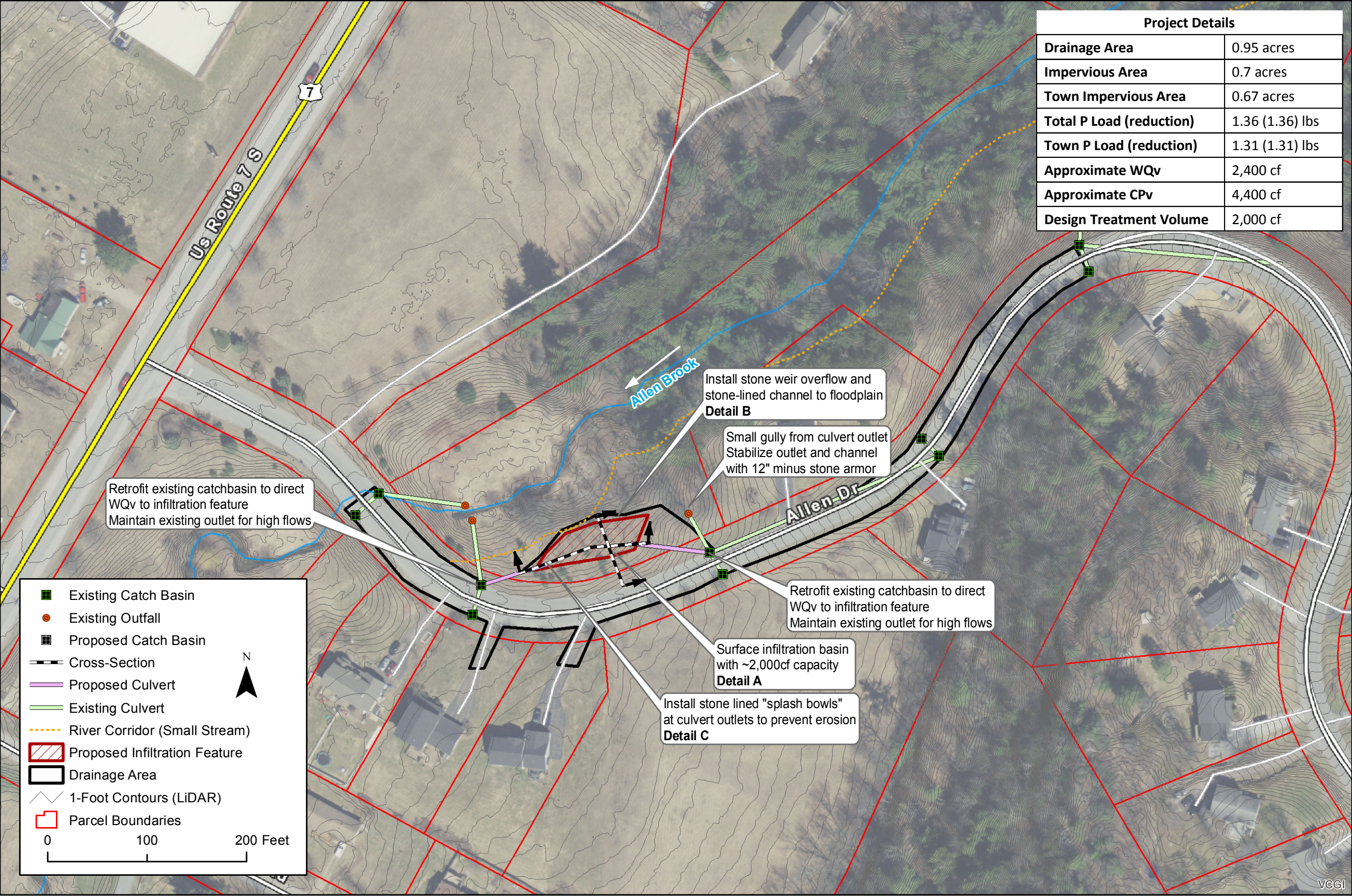




Project Details	
Drainage Area	0.95 acres
Impervious Area	0.7 acres
Town Impervious Area	0.67 acres
Total P Load (reduction)	1.36 (1.36) lbs
Town P Load (reduction)	1.31 (1.31) lbs
Approximate WQv	2,400 cf
Approximate CPv	4,400 cf
Design Treatment Volume	2,000 cf



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Tel: 802.876.7778
www.fitzgeraldenvironmental.com

Notes

- VCGI Imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
AB-2
Concept Design (30%)

Allen Drive

JHB, EHB	Checked
Drawn	

1" = 100'

Scale

May 31, 2019

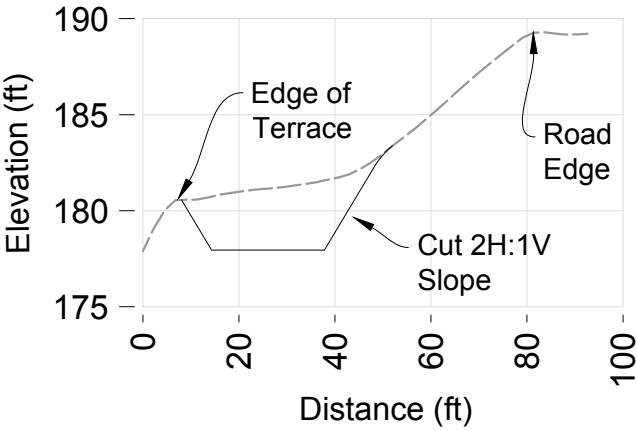
Date

Sheet 1

SHEET NO.

Detail A: Infiltration
Basin Typical Section

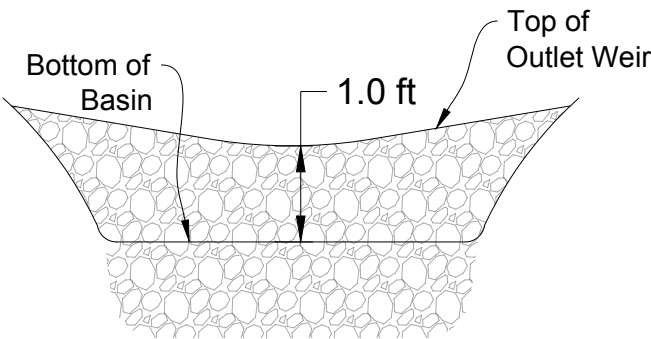
1" = 40' H; 1" = 10' V



-- Existing Grade
— Proposed Grade

Detail B: Infiltration
Basin Outlet Detail

1" = 2'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,500	\$ 2,500
Clearing/Grubbing	1	LS	\$ 2,500	\$ 2,500
Common Excavation and Trucking	300	CY	\$ 50	\$ 15,000
Stone Armor (12" minus stone)	50	CY	\$ 60	\$ 3,000
Topsoil	20	CY	\$ 60	\$ 1,200
Hydroseeding	150	SY	\$ 2	\$ 300
12" Culvert Installation	2	EA	\$ 2,000	\$ 4,000
Catchbasin Retrofit	2	EA	\$ 3,500	\$ 7,000
Final Design				\$ 7,000
Construction Oversight				\$ 3,000
Subtotal				\$ 45,500
Contingency (20%)				\$ 8,100
Total				\$ 53,600
Estimated \$/lb of Town P Removed				\$ 40,900

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Notes: Existing profile
based on field survey
by FEA (April 2019).

Town of Milton SWMP
AB-2 Concept Design (30%)
Allen Drive

EHB, JHB
DRAWN

EPF
CHECKED

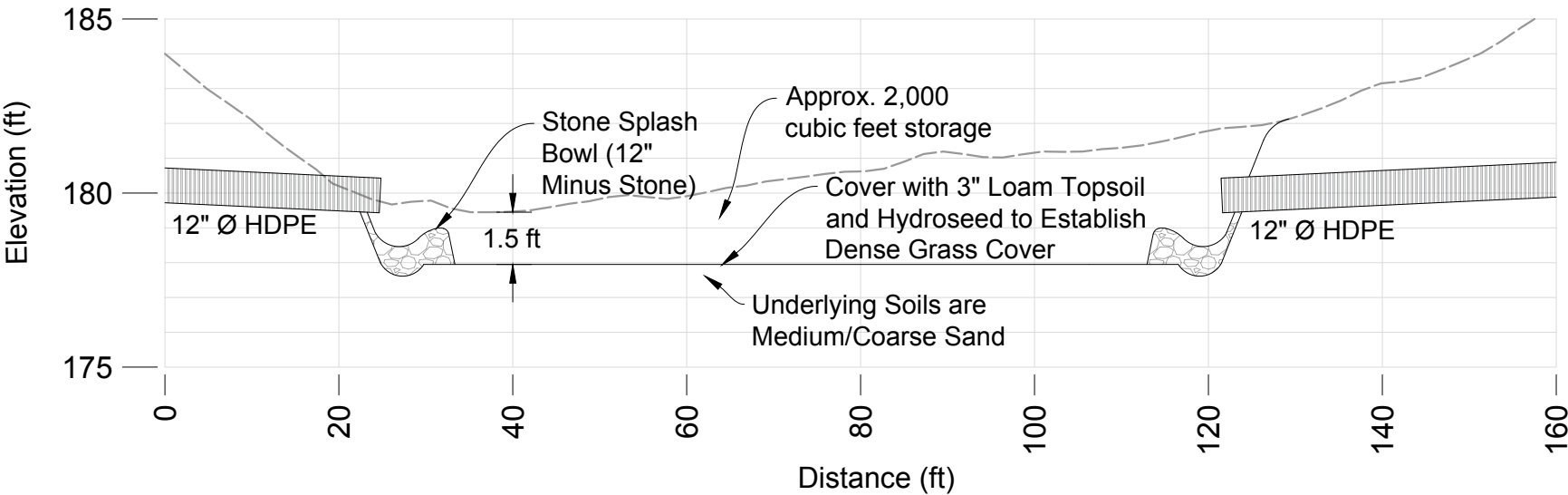
As Shown
SCALE

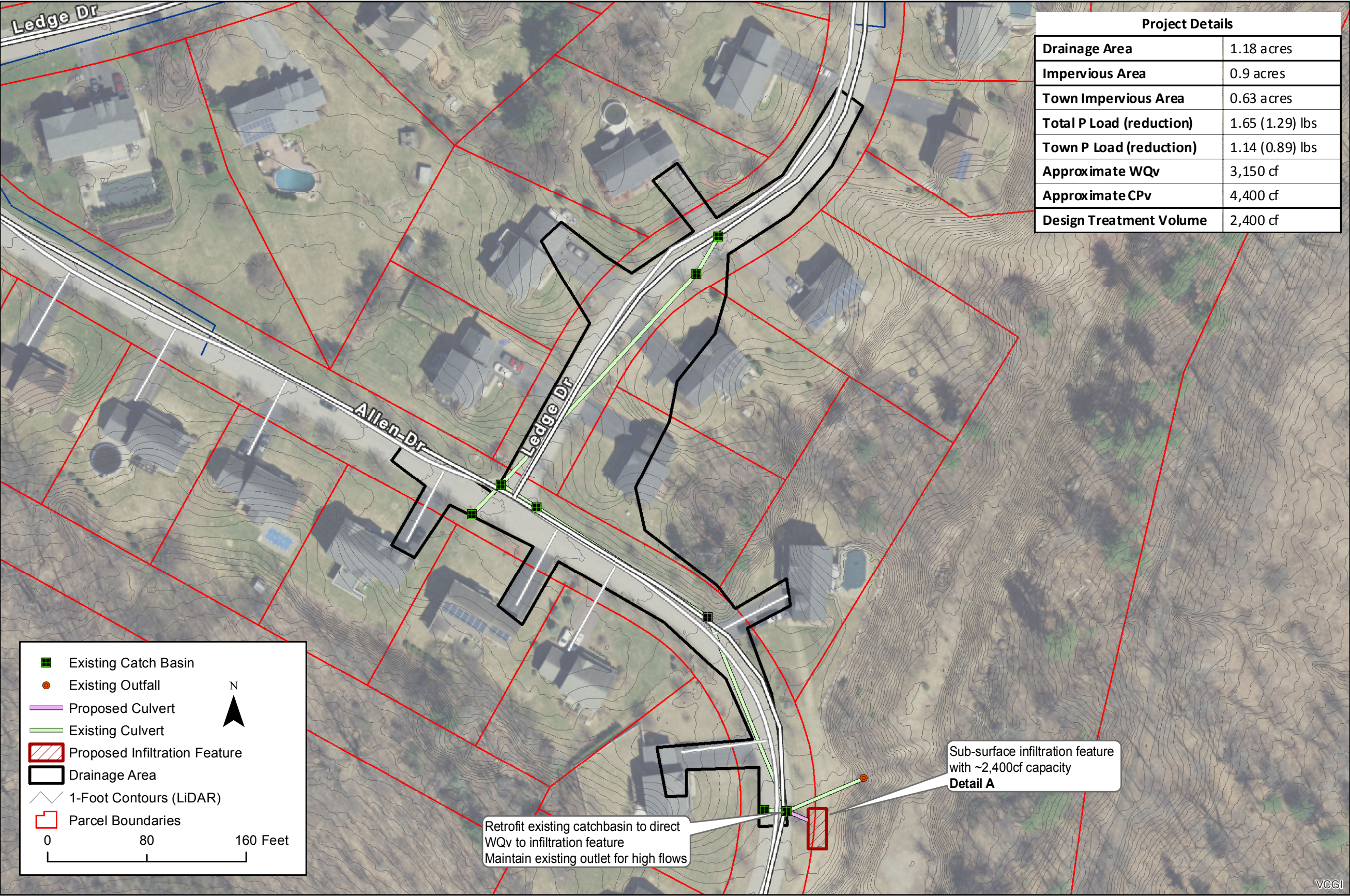
September 26, 2019
DATE

SHEET 2
SHEET NO.

Detail C: Infiltration Basin Typical Section

1" = 20' H; 1" = 5' V





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Town of Milton SWMP
AB-3
Concept Design (30%)
Allen Drive

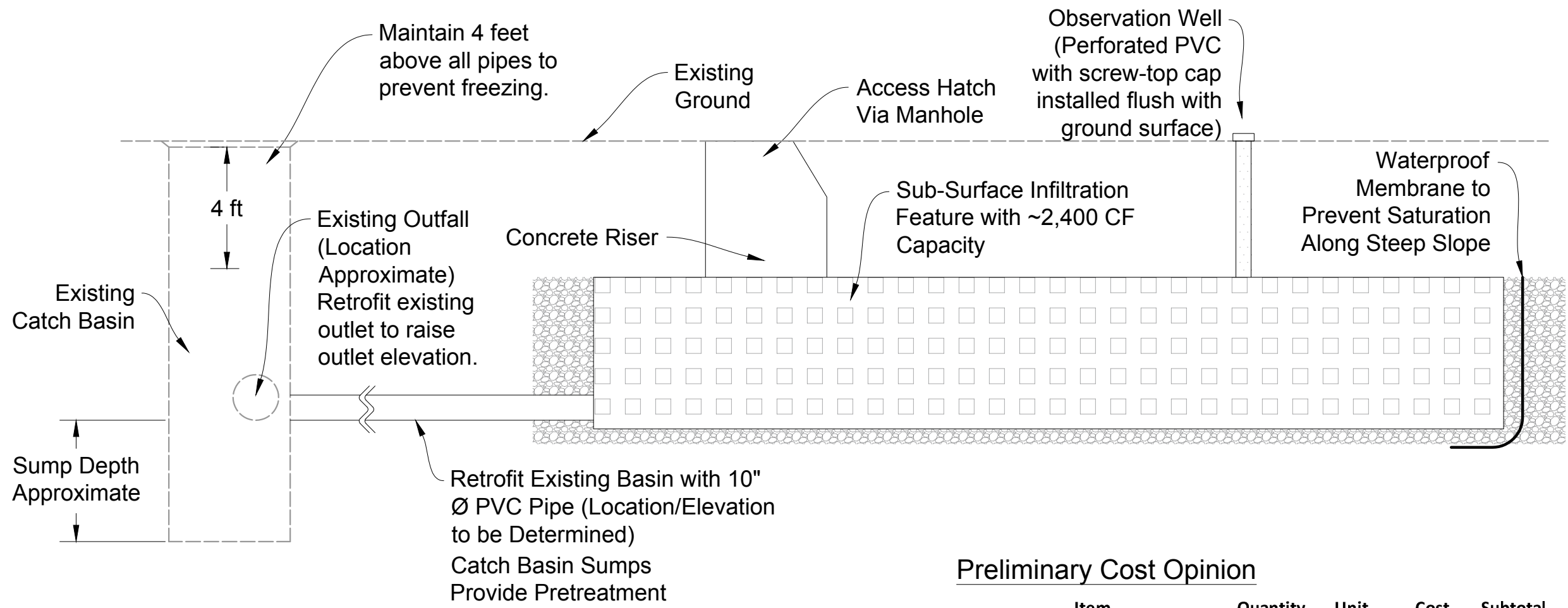
JHB, EHB
Drawn Checked
1" = 80'

Scale
June 4, 2019
Date

Sheet 1
SHEET NO.

Detail A: Sub-Surface Infiltration Typical Section

1" = 4'



Project Notes:

- 1. Do not disturb existing trees, signs, or utilities.
- 2. Hydroseed all disturbed areas.

Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,500	\$ 2,500
Common Excavation and Trucking	100	CY	\$ 40	\$ 4,000
Topsoil	5	CY	\$ 50	\$ 250
Hydroseeding	50	SY	\$ 2	\$ 100
Underground Chambers	2400	CF	\$ 7	\$ 15,912
Culvert Installation	1	LS	\$ 1,000	\$ 1,000
Waterproof Membrane	1	LS	\$ 500	\$ 500
Catch Basin Retrofits	1	EA	\$ 1,500	\$ 1,500
Final Design				\$ 5,000
Construction Oversight				\$ 2,000
Subtotal				\$ 32,762
Contingency (20%)				\$ 6,052
Total				\$ 38,814
Estimated \$/lb of Town P Removed				\$ 43,650



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Notes: Site survey
completed in May
2019 by FEA.

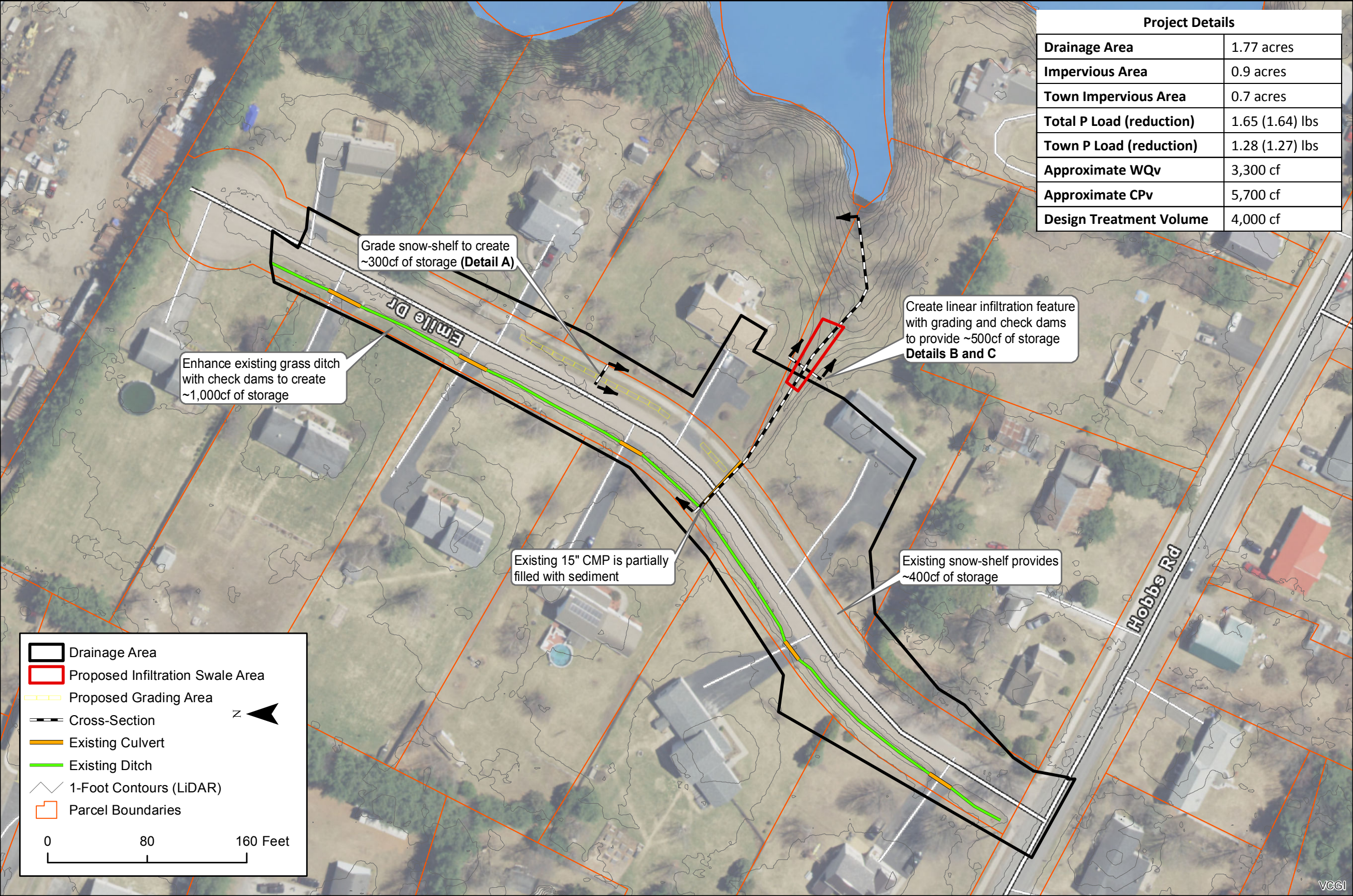
Town of Milton SWMP
AB-3
Concept Design (30%)
Allen Drive

EHB, JHB DRAWN	EPF CHECKED
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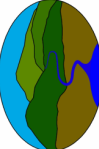
As Shown
SCALE

June 5, 2019
DATE

SHEET 2
SHEET NO.



Project Details	
Drainage Area	1.77 acres
Impervious Area	0.9 acres
Town Impervious Area	0.7 acres
Total P Load (reduction)	1.65 (1.64) lbs
Town P Load (reduction)	1.28 (1.27) lbs
Approximate WQv	3,300 cf
Approximate CPv	5,700 cf
Design Treatment Volume	4,000 cf



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Notes

- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2019

**Town of Milton SWMP
BB-1
Concept Design (30%)**

Emile Drive

JHB, EHB	Checked
Drawn	

1" = 80'

Scale

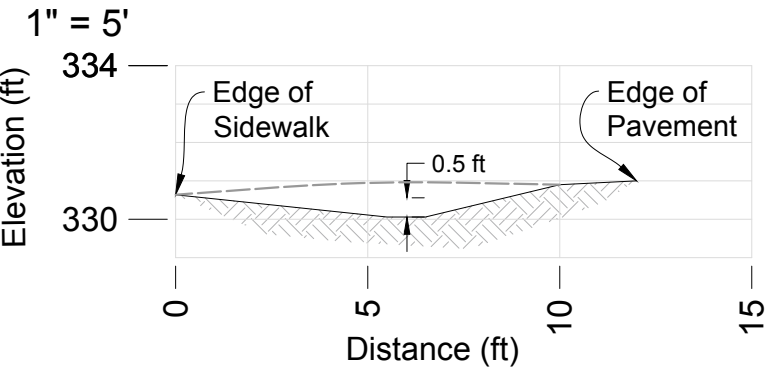
May 31, 2019

Date

Sheet 1

SHEET NO.

Detail A: Roadside Swale Typical Section



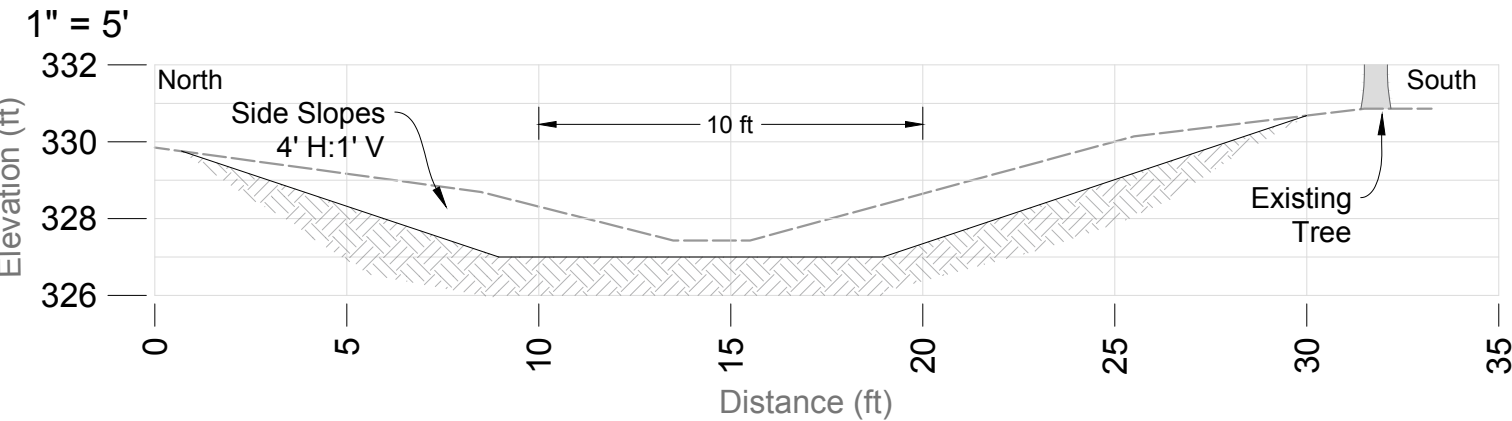
--- Existing Grade
— Proposed Grade

- Project Notes:
1. Place 2"-3" of well-draining topsoil in roadside swale and grassed swale. Hydroseed all disturbed areas.
 2. Do not disturb existing trees and lilac bushes.

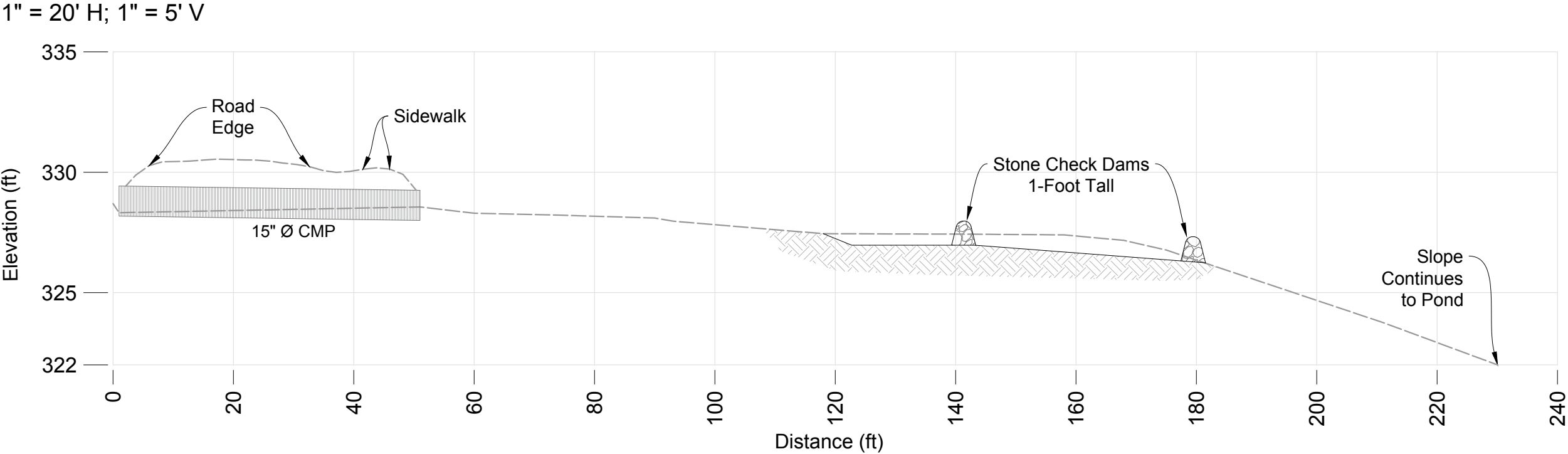
Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,700	\$ 1,700
Common Excavation and Trucking	75	CY	\$ 40	\$ 3,000
Stone Check Dam (6" minus stone)	16	CY	\$ 60	\$ 960
Topsoil	25	CY	\$ 50	\$ 1,250
Hydroseeding	310	SY	\$ 2	\$ 620
Final Design				\$ 2,000
Construction Oversight				\$ 1,000
			Subtotal	\$ 10,530
			Contingency (20%)	\$ 1,766
			Total	\$ 12,296
			Estimated \$/lb of Town P Removed	\$ 9,700

Detail B: Infiltration Feature Typical Section



Detail C: Infiltration Feature Section



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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
BB-1 Concept Design (30%)
Emile Drive

EHB, JHB
DRAWN

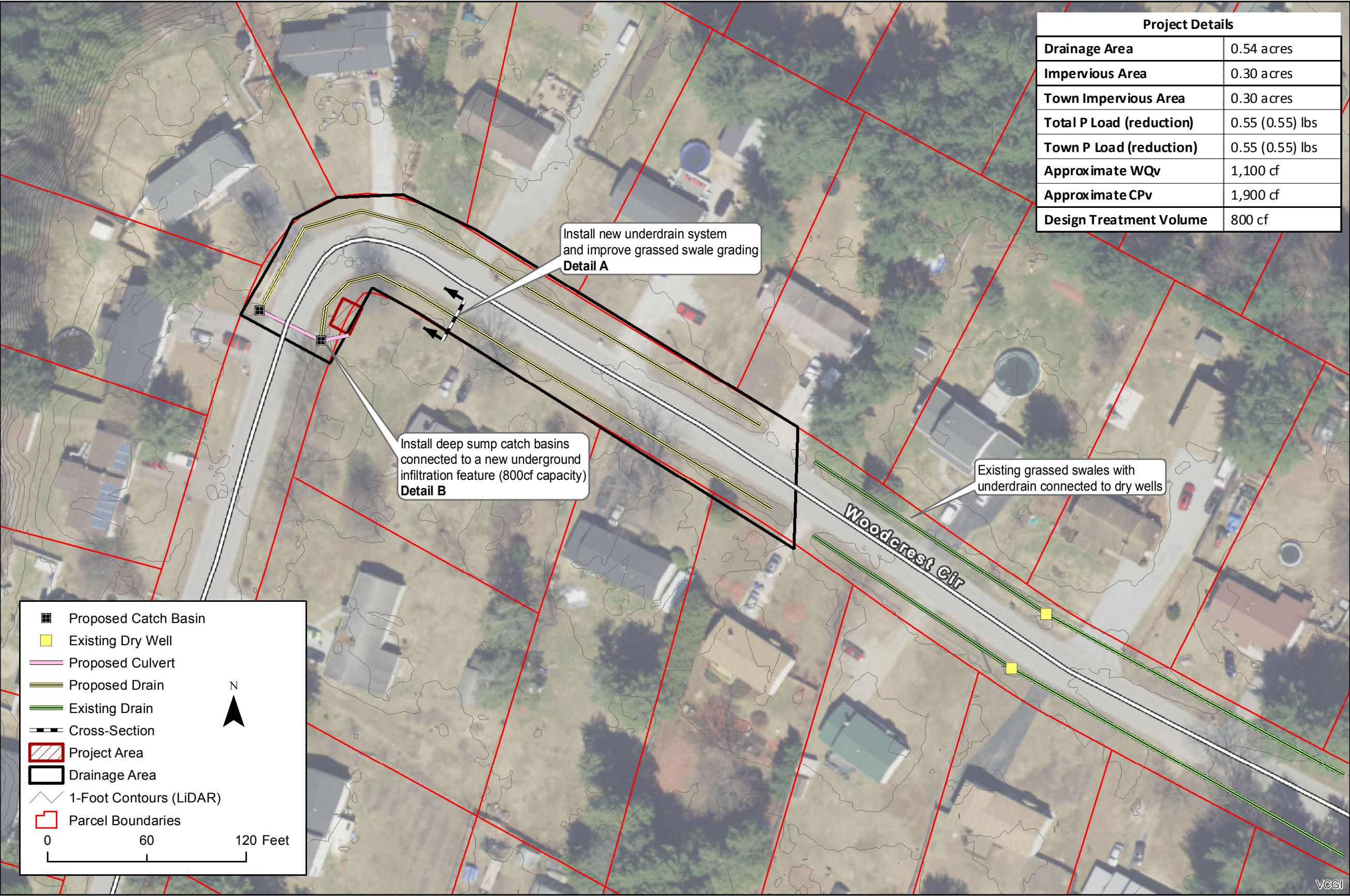
EPF
CHECKED

As Shown
SCALE

May 28, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	0.54 acres
Impervious Area	0.30 acres
Town Impervious Area	0.30 acres
Total P Load (reduction)	0.55 (0.55) lbs
Town P Load (reduction)	0.55 (0.55) lbs
Approximate WQv	1,100 cf
Approximate CPv	1,900 cf
Design Treatment Volume	800 cf



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Notes
- VCGI Imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed May 2019

Town of Milton SWMP
BB-2
Concept Design (30%)
Woodcrest Circle

JHB, EHB
Drawn

Checked

1" = 60'

Scale

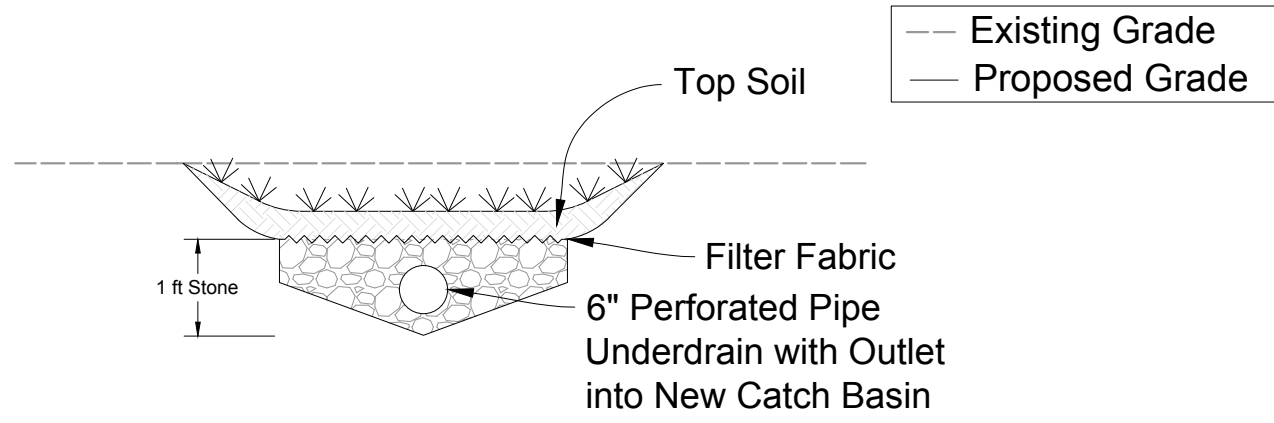
June 5, 2019
Date

Sheet 1

SHEET NO.

Detail A: Underdrained Grass Swale Typical Section

1" = 2'

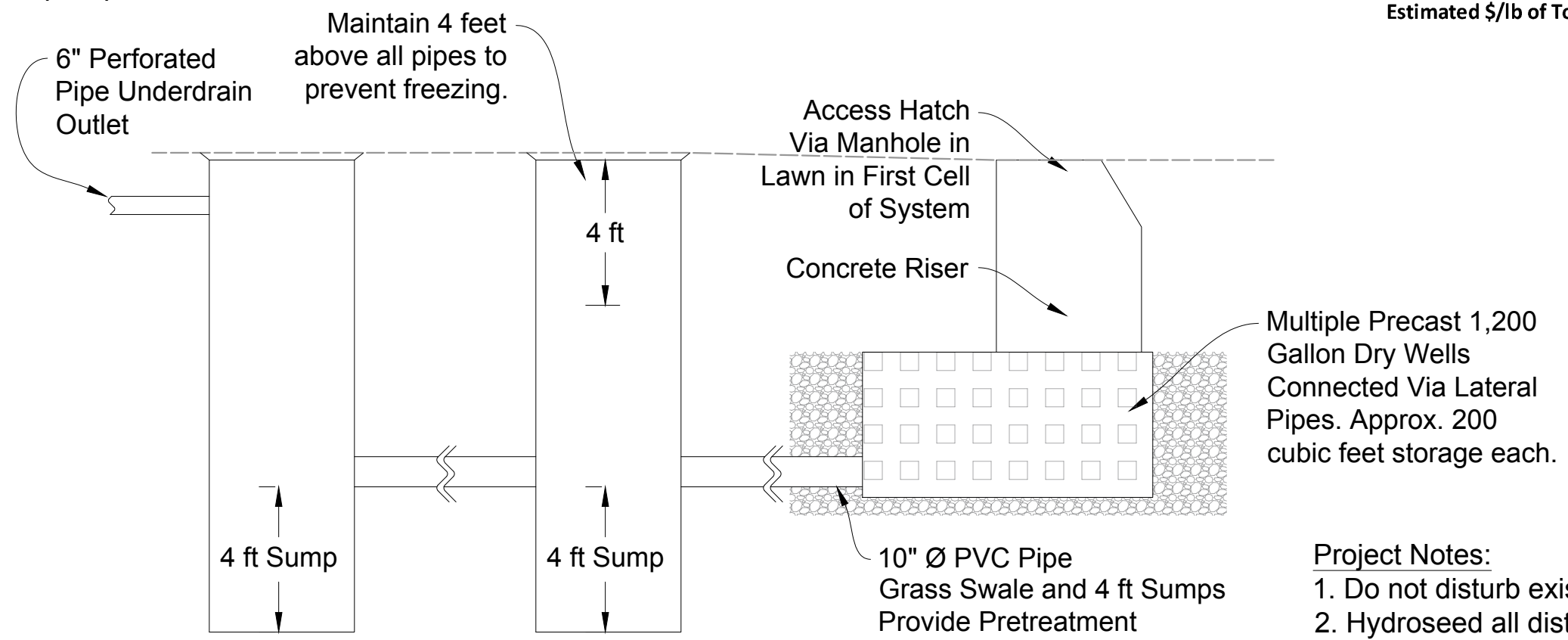


Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,500	\$ 2,000
Common Excavation	100	CY	\$ 15	\$ 1,500
Trucking	30	CY	\$ 25	\$ 750
6" Perforated Pipe Installation	700	LF	\$ 10	\$ 7,000
Gravel	50	CY	\$ 50	\$ 2,500
Filter Fabric	120	SY	\$ 2	\$ 240
Topsoil	10	CY	\$ 50	\$ 500
Hydroseeding	50	SY	\$ 2	\$ 100
Catch Basin Install	2	EA	\$ 2,500	\$ 5,000
18" Culvert	1	EA	\$ 1,500	\$ 1,500
Dry Well Installation	4	EA	\$ 2,500	\$ 10,000
Final Design	1	LS	\$ 3,000	\$ 4,000
Construction Oversight	1	LS	\$ 1,000	\$ 1,000
			Subtotal	\$ 36,090
			Contingency (20%)	\$ 6,818
			Total	\$ 42,908
			Estimated \$/lb of Town P Removed	\$ 78,000

Detail B: Sub-Surface Infiltration Typical Section

1" = 4'



- Project Notes:
- 1. Do not disturb existing trees, signs, or utilities.
 - 2. Hydroseed all disturbed areas.

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Notes: Site survey completed in May 2019 by FEA.

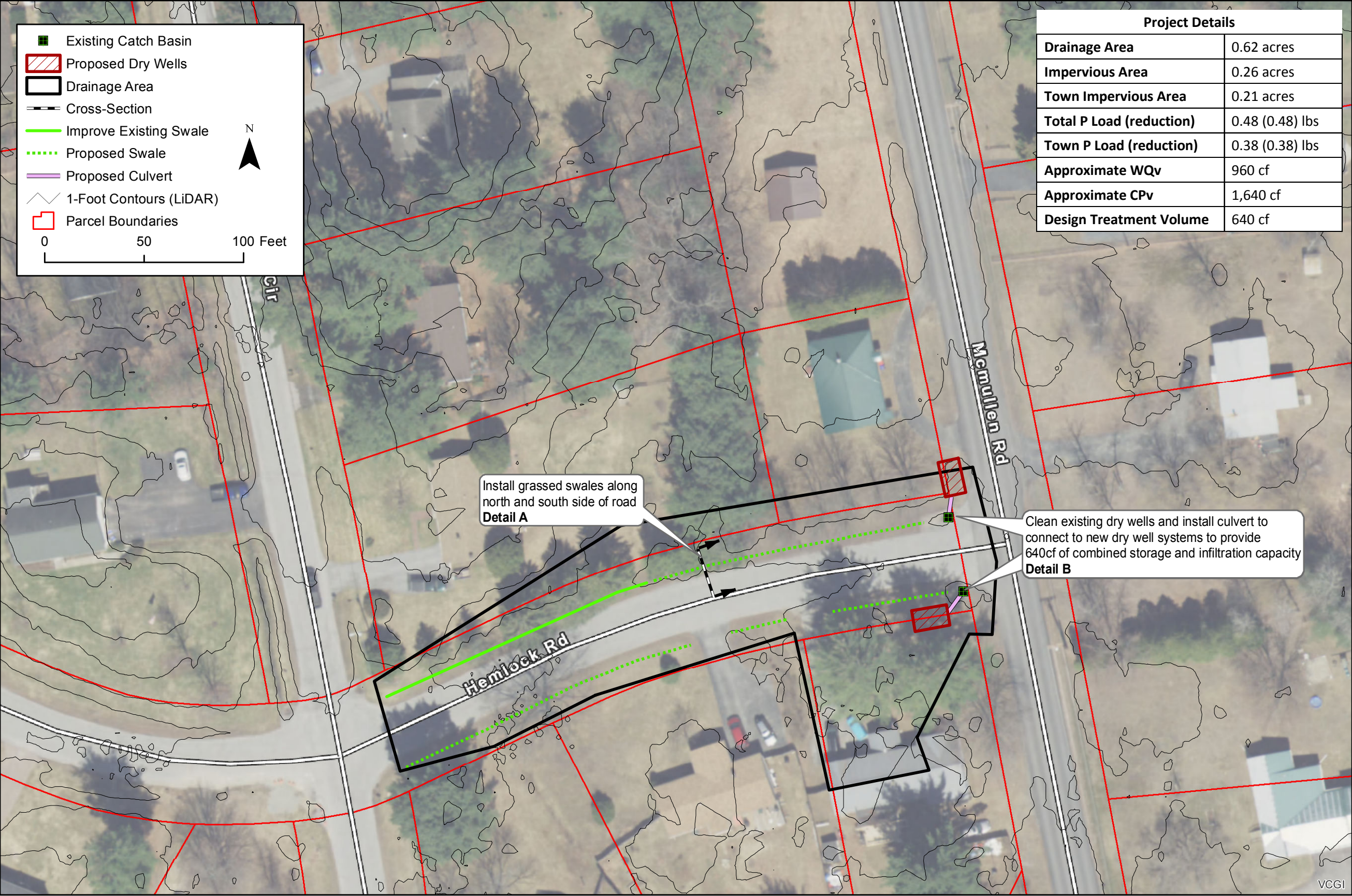
Town of Milton SWMP

BB-2

Concept Design (30%)

Woodcrest Circle

EHB, JHB DRAWN	EPF CHECKED
As Shown SCALE	
June 5, 2019 DATE	
SHEET 2	
SHEET NO.	



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Notes

- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
BB-4
Concept Design (30%)

Hemlock Street

JHB, EHB	Checked
Drawn	

Scale
1" = 50'

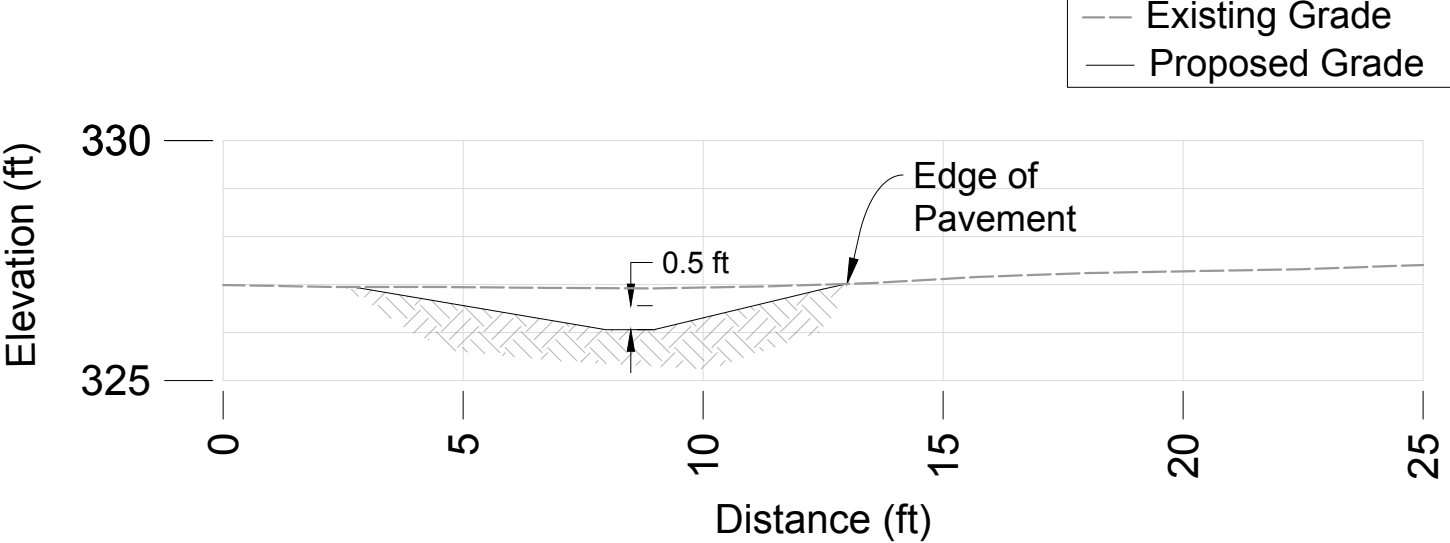
Date
May 6, 2019

Sheet 1

SHEET NO.

Detail A: Roadside Infiltration Swale Typical Section

1" = 4'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	80	CY	\$ 40	\$ 3,200
Topsoil	35	CY	\$ 50	\$ 1,750
Hydroseeding	500	SY	\$ 2	\$ 1,000
18" Culvert Installation	2	LS	\$ 1,000	\$ 2,000
Dry Well Installation	4	EA	\$ 2,500	\$ 10,000
Catch Basin Retrofits	2	EA	\$ 1,000	\$ 2,000
Final Design				\$ 4,000
Construction Oversight				\$ 1,000
Subtotal				\$ 26,950
Contingency (20%)				\$ 4,990
Total				\$ 31,940
Estimated \$/lb of Town P Removed				\$ 85,150



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Colchester, VT 05446

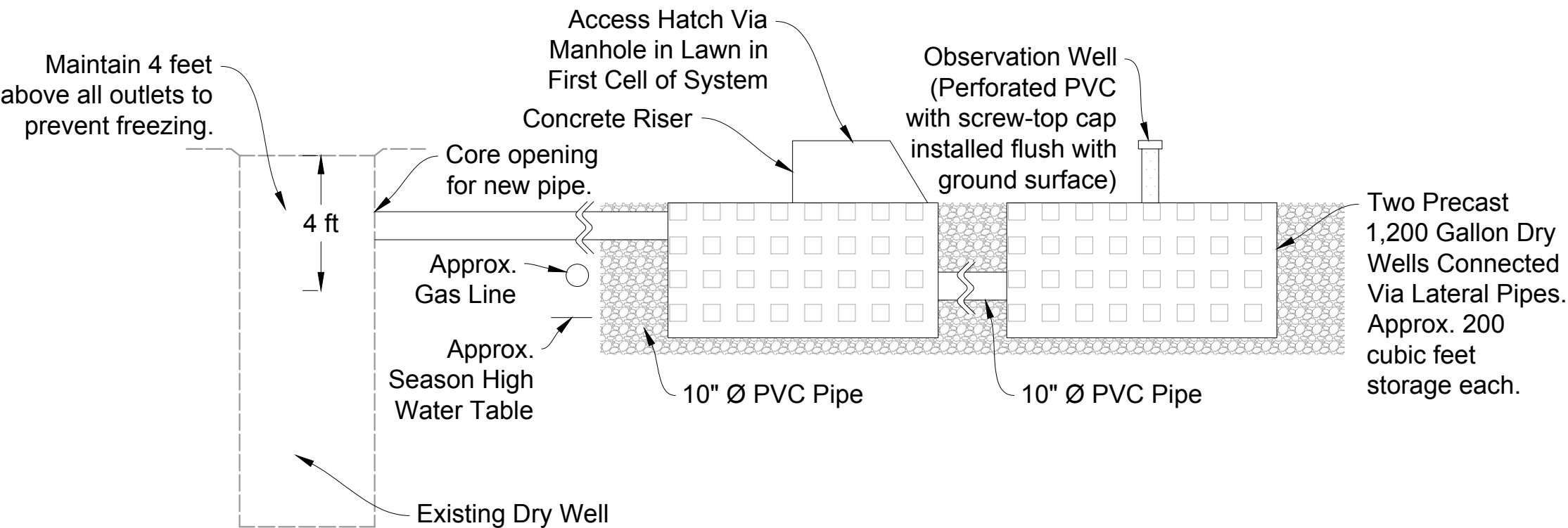
Telephone: 802.876.7778

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Notes: Existing profile based on field survey by FEA (April 2019).

Detail B: Catch Basin/Dry Well Typical Section

1" = 4'



Project Notes:
1. Do not disturb existing trees.

Town of Milton SWMP
BB-4 Concept Design (30%)
Hemlock Road at
McMullen Drive

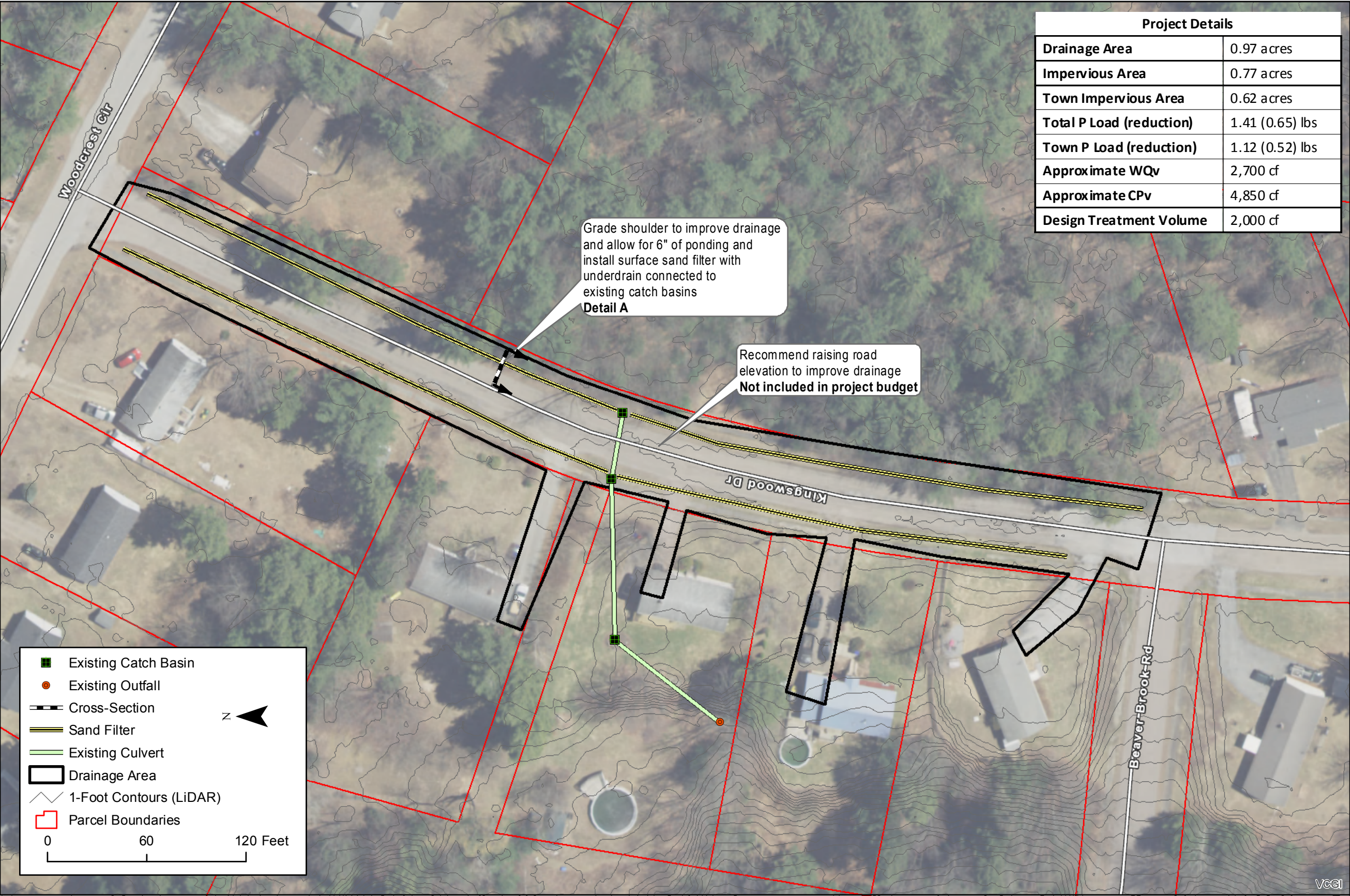
EHB, JHB DRAWN	EPF CHECKED
-------------------	----------------

As Shown
SCALE

May 28, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	0.97 acres
Impervious Area	0.77 acres
Town Impervious Area	0.62 acres
Total P Load (reduction)	1.41 (0.65) lbs
Town P Load (reduction)	1.12 (0.52) lbs
Approximate WQv	2,700 cf
Approximate CPv	4,850 cf
Design Treatment Volume	2,000 cf



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Notes

- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed May 2019

Town of Milton SWMP

BB-5

Concept Design (30%)

Kingswood Drive

JHB, EHB

Drawn

Checked

1" = 60'

Scale

June 5, 2019

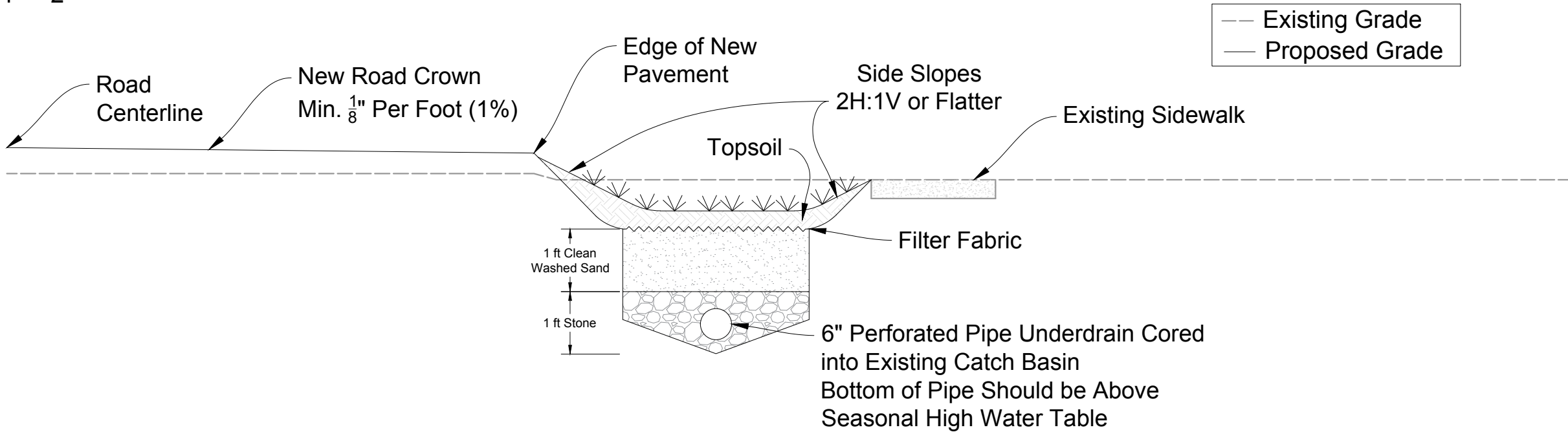
Date

Sheet 1

SHEET NO.

Detail A: Surface Sand Filter Typical Section

1" = 2'

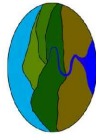


Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,500	\$ 2,000
Common Excavation and Trucking	250	CY	\$ 40	\$ 10,000
6" Perforated Pipe Installation	1000	LF	\$ 10	\$ 10,000
Gravel	110	CY	\$ 50	\$ 5,500
Sand	110	CY	\$ 50	\$ 5,500
Filter Fabric	350	SY	\$ 2	\$ 700
Topsoil	75	CY	\$ 50	\$ 3,750
Hydroseeding	350	SY	\$ 2	\$ 700
Catch Basin Retrofit	2	EA	\$ 500	\$ 1,000
Final Design				\$ 4,000
Construction Oversight				\$ 1,000
Subtotal				\$ 44,150
Contingency (20%)				\$ 8,430
Total				\$ 52,580
Estimated \$/lb of Town P Removed				\$ 102,050

Project Notes:

1. Do not disturb existing sidewalk.
2. Cost of paving not included in preliminary cost opinion.



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Notes: Site survey
completed in May
2019 by FEA.

Town of Milton SWMP

BB-5

Concept Design (30%)

Kingswood Drive

EHB, JHB

EPF

DRAWN

CHECKED

As Shown

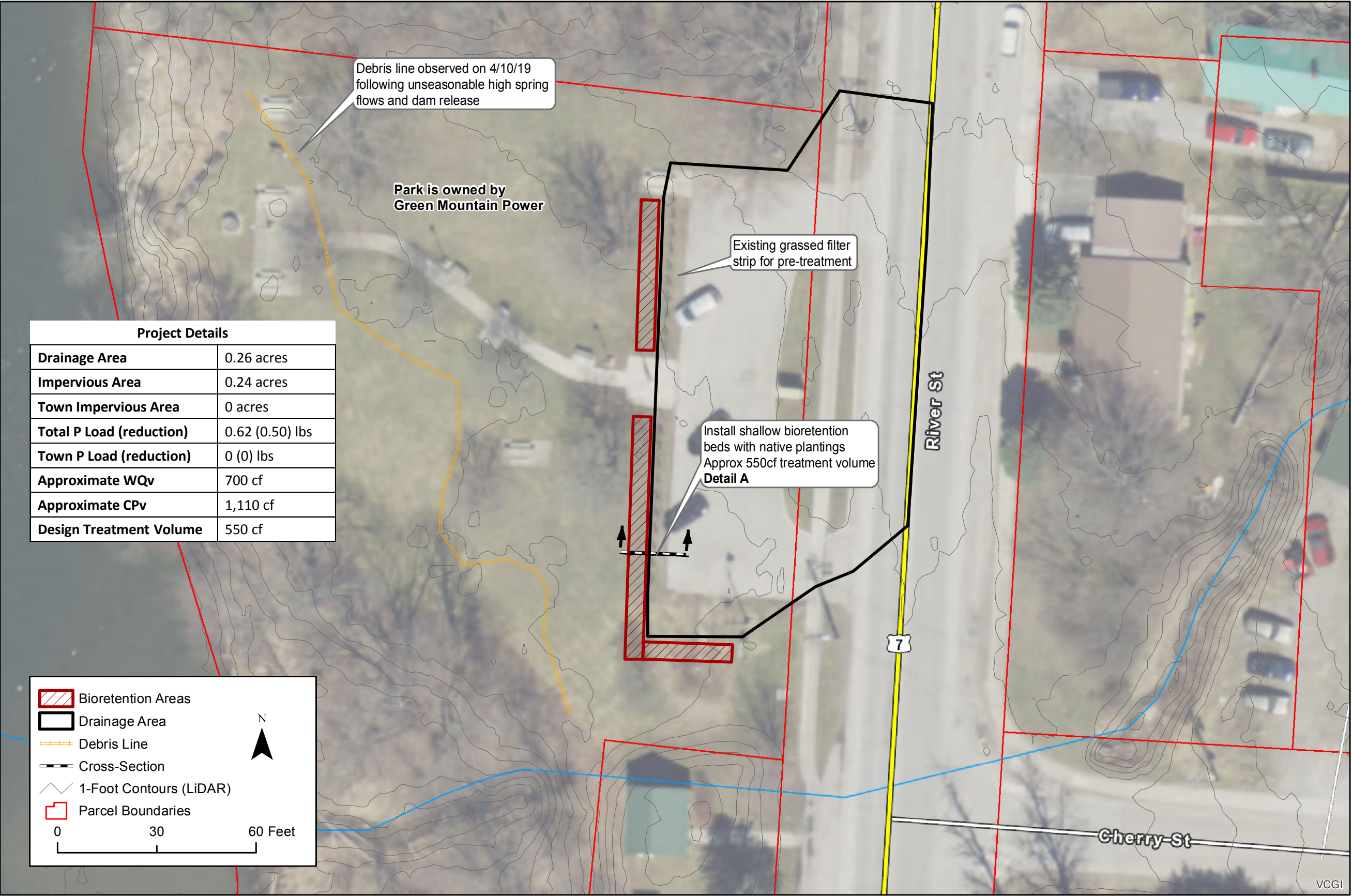
SCALE

June 5, 2019

DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	0.26 acres
Impervious Area	0.24 acres
Town Impervious Area	0 acres
Total P Load (reduction)	0.62 (0.50) lbs
Town P Load (reduction)	0 (0) lbs
Approximate WQv	700 cf
Approximate CPv	1,110 cf
Design Treatment Volume	550 cf

Bioretention Areas

Drainage Area

Debris Line

Cross-Section

1-Foot Contours (LiDAR)

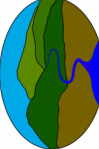
Parcel Boundaries

0

30

60 Feet

N



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Colchester, VT 05446

Tel: 802.876.7778

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Notes

- VCGI Imagery from 2018.

- DEM from 2014 LiDAR (0.7 m).

- Site survey completed April 2019

Town of Milton SWMP

O-6

Concept Design (30%)

River Street Park

JHB, EHB

Drawn

Checked

1" = 30'

Scale

May 6, 2019

Date

Sheet 1

SHEET NO.

Detail A: Bioretention Typical Section

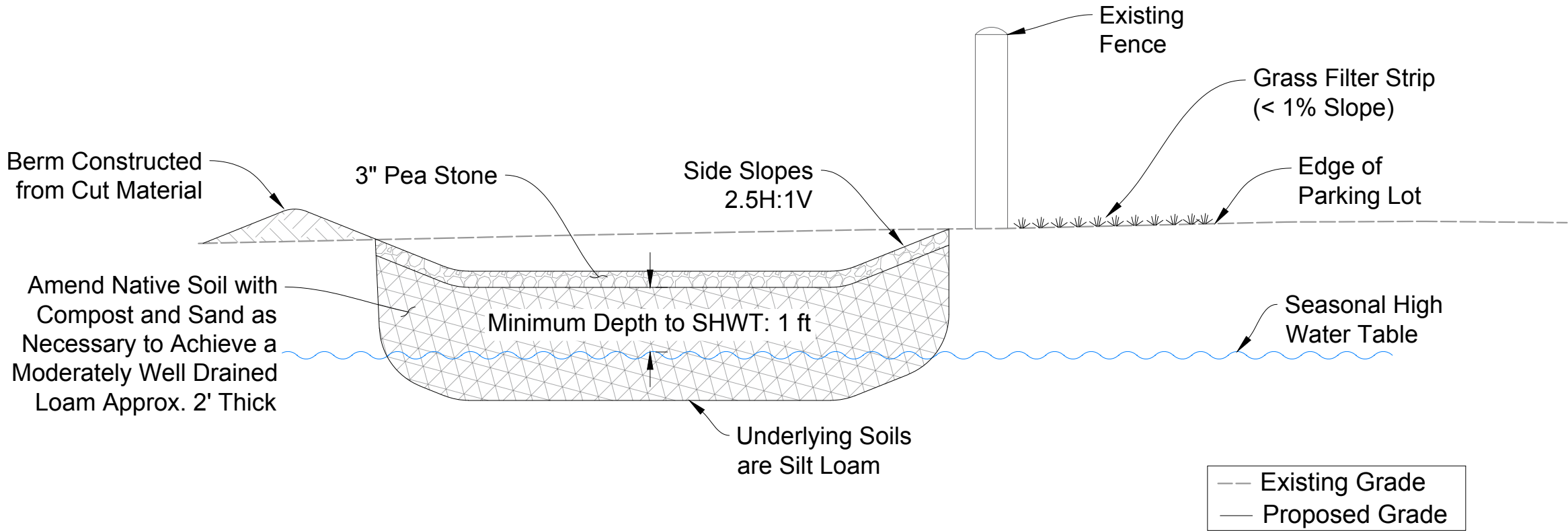
1" = 2'

Project Notes:

- 1. Do not disturb existing fence or trees.
- 2. Some grading of filter strip may be required to ensure sheet flow from parking lot.
- 3. Final design must account for infrequent river flooding through project area.
- 4. Native plantings should be salt-tolerant and suitable for poorly drained soils.
- 5. Hydroseed all disturbed areas outside of bioretention area.

Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,000	\$ 1,000
Common Excavation and Soil Ammendment	100	CY	\$ 35	\$ 3,500
Trucking	20	CY	\$ 20	\$ 400
Pea Stone	15	CY	\$ 50	\$ 750
Plantings	70	EA	\$ 15	\$ 1,050
Topsoil	15	CY	\$ 50	\$ 750
Hydroseeding	100	SY	\$ 2	\$ 200
Final Design				\$ 2,000
Construction Oversight				\$ 1,000
Subtotal				\$ 10,650
Contingency (20%)				\$ 1,930
Total				\$ 12,580
Estimated \$/lb of Town P Removed			NA	





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Colchester, VT 05446

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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
O-6 Concept Design (30%)
River Street Park

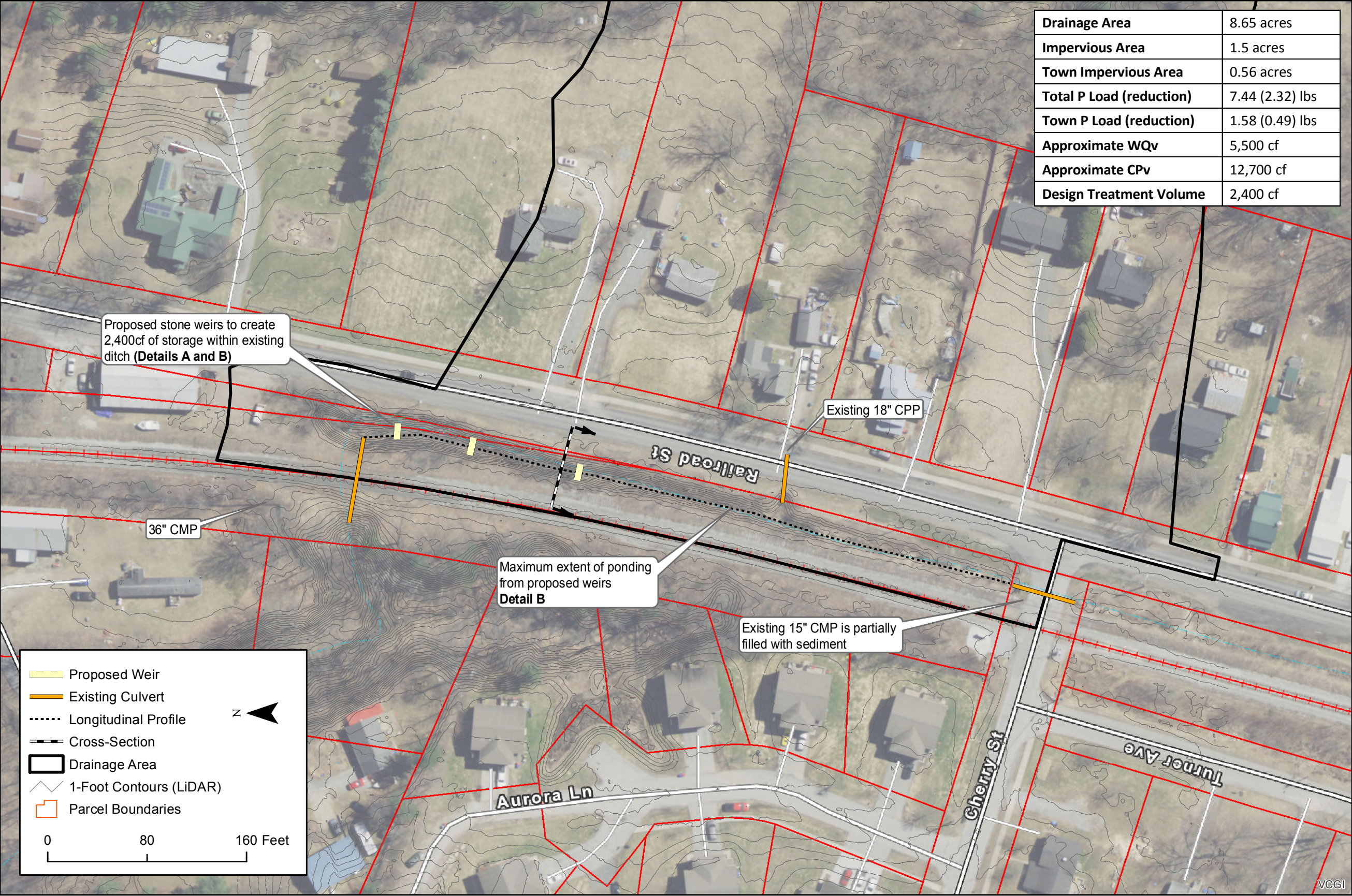
EHB, JHB	EPF
DRAWN	CHECKED

As Shown
SCALE

May 28, 2019
DATE

SHEET 2

SHEET NO.



Drainage Area	8.65 acres
Impervious Area	1.5 acres
Town Impervious Area	0.56 acres
Total P Load (reduction)	7.44 (2.32) lbs
Town P Load (reduction)	1.58 (0.49) lbs
Approximate WQv	5,500 cf
Approximate CPv	12,700 cf
Design Treatment Volume	2,400 cf



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Notes
- VCGI Imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

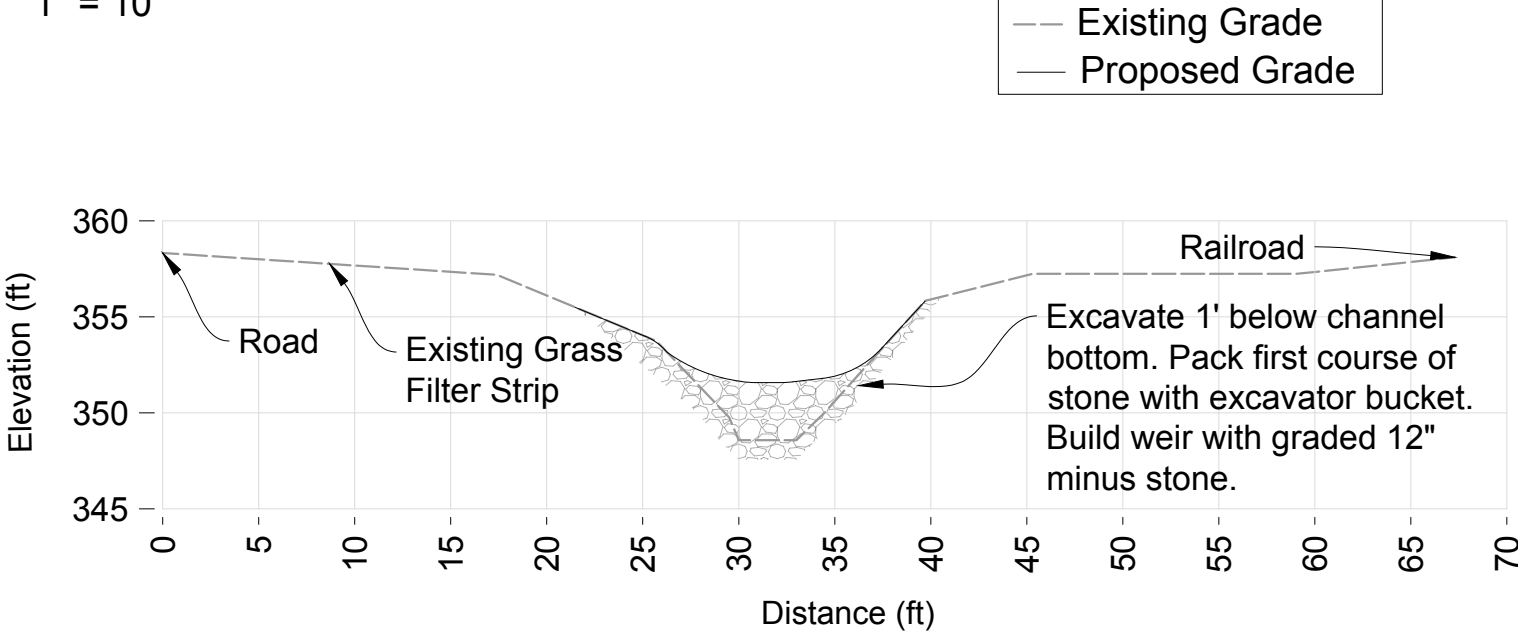
Town of Milton SWMP
RR-5
Concept Design (30%)
Railroad Street

JHB, EHB
Drawn Checked
1" = 80'
Scale
May 31, 2019
Date

Sheet 1
SHEET NO.

Detail A: Weir Typical Section

1" = 10'



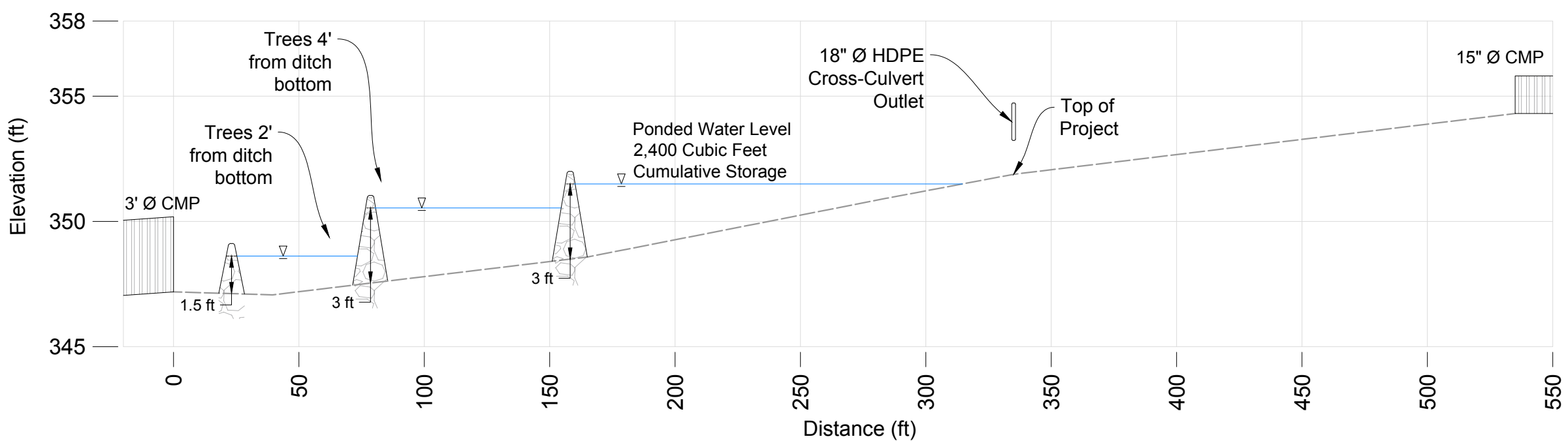
Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,000	\$ 1,000
Stone Weir (12" minus stone)	30	CY	\$ 60	\$ 1,800
Site Restoration	1	LS	\$ 1,000	\$ 1,000
Final Design				\$ 1,500
Construction Oversight				\$ 500
			Subtotal	\$ 5,800
			Contingency (20%)	\$ 960
			Total	\$ 6,760
			Estimated \$/lb of Town P Removed	\$ 13,700

Project Notes:
1. Do not disturb existing trees.

Detail B: Longitudinal Profile

1" = 50' H; 1" = 5' V



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Notes: Existing profile
based on field survey
by FEA (April 2019).

Town of Milton SWMP
RR-5 Concept Design (30%)
Route 7 & New England
Central Railroad

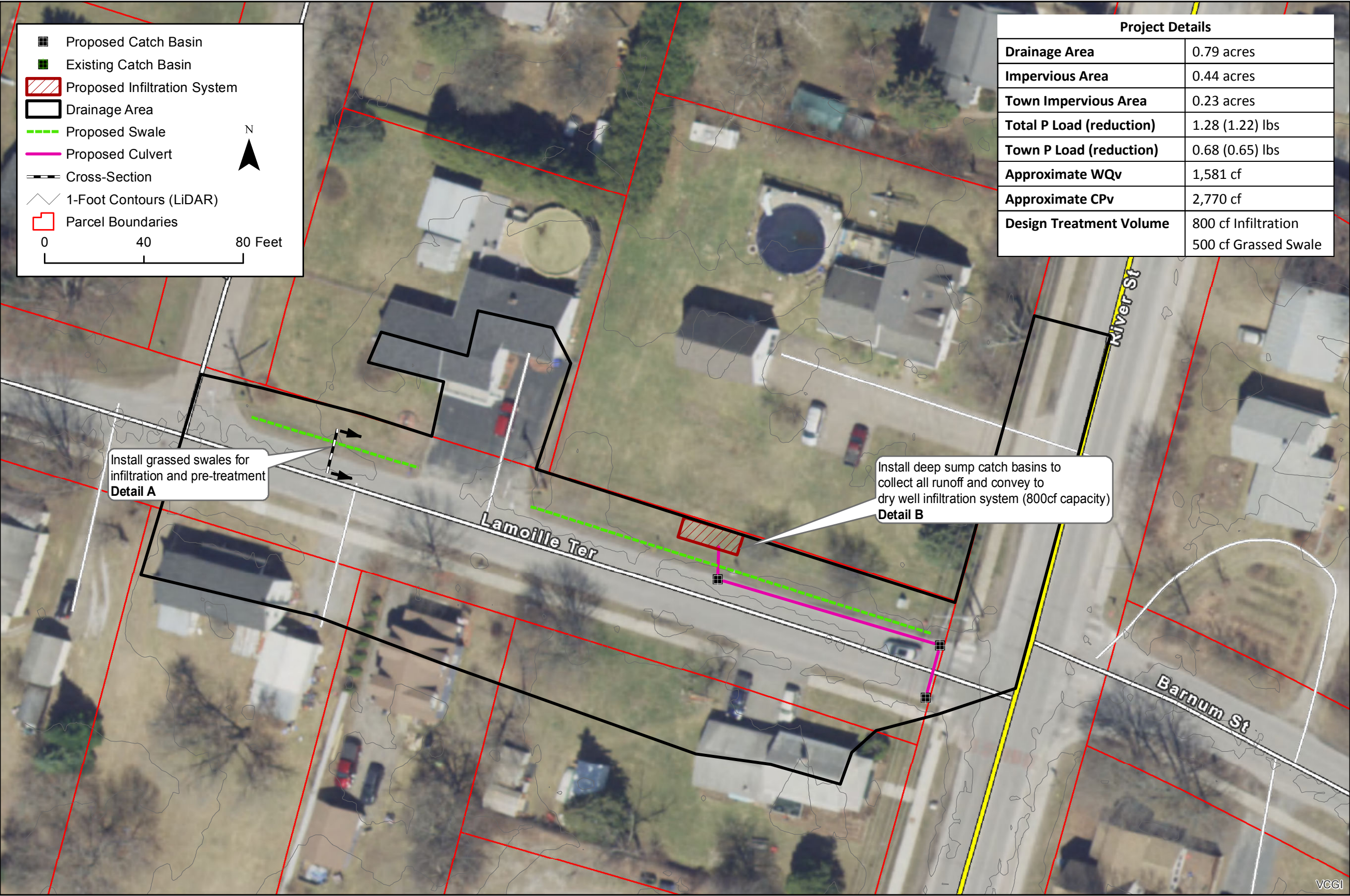
EHB, JHB
DRAWN

EPF
CHECKED

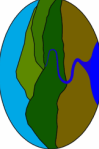
As Shown
SCALE

May 28, 2019
DATE

SHEET 2
SHEET NO.



Project Details	
Drainage Area	0.79 acres
Impervious Area	0.44 acres
Town Impervious Area	0.23 acres
Total P Load (reduction)	1.28 (1.22) lbs
Town P Load (reduction)	0.68 (0.65) lbs
Approximate WQv	1,581 cf
Approximate CPv	2,770 cf
Design Treatment Volume	800 cf Infiltration 500 cf Grassed Swale



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Notes
- VCGI Imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
RT7-4
Concept Design (30%)
Lamoille Terrace

JHB, EHB
Drawn

Checked

1" = 40'

Scale

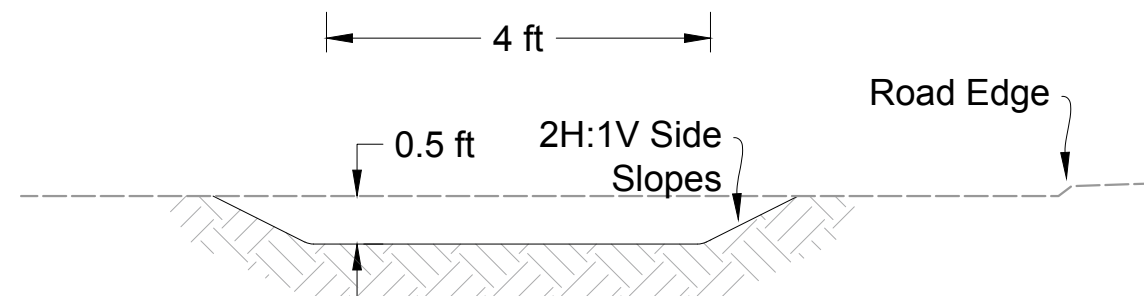
May 9, 2019
Date

Sheet 1

SHEET NO.

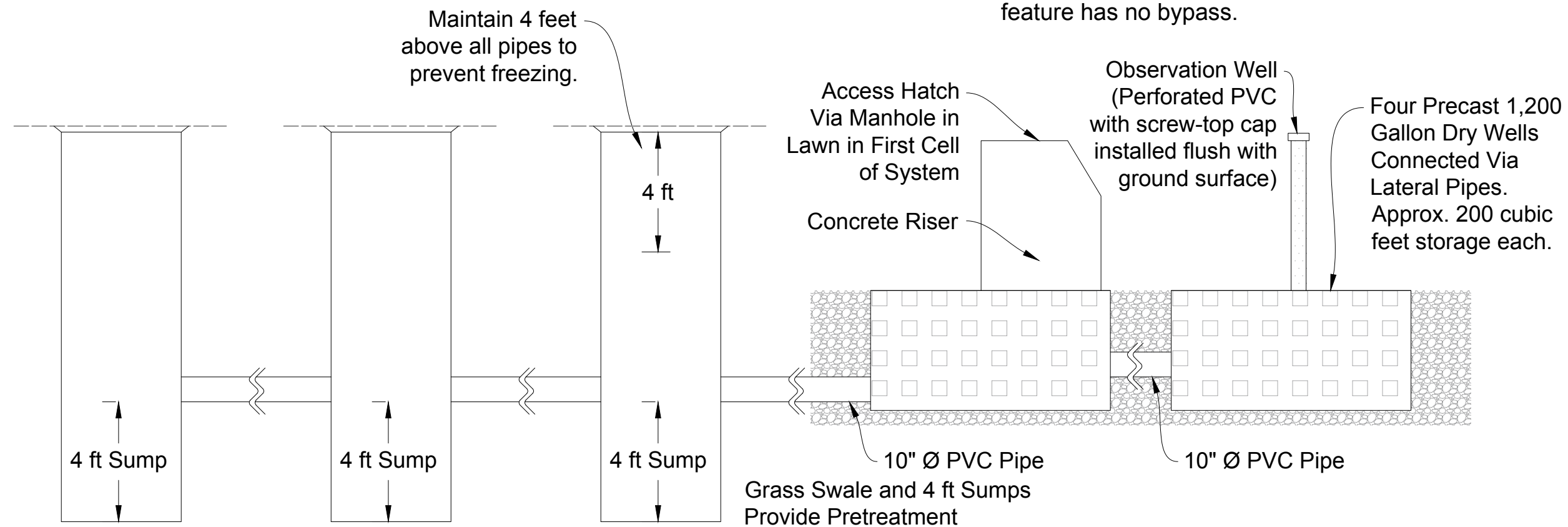
Detail A: Pretreatment Grassed Swale Typical Section

1" = 2'



Detail B: Catch Basin/Dry Well Typical Section

1" = 4'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	70	CY	\$ 40	\$ 2,800
Topsoil	20	CY	\$ 50	\$ 1,000
Hydroseeding	250	SY	\$ 2	\$ 500
18" Culvert Installation	3	LS	\$ 1,000	\$ 3,000
Dry Well Installation	4	EA	\$ 2,500	\$ 10,000
Catch Basin Installation	3	EA	\$ 3,000	\$ 9,000
Final Design				\$ 5,000
Construction Oversight				\$ 1,500
Subtotal				\$ 34,800
Contingency (20%)				\$ 6,560
Total				\$ 41,360
Estimated \$/lb of Town P Removed				\$ 64,000

Project Notes:

1. Do not disturb existing trees or utilities.
2. Existing site has no outlet. Proposed feature has no bypass.



Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
RT7-4
Concept Design (30%)
Lamoille Terrace

EHB, JHB
DRAWN

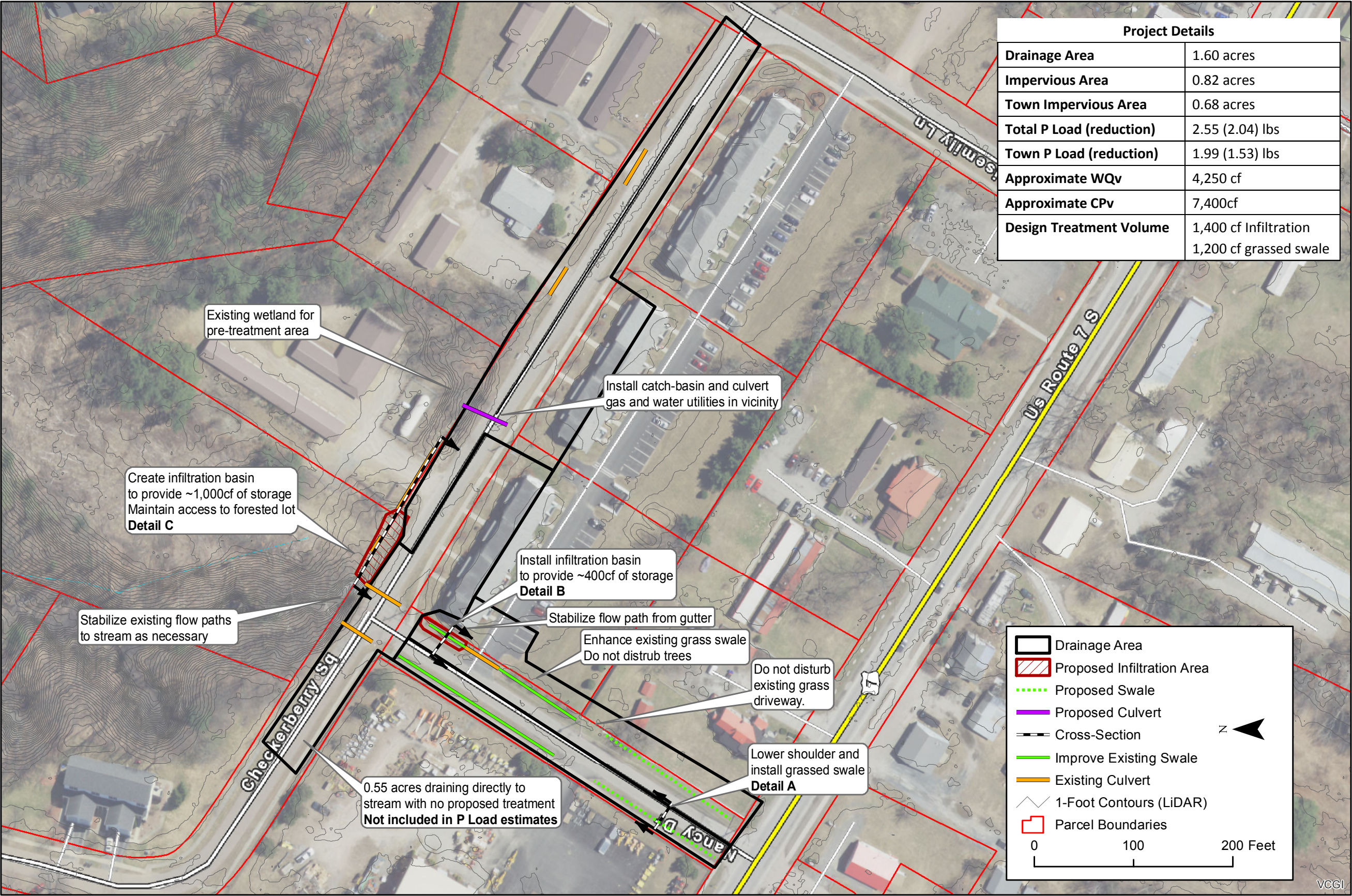
EPF
CHECKED

As Shown
SCALE

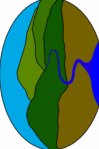
May 28, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	1.60 acres
Impervious Area	0.82 acres
Town Impervious Area	0.68 acres
Total P Load (reduction)	2.55 (2.04) lbs
Town P Load (reduction)	1.99 (1.53) lbs
Approximate WQv	4,250 cf
Approximate CPv	7,400cf
Design Treatment Volume	1,400 cf Infiltration 1,200 cf grassed swale



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Notes
- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
RT7-16
Concept Design (30%)
Nancy Drive &
Checkerberry Square

JHB, EHB

Drawn

Checked

1" = 100'

Scale

April 29, 2019

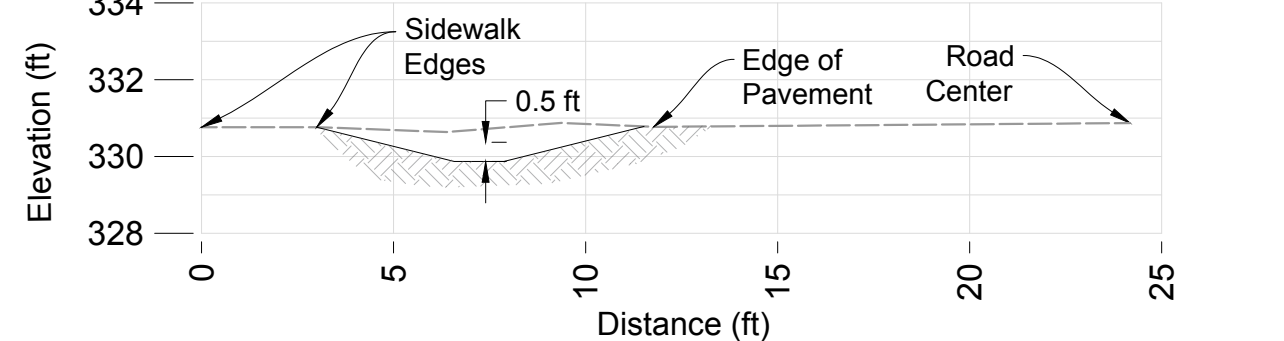
Date

Sheet 1

SHEET NO.

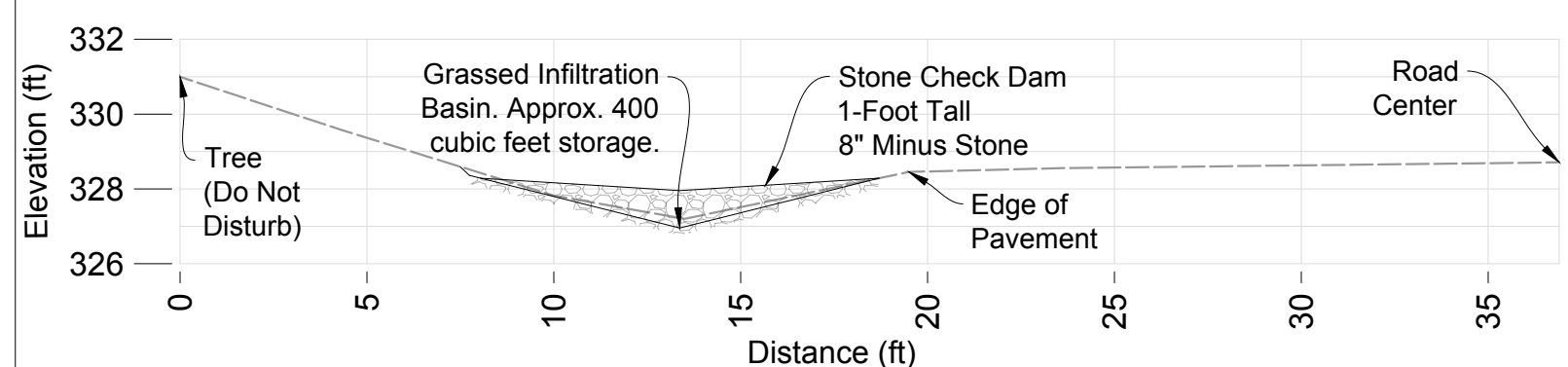
Detail A: Roadside Swale Typical Section

1" = 5'



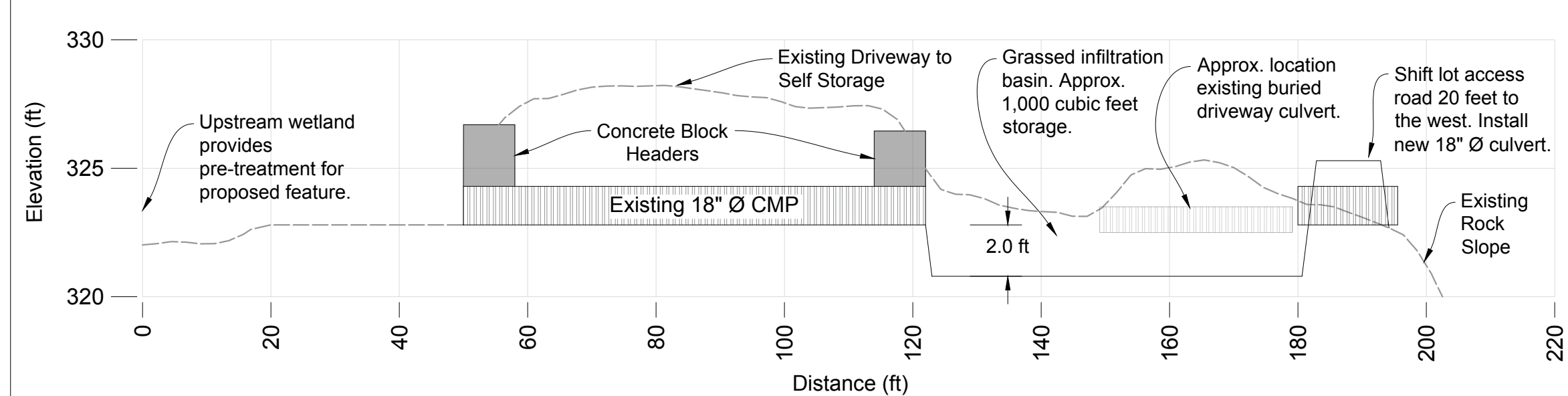
Detail B: Nancy Drive Infiltration Basin Typical Section

1" = 5'



Detail C: Checkerberry Court Infiltration Basin Section

1" = 20' H; 1" = 5' V



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	180	CY	\$ 40	\$ 7,200
Stone Check Dam (6" minus stone)	8	CY	\$ 60	\$ 480
Stone Armor (12" minus stone)	15	CY	\$ 60	\$ 900
Topsoil	50	CY	\$ 50	\$ 2,500
Hydroseeding	700	SY	\$ 2	\$ 1,400
18" Culvert	2	LS	\$ 1,500	\$ 3,000
Catch Basin Installation	1	LS	\$ 2,500	\$ 2,500
Final Design				\$ 5,000
Construction Oversight				\$ 2,000
			Subtotal	\$ 26,980
			Contingency (20%)	\$ 4,996

Total \$ 31,976

Estimated \$/lb of Town P Removed \$ 20,900

Project Notes:

1. Place 2"-3" of well-draining topsoil in roadside swale and grassed infiltration basins. Hydroseed all disturbed areas.
2. Do not disturb existing trees.

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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
RT7-16 Concept Design (30%)
Checkerberry Court

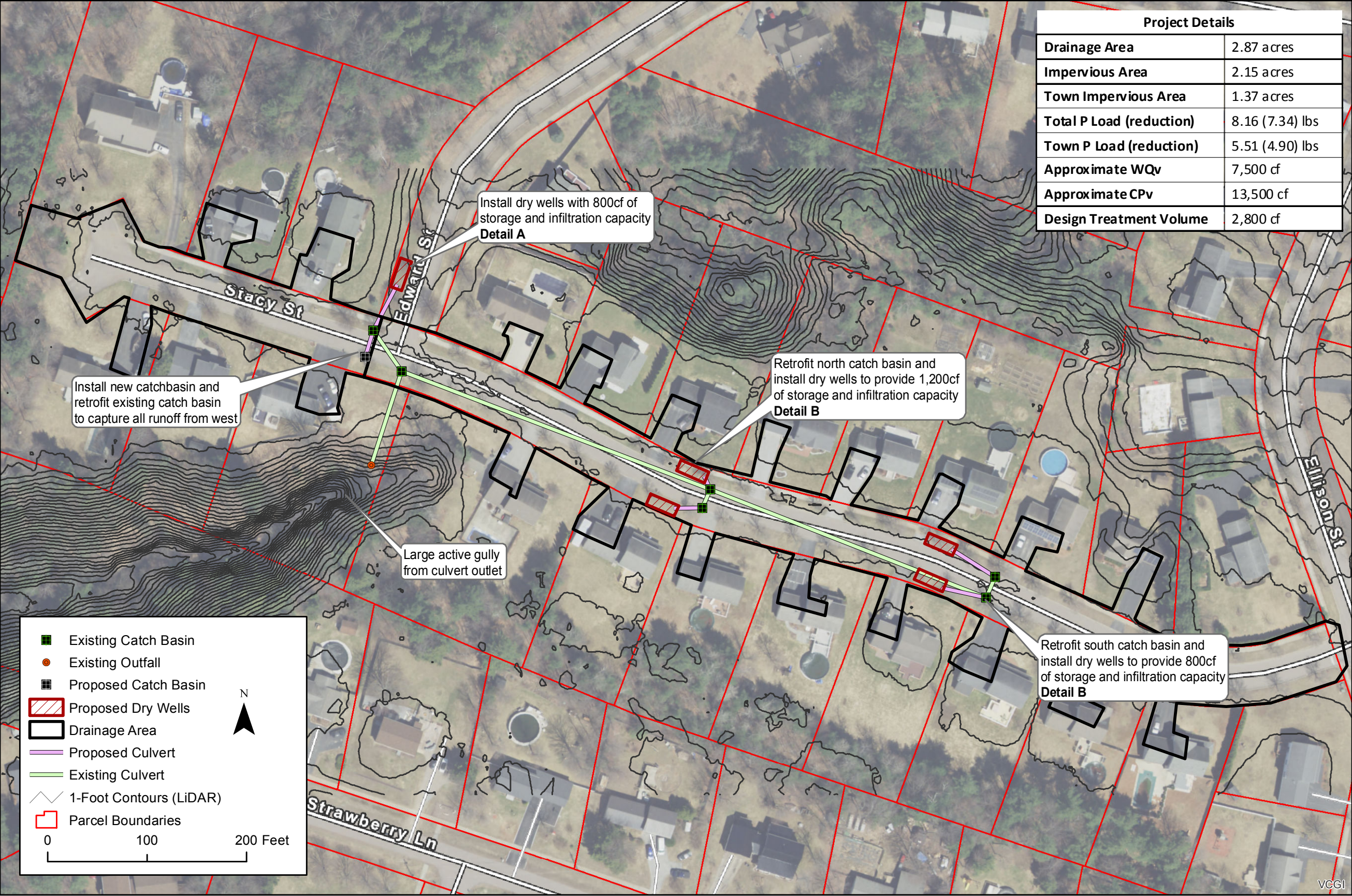
EHB, JHB DRAWN	EPF CHECKED
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As Shown
SCALE

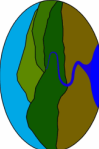
May 28, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	2.87 acres
Impervious Area	2.15 acres
Town Impervious Area	1.37 acres
Total P Load (reduction)	8.16 (7.34) lbs
Town P Load (reduction)	5.51 (4.90) lbs
Approximate WQv	7,500 cf
Approximate CPv	13,500 cf
Design Treatment Volume	2,800 cf



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Notes

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- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
SS-1

Concept Design (30%)

Stacy Street

JHB, EHB
Drawn

Checked

1" = 100'

Scale

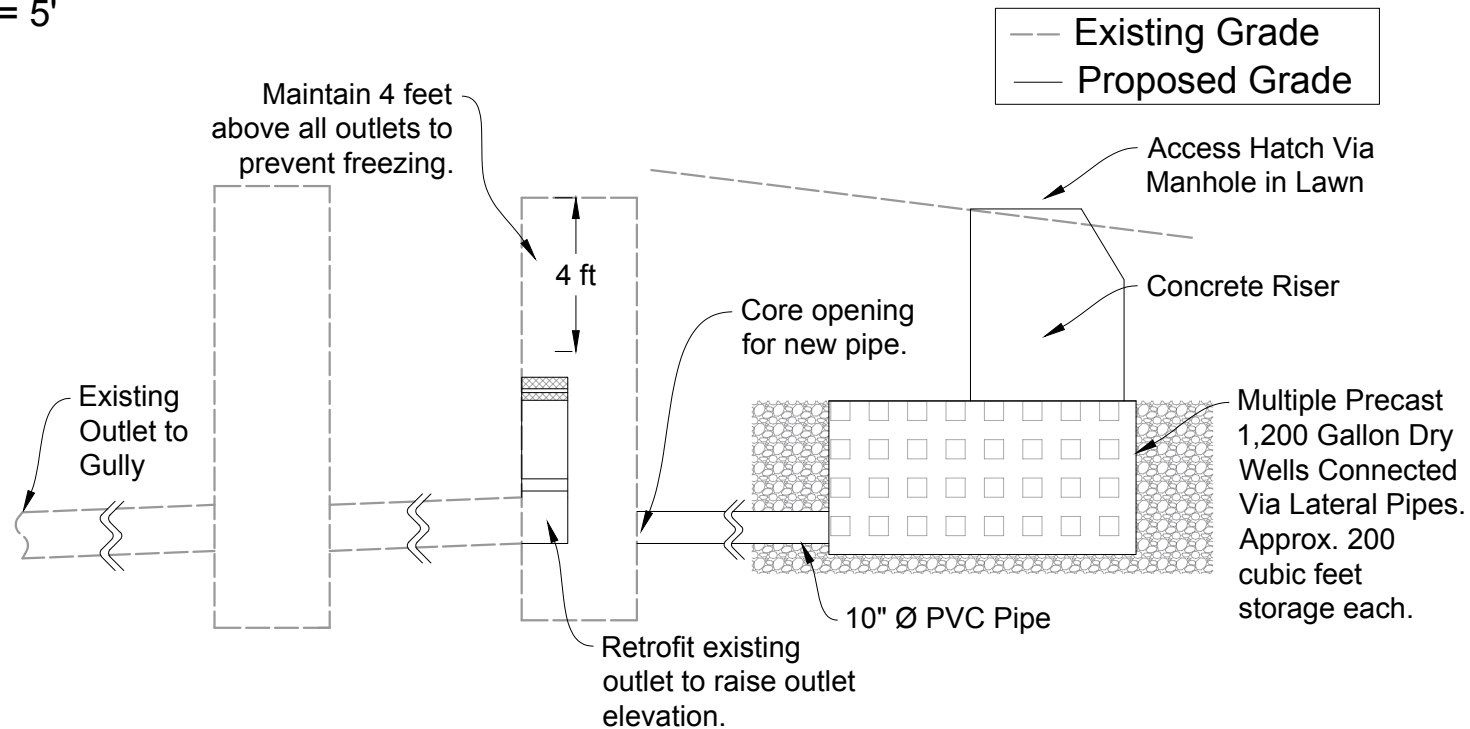
May 2, 2019
Date

Sheet 1

SHEET NO.

Detail A: Catch Basin/Dry Well Typical Section

1" = 5'



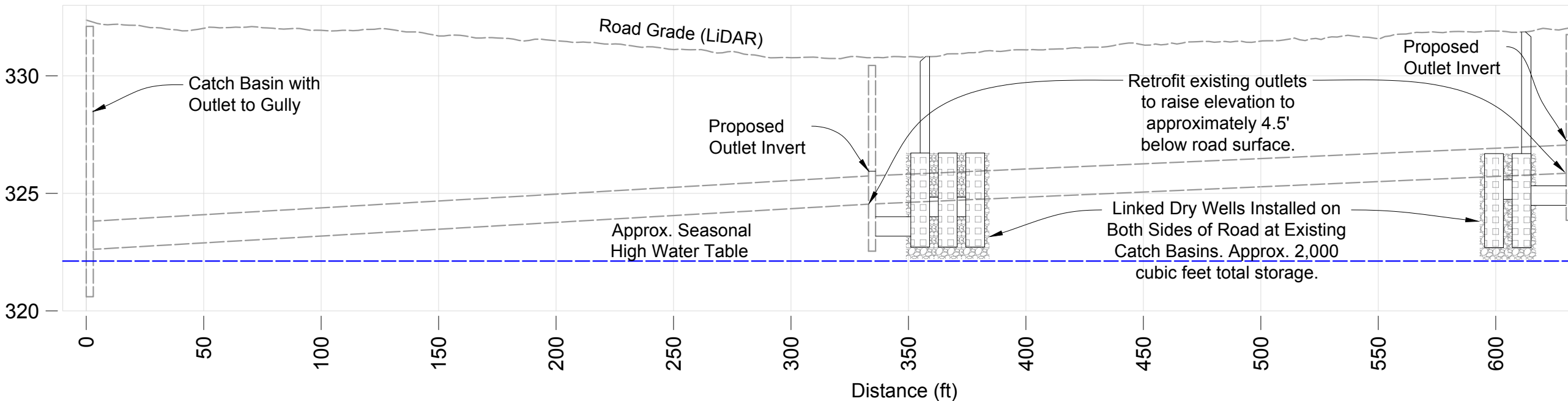
Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	250	CY	\$ 40	\$ 10,000
Stone Bedding (6" minus stone)	60	CY	\$ 60	\$ 3,600
Topsoil	20	CY	\$ 50	\$ 1,000
Hydroseeding	150	SY	\$ 2	\$ 300
18" Culvert Installation	1	LS	\$ 3,000	\$ 3,000
Dry Well Installation	14	EA	\$ 3,500	\$ 49,000
Catch Basin Installation	1	LS	\$ 4,000	\$ 4,000
Catch Basin Retrofits	3	EA	\$ 1,500	\$ 4,500
Final Design				\$ 5,000
Construction Oversight				\$ 3,000
Subtotal				\$ 85,400
Contingency (20%)				\$ 16,680
Total				\$ 102,080
Estimated \$/lb of Town P Removed				\$ 20,800

Detail B: Longitudinal Profile

1" = 50' H; 1" = 5' V

Elevation (ft)



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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
SS-1 Concept Design (30%)
Stacy Street

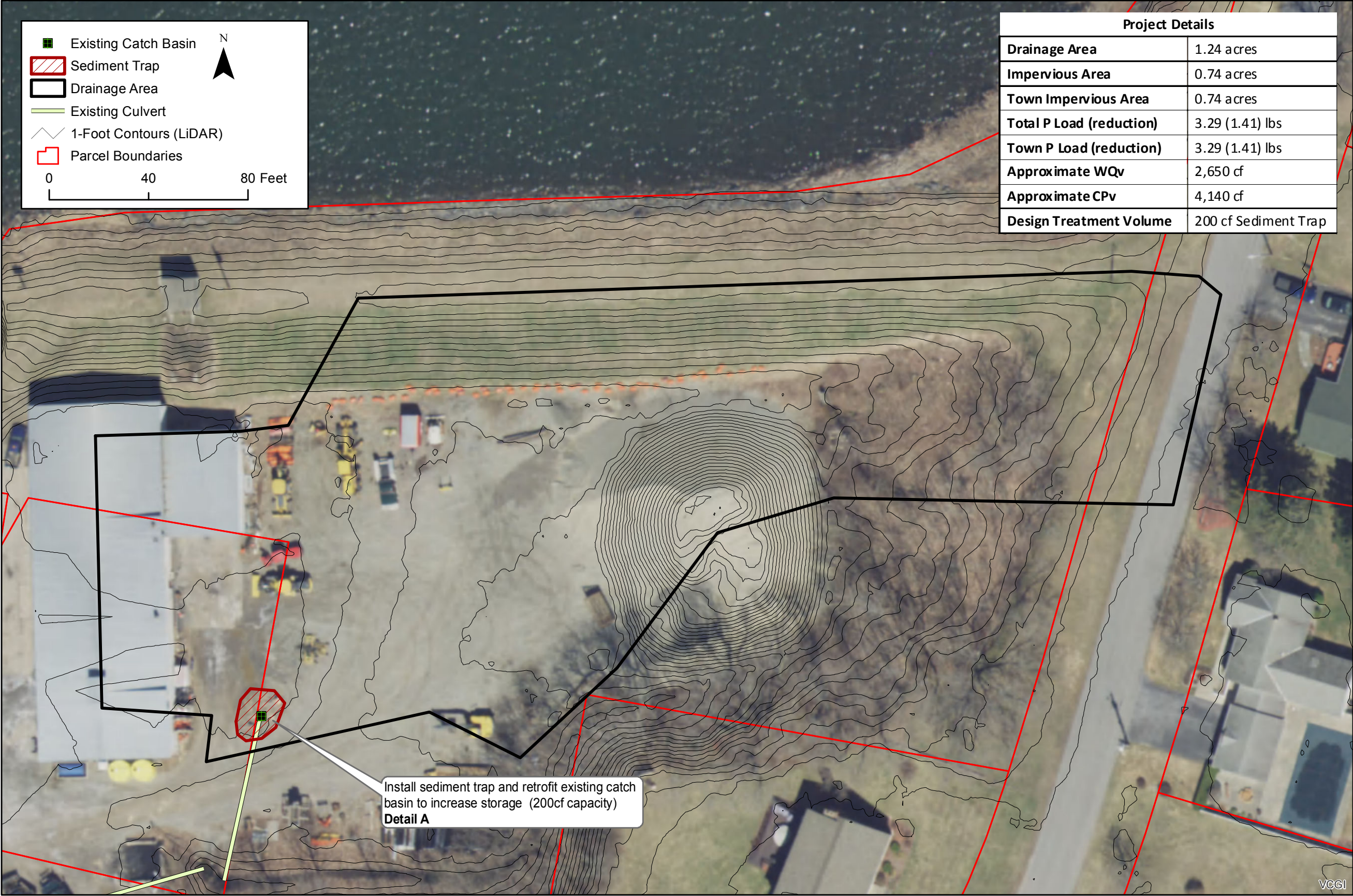
EHB, JHB EPF
DRAWN CHECKED

As Shown
SCALE

May 28, 2019
DATE

SHEET 2

SHEET NO.



Existing Catch Basin

Sediment Trap

Drainage Area

Existing Culvert

1-Foot Contours (LiDAR)

Parcel Boundaries

N

04080 Feet

Project Details	
Drainage Area	1.24 acres
Impervious Area	0.74 acres
Town Impervious Area	0.74 acres
Total P Load (reduction)	3.29 (1.41) lbs
Town P Load (reduction)	3.29 (1.41) lbs
Approximate WQv	2,650 cf
Approximate CPv	4,140 cf
Design Treatment Volume	200 cf Sediment Trap

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Notes

- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
TP-1
Concept Design (30%)
Town Garage

JHB, EHB	Checked
Drawn	
1" = 40'	
Scale	
May 13, 2019	
Date	

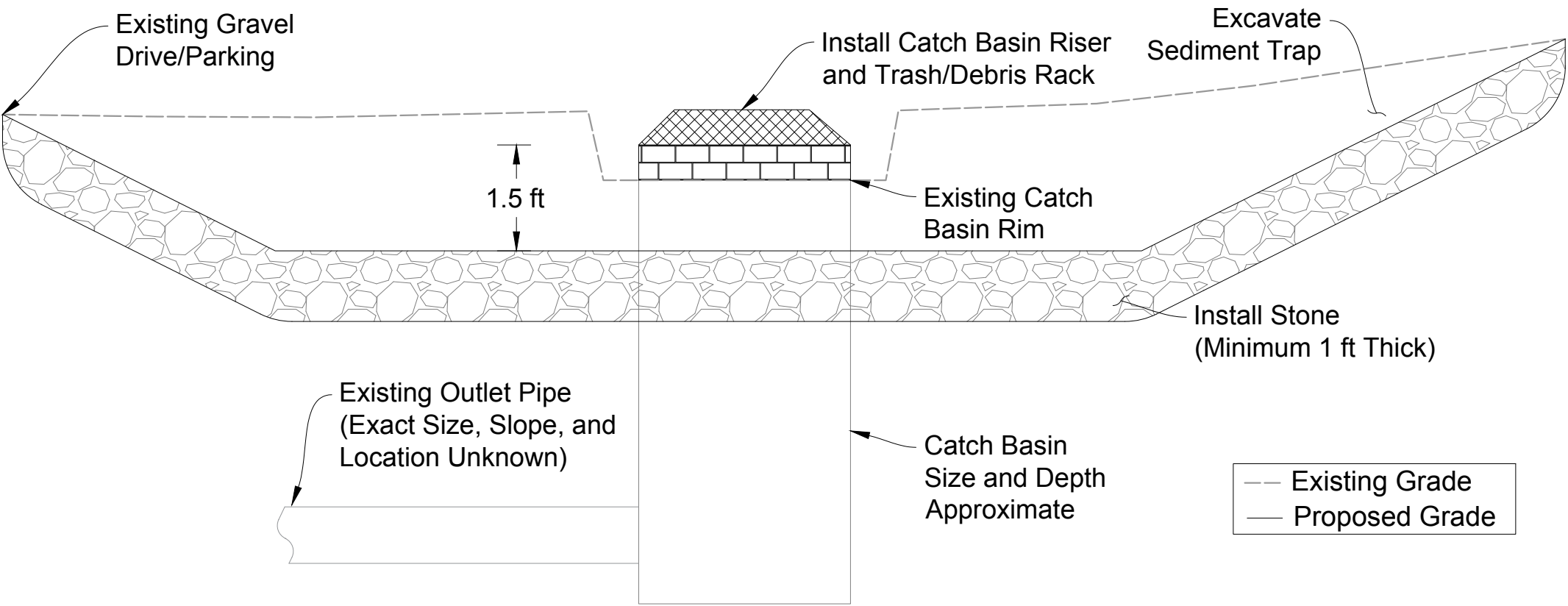
Sheet 1

SHEET NO.

Appendix D Page 23 of 30

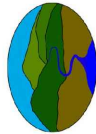
Detail A: Sediment Trap Typical Section

1" = 2'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 500	\$ 500
Common Excavation and Trucking	40	CY	\$ 40	\$ 1,600
Stone Lining (6" minus stone)	12	CY	\$ 60	\$ 720
Catch basin riser and debris screen	1	LS	\$ 1,500	\$ 1,500
Final Design			\$ 500	
Construction Oversight			\$ 500	
Subtotal			\$ 5,320	
Contingency (20%)			\$ 964	
Total			\$ 6,284	
Estimated \$/lb of Town P Removed			\$ 4,450	



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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP

TP-1

Concept Design (30%)

Town Garage

EHB, JHB

EPF

DRAWN

CHECKED

As Shown

SCALE

May 28, 2019

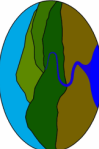
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	0.50 acres
Impervious Area	0.45 acres
Town Impervious Area	0.45 acres
Total P Load (reduction)	2.34 (1.63) lbs
Town P Load (reduction)	2.34 (1.63) lbs
Approximate WQv	1,560 cf
Approximate CPv	2,440 cf
Design Treatment Volume	600 cf Sand Filter 300 cf Grassed Swale



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Notes

- VCGI imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

**Town of Milton SWMP
TP-2
Concept Design (30%)
Town Garage**

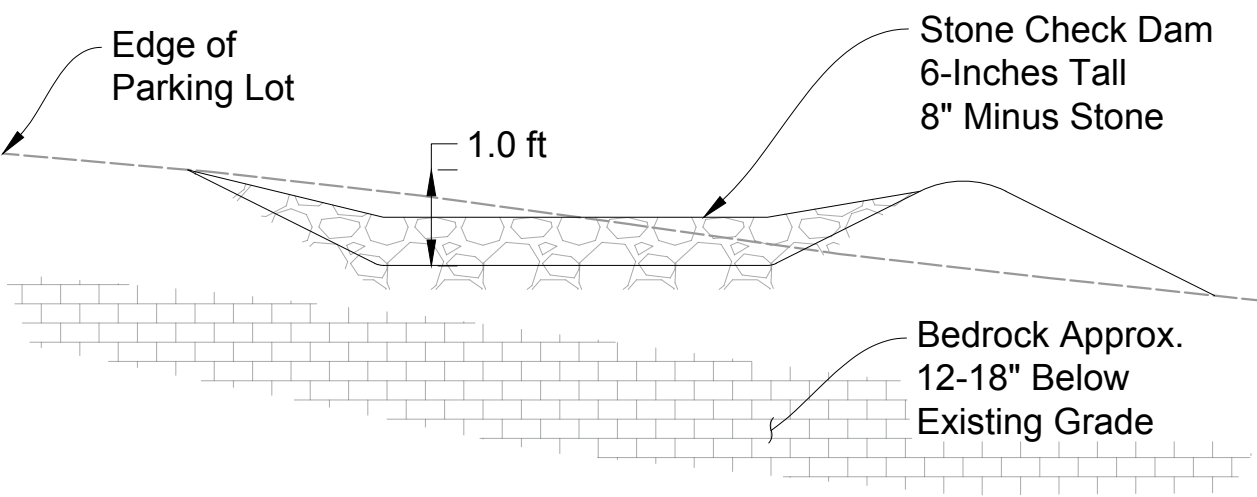
JHB, EHB Drawn	Checked
1" = 40'	
Scale	
May 13, 2019	
Date	

Sheet 1

SHEET NO.

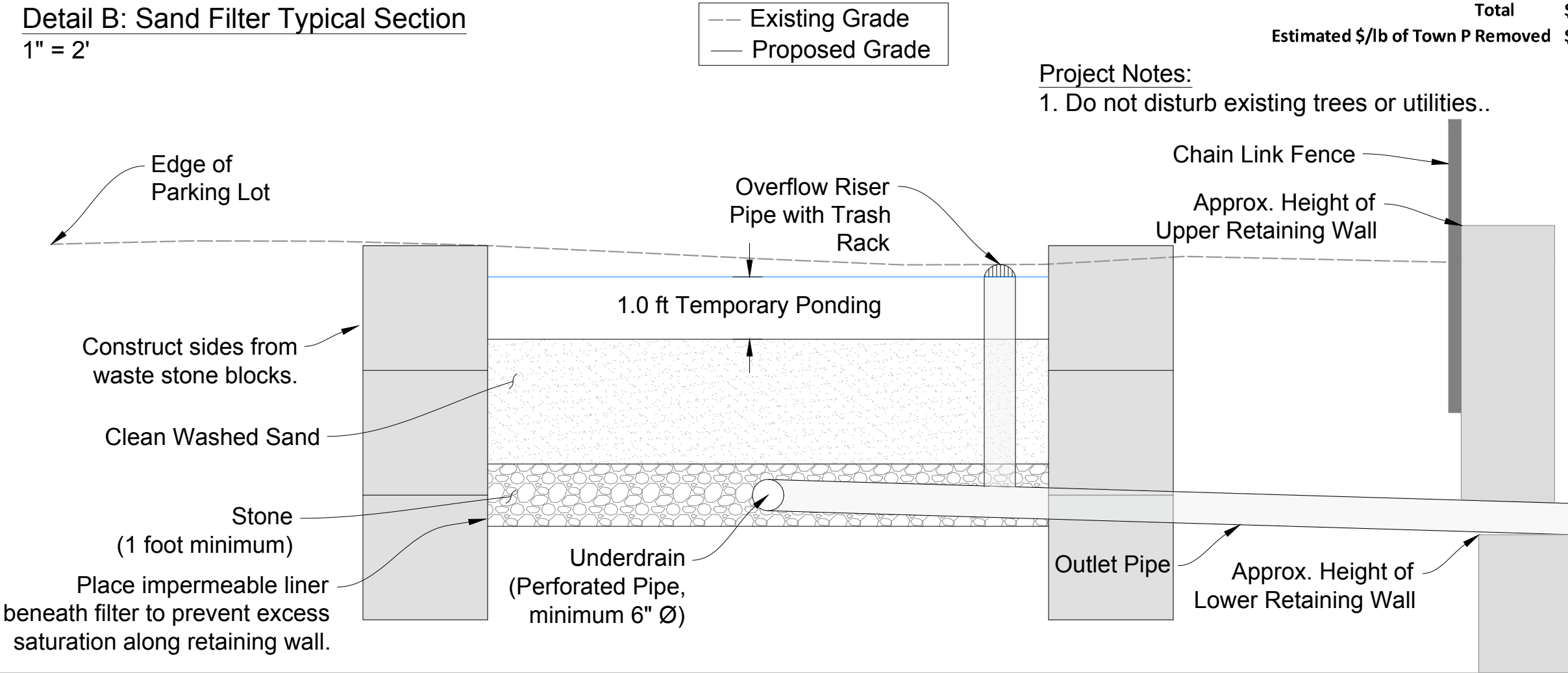
Detail A: Pretreatment Grassed Swale Typical Section

1" = 2'



Detail B: Sand Filter Typical Section

1" = 2'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	40	CY	\$ 40	\$ 1,600
Topsoil	20	CY	\$ 50	\$ 1,000
Hydroseeding	100	SY	\$ 2	\$ 200
Stone Check Dam (6" minus stone)	12	CY	\$ 60	\$ 720
Filter Sand	20	CY	\$ 50	\$ 1,000
Underdrain and Overflow Installation	1	LS	\$ 1,500	\$ 1,500
Waste Blocks (installation)	45	EA	\$ 100	\$ 4,500
PVC Liner	30	SY	\$ 6	\$ 180
Final Design				\$ 5,000
Construction Oversight				\$ 1,500
Subtotal				\$ 19,200
Contingency (20%)				\$ 3,440
Total				\$ 22,640
Estimated \$/lb of Town P Removed				\$ 13,850

Project Notes:

1. Do not disturb existing trees or utilities..

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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
TP-2
Concept Design (30%)
Town Garage

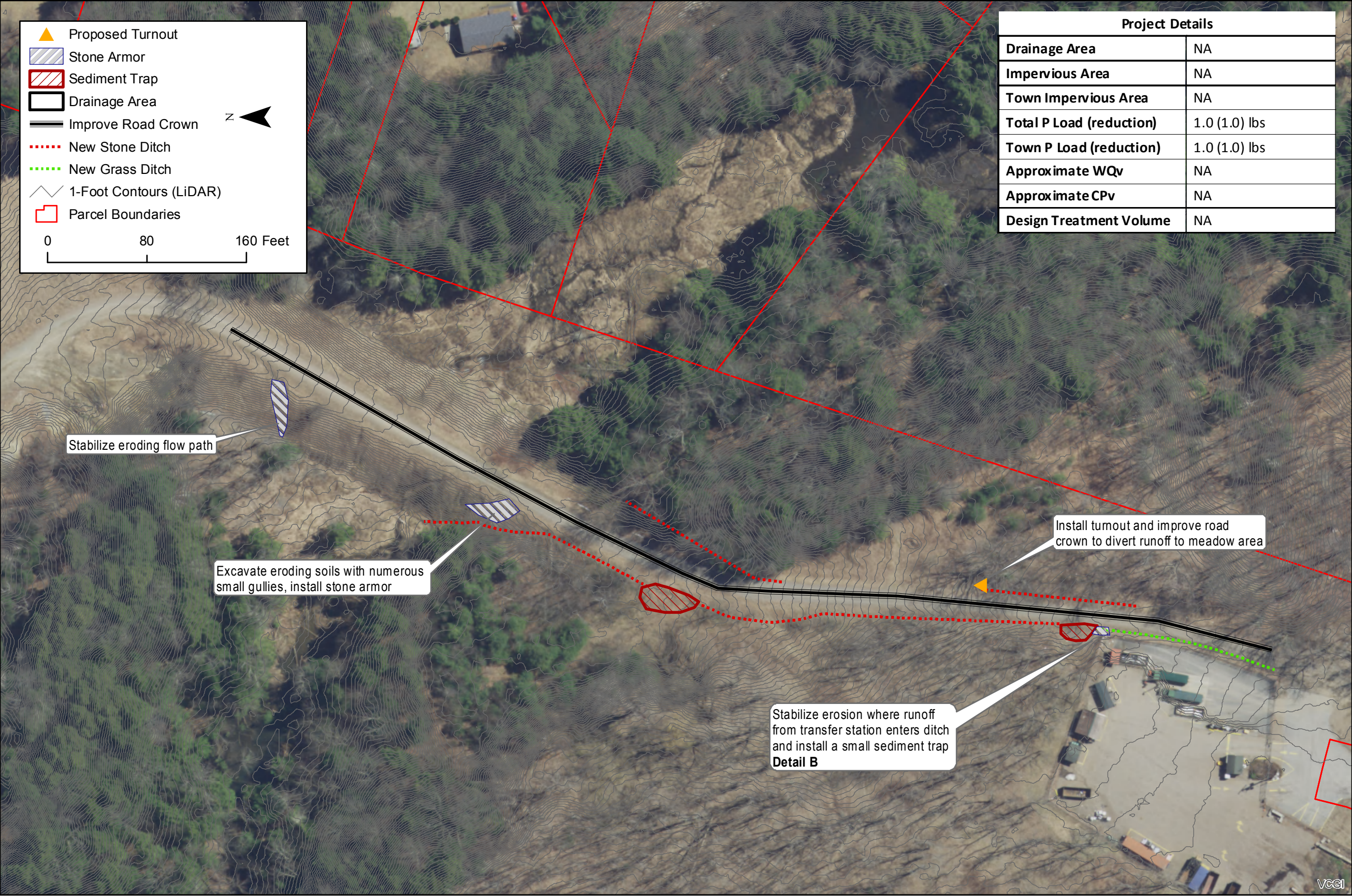
EHB, JHB DRAWN	EPF CHECKED
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As Shown
SCALE

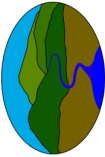
May 28, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	NA
Impervious Area	NA
Town Impervious Area	NA
Total P Load (reduction)	1.0 (1.0) lbs
Town P Load (reduction)	1.0 (1.0) lbs
Approximate WQv	NA
Approximate CPv	NA
Design Treatment Volume	NA



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Notes

- VCGI Imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
TP-5
Concept Design (30%)
Town Dump Access Road

JHB, EHB

Drawn

Checked

1" = 80'

Scale

May 14, 2019

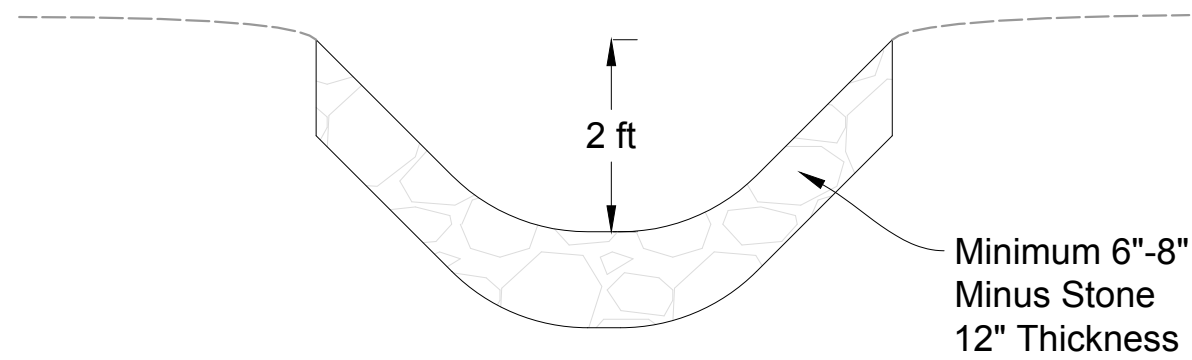
Date

Sheet 1

SHEET NO.

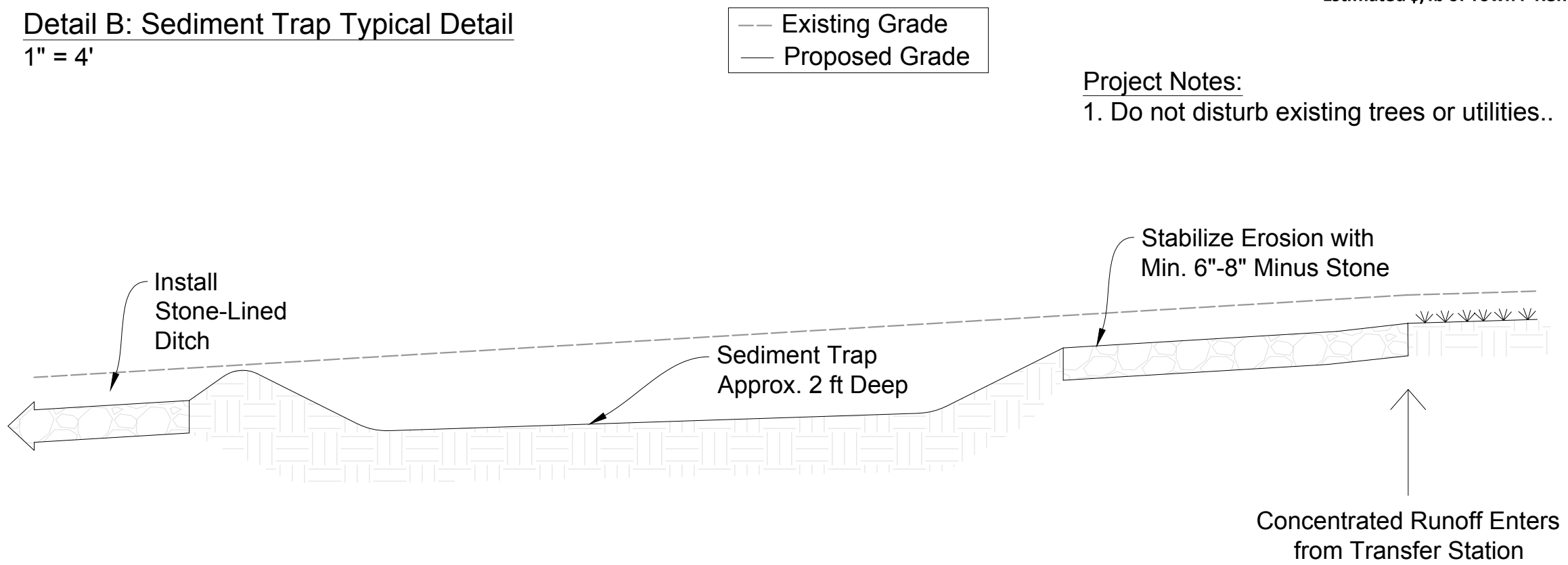
Detail A: Stone-Lined Ditch Typical Detail

1" = 2'



Detail B: Sediment Trap Typical Detail

1" = 4'



Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 500	\$ 2,500
Common Excavation and Trucking	80	CY	\$ 40	\$ 3,200
Improve Road Crown	900	LF	\$ 5	\$ 4,500
Install Stone Ditch	750	LF	\$ 25	\$ 18,750
Install Grassed Ditch	150	LF	\$ 8	\$ 1,200
StoneArmor (Type II/III)	80	CY	\$ 60	\$ 4,800
Install Turnout	1	EA	\$ 400	\$ 400
Final Design				\$ 1,000
Construction Oversight				\$ 1,000
			Subtotal	\$ 37,350
			Contingency (20%)	\$ 6,970
			Total	\$ 44,320
			Estimated \$/lb of Town P Removed	\$ 44,300

Project Notes:

- 1. Do not disturb existing trees or utilities..



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Notes: Existing profile
based on field survey
by FEA (April 2019).

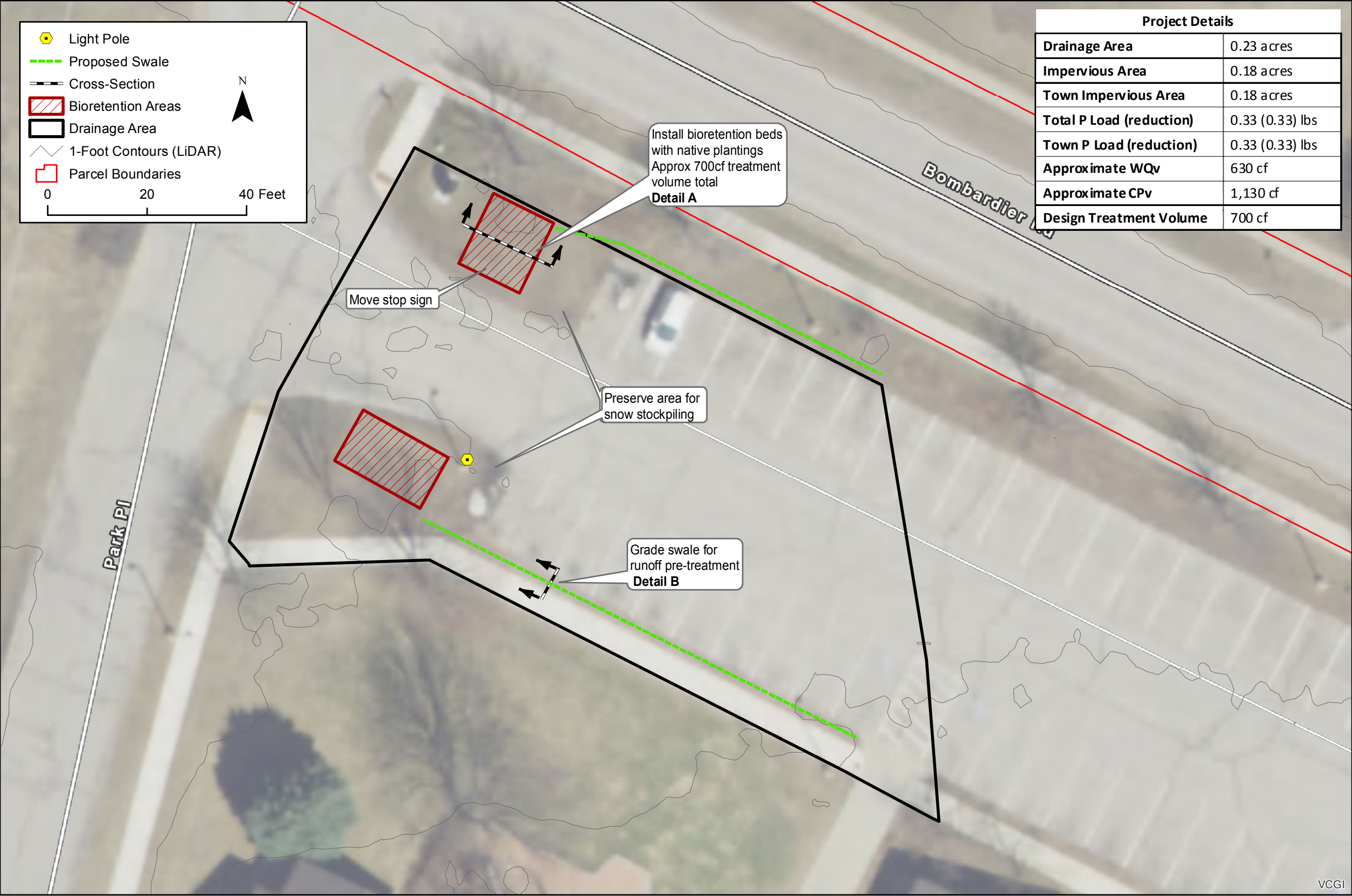
Town of Milton SWMP
TP-5
Concept Design (30%)
Town Dump Access Road

EHB, JHB DRAWN	EPF CHECKED
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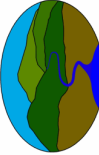
As Shown
SCALE

June 5, 2019
DATE

SHEET 2
SHEET NO.



Project Details	
Drainage Area	0.23 acres
Impervious Area	0.18 acres
Town Impervious Area	0.18 acres
Total P Load (reduction)	0.33 (0.33) lbs
Town P Load (reduction)	0.33 (0.33) lbs
Approximate WQv	630 cf
Approximate CPv	1,130 cf
Design Treatment Volume	700 cf



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Notes

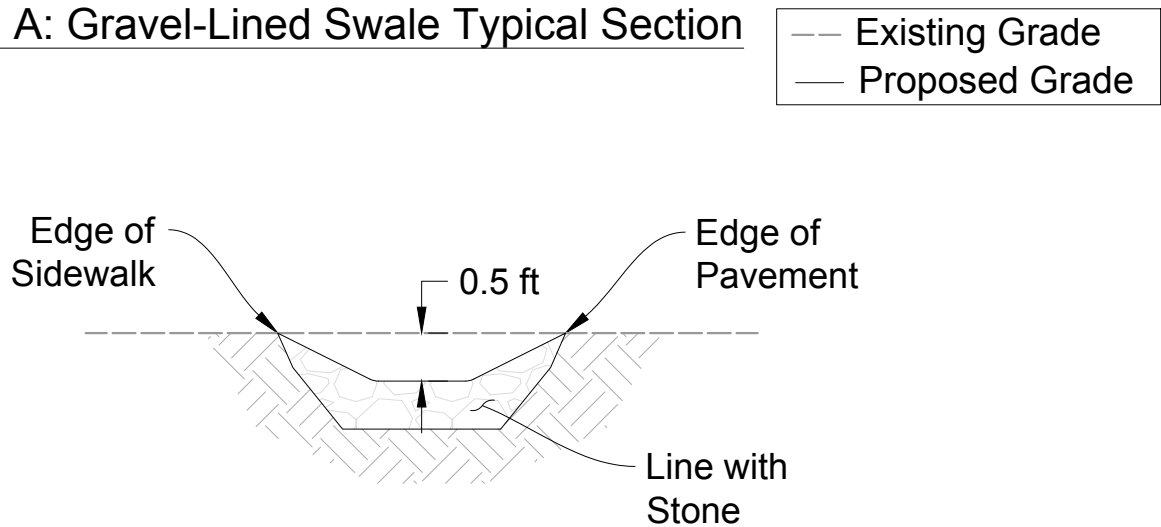
- VCGI Imagery from 2018.
- DEM from 2014 LIDAR (0.7 m).
- Site survey completed April 2019

Town of Milton SWMP
TP-7
Concept Design (30%)
Municipal Office Parking Lot

JHB, EHB	
Drawn	Checked
1" = 20'	
Scale	
May 7, 2019	
Date	
Sheet 1	
SHEET NO.	

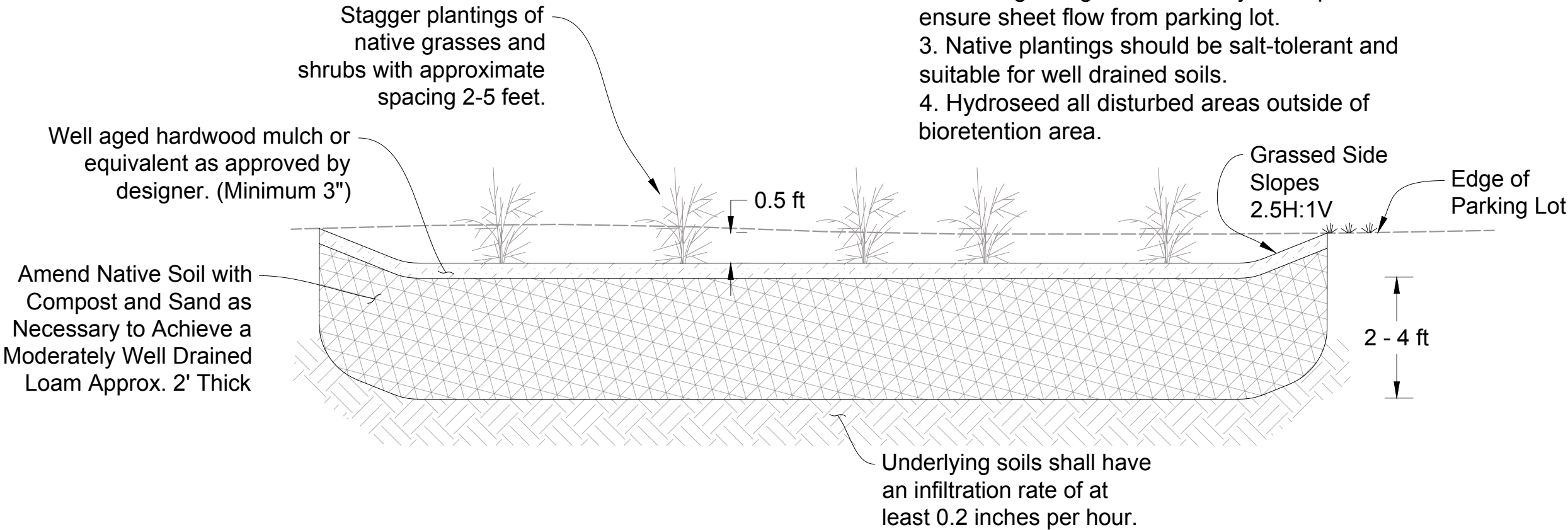
Detail A: Gravel-Lined Swale Typical Section

1" = 2'



Detail B: Bioretention Typical Section

1" = 2'

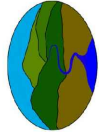


Preliminary Cost Opinion

Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 500	\$ 500
Common Excavation and Soil Ammendment	40	CY	\$ 35	\$ 1,400
Trucking	20	CY	\$ 20	\$ 400
Plantings	20	EA	\$ 15	\$ 300
Topsoil/Compost	10	CY	\$ 50	\$ 500
Mulch	5	CY	\$ 60	\$ 300
Hydroseeding	40	SY	\$ 2	\$ 80
Final Design				\$ 1,000
Construction Oversight				\$ 500
Subtotal				\$ 4,980
Contingency (20%)				\$ 896
Total				\$ 5,876
Estimated \$/lb of Town P Removed				\$ 17,806

- Project Notes:
1. Do not disturb existing trees, signs, or utilities.
 2. Some grading of swales may be required to ensure sheet flow from parking lot.
 3. Native plantings should be salt-tolerant and suitable for well drained soils.
 4. Hydroseed all disturbed areas outside of bioretention area.

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Notes: Existing profile based on field survey by FEA (April 2019).

Town of Milton SWMP
TP-7
Concept Design (30%)
Municipal Complex Parking Lot

EHB, JHB
DRAWN

EPF
CHECKED

As Shown
SCALE

May 28, 2019
DATE

SHEET 2
SHEET NO.