

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

Fitzgerald Environmental Associates, LLC.

18 Severance Green, Suite 203
Colchester, VT 05446
Tel: 802.876.7778
www.fitzgeraldenvironmental.com

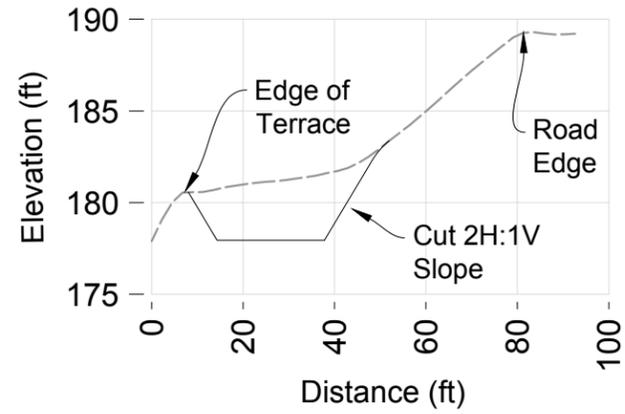
Notes
 - VCGI Imagery from 2018.
 - DEM from 2014 LIDAR (0.7 m).
 - Site survey completed April 2019

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

JHB, EHB
 Drawn _____ Checked _____
 1" = 100'
 Scale
 May 31, 2019
 Date

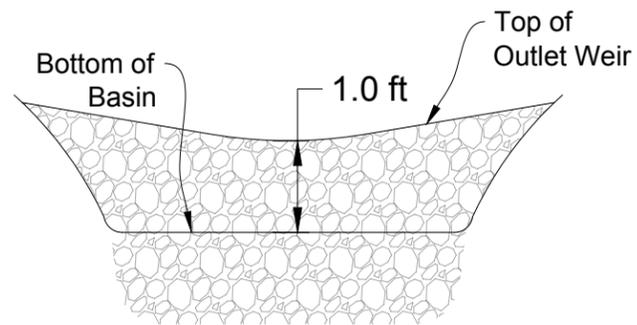
Sheet 1
 SHEET NO.

Detail A: Infiltration Basin Typical Section
 1" = 40' H; 1" = 10' V



--- Existing Grade
 — Proposed Grade

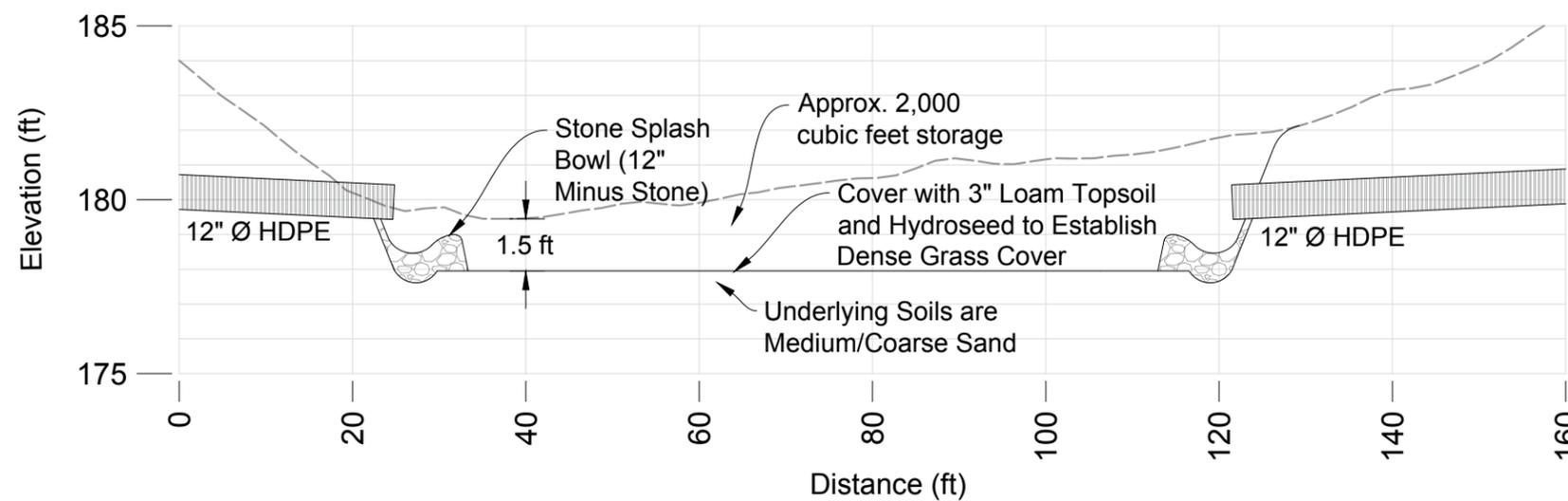
Detail B: Infiltration Basin Outlet Detail
 1" = 2'



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

Detail C: Infiltration Basin Typical Section
 1" = 20' H; 1" = 5' V



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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

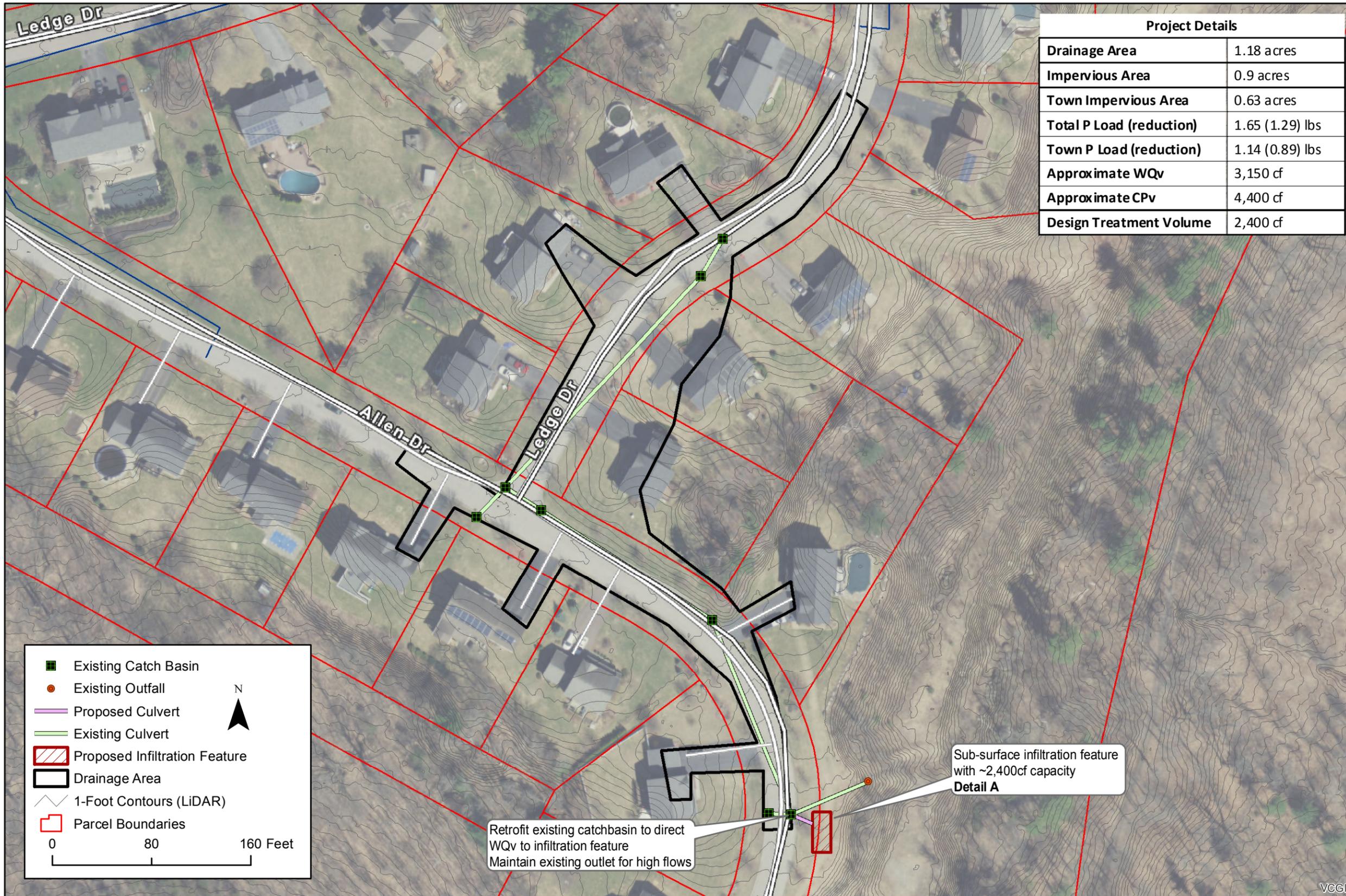
EPF
CHECKED

As Shown
SCALE

September 26, 2019
DATE

SHEET 2

SHEET NO.



Project Details	
Drainage Area	1.18 acres
Impervious Area	0.9 acres
Town Impervious Area	0.63 acres
Total P Load (reduction)	1.65 (1.29) lbs
Town P Load (reduction)	1.14 (0.89) lbs
Approximate WQv	3,150 cf
Approximate CPv	4,400 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 May 2019

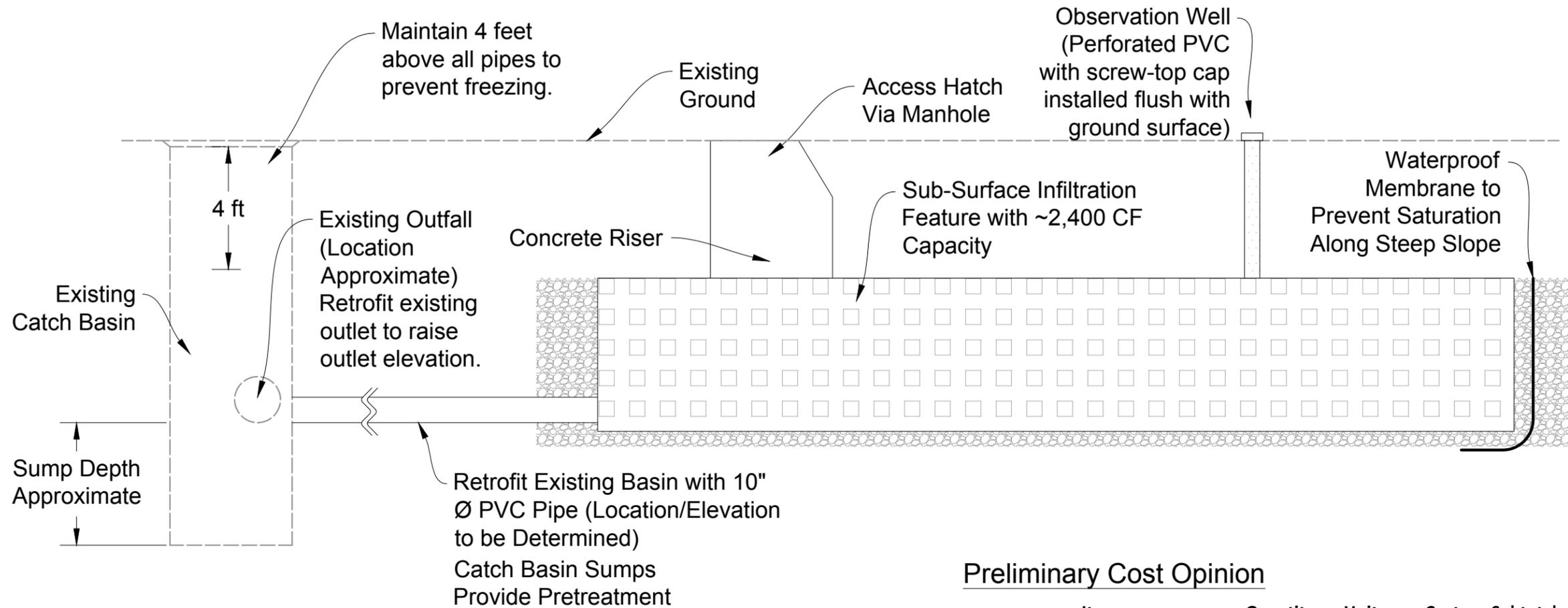
Town of Milton SWMP
AB-3
Concept Design (30%)
Allen Drive

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

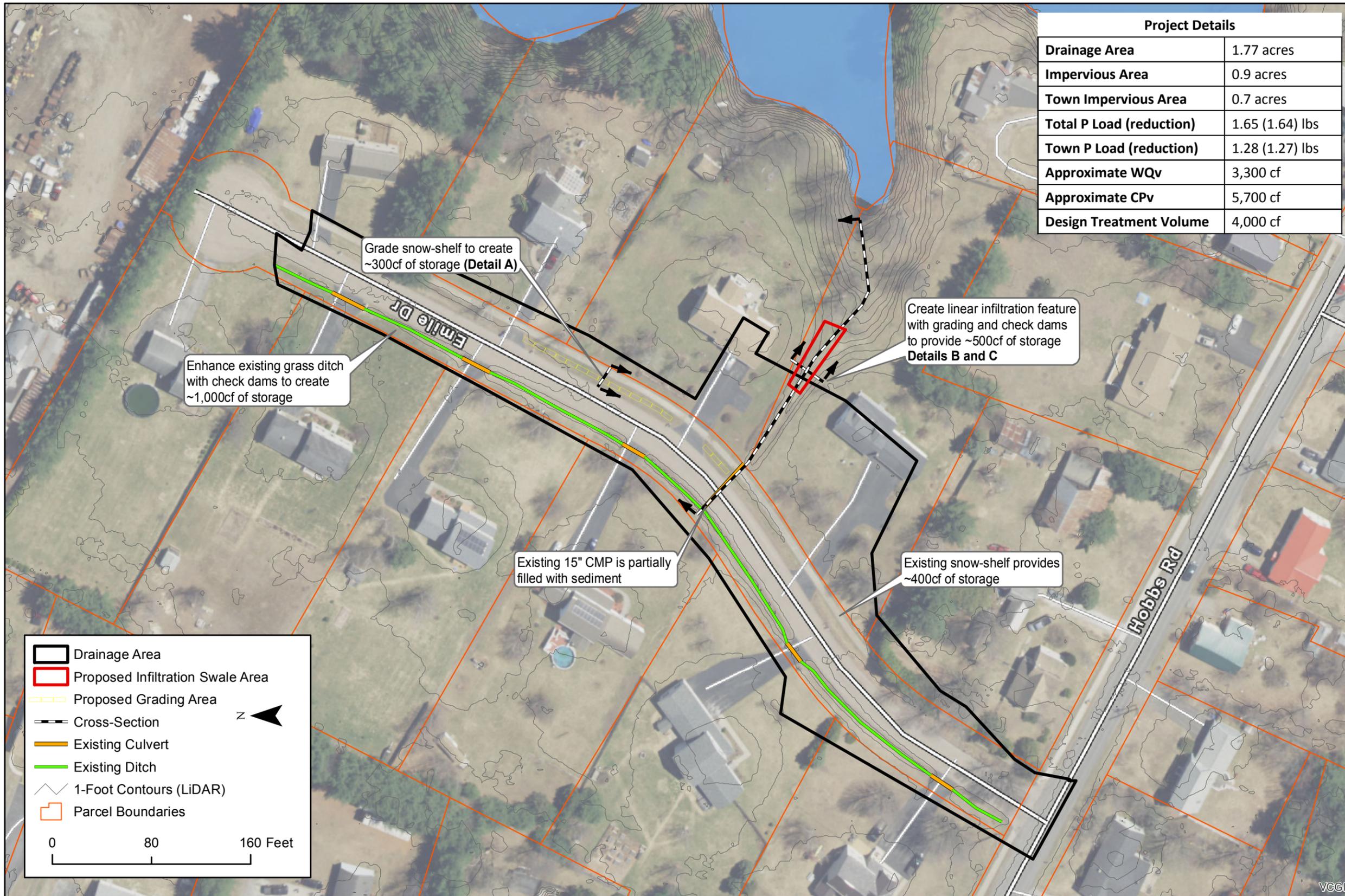
EHB, JHB EPF
DRAWN CHECKED

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

Fitzgerald Environmental Associates, LLC.

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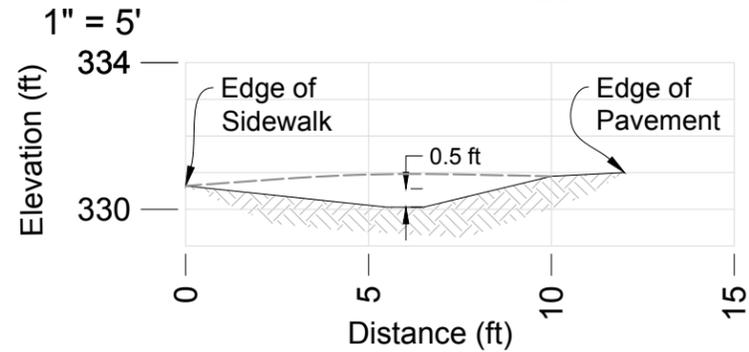
Notes
 - VCGI Imagery from 2018.
 - DEM from 2014 LIDAR (0.7 m).
 - Site survey completed April 2019

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

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

Sheet 1
 SHEET NO.

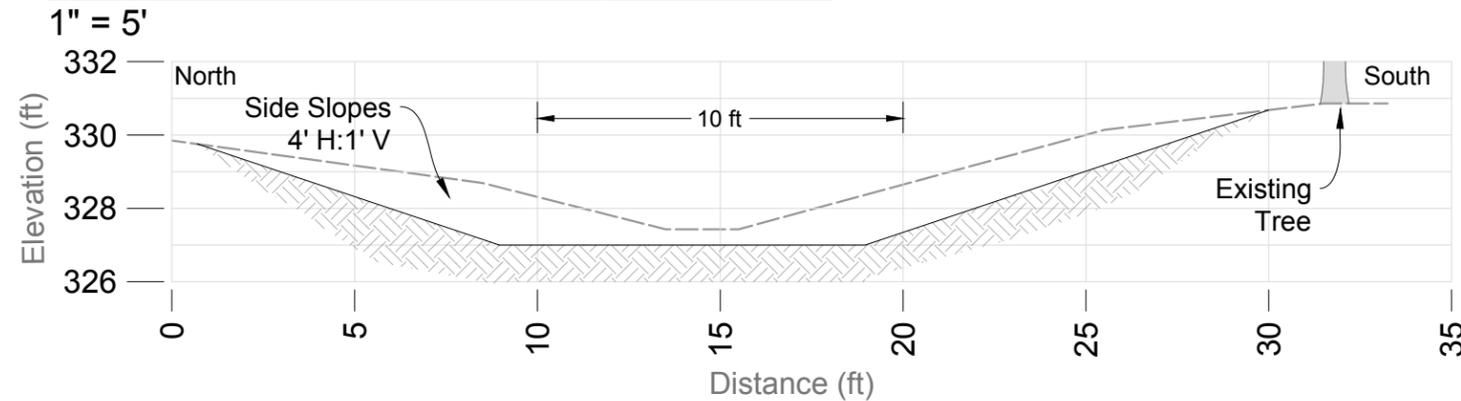
Detail A: Roadside Swale Typical Section



--- Existing Grade
 — Proposed Grade

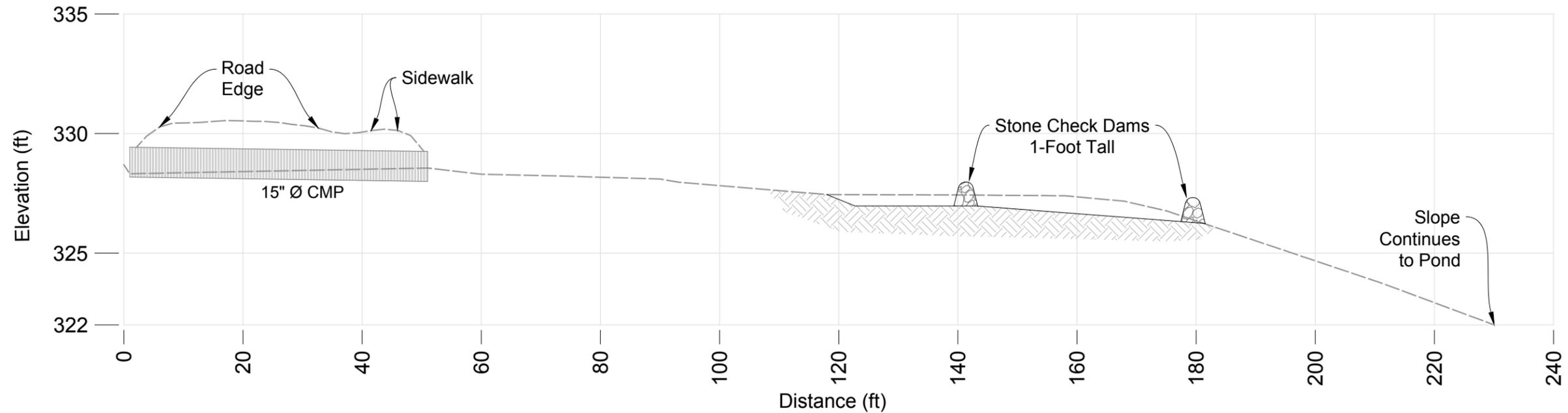
- Project Notes:**
1. Place 2"-3" of well-draining topsoil in roadside swale and grassed swale. Hydroseed all disturbed areas.
 2. Do not disturb existing trees and lilac bushes.

Detail B: Infiltration Feature Typical Section



Detail C: Infiltration Feature Section

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



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

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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

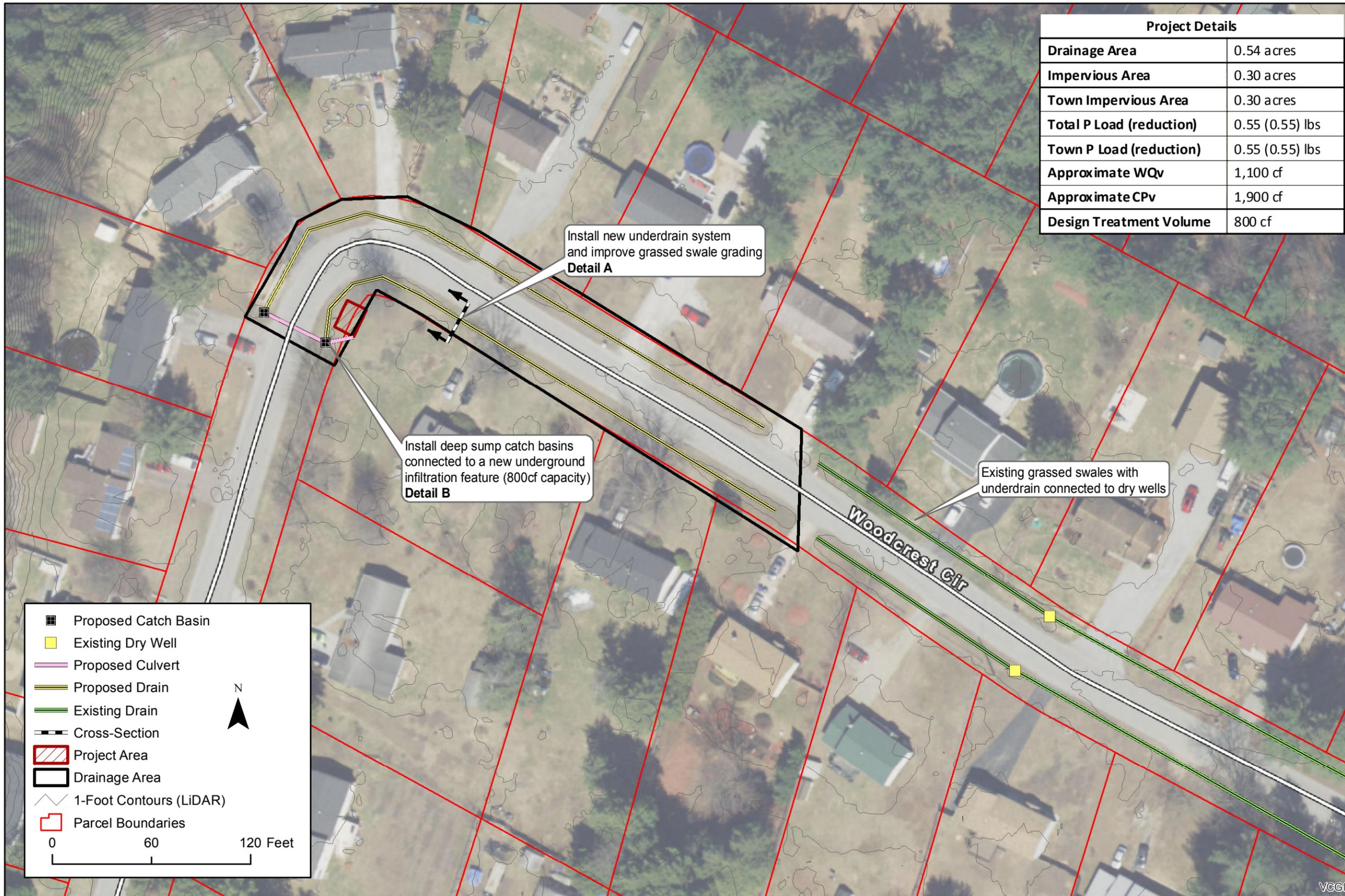
EHB, JHB EPF
DRAWN CHECKED

As Shown
SCALE

May 28, 2019
DATE

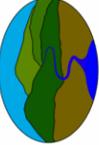
SHEET 2

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

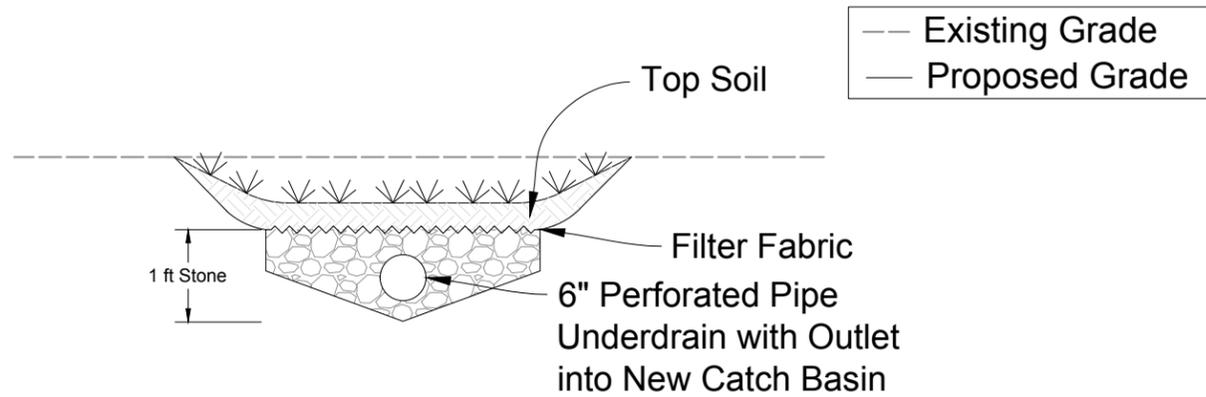
Town of Milton SWMP
 BB-2
 Concept Design (30%)
 Woodcrest Circle

JHB, EHB
 Drawn Checked
 1" = 60'
 Scale
 June 5, 2019
 Date

Sheet 1
 SHEET NO.

Detail A: Underdrained Grass Swale Typical Section

1" = 2'

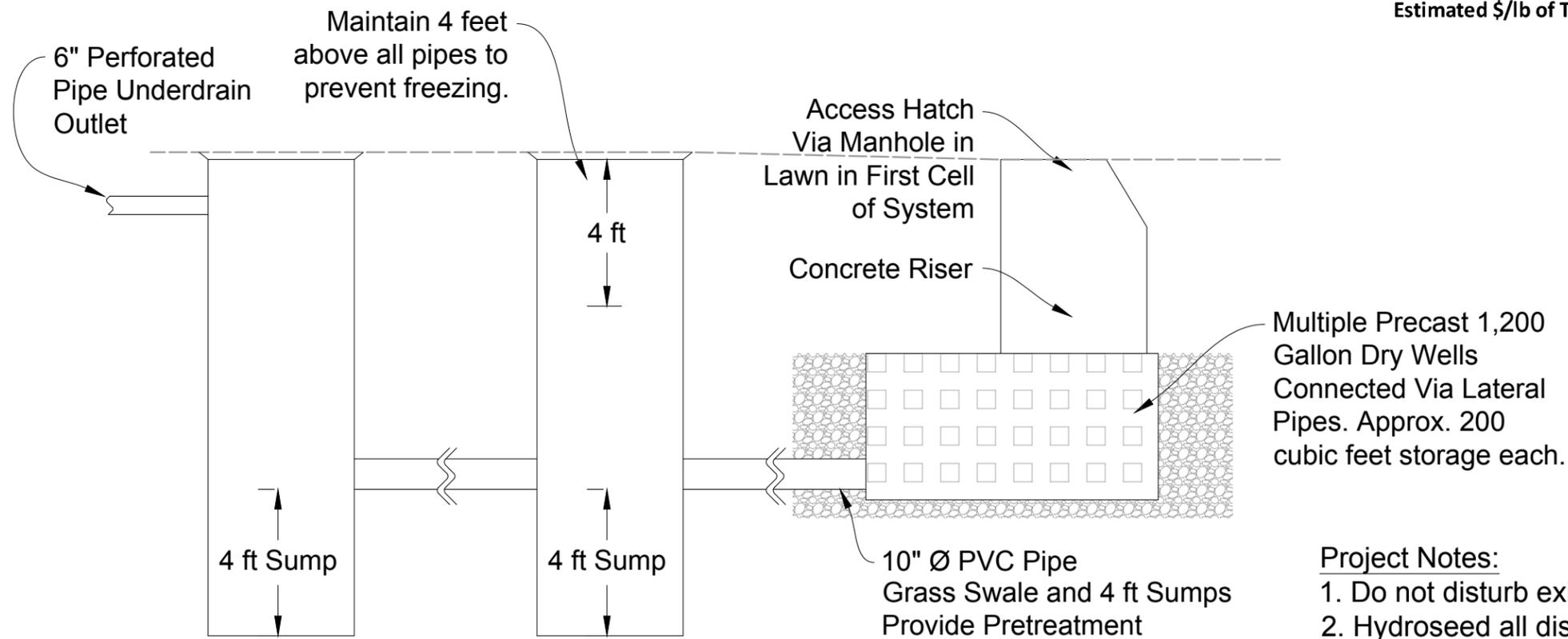


Preliminary Cost Opinion

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

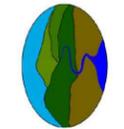
1" = 4'



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

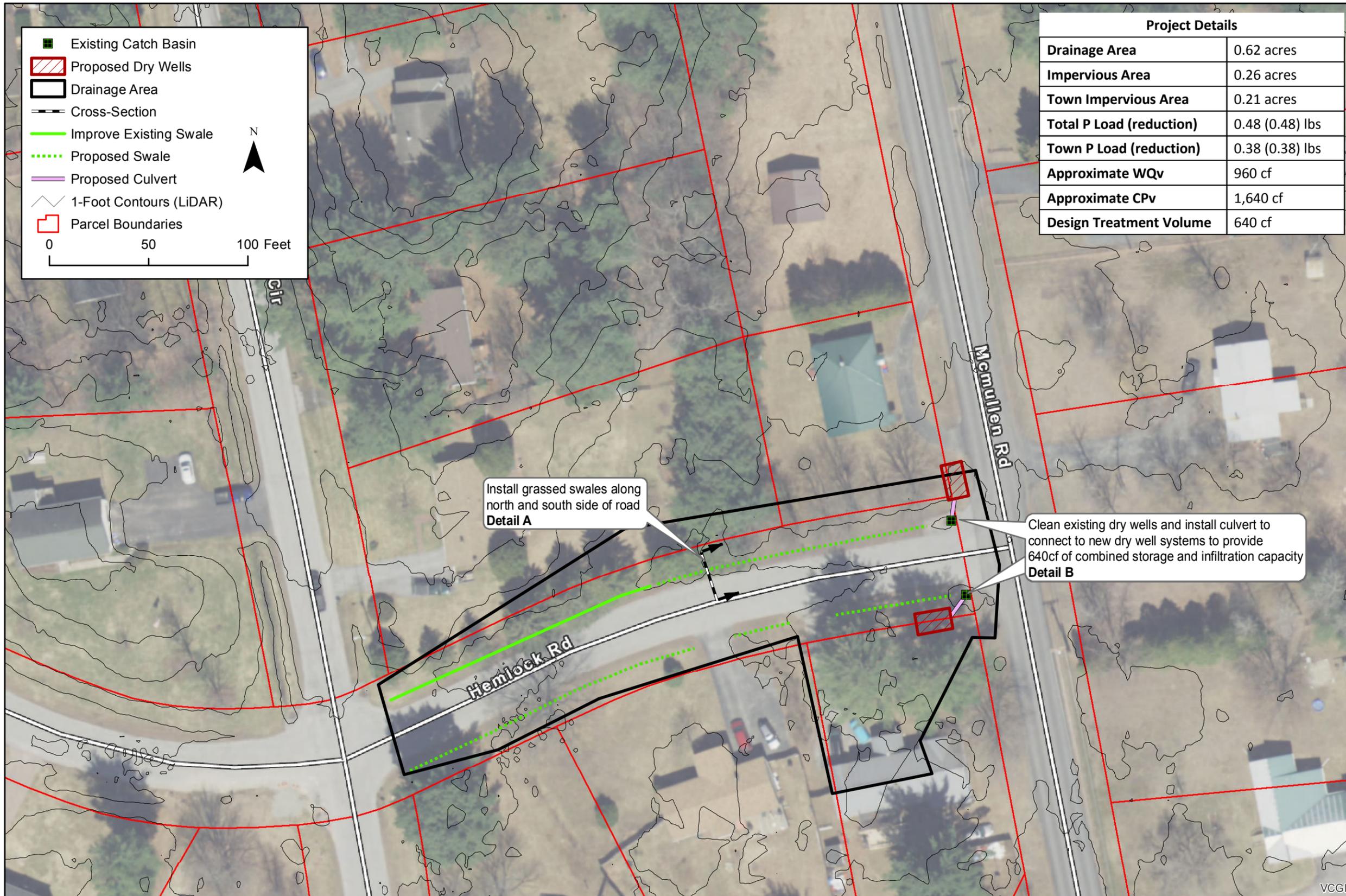
EPF
CHECKED

As Shown
SCALE

June 5, 2019
DATE

SHEET 2

SHEET NO.



Legend

- Existing Catch Basin
- ▨ Proposed Dry Wells
- Drainage Area
- Cross-Section
- Improve Existing Swale
- ⋯ Proposed Swale
- Proposed Culvert
- ⋈ 1-Foot Contours (LiDAR)
- ▭ Parcel Boundaries

0 50 100 Feet

N

Project Details	
Drainage Area	0.62 acres
Impervious Area	0.26 acres
Town Impervious Area	0.21 acres
Total P Load (reduction)	0.48 (0.48) lbs
Town P Load (reduction)	0.38 (0.38) lbs
Approximate WQv	960 cf
Approximate CPv	1,640 cf
Design Treatment Volume	640 cf

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Notes

- VCGI imagery from 2018.
- DEM from 2014 LiDAR (0.7 m).
- Site survey completed April 2 019

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

JHB, EHB
Drawn | Checked

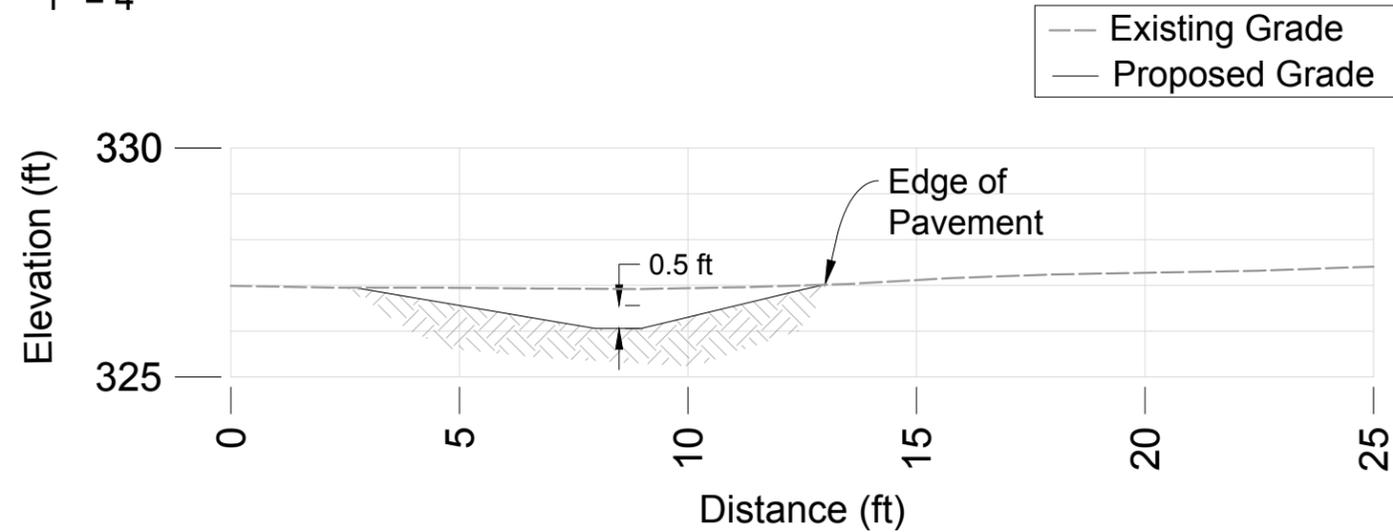
Scale
1" = 50'

Date
May 6, 2019

Sheet 1
SHEET NO.

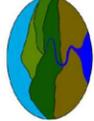
Detail A: Roadside Infiltration Swale Typical Section

1" = 4'



Preliminary Cost Opinion

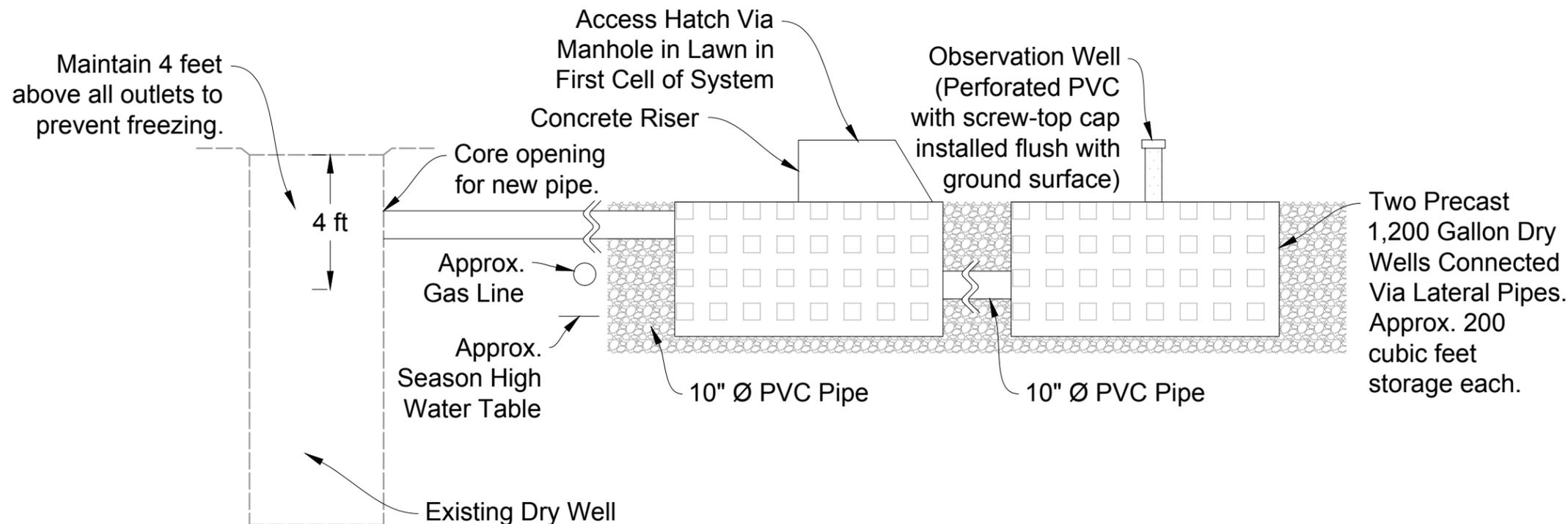
Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	80	CY	\$ 40	\$ 3,200
Topsoil	35	CY	\$ 50	\$ 1,750
Hydroseeding	500	SY	\$ 2	\$ 1,000
18" Culvert Installation	2	LS	\$ 1,000	\$ 2,000
Dry Well Installation	4	EA	\$ 2,500	\$ 10,000
Catch Basin 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

Fitzgerald Environmental Associates, LLC

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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

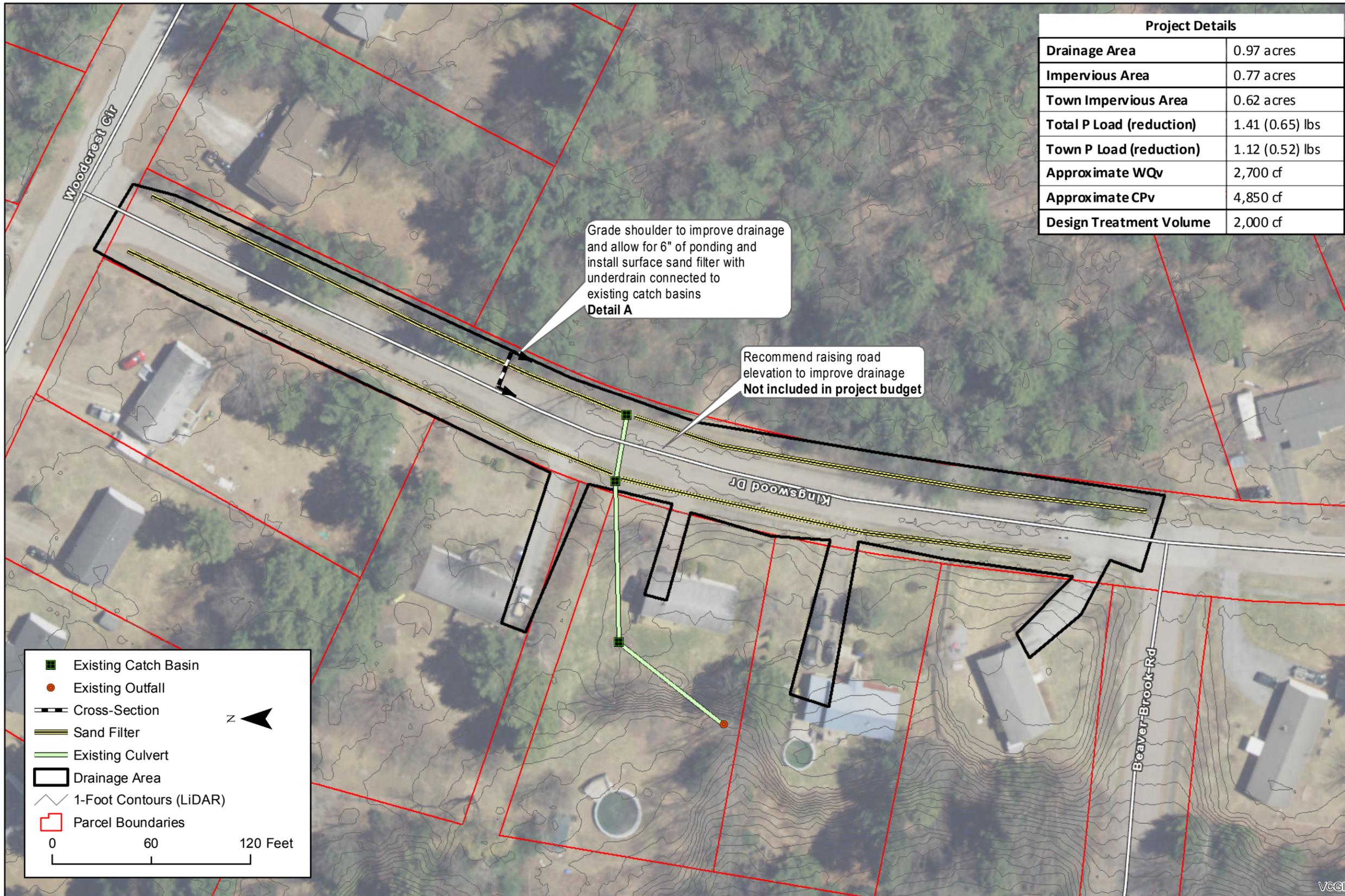
EHB, JHB EPF
DRAWN CHECKED

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

Fitzgerald Environmental Associates, LLC.

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

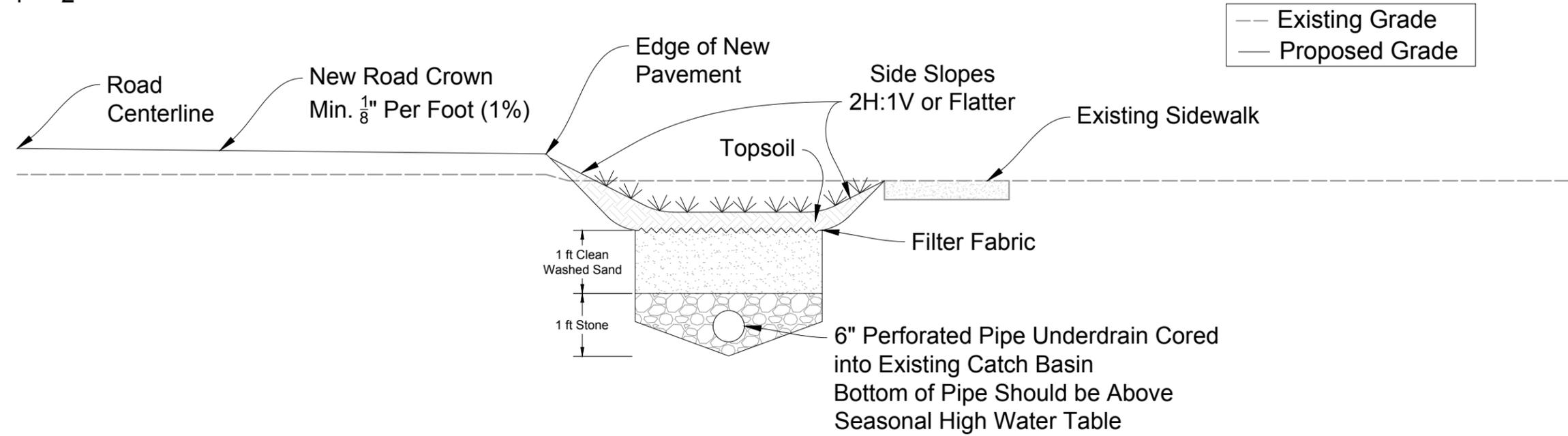
Town of Milton SWMP
 BB-5
 Concept Design (30%)
 Kingswood Drive

JHB, EHB
 Drawn Checked
 Scale 1" = 60'
 Date June 5, 2019

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

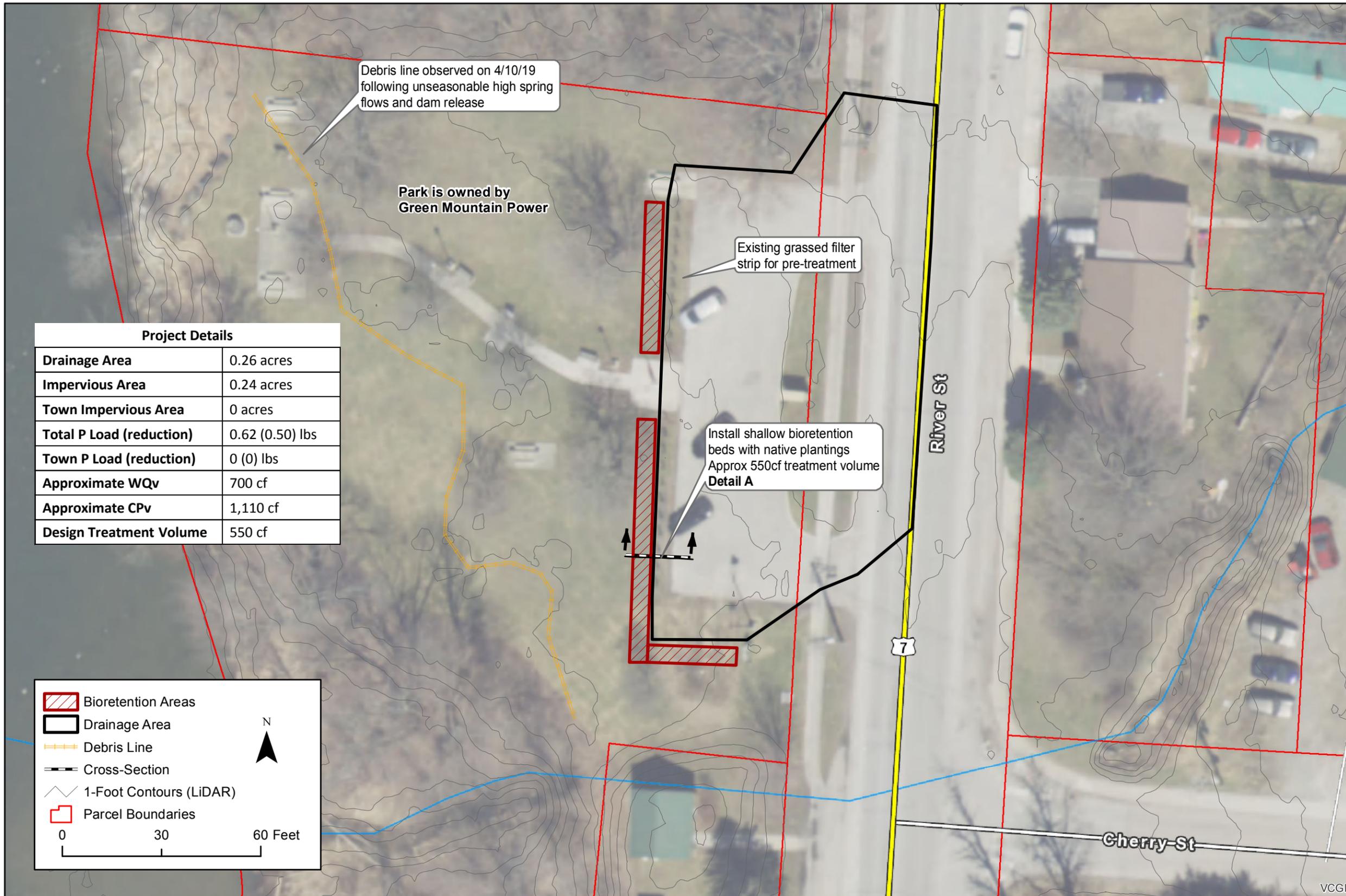
EHB, JHB EPF
DRAWN CHECKED

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

N

0 30 60 Feet

Debris line observed on 4/10/19 following unseasonable high spring flows and dam release

Park is owned by Green Mountain Power

Existing grassed filter strip for pre-treatment

Install shallow bioretention beds with native plantings
Approx 550cf treatment volume
Detail A

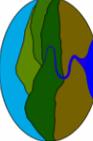
River St

7

Cherry St

VCGI

Fitzgerald Environmental Associates, LLC.



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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'

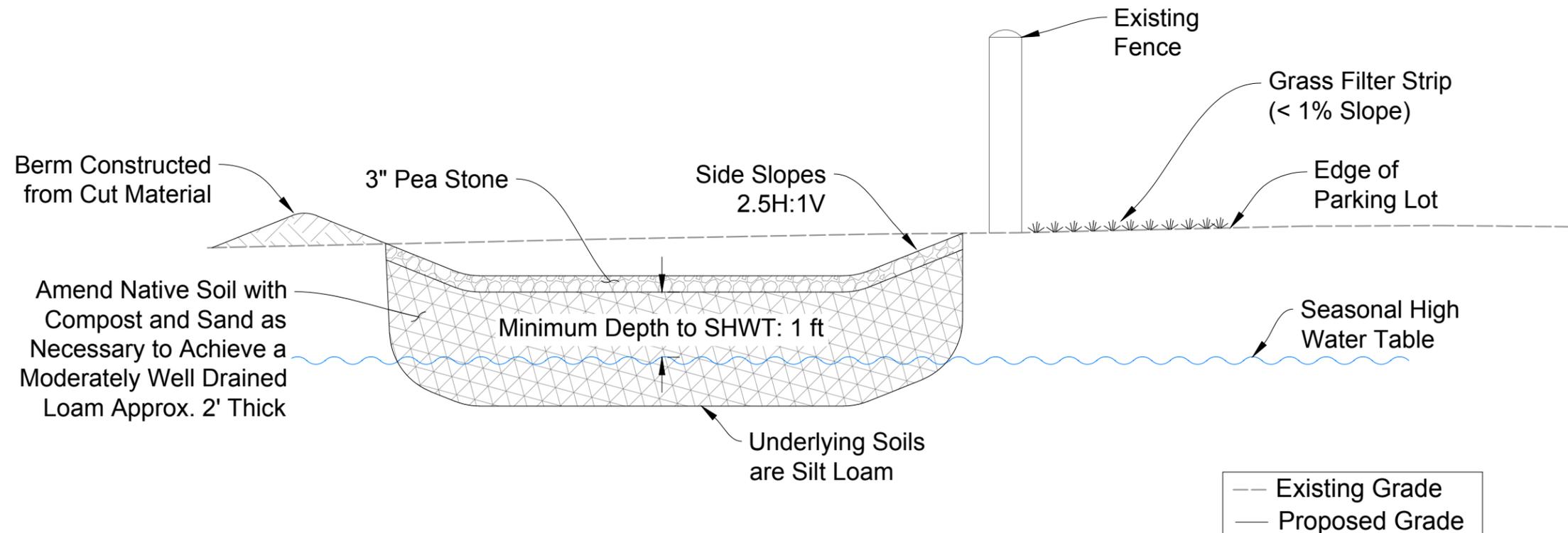
Project Notes:

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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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
DRAWN

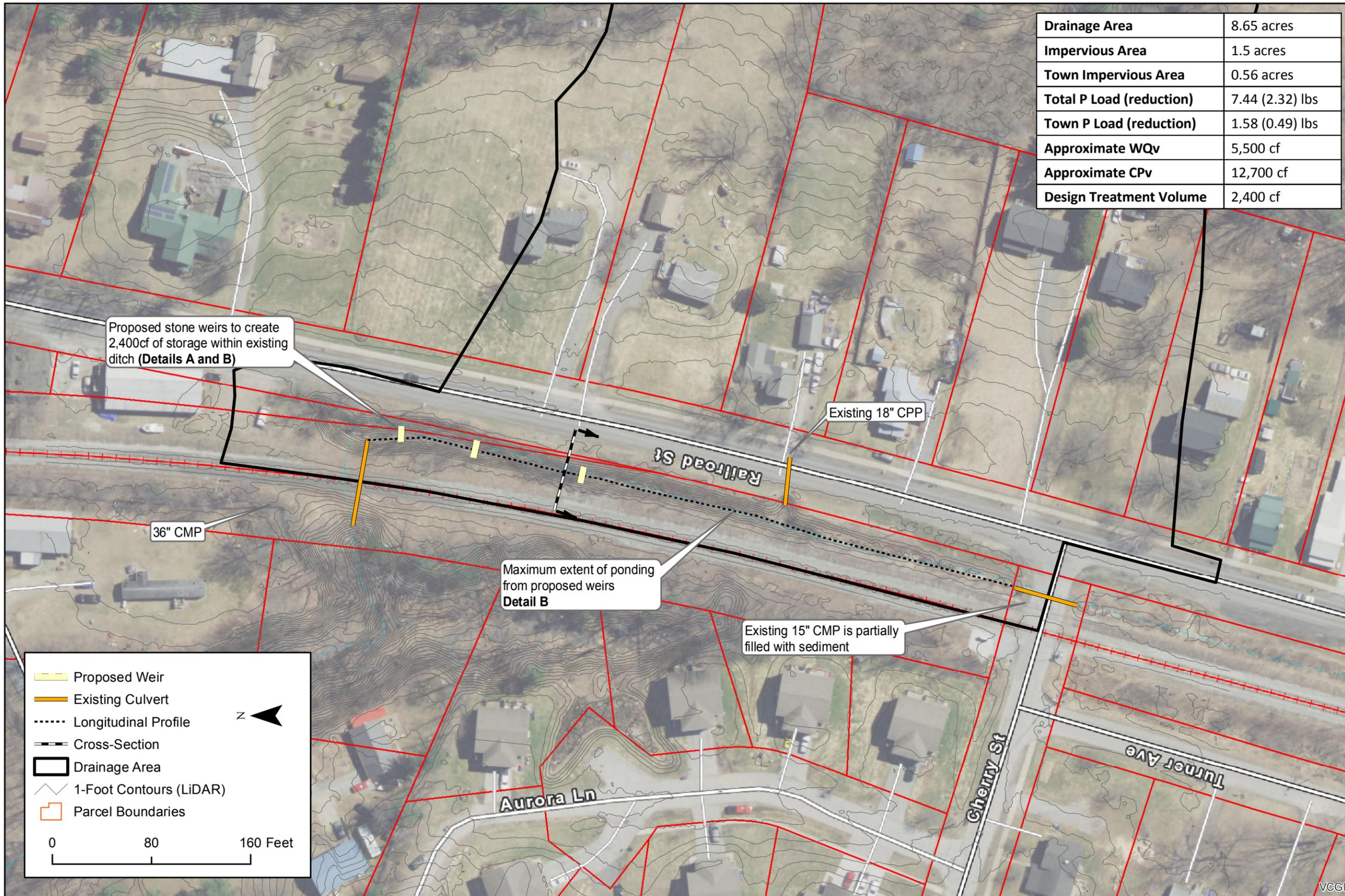
EPF
CHECKED

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

Fitzgerald Environmental Associates, LLC.

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Notes

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

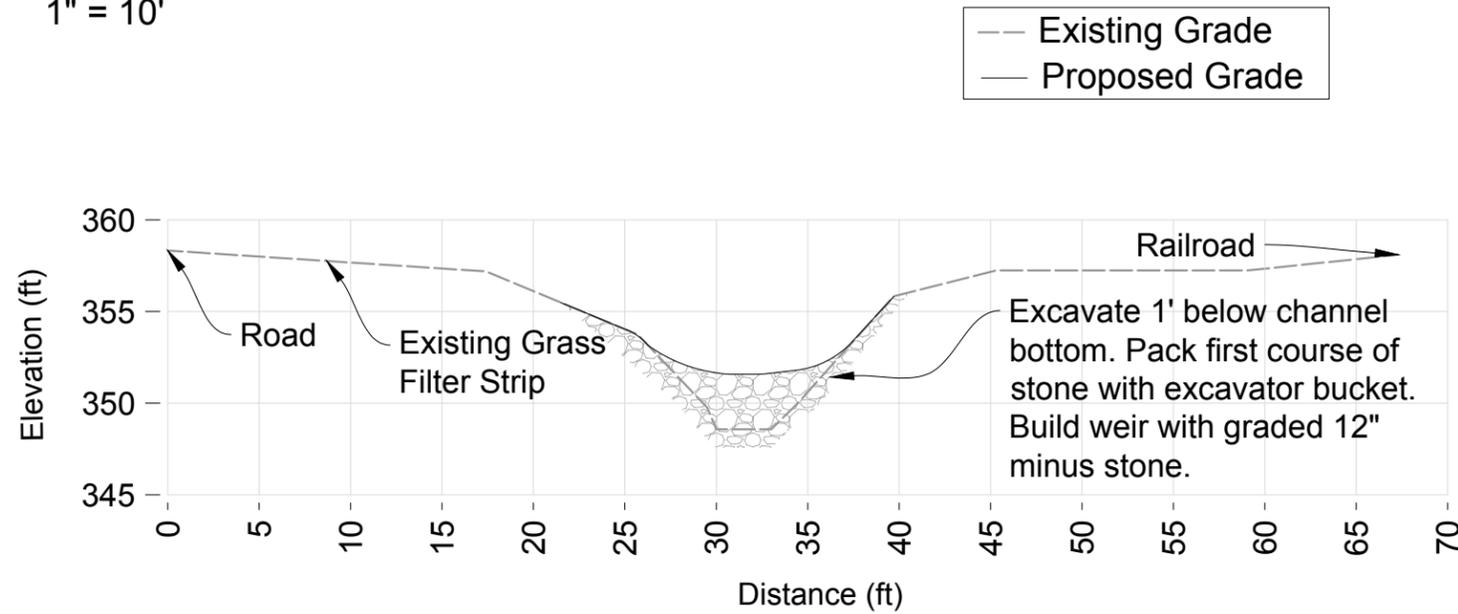
Town of Milton SWMP
RR-5
Concept Design (30%)
Railroad Street

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

Sheet 1
SHEET NO.

Detail A: Weir Typical Section

1" = 10'



Preliminary Cost Opinion

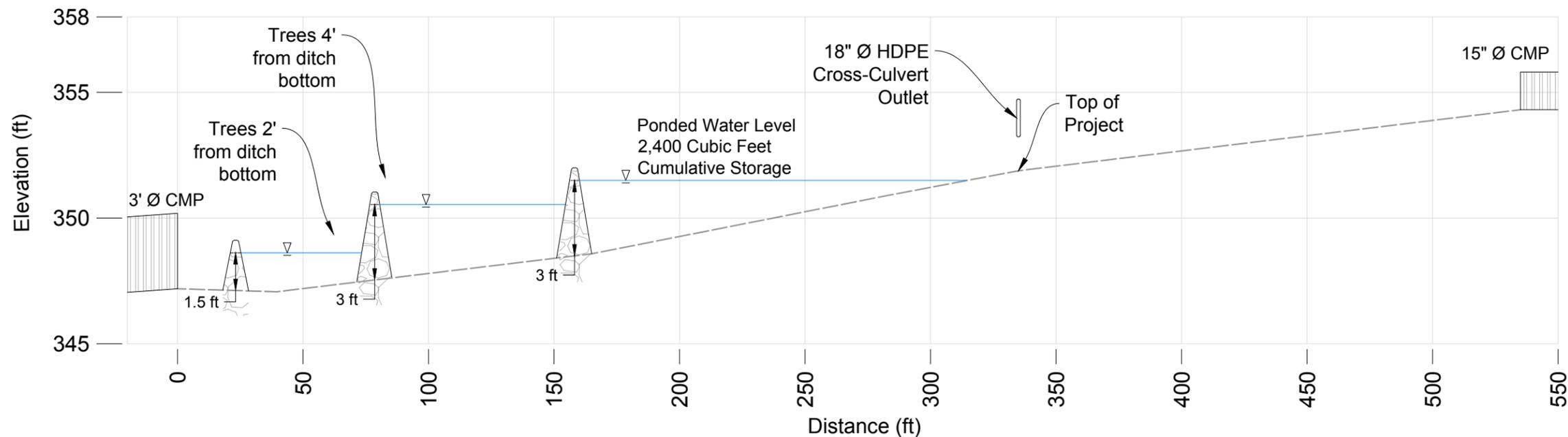
Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 1,000	\$ 1,000
Stone Weir (12" minus stone)	30	CY	\$ 60	\$ 1,800
Site Restoration	1	LS	\$ 1,000	\$ 1,000
Final Design				\$ 1,500
Construction Oversight				\$ 500
Subtotal				\$ 5,800
Contingency (20%)				\$ 960
Total				\$ 6,760
Estimated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

Project Notes:

- 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

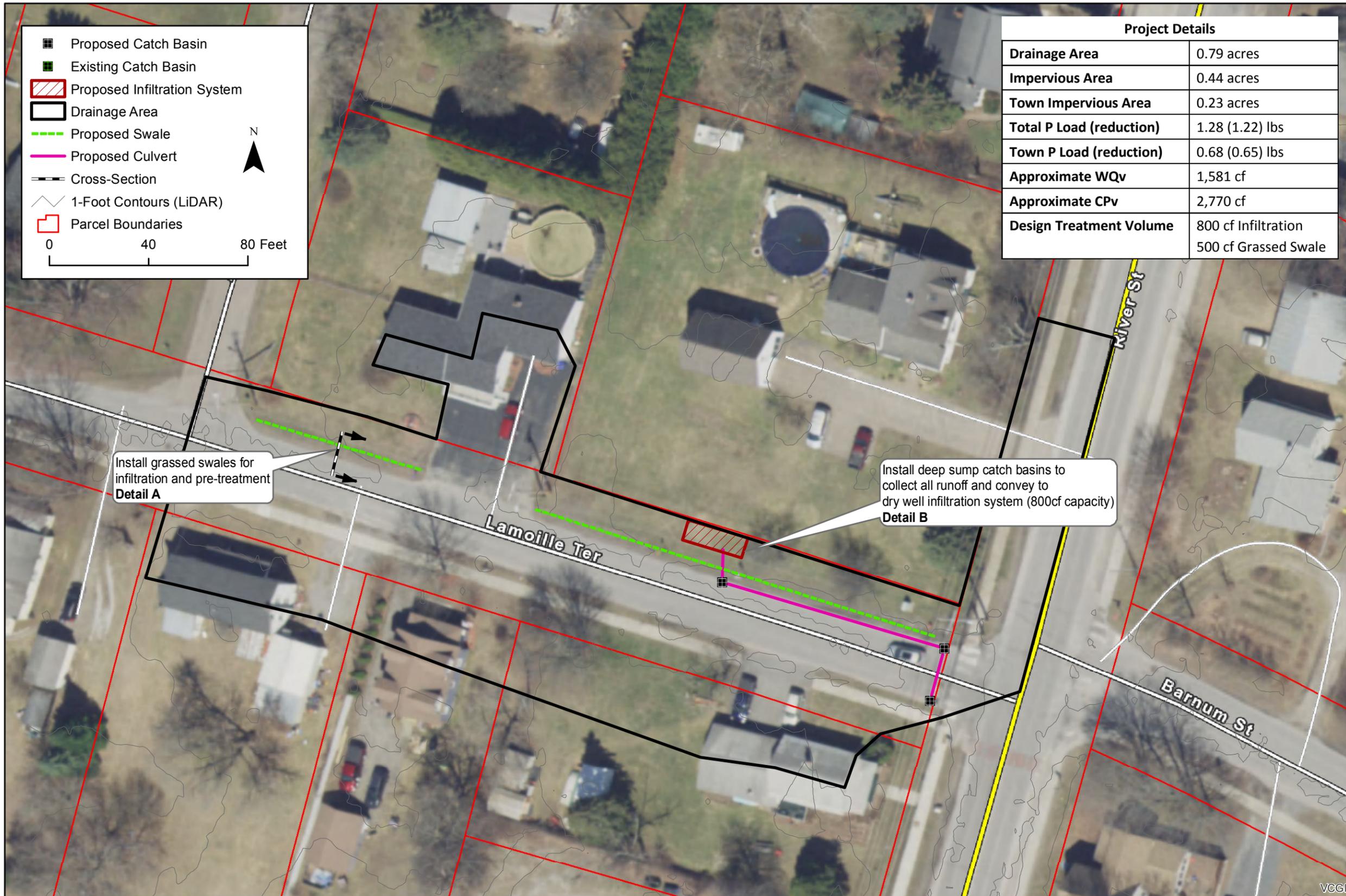
EPF
CHECKED

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

Fitzgerald Environmental Associates, LLC.

18 Severance Green, Suite 203
Colchester, VT 05446
Tel: 802.876.7778
www.fitzgeraldenvironmental.com

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

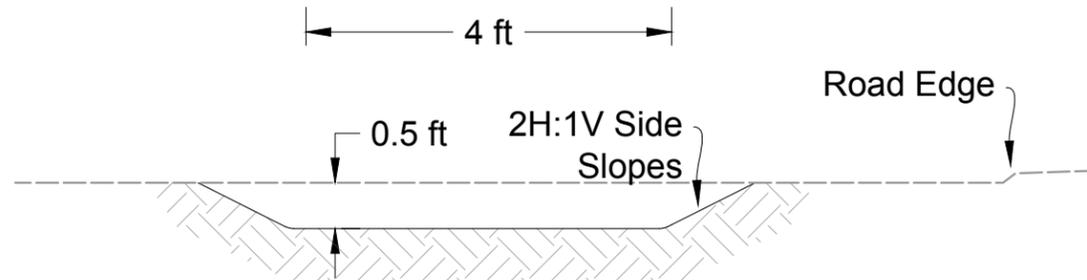
Town of Milton SWMP
 RT7-4
 Concept Design (30%)
 Lamoille Terrace

JHB, EHB
 Drawn | Checked
 1" = 40'
 Scale
 May 9, 2019
 Date

Sheet 1
 SHEET NO.

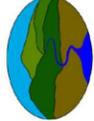
Detail A: Pretreatment Grassed Swale Typical Section

1" = 2'



Preliminary Cost Opinion

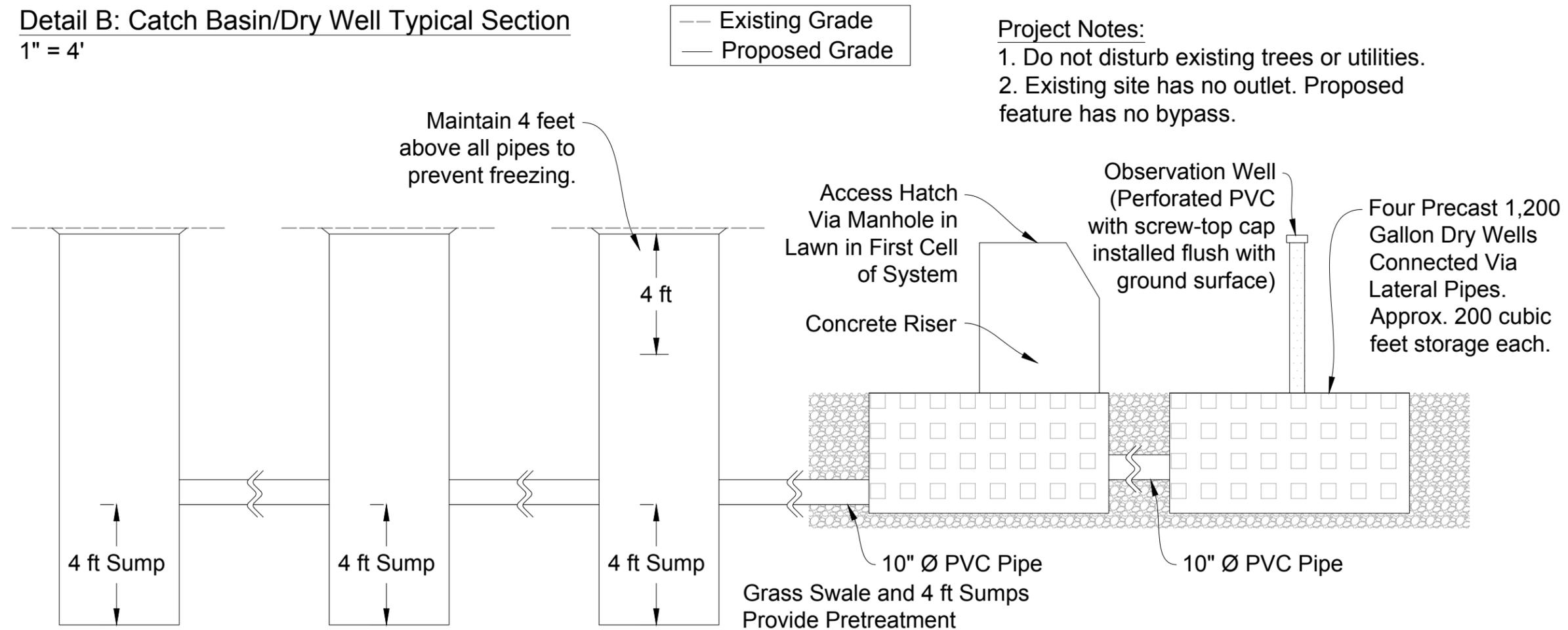
Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	70	CY	\$ 40	\$ 2,800
Topsoil	20	CY	\$ 50	\$ 1,000
Hydroseeding	250	SY	\$ 2	\$ 500
18" Culvert Installation	3	LS	\$ 1,000	\$ 3,000
Dry Well Installation	4	EA	\$ 2,500	\$ 10,000
Catch Basin 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

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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 or utilities.
2. Existing site has no outlet. Proposed feature has no bypass.

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

EHB, JHB
DRAWN

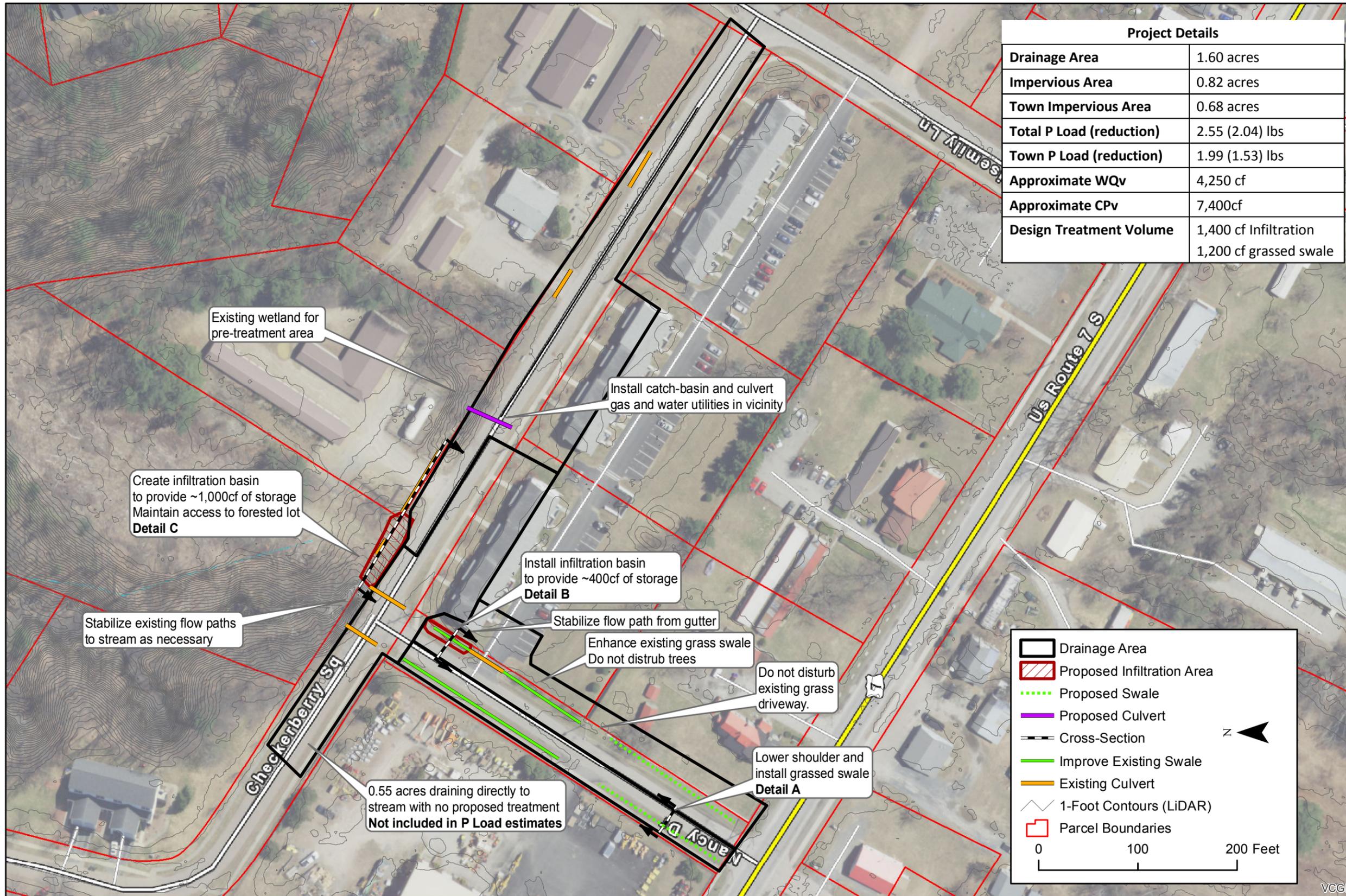
EPF
CHECKED

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

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

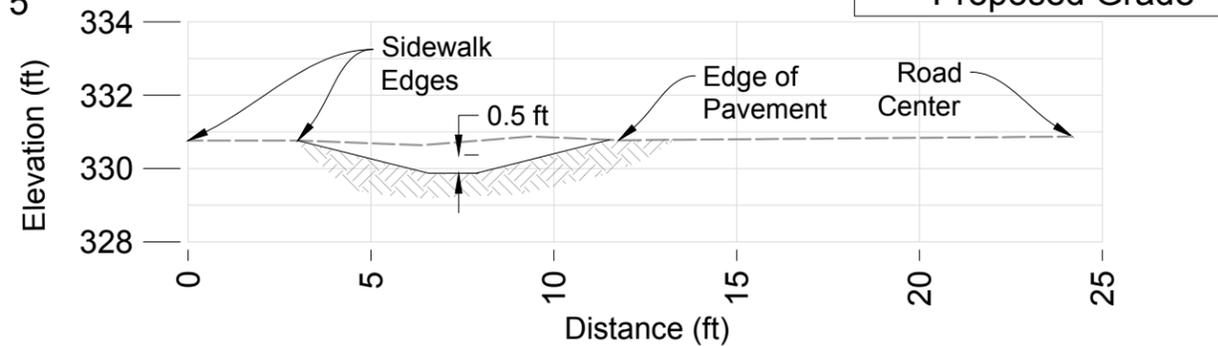
Town of Milton SWMP
RT7-16
Concept Design (30%)
Nancy Drive &
Checkerberry Square

JHB, EHB
Drawn | Checked
1" = 100'
Scale
April 29, 2019
Date

Sheet 1
SHEET NO.

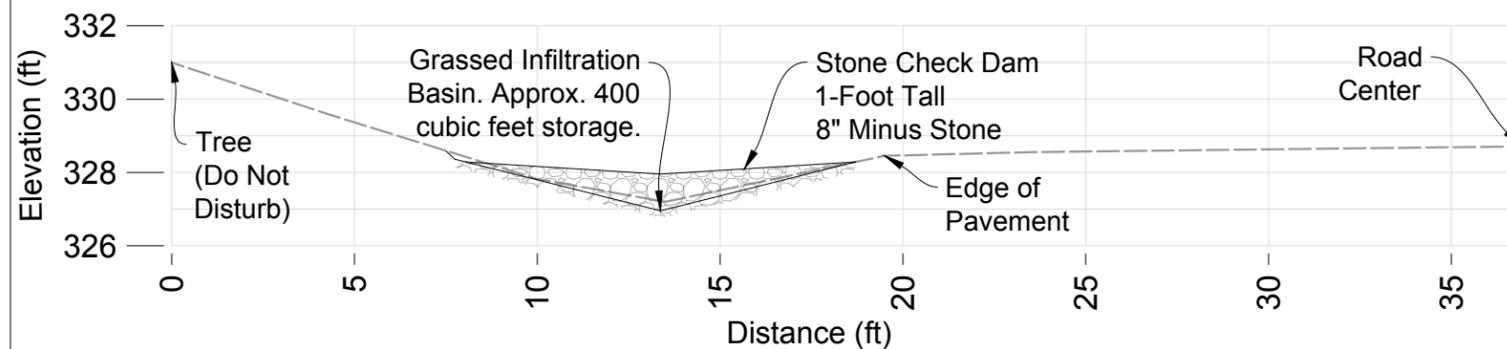
Detail A: Roadside Swale Typical Section

1" = 5'



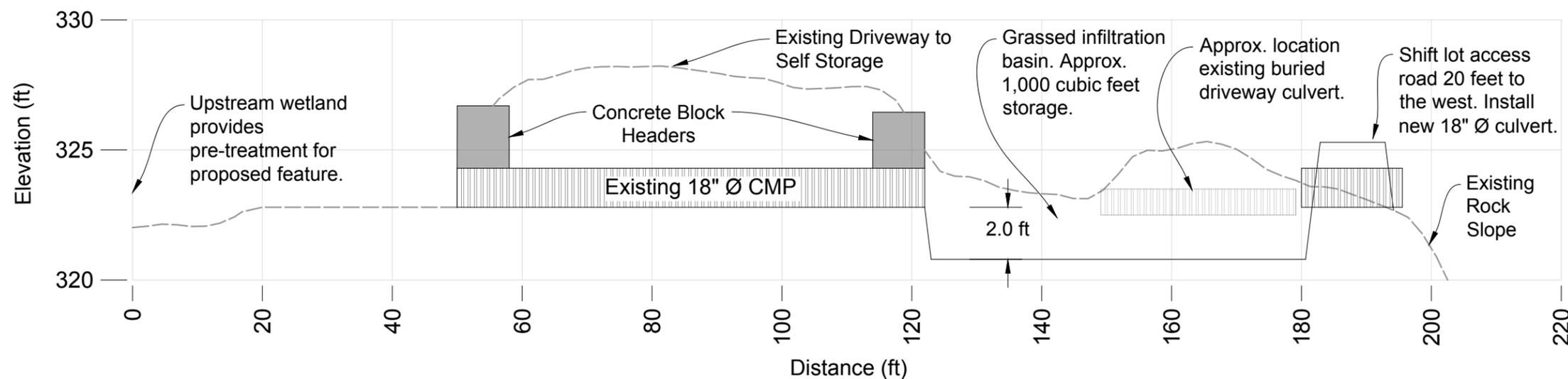
Detail B: Nancy Drive Infiltration Basin Typical Section

1" = 5'



Detail C: Checkerberry Court Infiltration Basin Section

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



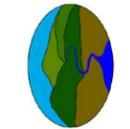
Preliminary Cost Opinion

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

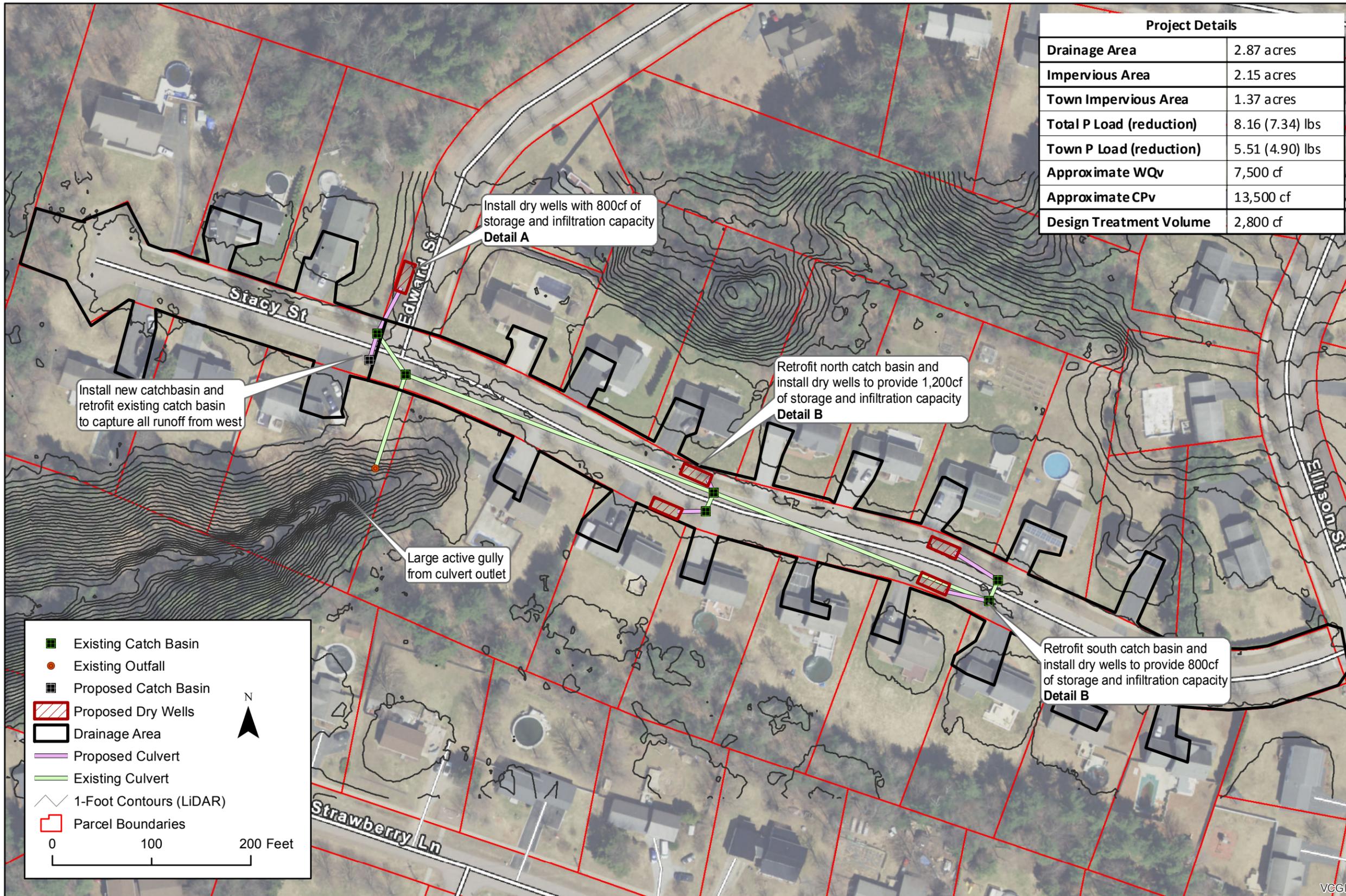
EHB, JHB EPF
DRAWN CHECKED

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

- Existing Catch Basin
- Existing Outfall
- Proposed Catch Basin
- Proposed Dry Wells
- Drainage Area
- Proposed Culvert
- Existing Culvert
- 1-Foot Contours (LiDAR)
- Parcel Boundaries

N

0 100 200 Feet

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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

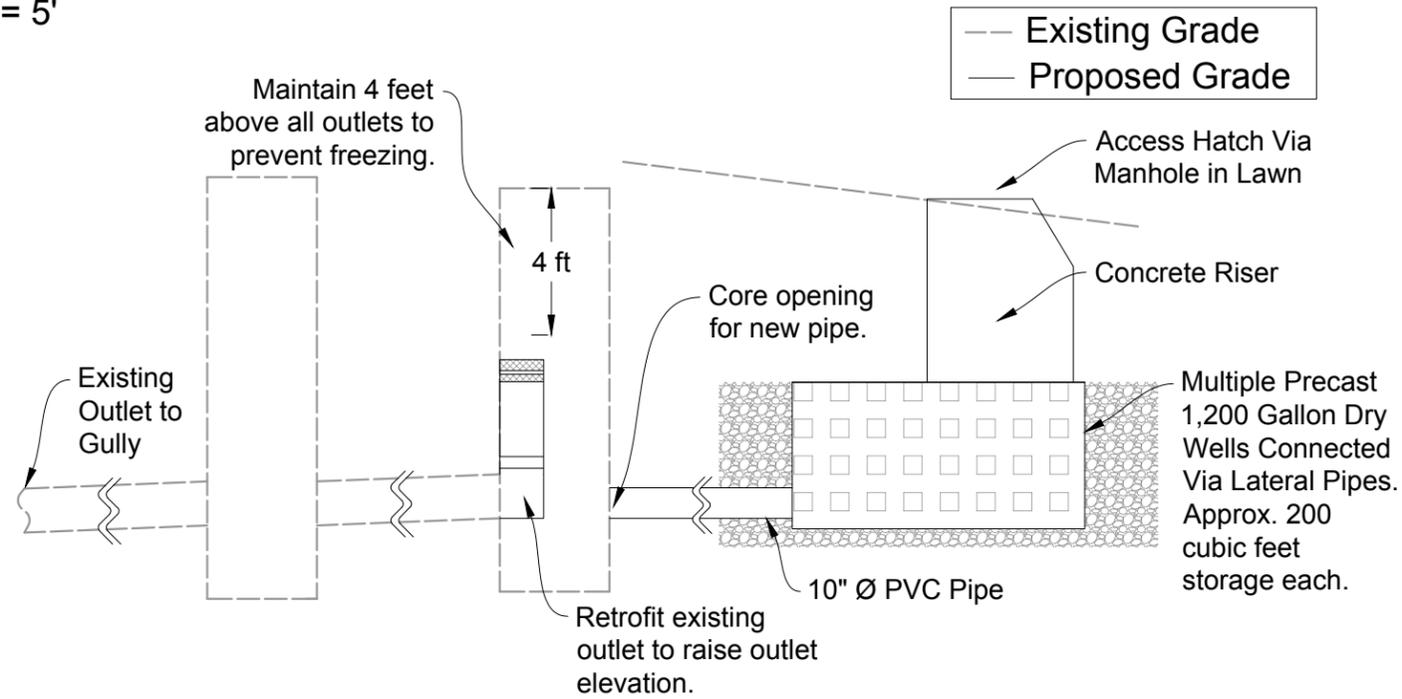
JHB, EHB	
Drawn	Checked
1" = 100'	
Scale	
May 2, 2019	
Date	

Sheet 1

SHEET NO.

Detail A: Catch Basin/Dry Well Typical Section

1" = 5'



Preliminary Cost Opinion

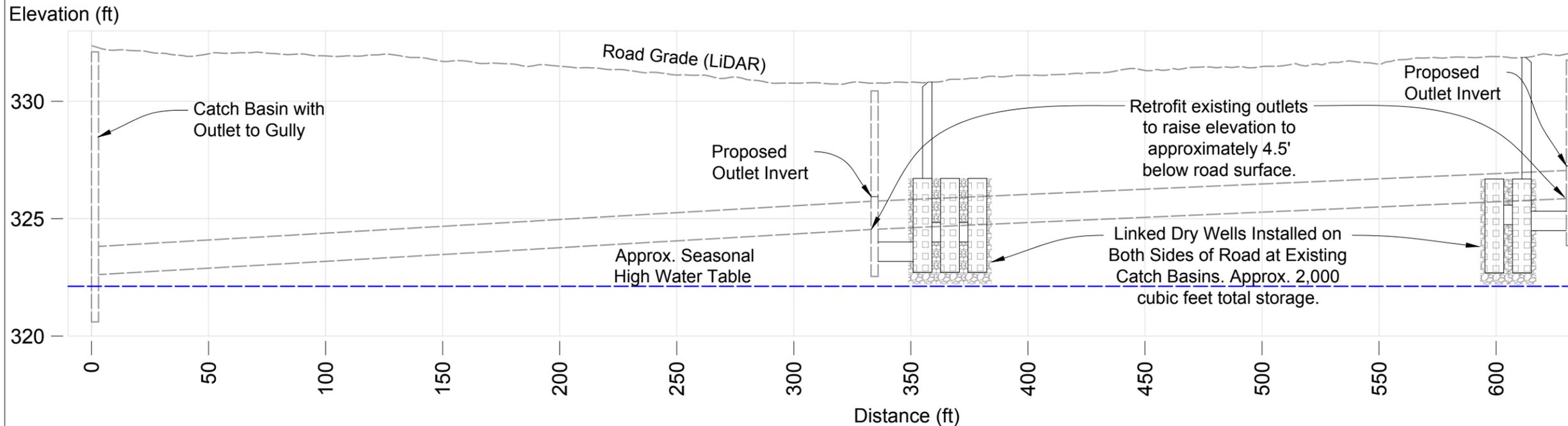
Item	Quantity	Unit	Cost	Subtotal
Mobilization/Demobilization	1	LS	\$ 2,000	\$ 2,000
Common Excavation and Trucking	250	CY	\$ 40	\$ 10,000
Stone Bedding (6" minus stone)	60	CY	\$ 60	\$ 3,600
Topsoil	20	CY	\$ 50	\$ 1,000
Hydroseeding	150	SY	\$ 2	\$ 300
18" Culvert Installation	1	LS	\$ 3,000	\$ 3,000
Dry 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

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

Detail B: Longitudinal Profile

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



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

EHB, JHB
DRAWN

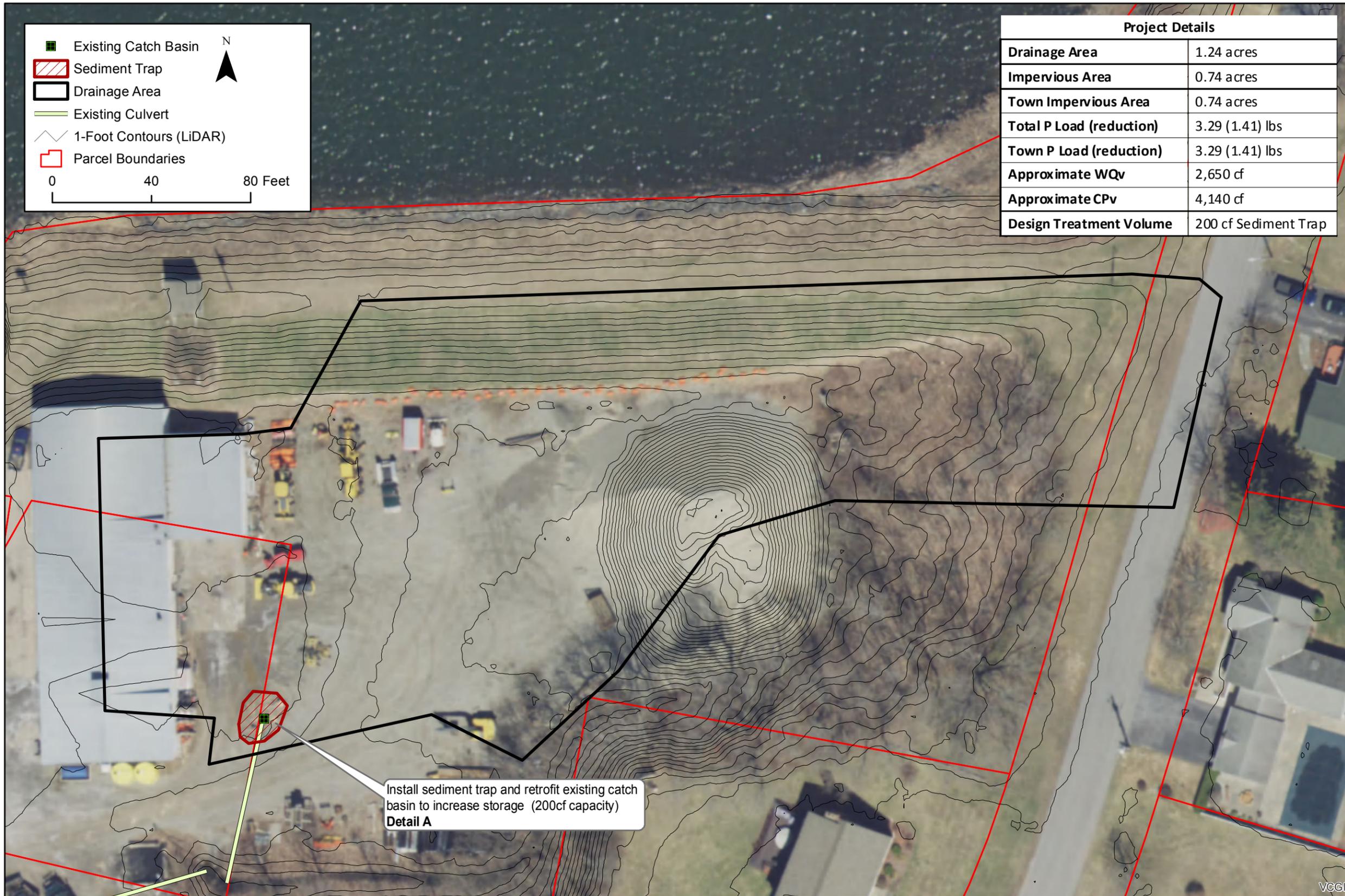
EPF
CHECKED

As Shown
SCALE

May 28, 2019
DATE

SHEET 2

SHEET NO.



Existing Catch Basin

Sediment Trap

Drainage Area

Existing Culvert

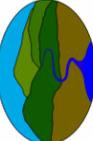
1-Foot Contours (LiDAR)

Parcel Boundaries

0 40 80 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

**Fitzgerald
Environmental
Associates, LLC.**



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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
 TP-1
 Concept Design (30%)
 Town Garage**

JHB, EHB
 Drawn Checked

1" = 40'

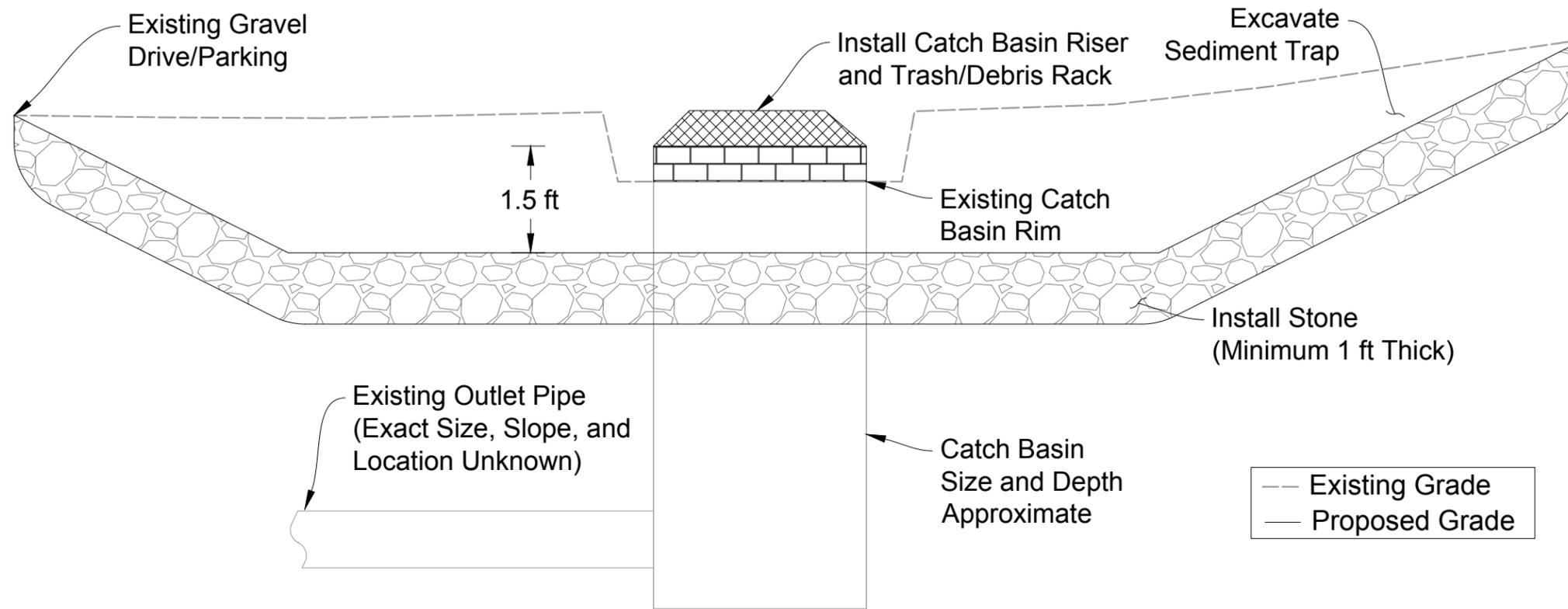
Scale
 Date May 13, 2019

Sheet 1

SHEET NO.

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
DRAWN

EPF
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

Scale
1" = 40'

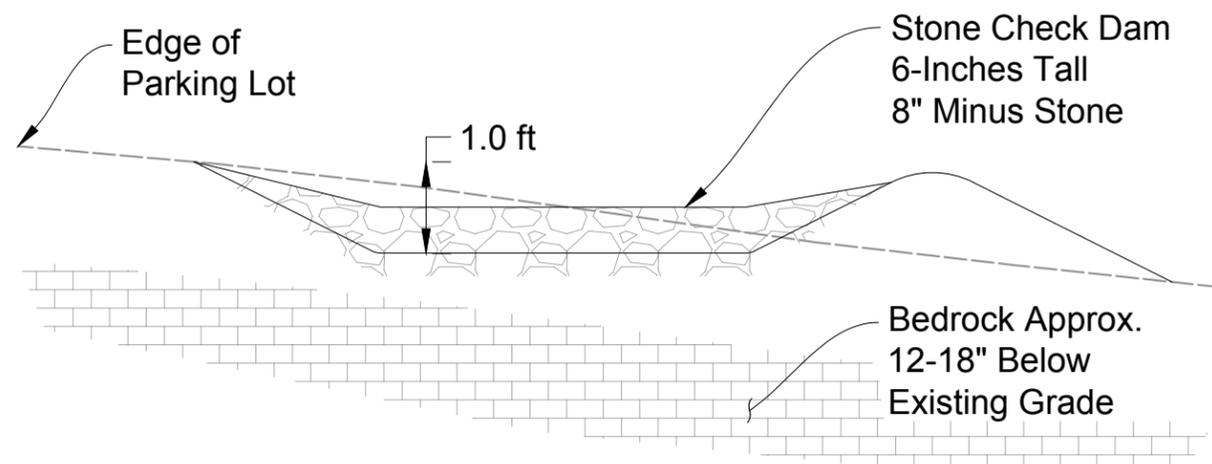
Date
May 13, 2019

Sheet 1

SHEET NO.

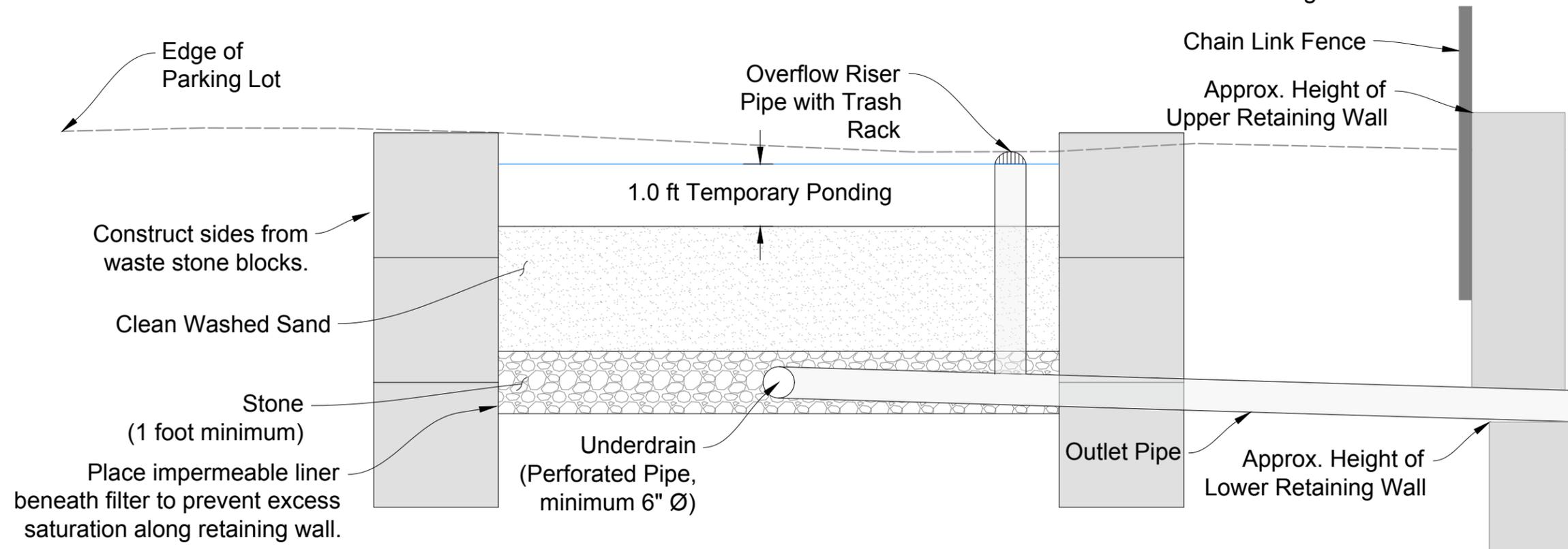
Detail A: Pretreatment Grassed Swale Typical Section

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

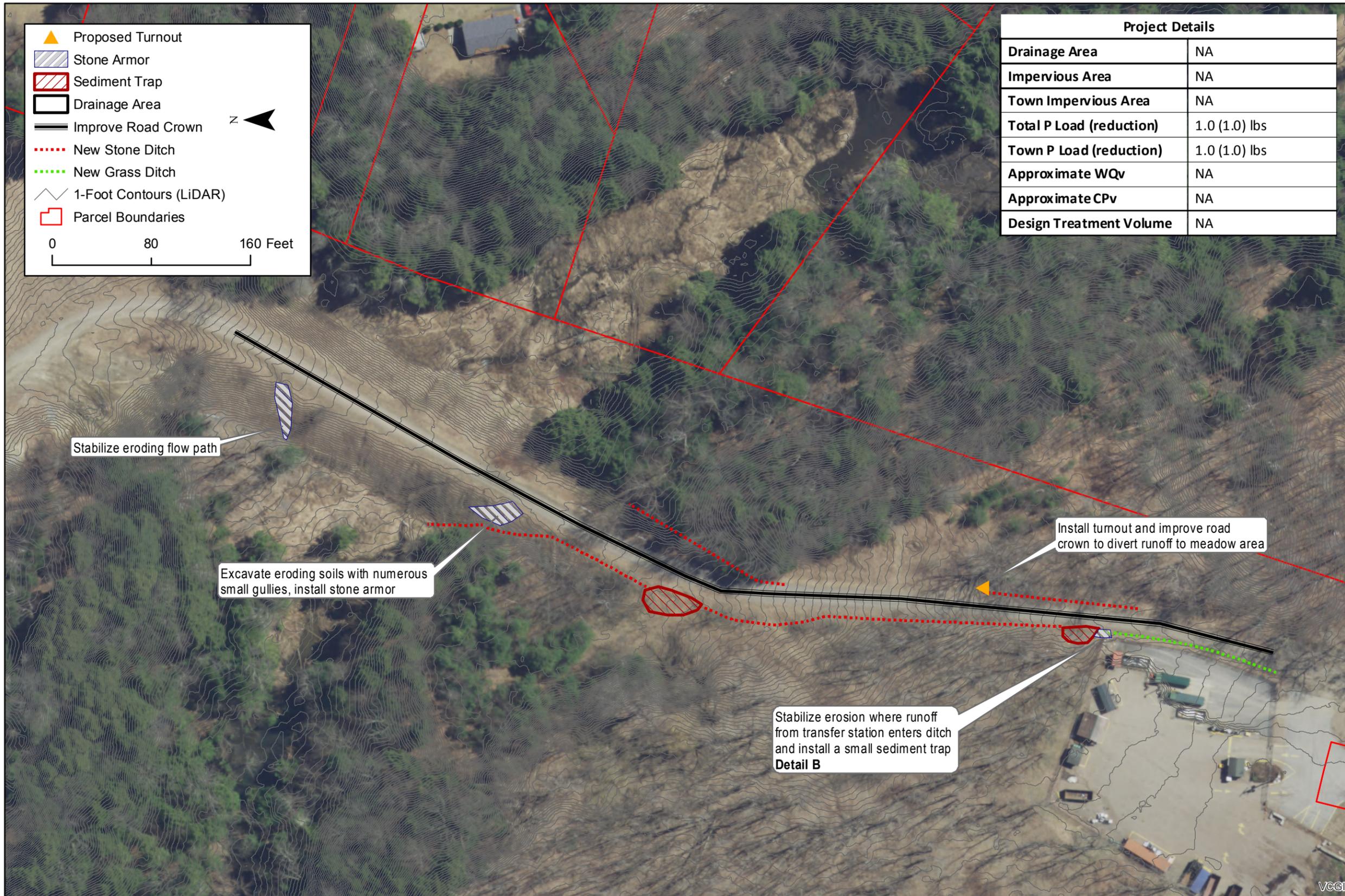
EPF
CHECKED

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

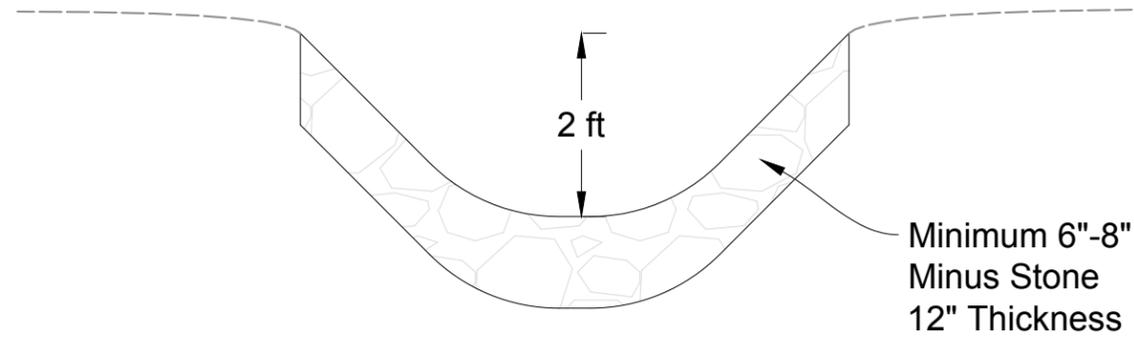
Town of Milton SWMP
 TP-5
 Concept Design (30%)
 Town Dump Access Road

JHB, EHB
 Drawn | Checked
 1" = 80'
 Scale
 May 14, 2019
 Date

Sheet 1
 SHEET NO.

Detail A: Stone-Lined Ditch Typical Detail

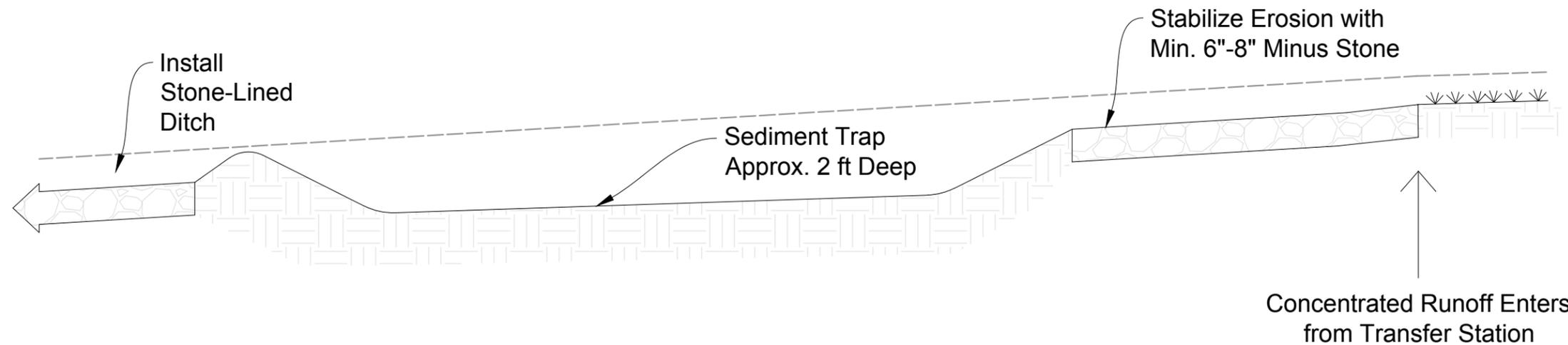
1" = 2'



Detail B: Sediment Trap Typical Detail

1" = 4'

--- Existing Grade
 — Proposed Grade



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

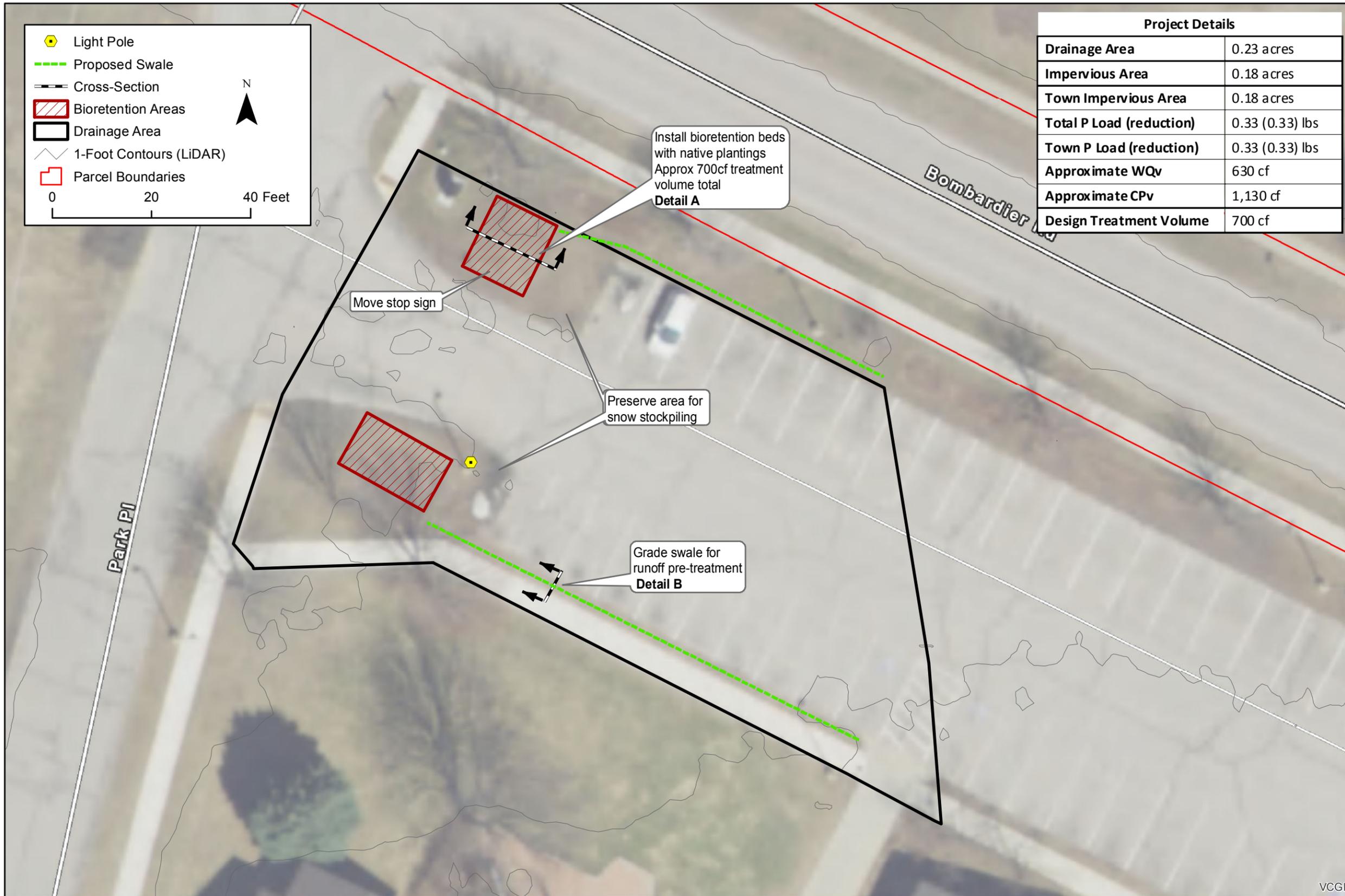
EPF
CHECKED

As Shown
SCALE

June 5, 2019
DATE

SHEET 2

SHEET NO.



Fitzgerald Environmental Associates, LLC.

18 Severance Green, Suite 203
Colchester, VT 05446
Tel: 802.876.7778
www.fitzgeraldenvironmental.com

Notes

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

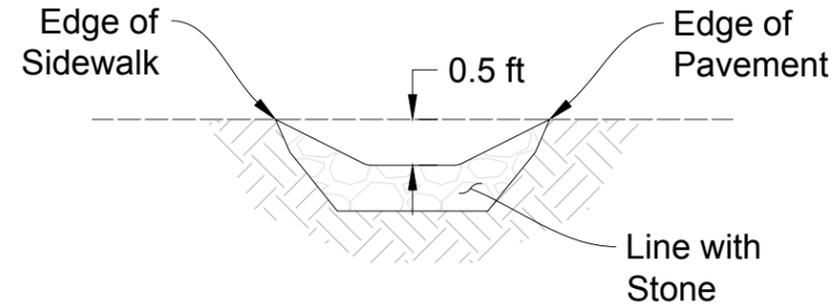
Town of Milton SWMP
TP-7
Concept Design (30%)
Municipal Office Parking Lot

JHB, EHB
Drawn _____ Checked _____
Scale 1" = 20'
Date May 7, 2019

Sheet 1
SHEET NO.

Detail A: Gravel-Lined Swale Typical Section

1" = 2'

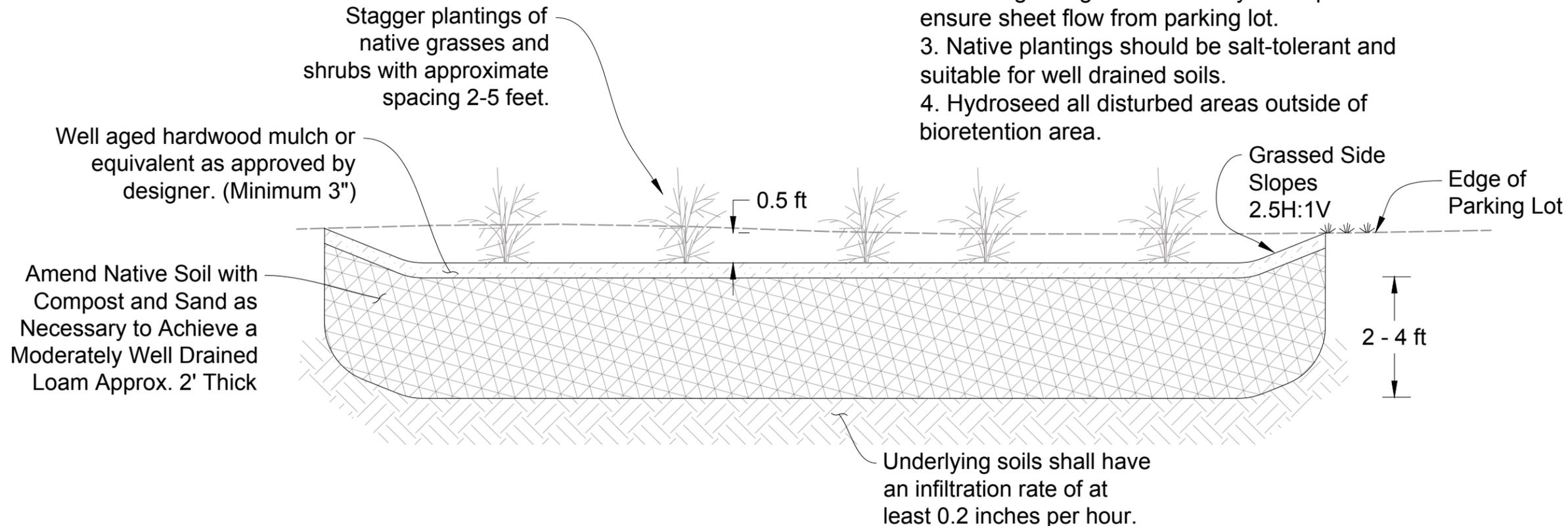


Preliminary Cost Opinion

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

Detail B: Bioretention Typical Section

1" = 2'



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.