Water Bodies Assessment Field Collection Form

Stream Morphology

Site Length (m): 80m

Channel Dimensions

Mean Wetted Width (m):	1.5	**Mean Wetted Depth (m):**	0.05
Mean Bankfull Width (m):	2	**Mean Bankfull Depth (m):**	0.2
Mean Top of Bank Width (m):	4	**Mean Top of Bank Depth (m):**	2.5

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☒	☐	☐	☐
Right Bank	☒	☐	☐	☐

Description: well vegetated

Flow Description: (high or low flow conditions, stagnant, etc)

visible flow, slow

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

sa, si

Morphological Structure (%)

Pool	Riffle	Run	Flat
			100

Notes: straight channel

Instream Cover (%)

Other (Plant debris)	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
3	✓	✓	✓	7	✓	Average Depth: / (% Cover)

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

algea

Canopy Cover (% closed cover):

100-90%	☐	**30-1%**	☐
90-60%	☐	**0%**	☒
60-30%	☐		

Types of Cover (% cover)

Trees _____ **Shrubs** _____ **Man-made structures** _____

Grasses _____ **Herbaceous** _____ **Other** _____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

Riparian Vegetation

Width of riparian vegetation: 0.5m

Description of vegetation commuity surrounding 30 m from watercourse:

grasses, shrubs

Obstructions to Fish Passage

No Obstructions ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier:

Height of Barrier (m)

GPS Coordinates:

Water Bodies Assessment Field Collection Form

AECOM | Date: April 18/19 | Land Parcel/Site ID: GSH 2/9/2024 D13 |

Other General Comments Regarding the Study Area:

- Fish observed
- South side of stream same as north side (~50m dwn/s)

Watercourse straight channel that has been newley dugout with v.l.ittle instream cover and no canopy cover. Substrate soft

Additional UTM Coordinates:

Photo log

Picture #	Description	Picture #	Description
1	- South of the road		
2	North side - overview		
3	Culvert		
4	Substrate		

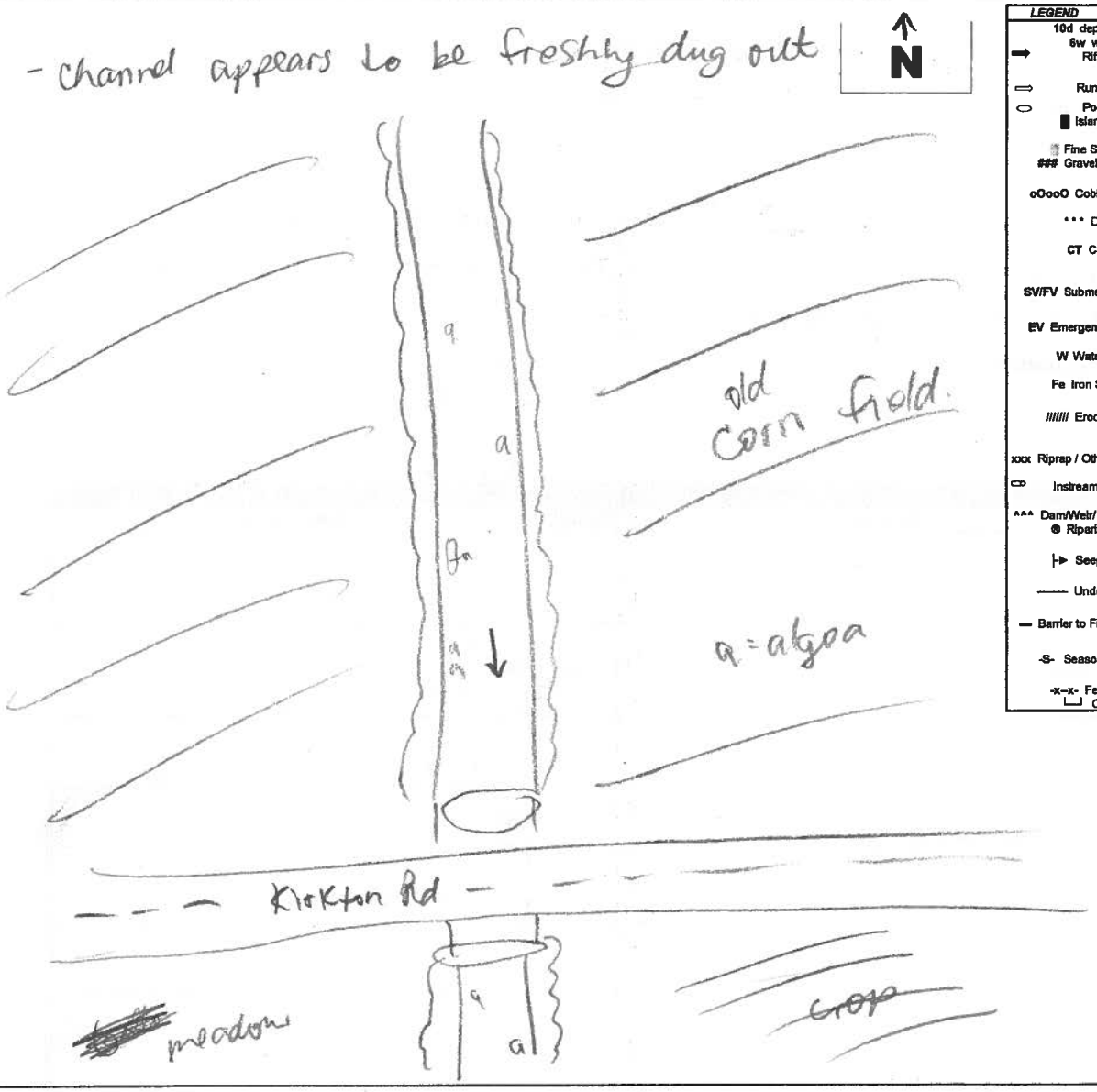
Water Bodies Assessment Field Collection Form

AECOM

Watercourse Sketch

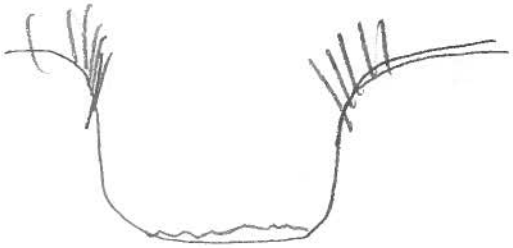
Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GS4211912124 **Site ID** D13

- channel appears to be freshly dug out



LEGEND
- 10d depth (cm) 6w 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 Watercress
- 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: AMS Date: 09/19/2012 Technical QA/QC By: Jantker Date: May 22 12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater Land Parcel# GSH2054 Site ID: D14

Date: June 25/12 Start time: 10:45 End Time: 11:45

Weather Conditions: Sunny, 12°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

Site Location

Babylon Rd, South of Creditor Rd.

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

Easting:	454522	Northing:	4793377	Description:	D14G2054 st
Easting:	454611	Northing:	4793447	Description:	D14G2054 → wg
Easting:	454627	Northing:	4793467	Description:	D14G2054 end.
Easting:		Northing:		Description:	

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☐	Wetland	☐
Forest	☒	Livestock	☐
Other			

Description: Young deciduous forest

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☐
Ephemeral	☐	_____	☐

Description: dry ext channel

Notes: (include any inputs into the system i.e. tile drainage, seepages, overland 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):	16.4	AT(°C):	12°C
pH:	7.89	Cond (µs/cm):	886
D.O. (mg/L)	6.14		

Water Clarity: Clear ☒ Turbid ☐

Water Colour: n/a

Notes: shallow pool ~0.08m

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): 120m

Channel Dimensions

Mean Wetted Width (m):	1	Mean Wetted Depth (m):	0.06
Mean Bankfull Width (m):	2	Mean Bankfull Depth (m):	0.5
Mean Top of Bank Width (m):	4	Mean Top of Bank Depth (m):	2

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☐	☒	☐	☐
Right Bank	☐	☒	☐	☐

Description: opposed soils, v. vulnerable, minor erosion at toe of slope

Flow Description: (high or low flow conditions, stagnant, etc)

slow, low flow

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

Si = Cl = gr > Co > bo

Morphological Structure (%)			
Pool	Riffle	Run	Flat
10	10	10	70

Notes: a few small riffle runs, pool sequences

Instream Cover (%) 60

Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
	10	10	40			Average Depth: (% Cover)

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

/

Canopy Cover (% closed cover):

100-90%	☒	30-1%	☐
90-60%	☐	0%	☐
60-30%	☐		

Types of Cover (% cover)

Trees 100 Shrubs _____ Man-made structures _____

Grasses _____ Herbaceous _____ Other _____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

maple, basswood, ash

Riparian Vegetation

Width and Description of riparian vegetation:

LB - > 15m forest

RB - > 15 m forest

Overhanging Vegetation Present Y / N

% Overhanging Vegetation:

Description of Overhanging Vegetation:

/

Obstructions to Fish Passage

None Observed ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier:

Height of Barrier (m)

GPS Coordinates:

Water Bodies Assessment Field Collection Form

AECOM | Date: June 25/12 | Land Parcel/Site ID: GSH 2054 [redacted] 014 | Page 3 of 4

Other General Comments Regarding the Study Area:

→ Hay (~4) observed

Watercourse is channelized and straight, it runs through a forest area that provides dense canopy cover. Substream cover is moderate & dominated by cobble.

Watercourse flowing in from GSH-1483 is a narrower channel and banks are highly vegetated w grasses. Substrate silty & sandy. Slightly meandering

Additional UTM Coordinates:

Wd = 0.08m Ww = 0.8m
Bd = 0.45 Bw = 2m
TBd = 2 TBw = 4

Photo log

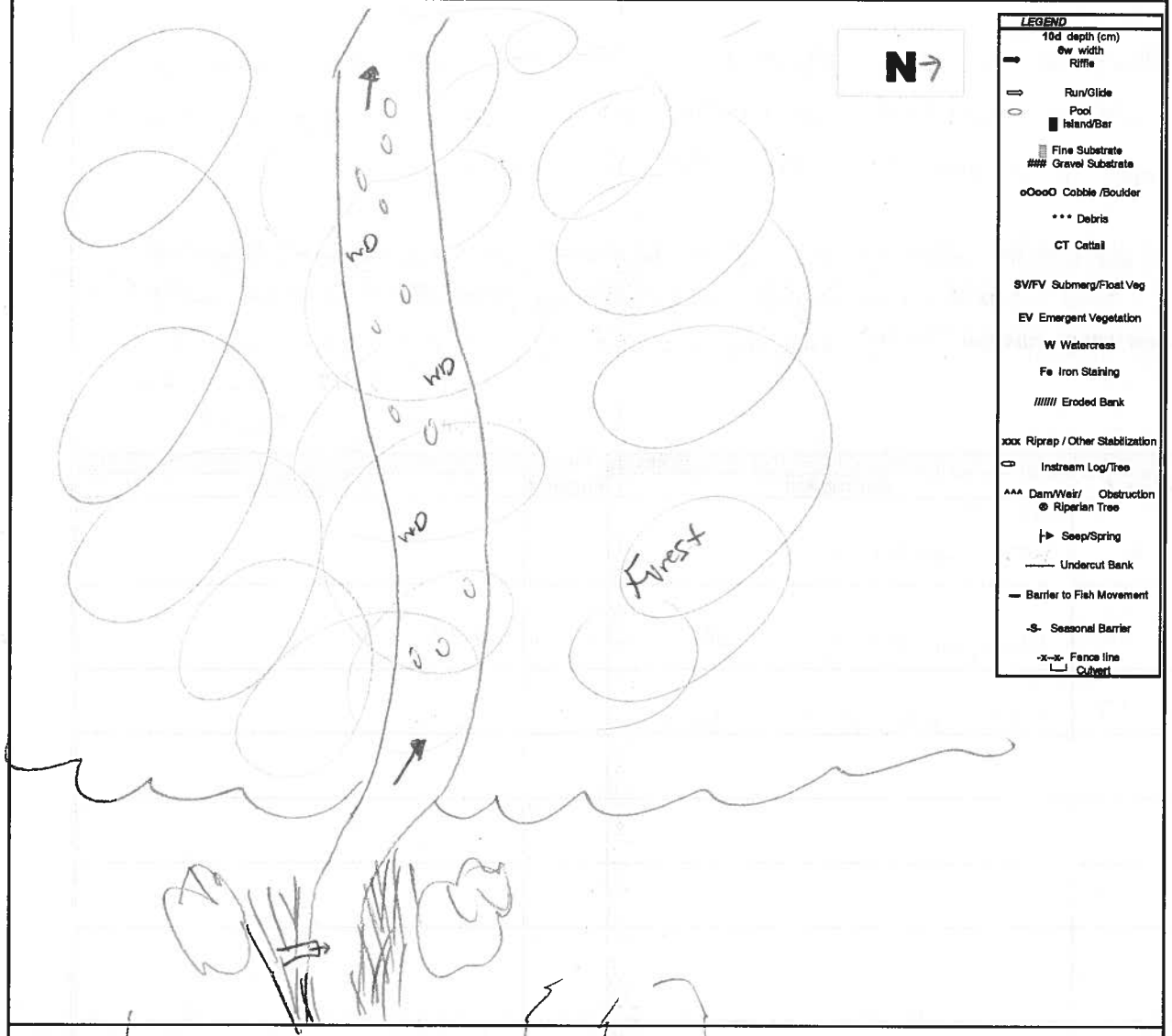
Picture #	Description	Picture #	Description
1a 1b	Sheet west entrance		
2 - 11	Channel overview - walking west to east		
12 - 13	~15m past property line		

Water Bodies Assessment Field Collection Form

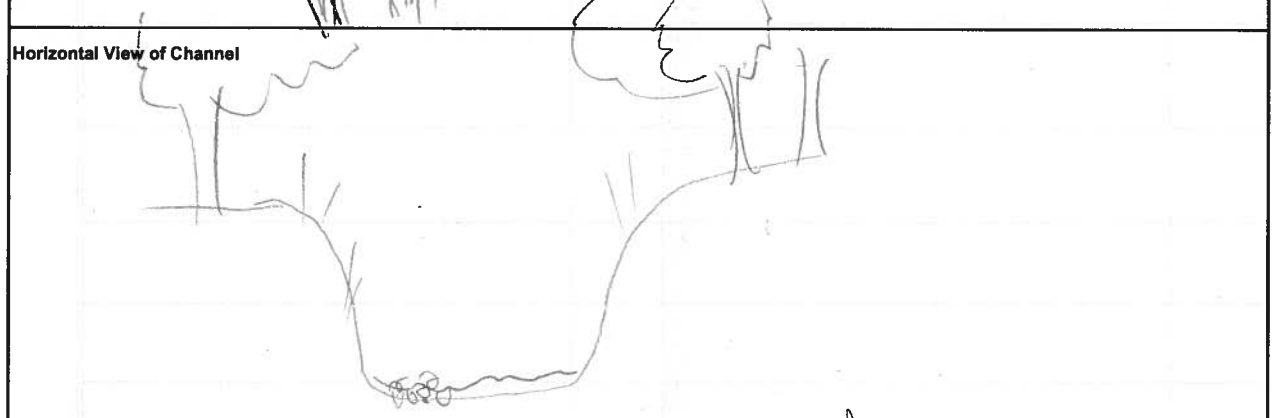
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH 2054 **Site ID** D14



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: June 26, 2012 Technical QA/QC By: [signature] Date: July 10/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater Land Parcel# GSH2053/2054 Site ID: D14

Date: April 17/12 Start time: 13:16 End Time: 14:35

Weather Conditions: Cloudy, 7°C

Field Crew: C. Boros, S. Lohnes

Field Notes By: C. Boros

Site Location

Babylon Rd, south of Creditton Rd.

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

Easting:	0453947	Northing:	4793609	Description:	start of study area
Easting:		Northing:		Description:	
Easting:		Northing:		Description:	
Easting:		Northing:		Description:	

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐
Other			

Description: crop - corn

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☐
Ephemeral	☐		☐

Description: flow through barn

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

tile drain inputs observed, flowing (low)

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):	10.9	AT(°C):	7°C
pH:	7.60	Cond (µs/cm):	499
D.O. (mg/L)	19.77		

Water Clarity: Clear ☐ Turbid ☐ sl. turbid

Water Colour: clear/brown

Notes: organic film noted in some areas

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): ~300m

Channel Dimensions

Mean Wetted Width (m):	0.6	**Mean Wetted Depth (m):**	0.10
Mean Bankfull Width (m):	3	**Mean Bankfull Depth (m):**	0.6
Mean Top of Bank Width (m):	5.5	**Mean Top of Bank Depth (m):**	2.5

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☒	☐	☐	☐
Right Bank	☒	☐	☐	☐

Description: veg banks

Flow Description: (high or low flow conditions, stagnant, etc)

visible low flow in most areas, low gradient

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

Si, mk

Morphological Structure (%)

Pool	Riffle	Run	Flat
			100

Notes:

Instream Cover (%)

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.)**

- Cattail choked, one section of emergent

Canopy Cover (% closed cover):

100-90%	☐	30-1%	☒
90-60%	☐	0%	☐
60-30%	☐		

Types of Cover (% cover)

Trees 5 Shrubs ____ Man-made structures ____

Grasses ____ Herbaceous ____ Other ____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

Sparse trees, no shrubs

Riparian Vegetation

Width of riparian vegetation: R = 1m Left = 3m

Description of vegetation commuity surrounding 30 m from watercourse:

grass

Obstructions to Fish Passage

No Obstructions ☐ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☒

Description of Barrier: sediment + veg build up

Height of Barrier (m)

GPS Coordinates:

Water Bodies Assessment Field Collection Form

AECOM | Date: April 17/12 | Land Parcel/Site ID: G5H2063/2054 D14 |

Other General Comments Regarding the Study Area:

- review site investigation completed for associated turbine for upto details
- channel from road to fork different than study area. Very little cattail + other emergent + submergent veg. Substrate similar → silt dominated
- frog egg mass observed (east end of study area)

Additional UTM Coordinates:

Photo log

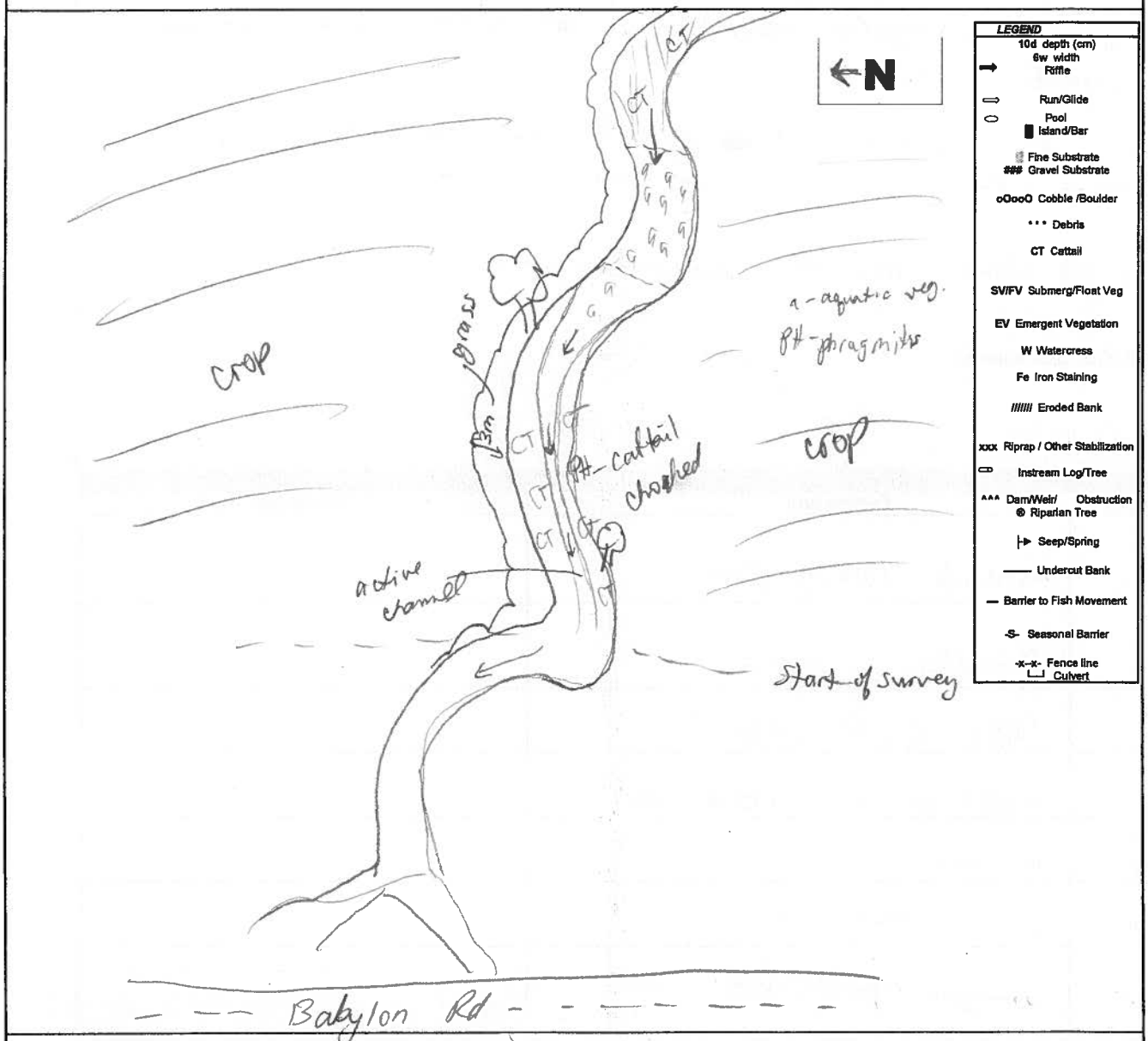
Picture #	Description	Picture #	Description
1	Roadside looking East		
2	Roadside substrate		
3	W/s of fork in channel South		
4	Start of study reach - west end		
5	in channel		
6	preview mid way		
7	emergent aquatic veg		
8, 9	end of site		
10	possible egg mass of frog		

Water Bodies Assessment Field Collection Form

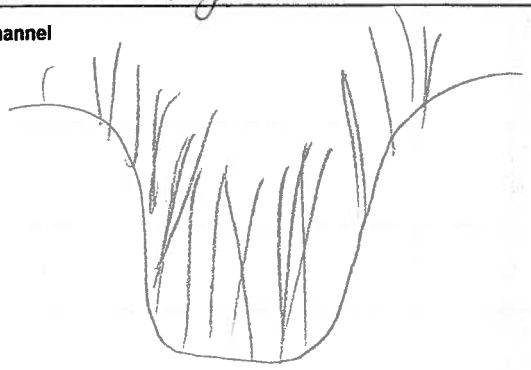
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** G5H 2053 6054 **Site ID** D14



Horizontal View of Channel



Initial QA/QC By: AMS Date: Apr. 19/12 Technical QA/QC By: [signature] Date: May 02/12

D14

AECOM

Field Crew: CB TS

General Information

Study Area: Jericho Geshen Bluewater Land Parcel# 2054 ~~Turbine #~~ ~~CB212~~

Date: Dec 16/11 Start time: 10:00 End Time: 10:40

Weather Conditions:	Field Notes By:
Cloudy, 1°C	CB

Site Location

Babylon Rd, South of Crediton

UTM Co-ordinates

Easting: 045431	Northing: 4793408	Description: at stream
Easting:	Northing:	Description:
Easting:	Northing:	Description:
Easting:	Northing:	Description:

Surrounding Landuse/Pollution Sources

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐

Other:

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☐
Ephemeral	☐		

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

- no tile drains observed.

In-Situ Water Quality

WT (°C):	AT(°C):
pH:	Cond (s/cm):

Water Clarity: Clear ☐ Turbid ☒

Ground Water Indicators

Watercress	☐	Bank Seepage	☐
Iron Staining	☐	None	☒
Bubbling	☐	Other	☐

Notes: wq meter not working - sl turbid, brown

Stream Morphology

Site Length (m): 200

Channel Dimensions

Mean Wetted Width (m):	2	Mean Bankfull Width (m):	2.7
Mean Wetted Depth (m):	0.40	Mean Bankful Depth (m):	0.75

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☒	☐	☐	☐
Right Bank	☒	☐	☐	☐

Flow Description: slow flow, mod water levels.

Notes:

1.7

4

AECOM

Stream Morphology (continued)

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus
Other

Description

Cl, Si >> gr

Morphological Structure (%)			
Pool	Riffle	Run	Flat
		100	

Notes: mod levels

Habitat

Instream Cover (%) 90

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Undercut Bank	Other:
				100		

*Aquatic Vegetation Types Present (algae, submergent, emergent etc.)

Cattails, grasses

Canopy Cover (% closed cover):

100-90% ☐ 30-1% ☐
90-60% ☒ 0% ☐
60-30% ☐

Types of Cover (% cover)

Trees _____ Shrubs _____ Man-made structures _____
Grasses 100 Herbaceous _____ Other _____

Notes:

Channel completely grass + Cattail Choked
↳ no riparian veg or trees

Obstructions to Fish Passage

No Obstructions ☒ Man-Made ☐
Natural ☐

Description:

Drainage Features within Study Area

Observations of Land Topography within 120 m buffer area:

flat

Terrestrial features Present Yes (No)

Terrestrial Recon Form Filled out Yes (No)

C212

AECOM

D14

Other General Comments Regarding the Study Area:

Channelized + cattail choked.

Photo log

Picture #	Description	Picture #	Description
97	preview		
↓	moving from		
103	last to next		

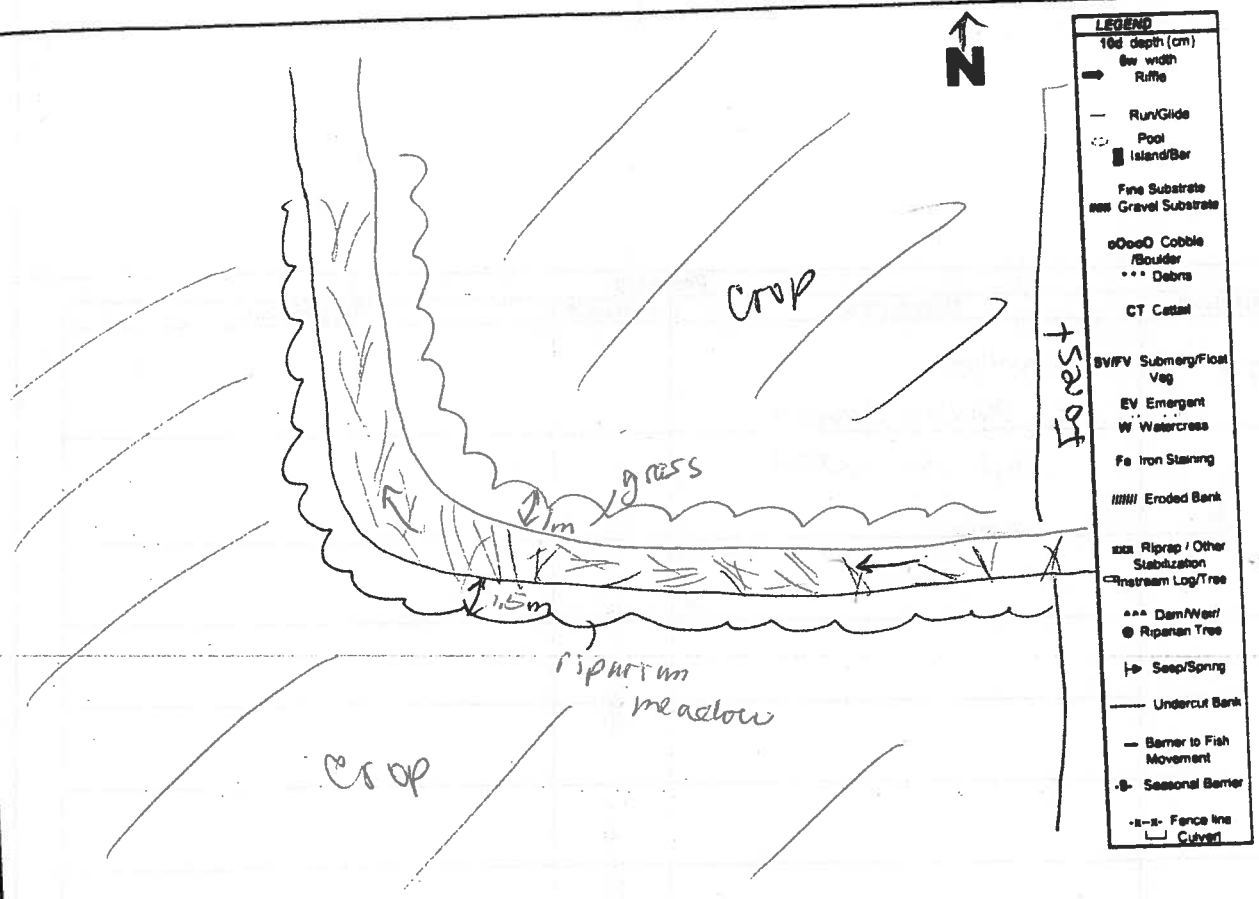
C212

AECOM

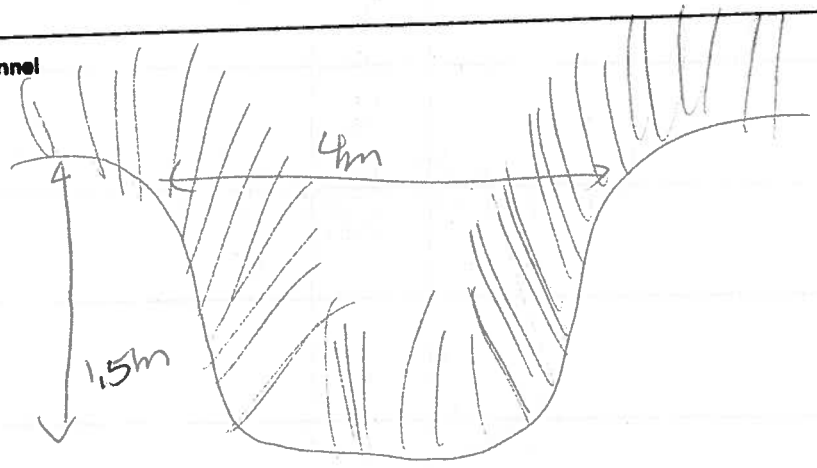
D14

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** 2054 **Turbine #** ~~D12~~



Horizontal View of Channel



Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho ~~Goshen~~ Bluewater **Land Parcel#** GSH2928 **Site ID:** D15_GSH2028

Date: April 17/12 **Start time:** 11:58 **End Time:** 13:15

Weather Conditions: Cloudy, 6°C

Field Crew: C. Boros, S. Lohnes

Field Notes By: C. Boros

Site Location

Babylon Rd, south of South Rd.

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

Easting: 0453886 **Northing:** 4791327 **Description:** at road

Easting: **Northing:** **Description:**

Easting: **Northing:** **Description:**

Easting: **Northing:** **Description:**

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐
Other			

Description: Crop

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☐
Ephemeral	☐		☐

Description: straight channel.

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

tile drains noted on both sides

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, no silt input

In-Situ Water Quality

WT (°C):	9.5	AT(°C):	6°C
pH:	7.88	Cond (µs/cm):	454
D.O. (mg/L)	26.8		

Water Clarity: Clear ☒ Turbid ☐

Water Colour: Sl. yellow tinge

Notes:

Ground Water and Seepage Indications

Watercress	☐	Bank Seepage	☐
Iron Staining	☐	None	☒
Bubbling	☐		☐
Other	☐		

Details:

Water Bodies Assessment Field Collection Form

Stream Morphology

Site Length (m): ~250m

Channel Dimensions

Mean Wetted Width (m):	0.70	**Mean Wetted Depth (m):**	0.35
Mean Bankfull Width (m):	2.5	**Mean Bankfull Depth (m):**	0.75
Mean Top of Bank Width (m):	4.5	**Mean Top of Bank Depth (m):**	2

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☒	☐	☐	☐
Right Bank	☒	☐	☐	☐

Description: Straight channel

Flow Description: (high or low flow conditions, stagnant, etc)

visible flow, low gradient → flow may be a result of tile drain input

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

si > cl, mk >> gr, sa

Morphological Structure (%)			
Pool	**Riffle**	**Run**	**Flat**
			100

Notes: Straight channel

Instream Cover (%)

Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
✓	15%	✓	✓	75%	✓	Average Depth: (% Cover) ✓

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

- floating + submergent algae, grasses,

Canopy Cover (% closed cover):

100-90%	☐	**30-1%**	☒
90-60%	☐	**0%**	☐
60-30%	☐		

Types of Cover (% cover)

Trees _____ **Shrubs** _____ **Man-made structures** _____

Grasses _____ **Herbaceous** _____ **Other** _____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

trees + shrubs have no leaves - hard to assess canopy cover

Riparian Vegetation

Width of riparian vegetation: Right - 0.5m Left - 0.5m grasses + meadow

Description of vegetation commuity surrounding 30 m from watercourse:

agri fields

Obstructions to Fish Passage

No Obstructions ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☒

Description of Barrier:

Height of Barrier (m) ✓

GPS Coordinates: ✓

Water Bodies Assessment Field Collection Form

AECOM | Date: April 17/18 | Land Parcel/Site ID: GSIT2028/05 |

Other General Comments Regarding the Study Area:

- beyond study area channel appeared to be the same & could see 50m downs

- racoon + deer tracks

Watercourse in straight channel with soft substrate covered in algea. Low canopy cover

Additional UTM Coordinates:

Photo log

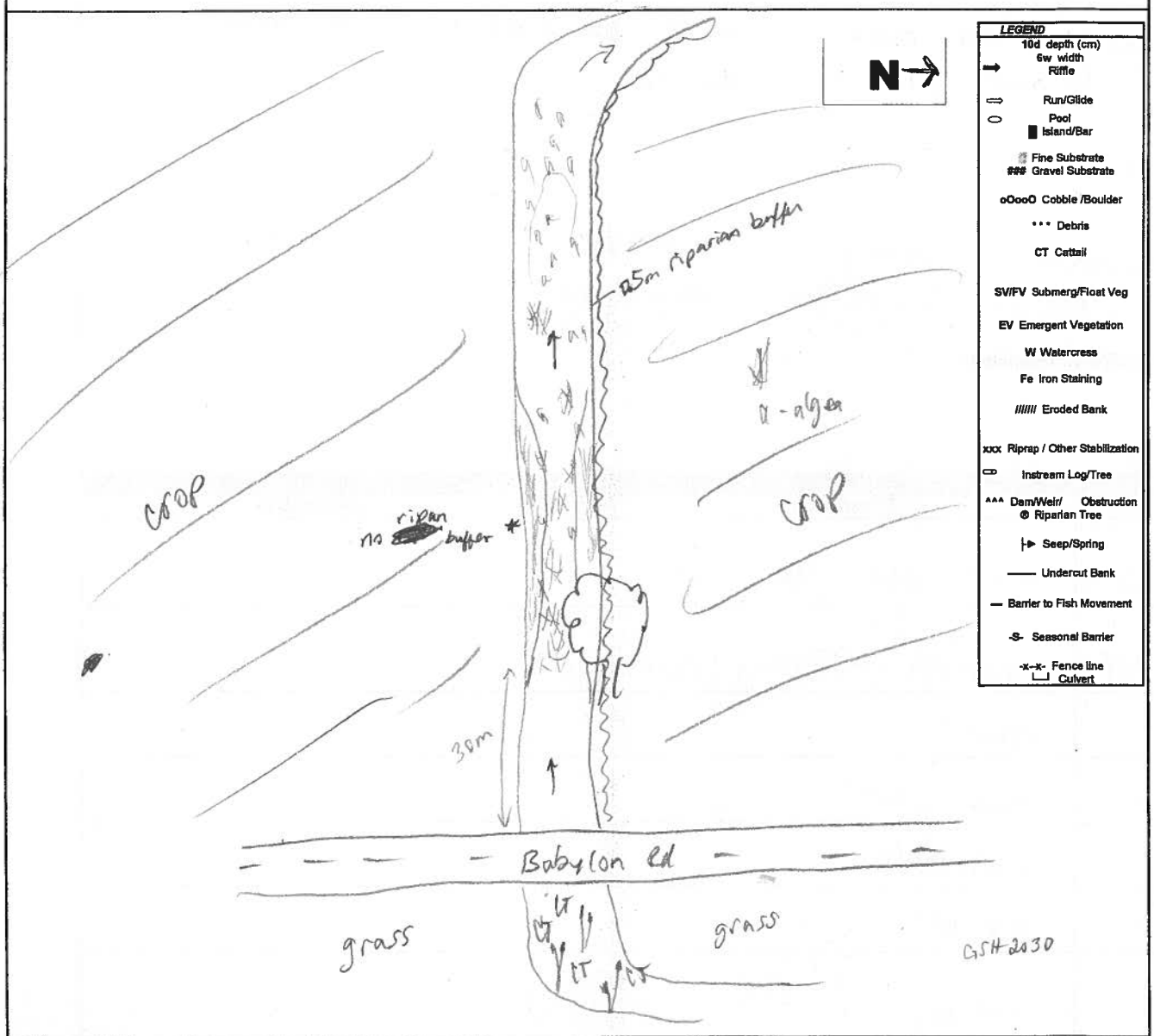
Picture #	Description	Picture #	Description
1, 2	East side, looking east		
3, 4	overview - looking West		
5	culvert		
6,	below culvert		
7	substrate		
8, 9	aquatic veg.		
10	mid way		
11	aquatic veg		
12-14	end of site		
15	downstream		

Water Bodies Assessment Field Collection Form

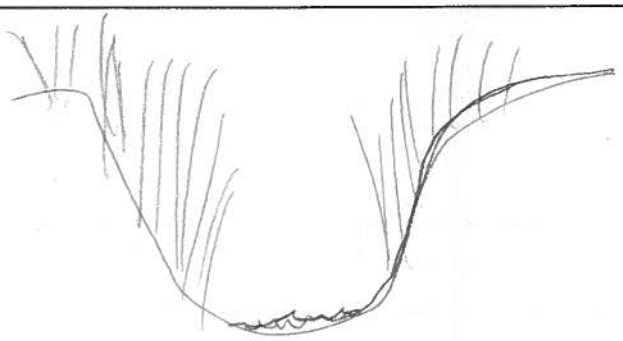
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH2028 **Site ID** D15



Horizontal View of Channel



Initial QA/QC By: AMS Date: Apr. 19/12 Technical QA/QC By: Sawker Date: May 3/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** 1526 **Site ID:** D16

Date: Apr 26/2012 **Start time:** 8:30 **End Time:** 9:06

Weather Conditions: overcast, ~10°C **Field Crew:** SA, SL

Field Notes By: SA

Site Location

located east of Grand Bend Line, south of Crediton

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

Easting:	0441463	**Northing:**	4791536	**Description:**	WB
Easting:	0441551	**Northing:**	4791570	**Description:**	end of site
Easting:		**Northing:**		**Description:**	
Easting:		**Northing:**		**Description:**	

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐
Other			

Description: Crop to the north - not planted

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☐
Ephemeral	☐		☐

Description:

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

Several tile drain inputs were 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)

North - relatively flat

South - slopes towards creek.

In-Situ Water Quality

WT (°C):	9.08	**AT(°C):**	9.0 °C
pH:	8.10	**Cond (µs/cm):**	472
D.O. (mg/L)	11.90		

Water Clarity: Clear ☑ Turbid ☐

Water Colour: yellow

Notes:

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): 200.

Channel Dimensions

Mean Wetted Width (m):	1.5	**Mean Wetted Depth (m):**	0.20
Mean Bankfull Width (m):	4.0	**Mean Bankfull Depth (m):**	2.00
Mean Top of Bank Width (m):	10.0	**Mean Top of Bank Depth (m):**	6.0

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☑	☒	☐	☐
Right Bank	☑	☒	☐	☐

Description: Some slumpins and washout areas but banks well vegetated.

Flow Description: (high or low flow conditions, stagnant, etc)
low conditions - moderate gradient → flowing

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description
Si > Co > Bo > Gr
clay bottom

Morphological Structure (%)

Pool	Riffle	Run	Flat
15	30	55	

Notes:

Instream Cover (%)

Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
	15	5		30		Average Depth: 0.20 m (% Cover) 15%

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**
attached algae

Canopy Cover (% closed cover):

100-90%	☐	30-1%	☐
90-60%	☒	0%	☐
60-30%	☐		

Types of Cover (% cover)

Trees 30 Shrubs 40 Man-made structures ____
Grasses ____ Herbaceous ____ Other ____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)
willow shrubs, maple trees

Riparian Vegetation

Width of riparian vegetation: LB - 5m, RB - 10m.

Description of vegetation commuity surrounding 30 m from watercourse:
Cultural meadow and agricultural.

Obstructions to Fish Passage

No Obstructions ☐ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier: none observed.

Height of Barrier (m)

GPS Coordinates:

AECOM Date: Apr 26/2012 Land Parcel/Site ID: 1596 D16

Other General Comments Regarding the Study Area:

- fish observed - cyprinid species
- channelized feature starting to naturalize
- overhanging vegetation provided by willow shrubs
- Some nice riffle areas
- west of GB line - more natural channel
  good canopy cover
  - low riparian cover on LB → crop right to TOB

Additional UTM Coordinates:

Photo log

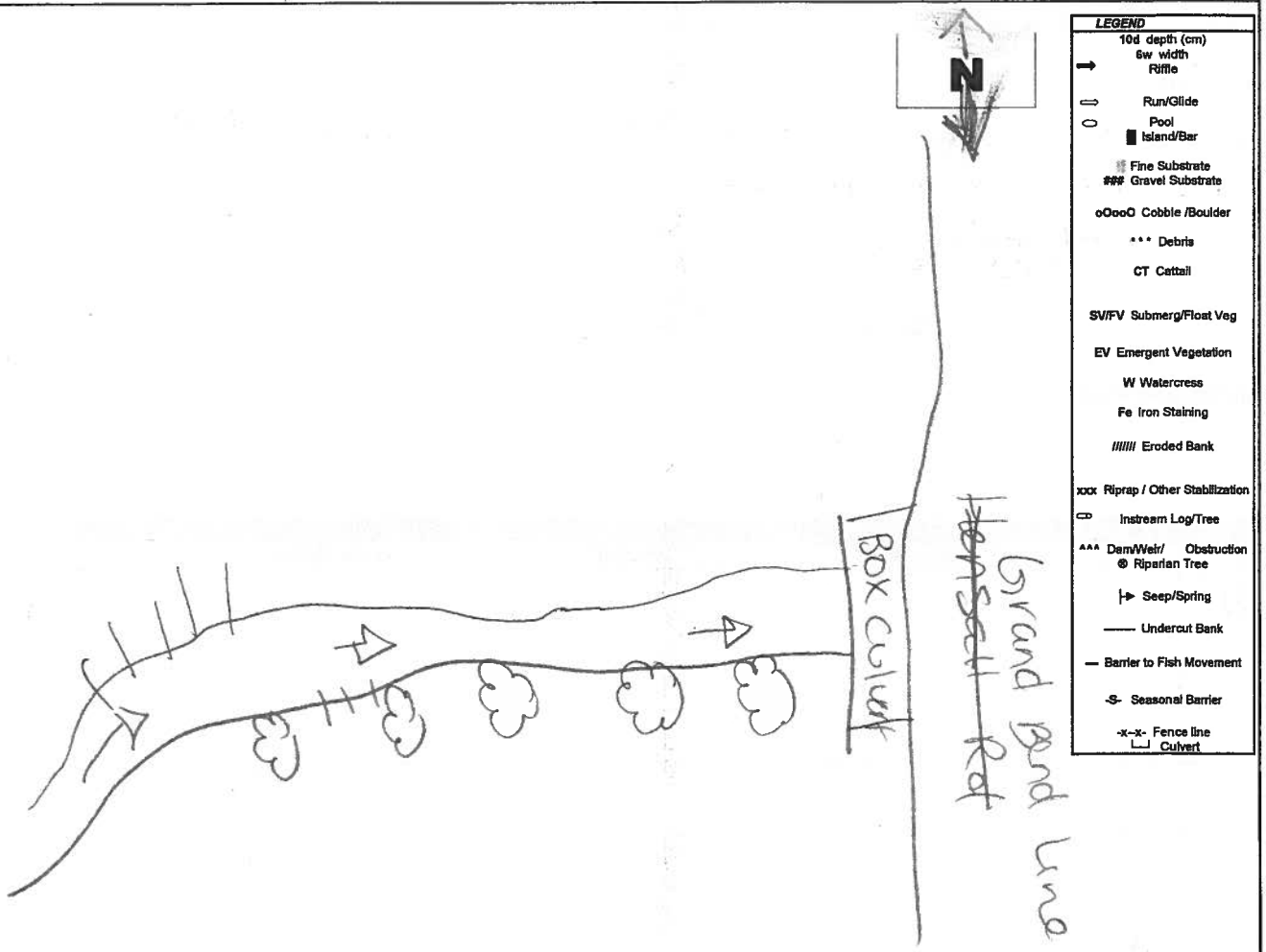
Picture #	Description	Picture #	Description
104	Start		
105	looking u/s		
106	tile drain		
107	culvert		
108	washout area		
109	looking u/s		
110	facing u/s at end of site		
111	facing d/s at end of site		
112	West of Grand Bend Line		
113	view of d/s side		
114	view of d/s		

Water Bodies Assessment Field Collection Form

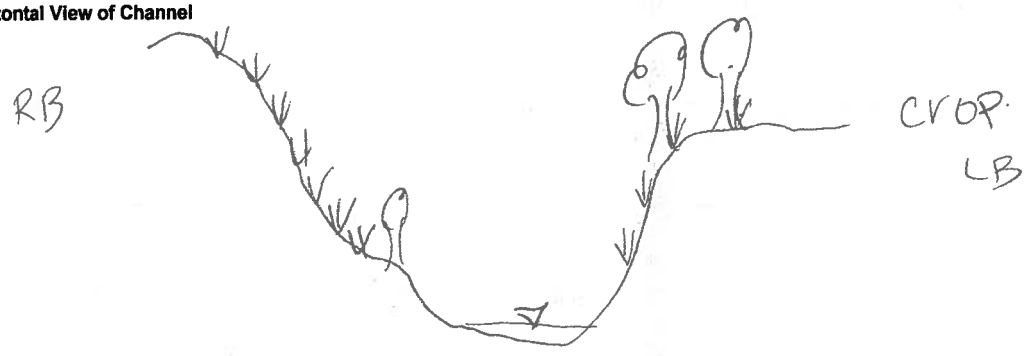
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** 1526 **Site ID** D16



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: May 2, 2012 Technical QA/QC By: [illegible] Date: 2nd Aug 2012

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH 1539 **Site ID:** D16

Date: June 25/12 **Start time:** 12:50 **End Time:** 13:30

Weather Conditions: Sunny, 15°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

Site Location

Grand Bend Line, south of Crediton

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

Easting:	441324	**Northing:**	4791520	**Description:**	D16 start
Easting:	441300	**Northing:**	4791514	**Description:**	D16 wp
Easting:	441235	**Northing:**	4791507	**Description:**	D16 GPD
Easting:		**Northing:**		**Description:**	

Surrounding Landuse

Residential	☐	Meadow	☒
Agriculture	☒	Wetland	☐
Forest	☒	Livestock	☐
Other			

Description: north - soy bean then trees
south - meadow/ grass

Type of Watercourse

Intermittent	☐	Channelized	☑
Permanent	☒	Natural Channel	☒
Ephemeral	☐		☐

Description: starting to naturalize

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)

flat e sloped towards watercourse

In-Situ Water Quality

WT (°C):	19.4	**AT(°C):**	17°C
pH:	8.54	**Cond (µs/cm):**	528
D.O. (mg/L)	6.88		

Water Clarity: Clear ☐ Turbid ☒

Water Colour: brown

Notes: narrowed rem area, water depth = 0.17m

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): ~100m

Channel Dimensions

Mean Wetted Width (m):	1.75	Mean Wetted Depth (m):	0.2
Mean Bankfull Width (m):	2.25	Mean Bankfull Depth (m):	0.5
Mean Top of Bank Width (m):	6	Mean Top of Bank Depth (m):	3.5

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☐	☒	☐	☐
Right Bank	☐	☒	☐	☐

Description: erosion + old slumping present

Flow Description: (high or low flow conditions, stagnant, etc)

slow flow, moderate water level

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

Si = Cl > Co, gr > bo

Morphological Structure (%)			
Pool	Riffle	Run	Flat
15	5	5	75

Notes: one ~~riffle~~, run pool sequence present

Instream Cover (%) 70

Other	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
	5	10	45	5		Average Depth: 0.015 (% Cover) 5

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

grasses

Canopy Cover (% closed cover):

100-90%	☐	30-1%	☐
90-60%	☒	0%	☐
60-30%	☐		

Types of Cover (% cover)

Trees 80 Shrubs 10 Man-made structures ____
Grasses 10 Herbaceous ____ Other ____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

Cottonwood ~~poplar~~, dogwood, willow

Riparian Vegetation

Width and Description of riparian vegetation:

LB - ~~poplar~~ - 1.5m meadow then agri field then tree stand

RB - 20m - meadow + forest

Overhanging Vegetation Present (Y) / N **% Overhanging Vegetation:** 5

Description of Overhanging Vegetation:

some willow + dogwood overhanging - but not covering stream → one clump by pool

Obstructions to Fish Passage

None Observed ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier:

Height of Barrier (m)

GPS Coordinates:

Water Bodies Assessment Field Collection Form

AECOM | Date: June 25/12 | Land Parcel/Site ID: D16 GSH 1539 |

Other General Comments Regarding the Study Area:

- Muskrat observed swimming
- YOY fish observed (~10)

Watercourse is channelized but naturalizing. Minor meandering around slumped grass tufts. Clay packed bottom in some areas. Canopy cover mix of trees + shrubs + grasses. Upstream Cove moderate dominated by cobble.

Additional UTM Coordinates:

Photo log

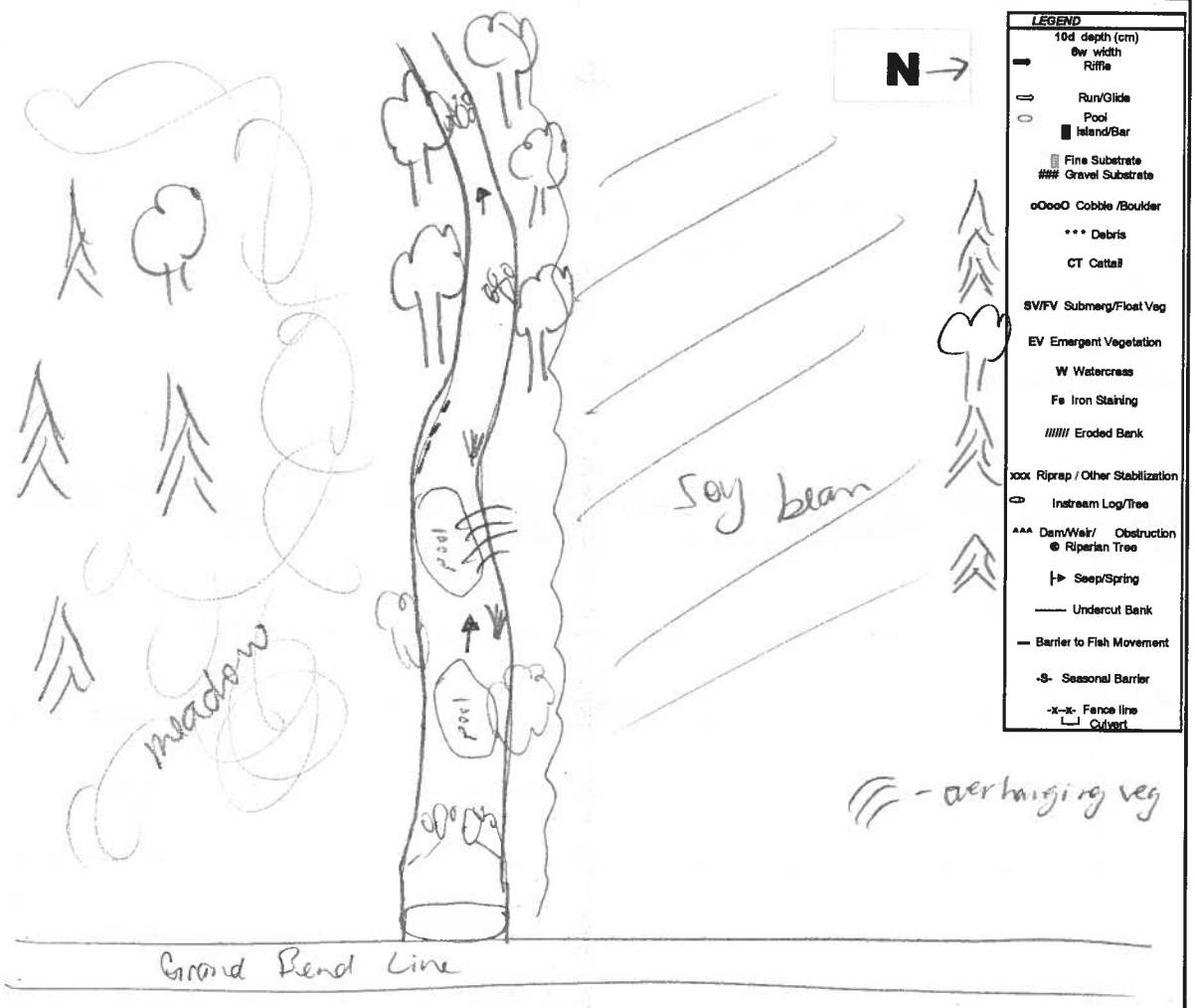
Picture #	Description	Picture #	Description
1a	Sheet		
1-2	overview from road		
3-14	channel overview from ~~east~~ to west		

Water Bodies Assessment Field Collection Form

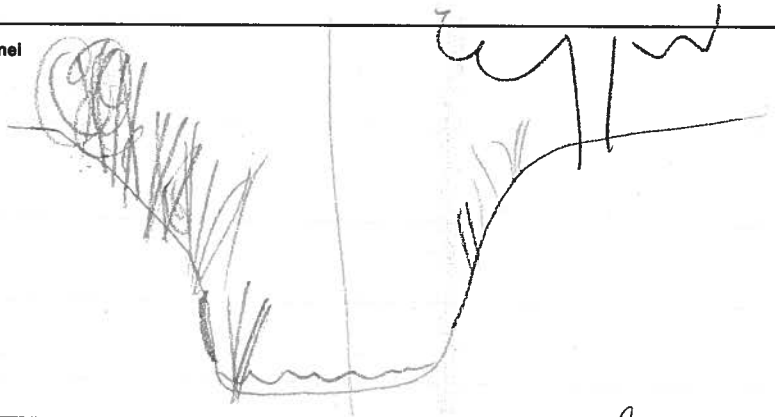
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH 1539 **Site ID** 016



Horizontal View of Channel



Initial QA/QC By: L. Bentley Date: June 26, 2012 Technical QA/QC By: [signature] Date: July 10/12

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH2238 **Site ID:** D17

Date: APR 26/2012 **Start time:** 12:53 PM **End Time:** 13:16 PM

Weather Conditions: rain, 8°C

Field Crew: S. ATTKEN S. LOHNES

Field Notes By: S. LOHNES

Site Location

off Shipka Line, south of Dashwood.

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

Easting:	4796073	**Northing:**	4445371	**Description:**	start (west)
Easting:	4796062	**Northing:**	4445668	**Description:**	end (est)
Easting:		**Northing:**		**Description:**	
Easting:		**Northing:**		**Description:**	

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☑	Wetland	☐
Forest	☑	Livestock	☐
Other			

Description: active corn crop

Type of Watercourse

Intermittent	☐	Channelized	☑
Permanent	☑	Natural Channel	☐
Ephemeral	☐		☐

Description: naturalizing channel.

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

one tile drain u/s reach. no other inputs obs-

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 topography

In-Situ Water Quality

WT (°C):	9.75 %	**AT(°C):**	9°C
pH:	8.29	**Cond (s/cm):**	535
D.O. (mg/L)	13.65		

Water Clarity: Clear ☑ Turbid ☐

Water Colour: No colour.

Notes:

Ground Water and Seepage Indicators

Watercress	☑	Bank Seepage	☐
Iron Staining	☐	None	☐
Bubbling	☐		☐
Other	☐		

Details: individual plants scattered

Water Bodies Assessment Field Collection Form

Stream Morphology

Site Length (m): 500m.

Channel Dimensions

Mean Wetted Width (m):	1.20m	**Mean Wetted Depth (m):**	0.15m
Mean Bankfull Width (m):	6.0m	**Mean Bankfull Depth (m):**	1.0m
Mean Top of Bank Width (m):	8.5m	**Mean Top of Bank Depth (m):**	3.5m

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☐	☑	☐	☐
Right Bank	☐	☑	☐	☐

Description: evidence of past failures, very steep slope, bare soil under top layer of vegetation

Flow Description: (high or low flow conditions, stagnant, etc)

low flow, visibly flowing

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

Si » Gr > Bo

Morphological Structure (%)

Pool	Riffle	Run	Flat
5	~~10~~ 5	90	

Notes: Pool: 0.50m deep 3m x 1.5m

Instream Cover (%)

Other detritus	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
20			5	5		Average Depth: (% Cover) /

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

detritus, old corn stalks, attached algae

Canopy Cover (% closed cover):

100-90%	☐	30-1%	☑
90-60%	☐	0%	☐
60-30%	☐		

Types of Cover (% cover)

Trees 50 Shrubs 50 Man-made structures ____
Grasses ____ Herbaceous ____ Other ____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

shrubs - willows, dogwood

Riparian Vegetation

Width of riparian vegetation: R u/s minimal, <1m. L u/s

Description of vegetation community surrounding 30 m from watercourse:

FOD & corn

Obstructions to Fish Passage

No Obstructions ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier:

Height of Barrier (m)

GPS Coordinates:

Water Bodies Assessment Field Collection Form

AECOM | Date: APR 26/12 | Land Parcel/Site ID: GSH 2238 D17 |

Other General Comments Regarding the Study Area:

- deer tracks noted on L u/s bank w/i channel.
- wood frog
- tile drain input east of wood triangle on R u/s.
- ~~pasture~~ hayfield across from site access @ Kirkton Rd.

Additional UTM Coordinates:

Photo log

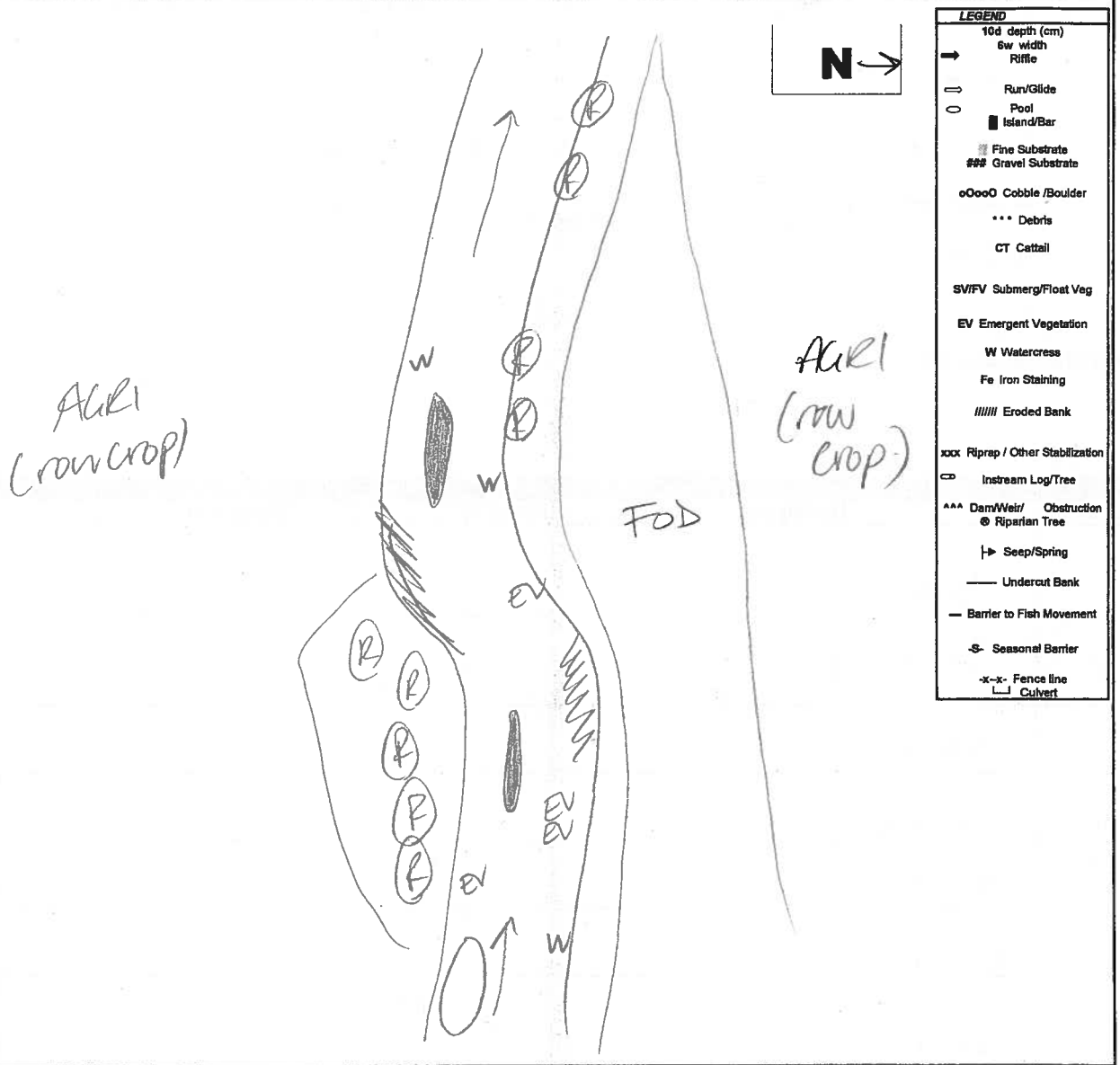
Picture #	Description	Picture #	Description
131	sheet ✓	143	exposed soils
132	facing d/s ✓		
133	facing u/s ✓		
134	facing u/s ✓		
135	facing d/s ✓		
136	facing u/s ✓		
137	facing u/s ✓		
138	facing d/s ✓		
139	facing u/s		
140	facing d/s		
141	facing u/s		
142	facing d/s		

Water Bodies Assessment Field Collection Form

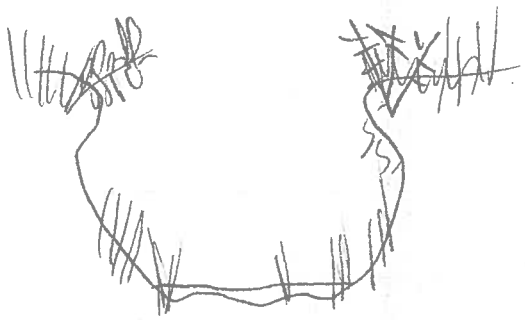
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH 2230 **Site ID** D17



Horizontal View of Channel



Initial QA/QC By: C. Bentley Date: May 4, 2012 Technical QA/QC By: M Date: May 8th 2012

Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho Goshen Bluewater **Land Parcel#** GSH 1078/1081/1082 **Site ID:** 018

Date: April 17/12 **Start time:** 16:00 **End Time:** 17:50

Weather Conditions: Sunny, 9°C

Field Crew: C. Boros, S. Lohnes

Field Notes By: C. Boros

Site Location

West of Bronson, Crediton

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

Easting:	0448483	**Northing:**	4793147	**Description:**	East branch - Side of house
Easting:	0448413	**Northing:**	4793084	**Description:**	W/Q
Easting:		**Northing:**		**Description:**	
Easting:		**Northing:**		**Description:**	

Surrounding Landuse

Residential	☑	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐
Other			

Description: crop on south side
Residential on north.

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☒
Ephemeral	☐	_____	☐

Description: Channelized stream naturalizing

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

tile drain inputs noted on agro side

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):	14°C	**AT(°C):**	18°C
pH:	7.91	**Cond (µs/cm):**	535
D.O. (mg/L)	4.17		

Water Clarity: Clear ☐ Turbid ☐ sl. turbid

Water Colour: brown/yellowish greenish

Notes: w/q done in a pool where fish were observed before
→ Calibrated D.O. & this site visit

Ground Water and Seepage Indicators

Watercress	☒	Bank Seepage	☐
Iron Staining	☐	None	☐
Bubbling	☐	_____	☐
Other	☒		

Details: 2 clumps (mats) found at east/north end.
Water Speedwell Observed

pool = 0.4m deep Bkfull = 90cm
= 2m wide

Water Bodies Assessment Field Collection Form

Stream Morphology

Site Length (m): ~200m

Channel Dimensions

Mean Wetted Width (m):	0.9	**Mean Wetted Depth (m):**	0.2
Mean Bankfull Width (m):	3	**Mean Bankfull Depth (m):**	0.8
Mean Top of Bank Width (m):	5.5	**Mean Top of Bank Depth (m):**	2.5

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☒ ↔	☒	☐	☐
Right Bank	☐	☒	☐	☐

Description: vegetated but evidence of erosion

Flow Description: (high or low flow conditions, stagnant, etc)

slow flow, slight gradient where riffles are present

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

Sa, Si >> Cl > gr, co

Morphological Structure (%)

Pool	Riffle	Run	Flat
15	5	/	80

Notes:

v. slight meanders

Instream Cover (%) 70

Other plant debris	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
25%	5	/	20	10	/	Average Depth: 10 cm (% Cover) 10%

Note: Low = 0 - 30% ; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)** = emergent (grasses, Speedwell), algea attached to rocks

Plant debris - grasses, [redacted] cedar twigs.

Canopy Cover (% closed cover):

100-90%	☐	30-1%	☐
90-60%	☐	0%	☐
60-30%	☒		

Types of Cover (% cover)

Trees 80 Shrubs 10 Man-made structures ____

Grasses 10 Herbaceous ____ Other ____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

Willows, alder

Riparian Vegetation

Width of riparian vegetation: 4m

Description of vegetation commuity surrounding 30 m from watercourse: grass, cedar row plantation

Obstructions to Fish Passage

No Obstructions ☐ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☒

Description of Barrier: sediment + debris build up

Height of Barrier (m) /

GPS Coordinates: /

Water Bodies Assessment Field Collection Form

AECOM | Date: April 17/18 | Land Parcel/Site ID: GSH1078/1081/1082 D18 |

Other General Comments Regarding the Study Area:

- White tailed deer footprints, small mammal den
- tadpoles + minnows observed
- Cobbles covered in algea
- Cliff Swallow nest observed in West culvert (box)

* North side of road similar to West branch

Additional UTM Coordinates:

Watercourse in channelized portion but starting to meander. Riffles + pools present w/ mixed substrate (sa, si, gr, co) Moderate instream cover mix of plant debris, cobble, grasses.

Photo log

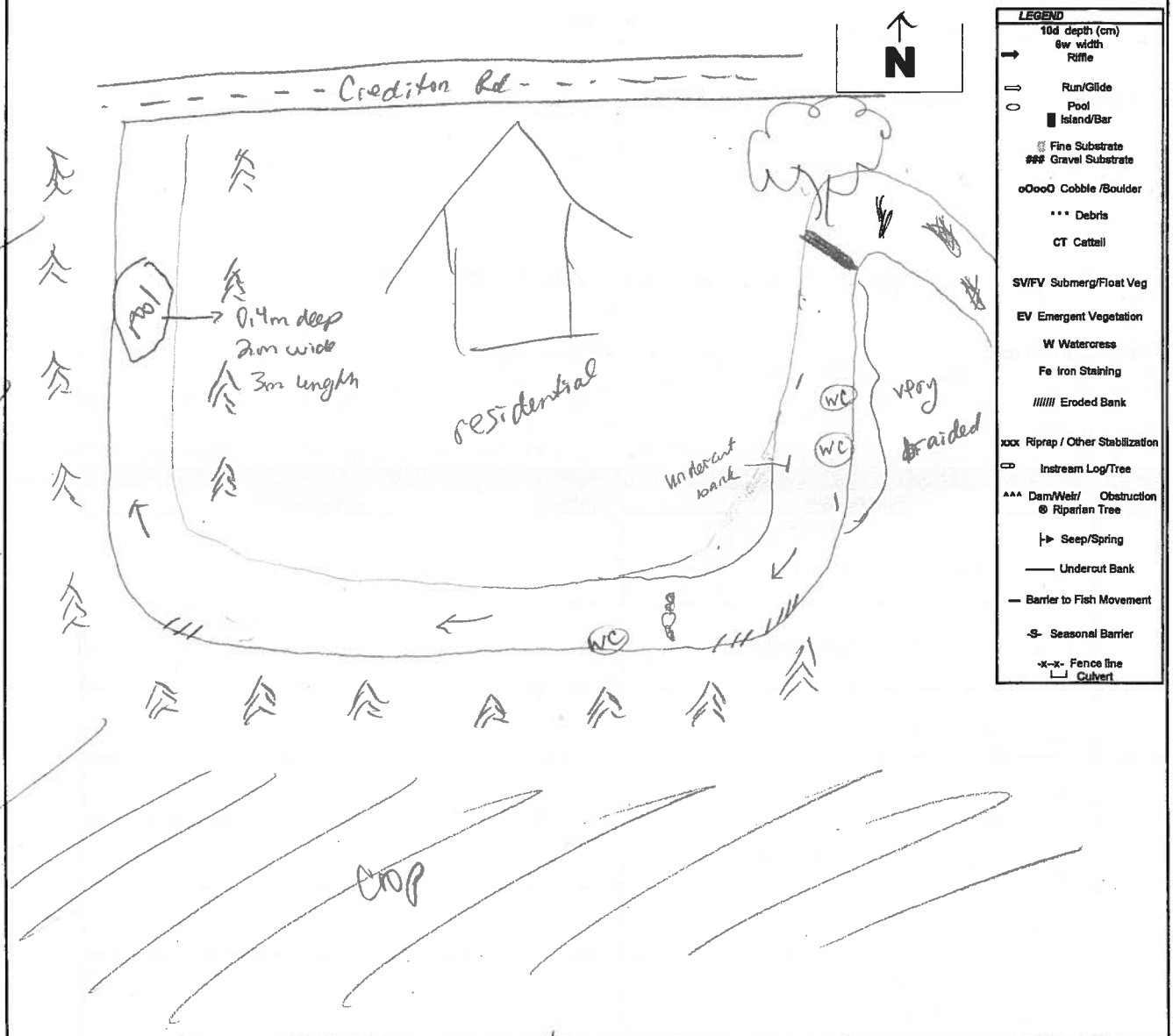
Picture #	Description	Picture #	Description
1	East branch overview		
2	East branch substrate		
3	low flow barrier		
4	Animal den East branch		
5	just passe low flow barrier		
6-10	East Central branch		
11-14	South branch		
17-19	West branch		
20	- West Culvert		
21+22	- North side of road		

Water Bodies Assessment Field Collection Form

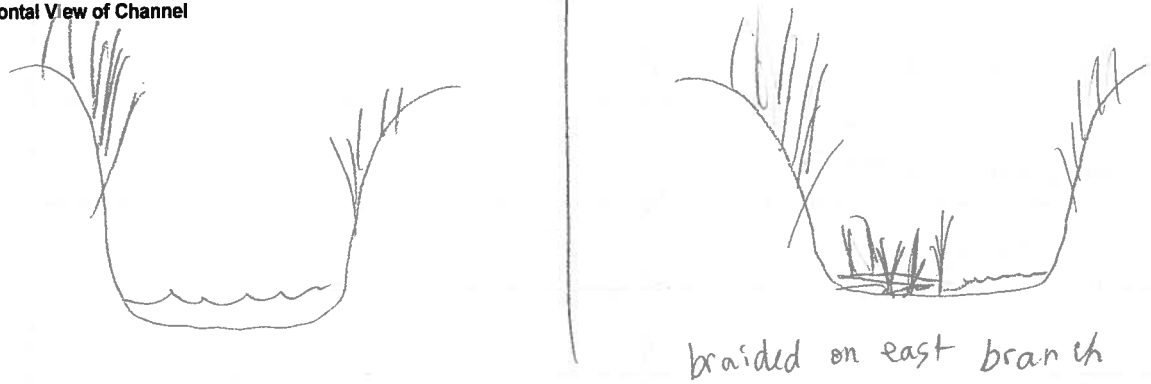
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** GSH 10F8 110811 1082 **Site ID** D18



Horizontal View of Channel



Initial QA/QC By: AMS Date: Apr. 19/12 Technical QA/QC By: Sutkin Date: May 3/12

D19

AECOM

Field Crew: CB, TS

General Information

Study Area: Jericho Goshen Bluewater Land Parcel# 1077/1092 1787 Turbine # ~~G45 C54~~

Date: Sept 28/11 Start time: 13:40 End Time: 14:40

Weather Conditions: Cloudy, 16~~6~~°C

Field Notes By: CB

Site Location

On Bronsons Cr, north of Creditton

UTM Co-ordinates

Easting: 0449434 Northing: 4793410 Description: in stream ~~last~~ culvert

Easting: Northing: Description:

Easting: Northing: Description:

Easting: Northing: Description:

Surrounding Landuse/Pollution Sources

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐

Other:

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☒
Ephemeral	☐		

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

- tile drain input ~~(illegible)~~ found ~~(illegible)~~ on east + west side)

In-Situ Water Quality

WT (°C): 11	AT(°C): 16
pH:	Cond (s/cm):

Water Clarity: Clear ☒ Turbid ☐

Ground Water Indicators

Watercress	☐	Bank Seepage	☐
Iron Staining	☐	None	☒
Bubbling	☐	Other	☐

Notes: v. Sl. turbid

Stream Morphology

Site Length (m): E = 80m W = ~450m

Channel Dimensions	E	W		E	W
Mean Wetted Width (m):	2	1.5	Mean Bankfull Width (m):	2.5	3
Mean Wetted Depth (m):	0.4	0.4	Mean Bankful Depth (m):	0.8	0.8

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☐	☒	☐	☐
Right Bank	☐	☒	☐	☐

Flow Description: undercutting, slumping occuring on both sides → moderate flow

Notes:

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Stream Morphology (continued)

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus
Other

Description

E = gr > sa >> co > si, cl

W = sa > gr >> co > si, cl

Morphological Structure (%)			
Pool	Riffle	Run	Flat
W=15	W=10	W=75 E=100	

Notes:

E = steady flow but some areas deeper than others

W = one very large pool d/s of culvert

Habitat

Instream Cover (%) 60% = E 45% = W

None	Woody Debris	Boulders	Cobble	Aquatic Vegetation*	Undercut Bank	Other:
	W=10		E=20 W=30	W=80 E=70	W=30 E=10	

*Aquatic Vegetation Types Present (algae, submergent, emergent etc.)

E = submergents, emergents, grasses

W = submergents, grasse, emergents

Canopy Cover (% closed cover):

100-90% ☐
90-60% ☐
60-30% ☐
30-1% E+W ☒
0% ☐

Types of Cover (% cover)

Trees W=5% Shrubs 20 Man-made structures ____
Grasses 60 Herbaceous 20 Other ____

Notes: overhanging veg.

Obstructions to Fish Passage

No Obstructions ☒ Man-Made ☐
Natural ☐

Description:

Drainage Features within Study Area

Observations of Land Topography within 120 m buffer area:

- slight slope from residential property to stream
- flat on agri side

Terrestrial features Present Yes (No)

Terrestrial Recon Form Filled out (Yes) No

D19

AECOM Sep 28/11 ~~GRS CS4~~

Other General Comments Regarding the Study Area:

→ ~40m east of culvert a grass den / dam observed. Potentially a muskrat home.

→ fish observed (minnows) on both sides of culvert

→ east side vs. different than the west (east less veg, more confined, faster flow)

Photo log

Picture #	Description	Picture #	Description
173	overview of site	186	overview west W
		187	"
174	box culvert ~~dn/s~~	188	box culvert
175, 176	up/s	189	dwn/s channel
177	looking a box culvert	190	"
178	tile drain	191	bank erosion
179	channel	192	"
180	den / dam	193	channel
		194	
181	up/s channel	195	undercut
182, 183	Channel	196	channel
		~~197~~	
184	erosion	197	riffle
		198	channel
185	box culvert @ crediton Rd.	199	"
		200	end of site - channel

13 w x 0.5 Bd 0.80

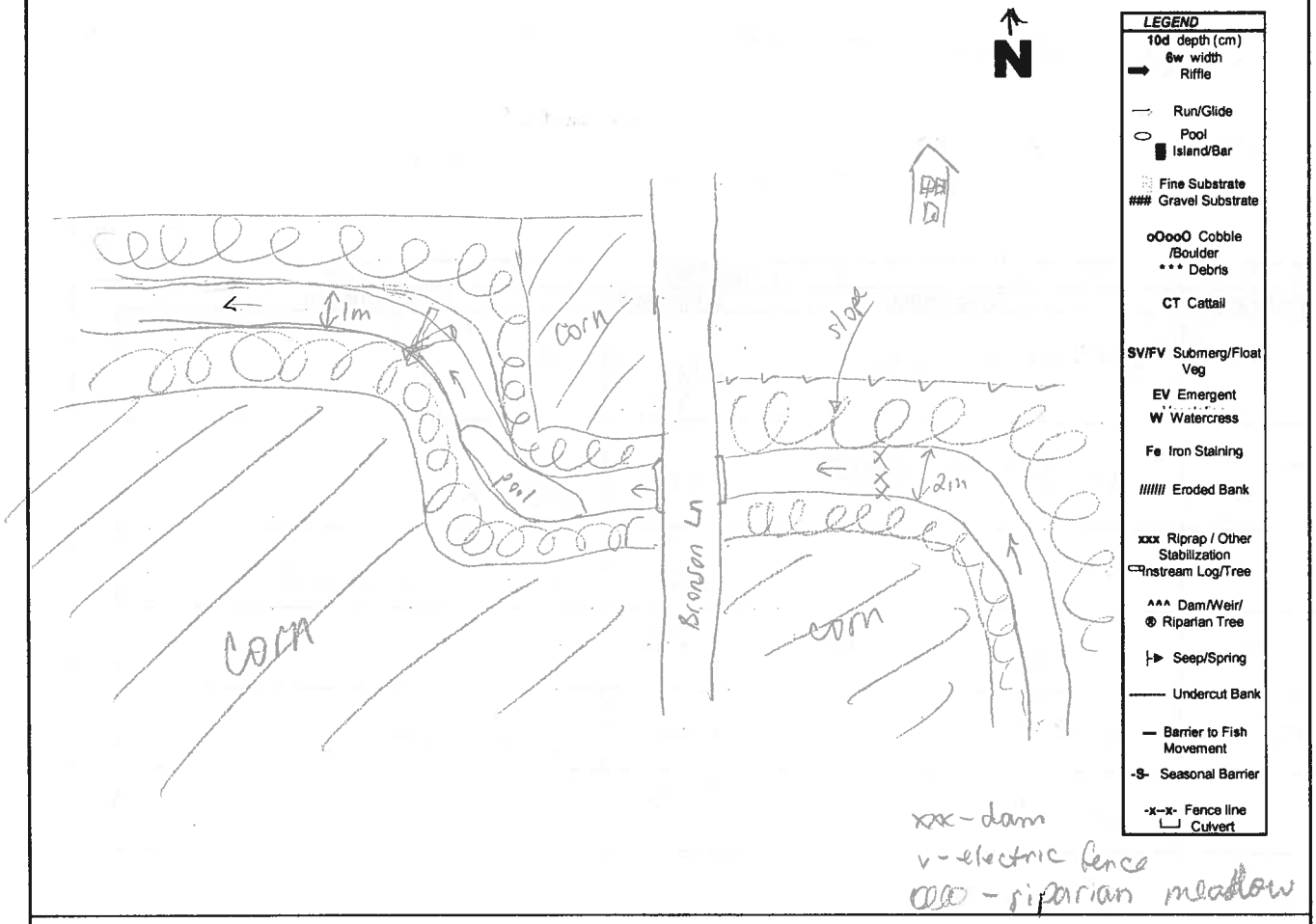
x with depth 0.40

D19

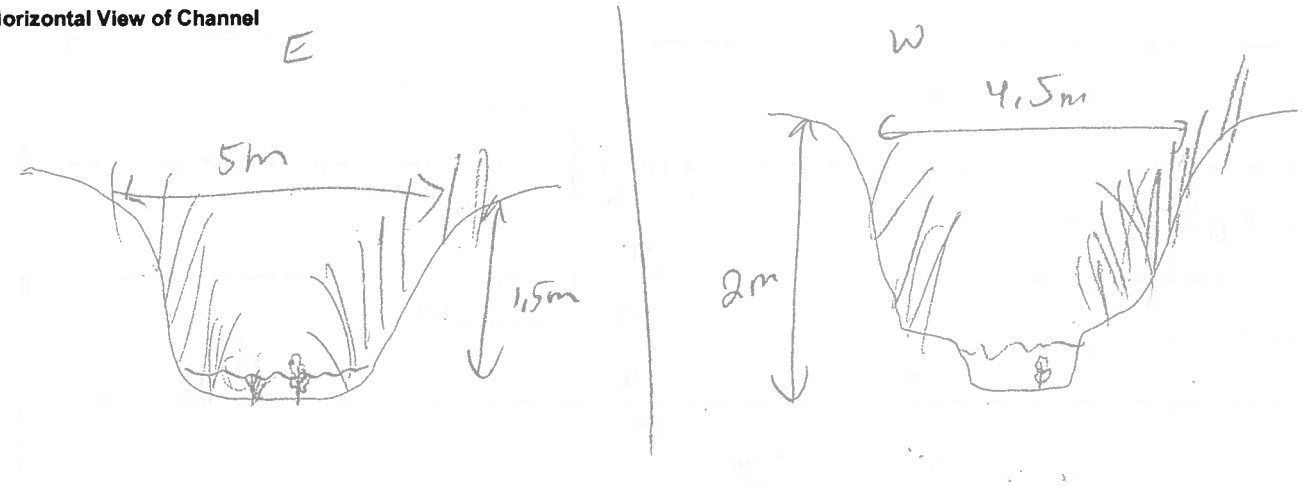
AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** ~~1787~~ 1077/1092 **Turbine #** ~~G05 G54~~



Horizontal View of Channel



Water Bodies Assessment Field Collection Form

AECOM

General Information

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** 17871077 **Site ID:** D19

Date: May 10 /12 **Start time:** 16:00 **End Time:** 17:50

Weather Conditions: Sunny, 10°C

Field Crew: C. Boros, J. Epp

Field Notes By: C. Boros

Site Location

Creditor Rd, west of Bronson Ln.

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

Easting:	449032	**Northing:**	4793482	**Description:**	D19 start
Easting:	448374	**Northing:**	4793555	**Description:**	D19 end.
Easting:		**Northing:**		**Description:**	
Easting:		**Northing:**		**Description:**	

Surrounding Landuse

Residential	☐	Meadow	☐
Agriculture	☒	Wetland	☐
Forest	☐	Livestock	☐
Other			

Description: crop fields

Type of Watercourse

Intermittent	☐	Channelized	☒
Permanent	☒	Natural Channel	☒
Ephemeral	☐		☐

Description: watercourse naturalizing

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

tile drain inputs - 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)

Slightly hilly

In-Situ Water Quality

WT (°C):	16°C	**AT(°C):**	10°C
pH:	/	**Cond (s/cm):**	/
D.O. (mg/L)	/		

Water Clarity: Clear ☒ Turbid ☐

Water Colour: n/a

Notes: W/Q meter not working

Ground Water and Seepage Indicators

Watercress	☐	Bank Seepage	☐
Iron Staining	☐	None	☐
Bubbling	☐	Water Speedwell	☒
Other	☐		

Details: sparse clumps at up/s portion

Water Bodies Assessment Field Collection Form

Stream Morphology

Site Length (m): ~450m

Channel Dimensions

Mean Wetted Width (m):	1m	**Mean Wetted Depth (m):**	0.23
Mean Bankfull Width (m):	1.5	**Mean Bankfull Depth (m):**	0.5
Mean Top of Bank Width (m):	3.5	**Mean Top of Bank Depth (m):**	2

Bank Stability:

	Stable	Slightly unstable	Moderately unstable	Unstable
Left Bank	☐	☐	☒	☐
Right Bank	☐	☐	☒	☐

Description: erosion + slumping occurring throughout

Flow Description: (high or low flow conditions, stagnant, etc)

moderate flow

Habitat

Substrate (< = >)

Bo - Boulder
Co - Cobble
Gr - Gravel
Sa - Sand
Si - Silt
Cl - Clay
MK-Muck
DT-Detritus

Description

~~Cobble~~ clay packed bottom w areas of mk, si and areas of cobble, gravel

Morphological Structure (%)

Pool	Riffle	Run	Flat
20	10	5	65

Notes: was not meandering

Instream Cover (%) 80

Other	Small Woody Debris	Boulders	Cobble	Aquatic Vegetation*	None	Undercut Banks
/	b.	2.	6	50	/	Average Depth: 0.15 (% Cover) 15

Note: Low = 0 - 30%; Moderate = 30 - 75%; High = 75 - 100%

***Aquatic Vegetation Species Present (algae, submergent, emergent etc.)**

attached algea (covering rocks + bottom) > grasses >> speedwell, herbaceous

Canopy Cover (% closed cover):

100-90%	☐	**30-1%**	☐
90-60%	☒	**0%**	☐
60-30%	☐		

Types of Cover (% cover)

Trees 20 **Shrubs** 70 **Man-made structures** _____

Grasses 10 **Herbaceous** _____ **Other** _____

Note: Low = 0 - 30%; Moderate = 30 - 60%; High = 60 - 100%

Notes: (vegetation species, types of structures)

willows, sumac, manitoba maple, poplar

Riparian Vegetation

Width of riparian vegetation: N - 2m - grasses S - 3m - grasses, shrubs,

Description of vegetation community surrounding 30 m from watercourse:

agri crop fields

Obstructions to Fish Passage

No Obstructions ☒ **Man-Made** ☐ **Natural** ☐ **Low Flow Barrier** ☐

Description of Barrier:

Height of Barrier (m) /

GPS Coordinates: /

Water Bodies Assessment Field Collection Form

AECOM | Date: May 10 /12 | Land Parcel/Site ID: 1077 1787 D19 |

Other General Comments Regarding the Study Area:

- Turkey nesting on Irrigation; frog observed
- Schools of minnows / cyprinids

Banks were slumping and eroding but channel was not meandering. The watercourse contained riffles, runs and pools but not always sequenced — more pools than riffles. The channel narrowed and widened according to riffle or pool. Instream cover was high (algae), and substrate differed depending on surrounding veg, erosion.

Additional UTM Coordinates:

Overall good fish habitat.

Photo log

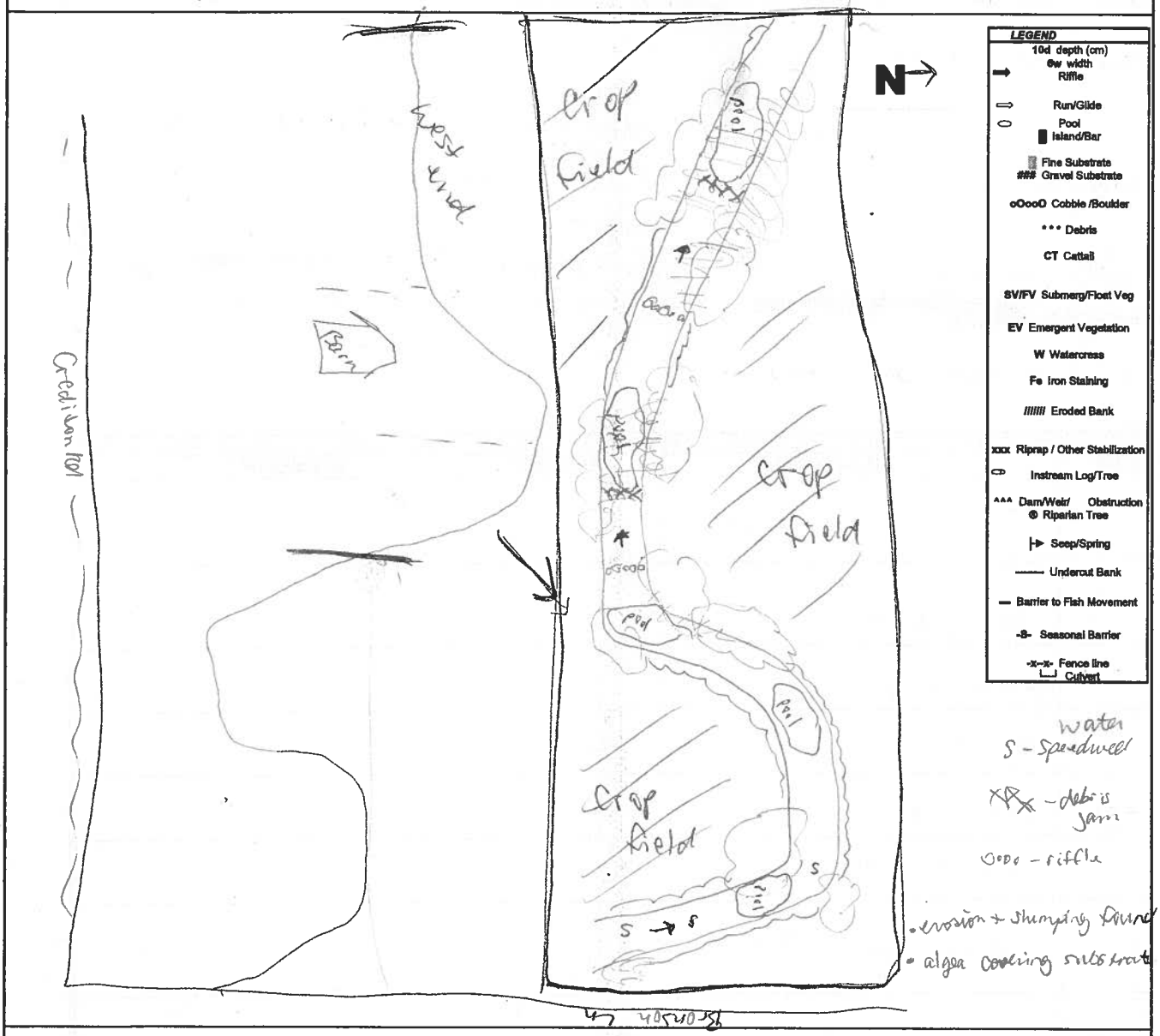
Picture #	Description	Picture #	Description
1	site overview - at property line		
2 - 11	moving towards back of barns		
12 - 19	behind barns		
20 - 24	past barns		
25 - 36	west end		
37	end of site		
38	30 m past site		

Water Bodies Assessment Field Collection Form

AECOM

Watercourse Sketch

Study Area: Jericho (Goshen) Bluewater **Land Parcel#** 1787/107 **Site ID** D19



Horizontal View of Channel

Initial QA/QC By: L. Bentley Date: May 16, 2012 Technical QA/QC By: [illegible] Date: Aug 2/12