


Appendix D

Waterbody Forms & Photographs

S-F18-6

Created	2018-06-13 14:49:09 UTC by Jacob Fleckenstein
Updated	2018-10-15 14:21:09 UTC by Jenn Favela
Location	36.8291082, -79.3447892
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/13
Date2	180613

Resource Crew Info

Field Crew	Alexi Weber, Jacob Fleckenstein, Eileen Nakahata
Lead Scientist's Initials	F18
Resource Series Number	6
Resource ID	S-F18-6
Do you need to override the resource id?	Yes
Resource ID Override	S-F18-6
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	25
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	90
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	10
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	5
Average Water Width (ft)	4
Bank to Bank (ft)	6
Bankfull Width (ft)	6

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	3
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	10
High poor (0.6) [Left]	10
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	80
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	10
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	10
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No

Stream Geomorphology Total	11
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Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Weak
Algae	Absent
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	SE
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Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-10

Created	2018-06-14 11:33:45 EDT by Beth Clements
Updated	2018-07-05 17:14:24 EDT by Sam Edmonds
Location	36.8254736, -79.3446516
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/14
Date2	180614

Resource Crew Info

Field Crew	Beth Clements, Mike Smith
Lead Scientist's Initials	F18
Resource Series Number	10
Resource ID	S-F18-10
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	19.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SW
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Mud or muck

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	10
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	90
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.7
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Mud or muck

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	7

Stream Hydrology

Presence of baseflow	Moderate
Sediment on plants or debris	Moderate
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	5.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1




Across Stream Photo 2



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-65

Created	2018-08-03 16:42:49 UTC by Beth Clements
Updated	2018-08-17 17:39:07 UTC by Alexi Weber
Location	36.8227257, -79.3474638
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/03
Date2	180803

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	65
Resource ID	S-F18-65
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	40
Calculated Stream Type	Perennial
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Fast (> 5 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	10
Average Water Width (ft)	10
Bank to Bank (ft)	14
Bankfull Width (ft)	14
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	20
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	80
High suboptimal (1.2) [Right]	20
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Strong
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Moderate
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	23

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Moderate
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

NW

Across Stream Photo 2




Across stream photo direction 2

SE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-63

Created	2018-08-03 12:40:02 UTC by Beth Clements
Updated	2018-08-15 22:12:20 UTC by Alexi Weber
Location	36.8212207, -79.3479455
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/03
Date2	180803

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	63
Resource ID	S-F18-63
Do you need to override the resource id?	Yes
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	27.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	20
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Right Erosion Potential	High
Right Bank Substrate	Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	80
Low suboptimal (1.1) [Right]	20
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Moderate
Grade control	Absent
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	11.5

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Amphibians	Weak
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional

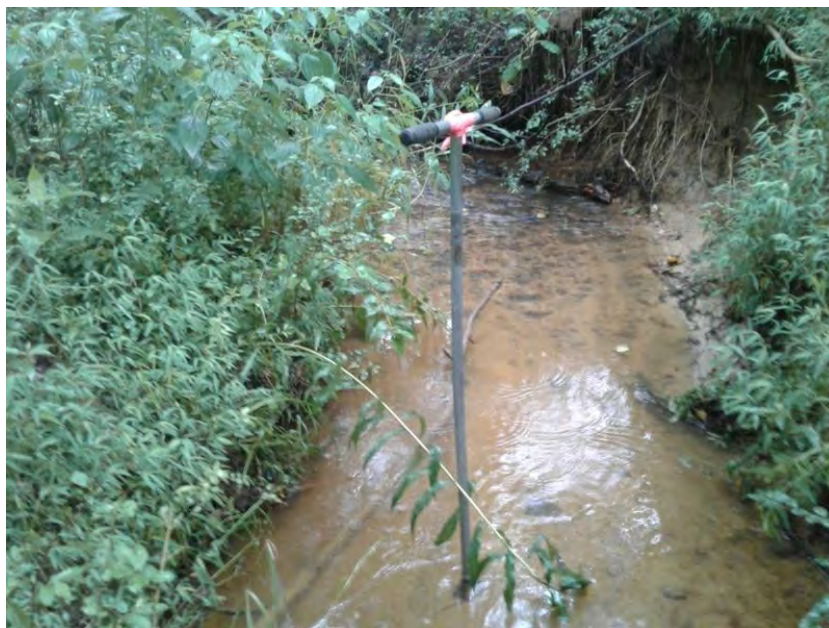
Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

NE

Across Stream Photo 2




Across stream photo direction 2

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-186

Created	2018-07-24 12:20:59 UTC by Laura Giese
Updated	2018-09-06 14:06:17 UTC by Joseph Roy
Location	36.8232403, -79.3525951
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/24
Date2	180724

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	186
Resource ID	S-A18-186
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	17.75
Calculated Stream Type	Ephemeral

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	1
Bank to Bank (ft)	1
Bankfull Width (ft)	1
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.2
High poor (0.6) [Left]	0.5
Low poor (0.5) [Left]	0
Left bank total	0.7

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.4
High poor (0.6) [Right]	0.3
Low poor (0.5) [Right]	0
Right bank total	0.7

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	6.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	6.75

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

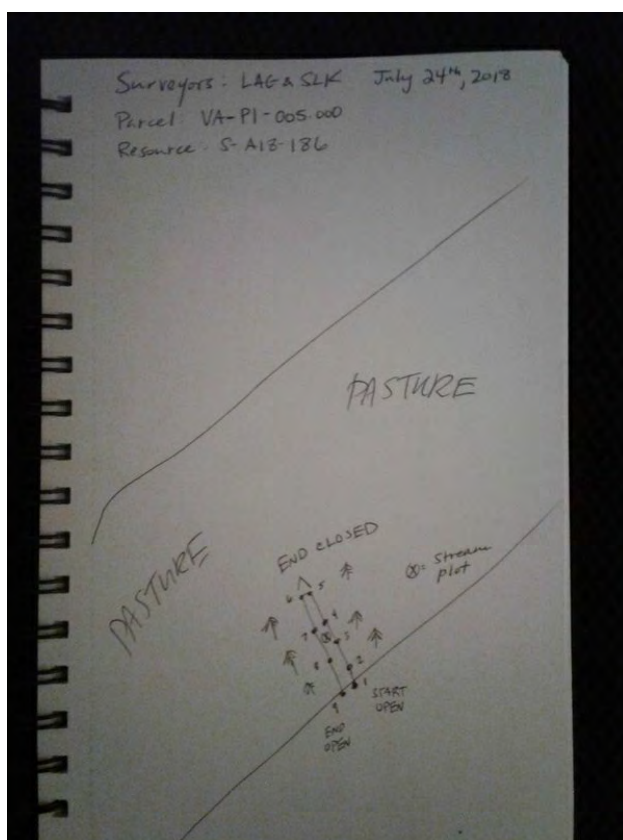
Across Stream Photo 1



Across stream photo direction 1


E

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-18

Created	2018-06-12 20:43:20 UTC by Alexi Weber
Updated	2018-10-15 15:56:27 UTC by Jenn Favela
Location	36.8145393, -79.3553949
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/12
Date2	180612

Resource Crew Info

Field Crew	Troy Savage, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	18
Resource ID	S-E18-18
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	32
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	100
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	4
Bank to Bank (ft)	9
Bankfull Width (ft)	10
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	6
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	15

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Weak
Fish	Strong
Crayfish	Moderate
Amphibians	Moderate
Algae	Absent
Stream Biology Total	11.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2



Across stream photo direction 2


SW

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-56

Created	2018-06-15 17:10:57 UTC by Alexi Weber
Updated	2018-07-19 21:08:17 UTC by Beth Clements
Location	36.8113418, -79.3590313
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/15
Date2	180615

Resource Crew Info

Field Crew	Alexi Weber, Jacob Fleckenstein, Sara Sanderlin
Lead Scientist's Initials	F18
Resource Series Number	10
Resource ID	S-F18-56
Do you need to override the resource id?	Yes
Resource ID Override	S-F18-56
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	27.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	4
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.6
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand, Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Sand, Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	14

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	7
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-18

Created	2018-06-17 10:02:41 EDT by Jacob Fleckenstein
Updated	2018-07-05 13:28:28 EDT by Sam Edmonds
Location	36.8084979, -79.3630479
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/17
Date2	180617

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	18
Resource ID	S-D18-18
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	30
Calculated Stream Type	Perennial
Wildlife Observed	Frogs
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Poor
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	25
Average Water Width (ft)	20
Bank to Bank (ft)	25
Bankfull Width (ft)	25
Probed Stream Depth	24 to 36 inches

Left Bank

Left Bank Height (feet)	5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	10
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	90
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	10
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Strong
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	Yes
Stream Geomorphology Total	15

Stream Hydrology

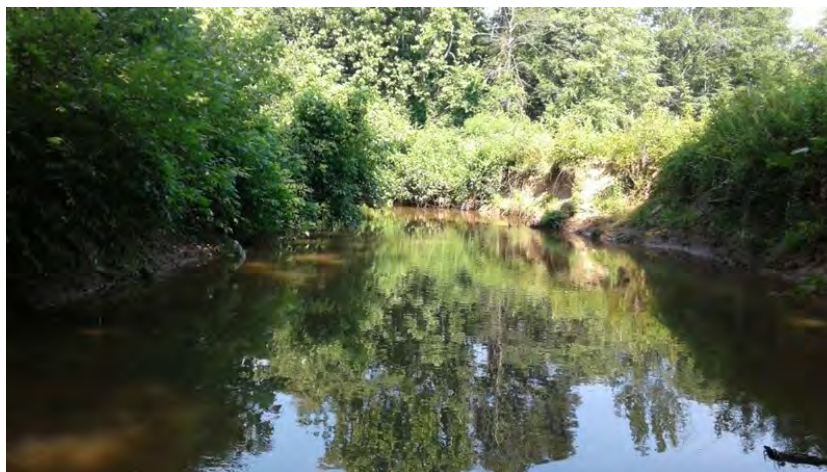
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	8
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

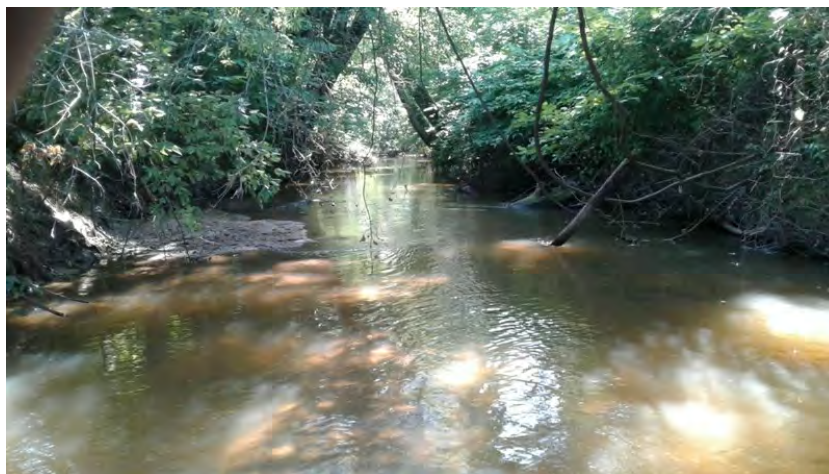
Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-20

Created	2018-06-17 17:36:48 UTC by Alexi Weber
Updated	2018-10-15 15:06:15 UTC by Jenn Favela
Location	36.8020877, -79.3672414
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/17
Date2	180617

Resource Crew Info

Field Crew	Eileen Nakahata, Sara Sanderlin, Mike Smith
Lead Scientist's Initials	G18
Resource Series Number	3
Resource ID	S-D18-20
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-20
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	19
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	N
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	95
Low Minor (1.3) Channel Alteration	5
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	4
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	10
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	80
High poor (0.6) [Left]	10
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	100
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Moderate
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Absent
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	12.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Algae	Moderate
Stream Biology Total	1
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1




Across Stream Photo 2



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-2

Created	2018-06-06 14:37:51 UTC by Janelle Bernosky
Updated	2018-10-15 15:45:01 UTC by Jenn Favela
Location	36.7916916, -79.3808716
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/06
Date2	180606

Resource Crew Info

Field Crew	Tsavage
Lead Scientist's Initials	E18
Resource Series Number	2
Resource ID	S-E18-2
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-2
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	29
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Severe
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.7
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.7

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	5
Bank to Bank (ft)	8
Bankfull Width (ft)	8
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	7
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Sand

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	50
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	50
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	10
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	50
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	50
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Moderate
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	13

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Weak
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional
Notes	Highly eroded

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-3

Created	2018-06-06 14:01:51 UTC by Beth Clements
Updated	2018-10-15 15:59:15 UTC by Jenn Favela
Location	36.7872269, -79.3800657
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/06
Date2	180606

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein
Lead Scientist's Initials	D18
Resource Series Number	3
Resource ID	S-D18-3
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-3
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	23
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	E
Channel condition	Optimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	3
Bankfull Width (ft)	5

Probed Stream Depth	6 to 12 inches
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Left Bank

Left Bank Height (feet)	0.8
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.8
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	9
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Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	6.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-6

Created	2018-06-06 16:40:02 UTC by Beth Clements
Updated	2018-10-15 15:57:55 UTC by Jenn Favela
Location	36.7879396, -79.384141
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/06
Date2	180606

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	6
Resource ID	S-D18-6
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-6
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	5
Bankfull Width (ft)	7

Probed Stream Depth	6 to 12 inches
Left Bank	
Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud
Left Bank Riparian Buffer Condition	
Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100
Right Bank	
Right Bank Height (feet)	0.8
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	High
Right Bank Substrate	Silt-Mud
Right Bank Riparian Buffer Condition	
Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100
Stream Geomorphology	
Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Moderate
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	8.5
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Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Weak
Stream Biology Total	7
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-67

Created	2018-08-06 13:58:57 UTC by Beth Clements
Updated	2018-08-17 23:15:24 UTC by Alexi Weber
Location	36.7835233, -79.3874335
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/06
Date2	180806

Resource Crew Info

Field Crew	Beth Clements, Sara Sanderlin, Josh Clements
Lead Scientist's Initials	F18
Resource Series Number	67
Resource ID	S-F18-67
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	25.5
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Mud or muck

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	25
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	75
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Mud or muck

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	25
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	75
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	12.5

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Wetland plants in streambed	Other
Stream Biology Total	6.5
Regulatory Status	Corps Jurisdictional
Notes	Caddis fly larvae and flathead stonefly

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-10

Created	2018-06-08 10:32:52 EDT by Alexi Weber
Updated	2018-07-05 15:15:14 EDT by Sam Edmonds
Location	36.7829354, -79.3889373
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/08
Date2	180705

Resource Crew Info

Field Crew	Beth Clements, Alexi Weber, Jacob Fleckenstein, Sara Sanderlin
Lead Scientist's Initials	D18
Resource Series Number	10
Resource ID	S-D18-10
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	24.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	40
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	60
Left bank total	100

Right Bank

Right Bank Height (feet)	1.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	70
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	30
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	13.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

SE

Across Stream Photo 2




Across stream photo direction 2

NW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-9

Created	2018-06-08 12:48:41 UTC by Alexi Weber
Updated	2018-10-15 17:42:52 UTC by Jenn Favela
Location	36.7825573, -79.3904472
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/08
Date2	180705

Resource Crew Info

Field Crew	Beth Clements, Alexi Weber, Jacob Fleckenstein, Sara Sanderlin
Lead Scientist's Initials	D18
Resource Series Number	9
Resource ID	S-D18-9
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-9
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	24.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	4
Bankfull Width (ft)	4

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	60
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	40
Left bank total	100

Right Bank


Right Bank Height (feet)	1
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	60
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	40
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	12.5
Stream Hydrology	
Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5
Stream Biology	
Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	5.5
Regulatory Status	Corps Jurisdictional
Stream Overview Report Photos	
Upstream Stream Photo	
Upstream photo direction	NW

Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-12

Created	2018-06-08 18:22:17 UTC by Alexi Weber
Updated	2018-10-12 16:14:51 UTC by Jenn Favela
Location	36.7792166, -79.394032
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/08
Date2	180705

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Sara Sanderlin
Lead Scientist's Initials	D18
Resource Series Number	12
Resource ID	S-D18-12
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	19
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	100
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	2
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1.5
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	5
Low marginal (0.75) [Left]	95
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	5
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	93
Low poor (0.5) [Right]	2
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Absent
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	7

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Weak
Stream Biology Total	6.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-4

Created	2018-06-07 14:21:35 UTC by Janelle Bernosky
Updated	2018-10-15 17:54:09 UTC by Jacob Fleckenstein
Location	36.7755237, -79.3985503
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/07
Date2	180607

Resource Crew Info

Field Crew	Troy Savage, Alexi Weber, Jacob Fleckenstein, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	4
Resource ID	S-E18-4
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-4
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	28
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.7
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.7

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	3
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	100
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	100
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	11

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Strong
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Absent
Amphibians	Weak
Algae	Weak
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

NW

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2



Across stream photo direction 2


NE

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-8

Created	2018-06-07 15:03:50 UTC by Jen Feese
Updated	2018-10-15 21:15:22 UTC by Jacob Fleckenstein
Location	36.7745151, -79.398364
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/07
Date2	180607

Resource Crew Info

Field Crew	Troy Savage
Lead Scientist's Initials	E18
Resource Series Number	8
Resource ID	S-D18-8
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-8
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	25.25
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Optimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Absent
Active or relict floodplain	Strong
Depositional bars or benches	Moderate
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Absent
Natural valley	Absent
Second or greater order channel	No
Stream Geomorphology Total	11

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Moderate
Leaf litter	Moderate
Sediment on plants or debris	Strong
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Strong
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Moderate
Wetland plants in streambed	FACW
Stream Biology Total	5.75
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-3

Created	2018-06-06 20:37:21 UTC by Janelle Bernosky
Updated	2018-10-15 17:54:32 UTC by Jacob Fleckenstein
Location	36.7740488, -79.3984986
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/06
Date2	180606

Resource Crew Info

Field Crew	Tsavage
Lead Scientist's Initials	E18
Resource Series Number	3
Resource ID	S-E18-3
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-3
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	42
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Severe
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	100
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	48
Average Water Width (ft)	42
Bank to Bank (ft)	50
Bankfull Width (ft)	50
Probed Stream Depth	24 to 36 inches

Left Bank

Left Bank Height (feet)	10
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Sand, Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	100
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	12
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Strong
Depositional bars or benches	Moderate
Recent alluvial deposits	Strong
Headcuts	Strong
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	22

Stream Hydrology

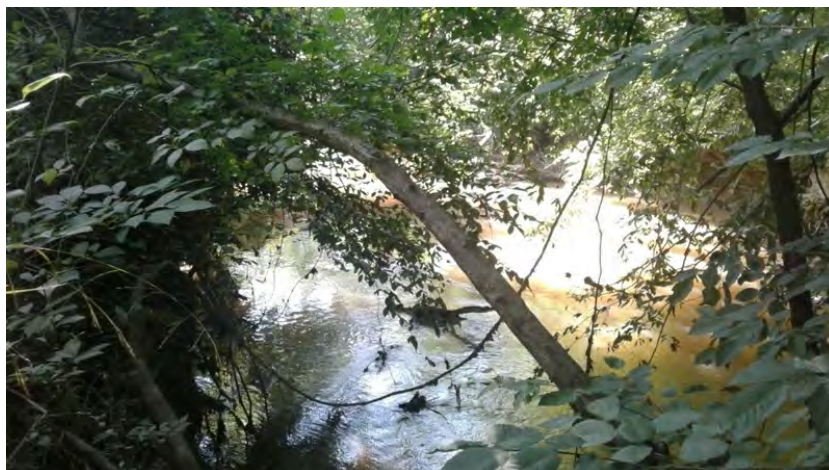
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Strong
Organic debris lines or piles	Strong
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10.5

Stream Biology

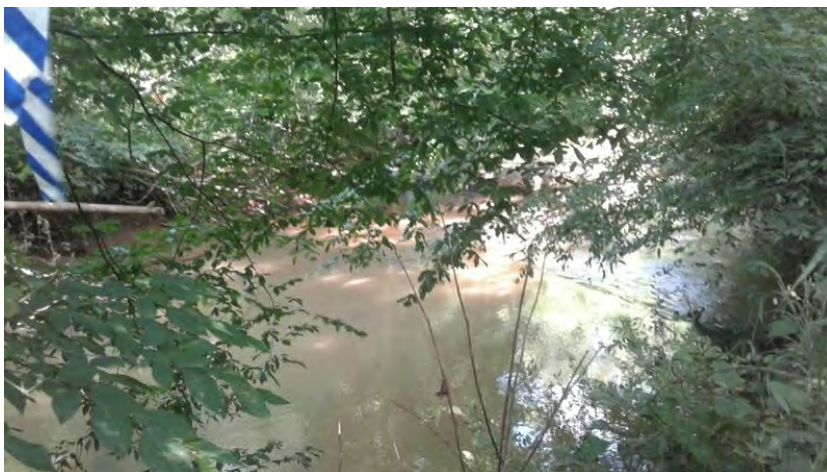
Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Moderate
Amphibians	Absent
Algae	Absent
Stream Biology Total	9.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

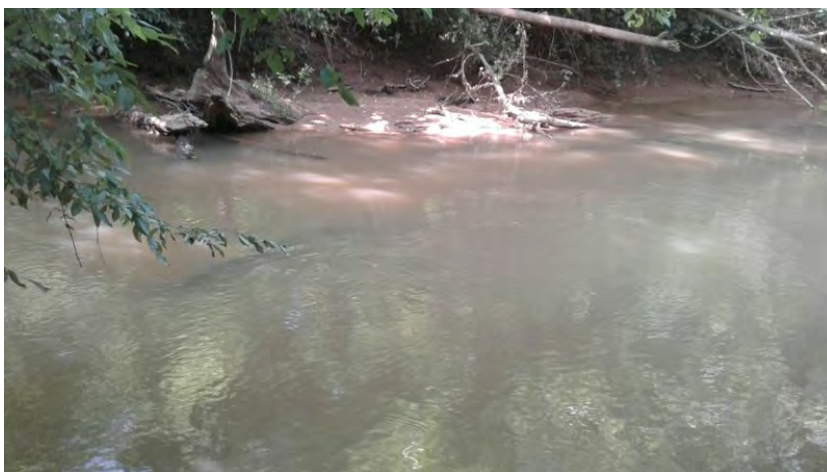
Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1




Across Stream Photo 2



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-2

Created	2018-06-05 20:27:15 UTC by Beth Clements
Updated	2018-10-15 18:02:39 UTC by Jacob Fleckenstein
Location	36.7733894, -79.3983176
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/05
Date2	180605

Resource Crew Info

Field Crew	Troy Savage, Alexi Weber, Jacob Fleckenstein, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	3
Resource ID	S-D18-2
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-2
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	40
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	N
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	100
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	20
Average Water Width (ft)	16
Bank to Bank (ft)	22
Bankfull Width (ft)	22
Probed Stream Depth	12 to 24 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	silly clay

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	silly clay

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Strong
Depositional bars or benches	Weak
Recent alluvial deposits	Strong
Headcuts	Moderate
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	17.5

Stream Hydrology

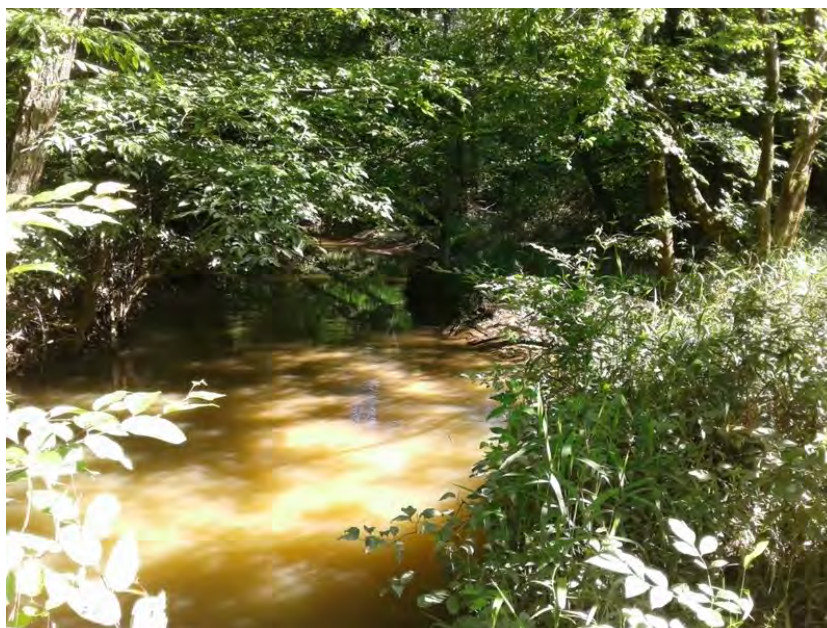
Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Strong
Organic debris lines or piles	Strong
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Moderate
Fish	Moderate
Crayfish	Moderate
Amphibians	Moderate
Algae	Absent
Wetland plants in streambed	Other
Stream Biology Total	13
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

NE

Across Stream Photo 2




Across stream photo direction 2

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-15

Created	2018-06-11 14:50:11 UTC by Jacob Fleckenstein
Updated	2018-08-13 21:43:26 UTC by Beth Clements
Location	36.76343056, -79.4125
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/11
Date2	180611

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	15
Resource ID	S-D18-15
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	14
Calculated Stream Type	Ephemeral
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Poor
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	8
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	95
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	5
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	95
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	5
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Absent
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	8.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	1.5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	4
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

N

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-16

Created	2018-06-11 15:57:29 UTC by Jacob Fleckenstein
Updated	2018-10-15 22:05:54 UTC by Jacob Fleckenstein
Location	36.76157778, -79.41416667
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/11
Date2	180611

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	16
Resource ID	S-D18-16
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	17.5
Calculated Stream Type	Ephemeral
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	10
High suboptimal (1.2) [Left]	90
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	10
High suboptimal (1.2) [Right]	90
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	7

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional
Notes	soils not hydric

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-12

Created	2018-06-11 17:29:21 UTC by Alexi Weber
Updated	2018-10-12 16:38:58 UTC by Jenn Favela
Location	36.7578327, -79.417744
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/11
Date2	180705

Resource Crew Info

Field Crew	Troy Savage, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	12
Resource ID	S-E18-12
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	29.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	E
Channel condition	Optimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Absent
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	9.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Strong
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Moderate
Crayfish	Moderate
Amphibians	Absent
Algae	Strong
Stream Biology Total	11.5
Regulatory Status	Corps Jurisdictional
Notes	Seep fed headwater stream

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-36

Created	2018-06-09 15:59:10 UTC by Jen Feese
Updated	2018-10-15 16:12:04 UTC by Jenn Favela
Location	36.756743, -79.4193469
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/09
Date2	180705

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Sara Sanderlin, Mike Smith, Troy Savage
Lead Scientist's Initials	E18
Resource Series Number	9
Resource ID	S-D18-36
Do you need to override the resource id?	Yes
Resource ID Override	S-D18-36
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	20
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	20
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	30
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	70
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	10.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-6

Created	2018-06-08 17:26:24 UTC by Janelle Bernosky
Updated	2018-10-15 18:38:18 UTC by Jacob Fleckenstein
Location	36.752897, -79.4230471
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/08
Date2	180608

Resource Crew Info

Field Crew	Troy Savage, Alexi Weber, Jacob Fleckenstein, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	6
Resource ID	S-E18-6
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-6
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	29
Calculated Stream Type	Intermittent
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	100
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	4
Bank to Bank (ft)	8
Bankfull Width (ft)	8

Probed Stream Depth	0 to 6 inches
Left Bank	
Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated
Left Bank Riparian Buffer Condition	
Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100
Right Bank	
Right Bank Height (feet)	3
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated
Right Bank Riparian Buffer Condition	
Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	100
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100
Stream Geomorphology	
Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	12.5
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Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Weak
Amphibians	Absent
Algae	Weak
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-7

Created	2018-06-09 13:00:04 UTC by Jacob Fleckenstein
Updated	2018-10-15 22:20:45 UTC by Jacob Fleckenstein
Location	36.7531574, -79.4232326
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/09
Date2	180609

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Sara Sanderlin, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	7
Resource ID	S-E18-7
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-7
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	70
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	30
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	90
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	10
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	10

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-13

Created	2018-06-10 13:32:31 UTC by Jacob Fleckenstein
Updated	2018-10-15 22:03:32 UTC by Jacob Fleckenstein
Location	36.7457263, -79.4298047
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/10
Date2	180610

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Sara Sanderlin, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	13
Resource ID	S-D18-13
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	30
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	5
Bankfull Width (ft)	6
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	90
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	10
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	90
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	10
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Strong
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	15

Stream Hydrology

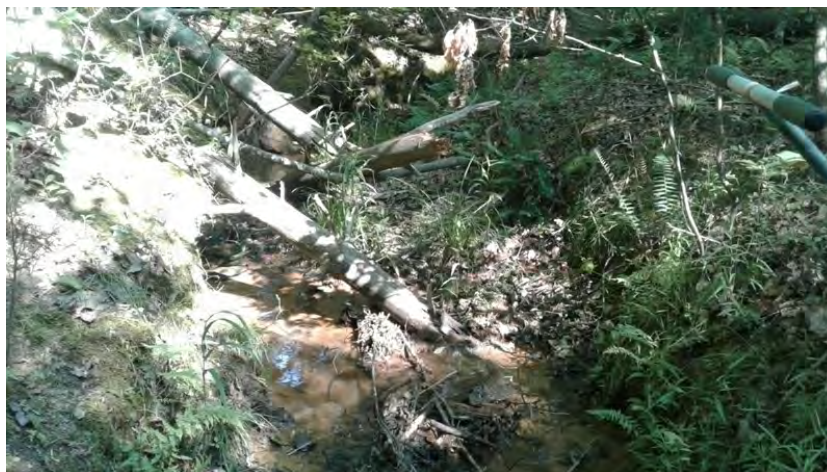
Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Moderate
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	8
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

NW

Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

NE

Across Stream Photo 2




Across stream photo direction 2

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-13

Created	2018-06-15 16:47:47 UTC by Jen Feese
Updated	2018-08-09 17:30:47 UTC by Beth Clements
Location	36.7414498, -79.433931
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/15
Date2	180615

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Sara Sanderlin, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	13
Resource ID	S-F18-13
Do you need to override the resource id?	Yes
Resource ID Override	S-F18-13
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	25
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.7
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.7

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	1
Bank to Bank (ft)	3
Bankfull Width (ft)	4

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Mud or muck

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	20
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank


Right Bank Height (feet)	0.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Mud or muck

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	80
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	20
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Moderate
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	11.5
Stream Hydrology	
Presence of baseflow	Weak
Iron oxidizing bacteria	Weak
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5
Stream Biology	
Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Weak
Fish	Absent
Crayfish	Absent
Amphibians	Moderate
Algae	Absent
Stream Biology Total	7
Regulatory Status	Corps Jurisdictional
Stream Overview Report Photos	
Upstream Stream Photo	
Upstream photo direction	SW

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-16

Created	2018-06-12 15:49:37 UTC by Janelle Bernosky
Updated	2018-10-15 18:59:33 UTC by Jacob Fleckenstein
Location	36.7348593, -79.4401445
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/12
Date2	180612

Resource Crew Info

Field Crew	Troy Savage, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	16
Resource ID	S-E18-16
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	27.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	100
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	4
Bank to Bank (ft)	4
Bankfull Width (ft)	5
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Low
Left Bank Substrate	Mud or muck, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	100
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Mud or muck, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	100
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Strong
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	10.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Weak
Fish	Weak
Crayfish	Absent
Amphibians	Absent
Algae	Moderate
Wetland plants in streambed	OBL
Stream Biology Total	9
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

N

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-14

Created	2018-06-12 15:03:05 UTC by Janelle Bernosky
Updated	2018-10-15 19:10:47 UTC by Jacob Fleckenstein
Location	36.7346689, -79.4398752
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/12
Date2	180612

Resource Crew Info

Field Crew	Troy Savage, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	14
Resource ID	S-E18-14
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	37
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	10
Average Water Width (ft)	7
Bank to Bank (ft)	12
Bankfull Width (ft)	12
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Strong
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	17.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Moderate
Fish	Weak
Crayfish	Weak
Amphibians	Absent
Algae	Weak
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

NE

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-15

Created	2018-06-12 15:20:35 UTC by Janelle Bernosky
Updated	2018-10-15 19:03:30 UTC by Jacob Fleckenstein
Location	36.7344375, -79.4399647
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/12
Date2	180612

Resource Crew Info

Field Crew	Troy Savage, Eileen Nakahata, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	15
Resource ID	S-E18-15
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	28
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	E
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Mud or muck, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Mud or muck, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Strong
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	11.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Moderate
Leaf litter	Absent
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Absent
Amphibians	Absent
Algae	Weak
Wetland plants in streambed	OBL
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

S

Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-15

Created	2018-06-18 18:47:07 UTC by Jenn Favela
Updated	2018-10-15 22:24:47 UTC by Jacob Fleckenstein
Location	36.7211433, -79.4550064
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/18
Date2	180618

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	15
Resource ID	S-F18-15
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	30.5
Calculated Stream Type	Perennial
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	98
Low Minor (1.3) Channel Alteration	2
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	2
Bank to Bank (ft)	6
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Organic, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3.5
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Organic, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	5
High suboptimal (1.2) [Right]	95
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Strong
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Weak
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional
Notes	In our opinion, based off of field observations, stream is likely perennial.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

N

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-17

Created	2018-06-19 16:33:59 UTC by Jacob Fleckenstein
Updated	2018-10-15 19:36:43 UTC by Jacob Fleckenstein
Location	36.7204402, -79.4543676
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/19
Date2	180619

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	17
Resource ID	S-F18-17
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	30.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	E
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	10
Average Water Width (ft)	9
Bank to Bank (ft)	10
Bankfull Width (ft)	15
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	10
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	14

Stream Hydrology

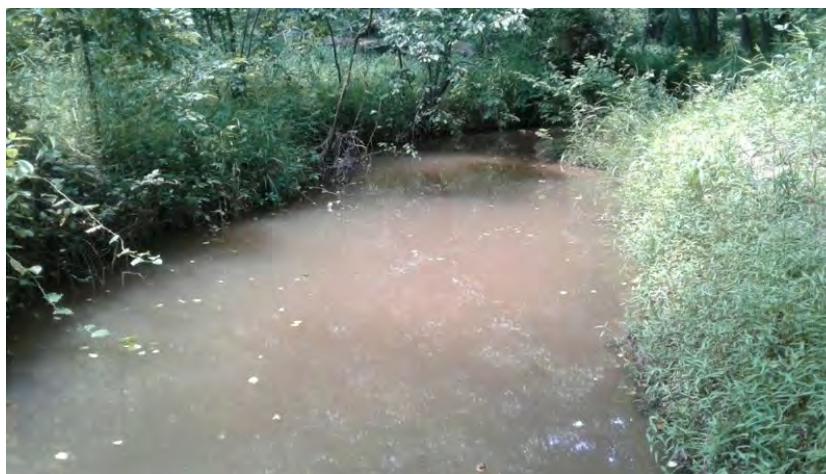
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Moderate
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	9
Regulatory Status	Corps Jurisdictional
Notes	Named perennial stream.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-22

Created	2018-06-20 16:39:03 EDT by Beth Clements
Updated	2018-07-05 12:47:19 EDT by Sam Edmonds
Location	36.707824, -79.4669004
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/20
Date2	180620

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	22
Resource ID	S-F18-22
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	19
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	W
Channel condition	Optimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	90
Low Minor (1.3) Channel Alteration	10
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	1
Bank to Bank (ft)	1
Bankfull Width (ft)	1
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Absent
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	6

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-20

Created	2018-07-26 20:34:11 UTC by Troy Savage
Updated	2018-08-09 17:23:55 UTC by Beth Clements
Location	36.7060918, -79.4690257
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Beth Clements, Josh Clements
Lead Scientist's Initials	D18
Resource Series Number	20
Resource ID	S-F18-20
Do you need to override the resource id?	Yes
Resource ID Override	S-F18-20
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	31.5
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	3
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	15.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Absent
Amphibians	Absent
Algae	Weak
Wetland plants in streambed	Other
Stream Biology Total	8
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-28

Created	2018-06-22 19:44:37 UTC by Beth Clements
Updated	2018-10-15 20:32:04 UTC by Jacob Fleckenstein
Location	36.7041042, -79.4703464
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/22
Date2	180622

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	28
Resource ID	S-F18-28
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	29
Calculated Stream Type	Intermittent
Wildlife Observed	Invertebrates
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	Yes
Stream Geomorphology Total	14

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Weak
Leaf litter	Moderate
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-85

Created	2018-08-06 14:26:55 UTC by Simon King
Updated	2018-09-06 14:06:54 UTC by Joseph Roy
Location	36.701454, -79.4733166
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/06
Date2	180806

Resource Crew Info

Field Crew	Don Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	85
Resource ID	S-C18-85
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	36.5
Calculated Stream Type	Perennial
Wildlife Observed	Frogs

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Optimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.2
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.14
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.34

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	1.2
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.2

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Moderate
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	17

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Strong
Algae	Absent
Wetland plants in streambed	Other
Stream Biology Total	10.5
Regulatory Status	State Protected, Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

NE

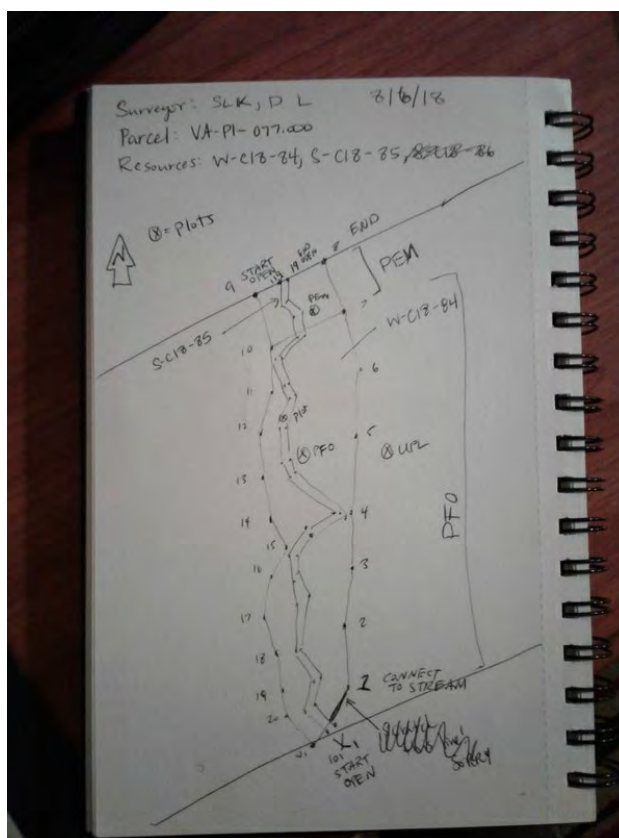
Across Stream Photo 2



Across stream photo direction 2


SW

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-86

Created	2018-08-06 16:17:47 UTC by Don Lockwood
Updated	2018-09-06 14:12:38 UTC by Joseph Roy
Location	36.6983155, -79.4761626
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/06
Date2	180806

Resource Crew Info

Field Crew	Simon King, Donald Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	86
Resource ID	S-C18-86
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	42
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.04
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0.18
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.22

Stream Measurements

OHWM Width (ft)	15
Average Water Width (ft)	5
Bank to Bank (ft)	20
Bankfull Width (ft)	20

Probed Stream Depth	6 to 12 inches
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Left Bank

Left Bank Height (feet)	5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.2
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.15
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.35

Right Bank


Right Bank Height (feet)	4
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.2
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.15
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.35

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Strong
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes

Stream Geomorphology Total	24.5
Stream Hydrology	
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Strong
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10
Stream Biology	
Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Moderate
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	7.5
Regulatory Status	State Protected, Corps Jurisdictional
Stream Overview Report Photos	
Upstream Stream Photo	
Upstream photo direction	NW

Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2



Across stream photo direction 2


W

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-21

Created	2018-06-20 15:13:38 UTC by Jen Feese
Updated	2018-08-14 21:48:18 UTC by Jacob Fleckenstein
Location	36.6881258, -79.4857669
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/20
Date2	180620

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	21
Resource ID	S-D18-21
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	42.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Fast (> 5 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	30
Average Water Width (ft)	30
Bank to Bank (ft)	35
Bankfull Width (ft)	35
Probed Stream Depth	12 to 24 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	22

Stream Hydrology

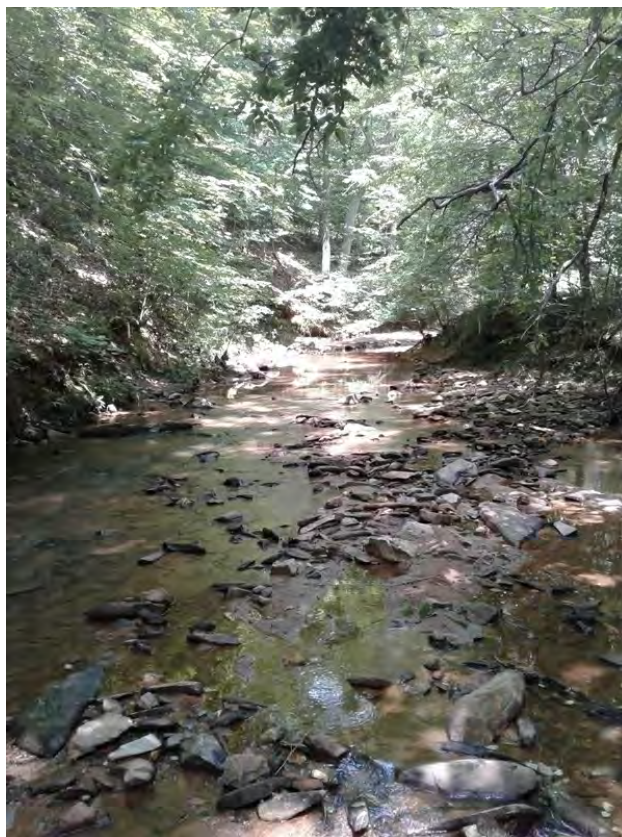
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Weak
Amphibians	Weak
Algae	Weak
Stream Biology Total	12
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

NW

Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-27

Created	2018-06-20 14:42:19 EDT by Alexi Weber
Updated	2018-07-05 12:59:19 EDT by Sam Edmonds
Location	36.6804277, -79.4898109
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/20
Date2	180620

Resource Crew Info

Field Crew	Troy Savage, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	27
Resource ID	S-E18-27
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	47
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	7
Average Water Width (ft)	5
Bank to Bank (ft)	10
Bankfull Width (ft)	11
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Strong
Recent alluvial deposits	Weak
Headcuts	Moderate
Grade control	Strong
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	23.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Weak
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Strong
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Strong
Amphibians	Strong
Algae	Absent
Stream Biology Total	13.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

NE

Across Stream Photo 2




Across stream photo direction 2

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-26

Created	2018-06-23 11:41:08 EDT by Jen Feese
Updated	2018-07-05 12:33:17 EDT by Sam Edmonds
Location	36.6762478, -79.4912465
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/23
Date2	180623

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Stephen Bendele
Lead Scientist's Initials	D18
Resource Series Number	26
Resource ID	S-D18-26
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	31.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	NE
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	5
Bank to Bank (ft)	8
Bankfull Width (ft)	9
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	20
High suboptimal (1.2) [Left]	80
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	80
High suboptimal (1.2) [Right]	20
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Strong
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	15

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Moderate
Crayfish	Moderate
Amphibians	Moderate
Algae	Absent
Stream Biology Total	10
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-28

Created	2018-06-23 15:56:16 UTC by Jen Feese
Updated	2018-10-15 22:36:13 UTC by Jacob Fleckenstein
Location	36.6765455, -79.491024
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/23
Date2	180623

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Stephen Bendele
Lead Scientist's Initials	D18
Resource Series Number	28
Resource ID	S-D18-28
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	28
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	NE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	2
Bank to Bank (ft)	2
Bankfull Width (ft)	2
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Moderate
Depositional bars or benches	Absent
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	14.5

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Weak
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional
Notes	Due to the presence of contiguous seepage wetlands, suggesting year-round hydrologic input, it is our opinion that the stream is perennial.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

NE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

NW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-22

Created	2018-06-20 16:14:57 EDT by Jen Feese
Updated	2018-07-05 17:10:17 EDT by Sam Edmonds
Location	36.6717393, -79.4996024
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/20
Date2	180620

Resource Crew Info

Field Crew	Beth Clements, Mike Smith
Lead Scientist's Initials	D18
Resource Series Number	22
Resource ID	S-D18-22
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	35
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	100
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	4
Bank to Bank (ft)	6
Bankfull Width (ft)	7
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	16

Stream Hydrology

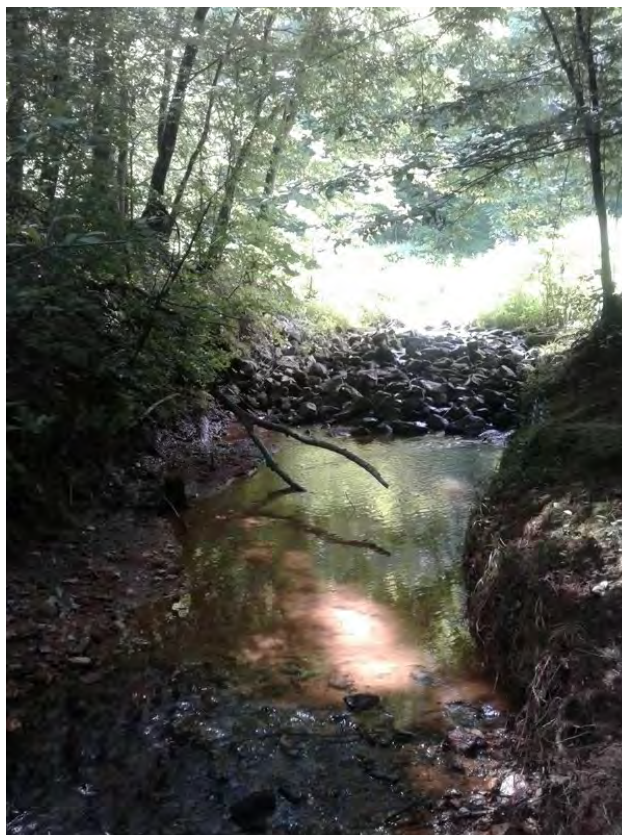
Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	11
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-61

Created	2018-08-01 14:11:16 UTC by Beth Clements
Updated	2018-08-09 16:09:58 UTC by Beth Clements
Location	36.6719843, -79.4987788
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/01
Date2	180801

Resource Crew Info

Field Crew	Alexi Weber, Jennifer Feese
Lead Scientist's Initials	F18
Resource Series Number	61
Resource ID	S-F18-61
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	34
Calculated Stream Type	Perennial
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	5
Bank to Bank (ft)	8
Bankfull Width (ft)	8
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	High
Left Bank Substrate	Sand, Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	85
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	15
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	6
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	10
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	90
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	17

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Weak
Fish	Weak
Crayfish	Absent
Amphibians	Weak
Algae	Weak
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional
Notes	Benthics found include Limnephilidae species, Lymnaeid snails, Ephemeroptera species, Hydropsychidae species

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

NE

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-47

Created	2018-07-16 13:48:46 UTC by Troy Savage
Updated	2018-08-09 18:26:24 UTC by Beth Clements
Location	36.6682018, -79.5067726
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/16
Date2	180716

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	47
Resource ID	S-E18-47
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	41.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	3
Bank to Bank (ft)	8
Bankfull Width (ft)	8

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	75
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	25
Left bank total	100

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	70
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	30
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Strong
Recent alluvial deposits	Strong
Headcuts	Moderate
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	Yes

Stream Geomorphology Total	22
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Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Moderate
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Weak
Amphibians	Weak
Algae	Weak
Wetland plants in streambed	OBL
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2



Across stream photo direction 2


S

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-188

Created	2018-07-25 13:36:22 UTC by Laura Giese
Updated	2018-09-06 14:14:09 UTC by Joseph Roy
Location	36.6618691, -79.5112719
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/25
Date2	180725

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	188
Resource ID	S-A18-188
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	33.75
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0.4
Low poor (0.5) [Left]	0
Left bank total	0.9

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Moderate
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	16.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Moderate
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	9.75
Notes	Dammed upslope to create pond

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

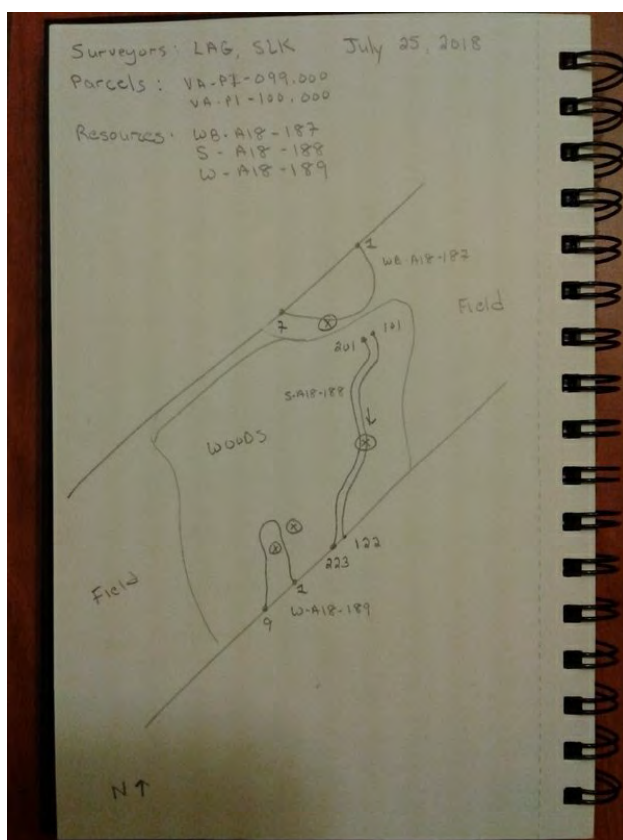
Across Stream Photo 1




Across stream photo direction 1

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker



WB-A18-187

Created	2018-07-25 12:41:17 UTC by Laura Giese
Updated	2018-09-06 14:13:35 UTC by Joseph Roy
Location	36.6623878, -79.5115718
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/25
Date2	180725

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	187
Resource ID	WB-A18-187
Do you need to override the resource id?	Yes
Resource ID Override	WB-A18-187
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Pond
Calculated Stream Score	0
Calculated Stream Type	Undetermined
Wildlife Observed	Frogs

Stream Conditions

Direction of Flow	S
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Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0

Stream Measurements

OHWM Width (ft)	170
Average Water Width (ft)	170
Bank to Bank (ft)	170
Probed Stream Depth	> 36 inches

Left Bank

Left Bank Height (feet)	5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	0

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	0

Stream Geomorphology

Stream Geomorphology Total	0
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Stream Hydrology

Stream Hydrology Total	0
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Stream Biology

Stream Biology Total	0
Notes	Cattail fringe on pond
Stream Overview Report Photos	

Upstream Stream Photo



Upstream photo direction

N

Downstream Stream Photo



Downstream photo direction

S

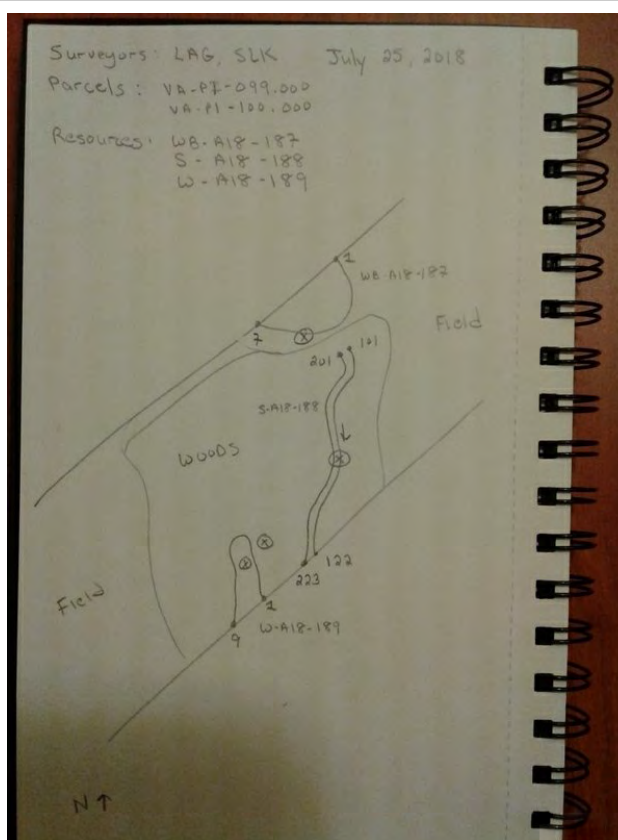
Across Stream Photo 1



Across stream photo direction 1


W

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-37

Created	2018-07-16 17:47:44 UTC by Jen Feese
Updated	2018-08-09 13:05:35 UTC by Beth Clements
Location	36.6581053, -79.5158417
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/16
Date2	180716

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Feese, Stephen Bendele
Lead Scientist's Initials	D18
Resource Series Number	37
Resource ID	S-D18-37
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	42.5
Calculated Stream Type	Perennial
Wildlife Observed	Invertebrates
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SW
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	6
Bank to Bank (ft)	25
Bankfull Width (ft)	10
Probed Stream Depth	12 to 24 inches

Left Bank

Left Bank Height (feet)	7
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	20
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	80
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	6
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	21

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Moderate
Leaf litter	Weak
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10.5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Weak
Fish	Weak
Crayfish	Weak
Amphibians	Strong
Algae	Weak
Stream Biology Total	11
Regulatory Status	Corps Jurisdictional
Notes	macroinvertebrates: hydropsychidae, limnephilidae, physidae, psephenidae, heptageniidae, chironomidae

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-192

Created	2018-07-26 15:50:14 UTC by Laura Giese
Updated	2018-09-06 14:16:36 UTC by Joseph Roy
Location	36.6574209, -79.5169315
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	192
Resource ID	S-A18-192
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	25
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	W
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

Left Bank

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0

Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	0

Right Bank

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	0

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	10

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent

Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	7
Notes	Upper reach has been straightened

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

E

Downstream Stream Photo



Downstream photo direction

W

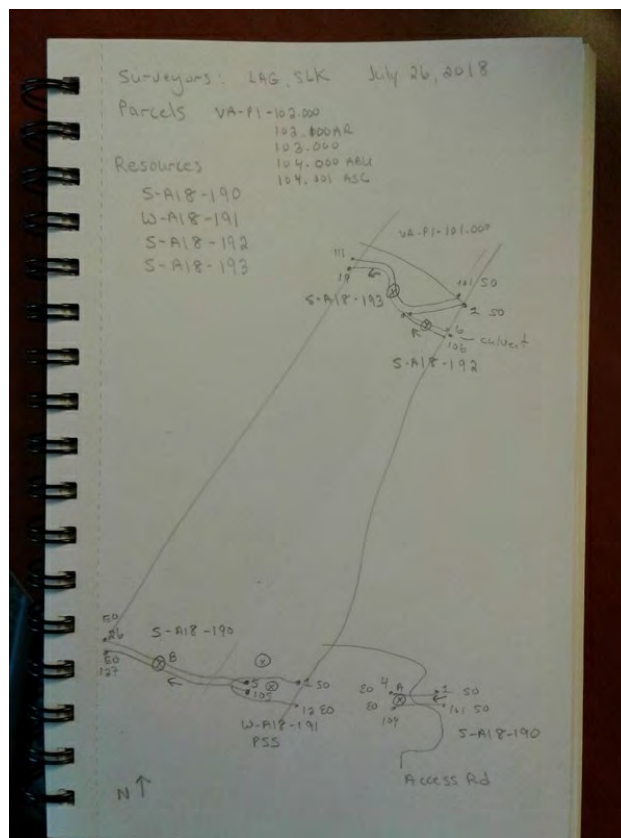
Across Stream Photo 1



Across stream photo direction 1


S

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-37

Created	2018-07-26 16:28:27 UTC by Laura Giese
Updated	2018-09-06 14:17:08 UTC by Joseph Roy
Location	36.6573811, -79.5174392
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	D18
Resource Series Number	193
Resource ID	S-D18-37
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	40
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	NW
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	13
Average Water Width (ft)	3
Bank to Bank (ft)	13
Bankfull Width (ft)	13
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	20.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Moderate
Amphibians	Moderate
Algae	Absent
Stream Biology Total	11.5

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

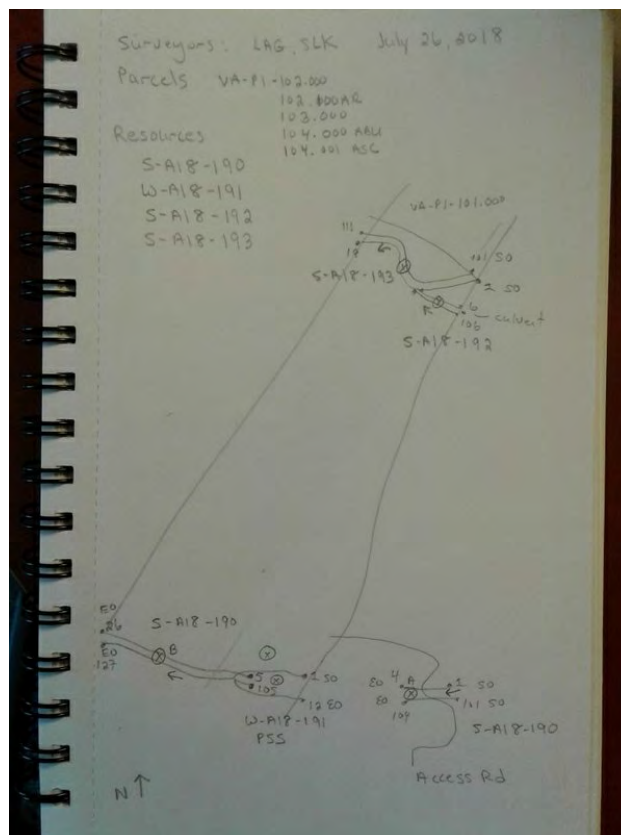
SW

Additional Stream Photos




in existing ROW, facing downstream

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-190A

Created	2018-07-26 12:10:57 UTC by Laura Giese
Updated	2018-09-06 14:28:00 UTC by Joseph Roy
Location	36.6545178, -79.5173958
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	190
Resource ID	S-A18-190A
Do you need to override the resource id?	Yes
Resource ID Override	S-A18-190A
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	23.5
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0.3
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.5
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	0.8

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0.2
Low marginal (0.75) [Right]	0.5
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	0.7

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	8.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	7.5
Notes	Pond upslope, culverted under dirt road

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

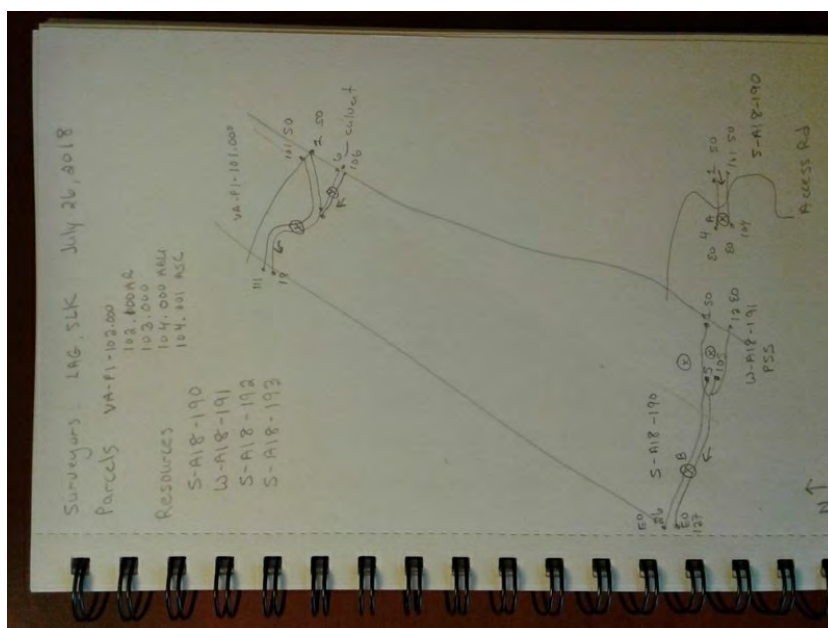
S

Additional Stream Photos




Headcut by flag 9 and 108

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-190B

Created	2018-07-26 14:17:11 UTC by Laura Giese
Updated	2018-09-06 14:28:16 UTC by Joseph Roy
Location	36.6553104, -79.5188945
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	190
Resource ID	S-A18-190B
Do you need to override the resource id?	Yes
Resource ID Override	S-A18-190B
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	34
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	W
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	1.2
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.2

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Weak
Headcuts	Moderate
Grade control	Moderate
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	18.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	7.5
Notes	Trash in upper parts

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	SE
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Downstream Stream Photo



Downstream photo direction

NW

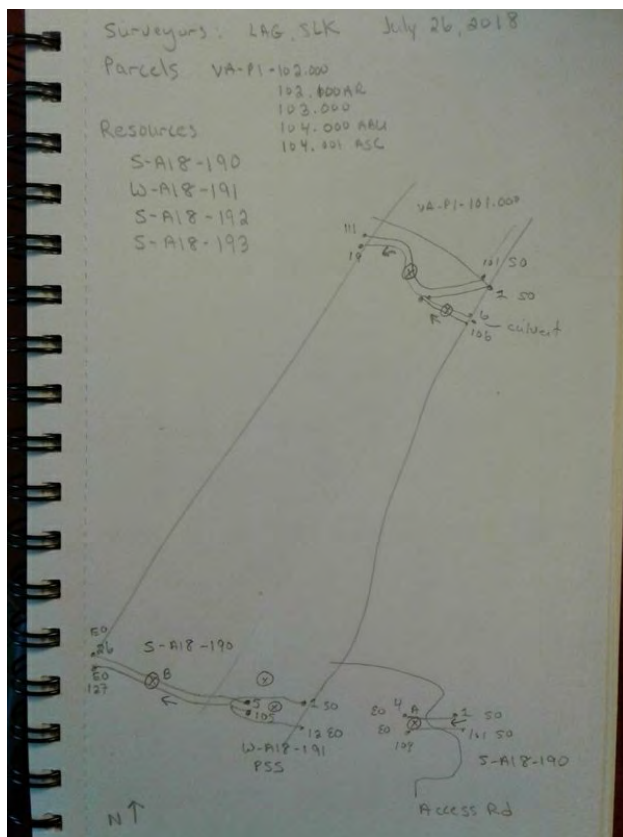
Across Stream Photo 1



Across stream photo direction 1


S

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-194

Created	2018-07-26 17:38:07 UTC by Laura Giese
Updated	2018-09-06 14:35:38 UTC by Joseph Roy
Location	36.6536265, -79.5198733
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	194
Resource ID	S-A18-194
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	31.5
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	5
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	8

Notes	Pond upslope: Sandy substrate in southern reach
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Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

NW

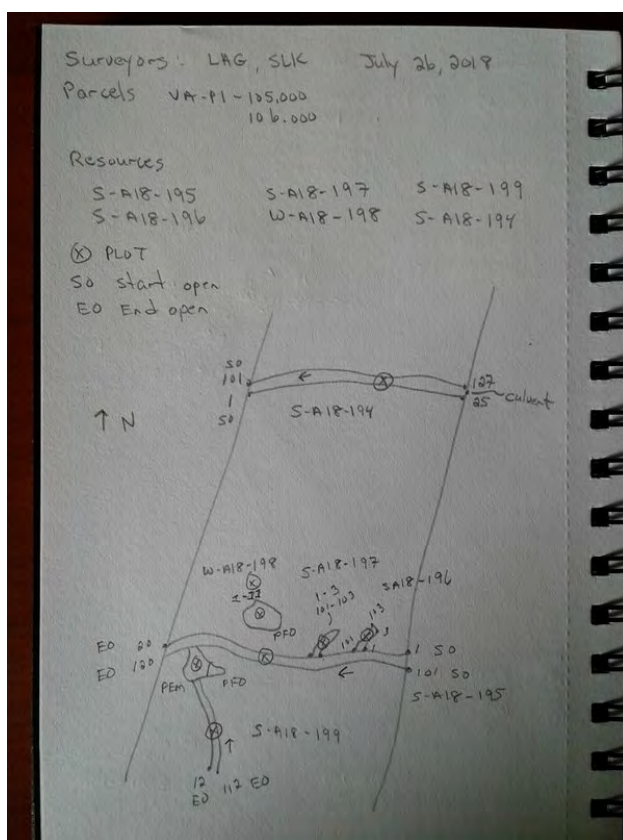
Across Stream Photo 1



Across stream photo direction 1


NE

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-G18-10

Created	2018-07-28 16:20:01 UTC by Troy Savage
Updated	2018-08-09 16:02:06 UTC by Beth Clements
Location	36.6507039, -79.5222607
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/28
Date2	180728

Resource Crew Info

Field Crew	Alexi Weber, Mike Smith
Lead Scientist's Initials	G18
Resource Series Number	10
Resource ID	S-G18-10
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	23.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	N
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	6
Bankfull Width (ft)	6
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.6
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Absent
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	9

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	8.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1




Across Stream Photo 2



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-195

Created	2018-07-26 18:54:02 UTC by Laura Giese
Updated	2018-09-06 15:01:23 UTC by Joseph Roy
Location	36.6517325, -79.5214818
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	195
Resource ID	S-A18-195
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	37.5
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	NW
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	21.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	8

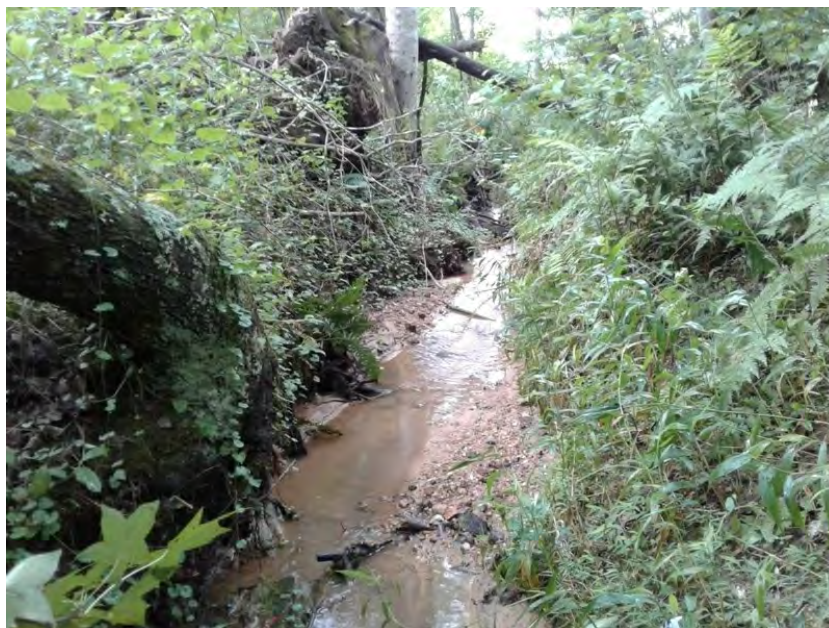
Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

NW

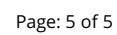
Across Stream Photo 1




Across stream photo direction 1

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker



S-A18-196

Created	2018-07-26 18:20:58 UTC by Laura Giese
Updated	2018-09-06 14:39:48 UTC by Joseph Roy
Location	36.6517339, -79.5212734
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	196
Resource ID	S-A18-196
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	W
Channel condition	Optimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Absent
Second or greater order channel	No
Stream Geomorphology Total	6

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	7
Notes	Seepage out of hillside

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

W

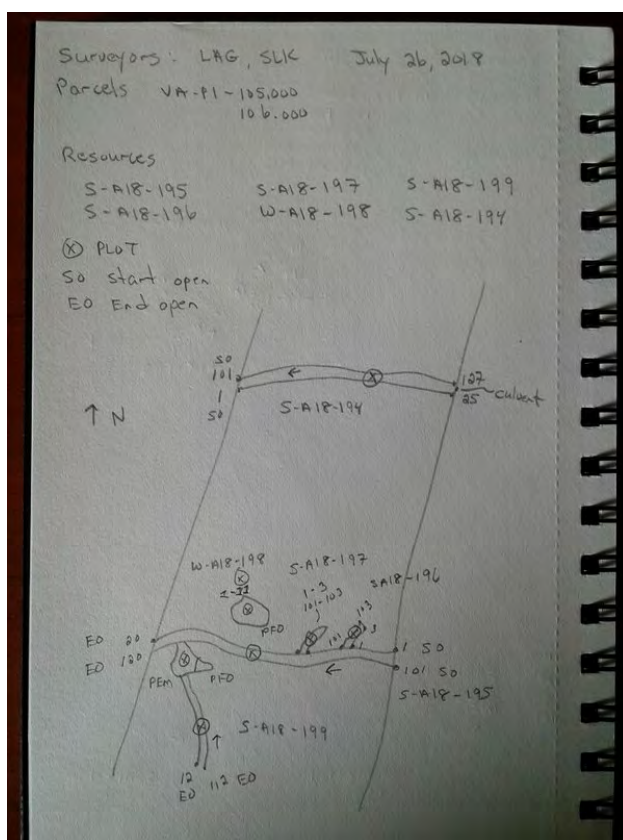
Across Stream Photo 1



Across stream photo direction 1


S

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-197

Created	2018-07-26 18:45:30 UTC by Laura Giese
Updated	2018-09-06 14:58:08 UTC by Joseph Roy
Location	36.6519039, -79.5214832
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	A18
Resource Series Number	197
Resource ID	S-A18-197
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.25
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Optimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	6.5

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	7.75
Notes	Seepage out of hillside

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

NW

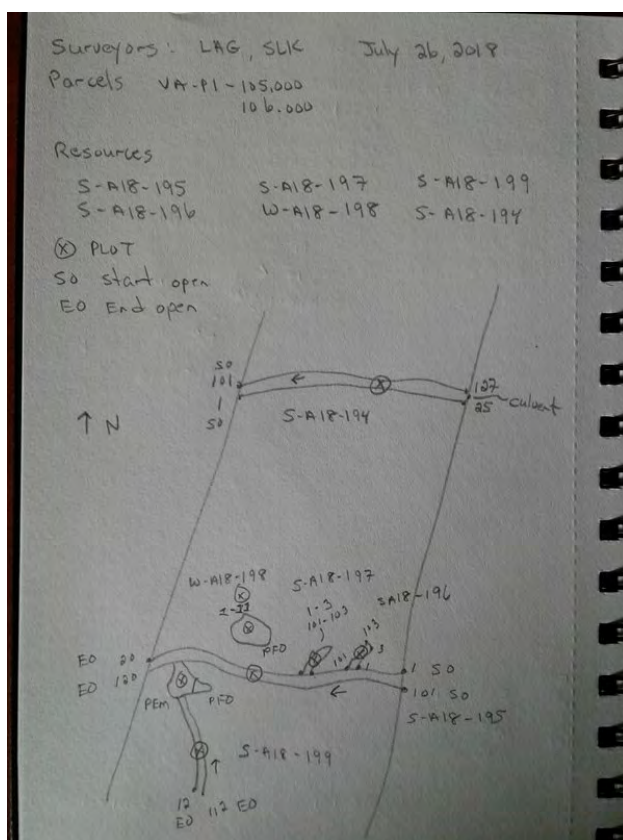
Across Stream Photo 1



Across stream photo direction 1


N

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-G18-10

Created	2018-07-26 20:22:44 UTC by Laura Giese
Updated	2018-09-06 15:02:43 UTC by Joseph Roy
Location	36.6515719, -79.5221889
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/26
Date2	180726

Resource Crew Info

Field Crew	Laura Giese, Simon King
Lead Scientist's Initials	G18
Resource Series Number	10
Resource ID	S-G18-10
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	31
Calculated Stream Type	Perennial

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	N
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Low
Left Bank Substrate	Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	15

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Stream Biology Total	8

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

N

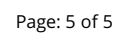
Across Stream Photo 1




Across stream photo direction 1

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker



S-C18-97

Created	2018-09-06 13:35:47 UTC by Sam Edmonds
Updated	2018-09-06 15:19:56 UTC by Joseph Roy
Location	36.6445506, -79.5265881
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/25
Date2	180625

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Stephen Bendele
Lead Scientist's Initials	C18
Resource Series Number	97
Resource ID	S-C18-97
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	26.5
Calculated Stream Type	Intermittent
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SW
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	100
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	20
High suboptimal (1.2) [Left]	80
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3.5
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	20
High suboptimal (1.2) [Right]	80
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Moderate
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	13.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	4
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

NW

Across Stream Photo 2



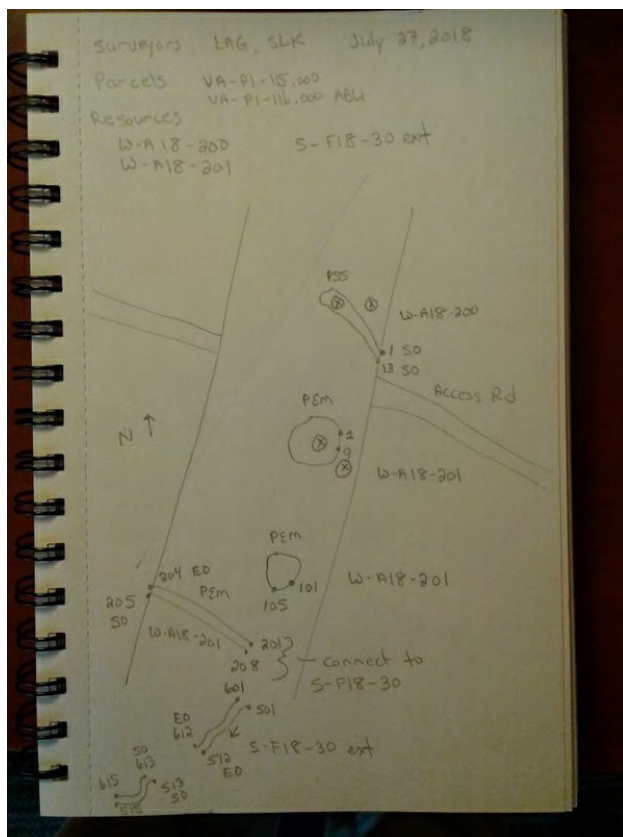
Across stream photo direction 2

SE

Additional Stream Photos




Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-99

Created	2018-09-06 13:47:37 UTC by Sam Edmonds
Updated	2018-09-07 13:25:04 UTC by Katelyn Wheeler
Location	36.6444469, -79.5267241
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/25
Date2	180625

Resource Crew Info

Field Crew	Jacob Fleckenstein, Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	C18
Resource Series Number	99
Resource ID	S-C18-99
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	13.5
Calculated Stream Type	Ephemeral
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	NW
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	2
Bankfull Width (ft)	2
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Moderate
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	8

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	No
Stream Hydrology Total	1.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Moderate
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	4
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-B18-202

Created	2018-08-24 17:48:42 UTC by Will Buetow
Updated	2018-09-06 19:37:39 UTC by Joseph Roy
Location	36.6420623, -79.5290332
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/24
Date2	180824

Resource Crew Info

Field Crew	will buetow, kaylee townsend
Lead Scientist's Initials	B18
GPS Surveyor	kaylee townsend
GPS ID	NA
Resource Series Number	202
Resource ID	S-B18-202
Do you need to override the resource id?	Yes
Resource ID Override	S-B18-202
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	39
Calculated Stream Type	Perennial
Wildlife Observed	Frogs

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	5
Bank to Bank (ft)	8

Bankfull Width (ft)	8
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	1.1
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.1

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	1.1
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.1

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Moderate
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate

Second or greater order channel	Yes
Stream Geomorphology Total	21.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	7.5

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2



Across stream photo direction 2


NE

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-47

Created	2018-07-16 17:02:48 UTC by Alexi Weber
Updated	2018-08-09 17:12:00 UTC by Beth Clements
Location	36.6385479, -79.5313016
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/16
Date2	180716

Resource Crew Info

Field Crew	Alexi Weber, Sara Sanderlin
Lead Scientist's Initials	F18
Resource Series Number	47
Resource ID	S-F18-47
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	W
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	High
Left Bank Substrate	Boulder/Slabs, Rubble, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	20
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	High
Right Bank Substrate	Boulder/Slabs, Rubble, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	80
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	20
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Moderate
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	10.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

W

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2




Across stream photo direction 2

N

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-51

Created	2018-07-17 13:01:39 UTC by Troy Savage
Updated	2018-08-17 23:15:05 UTC by Alexi Weber
Location	36.6394526, -79.5342055
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	51
Resource ID	S-E18-51
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	33.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	5
Bank to Bank (ft)	16
Bankfull Width (ft)	18

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	6
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Low
Left Bank Substrate	Bedrock, Boulder/Slabs, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank


Right Bank Height (feet)	6
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Bedrock, Boulder/Slabs, Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Strong
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Strong
Natural valley	Strong
Second or greater order channel	No

Stream Geomorphology Total	15
Stream Hydrology	
Presence of baseflow	Weak
Iron oxidizing bacteria	Weak
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6
Stream Biology	
Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Strong
Aquatic mullusks	Weak
Fish	Moderate
Crayfish	Weak
Amphibians	Moderate
Algae	Absent
Stream Biology Total	12.5
Regulatory Status	Corps Jurisdictional
Notes	Bedrock channel in valley, riffle pool sequences numerous, low embeddeness
Stream Overview Report Photos	
Upstream Stream Photo	
Upstream photo direction	N

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2



Across stream photo direction 2


W

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-45

Created	2018-06-28 14:56:06 EDT by Jenn Favela
Updated	2018-07-05 17:03:57 EDT by Sam Edmonds
Location	36.6388432, -79.5379232
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/28
Date2	180628

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	F18
GPS ID	NA
Resource Series Number	45
Resource ID	S-E18-45
Do you need to override the resource id?	Yes
Resource ID Override	S-E18-45
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	10
Calculated Stream Type	Ephemeral
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SW
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	100
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	1
Bank to Bank (ft)	2
Bankfull Width (ft)	2

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	0.6
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand, Organic, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	10
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Organic, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Moderate
Natural valley	Weak
Second or greater order channel	No

Stream Geomorphology Total	7.5
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Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	1.5

Stream Biology

Fibrous roots in streambed	Strong
Rooted upland plants in streambed	Moderate
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	1
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-48

Created	2018-07-16 19:46:09 UTC by Troy Savage
Updated	2018-08-09 13:26:15 UTC by Beth Clements
Location	36.6362579, -79.5388755
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/16
Date2	180716

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	48
Resource ID	S-E18-48
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	24.5
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	S
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	1
Bank to Bank (ft)	5
Bankfull Width (ft)	5

Probed Stream Depth	0 to 6 inches
Left Bank	
Left Bank Height (feet)	4
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Sand, Vegetated
Left Bank Riparian Buffer Condition	
Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100
Right Bank	
Right Bank Height (feet)	4
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Vegetated
Right Bank Riparian Buffer Condition	
Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100
Stream Geomorphology	
Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Weak
Headcuts	Moderate
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	11
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Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Strong
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	5.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2



Across stream photo direction 2


W

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-50

Created	2018-07-16 21:04:50 UTC by Troy Savage
Updated	2018-08-17 23:15:14 UTC by Alexi Weber
Location	36.6369522, -79.5381353
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/16
Date2	180716

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	50
Resource ID	S-E18-50
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	9.5
Calculated Stream Type	Ephemeral
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	0
Bank to Bank (ft)	2
Bankfull Width (ft)	2
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Absent
Sinuosity of channel along thalweg	Absent
In-channel structure	Absent
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	2.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	2

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	5
Regulatory Status	Corps Jurisdictional
Notes	Connects S-E18-49 and S-E18-48, while not heavily eroded the ephemeral channel contains sediment deposits from upstream farm areas.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-48

Created	2018-07-17 16:11:32 UTC by Troy Savage
Updated	2018-08-09 17:09:42 UTC by Beth Clements
Location	36.637462, -79.5376799
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	F18
Resource Series Number	48
Resource ID	S-F18-48
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SW
Channel condition	Poor
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Absent
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	7

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Weak
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Absent
Algae	Absent
Stream Biology Total	7
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

SE

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-44

Created	2018-06-28 11:55:47 EDT by Jenn Favela
Updated	2018-07-05 17:07:38 EDT by Sam Edmonds
Location	36.6354746, -79.5398912
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/28
Date2	180628

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	44
Resource ID	S-E18-44
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	47.5
Calculated Stream Type	Perennial
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Fast (> 5 cfs)
Direction of Flow	NE
Channel condition	Optimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	120
Average Water Width (ft)	120
Bank to Bank (ft)	150
Bankfull Width (ft)	150
Probed Stream Depth	> 36 inches

Left Bank

Left Bank Height (feet)	10
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Low
Left Bank Substrate	Bedrock, Sand, Mud or muck, Silt-Mud, Organic, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	8
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Low
Right Bank Substrate	Bedrock, Sand, Mud or muck, Silt-Mud, Organic, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Strong
Active or relict floodplain	Strong
Depositional bars or benches	Strong
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Moderate
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	25.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Moderate
Fish	Moderate
Crayfish	Moderate
Amphibians	Moderate
Algae	Moderate
Stream Biology Total	14
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1

NW

Across Stream Photo 2




Across stream photo direction 2

SW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-42

Created	2018-06-28 12:42:16 UTC by Jenn Favela
Updated	2018-10-15 20:10:46 UTC by Jacob Fleckenstein
Location	36.6313858, -79.5433185
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/28
Date2	180628

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	42
Resource ID	S-E18-42
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	30
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	N
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	4
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Strong
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	14

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Strong
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Weak
Stream Biology Total	5.5
Regulatory Status	Corps Jurisdictional
Notes	In our opinion, due to the presence of seepage wetlands contiguous to the stream found in the field, it is likely perennial.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

N

Across Stream Photo 1



Across stream photo direction 1


W

Across Stream Photo 2



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-38

Created	2018-07-17 15:38:08 UTC by Jen Feese
Updated	2018-08-09 13:11:00 UTC by Beth Clements
Location	36.6174146, -79.5598548
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Feese, Stephen Bendele
Lead Scientist's Initials	D18
Resource Series Number	38
Resource ID	S-D18-38
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	14.5
Calculated Stream Type	Ephemeral
Wildlife Observed	none
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	E
Channel condition	Poor
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Bank to Bank (ft)	7
Bankfull Width (ft)	7

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Sand, Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	95
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	5
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	95
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	5
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Moderate
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	8.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	2

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	4
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-50

Created	2018-07-17 14:32:26 UTC by Alexi Weber
Updated	2018-08-09 17:06:43 UTC by Beth Clements
Location	36.6138359, -79.5625782
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Alexi Weber, Sara Sanderlin
Lead Scientist's Initials	F18
Resource Series Number	50
Resource ID	S-F18-50
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	35.5
Calculated Stream Type	Perennial
Wildlife Observed	Frogs
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	7
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	17
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	3
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Strong
Algae	Absent
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional
Notes	Macrobenthos has moderate diversity

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2



Across stream photo direction 2

N

Additional Stream Photos

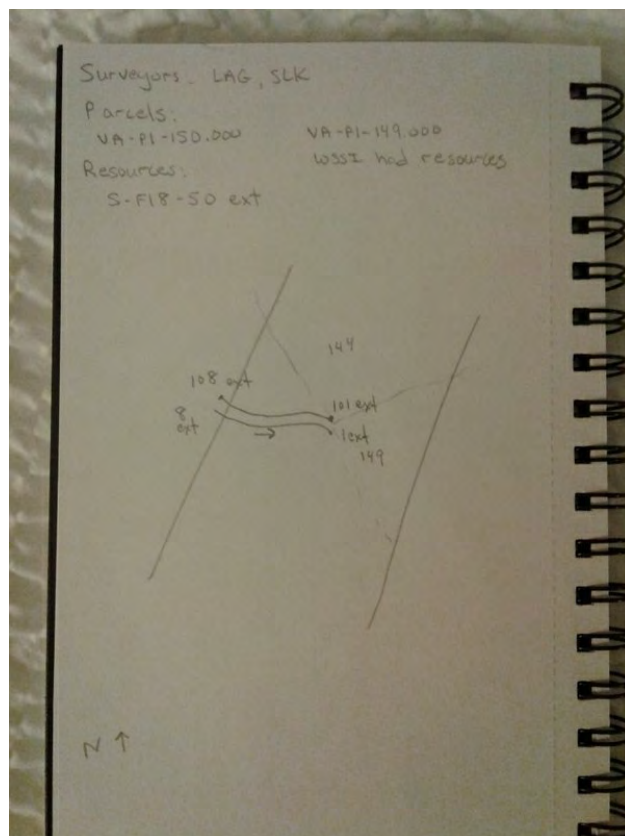


50 ext tract 150.000, downstream




50 ext, upstream

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-50

Created	2018-07-17 14:32:26 UTC by Alexi Weber
Updated	2018-08-09 17:06:43 UTC by Beth Clements
Location	36.6138359, -79.5625782
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Alexi Weber, Sara Sanderlin
Lead Scientist's Initials	F18
Resource Series Number	50
Resource ID	S-F18-50
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	35.5
Calculated Stream Type	Perennial
Wildlife Observed	Frogs
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	7
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	80
High suboptimal (1.2) [Left]	17
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	3
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Moderate
Amphibians	Strong
Algae	Absent
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional
Notes	Macrobenthos has moderate diversity

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

S

Across Stream Photo 2



Across stream photo direction 2

N

Additional Stream Photos

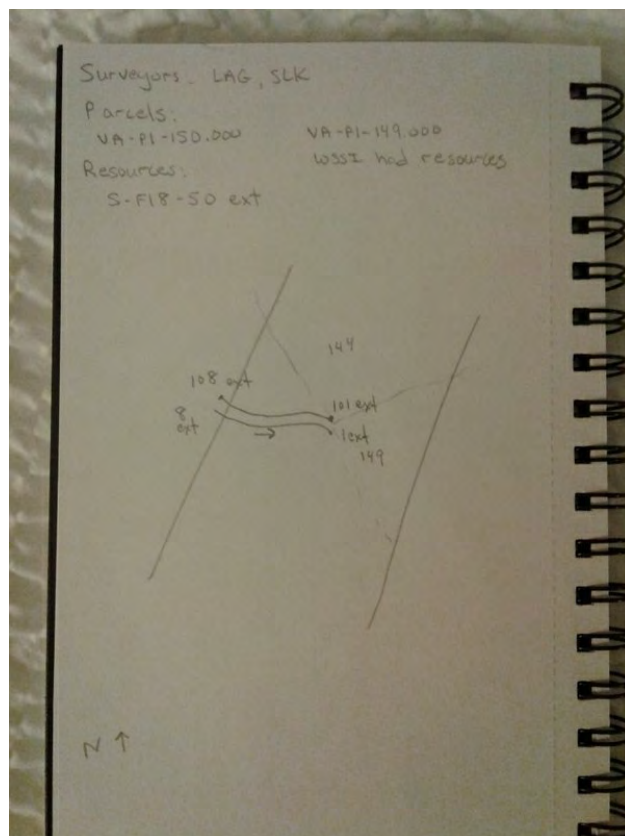


50 ext tract 150.000, downstream




50 ext, upstream

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-52

Created	2018-07-17 19:32:42 UTC by Troy Savage
Updated	2018-08-17 23:15:35 UTC by Alexi Weber
Location	36.6058332, -79.5679674
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/17
Date2	180717

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	52
Resource ID	S-E18-52
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	33.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	7
Bankfull Width (ft)	8

Probed Stream Depth	0 to 6 inches
Left Bank	
Left Bank Height (feet)	2
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	High
Left Bank Substrate	Sand, Vegetated
Left Bank Riparian Buffer Condition	
Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	100
Left bank total	100
Right Bank	
Right Bank Height (feet)	3
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Vegetated
Right Bank Riparian Buffer Condition	
Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	100
Right bank total	100
Stream Geomorphology	
Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	13
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Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Moderate
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Moderate
Crayfish	Moderate
Amphibians	Weak
Algae	Weak
Wetland plants in streambed	OBL
Stream Biology Total	12.5
Regulatory Status	Corps Jurisdictional
Notes	Recently clear cut buffer area, clearing has not heavily impacted stream yet but will likely degrade conditions over time. Caddisfly present in abundance. Wetland benches present. Riffle pool sequences present. Road crossing present

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-54

Created	2018-07-18 17:11:13 UTC by Troy Savage
Updated	2018-08-09 17:41:21 UTC by Beth Clements
Location	36.6032601, -79.570325
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/18
Date2	180718

Resource Crew Info

Field Crew	Troy Savage, Mike Smith, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	54
Resource ID	S-E18-54
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	34
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	5
Average Water Width (ft)	5
Bank to Bank (ft)	8
Bankfull Width (ft)	10
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	100
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	100
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Moderate
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	14.5

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Moderate
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Moderate
Crayfish	Absent
Amphibians	Absent
Algae	Moderate
Wetland plants in streambed	OBL
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional
Notes	Caddisfly abundant

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2



Across stream photo direction 2


E

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-34

Created	2018-06-27 15:45:24 UTC by Jacob Fleckenstein
Updated	2018-08-13 15:53:45 UTC by Jacob Fleckenstein
Location	36.5985622, -79.5739818
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Eileen Nakahata
Lead Scientist's Initials	D18
Resource Series Number	34
Resource ID	S-D18-34
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	45
Calculated Stream Type	Perennial
Wildlife Observed	Salamanders
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	5
Bank to Bank (ft)	15
Bankfull Width (ft)	20
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Strong
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Strong
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	25.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Moderate
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9.5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Moderate
Amphibians	Moderate
Algae	Weak
Stream Biology Total	10
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-34

Created	2018-06-27 15:45:24 UTC by Jacob Fleckenstein
Updated	2018-08-13 15:53:45 UTC by Jacob Fleckenstein
Location	36.5985622, -79.5739818
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Beth Clements, Jacob Fleckenstein, Eileen Nakahata
Lead Scientist's Initials	D18
Resource Series Number	34
Resource ID	S-D18-34
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	45
Calculated Stream Type	Perennial
Wildlife Observed	Salamanders
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	5
Bank to Bank (ft)	15
Bankfull Width (ft)	20
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Strong
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Strong
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	25.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Moderate
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9.5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Moderate
Amphibians	Moderate
Algae	Weak
Stream Biology Total	10
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

SW

Across Stream Photo 2




Across stream photo direction 2

NE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-40

Created	2018-07-19 16:55:51 UTC by Alexi Weber
Updated	2018-08-15 18:06:08 UTC by Jen Feese
Location	36.5955303, -79.5766608
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/19
Date2	180719

Resource Crew Info

Field Crew	Jacob Fleckenstein, Sara Sanderlin, Jennifer Feese
Lead Scientist's Initials	D18
Resource Series Number	40
Resource ID	S-D18-40
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	34
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	6
Bank to Bank (ft)	10
Bankfull Width (ft)	10
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Strong
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	21

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	2.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Weak
Fish	Moderate
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Wetland plants in streambed	OBL
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional
Notes	Newt and crayfish

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2



Across stream photo direction 2

E

Additional Stream Photos



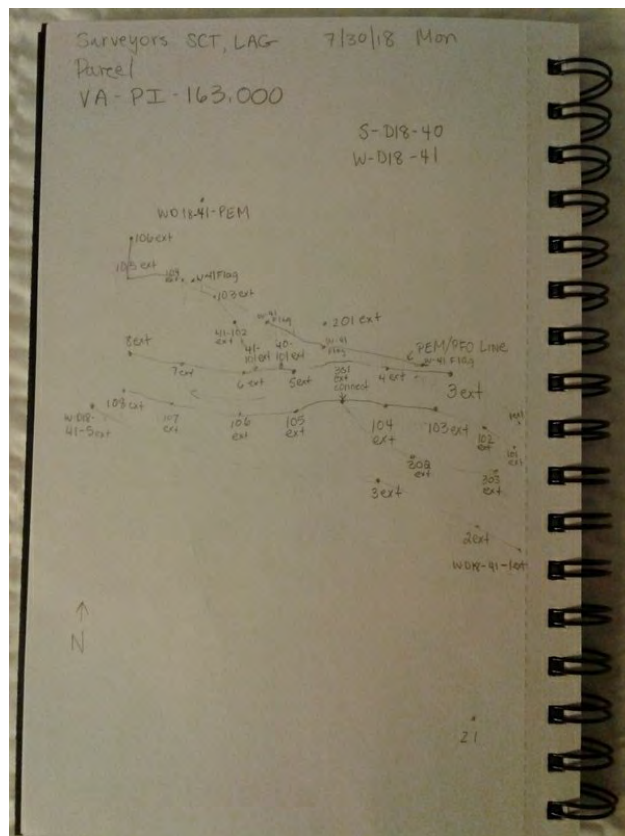
41-ext dn



41-ext up


Sketch of Stream





Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-D18-40

Created	2018-07-19 16:55:51 UTC by Alexi Weber
Updated	2018-08-15 18:06:08 UTC by Jen Feese
Location	36.5955303, -79.5766608
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/19
Date2	180719

Resource Crew Info

Field Crew	Jacob Fleckenstein, Sara Sanderlin, Jennifer Feese
Lead Scientist's Initials	D18
Resource Series Number	40
Resource ID	S-D18-40
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	34
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	6
Bank to Bank (ft)	10
Bankfull Width (ft)	10
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	High
Left Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Strong
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	21

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	2.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Weak
Fish	Moderate
Crayfish	Weak
Amphibians	Weak
Algae	Absent
Wetland plants in streambed	OBL
Stream Biology Total	10.5
Regulatory Status	Corps Jurisdictional
Notes	Newt and crayfish

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2



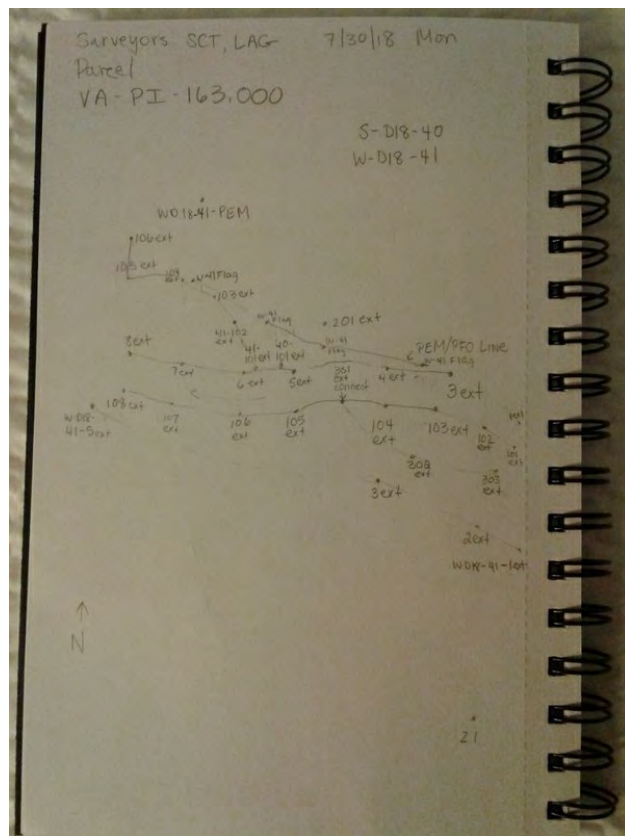
Across stream photo direction 2

E

Additional Stream Photos




41-ext dn



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-94

Created	2018-08-08 14:31:52 UTC by Simon King
Updated	2018-09-07 13:22:54 UTC by Katelyn Wheeler
Location	36.5901949, -79.5831403
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/08
Date2	180808

Resource Crew Info

Field Crew	Simon King, Donald Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	94
Resource ID	S-C18-94
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	22
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SW
Channel condition	Suboptimal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	2
Bankfull Width (ft)	2

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	1.2
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.2

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	1.2
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.2

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Absent
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Moderate
Natural valley	Strong
Second or greater order channel	No

Stream Geomorphology Total	10.5
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Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Moderate
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	No
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Weak
Wetland plants in streambed	Other
Stream Biology Total	6
Regulatory Status	State Protected, Corps Jurisdictional
Notes	Ground water seepage stream into wetland W-C18-95

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NE
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

S

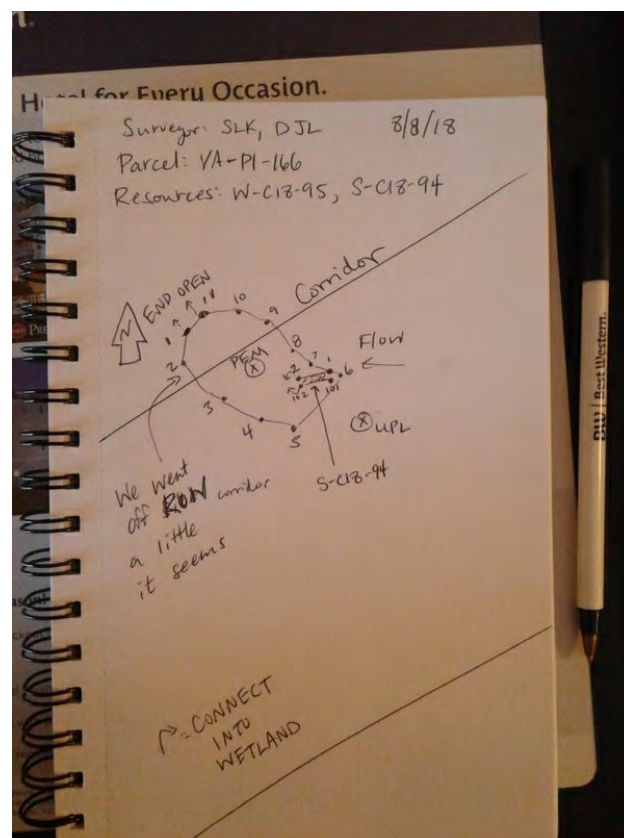
Across Stream Photo 2



Across stream photo direction 2


N

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

WB-C18-93

Created	2018-08-08 14:10:19 UTC by Don Lockwood
Updated	2018-09-06 15:25:53 UTC by Joseph Roy
Location	36.5884117, -79.5849261
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/08
Date2	180808

Resource Crew Info

Field Crew	Simon King
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
GPS ID	NA
Resource Series Number	93
Resource ID	WB-C18-93
Do you need to override the resource id?	Yes
Resource ID Override	WB-C18-93
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Pond
Calculated Stream Score	10.25
Calculated Stream Type	Ephemeral
Wildlife Observed	tadpoles
Observed Use	ag/wildlife pond

Stream Conditions

Water Flow Velocity	Dry or Minimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0

Stream Measurements

OHWM Width (ft)	45
Average Water Width (ft)	45
Bank to Bank (ft)	45
Bankfull Width (ft)	45

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	3
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Low
Left Bank Substrate	Cobble-Gravel, Sand

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Cobble-Gravel, Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Stream Geomorphology Total	0
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Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	3

Stream Biology

Fibrous roots in streambed	Absent
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Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	7.25
Notes	Excavated pond; no inlet; no outlet; nearly dry

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

E

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

W

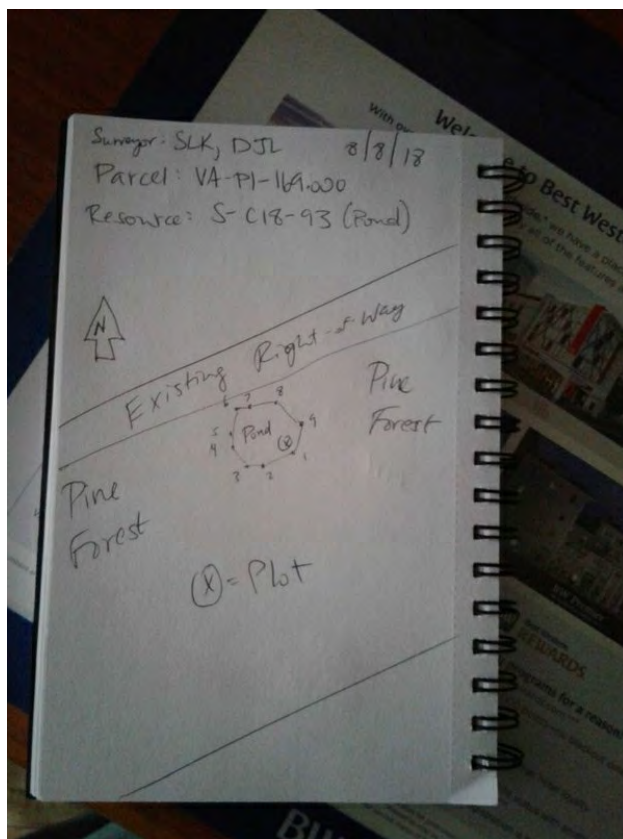
Across Stream Photo 2



Across stream photo direction 2


N

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-203

Created	2018-07-31 13:23:15 UTC by Laura Giese
Updated	2018-09-06 15:28:28 UTC by Joseph Roy
Location	36.5865443, -79.5861588
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/31
Date2	180731

Resource Crew Info

Field Crew	Laura Giese, Susan Thebert
Lead Scientist's Initials	A18
Resource Series Number	203
Resource ID	S-A18-203
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	26.5
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Optimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0.75
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.35
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.1

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	13

Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	7

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

N

Additional Stream Photos

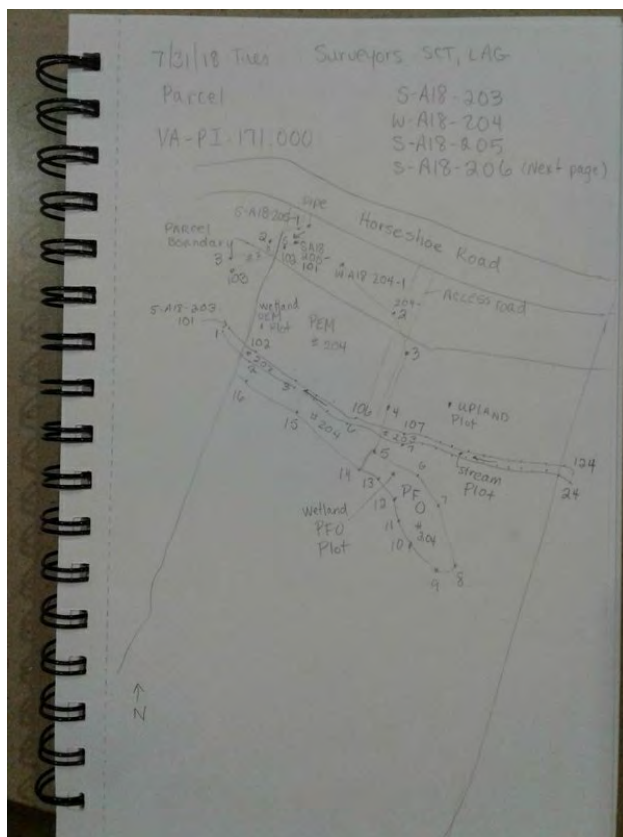


Upper end, UP




mid reach DN

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker



S-A18-205

Created	2018-07-31 12:12:49 UTC by Laura Giese
Updated	2018-09-06 15:28:55 UTC by Joseph Roy
Location	36.5871083, -79.5870889
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/31
Date2	180731

Resource Crew Info

Field Crew	Laura Giese, Susan Thebert
Lead Scientist's Initials	A18
GPS Surveyor	Simon King
GPS ID	NA
Resource Series Number	205
Resource ID	S-A18-205
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	28.25
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	W
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0.9
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.9

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0.75
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.4
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.15

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.3
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.3

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Weak
Second or greater order channel	Yes
Stream Geomorphology Total	9.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Strong
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	8.25

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	E
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Downstream Stream Photo



Downstream photo direction

W

Across Stream Photo 1



Across stream photo direction 1

N

Additional Stream Photos




Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-A18-206

Created	2018-07-31 14:45:45 UTC by Laura Giese
Updated	2018-09-06 15:29:34 UTC by Joseph Roy
Location	36.5855907, -79.5881254
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/07/31
Date2	180731

Resource Crew Info

Field Crew	Laura Giese, Susan Thebert
Lead Scientist's Initials	A18
GPS Surveyor	Susan Thebert
GPS ID	NA
Resource Series Number	206
Resource ID	S-A18-206
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	22.5
Calculated Stream Type	Intermittent

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	N
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	5
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Vegetated, leaves

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Vegetated, leaves

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Weak
Natural valley	Strong
Second or greater order channel	Yes
Stream Geomorphology Total	12

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Notes	Lower part of channel through ROW and vegetated

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	S
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Downstream Stream Photo



Downstream photo direction

N

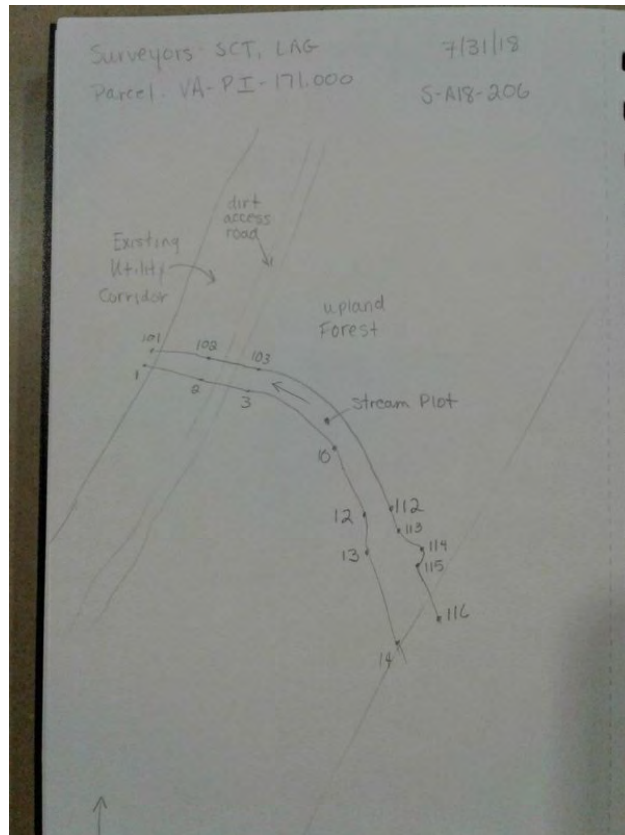
Across Stream Photo 1



Across stream photo direction 1


NE

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-38

Created	2018-06-27 13:39:54 UTC by Jenn Favela
Updated	2018-10-15 21:43:53 UTC by Jacob Fleckenstein
Location	36.5851958, -79.5984939
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	38
Resource ID	S-E18-38
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	7.5
Calculated Stream Type	Ephemeral
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	E
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0.9
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.9

Stream Measurements

OHWM Width (ft)	0
Average Water Width (ft)	1
Bank to Bank (ft)	2
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	30
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	70
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	20
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	80
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Absent
In-channel structure	Absent
Particle size of stream substrate	Absent
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	2

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4

Stream Biology

Fibrous roots in streambed	Strong
Rooted upland plants in streambed	Moderate
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Absent
Algae	Absent
Stream Biology Total	1.5
Regulatory Status	Corps Jurisdictional
Notes	In our opinion, stream is intermittent because of soil based evidence of a high water table.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-39

Created	2018-06-27 14:12:49 UTC by Jenn Favela
Updated	2018-10-12 18:34:55 UTC by Beth Clements
Location	36.5847201, -79.598816
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	39
Resource ID	S-E18-39
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	36
Calculated Stream Type	Perennial
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SW
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	90
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	10
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	2
Bank to Bank (ft)	5
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	10
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	90
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	10
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	15.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Moderate
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Strong
Amphibians	Moderate
Algae	Absent
Wetland plants in streambed	OBL
Stream Biology Total	12
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

S

Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

NW

Across Stream Photo 2




Across stream photo direction 2

SE

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-40

Created	2018-06-27 11:32:21 EDT by Jenn Favela
Updated	2018-07-05 10:55:38 EDT by Sam Edmonds
Location	36.5839645, -79.5994966
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	40
Resource ID	S-E18-40
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	24
Calculated Stream Type	Intermittent
Wildlife Observed	Invertebrates
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NW
Channel condition	Poor
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	60
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	40
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	2
Bank to Bank (ft)	7
Bankfull Width (ft)	7
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	4
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	High
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	4.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	High
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Strong
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	11.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Moderate
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	8
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	SW
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Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-41

Created	2018-06-27 12:16:51 EDT by Jenn Favela
Updated	2018-07-05 10:44:44 EDT by Sam Edmonds
Location	36.5830688, -79.6002549
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Troy Savage, Mike Smith
Lead Scientist's Initials	E18
Resource Series Number	41
Resource ID	S-E18-41
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	13
Calculated Stream Type	Ephemeral
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	NE
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	40
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	60
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	4
Bankfull Width (ft)	4
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Artificial

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	50
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	50
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Artificial

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	50
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	50
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Moderate
In-channel structure	Absent
Particle size of stream substrate	Absent
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Absent
Natural valley	Strong
Second or greater order channel	No
Stream Geomorphology Total	6.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	No
Stream Hydrology Total	0.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	SE
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Downstream Stream Photo



Downstream photo direction

NW

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-40

Created	2018-06-27 16:23:03 EDT by Janelle Bernosky
Updated	2018-07-05 10:19:44 EDT by Sam Edmonds
Location	36.5737582, -79.5994846
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Sara Sanderlin, Jennifer Favela, Janelle Bernosky
Lead Scientist's Initials	F18
GPS ID	NA
Resource Series Number	40
Resource ID	S-F18-40
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	36
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	natural

Stream Conditions

Water Flow Velocity	Fast (> 5 cfs)
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	15
Average Water Width (ft)	12
Bank to Bank (ft)	15
Bankfull Width (ft)	17

Probed Stream Depth	6 to 12 inches
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Left Bank

Left Bank Height (feet)	7
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank


Right Bank Height (feet)	6
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Strong
Recent alluvial deposits	Moderate
Headcuts	Moderate
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No

Stream Geomorphology Total	18
Stream Hydrology	
Presence of baseflow	Strong
Iron oxidizing bacteria	Moderate
Leaf litter	Weak
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	10.5
Stream Biology	
Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Weak
Crayfish	Weak
Amphibians	Absent
Algae	Weak
Stream Biology Total	7.5
Regulatory Status	Corps Jurisdictional
Stream Overview Report Photos	
Upstream Stream Photo	
Upstream photo direction	N

Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-42

Created	2018-06-28 10:37:23 EDT by Jenn Favela
Updated	2018-07-03 14:43:22 EDT by Sam Edmonds
Location	36.5740329, -79.5993629
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/28
Date2	180628

Resource Crew Info

Field Crew	Sara Sanderlin, Jennifer Favela, Janelle Bernosky
Lead Scientist's Initials	F18
Resource Series Number	42
Resource ID	S-F18-42
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	13.5
Calculated Stream Type	Ephemeral
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SW
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.3
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.3

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Rubble, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1.5
Right Bank Slope	> 35% (> 20 deg) Very Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Rubble, Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Moderate
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	9

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Moderate
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	No
Stream Hydrology Total	1.5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Moderate
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	3
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

SW

Across Stream Photo 1



Across stream photo direction 1

SE

Across Stream Photo 2




Across stream photo direction 2

NW

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-39

Created	2018-06-27 15:03:34 EDT by Janelle Bernosky
Updated	2018-07-03 14:40:20 EDT by Sam Edmonds
Location	36.5718768, -79.600404
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Sara Sanderlin, Jennifer Favela, Janelle Bernosky
Lead Scientist's Initials	F18
Resource Series Number	39
Resource ID	S-F18-39
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	18.5
Calculated Stream Type	Ephemeral

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	0
Average Water Width (ft)	0
Bank to Bank (ft)	2
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Weak
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	8.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	5

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-38

Created	2018-06-27 10:53:20 EDT by Janelle Bernosky
Updated	2018-07-03 14:34:04 EDT by Sam Edmonds
Location	36.5663, -79.6006582
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/27
Date2	180627

Resource Crew Info

Field Crew	Sara Sanderlin, Jennifer Favela, Janelle Bernosky
Lead Scientist's Initials	E18
Resource Series Number	38
Resource ID	S-F18-38
Do you need to override the resource id?	Yes
Resource ID Override	S-F18-38
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	20.5
Calculated Stream Type	Intermittent
Wildlife Observed	Salamanders
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	1.1
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	3
Bank to Bank (ft)	3
Bankfull Width (ft)	4

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	3
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Low
Left Bank Substrate	Cobble-Gravel, Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	95
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	5
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	4
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Low
Right Bank Substrate	Cobble-Gravel, Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	95
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	5
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Moderate
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No

Stream Geomorphology Total	12
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Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Absent
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	4

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	4.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-35

Created	2018-06-26 19:02:32 UTC by Jenn Favela
Updated	2018-10-15 20:13:40 UTC by Jacob Fleckenstein
Location	36.5671881, -79.6060106
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	35
Resource ID	S-F18-35
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	23
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	4
Bank to Bank (ft)	5
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3.5
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	10
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	90
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	10
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Strong
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Moderate
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	14.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	1.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Moderate
Algae	Absent
Stream Biology Total	7
Regulatory Status	Corps Jurisdictional
Notes	No hydric soils present.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

NW

Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-34

Created	2018-06-26 17:37:15 UTC by Jen Feese
Updated	2018-08-17 23:14:54 UTC by Alexi Weber
Location	36.5656691, -79.6071598
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Troy Savage, Jacob Fleckenstein, Eileen Nakahata, Janelle Bernosky
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	34
Resource ID	S-E18-34
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	19.5
Calculated Stream Type	Intermittent
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	E
Channel condition	Optimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	0
Bank to Bank (ft)	4
Bankfull Width (ft)	5
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	100
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	100
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Absent
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	8

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	6
Regulatory Status	Corps Jurisdictional
Notes	Tree canopy cover not entire within riparian buffer.

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction

W

Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

Across Stream Photo 2




Across stream photo direction 2

S

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-35

Created	2018-10-15 21:55:32 UTC by Jen Feese
Updated	2018-10-15 21:55:32 UTC by Jen Feese
Location	36.565663, -79.607158
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/10/15
Date2	181015

Resource Crew Info

Field Crew	Troy Savage, Jacob Fleckenstein, Eileen Nakahata
Lead Scientist's Initials	E18
Resource Series Number	35
Resource ID	S-E18-35
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	20
Calculated Stream Type	Intermittent
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	N
Channel condition	Marginal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	0
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Cobble-Gravel

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Cobble-Gravel

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Weak
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	10

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	5
Regulatory Status	Corps Jurisdictional
Notes	Electronic field data lost, but reentered with handwritten field notes.

Stream Overview Report Photos

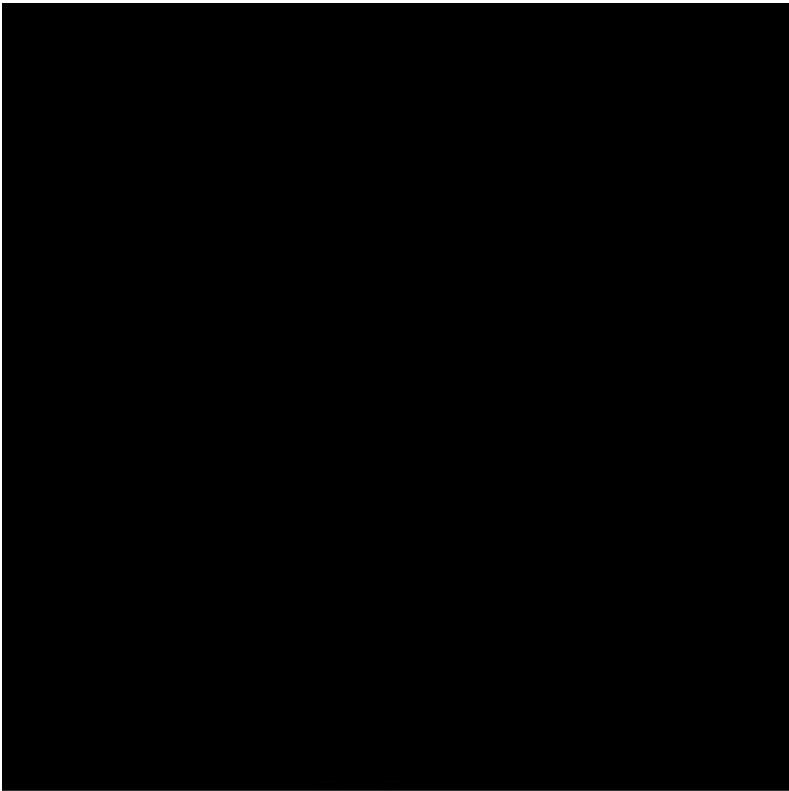
Upstream Stream Photo



ComputerHope.com

Upstream photo direction	S
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Downstream Stream Photo

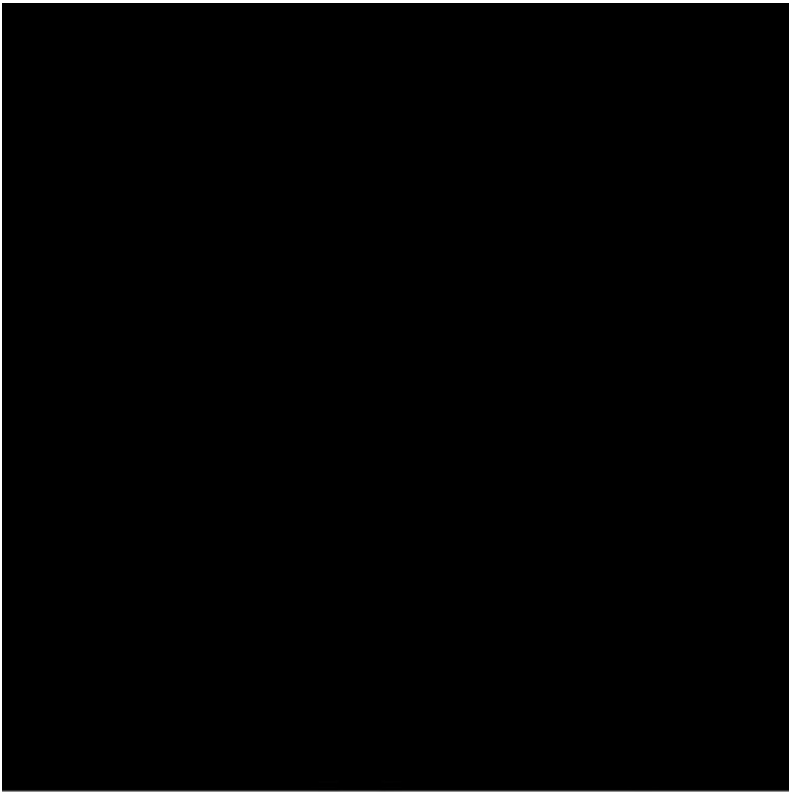


ComputerHope.com

Downstream photo direction

N

Across Stream Photo 1



ComputerHope.com

Across stream photo direction 1

W

Across Stream Photo 2




ComputerHope.com

Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-43

Created	2018-06-28 13:14:03 EDT by Janelle Bernosky
Updated	2018-07-05 10:30:20 EDT by Sam Edmonds
Location	36.5764893, -79.597265
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/28
Date2	180628

Resource Crew Info

Field Crew	Sara Sanderlin, Jennifer Favela, Janelle Bernosky
Lead Scientist's Initials	F18
Resource Series Number	43
Resource ID	S-F18-43
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	S
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	100
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	2
Average Water Width (ft)	1
Bank to Bank (ft)	4
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	90
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	10
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Cobble-Gravel, Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	90
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	10
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Weak
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	13.5

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Moderate
Sediment on plants or debris	Moderate
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	3
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Downstream Stream Photo



Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-E18-32

Created	2018-06-26 14:25:26 UTC by Janelle Bernosky
Updated	2018-08-17 23:14:47 UTC by Alexi Weber
Location	36.5616881, -79.602589
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Troy Savage, Sara Sanderlin
Lead Scientist's Initials	E18
GPS Surveyor	joe
Resource Series Number	32
Resource ID	S-E18-32
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	20.25
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Poor
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.7
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.7

Stream Measurements

OHWM Width (ft)	7
Average Water Width (ft)	4
Bank to Bank (ft)	10
Bankfull Width (ft)	12
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	High
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	100
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	5
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	High
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	100
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Absent
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Absent
Recent alluvial deposits	Absent
Headcuts	Absent
Grade control	Absent
Natural valley	Moderate
Second or greater order channel	Yes
Stream Geomorphology Total	10

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	5.5

Stream Biology

Fibrous roots in streambed	Moderate
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	4.75
Regulatory Status	Corps Jurisdictional
Notes	Culvert and road crossing present

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2



Across stream photo direction 2


E

Additional Stream Photos



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-34

Created	2018-06-26 16:20:41 UTC by Jenn Favela
Updated	2018-08-09 17:19:33 UTC by Beth Clements
Location	36.5607811, -79.612762
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	34
Resource ID	S-F18-34
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Ephemeral
Calculated Stream Score	17
Calculated Stream Type	Ephemeral
Observed Use	natural

Stream Conditions

Water Flow Velocity	Dry or Minimal
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Poor

Channel Alteration

Negligible (1.5) Channel Alteration	1.5
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.5

Stream Measurements

OHWM Width (ft)	1
Average Water Width (ft)	1
Bank to Bank (ft)	1
Bankfull Width (ft)	2
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	2.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Strong
In-channel structure	Absent
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Strong
Grade control	Absent
Natural valley	Absent
Second or greater order channel	No
Stream Geomorphology Total	11

Stream Hydrology

Presence of baseflow	Absent
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	2

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Weak
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Absent
Algae	Absent
Stream Biology Total	4
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

Across Stream Photo 2




Across stream photo direction 2

E

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-32

Created	2018-06-26 13:47:21 UTC by Alexi Weber
Updated	2018-09-05 11:46:39 UTC by Phil Jacques
Location	36.5571118, -79.616543
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Troy Savage, Sara Sanderlin
Lead Scientist's Initials	E18
Resource Series Number	32
Resource ID	S-F18-32
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	21.5
Calculated Stream Type	Intermittent
Observed Use	natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	S
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	15 to 25% (9 to 14 deg) Steeply Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Silt-Mud, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	100
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	2
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Silt-Mud, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	100
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Absent
Depositional bars or benches	Weak
Recent alluvial deposits	Absent
Headcuts	Weak
Grade control	Weak
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	10

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Absent
Macrobenthos	Absent
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Weak
Algae	Absent
Stream Biology Total	5.5
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	N
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Downstream Stream Photo



Downstream photo direction

S

Across Stream Photo 1



Across stream photo direction 1

E

Across Stream Photo 2




Across stream photo direction 2

W

Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-33

Created	2018-06-26 14:46:20 UTC by Jenn Favela
Updated	2018-08-09 18:02:49 UTC by Don Lockwood
Location	36.5562772, -79.6174493
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	33
Resource ID	S-F18-33
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	32.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	5
Bankfull Width (ft)	6
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3.5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Strong
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Weak
Amphibians	Moderate
Algae	Absent
Stream Biology Total	10
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

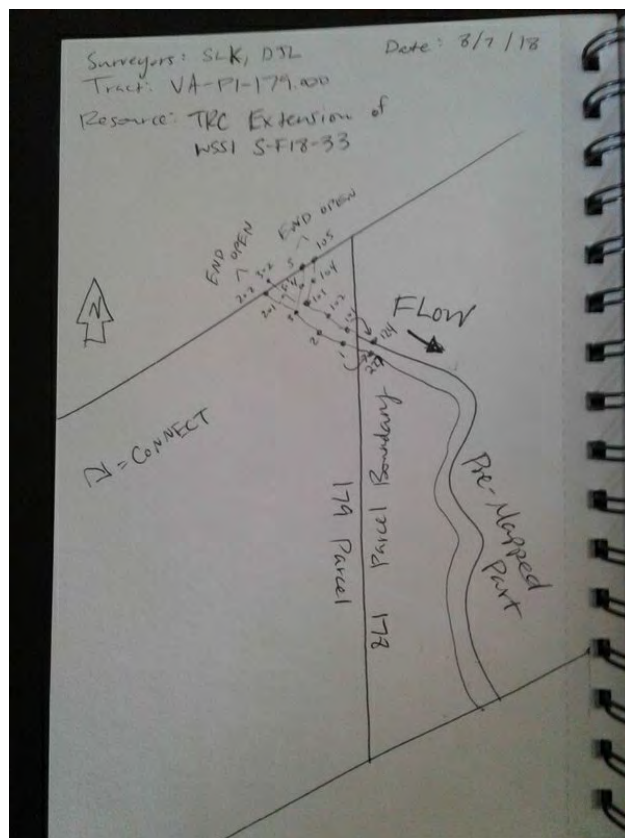
Across Stream Photo 2



Across stream photo direction 2


E

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-F18-33

Created	2018-06-26 14:46:20 UTC by Jenn Favela
Updated	2018-08-09 18:02:49 UTC by Don Lockwood
Location	36.5562772, -79.6174493
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/06/26
Date2	180626

Resource Crew Info

Field Crew	Eileen Nakahata, Jennifer Favela
Lead Scientist's Initials	F18
Resource Series Number	33
Resource ID	S-F18-33
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	32.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Natural

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	SE
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	100
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	100

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	3
Bank to Bank (ft)	5
Bankfull Width (ft)	6
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3.5
Left Bank Slope	> 35% (> 20 deg) Very Steep
Left Erosion Potential	Low
Left Bank Substrate	Silt-Mud

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	100
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	100

Right Bank

Right Bank Height (feet)	5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Low
Right Bank Substrate	Silt-Mud

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	100
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	100

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Weak
Depositional bars or benches	Strong
Recent alluvial deposits	Weak
Headcuts	Weak
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No
Stream Geomorphology Total	16.5

Stream Hydrology

Presence of baseflow	Weak
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Absent
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	6

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Strong
Crayfish	Weak
Amphibians	Moderate
Algae	Absent
Stream Biology Total	10
Regulatory Status	Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

W

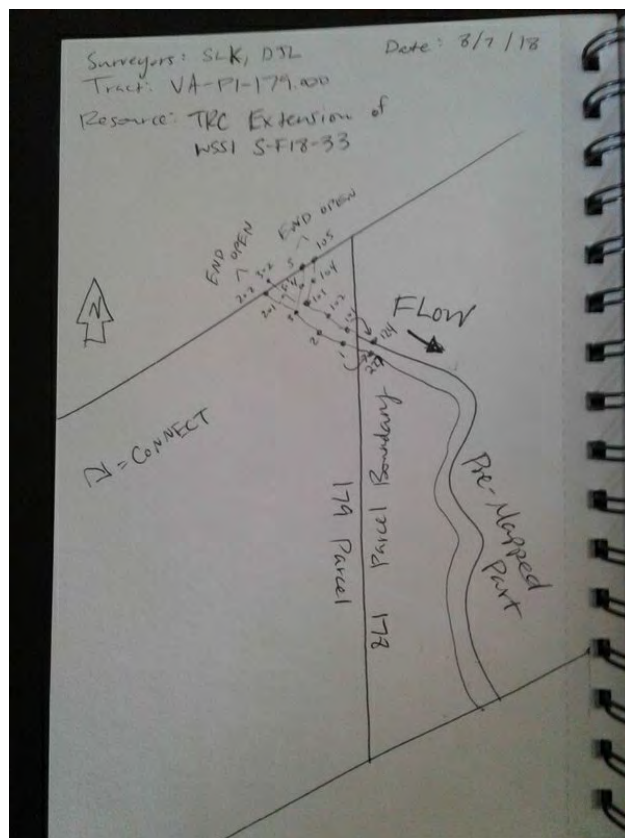
Across Stream Photo 2



Across stream photo direction 2


E

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-88

Created	2018-09-12 17:02:18 UTC by Simon King
Updated	2018-09-12 17:13:04 UTC by Katelyn Wheeler
Location	36.551067, -79.616049
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/09/12
Date2	180912

Resource Crew Info

Field Crew	Don Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	88
Resource ID	S-C18-88
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	28.25
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs

Stream Conditions

Water Flow Velocity	Slow (< 1 cfs)
Direction of Flow	NE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0.9
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.9

Stream Measurements

OHWM Width (ft)	3
Average Water Width (ft)	2
Bank to Bank (ft)	3
Bankfull Width (ft)	3
Probed Stream Depth	0 to 6 inches

Left Bank

Left Bank Height (feet)	1
Left Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.5
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.5

Right Bank

Right Bank Height (feet)	1
Right Bank Slope	8 to 15% (5 to 9 deg) Moderately Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.5
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.5

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Weak
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Moderate
Natural valley	Weak
Second or greater order channel	No
Stream Geomorphology Total	13.5

Stream Hydrology

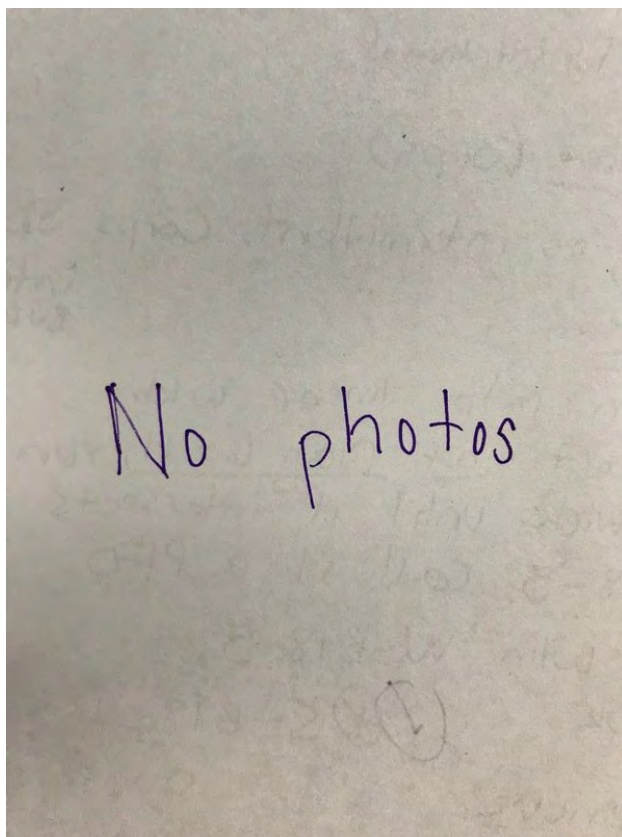
Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Moderate
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	7.5

Stream Biology

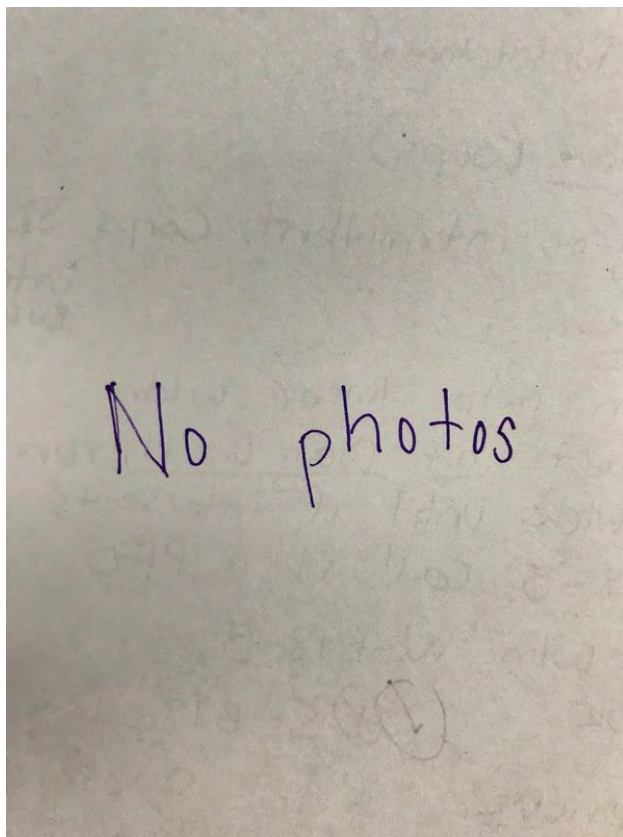
Fibrous roots in streambed	Weak
Rooted upland plants in streambed	Weak
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Absent
Amphibians	Moderate
Algae	Weak
Wetland plants in streambed	FACW
Stream Biology Total	7.25
Regulatory Status	State Protected, Corps Jurisdictional

Stream Overview Report Photos

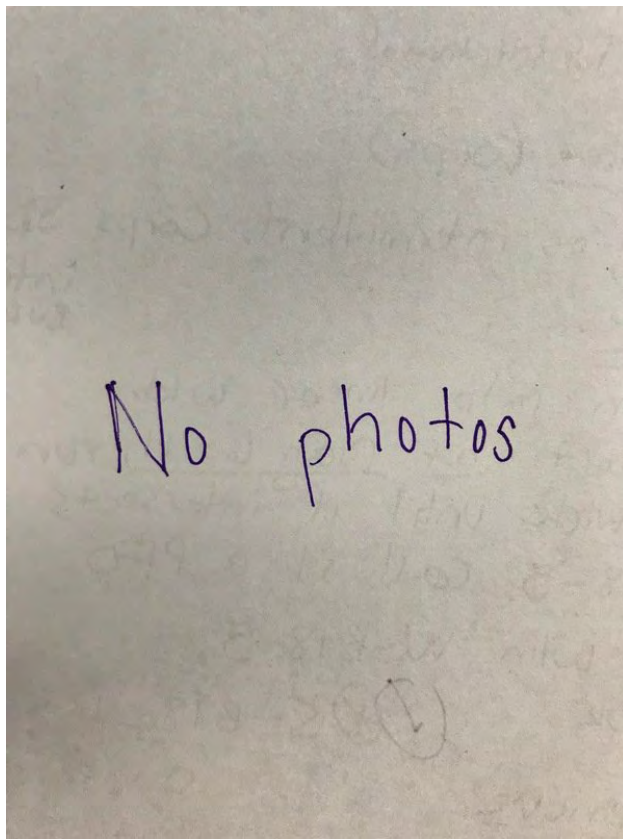
Upstream Stream Photo




Downstream Stream Photo



Across Stream Photo 1



S-C18-89

Created	2018-08-07 15:26:33 UTC by Don Lockwood
Updated	2018-09-06 15:31:17 UTC by Joseph Roy
Location	36.5518292, -79.6213728
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/07
Date2	180807

Resource Crew Info

Field Crew	Simon King, Donald Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
GPS ID	NA
Resource Series Number	89
Resource ID	S-C18-89
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	37.5
Calculated Stream Type	Perennial
Wildlife Observed	Salamanders
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Optimal
In stream habitat	Optimal

Channel Alteration

Negligible (1.5) Channel Alteration	1.2
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0.22
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.42

Stream Measurements

OHWM Width (ft)	6
Average Water Width (ft)	6
Bank to Bank (ft)	15

Bankfull Width (ft)	20
Probed Stream Depth	6 to 12 inches

Left Bank

Left Bank Height (feet)	3
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Cobble-Gravel, Sand

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	1.2
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.15
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.35

Right Bank

Right Bank Height (feet)	3
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	High
Right Bank Substrate	Cobble-Gravel, Sand

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	1.2
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.15
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.35

Stream Geomorphology

Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Strong
Particle size of stream substrate	Strong
Active or relict floodplain	Moderate
Depositional bars or benches	Weak
Recent alluvial deposits	Weak
Headcuts	Absent
Grade control	Absent
Natural valley	Strong

Second or greater order channel	Yes
Stream Geomorphology Total	19.5

Stream Hydrology

Presence of baseflow	Strong
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	8.5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Weak
Macrobenthos	Moderate
Aquatic mullusks	Absent
Crayfish	Moderate
Amphibians	Strong
Algae	Absent
Stream Biology Total	9.5
Regulatory Status	State Protected, Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

S

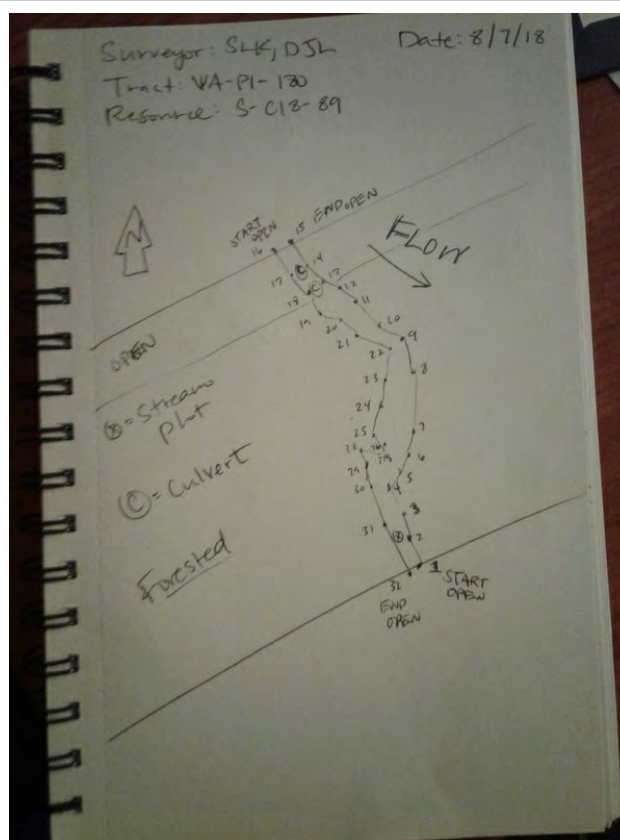
Across Stream Photo 2



Across stream photo direction 2


N

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-90

Created	2018-08-07 17:47:26 UTC by Simon King
Updated	2018-09-06 15:31:43 UTC by Joseph Roy
Location	36.5459248, -79.6282403
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/07
Date2	180807

Resource Crew Info

Field Crew	Simon King, Donald Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	90
Resource ID	S-C18-90
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Perennial
Calculated Stream Score	40.5
Calculated Stream Type	Perennial
Wildlife Observed	Fish
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	SE
Channel condition	Suboptimal
In stream habitat	Suboptimal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	1.04
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0
High Moderate (0.7) Channel Alteration	0.14
Severe (0.5) Channel Alteration	0
Channel Alteration Total	1.1800000000000002

Stream Measurements

OHWM Width (ft)	8
Average Water Width (ft)	5
Bank to Bank (ft)	10
Bankfull Width (ft)	10

Probed Stream Depth	6 to 12 inches
Left Bank	
Left Bank Height (feet)	4
Left Bank Slope	25 to 35% (14 to 20 deg) Steep
Left Erosion Potential	Moderate
Left Bank Substrate	Sand, Vegetated
Left Bank Riparian Buffer Condition	
Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0.96
Low suboptimal (1.1) [Left]	0
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.15
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.1099999999999999
Right Bank	
Right Bank Height (feet)	4
Right Bank Slope	25 to 35% (14 to 20 deg) Steep
Right Erosion Potential	Moderate
Right Bank Substrate	Sand, Vegetated
Right Bank Riparian Buffer Condition	
Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0.96
Low suboptimal (1.1) [Right]	0
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.15
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.1099999999999999
Stream Geomorphology	
Continuity of channel bed and bank	Strong
Sinuosity of channel along thalweg	Moderate
In-channel structure	Moderate
Particle size of stream substrate	Moderate
Active or relict floodplain	Strong
Depositional bars or benches	Moderate
Recent alluvial deposits	Strong
Headcuts	Absent
Grade control	Moderate
Natural valley	Moderate
Second or greater order channel	Yes

Stream Geomorphology Total	22
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Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Absent
Leaf litter	Absent
Sediment on plants or debris	Moderate
Organic debris lines or piles	Strong
Soil-based evidence of high water table?	Yes
Stream Hydrology Total	9

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Weak
Macrobenthos	Weak
Fish	Moderate
Crayfish	Moderate
Amphibians	Strong
Algae	Absent
Wetland plants in streambed	Other
Stream Biology Total	9.5
Regulatory Status	State Protected, Corps Jurisdictional

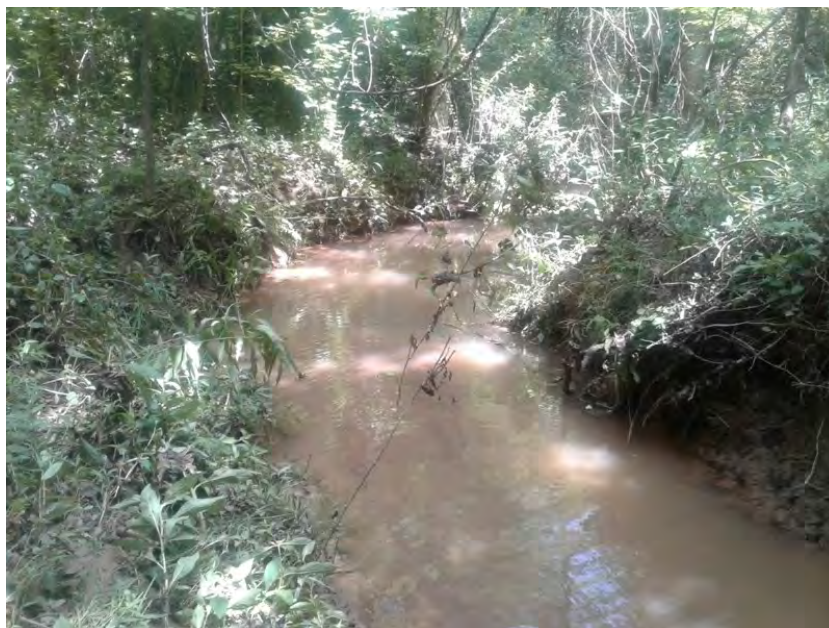
Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	NW
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Downstream Stream Photo



Downstream photo direction

SE

Across Stream Photo 1



Across stream photo direction 1

E

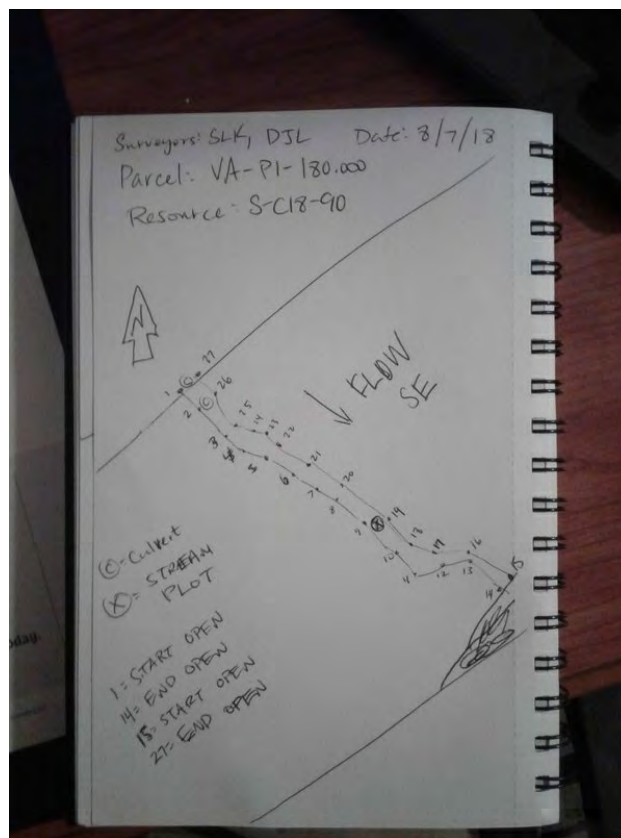
Across Stream Photo 2



Across stream photo direction 2


W

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker

S-C18-92

Created	2018-08-07 20:08:46 UTC by Simon King
Updated	2018-09-06 15:32:01 UTC by Joseph Roy
Location	36.5443052, -79.6299226
Status	 Finalized & Approved
Client	NextEra
Project	MVP Southgate
Date	18/08/07
Date2	180807

Resource Crew Info

Field Crew	Simon King, Donald Lockwood
Lead Scientist's Initials	C18
GPS Surveyor	Simon King
Resource Series Number	92
Resource ID	S-C18-92
Do you need to override the resource id?	No
Resource ID = Resource Type - Scientist Initials - Resource Series Number	

Stream Inventory

Stream / Waterbody Type	Intermittent
Calculated Stream Score	27.75
Calculated Stream Type	Intermittent
Wildlife Observed	Frogs
Observed Use	Drainage

Stream Conditions

Water Flow Velocity	Moderate (1 - 5 cfs)
Direction of Flow	E
Channel condition	Marginal
In stream habitat	Marginal

Channel Alteration

Negligible (1.5) Channel Alteration	0
Low Minor (1.3) Channel Alteration	0
High Minor (1.1) Channel Alteration	0
Low Moderate (0.9) Channel Alteration	0.9
High Moderate (0.7) Channel Alteration	0
Severe (0.5) Channel Alteration	0
Channel Alteration Total	0.9

Stream Measurements

OHWM Width (ft)	4
Average Water Width (ft)	3
Bank to Bank (ft)	4
Bankfull Width (ft)	4

Probed Stream Depth	0 to 6 inches
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Left Bank

Left Bank Height (feet)	0.5
Left Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Left Erosion Potential	Moderate
Left Bank Substrate	Mud or muck, Vegetated

Left Bank Riparian Buffer Condition

Optimal (1.5) [Left]	0
High suboptimal (1.2) [Left]	0
Low suboptimal (1.1) [Left]	0.88
High marginal (0.85) [Left]	0
Low marginal (0.75) [Left]	0.15
High poor (0.6) [Left]	0
Low poor (0.5) [Left]	0
Left bank total	1.03

Right Bank

Right Bank Height (feet)	0.5
Right Bank Slope	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping
Right Erosion Potential	Moderate
Right Bank Substrate	Mud or muck, Vegetated

Right Bank Riparian Buffer Condition

Optimal (1.5) [Right]	0
High suboptimal (1.2) [Right]	0
Low suboptimal (1.1) [Right]	0.88
High marginal (0.85) [Right]	0
Low marginal (0.75) [Right]	0.15
High poor (0.6) [Right]	0
Low poor (0.5) [Right]	0
Right bank total	1.03

Stream Geomorphology

Continuity of channel bed and bank	Moderate
Sinuosity of channel along thalweg	Moderate
In-channel structure	Weak
Particle size of stream substrate	Weak
Active or relict floodplain	Moderate
Depositional bars or benches	Moderate
Recent alluvial deposits	Moderate
Headcuts	Absent
Grade control	Weak
Natural valley	Moderate
Second or greater order channel	No

Stream Geomorphology Total	13.5
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Stream Hydrology

Presence of baseflow	Moderate
Iron oxidizing bacteria	Weak
Leaf litter	Weak
Sediment on plants or debris	Weak
Organic debris lines or piles	Weak
Soil-based evidence of high water table?	No
Stream Hydrology Total	5

Stream Biology

Fibrous roots in streambed	Absent
Rooted upland plants in streambed	Absent
Macrobenthos	Weak
Aquatic mullusks	Absent
Fish	Absent
Crayfish	Weak
Amphibians	Moderate
Algae	Absent
Wetland plants in streambed	FACW
Stream Biology Total	9.25
Regulatory Status	State Protected, Corps Jurisdictional

Stream Overview Report Photos

Upstream Stream Photo



Upstream photo direction	W
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Downstream Stream Photo



Downstream photo direction

E

Across Stream Photo 1



Across stream photo direction 1

N

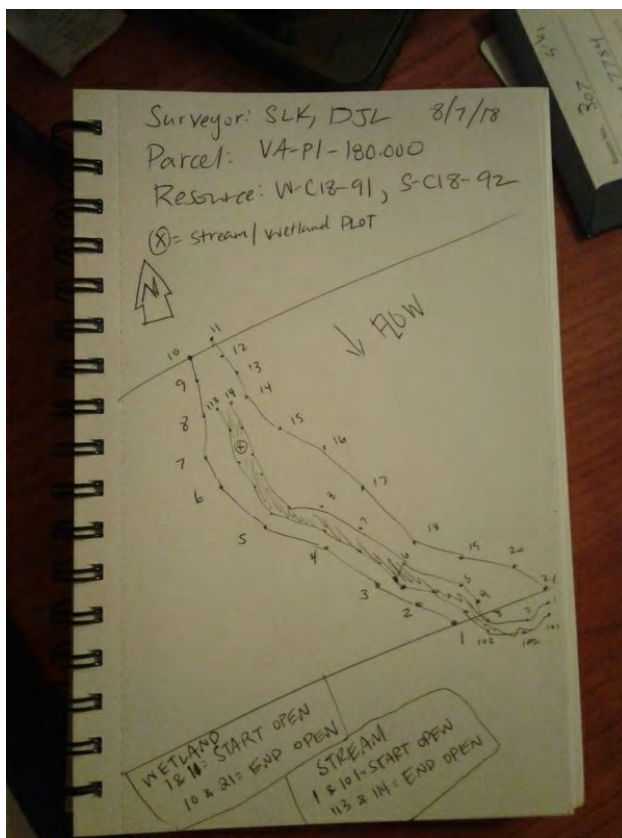
Across Stream Photo 2



Across stream photo direction 2

S

Sketch of Stream



Environmental Field Coordinator: Karla Fortier GIS Contact: Dan Sweeney Project Manager: Lisa Walker