Hermitage Club: Snowmaking Needs and Alternative Analysis
Summary of Snowmaking Mass Balance Hydrograph Analyses - Comparisons
Prepared by VHB: December 5, 2014

Evaluate	Compare scenarios	Description	80th Percentile Year*		Average Year	
			(Mgal)	% of Target	(Mgal)	% of Target
Benefit of Enlarging Mirror Lake - shared w/ Mt Snow, 147 Acres of coverage, Haystack Bk Intake	H2A-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.5%
	H2B-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), enlarged Mirror Lake shared with Mt Snow (28.4 Mgal total volume), 147 Acres of snowmaking terrain coverage	65.8	44.5%	105.5	71.4%
		Difference	9.0	6.1%	7.2	4.9%
Benefit of a 5,000-gpm pump at Cold Brook (vs. 3,500-gpm pump) - current Mirror Lake shared w/ Mt Snow, 147 Acres coverage	H2A-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.5%
	H2A-2	Upgrade the Cold Brook Intake (5,000 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.4	66.6%
		Difference	0.0	0.0%	0.1	0.1%
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) - current Mirror Lake shared w/ Mt Snow, 147 Acres coverage	H2A-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.5%
	H2A-3	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.6%
		Difference	0.0	0.0%	0.0	0.0%
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) AND a 5,000-gpm pump at Cold Brook (vs. 3,500 gpm pump) - current Mirror Lake shared w/ Mt Snow, 147 Acres coverage	H2A-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.5%
	H2A-4	Upgrade the Cold Brook Intake (5,000 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.4	66.6%
		Difference	0.0	0.0%	0.1	0.1%

Evaluate	Compare scenarios	Description	80th Percentile Year*		Average Year	
			(Mgal)	% of Target	(Mgal)	% of Target
Benefit of removing the 50% limit at Haystack Brook (current Mirror Lake configuration) - shared w/ Mt Snow, 147 Acres coverage	H2A-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	56.8	38.4%	98.3	66.5%
	H2C-1	same as scenario H2A-1, but without the 50% limitation on Haystack Brook withdrawals: Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), Mirror Lake shared with Mt Snow (14.6 Mgal total volume), 147 Acres of snowmaking terrain coverage	58.4	39.6%	100.5	68.1%
		Difference	1.7	1.1%	2.3	1.5%
Benefit of removing the 50% limit at Haystack Brook (enlarged Mirror Lake) - shared w/ Mt Snow, 147 Acres coverage	H2B-1	Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), enlarged Mirror Lake shared with Mt Snow (28.4 Mgal total volume), 147 Acres of snowmaking terrain coverage	65.8	44.5%	105.5	71.4%
	H2C-2	same as scenario H2B-1, but without the 50% limitation on Haystack Brook withdrawals: Upgrade the Cold Brook Intake (3,500 gpm pump) and share with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), enlarged Mirror Lake shared with Mt Snow (28.4 Mgal total volume), 147 Acres of snowmaking terrain coverage	70.8	47.9%	107.5	72.8%
		Difference	5.0	3.4%	2.0	1.4%
Benefit of Enlarging Mirror Lake - 154.4 Acres of coverage, no sharing intake or storage w/ Mt Snow	H3A-1	Phase 2 Expansion: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake 14.6 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	85.4	55.9%	118.7	77.7%
	H3B-1	Phase 2 Expansion: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), enlarge Mirror Lake to 28.4 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	99.2	65.0%	128.0	83.8%
		Difference	13.8	9.0%	9.3	6.1%
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) AND a 5,000-gpm pump at Cold Brook (vs. 3,500 gpm pump) - 154.4 Acres of coverage, no sharing intake or storage w/ Mt Snow, current Mirror Lake w/ 14.6 Mgal	H3A-1	Phase 2 Expansion: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), Mirror Lake 14.6 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	85.4	55.9%	118.7	77.7%
	H3A-2	Phase 2 Expansion: upgrade the Cold Brook Intake (5,000 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump), Mirror Lake 14.6 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	86.1	56.4%	118.8	77.8%
		Difference	0.7	0.4%	0.1	0.1%

Evaluate	Compare scenarios	Description	80th Percentile Year*		Average Year	
			(Mgal)	% of Target	(Mgal)	% of Target
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) AND a 5,000-gpm pump at Cold Brook (vs. 3,500 gpm pump) - 154.4 Acres of coverage, no sharing intake or storage w/ Mt Snow, enlarged Mirror Lake w/ 28.4 Mgal	H3B-1	Phase 2 Expansion: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump w/ 50% limit), enlarge Mirror Lake to 28.4 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	99.2	65.0%	128.0	83.8%
	H3B-2	Phase 2 Expansion: upgrade the Cold Brook Intake (5,000 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump), enlarge Mirror Lake to 28.4 Mgal total volume, 154.4 Acres of snowmaking terrain coverage	101.2	66.3%	128.2	83.9%
		Difference	2.0	1.3%	0.2	0.1%
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) AND a 5,000-gpm pump at Cold Brook (vs. 3,500 gpm pump) - 193.3 Acres of coverage, no sharing intake or storage w/ Mt Snow, current Mirror Lake w/ 14.6 Mgal	H4A-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), Mirror Lake 14.6 Mgal total volume, 193.3 Acres of snowmaking terrain coverage	94.1	48.5%	142.0	73.2%
	H4A-2	Potential Full Build-Out: upgrade the Cold Brook Intake (5,000 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump), Mirror Lake 14.6 Mgal total volume, 193.3 Acres of snowmaking terrain coverage	94.1	48.5%	142.2	73.3%
		Difference	0.0	0.0%	0.2	0.1%
Benefit of Enlarging Mirror Lake - 193.3 Acres of coverage, no sharing intake or storage w/ Mt Snow	H4A-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), Mirror Lake 14.6 Mgal total volume, 193.3 Acres of snowmaking terrain coverage	94.1	48.5%	142.0	73.2%
	H4B-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), enlarge Mirror Lake to 28.4 Mgal total, 193.3 Acres of snowmaking terrain coverage	107.9	55.6%	153.3	79.0%
		Difference	13.8	7.1%	11.2	5.8%
Benefit of a 3,500-gpm pump at Haystack Brook (vs. 2,000-gpm pump) AND a 5,000-gpm pump at Cold Brook (vs. 3,500 gpm pump) - 193.3 Acres of coverage, no sharing intake or storage w/ Mt Snow, enlarged Mirror Lake w/ 28.4 Mgal	H4B-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), enlarge Mirror Lake to 28.4 Mgal total, 193.3 Acres of snowmaking terrain coverage	107.9	55.6%	153.3	79.0%
	H4B-2	Potential Full Build-Out: upgrade the Cold Brook Intake (5,000 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (3,500 gpm pump), enlarge Mirror Lake to 28.4 Mgal total, 193.3 Acres of snowmaking terrain coverage	107.9	55.6%	153.7	79.3%
		Difference	0.0	0.0%	0.5	0.2%
Benefit of Adding Siegel Pond - 193.3 Acres of coverage, Mirror Lake already enlarged to 28.4 Mgal, no sharing intake or storage w/ Mt Snow	H4B-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), enlarge Mirror Lake to 28.4 Mgal total, 193.3 Acres of snowmaking terrain coverage	107.9	55.6%	153.3	79.0%
	H4C-1	Potential Full Build-Out: upgrade the Cold Brook Intake (3,500 gpm pump), no longer shared with Mt Snow, new conservation flow; install proposed Haystack Brook Intake (2,000 gpm pump), enlarge Mirror Lake to 28.4 Mgal total, add Siegel Pond (22 Mgal), 193.3 Acres of snowmaking terrain coverage	129.0	66.5%	165.2	85.2%
		Difference	21.2	10.9%	11.9	6.1%

Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H1

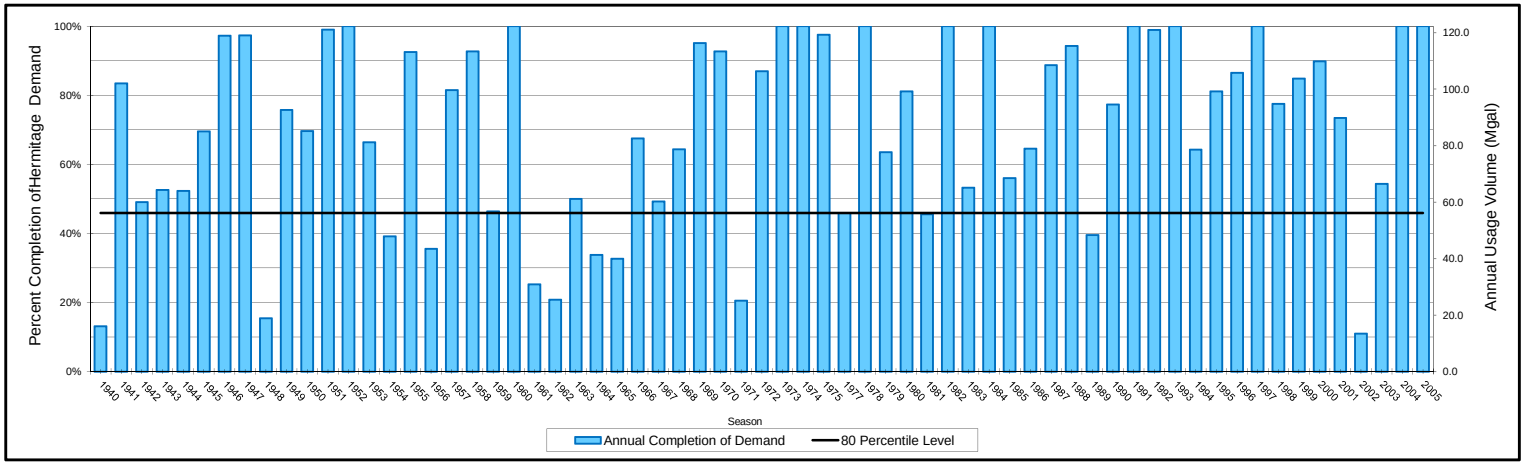
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.58	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	0	0
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	122.3

Output For Scenario H1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	11.3	67.1	10.7	18.3	0.0	93	0.0	130.2	36.2%	16.0	106.3	13.1%	97.0%
1941	422.5	328.7	102.1	468.6	22.1	139.5	0.0	726	0.0	350.8	97.5%	102.1	20.2	83.4%	42.4%
1942	368.1	242.3	60.0	544.7	30.6	172.1	0.0	973	0.0	272.9	75.9%	60.0	62.3	49.1%	77.3%
1943	508.0	256.6	64.3	854.8	22.9	277.1	0.0	1,615	0.0	279.4	77.7%	64.3	58.0	52.6%	71.2%
1944	483.7	242.6	64.0	740.4	20.7	239.3	0.0	1,386	0.0	263.3	73.2%	64.0	58.3	52.4%	72.7%
1945	473.5	281.3	85.1	1,404.2	36.5	467.6	0.0	2,735	0.0	317.7	88.3%	85.1	37.2	69.5%	56.1%
1946	798.0	348.3	118.9	2,037.6	11.4	687.2	0.0	4,057	0.0	359.7	100.0%	118.9	3.4	97.2%	25.8%
1947	762.7	359.7	119.0	1,025.8	0.0	330.8	0.0	1,897	0.0	359.7	100.0%	119.0	3.3	97.3%	24.2%
1948	203.0	135.0	18.9	817.5	20.4	280.4	0.0	1,675	0.0	155.4	43.2%	18.9	103.4	15.5%	95.5%
1949	520.8	299.2	92.6	1,495.5	19.9	504.6	0.0	2,964	0.0	319.0	88.7%	92.6	29.7	75.8%	51.5%
1950	404.9	269.2	85.2	471.2	13.5	147.3	0.0	800	0.0	282.7	78.6%	85.2	37.1	69.6%	54.5%
1951	566.5	354.2	121.1	944.6	5.5	308.3	0.0	1,754	0.0	359.7	100.0%	121.1	1.2	99.0%	19.7%
1952	710.9	359.7	122.3	855.8	0.0	274.1	0.0	1,548	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1953	496.2	260.4	81.2	1,592.7	28.9	541.5	0.0	3,191	0.0	289.3	80.4%	81.2	41.1	66.4%	59.1%
1954	349.9	186.0	47.9	459.7	35.0	146.7	0.0	821	0.0	221.1	61.5%	47.9	74.4	39.2%	84.8%
1955	665.0	336.1	113.1	817.9	15.5	257.8	0.0	1,449	0.0	351.6	97.7%	113.1	9.2	92.5%	33.3%
1956	242.1	208.6	41.6	153.9	17.7	38.6	0.0	190	0.0	231.1	64.3%	43.4	78.9	35.5%	86.4%
1957	483.5	309.7	99.6	546.1	25.0	168.7	0.0	908	0.0	334.7	93.0%	99.6	22.7	81.5%	43.9%
1958	474.0	355.6	113.4	690.7	4.1	219.4	0.0	1,220	0.0	359.7	100.0%	113.4	8.9	92.7%	31.8%
1959	407.7	250.9	56.8	376.7	19.3	107.5	0.0	591	0.0	270.2	75.1%	56.8	65.5	46.4%	78.8%
1960	816.6	359.7	122.3	1,701.3	0.0	568.7	0.0	3,343	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1961	353.0	177.2	30.9	420.7	14.1	132.0	0.0	766	0.0	191.3	53.2%	30.9	91.4	25.3%	90.9%
1962	159.7	135.8	25.5	161.4	25.9	50.0	0.0	261	0.0	161.7	44.9%	25.5	96.8	20.8%	92.4%
1963	373.4	245.4	61.1	409.2	23.9	121.9	0.0	669	0.0	269.3	74.9%	61.1	61.2	50.0%	74.2%
1964	299.4	176.8	41.4	802.6	28.1	270.0	0.0	1,582	0.0	204.9	57.0%	41.4	80.9	33.8%	87.9%
1965	212.9	152.0	39.9	165.5	28.4	46.2	0.0	218	0.0	180.4	50.1%	39.9	82.4	32.6%	89.4%
1966	465.8	284.5	82.6	656.1	36.0	207.7	0.0	1,154	0.0	320.5	89.1%	82.6	39.7	67.5%	57.6%
1967	316.3	242.1	60.3	239.6	42.9	61.3	0.0	288	0.0	285.1	79.2%	60.3	62.0	49.3%	75.8%
1968	352.2	263.3	78.7	1,047.2	47.1	347.1	0.0	2,005	0.0	310.5	86.3%	78.7	43.6	64.3%	62.1%
1969	473.3	348.6	116.3	459.5	11.1	136.6	0.0	705	0.0	359.7	100.0%	116.3	6.0	95.1%	27.3%
1970	625.7	342.7	113.4	806.0	12.4	258.5	0.0	1,451	0.0	355.0	98.7%	113.4	8.9	92.7%	30.3%
1971	185.8	149.1	25.2	87.6	25.0	17.5	0.0	74	0.0	174.1	48.4%	25.2	97.1	20.6%	93.9%
1972	494.1	325.9	106.3	586.7	16.1	181.0	0.0	985	0.0	342.1	95.1%	106.3	16.0	86.9%	37.9%
1973	824.5	359.7	122.3	2,111.4	0.0	716.2	0.0	4,242	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1974	679.7	359.7	122.3	1,550.0	0.0	520.1	0.0	3,047	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1975	594.8	347.1	119.2	791.7	12.6	248.3	0.0	1,385	0.0	359.7	100.0%	119.2	3.1	97.5%	22.7%
1977	549.5	231.1	56.2	1,338.2	15.3	449.3	0.0	2,674	0.0	246.5	68.5%	56.2	66.1	45.9%	80.3%
1978	858.4	359.7	122.3	1,595.8	0.0	531.6	0.0	3,117	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1979	442.2	259.1	77.7	1,522.6	29.3	511.3	0.0	3,023	0.0	288.4	80.2%	77.7	44.6	63.5%	65.2%
1980	481.7	308.3	99.2	694.5	16.6	220.6	0.0	1,230	0.0	324.8	90.3%	99.2	23.1	81.1%	45.5%
1981	426.8	208.1	55.7	1,066.5	22.6	358.3	0.0	2,111	0.0	230.7	64.1%	55.7	66.6	45.6%	81.8%
1982	807.4	359.7	122.3	1,354.9	0.0	446.7	0.0	2,600	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%

Output For Scenario H1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	65.1	666.2	37.8	215.6	0.0	1,218	0.0	278.8	77.5%	65.1	57.2	53.2%	69.7%
1984	696.5	359.7	122.3	1,728.7	0.0	583.4	0.0	3,432	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1985	422.5	243.8	68.5	723.3	42.6	234.2	0.0	1,328	0.0	286.4	79.6%	68.5	53.8	56.0%	66.7%
1986	699.1	291.7	79.0	1,937.9	12.8	654.1	0.0	3,901	0.0	304.5	84.6%	79.0	43.3	64.6%	60.6%
1987	492.4	329.4	108.5	979.3	21.7	315.1	0.0	1,798	0.0	351.1	97.6%	108.5	13.8	88.7%	36.4%
1988	717.2	344.0	115.2	1,174.5	13.4	383.2	0.0	2,207	0.0	357.4	99.3%	115.2	7.1	94.2%	28.8%
1989	316.8	214.8	48.4	537.9	25.2	174.4	0.0	996	0.0	240.0	66.7%	48.4	73.9	39.6%	83.3%
1990	808.6	319.5	94.5	1,919.3	25.0	645.5	0.0	3,816	0.0	344.5	95.8%	94.5	27.8	77.3%	50.0%
1991	915.4	359.7	122.3	2,167.7	0.0	733.0	0.0	4,344	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1992	663.2	354.6	120.9	1,106.4	5.1	359.9	0.0	2,072	0.0	359.7	100.0%	120.9	1.4	98.9%	21.2%
1993	570.6	359.0	122.3	913.2	0.7	291.6	0.0	1,654	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1994	360.2	281.6	78.5	270.1	20.1	71.3	0.0	346	0.0	301.7	83.9%	78.5	43.8	64.2%	63.6%
1995	492.4	310.0	99.2	929.1	27.8	305.5	0.0	1,736	0.0	337.8	93.9%	99.2	23.1	81.1%	47.0%
1996	783.4	338.3	105.8	1,775.6	21.5	596.2	0.0	3,506	0.0	359.7	100.0%	105.8	16.5	86.5%	39.4%
1997	796.8	359.7	122.3	1,601.0	0.0	535.4	0.0	3,140	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
1998	603.6	313.9	94.8	1,531.9	17.8	513.1	0.0	3,016	0.0	331.7	92.2%	94.8	27.5	77.5%	48.5%
1999	629.3	336.0	103.8	951.5	18.9	304.6	0.0	1,734	0.0	354.9	98.6%	103.8	18.5	84.9%	40.9%
2000	597.5	329.5	109.8	1,183.6	18.7	387.8	0.0	2,240	0.0	348.3	96.8%	109.8	12.5	89.8%	34.8%
2001	368.4	309.9	89.8	511.8	33.9	155.3	0.0	839	0.0	343.8	95.6%	89.8	32.5	73.4%	53.0%
2002	188.8	86.3	13.5	249.6	11.5	80.5	0.0	468	0.0	97.7	27.2%	13.5	108.8	11.1%	98.5%
2003	370.1	248.7	66.4	775.4	39.0	252.6	0.0	1,445	0.0	287.7	80.0%	66.4	55.9	54.3%	68.2%
2004	816.6	359.7	122.3	2,317.0	0.0	785.6	0.0	4,665	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
2005	539.3	355.9	122.3	691.1	3.8	214.6	0.0	1,183	0.0	359.7	100.0%	122.3	0.0	100.0%	1.5%
Average	515.5	285.2	86.4	962.7	17.9	315.7	0.0	1,825	0.0	303.3	84.3%	86.5	35.8	70.7%	
Minimum	127.8	86.3	11.3	67.1	0.0	17.5	0.0	74	0.0	97.7	27.2%	13.5	0.0	11.1%	
Maximum	915.4	359.7	122.3	2,317.0	47.1	785.6	0.0	4,665	0.0	359.7	100.0%	122.3	108.8	100.0%	
Hermitage 80th Percentile Year 1977	549.5	231.1	56.2	1,338.2	15.3	449.3	0.0	2,674	0.0	246.5	**68.5%**	**56.2**	**66.1**	45.9%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2A-1

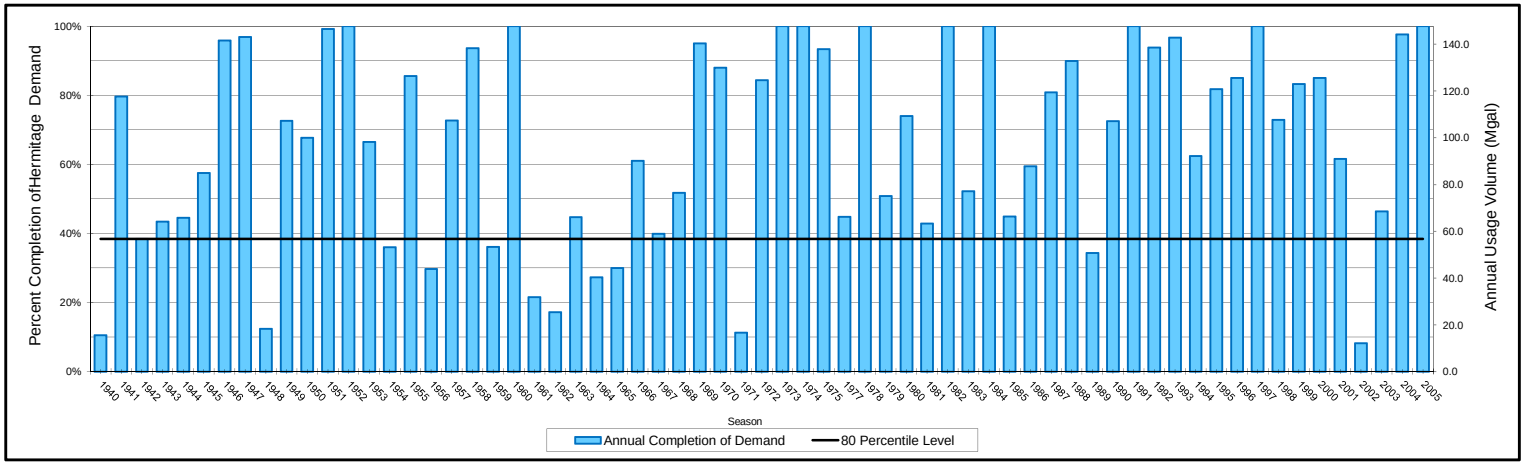
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	3,500	0	2,000
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2A-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.7	51.9	7.7	15.9	5.9	90	0.0	127.2	35.4%	15.6	132.1	10.5%	97.0%
1941	422.5	328.7	89.7	396.0	17.8	122.6	27.9	714	0.0	346.5	96.3%	117.6	30.1	79.6%	43.9%
1942	368.1	242.3	36.2	488.6	23.2	163.0	20.6	969	0.0	265.5	73.8%	56.8	90.9	38.4%	80.3%
1943	508.0	256.6	52.0	786.7	12.4	260.8	12.2	1,612	0.0	268.9	74.8%	64.1	83.5	43.4%	75.8%
1944	483.7	242.6	52.6	679.5	11.6	223.0	13.1	1,381	0.0	254.1	70.6%	65.8	81.9	44.5%	74.2%
1945	473.5	281.3	57.5	1,327.5	29.5	452.5	27.4	2,735	0.0	310.8	86.4%	84.9	62.7	57.5%	62.1%
1946	798.0	348.3	111.2	1,950.9	11.4	659.8	30.4	4,034	0.0	359.7	100.0%	141.6	6.1	95.9%	22.7%
1947	762.7	359.7	112.3	939.2	0.0	303.4	30.7	1,873	0.0	359.7	100.0%	143.0	4.6	96.9%	19.7%
1948	203.0	135.0	10.2	796.0	17.6	276.5	8.2	1,672	0.0	152.6	42.4%	18.3	129.3	12.4%	93.9%
1949	520.8	299.2	87.8	1,432.4	17.0	488.9	19.4	2,950	0.0	316.2	87.9%	107.2	40.5	72.6%	50.0%
1950	404.9	269.2	78.2	418.2	11.3	135.8	21.7	786	0.0	280.5	78.0%	99.9	47.7	67.7%	53.0%
1951	566.5	354.2	115.5	875.4	5.5	291.7	31.0	1,727	0.0	359.7	100.0%	146.5	1.2	99.2%	16.7%
1952	710.9	359.7	132.3	778.2	0.0	252.7	15.3	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	73.1	1,537.4	23.4	528.7	25.2	3,178	0.0	283.8	78.9%	98.2	49.4	66.5%	54.5%
1954	349.9	186.0	34.1	416.4	26.0	138.9	19.0	815	0.0	212.0	58.9%	53.2	94.5	36.0%	83.3%
1955	665.0	336.1	101.5	731.8	9.6	232.9	24.9	1,435	0.0	345.7	96.1%	126.4	21.3	85.6%	33.3%
1956	242.1	208.6	27.4	109.7	9.2	29.2	10.3	188	0.0	225.2	62.6%	43.9	103.8	29.7%	87.9%
1957	483.5	309.7	71.8	478.9	21.9	155.0	35.6	898	0.0	331.6	92.2%	107.4	40.3	72.7%	48.5%
1958	474.0	355.6	106.4	622.8	4.1	202.2	31.8	1,194	0.0	359.7	100.0%	138.2	9.5	93.6%	27.3%
1959	407.7	250.9	40.5	305.3	10.4	92.3	12.7	592	0.0	261.3	72.6%	53.3	94.4	36.1%	81.8%
1960	816.6	359.7	138.2	1,614.7	0.0	541.1	9.4	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	19.2	374.8	10.3	122.3	12.7	762	0.0	187.5	52.1%	31.9	115.8	21.6%	90.9%
1962	159.7	135.8	14.9	142.0	19.0	47.4	10.5	260	0.0	154.8	43.0%	25.4	122.3	17.2%	92.4%
1963	373.4	245.4	46.3	346.2	14.0	106.8	19.8	663	0.0	259.4	72.1%	66.1	81.6	44.8%	72.7%
1964	299.4	176.8	25.5	766.5	22.8	263.3	14.9	1,582	0.0	199.6	55.5%	40.3	107.3	27.3%	89.4%
1965	212.9	152.0	27.2	131.1	23.8	39.8	17.1	213	0.0	175.7	48.8%	44.3	103.4	30.0%	86.4%
1966	465.8	284.5	62.6	589.7	28.1	192.3	27.6	1,147	0.0	312.6	86.9%	90.1	57.5	61.0%	59.1%
1967	316.3	242.1	38.4	174.1	28.6	49.9	20.5	286	0.0	270.7	75.3%	58.9	88.8	39.9%	78.8%
1968	352.2	263.3	49.6	985.3	32.9	337.1	26.9	2,006	0.0	296.2	82.3%	76.4	71.2	51.8%	65.2%
1969	473.3	348.6	105.0	387.9	11.1	117.9	35.3	681	0.0	359.7	100.0%	140.3	7.4	95.0%	24.2%
1970	625.7	342.7	101.6	733.8	9.7	238.9	28.2	1,435	0.0	352.4	98.0%	129.9	17.8	88.0%	31.8%
1971	185.8	149.1	10.7	49.7	14.1	12.9	6.1	76	0.0	163.2	45.4%	16.7	130.9	11.3%	95.5%
1972	494.1	325.9	88.3	513.9	11.8	166.0	36.3	967	0.0	337.7	93.9%	124.6	23.1	84.4%	37.9%
1973	824.5	359.7	140.3	2,033.2	0.0	694.8	7.4	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	125.0	1,476.6	0.0	500.8	22.6	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	103.2	705.1	9.3	223.4	34.6	1,366	0.0	356.4	99.1%	137.8	9.9	93.3%	28.8%
1977	549.5	231.1	45.0	1,275.4	9.9	430.2	21.1	2,661	0.0	241.0	67.0%	66.2	81.5	44.8%	71.2%
1978	858.4	359.7	132.6	1,509.1	0.0	503.8	15.1	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	52.8	1,451.5	20.5	499.2	22.2	3,020	0.0	279.6	77.7%	75.0	72.7	50.8%	66.7%
1980	481.7	308.3	79.0	626.3	15.6	201.1	30.3	1,219	0.0	323.9	90.0%	109.3	38.4	74.0%	45.5%
1981	426.8	208.1	45.8	1,017.3	17.5	348.1	17.5	2,102	0.0	225.7	62.7%	63.4	84.3	42.9%	77.3%
1982	807.4	359.7	123.1	1,268.2	0.0	419.0	24.6	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2A-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	47.9	612.0	29.4	205.0	29.2	1,207	0.0	270.4	75.2%	77.1	70.6	52.2%	63.6%
1984	696.5	359.7	126.2	1,656.3	0.0	563.4	21.5	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	45.3	664.9	29.6	223.8	21.0	1,331	0.0	273.4	76.0%	66.3	81.4	44.9%	69.7%
1986	699.1	291.7	75.5	1,856.9	8.2	630.0	12.3	3,890	0.0	299.9	83.4%	87.8	59.9	59.4%	60.6%
1987	492.4	329.4	95.3	894.7	13.2	294.7	24.1	1,788	0.0	342.6	95.2%	119.4	28.3	80.8%	42.4%
1988	717.2	344.0	112.9	1,087.8	10.6	355.9	19.8	2,191	0.0	354.6	98.6%	132.7	14.9	89.9%	30.3%
1989	316.8	214.8	36.0	495.1	19.2	163.7	14.7	993	0.0	234.0	65.1%	50.7	96.9	34.4%	84.8%
1990	808.6	319.5	88.2	1,832.6	18.3	618.5	18.9	3,808	0.0	337.8	93.9%	107.1	40.6	72.5%	51.5%
1991	915.4	359.7	141.6	2,081.0	0.0	705.8	6.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	113.6	1,021.9	5.1	335.9	24.9	2,050	0.0	359.7	100.0%	138.5	9.2	93.8%	25.8%
1993	570.6	359.0	112.7	827.8	0.7	268.3	30.1	1,633	0.0	359.7	100.0%	142.8	4.9	96.7%	21.2%
1994	360.2	281.6	58.5	202.5	12.7	58.4	33.7	330	0.0	294.3	81.8%	92.2	55.5	62.4%	56.1%
1995	492.4	310.0	87.2	867.2	23.6	292.2	33.6	1,717	0.0	333.5	92.7%	120.7	26.9	81.8%	40.9%
1996	783.4	338.3	101.5	1,692.6	20.8	571.6	24.0	3,487	0.0	359.1	99.8%	125.5	22.2	85.0%	34.8%
1997	796.8	359.7	134.7	1,519.9	0.0	511.5	12.9	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	87.1	1,456.6	12.9	492.9	20.5	3,006	0.0	326.8	90.8%	107.6	40.1	72.9%	47.0%
1999	629.3	336.0	97.4	864.8	14.6	278.9	25.5	1,719	0.0	350.6	97.5%	122.9	24.8	83.2%	39.4%
2000	597.5	329.5	93.1	1,101.0	16.2	365.8	32.4	2,221	0.0	345.7	96.1%	125.5	22.2	85.0%	36.4%
2001	368.4	309.9	67.6	441.0	22.8	141.6	23.2	833	0.0	332.7	92.5%	90.9	56.8	61.5%	57.6%
2002	188.8	86.3	7.0	228.6	9.7	76.1	5.2	469	0.0	96.0	26.7%	12.2	135.5	8.2%	98.5%
2003	370.1	248.7	48.1	717.1	27.3	239.4	20.4	1,443	0.0	276.0	76.7%	68.5	79.2	46.4%	68.2%
2004	816.6	359.7	130.4	2,230.3	0.0	758.7	13.7	4,643	0.0	359.7	100.0%	144.1	3.6	97.6%	18.2%
2005	539.3	355.9	127.5	609.1	3.8	197.3	20.1	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	77.0	896.3	13.3	298.9	21.1	1,812	0.0	298.8	83.1%	98.3	49.4	66.5%	
Minimum	127.8	86.3	7.0	49.7	0.0	12.9	5.2	76	0.0	96.0	26.7%	12.2	0.0	8.2%	
Maximum	915.4	359.7	141.6	2,230.3	32.9	758.7	36.3	4,643	0.0	359.7	100.0%	147.7	135.5	100.0%	
Hermitage 80th Percentile Year 1942	368.1	242.3	36.2	488.6	23.2	163.0	20.6	969	0.0	265.5	**73.8%**	**56.8**	**90.9**	38.4%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2A-2

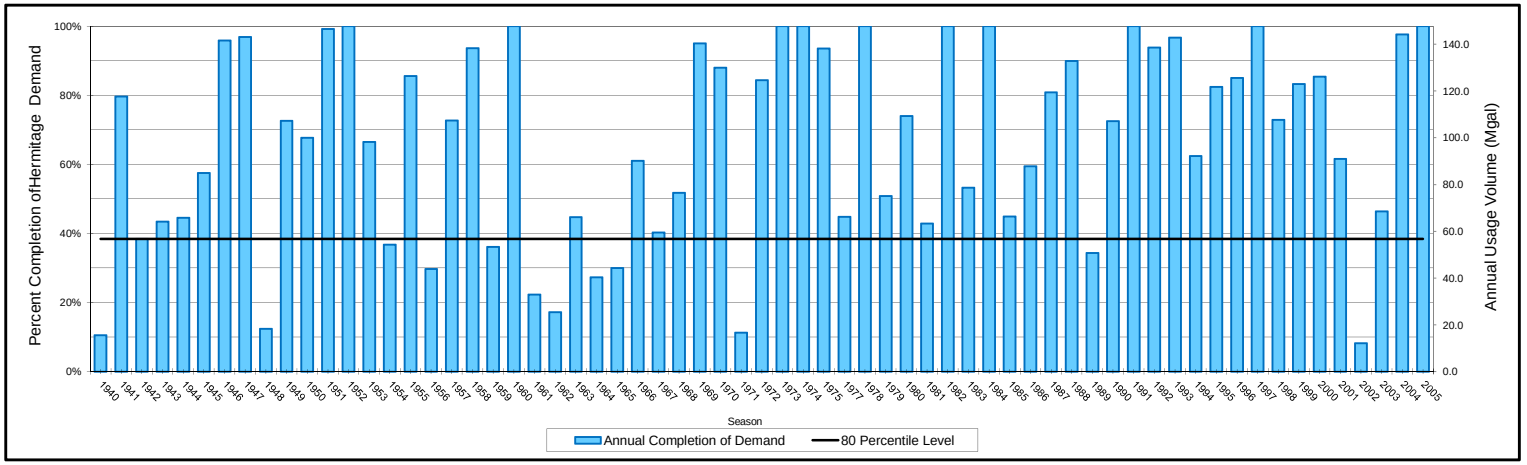
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	5,000	0	2,000
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2A-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	8.8	51.9	8.8	15.9	5.9	88	0.0	127.2	35.4%	15.6	132.1	10.5%	97.0%
1941	422.5	328.7	91.2	396.0	17.8	122.6	26.4	714	0.0	346.5	96.3%	117.6	30.1	79.6%	43.9%
1942	368.1	242.3	39.2	488.6	23.2	163.0	17.6	969	0.0	265.5	73.8%	56.8	90.9	38.4%	80.3%
1943	508.0	256.6	52.0	786.7	12.4	260.8	12.2	1,612	0.0	268.9	74.8%	64.1	83.5	43.4%	75.8%
1944	483.7	242.6	52.6	679.5	11.6	223.0	13.1	1,381	0.0	254.1	70.6%	65.8	81.9	44.5%	74.2%
1945	473.5	281.3	59.0	1,327.5	29.5	452.5	25.9	2,735	0.0	310.8	86.4%	84.9	62.7	57.5%	62.1%
1946	798.0	348.3	114.3	1,950.9	11.4	659.8	27.3	4,034	0.0	359.7	100.0%	141.6	6.1	95.9%	22.7%
1947	762.7	359.7	115.7	939.2	0.0	303.4	27.4	1,873	0.0	359.7	100.0%	143.0	4.6	96.9%	19.7%
1948	203.0	135.0	11.3	796.0	17.6	276.5	7.1	1,672	0.0	152.6	42.4%	18.3	129.3	12.4%	93.9%
1949	520.8	299.2	88.3	1,432.4	17.0	488.9	18.9	2,950	0.0	316.2	87.9%	107.2	40.5	72.6%	50.0%
1950	404.9	269.2	79.4	418.2	11.3	135.8	20.5	786	0.0	280.5	78.0%	99.9	47.7	67.7%	53.0%
1951	566.5	354.2	121.0	875.4	5.5	291.7	25.5	1,727	0.0	359.7	100.0%	146.5	1.2	99.2%	16.7%
1952	710.9	359.7	134.1	778.2	0.0	252.7	13.6	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	76.3	1,537.4	23.4	528.7	21.9	3,178	0.0	283.8	78.9%	98.2	49.4	66.5%	54.5%
1954	349.9	186.0	36.0	416.4	26.0	138.9	18.2	814	0.0	212.0	58.9%	54.3	93.4	36.7%	81.8%
1955	665.0	336.1	102.6	731.8	9.6	232.9	23.8	1,435	0.0	345.7	96.1%	126.4	21.3	85.6%	33.3%
1956	242.1	208.6	28.6	109.7	9.2	29.2	9.1	188	0.0	225.2	62.6%	43.9	103.8	29.7%	87.9%
1957	483.5	309.7	75.7	478.9	21.9	155.0	31.7	898	0.0	331.6	92.2%	107.4	40.3	72.7%	48.5%
1958	474.0	355.6	106.8	622.8	4.1	202.2	31.5	1,194	0.0	359.7	100.0%	138.2	9.4	93.6%	27.3%
1959	407.7	250.9	41.6	305.3	10.4	92.3	11.7	592	0.0	261.3	72.6%	53.3	94.4	36.1%	83.3%
1960	816.6	359.7	143.5	1,614.7	0.0	541.1	4.2	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	20.3	374.8	10.3	122.3	12.7	761	0.0	187.5	52.1%	32.9	114.7	22.3%	90.9%
1962	159.7	135.8	14.9	142.0	19.0	47.4	10.5	260	0.0	154.8	43.0%	25.4	122.3	17.2%	92.4%
1963	373.4	245.4	47.2	346.2	14.0	106.8	18.9	663	0.0	259.4	72.1%	66.1	81.6	44.8%	72.7%
1964	299.4	176.8	26.9	766.5	22.8	263.3	13.4	1,582	0.0	199.6	55.5%	40.3	107.3	27.3%	89.4%
1965	212.9	152.0	27.8	131.1	23.8	39.8	16.5	213	0.0	175.7	48.8%	44.3	103.4	30.0%	86.4%
1966	465.8	284.5	64.0	589.7	28.1	192.3	26.2	1,147	0.0	312.6	86.9%	90.1	57.5	61.0%	59.1%
1967	316.3	242.1	39.0	174.1	28.6	49.9	20.5	286	0.0	270.7	75.3%	59.5	88.2	40.3%	78.8%
1968	352.2	263.3	54.1	985.3	32.9	337.1	22.3	2,006	0.0	296.2	82.3%	76.4	71.2	51.8%	65.2%
1969	473.3	348.6	105.0	387.9	11.1	117.9	35.3	681	0.0	359.7	100.0%	140.3	7.4	95.0%	24.2%
1970	625.7	342.7	107.0	733.8	9.7	238.9	22.9	1,435	0.0	352.4	98.0%	129.9	17.8	88.0%	31.8%
1971	185.8	149.1	10.7	49.7	14.1	12.9	6.1	76	0.0	163.2	45.4%	16.7	130.9	11.3%	95.5%
1972	494.1	325.9	89.2	513.9	11.8	166.0	35.4	967	0.0	337.7	93.9%	124.6	23.1	84.4%	37.9%
1973	824.5	359.7	145.6	2,033.2	0.0	694.8	2.1	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	127.8	1,476.6	0.0	500.8	19.9	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	106.5	705.1	9.3	223.4	31.5	1,366	0.0	356.4	99.1%	138.0	9.6	93.5%	28.8%
1977	549.5	231.1	47.1	1,275.4	9.9	430.2	19.1	2,661	0.0	241.0	67.0%	66.2	81.5	44.8%	71.2%
1978	858.4	359.7	133.4	1,509.1	0.0	503.8	14.3	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	54.0	1,451.5	20.5	499.2	21.0	3,020	0.0	279.6	77.7%	75.0	72.7	50.8%	66.7%
1980	481.7	308.3	80.5	626.3	15.6	201.1	28.8	1,219	0.0	323.9	90.0%	109.3	38.4	74.0%	45.5%
1981	426.8	208.1	47.7	1,017.3	17.5	348.1	15.6	2,102	0.0	225.7	62.7%	63.4	84.3	42.9%	77.3%
1982	807.4	359.7	123.7	1,268.2	0.0	419.0	24.0	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2A-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	50.8	612.0	31.4	205.0	27.9	1,204	0.0	272.4	75.7%	78.7	69.0	53.3%	63.6%
1984	696.5	359.7	131.4	1,656.3	0.0	563.4	16.2	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	46.6	664.9	29.6	223.8	19.7	1,331	0.0	273.4	76.0%	66.3	81.4	44.9%	69.7%
1986	699.1	291.7	75.9	1,856.9	8.2	630.0	11.9	3,890	0.0	299.9	83.4%	87.8	59.9	59.4%	60.6%
1987	492.4	329.4	97.8	894.7	13.2	294.7	21.6	1,788	0.0	342.6	95.2%	119.4	28.3	80.8%	42.4%
1988	717.2	344.0	118.4	1,087.8	10.6	355.9	14.3	2,191	0.0	354.6	98.6%	132.7	14.9	89.9%	30.3%
1989	316.8	214.8	37.1	495.1	19.2	163.7	13.7	993	0.0	234.0	65.1%	50.7	96.9	34.4%	84.8%
1990	808.6	319.5	89.1	1,832.6	18.3	618.5	18.0	3,808	0.0	337.8	93.9%	107.1	40.6	72.5%	51.5%
1991	915.4	359.7	142.6	2,081.0	0.0	705.8	5.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	117.1	1,021.9	5.1	335.9	21.4	2,050	0.0	359.7	100.0%	138.5	9.2	93.8%	25.8%
1993	570.6	359.0	112.7	827.8	0.7	268.3	30.1	1,633	0.0	359.7	100.0%	142.8	4.9	96.7%	21.2%
1994	360.2	281.6	59.7	202.5	12.7	58.4	32.5	330	0.0	294.3	81.8%	92.2	55.5	62.4%	56.1%
1995	492.4	310.0	91.1	867.2	23.6	292.2	30.6	1,716	0.0	333.5	92.7%	121.7	26.0	82.4%	40.9%
1996	783.4	338.3	102.5	1,692.6	20.8	571.6	23.0	3,487	0.0	359.1	99.8%	125.5	22.2	85.0%	36.4%
1997	796.8	359.7	140.0	1,519.9	0.0	511.5	7.7	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	88.1	1,456.6	12.9	492.9	19.5	3,006	0.0	326.8	90.8%	107.6	40.1	72.9%	47.0%
1999	629.3	336.0	98.4	864.8	14.6	278.9	24.5	1,719	0.0	350.6	97.5%	122.9	24.8	83.2%	39.4%
2000	597.5	329.5	95.3	1,101.0	16.2	365.8	30.7	2,221	0.0	345.7	96.1%	126.1	21.6	85.4%	34.8%
2001	368.4	309.9	68.4	441.0	22.8	141.6	22.5	833	0.0	332.7	92.5%	90.9	56.8	61.5%	57.6%
2002	188.8	86.3	7.0	228.6	9.7	76.1	5.2	469	0.0	96.0	26.7%	12.2	135.5	8.2%	98.5%
2003	370.1	248.7	48.1	717.1	27.3	239.4	20.4	1,443	0.0	276.0	76.7%	68.5	79.2	46.4%	68.2%
2004	816.6	359.7	135.7	2,230.3	0.0	758.7	8.4	4,643	0.0	359.7	100.0%	144.1	3.6	97.6%	18.2%
2005	539.3	355.9	132.3	609.1	3.8	197.3	15.4	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	79.0	896.3	13.4	298.9	19.2	1,812	0.0	298.8	83.1%	98.4	49.3	66.6%	
Minimum	127.8	86.3	7.0	49.7	0.0	12.9	2.1	76	0.0	96.0	26.7%	12.2	0.0	8.2%	
Maximum	915.4	359.7	145.6	2,230.3	32.9	758.7	35.4	4,643	0.0	359.7	100.0%	147.7	135.5	100.0%	
Hermitage 80th Percentile Year 1942	368.1	242.3	39.2	488.6	23.2	163.0	17.6	969	0.0	265.5	**73.8%**	**56.8**	**90.9**	38.4%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2A-3

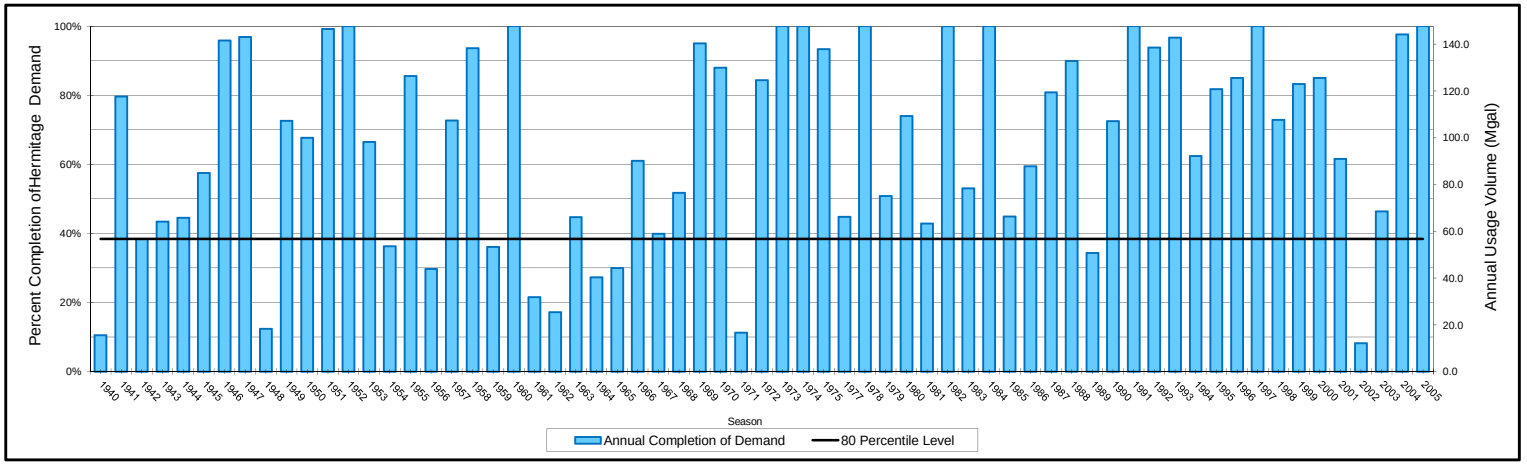
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	3,500	0	3,500
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2A-3

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.5	51.9	7.7	15.9	8.1	88	0.0	127.2	35.4%	15.6	132.1	10.5%	97.0%
1941	422.5	328.7	88.8	396.0	17.8	122.6	28.8	714	0.0	346.5	96.3%	117.6	30.1	79.6%	43.9%
1942	368.1	242.3	35.0	488.6	23.2	163.0	21.8	969	0.0	265.5	73.8%	56.8	90.9	38.4%	80.3%
1943	508.0	256.6	52.0	786.7	12.4	260.8	12.2	1,612	0.0	268.9	74.8%	64.1	83.5	43.4%	75.8%
1944	483.7	242.6	52.6	679.5	11.6	223.0	13.1	1,381	0.0	254.1	70.6%	65.8	81.9	44.5%	74.2%
1945	473.5	281.3	56.5	1,327.5	29.5	452.5	28.4	2,735	0.0	310.8	86.4%	84.9	62.7	57.5%	62.1%
1946	798.0	348.3	110.9	1,950.9	11.4	659.8	30.6	4,034	0.0	359.7	100.0%	141.6	6.1	95.9%	22.7%
1947	762.7	359.7	112.3	939.2	0.0	303.4	30.7	1,873	0.0	359.7	100.0%	143.0	4.6	96.9%	19.7%
1948	203.0	135.0	9.6	796.0	17.6	276.5	8.7	1,672	0.0	152.6	42.4%	18.3	129.3	12.4%	93.9%
1949	520.8	299.2	87.1	1,432.4	17.0	488.9	20.1	2,950	0.0	316.2	87.9%	107.2	40.5	72.6%	50.0%
1950	404.9	269.2	77.6	418.2	11.3	135.8	22.3	786	0.0	280.5	78.0%	99.9	47.7	67.7%	53.0%
1951	566.5	354.2	115.5	875.4	5.5	291.7	31.0	1,727	0.0	359.7	100.0%	146.5	1.2	99.2%	16.7%
1952	710.9	359.7	132.3	778.2	0.0	252.7	15.3	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	73.1	1,537.4	23.4	528.7	25.2	3,178	0.0	283.8	78.9%	98.2	49.4	66.5%	54.5%
1954	349.9	186.0	34.1	416.4	26.0	138.9	19.4	814	0.0	212.0	58.9%	53.5	94.1	36.3%	81.8%
1955	665.0	336.1	101.4	731.8	9.6	232.9	25.0	1,435	0.0	345.7	96.1%	126.4	21.3	85.6%	33.3%
1956	242.1	208.6	27.4	109.7	9.2	29.2	10.3	188	0.0	225.2	62.6%	43.9	103.8	29.7%	87.9%
1957	483.5	309.7	71.7	478.9	21.9	155.0	35.7	898	0.0	331.6	92.2%	107.4	40.3	72.7%	48.5%
1958	474.0	355.6	105.6	622.8	4.1	202.2	32.6	1,194	0.0	359.7	100.0%	138.2	9.5	93.6%	27.3%
1959	407.7	250.9	40.5	305.3	10.4	92.3	12.7	592	0.0	261.3	72.6%	53.3	94.4	36.1%	83.3%
1960	816.6	359.7	138.2	1,614.7	0.0	541.1	9.4	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	18.9	374.8	10.3	122.3	13.0	762	0.0	187.5	52.1%	31.9	115.8	21.6%	90.9%
1962	159.7	135.8	14.9	142.0	19.0	47.4	10.5	260	0.0	154.8	43.0%	25.4	122.3	17.2%	92.4%
1963	373.4	245.4	46.1	346.2	14.0	106.8	20.0	663	0.0	259.4	72.1%	66.1	81.6	44.8%	72.7%
1964	299.4	176.8	25.0	766.5	22.8	263.3	15.4	1,582	0.0	199.6	55.5%	40.3	107.3	27.3%	89.4%
1965	212.9	152.0	27.2	131.1	23.8	39.8	17.1	213	0.0	175.7	48.8%	44.3	103.4	30.0%	86.4%
1966	465.8	284.5	61.8	589.7	28.1	192.3	28.4	1,147	0.0	312.6	86.9%	90.1	57.5	61.0%	59.1%
1967	316.3	242.1	38.4	174.1	28.6	49.9	20.5	286	0.0	270.7	75.3%	58.9	88.8	39.9%	78.8%
1968	352.2	263.3	49.6	985.3	32.9	337.1	26.9	2,006	0.0	296.2	82.3%	76.4	71.2	51.8%	65.2%
1969	473.3	348.6	105.0	387.9	11.1	117.9	35.3	681	0.0	359.7	100.0%	140.3	7.4	95.0%	24.2%
1970	625.7	342.7	100.7	733.8	9.7	238.9	29.1	1,435	0.0	352.4	98.0%	129.9	17.8	88.0%	31.8%
1971	185.8	149.1	10.7	49.7	14.1	12.9	6.1	76	0.0	163.2	45.4%	16.7	130.9	11.3%	95.5%
1972	494.1	325.9	87.0	513.9	11.8	166.0	37.6	967	0.0	337.7	93.9%	124.6	23.1	84.4%	37.9%
1973	824.5	359.7	140.3	2,033.2	0.0	694.8	7.4	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	125.0	1,476.6	0.0	500.8	22.6	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	103.1	705.1	9.3	223.4	34.7	1,366	0.0	356.4	99.1%	137.8	9.9	93.3%	28.8%
1977	549.5	231.1	45.0	1,275.4	9.9	430.2	21.1	2,661	0.0	241.0	67.0%	66.2	81.5	44.8%	71.2%
1978	858.4	359.7	132.6	1,509.1	0.0	503.8	15.1	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	52.0	1,451.5	20.5	499.2	23.0	3,020	0.0	279.6	77.7%	75.0	72.7	50.8%	66.7%
1980	481.7	308.3	76.3	626.3	15.6	201.1	33.0	1,219	0.0	323.9	90.0%	109.3	38.4	74.0%	45.5%
1981	426.8	208.1	45.8	1,017.3	17.5	348.1	17.5	2,102	0.0	225.7	62.7%	63.4	84.3	42.9%	77.3%
1982	807.4	359.7	123.1	1,268.2	0.0	419.0	24.6	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2A-3															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	47.7	612.0	29.4	205.0	30.6	1,206	0.0	270.4	75.2%	78.3	69.3	53.1%	63.6%
1984	696.5	359.7	125.8	1,656.3	0.0	563.4	21.9	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	43.4	664.9	29.6	223.8	23.0	1,331	0.0	273.4	76.0%	66.3	81.4	44.9%	69.7%
1986	699.1	291.7	75.5	1,856.9	8.2	630.0	12.3	3,890	0.0	299.9	83.4%	87.8	59.9	59.4%	60.6%
1987	492.4	329.4	95.3	894.7	13.2	294.7	24.1	1,788	0.0	342.6	95.2%	119.4	28.3	80.8%	42.4%
1988	717.2	344.0	112.9	1,087.8	10.6	355.9	19.8	2,191	0.0	354.6	98.6%	132.7	14.9	89.9%	30.3%
1989	316.8	214.8	35.7	495.1	19.2	163.7	15.0	993	0.0	234.0	65.1%	50.7	96.9	34.4%	84.8%
1990	808.6	319.5	88.0	1,832.6	18.3	618.5	19.1	3,808	0.0	337.8	93.9%	107.1	40.6	72.5%	51.5%
1991	915.4	359.7	141.6	2,081.0	0.0	705.8	6.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	113.1	1,021.9	5.1	335.9	25.4	2,050	0.0	359.7	100.0%	138.5	9.2	93.8%	25.8%
1993	570.6	359.0	112.7	827.8	0.7	268.3	30.1	1,633	0.0	359.7	100.0%	142.8	4.9	96.7%	21.2%
1994	360.2	281.6	58.4	202.5	12.7	58.4	33.8	330	0.0	294.3	81.8%	92.2	55.5	62.4%	56.1%
1995	492.4	310.0	85.7	867.2	23.6	292.2	35.1	1,717	0.0	333.5	92.7%	120.7	26.9	81.8%	40.9%
1996	783.4	338.3	101.1	1,692.6	20.8	571.6	24.4	3,487	0.0	359.1	99.8%	125.5	22.2	85.0%	34.8%
1997	796.8	359.7	134.7	1,519.9	0.0	511.5	12.9	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	87.0	1,456.6	12.9	492.9	20.5	3,006	0.0	326.8	90.8%	107.6	40.1	72.9%	47.0%
1999	629.3	336.0	97.2	864.8	14.6	278.9	25.7	1,719	0.0	350.6	97.5%	122.9	24.8	83.2%	39.4%
2000	597.5	329.5	92.2	1,101.0	16.2	365.8	33.2	2,221	0.0	345.7	96.1%	125.5	22.2	85.0%	36.4%
2001	368.4	309.9	67.3	441.0	22.8	141.6	23.6	833	0.0	332.7	92.5%	90.9	56.8	61.5%	57.6%
2002	188.8	86.3	7.0	228.6	9.7	76.1	5.2	469	0.0	96.0	26.7%	12.2	135.5	8.2%	98.5%
2003	370.1	248.7	47.3	717.1	27.3	239.4	21.2	1,443	0.0	276.0	76.7%	68.5	79.2	46.4%	68.2%
2004	816.6	359.7	130.4	2,230.3	0.0	758.7	13.7	4,643	0.0	359.7	100.0%	144.1	3.6	97.6%	18.2%
2005	539.3	355.9	126.0	609.1	3.8	197.3	21.7	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	76.7	896.3	13.3	298.9	21.5	1,812	0.0	298.8	83.1%	98.3	49.4	66.6%	
Minimum	127.8	86.3	7.0	49.7	0.0	12.9	5.2	76	0.0	96.0	26.7%	12.2	0.0	8.2%	
Maximum	915.4	359.7	141.6	2,230.3	32.9	758.7	37.6	4,643	0.0	359.7	100.0%	147.7	135.5	100.0%	
Hermitage 80th Percentile Year 1942	368.1	242.3	35.0	488.6	23.2	163.0	21.8	969	0.0	265.5	**73.8%**	**56.8**	**90.9**	38.4%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2A-4

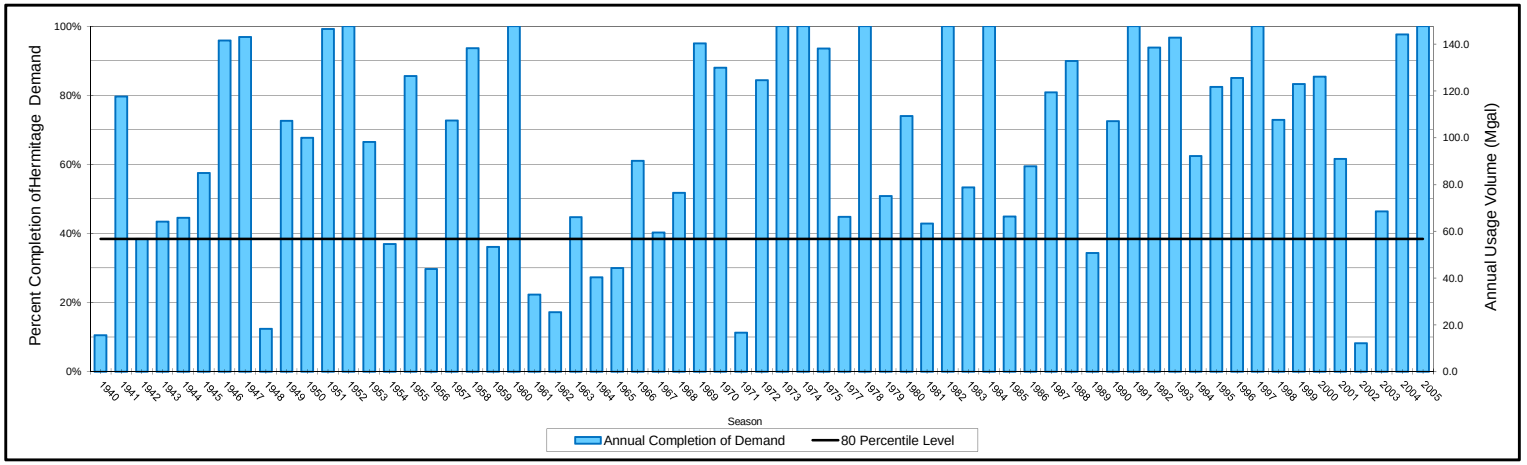
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	5,000	0	3,500
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2A-4

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.5	51.9	8.8	15.9	8.1	87	0.0	127.2	35.4%	15.6	132.1	10.5%	97.0%
1941	422.5	328.7	89.9	396.0	17.8	122.6	27.7	714	0.0	346.5	96.3%	117.6	30.1	79.6%	43.9%
1942	368.1	242.3	35.8	488.6	23.2	163.0	20.9	969	0.0	265.5	73.8%	56.8	90.9	38.4%	80.3%
1943	508.0	256.6	52.0	786.7	12.4	260.8	12.2	1,612	0.0	268.9	74.8%	64.1	83.5	43.4%	75.8%
1944	483.7	242.6	52.6	679.5	11.6	223.0	13.1	1,381	0.0	254.1	70.6%	65.8	81.9	44.5%	74.2%
1945	473.5	281.3	58.0	1,327.5	29.5	452.5	26.9	2,735	0.0	310.8	86.4%	84.9	62.7	57.5%	62.1%
1946	798.0	348.3	114.3	1,950.9	11.4	659.8	27.3	4,034	0.0	359.7	100.0%	141.6	6.1	95.9%	22.7%
1947	762.7	359.7	115.7	939.2	0.0	303.4	27.4	1,873	0.0	359.7	100.0%	143.0	4.6	96.9%	19.7%
1948	203.0	135.0	9.6	796.0	17.6	276.5	8.7	1,672	0.0	152.6	42.4%	18.3	129.3	12.4%	93.9%
1949	520.8	299.2	88.2	1,432.4	17.0	488.9	19.0	2,950	0.0	316.2	87.9%	107.2	40.5	72.6%	50.0%
1950	404.9	269.2	78.3	418.2	11.3	135.8	21.6	786	0.0	280.5	78.0%	99.9	47.7	67.7%	53.0%
1951	566.5	354.2	121.0	875.4	5.5	291.7	25.5	1,727	0.0	359.7	100.0%	146.5	1.2	99.2%	16.7%
1952	710.9	359.7	134.1	778.2	0.0	252.7	13.6	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	76.2	1,537.4	23.4	528.7	22.0	3,178	0.0	283.8	78.9%	98.2	49.4	66.5%	54.5%
1954	349.9	186.0	36.0	416.4	26.0	138.9	18.6	813	0.0	212.0	58.9%	54.6	93.1	37.0%	81.8%
1955	665.0	336.1	101.7	731.8	9.6	232.9	24.7	1,435	0.0	345.7	96.1%	126.4	21.3	85.6%	33.3%
1956	242.1	208.6	28.2	109.7	9.2	29.2	9.6	188	0.0	225.2	62.6%	43.9	103.8	29.7%	87.9%
1957	483.5	309.7	73.9	478.9	21.9	155.0	33.5	898	0.0	331.6	92.2%	107.4	40.3	72.7%	48.5%
1958	474.0	355.6	106.8	622.8	4.1	202.2	31.5	1,194	0.0	359.7	100.0%	138.2	9.4	93.6%	27.3%
1959	407.7	250.9	41.2	305.3	10.4	92.3	12.0	592	0.0	261.3	72.6%	53.3	94.4	36.1%	83.3%
1960	816.6	359.7	143.5	1,614.7	0.0	541.1	4.2	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	20.0	374.8	10.3	122.3	13.0	761	0.0	187.5	52.1%	32.9	114.7	22.3%	90.9%
1962	159.7	135.8	14.9	142.0	19.0	47.4	10.5	260	0.0	154.8	43.0%	25.4	122.3	17.2%	92.4%
1963	373.4	245.4	47.2	346.2	14.0	106.8	18.9	663	0.0	259.4	72.1%	66.1	81.6	44.8%	72.7%
1964	299.4	176.8	25.4	766.5	22.8	263.3	15.0	1,582	0.0	199.6	55.5%	40.3	107.3	27.3%	89.4%
1965	212.9	152.0	27.8	131.1	23.8	39.8	16.5	213	0.0	175.7	48.8%	44.3	103.4	30.0%	86.4%
1966	465.8	284.5	63.9	589.7	28.1	192.3	26.2	1,147	0.0	312.6	86.9%	90.1	57.5	61.0%	59.1%
1967	316.3	242.1	39.0	174.1	28.6	49.9	20.5	286	0.0	270.7	75.3%	59.5	88.2	40.3%	78.8%
1968	352.2	263.3	53.6	985.3	32.9	337.1	22.8	2,006	0.0	296.2	82.3%	76.4	71.2	51.8%	65.2%
1969	473.3	348.6	105.0	387.9	11.1	117.9	35.3	681	0.0	359.7	100.0%	140.3	7.4	95.0%	24.2%
1970	625.7	342.7	104.8	733.8	9.7	238.9	25.1	1,435	0.0	352.4	98.0%	129.9	17.8	88.0%	31.8%
1971	185.8	149.1	10.7	49.7	14.1	12.9	6.1	76	0.0	163.2	45.4%	16.7	130.9	11.3%	95.5%
1972	494.1	325.9	89.2	513.9	11.8	166.0	35.4	967	0.0	337.7	93.9%	124.6	23.1	84.4%	37.9%
1973	824.5	359.7	145.6	2,033.2	0.0	694.8	2.1	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	127.8	1,476.6	0.0	500.8	19.9	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	105.4	705.1	9.3	223.4	32.7	1,366	0.0	356.4	99.1%	138.0	9.6	93.5%	28.8%
1977	549.5	231.1	46.5	1,275.4	9.9	430.2	19.7	2,661	0.0	241.0	67.0%	66.2	81.5	44.8%	71.2%
1978	858.4	359.7	133.4	1,509.1	0.0	503.8	14.3	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	54.0	1,451.5	20.5	499.2	21.0	3,020	0.0	279.6	77.7%	75.0	72.7	50.8%	66.7%
1980	481.7	308.3	78.3	626.3	15.6	201.1	31.0	1,219	0.0	323.9	90.0%	109.3	38.4	74.0%	45.5%
1981	426.8	208.1	47.3	1,017.3	17.5	348.1	16.1	2,102	0.0	225.7	62.7%	63.4	84.3	42.9%	77.3%
1982	807.4	359.7	123.7	1,268.2	0.0	419.0	24.0	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2A-4															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	49.1	612.0	31.4	205.0	29.7	1,203	0.0	272.4	75.7%	78.8	68.9	53.4%	63.6%
1984	696.5	359.7	131.1	1,656.3	0.0	563.4	16.6	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	44.4	664.9	29.6	223.8	21.9	1,331	0.0	273.4	76.0%	66.3	81.4	44.9%	69.7%
1986	699.1	291.7	75.9	1,856.9	8.2	630.0	11.9	3,890	0.0	299.9	83.4%	87.8	59.9	59.4%	60.6%
1987	492.4	329.4	97.8	894.7	13.2	294.7	21.6	1,788	0.0	342.6	95.2%	119.4	28.3	80.8%	42.4%
1988	717.2	344.0	117.8	1,087.8	10.6	355.9	15.0	2,191	0.0	354.6	98.6%	132.7	14.9	89.9%	30.3%
1989	316.8	214.8	35.7	495.1	19.2	163.7	15.0	993	0.0	234.0	65.1%	50.7	96.9	34.4%	84.8%
1990	808.6	319.5	88.8	1,832.6	18.3	618.5	18.2	3,808	0.0	337.8	93.9%	107.1	40.6	72.5%	51.5%
1991	915.4	359.7	142.6	2,081.0	0.0	705.8	5.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	116.5	1,021.9	5.1	335.9	22.0	2,050	0.0	359.7	100.0%	138.5	9.2	93.8%	25.8%
1993	570.6	359.0	112.7	827.8	0.7	268.3	30.1	1,633	0.0	359.7	100.0%	142.8	4.9	96.7%	21.2%
1994	360.2	281.6	59.7	202.5	12.7	58.4	32.5	330	0.0	294.3	81.8%	92.2	55.5	62.4%	56.1%
1995	492.4	310.0	88.8	867.2	23.6	292.2	32.9	1,716	0.0	333.5	92.7%	121.7	26.0	82.4%	40.9%
1996	783.4	338.3	101.1	1,692.6	20.8	571.6	24.4	3,487	0.0	359.1	99.8%	125.5	22.2	85.0%	36.4%
1997	796.8	359.7	140.0	1,519.9	0.0	511.5	7.7	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	88.1	1,456.6	12.9	492.9	19.5	3,006	0.0	326.8	90.8%	107.6	40.1	72.9%	47.0%
1999	629.3	336.0	98.4	864.8	14.6	278.9	24.5	1,719	0.0	350.6	97.5%	122.9	24.8	83.2%	39.4%
2000	597.5	329.5	94.6	1,101.0	16.2	365.8	31.5	2,221	0.0	345.7	96.1%	126.1	21.6	85.4%	34.8%
2001	368.4	309.9	68.4	441.0	22.8	141.6	22.5	833	0.0	332.7	92.5%	90.9	56.8	61.5%	57.6%
2002	188.8	86.3	7.0	228.6	9.7	76.1	5.2	469	0.0	96.0	26.7%	12.2	135.5	8.2%	98.5%
2003	370.1	248.7	47.3	717.1	27.3	239.4	21.2	1,443	0.0	276.0	76.7%	68.5	79.2	46.4%	68.2%
2004	816.6	359.7	135.7	2,230.3	0.0	758.7	8.4	4,643	0.0	359.7	100.0%	144.1	3.6	97.6%	18.2%
2005	539.3	355.9	130.3	609.1	3.8	197.3	17.4	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	78.5	896.3	13.4	298.9	19.8	1,812	0.0	298.8	83.1%	98.4	49.3	66.6%	
Minimum	127.8	86.3	7.0	49.7	0.0	12.9	2.1	76	0.0	96.0	26.7%	12.2	0.0	8.2%	
Maximum	915.4	359.7	145.6	2,230.3	32.9	758.7	35.4	4,643	0.0	359.7	100.0%	147.7	135.5	100.0%	
Hermitage 80th Percentile Year 1942	368.1	242.3	35.8	488.6	23.2	163.0	20.9	969	0.0	265.5	**73.8%**	**56.8**	**90.9**	38.4%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2B-1

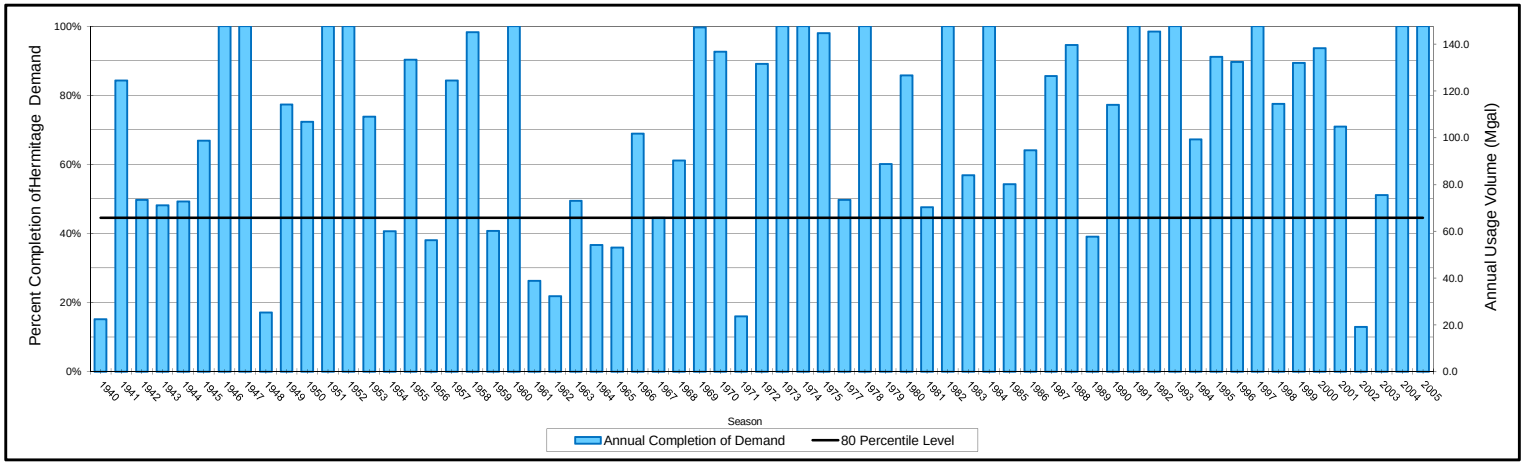
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	3,500	0	2,000
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	28.4	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2B-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.7	51.9	7.7	15.9	5.9	90	0.0	134.1	37.3%	22.5	125.2	15.2%	97.0%
1941	422.5	328.7	91.2	396.0	24.7	122.6	33.3	701	0.0	353.4	98.2%	124.5	23.2	84.3%	45.5%
1942	368.1	242.3	41.5	488.6	40.0	163.0	31.9	935	0.0	282.3	78.5%	73.4	74.3	49.7%	72.7%
1943	508.0	256.6	53.7	786.7	19.3	260.8	17.4	1,598	0.0	275.8	76.7%	71.0	76.6	48.1%	77.3%
1944	483.7	242.6	57.1	679.5	18.5	223.0	15.6	1,367	0.0	261.0	72.6%	72.7	75.0	49.2%	75.8%
1945	473.5	281.3	62.7	1,327.5	36.9	452.5	36.0	2,713	0.0	318.2	88.5%	98.7	48.9	66.9%	60.6%
1946	798.0	348.3	111.7	1,950.9	11.4	659.8	36.0	4,028	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1947	762.7	359.7	113.6	939.2	0.0	303.4	34.1	1,868	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1948	203.0	135.0	13.7	796.0	24.5	276.5	11.6	1,659	0.0	159.5	44.3%	25.2	122.4	17.1%	93.9%
1949	520.8	299.2	88.9	1,432.4	27.0	488.9	25.2	2,933	0.0	326.2	90.7%	114.1	33.6	77.3%	50.0%
1950	404.9	269.2	80.7	418.2	18.2	135.8	26.2	773	0.0	287.4	79.9%	106.8	40.8	72.3%	54.5%
1951	566.5	354.2	116.5	875.4	5.5	291.7	31.2	1,726	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1952	710.9	359.7	132.3	778.2	0.0	252.7	15.3	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	75.6	1,537.4	37.2	528.7	33.3	3,154	0.0	297.6	82.7%	108.9	38.7	73.8%	53.0%
1954	349.9	186.0	37.3	416.4	36.2	138.9	22.7	798	0.0	222.3	61.8%	60.1	87.6	40.7%	83.3%
1955	665.0	336.1	104.0	731.8	16.5	232.9	29.3	1,421	0.0	352.6	98.0%	133.3	14.4	90.3%	36.4%
1956	242.1	208.6	28.3	109.7	16.1	29.2	15.0	176	0.0	239.0	66.4%	56.3	91.4	38.1%	86.4%
1957	483.5	309.7	79.1	478.9	33.0	155.0	45.3	870	0.0	342.7	95.3%	124.4	23.3	84.2%	47.0%
1958	474.0	355.6	107.6	622.8	4.1	202.2	37.5	1,188	0.0	359.7	100.0%	145.1	2.6	98.2%	27.3%
1959	407.7	250.9	44.0	305.3	17.3	92.3	16.2	578	0.0	268.2	74.6%	60.2	87.5	40.7%	81.8%
1960	816.6	359.7	138.2	1,614.7	0.0	541.1	9.4	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	22.3	374.8	17.2	122.3	16.5	749	0.0	194.4	54.0%	38.8	108.9	26.2%	90.9%
1962	159.7	135.8	18.9	142.0	24.3	47.4	13.4	248	0.0	161.7	44.9%	32.3	115.4	21.9%	92.4%
1963	373.4	245.4	48.8	346.2	20.9	106.8	24.2	649	0.0	266.3	74.0%	73.0	74.7	49.4%	74.2%
1964	299.4	176.8	30.4	766.5	36.6	263.3	23.8	1,554	0.0	213.4	59.3%	54.1	93.5	36.7%	87.9%
1965	212.9	152.0	30.5	131.1	31.6	39.8	22.6	197	0.0	183.6	51.0%	53.1	94.6	35.9%	89.4%
1966	465.8	284.5	66.3	589.7	41.9	192.3	35.4	1,122	0.0	326.4	90.7%	101.7	45.9	68.9%	57.6%
1967	316.3	242.1	42.9	174.1	37.2	49.9	22.8	271	0.0	279.3	77.6%	65.8	81.9	44.5%	80.3%
1968	352.2	263.3	54.9	985.3	46.7	337.1	35.3	1,978	0.0	310.0	86.2%	90.2	57.4	61.1%	63.6%
1969	473.3	348.6	105.7	387.9	11.1	117.9	41.4	674	0.0	359.7	100.0%	147.2	0.5	99.7%	24.2%
1970	625.7	342.7	104.0	733.8	16.6	238.9	32.7	1,422	0.0	359.3	99.9%	136.8	10.9	92.6%	33.3%
1971	185.8	149.1	15.6	49.7	21.0	12.9	8.0	62	0.0	170.1	47.3%	23.6	124.0	16.0%	95.5%
1972	494.1	325.9	90.4	513.9	18.7	166.0	41.1	953	0.0	344.6	95.8%	131.5	16.2	89.1%	40.9%
1973	824.5	359.7	140.3	2,033.2	0.0	694.8	7.4	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	125.0	1,476.6	0.0	500.8	22.6	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	106.6	705.1	12.6	223.4	38.1	1,356	0.0	359.7	100.0%	144.7	3.0	98.0%	28.8%
1977	549.5	231.1	47.9	1,275.4	16.8	430.2	25.5	2,647	0.0	247.9	68.9%	73.4	74.2	49.7%	71.2%
1978	858.4	359.7	132.6	1,509.1	0.0	503.8	15.1	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	57.6	1,451.5	27.4	499.2	31.2	2,999	0.0	286.5	79.7%	88.8	58.9	60.1%	65.2%
1980	481.7	308.3	84.3	626.3	24.4	201.1	42.3	1,193	0.0	332.6	92.5%	126.6	21.1	85.7%	42.4%
1981	426.8	208.1	49.1	1,017.3	31.3	348.1	21.1	2,082	0.0	239.5	66.6%	70.3	77.4	47.6%	78.8%
1982	807.4	359.7	123.1	1,268.2	0.0	419.0	24.6	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2B-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	52.0	612.0	36.3	205.0	32.1	1,193	0.0	277.3	77.1%	84.0	63.7	56.9%	66.7%
1984	696.5	359.7	126.2	1,656.3	0.0	563.4	21.5	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	48.3	664.9	43.4	223.8	31.9	1,304	0.0	287.2	79.8%	80.1	67.6	54.3%	68.2%
1986	699.1	291.7	77.4	1,856.9	15.1	630.0	17.3	3,876	0.0	306.8	85.3%	94.7	53.0	64.1%	62.1%
1987	492.4	329.4	98.5	894.7	20.1	294.7	27.8	1,774	0.0	349.5	97.2%	126.3	21.4	85.5%	43.9%
1988	717.2	344.0	115.5	1,087.8	15.8	355.9	24.1	2,179	0.0	359.7	100.0%	139.6	8.0	94.6%	30.3%
1989	316.8	214.8	40.3	495.1	26.1	163.7	17.3	979	0.0	240.9	67.0%	57.6	90.0	39.0%	84.8%
1990	808.6	319.5	90.4	1,832.6	25.2	618.5	23.5	3,794	0.0	344.7	95.8%	114.0	33.7	77.2%	51.5%
1991	915.4	359.7	141.6	2,081.0	0.0	705.8	6.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	117.6	1,021.9	5.1	335.9	27.8	2,043	0.0	359.7	100.0%	145.4	2.3	98.5%	25.8%
1993	570.6	359.0	113.9	827.8	0.7	268.3	33.8	1,628	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1994	360.2	281.6	63.2	202.5	19.6	58.4	36.0	316	0.0	301.2	83.7%	99.2	48.5	67.2%	59.1%
1995	492.4	310.0	90.0	867.2	37.4	292.2	44.5	1,689	0.0	347.3	96.6%	134.5	13.1	91.1%	34.8%
1996	783.4	338.3	104.4	1,692.6	21.5	571.6	28.0	3,479	0.0	359.7	100.0%	132.4	15.3	89.7%	37.9%
1997	796.8	359.7	134.7	1,519.9	0.0	511.5	12.9	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	87.8	1,456.6	19.8	492.9	26.7	2,992	0.0	333.7	92.8%	114.5	33.2	77.5%	48.5%
1999	629.3	336.0	99.9	864.8	21.5	278.9	32.1	1,703	0.0	357.5	99.4%	132.0	15.7	89.4%	39.4%
2000	597.5	329.5	97.2	1,101.0	23.1	365.8	41.1	2,202	0.0	352.6	98.0%	138.2	9.4	93.6%	31.8%
2001	368.4	309.9	71.6	441.0	22.8	141.6	29.8	822	0.0	339.6	94.4%	104.7	43.0	70.9%	56.1%
2002	188.8	86.3	11.9	228.6	16.6	76.1	7.2	455	0.0	102.9	28.6%	19.1	128.6	12.9%	98.5%
2003	370.1	248.7	52.1	717.1	34.2	239.4	23.3	1,429	0.0	282.9	78.6%	75.4	72.3	51.1%	69.7%
2004	816.6	359.7	132.5	2,230.3	0.0	758.7	15.2	4,639	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
2005	539.3	355.9	127.5	609.1	3.8	197.3	20.1	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	79.6	896.3	19.1	298.9	25.4	1,799	0.0	304.8	84.7%	105.5	42.2	71.4%	
Minimum	127.8	86.3	7.7	49.7	0.0	12.9	5.9	62	0.0	102.9	28.6%	19.1	0.0	12.9%	
Maximum	915.4	359.7	141.6	2,230.3	46.7	758.7	45.3	4,639	0.0	359.7	100.0%	147.7	128.6	100.0%	
Hermitage 80th Percentile Year 1967	316.3	242.1	42.9	174.1	37.2	49.9	22.8	271	0.0	279.3	**77.6%**	**65.8**	**81.9**	44.5%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2B-2

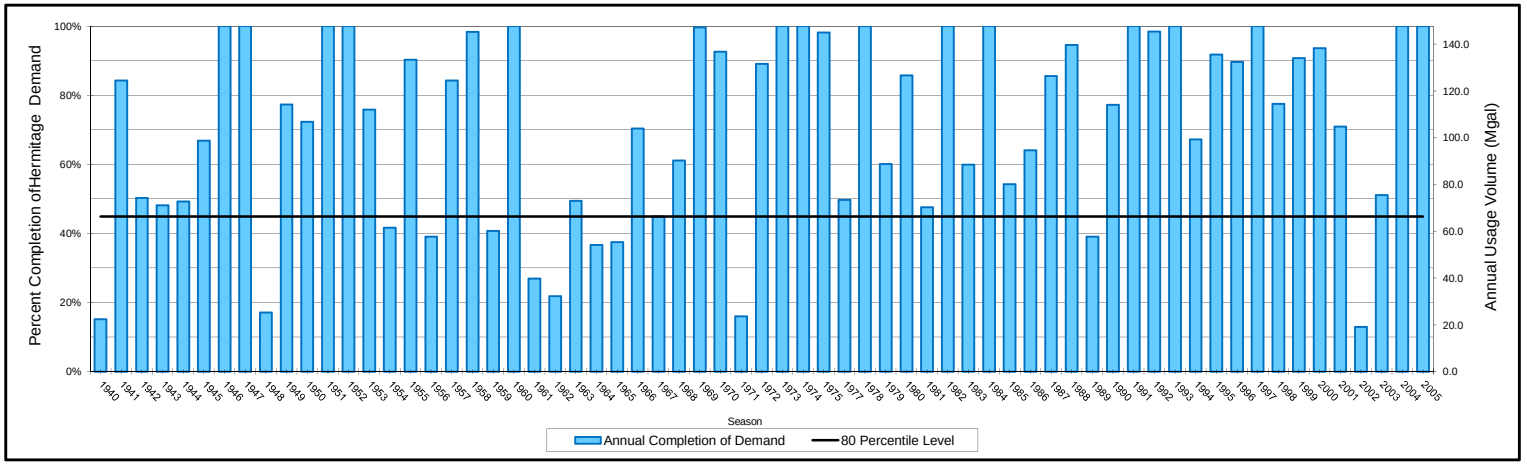
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	50%
Total Pumping Rate (gpm) =	4,000	5,000	0	3,500
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	28.4	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2B-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	8.8	51.9	8.8	15.9	8.1	86	0.0	134.1	37.3%	22.5	125.2	15.2%	97.0%
1941	422.5	328.7	92.1	396.0	24.7	122.6	32.3	701	0.0	353.4	98.2%	124.5	23.2	84.3%	45.5%
1942	368.1	242.3	41.8	488.6	40.0	163.0	32.5	934	0.0	282.3	78.5%	74.3	73.4	50.3%	71.2%
1943	508.0	256.6	54.3	786.7	19.3	260.8	16.7	1,598	0.0	275.8	76.7%	71.0	76.6	48.1%	77.3%
1944	483.7	242.6	57.1	679.5	18.5	223.0	15.6	1,367	0.0	261.0	72.6%	72.7	75.0	49.2%	75.8%
1945	473.5	281.3	63.6	1,327.5	36.9	452.5	35.2	2,713	0.0	318.2	88.5%	98.7	48.9	66.9%	60.6%
1946	798.0	348.3	115.6	1,950.9	11.4	659.8	32.0	4,028	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1947	762.7	359.7	116.2	939.2	0.0	303.4	31.4	1,868	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1948	203.0	135.0	13.9	796.0	24.5	276.5	11.3	1,659	0.0	159.5	44.3%	25.2	122.4	17.1%	93.9%
1949	520.8	299.2	89.8	1,432.4	27.0	488.9	24.3	2,933	0.0	326.2	90.7%	114.1	33.6	77.3%	50.0%
1950	404.9	269.2	81.5	418.2	18.2	135.8	25.3	773	0.0	287.4	79.9%	106.8	40.8	72.3%	54.5%
1951	566.5	354.2	122.0	875.4	5.5	291.7	25.7	1,726	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1952	710.9	359.7	134.1	778.2	0.0	252.7	13.6	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	79.6	1,537.4	37.2	528.7	32.4	3,150	0.0	297.6	82.7%	112.0	35.6	75.9%	53.0%
1954	349.9	186.0	39.5	416.4	37.3	138.9	22.0	795	0.0	223.3	62.1%	61.5	86.2	41.7%	81.8%
1955	665.0	336.1	104.3	731.8	16.5	232.9	29.0	1,421	0.0	352.6	98.0%	133.3	14.4	90.3%	37.9%
1956	242.1	208.6	30.9	109.7	16.1	29.2	13.7	175	0.0	239.0	66.4%	57.7	90.0	39.1%	84.8%
1957	483.5	309.7	78.3	478.9	33.0	155.0	46.1	870	0.0	342.7	95.3%	124.4	23.3	84.2%	47.0%
1958	474.0	355.6	108.7	622.8	4.1	202.2	36.4	1,188	0.0	359.7	100.0%	145.1	2.5	98.3%	27.3%
1959	407.7	250.9	43.8	305.3	17.3	92.3	16.4	578	0.0	268.2	74.6%	60.2	87.5	40.7%	83.3%
1960	816.6	359.7	143.5	1,614.7	0.0	541.1	4.2	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	22.7	374.8	17.2	122.3	17.2	747	0.0	194.4	54.0%	39.8	107.8	27.0%	90.9%
1962	159.7	135.8	17.8	142.0	25.9	47.4	14.5	247	0.0	161.7	44.9%	32.3	115.4	21.9%	92.4%
1963	373.4	245.4	50.2	346.2	20.9	106.8	22.8	649	0.0	266.3	74.0%	73.0	74.7	49.4%	74.2%
1964	299.4	176.8	29.8	766.5	36.6	263.3	24.3	1,554	0.0	213.4	59.3%	54.1	93.5	36.7%	89.4%
1965	212.9	152.0	32.6	131.1	33.8	39.8	22.7	192	0.0	185.7	51.6%	55.3	92.4	37.5%	87.9%
1966	465.8	284.5	69.0	589.7	41.9	192.3	34.9	1,120	0.0	326.4	90.7%	103.9	43.7	70.4%	57.6%
1967	316.3	242.1	43.5	174.1	37.2	49.9	22.8	270	0.0	279.3	77.6%	66.4	81.3	44.9%	80.3%
1968	352.2	263.3	56.7	985.3	46.7	337.1	33.6	1,978	0.0	310.0	86.2%	90.2	57.4	61.1%	63.6%
1969	473.3	348.6	105.7	387.9	11.1	117.9	41.4	674	0.0	359.7	100.0%	147.2	0.5	99.7%	24.2%
1970	625.7	342.7	106.7	733.8	16.6	238.9	30.0	1,422	0.0	359.3	99.9%	136.8	10.9	92.6%	33.3%
1971	185.8	149.1	15.6	49.7	21.0	12.9	8.0	62	0.0	170.1	47.3%	23.6	124.0	16.0%	95.5%
1972	494.1	325.9	91.5	513.9	18.7	166.0	40.0	953	0.0	344.6	95.8%	131.5	16.2	89.1%	40.9%
1973	824.5	359.7	145.6	2,033.2	0.0	694.8	2.1	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	127.8	1,476.6	0.0	500.8	19.9	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	109.1	705.1	12.6	223.4	35.8	1,356	0.0	359.7	100.0%	144.9	2.7	98.2%	28.8%
1977	549.5	231.1	49.1	1,275.4	16.8	430.2	24.3	2,647	0.0	247.9	68.9%	73.4	74.2	49.7%	72.7%
1978	858.4	359.7	133.4	1,509.1	0.0	503.8	14.3	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	59.2	1,451.5	27.4	499.2	29.6	2,999	0.0	286.5	79.7%	88.8	58.9	60.1%	65.2%
1980	481.7	308.3	84.0	626.3	24.4	201.1	42.6	1,193	0.0	332.6	92.5%	126.6	21.1	85.7%	42.4%
1981	426.8	208.1	49.1	1,017.3	31.3	348.1	21.1	2,082	0.0	239.5	66.6%	70.3	77.4	47.6%	78.8%
1982	807.4	359.7	123.7	1,268.2	0.0	419.0	24.0	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2B-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	54.0	612.0	38.6	205.0	34.5	1,187	0.0	279.6	77.7%	88.5	59.2	59.9%	66.7%
1984	696.5	359.7	131.1	1,656.3	0.0	563.4	16.6	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	48.9	664.9	43.4	223.8	31.2	1,304	0.0	287.2	79.8%	80.1	67.6	54.3%	68.2%
1986	699.1	291.7	78.1	1,856.9	15.1	630.0	16.6	3,876	0.0	306.8	85.3%	94.7	53.0	64.1%	62.1%
1987	492.4	329.4	101.0	894.7	20.1	294.7	25.3	1,774	0.0	349.5	97.2%	126.3	21.4	85.5%	43.9%
1988	717.2	344.0	120.8	1,087.8	15.8	355.9	18.9	2,179	0.0	359.7	100.0%	139.6	8.0	94.6%	30.3%
1989	316.8	214.8	39.4	495.1	26.1	163.7	18.2	979	0.0	240.9	67.0%	57.6	90.0	39.0%	86.4%
1990	808.6	319.5	91.8	1,832.6	25.2	618.5	22.2	3,794	0.0	344.7	95.8%	114.0	33.7	77.2%	51.5%
1991	915.4	359.7	142.6	2,081.0	0.0	705.8	5.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	120.1	1,021.9	5.1	335.9	25.3	2,043	0.0	359.7	100.0%	145.4	2.3	98.5%	25.8%
1993	570.6	359.0	113.9	827.8	0.7	268.3	33.8	1,628	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1994	360.2	281.6	64.3	202.5	19.6	58.4	34.9	316	0.0	301.2	83.7%	99.2	48.5	67.2%	59.1%
1995	492.4	310.0	92.5	867.2	37.4	292.2	43.0	1,688	0.0	347.3	96.6%	135.5	12.2	91.8%	34.8%
1996	783.4	338.3	103.0	1,692.6	21.5	571.6	29.4	3,479	0.0	359.7	100.0%	132.4	15.3	89.7%	39.4%
1997	796.8	359.7	140.0	1,519.9	0.0	511.5	7.7	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	89.5	1,456.6	19.8	492.9	25.0	2,992	0.0	333.7	92.8%	114.5	33.2	77.5%	48.5%
1999	629.3	336.0	101.4	864.8	21.5	278.9	32.6	1,701	0.0	357.5	99.4%	134.0	13.6	90.8%	36.4%
2000	597.5	329.5	99.3	1,101.0	23.1	365.8	39.0	2,202	0.0	352.6	98.0%	138.2	9.4	93.6%	31.8%
2001	368.4	309.9	72.7	441.0	22.8	141.6	28.8	822	0.0	339.6	94.4%	104.7	43.0	70.9%	56.1%
2002	188.8	86.3	11.9	228.6	16.6	76.1	7.2	455	0.0	102.9	28.6%	19.1	128.6	12.9%	98.5%
2003	370.1	248.7	50.9	717.1	34.2	239.4	24.5	1,429	0.0	282.9	78.6%	75.4	72.3	51.1%	69.7%
2004	816.6	359.7	137.8	2,230.3	0.0	758.7	9.9	4,639	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
2005	539.3	355.9	130.3	609.1	3.8	197.3	17.4	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	81.2	896.3	19.2	298.9	24.3	1,799	0.0	304.9	84.8%	105.8	41.9	71.6%	
Minimum	127.8	86.3	8.8	49.7	0.0	12.9	2.1	62	0.0	102.9	28.6%	19.1	0.0	12.9%	
Maximum	915.4	359.7	145.6	2,230.3	46.7	758.7	46.1	4,639	0.0	359.7	100.0%	147.7	128.6	100.0%	
Hermitage 80th Percentile Year 1967	316.3	242.1	43.5	174.1	37.2	49.9	22.8	270	0.0	279.3	**77.6%**	**66.4**	**81.3**	44.9%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2C-1

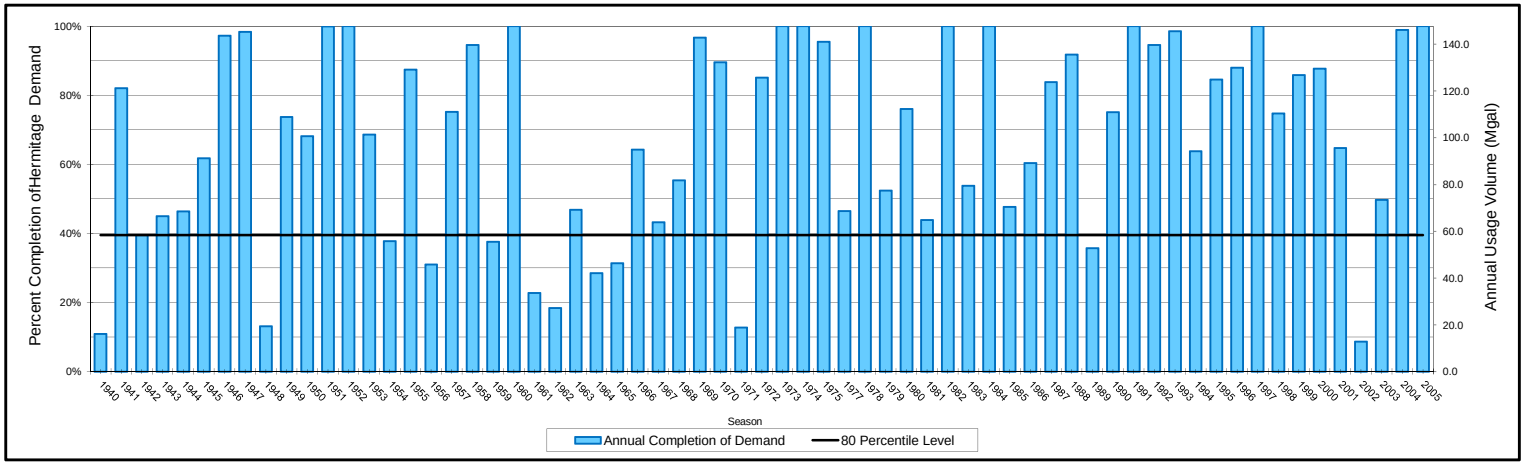
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	0	2,000
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	14.6	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2C-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.7	51.9	7.7	18.3	6.5	89	0.0	127.2	35.4%	16.1	131.5	10.9%	97.0%
1941	422.5	328.7	88.9	396.0	17.8	139.5	32.2	711	0.0	346.5	96.3%	121.1	26.6	82.0%	43.9%
1942	368.1	242.3	36.0	488.6	23.2	172.1	22.5	967	0.0	265.5	73.8%	58.4	89.2	39.6%	80.3%
1943	508.0	256.6	52.0	786.7	12.4	277.1	14.5	1,610	0.0	268.9	74.8%	66.5	81.2	45.0%	75.8%
1944	483.7	242.6	52.5	679.5	11.6	239.3	15.9	1,378	0.0	254.1	70.6%	68.4	79.2	46.4%	74.2%
1945	473.5	281.3	57.4	1,327.5	29.5	467.6	33.8	2,728	0.0	310.8	86.4%	91.2	56.5	61.8%	60.6%
1946	798.0	348.3	109.7	1,950.9	11.4	687.2	33.8	4,032	0.0	359.7	100.0%	143.5	4.1	97.2%	22.7%
1947	762.7	359.7	112.3	939.2	0.0	330.8	32.9	1,870	0.0	359.7	100.0%	145.2	2.5	98.3%	21.2%
1948	203.0	135.0	10.2	796.0	17.6	280.4	9.2	1,671	0.0	152.6	42.4%	19.4	128.2	13.2%	93.9%
1949	520.8	299.2	87.8	1,432.4	17.0	504.6	21.1	2,948	0.0	316.2	87.9%	108.9	38.8	73.7%	51.5%
1950	404.9	269.2	78.0	418.2	11.3	147.3	22.6	786	0.0	280.5	78.0%	100.7	47.0	68.2%	54.5%
1951	566.5	354.2	114.2	875.4	5.5	308.3	33.3	1,726	0.0	359.7	100.0%	147.5	0.1	99.9%	16.7%
1952	710.9	359.7	132.2	778.2	0.0	274.1	15.5	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	73.0	1,537.4	23.4	541.5	28.3	3,175	0.0	283.8	78.9%	101.2	46.4	68.6%	53.0%
1954	349.9	186.0	33.9	416.4	26.0	146.7	21.9	812	0.0	212.0	58.9%	55.8	91.9	37.8%	81.8%
1955	665.0	336.1	101.2	731.8	9.6	257.8	27.9	1,432	0.0	345.7	96.1%	129.1	18.6	87.4%	36.4%
1956	242.1	208.6	27.4	109.7	9.2	38.6	12.5	186	0.0	225.2	62.6%	45.7	101.9	31.0%	87.9%
1957	483.5	309.7	71.7	478.9	21.9	168.7	39.3	895	0.0	331.6	92.2%	111.0	36.7	75.2%	47.0%
1958	474.0	355.6	104.3	622.8	4.1	219.4	35.3	1,193	0.0	359.7	100.0%	139.6	8.1	94.5%	28.8%
1959	407.7	250.9	39.6	305.3	10.4	107.5	15.8	589	0.0	261.3	72.6%	55.5	92.2	37.6%	83.3%
1960	816.6	359.7	138.2	1,614.7	0.0	568.7	9.4	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	18.8	374.8	10.3	132.0	14.8	761	0.0	187.5	52.1%	33.6	114.1	22.7%	90.9%
1962	159.7	135.8	14.4	142.0	19.0	50.0	12.8	259	0.0	154.8	43.0%	27.2	120.5	18.4%	92.4%
1963	373.4	245.4	46.1	346.2	14.0	121.9	23.1	660	0.0	259.4	72.1%	69.2	78.4	46.9%	71.2%
1964	299.4	176.8	25.4	766.5	22.8	270.0	16.7	1,580	0.0	199.6	55.5%	42.1	105.6	28.5%	89.4%
1965	212.9	152.0	27.2	131.1	23.8	46.2	19.1	211	0.0	175.7	48.8%	46.3	101.4	31.4%	86.4%
1966	465.8	284.5	62.6	589.7	28.1	207.7	32.3	1,143	0.0	312.6	86.9%	94.9	52.8	64.3%	57.6%
1967	316.3	242.1	37.9	174.1	28.6	61.3	25.9	281	0.0	270.7	75.3%	63.9	83.8	43.3%	78.8%
1968	352.2	263.3	49.6	985.3	32.9	347.1	32.2	2,000	0.0	296.2	82.3%	81.7	65.9	55.4%	63.6%
1969	473.3	348.6	103.9	387.9	11.1	136.6	38.9	679	0.0	359.7	100.0%	142.8	4.9	96.7%	24.2%
1970	625.7	342.7	101.6	733.8	9.7	258.5	30.6	1,433	0.0	352.4	98.0%	132.2	15.5	89.5%	31.8%
1971	185.8	149.1	10.2	49.7	14.1	17.5	8.7	74	0.0	163.2	45.4%	18.8	128.8	12.8%	95.5%
1972	494.1	325.9	86.7	513.9	11.8	181.0	38.9	966	0.0	337.7	93.9%	125.6	22.1	85.1%	39.4%
1973	824.5	359.7	140.3	2,033.2	0.0	716.2	7.4	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	124.9	1,476.6	0.0	520.1	22.7	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	103.2	705.1	9.3	248.3	37.8	1,363	0.0	356.4	99.1%	141.0	6.7	95.5%	25.8%
1977	549.5	231.1	44.7	1,275.4	9.9	449.3	23.9	2,659	0.0	241.0	67.0%	68.6	79.0	46.5%	72.7%
1978	858.4	359.7	132.3	1,509.1	0.0	531.6	15.3	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	52.7	1,451.5	20.5	511.3	24.7	3,017	0.0	279.6	77.7%	77.4	70.2	52.4%	66.7%
1980	481.7	308.3	78.7	626.3	15.6	220.6	33.6	1,216	0.0	323.9	90.0%	112.3	35.4	76.0%	45.5%
1981	426.8	208.1	45.8	1,017.3	17.5	358.3	18.9	2,101	0.0	225.7	62.7%	64.8	82.9	43.9%	77.3%
1982	807.4	359.7	122.4	1,268.2	0.0	446.7	25.2	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2C-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	47.3	612.0	29.4	215.6	32.2	1,205	0.0	270.4	75.2%	79.5	68.2	53.8%	65.2%
1984	696.5	359.7	125.8	1,656.3	0.0	583.4	21.9	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	45.3	664.9	29.6	234.2	25.1	1,327	0.0	273.4	76.0%	70.4	77.3	47.7%	69.7%
1986	699.1	291.7	75.5	1,856.9	8.2	654.1	13.7	3,888	0.0	299.9	83.4%	89.2	58.5	60.4%	62.1%
1987	492.4	329.4	94.6	894.7	13.2	315.1	29.2	1,783	0.0	342.6	95.2%	123.7	23.9	83.8%	42.4%
1988	717.2	344.0	112.9	1,087.8	10.6	383.2	22.6	2,189	0.0	354.6	98.6%	135.5	12.2	91.8%	30.3%
1989	316.8	214.8	35.9	495.1	19.2	174.4	16.8	991	0.0	234.0	65.1%	52.8	94.9	35.7%	84.8%
1990	808.6	319.5	88.1	1,832.6	18.3	645.5	22.7	3,804	0.0	337.8	93.9%	110.9	36.8	75.1%	48.5%
1991	915.4	359.7	141.6	2,081.0	0.0	733.0	6.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	113.2	1,021.9	5.1	359.9	26.4	2,049	0.0	359.7	100.0%	139.6	8.0	94.6%	27.3%
1993	570.6	359.0	110.2	827.8	0.7	291.6	35.3	1,631	0.0	359.7	100.0%	145.5	2.2	98.5%	19.7%
1994	360.2	281.6	56.9	202.5	12.7	71.3	37.2	328	0.0	294.3	81.8%	94.2	53.5	63.8%	59.1%
1995	492.4	310.0	87.2	867.2	23.6	305.5	37.7	1,713	0.0	333.5	92.7%	124.9	22.8	84.6%	40.9%
1996	783.4	338.3	101.5	1,692.6	20.8	596.2	28.5	3,482	0.0	359.1	99.8%	129.9	17.7	88.0%	33.3%
1997	796.8	359.7	134.6	1,519.9	0.0	535.4	13.0	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	87.0	1,456.6	12.9	513.1	23.3	3,003	0.0	326.8	90.8%	110.3	37.4	74.7%	50.0%
1999	629.3	336.0	97.2	864.8	14.6	304.6	29.5	1,715	0.0	350.6	97.5%	126.7	21.0	85.8%	37.9%
2000	597.5	329.5	93.1	1,101.0	16.2	387.8	36.4	2,217	0.0	345.7	96.1%	129.5	18.2	87.7%	34.8%
2001	368.4	309.9	67.1	441.0	22.8	155.3	28.5	828	0.0	332.7	92.5%	95.6	52.1	64.7%	56.1%
2002	188.8	86.3	6.5	228.6	9.7	80.5	6.4	468	0.0	96.0	26.7%	12.8	134.8	8.7%	98.5%
2003	370.1	248.7	47.9	717.1	27.3	252.6	25.6	1,438	0.0	276.0	76.7%	73.4	74.2	49.7%	68.2%
2004	816.6	359.7	130.1	2,230.3	0.0	785.6	16.0	4,641	0.0	359.7	100.0%	146.1	1.6	98.9%	18.2%
2005	539.3	355.9	126.6	609.1	3.8	214.6	21.0	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	76.7	896.3	13.3	315.7	23.7	1,810	0.0	298.8	83.1%	100.5	47.1	68.1%	
Minimum	127.8	86.3	6.5	49.7	0.0	17.5	6.1	74	0.0	96.0	26.7%	12.8	0.0	8.7%	
Maximum	915.4	359.7	141.6	2,230.3	32.9	785.6	39.3	4,641	0.0	359.7	100.0%	147.7	134.8	100.0%	
Hermitage 80th Percentile Year 1942	368.1	242.3	36.0	488.6	23.2	172.1	22.5	967	0.0	265.5	**73.8%**	**58.4**	**89.2**	39.6%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H2C-2

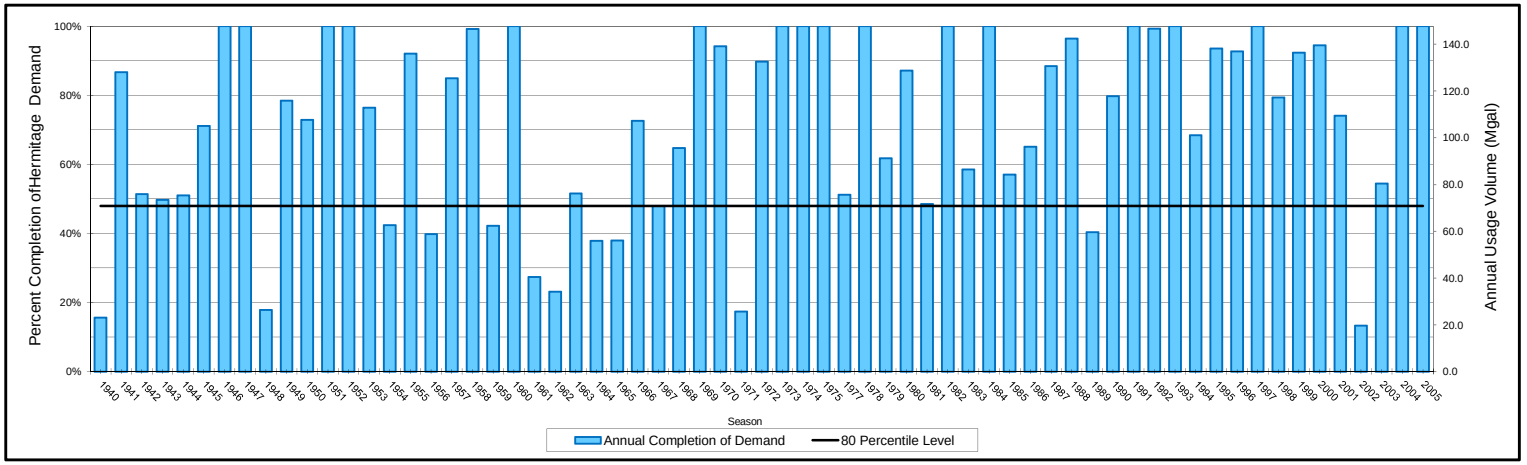
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	2.82	3.35	7.19	1.18
FMF (csm) =	0.15	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	0	2,000
% to Haystack =	0%	50%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	14.0	28.4	0.0	0.0
% to Haystack =	0%	50%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	359.7	147.7

Output For Scenario H2C-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	127.8	111.7	7.7	51.9	7.7	18.3	6.5	89	0.0	134.1	37.3%	23.0	124.6	15.6%	97.0%
1941	422.5	328.7	90.4	396.0	24.7	139.5	37.6	697	0.0	353.4	98.2%	128.0	19.7	86.7%	45.5%
1942	368.1	242.3	41.2	488.6	40.0	172.1	34.7	933	0.0	282.3	78.5%	75.9	71.8	51.4%	72.7%
1943	508.0	256.6	53.7	786.7	19.3	277.1	19.7	1,596	0.0	275.8	76.7%	73.4	74.3	49.7%	77.3%
1944	483.7	242.6	56.2	679.5	18.5	239.3	19.1	1,365	0.0	261.0	72.6%	75.3	72.3	51.0%	75.8%
1945	473.5	281.3	62.5	1,327.5	36.9	467.6	42.5	2,707	0.0	318.2	88.5%	105.0	42.7	71.1%	59.1%
1946	798.0	348.3	110.0	1,950.9	11.4	687.2	37.6	4,028	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1947	762.7	359.7	112.9	939.2	0.0	330.8	34.8	1,868	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1948	203.0	135.0	13.4	796.0	24.5	280.4	13.0	1,658	0.0	159.5	44.3%	26.3	121.3	17.8%	93.9%
1949	520.8	299.2	88.9	1,432.4	27.0	504.6	26.9	2,932	0.0	326.2	90.7%	115.8	31.9	78.4%	51.5%
1950	404.9	269.2	80.1	418.2	18.2	147.3	27.4	772	0.0	287.4	79.9%	107.6	40.1	72.8%	56.1%
1951	566.5	354.2	114.2	875.4	5.5	308.3	33.4	1,726	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1952	710.9	359.7	132.2	778.2	0.0	274.1	15.5	1,522	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1953	496.2	260.4	75.6	1,537.4	37.2	541.5	37.2	3,150	0.0	297.6	82.7%	112.7	34.9	76.3%	53.0%
1954	349.9	186.0	37.3	416.4	36.2	146.7	25.3	795	0.0	222.3	61.8%	62.7	85.0	42.4%	81.8%
1955	665.0	336.1	103.7	731.8	16.5	257.8	32.2	1,418	0.0	352.6	98.0%	136.0	11.7	92.1%	39.4%
1956	242.1	208.6	28.3	109.7	16.1	38.6	17.8	173	0.0	239.0	66.4%	58.8	88.9	39.8%	86.4%
1957	483.5	309.7	78.1	478.9	33.0	168.7	47.3	869	0.0	342.7	95.3%	125.4	22.3	84.9%	47.0%
1958	474.0	355.6	106.1	622.8	4.1	219.4	40.4	1,186	0.0	359.7	100.0%	146.5	1.2	99.2%	28.8%
1959	407.7	250.9	43.1	305.3	17.3	107.5	19.3	575	0.0	268.2	74.6%	62.4	85.3	42.3%	83.3%
1960	816.6	359.7	138.2	1,614.7	0.0	568.7	9.4	3,318	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1961	353.0	177.2	22.1	374.8	17.2	132.0	18.3	747	0.0	194.4	54.0%	40.5	107.2	27.4%	90.9%
1962	159.7	135.8	18.4	142.0	24.3	50.0	15.7	246	0.0	161.7	44.9%	34.1	113.6	23.1%	92.4%
1963	373.4	245.4	48.6	346.2	20.9	121.9	27.5	646	0.0	266.3	74.0%	76.1	71.5	51.5%	71.2%
1964	299.4	176.8	30.3	766.5	36.6	270.0	25.5	1,553	0.0	213.4	59.3%	55.9	91.8	37.8%	89.4%
1965	212.9	152.0	30.0	131.1	31.6	46.2	26.0	194	0.0	183.6	51.0%	56.0	91.6	37.9%	87.9%
1966	465.8	284.5	66.3	589.7	41.9	207.7	40.9	1,116	0.0	326.4	90.7%	107.2	40.5	72.6%	57.6%
1967	316.3	242.1	42.2	174.1	37.2	61.3	28.6	266	0.0	279.3	77.6%	70.8	76.9	47.9%	80.3%
1968	352.2	263.3	54.9	985.3	46.7	347.1	40.6	1,973	0.0	310.0	86.2%	95.5	52.1	64.7%	63.6%
1969	473.3	348.6	104.8	387.9	11.1	136.6	42.9	674	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1970	625.7	342.7	103.6	733.8	16.6	258.5	35.5	1,419	0.0	359.3	99.9%	139.1	8.6	94.2%	33.3%
1971	185.8	149.1	14.7	49.7	21.0	17.5	11.0	60	0.0	170.1	47.3%	25.7	121.9	17.4%	95.5%
1972	494.1	325.9	88.6	513.9	18.7	181.0	44.0	952	0.0	344.6	95.8%	132.5	15.2	89.7%	40.9%
1973	824.5	359.7	140.3	2,033.2	0.0	716.2	7.4	4,216	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1974	679.7	359.7	124.9	1,476.6	0.0	520.1	22.7	3,022	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1975	594.8	347.1	106.5	705.1	12.6	248.3	41.2	1,353	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1977	549.5	231.1	47.9	1,275.4	16.8	449.3	27.7	2,645	0.0	247.9	68.9%	75.5	72.1	51.2%	74.2%
1978	858.4	359.7	132.3	1,509.1	0.0	531.6	15.3	3,091	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1979	442.2	259.1	57.3	1,451.5	27.4	511.3	34.0	2,997	0.0	286.5	79.7%	91.2	56.4	61.8%	65.2%
1980	481.7	308.3	83.2	626.3	24.4	220.6	45.5	1,191	0.0	332.6	92.5%	128.7	19.0	87.1%	43.9%
1981	426.8	208.1	49.1	1,017.3	31.3	358.3	22.6	2,080	0.0	239.5	66.6%	71.7	76.0	48.5%	78.8%
1982	807.4	359.7	122.4	1,268.2	0.0	446.7	25.2	2,574	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%

Output For Scenario H2C-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	393.6	241.0	50.9	612.0	36.3	215.6	35.5	1,191	0.0	277.3	77.1%	86.4	61.3	58.5%	66.7%
1984	696.5	359.7	125.8	1,656.3	0.0	583.4	21.9	3,407	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1985	422.5	243.8	48.3	664.9	43.4	234.2	36.0	1,300	0.0	287.2	79.8%	84.2	63.5	57.0%	68.2%
1986	699.1	291.7	77.3	1,856.9	15.1	654.1	18.8	3,874	0.0	306.8	85.3%	96.1	51.6	65.1%	62.1%
1987	492.4	329.4	97.2	894.7	20.1	315.1	33.4	1,769	0.0	349.5	97.2%	130.6	17.0	88.5%	42.4%
1988	717.2	344.0	115.4	1,087.8	15.8	383.2	27.0	2,177	0.0	359.7	100.0%	142.4	5.3	96.4%	30.3%
1989	316.8	214.8	40.3	495.1	26.1	174.4	19.4	977	0.0	240.9	67.0%	59.7	88.0	40.4%	84.8%
1990	808.6	319.5	90.4	1,832.6	25.2	645.5	27.3	3,790	0.0	344.7	95.8%	117.8	29.9	79.7%	48.5%
1991	915.4	359.7	141.6	2,081.0	0.0	733.0	6.1	4,319	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1992	663.2	354.6	117.2	1,021.9	5.1	359.9	29.3	2,042	0.0	359.7	100.0%	146.5	1.1	99.2%	27.3%
1993	570.6	359.0	110.9	827.8	0.7	291.6	36.8	1,628	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1994	360.2	281.6	61.0	202.5	19.6	71.3	40.0	314	0.0	301.2	83.7%	101.1	46.6	68.4%	60.6%
1995	492.4	310.0	89.9	867.2	37.4	305.5	48.3	1,686	0.0	347.3	96.6%	138.2	9.5	93.6%	34.8%
1996	783.4	338.3	104.2	1,692.6	21.5	596.2	32.7	3,475	0.0	359.7	100.0%	136.8	10.8	92.7%	36.4%
1997	796.8	359.7	134.6	1,519.9	0.0	535.4	13.0	3,114	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
1998	603.6	313.9	87.8	1,456.6	19.8	513.1	29.4	2,989	0.0	333.7	92.8%	117.2	30.5	79.4%	50.0%
1999	629.3	336.0	99.9	864.8	21.5	304.6	36.4	1,698	0.0	357.5	99.4%	136.3	11.4	92.3%	37.9%
2000	597.5	329.5	97.2	1,101.0	23.1	387.8	42.3	2,200	0.0	352.6	98.0%	139.5	8.2	94.5%	31.8%
2001	368.4	309.9	71.6	441.0	22.8	155.3	35.9	816	0.0	339.6	94.4%	109.4	38.3	74.1%	54.5%
2002	188.8	86.3	11.4	228.6	16.6	80.5	8.4	454	0.0	102.9	28.6%	19.7	127.9	13.4%	98.5%
2003	370.1	248.7	51.9	717.1	34.2	252.6	28.5	1,425	0.0	282.9	78.6%	80.3	67.3	54.4%	69.7%
2004	816.6	359.7	130.4	2,230.3	0.0	785.6	17.3	4,639	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
2005	539.3	355.9	126.6	609.1	3.8	214.6	21.0	1,156	0.0	359.7	100.0%	147.7	0.0	100.0%	1.5%
Average	515.5	285.2	79.1	896.3	19.1	315.7	28.0	1,797	0.0	304.8	84.7%	107.5	40.2	72.8%	
Minimum	127.8	86.3	7.7	49.7	0.0	17.5	6.1	60	0.0	102.9	28.6%	19.7	0.0	13.4%	
Maximum	915.4	359.7	141.6	2,230.3	46.7	785.6	48.3	4,639	0.0	359.7	100.0%	147.7	127.9	100.0%	
Hermitage 80th Percentile Year 1967	316.3	242.1	42.2	174.1	37.2	61.3	28.6	266	0.0	279.3	**77.6%**	**70.8**	**76.9**	47.9%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H3A-1

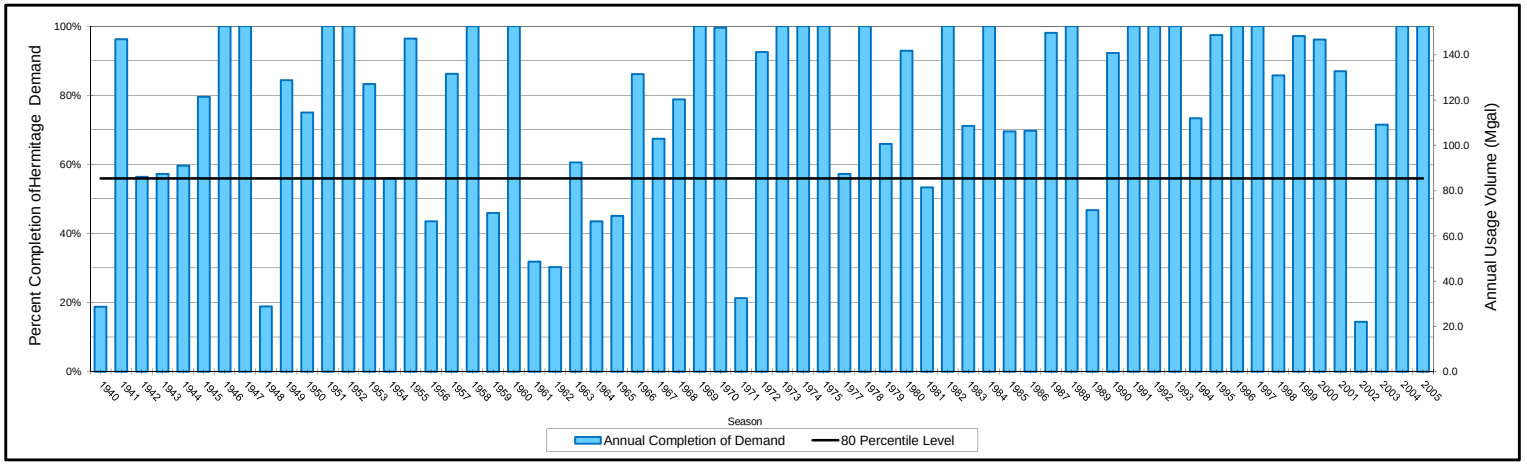
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	10,000	2,000
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	14.6	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	152.7

Output For Scenario H3A-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	15.4	51.9	0.0	18.3	6.5	89	48.0	158.2	33.3%	28.6	124.1	18.8%	97.0%
1941	21.3	21.2	124.0	396.0	0.0	139.5	22.8	703	437.1	475.9	100.0%	146.9	5.8	96.2%	40.9%
1942	26.3	20.6	64.6	488.6	0.0	172.1	21.5	963	272.5	293.1	61.6%	86.1	66.6	56.4%	78.8%
1943	42.3	26.2	74.4	786.7	0.0	277.1	13.0	1,601	302.6	328.8	69.1%	87.4	65.3	57.3%	75.8%
1944	36.0	31.9	78.4	679.5	0.0	239.3	12.7	1,367	254.6	294.2	61.8%	91.1	61.6	59.6%	74.2%
1945	71.0	26.7	95.4	1,327.5	0.0	467.6	26.0	2,728	322.6	349.3	73.4%	121.4	31.3	79.5%	57.6%
1946	103.9	60.0	140.4	1,950.9	0.0	687.2	12.3	4,034	415.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1947	50.5	38.1	142.5	939.2	0.0	330.8	10.2	1,863	437.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1948	41.2	8.3	19.7	796.0	0.0	280.4	9.1	1,680	172.9	181.2	38.1%	28.8	123.9	18.9%	95.5%
1949	61.9	44.4	110.6	1,432.4	0.0	504.6	18.2	2,946	422.7	467.1	98.2%	128.8	23.9	84.3%	54.5%
1950	22.5	19.7	101.3	418.2	0.0	147.3	13.1	783	396.5	416.2	87.5%	114.5	38.2	75.0%	60.6%
1951	47.0	38.2	140.3	875.4	0.0	308.3	12.4	1,726	437.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1952	41.8	38.4	151.3	778.2	0.0	274.1	1.4	1,517	437.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1953	75.4	36.9	105.5	1,537.4	0.0	541.5	21.6	3,173	350.2	387.1	81.3%	127.1	25.6	83.2%	56.1%
1954	22.4	20.3	63.4	416.4	0.0	146.7	22.0	808	216.7	236.9	49.8%	85.4	67.3	55.9%	80.3%
1955	39.3	36.2	134.9	731.8	0.0	257.8	12.3	1,423	439.7	475.9	100.0%	147.1	5.6	96.4%	39.4%
1956	5.9	5.7	42.4	109.7	0.0	38.6	11.8	181	132.1	259.9	54.6%	66.5	86.2	43.5%	89.4%
1957	25.7	24.1	109.3	478.9	0.0	168.7	22.4	896	429.9	454.1	95.4%	131.7	21.0	86.2%	50.0%
1958	32.6	32.0	139.4	622.8	0.0	219.4	13.3	1,184	443.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1959	16.4	14.5	58.7	305.3	0.0	107.5	11.5	585	311.7	326.2	68.5%	70.2	82.5	45.9%	84.8%
1960	82.4	67.1	152.7	1,614.7	0.0	568.7	0.0	3,313	408.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1961	20.1	18.3	36.1	374.8	0.0	132.0	12.5	756	212.2	230.4	48.4%	48.6	104.1	31.8%	90.9%
1962	7.6	4.3	33.4	142.0	0.0	50.0	12.8	259	75.0	142.9	30.0%	46.2	106.5	30.2%	92.4%
1963	18.6	12.1	72.9	346.2	0.0	121.9	19.6	650	233.9	288.4	60.6%	92.5	60.2	60.6%	72.7%
1964	34.2	23.4	48.4	766.5	0.0	270.0	18.1	1,579	209.6	232.9	49.0%	66.5	86.2	43.5%	87.9%
1965	7.0	7.0	49.9	131.1	0.0	46.2	19.0	213	196.5	205.8	43.2%	68.9	83.8	45.1%	86.4%
1966	31.7	22.5	104.2	589.7	0.0	207.7	27.4	1,134	361.4	383.9	80.7%	131.5	21.2	86.1%	51.5%
1967	9.4	8.6	76.5	174.1	0.0	61.3	26.4	271	183.4	238.0	50.0%	102.9	49.8	67.4%	69.7%
1968	51.2	16.1	89.1	985.3	0.0	347.1	31.3	1,994	281.1	297.2	62.5%	120.3	32.4	78.8%	59.1%
1969	20.8	19.8	142.7	387.9	0.0	136.6	10.0	680	456.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
1970	39.4	39.4	137.1	733.8	0.0	258.5	15.0	1,423	436.4	475.9	100.0%	152.0	0.7	99.5%	33.3%
1971	2.7	2.6	23.7	49.7	0.0	17.5	8.7	74	71.8	145.2	30.5%	32.5	120.2	21.3%	93.9%
1972	27.6	21.0	122.4	513.9	0.0	181.0	18.8	962	451.5	472.5	99.3%	141.2	11.5	92.5%	45.5%
1973	104.0	76.6	152.7	2,033.2	0.0	716.2	0.0	4,211	399.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1974	79.3	77.4	150.1	1,476.6	0.0	520.1	2.6	3,017	398.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1975	37.9	27.2	139.0	705.1	0.0	248.3	13.7	1,361	448.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1977	66.4	32.0	70.9	1,275.4	0.0	449.3	16.5	2,650	273.2	305.2	64.1%	87.4	65.3	57.2%	77.3%
1978	81.1	52.8	150.5	1,509.1	0.0	531.6	2.2	3,086	423.0	475.9	100.0%	152.7	0.0	100.0%	1.5%
1979	74.4	38.2	81.1	1,451.5	0.0	511.3	19.6	3,015	316.1	354.3	74.5%	100.7	52.0	66.0%	71.2%
1980	33.7	24.2	116.8	626.3	0.0	220.6	25.1	1,202	441.6	465.9	97.9%	141.8	10.9	92.9%	43.9%
1981	54.7	53.1	65.9	1,017.3	0.0	358.3	15.5	2,102	231.0	284.1	59.7%	81.4	71.3	53.3%	81.8%
1982	68.1	47.4	151.2	1,268.2	0.0	446.7	1.5	2,569	428.5	475.9	100.0%	152.7	0.0	100.0%	1.5%

Output For Scenario H3A-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	82.3	612.0	0.0	215.6	26.3	1,205	302.9	324.2	68.1%	108.6	44.1	71.1%	65.2%
1984	85.8	82.0	148.5	1,656.3	0.0	583.4	4.2	3,402	393.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1985	35.7	31.3	78.4	664.9	0.0	234.2	27.7	1,321	298.6	330.0	69.3%	106.1	46.6	69.5%	68.2%
1986	92.4	43.4	96.7	1,856.9	0.0	654.1	9.8	3,879	372.5	415.8	87.4%	106.5	46.2	69.7%	66.7%
1987	42.1	22.6	134.4	894.7	0.0	315.1	15.4	1,770	397.3	419.9	88.2%	149.8	2.9	98.1%	34.8%
1988	58.5	39.0	140.8	1,087.8	0.0	383.2	11.9	2,182	436.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1989	26.6	15.7	58.5	495.1	0.0	174.4	12.9	991	266.9	282.6	59.4%	71.4	81.3	46.7%	83.3%
1990	98.5	69.3	121.2	1,832.6	0.0	645.5	19.6	3,792	381.7	451.0	94.8%	140.8	11.9	92.2%	47.0%
1991	111.7	90.2	152.7	2,081.0	0.0	733.0	0.0	4,314	385.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1992	52.1	36.6	143.4	1,021.9	0.0	359.9	9.3	2,041	439.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1993	44.5	34.0	139.5	827.8	0.0	291.6	13.2	1,624	422.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1994	10.9	10.5	93.6	202.5	0.0	71.3	18.4	323	298.1	338.5	71.1%	111.9	40.8	73.3%	62.1%
1995	46.6	40.4	123.7	867.2	0.0	305.5	25.0	1,713	422.3	462.8	97.2%	148.7	4.0	97.4%	36.4%
1996	90.9	82.5	136.1	1,692.6	0.0	596.2	16.6	3,480	393.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1997	81.4	69.2	150.7	1,519.9	0.0	535.4	2.0	3,109	406.6	475.9	100.0%	152.7	0.0	100.0%	1.5%
1998	66.8	45.8	115.5	1,456.6	0.0	513.1	15.4	2,995	411.8	457.6	96.2%	130.9	21.8	85.7%	53.0%
1999	46.5	26.8	131.2	864.8	0.0	304.6	17.0	1,708	449.1	475.9	100.0%	148.3	4.4	97.1%	37.9%
2000	59.2	36.1	128.1	1,101.0	0.0	387.8	18.7	2,216	439.7	475.9	100.0%	146.8	5.9	96.2%	42.4%
2001	22.6	21.9	107.5	441.0	0.0	155.3	25.3	814	273.2	401.7	84.4%	132.8	19.9	87.0%	48.5%
2002	12.3	11.0	15.5	228.6	0.0	80.5	6.6	469	149.1	160.1	33.6%	22.1	130.6	14.4%	98.5%
2003	38.5	13.7	85.8	717.1	0.0	252.6	23.4	1,430	259.9	273.7	57.5%	109.2	43.5	71.5%	63.6%
2004	119.1	100.5	148.5	2,230.3	0.0	785.6	4.2	4,634	375.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
2005	32.7	30.9	147.3	609.1	0.0	214.6	5.4	1,155	444.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
Average	46.9	34.0	104.0	896.3	0.0	315.7	14.4	1,805	339.1	382.9	80.5%	118.7	34.0	77.7%	
Minimum	2.7	2.6	15.4	49.7	0.0	17.5	0.0	74	48.0	142.9	30.0%	22.1	0.0	14.4%	
Maximum	119.1	100.5	152.7	2,230.3	0.0	785.6	31.3	4,634	456.1	475.9	100.0%	152.7	130.6	100.0%	
Hermitage 80th Percentile Year 1954	22.4	20.3	63.4	416.4	0.0	146.7	22.0	808	216.7	236.9	**49.8%**	**85.4**	**67.3**	55.9%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H3A-2

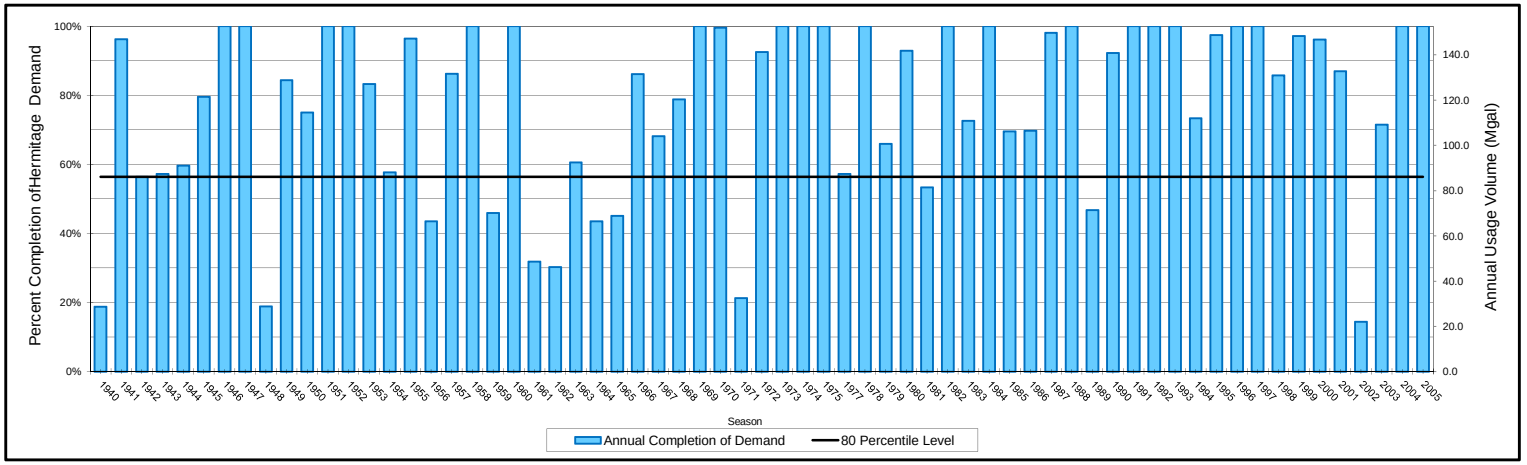
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	5,000	10,000	3,500
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	14.6	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	152.7

Output For Scenario H3A-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	17.6	51.9	0.0	18.3	8.7	85	48.0	158.2	33.3%	28.6	124.1	18.8%	97.0%
1941	21.3	21.2	123.5	396.0	0.0	139.5	23.4	703	434.7	475.9	100.0%	146.9	5.8	96.2%	40.9%
1942	26.3	20.6	63.5	488.6	0.0	172.1	22.6	963	276.9	297.5	62.5%	86.1	66.6	56.4%	80.3%
1943	42.3	26.2	74.4	786.7	0.0	277.1	13.0	1,601	302.6	328.8	69.1%	87.4	65.3	57.3%	77.3%
1944	36.0	31.9	78.4	679.5	0.0	239.3	12.7	1,367	254.6	294.2	61.8%	91.1	61.6	59.6%	74.2%
1945	71.0	26.7	96.3	1,327.5	0.0	467.6	25.1	2,728	321.7	348.5	73.2%	121.4	31.3	79.5%	57.6%
1946	103.9	60.0	139.6	1,950.9	0.0	687.2	13.1	4,034	415.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1947	50.5	38.1	142.5	939.2	0.0	330.8	10.2	1,863	437.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1948	41.2	8.3	18.9	796.0	0.0	280.4	9.9	1,680	172.9	181.2	38.1%	28.8	123.9	18.9%	95.5%
1949	61.9	44.4	109.5	1,432.4	0.0	504.6	19.3	2,946	422.7	467.1	98.2%	128.8	23.9	84.3%	54.5%
1950	22.5	19.7	103.9	418.2	0.0	147.3	10.6	783	396.5	416.2	87.5%	114.5	38.2	75.0%	60.6%
1951	47.0	38.2	140.3	875.4	0.0	308.3	12.4	1,726	437.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1952	41.8	38.4	151.3	778.2	0.0	274.1	1.4	1,517	437.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1953	75.4	36.9	107.7	1,537.4	0.0	541.5	19.4	3,173	349.6	386.4	81.2%	127.1	25.6	83.2%	56.1%
1954	22.4	20.3	65.6	416.4	0.0	146.7	22.4	806	214.1	234.3	49.2%	88.0	64.7	57.7%	75.8%
1955	39.3	36.2	135.5	731.8	0.0	257.8	11.6	1,423	439.7	475.9	100.0%	147.1	5.6	96.4%	39.4%
1956	5.9	5.7	43.7	109.7	0.0	38.6	10.5	181	130.4	258.1	54.2%	66.5	86.2	43.5%	89.4%
1957	25.7	24.1	105.1	478.9	0.0	168.7	26.5	896	429.9	454.1	95.4%	131.7	21.0	86.2%	50.0%
1958	32.6	32.0	140.3	622.8	0.0	219.4	12.4	1,184	443.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1959	16.4	14.5	56.6	305.3	0.0	107.5	13.5	585	311.7	326.2	68.5%	70.2	82.5	45.9%	84.8%
1960	82.4	67.1	152.7	1,614.7	0.0	568.7	0.0	3,313	408.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1961	20.1	18.3	33.9	374.8	0.0	132.0	14.6	756	212.2	230.4	48.4%	48.6	104.1	31.8%	90.9%
1962	7.6	4.3	33.4	142.0	0.0	50.0	12.8	259	75.0	142.9	30.0%	46.2	106.5	30.2%	92.4%
1963	18.6	12.1	71.6	346.2	0.0	121.9	20.9	650	233.9	288.4	60.6%	92.5	60.2	60.6%	72.7%
1964	34.2	23.4	47.9	766.5	0.0	270.0	18.6	1,579	209.6	232.9	49.0%	66.5	86.2	43.5%	87.9%
1965	7.0	7.0	51.4	131.1	0.0	46.2	17.5	213	196.5	205.8	43.2%	68.9	83.8	45.1%	86.4%
1966	31.7	22.5	102.6	589.7	0.0	207.7	28.9	1,134	365.3	387.8	81.5%	131.5	21.2	86.1%	51.5%
1967	9.4	8.6	77.7	174.1	0.0	61.3	26.3	270	182.2	236.9	49.8%	104.0	48.7	68.1%	69.7%
1968	51.2	16.1	87.1	985.3	0.0	347.1	33.2	1,994	282.1	298.2	62.7%	120.3	32.4	78.8%	59.1%
1969	20.8	19.8	142.7	387.9	0.0	136.6	10.0	680	456.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
1970	39.4	39.4	137.3	733.8	0.0	258.5	14.8	1,423	436.4	475.9	100.0%	152.0	0.7	99.5%	33.3%
1971	2.7	2.6	23.7	49.7	0.0	17.5	8.7	74	71.8	145.2	30.5%	32.5	120.2	21.3%	93.9%
1972	27.6	21.0	125.5	513.9	0.0	181.0	15.7	962	451.5	472.5	99.3%	141.2	11.5	92.5%	45.5%
1973	104.0	76.6	152.7	2,033.2	0.0	716.2	0.0	4,211	399.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1974	79.3	77.4	150.1	1,476.6	0.0	520.1	2.6	3,017	398.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1975	37.9	27.2	139.5	705.1	0.0	248.3	13.2	1,361	448.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1977	66.4	32.0	73.0	1,275.4	0.0	449.3	14.3	2,650	273.2	305.2	64.1%	87.4	65.3	57.2%	78.8%
1978	81.1	52.8	150.5	1,509.1	0.0	531.6	2.2	3,086	423.0	475.9	100.0%	152.7	0.0	100.0%	1.5%
1979	74.4	38.2	78.8	1,451.5	0.0	511.3	21.9	3,015	316.1	354.3	74.5%	100.7	52.0	66.0%	71.2%
1980	33.7	24.2	116.2	626.3	0.0	220.6	25.6	1,202	441.6	465.9	97.9%	141.8	10.9	92.9%	43.9%
1981	54.7	53.1	63.9	1,017.3	0.0	358.3	17.5	2,102	231.0	284.1	59.7%	81.4	71.3	53.3%	81.8%
1982	68.1	47.4	151.2	1,268.2	0.0	446.7	1.5	2,569	428.5	475.9	100.0%	152.7	0.0	100.0%	1.5%

Output For Scenario H3A-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	84.3	612.0	0.0	215.6	26.6	1,203	302.4	323.7	68.0%	110.9	41.8	72.6%	63.6%
1984	85.8	82.0	148.5	1,656.3	0.0	583.4	4.2	3,402	393.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1985	35.7	31.3	77.8	664.9	0.0	234.2	28.3	1,321	298.6	330.0	69.3%	106.1	46.6	69.5%	68.2%
1986	92.4	43.4	97.4	1,856.9	0.0	654.1	9.1	3,879	372.5	415.8	87.4%	106.5	46.2	69.7%	66.7%
1987	42.1	22.6	134.4	894.7	0.0	315.1	15.4	1,770	397.3	419.9	88.2%	149.8	2.9	98.1%	34.8%
1988	58.5	39.0	140.1	1,087.8	0.0	383.2	12.6	2,182	436.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1989	26.6	15.7	56.9	495.1	0.0	174.4	14.4	991	271.2	286.9	60.3%	71.4	81.3	46.7%	83.3%
1990	98.5	69.3	120.0	1,832.6	0.0	645.5	20.8	3,792	381.7	451.0	94.8%	140.8	11.9	92.2%	47.0%
1991	111.7	90.2	152.7	2,081.0	0.0	733.0	0.0	4,314	385.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1992	52.1	36.6	141.2	1,021.9	0.0	359.9	11.5	2,041	439.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1993	44.5	34.0	139.5	827.8	0.0	291.6	13.2	1,624	422.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1994	10.9	10.5	93.6	202.5	0.0	71.3	18.4	323	298.1	338.5	71.1%	111.9	40.8	73.3%	62.1%
1995	46.6	40.4	125.1	867.2	0.0	305.5	23.6	1,713	422.3	462.8	97.2%	148.7	4.0	97.4%	36.4%
1996	90.9	82.5	134.0	1,692.6	0.0	596.2	18.7	3,480	393.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1997	81.4	69.2	150.7	1,519.9	0.0	535.4	2.0	3,109	406.6	475.9	100.0%	152.7	0.0	100.0%	1.5%
1998	66.8	45.8	117.0	1,456.6	0.0	513.1	13.9	2,995	411.8	457.6	96.2%	130.9	21.8	85.7%	53.0%
1999	46.5	26.8	132.1	864.8	0.0	304.6	16.1	1,708	449.1	475.9	100.0%	148.3	4.4	97.1%	37.9%
2000	59.2	36.1	127.0	1,101.0	0.0	387.8	19.9	2,216	439.7	475.9	100.0%	146.8	5.9	96.2%	42.4%
2001	22.6	21.9	106.2	441.0	0.0	155.3	26.6	814	273.2	401.7	84.4%	132.8	19.9	87.0%	48.5%
2002	12.3	11.0	15.5	228.6	0.0	80.5	6.6	469	149.1	160.1	33.6%	22.1	130.6	14.4%	98.5%
2003	38.5	13.7	84.1	717.1	0.0	252.6	25.1	1,430	259.9	273.7	57.5%	109.2	43.5	71.5%	65.2%
2004	119.1	100.5	148.5	2,230.3	0.0	785.6	4.2	4,634	375.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
2005	32.7	30.9	146.8	609.1	0.0	214.6	5.9	1,155	444.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
Average	46.9	34.0	103.9	896.3	0.0	315.7	14.7	1,805	339.2	383.0	80.5%	118.8	33.9	77.8%	
Minimum	2.7	2.6	15.5	49.7	0.0	17.5	0.0	74	48.0	142.9	30.0%	22.1	0.0	14.4%	
Maximum	119.1	100.5	152.7	2,230.3	0.0	785.6	33.2	4,634	456.1	475.9	100.0%	152.7	130.6	100.0%	
Hermitage 80th Percentile Year 1942	26.3	20.6	63.5	488.6	0.0	172.1	22.6	963	276.9	297.5	**62.5%**	**86.1**	**66.6**	56.4%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H3B-1

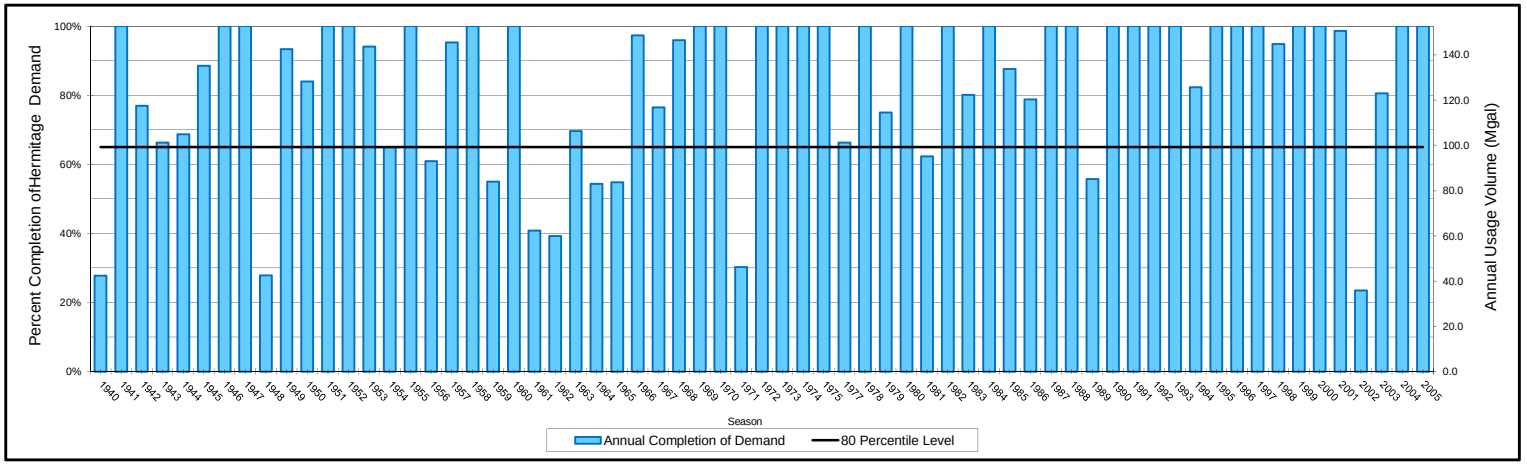
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	10,000	2,000
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	152.7

Output For Scenario H3B-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	15.4	51.9	0.0	18.3	6.5	89	48.0	158.2	33.3%	42.4	110.3	27.8%	97.0%
1941	21.3	21.2	127.5	396.0	0.0	139.5	25.2	697	437.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
1942	26.3	20.6	82.7	488.6	0.0	172.1	34.7	931	255.0	275.6	57.9%	117.4	35.3	76.9%	69.7%
1943	42.3	26.2	82.9	786.7	0.0	277.1	18.3	1,587	302.6	328.8	69.1%	101.2	51.5	66.3%	77.3%
1944	36.0	31.9	88.3	679.5	0.0	239.3	16.6	1,354	240.8	294.2	61.8%	104.9	47.8	68.7%	75.8%
1945	71.0	26.7	103.4	1,327.5	0.0	467.6	31.8	2,714	319.9	346.6	72.8%	135.2	17.5	88.5%	59.1%
1946	103.9	60.0	140.4	1,950.9	0.0	687.2	12.3	4,034	415.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1947	50.5	38.1	142.5	939.2	0.0	330.8	10.2	1,863	437.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1948	41.2	8.3	29.6	796.0	0.0	280.4	13.0	1,666	172.9	181.2	38.1%	42.6	110.1	27.9%	95.5%
1949	61.9	44.4	118.1	1,432.4	0.0	504.6	24.5	2,932	422.7	467.1	98.2%	142.6	10.1	93.4%	57.6%
1950	22.5	19.7	111.0	418.2	0.0	147.3	17.2	769	396.5	416.2	87.5%	128.3	24.4	84.0%	62.1%
1951	47.0	38.2	140.3	875.4	0.0	308.3	12.4	1,726	437.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1952	41.8	38.4	151.3	778.2	0.0	274.1	1.4	1,517	437.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1953	75.4	36.9	114.6	1,537.4	0.0	541.5	29.0	3,156	334.0	370.8	77.9%	143.6	9.1	94.0%	56.1%
1954	22.4	20.3	71.7	416.4	0.0	146.7	27.6	795	216.7	236.9	49.8%	99.2	53.5	65.0%	80.3%
1955	39.3	36.2	138.1	731.8	0.0	257.8	14.6	1,418	439.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1956	5.9	5.7	50.3	109.7	0.0	38.6	16.8	168	123.7	251.4	52.8%	93.1	59.6	60.9%	83.3%
1957	25.7	24.1	117.5	478.9	0.0	168.7	28.0	882	429.9	454.1	95.4%	145.5	7.2	95.3%	53.0%
1958	32.6	32.0	139.4	622.8	0.0	219.4	13.3	1,184	443.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1959	16.4	14.5	67.0	305.3	0.0	107.5	16.9	571	311.7	326.2	68.5%	84.0	68.7	55.0%	86.4%
1960	82.4	67.1	152.7	1,614.7	0.0	568.7	0.0	3,313	408.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1961	20.1	18.3	44.1	374.8	0.0	132.0	18.2	742	212.2	230.4	48.4%	62.4	90.3	40.8%	90.9%
1962	7.6	4.3	41.4	142.0	0.0	50.0	18.6	245	75.0	142.9	30.0%	60.0	92.7	39.3%	92.4%
1963	18.6	12.1	82.1	346.2	0.0	121.9	24.2	637	233.9	288.4	60.6%	106.3	46.4	69.6%	74.2%
1964	34.2	23.4	58.9	766.5	0.0	270.0	24.1	1,562	201.2	224.6	47.2%	83.0	69.7	54.4%	89.4%
1965	7.0	7.0	60.1	131.1	0.0	46.2	23.7	198	191.9	201.2	42.3%	83.7	69.0	54.8%	87.9%
1966	31.7	22.5	114.2	589.7	0.0	207.7	34.4	1,117	349.4	371.9	78.1%	148.6	4.1	97.3%	50.0%
1967	9.4	8.6	86.8	174.1	0.0	61.3	30.0	257	169.6	235.1	49.4%	116.7	36.0	76.4%	71.2%
1968	51.2	16.1	104.7	985.3	0.0	347.1	41.8	1,968	268.7	284.8	59.9%	146.5	6.2	95.9%	51.5%
1969	20.8	19.8	142.7	387.9	0.0	136.6	10.0	680	456.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
1970	39.4	39.4	137.2	733.8	0.0	258.5	15.5	1,422	436.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1971	2.7	2.6	33.8	49.7	0.0	17.5	12.5	60	58.0	145.2	30.5%	46.3	106.4	30.3%	93.9%
1972	27.6	21.0	129.2	513.9	0.0	181.0	23.5	950	451.5	472.5	99.3%	152.7	0.0	100.0%	1.5%
1973	104.0	76.6	152.7	2,033.2	0.0	716.2	0.0	4,211	399.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1974	79.3	77.4	150.1	1,476.6	0.0	520.1	2.6	3,017	398.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1975	37.9	27.2	139.0	705.1	0.0	248.3	13.7	1,361	448.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1977	66.4	32.0	81.0	1,275.4	0.0	449.3	20.2	2,636	273.2	305.2	64.1%	101.2	51.5	66.3%	78.8%
1978	81.1	52.8	150.5	1,509.1	0.0	531.6	2.2	3,086	423.0	475.9	100.0%	152.7	0.0	100.0%	1.5%
1979	74.4	38.2	89.5	1,451.5	0.0	511.3	25.1	3,001	306.6	344.7	72.4%	114.5	38.2	75.0%	72.7%
1980	33.7	24.2	124.8	626.3	0.0	220.6	27.9	1,192	441.6	465.9	97.9%	152.7	0.0	100.0%	1.5%
1981	54.7	53.1	75.1	1,017.3	0.0	358.3	20.1	2,088	231.0	284.1	59.7%	95.2	57.5	62.3%	81.8%
1982	68.1	47.4	151.2	1,268.2	0.0	446.7	1.5	2,569	428.5	475.9	100.0%	152.7	0.0	100.0%	1.5%

Output For Scenario H3B-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	91.4	612.0	0.0	215.6	31.0	1,191	301.3	322.6	67.8%	122.4	30.3	80.1%	66.7%
1984	85.8	82.0	148.5	1,656.3	0.0	583.4	4.2	3,402	393.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1985	35.7	31.3	93.3	664.9	0.0	234.2	40.4	1,293	298.5	329.8	69.3%	133.7	19.0	87.6%	60.6%
1986	92.4	43.4	104.4	1,856.9	0.0	654.1	15.9	3,865	371.8	415.2	87.2%	120.3	32.4	78.8%	68.2%
1987	42.1	22.6	136.3	894.7	0.0	315.1	16.4	1,767	394.9	419.3	88.1%	152.7	0.0	100.0%	1.5%
1988	58.5	39.0	140.8	1,087.8	0.0	383.2	11.9	2,182	436.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1989	26.6	15.7	66.7	495.1	0.0	174.4	18.4	977	266.0	281.7	59.2%	85.2	67.5	55.8%	84.8%
1990	98.5	69.3	127.3	1,832.6	0.0	645.5	25.4	3,780	381.7	451.0	94.8%	152.7	0.0	100.0%	1.5%
1991	111.7	90.2	152.7	2,081.0	0.0	733.0	0.0	4,314	385.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1992	52.1	36.6	143.4	1,021.9	0.0	359.9	9.3	2,041	439.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1993	44.5	34.0	139.5	827.8	0.0	291.6	13.2	1,624	422.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1994	10.9	10.5	103.6	202.5	0.0	71.3	22.2	309	284.3	330.7	69.5%	125.7	27.0	82.3%	63.6%
1995	46.6	40.4	127.0	867.2	0.0	305.5	25.7	1,709	422.3	462.8	97.2%	152.7	0.0	100.0%	1.5%
1996	90.9	82.5	136.1	1,692.6	0.0	596.2	16.6	3,480	393.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1997	81.4	69.2	150.7	1,519.9	0.0	535.4	2.0	3,109	406.6	475.9	100.0%	152.7	0.0	100.0%	1.5%
1998	66.8	45.8	123.0	1,456.6	0.0	513.1	21.8	2,982	411.8	457.6	96.2%	144.7	8.0	94.8%	54.5%
1999	46.5	26.8	133.5	864.8	0.0	304.6	19.2	1,703	449.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
2000	59.2	36.1	131.9	1,101.0	0.0	387.8	20.8	2,210	439.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
2001	22.6	21.9	114.2	441.0	0.0	155.3	27.7	805	268.1	401.7	84.4%	150.6	2.1	98.7%	48.5%
2002	12.3	11.0	25.8	228.6	0.0	80.5	10.1	455	149.1	160.1	33.6%	35.9	116.8	23.5%	98.5%
2003	38.5	13.7	94.3	717.1	0.0	252.6	28.7	1,416	259.9	273.7	57.5%	123.0	29.7	80.5%	65.2%
2004	119.1	100.5	148.5	2,230.3	0.0	785.6	4.2	4,634	375.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
2005	32.7	30.9	147.3	609.1	0.0	214.6	5.4	1,155	444.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
Average	46.9	34.0	109.4	896.3	0.0	315.7	17.7	1,796	336.7	381.3	80.1%	128.0	24.7	83.8%	
Minimum	2.7	2.6	15.4	49.7	0.0	17.5	0.0	60	48.0	142.9	30.0%	35.9	0.0	23.5%	
Maximum	119.1	100.5	152.7	2,230.3	0.0	785.6	41.8	4,634	456.1	475.9	100.0%	152.7	116.8	100.0%	
Hermitage 80th Percentile Year 1954	22.4	20.3	71.7	416.4	0.0	146.7	27.6	795	216.7	236.9	**49.8%**	**99.2**	**53.5**	65.0%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H3B-2

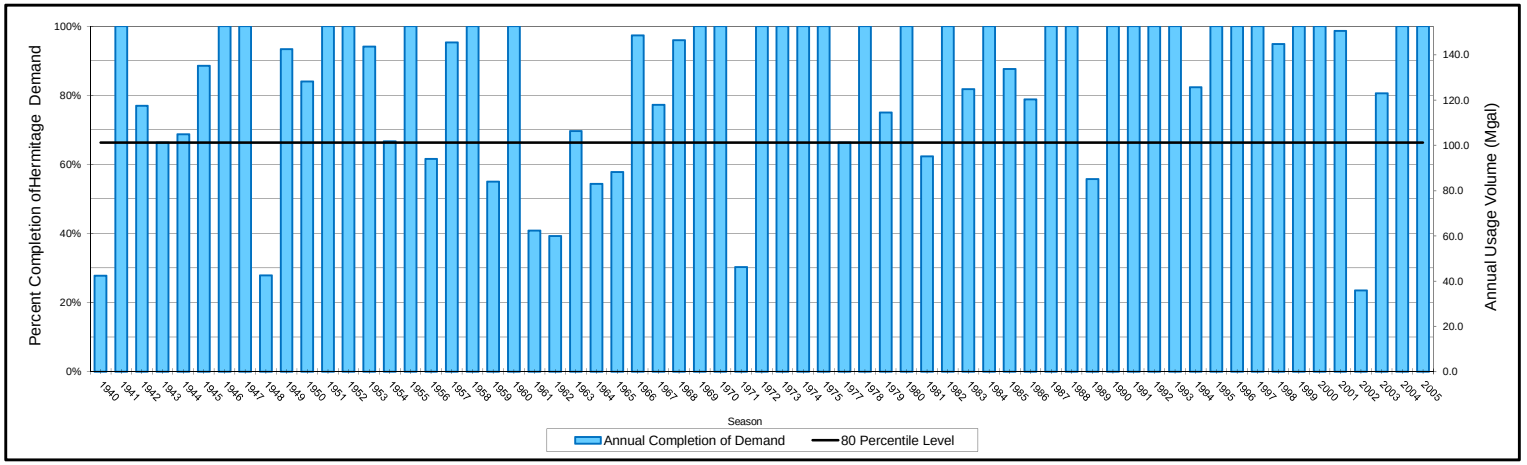
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	5,000	10,000	3,500
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	152.7

Output For Scenario H3B-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	17.6	51.9	0.0	18.3	8.7	85	48.0	158.2	33.3%	42.4	110.3	27.8%	97.0%
1941	21.3	21.2	128.3	396.0	0.0	139.5	24.4	697	434.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1942	26.3	20.6	82.1	488.6	0.0	172.1	35.4	931	259.3	279.9	58.8%	117.4	35.3	76.9%	71.2%
1943	42.3	26.2	80.8	786.7	0.0	277.1	20.4	1,587	302.6	328.8	69.1%	101.2	51.5	66.3%	78.8%
1944	36.0	31.9	88.3	679.5	0.0	239.3	16.6	1,354	240.8	294.2	61.8%	104.9	47.8	68.7%	75.8%
1945	71.0	26.7	104.1	1,327.5	0.0	467.6	31.1	2,714	321.6	348.3	73.2%	135.2	17.5	88.5%	59.1%
1946	103.9	60.0	139.6	1,950.9	0.0	687.2	13.1	4,034	415.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1947	50.5	38.1	142.5	939.2	0.0	330.8	10.2	1,863	437.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1948	41.2	8.3	29.1	796.0	0.0	280.4	13.5	1,666	172.9	181.2	38.1%	42.6	110.1	27.9%	95.5%
1949	61.9	44.4	117.1	1,432.4	0.0	504.6	25.4	2,932	422.7	467.1	98.2%	142.6	10.1	93.4%	57.6%
1950	22.5	19.7	111.5	418.2	0.0	147.3	16.8	769	396.5	416.2	87.5%	128.3	24.4	84.0%	62.1%
1951	47.0	38.2	140.3	875.4	0.0	308.3	12.4	1,726	437.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1952	41.8	38.4	151.3	778.2	0.0	274.1	1.4	1,517	437.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1953	75.4	36.9	116.0	1,537.4	0.0	541.5	27.6	3,156	338.5	375.4	78.9%	143.6	9.1	94.0%	56.1%
1954	22.4	20.3	73.9	416.4	0.0	146.7	27.9	792	214.1	234.3	49.2%	101.8	50.9	66.7%	77.3%
1955	39.3	36.2	138.1	731.8	0.0	257.8	14.6	1,418	439.6	475.8	100.0%	152.7	0.0	100.0%	1.5%
1956	5.9	5.7	51.9	109.7	0.0	38.6	16.1	167	126.3	254.0	53.4%	94.1	58.6	61.6%	83.3%
1957	25.7	24.1	112.9	478.9	0.0	168.7	32.5	882	429.9	454.1	95.4%	145.5	7.2	95.3%	53.0%
1958	32.6	32.0	140.3	622.8	0.0	219.4	12.4	1,184	443.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1959	16.4	14.5	67.2	305.3	0.0	107.5	16.8	571	311.7	326.2	68.5%	84.0	68.7	55.0%	87.9%
1960	82.4	67.1	152.7	1,614.7	0.0	568.7	0.0	3,313	408.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1961	20.1	18.3	42.7	374.8	0.0	132.0	19.7	742	212.2	230.4	48.4%	62.4	90.3	40.8%	90.9%
1962	7.6	4.3	42.3	142.0	0.0	50.0	17.7	245	72.8	142.9	30.0%	60.0	92.7	39.3%	92.4%
1963	18.6	12.1	79.2	346.2	0.0	121.9	27.1	637	233.9	288.4	60.6%	106.3	46.4	69.6%	74.2%
1964	34.2	23.4	55.4	766.5	0.0	270.0	27.6	1,562	200.4	223.7	47.0%	83.0	69.7	54.4%	89.4%
1965	7.0	7.0	64.7	131.1	0.0	46.2	23.6	193	187.4	196.7	41.3%	88.3	64.4	57.8%	84.8%
1966	31.7	22.5	114.8	589.7	0.0	207.7	33.8	1,117	351.5	374.0	78.6%	148.6	4.1	97.3%	50.0%
1967	9.4	8.6	88.0	174.1	0.0	61.3	29.9	256	168.4	234.0	49.2%	117.8	34.9	77.2%	69.7%
1968	51.2	16.1	101.9	985.3	0.0	347.1	44.5	1,968	278.5	294.6	61.9%	146.5	6.2	95.9%	51.5%
1969	20.8	19.8	142.7	387.9	0.0	136.6	10.0	680	456.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
1970	39.4	39.4	137.9	733.8	0.0	258.5	14.8	1,422	436.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1971	2.7	2.6	33.8	49.7	0.0	17.5	12.5	60	58.0	145.2	30.5%	46.3	106.4	30.3%	93.9%
1972	27.6	21.0	130.3	513.9	0.0	181.0	22.4	950	450.9	471.9	99.2%	152.7	0.0	100.0%	1.5%
1973	104.0	76.6	152.7	2,033.2	0.0	716.2	0.0	4,211	399.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1974	79.3	77.4	150.1	1,476.6	0.0	520.1	2.6	3,017	398.5	475.9	100.0%	152.7	0.0	100.0%	1.5%
1975	37.9	27.2	139.5	705.1	0.0	248.3	13.2	1,361	448.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1977	66.4	32.0	80.2	1,275.4	0.0	449.3	20.9	2,636	273.2	305.2	64.1%	101.2	51.5	66.3%	80.3%
1978	81.1	52.8	150.5	1,509.1	0.0	531.6	2.2	3,086	423.0	475.9	100.0%	152.7	0.0	100.0%	1.5%
1979	74.4	38.2	88.0	1,451.5	0.0	511.3	26.6	3,001	315.5	353.7	74.3%	114.5	38.2	75.0%	72.7%
1980	33.7	24.2	122.0	626.3	0.0	220.6	30.7	1,192	441.6	465.9	97.9%	152.7	0.0	100.0%	1.5%
1981	54.7	53.1	74.0	1,017.3	0.0	358.3	21.2	2,088	231.0	284.1	59.7%	95.2	57.5	62.3%	81.8%
1982	68.1	47.4	151.2	1,268.2	0.0	446.7	1.5	2,569	428.5	475.9	100.0%	152.7	0.0	100.0%	1.5%

Output For Scenario H3B-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	93.4	612.0	0.0	215.6	31.4	1,189	300.5	321.8	67.6%	124.8	27.9	81.7%	65.2%
1984	85.8	82.0	148.5	1,656.3	0.0	583.4	4.2	3,402	393.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
1985	35.7	31.3	92.7	664.9	0.0	234.2	41.0	1,293	298.6	330.0	69.3%	133.7	19.0	87.6%	60.6%
1986	92.4	43.4	104.9	1,856.9	0.0	654.1	15.3	3,865	370.0	413.4	86.9%	120.3	32.4	78.8%	68.2%
1987	42.1	22.6	136.3	894.7	0.0	315.1	16.4	1,767	394.9	419.3	88.1%	152.7	0.0	100.0%	1.5%
1988	58.5	39.0	140.1	1,087.8	0.0	383.2	12.6	2,182	436.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1989	26.6	15.7	67.4	495.1	0.0	174.4	17.7	977	265.1	280.9	59.0%	85.2	67.5	55.8%	86.4%
1990	98.5	69.3	129.5	1,832.6	0.0	645.5	23.2	3,780	381.7	451.0	94.8%	152.7	0.0	100.0%	1.5%
1991	111.7	90.2	152.7	2,081.0	0.0	733.0	0.0	4,314	385.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
1992	52.1	36.6	141.2	1,021.9	0.0	359.9	11.5	2,041	439.3	475.9	100.0%	152.7	0.0	100.0%	1.5%
1993	44.5	34.0	139.5	827.8	0.0	291.6	13.2	1,624	422.8	475.9	100.0%	152.7	0.0	100.0%	1.5%
1994	10.9	10.5	103.6	202.5	0.0	71.3	22.2	309	284.3	330.7	69.5%	125.7	27.0	82.3%	63.6%
1995	46.6	40.4	126.2	867.2	0.0	305.5	26.5	1,709	422.3	462.8	97.2%	152.7	0.0	100.0%	1.5%
1996	90.9	82.5	134.0	1,692.6	0.0	596.2	18.7	3,480	393.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
1997	81.4	69.2	150.7	1,519.9	0.0	535.4	2.0	3,109	406.6	475.9	100.0%	152.7	0.0	100.0%	1.5%
1998	66.8	45.8	122.0	1,456.6	0.0	513.1	22.7	2,982	411.8	457.6	96.2%	144.7	8.0	94.8%	54.5%
1999	46.5	26.8	134.6	864.8	0.0	304.6	18.1	1,703	449.1	475.9	100.0%	152.7	0.0	100.0%	1.5%
2000	59.2	36.1	132.8	1,101.0	0.0	387.8	19.9	2,210	439.7	475.9	100.0%	152.7	0.0	100.0%	1.5%
2001	22.6	21.9	112.7	441.0	0.0	155.3	29.2	805	268.1	401.7	84.4%	150.6	2.1	98.7%	48.5%
2002	12.3	11.0	26.4	228.6	0.0	80.5	9.5	455	149.1	160.1	33.6%	35.9	116.8	23.5%	98.5%
2003	38.5	13.7	92.9	717.1	0.0	252.6	30.1	1,416	259.9	273.7	57.5%	123.0	29.7	80.5%	66.7%
2004	119.1	100.5	148.5	2,230.3	0.0	785.6	4.2	4,634	375.4	475.9	100.0%	152.7	0.0	100.0%	1.5%
2005	32.7	30.9	146.8	609.1	0.0	214.6	5.9	1,155	444.9	475.9	100.0%	152.7	0.0	100.0%	1.5%
Average	46.9	34.0	109.3	896.3	0.0	315.7	18.1	1,796	336.9	381.6	80.2%	128.2	24.5	83.9%	
Minimum	2.7	2.6	17.6	49.7	0.0	17.5	0.0	60	48.0	142.9	30.0%	35.9	0.0	23.5%	
Maximum	119.1	100.5	152.7	2,230.3	0.0	785.6	44.5	4,634	456.1	475.9	100.0%	152.7	116.8	100.0%	
Hermitage 80th Percentile Year 1977	66.4	32.0	80.2	1,275.4	0.0	449.3	20.9	2,636	273.2	305.2	**64.1%**	**101.2**	**51.5**	66.3%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4A-1

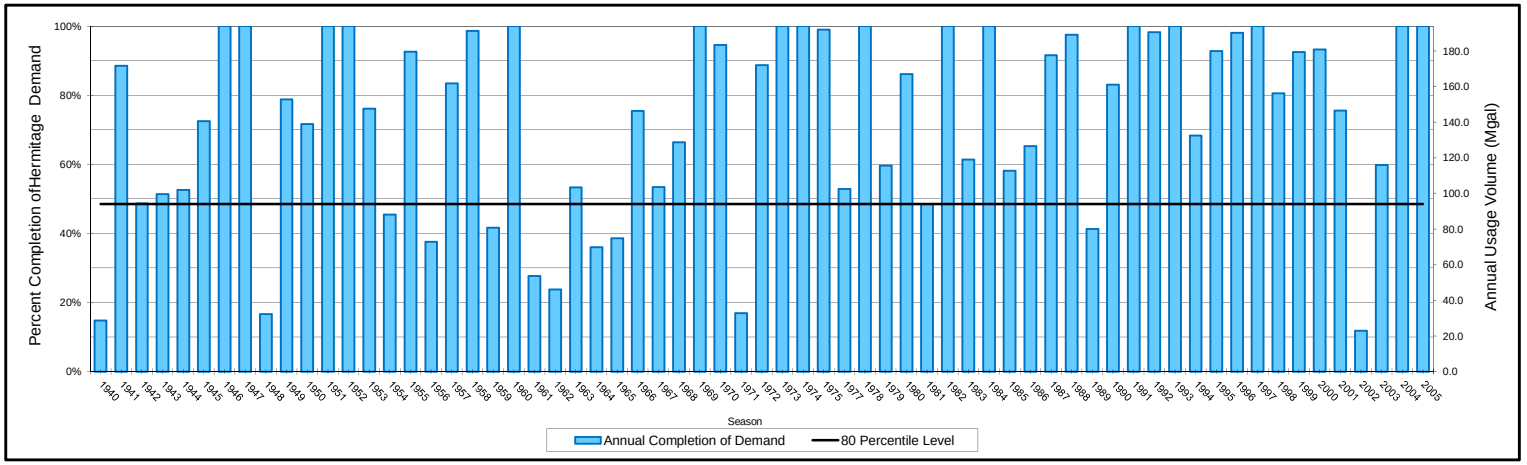
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	10,000	2,000
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	14.6	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4A-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	15.4	51.9	0.0	18.3	6.5	89	48.0	158.2	33.3%	28.6	165.3	14.8%	97.0%
1941	21.3	21.2	144.2	396.0	0.0	139.5	27.3	678	421.7	475.9	100.0%	171.6	22.3	88.5%	43.9%
1942	26.3	20.6	69.8	488.6	0.0	172.1	24.6	954	264.2	284.8	59.8%	94.4	99.5	48.7%	78.8%
1943	42.3	26.2	83.7	786.7	0.0	277.1	15.9	1,589	300.0	326.2	68.5%	99.6	94.3	51.4%	77.3%
1944	36.0	31.9	88.5	679.5	0.0	239.3	13.5	1,356	253.8	293.4	61.7%	102.1	91.8	52.6%	75.8%
1945	71.0	26.7	108.4	1,327.5	0.0	467.6	32.2	2,708	313.6	340.4	71.5%	140.6	53.3	72.5%	57.6%
1946	103.9	60.0	171.8	1,950.9	0.0	687.2	22.1	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	175.1	939.2	0.0	330.8	18.8	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	21.8	796.0	0.0	280.4	10.4	1,676	172.9	181.2	38.1%	32.3	161.6	16.6%	95.5%
1949	61.9	44.4	132.3	1,432.4	0.0	504.6	20.4	2,922	422.3	466.7	98.1%	152.7	41.2	78.8%	51.5%
1950	22.5	19.7	120.9	418.2	0.0	147.3	18.1	759	396.3	416.0	87.4%	139.0	54.9	71.7%	59.1%
1951	47.0	38.2	171.2	875.4	0.0	308.3	22.7	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	191.0	778.2	0.0	274.1	2.9	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	120.6	1,537.4	0.0	541.5	27.0	3,152	338.8	375.6	78.9%	147.5	46.4	76.1%	53.0%
1954	22.4	20.3	66.1	416.4	0.0	146.7	22.1	806	216.7	236.9	49.8%	88.2	105.7	45.5%	81.8%
1955	39.3	36.2	159.2	731.8	0.0	257.8	20.3	1,391	436.3	472.4	99.3%	179.5	14.4	92.6%	37.9%
1956	5.9	5.7	47.5	109.7	0.0	38.6	13.2	175	129.0	256.7	53.9%	72.9	121.0	37.6%	87.9%
1957	25.7	24.1	127.1	478.9	0.0	168.7	34.7	866	410.4	434.6	91.3%	161.8	32.1	83.4%	47.0%
1958	32.6	32.0	167.5	622.8	0.0	219.4	23.7	1,146	443.9	475.9	100.0%	191.2	2.7	98.6%	27.3%
1959	16.4	14.5	67.1	305.3	0.0	107.5	13.7	574	310.4	324.9	68.3%	80.9	113.0	41.7%	83.3%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	39.2	374.8	0.0	132.0	14.5	751	208.1	226.3	47.6%	53.7	140.2	27.7%	90.9%
1962	7.6	4.3	33.4	142.0	0.0	50.0	12.8	259	75.0	142.9	30.0%	46.2	147.7	23.8%	92.4%
1963	18.6	12.1	82.3	346.2	0.0	121.9	21.0	640	233.0	287.6	60.4%	103.4	90.5	53.3%	72.7%
1964	34.2	23.4	51.6	766.5	0.0	270.0	18.3	1,575	206.5	229.8	48.3%	69.9	124.0	36.0%	89.4%
1965	7.0	7.0	54.1	131.1	0.0	46.2	20.8	207	193.8	203.1	42.7%	74.9	119.0	38.6%	86.4%
1966	31.7	22.5	115.0	589.7	0.0	207.7	31.3	1,119	350.8	373.3	78.4%	146.3	47.6	75.5%	56.1%
1967	9.4	8.6	77.2	174.1	0.0	61.3	26.4	270	182.7	237.4	49.9%	103.6	90.3	53.4%	71.2%
1968	51.2	16.1	94.5	985.3	0.0	347.1	34.2	1,986	272.7	288.9	60.7%	128.7	65.2	66.4%	62.1%
1969	20.8	19.8	170.6	387.9	0.0	136.6	23.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	163.0	733.8	0.0	258.5	20.4	1,392	436.4	475.9	100.0%	183.3	10.6	94.5%	33.3%
1971	2.7	2.6	24.0	49.7	0.0	17.5	8.9	74	71.4	145.0	30.5%	32.9	161.0	17.0%	93.9%
1972	27.6	21.0	142.2	513.9	0.0	181.0	29.9	931	439.0	460.0	96.7%	172.1	21.8	88.7%	42.4%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	184.0	1,476.6	0.0	520.1	9.9	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	172.0	705.1	0.0	248.3	19.9	1,321	438.7	465.9	97.9%	191.8	2.1	98.9%	25.8%
1977	66.4	32.0	79.5	1,275.4	0.0	449.3	23.0	2,635	265.0	297.1	62.4%	102.5	91.4	52.8%	74.2%
1978	81.1	52.8	187.1	1,509.1	0.0	531.6	6.8	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	93.2	1,451.5	0.0	511.3	22.4	3,000	304.0	342.1	71.9%	115.7	78.2	59.6%	68.2%
1980	33.7	24.2	135.5	626.3	0.0	220.6	31.4	1,177	439.6	463.8	97.5%	167.0	26.9	86.1%	45.5%
1981	54.7	53.1	76.5	1,017.3	0.0	358.3	17.5	2,089	224.9	278.1	58.4%	94.1	99.8	48.5%	80.3%
1982	68.1	47.4	188.1	1,268.2	0.0	446.7	5.8	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4A-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	89.8	612.0	0.0	215.6	29.2	1,195	302.9	324.2	68.1%	119.0	74.9	61.4%	65.2%
1984	85.8	82.0	186.6	1,656.3	0.0	583.4	7.3	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	83.2	664.9	0.0	234.2	29.5	1,314	295.7	327.0	68.7%	112.7	81.2	58.1%	69.7%
1986	92.4	43.4	113.8	1,856.9	0.0	654.1	12.7	3,859	369.7	413.1	86.8%	126.5	67.4	65.3%	63.6%
1987	42.1	22.6	156.0	894.7	0.0	315.1	21.6	1,743	389.0	411.6	86.5%	177.6	16.3	91.6%	40.9%
1988	58.5	39.0	173.8	1,087.8	0.0	383.2	15.2	2,146	436.8	475.9	100.0%	189.0	4.9	97.5%	31.8%
1989	26.6	15.7	65.3	495.1	0.0	174.4	14.8	983	263.5	279.2	58.7%	80.1	113.8	41.3%	84.8%
1990	98.5	69.3	139.7	1,832.6	0.0	645.5	21.4	3,772	379.5	448.7	94.3%	161.0	32.9	83.0%	48.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	175.9	1,021.9	0.0	359.9	14.6	2,003	439.3	475.9	100.0%	190.6	3.3	98.3%	28.8%
1993	44.5	34.0	169.2	827.8	0.0	291.6	24.7	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	106.1	202.5	0.0	71.3	26.5	302	277.7	318.2	66.9%	132.6	61.3	68.4%	60.6%
1995	46.6	40.4	146.0	867.2	0.0	305.5	34.0	1,681	410.1	450.5	94.7%	180.0	13.9	92.8%	36.4%
1996	90.9	82.5	162.1	1,692.6	0.0	596.2	28.0	3,443	385.6	468.1	98.4%	190.1	3.8	98.0%	30.3%
1997	81.4	69.2	190.7	1,519.9	0.0	535.4	3.2	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	135.3	1,456.6	0.0	513.1	20.9	2,970	408.0	453.8	95.4%	156.2	37.7	80.6%	50.0%
1999	46.5	26.8	154.0	864.8	0.0	304.6	25.4	1,677	449.1	475.9	100.0%	179.4	14.5	92.5%	39.4%
2000	59.2	36.1	152.2	1,101.0	0.0	387.8	28.6	2,182	439.7	475.9	100.0%	180.8	13.1	93.2%	34.8%
2001	22.6	21.9	117.8	441.0	0.0	155.3	28.6	800	270.3	398.8	83.8%	146.4	47.5	75.5%	54.5%
2002	12.3	11.0	16.4	228.6	0.0	80.5	6.6	468	149.1	160.1	33.6%	23.0	170.9	11.9%	98.5%
2003	38.5	13.7	90.4	717.1	0.0	252.6	25.6	1,423	256.7	270.4	56.8%	116.0	77.9	59.8%	66.7%
2004	119.1	100.5	185.7	2,230.3	0.0	785.6	8.2	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	186.1	609.1	0.0	214.6	7.8	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	122.9	896.3	0.0	315.7	18.8	1,782	335.2	379.5	79.7%	142.0	51.9	73.3%	
Minimum	2.7	2.6	15.4	49.7	0.0	17.5	0.0	74	48.0	142.9	30.0%	23.0	0.0	11.9%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	34.7	4,593	449.1	475.9	100.0%	193.9	170.9	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	76.5	1,017.3	0.0	358.3	17.5	2,089	224.9	278.1	**58.4%**	**94.1**	**99.8**	48.5%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4A-2

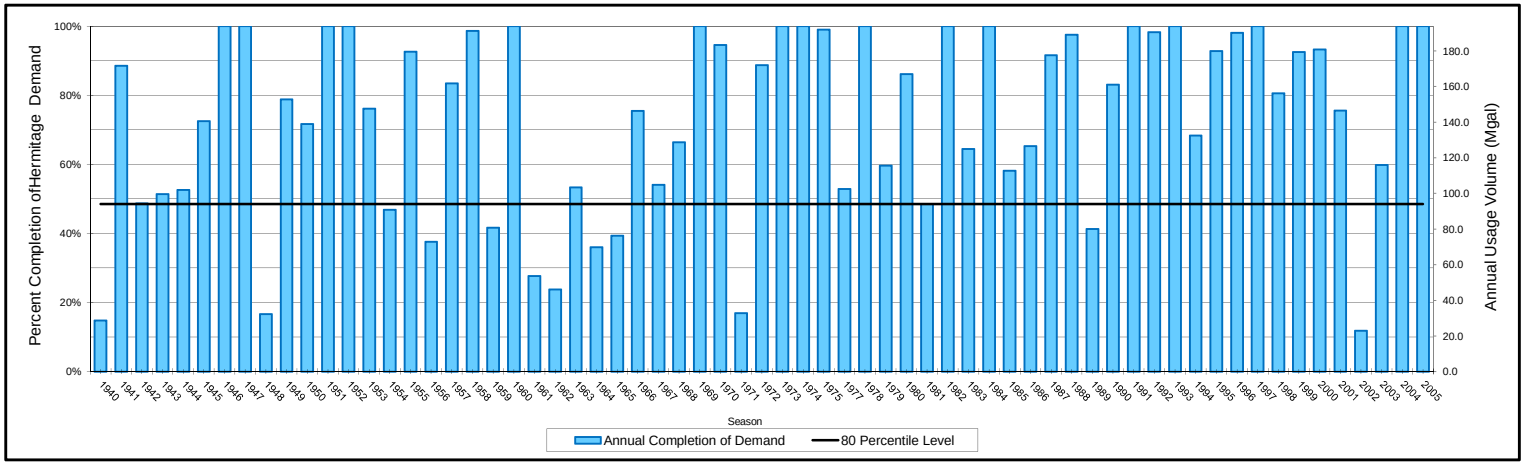
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	5,000	10,000	3,500
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	14.6	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4A-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	17.6	51.9	0.0	18.3	8.7	85	48.0	158.2	33.3%	28.6	165.3	14.8%	97.0%
1941	21.3	21.2	143.1	396.0	0.0	139.5	28.4	678	419.3	475.9	100.0%	171.6	22.3	88.5%	43.9%
1942	26.3	20.6	69.5	488.6	0.0	172.1	24.9	954	268.5	289.1	60.8%	94.4	99.5	48.7%	78.8%
1943	42.3	26.2	83.7	786.7	0.0	277.1	15.9	1,589	300.0	326.2	68.5%	99.6	94.3	51.4%	77.3%
1944	36.0	31.9	88.5	679.5	0.0	239.3	13.5	1,356	253.8	293.4	61.7%	102.1	91.8	52.6%	75.8%
1945	71.0	26.7	109.7	1,327.5	0.0	467.6	30.9	2,708	312.8	339.5	71.3%	140.6	53.3	72.5%	57.6%
1946	103.9	60.0	172.0	1,950.9	0.0	687.2	21.9	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	175.6	939.2	0.0	330.8	18.3	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	22.1	796.0	0.0	280.4	10.2	1,676	172.9	181.2	38.1%	32.3	161.6	16.6%	95.5%
1949	61.9	44.4	130.5	1,432.4	0.0	504.6	22.3	2,922	422.3	466.7	98.1%	152.7	41.2	78.8%	51.5%
1950	22.5	19.7	123.5	418.2	0.0	147.3	15.5	759	396.3	416.0	87.4%	139.0	54.9	71.7%	59.1%
1951	47.0	38.2	171.2	875.4	0.0	308.3	22.7	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	191.0	778.2	0.0	274.1	2.9	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	123.1	1,537.4	0.0	541.5	24.5	3,152	340.9	377.8	79.4%	147.5	46.4	76.1%	53.0%
1954	22.4	20.3	68.3	416.4	0.0	146.7	22.4	803	214.1	234.3	49.2%	90.8	103.1	46.8%	81.8%
1955	39.3	36.2	159.2	731.8	0.0	257.8	20.2	1,391	436.3	472.4	99.3%	179.5	14.4	92.6%	37.9%
1956	5.9	5.7	49.8	109.7	0.0	38.6	10.9	175	125.4	253.1	53.2%	72.9	121.0	37.6%	87.9%
1957	25.7	24.1	127.9	478.9	0.0	168.7	33.9	866	410.4	434.6	91.3%	161.8	32.1	83.4%	47.0%
1958	32.6	32.0	168.0	622.8	0.0	219.4	23.2	1,146	443.9	475.9	100.0%	191.2	2.7	98.6%	27.3%
1959	16.4	14.5	65.3	305.3	0.0	107.5	15.6	574	310.4	324.9	68.3%	80.9	113.0	41.7%	83.3%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	38.9	374.8	0.0	132.0	14.9	751	208.1	226.3	47.6%	53.7	140.2	27.7%	90.9%
1962	7.6	4.3	33.4	142.0	0.0	50.0	12.8	259	75.0	142.9	30.0%	46.2	147.7	23.8%	92.4%
1963	18.6	12.1	81.4	346.2	0.0	121.9	21.9	640	233.0	287.6	60.4%	103.4	90.5	53.3%	72.7%
1964	34.2	23.4	50.3	766.5	0.0	270.0	19.5	1,575	206.5	229.8	48.3%	69.9	124.0	36.0%	89.4%
1965	7.0	7.0	57.2	131.1	0.0	46.2	19.1	205	192.5	201.8	42.4%	76.2	117.7	39.3%	86.4%
1966	31.7	22.5	114.0	589.7	0.0	207.7	32.3	1,119	354.7	377.2	79.3%	146.3	47.6	75.5%	56.1%
1967	9.4	8.6	78.4	174.1	0.0	61.3	26.4	269	181.5	236.2	49.6%	104.8	89.1	54.1%	71.2%
1968	51.2	16.1	94.7	985.3	0.0	347.1	34.0	1,986	276.5	292.6	61.5%	128.7	65.2	66.4%	62.1%
1969	20.8	19.8	170.6	387.9	0.0	136.6	23.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	163.7	733.8	0.0	258.5	19.6	1,392	436.4	475.9	100.0%	183.3	10.6	94.5%	33.3%
1971	2.7	2.6	24.0	49.7	0.0	17.5	8.9	74	71.4	145.0	30.5%	32.9	161.0	17.0%	93.9%
1972	27.6	21.0	143.8	513.9	0.0	181.0	28.3	931	434.7	455.6	95.8%	172.1	21.8	88.7%	42.4%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	184.0	1,476.6	0.0	520.1	9.9	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	170.6	705.1	0.0	248.3	21.2	1,321	438.7	465.9	97.9%	191.8	2.1	98.9%	25.8%
1977	66.4	32.0	83.8	1,275.4	0.0	449.3	18.6	2,635	262.9	294.9	62.0%	102.5	91.4	52.8%	74.2%
1978	81.1	52.8	187.1	1,509.1	0.0	531.6	6.8	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	90.1	1,451.5	0.0	511.3	25.6	3,000	304.0	342.1	71.9%	115.7	78.2	59.6%	68.2%
1980	33.7	24.2	136.6	626.3	0.0	220.6	30.3	1,177	439.6	463.8	97.5%	167.0	26.9	86.1%	45.5%
1981	54.7	53.1	75.5	1,017.3	0.0	358.3	18.6	2,089	224.9	278.1	58.4%	94.1	99.8	48.5%	80.3%
1982	68.1	47.4	188.1	1,268.2	0.0	446.7	5.8	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4A-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	93.0	612.0	0.0	215.6	32.0	1,189	300.6	321.9	67.6%	125.0	68.9	64.4%	65.2%
1984	85.8	82.0	186.6	1,656.3	0.0	583.4	7.3	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	83.0	664.9	0.0	234.2	29.7	1,314	295.7	327.0	68.7%	112.7	81.2	58.1%	69.7%
1986	92.4	43.4	114.6	1,856.9	0.0	654.1	12.0	3,859	369.2	412.5	86.7%	126.5	67.4	65.3%	63.6%
1987	42.1	22.6	156.0	894.7	0.0	315.1	21.6	1,743	389.0	411.6	86.5%	177.6	16.3	91.6%	40.9%
1988	58.5	39.0	173.1	1,087.8	0.0	383.2	15.9	2,146	436.8	475.9	100.0%	189.0	4.9	97.5%	31.8%
1989	26.6	15.7	63.4	495.1	0.0	174.4	16.7	983	267.8	283.5	59.6%	80.1	113.8	41.3%	84.8%
1990	98.5	69.3	138.7	1,832.6	0.0	645.5	22.3	3,772	379.5	448.7	94.3%	161.0	32.9	83.0%	48.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	173.8	1,021.9	0.0	359.9	16.8	2,003	439.3	475.9	100.0%	190.6	3.3	98.3%	28.8%
1993	44.5	34.0	169.2	827.8	0.0	291.6	24.7	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	107.3	202.5	0.0	71.3	25.3	302	277.7	318.2	66.9%	132.6	61.3	68.4%	60.6%
1995	46.6	40.4	145.5	867.2	0.0	305.5	34.5	1,681	410.1	450.5	94.7%	180.0	13.9	92.8%	36.4%
1996	90.9	82.5	161.8	1,692.6	0.0	596.2	28.2	3,443	385.6	468.1	98.4%	190.1	3.8	98.0%	30.3%
1997	81.4	69.2	190.7	1,519.9	0.0	535.4	3.2	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	135.4	1,456.6	0.0	513.1	20.8	2,970	408.0	453.8	95.4%	156.2	37.7	80.6%	50.0%
1999	46.5	26.8	155.1	864.8	0.0	304.6	24.3	1,677	449.1	475.9	100.0%	179.4	14.5	92.5%	39.4%
2000	59.2	36.1	149.3	1,101.0	0.0	387.8	31.5	2,182	439.7	475.9	100.0%	180.8	13.1	93.2%	34.8%
2001	22.6	21.9	116.9	441.0	0.0	155.3	29.5	800	270.3	398.8	83.8%	146.4	47.5	75.5%	54.5%
2002	12.3	11.0	16.4	228.6	0.0	80.5	6.6	468	149.1	160.1	33.6%	23.0	170.9	11.9%	98.5%
2003	38.5	13.7	88.7	717.1	0.0	252.6	27.2	1,423	256.7	270.4	56.8%	116.0	77.9	59.8%	66.7%
2004	119.1	100.5	185.7	2,230.3	0.0	785.6	8.2	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	183.9	609.1	0.0	214.6	10.0	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	123.0	896.3	0.0	315.7	19.0	1,782	335.1	379.4	79.7%	142.2	51.7	73.3%	
Minimum	2.7	2.6	16.4	49.7	0.0	17.5	0.0	74	48.0	142.9	30.0%	23.0	0.0	11.9%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	34.5	4,593	449.1	475.9	100.0%	193.9	170.9	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	75.5	1,017.3	0.0	358.3	18.6	2,089	224.9	278.1	**58.4%**	**94.1**	**99.8**	48.5%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4B-1

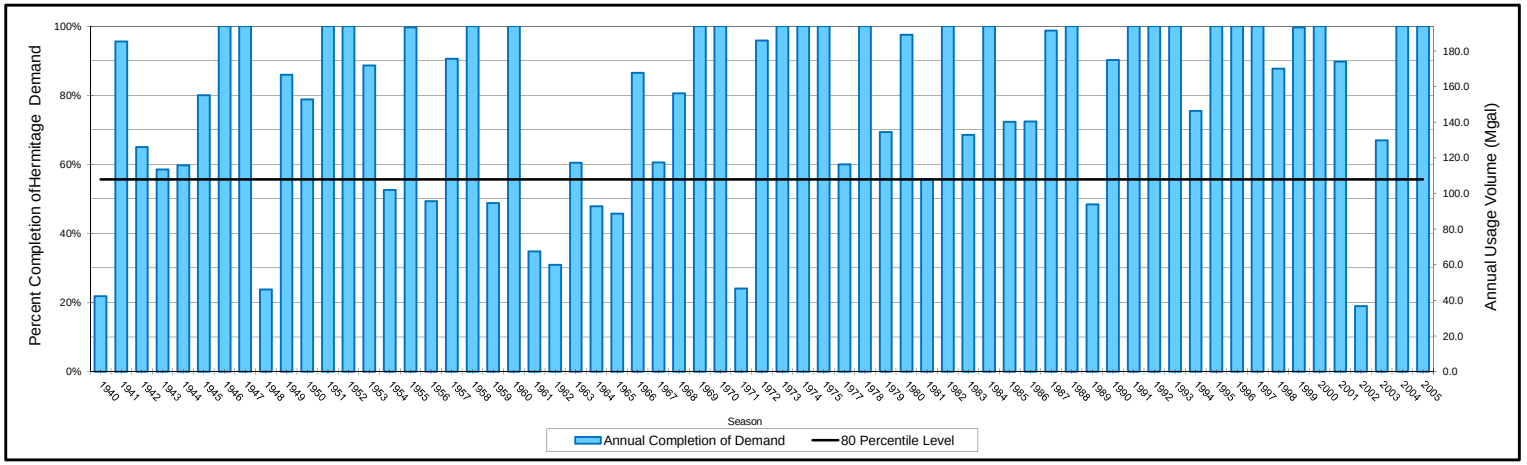
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	10,000	2,000
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4B-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	15.4	51.9	0.0	18.3	6.5	89	48.0	158.2	33.3%	42.4	151.5	21.9%	97.0%
1941	21.3	21.2	152.1	396.0	0.0	139.5	33.3	664	421.7	475.9	100.0%	185.4	8.5	95.6%	45.5%
1942	26.3	20.6	88.2	488.6	0.0	172.1	37.8	923	246.4	267.0	56.1%	126.0	67.9	65.0%	71.2%
1943	42.3	26.2	91.9	786.7	0.0	277.1	21.5	1,575	300.0	326.2	68.5%	113.4	80.5	58.5%	78.8%
1944	36.0	31.9	98.4	679.5	0.0	239.3	17.4	1,343	240.0	293.4	61.7%	115.9	78.0	59.8%	77.3%
1945	71.0	26.7	116.6	1,327.5	0.0	467.6	38.5	2,694	308.6	335.3	70.5%	155.2	38.7	80.0%	59.1%
1946	103.9	60.0	171.8	1,950.9	0.0	687.2	22.1	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	175.1	939.2	0.0	330.8	18.8	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	30.2	796.0	0.0	280.4	15.8	1,662	172.9	181.2	38.1%	46.1	147.8	23.8%	95.5%
1949	61.9	44.4	140.3	1,432.4	0.0	504.6	26.2	2,908	422.3	466.7	98.1%	166.5	27.4	85.9%	56.1%
1950	22.5	19.7	129.0	418.2	0.0	147.3	23.8	745	396.3	416.0	87.4%	152.8	41.1	78.8%	60.6%
1951	47.0	38.2	171.2	875.4	0.0	308.3	22.7	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	191.0	778.2	0.0	274.1	2.9	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	133.4	1,537.4	0.0	541.5	38.4	3,128	328.2	365.0	76.7%	171.8	22.1	88.6%	51.5%
1954	22.4	20.3	74.4	416.4	0.0	146.7	27.6	792	216.7	236.9	49.8%	102.0	91.9	52.6%	81.8%
1955	39.3	36.2	169.0	731.8	0.0	257.8	24.3	1,377	435.3	471.5	99.1%	193.3	0.6	99.7%	37.9%
1956	5.9	5.7	52.5	109.7	0.0	38.6	17.1	166	122.2	249.9	52.5%	95.6	98.3	49.3%	83.3%
1957	25.7	24.1	134.8	478.9	0.0	168.7	40.8	852	410.4	434.6	91.3%	175.6	18.3	90.6%	47.0%
1958	32.6	32.0	168.2	622.8	0.0	219.4	25.7	1,143	443.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1959	16.4	14.5	75.7	305.3	0.0	107.5	19.0	560	310.4	324.9	68.3%	94.7	99.2	48.8%	84.8%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	47.4	374.8	0.0	132.0	20.1	737	208.1	226.3	47.6%	67.5	126.4	34.8%	90.9%
1962	7.6	4.3	41.4	142.0	0.0	50.0	18.6	245	75.0	142.9	30.0%	60.0	133.9	30.9%	92.4%
1963	18.6	12.1	91.5	346.2	0.0	121.9	25.7	626	233.0	287.6	60.4%	117.2	76.7	60.4%	74.2%
1964	34.2	23.4	65.8	766.5	0.0	270.0	27.0	1,552	197.9	221.2	46.5%	92.8	101.1	47.9%	87.9%
1965	7.0	7.0	62.6	131.1	0.0	46.2	26.1	193	191.9	201.2	42.3%	88.7	105.2	45.8%	89.4%
1966	31.7	22.5	126.9	589.7	0.0	207.7	40.8	1,098	343.2	365.7	76.8%	167.7	26.2	86.5%	54.5%
1967	9.4	8.6	87.4	174.1	0.0	61.3	30.0	256	168.9	234.5	49.3%	117.4	76.5	60.5%	72.7%
1968	51.2	16.1	111.2	985.3	0.0	347.1	45.1	1,959	258.9	275.1	57.8%	156.3	37.6	80.6%	57.6%
1969	20.8	19.8	170.6	387.9	0.0	136.6	23.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	169.6	733.8	0.0	258.5	24.3	1,381	436.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
1971	2.7	2.6	34.0	49.7	0.0	17.5	12.7	60	57.6	145.0	30.5%	46.7	147.2	24.1%	93.9%
1972	27.6	21.0	149.5	513.9	0.0	181.0	36.3	917	432.0	453.0	95.2%	185.9	8.0	95.9%	43.9%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	184.0	1,476.6	0.0	520.1	9.9	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	172.4	705.1	0.0	248.3	21.5	1,319	438.7	465.9	97.9%	193.9	0.0	100.0%	1.5%
1977	66.4	32.0	89.6	1,275.4	0.0	449.3	26.7	2,621	265.0	297.1	62.4%	116.3	77.6	60.0%	75.8%
1978	81.1	52.8	187.1	1,509.1	0.0	531.6	6.8	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	102.7	1,451.5	0.0	511.3	31.7	2,981	292.6	330.8	69.5%	134.5	59.4	69.3%	66.7%
1980	33.7	24.2	149.4	626.3	0.0	220.6	39.7	1,155	439.6	463.8	97.5%	189.1	4.8	97.5%	42.4%
1981	54.7	53.1	86.2	1,017.3	0.0	358.3	21.7	2,075	224.9	278.1	58.4%	107.9	86.0	55.6%	80.3%
1982	68.1	47.4	188.1	1,268.2	0.0	446.7	5.8	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4B-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	97.5	612.0	0.0	215.6	35.3	1,181	301.3	322.6	67.8%	132.8	61.1	68.5%	68.2%
1984	85.8	82.0	186.6	1,656.3	0.0	583.4	7.3	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	98.9	664.9	0.0	234.2	41.4	1,287	295.1	326.4	68.6%	140.3	53.6	72.4%	65.2%
1986	92.4	43.4	121.2	1,856.9	0.0	654.1	19.1	3,845	369.7	413.1	86.8%	140.3	53.6	72.4%	63.6%
1987	42.1	22.6	164.1	894.7	0.0	315.1	27.3	1,729	380.3	411.0	86.4%	191.4	2.5	98.7%	40.9%
1988	58.5	39.0	176.8	1,087.8	0.0	383.2	17.1	2,141	436.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1989	26.6	15.7	73.9	495.1	0.0	174.4	19.9	969	263.2	278.9	58.6%	93.9	100.0	48.4%	86.4%
1990	98.5	69.3	147.7	1,832.6	0.0	645.5	27.2	3,758	379.5	448.7	94.3%	174.8	19.1	90.2%	48.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	176.4	1,021.9	0.0	359.9	17.5	1,999	439.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1993	44.5	34.0	169.2	827.8	0.0	291.6	24.7	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	116.0	202.5	0.0	71.3	30.3	288	263.9	312.0	65.6%	146.4	47.5	75.5%	62.1%
1995	46.6	40.4	153.7	867.2	0.0	305.5	40.2	1,667	409.7	450.1	94.6%	193.9	0.0	100.0%	1.5%
1996	90.9	82.5	163.3	1,692.6	0.0	596.2	30.6	3,439	385.6	468.1	98.4%	193.9	0.0	100.0%	1.5%
1997	81.4	69.2	190.7	1,519.9	0.0	535.4	3.2	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	141.2	1,456.6	0.0	513.1	28.8	2,956	408.0	453.8	95.4%	170.0	23.9	87.7%	53.0%
1999	46.5	26.8	161.9	864.8	0.0	304.6	31.3	1,663	449.1	475.9	100.0%	193.2	0.7	99.7%	39.4%
2000	59.2	36.1	160.4	1,101.0	0.0	387.8	33.5	2,169	439.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
2001	22.6	21.9	129.3	441.0	0.0	155.3	36.0	781	265.2	398.8	83.8%	174.0	19.9	89.8%	50.0%
2002	12.3	11.0	26.7	228.6	0.0	80.5	10.1	454	149.1	160.1	33.6%	36.8	157.1	19.0%	98.5%
2003	38.5	13.7	98.9	717.1	0.0	252.6	30.8	1,409	256.7	270.4	56.8%	129.8	64.1	66.9%	69.7%
2004	119.1	100.5	185.7	2,230.3	0.0	785.6	8.2	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	186.1	609.1	0.0	214.6	7.8	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	129.3	896.3	0.0	315.7	23.1	1,771	332.7	377.9	79.4%	153.3	40.6	79.0%	
Minimum	2.7	2.6	15.4	49.7	0.0	17.5	0.0	60	48.0	142.9	30.0%	36.8	0.0	19.0%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	45.1	4,593	449.1	475.9	100.0%	193.9	157.1	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	86.2	1,017.3	0.0	358.3	21.7	2,075	224.9	278.1	**58.4%**	**107.9**	**86.0**	55.6%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4B-2

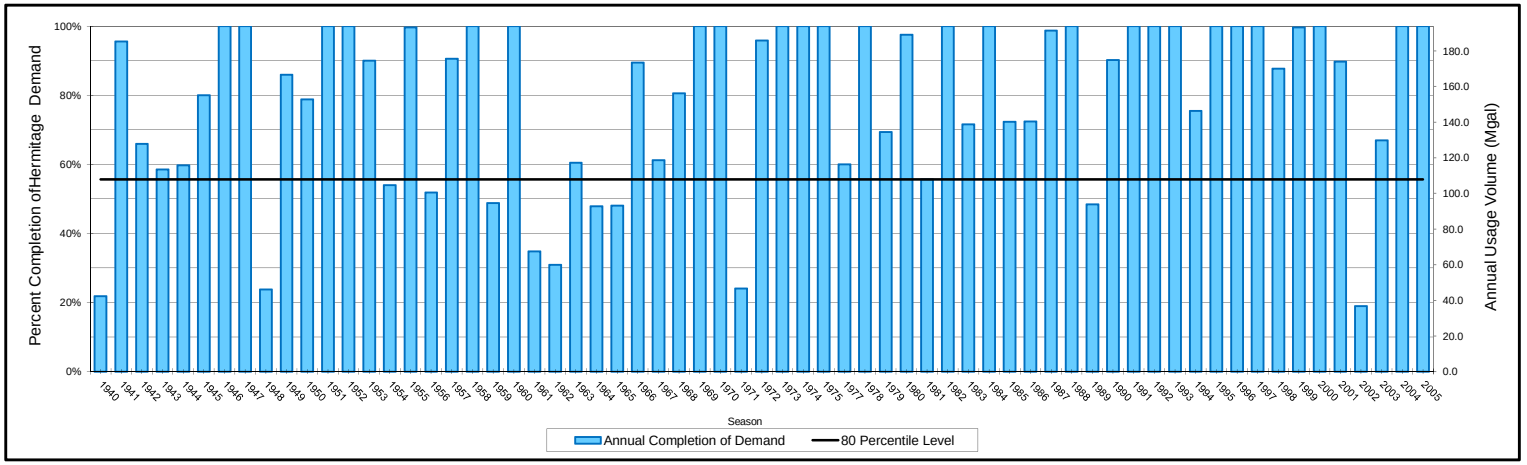
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	5,000	10,000	3,500
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	0.0
% to Haystack =	0%	100%	0%	0%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4B-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	17.6	51.9	0.0	18.3	8.7	85	48.0	158.2	33.3%	42.4	151.5	21.9%	97.0%
1941	21.3	21.2	151.9	396.0	0.0	139.5	33.4	664	419.3	475.9	100.0%	185.4	8.5	95.6%	45.5%
1942	26.3	20.6	88.5	488.6	0.0	172.1	39.2	921	249.0	269.6	56.6%	127.8	66.1	65.9%	71.2%
1943	42.3	26.2	90.1	786.7	0.0	277.1	23.3	1,575	300.0	326.2	68.5%	113.4	80.5	58.5%	78.8%
1944	36.0	31.9	98.4	679.5	0.0	239.3	17.4	1,343	240.0	293.4	61.7%	115.9	78.0	59.8%	77.3%
1945	71.0	26.7	116.8	1,327.5	0.0	467.6	38.3	2,694	312.6	339.3	71.3%	155.2	38.7	80.0%	59.1%
1946	103.9	60.0	172.0	1,950.9	0.0	687.2	21.9	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	175.6	939.2	0.0	330.8	18.3	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	30.9	796.0	0.0	280.4	15.1	1,662	172.9	181.2	38.1%	46.1	147.8	23.8%	95.5%
1949	61.9	44.4	138.5	1,432.4	0.0	504.6	28.0	2,908	422.3	466.7	98.1%	166.5	27.4	85.9%	56.1%
1950	22.5	19.7	131.4	418.2	0.0	147.3	21.5	745	396.3	416.0	87.4%	152.8	41.1	78.8%	60.6%
1951	47.0	38.2	171.2	875.4	0.0	308.3	22.7	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	191.0	778.2	0.0	274.1	2.9	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	136.7	1,537.4	0.0	541.5	37.7	3,125	329.3	366.2	77.0%	174.5	19.4	90.0%	50.0%
1954	22.4	20.3	75.4	416.4	0.0	146.7	29.2	789	214.1	234.3	49.2%	104.6	89.3	53.9%	81.8%
1955	39.3	36.2	168.5	731.8	0.0	257.8	24.7	1,377	433.9	470.1	98.8%	193.3	0.6	99.7%	37.9%
1956	5.9	5.7	57.0	109.7	0.0	38.6	17.5	161	120.8	248.6	52.2%	100.5	93.4	51.9%	83.3%
1957	25.7	24.1	135.9	478.9	0.0	168.7	39.7	852	410.4	434.6	91.3%	175.6	18.3	90.6%	47.0%
1958	32.6	32.0	169.5	622.8	0.0	219.4	24.4	1,143	443.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1959	16.4	14.5	76.1	305.3	0.0	107.5	18.6	560	310.4	324.9	68.3%	94.7	99.2	48.8%	84.8%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	47.6	374.8	0.0	132.0	19.9	737	208.1	226.3	47.6%	67.5	126.4	34.8%	90.9%
1962	7.6	4.3	42.3	142.0	0.0	50.0	17.7	245	72.8	142.9	30.0%	60.0	133.9	30.9%	92.4%
1963	18.6	12.1	89.0	346.2	0.0	121.9	28.2	626	233.0	287.6	60.4%	117.2	76.7	60.4%	74.2%
1964	34.2	23.4	64.7	766.5	0.0	270.0	28.1	1,552	197.9	221.2	46.5%	92.8	101.1	47.9%	89.4%
1965	7.0	7.0	66.7	131.1	0.0	46.2	26.5	188	187.4	196.7	41.3%	93.2	100.7	48.1%	87.9%
1966	31.7	22.5	131.1	589.7	0.0	207.7	42.3	1,092	341.4	363.9	76.5%	173.4	20.5	89.4%	53.0%
1967	9.4	8.6	88.6	174.1	0.0	61.3	30.0	255	167.7	233.3	49.0%	118.6	75.3	61.2%	72.7%
1968	51.2	16.1	108.6	985.3	0.0	347.1	47.7	1,959	268.7	284.8	59.9%	156.3	37.6	80.6%	57.6%
1969	20.8	19.8	170.6	387.9	0.0	136.6	23.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	169.2	733.8	0.0	258.5	24.7	1,381	436.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
1971	2.7	2.6	34.0	49.7	0.0	17.5	12.7	60	57.6	145.0	30.5%	46.7	147.2	24.1%	93.9%
1972	27.6	21.0	150.5	513.9	0.0	181.0	35.4	917	434.7	455.6	95.8%	185.9	8.0	95.9%	43.9%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	184.0	1,476.6	0.0	520.1	9.9	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	171.4	705.1	0.0	248.3	22.5	1,319	438.7	465.9	97.9%	193.9	0.0	100.0%	1.5%
1977	66.4	32.0	91.0	1,275.4	0.0	449.3	25.2	2,621	262.9	294.9	62.0%	116.3	77.6	60.0%	75.8%
1978	81.1	52.8	187.1	1,509.1	0.0	531.6	6.8	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	104.6	1,451.5	0.0	511.3	29.8	2,981	302.0	340.1	71.5%	134.5	59.4	69.3%	68.2%
1980	33.7	24.2	149.9	626.3	0.0	220.6	39.2	1,155	439.6	463.8	97.5%	189.1	4.8	97.5%	42.4%
1981	54.7	53.1	85.8	1,017.3	0.0	358.3	22.1	2,075	224.9	278.1	58.4%	107.9	86.0	55.6%	80.3%
1982	68.1	47.4	188.1	1,268.2	0.0	446.7	5.8	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4B-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	101.3	612.0	0.0	215.6	37.5	1,175	296.5	317.8	66.8%	138.8	55.1	71.6%	66.7%
1984	85.8	82.0	186.6	1,656.3	0.0	583.4	7.3	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	97.6	664.9	0.0	234.2	42.7	1,287	295.7	327.0	68.7%	140.3	53.6	72.4%	65.2%
1986	92.4	43.4	121.4	1,856.9	0.0	654.1	18.9	3,845	367.9	411.3	86.4%	140.3	53.6	72.4%	63.6%
1987	42.1	22.6	166.0	894.7	0.0	315.1	25.4	1,729	378.4	411.0	86.4%	191.4	2.5	98.7%	40.9%
1988	58.5	39.0	176.9	1,087.8	0.0	383.2	17.0	2,141	436.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1989	26.6	15.7	74.6	495.1	0.0	174.4	19.2	969	262.3	278.0	58.4%	93.9	100.0	48.4%	86.4%
1990	98.5	69.3	148.2	1,832.6	0.0	645.5	26.6	3,758	379.5	448.7	94.3%	174.8	19.1	90.2%	48.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	177.1	1,021.9	0.0	359.9	16.8	1,999	439.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1993	44.5	34.0	169.2	827.8	0.0	291.6	24.7	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	117.2	202.5	0.0	71.3	29.1	288	263.9	312.0	65.6%	146.4	47.5	75.5%	62.1%
1995	46.6	40.4	152.4	867.2	0.0	305.5	41.5	1,667	410.1	450.5	94.7%	193.9	0.0	100.0%	1.5%
1996	90.9	82.5	161.8	1,692.6	0.0	596.2	32.1	3,439	385.6	468.1	98.4%	193.9	0.0	100.0%	1.5%
1997	81.4	69.2	190.7	1,519.9	0.0	535.4	3.2	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	142.5	1,456.6	0.0	513.1	27.5	2,956	408.0	453.8	95.4%	170.0	23.9	87.7%	54.5%
1999	46.5	26.8	162.5	864.8	0.0	304.6	30.8	1,663	449.1	475.9	100.0%	193.2	0.7	99.7%	39.4%
2000	59.2	36.1	159.9	1,101.0	0.0	387.8	34.0	2,169	439.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
2001	22.6	21.9	128.6	441.0	0.0	155.3	36.7	781	265.2	398.8	83.8%	174.0	19.9	89.8%	51.5%
2002	12.3	11.0	26.7	228.6	0.0	80.5	10.1	454	149.1	160.1	33.6%	36.8	157.1	19.0%	98.5%
2003	38.5	13.7	97.5	717.1	0.0	252.6	32.3	1,409	256.7	270.4	56.8%	129.8	64.1	66.9%	69.7%
2004	119.1	100.5	185.7	2,230.3	0.0	785.6	8.2	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	183.9	609.1	0.0	214.6	10.0	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	129.7	896.3	0.0	315.7	23.3	1,771	332.7	378.0	79.4%	153.7	40.2	79.3%	
Minimum	2.7	2.6	17.6	49.7	0.0	17.5	0.0	60	48.0	142.9	30.0%	36.8	0.0	19.0%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	47.7	4,593	449.1	475.9	100.0%	193.9	157.1	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	85.8	1,017.3	0.0	358.3	22.1	2,075	224.9	278.1	**58.4%**	**107.9**	**86.0**	55.6%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4C-1

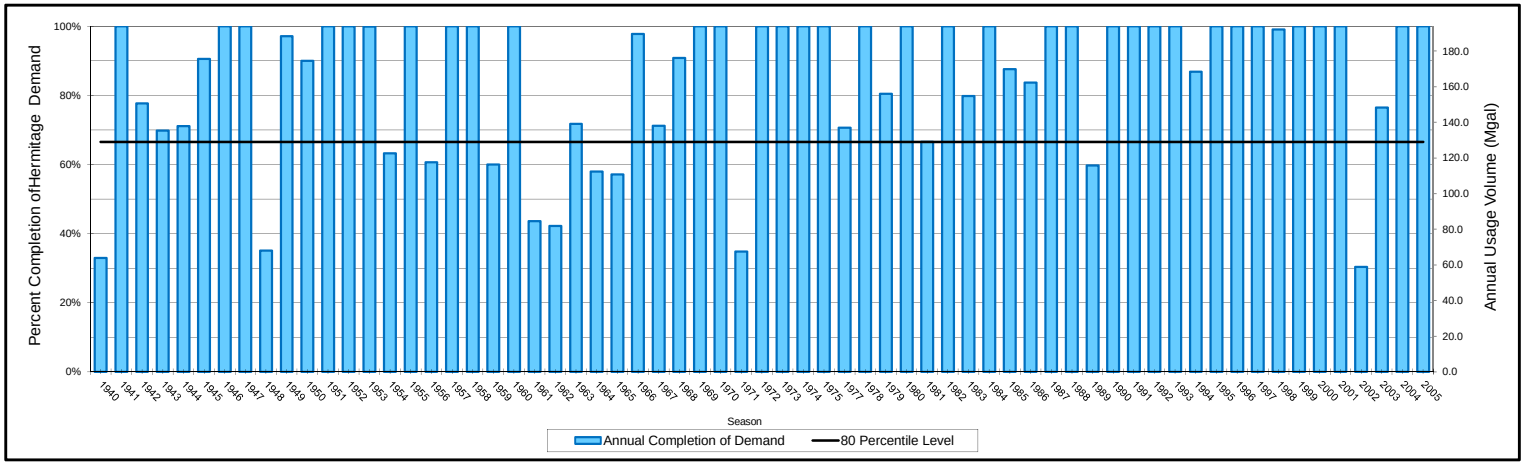
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	3,500	10,000	2,000
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	22.0
% to Haystack =	0%	100%	0%	100%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4C-1

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	14.9	51.9	0.0	18.3	6.5	90	48.5	158.8	33.4%	63.9	130.0	32.9%	97.0%
1941	21.3	21.2	141.0	396.0	0.0	139.5	52.9	656	410.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1942	26.3	20.6	88.2	488.6	0.0	172.1	62.4	898	243.8	264.4	55.6%	150.6	43.3	77.7%	69.7%
1943	42.3	26.2	91.9	786.7	0.0	277.1	43.5	1,553	300.0	326.2	68.5%	135.4	58.5	69.8%	78.8%
1944	36.0	31.9	98.4	679.5	0.0	239.3	34.5	1,325	239.2	293.4	61.7%	137.9	56.0	71.1%	75.8%
1945	71.0	26.7	109.8	1,327.5	0.0	467.6	65.8	2,674	302.0	328.8	69.1%	175.6	18.3	90.6%	59.1%
1946	103.9	60.0	165.1	1,950.9	0.0	687.2	28.8	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	169.4	939.2	0.0	330.8	24.5	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	30.2	796.0	0.0	280.4	37.8	1,640	172.9	181.2	38.1%	68.1	125.8	35.1%	93.9%
1949	61.9	44.4	139.1	1,432.4	0.0	504.6	49.3	2,886	422.4	466.9	98.1%	188.4	5.5	97.2%	56.1%
1950	22.5	19.7	127.2	418.2	0.0	147.3	47.3	723	396.8	416.5	87.5%	174.4	19.5	90.0%	60.6%
1951	47.0	38.2	166.0	875.4	0.0	308.3	27.9	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	190.1	778.2	0.0	274.1	3.8	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	133.4	1,537.4	0.0	541.5	60.4	3,106	328.2	365.0	76.7%	193.8	0.1	99.9%	51.5%
1954	22.4	20.3	73.1	416.4	0.0	146.7	49.6	771	218.0	238.2	50.1%	122.7	71.2	63.3%	81.8%
1955	39.3	36.2	152.9	731.8	0.0	257.8	41.0	1,377	436.3	472.4	99.3%	193.9	0.0	100.0%	1.5%
1956	5.9	5.7	52.5	109.7	0.0	38.6	17.1	166	122.2	249.9	52.5%	117.6	76.3	60.7%	83.3%
1957	25.7	24.1	120.2	478.9	0.0	168.7	73.7	834	410.1	434.3	91.3%	193.9	0.0	100.0%	1.5%
1958	32.6	32.0	161.3	622.8	0.0	219.4	32.6	1,143	443.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1959	16.4	14.5	74.6	305.3	0.0	107.5	41.8	539	310.7	325.2	68.3%	116.4	77.5	60.0%	84.8%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	41.9	374.8	0.0	132.0	42.6	720	213.1	231.3	48.6%	84.5	109.4	43.6%	90.9%
1962	7.6	4.3	41.3	142.0	0.0	50.0	21.4	242	75.1	143.0	30.1%	81.9	112.0	42.2%	92.4%
1963	18.6	12.1	88.8	346.2	0.0	121.9	35.3	619	233.0	287.6	60.4%	139.2	54.7	71.8%	72.7%
1964	34.2	23.4	60.4	766.5	0.0	270.0	51.9	1,533	197.6	221.0	46.4%	112.3	81.6	57.9%	87.9%
1965	7.0	7.0	62.6	131.1	0.0	46.2	45.8	173	173.1	201.2	42.3%	110.7	83.2	57.1%	89.4%
1966	31.7	22.5	126.0	589.7	0.0	207.7	63.7	1,076	344.1	366.6	77.0%	189.6	4.3	97.8%	54.5%
1967	9.4	8.6	86.1	174.1	0.0	61.3	41.2	246	168.7	235.8	49.5%	138.1	55.8	71.2%	74.2%
1968	51.2	16.1	102.7	985.3	0.0	347.1	73.5	1,939	261.1	277.2	58.2%	176.2	17.7	90.8%	57.6%
1969	20.8	19.8	165.6	387.9	0.0	136.6	28.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	156.9	733.8	0.0	258.5	37.0	1,381	436.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
1971	2.7	2.6	32.8	49.7	0.0	17.5	17.1	57	54.4	146.3	30.7%	67.4	126.5	34.8%	95.5%
1972	27.6	21.0	141.4	513.9	0.0	181.0	52.5	909	419.9	440.9	92.7%	193.9	0.0	100.0%	1.5%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	183.6	1,476.6	0.0	520.1	10.3	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	161.3	705.1	0.0	248.3	32.6	1,319	439.4	466.5	98.0%	193.9	0.0	100.0%	1.5%
1977	66.4	32.0	86.2	1,275.4	0.0	449.3	50.9	2,600	266.5	298.6	62.7%	137.0	56.9	70.7%	77.3%
1978	81.1	52.8	186.5	1,509.1	0.0	531.6	7.4	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	89.7	1,451.5	0.0	511.3	66.2	2,959	273.7	311.9	65.5%	156.0	37.9	80.4%	66.7%
1980	33.7	24.2	123.5	626.3	0.0	220.6	70.4	1,150	439.6	463.8	97.5%	193.9	0.0	100.0%	1.5%
1981	54.7	53.1	81.0	1,017.3	0.0	358.3	48.0	2,054	225.8	278.9	58.6%	129.0	64.9	66.5%	80.3%
1982	68.1	47.4	187.6	1,268.2	0.0	446.7	6.3	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4C-1															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	95.0	612.0	0.0	215.6	59.7	1,159	297.9	319.2	67.1%	154.8	39.1	79.8%	68.2%
1984	85.8	82.0	183.7	1,656.3	0.0	583.4	10.2	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	98.8	664.9	0.0	234.2	71.0	1,257	287.6	318.9	67.0%	169.8	24.1	87.6%	62.1%
1986	92.4	43.4	121.2	1,856.9	0.0	654.1	41.1	3,823	369.7	413.1	86.8%	162.3	31.6	83.7%	65.2%
1987	42.1	22.6	151.2	894.7	0.0	315.1	42.7	1,726	392.9	415.9	87.4%	193.9	0.0	100.0%	1.5%
1988	58.5	39.0	164.7	1,087.8	0.0	383.2	29.2	2,141	436.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1989	26.6	15.7	73.9	495.1	0.0	174.4	41.9	947	263.2	278.9	58.6%	115.9	78.0	59.7%	86.4%
1990	98.5	69.3	144.7	1,832.6	0.0	645.5	49.2	3,739	379.5	448.7	94.3%	193.9	0.0	100.0%	1.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	164.6	1,021.9	0.0	359.9	29.3	1,999	439.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1993	44.5	34.0	160.4	827.8	0.0	291.6	33.5	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	111.7	202.5	0.0	71.3	47.6	275	253.9	314.9	66.2%	168.4	25.5	86.8%	63.6%
1995	46.6	40.4	129.2	867.2	0.0	305.5	64.7	1,667	403.0	443.4	93.2%	193.9	0.0	100.0%	1.5%
1996	90.9	82.5	153.6	1,692.6	0.0	596.2	40.3	3,439	388.0	470.4	98.9%	193.9	0.0	100.0%	1.5%
1997	81.4	69.2	189.2	1,519.9	0.0	535.4	4.7	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	141.2	1,456.6	0.0	513.1	50.9	2,934	408.0	453.8	95.4%	192.0	1.9	99.0%	53.0%
1999	46.5	26.8	146.3	864.8	0.0	304.6	47.6	1,662	449.1	475.9	100.0%	193.9	0.0	100.0%	1.5%
2000	59.2	36.1	139.0	1,101.0	0.0	387.8	54.9	2,169	439.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
2001	22.6	21.9	118.0	441.0	0.0	155.3	48.0	780	265.2	398.8	83.8%	193.9	0.0	100.0%	1.5%
2002	12.3	11.0	26.7	228.6	0.0	80.5	32.1	432	149.1	160.1	33.6%	58.8	135.1	30.3%	98.5%
2003	38.5	13.7	95.4	717.1	0.0	252.6	52.8	1,391	260.2	274.0	57.6%	148.2	45.7	76.4%	71.2%
2004	119.1	100.5	180.8	2,230.3	0.0	785.6	13.1	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	182.5	609.1	0.0	214.6	11.4	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	124.0	896.3	0.0	315.7	38.1	1,761	331.6	377.4	79.3%	165.2	28.7	85.2%	
Minimum	2.7	2.6	14.9	49.7	0.0	17.5	0.0	57	48.5	143.0	30.1%	58.8	0.0	30.3%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	73.7	4,593	449.1	475.9	100.0%	193.9	135.1	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	81.0	1,017.3	0.0	358.3	48.0	2,054	225.8	278.9	**58.6%**	**129.0**	**64.9**	66.5%	**80.3%**



Hermitage Club
Snowmaking Mass Hydrograph Analysis
Model Updated by VHB on: April 22, 2014

Scenario: H4C-2

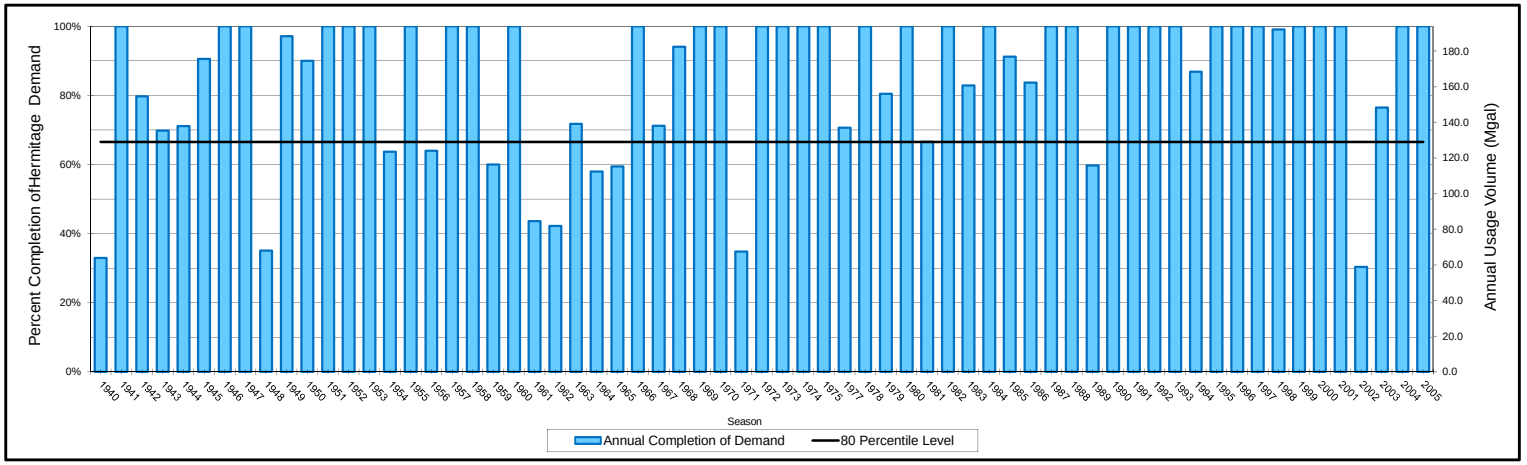
Intakes:	MS - No. Br. Deerfield/Carinthia Pond	Cold Brook @ Mirror Lake	Cold Brook New MS Intake	Haystack Brook
Watershed Area (mi^2) =	0.18	3.35	7.19	1.18
FMF (csm) =	0.8	0.8	0.8	0.8
Withdrawal Limit 10/01-11/30 (csm) =	NA	NA	1.4	1.4
Withdrawal Limit 12/01-03/31 (csm) =	NA	NA	1.1	1.1
Withdrawal Limit 04/01-09/30 (csm) =	NA	NA	0	0
Conservation Limit = FMF +	100%	100%	100%	100%
Total Pumping Rate (gpm) =	4,000	5,000	10,000	3,500
% to Haystack =	0%	100%	0%	100%
Storage:	Snow Lake / Carinthia Pond (MS)	Mirror Lake	West Lake (MS)	Siegal Pond (Haystack)
Total Storage (Mgal) =	3.0	28.4	120.1	22.0
% to Haystack =	0%	100%	0%	100%

Demand:	Mount Snow	Haystack
Seasonal Demand (Mgal) =	475.9	193.9

Output For Scenario H4C-2

	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	By Hermitage Club Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1940	2.8	2.7	17.0	51.9	0.0	18.3	8.7	86	48.5	158.8	33.4%	63.9	130.0	32.9%	97.0%
1941	21.3	21.2	141.5	396.0	0.0	139.5	52.4	656	417.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1942	26.3	20.6	88.5	488.6	0.0	172.1	66.1	894	244.1	264.7	55.6%	154.6	39.3	79.8%	69.7%
1943	42.3	26.2	90.1	786.7	0.0	277.1	45.3	1,553	300.0	326.2	68.5%	135.4	58.5	69.8%	78.8%
1944	36.0	31.9	98.4	679.5	0.0	239.3	39.4	1,321	239.7	293.4	61.7%	137.9	56.0	71.1%	75.8%
1945	71.0	26.7	105.4	1,327.5	0.0	467.6	70.2	2,674	303.6	330.4	69.4%	175.6	18.3	90.6%	60.6%
1946	103.9	60.0	165.1	1,950.9	0.0	687.2	28.8	3,993	415.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1947	50.5	38.1	169.4	939.2	0.0	330.8	24.5	1,822	437.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1948	41.2	8.3	30.9	796.0	0.0	280.4	37.1	1,640	172.9	181.2	38.1%	68.1	125.8	35.1%	93.9%
1949	61.9	44.4	138.4	1,432.4	0.0	504.6	50.0	2,886	422.4	466.9	98.1%	188.4	5.5	97.2%	56.1%
1950	22.5	19.7	129.5	418.2	0.0	147.3	45.0	723	396.8	416.5	87.5%	174.4	19.5	90.0%	62.1%
1951	47.0	38.2	166.0	875.4	0.0	308.3	27.9	1,685	437.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1952	41.8	38.4	190.1	778.2	0.0	274.1	3.8	1,476	437.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1953	75.4	36.9	132.9	1,537.4	0.0	541.5	61.0	3,106	327.1	363.9	76.5%	193.9	0.0	100.0%	1.5%
1954	22.4	20.3	72.4	416.4	0.0	146.7	51.2	770	217.1	237.3	49.9%	123.6	70.3	63.7%	83.3%
1955	39.3	36.2	152.9	731.8	0.0	257.8	41.0	1,377	436.3	472.4	99.3%	193.9	0.0	100.0%	1.5%
1956	5.9	5.7	57.0	109.7	0.0	38.6	19.0	159	119.4	247.1	51.9%	124.0	69.9	64.0%	81.8%
1957	25.7	24.1	119.3	478.9	0.0	168.7	74.6	834	411.1	435.3	91.5%	193.9	0.0	100.0%	1.5%
1958	32.6	32.0	161.3	622.8	0.0	219.4	32.6	1,143	443.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1959	16.4	14.5	75.0	305.3	0.0	107.5	41.4	539	310.7	325.2	68.3%	116.4	77.5	60.0%	84.8%
1960	82.4	67.1	193.9	1,614.7	0.0	568.7	0.0	3,272	408.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1961	20.1	18.3	40.8	374.8	0.0	132.0	43.7	720	213.1	231.3	48.6%	84.5	109.4	43.6%	90.9%
1962	7.6	4.3	42.2	142.0	0.0	50.0	27.8	235	72.9	143.0	30.1%	81.9	112.0	42.2%	92.4%
1963	18.6	12.1	86.2	346.2	0.0	121.9	46.1	611	233.0	287.6	60.4%	139.2	54.7	71.8%	72.7%
1964	34.2	23.4	58.4	766.5	0.0	270.0	53.9	1,533	196.7	220.1	46.2%	112.3	81.6	57.9%	89.4%
1965	7.0	7.0	66.7	131.1	0.0	46.2	46.2	169	168.6	196.7	41.3%	115.2	78.7	59.4%	87.9%
1966	31.7	22.5	130.0	589.7	0.0	207.7	63.9	1,072	342.5	365.0	76.7%	193.9	0.0	100.0%	1.5%
1967	9.4	8.6	86.1	174.1	0.0	61.3	47.1	240	168.7	235.8	49.5%	138.1	55.8	71.2%	74.2%
1968	51.2	16.1	102.0	985.3	0.0	347.1	80.4	1,932	263.6	279.7	58.8%	182.4	11.5	94.1%	57.6%
1969	20.8	19.8	165.6	387.9	0.0	136.6	28.3	639	442.9	462.8	97.2%	193.9	0.0	100.0%	1.5%
1970	39.4	39.4	156.9	733.8	0.0	258.5	37.0	1,381	436.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
1971	2.7	2.6	32.8	49.7	0.0	17.5	17.1	57	54.4	146.3	30.7%	67.4	126.5	34.8%	95.5%
1972	27.6	21.0	143.2	513.9	0.0	181.0	50.7	909	419.9	440.9	92.7%	193.9	0.0	100.0%	1.5%
1973	104.0	76.6	193.9	2,033.2	0.0	716.2	0.0	4,170	399.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1974	79.3	77.4	183.6	1,476.6	0.0	520.1	10.3	2,975	398.5	475.9	100.0%	193.9	0.0	100.0%	1.5%
1975	37.9	27.2	161.3	705.1	0.0	248.3	32.6	1,319	439.4	466.5	98.0%	193.9	0.0	100.0%	1.5%
1977	66.4	32.0	85.4	1,275.4	0.0	449.3	51.6	2,600	267.8	299.8	63.0%	137.0	56.9	70.7%	77.3%
1978	81.1	52.8	186.5	1,509.1	0.0	531.6	7.4	3,045	423.0	475.9	100.0%	193.9	0.0	100.0%	1.5%
1979	74.4	38.2	90.9	1,451.5	0.0	511.3	65.0	2,959	280.7	318.9	67.0%	156.0	37.9	80.4%	68.2%
1980	33.7	24.2	121.3	626.3	0.0	220.6	72.6	1,150	439.6	463.8	97.5%	193.9	0.0	100.0%	1.5%
1981	54.7	53.1	79.9	1,017.3	0.0	358.3	49.2	2,054	225.8	278.9	58.6%	129.0	64.9	66.5%	80.3%
1982	68.1	47.4	187.6	1,268.2	0.0	446.7	6.3	2,528	428.5	475.9	100.0%	193.9	0.0	100.0%	1.5%

Output For Scenario H4C-2															
	No. Br. Deerfield @ Snow Lk.		Existing Cold Brook Intake Site			Haystack Brook Withdrawal		New MS Cold Brook Intake		Mt Snow Performance		Hermitage Club Performance			
Water Year	Potential Flow to Storage (Mgal)	Actual Withdrawal (Mgal)	Hermitage Withdrawal (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	By Hermitage Club Potential (Mgal)	Actual (Mgal)	Potential Flow to Storage (Mgal)	Mt Snow Withdrawal (Mgal)	Total Usage Volume (Mgal)	Percent Completion of Demand	Total Usage Volume (Mgal)	Unmet Demand (Mgal)	Percent Completion of Demand	Usage Volume Percentile
1983	32.4	21.3	98.8	612.0	0.0	215.6	61.9	1,153	293.1	314.4	66.1%	160.8	33.1	82.9%	66.7%
1984	85.8	82.0	183.7	1,656.3	0.0	583.4	10.2	3,361	393.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
1985	35.7	31.3	97.5	664.9	0.0	234.2	79.4	1,250	288.2	319.5	67.1%	176.9	17.0	91.2%	59.1%
1986	92.4	43.4	121.4	1,856.9	0.0	654.1	40.9	3,823	367.9	411.3	86.4%	162.3	31.6	83.7%	65.2%
1987	42.1	22.6	151.2	894.7	0.0	315.1	42.7	1,726	392.9	415.9	87.4%	193.9	0.0	100.0%	1.5%
1988	58.5	39.0	164.7	1,087.8	0.0	383.2	29.2	2,141	436.8	475.9	100.0%	193.9	0.0	100.0%	1.5%
1989	26.6	15.7	74.6	495.1	0.0	174.4	41.2	947	262.3	278.0	58.4%	115.9	78.0	59.7%	86.4%
1990	98.5	69.3	147.0	1,832.6	0.0	645.5	46.9	3,739	379.5	448.7	94.3%	193.9	0.0	100.0%	1.5%
1991	111.7	90.2	193.9	2,081.0	0.0	733.0	0.0	4,273	385.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
1992	52.1	36.6	164.6	1,021.9	0.0	359.9	29.3	1,999	439.3	475.9	100.0%	193.9	0.0	100.0%	1.5%
1993	44.5	34.0	160.4	827.8	0.0	291.6	33.5	1,583	407.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1994	10.9	10.5	111.7	202.5	0.0	71.3	47.6	275	254.1	315.0	66.2%	168.4	25.5	86.8%	63.6%
1995	46.6	40.4	129.5	867.2	0.0	305.5	64.4	1,667	408.7	449.1	94.4%	193.9	0.0	100.0%	1.5%
1996	90.9	82.5	153.6	1,692.6	0.0	596.2	40.3	3,439	388.0	470.4	98.9%	193.9	0.0	100.0%	1.5%
1997	81.4	69.2	189.2	1,519.9	0.0	535.4	4.7	3,068	406.6	475.9	100.0%	193.9	0.0	100.0%	1.5%
1998	66.8	45.8	142.5	1,456.6	0.0	513.1	49.6	2,934	408.0	453.8	95.4%	192.0	1.9	99.0%	54.5%
1999	46.5	26.8	146.3	864.8	0.0	304.6	47.6	1,662	449.1	475.9	100.0%	193.9	0.0	100.0%	1.5%
2000	59.2	36.1	138.5	1,101.0	0.0	387.8	55.4	2,169	439.7	475.9	100.0%	193.9	0.0	100.0%	1.5%
2001	22.6	21.9	116.8	441.0	0.0	155.3	49.2	780	265.2	398.8	83.8%	193.9	0.0	100.0%	1.5%
2002	12.3	11.0	26.7	228.6	0.0	80.5	32.1	432	149.1	160.1	33.6%	58.8	135.1	30.3%	98.5%
2003	38.5	13.7	93.9	717.1	0.0	252.6	54.3	1,391	260.2	274.0	57.6%	148.2	45.7	76.4%	71.2%
2004	119.1	100.5	180.8	2,230.3	0.0	785.6	13.1	4,593	375.4	475.9	100.0%	193.9	0.0	100.0%	1.5%
2005	32.7	30.9	182.5	609.1	0.0	214.6	11.4	1,113	444.9	475.9	100.0%	193.9	0.0	100.0%	1.5%
Average	46.9	34.0	124.1	896.3	0.0	315.7	39.1	1,760	331.7	377.5	79.3%	165.8	28.1	85.5%	
Minimum	2.7	2.6	17.0	49.7	0.0	17.5	0.0	57	48.5	143.0	30.1%	58.8	0.0	30.3%	
Maximum	119.1	100.5	193.9	2,230.3	0.0	785.6	80.4	4,593	449.1	475.9	100.0%	193.9	135.1	100.0%	
Hermitage 80th Percentile Year 1981	54.7	53.1	79.9	1,017.3	0.0	358.3	49.2	2,054	225.8	278.9	**58.6%**	**129.0**	**64.9**	66.5%	**80.3%**



HARTGEN
archeological associates inc

ARCHEOLOGICAL RESOURCE ASSESSMENT

The Hermitage Club at Haystack Mountain

Towns of Dover and Wilmington, Windham County, Vermont

HAA # V4754.11

Submitted to:

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www.acra-crm.org

August 2014

ARCHEOLOGICAL RESOURCE ASSESSMENT

Hartgen Archeological Associates, Inc. (HAA, Inc.) was retained by The Hermitage Club to conduct an Archeological Resource Assessment (ARA) for the proposed development by The Hermitage Club at Haystack Mountain and the Deerfield Valley Regional Airport, located in the Towns of Dover and Wilmington, Windham County, Vermont (Map 1). The Hermitage Club properties include a large portion of Haystack Mountain, and a high relatively level ridge of land, on which sits the Deerfield Valley Regional Airport and adjacent lands. These large parcels of land are located between Cold Brook to the west and the North Branch of the Deerfield River to the east. The proposed project includes a number of elements which are outlined in the project description section below, and which are shown on Maps 2 and 3.

Project Information

The following project information is based on phone conversations and the project meeting held June 4, 2014.

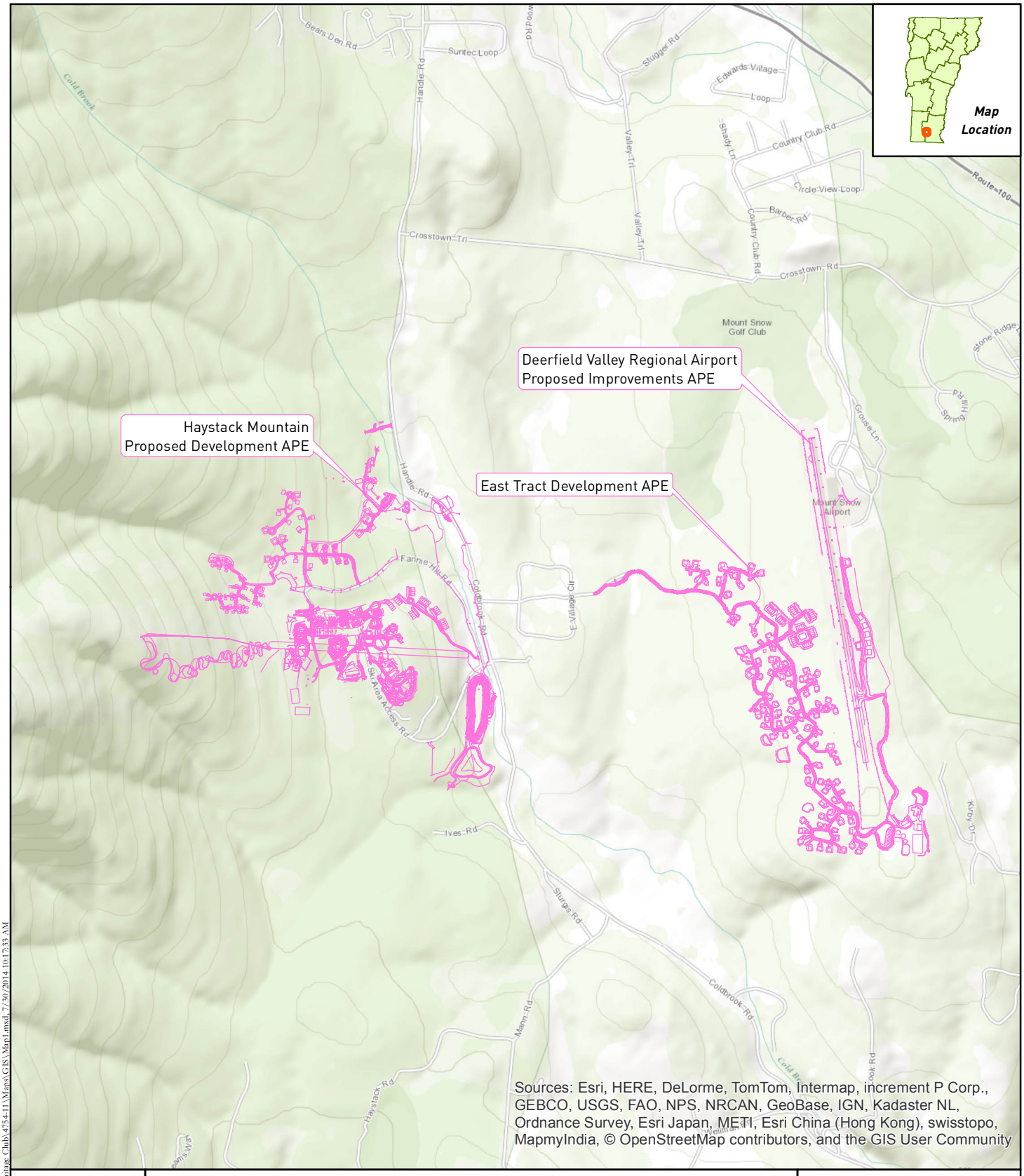
- The cultural resources investigation is required under Vermont Act 250 and Section 106 of the National Historic Preservation Act.
- The investigation was conducted according to the *Vermont State Historic Preservation Office's Guidelines for Conducting Archeology in Vermont* (2002).
- The project requires approvals by the Army Corps of Engineers (ACOE) and the Vermont Division for Historic Preservation (VDHP). The cultural resources report will be reviewed by ACOE and VDHP archeology officers.

The archeological assessment is conducted to comply with Section 106 of the National Historic Preservation Act. The primary objective of the ARA is to identify areas of archeological sensitivity based on environmental factors, known site information and historical information to determine whether potentially significant cultural deposits may be present within the project Area of Potential Effect (APE). Reference to the general project vicinity is provided as appropriate to understanding the local cultural and historical context. Background research was conducted at the Vermont Division for Historic Preservation (VDHP) where archeological site files, National Register (NR), State Register (SR) and town information were reviewed. Site visits were conducted by Hartgen archeologists Elise Manning-Sterling and Bruce B. Sterling on June 26, July 2, and July 22, 2014 to observe and photograph existing conditions within the project area. All three days were partially sunny with clear visibility.

Area of Potential Effects (APE)

The Hermitage Club properties encompass an area estimated to measure approximately 800 acres (324 ha) in size, of which approximately 200 acres (81 ha) will be developed. The APE is comprised by two primary areas of development, the largest of which is Haystack Mountain, located west of Handle Road (Map 2). The second area of development includes the Deerfield Valley Regional Airport (previously known as Mount Snow Airport) and the east tract housing development, the western end of which is located approximately 1,000 feet (305 m) east of Handle Road and the entrance to Haystack Village East (Map 3). The eastern tract includes three proposed contiguous housing developments, designated as Deer Hill Village, Maple Valley Village and Saddle Ridge Village.

The proposed Haystack Mountain project elements include the construction of roads, cabins, hotels, townhouses and associated utilities and parking areas, the installation of a 2-inch sewer force main across Cold Brook, the installation of a new ski tow line and the construction of a 60-foot (18.3 m) high wind turbine. The project may also entail the creation of new ponds, including Siegel Pond and/or enlarging



N

1,000 0 1,000 2,000 Feet

300 0 300 600 Meters

Project Location (Esri Inc. 2014)

HARTGEN archeological associates inc

Map 1

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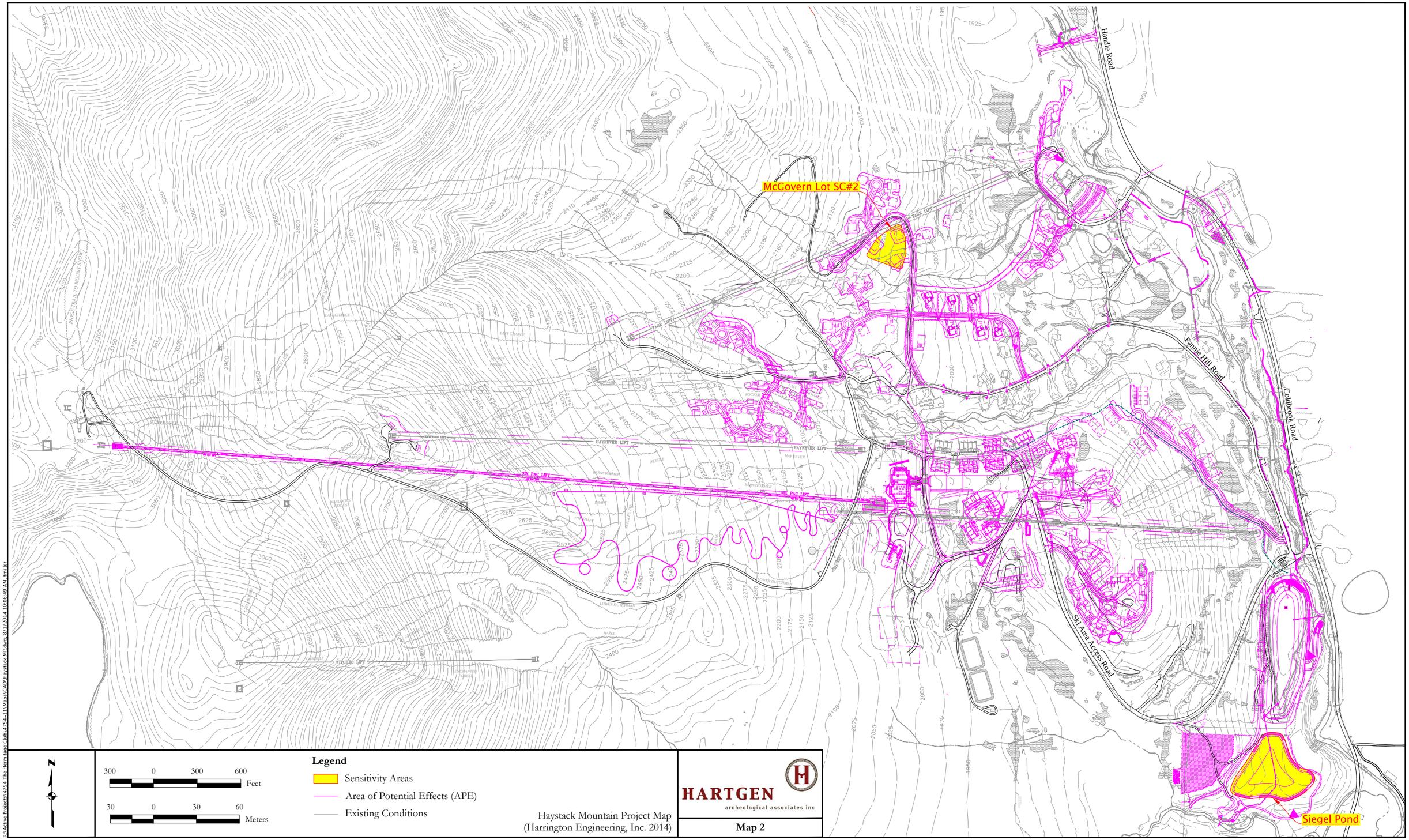

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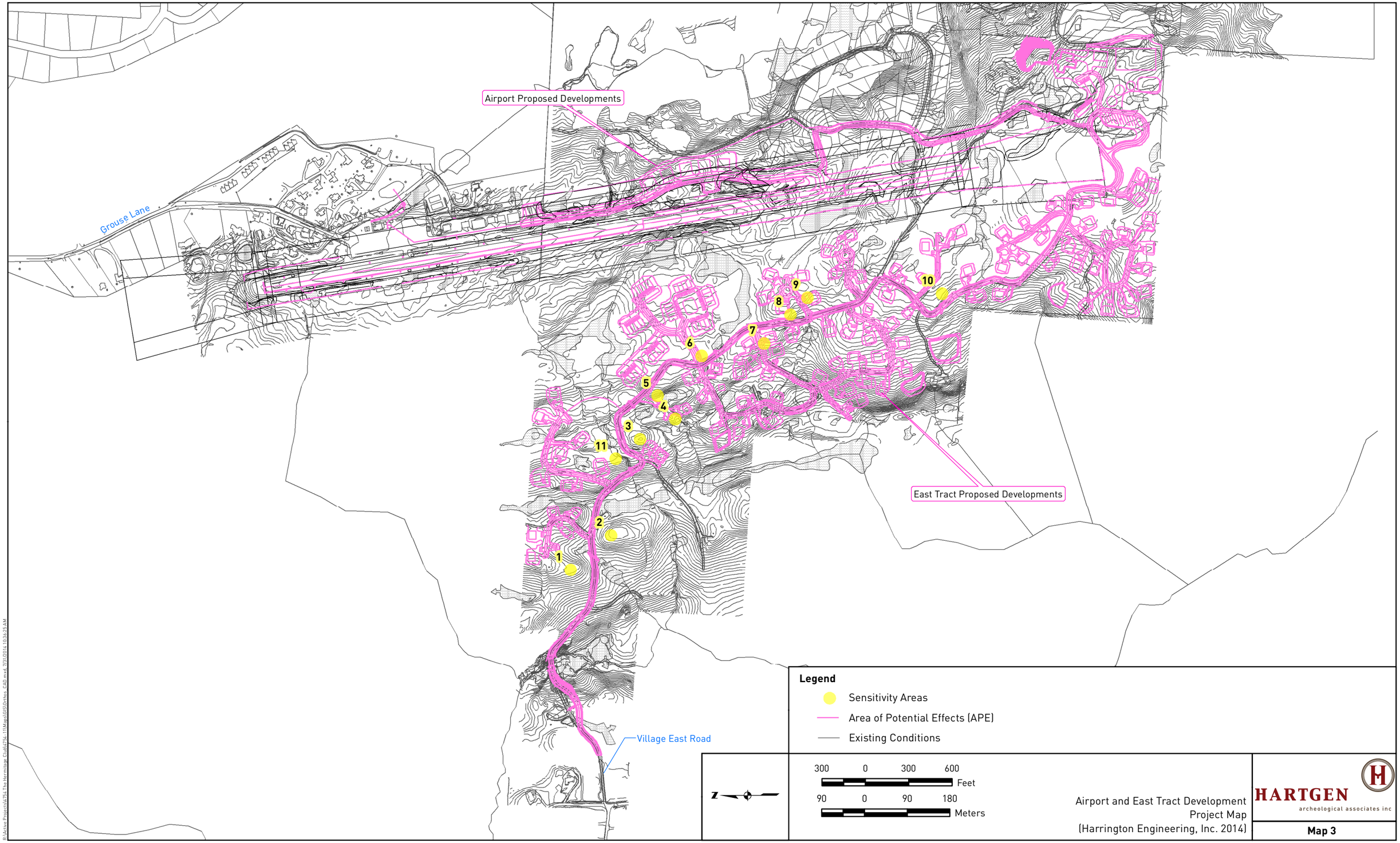
Airport Proposed Developments
Grouse Lane
East Tract Proposed Developments
Village East Road
1
2
3
4
5
6
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8
9
10
11
Legend
Sensitivity Areas
Area of Potential Effects (APE)
Existing Conditions
300 0 300 600
Feet
90 0 90 180
Meters
Airport and East Tract Development
Project Map
(Harrington Engineering, Inc. 2014)
HARTGEN
archeological associates inc
Map 3

Exhibit 14

Mirror Lake for snow making. At the Deerfield Valley Regional Airport, the project plans include the extension of the paved runway from its present length of 2,650 feet (808 m) to a final length of 4,880 feet (1,487 m), and which will entail a larger Runway Protection Zone. As part of both projects, large tracts of land will be set aside as Conservation Easements, Restricted Bear Habitat Areas, and Wildlife/Bear Corridors.

ENVIRONMENTAL BACKGROUND

Environmental characteristics of an area are significant for determining the sensitivity for archeological resources. Precontact and historic groups often favored level, well-drained locations near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if the project area is likely to contain archeological resources. In addition, bedrock formations or other lithic sources may have been exploited by precontact groups. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

The project area is located within the Green Mountain physiographic region of Vermont and situated west of the Deerfield River. The region is characterized as mountainous with steep slopes cut by brooks and rivers in narrow valleys. Several small brooks are located within the project areas that flow into Cold Brook, which is located on the west side of Handle Road between the two project areas. Haystack Brook, whose head of drainage is Haystack Pond, flows down Haystack Mountain to the south of the APE. Another small stream, Oak Brook, flows eastward down the mountain in the central portion of the Haystack project area. On the western end of the Deerfield Valley/East Tract project area is a series of wetlands and stream. These streams flow into Cold Brook, which then flows to the southeast into the Deerfield River, all of which are part of the larger Connecticut River drainage system.

The Haystack Mountain project area is characterized primarily as steep mountain slopes, interspersed with a few small gently sloped terraces. Haystack Mountain rises to a height of 3,445 feet (1,050 m) above mean sea level (amsl), with Haystack Pond located at 2,972 feet (906 m amsl. The Haystack Mountain project area varies in elevation from 1,745 feet (532 m) amsl at the mountain's base at Cold Brook, up to an approximate elevation of 3,200 feet (975 m) where the wind turbine is proposed to be erected near the top of the Six Pac Lift (Photo 1).

The Deerfield Valley Regional Airport is situated at an elevation of 1,952 feet (595 m) on the top of a high gently sloped terrace located between the North Branch of the Deerfield River to the east, and Cold Brook to the west. The east tract housing developments, located adjacent to the airport, are located at lower elevations, ranging from 1,772 feet (540 m) to 1,870 feet (570 m) amsl. The general terrain of these areas is characterized as undulating landforms, exhibiting areas of slope, as well as level and rounded benches, surrounded by a number of small streams and wetlands.

The geological makeup of the area includes bedrock of the Mount Holly Complex, denoted as a profound unconformity (Doll et al 1961, Ratcliffe et al 2011). This complex is comprised of fine to medium grained gneiss which is visible as outcrops on Haystack Mountain (Photo 1). A variety of soil complexes are present in the Haystack Mountain portion of the project APE, primarily fine sand loams on 8-50% slopes (USDA 2014). Soils from the Stratton-Glebe complex, Worden loam, Mudal fine sandy loam, Rawsonville-Hogback fine sandy loam Houghtonville-Rawsonvile fine sandy loam, and Colton loamy fine sand are present on Haystack Mountain. Other distinct soils are present in the Cold Brook watershed, including Podunk fine sandy loam (0-3 % slope) and Sheepscot fine sandy loam (3 to 8 % slope). The Sheepscot soils are found adjacent to Cold Brook, as well as on the level terrace which is the proposed location of Siegel Pond.

There are three primary soil complexes identified within the Airport/east tract housing development project area. The soils surrounding the airport include Houghtonville-Rawsonvilee fine sandy loam (8-15 % slope). The soils map of the airport does not differentiate between the extensive amount of culturally altered

Photo 1. Photo shows the proposed location of the wind turbine at the top of Haystack Mountain. Note the exposed bedrock. View is to the west.

land, and intact soils. The eastern half of the housing development contains Worden loam, 3 to 8 % slope, very bouldery. The western portion of the housing development contains Houghtonvile-Rawsonville find sandy loams, at 3-8 %, very bouldery.

Precontact Site File Search and Sensitivity

An examination of the VDHP archeological site files indicated that no reported precontact archeological sites are located within the project areas, or within several miles of the APE. The relatively few recorded precontact sites located close to the project area would seem to suggest the area's limited use in precontact times.

While the mountain environment may have discouraged intensive precontact habitation of this area, the terrain would be conducive for small hunting camps from Late Paleoindian or Early Archaic through Late Woodland times and into the Contact Period. There was a diversity of floral and faunal resources locally available which could sustain people through hunting, gathering and fishing activities, including the wetlands

and tributaries of Cold Brook. The Pine-Hemlock-Oak forest community, which predominated when European settlers first settled here, provided important flora resources for food, and medicines.

David Lacy, archaeologist for the Green Mountain National Forest, has documented high elevation precontact sites in the Green Mountains (Lacy 1994; 1997). The dearth of reported sites in the general project area is more likely a result of lack of archeological testing than the actual absence of sites. There are other factors which would account for this phenomenon, including the paucity of surveys conducted in this area, the presence of low density precontact sites and/or seasonal or intermittent camp sites.

The VDHP predictive model form for assessing precontact site potential was completed. This model is more effective for predicting precontact sites in smaller project areas, as the APE of larger project areas may contain a number of different characteristics and environmental factors that produce mixed results which are not necessarily representative of specific areas. For instance, a negative value of 32 was given to the project area based on slope, although not all areas have excessive slope. Nonetheless, the overall project area received a value of 12, with a score of 32 or more indicating archeological sensitivity. The areas of greatest archeological sensitivity within the APE include the level terraces and knolls located in close proximity to streams, wetlands and their confluences (Appendix 1).

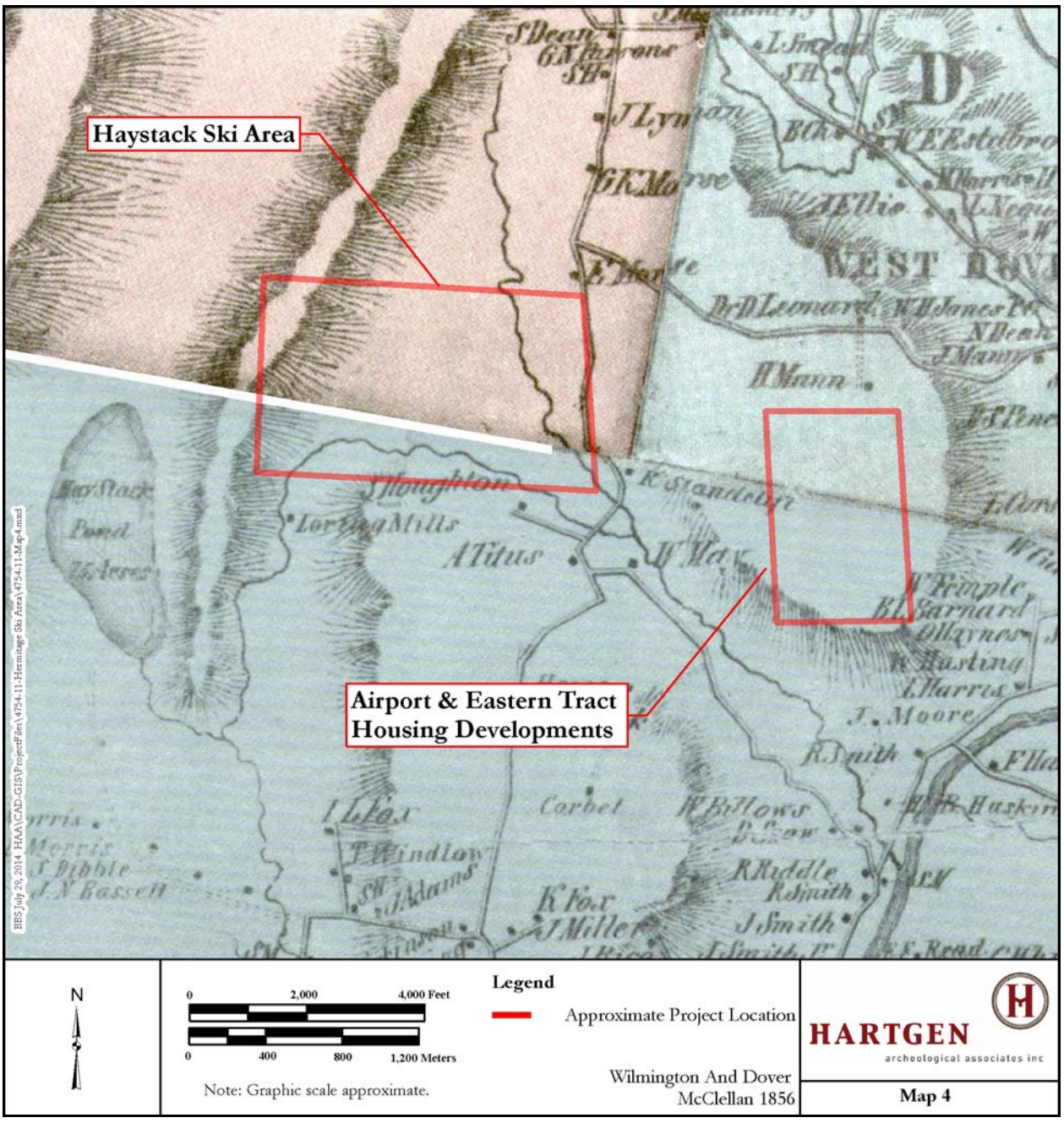
Historic Background and Sensitivity

Historic Research

A review of historic maps of the project area was conducted to attain an overview of the changing historical and environmental landscape within the project area. This includes the study of historic structures that may be or may no longer be extant, alterations to road and rail systems, and changes in stream and river courses. The 1856 McClellan map of Windham County depicts no structures within the Haystack project APE (Map 4). The 1869 Beers map shows one structure, the home of T. Moore, which represents the farm complex presently known as the "Hermitage" (Map 5). No structures are depicted on 19th-century maps or early 20th-century USGS maps within the airport and east tract project area (Map 6). The 1869 Beers map depicts a sugar house located north of the airport project area, and does have the name of "S. Clark" in the general airport vicinity, however no associated structure is shown accompanying the name.

There are no State Register Sites, National Register Sites, or known historic cemeteries located within the project area (Hyde and Hyde 1991). There are no structures within the project areas which are listed on the Vermont State Historic Sites and Structures Survey (VHSSS). It is unclear why the Hermitage, a well preserved 19th-century farm complex, was not included in this survey (Photos 2 and 3).

The VDHP site file search revealed that no reported historic archeological sites are located within the two project areas. There are various historic archeological sites located within several miles of the project area, many of which are associated with early local industries, including mills and forges (FS-9, VT-WD-37, VT-WD-38, VT-WD-64 and VT-WD-67), as well as a number sites with stone foundations, indicating the location of the houses and outbuildings on early farmsteads (VT-WD-44, VT-WD-45, VT-WD-46, VT-WD-47 andVT-WD-48).


Haystack Ski Area
Airport & Eastern Tract
Housing Developments
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0 2,000 4,000 Feet
0 400 800 1,200 Meters
Note: Graphic scale approximate.
Legend
Approximate Project Location
Wilmington And Dover
McClellan 1856
HARTGEN
archeological associates inc
Map 4

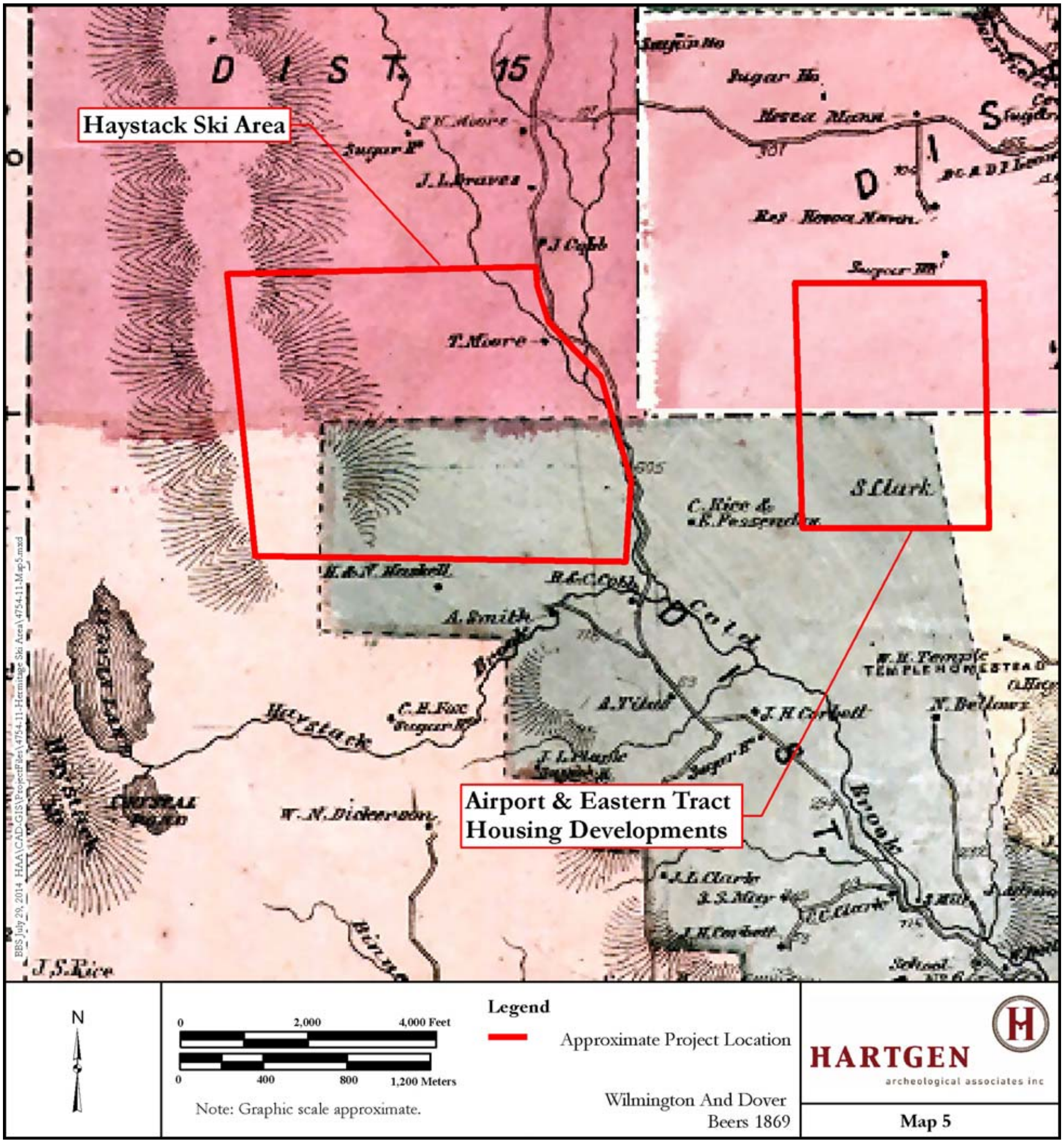
Haystack Ski Area
Airport & Eastern Tract
Housing Developments
DIST. 15
N
0
2,000
4,000 Feet
0
400
800
1,200 Meters
Note: Graphic scale approximate.
Legend
Approximate Project Location
Wilmington And Dover
Beers 1869
HARTGEN
archeological associates inc
Map 5

Exhibit 14

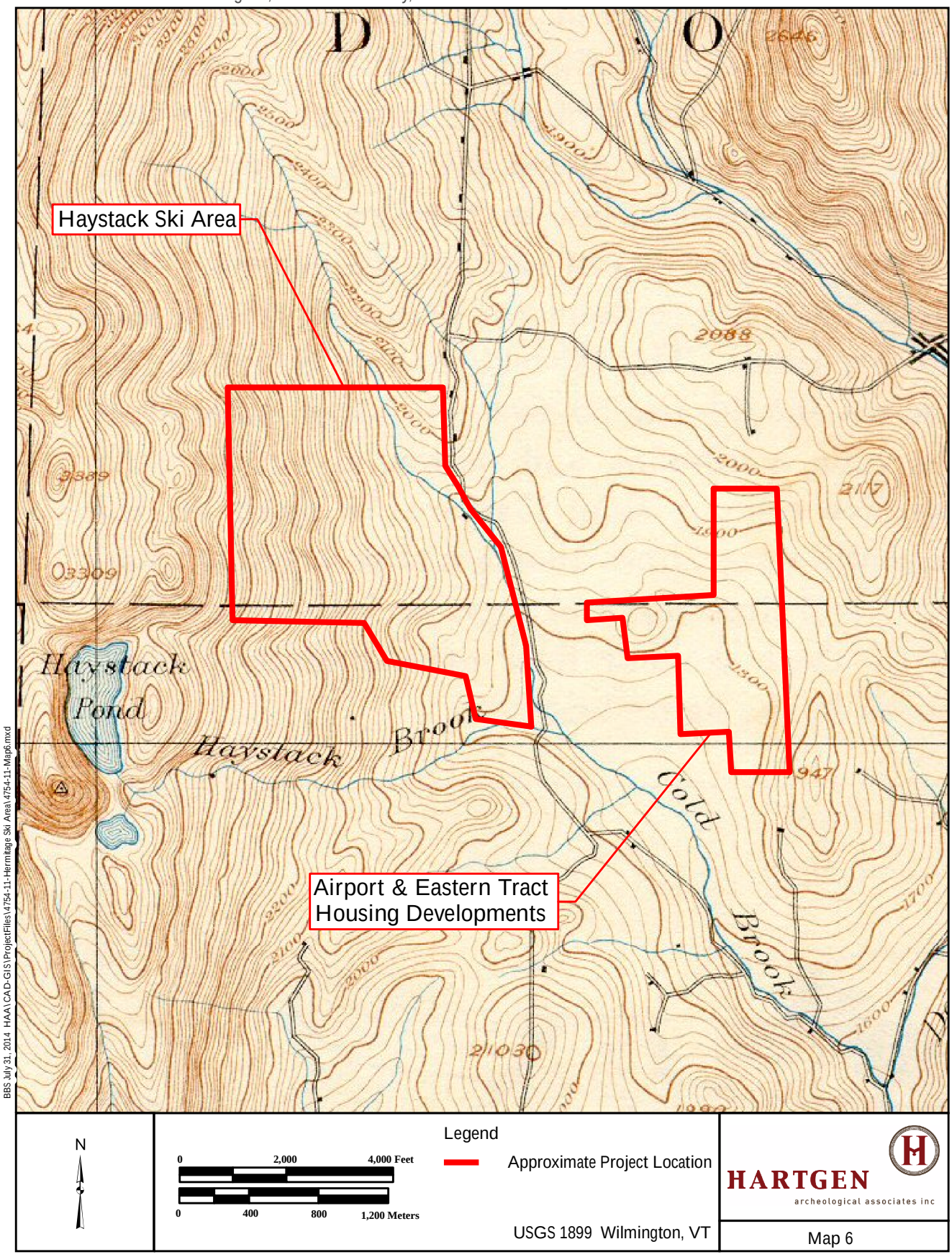
Haystack Ski Area
Airport & Eastern Tract Housing Developments
Haystack Pond
Haystack Brook
Cold Brook
2088
947
2117
2646
N
0 2,000 4,000 Feet
0 400 800 1,200 Meters
Legend
Approximate Project Location
USGS 1899 Wilmington, VT
HARTGEN archeological associates inc
Map 6
BBS July 31, 2014 H:\AA\CAD-GIS\ProjectFiles\4754-11-Hermitage Ski Area\4754-11-Map6.mxd

Photo 2. Photo shows the 19th century "Hermitage". View is to the west.

Photo 3. Photo shows the barn associated with the "Hermitage". View is to the south.

SITE RECONNAISSANCE AND RECOMMENDATIONS

A windshield survey of the Haystack Mountain and Deerfield Valley Regional Airport project areas was conducted after the initial project meeting on June 4, 2014. Three additional days of site reconnaissance were made by Hartgen archeologists, Elise Manning Sterling and Bruce B. Sterling on June 26, July 2 and July 22, 2014. The field reconnaissance consisted of a walkover of areas of potential ground disturbance, including the proposed locations of the airport runway and runway protection zone, housing developments, hotels, mountain cabins, wind turbine, a sewer force main stream crossing and Siegel Pond. A special focus was made to assess potential areas with the greatest archeological sensitivity, which includes level terraces and landforms adjacent to or overlooking streams and wetlands.

Two areas of archeological sensitivity were identified on the Haystack Mountain parcel. No areas of archeological sensitivity were identified in the area of the proposed airport runway and runway protection zone. Eleven areas of archeological sensitivity were identified in the east tract housing developments located adjacent to the airport. The archeological sensitivity areas are shown on Maps 2 and 3, and described below.

Haystack Mountain

The Haystack Mountain parcel primarily contains moderate to steeply sloping landforms with areas of exposed rock and bedrock (Photo 1). There are three permanent streams within the project area – Haystack Brook to the south, Cold Brook to the east, and Oak Brook in the north-central portion of the APE. There are areas of level terrain adjacent to Cold Brook, east of Mirror Lake, which are considered sensitive. However, the only proposed development along this waterway is the installation of a two-inch sewer force main in an area previously altered by the importation of fill and the construction of a pump house (Photo 4). Most of the small level terraces adjacent to these streams have been previously disturbed by the construction of houses and roads, with the exceptions noted below.

Photo 4. Photo shows the pump house structure near where the sewer force main is to be installed across the Cold Brook. View is to the east.

Siegel Pond – A snow making pond is proposed to be located south of Mirror Lake. The site of Siegel Pond is a high level wooded terrace overlooking the confluence of Haystack Brook and Cold Brook (Photo 5). The level terrace landform measures approximately 300 feet by 300 feet, (91 m by 91 m) and is bordered to the south and east by steep slopes down to the brooks (Photo 6). To the west is an upward slope, and to the north are large boulders and undulating terrain resulting from the construction of Mirror Lake (Photo 7).

Photo 5. Photo shows the wooded terrace where Siegel Pond is proposed to be constructed. View is to the south.

McGovern Lot SC#2 – A small, relatively level terrace, measuring approximately 100 feet east-west by 75 feet north-south (31 m by 23 m), is located on the north side Oak Brook (Photo 8). This proposed house lot is located west of an existing dirt and south of the Tage Lift access road.

Photo 6. Photo shows the Siegel Pond terrace and the downward slope toward the Cold Brook. View is to the north.

Photo 7. Photo shows the area north of the proposed Siegel Pond, with Mirror Lake in the background. View is to the north.

Photo 8. Photo shows the level terrace adjacent to Oak Brook on McGovern #SC2, which was identified as an archeological sensitivity area. View is to the south.

Deerfield Valley Regional Airport/East Tract Housing Development

There were no sensitivity areas identified within the proposed airport portion of the project area. The extant airport runway and runway protection zone, which extends approximately 1,000 feet (305 m) beyond the edge of the runway, are built on top of imported fill (Photos 9 and 10). The rest of the airport project area, which includes the proposed runway extension and enlarged runway protection zone, is characterized as undulating and steep landforms with two large wetlands at its southern end.

The archeological sensitivity areas identified in the eastern project parcel are all located within the three housing developments. At the western end of the project area is an extensive wetland and stream where a culvert/bridge had been located (Photo 11). The roadbed associated with the washed out bridge, which is comprised of thick layers of rock and sand fill, constitutes the only area of level terrain near this wetland (Photo 12). This fill roadbed leads eastward to an earth and grass road which winds its way through the three housing developments. While this road is situated next to several of the sensitivity areas identified during the survey, no portion of the road is considered sensitive. The eleven identified sensitivity areas within the east tract housing development, outlined below, are similar in that they are wooded, level to gently small rounded knolls (Photo 13) or elongate terraces (Photo 14) adjacent to, or situated overlooking, small streams or wetlands.

Photo 9. Photo shows the southern end of the runway at Deerfield Valley Regional Airport. View is to the north.

Photo 10. Photo shows the extant runway protection zone. View is to the south.

Photo 11. Photo shows the wetlands and stream located at the western end of the East Tract Housing Development. View is to the north.

Photo 12. Photo shows the washed out culvert and road that crossed the wetlands at the western end of the East Tract Housing Development. View is to the east.

Photo 13. Photo shows Archeological Sensitivity Area 4, which is typical of the small rounded knolls identified in the east tract housing development. View is to the east.

Photo 14. Photo shows Archeological Sensitivity Area 7, which is typical of the larger level terraces identified in the east tract housing development. View is to the south.

Area 1 – This area is a level knoll, measuring approximately 150 feet north-south by 100 feet east-west (46 b 30.5 m), which slopes down on all sides to wetlands.

Area 2 – This area is a small rounded and hummocky knoll, measuring approximately 50 feet north-south by 30 feet east-west (15 by 9 m), which is a high spot over adjacent wetlands.

Area 3 – This area is a small rounded knoll, measuring approximately 40 feet by 40 feet (12 m by 12 m) overlooking small wetlands.

Area 4 – This area contains two adjacent landforms, a level terrace and a smaller upper rounded knoll. The lower terrace measure approximately 75 feet north-south by 50 feet east-west (23 by 15 m), and is situated between two wetlands. The rounded knoll measures approximately 40 feet by 40 feet (12 m by 12 m)

Area 5 – This area contains two adjacent landforms, a level terrace and a smaller upper rounded knoll. The lower terrace bench measures approximately 50 feet north-south by 50 feet east-west (15 by 15 m), and is situated next to a stream and near a vernal pool. The upper rounded knoll measures approximately 40 feet by 40 feet (12 m by 12 m) An old logging road is located adjacent to Area 5 (Photo 15).

Area 6 – This area is a relatively level, but hummocky knoll, measuring approximately 100 feet north-south by 125 feet east-west (30.5 by 38 m), with wetlands on two sides.

Area 7 – This area is a wide linear level knoll, measuring approximately 75 feet north-south by 225 feet east-west (23 by 69 m), situated above wetlands. An abandoned truck is sitting on the terrace (Photo 14).

Area 8 – This area contains two adjacent landforms near wetlands - a lower level terrace, measuring approximately 100 feet north-south by 40 feet east-west (30.5 by 12 m), and a higher rounded knoll measuring approximately 50 feet (15 m) in diameter.

Area 9 – This area is a higher level terrace measuring approximately 200 feet north-south by 125 feet east-west (61 by 38 m), with wetlands to the east and south.

Area 10 – This area is a raised linear terrace, measuring approximately 70 feet north-south by 200 feet east-west (21.5 by 61 m), near an extensive wetlands.

Area 11 – This area is a small rounded knoll, measuring approximately 50 feet (15 m) in diameter overlooking a running stream (Photo 16).

Recommendations

The archeological resource assessment for the proposed development of The Hermitage Club identified two areas of archeological sensitivity at the Haystack Mountain parcel and eleven sensitivity areas at the East Tract Housing Development portion of the project area. No areas of archeological sensitivity were identified within the Deerfield Valley Regional Airport portion of the project area, or in association with the roadbed within the east tract housing development.

It is recommended that the 13 sensitivity areas be avoided during project development and construction. If it is not possible to avoid these areas, then archeological testing is recommended prior to any ground disturbance. It is also recommended, that prior to construction, archeologists clearly demarcate the sensitivity areas in the field so that they are not inadvertently used as staging areas or otherwise adversely impacted. These recommendations should be reviewed by ACOE and VDHP for concurrence.

Photo 15. Photo shows Archeological Sensitivity Area 5 which is located next to an old logging road, the side of which is evident as a raised berm. View is to the east.

Photo 16. Photo shows a stream which is located adjacent to Archeological Sensitivity Area 11. View is to the north.

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1997 West Dover, Vermont *7.5'x15' USGS Quadrangle.* USGS, Reston, VA.

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APPENDIX 1: VDHP Archaeological Resources Assessment Form

Vermont Division for Historic Preservation
Archeological Resources Assessment Form
Hermitage Club

DHP# _____
Organization & Recorder: **HAA. Inc./ E. Manning**
Date: 7/22/2014

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
A. Rivers and Streams (Existing or relict)					
1) Proximity to Rivers and Permanent Streams	0–90 m	12	**12**	Layer 1: Proximity to Rivers and Permanent Streams (0-180 m)	
	90-180 m	6			
2) Proximity to Intermittent Streams	0–90 m	12	**12**	-	
	90-180 m	6			
3) Proximity to Permanent River/Stream Confluences	0–90 m	8		Layer 6: Proximity to River/Stream Confluences (0-180 m)	
	90-180 m	4			
4) Proximity to Intermittent Stream Confluences	0–90 m	12		-	
	90-180 m	6			
5) Proximity to Waterfalls	0–90 m	8		Layer 7: Proximity to Waterfalls (0-180 m)	
	90-180 m	4			
6) Proximity to Heads of Drainages	0–90 m	8	**8**	Layer 5: Proximity to Heads of Permanent Drainages (0-300 m)	
	90-180 m	4			
7) Major Floodplain - Alluvial Terrace	0–90 m	8		Layer 10: Floodplain Soils Presence	
	90-180 m	4			
8) Knoll or Swamp Island		32		Layer 1: Proximity to Rivers and Permanent Streams (0-180 m)	
9) Stable Riverine Island		32		Layer 2: Proximity to Waterbodies (0-180 m)	
B. Lakes and Ponds					
10) Proximity to Pond or Lake	0–90 m	12		Layer 2: Proximity to Waterbodies (0-180 m)	
	90-180 m	6			
11) Proximity to Stream-Waterbody Confluences	0–90 m	12		Layer 4: Proximity to Stream-Waterbody Confluences (0-180 m)	
	90-180 m	6			
12) Lake Coves, Peninsulas, and Bayheads	0–90 m	12		Layer 2: Proximity to Waterbodies (0-180 m)	
	90-180 m	6			
C. Wetlands					
13) Proximity to Wetlands*	0–90 m	12	**12**	Layer 3: Proximity to Wetlands (0-180 m)	
	90-180 m	6			

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
14) Knoll or Swamp Island		32		Layer 3: Proximity to Wetlands (0-180 m)	
D) Valley edge and Glacial Landforms					
15) High Elevated Landform (e.g. Knoll Top, Ridge Crest, Promontory)		12		See Landmarks (Info Layers) and Catchment layers (Water-related Layers)	
16) Valley Edge Features (e.g. Kame Outwash Terrace)		12		Layer 9 Glacial Outwash and Kame Terrace Soils	
17) Marine/Lake Delta Complexes		12		Layer 9 Glacial Outwash and Kame Terrace Soils Presence	
18) Champlain Sea or Glacial Lake Shore Line**		12		Layer 8: Paleo Lake Soils Proximity (0-180 m)	
E. Other Environmental Factors					
19) Caves and Rockshelters		32		-	
20) Natural Travel Corridors (e.g. Drainage Divides)		12		See Landmarks (Info Layers) and catchment layers (Water-related Layers)	
21) Existing or Relict Springs	0–90 m	8		-	
	90–180 m	4			
22) Potential or Apparent Prehistoric Quarry for Lithic Material Procurement	0–90 m	8		See Soils with "M" parent material (Under Construction)	
	90–180 m	4			
23) Special Environmental or Natural Area~	0–180 m	32		-	
F. Other High Sensitivity Layers					
24) High Likelihood of Burials		32		See VAI layer (Under Construction)	
25) High Recorded Archeological Site Density		32		See VAI layer (Under Construction)	
26) High likelihood of containing significant site based on recorded or archival data or oral tradition		32		See VAI layer (Under Construction)	

Envronmental Predictive Model				ArcheoMapTool GIS Model	Field Inspection Comments
Variable	Proximity	Value	Assigned Score	Variable	
G. Negative Factors					
27) Excessive (>15%) or Steep Erosional (>20%) Slopes		-32	**-32**	See Slope Layer (Info Layers folder)	
28) Previously Disturbed Land***		-32		See Land Use ND Building Footprint Layers (Info Layers folder)	
Total Score:			**12**		

** remains incompletely mapped; digital layer includes paleo lakes and wetlands based on soils data
*** as evaluated by a qualified archeological professional or engineer based on coring, earlier as-built plans, or obvious surface evidence (such as a gravel pit)
~such as Milton acquifer, mountain top, etc. (historic or prehistoric sacred or traditional site locations, other prehistoric site types)
*Environmental predictive model limits wetlands to those > one acre in size; ArchSensMap

Robert S. Harrington

From: Elise Manning-Sterling <emanning@hartgen.com>
Sent: Thursday, October 16, 2014 11:15 AM
To: Robert S. Harrington
Subject: Archeological Sensitivity Areas

Dear Bob,

Good morning.

There were 13 archeological sensitivity areas identified during the archeological resources assessment conducted for the Hermitage Club project – including 11 at the East Tract Housing development, and 2 on Haystack Mountain, one of which was the proposed Siegel Pond area. It seems that the present project plans do not include development of any of the areas other than the Siegel Pond parcel. For the 12 sensitivity areas for which there are no project impacts, it is recommended that archeologists clearly demarcate the sensitivity areas in the field so that they are not inadvertently used as staging areas or otherwise adversely impacted.

If the Siegel Pond parcel will be developed as a snow making pond, it is recommended that Phase IB shovel test survey be conducted. The site of Siegel Pond is a high level wooded terrace overlooking the confluence of Haystack Brook and Cold Brook. The level terrace landform measures approximately 300 feet by 300 feet, (91 m by 91 m) and is bordered to the south and east by steep slopes down to the brooks. It is anticipated that approximately 80 systematically placed shovel test pits would be required to cover the landform, and possibly an additional 16 confirmation shovel tests would be excavated if precontact artifacts are identified.

The proposed Phase IB archeological field testing will entail the excavation of 50 cm square shovel test pits (STPs) within the area proposed for the construction of Siegel Pond. Systematic and confirmation shovel test pits will be placed at 10 m intervals or less, within the areas of highest archeological sensitivity, on transects within areas of level terrain. Excavations will extend approximately 20 inches (50 cm) in depth below ground surface, or, at least 4 inches (10cm) into intact “C” horizon subsoil. The maximum depth of a shovel test will be three feet (90 cm). Excavation of shovel tests will be done with hand tools, including shovels and trowels. The deposits will be excavated by cultural and/or natural strata, and cultural materials recovered from the excavations will be assigned to the soil stratum from which they are obtained. Stratigraphic profiles of each shovel test will be recorded with soil type, Munsell color, depths, and artifacts encountered. Photographs will be taken characterizing the project area and archeological excavations. Shovel test pit locations will be indicated on the project map.

An end-of-field letter, which summarizes the findings of the field effort, will be submitted to the client within one week of the completion of the archeological fieldwork. It will provide the results of testing, photographs, a project map with shovel test locations. Based on the results of the archeological survey, recommendations will be made as to whether additional archeological testing or excavation may be necessary. In addition, a Phase IB report, including a Vermont Archaeological Site Form, if a site is identified, will be completed in order to comply with archeological guidelines.

Please feel free to call me at 802-380-2845 or email me if you or Bob Rubin have any other questions about the Phase IB investigation.

Best,

Elise

Elise Manning-Sterling, MA RPA
Project Manager

Hartgen Archeological Associates, Inc.
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hartgen.com | newsletter | facebook

From: Robert S. Harrington [heinet@aol.com]
Sent: Wednesday, October 15, 2014 11:15 AM
To: Jay Kenlan; Patrick Jarvis; Elise Manning-Sterling
Cc: Haystack (Bob Rubin); Robert Fisher
Subject: MPA Plan Set

Hi Everyone,

In reviewing the Master Plan set of plans the following questions came up:

1. **Elise –** Archeologically sensitive areas, what does this mean and exactly what are the next evaluation steps?
2. **Patrick/Ben –** Summarize acreages and have summary chart.
3. **Jay –** Kingsley horse barn and pasture exempt from Act 250? Address?
4. **Patrick –** Move snowmobile trail by Fannie Hill Road on REC-1.
5. **Patrick –** Manholes in East Tract WSE-ET sheet 1 larger red dots.
6. **Patrick –** For review only – all sheets (one set for April's review Thursday).

Bob Harrington, PE
President

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Phone: 802-457-3151
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August 7, 2015

Elise H. Manning Sterling
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Bob Rubin, Vice President
The Hermitage Club
10 Gatehouse Trail
P.O. Box 2210
West Dover, Vermont 05356
802-464-7870
e. RRUBIN@hermitageclub.com

Subject: High Country Estates at The Hermitage Club at Haystack Mountain
Towns of West Dover and Wilmington, Windham County, Vermont
End-of-Field Letter – Phase IB Archeological Investigation

Dear Bob,

Hartgen Archeological Associates, Inc. recently conducted a Phase IB archeological investigation for the proposed development of the High Country Estates Development at The Hermitage Club at Haystack Mountain located in the Towns of West Dover and Wilmington, Windham County, Vermont. The proposed project entails the construction of three new homes and associated driveways. The home sites are approximately 1.2 acres in area, with the house footprint each measuring approximately 0.67 acres in size.

An Archeological Resource Assessment (ARA) was conducted Hartgen in 2013 for the overall Hermitage Club development at Haystack Mountain project. The ARA determined that a portion of the proposed High Country Estates Housing Development, situated on a terrace overlooking the convergence of two small unnamed streams, was sensitive for precontact resources. It was recommended that a Phase IB archeological resource survey be conducted prior to development. While the three home sites encompass a total area of approximately 3.6 acres, the archeological sensitivity area was limited in location and size, measuring approximately 0.15 acres in size.

The cultural resources investigation is required under Vermont Act 250 and to Section 106 of the National Historic Preservation Act. The project requires approvals by the Army Corps of Engineers (ACOE) and the Vermont Division for Historic Preservation (VDHP), and the cultural resources investigation will be reviewed by ACOE and VDHP archeology officers.

PHASE IB ARCHEOLOGICAL INVESTIGATION

The Phase IB archeological field survey was conducted on July 16, 2015 by a crew of two Hartgen archeologists. The survey entailed the excavation of eight-50 cm (1.6 ft) square shovel test pits (STPs) systematically placed at 10 meter (33 foot) intervals or less, on areas of level terrain within the archeologically sensitive portions of the proposed High Country Estates project area. Excavated soil was passed through 0.25-inch hardware mesh and examined for both precontact (Native American) and historic artifacts. Excavation of shovel tests was conducted with hand tools, including shovels and trowels. All of the shovel tests were excavated into an intact C horizon subsoil. The deposits were excavated by natural strata. The stratigraphy of each test was recorded including the depth, soil description and Munsell color. Photographs were taken characterizing the project area and archeological excavations.

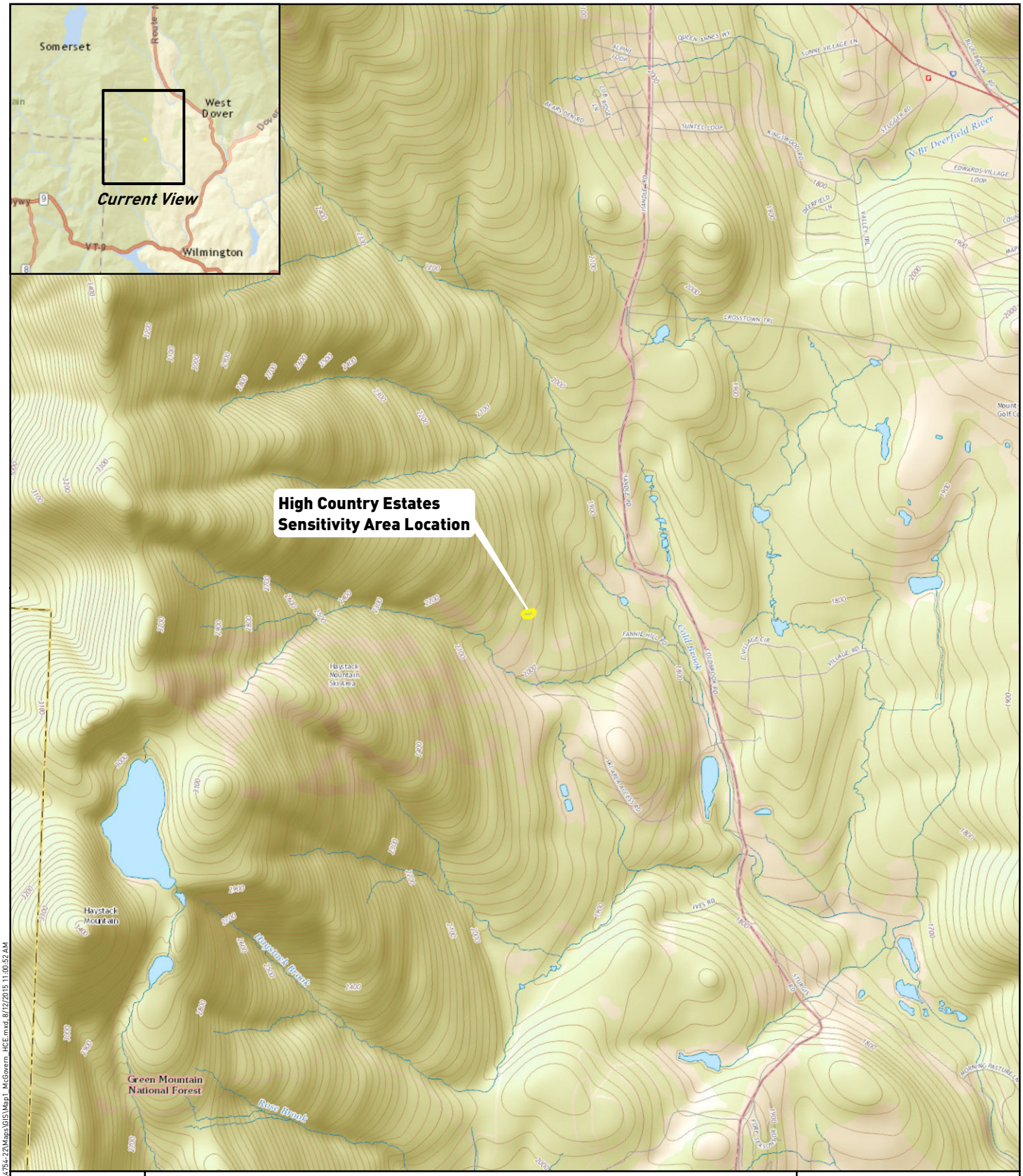
The stratigraphy encountered was consistent throughout the project area. The top soil layer consisted of a 10YR 3/3 brown humic loam with gravels overlying a mottled 10YR 3/3 and 7.5YR 4/4 brown to dark brown silt loam with gravels B horizon. Below this, a 2.5YR 4/4 reddish brown silt subsoil with gravels was encountered. Bedrock outcrops were noted on the ground surface, and several of the shovel tests encountered bedrock. The shovel tests were excavated to an average depth of 45 cm below ground surface. No precontact or historic artifacts were encountered in the excavations.

SUMMARY AND RECOMMENDATIONS

The Phase IB archeological survey conducted for the proposed High Country Estates project area identified no precontact artifacts or potentially significant historic deposits. No further archeological investigation is recommended for the project area. It is recommended that the results of the investigation and recommendations be submitted to the ACOE and VDHP for review and concurrence. A draft narrative report of the archeological excavations will be produced in the near future. If you have any questions, please contact me at emanning@hartgen.com or 802.380.2845.

Sincerely yours,

Elise Manning-Sterling, MA, RPA
Project Manager



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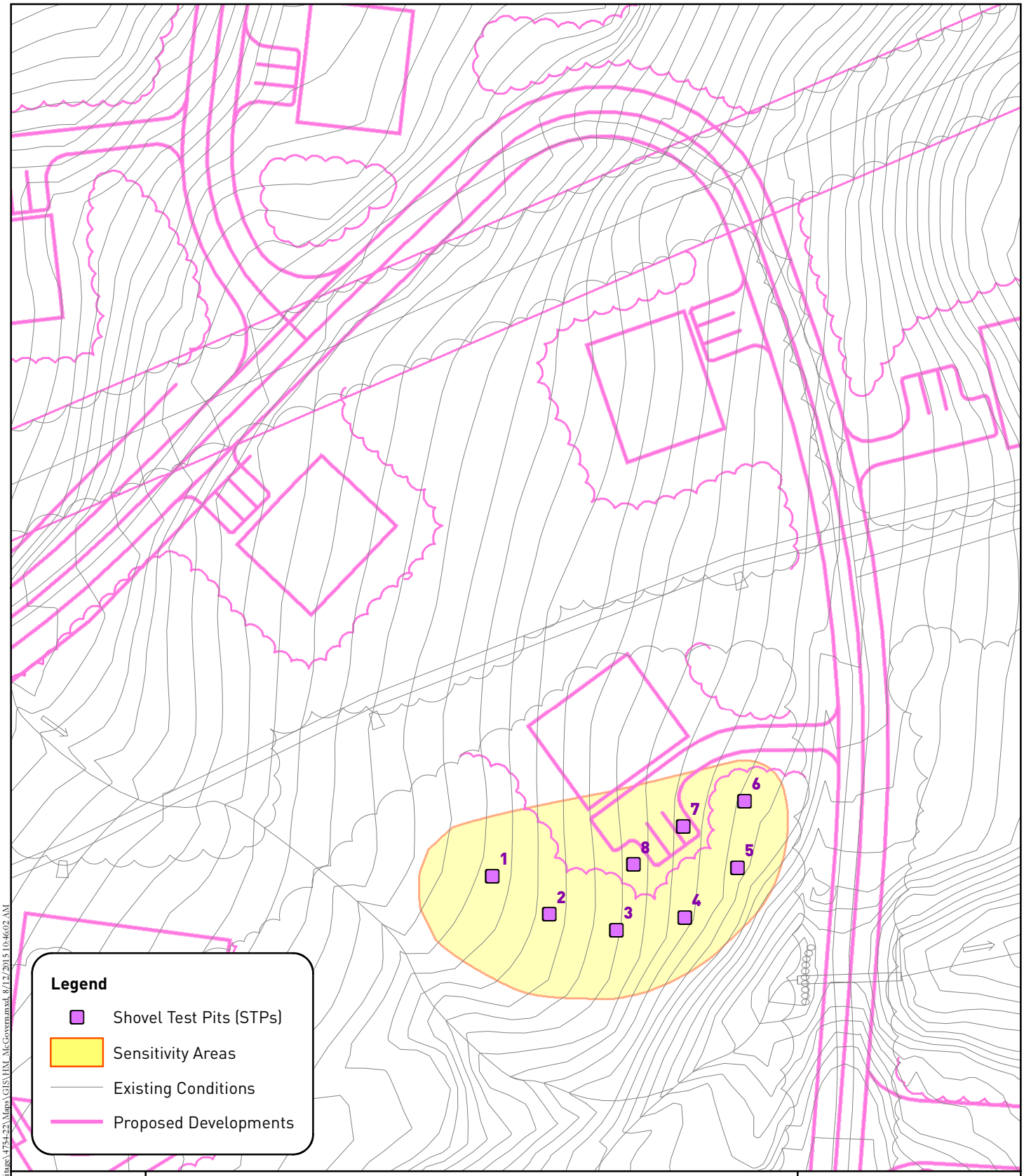

High Country Estates Project Map
(Hartgen 2015;
Harrington Engineering, Inc. 2014)

HARTGEN
archeological associates inc

Map 2

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August 13, 2015

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Bob Rubin, Vice President
The Hermitage Club
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Subject: Siegel Pond at The Hermitage Club at Haystack Mountain
Town of West Dover, Windham County, Vermont
End-of-Field Letter – Phase IB Archeological Investigation

Dear Bob,

Hartgen Archeological Associates, Inc. recently conducted a IB archeological investigation for the proposed development of Siegel Pond at The Hermitage Club at Haystack Mountain located in the Town of West Dover, Windham County, Vermont. The proposed project entails the creation of a new pond for snowmaking. The new pond, named Siegel Pond, will be located directly south of the existing Mirror Lake. An Archeological Resource Assessment (ARA) was conducted Hartgen in 2013 for the overall Hermitage Club development at Haystack Mountain project. The ARA determined that the proposed Siegel Pond project area, a high level terrace overlooking Cold Brook to the east and Haystack Brook to the south, was sensitive for precontact resources. It was recommended that a Phase IB archeological resource survey be conducted prior to development.

The cultural resources investigation is required under Vermont Act 250 and to Section 106 of the National Historic Preservation Act. The project requires approvals by the Army Corps of Engineers (ACOE) and the Vermont Division for Historic Preservation (VDHP), and the cultural resources investigation will be reviewed by ACOE and VDHP archeology officers. The VDHP requires that all projects under archeological review have a clearly defined area of potential effects (APE) that includes all areas where ground disturbance is proposed and areas that may be impacted temporarily or unintentionally such as staging areas and rights-of-way. The proposed improvements encompass an area measuring approximately 120,000 square feet, or 2.75 acres (0.33 hectare).

PHASE IB ARCHEOLOGICAL INVESTIGATION

The Phase IB archeological field survey was conducted on June 3 and June 10-12, 2015 by a crew of Hartgen archeologists. The survey entailed the excavation of 68-50 cm (1.6 ft) square shovel test pits (STPs) systematically placed at 10 meter (33 foot) intervals, within the archeologically sensitive portions of the proposed Siegel Pond project area. The shovel tests were placed at 10 meter (33 foot) intervals, according to VDHP guidelines, in areas of level terrain. Excavated soil was passed through 0.25-inch hardware mesh and examined for both precontact (Native American) and historic artifacts. Excavation of shovel tests was conducted with hand tools, including shovels and trowels. All of the shovel tests were excavated into an intact C horizon subsoil. The deposits were excavated by natural strata. The stratigraphy of each test was recorded including the depth, soil description and Munsell color. Photographs were taken characterizing the project area and archeological excavations.

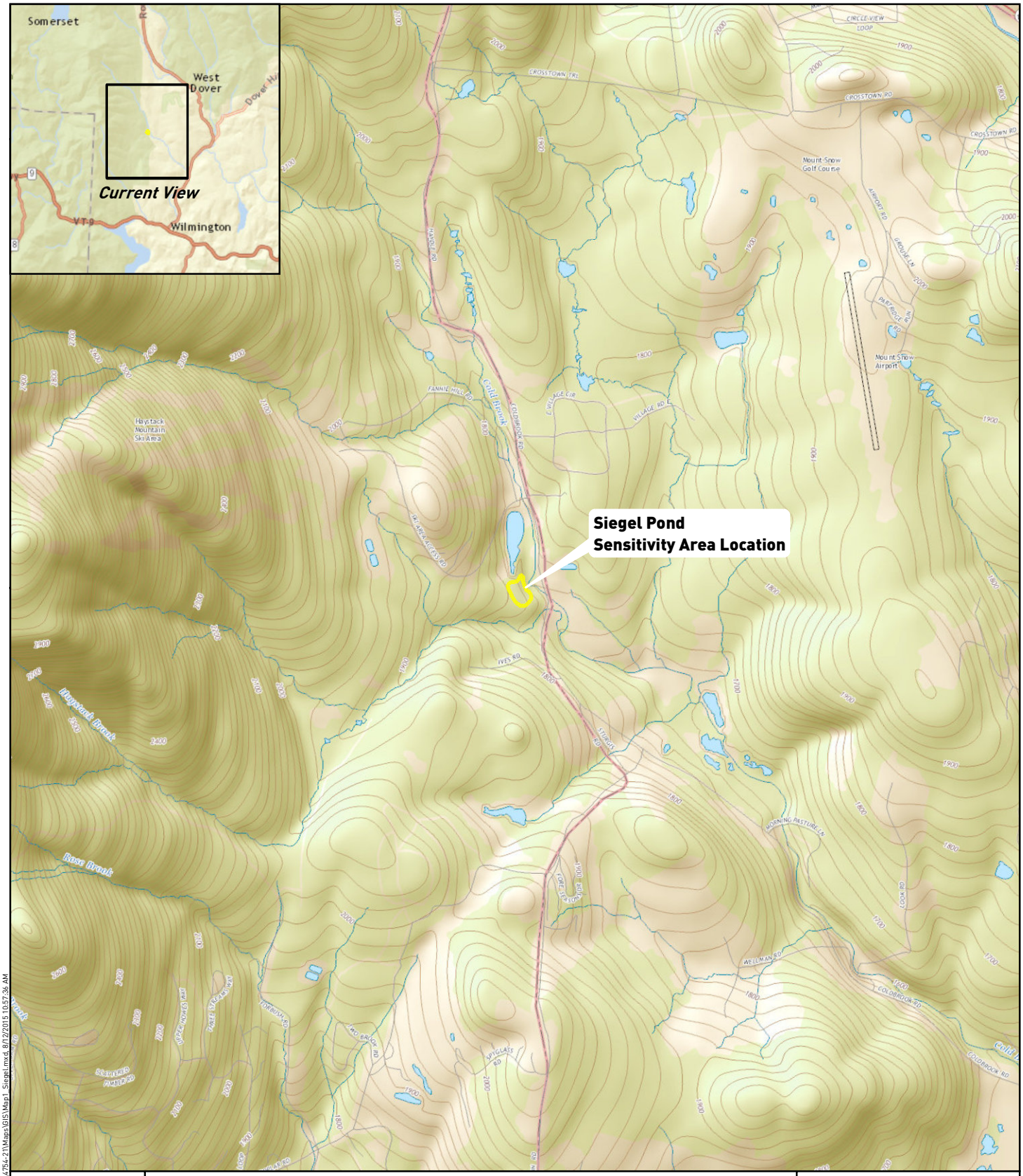
The stratigraphy encountered was relatively consistent throughout the project area. The top soil layer consisted of a 10YR 2/1 black humic loam overlying a 10YR5/3 brown fine sand podzol. The top several layers of soil in many of the shovel tests contained a heavy root mat. Below this, a 5YR 3/4 dark reddish brown fine sand B horizon soil overlay a fine sand subsoil with rocks and gravel which varied in color from a 2.5Y4/3 olive brown to a 5YR 4/4 reddish brown to 7.5YR 4/6 strong brown. The shovel tests were excavated to an average depth of 55 cm below ground surface. No precontact or historic artifacts were encountered in the excavations.

SUMMARY AND RECOMMENDATIONS

The Phase IB archeological survey conducted for the proposed Siegel Pond project area identified no precontact artifacts or potentially significant historic deposits. No further archeological investigation is recommended for the project area. It is recommended that the results of the investigation and recommendations be submitted to the ACOE and VDHP for review and concurrence. A draft narrative report of the archeological excavations will be produced in the near future. If you have any questions, please contact me at emanning@hartgen.com or 802.380.2845.

Sincerely yours,

Elise Manning-Sterling, MA, RPA
Project Manager



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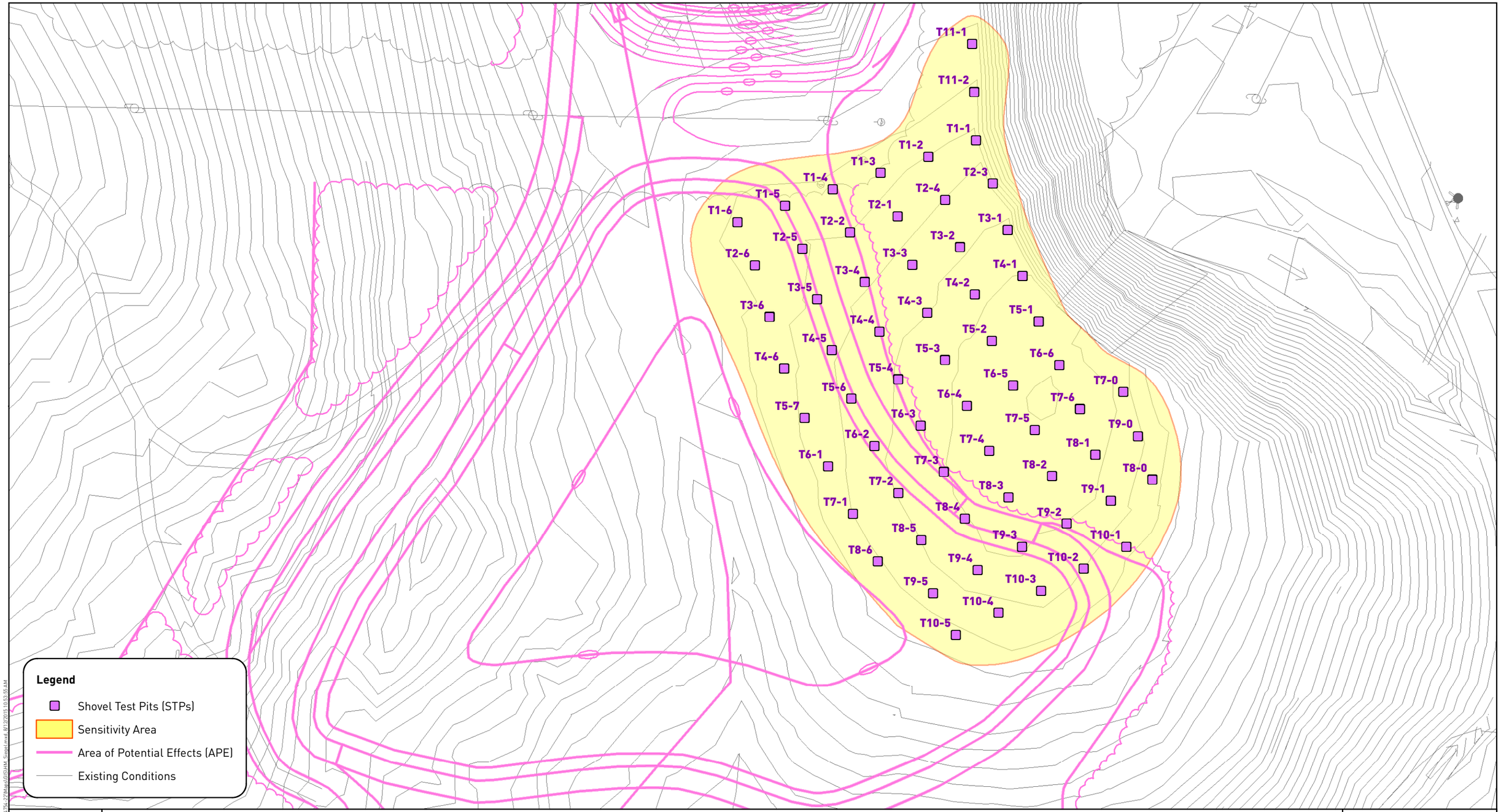

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Siegel Pond, Haystack Mountain
(Hartgen 2015; Harrington Engineering, Inc. 2014)

HARTGEN archeological associates inc

Map 2

Executive Summary

Conley Associates, Inc. has assessed the transportation conditions at Haystack Ski Area and the Hermitage Inn in Wilmington and West Dover, Vermont. The existing transportation operations and future expected transportation operations conditions (2024 No Build and 2024 Build) have been evaluated. Improvements have been proposed to mitigate any deficiencies.

Conley Associates, Inc. collected traffic count data at the study area intersections during higher than average skier weekends and holiday periods during the afternoon peak period of the area (3:00 PM to 5:00 PM). Using VTrans data, all traffic volumes were adjusted as necessary to represent 2014 Design Hourly Volume conditions.

In order to adjust to a 2024 condition without the Master Plan projects in place, the traffic from over 200 residential units currently permitted in the area was determined and added to the 2014 traffic volumes that had been increased for background traffic growth.

Conley Associates, Inc. performed trip generation analysis for the proposed redevelopment for the peak hour using the industry standard, Institute of Transportation Engineers publication Trip Generation, 9th Edition, in addition to local data. Based on the location of the proposed hotel and residential units, it is anticipated that a number of trips will be made on foot between the hotel and residences and the recreation opportunities available, specifically skiing and the amenities at the Hermitage Inn. Shuttle service through the resort, especially associated with the hotel trips, will also reduce trips. As a result, up to 35 percent of the peak hour trips to some of the components were assigned to walking, skiing and shuttle trips internal to the development.

The stop controlled approaches at the unsignalized intersections are currently operating at level of service (LOS) C or better during the peak hour. Minor changes in LOS or delay are expected due to the applied growth rate and previously approved projects in the area. The addition of the Hermitage Club Master Plan traffic will increase delay at the unsignalized intersections less than six seconds per vehicle.

As outlined above, to reduce the number of vehicle trips generated by the Master Plan, a shuttle system will be provided to serve guests. In addition, many members and guests will have the ability to ski in and out of the residences and hotels, reducing the number of automobile trips necessary. The Hermitage Club will attempt to reduce critical trips through the intersection of VT 100 and VT 9 by creating employee shifts that avoid exiting during the critical peak hours as well as by providing ride-matching services for any interested employees. The Hermitage Club will provide members and guests with alternative routes either to avoid the intersection entirely or to pass through the intersection avoiding the critical movements. The Hermitage Club will also work with Mount Snow to provide members and guests with up-to-date information on queues at that intersection.

Although intersection operations are not expected to change levels of service as a result of the project traffic, mitigation has been proposed. Working with VTrans, the proponent is committed to providing new controller technology to ensure optimal operations at the intersection of VT 100 and VT 9. The cost of this equipment is estimated at $50,000. Although the Hermitage Club is only contributing a small percentage to the traffic increases at this location (five percent), the Hermitage Club is offering to contribute the cost of this equipment to ensure optimal operations at this location.

In addition, in the event that pedestrian and safety improvements at the intersection of Handle Road and Tannery Road have not been implemented by others, improvements will be implemented as a part of the Hermitage Club Master Plan. Finally, in the vicinity of the Hermitage Inn and Hermitage Club driveways, the proponent will install pedestrian warning signs and investigate lowering the speed limit in order to ensure safe travel for vehicles and pedestrians.

CONLEY
ASSOCIATES

TRANSPORTATION MASTER PLAN
HERMITAGE CLUB AT HAYSTACK MOUNTAIN

SEPTEMBER 2014

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Introduction

Conley Associates, Inc. has assessed the transportation conditions at Haystack Ski Area and the Hermitage Inn in Wilmington and West Dover, Vermont. The existing transportation operations and future expected transportation operations conditions (2024 No Build and 2024 Build) have been evaluated. This undertaking was conducted as part of the Master Plan for the Hermitage Club at Haystack Mountain (Hermitage Club Master Plan). The Hermitage Club Master Plan includes the complete redevelopment of the Haystack Ski Area, redevelopment of the airport, and an expansion of the uses at the Hermitage Inn. As part of the Hermitage Club Master Plan, 316 residential condominium hotel units, 120 townhouse units, and 154 single family homes will be developed in addition to a new base lodge, some dining options, and boutique retail shops. Also as part of the Hermitage Club Master Plan, the Hermitage Inn will expand rooms, restaurant seats and offering additional amenities to complement the Hermitage Club experience.

In February 2006, Conley Associates, Inc. prepared a Traffic Impact Study (2006 TIS) for the redevelopment of Haystack Mountain. Because six years have passed since the completion of that study and the project components are now expected to be different, ACT 250 has requested an update to the 2006 TIS in the form of a Transportation Master Plan for the entire Hermitage Club at Haystack site.

The Transportation Master Plan will concentrate its analysis on the following intersections:

- Handle Road at Tannery Road
- Handle Road at Hermitage access
- Coldbrook Road at Village Road East
- Coldbrook Road at Haystack access
- Coldbrook Road at Mann Road
- Route 100 at Coldbrook Road
- Route 9 at Haystack Road
- Route 9 at Route 100
- Route 9 at Route 100 south

Existing Condition

The existing transportation conditions have been observed a number of times between 2005 and 2014. The roadway geometry in the study area was noted, parking operations were evaluated, the number of parked vehicles was determined, existing traffic volume data was collected at the study area intersections, and seasonal variations in traffic volume data were researched.

Roadway Geometry

VT Route 100 is a State route that runs north and south from Troy in northern Vermont to Jacksonville in southern Vermont. In the vicinity of the study area, VT Route 100 consists of one lane in each direction separated by a double yellow centerline. VT Route 9 runs through southern Vermont from Bennington in the west to Brattleboro in the east. Handle Road extends north to south in Dover in the vicinity of the site and changes name to Coldbrook Road when it crosses into Wilmington. To the south of the Hermitage Club at Haystack property, Coldbrook Road is connected to VT Route 9 to the southwest via minor roadways including Mann Road and Haystack Road.

Handle Road at Tannery Road is an unsignalized three way intersection located to the north of the site. Tannery Road approaches Handle Road from the east but is not under stop control. Instead, the two Handle Road approaches are under stop control. Each approach consists of one all purpose lane.

At the Hermitage access driveway, Handle Road consists of one lane in each direction separated by a double yellow centerline. The Hermitage access operates as if under stop control although no sign is present. The Hermitage access approaches Handle Road by way of a covered bridge and has no lane markings.

South of the Hermitage access driveway, Handle Road transitions to Coldbrook Road at the Town Line into Wilmington. Village Road East intersects with Coldbrook Road to form a three way unsignalized intersection with Village Road East forming the easterly leg and controlled approach at the intersection.

The Hermitage Club at Haystack access driveway intersects Coldbrook Road to form a three way unsignalized intersection with the wide Hermitage Club at Haystack access driveway operating as the controlled approach. A minor residential roadway, Hummingbird Lane is located roughly across from the Hermitage Club at Haystack access driveway.

The unsignalized intersection of Coldbrook Road at Mann Road is a three way intersection located to the southeast of the Hermitage Club at Haystack access driveway. Due to the curvaceous nature of Coldbrook Road, at this intersection Coldbrook Road begins running east and west. Mann Road is the stop controlled approach from the south and operates as one lane in each direction although no pavement markings are present.

The unsignalized, three way intersection of VT Route 100 at Coldbrook Road is located to the east of the site. VT Route 100 has one lane in the southbound direction and two lanes in the northbound direction including a left turn only lane and one through lane at the intersection of VT Route 100 at Coldbrook Road. The northbound and southbound movements are separated by a median. At this intersection, Coldbrook Road has one lane in the westbound direction, and separate left and right turn lanes in the eastbound direction. As with VT Route 100, the travel lanes on Coldbrook Road are separated by a median at this intersection.

The intersection of VT Route 9 at Haystack Road is a three way unsignalized intersection located to the south of the site (reached via Coldbrook Road to the south of the site as well as minor roadways Mann Road and Haystack Road). Haystack Road approaches VT Route 9 from the north and is stop controlled. All legs of the intersection consist of one lane each direction.

To the east of the intersection of VT Route 9 at Haystack Road is the signalized, four way intersection of VT Route 100 at VT Route 9. Each approach of this intersection consists of one all purpose lane. Parking lanes are located on the east and west sides of the southbound approach, on the north and south sides of the westbound approach, and on the east side of the northbound approach. Sidewalks are provided on both sides of VT Route 100 and VT Route 9 at this intersection. There is a pedestrian push button at this intersection for an exclusive pedestrian crossing phase.

To the east of the intersection of VT Route 100 and VT Route 9 is the unsignalized intersection of VT Route 9 at VT Route 100 South. VT Route 100 approaches from the south and is under stop control. Each approach is divided by a double yellow centerline.

Alternative Transportation

Conley Associates, Inc. researched alternative modes of transportation in the area. The Deerfield Valley Transit Authority (DVTA) runs the MOOver, which is a free shuttle serving the Mount Snow Valley. It has over 30 stops along the Route 9/Route 100 corridor between Wilmington and West Dover and Wilmington and Brattleboro as well as one route from Wilmington to Bennington. The MOOver has several numbered routes that run near the study area to the Mount Snow Ski Resort. There are two MOOver routes that extend down Handle Road towards Hermitage Club at Haystack; however they stop at the Kingswood, Bears Crossing, and Suntec developments and do not extend further south along Handle Road.

The Amtrak Vermonter provides service to and from Brattleboro via the Vermonter line. The line provides service from St. Albans to the north and Washington DC to the south, via New York City.

Existing Traffic Volume Data

To determine the appropriate peak time period that should be studied in this ski resort area, Conley Associates, Inc. researched Vermont Agency of Transportation (VTrans) Automatic Traffic Recorder (ATR) data collected at the counting station closest to Mount Snow. Based on data from station P6X064 located on VT Route 100 in Dover, the peak period occurs from 3:00 PM to 5:00 PM during the ski season. Conley Associates, Inc. conducted Turning Movement Counts (TMCs) at the study area intersections during the Christmas to New Years vacation week and during Martin Luther King weekend. The traffic data was collected during the afternoon peak period of the area (3:00 PM to 5:00 PM). During the peak hour, there are approximately 890 vehicles traveling on VT Route 100 south of Coldbrook Lane with 470 traveling in the northbound direction and 420 in the southbound direction.

DHV Adjustment

As outlined in the VTrans *Traffic Impact Evaluation Study and Review Guide*, level of service analyses are normally based on the 30th highest hourly volume during the year, or Design Hourly Volumes (DHV). In 2006, Conley Associates, Inc. researched traffic volume data at the Continuous Traffic Count (CTC) station located closest to the Hermitage Club, station #P6X064. The 6th through the 11th highest hours occurred during the week between Christmas and New Years. In addition, the other peak periods counted were also above the 30th highest hour. It was determined that the hours counted were higher than the DHV and could in fact be reduced to represent the DHV. However, to be conservatively high in our traffic analysis, the traffic volumes collected were not reduced. In 2006, this approach was discussed with VTrans staff who concurred the data collected would represent DHV. The VTrans DHV data can be found in the Appendix.

Adjustment to Current Year Conditions

Conley Associates, Inc. has investigated the VTrans traffic volume data over the past ten years. Data is available on a number of local roadways in Wilmington and Dover including Coldbrook Road and Handle Road. Over the course of the ten years, there has been a large variance in traffic volumes. Some locations have decreased while others have increased with no clear pattern as to growth. The closest VTrans CTC station, station #P6X064, on VT Route 100 in Dover, carried 5,700 vehicles per day in 2004 and in 2007 and only 4,900 vehicles per day in 2012. This corresponds to a three percent per year decrease in traffic volume.

Conley Associates, Inc. has collected traffic volume data as a part of the 2010 Mount Snow Resort Transportation Master Plan (2010 Mt. Snow Master Plan). The traffic volume data was collected during the peak holiday period and, similar to the 2005 traffic volumes, is higher than the DHV. The 2010 Mt. Snow Master Plan traffic volumes included data at the intersection of Route 100 and Route 9 and is attached to this memorandum.

Conley Associates, Inc. compared the 2005 and 2010 traffic volumes. As shown in Table 1 below, the DHVs have shown no increase over the five year period.

Table 1: Traffic Volume Comparison – VT Route 100 at VT Route 9

	2005 TIS	2010 Mt. Snow Master Plan	Net Change Per Year
Peak Condition Entering Traffic Volumes	1148	1152	0.07%

1. 2005 Traffic volumes contained in the 2006 Haystack Mountain Traffic Impact Study
2. 2010 Traffic volumes contained in the 2010 Mount Snow Transportation Master Plan

Based on the traffic volume data collected in 2005 and in 2010, there has been effectively no growth in traffic volumes over that period. The VTrans data presented above confirms that that trend continued through 2012. Therefore, the existing conditions traffic data provided in the 2006 TIS is still appropriate for use and presents a conservative current existing condition.

Where available, the traffic volume data presented in the 2010 Mount Snow Master Plan was utilized as it reflects any recent changes in the traffic patterns (ie. more left turns than through movements etc.).

2014 Existing Traffic Volumes

The peak hour traffic volumes collected in 2005 and 2010 at the study area intersections were balanced to determine the Existing DHV Condition peak hour traffic volumes. In order to determine the current Existing condition, as outlined above, Conley Associates, Inc. researched traffic count data in the area and found there to be no traffic growth. Therefore, no growth rate was applied. Conley Associates, Inc. applied the VTrans factor and equation to the 2012 AADT south of Coldbrook Road to verify that the resulting Existing DHV traffic volumes based on older counts were equal to or greater than those estimated by VTrans. The Existing DHV traffic volumes can be found in Figure 1.

No Build Condition

The transportation conditions expected in the study area in 2024 without the proposed project were determined. Background traffic growth was projected and site specific traffic was researched. The traffic associated with each of these components was calculated and added to the existing traffic volumes to create the 2024 No Build conditions.

Background Growth Rate

As outlined above, recent counts have indicated that traffic is not growing in this area. In fact, based on VTrans data, *Growth Factors by Regression Group* (Group E: Ski Stations), Dover is expected to experience a decrease in traffic volumes over the next 10 years. However, in order to account for any potential traffic growth in the area, Conley Associates, Inc. followed the methodology used in the Mount Snow Master Plan, applying a one percent growth rate per year to the existing traffic volumes on VT Route 100 in the vicinity of Mount Snow and on VT Route 9 near Haystack Road. This traffic growth rate will account for growth located outside of the study area. The VTrans growth data can be found in the Appendix.

Site Specific Development

Conley Associates, Inc. previously completed traffic studies for several off-mountain residential developments in West Dover. As a part of the Mt. Snow Master Plan, a number of these developments were determined to be permitted but not built out. Because the Hermitage Inn project was one of the projects included as a site specific development in the Mt. Snow Master Plan, that traffic was removed from the site specific developments. The site specific developments include over 200 residential units in the area to the north of the Hermitage Club including units in Kingswood, Snow Vidda, Greenspring, Trailsedge, Outlook, and Boulder Ridge. Although a number of these units have been constructed with no change to the traffic volumes in the study area, the full trip generation of all of these developments were determined

and distributed through the study area intersections to account for any unknown minor development.

Since that time, local planning officials have indicated that two additional projects have been permitted that would affect traffic volumes in the vicinity of the Haystack Ski Area. A 14 lot subdivision is proposed behind the Seasons condominiums in Dover and a 10 lot residential subdivision is proposed near the Someday golf course in Dover. Traffic generated by these two developments was determined.

2024 No Build Traffic Volumes

The Existing DHV traffic volumes were increased by one percent per year and the trips related to specific development discussed were added to determine the 2024 No Build traffic volumes. The 2024 No Build peak hour traffic volumes can be found in Figure 2.

Build Condition

The Hermitage Club Master Plan includes many uses at the base of the Ski Area as well as at the Hermitage Inn site. At the Ski Area, a base lodge facility will be constructed as well as smaller ski facilities including small on mountain facilities, rescue quarters and membership ski storage. Adjacent to the base lodge facility will be 180 units of residential condominium hotel. In the lower mountain area and midmountain area, townhouses and single family homes will be developed. In the upper mountain area, a 136 unit residential condominium hotel is proposed in addition to single family homes in the villages. On the east side of Handle Road, townhouses and single family homes are proposed.

The Hermitage Inn is adding recreational facilities in the form of a skating rink, tubing, cross country skiing, and snowmobiling. In addition, the facilities will be expanded to include 10 additional rooms in the inn and 135 additional seats in the restaurant. Additional single family homes are proposed near the Hermitage Inn and on Handle Road (some have been constructed). The traffic expected to be generated by the proposed development was calculated and added to the 2024 No Build traffic volumes to determine the 2024 Build condition.

Future Pedestrian and Skier Accommodations

The safe passage of pedestrians throughout the Hermitage Club Master Plan area is provided via walkways between the base lodge and hotel properties as well as the townhouses. Other non-motorized trips can be completed via the ski home trail which extends from the upper mountain all the way down to the lower mountain area. Similarly, Hermitage guests can ski home to their lodging.

Trip Generation

Conley Associates, Inc. performed trip generation analysis for the proposed redevelopment for the peak hour using industry standards as well as local developments. The Institute of

Transportation Engineers publication Trip Generation, 9th Edition, was researched to determine the appropriate trip generation rates for the various proposed land uses. In addition to this industry standard, Conley Associates, Inc. has collected local trip generation data for a residential condominium hotel.

Single Family and Townhouse Residential Trip Generation

Conley Associates, Inc. researched the manual Trip Generation, 9th Edition, published by the Institute of Transportation Engineers for applicable data. For the proposed single family residential homes, Land Use Codes (LUC) 210, Single-Family Detached Housing, and LUC 260, Recreational Homes, were researched. Because of the resort nature of this area, LUC 260 was found to be more appropriate for the single family homes in this area. According to ITE, LUC 260 generates 0.36 trips per unit during the Saturday peak hour.

For the townhomes proposed as a part of this development, LUC 230, Residential Condominium/Townhouse, was researched. LUC 230 generates 0.47 trips per unit during the Saturday peak hour.

Residential Condominium Hotel Trip Generation

Another component of the development is residential condominium hotel. During data collection for the Mount Snow Master Plan, the Grand Summit Hotel at Mount Snow, a residential condominium hotel, generated trips at a rate of 0.41 trips per unit. Conley Associates, Inc. also researched industry standard trip rates for this land use. LUC 230, Residential Condominium typically applies to more permanent residences. However, in order to determine a conservatively high estimate of the expected trip generation, Conley Associates, Inc. utilized LUC 230 and the trip generation rate of 0.47 per residential unit.

Hermitage Inn Expansion

The Hermitage Inn has been permitted for an expansion that is considered a part of this Master Plan. Ten rooms will be added to the Inn. In order to determine the trip generation of these rooms, LUC 310, Hotel, was utilized. In addition to the increase of rooms, the restaurant has been expanded from 105 seats to 240 seats. The restaurant LUCs in Trip Generation were researched. The most appropriate LUC for the Hermitage Restaurant is LUC 931, Quality Restaurant, that generates traffic at a rate of 0.33 trips per seat during the Saturday peak hour.

Hermitage Recreational Trip Generation

The recreational uses being provided at the Hermitage Inn are primarily being provided as an amenity for Hermitage Inn guests. In addition, members of the Hermitage Club as well as other area residents can visit the site and use the amenities. In 2012, the Hermitage Inn had approximately 70 non-Inn guest patrons a day for the ancillary uses. Although it is anticipated that the number of non-Inn guest patrons will increase with the development of the Hermitage Club at Haystack Mountain residences, the trips from the residences will be included in the trip generation outlined above. Only the 70 non-Inn, non-Hermitage Club trips are considered new trips in the Hermitage Club Master Plan.

Mount Snow Airport Upgrades

As a part of the Hermitage Club Master Plan, significant upgrades are taking place at the airport. These improvements will result in increased air travel to and from the area. Decades ago the airport served up to 10 flights per day on a busy weekend day. With the planned upgrades, the flight volume at the airport will likely return to its previous level. A majority of the trips to and from the airport for these flights will travel to and from the Hermitage Club.

Wilmington Skier Visits

As part of a prior agreement, the Hermitage Club has committed to make up to 350 ski tickets available to Wilmington residents. The Hermitage Club will continue to honor that agreement with the community. Based on typical departure patterns and vehicle occupancy, 35 trips would be generated by this component of the Hermitage Club Master Plan although it is unlikely that level of participation would occur. These trips were distributed to Wilmington destinations.

Special Event Trip Generation

A few times a year special events will be held at the Hermitage Club at Haystack Mountain. Specifically, it is proposed that a snowmobile event be held there twice a year. Approximately 250 people would attend these events which would occur either early or late in the winter season with hours of 10:00 AM to 4:00 PM. All parking would occur on Hermitage Club properties. Because these events occur only a few times a year, the trip generation of such events is not included in the typical design volumes for analysis.

In addition, 10 to 15 weddings a year are held at the Hermitage Inn during the non-winter months. Typically, these weddings accommodate 100 people per event with parking accommodated at the Inn. In the event that a wedding is larger and has higher than typical parking demand, additional parking can be accommodated elsewhere within the Hermitage Club properties. Because these events are held during the off peak season, the trip generation associated with them is not included in the traffic volumes analyzed.

Finally, with the redevelopment of the area, there is a potential for larger events (500 to 1,000 people) to be hosted at Hermitage Club at Haystack Mountain during the off-peak season. Therefore, the parking can be accommodated in areas used during the winter for skier vehicles. In the event that such an event is proposed, a traffic and parking plan will be developed to ensure safe operations and adequate parking is provided.

Travel Mode Choice

Based on the location of the proposed hotel and residential units, it is quite likely that a number of trips will be made on foot between the hotel and residences and the recreation opportunities available, specifically skiing and the amenities at the Hermitage Inn. Shuttle service through the resort, especially associated with the hotel trips, will reduce trips. As a result, up to 35 percent of the peak hour trips to some of the components were assigned to walking, skiing and shuttle trips internal to the development.

Table 2 summarizes the mode split of the trip generation for each use.

Table 2: Peak Hour Trip Generation Breakdown

	Walk/Ski/Shuttle	Vehicle	Total Trips
Haystack Mountain Projects			
Single Family	3	22	25
Condominium	67	125	192
Wilmington Ski Trips	0	35	35
Haystack Mountain Subtotal	**70**	**182**	**252**
East Tract Subtotal	**0**	**46**	**46**
Hermitage Projects			
Inn Rooms	2	5	7
Restaurant	15	30	45
Recreation Uses	3	9	12
Hermitage Projects Subtotal	**20**	**44**	**64**
Total	**90**	**272**	**362**

As shown in Table 2, 90 of the 362 total trips are expected to use an alternative method of transportation. The remaining 272 trips to and from the site are expected to use a personal vehicle. A detailed summary of the personal vehicle trip generation for the redevelopment is shown in Table 3.

Table 3: Peak Hour Personal Vehicle Trip Generation

	In	Out	Total
Haystack Mountain Projects			
Single Family	10	12	22
Condominium	57	68	125
Wilmington Ski Trips	5	30	35
Haystack Mountain Subtotal	**72**	**110**	**182**
East Tract Subtotal	**23**	**23**	**46**
Hermitage Projects			
Inn Rooms	3	2	5
Restaurant	18	12	30
Recreation Uses	2	7	9
Hermitage Projects Subtotal	**23**	**21**	**44**
Total	**118**	**154**	**272**

As shown in Table 3, the Hermitage Club Master Plan is expected to generate 272 personal vehicle trips during the peak hour (118 vehicle trips in and 154 vehicle trips out). The majority of these vehicle trips are located at the main entrance to the Hermitage Club.

Trip Distribution

The trip distribution for the proposed development was determined based on existing traffic patterns and likely desire lines in the study area.

Table 4: Development Trip Distribution

Route	Direction	Percentage
Mount Snow Base Area	North	25%
Along Route 100	North	25%
Local points near Route 100 and Coldbrook	East	10%
Along Route 100	Southeast	25%
Haystack Road	Southwest	10%
Cross Trips between Haystack and Hermitage[1]		5%

1. 5% of Haystack trips results in cross trips of 3 trips in and 4 trips out which corresponds to 16% of Hermitage trips. Remaining percentages were modified accordingly.

The peak hour trip generation traffic volumes can be found in Figure 3. Based on the location some of the residential units will travel in and out of the Hermitage Inn access to and from points north. All trips were distributed according to likely desire lines.

2024 Build Traffic Volumes

The trips expected to be generated by the proposed redevelopment were added to the 2024 No Build traffic volumes to determine the 2024 Build traffic volumes. The 2024 Build peak hour traffic volumes can be found in Figure 4.

Traffic Operations Analysis

The traffic operations of the study area intersections were determined. Analysis was based on methodologies outlined in the Highway Capacity Manual (HCM). Level of Service (LOS) and delays were calculated and are summarized below.

Level of Service

LOS is a calculation of control delay for an intersection. LOS is an indication of driver discomfort, frustration, fuel consumption, and lost time. LOS is defined by an index from A

(free flow) to F (long delays). LOS control delay values obtained from the Highway Capacity Manual are given in Table 5.

Signalized intersection analysis is based upon the capacity of each lane and the correlating delay associated with the intersection. Capacity is a measurement of the ability of an intersection design to accommodate all movements within the intersection. Delay is the measure of the user quality of service. Capacity is a function of physical geometry and signalization conditions.

For unsignalized intersections, delay values apply only to the controlled movements, since the main street movements are not restricted. Control delay is the elapsed time for deceleration, queue time, stopped delay, and final acceleration. Average control delay for unsignalized intersections is a function of the capacity of the approach and the degree of saturation.

Table 5: Intersection Level of Service Criteria

	Average Delay (seconds)	
Level of Service	**Signalized Intersections**	**Unsignalized Intersections**
A	≤ 10	≤ 10
B	>10 and ≤ 20	>10 and ≤ 15
C	>20 and ≤ 35	>15 and ≤ 25
D	>35 and ≤ 55	>25 and ≤ 35
E	>55 and ≤ 80	>35 and ≤ 50
F	>80	>50

Synchro 8 software was used as the analysis tool for determining the unsignalized LOS at the study area intersections. Synchro implements the methods of the 2010 Highway Capacity Manual to analyze intersection capacity and determine LOS.

Intersection Operating Conditions

The LOS procedures described above were used to determine peak hour operating levels of service at the study area intersections. Table 6 summarizes the LOS and average delay per vehicle at the unsignalized study area intersections during the peak hour for the 2014 Existing, 2024 No Build, and 2024 Build conditions.

As shown in Table 6, the stop controlled approaches are currently operating at LOS C or better during the peak hour. Minor changes in LOS or delay are expected due to the applied growth rate and previously approved projects in the area. The addition of the Hermitage Club Master Plan traffic will increase delay at the unsignalized intersections less than six seconds per vehicle.

Table 6: Stop Controlled Approaches at Unsignalized Intersections LOS Summary

Location (Approach)	2014 Existing		2024 No Build		2024 Build	
	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay
Tannery Rd at Handle Rd (WB)	B	14.7	B	14.8	C	19.0
Hermitage Access at Handle Rd (EB)	A	9.8	A	9.9	B	10.8
Handle Rd at Village Rd East (WB)	A	9.4	A	9.4	B	10.4
Handle Rd at Hermitage Club (EB)	A	9.6	A	9.7	B	11.3
Haystack Rd at Handle Rd (NB)	A	9.9	B	10.0	B	11.2
VT 100 at Coldbrook Rd (EB)	C	17.9	C	18.6	C	24.9
VT Route 9 at Haystack Rd (SB)	B	11.5	B	11.9	B	12.5
VT Route 100 South at VT Route 9 (NB)	C	16.7	C	17.6	C	19.2

[1]LOS = Level of Service.

[2]Delay is measured in seconds per vehicle.

VTrans periodically updates the traffic signal timing at signalized intersections. Because it is likely that the retiming will occur by 2024, optimized timings were included in the 2024 intersection analysis at that intersection. Table 7 summarizes the LOS and average delay per vehicle at the signalized study area intersection of VT Route 100 at VT Route 9 during the peak hour for the 2014 Existing, 2024 No Build, and 2024 Build conditions.

Table 7: VT 100 at VT 9 LOS Summary

2014 Existing		2024 No Build		2024 Build	
LOS	Delay	LOS	Delay	LOS	Delay
D	41.1	D	45.6	D	54.4

As shown in Table 7, Synchro 8 analysis shows that the signalized VT Route 9 at VT Route 100 intersection is overall operating at LOS D with 41 seconds of delay. According to the analysis, the southbound approach is operating with 55 seconds of delay. The 95th percentile queue was only calculated to be approximately 720 feet long. However, field observations during the traffic counts recorded this queue significantly longer due to other factors in the vicinity of the intersection. Parking maneuvers in close proximity of the intersection as well as pedestrian activity and closely spaced intersections and driveways cause delay unrelated to the traffic signal itself. The additional trips to the area associated with the proposed redevelopment of the Hermitage Club Master Plan are expected to increase the delay per vehicle by approximately nine seconds and are not expected to cause a significant degradation in LOS.

The intersection of VT 100 at VT 9 has been the subject of much discussion as well as a public hearing hosted by the Windham Regional Commission on Monday, November 26, 2012. Based on the Summary Report prepared by the Windham Regional Commission, the overwhelming concerns regarding this intersection are not actually concerns regarding queuing. More of the

concerns were focused on the safety of pedestrians and the speed of vehicles passing through the intersection at non-peak hours. In addition, based on a smaller meeting hosted by the Windham Regional Commission and the Town of Wilmington, those groups have an interest in pursuing remote monitoring of the traffic signal by VTrans. VTrans has indicated that this intersection would be a good candidate for this improvement due to its distance to Montpelier as well as its traffic volume variability throughout the year.

Mitigation

Mitigation was investigated to alleviate any negative impacts of the new traffic. Although the project impacts are anticipated to be minimal, two areas of concern will be addressed as a part of the project.

As outlined above, most of the concerns regarding the intersection of VT 100 at VT 9 were not focused on increasing the capacity. Traffic signal upgrades area possible at this location to allow easier changes to the traffic signal timing for either the short or long term. The proponent is committed to work with VTrans as well as the Town of Wilmington to determine appropriate improvements at this location.

During the past public hearings in the area, residents raised concerns regarding the operations of the intersection of Handle Road at Tannery Road in light of the pedestrian crossing immediately to the north of that intersection. Conley Associates, Inc. has recommended additional signage at this location. First, industry standard pedestrian crossing signs (MUTCD W11-2 sign) are recommended on Handle Road at the pedestrian crossing. The W11-2 sign is a diamond shape sign with 30 inch sides and bright yellow in color with a black pedestrian symbol. The implementation of this signage should alert drivers to the presence of pedestrians and improve the safety for those pedestrians, especially in the winter when pavement markings may be obscured by the snow. In addition to the pedestrian signage, warnings will be posted below the stop signs on Handle Road to alert drivers that Tannery Road vehicles will not stop. These recommendations were discussed as a part of permitting other area projects. In the event that those projects are not completed prior to the Hermitage Club Master Plan, this project will implement the improvements.

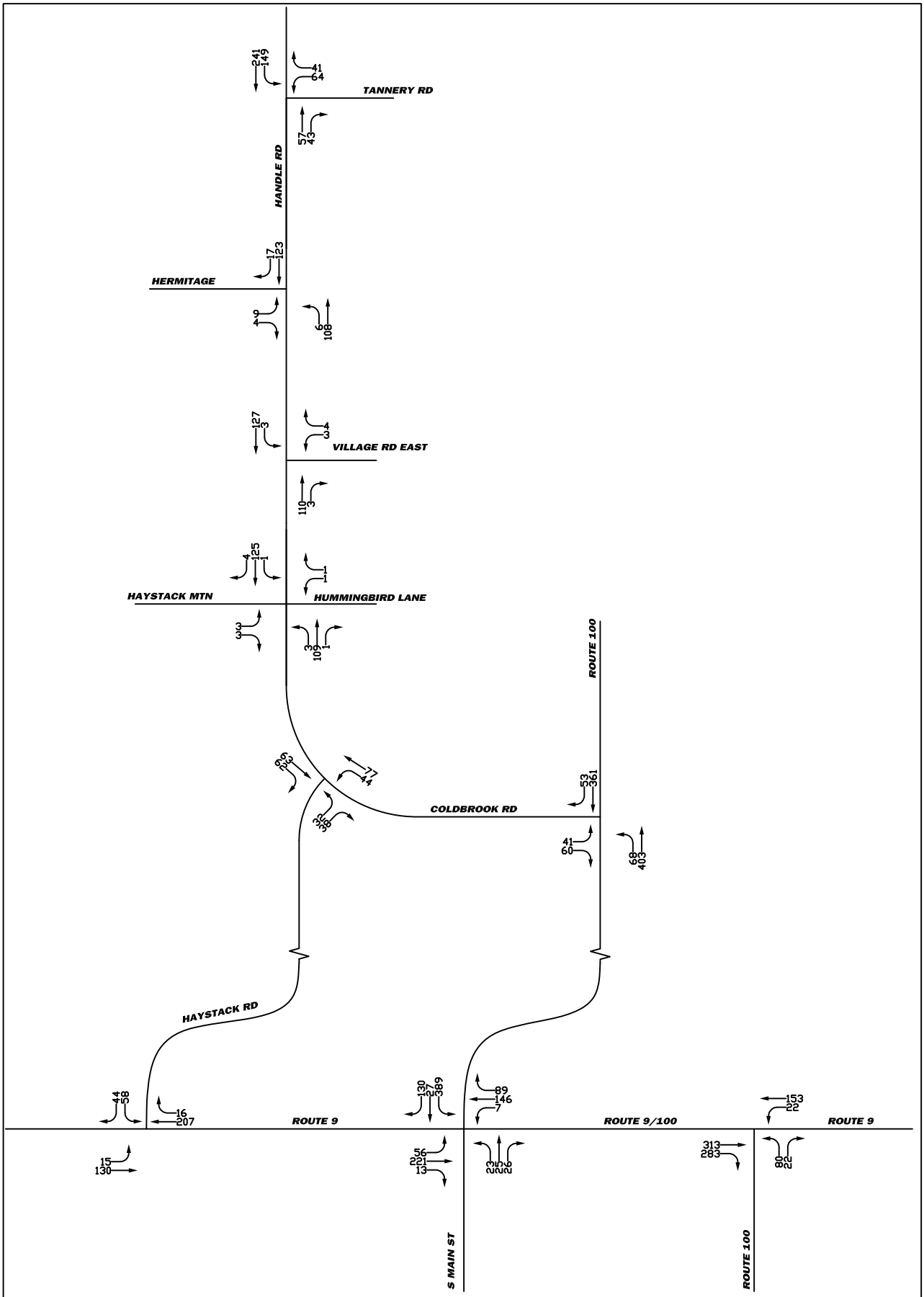
Closer to the Hermitage Club at Haystack Mountain, an increased number of pedestrian and recreational trips are anticipated to be crossing Handle Road with the development of the Hermitage Club Master Plan at Haystack Mountain. In order to ensure safe crossing, the industry standard pedestrian crossing sign (MUTCD W11-2 sign) will be installed approaching the Hermitage Inn driveway from the north and as well as approaching the Hermitage Club driveway from the south. In addition, the supplemental plaque AHEAD will be installed beneath the pedestrian crossing sign to alert drivers to the possibility of pedestrians well in advance of the crossing area. In addition, based on feedback from concerned abutters, the proponent will investigate the possibility of reducing the speed limit in this area which is anticipated to become more heavily developed and traveled.

Conclusion

Conley Associates, Inc. has assessed the transportation conditions in the area surrounding the Hermitage Club at Haystack Mountain in Wilmington and West Dover, Vermont. The existing and the expected future operations have been evaluated. The Hermitage Club Master Plan includes the complete redevelopment of the main base area of Haystack Mountain, development at the Hermitage Inn and surrounding area, and reuse of the airport.

As part of the Hermitage Club Master Plan, 316 residential condominium hotel units, 66 townhouse units, and 177 single family homes will be developed in the vicinity of the Hermitage Club at Haystack Mountain in addition to a new base lodge, some dining options, and boutique retail shops. As part of the Hermitage Club Master Plan, the Hermitage Inn is expanding the number of rooms and restaurant seats and is offering additional amenities to complement the Hermitage Club experience. In addition, Wilmington residents will be able to ski at the resort adding to the peak hour trip generation of the site.

Although intersection operations are not expected to change levels of service as a result of the project traffic, mitigation has been proposed. The proponent is committed to work with VTrans as well as the Town of Wilmington to determine appropriate traffic signal improvements at the intersection of VT 100 and VT 9. In addition, in the event that pedestrian and safety improvements at the intersection of Handle Road and Tannery Road have not been implemented by others, the improvements will be implemented as a part of the Hermitage Club Master Plan. Finally, in the vicinity of the Hermitage Inn and Hermitage Club driveways, the proponent will install pedestrian warning signs and investigate lowering the speed limit in order to ensure safe travel for vehicles and pedestrians.



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1456\cad\Networks.dwg

FIGURE 1
HAYSTACK MASTER PLAN

2014 EXISTING CONDITION
PEAK HOUR TRAFFIC VOLUMES

WILMINGTON and WEST DOVER, VT

PROJ. NO. 1456 DATE: JUNE 2014 NOT TO SCALE

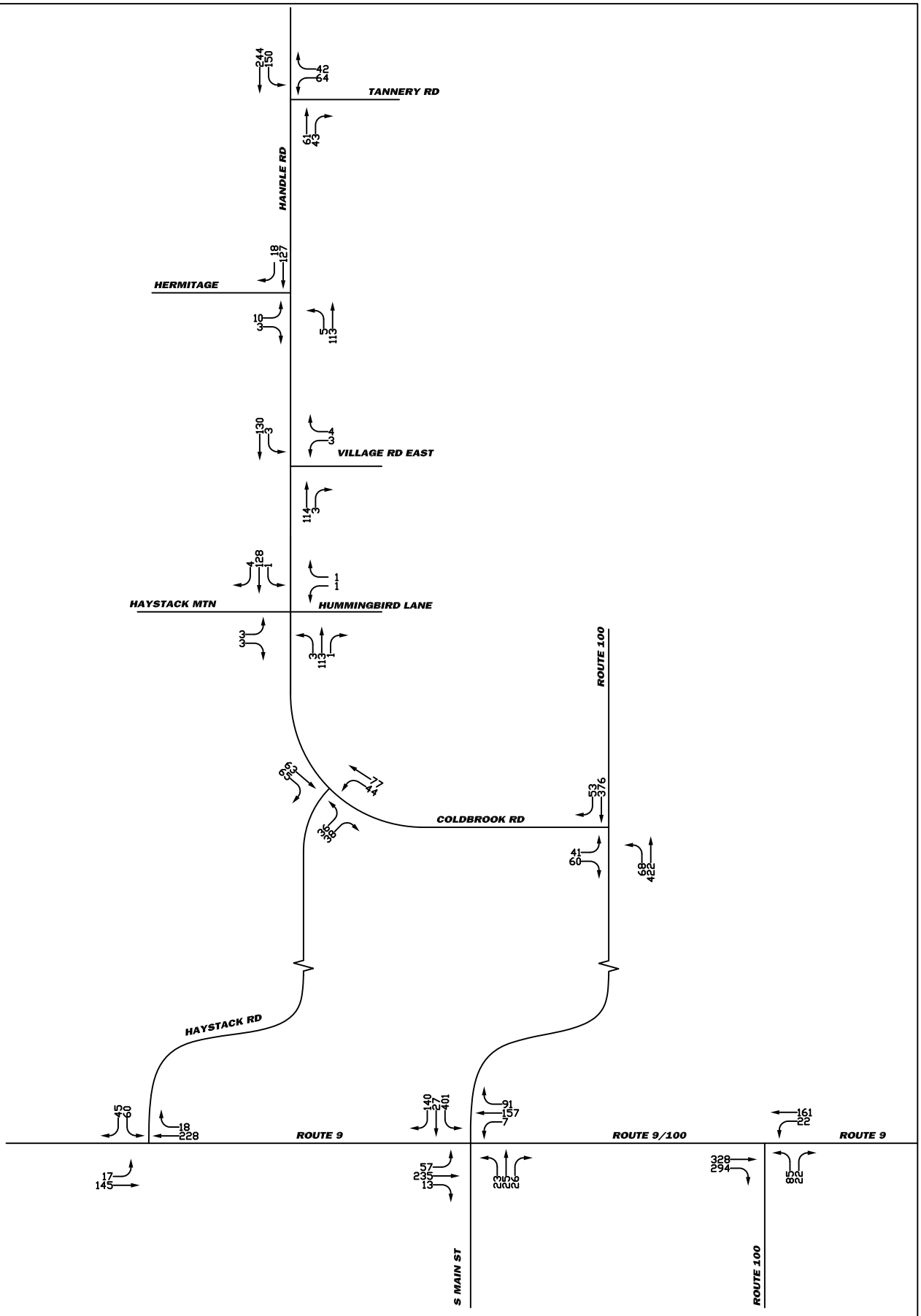

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FIGURE 2
HAYSTACK MASTER PLAN

2024 NO BUILD CONDITION
PEAK HOUR TRAFFIC VOLUMES

WEST DOVER, VT

PROJ. NO. 1456 DATE: JUNE 2014 NOT TO SCALE

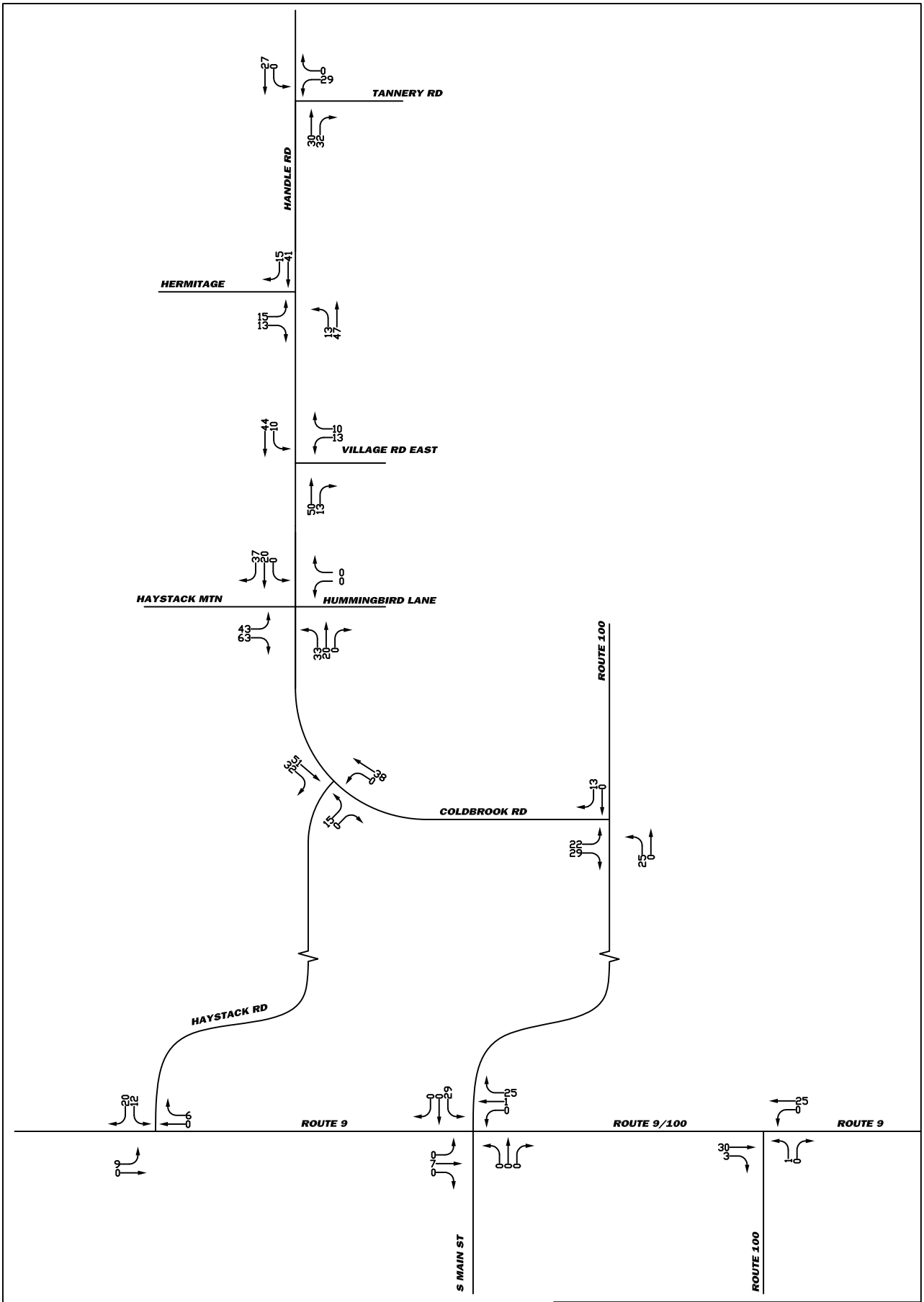

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FIGURE 3
HAYSTACK MASTER PLAN

TRIP GENERATION
PEAK HOUR TRAFFIC VOLUMES

WILMINGTON and WEST DOVER, VT

PROJ. NO. 1456 DATE: SEPTEMBER 2014 NOT TO SCALE

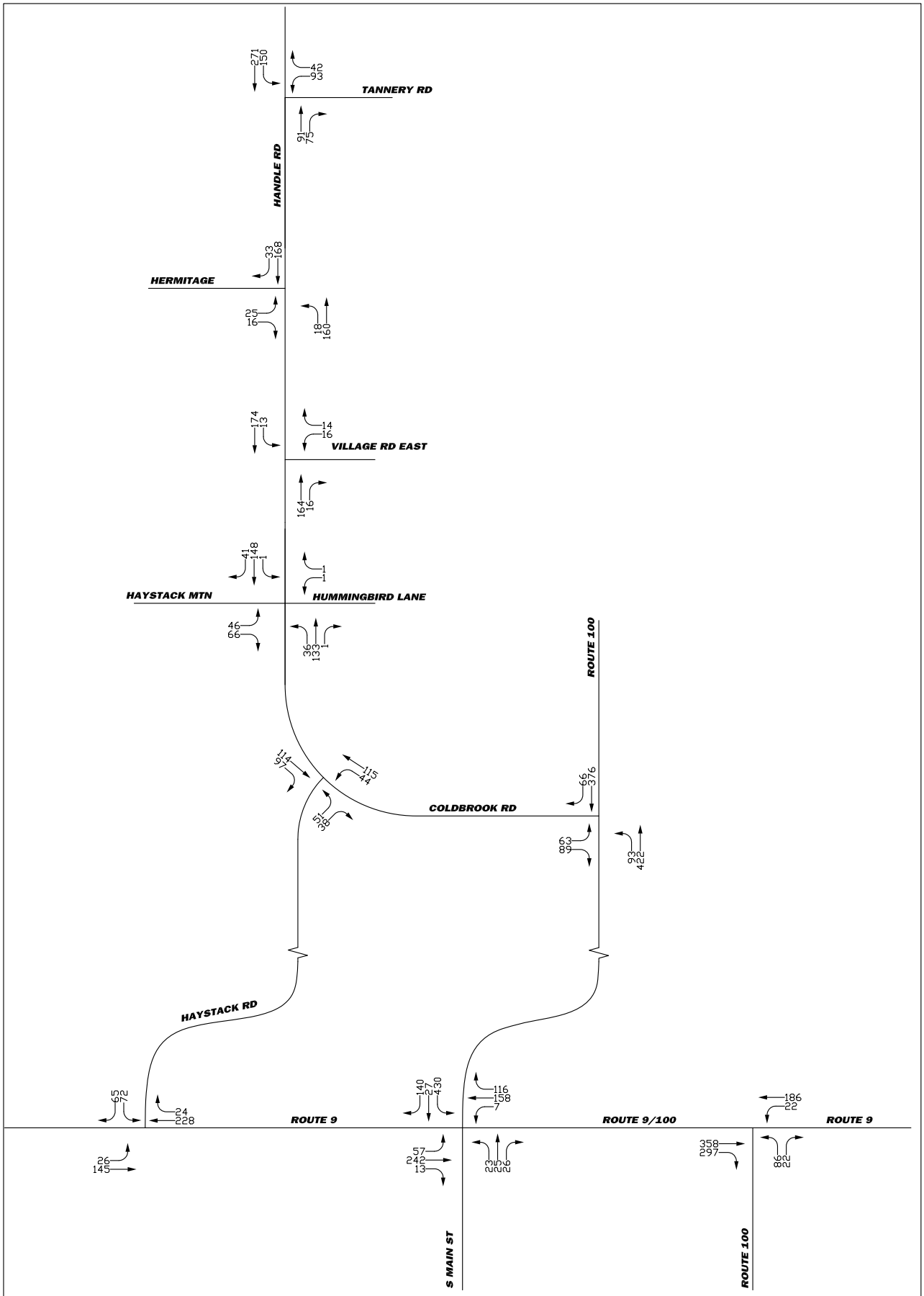

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FIGURE 4
HAYSTACK MASTER PLAN

2024 BUILD CONDITION
PEAK HOUR TRAFFIC VOLUMES

WILMINGTON and WEST DOVER, VT

PROJ. NO. 1456 DATE: SEPTEMBER 2014 NOT TO SCALE

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ASSOCIATES

TRANSPORTATION MASTER PLAN
HERMITAGE CLUB AT HAYSTACK MOUNTAIN

APPENDIX A
TRAFFIC VOLUMES

SEPTEMBER 2014

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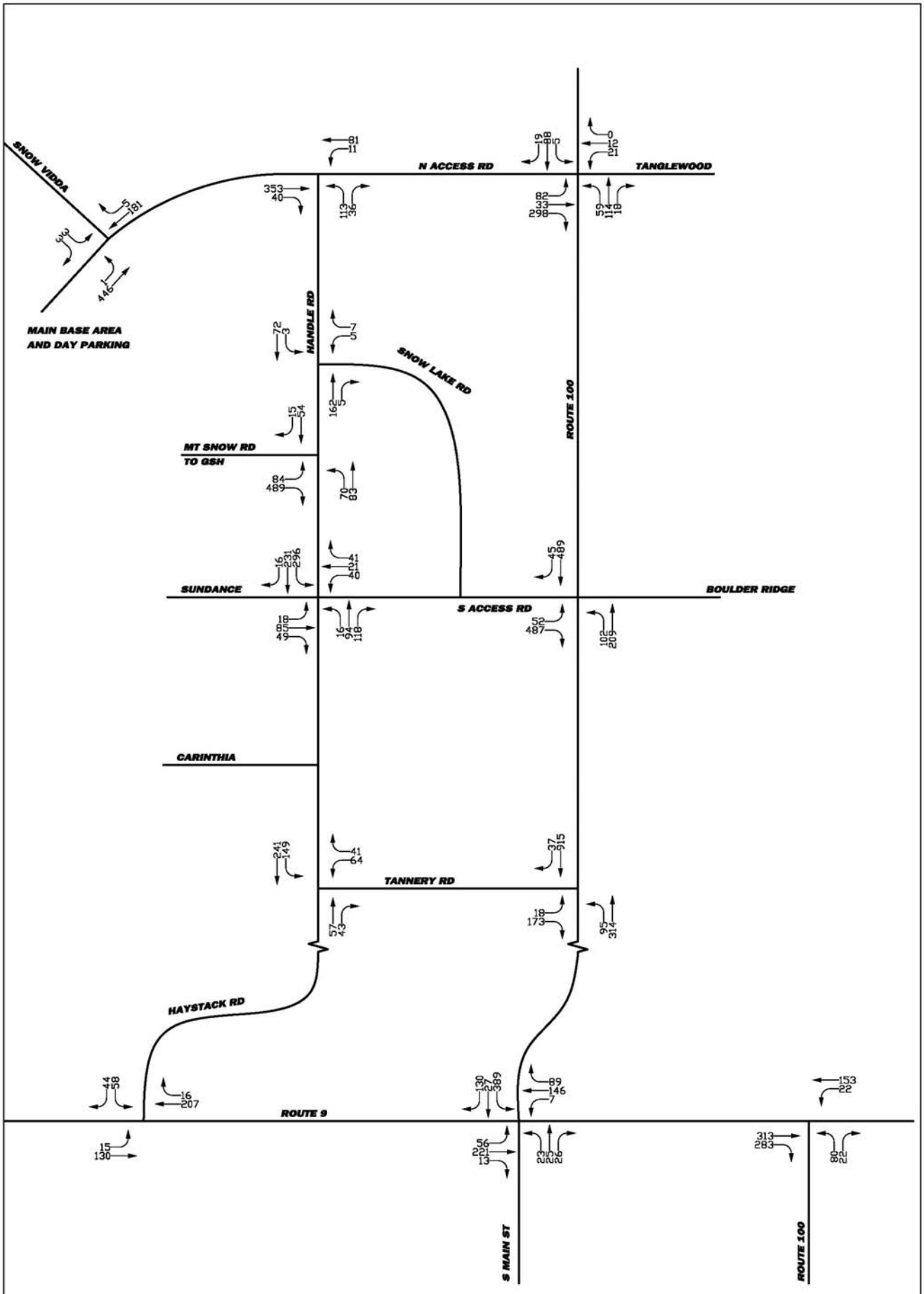

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FIGURE 16-1
2010 EXISTING CONDITION
PEAK HOUR TRAFFIC VOLUMES
MOUNT SNOW MASTER PLAN
WEST DOVER, VT

PROJ. NO. 1390 DATE: 10/2010 NOT TO SCALE