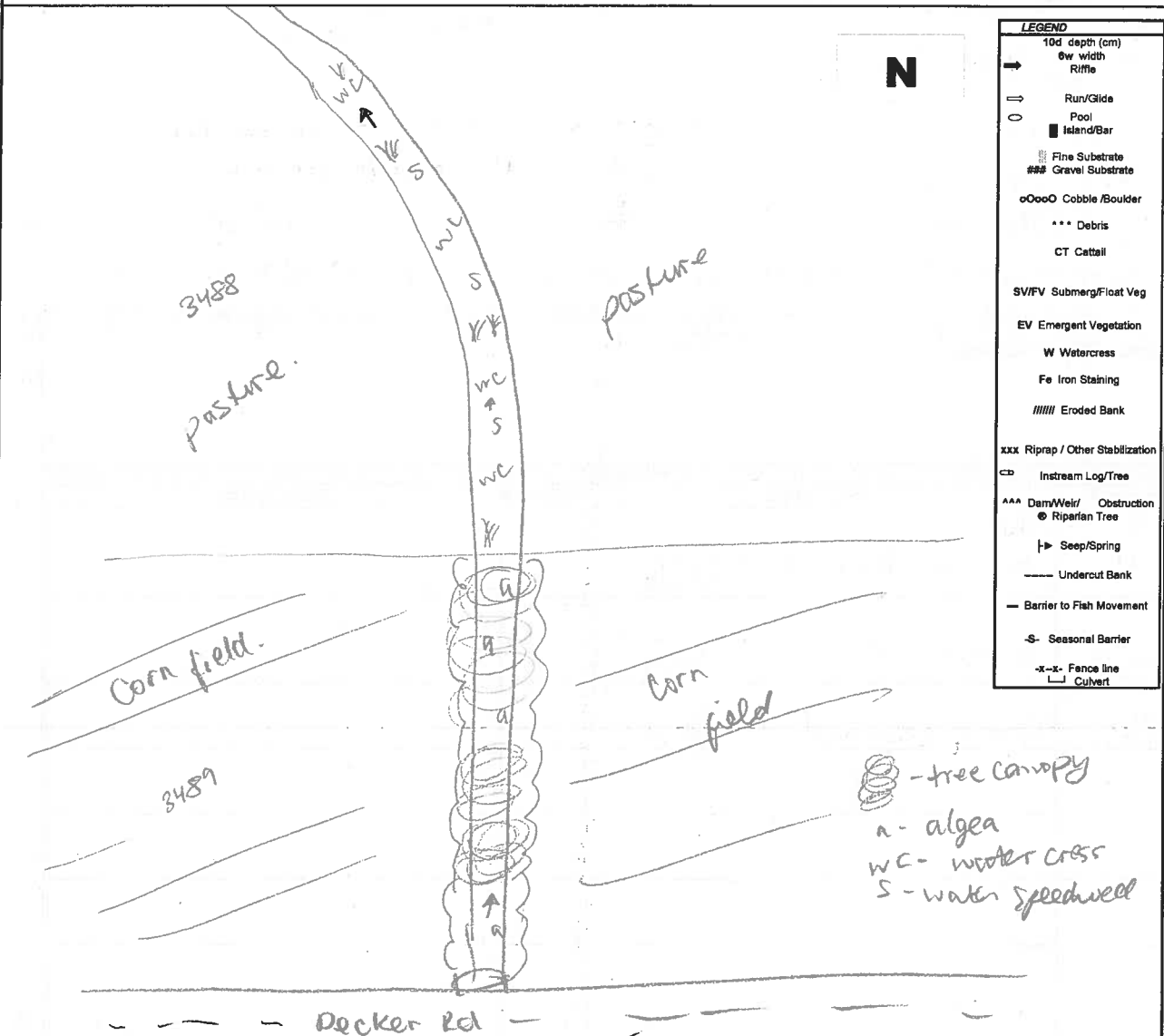
Bluewater

Land Parcel#

JER3489/3488

Site ID

24.8^B-JER3489/3488



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: [Signature]

Date: Jun 11/12

Water Bodies Assessment Field Collection Form

24.8B

AECOM			
General Information			
Study Area: <u>Jericho</u> Goshen Bluewater	Land Parcel# <u>SER 3487</u>	Site ID: <u>24.8-JER 3487</u> / 3484	
Date: <u>May 22/12</u>	Start time: <u>15:40</u>	End Time: <u>16:15</u>	
Weather Conditions: <u>Cloudy, 12°C</u>	Field Crew: <u>C. BOROS, J. EPP</u> Field Notes By: <u>C. Boros</u>		
Site Location			
<u>East side of Northville Rd, north of Decker</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
Easting: <u>428628</u>	Northing: <u>4779908</u>	Description: <u>24.8 JER 3484</u>	
Easting: <u>428787</u>	Northing: <u>4779604</u>	Description: <u>24.8 JER 3484 w/</u>	
Easting: <u>428819</u>	Northing: <u>4779530</u>	Description: <u>24.8 JER 3484 pond</u>	
Easting: <u>428990</u>	Northing: <u>4779299</u>	Description: <u>24.8 JER 3484 wet</u>	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input checked="" type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>crop agri fields except for southern part of 3484</u>		Description: <u>small + few areas wanting to naturalize</u>	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow) <u>some overland flow channels noted</u>			
Is any portion of the water body underground or not as mapped? <u>Y/N</u> If Yes describe:			
GPS Coordinate: Easting - Northing - Description -			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>flat</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>17.26</u>	AT (°C): <u>12</u>	Watercress <input checked="" type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>7.77</u>	Cond (µs/cm): <u>598</u>	Iron Staining <input type="checkbox"/>	None <input type="checkbox"/>
D.O. (mg/L) <u>13.46</u>	Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>	Bubbling <input type="checkbox"/>	<u>water speedwell</u> <input checked="" type="checkbox"/>
Water Colour: <u>n/a</u>		Other <input type="checkbox"/>	
Notes: <u>taken in small pool ~0.15m</u>		Details: <u>small sporadic clumps</u>	

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>500</u>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>0.75</u>	Mean Wetted Depth (m): <u>0.15</u>		Description: <u>fairly stable + well veg only</u> <u>minor examples of erosion</u>																	
Mean Bankfull Width (m): <u>1</u>	Mean Bankfull Depth (m): <u>1.35</u>																			
Mean Top of Bank Width (m): <u>2.5</u>	Mean Top of Bank Depth (m): <u>2</u>																			
Flow Description: (high or low flow conditions, stagnant, etc) <u>flowing - slow</u>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>Cl = silt = sand > gr = co</u>			<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td><u>5</u></td> <td><u>5</u></td> <td></td> <td><u>90</u></td> </tr> </table>			Pool	Riffle	Run	Flat	<u>5</u>	<u>5</u>		<u>90</u>							
			Pool	Riffle	Run	Flat														
<u>5</u>	<u>5</u>		<u>90</u>																	
			Notes: <u>a couple areas of riffle, pool sequence.</u>																	
Instream Cover (%) <u>40</u>																				
Other debris	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
<u>5</u>	<u>5</u>	<u>/</u>	<u>5</u>	<u>20</u>	<u>/</u>	Average Depth: <u>0.10</u> (% Cover) <u>5</u>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>algae, pondweed, grasses, watercress, water speedwell.</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees <u>10</u> Shrubs <u>80</u> Man-made structures _____																		
90-60% <input checked="" type="checkbox"/>	0% <input type="checkbox"/>	Grasses <u>10</u> Herbaceous _____ Other _____																		
60-30% <input type="checkbox"/>																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <u>dogwood, hawthorn, willow</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - <u>6m - meadow thicket</u>			RB - <u>6m - meadow thicket</u>																	
Overhanging Vegetation Present <input checked="" type="checkbox"/> / N			% Overhanging Vegetation: <u>50</u>																	
Description of Overhanging Vegetation: <u>dogwood overhanging creating dense canopy cover over entire stream in sections</u>																				
Obstructions to Fish Passage																				
None Observed <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>																	
Description of Barrier: _____																				
Height of Barrier (m) _____			GPS Coordinates: _____																	

Water Bodies Assessment Field Collection Form

AECOM

Date: May 22/12

Land Parcel/Site ID: JEP 3487/3484
R 4.8 B Page 3 of 4

Other General Comments Regarding the Study Area:

- minnows observed (<10)
- frogs + tadpoles observed → one sp. American Toad observed
- Pond - appears manmade but excellent amphibian habitat - water plantain mats, pondweed.

Watercourse is channelized but has a couple areas where it is starting to naturalize → ie slight meander w ripples + pool present, Overhanging dogwood present in clumps throughout reach. Substrate dominated

Additional UTM Coordinates: by site U + sand.

Photo log

Picture #	Description	Picture #	Description
1a 1b	Sheet JEP looking at 3483		
2-10	Channel overview to branch of R4.43		
12a 12-22	Sheet Channel overview to end of		
23	pool in 3484		
24a 24b-33	Sheet overview in 3487		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

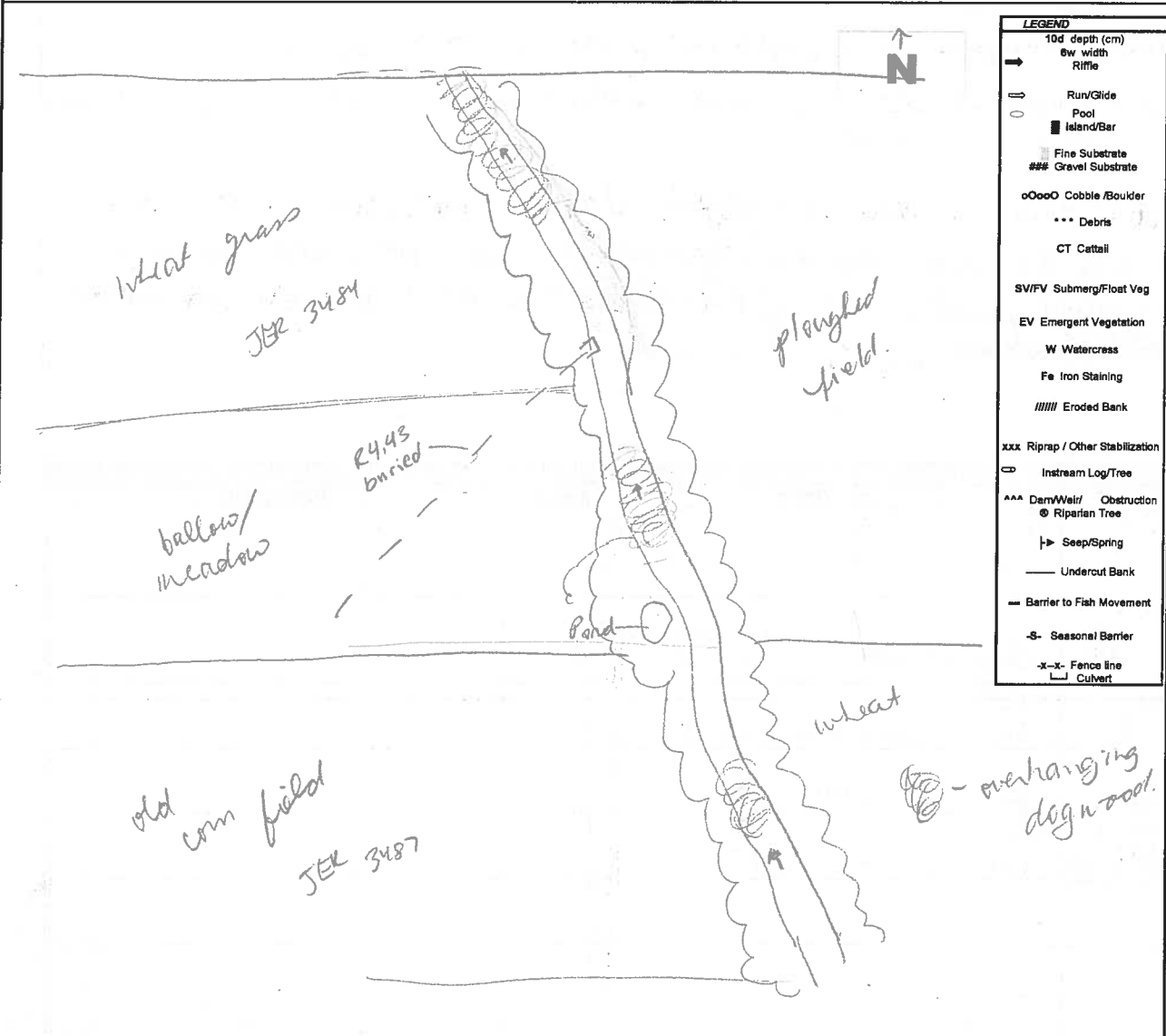
Goshen

Bluewater

Land Parcel#

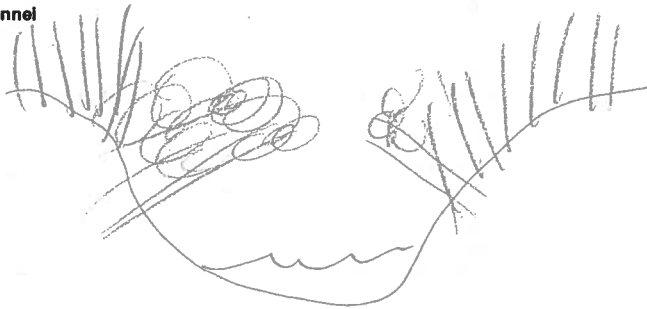
JER 3487/3484 Site ID

R4.8B-JER3487/3484



LEGEND	
10d depth (cm)	8w width
→	Riffle
○	Run/Glide
○	Pool
■	Island/Bar
•	Fine Substrate
##	Gravel Substrate
oOooO	Cobble /Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercross
Fe	Iron Staining
	Eroded Bank
xxx	Riprap / Other Stabilization
□	Instream Log/Tree
AAA	Dam/Weir/ Obstruction
⊙	Riparian Tree
↳	Seep/Spring
—	Undercut Bank
—	Barrier to Fish Movement
-S-	Seasonal Barrier
-X-X-	Fence line
□	Culvert

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: [Signature] Date: Jun 11/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM		Page 1 of 2	
General Information			
Study Area: <u>Jericho</u> Goshen Bluewater	Land Parcel# <u>5ER 3484 / 3487 / 3488 / 3489</u>	Site ID: <u>R 4.43</u>	
Date: <u>May 22/12</u>	Start time: <u>14:40</u>	End Time: <u>14:45</u>	
Weather Conditions: <u>Cloudy, 12°C</u>	Field Crew: <u>C. Boros, J. Epp</u>	Field Notes By: <u>C. Boros</u>	
Site Location			
<u>East side of Northville Rd, north of Decker Rd.</u>			
UTM Co-ordinates			
Easting: <u>428714</u>	Northing: <u>4779705</u>	Description: <u>R4.43</u>	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Easting: _____	Northing: _____	Description: _____	
Surrounding Landuse Residential <input type="checkbox"/> Meadow <input type="checkbox"/> Agriculture <input type="checkbox"/> Wetland <input type="checkbox"/> Forest <input type="checkbox"/> Livestock <input type="checkbox"/> Other _____		Ground Water and Seepage Indicators Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/> Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/> Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>	
Description: <u>fallow field</u>		Details: _____	
Feature Description			
Is the mapped water body any of the below:			
1) a grassed waterway?	Y / <u>(N)</u>		
2) Temporary channel for surface drainage, that can be tilled or driven through?		Y / <u>(N)</u>	
3) Rock chutes or spillways?	Y / <u>(N)</u>		
4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream?			Y / <u>(N)</u>
5) Temporarily ponded areas that are normally farmed?	Y / <u>(N)</u>		
6) Artificial bodies of water intended for storage, treatment for farming purposes?			Y / <u>(N)</u>
8) Any other:	<u>Buried stream</u>		
Description: (i.e. length of change, if it reappears, if there is evidence of water)			
<u>The stream appears to be buried as there is an outlet culvert where the watercourse should be connecting to R4.8</u>			
<u>- did not see watercourse pop out on 3488 or 3489 either</u>			
Photo log			
Picture #	Description	Picture #	Description
<u>1-2</u>	<u>overview of area</u>		
<u>3</u>	<u>culvert input</u>		

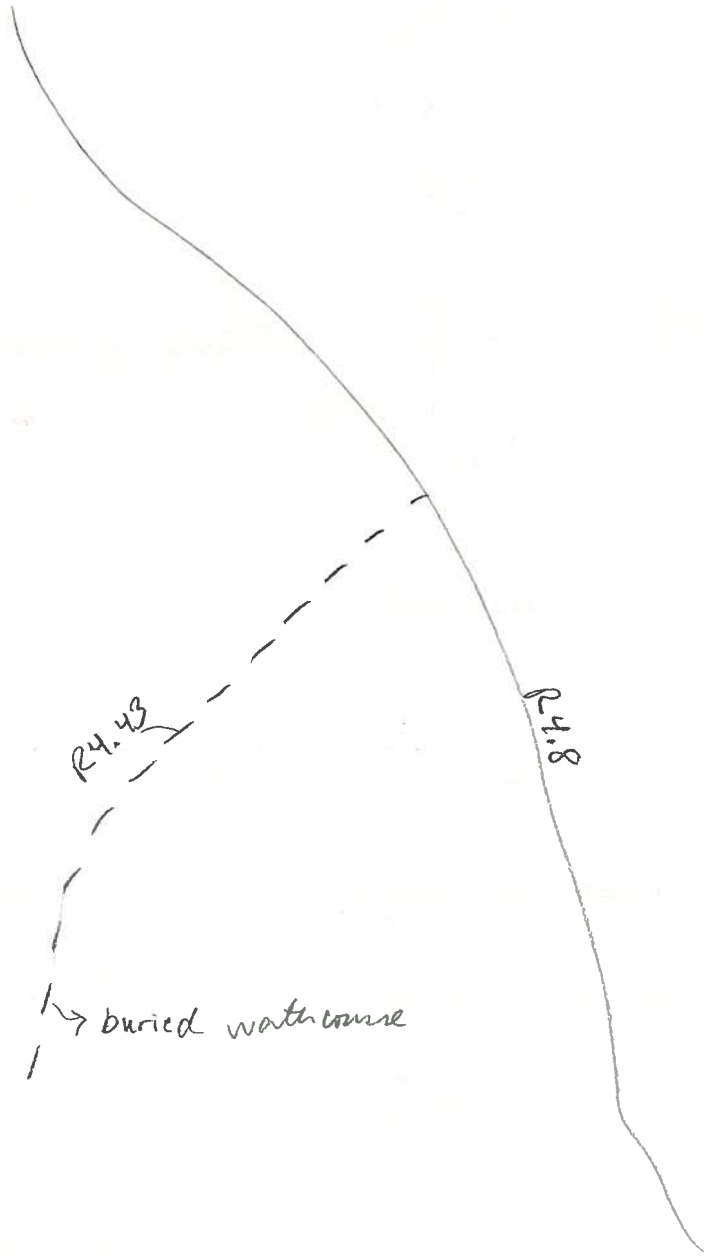
Assessment of Non-Water Body
(update to mapping required)

AECOM

Date: May 22/12

Land Parcel/Site ID: JER 3484 / 3487 / RAAS Page 2 of 2

Site Sketch 3480/2A09



Initial QA/QC: L. Bentley May 30 2012

Sketch for 11/12

Water Bodies Assessment Field Collection Form

R4A

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER-3626 Site ID: R4-JER3626
 Date: MAY 17/12 Start time: 13:14 PM End Time: 13:53

Weather Conditions: Sunny, 17°C Field Crew: S. LOHNES J. EPP
 Field Notes By: S. LOHNES + J. EPP

Site Location

west of Arkona, south of Cedar Point line

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 0432204 Northing: 4773417 Description: R4JER3626 Start
 Easting: 0431959 Northing: 4773423 Description: R4JER3626 WQ
 Easting: 0431845 Northing: 4773422 Description: R4JER3626 End

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			

Description: row crop, corn.
 Description: straight channel in between agricultural fields.

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile drains - flowing

Is any portion of the water body underground or not as mapped? Y (N)
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -
 Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

Flat - agricultural fields.

In-Situ Water Quality

WT (°C): 25.8 AT (°C): 17°C
 pH: 8.04 Cond (s/cm): 828
 D.O. (mg/L) 12.27
 Water Clarity: Clear Turbid

Water Colour: slightly brown.

Notes: Stagnant, lots of algae.

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None seen
 Bubbling _____
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 200			Bank Stability:																	
Channel Dimensions			<table style="width:100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): 1.0	Mean Wetted Depth (m): 0.10	Description: well vegetated, no signs of erosion.																		
Mean Bankfull Width (m): 1.2	Mean Bankfull Depth (m): 0.15																			
Mean Top of Bank Width (m): 6.5	Mean Top of Bank Depth (m): 2.2																			
Flow Description: (high or low flow conditions, stagnant, etc) low flow / stagnant																				
Habitat																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		Sa, Si over Cl		<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td>100</td> </tr> </table>		Pool	Riffle	Run	Flat				100							
Pool	Riffle	Run	Flat																	
			100																	
				Notes: No visible flow.																
Instream Cover (%) 80																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None															
			5	75																
Average Depth: _____ (% Cover)																				
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) floating algae, cattails, grasses.																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90% <input type="checkbox"/>	30-1% <input type="checkbox"/>	Trees	Shrubs	Man-made structures																
90-60% <input type="checkbox"/>	0% <input checked="" type="checkbox"/>	Grasses	Herbaceous	Other																
60-30% <input type="checkbox"/>																				
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) No cover.																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - 1m grasses			RB - 1m grasses.																	
Overhanging Vegetation Present: Y/N			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed <input type="checkbox"/>	Man-Made <input checked="" type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input checked="" type="checkbox"/>																	
Description of Barrier: Culvert perched by a few cm on east side, more on west side. Mud + no flow in barrier																				
Height of Barrier (m): 0.2 (west) 0.02 (east)		GPS Coordinates: 0431954 4773422																		

Water Bodies Assessment Field Collection Form

AECOM

Date: May 17/12

Land Parcel/Site ID: RA-A
JER 3026

Page 3 of 4

Other General Comments Regarding the Study Area:

Channalized water course through agricultural fields. Some tadpoles present. Little to no flow, very low volume. Culvert placed through middle of reach, for access to field. The culvert is perched, more on the west side, where flow becomes non-existent.

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1a 1b	street Across Arkona looking East.		
2	looking west at reach.		
3	looking west at culvert (east side of culvert)		
4	looking east at culvert (west side of culvert)		
5	looking west after culver.		
6	end of site looking east		
7	end of site looking west		

Water Bodies Assessment Field Collection Form

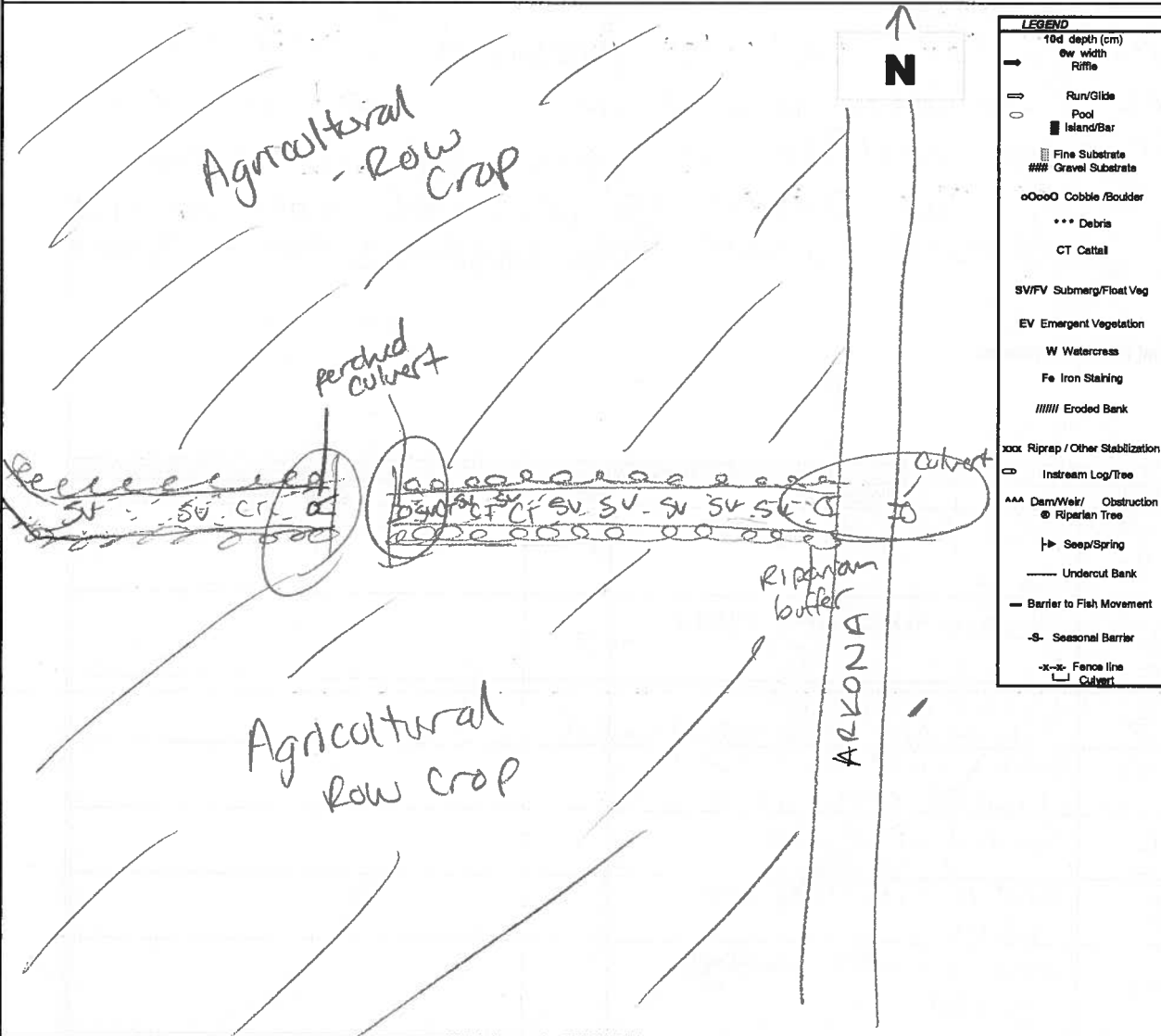
24A

AECOM

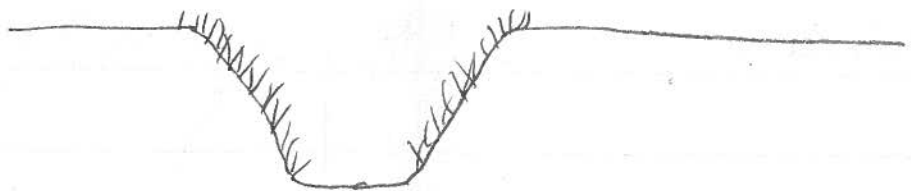
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JER3626 site ID R4-JER3626



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: May 22, 2012 Technical QA/QC By: Justin Date: July 14, 12

Property ID: JFR 3626 Date: May 17/12

Property Access: by foot off Arkona Start Time: 13:15

End Time: 13:17

Field Investigators: S. Lohnes, J. Epp Weather: 17°C Sunny

Terrestrial Feature Present: No Yes

Provide brief description of observations (i.e. hedgerow, treerow, woodlot, valleylands, deciduous vs coniferous, crop)

Photograph Numbers: _____

Aquatic Feature Present: No Yes

Provide brief description (i.e. drainage ditch, watercourse, intermittent, permanent)

Swale not present, ploughed through
agricultural field with row crops.

Photograph Numbers: _____

Water Bodies Assessment Field Collection Form

*ASA

AECOM			
General Information			
Study Area: <u>Jericho</u> / Goshen	Bluewater	Land Parcel# <u>Jer 3443</u>	Site ID: <u>R4H R4I</u>
Date: <u>MAY 31/12</u>	Start time: <u>8:45</u>	End Time: <u>9:10</u>	
Weather Conditions: <u>cloudy</u>	<u>13°C</u>	Field Crew: <u>S DARAICHE</u> <u>CHARLINE</u>	Field Notes By: <u>S DARAICHE</u>
Site Location			
<u>SOUTH OF BLUE SCOTT RD</u> <u>WEST OF JERICHO RD.</u>			
UTM Co-ordinates (continue on page 3 if necessary)			
<u>none (roadside survey)</u>			
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Easting:	Northing:	Description:	
Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>Crop</u> <u>Soy Beans</u>		Description:	
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)			
<u>None observed</u>			
Is any portion of the water body underground or not as mapped? <u>Y/N</u>			
If Yes describe:			
GPS Coordinate: Easting -		Northing -	
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)			
<u>Rolling Hills</u>			
In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C):	AT (°C): <u>13.2</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH:	Cond (s/cm):	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L)		Bubbling <input type="checkbox"/>	
Water Clarity: <u>Clear</u> <input type="checkbox"/>	<u>Turbid</u> <input checked="" type="checkbox"/>	Other <input type="checkbox"/>	
Water Colour: <u>light Brown</u>		Details:	
Notes: <u>NO QUALITY ASA</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology											
Site Length (m): <u>40m</u>			Bank Stability:								
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable					
Mean Wetted Width (m): <u>4.00</u>	Mean Wetted Depth (m): <u>0.70</u>	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mean Bankfull Width (m): <u>6.00</u>	Mean Bankfull Depth (m): <u>1.40</u>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mean Top of Bank Width (m): <u>10.50</u>	Mean Top of Bank Depth (m): <u>3.75</u>	Description: <u>Grassed</u>									
Flow Description: (high or low flow conditions, stagnant, etc)											
<u>moderated flow</u>											
Habitat											
Substrate (<=>)			Morphological Structure (%)								
Description			Pool	Riffle	Run	Flat					
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus <u>Si > Cl</u>			Notes:								
			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Pool</td> <td>Riffle</td> <td>Run</td> <td>Flat</td> </tr> <tr> <td></td> <td></td> <td><u>50</u></td> <td><u>50</u></td> </tr> </table>				Pool	Riffle	Run	Flat	
Pool	Riffle	Run	Flat								
		<u>50</u>	<u>50</u>								
Instream Cover (%)											
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks					
	<u>10</u>					Average Depth: (% Cover) <u>same observed</u>					
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%											
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)											
<u>Sago plant weed, Potamo sp.</u>											
Canopy Cover (% closed cover):			Types of Cover (% cover)								
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees <u>30</u>	Shrubs <u>15</u>	Man-made structures					
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	Herbaceous	Other					
60-30%	<input checked="" type="checkbox"/>										
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%											
Notes: (vegetation species, types of structures)											
<u>elm, Ash and Dogwood shrubs</u>											
Riparian Vegetation											
Width and Description of riparian vegetation:	LB - <u>4m</u>			RB - <u>4m</u>							
Overhanging Vegetation Present	<input checked="" type="checkbox"/> Y			% Overhanging Vegetation:	<u>5</u>						
Description of Overhanging Vegetation:	<u>Dogwood and Salix shrubs</u>										
Obstructions to Fish Passage											
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>				
Description of Barrier:											
Height of Barrier (m)			GPS Coordinates:								

Water Bodies Assessment Field Collection Form

AECOM

Date: May 31/12

Land Parcel/Site ID: JEL 3443
~~R4H~~ R4T Page 3 of 4

Other General Comments Regarding the Study Area:

- in a band of Forest
- Fish habitat (no Fish observed)
- meander streams
- sufficient Flow, under shade stream

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1130	R4 JEL 3443 Facing South - H/S		
1131	R4 JEL 3443 Facing South - H/S		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

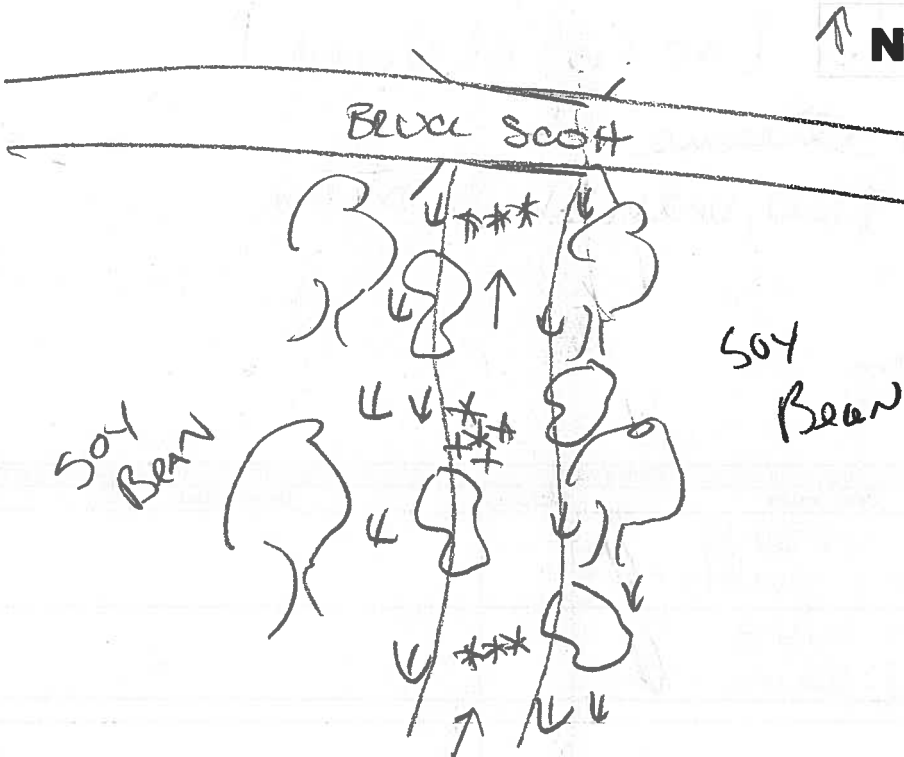
Bluewater

Land Parcel#

Jer3418

Site ID

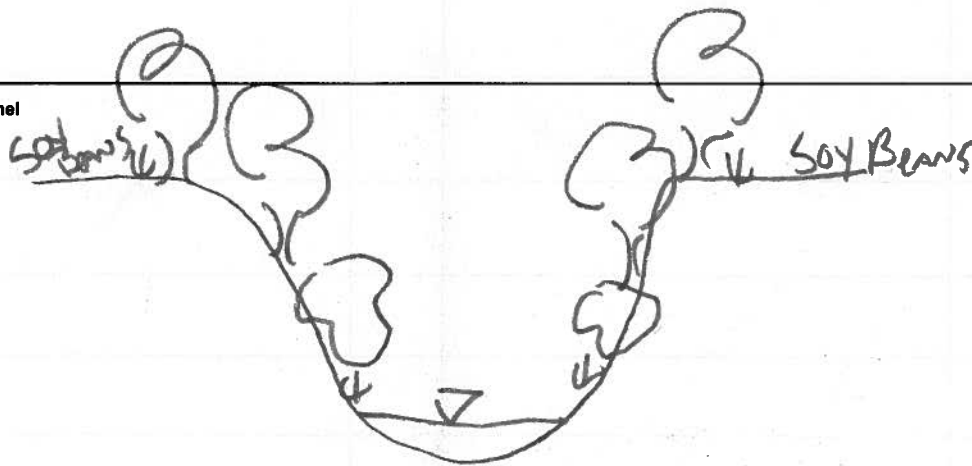
R4H R4I



LEGEND

- 10d depth (cm)
- 0w width
- Riffle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- Gravel Substrate
- Cobble /Boulder
- Debris
- CT Cattail
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercress
- Fe Iron Staking
- Eroded Bank
- Riprap / Other Stabilization
- Instream Log/Tree
- Dam/Weir/ Obstruction
- Riparian Tree
- Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- Seasonal Barrier
- Fence line
- Culvert

Horizontal View of Channel



Initial QA/QC By:

L. Bentley

Date:

June 4, 2012

Technical QA/QC By:

S. Arthur

Date:

Oct 2, 12

Water Bodies Assessment Field Collection Form

247

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1905/1000/120 Site ID: R4-JER1005
 Date: MAY 9/2012 Start time: 15:54 End Time: 16:45
 Weather Conditions: wmdy, 12°C, sunny Field Crew: SLOHNES, CHARLWIG
 Field Notes By: S. LOHNES

Site Location

Bruce Scott Road north to Hwy 21

UTM Co-ordinates (Continue on pages if necessary)

Easting: 0425327	Northing: 4781762	Description: START
Easting: 0425353	Northing: 4782489	Description: END
Easting: 0425355	Northing: 4782484	Description: H2O CHEM
Easting:	Northing:	Description:

Surrounding Land Use

Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>
Other <input type="checkbox"/>	

Description: now crops

Type of Watercourse

Intermittent <input type="checkbox"/>	Channelized <input type="checkbox"/>
Permanent <input checked="" type="checkbox"/>	Natural Channel <input checked="" type="checkbox"/>
Ephemeral <input type="checkbox"/>	

Description: natural channel w/perm flow

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile drainage

Is any portion of the water body underground or not as mapped? Y (N)
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

sloping towards water course.

In-Situ Water Quality

WT (°C): 15.6°C	AT (°C): 12°C
pH: 8.86	Cond (µs/cm): 635
D.O. (mg/L): 8.18	
Water Clarity: Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/>	
Water Colour: brown	

Ground Water and Seepage Indicators

Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
Bubbling <input type="checkbox"/>	
Other <input type="checkbox"/>	

Details: none observed.

Notes: unable to view streambed taken @ top of riffle

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): 600m			Bank Stability:			
Channel Dimensions			Stable	Slightly unstable	Moderately unstable	Unstable
Mean Wetted Width (m): 2.2m	Mean Wetted Depth (m): 0.7m		Left Bank <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Bankfull Width (m): 4.0m	Mean Bankfull Depth (m): 0.8m		Right Bank <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mean Top of Bank Width (m): 8.0m	Mean Top of Bank Depth (m): 3.0m		Description: unstable areas w/ roots hanging			
Flow Description: (high or low flow conditions, stagnant, etc) high flow						
Habitat						
Substrate (<=>)			Morphological Structure (%)			
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus Sa + Si > Bo			Pool	Riffle	Run	Flat
				10	80	
			Notes: mostly runs through this reach w/ some riffles over boulders.			
Instream Cover (%)						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
		40		5		Average Depth: (% Cover) /
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) attached filamentous algae						
Canopy Cover (% closed cover):			Types of Cover (% cover)			
100-90% <input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>		Trees 5	Shrubs	Man-made structures	
90-60% <input type="checkbox"/>	0% <input type="checkbox"/>		Grasses	Herbaceous	Other	
60-30% <input checked="" type="checkbox"/>						
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures) Canopy closed d/s of reach, but has been cleared along right w/s bank. remaining cover provided by maple, willows, manitoba, tr. aspen						
Riparian Vegetation						
Width of riparian vegetation: L w/s 5m			R w/s < 1m			
Description of vegetation community surrounding 30 m from watercourse: row crop row crop						
Obstructions to Fish Passage						
No Obstructions <input checked="" type="checkbox"/> Man-Made <input type="checkbox"/> Natural <input type="checkbox"/> Low Flow Barrier <input type="checkbox"/>						
Description of Barrier:						
Height of Barrier (m)			GPS Coordinates:			

Water Bodies Assessment Field Collection Form

241

AECOM

Date: MAY 9/2012

Land Parcel/Site ID: R4 JER1005 JER 1022/1120 Page 3 of 4

Other General Comments Regarding the Study Area:

- riparian cover has been cleared along right u/s bank, so very little canopy cover remains until downstream end of site where in-stream woody debris & some cobble provides habitat structure.

- some overhanging shrubs & grasses in sections.

Additional UTM Coordinates:

- water very turbid & high flow conditions made this reach hard to qualify for substrate

Picture #	Description	Picture #	Description
1a	sheet		
1b	looking d/s from road	3	looking u/s overview
2	looking u/s	14	looking d/s
3	looking d/s	15	riparian
4	cut riparian trees	16	looking u/s in forested riparian
5	debris pile	17	looking d/s w/ canopy
6	exposed soils L u/s bank	18	looking u/s from bottom of site
7	turbid conditions	19	looking d/s from bottom of site
8	looking u/s	20	water chem
9	riffle + woody debris	21	looking u/s
10	looking d/s	22	wood jam looking d/s
11	overview	23	
12	overhanging vegetation		

Water Bodies Assessment Field Collection Form

R4I

AECOM

Page 4 of 4

Study Area:

Jéricho

Goshen

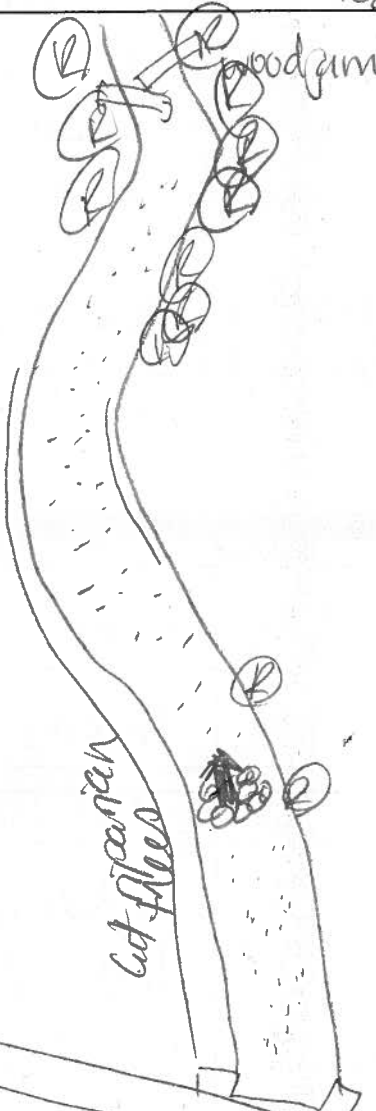
Bluewater

Land Parcel#

10057
1022/1120

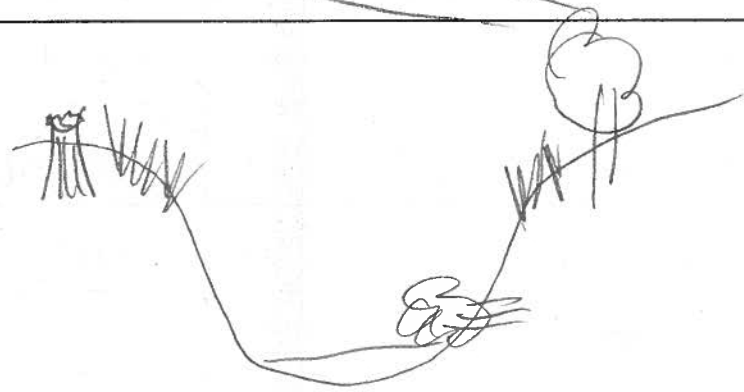
Site ID

R4-JER 1005



LEGEND	
→	10d depth (cm) 6w width Riffle
⇨	Run/Glide
○	Pool
■	Island/Bar
▨	Fine Substrate
##	Gravel Substrate
oOoO	Cobble/Boulder
***	Debris
CT	Cattail
SV/FV	Submerg/Float Veg
EV	Emergent Vegetation
W	Watercress
Fe	Iron Staining
	Eroded Bank
xxx	Riprap / Other Stabilization
☐	Instream Log/Tree
AAA	Dam/Weir/ Obstruction
⊙	Riparian Tree
↳	Seep/Spring
—	Undercut Bank
-	Barrier to Fish Movement
-S-	Seasonal Barrier
-x-x-	Fence line
⌊	Culvert

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 16, 2012

Technical QA/QC By: Juthe

Date: Jun 11/12

Water Bodies Assessment Field Collection Form

24I

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1083/1110 Site ID: R4-JER-1083
 Date: MAY 15/12 Start time: 4:04PM End Time: 5:37PM
 Weather Conditions: Sunny, 28°C Field Crew: S. LOHNES J. EPP
 Field Notes By: S. LOHNES

Site Location

South of Bruce Scott Rd, west of Jericho Rd, east of Army camp Rd.
 425295 4781192 END

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 425098	Northing: 4781090	Description: START POINDED FOREST POOLS
Easting: 425122	Northing: 4781053	Description: START
Easting: 425190	Northing: 4781063	Description: H2O CHEM
Easting: 425160	Northing: 4781024	Description: R4.10 JER1083

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description:

flows through sugar maple beech forest

Description:

permanent natural channel

Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)

R4.10 seepage from bank + R4.10 inputs from field no defined channel.
 Is any portion of the water body underground or not as mapped? Y N
 If Yes describe:
 R4 not as mapped; see aerial w/markup.

GPS Coordinate: Easting -

Northing -

Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

valley forest slopes to watercourse

In-Situ Water Quality

WT (°C): 20.1 AT (°C): 27°C
 pH: 8.82 Cond (µs/cm): 473
 D.O. (mg/L): 7.22
 Water Clarity: Clear Turbid

Water Colour:

colourless

Notes:

taken in riffle area

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Some seepage noted in areas where drains historically joined from fields.

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): 180m			Bank Stability:																	
Channel Dimensions			<table style="width:100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): 2.5m	Mean Wetted Depth (m): 0.20m	Description: signs of recent undercutting.																		
Mean Bankfull Width (m): 3.5m	Mean Bankfull Depth (m): 0.70m																			
Mean Top of Bank Width (m): 4.0m	Mean Top of Bank Depth (m): 2.5m																			
Flow Description: (high or low flow conditions, stagnant, etc) moderate flow, lots of water.																				
Habitat																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus	Cl + Sa > Co > Gr		<table border="1" style="width:100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td>20</td> <td>20</td> <td>30</td> <td></td> </tr> </table>		Pool	Riffle	Run	Flat	20	20	30		Notes: good riffle run pool sequence in shade w/ cobble.							
Pool	Riffle	Run	Flat																	
20	20	30																		
Instream Cover (%)																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
	10	5	25	40		Average Depth: _____ (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) algae, woody debris, cobble & boulders.																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input checked="" type="checkbox"/>	30-1%	<input type="checkbox"/>	Trees 80	Shrubs 10	Man-made structures _____														
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____	Other _____														
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) sugar maple, basswood, elm, beech, ash.																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - > 30m forest			RB - > 30m forest																	
Overhanging Vegetation Present Y/N			% Overhanging Vegetation: 10																	
Description of Overhanging Vegetation: grasses.																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier: _____																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

R4I

AECOM

Date: MAY 15/12

Land Parcel/Site ID: R4-
JEE 1083

Page 3 of 4

1110

Other General Comments Regarding the Study Area:

- watercourse meanders through sugar maple / beech wet forest over clay and sand substrate with gravel deposits on meander bends + cobble through riffles. large woody debris + filamentous algae provide instream cover while some overhanging grasses + large mature trees provide shade.

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
1	sheet	20 ²³	dry channel
2-8	pooled area w/ wood debris	24	historical R4.10 location
9	looking u/s	25	where R4.10 joined R4
10	substrate	26	bank
11	gravel bed / d/s	27	looking d/s
12	looking u/s @ gravel	28	looking d/s
13	d/s	29	vegetation
14	instream structure	30-35	mussel shells
15	water qual	36	looking u/s
16	overview facing u/s	37	looking d/s
17	overview facing d/s		
18-19	exposed roots		

Water Bodies Assessment Field Collection Form

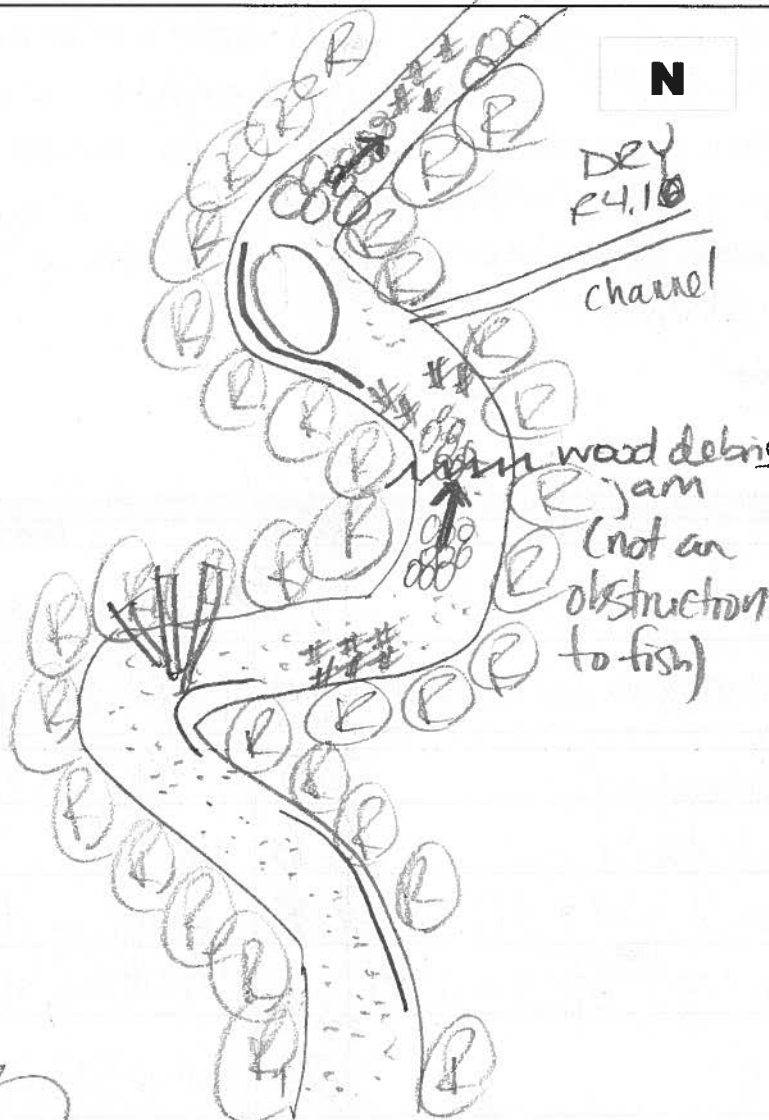
R4E

AECOM

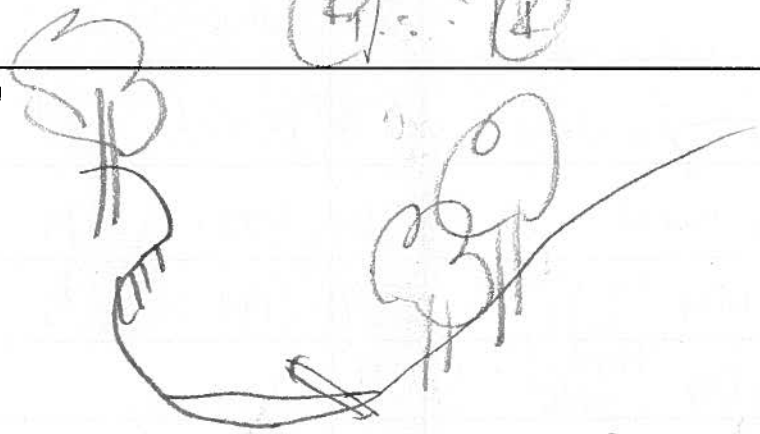
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# 1083/110 Site ID R4-JER1083/110



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 22, 2012

Technical QA/QC By: J. Stokun Date: July 10/12

Water Bodies Assessment Field Collection Form

AECOM																			
General Information																			
Study Area: <u>Jericho</u> Goshen Bluewater Land Parcel# <u>JER3623/3613</u> Site ID: <u>R4B</u>																			
Date: <u>May 23/12</u> Start time: <u>13:50</u> End Time: <u>14:45</u>																			
Weather Conditions: <u>Sunny, 25°C</u>	Field Crew: <u>C. Boros, J. EPP</u> Field Notes By: <u>C. Boros</u>																		
Site Location																			
<u>Arkona Rd, south of Cedar Point Ln</u>																			
UTM Co-ordinates (continue on page 3 if necessary)																			
Easting: <u>431365</u> Northing: <u>4773852</u> Description: <u>R4JER3623s</u>																			
Easting: <u>431092</u> Northing: <u>4773847</u> Description: <u>R4JER3623e</u>																			
Easting: _____ Northing: _____ Description: _____																			
Easting: _____ Northing: _____ Description: _____																			
<table border="0"> <tr> <th colspan="2">Surrounding Landuse</th> </tr> <tr> <td>Residential <input type="checkbox"/></td> <td>Meadow <input type="checkbox"/></td> </tr> <tr> <td>Agriculture <input checked="" type="checkbox"/></td> <td>Wetland <input type="checkbox"/></td> </tr> <tr> <td>Forest <input checked="" type="checkbox"/></td> <td>Livestock <input type="checkbox"/></td> </tr> <tr> <td>Other _____</td> <td></td> </tr> </table>	Surrounding Landuse		Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>	Other _____		<table border="0"> <tr> <th colspan="2">Type of Watercourse</th> </tr> <tr> <td>Intermittent <input type="checkbox"/></td> <td>Channelized <input checked="" type="checkbox"/></td> </tr> <tr> <td>Permanent <input checked="" type="checkbox"/></td> <td>Natural Channel <input type="checkbox"/></td> </tr> <tr> <td>Ephemeral <input type="checkbox"/></td> <td>_____ <input type="checkbox"/></td> </tr> </table>	Type of Watercourse		Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Surrounding Landuse																			
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>																		
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>																		
Forest <input checked="" type="checkbox"/>	Livestock <input type="checkbox"/>																		
Other _____																			
Type of Watercourse																			
Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>																		
Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>																		
Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>																		
Description: <u>alternates between agri field + forest</u>	Description: <u>Straight</u>																		
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)																			
<u>tile drains observed - flowing</u>																			
Is any portion of the water body underground or not as mapped? <u>Y</u> / <u>(N)</u>																			
If Yes describe: _____																			
GPS Coordinate: Easting - _____ Northing - _____ Description - _____																			
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)																			
<u>flat</u>																			
In-Situ Water Quality	Ground Water and Seepage Indicators																		
WT (°C): <u>18.72</u> AT (°C): <u>25</u>	Watercress <input type="checkbox"/> Bank Seepage <input type="checkbox"/>																		
pH: <u>7.04</u> Cond (µs/cm): <u>736</u>	Iron Staining <input type="checkbox"/> None <input checked="" type="checkbox"/>																		
D.O. (mg/L) <u>13.38</u>	Bubbling <input type="checkbox"/> _____ <input type="checkbox"/>																		
Water Clarity: Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>	Other <input type="checkbox"/>																		
Water Colour: <u>n/a</u>	Details: <u>n/a</u>																		
Notes: <u>small pool algen present</u>																			

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <i>250m</i>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Stable</td> <td style="text-align: center;">Slightly unstable</td> <td style="text-align: center;">Moderately unstable</td> <td style="text-align: center;">Unstable</td> </tr> <tr> <td>Left Bank</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <i>1.4</i>	Mean Wetted Depth (m): <i>0.78</i>	Description: <i>well vegetated</i>																		
Mean Bankfull Width (m): <i>2</i>	Mean Bankfull Depth (m): <i>0.4</i>																			
Mean Top of Bank Width (m): <i>6</i>	Mean Top of Bank Depth (m): <i>3</i>																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
<i>slow flow</i>																				
Habitat																				
Substrate (<=>)			Morphological Structure (%)																	
Description Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;"><i>100</i></td> </tr> </table>			Pool	Riffle	Run	Flat				<i>100</i>							
Pool	Riffle	Run	Flat																	
			<i>100</i>																	
<i>Si=cl=mk > gr=sand >> co</i>			Notes: <i>straight</i>																	
Instream Cover (%) <i>80</i>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
	<i>/</i>	<i>/</i>	<i>5</i>	<i>75</i>	<i>/</i>	Average Depth: (% Cover) <i>/</i>														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<i>algae blooms > attached algae > grasses</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	<i>50</i>	Shrubs	<i>20</i>	Man-made structures												
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<i>30</i>	Herbaceous		Other												
60-30%	<input type="checkbox"/>																			
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<i>maple, ash</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			LB - <i>agri = 5m - mixed meadow</i> RB - <i>agri = 1m - grasses</i>																	
Overhanging Vegetation Present <i>Y</i> <i>N</i>			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: *May 23/12*

Land Parcel/Site ID: *JER362313013* Page 3 of 4
R4B

Other General Comments Regarding the Study Area:

*- Straight channelized watercourse choked w algae + grasses
Substrate s, cl + mk, little canopy cover*

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
<i>1a</i>	<i>Sheet</i>		
<i>1b</i>	<i>overview</i>		
<i>2</i>	<i>tile drain</i>		
<i>3-7</i>	<i>Channel overview</i>		
<i>8</i>	<i>Substrate</i>		
<i>9-12</i>	<i>Channel overview</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

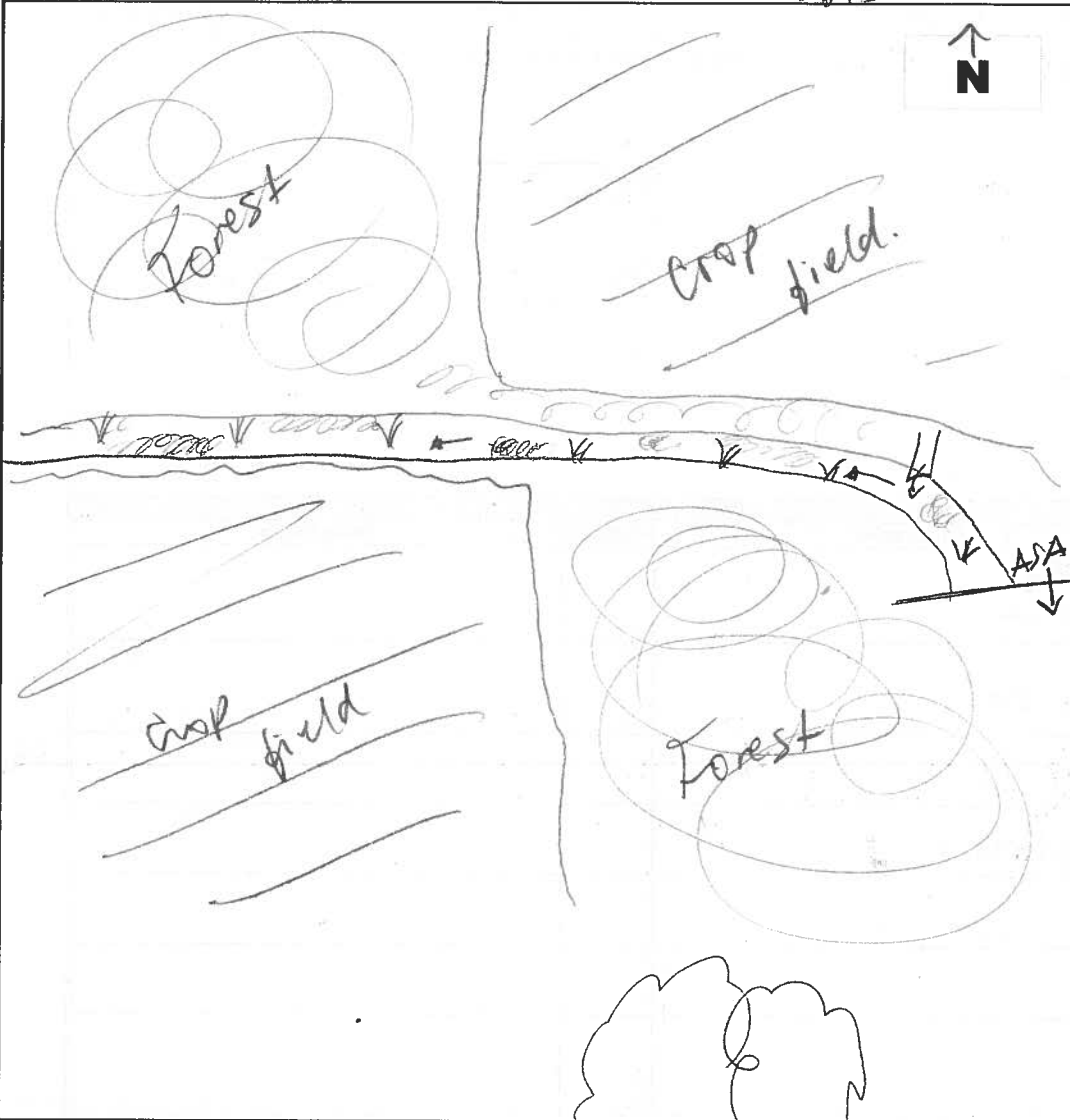
Jericho

Goshen

Bluewater

Land Parcel#

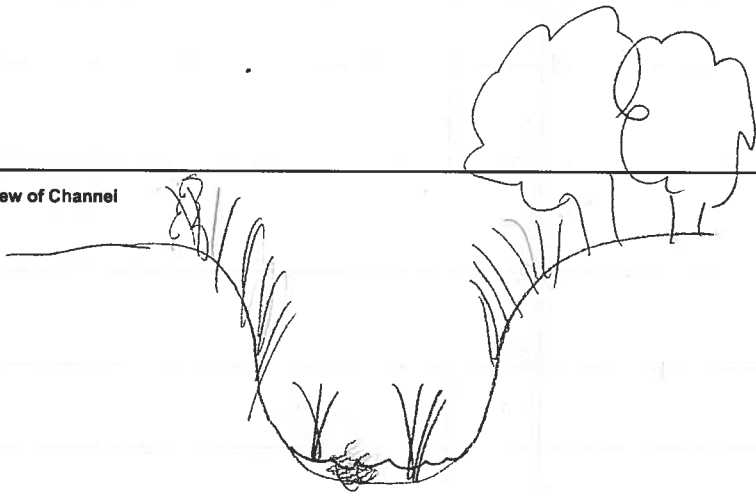
JER3623/ Site ID R4B
3613



LEGEND

- 10d depth (cm) →
- 0w width →
- Riffle →
- Run/Glide →
- Pool ○
- Island/Bar ■
- Fine Substrate ▨
- Gravel Substrate ###
- Cobble/Boulder ○○○○
- Debris ***
- Cattail CT
- SV/FV Submerg/Floet Veg
- EV Emergent Vegetation
- W Watercress
- Fe Iron Staining
- Eroded Bank |||||
- Riprap / Other Stabilization xxx
- Instream Log/Tree ⊠
- Dam/Weir / Obstruction ***
- Riparian Tree ⊙
- Seep/Spring ↴
- Undercut Bank —
- Barrier to Fish Movement —
- Seasonal Barrier -S-
- Fence line -x-x-
- Culvert ⊥

Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: Justin Jones Date: Jun 11/12

Water Bodies Assessment Field Collection Form

AECOM		Page 1 of 4
General Information		
Study Area: <u>ericho</u>	Goshen	Bluewater
Land Parcel# <u>JER36204</u>	Site ID: <u>R4B</u>	
Date: <u>May 23/12</u>	Start time: <u>13:45</u>	End Time: <u>14:45</u>
Weather Conditions: <u>Sunny 25°C</u>	Field Crew: <u>C. Boros, J. Epp</u>	
	Field Notes By: <u>C. Boros</u>	
Site Location		
<u>Arkona Rd, south of Cedar Point Ln</u>		
<u>ASA adjacent property</u>		
UTM Co-ordinates (continue on page 3 if necessary)		
Easting: <u>431365</u>	Northing: <u>4773852</u>	Description: <u>R43624</u>
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Easting: _____	Northing: _____	Description: _____
Surrounding Landuse		Type of Watercourse
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>
Other <input type="checkbox"/>		Channelized <input checked="" type="checkbox"/>
		Natural Channel <input type="checkbox"/>
Description: <u>crop fields</u>		Description: <u>straight</u>
Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)		
<u>none observed</u>		
Is any portion of the water body underground or not as mapped? <u>Y</u> / (N)		
If Yes describe:		
GPS Coordinate: Easting -	Northing -	Description -
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)		
<u>flat</u>		
In-Situ Water Quality		Ground Water and Seepage Indicators
WT (°C): <u>/</u>	AT (°C): <u>/</u>	Watercress <input type="checkbox"/>
pH: <u>/</u>	Cond (s/cm): <u>/</u>	Bank Seepage <input type="checkbox"/>
D.O. (mg/L): <u>/</u>		Iron Staining <input type="checkbox"/>
Water Clarity: Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	None <input checked="" type="checkbox"/>
		Bubbling <input type="checkbox"/>
Water Colour: <u>n/a</u>		Other <input type="checkbox"/>
Notes: <u>ASA - no wq</u>		Details: <u>/</u>

Water Bodies Assessment Field Collection Form

Stream Morphology									
Site Length (m): 15m 15m			Bank Stability:						
Channel Dimensions			Stable	Slightly unstable	Moderately unstable				
Mean Wetted Width (m):	1.4	Mean Wetted Depth (m):	0.08	Left Bank	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Mean Bankfull Width (m):	2	Mean Bankfull Depth (m):	0.4	Right Bank	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Mean Top of Bank Width (m):	6	Mean Top of Bank Depth (m):	3	Description: well veg					
Flow Description: (high or low flow conditions, stagnant, etc)									
slow flow									
Habitat									
Substrate (<=>)			Morphological Structure (%)						
Bo - Boulder	Description silt, mk > gr = sa > c		Pool	Riffle	Run	Flat			
Co - Cobble			r	/	/	100			
Gr - Gravel			Notes: straight						
Sa - Sand									
Si - Silt									
Cl - Clay									
MK - Muck									
DT - Detritus									
Instream Cover (%)									
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks			
			5	75		Average Depth: (% Cover)			
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%									
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)									
algae blooms > attached algae > grasses									
Canopy Cover (% closed cover):			Types of Cover (% cover)						
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	75	Shrubs	20	Man-made structures	
90-80%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	5	Herbaceous		Other	
60-30%	<input checked="" type="checkbox"/>								
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%									
Notes: (vegetation species, types of structures)									
maple, ash									
Riparian Vegetation									
Width and Description of riparian vegetation:			RB - 5m - meadow						
LB - 5m - meadow									
Overhanging Vegetation Present <input checked="" type="checkbox"/>			% Overhanging Vegetation:						
Description of Overhanging Vegetation:									
/									
Obstructions to Fish Passage									
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>		
Description of Barrier:									
Height of Barrier (m)			GPS Coordinates:						

Water Bodies Assessment Field Collection Form

AECOM

Date: *May 23 / 12*

Land Parcel/Site ID: *JER 3624 R4B*

Page 3 of 4

Other General Comments Regarding the Study Area:

→ Could not assess why far - only 15m and then a Culvert present

→ same as R4 on JER-3623 → straight channelled watercourse choked w/ algae + grasses, substrate silt, cl, mk

Additional UTM Coordinates:

Photo log			
Picture #	Description	Picture #	Description
<i>1a</i>	<i>sheet</i>		
<i>1b</i>	<i>preview</i>		
<i>2</i>	<i>file chain input</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

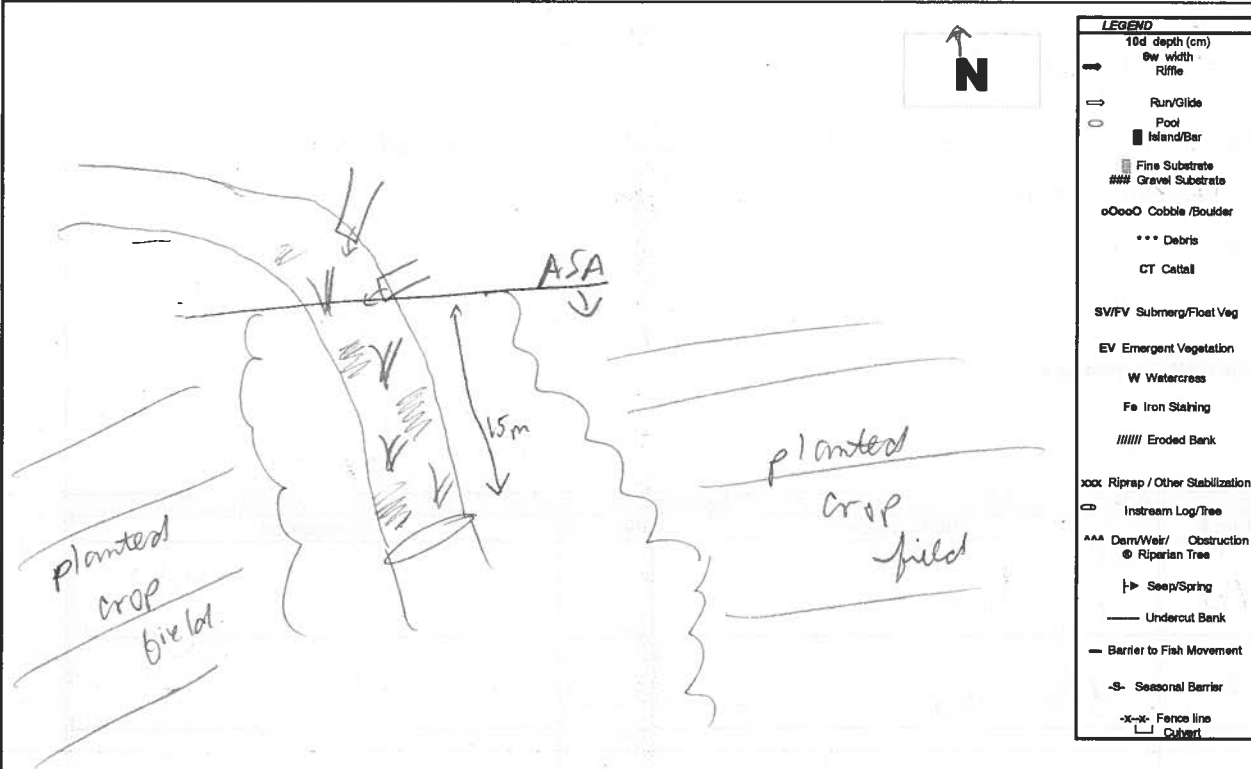
Bluewater

Land Parcel#

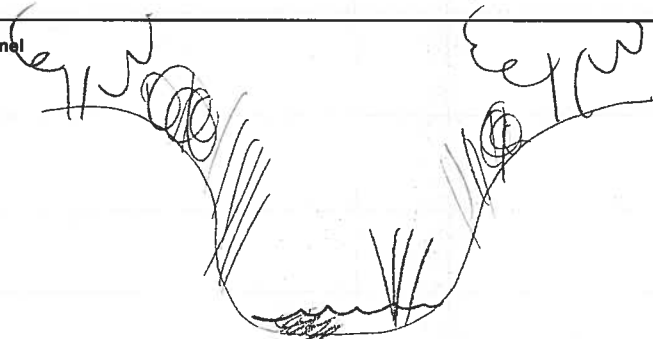
JER 3624

Site ID

R4B



Horizontal View of Channel



Initial QA/QC By:

Bentley

Date:

May 30, 2012

Technical QA/QC By:

Slatten

Date:

June 11/12

**Assessment of Non-Water Body
(update to mapping required)**

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3614^{JER} / 3618 Site ID: R4.51
 Date: May 24/12 Start time: 9:50 am End Time: 10:00 am
 Weather Conditions: Sunny, 18°C Field Crew: C. Barros, J. Epp
 Field Notes By: C. Barros

Site Location

Gordon Rd, south of Cedar point Ln

ASA
for 3618

UTM Co-ordinates

Easting: 430159 Northing: 4773642 Description: R4.51 JER 3614
 Easting: Northing: Description:
 Easting: Northing: Description:
 Easting: Northing: Description:

Surrounding Landuse

Residential
 Agriculture
 Forest
 Other
 Meadow
 Wetland
 Livestock

Description: planted corn

Ground Water and Seepage Indicators

Watercress
 Iron Staining
 Bubbling
 Bank Seepage
 None

Details:

Feature Description

Is the mapped water body any of the below:

- 1) a grassed waterway? Y / (N)
- 2) Temporary channel for surface drainage, that can be tilled or driven through? (Y) / N
- 3) Rock chutes or spillways? Y / (N)
- 4) Roadside ditches that are not connected or do not contain a permanent or intermittent stream? (Y) / N
- 5) Temporarily ponded areas that are normally farmed? Y / (N)
- 6) Artificial bodies of water intended for storage, treatment for farming purposes? Y / (N)
- 8) Any other:

Description: (i.e. length of change, if it reappears, if there is evidence of water)

starts as roadside ditch (dry at time of investigation)
 then is ploughed through in crop field

Photo log

Picture #	Description	Picture #	Description
<u>1-</u>	<u>roadside ditch</u>		
<u>2</u>	<u>overview of field</u>		

Assessment of Non-Water Body
(update to mapping required)

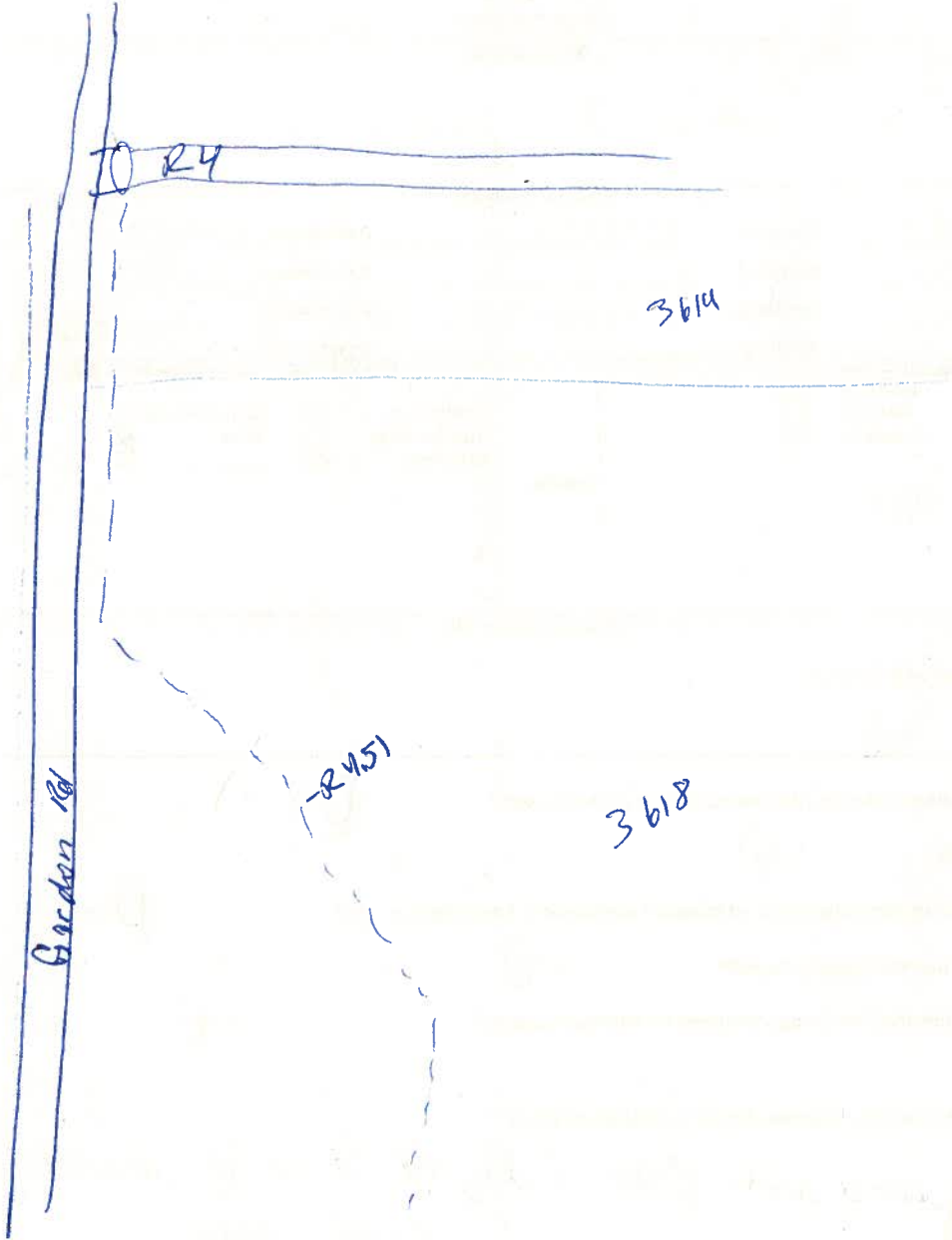
AECOM

Date: May 24/12

Land Parcel/Site ID: JER 3614/3618 RA.51 Page 2 of 2

Site Sketch

N



Initial OAI @ L. Bentley May 30, 2012

Sketcher June 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER3614 Site ID: R4C
 Date: May 24/12 Start time: 10:00 End Time: 10:30
 Weather Conditions: Sunny 18°C Field Crew: C. Boros, J. Epp
 Field Notes By: J. Epp

Site Location

Gordon Rd, South of Cedar Point Line.

UTM Co-ordinates (continue on page 3 if necessary)

Eastings: <u>430162</u>	Northing: <u>4773662</u>	Description: <u>R4JER1614S</u>
Eastings: <u>430118</u>	Northing: <u>4773662</u>	Description: <u>R4JER1614WQ</u>
Eastings: <u>430264</u>	Northing: <u>4773654</u>	Description: <u>R4JER1614E</u>
Eastings:	Northing:	Description:

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	
Other <input type="checkbox"/>			
Description: <u>Row crops.</u>		Description: <u>Straight channel.</u>	

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)
none seen.

Is any portion of the water body underground or not as mapped? Y/N
 If Yes describe:

GPS Coordinate: Easting -	Northing -	Description-
Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body) <u>Flat agricultural land.</u>		

In-Situ Water Quality		Ground Water and Seepage Indicators	
WT (°C): <u>19.74</u>	AT (°C): <u>18</u>	Watercress <input type="checkbox"/>	Bank Seepage <input type="checkbox"/>
pH: <u>7.38</u>	Cond (µs/cm): <u>680</u>	Iron Staining <input type="checkbox"/>	None <input checked="" type="checkbox"/>
D.O. (mg/L) <u>15.77</u>		Bubbling <input type="checkbox"/>	<input type="checkbox"/>
Water Clarity: <u>Clear</u> <input checked="" type="checkbox"/> Turbid <input type="checkbox"/>		Other <input type="checkbox"/>	
Water Colour: <u>no colour.</u>		Details:	
Notes: <u>taken in clear water, near algae</u>			

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <u>70 m</u>			Bank Stability:																	
Channel Dimensions			<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Stable</td> <td style="text-align: center;">Slightly unstable</td> <td style="text-align: center;">Moderately unstable</td> <td style="text-align: center;">Unstable</td> </tr> <tr> <td>Left Bank</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <u>1</u>	Mean Wetted Depth (m): <u>0.15</u>		Description: <u>well vegetated banks no signs of erosion</u>																	
Mean Bankfull Width (m): <u>1.5</u>	Mean Bankfull Depth (m): <u>0.4</u>																			
Mean Top of Bank Width (m): <u>5</u>	Mean Top of Bank Depth (m): <u>3</u>																			
Flow Description: (high or low flow conditions, stagnant, etc) <u>low flow</u>																				
Habitat																				
Substrate (<=>) Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus			Morphological Structure (%)																	
Description <u>Si = Cl</u>			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">100</td> </tr> </table>			Pool	Riffle	Run	Flat				100							
			Pool	Riffle	Run	Flat														
			100																	
			Notes: <u>low flow</u>																	
Instream Cover (%) <u>90</u>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks														
/	✓	✓	✓	90	✓	Average Depth: / (% Cover)														
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.) <u>algae floating + attached, water plantain, grasses.</u>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees	<u>1</u>	Man-made structures														
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses	<u>98</u>	Herbaceous														
60-30%	<input type="checkbox"/>					Other														
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures) <u>grasses, red osier dogwood, poplar</u>																				
Riparian Vegetation																				
Width and Description of riparian vegetation: LB - <u>1 m</u>			RB - <u>1 m</u>																	
Overhanging Vegetation Present <u>Y</u> (N)			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>													
Description of Barrier:																				
Height of Barrier (m)			GPS Coordinates:																	

Water Bodies Assessment Field Collection Form

AECOM

Date: May 24/12

Land Parcel/Site ID: JER3614

Page 3 of 4

R4C

Other General Comments Regarding the Study Area:

Straight channelized water course between two agricultural field. Lots of submergent algae present. One minnow seen. Very low canopy cover, only one tree present in reach.

Additional UTM Coordinates:

Green frog calls heard.

Photo log

Picture #	Description	Picture #	Description
1a 1b	Sheet channel view looking US.		
2	overview looking US		
3	In channel view looking US		
4	In channel view looking DS		
5	Channel view looking US		
6	Channel view looking US		
7	Channel view looking DS		

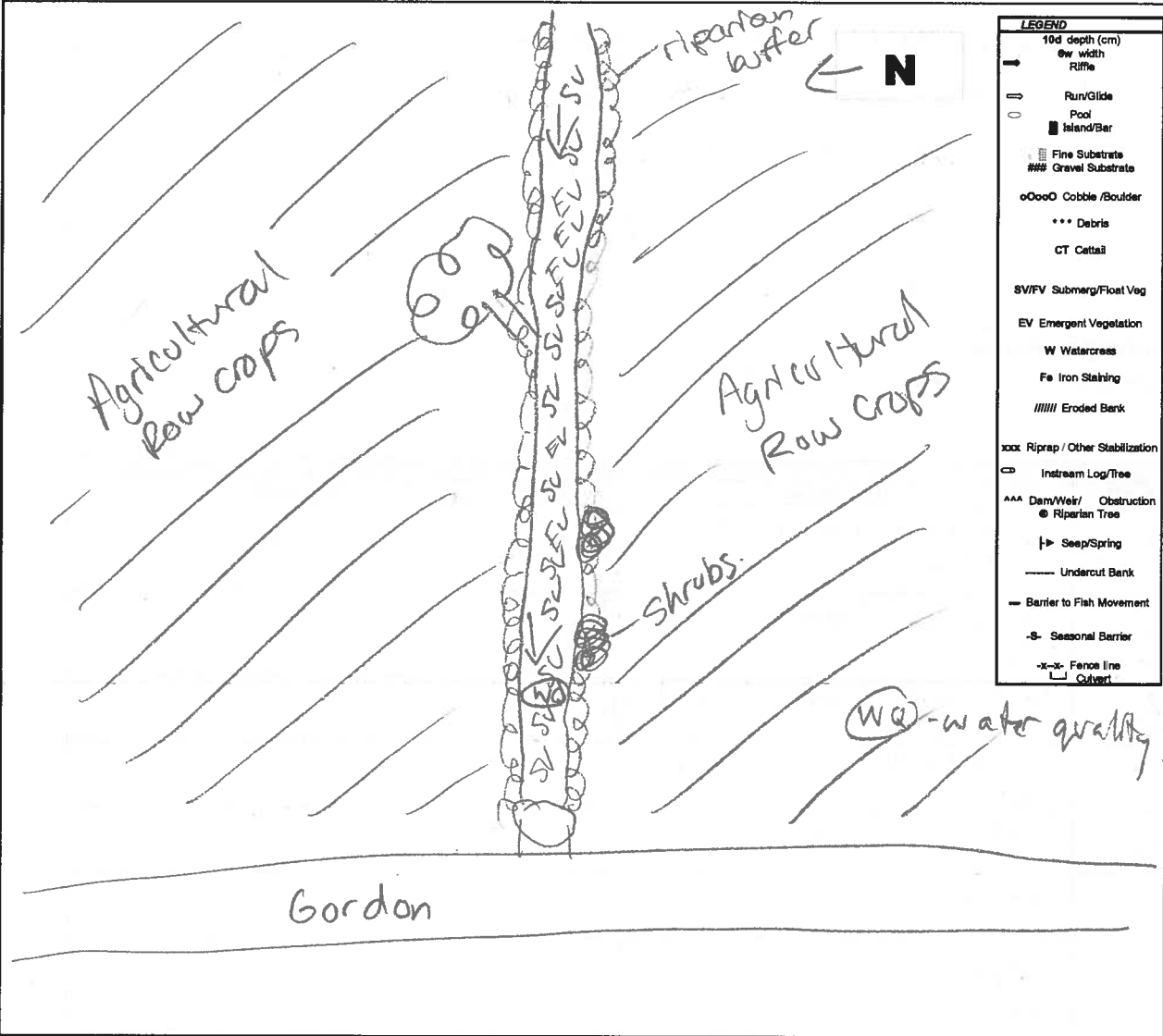
Water Bodies Assessment Field Collection Form

AECOM

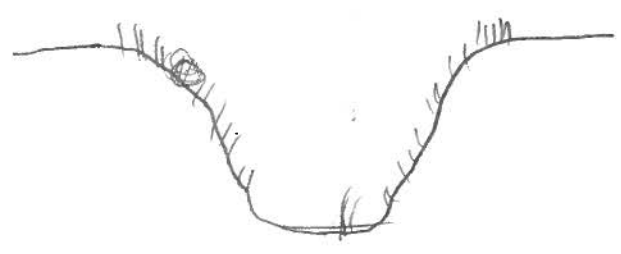
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# JE R3614 Site ID R4L



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: May 30, 2012 Technical QA/QC By: [Signature] Date: June 11/12

Water Bodies Assessment Field Collection Form

AECOM

Page 1 of 4

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# JER3606/3598/3549 Site ID: R4 C
 Date: May 24/12 Start time: 8:00 am End Time: 9:30 am
 Weather Conditions: Sunny, 12°C Field Crew: C. Barros, J. EPP
 Field Notes By: C. Barros

ASA
3599

Site Location

Gordon Rd. south of Cedar Point Ln

UTM Co-ordinates (continue on page 3 if necessary)

Easting: <u>430149</u>	Northing: <u>4773665</u>	Description: <u>R4 JER3606</u>
Easting: <u>429662</u>	Northing: <u>4773702</u>	Description: <u>R4 JER3606wg</u>
Easting: <u>429067</u>	Northing: <u>4773905</u>	Description: <u>R4 JER3606e</u>
Easting:	Northing:	Description:

Surrounding Landuse

Residential Meadow
 Agriculture Wetland
 Forest Livestock
 Other

Type of Watercourse

Intermittent Channelized
 Permanent Natural Channel
 Ephemeral

Description: agri corn crop for most forest ~100m on North side only

Description: straight

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile drain inputs - some flowing

Is any portion of the water body underground or not as mapped? Y/N
 If Yes describe:

GPS Coordinate: Easting - Northing - Description -

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 15.87 AT (°C): 12°C
 pH: 6.34 Cond (µs/cm): 613
 D.O. (mg/L) 6.66
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: standing water algae present

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology																				
Site Length (m): <i>800+ m</i>			Bank Stability:																	
Channel Dimensions			<table style="width: 100%; text-align: center;"> <tr> <td></td> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>				Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Stable	Slightly unstable	Moderately unstable	Unstable																
Left Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Right Bank	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
Mean Wetted Width (m): <i>1.7</i>	Mean Wetted Depth (m): <i>0.15</i>		Description: <i>well vegetated</i>																	
Mean Bankfull Width (m): <i>2</i>	Mean Bankfull Depth (m): <i>0.4</i>																			
Mean Top of Bank Width (m): <i>5</i>	Mean Top of Bank Depth (m): <i>3</i>																			
Flow Description: (high or low flow conditions, stagnant, etc)																				
<i>v. slow flow, low gradient</i>																				
Habitat																				
Substrate (<=>)		Description		Morphological Structure (%)																
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		<i>mk = Si = cl.</i>		<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td><i>1</i></td> <td></td> <td></td> <td><i>99</i></td> </tr> </table>		Pool	Riffle	Run	Flat	<i>1</i>			<i>99</i>							
Pool	Riffle	Run	Flat																	
<i>1</i>			<i>99</i>																	
				Notes: <i>straight -> one large pool at tile drain outlet</i>																
Instream Cover (%) <i>90</i>																				
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None															
/	/	/	/	<i>90</i>	/															
					Undercut Banks															
					Average Depth: /															
					(% Cover) /															
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%																				
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)																				
<i>algae - blooms, attached >> grasses > pondweed > sedges, water plantain</i>																				
Canopy Cover (% closed cover):			Types of Cover (% cover)																	
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees <i>50</i>	Shrubs <i>50</i>															
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses _____	Herbaceous _____															
60-30%	<input type="checkbox"/>				Man-made structures _____															
					Other _____															
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%																				
Notes: (vegetation species, types of structures)																				
<i>willow < elm</i>																				
Riparian Vegetation																				
Width and Description of riparian vegetation:			RB - <i>1.5m</i>																	
<i>LB - before forest 1.5m grasses</i>			<i>grasses >> shrubs</i>																	
Overhanging Vegetation Present <i>Y/N</i>			% Overhanging Vegetation:																	
Description of Overhanging Vegetation:																				
Obstructions to Fish Passage																				
None Observed	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>															
				Low Flow Barrier	<input type="checkbox"/>															
Description of Barrier:																				
/																				
Height of Barrier (m)			GPS Coordinates:																	
/			/																	

Water Bodies Assessment Field Collection Form

AECOM

Date: *May 24/12*

Land Parcel/Site ID: *JER 3606* Page 3 of 4
R4C3598/3599

Other General Comments Regarding the Study Area:

- green frog ^{*Ambicam*} + track observed
- 30m downstream similar to study area

Watercourse is a straight channelized stream that is algae choked. Little canopy cover present in crop field and some canopy cover when it flows adjacent to forest. Stream similar - does not change as it

Additional UTM Coordinates:

flows onto JER 3599

Photo log

Picture #	Description	Picture #	Description
<i>1a</i>	<i>Sheet</i>		
<i>1b</i>	<i>overview from road</i>		
<i>2</i>	<i>culvert</i>		
<i>3-183</i>	<i>channel - walking west overview</i>		
<i>184</i>	<i>culvert at bend overview looking w</i>		
<i>15-20</i>	<i>channel overview before forest</i>		
<i>21-23</i>	<i>channel by forest</i>		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

Blauwater

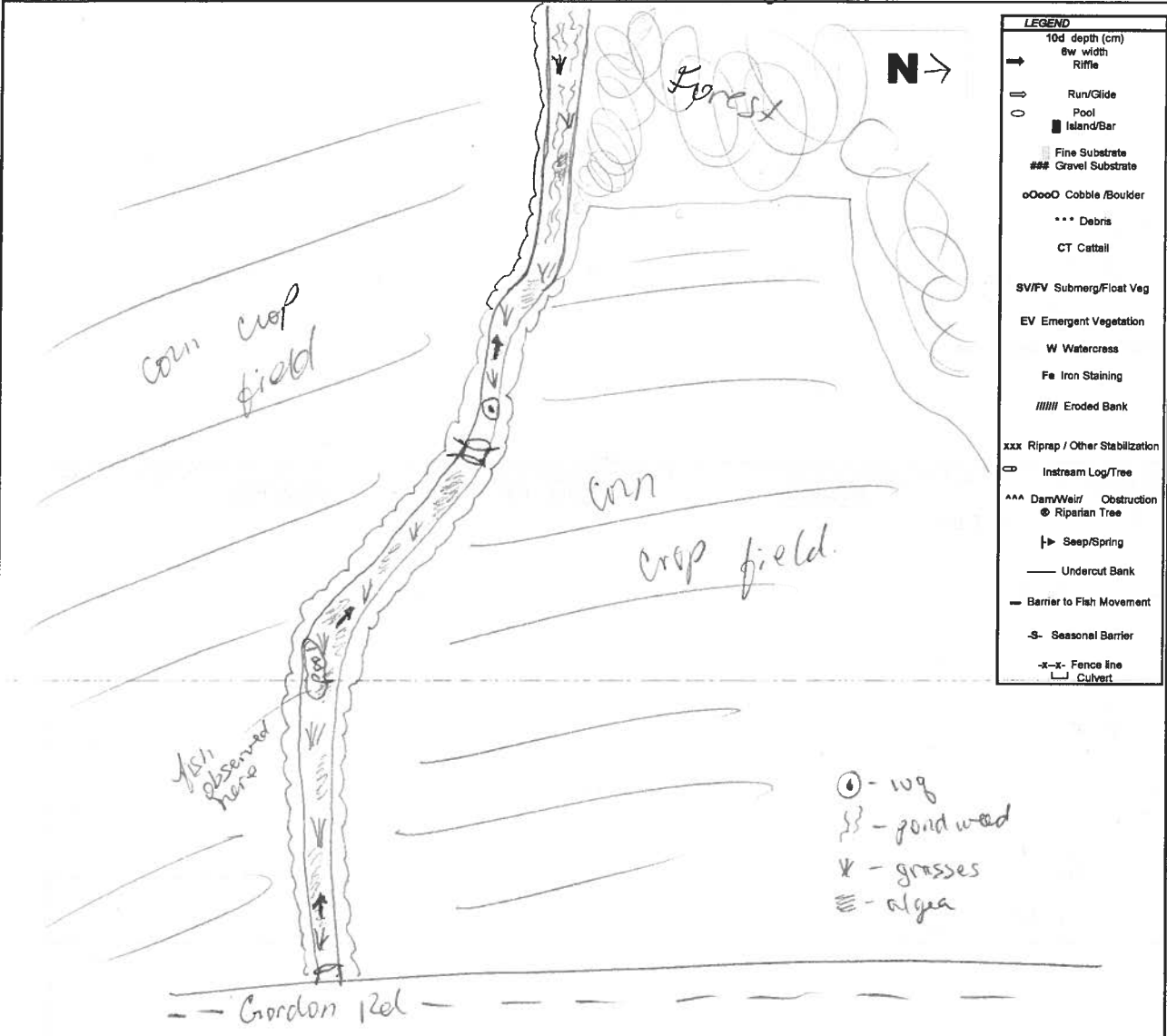
Land Parcel#

JER 3606/

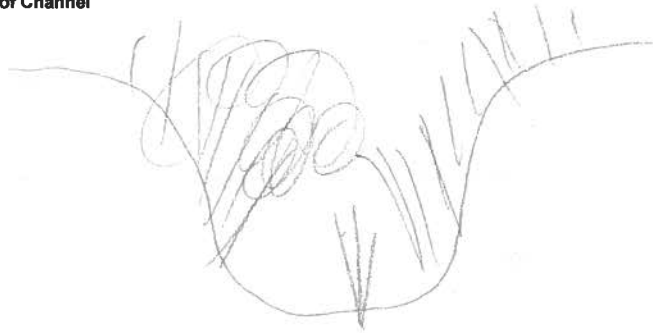
Site ID

R4C

3596/3399



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: May 30, 2012

Technical QA/QC By: [Signature]

Date: June 11/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 3607 Site ID: R4C
 Date: May 14/12 Start time: 18:00 End Time: 18:40

Weather Conditions: Sunny 18°C Field Crew: C. Baras, A. Arsenault
 Field Notes By: C. Baras

Site Location

Gordon Bt, North of Jura Ln

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 0430149 Northing: 4773663 Description: JER R4 start
 Easting: 0429945 Northing: 4773663 Description: JER R4 end
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse Residential <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Other <input type="checkbox"/>		Meadow <input type="checkbox"/> Wetland <input type="checkbox"/> Livestock <input type="checkbox"/>		Type of Watercourse Intermittent <input type="checkbox"/> Permanent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		Channelized <input type="checkbox"/> Natural Channel <input type="checkbox"/>	
Description: <u>corn crop field</u>				Description: _____			

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile inputs noted - flowing

Is any portion of the water body underground or not as mapped? Y/N
 If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat

In-Situ Water Quality

WT (°C): 22.81 AT (°C): 18°C
 pH: 8.62 Cond (µs/cm): 527
 D.O. (mg/L): 0.01
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: flat run area, algae present

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology						
Site Length (m): <i>100m</i>		Bank Stability:				
Channel Dimensions		Stable	Slightly unstable			
Mean Wetted Width (m): <i>2</i>	Mean Wetted Depth (m): <i>0.2</i>	Moderately unstable	Unstable			
Mean Bankfull Width (m): <i>3</i>	Mean Bankfull Depth (m): <i>1</i>	Left Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>			
Mean Top of Bank Width (m): <i>5</i>	Mean Top of Bank Depth (m): <i>3</i>	Right Bank <input checked="" type="checkbox"/>	<input type="checkbox"/>			
Flow Description: (high or low flow conditions, stagnant, etc)		Description: <i>well vegetated</i>				
<i>slow flow</i>						
Substrate (< = >)		Habitat				
Bo - Boulder	Description <i>sa=si > d</i>	Morphological Structure (%)				
Co - Cobble		Pool	Riffle	Run	Flat	
Gr - Gravel		<i>/</i>	<i>/</i>	<i>/</i>	<i>100</i>	
Sa - Sand		Notes: <i>straight</i>				
Si - Silt						
Cl - Clay						
MK - Muck						
DT - Detritus						
Instream Cover (%) <i>90</i>						
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
				<i>90</i>		Average Depth: (% Cover)
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%						
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)						
<i>algae blooms (floating) > algae attached > grasses</i>						
Canopy Cover (% closed cover):			Types of Cover (% cover)			
100-90%	<input type="checkbox"/>	30-1%	<input checked="" type="checkbox"/>	Trees <i>70</i>	Shrubs	Man-made structures
90-60%	<input type="checkbox"/>	0%	<input type="checkbox"/>	Grasses <i>30</i>	Herbaceous	Other
60-30%	<input type="checkbox"/>					
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%						
Notes: (vegetation species, types of structures)						
<i>could not ID</i>						
Riparian Vegetation						
Width of riparian vegetation: <i>0.5m - grasses</i>						
Description of vegetation community surrounding 30 m from watercourse:						
<i>crop corn fields</i>						
Obstructions to Fish Passage						
No Obstructions <input checked="" type="checkbox"/>	Man-Made <input type="checkbox"/>	Natural <input type="checkbox"/>	Low Flow Barrier <input type="checkbox"/>			
Description of Barrier:						
Height of Barrier (m)			GPS Coordinates:			

Water Bodies Assessment Field Collection Form

AECOM

Date: *May 14/12*

Land Parcel/Site ID: *JER 3607 R4C*

Page 3 of 4

Other General Comments Regarding the Study Area:

*Straight channelized features used for tile drainage
 ↳ algae choked
 → R4.45 appears to be buried - flowing into R4*

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
<i>1-3</i>	<i>overview</i>		
<i>4</i>	<i>R4.45 input</i>		

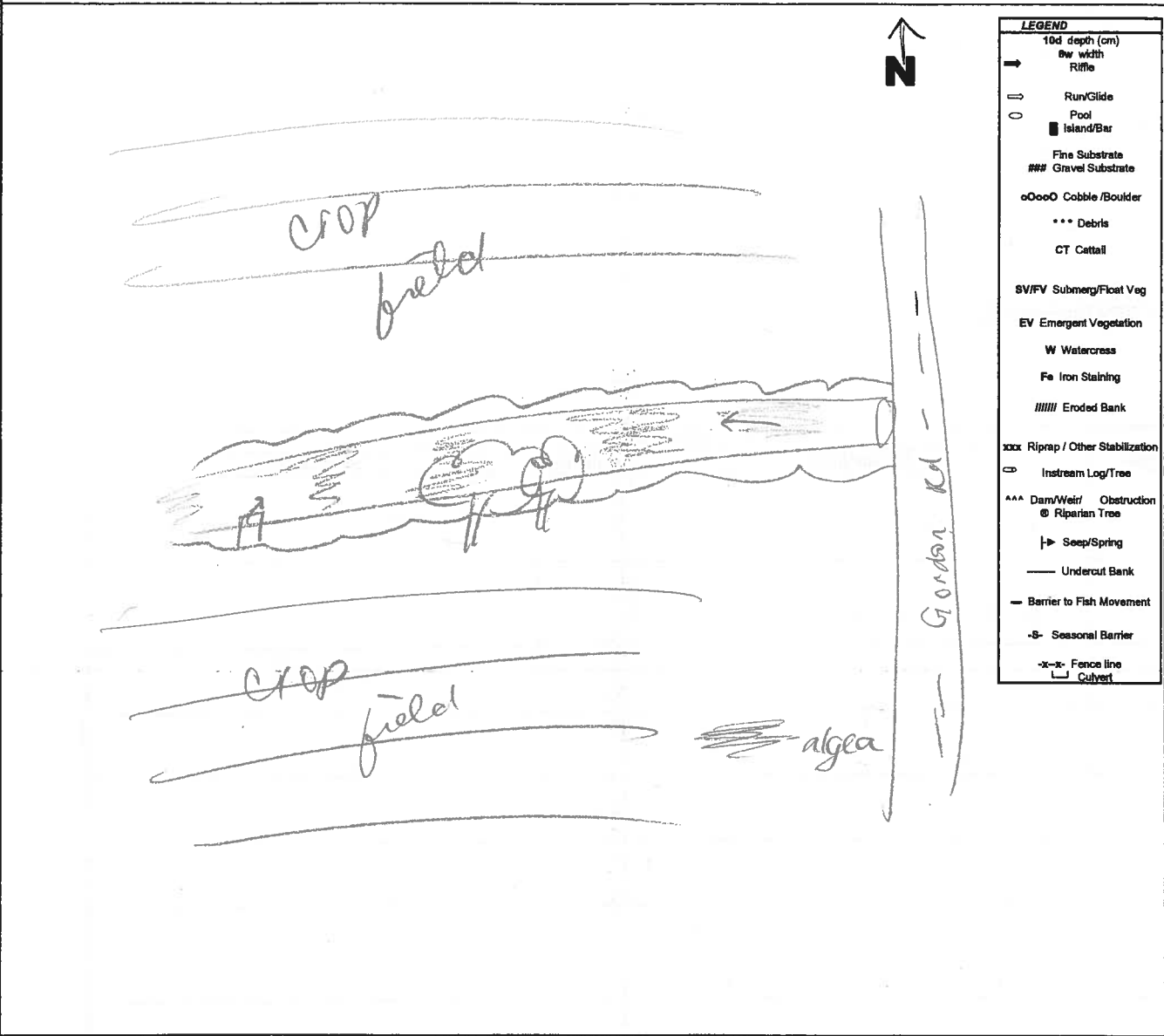
Water Bodies Assessment Field Collection Form

AECOM

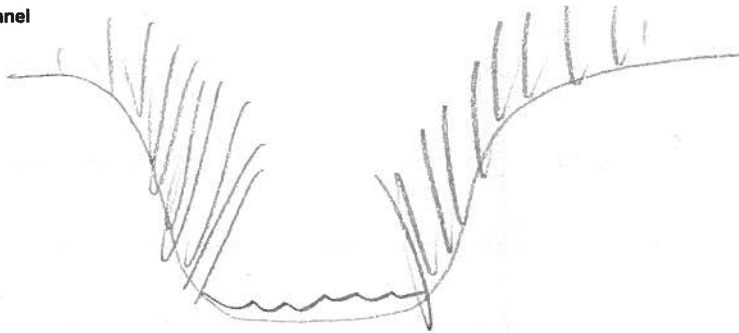
Page 4 of 4

Watercourse Sketch

Study Area: Jericho Goshen Bluewater Land Parcel# 3607 Site ID R4C



Horizontal View of Channel



Initial QA/QC By: L. Bentley

Date: Nov 22, 2012

Technical QA/QC By:

Date:

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# Jer 1079 Site ID: ~~R4.28~~ R4E
 Date: May 2/12 Start time: 16:00 End Time: 16:50

Weather Conditions: Cloudy, 20°C Field Crew: C. Boros, J. Harnden
 Field Notes By: C. Boros

Site Location

Cedar Point cr, west of Northville Rd.

UTM Co-ordinates (continue on page 3 if necessary)

Easting: 0427386 Northing: 4774795 Description: at culvert
 Easting: 0427218 Northing: 4775201 Description: property line
 Easting: _____ Northing: _____ Description: _____
 Easting: _____ Northing: _____ Description: _____

Surrounding Landuse		Type of Watercourse	
Residential <input type="checkbox"/>	Meadow <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Channelized <input checked="" type="checkbox"/>
Agriculture <input checked="" type="checkbox"/>	Wetland <input type="checkbox"/>	Permanent <input checked="" type="checkbox"/>	Natural Channel <input type="checkbox"/>
Forest <input type="checkbox"/>	Livestock <input type="checkbox"/>	Ephemeral <input type="checkbox"/>	_____ <input type="checkbox"/>
Other <input checked="" type="checkbox"/>			

Description: West side forest just cleared Description: Starting to naturalize, well vegetated

Notes: (Include any inputs into the system i.e. tile drainage, seepages, overland flow)

tile drain input - flowing

Is any portion of the water body underground or not as mapped? Y / N
 If Yes describe:

GPS Coordinate: Easting - _____ Northing - _____ Description - _____

Description of Land Topography Surrounding Water Body (rolling hills, sloping towards water body)

flat - land recently cleared on west bank

In-Situ Water Quality

WT (°C): ~~17.20~~ 18.35 AT (°C): 23
 pH: ~~8.25~~ 8.61 Cond (µs/cm): 561
 D.O. (mg/L) ~~3.15~~ 18.41
 Water Clarity: Clear Turbid

Water Colour: n/a

Notes: algae observed

Ground Water and Seepage Indicators

Watercress Bank Seepage
 Iron Staining None
 Bubbling _____
 Other

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology															
Site Length (m): <i>~150m</i>		Bank Stability:													
Channel Dimensions		<table style="width: 100%; text-align: center;"> <tr> <td>Stable</td> <td>Slightly unstable</td> <td>Moderately unstable</td> <td>Unstable</td> </tr> <tr> <td>Left Bank <input checked="" type="checkbox"/></td> <td>→ <input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Right Bank <input checked="" type="checkbox"/></td> <td>→ <input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		Stable	Slightly unstable	Moderately unstable	Unstable	Left Bank <input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Right Bank <input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stable	Slightly unstable	Moderately unstable	Unstable												
Left Bank <input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Right Bank <input checked="" type="checkbox"/>	→ <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>												
Mean Wetted Width (m): <i>1.7</i>	Mean Wetted Depth (m): <i>0.22</i>	Description: <i>slumping observed but becoming revegetated</i>													
Mean Bankfull Width (m): <i>3</i>	Mean Bankfull Depth (m): <i>0.7</i>														
Mean Top of Bank Width (m): <i>7</i>	Mean Top of Bank Depth (m): <i>2</i>														
Flow Description: (high or low flow conditions, stagnant, etc)															
<i>slow flow</i>															
Substrate (<=>)		Habitat													
Bo - Boulder Co - Cobble Gr - Gravel Sa - Sand Si - Silt Cl - Clay MK - Muck DT - Detritus		<table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="4">Morphological Structure (%)</th> </tr> <tr> <th>Pool</th> <th>Riffle</th> <th>Run</th> <th>Flat</th> </tr> <tr> <td></td> <td></td> <td></td> <td><i>100</i></td> </tr> </table> Notes: <i>slow moving</i>		Morphological Structure (%)				Pool	Riffle	Run	Flat				<i>100</i>
Morphological Structure (%)															
Pool	Riffle	Run	Flat												
			<i>100</i>												
Description: <i>Si > clay, mk</i>															
Instream Cover (%)															
Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks									
	<i>1%</i>			<i>90</i>		Average Depth: (% Cover)									
Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%															
*Aquatic Vegetation Species Present (algae, submergent, emergent etc.)															
<i>Submergent pondweed mats almost entire stream, emergent grasses, algae, cattail</i>															
Canopy Cover (% closed cover):			Types of Cover (% cover)												
100-90%	<input type="checkbox"/>	30-1% <input checked="" type="checkbox"/>	Trees	Shrubs	Man-made structures										
90-60%	<input type="checkbox"/>	0% <input type="checkbox"/>	Grasses <i>100</i>	Herbaceous	Other										
60-30%	<input type="checkbox"/>														
Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%															
Notes: (vegetation species, types of structures)															
Riparian Vegetation															
Width of riparian vegetation: <i>< 0.5m</i>															
Description of vegetation community surrounding 30 m from watercourse: <i>tilled farmland, cleared forest</i>															
Obstructions to Fish Passage															
No Obstructions	<input checked="" type="checkbox"/>	Man-Made	<input type="checkbox"/>	Natural	<input type="checkbox"/>	Low Flow Barrier	<input type="checkbox"/>								
Description of Barrier:															
Height of Barrier (m)			GPS Coordinates:												

Water Bodies Assessment Field Collection Form

AECOM

Date: *May 2/12*

Land Parcel/Site ID: *Tr 1079*
21.2884E

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Other General Comments Regarding the Study Area:

- from road to 60 downstream good V04 fish habitat
- frogs observed.
- channelized stream w slow flow, straight flat morph, high in stream cover - aquatic veg (pondweed mats), no canopy cover
- 30m downstream from study area similar
- assessed entire property.

Additional UTM Coordinates:

- 10 m South of road similar to study area

Photo log

Picture #	Description	Picture #	Description
1a 1b	sheet overview	14	overview
2	pool at culvert	15	Cattail clump
3	Pondweed - mat at culvert	16	overview
4	channel overview	17	downstream of 1079 property
5	culvert ~5m wide	18	South side of road
6	aquatic veg at culvert area	19	culvert
7	channel overview		
8	sub aquatic veg		
9	looking upstream @ 50m from road		
10	looking downstream from 50m mark		
11-12	channel		
13	aquatic veg - pondweed?		

Water Bodies Assessment Field Collection Form

AECOM

Page 4 of 4

Watercourse Sketch

Study Area:

Jericho

Goshen

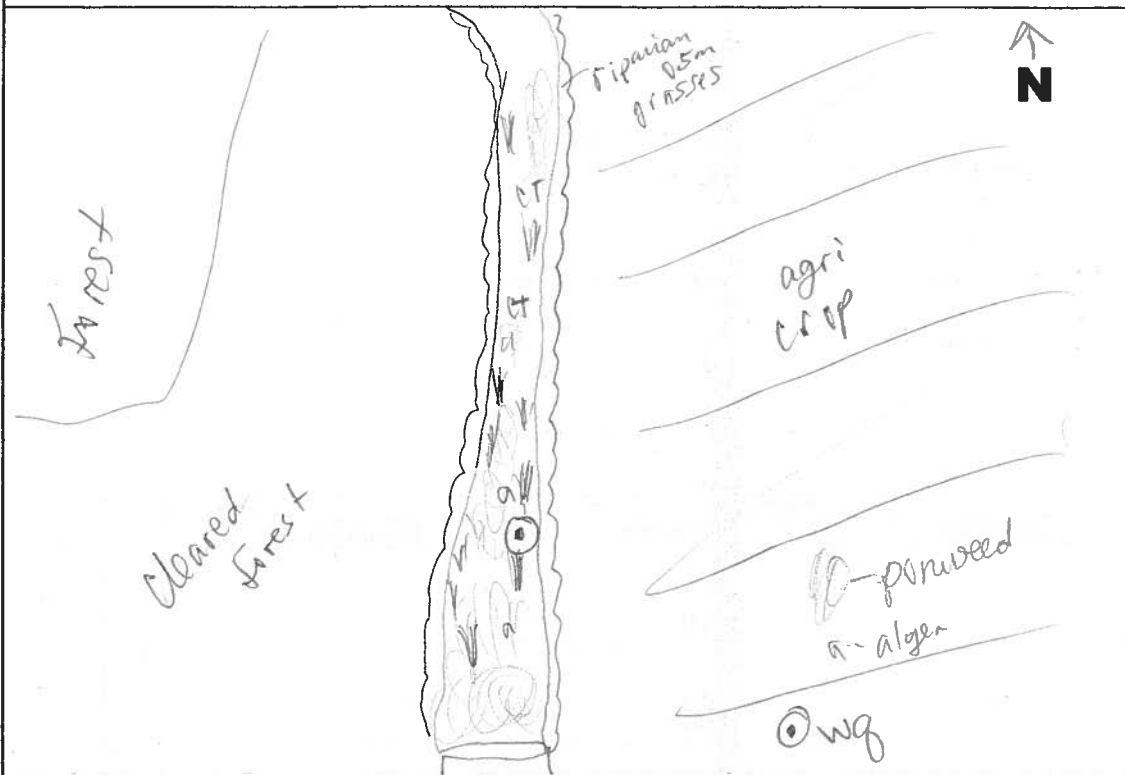
Bluewater

Land Parcel#

1079

Site ID

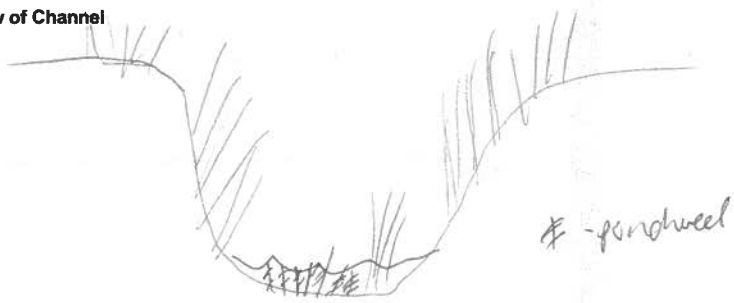
R4.08 R4E



LEGEND

- 10d depth (cm)
- width
- Rifle
- Run/Glide
- Pool
- Island/Bar
- Fine Substrate
- ## Gravel Substrate
- oOooO Cobble/Boulder
- *** Debris
- CT Cattle
- SV/FV Submerg/Float Veg
- EV Emergent Vegetation
- W Watercross
- Fe Iron Staining
- ///// Eroded Bank
- xxx Riprap / Other Stabilization
- ☐ Instream Log/Tree
- *** Dam/Weir Obstruction
- ⊙ Riparian Tree
- ↳ Seep/Spring
- Undercut Bank
- Barrier to Fish Movement
- S- Seasonal Barrier
- x-x- Fence line
- ☐ Culvert

Horizontal View of Channel



Initial QA/QC By:

Jha

Date:

Oct 2/12

Technical QA/QC By:

SARKEN

Date:

May 18/12