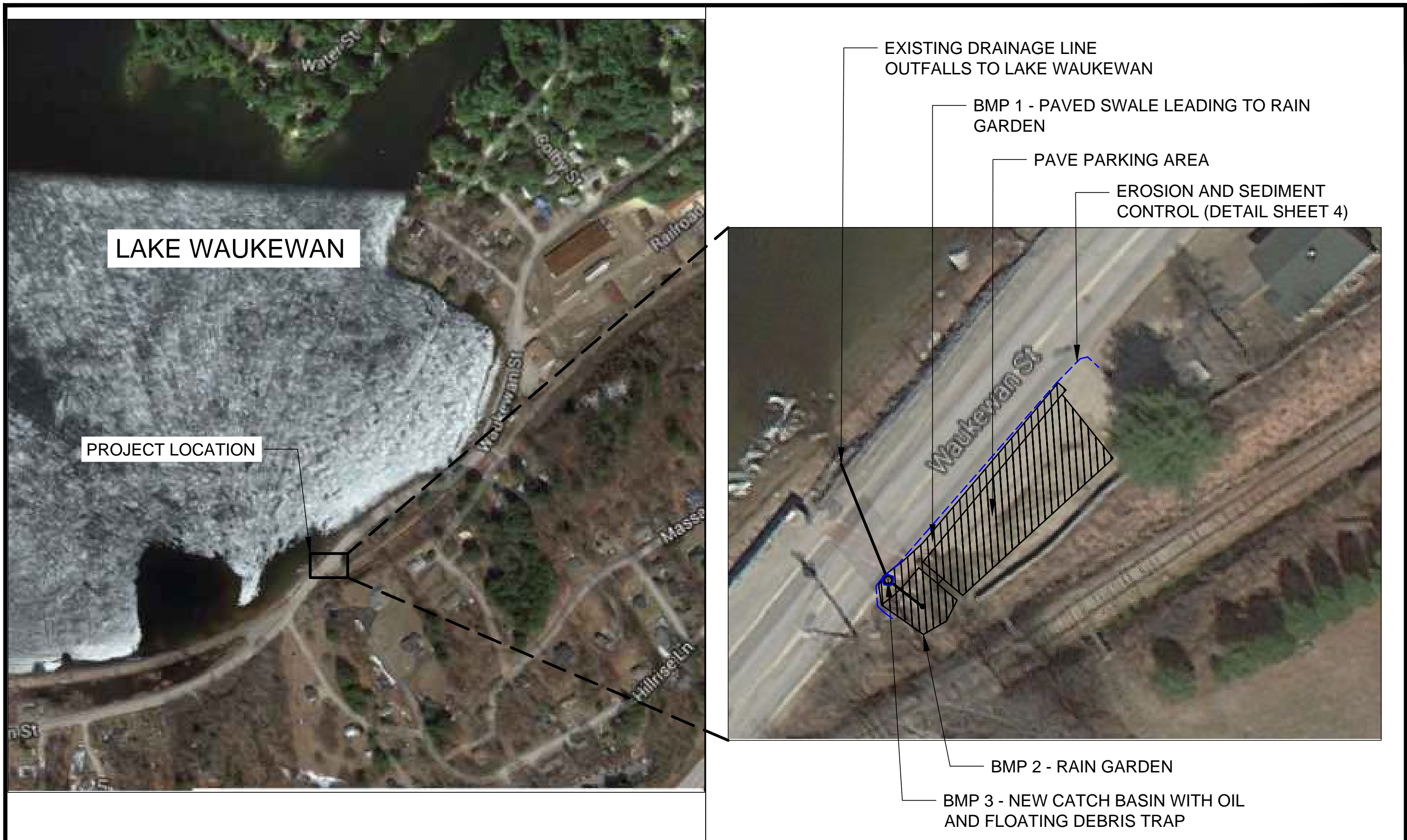


Appendix G:

Preliminary BMP Plans

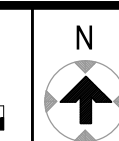
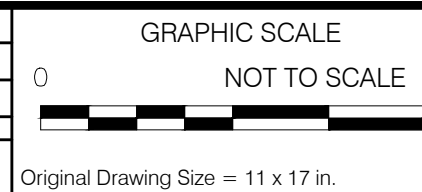


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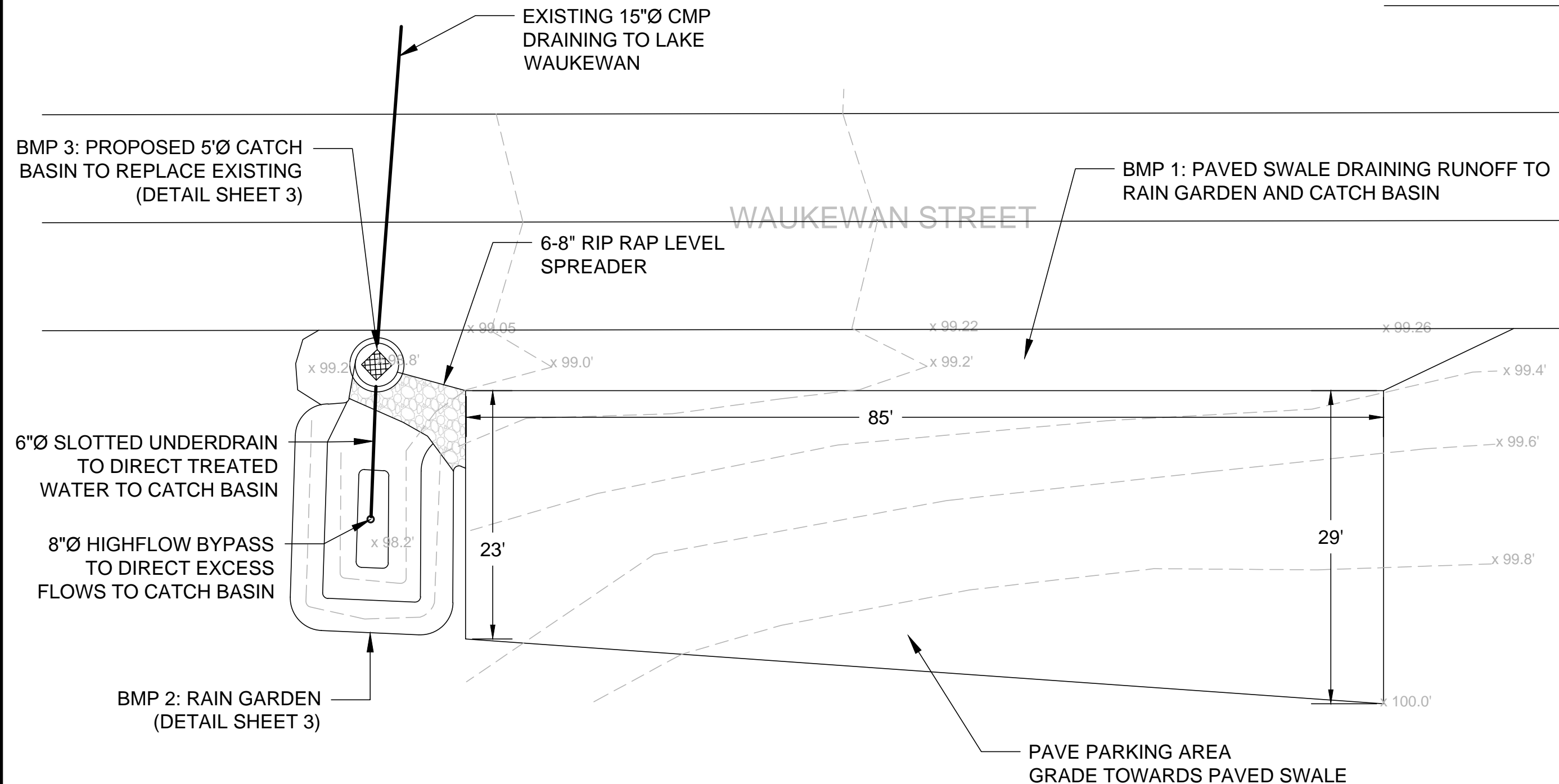
No.	Date	Revision
1		
Designed:	Checked:	Approved:
TAP	JJH	TPB



Project: **PROJECT LOCATION**
STORMWATER MANAGEMENT
WAUKEWAN ST, MEREDITH, NH

Date: January 15, 2016
Sheet No. 1 of 4

SCALE: 1" = 10'



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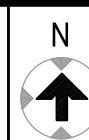
No.	Date	Revision
Designed: TAP	Checked: JJH	Approved: TPB

GRAPHIC SCALE

0 10' 20'



Original Drawing Size = 11 x 17 in.



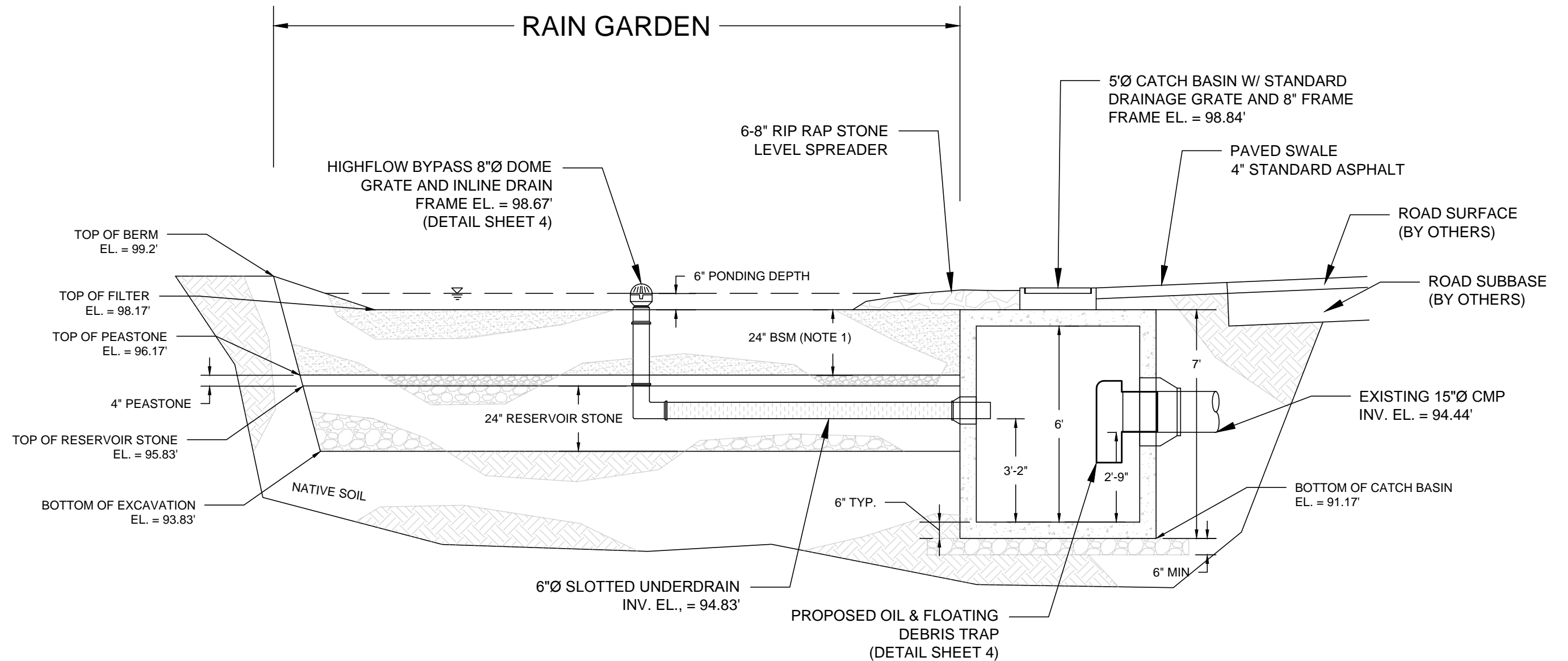
Project:

SYSTEM PLAN VIEW

STORMWATER MANAGEMENT

WAUKEWAN ST, MEREDITH, NH

Date:	January 15, 2016
Sheet No.	2 of 4



NOTES:

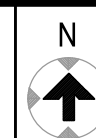
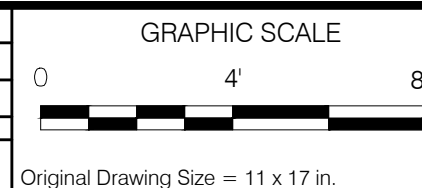
1. BIORETENTION SOIL MIX (BSM) IS A WATER QUALITY FILTER SOIL COMPRISED OF 60% SAND, 20% SHREDDED WOOD CHIPS, 15-17% TOP SOIL (LOAM), AND 3-5% WATER TREATMENT RESIDUALS. WTR WILL BE PROVIDED BY UNHSC AND IS INCLUDED TO IMPROVE PHOSPHORUS REDUCTION.
2. PEASTONE IS $\frac{3}{8}$ " WASHED STONE
3. RESERVOIR STONE IS $\frac{3}{4}$ " WASHED STONE

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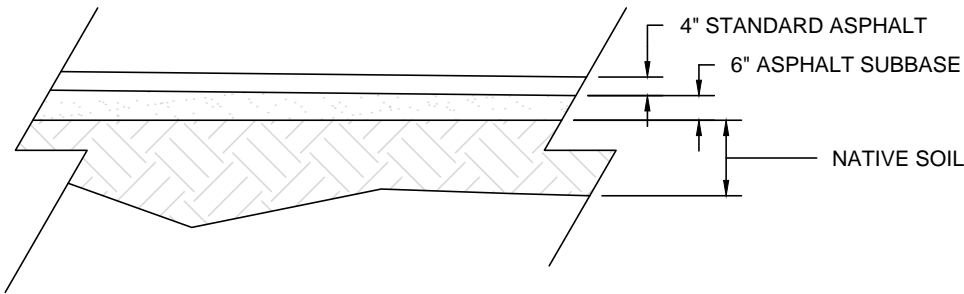
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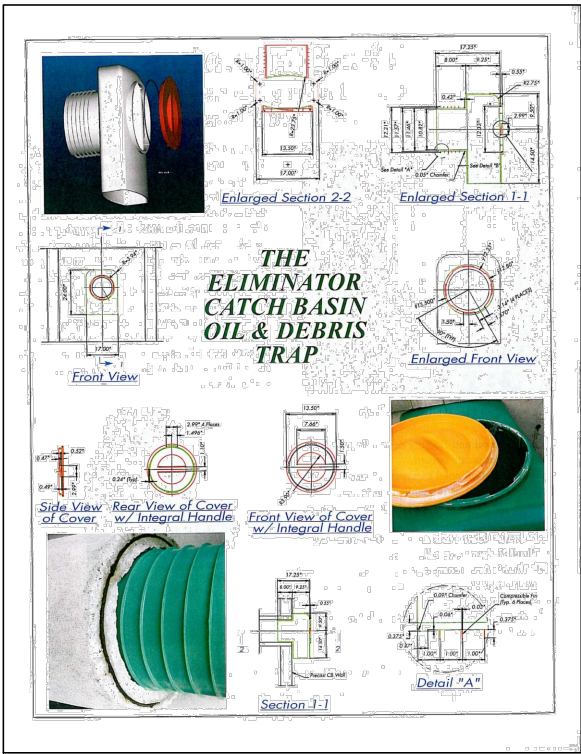


Project: **CROSS SECTION**
STORMWATER MANAGEMENT
WAUKEWAN ST, MEREDITH, NH

Date: January 15, 2016
Sheet No. **3** of **4**

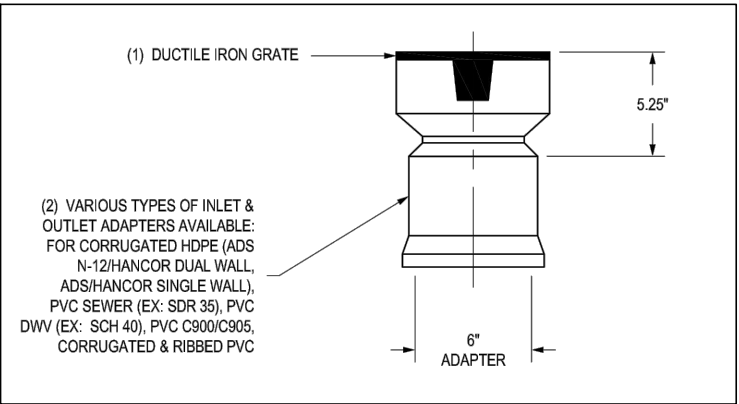


PAVEMENT DETAIL

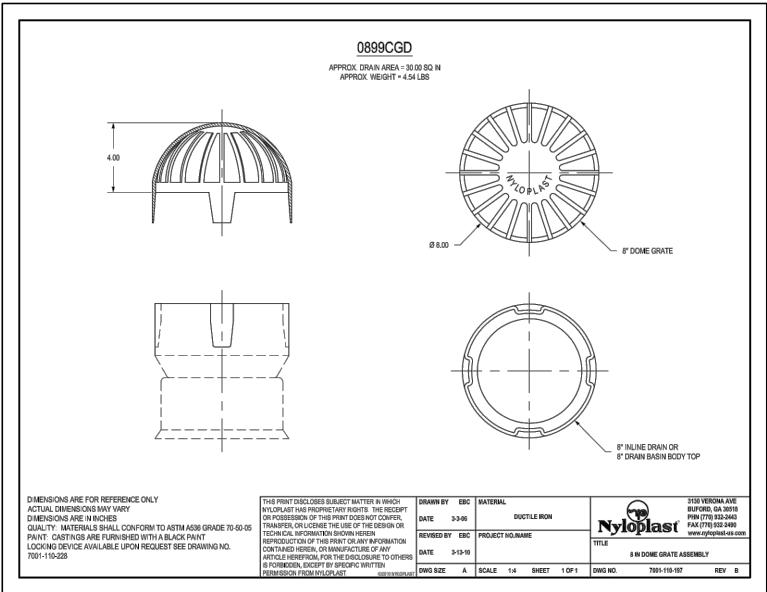


OIL & FLOATING DEBRIS TRAP

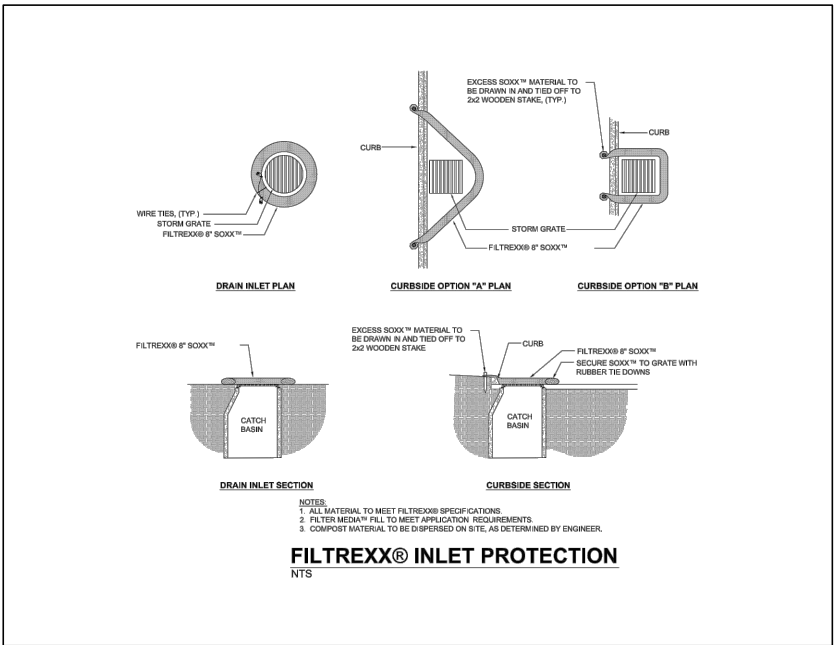
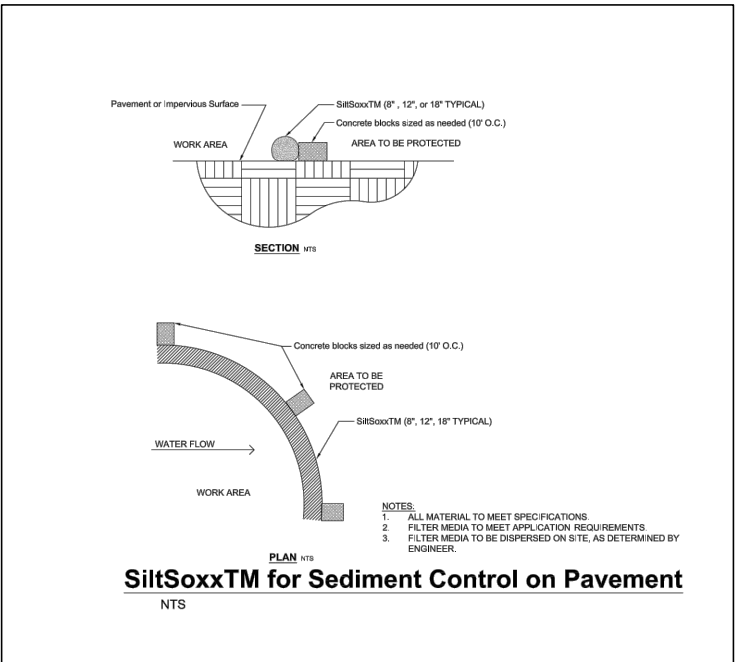
- NOTES:
- OIL & FLOATING DEBRIS TRAP DETAIL IS FOR AN ELIMINATOR™. OTHER PRODUCT MAY BE USED UPON ENGINEER'S APPROVAL
 - INLINE DRAIN AND DOME GRATE DETAILS ARE NYLOPLAST PRODUCTS. OTHER PRODUCTS MAY BE SUBSTITUTED UPON ENGINEER'S APPROVAL



8" INLINE DRAIN ON 6" ADS ADAPTOR



8" DOME GRATE



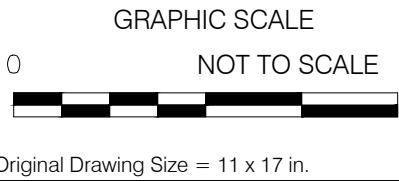
EROSION & SEDIMENT CONTROL

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Project:
DETAIL SHEET
STORMWATER MANAGEMENT
WAUKEWAN ST, MEREDITH, NH

Date:
January 15, 2016
Sheet No.
4 of **4**

City/NHDOT Item No.	Description	Unit	Quantity	Unit Price	Cost	Project + 10%	Project - 10%
	Asphalt Subbase						
GRAVEL3	Sand (60%) ¹	CY	16.7	\$16.00	\$266.67	\$293.33	\$240.00
NHDOT 604	Top Soil (20%)	CY	5.6	\$21.00	\$116.67	\$128.33	\$105.00
	Woodchips (20%)	CY	5.6	\$11.00	\$61.11	\$67.22	\$55.00
PEASTONE	3/8" Stone ¹	CY	4.7	\$28.00	\$132.22	\$145.44	\$119.00
RIPRAP	6" Minus Riprap ¹	TON	1.0	\$24.00	\$24.00	\$26.40	\$21.60
3/4" STONE	3/4" STONE	CY	27.8	\$24.00	\$666.67	\$733.33	\$600.00
ADS	6" HDPE Pipe ¹ (20' legnth)	EA	1	\$49.00	\$49.00	\$53.90	\$44.10
ADS	12" HDPE Pipe ¹ (20' legnth)	EA	1	\$124.00	\$124.00	\$136.40	\$111.60
ADS	6" HDPE END ¹	EA	1	\$20.00	\$20.00	\$22.00	\$18.00
ADS	6" Coupler	EA	1	\$8.00	\$8.00	\$8.80	\$7.20
	Non-woven Geotextile Fabric	EA	1	\$500.00	\$500.00	\$550.00	\$450.00
E&SC	Erosion and sediment control	SY	300	\$3.00	\$900.00	\$990.00	\$810.00
	Plantings	AREA	50	\$50.00	\$2,500.00	\$2,750.00	\$2,250.00
	H20 5' dia Catchbasin with Frame and Grate	EA	1	\$2,500.00	\$2,500.00	\$2,750.00	\$2,250.00
	Paving subbase (assumes 1' subbase of bank run)	CY	82	\$16.00	\$1,309.63	\$1,440.59	\$1,178.67
	Paving (assumes 2, 1.5" lifts)	SF	2210	\$3.00	\$6,630.00	\$7,293.00	\$5,967.00
	MATCH (assumes town installation)						
	System Installation Equipment	Days	3.5	\$2,200	\$7,700	\$8,470.00	\$6,930.00
	System Installation Labor	Days	5	\$850	\$4,250	\$4,675.00	\$3,825.00

¹Based on competitive bid pricing

		Cost + 10%	Cost - 10%
Materials	\$15,807.96	\$17,388.76	\$14,227.17
Installation (match)	\$11,950.00	\$13,145.00	\$10,755.00
Total	\$27,758	\$30,534	\$24,982



PROJECT LOCATION

LAKE WINONA

VEGETATED SWALE
WITH BIO-RETENTION MEDIA



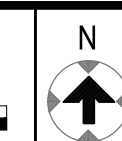
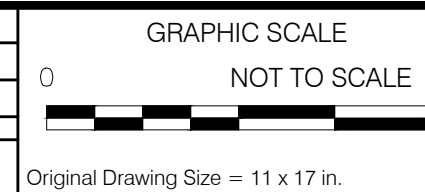
RAIN GARDEN

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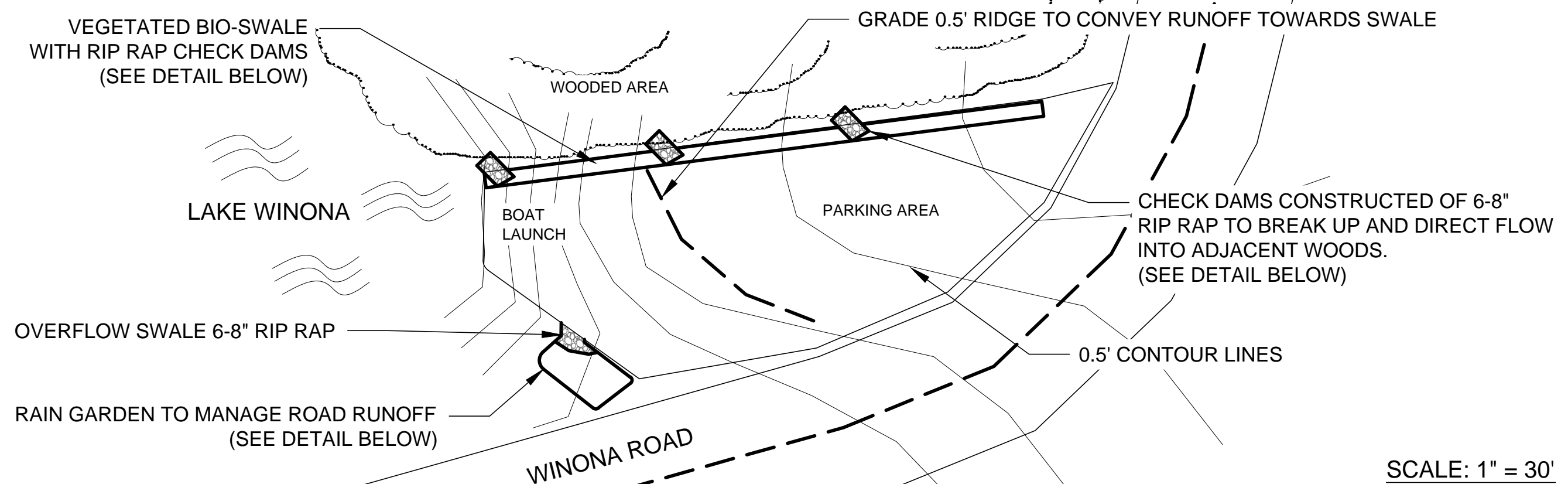
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Project: **PROJECT OVERVIEW**
WINONA LAKE BOAT LAUNCH
CENTER HARBOR, NH

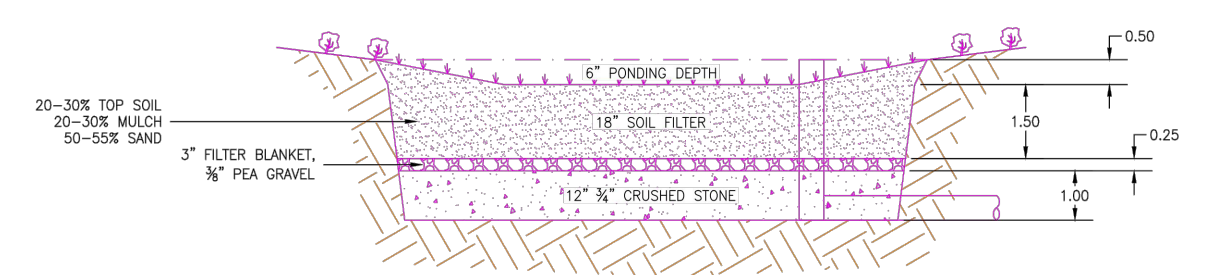
Date: July 29, 2016
Sheet No. 1 of 3



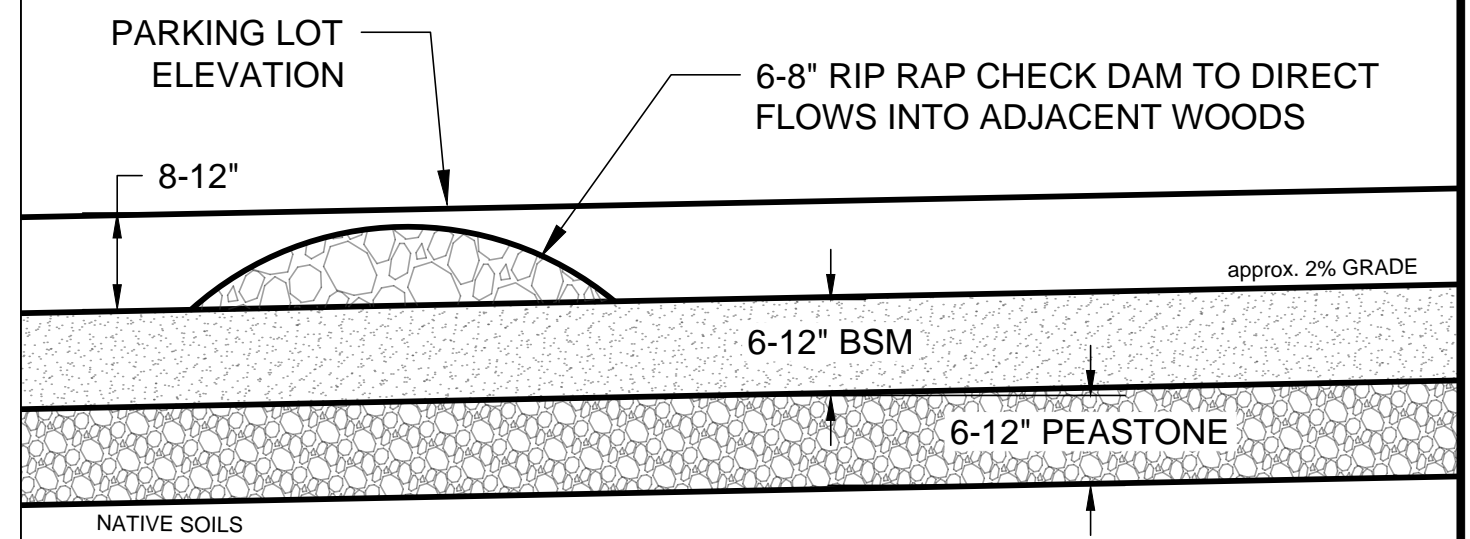
SCALE: 1" = 30'

SOIL FILTER MEDIA		
FILTER MEDIA	MIXTURE BY VOLUME	SPECIFICATION
SAND	50-55%	NHDOT SPECIFICATION #304.01 FINE AGGREGATE FOR CONCRETE
TOPSOIL	20-30%	LOAMY SAND TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 15 TO 25% FINES PASSING THE #200 SIEVE
MULCH	20-30%	MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE

SCALE: 1" = 2'



CROSS SECTION DETAIL FOR RAIN GARDEN



CROSS SECTION DETAIL FOR BIO-SWALE

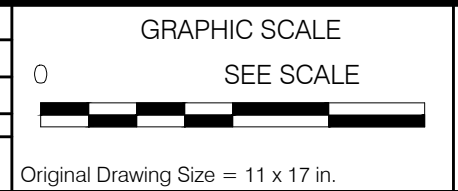
SCALE: 1" = 2'

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Project: **SYSTEM DETAILS**
WINONA LAKE BOAT LAUNCH
CENTER HARBOR, NH

Date: July 29, 2016
Sheet No. **2** of **3**

Lake Winona Boat Launch - Materials and Costs

City/NHDOT Item No.	Description	Unit	Quantity	Unit Price	Cost	Project +10%	Project -10%
GRAVEL3	Sand (60%) ¹	CY	28	\$16.00	\$448.00	\$492.80	\$403.20
NHDOT 604	Top Soil (20%)	CY	10	\$21.00	\$210.00	\$231.00	\$189.00
	Woodchips (20%)	CY	10	\$11.00	\$110.00	\$121.00	\$99.00
PEASTONE	3/8" Stone ¹	CY	46	\$28.00	\$1,288.00	\$1,416.80	\$1,159.20
RIPRAP	6" Minus Riprap ¹	TON	7	\$24.00	\$168.00	\$184.80	\$151.20
E&SC	Erosion and sediment control	SY	200	\$3.00	\$600.00	\$660.00	\$540.00
	Plantings	AREA	50	\$5.00	\$250.00	\$275.00	\$225.00
	System Installation Equipment	Days	3	\$2,200	\$6,600	\$7,260.00	\$5,940.00
	System Installation Labor	Days	4	\$850	\$3,400	\$3,740.00	\$3,060.00
						Cost + 10%	Cost - 10%
					Total	\$13,074	\$11,767

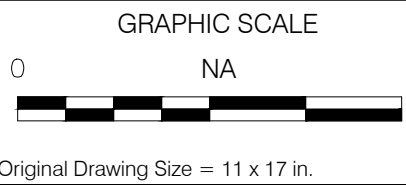
¹ Based on competitive bid pricing

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Project: **PROJECT COSTS**
WINONA LAKE BOAT LAUNCH
CENTER HARBOR, NH

Date: **July 29, 2016**
Sheet No. **3 of 3**