

LAKE TERRAPIN HOMEOWNERS ASSOCIATION
GPIN 8091-80-4871
Instr. #200612290179940
LAKE TERRAPIN SECTION 9
PARCEL "A"

NVP, INC.
GPIN 8091-70-2799
Instr. #200604130058158

Approx. Location
Ex. 20' Va. Gas Distribution
Esmt.
(D.B. 179, Pg. 401)

PARCEL "H-3"
SOUTHLAKE AT MONTCLAIR
S-6
SOUTHLAKE COVE
TOWNHOMES ASSOCIATION
GPIN 8091-80-2204
D.B. 1634, Pg. 1332
D.B. 1658, Pg. 1332

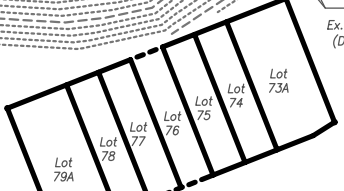
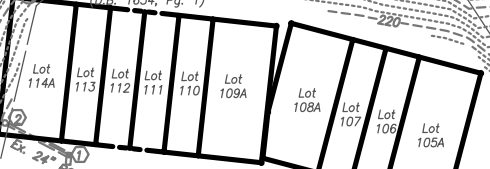
Ex. RPA and
Flood Hazard
Area
(D.B. 2496, Pg. 1848)

Ex. Flood Hazard Area
(D.B. 1634, Pg. 1)

PRINCE WILLIAM
COUNTY SCHOOL BOARD
GPIN 8090-78-1541
D.B. 1733, Pg. 1208

Lake Montclair Sediment Forebay : Option 1
Forebay Located at Intersection of Powell's Creek and Lake Montclair
Elevation
188 5139.74
186 6445.15
184 7894.39
182 9487.47
180 11224.4
Assumption: 2:1 Side Slopes
Total Volume: 63920.40 Cu. ft.
2370 C.Y.
Halfway Volume: 25875.36 Cu.Ft.
960 C.Y.

Approx. Location
Ex. 30' San. Sew. Esmt.
(D.B. 1542, Pg. 1726)



- OPTION 1 NOTES**
- APPROXIMATELY 1,871 LINEAR FEET OF ACCESS ROAD REQUIRED.
 - TWO CULVERT CROSSINGS REQUIRED.
 - APPROXIMATELY 17,469 SQ. FT. (0.40 AC.) OF WETLAND IMPACTS

PROS

- ASSUMPTIONS OF THIS APPROACH ARE CONSISTENT WITH ASSUMPTIONS OF JULY 2008 REPORT ENTITLED LAKE MONTCLAIR SEDIMENTATION CONTROL FEASIBILITY STUDY BY WHITMAN, REQUARDT AND ASSOCIATES, LLP (WRA) FOR IN LAKE OPTION WHICH IS THE PREFERRED OPTION/LOCATION PER THE REPORT.
- SEDIMENT VOLUME PROVIDED EXCEEDS THE ASSUMED SEDIMENT LOADING FROM POWELLS CREEK (1,200 TO 1,800 CY PER WRA REPORT).
- TOTAL VOLUME PROVIDED (2,370 C.Y.) EXCEEDS THE REQUIRED VOLUME (2,300 C.Y.) PER WRA REPORT.

CONS

- EXCESSIVE GRADING FOR ACCESS ROAD.
- ACCESS ROAD HAS SIGNIFICANT SLOPE.
- ACCESS ROAD TO BE VISIBLE FROM TOWNHOUSES LOCATED NEAR THE END OF THE ACCESS ROAD.
- ACCESS ROAD HAS TO CROSS AN EXISTING GAS LINE.
- THE TYPICAL FOREBAY VOLUME REQUIRED FOR THE CONTRIBUTING DRAINAGE AREA IS APPROXIMATELY 129,067 C.Y. THE VOLUME PROVIDED IS 1.83% OF THE REQUIRED VOLUME.
- SIGNIFICANT COST OF ROAD VS FACILITY.
- MINOR WETLAND DISTURBANCE, LIKELY WILL REQUIRE MITIGATION.

EXISTING TREE SURVEY

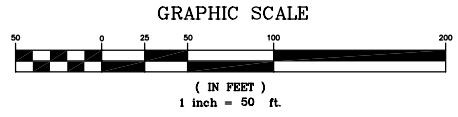
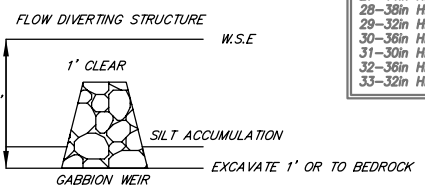
1-8in Locust	34-40in Hickory
2-24in Maple	35-32in Hickory
3-30in Maple	36-30in Hickory
4-24in Poplar	37-30in Hickory
5-20in Birch	38-30in Hickory
6-36in Maple	39-30in Hickory
7-24in Maple	40-27in Hickory
8-30in Poplar	41-30in Maple
9-24in Maple	42-30in Maple
10-36in Poplar	43-26in Maple
11-24in Maple	44-30in Maple
12-38in Hickory	45-32in Maple
13-22in Maple	46-30in Hickory
14-24in Hickory	47-36in Sycamore
15-26in Oak	48-42in Maple
16-44in Oak	49-36in Sycamore
17-44in Oak	50-36in Sycamore
18-26in Sycamore	51-30in Oak
19-64in Oak	52-24in Maple
20-32in Maple	53-30in Poplar
21-40in Hickory	54-30in Poplar
22-36in Maple	55-26in Poplar
23-28in Sycamore	56-30in Poplar
24-30in Sycamore	57-24in Maple
25-24in Maple	58-30in Sycamore
26-36in Oak	59-30in Maple
27-44in Hickory	60-30in Maple
28-38in Hickory	61-24in Birch
29-32in Hickory	62-14in Maple
30-36in Hickory	63-12in Maple
31-30in Hickory	64-10in Maple
32-36in Hickory	65-14in Cherry
33-32in Hickory	66-8in Cherry

SANITARY SEWER ASBUILT

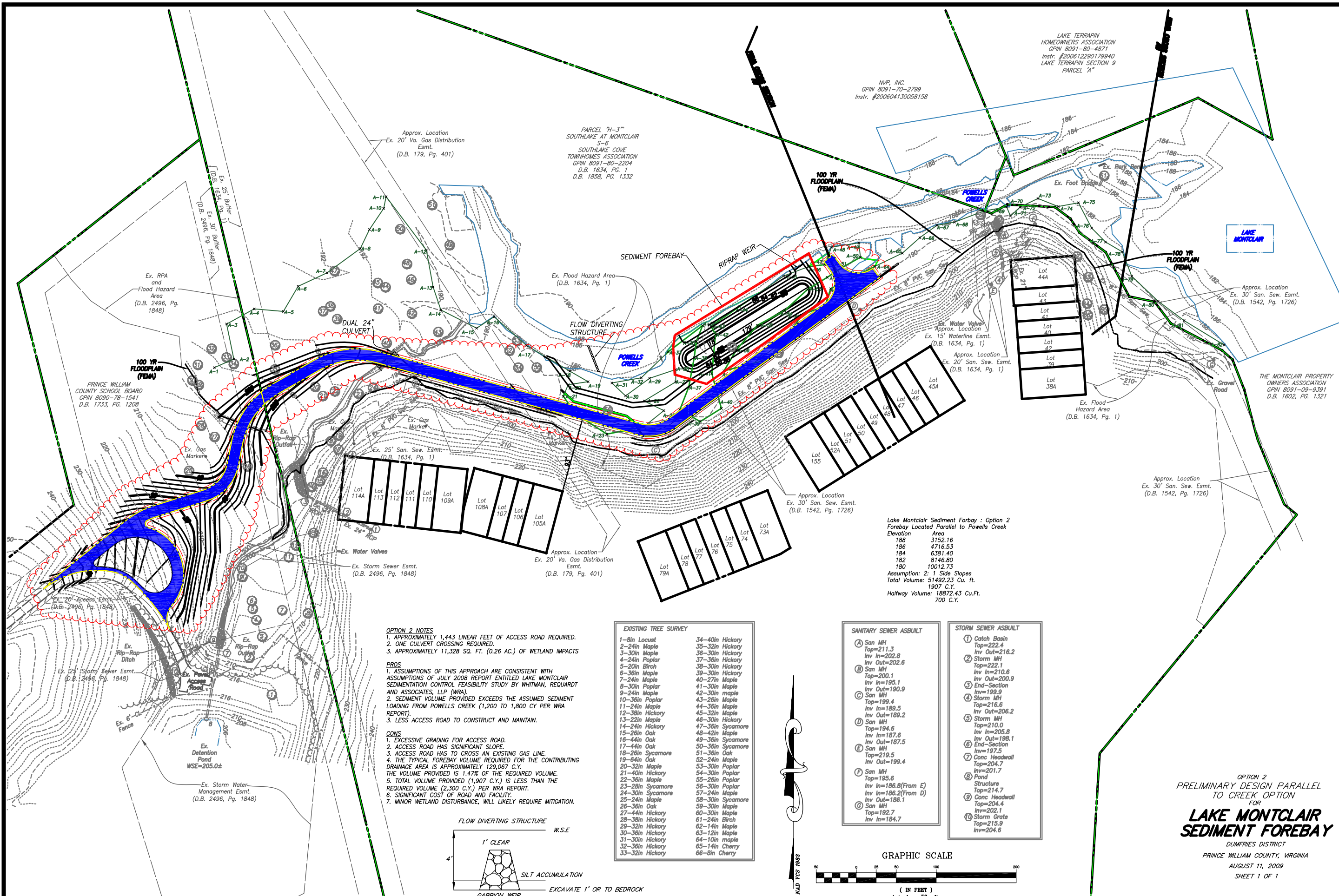
(A) San MH Top=211.3 Inv In=202.8 Inv Out=202.6
(B) San MH Top=200.1 Inv In=195.1 Inv Out=190.9
(C) San MH Top=199.4 Inv In=189.5 Inv Out=189.2
(D) San MH Top=194.6 Inv In=187.6 Inv Out=187.5
(E) San MH Top=219.5 Inv In=199.4
(F) San MH Top=195.6 Inv In=186.8(From E) Inv In=186.2(From D) Inv Out=186.1
(G) San MH Top=192.7 Inv In=184.7

STORM SEWER ASBUILT

(1) Catch Basin Top=222.4 Inv Out=216.2
(2) Storm MH Top=222.1 Inv In=210.6 Inv Out=200.9
(3) End-Section Inv In=199.9 Inv Out=198.1
(4) Storm MH Top=216.6 Inv In=189.5 Inv Out=206.2
(5) Storm MH Top=210.0 Inv In=205.8 Inv Out=198.1
(6) End-Section Inv In=197.5 Inv In=197.5
(7) Conc Headwall Top=204.7 Inv=201.7
(8) Pond Structure Top=214.7
(9) Conc Headwall Top=204.4 Inv=202.1
(10) Storm Grate Top=215.9 Inv=204.6



OPTION 1
PRELIMINARY DESIGN IN LAKE OPTION
FOR
**LAKE MONTCLAIR
SEDIMENT FOREBAY**
DUMFRIES DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
AUGUST 11, 2009
SHEET 1 OF 1



LAKE TERRAPIN
HOMEDOWNERS ASSOCIATION
GPIN 8091-80-4971
Instr. #200612290179840
LAKE TERRAPIN SECTION 9
PARCEL 'A'

MVP, INC.
GPIN 8091-70-2799
Instr. #200604130058158

PARCEL "H-3"
SOUTHLAKE AT MONTCLAIR
S-6
SOUTHLAKE COVE
TOWNHOMES ASSOCIATION
GPIN 8091-80-2204
D.B. 1634, PG. 1
D.B. 1858, PG. 1332

Ex. RPA
and
Flood Hazard
Area
(D.B. 2496, Pg. 1848)

PRINCE WILLIAM
COUNTY SCHOOL BOARD
GPIN 8090-78-1541
D.B. 1733, PG. 1208

LAKE
MONTCLAIR

Approx. Location
Ex. 30' San. Sew. Esmt.
(D.B. 1542, Pg. 1726)

THE MONTCLAIR PROPERTY
OWNERS ASSOCIATION
GPIN 8091-09-9391
D.B. 1602, PG. 1321

Lake Montclair Sediment Forebay : Option 2
Forebay Located Parallel to Powells Creek

Elevation	Area
188	3152.16
186	4716.53
184	6381.40
182	8146.80
180	10012.73

Assumption: 2: 1 Side Slopes
Total Volume: 51492.23 Cu. ft.
1907 C.Y.
Halfway Volume: 18872.43 Cu.Ft.
700 C.Y.

- OPTION 2 NOTES**
- APPROXIMATELY 1,443 LINEAR FEET OF ACCESS ROAD REQUIRED.
 - ONE CULVERT CROSSING REQUIRED.
 - APPROXIMATELY 11,328 SQ. FT. (0.26 AC.) OF WETLAND IMPACTS

- PROS**
- ASSUMPTIONS OF THIS APPROACH ARE CONSISTENT WITH ASSUMPTIONS OF JULY 2008 REPORT ENTITLED LAKE MONTCLAIR SEDIMENTATION CONTROL FEASIBILITY STUDY BY WHITMAN, REQUARDT AND ASSOCIATES, LLP (WRA).
 - SEDIMENT VOLUME PROVIDED EXCEEDS THE ASSUMED SEDIMENT LOADING FROM POWELLS CREEK (1,200 TO 1,800 CY PER WRA REPORT).
 - LESS ACCESS ROAD TO CONSTRUCT AND MAINTAIN.

- CONS**
- EXCESSIVE GRADING FOR ACCESS ROAD.
 - ACCESS ROAD HAS SIGNIFICANT SLOPE.
 - ACCESS ROAD HAS TO CROSS AN EXISTING GAS LINE.
 - THE TYPICAL FOREBAY VOLUME REQUIRED FOR THE CONTRIBUTING DRAINAGE AREA IS APPROXIMATELY 129,067 C.Y. THE VOLUME PROVIDED IS 1.47% OF THE REQUIRED VOLUME.
 - TOTAL VOLUME PROVIDED (1,907 C.Y.) IS LESS THAN THE REQUIRED VOLUME (2,300 C.Y.) PER WRA REPORT.
 - SIGNIFICANT COST OF ROAD AND FACILITY.
 - MINOR WETLAND DISTURBANCE, WILL LIKELY REQUIRE MITIGATION.

EXISTING TREE SURVEY

1-8in Locust	34-40in Hickory
2-24in Maple	35-32in Hickory
3-30in Maple	36-30in Hickory
4-24in Poplar	37-36in Hickory
5-20in Birch	38-30in Hickory
6-30in Maple	39-30in Hickory
7-24in Maple	40-27in Maple
8-30in Poplar	41-30in Maple
9-24in Maple	42-30in Maple
10-36in Poplar	43-26in Maple
11-24in Maple	44-36in Maple
12-38in Hickory	45-32in Maple
13-22in Maple	46-30in Hickory
14-24in Hickory	47-36in Sycamore
15-26in Oak	48-42in Maple
16-44in Oak	49-36in Sycamore
17-44in Oak	50-36in Sycamore
18-26in Sycamore	51-36in Oak
19-64in Oak	52-24in Maple
20-32in Maple	53-30in Poplar
21-40in Hickory	54-36in Poplar
22-36in Maple	55-26in Poplar
23-28in Sycamore	56-30in Poplar
24-30in Sycamore	57-24in Maple
25-24in Maple	58-30in Sycamore
26-36in Oak	59-30in Maple
27-44in Hickory	60-30in Poplar
28-38in Hickory	61-24in Birch
29-32in Hickory	62-14in Maple
30-36in Hickory	63-12in Maple
31-30in Hickory	64-10in maple
32-36in Hickory	65-14in Cherry
33-32in Hickory	66-8in Cherry

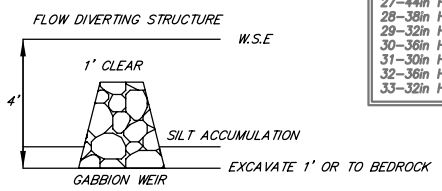
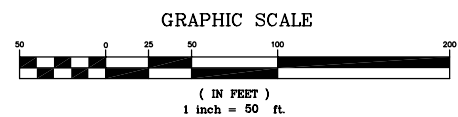
SANITARY SEWER ASBUILT

A San MH Top=211.3 Inv In=202.8 Inv Out=202.6
B San MH Top=200.1 Inv In=195.1 Inv Out=190.9
C San MH Top=199.4 Inv In=189.5 Inv Out=189.2
D San MH Top=194.6 Inv In=187.6 Inv Out=187.5
E San MH Top=219.5 Inv In=199.4
F San MH Top=195.6 Inv In=186.8(From E) Inv In=186.2(From D) Inv Out=186.1
G San MH Top=192.7 Inv In=184.7

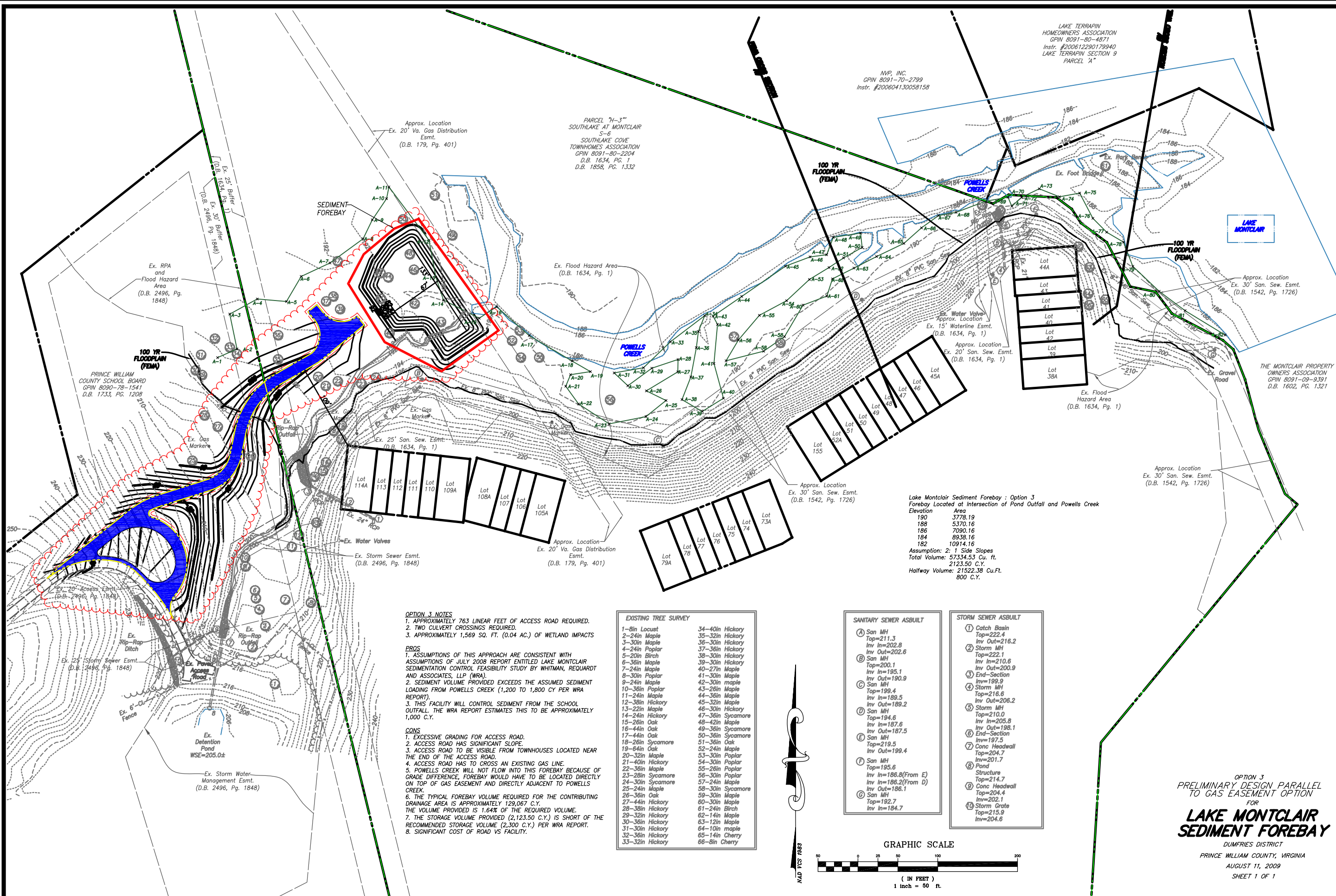
STORM SEWER ASBUILT

1 Catch Basin Top=222.4 Inv Out=216.2
2 Storm MH Top=222.1 Inv In=210.6 Inv Out=200.9
3 End-Section Inv In=199.9
4 Storm MH Top=216.6 Inv In=206.2
5 Storm MH Top=210.0 Inv In=205.8 Inv Out=198.1
6 End-Section Inv In=197.5
7 Conc Headwall Top=204.7 Inv=201.7
8 Pond Structure Top=214.7 Inv Out=206.2
9 Conc Headwall Top=204.4 Inv=202.1
10 Storm Grate Top=215.9 Inv=204.6

OPTION 2
PRELIMINARY DESIGN PARALLEL
TO CREEK OPTION
FOR
**LAKE MONTCLAIR
SEDIMENT FOREBAY**
DUMFRIES DISTRICT
PRINCE WILLIAM COUNTY, VIRGINIA
AUGUST 11, 2009
SHEET 1 OF 1



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LAKE TERRAPIN HOMEOWNERS ASSOCIATION
 GPIN 8091-80-4871
 Instr. #200612290179940
 LAKE TERRAPIN SECTION 9
 PARCEL "A"

NVP, INC.
 GPIN 8091-70-2799
 Instr. #200604130058158

Approx. Location
 Ex. 20' Va. Gas Distribution
 Esmt.
 (D.B. 179, Pg. 401)

PARCEL "H-3"
 SOUTHLAKE AT MONTCLAIR
 S-6
 SOUTHLAKE COVE
 TOWNHOMES ASSOCIATION
 GPIN 8091-80-2204
 D.B. 1634, Pg. 1
 D.B. 1858, Pg. 1332

LAKE MONTCLAIR

THE MONTCLAIR PROPERTY OWNERS ASSOCIATION
 GPIN 8091-09-9391
 D.B. 1602, Pg. 1321

PRINCE WILLIAM COUNTY SCHOOL BOARD
 GPIN 8090-78-1541
 D.B. 1733, Pg. 1208

Approx. Location
 Ex. 20' San. Sew. Esmt.
 (D.B. 1634, Pg. 1)

Approx. Location
 Ex. 30' San. Sew. Esmt.
 (D.B. 1542, Pg. 1726)

Approx. Location
 Ex. 30' San. Sew. Esmt.
 (D.B. 1542, Pg. 1726)

Lake Montclair Sediment Forebay : Option 3
 Forebay Located at Intersection of Pond Outfall and Powells Creek

Elevation	Area
190	3778.19
188	5370.16
186	7090.16
184	8938.16
182	10914.16

Assumption: 2: 1 Side Slopes
 Total Volume: 57334.53 Cu. ft.
 2123.50 C.Y.
 Halfway Volume: 21522.38 Cu.Ft.
 800 C.Y.

- OPTION 3 NOTES**
- APPROXIMATELY 763 LINEAR FEET OF ACCESS ROAD REQUIRED.
 - TWO CULVERT CROSSINGS REQUIRED.
 - APPROXIMATELY 1,569 SQ. FT. (0.04 AC.) OF WETLAND IMPACTS

PROS

- ASSUMPTIONS OF THIS APPROACH ARE CONSISTENT WITH ASSUMPTIONS OF JULY 2008 REPORT ENTITLED LAKE MONTCLAIR SEDIMENTATION CONTROL FEASIBILITY STUDY BY WHITMAN, REQUARDT AND ASSOCIATES, LLP (WRA).
- SEDIMENT VOLUME PROVIDED EXCEEDS THE ASSUMED SEDIMENT LOADING FROM POWELLS CREEK (1,200 TO 1,800 CY PER WRA REPORT).
- THIS FACILITY WILL CONTROL SEDIMENT FROM THE SCHOOL OUTFALL. THE WRA REPORT ESTIMATES THIS TO BE APPROXIMATELY 1,000 C.Y.

CONS

- EXCESSIVE GRADING FOR ACCESS ROAD.
- ACCESS ROAD HAS SIGNIFICANT SLOPE.
- ACCESS ROAD TO BE VISIBLE FROM TOWNHOUSES LOCATED NEAR THE END OF THE ACCESS ROAD.
- ACCESS ROAD HAS TO CROSS AN EXISTING GAS LINE.
- POWELLS CREEK WILL NOT FLOW INTO THIS FOREBAY BECAUSE OF GRADE DIFFERENCE. FOREBAY WOULD HAVE TO BE LOCATED DIRECTLY ON TOP OF GAS EASEMENT AND DIRECTLY ADJACENT TO POWELLS CREEK.
- THE TYPICAL FOREBAY VOLUME REQUIRED FOR THE CONTRIBUTING DRAINAGE AREA IS APPROXIMATELY 129,067 C.Y. THE VOLUME PROVIDED IS 1.64% OF THE REQUIRED VOLUME.
- THE STORAGE VOLUME PROVIDED (2,123.50 C.Y.) IS SHORT OF THE RECOMMENDED STORAGE VOLUME (2,300 C.Y.) PER WRA REPORT.
- SIGNIFICANT COST OF ROAD VS FACILITY.

EXISTING TREE SURVEY

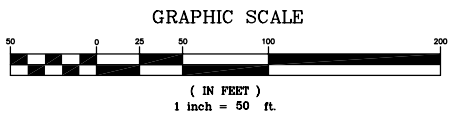
1-8in Locust	34-40in Hickory
2-24in Maple	35-32in Hickory
3-30in Maple	36-30in Hickory
4-24in Poplar	37-36in Hickory
5-20in Birch	38-30in Hickory
6-36in Maple	39-30in Hickory
7-24in Maple	40-27in Maple
8-30in Poplar	41-30in Maple
9-24in Maple	42-30in Maple
10-36in Poplar	43-26in Maple
11-24in Maple	44-36in Maple
12-32in Hickory	45-32in Maple
13-22in Maple	46-30in Hickory
14-24in Hickory	47-36in Sycamore
15-26in Oak	48-42in Maple
16-44in Oak	49-36in Sycamore
17-44in Oak	50-36in Sycamore
18-26in Sycamore	51-36in Oak
19-64in Oak	52-24in Maple
20-32in Maple	53-30in Poplar
21-40in Hickory	54-30in Poplar
22-36in Maple	55-26in Poplar
23-26in Sycamore	56-30in Poplar
24-30in Sycamore	57-24in Maple
25-24in Maple	58-36in Sycamore
26-36in Oak	59-30in Maple
27-44in Hickory	60-30in Maple
28-38in Hickory	61-24in Birch
29-32in Hickory	62-14in Maple
30-36in Hickory	63-12in Maple
31-30in Hickory	64-10in maple
32-36in Hickory	65-14in Cherry
33-32in Hickory	66-8in Cherry

SANITARY SEWER ASBUILT

A San MH	Top=211.3
	Inv In=202.8
B San MH	Top=202.6
	Inv In=195.1
C San MH	Top=200.1
	Inv In=190.9
D San MH	Top=199.4
	Inv In=189.2
E San MH	Top=194.6
	Inv In=187.5
F San MH	Top=219.5
	Inv In=199.4
G San MH	Top=195.6
	Inv In=186.8(From E)
	Inv In=186.2(From D)
	Inv In=186.1
H San MH	Top=192.7
	Inv In=184.7

STORM SEWER ASBUILT

1 Catch Basin	Top=222.4
	Inv Out=216.2
2 Storm MH	Top=222.1
	Inv In=210.6
	Inv Out=200.9
3 End-Section	Inv In=199.9
4 Storm MH	Top=216.6
	Inv Out=206.2
5 Storm MH	Top=210.0
	Inv In=205.8
	Inv Out=198.1
6 End-Section	Inv In=197.5
7 Conc Headwall	Top=204.7
	Top=201.7
8 Pond Structure	Top=214.7
9 Conc Headwall	Top=204.4
	Inv=202.1
10 Storm Grate	Top=215.9
	Inv=204.6

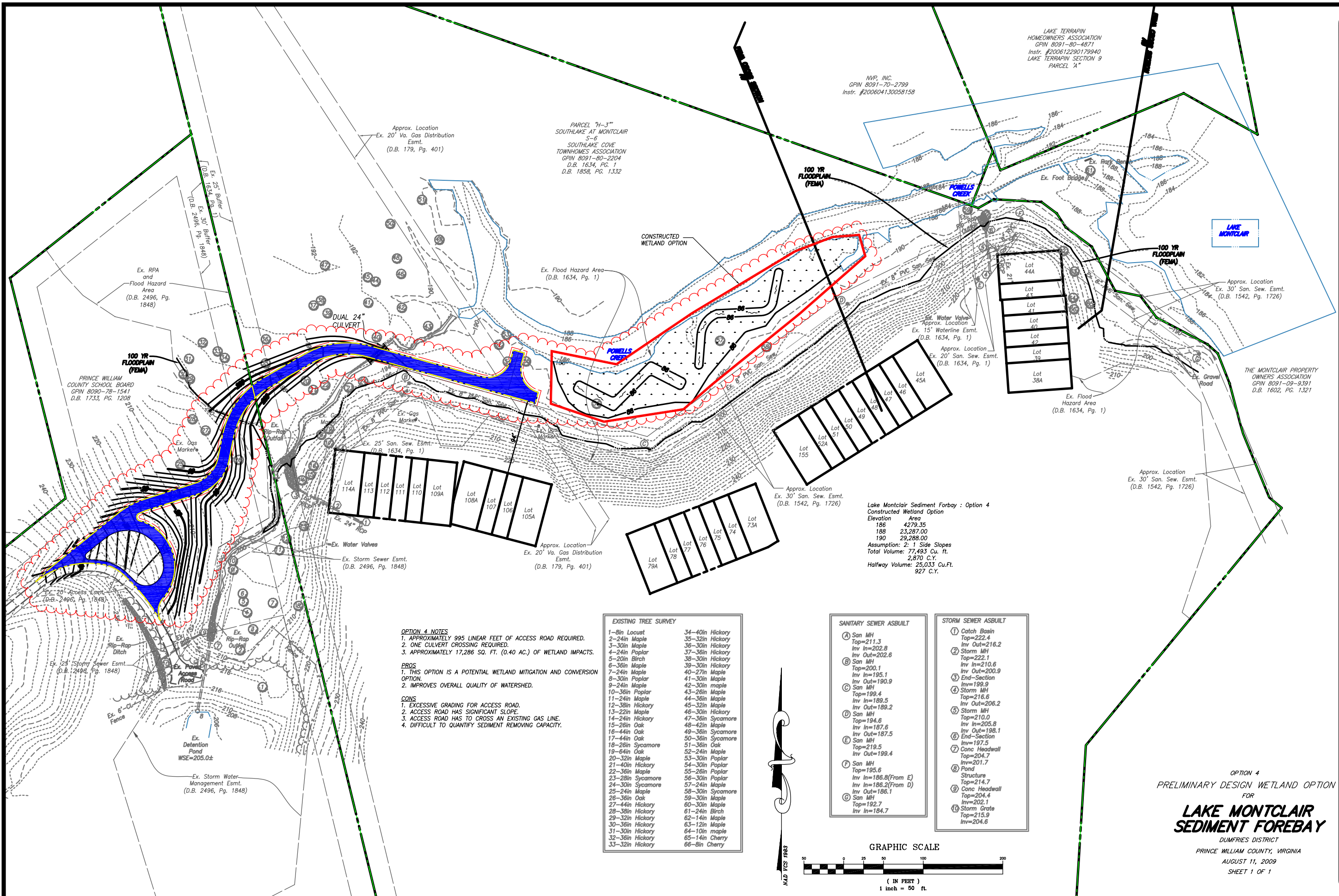


OPTION 3
 PRELIMINARY DESIGN PARALLEL
 TO GAS EASEMENT OPTION
 FOR
**LAKE MONTCLAIR
 SEDIMENT FOREBAY**
 DUMFRIES DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA
 AUGUST 11, 2009
 SHEET 1 OF 1

Engineering * Surveying * Land Planning * Transportation * Environmental Services
 380 West Courthouse Road, Suite 300, Mechanicsville, VA 23103, on the web @ www.rinker.com
 Telephone: (703) 382-7373 Fax: (703) 257-5443

Rinker Design Associates, P.C.





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OPTION 4 NOTES
 1. APPROXIMATELY 995 LINEAR FEET OF ACCESS ROAD REQUIRED.
 2. ONE CULVERT CROSSING REQUIRED.
 3. APPROXIMATELY 17,286 SQ. FT. (0.40 AC.) OF WETLAND IMPACTS.

PROS
 1. THIS OPTION IS A POTENTIAL WETLAND MITIGATION AND CONVERSION OPTION.
 2. IMPROVES OVERALL QUALITY OF WATERSHED.

CONS
 1. EXCESSIVE GRADING FOR ACCESS ROAD.
 2. ACCESS ROAD HAS SIGNIFICANT SLOPE.
 3. ACCESS ROAD HAS TO CROSS AN EXISTING GAS LINE.
 4. DIFFICULT TO QUANTIFY SEDIMENT REMOVING CAPACITY.

EXISTING TREE SURVEY

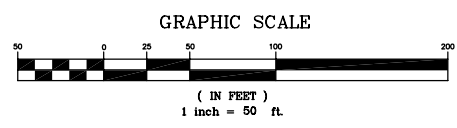
1-8in Locust	34-40in Hickory
2-24in Maple	35-32in Hickory
3-30in Maple	36-30in Hickory
4-24in Poplar	37-36in Hickory
5-20in Birch	38-30in Hickory
6-36in Maple	39-30in Hickory
7-24in Maple	40-27in Maple
8-30in Poplar	41-30in Maple
9-24in Maple	42-30in maple
10-36in Poplar	43-26in Maple
11-24in Maple	44-36in Maple
12-38in Hickory	45-32in Maple
13-22in Maple	46-30in Hickory
14-24in Hickory	47-36in Sycamore
15-26in Oak	48-42in Maple
16-44in Oak	49-36in Sycamore
17-44in Oak	50-36in Sycamore
18-26in Sycamore	51-36in Oak
19-64in Oak	52-24in Maple
20-32in Maple	53-30in Poplar
21-40in Hickory	54-30in Poplar
22-36in Maple	55-26in Poplar
23-28in Sycamore	56-30in Poplar
24-30in Sycamore	57-24in Maple
25-24in Maple	58-30in Sycamore
26-36in Oak	59-30in Maple
27-44in Hickory	60-30in Maple
28-38in Hickory	61-24in Birch
29-32in Hickory	62-14in Maple
30-36in Hickory	63-12in Maple
31-30in Hickory	64-10in maple
32-36in Hickory	65-14in Cherry
33-32in Hickory	66-8in Cherry

SANITARY SEWER ASBUILT

A San MH	Top=211.3
	Inv In=202.8
	Inv Out=202.6
B San MH	Top=200.1
	Inv In=195.1
	Inv Out=190.9
C San MH	Top=199.4
	Inv In=189.5
	Inv Out=189.2
D San MH	Top=194.6
	Inv In=187.6
	Inv Out=187.5
E San MH	Top=219.5
	Inv Out=199.4
F San MH	Top=195.6
	Inv In=186.8(From E)
	Inv In=186.2(From D)
	Inv Out=186.1
G San MH	Top=192.7
	Inv In=184.7

STORM SEWER ASBUILT

1 Catch Basin	Top=222.4
	Inv Out=216.2
2 Storm MH	Top=222.1
	Inv In=210.6
	Inv Out=200.9
3 End-Section	Inv=199.9
4 Storm MH	Top=216.6
	Inv Out=206.2
5 Storm MH	Top=210.0
	Inv In=205.8
	Inv Out=198.1
6 End-Section	Inv=197.5
7 Conc Headwall	Top=204.7
	Inv=201.7
8 Pond Structure	Top=214.7
	Top=204.4
9 Conc Headwall	Top=204.4
	Inv=202.1
10 Storm Grate	Top=215.9
	Inv=204.6



Lake Montclair Sediment Forebay : Option 4

Elevation	Area
186	4279.35
188	23,287.00
190	29,288.00
Assumption: 2:1 Side Slopes	
Total Volume: 77,493 Cu. ft.	
2,870 C.Y.	
Halfway Volume: 25,033 Cu.Ft.	
927 C.Y.	

OPTION 4
 PRELIMINARY DESIGN WETLAND OPTION
 FOR
**LAKE MONTCLAIR
 SEDIMENT FOREBAY**
 DUMFRIES DISTRICT
 PRINCE WILLIAM COUNTY, VIRGINIA
 AUGUST 11, 2009
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