



DATUM
N.A.V.D OF 1988.

VOLUME (VG1)				
RANGE = (123.10 TO 123.70)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.10	0	88	0	0
123.20	0.10	561	33	33
123.40	0.20	2050	261	294
123.60	0.20	3285	533	827
123.70	0.10	3956	362	1189

VOLUME (V1)				
RANGE = (123.70 TO 124.00)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.70	0	3956	0	0
123.80	0.10	4712	433	433
124.00	0.20	6515	1123	1556

VOLUME (V2)				
RANGE = (123.40 TO 123.70)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.40	0	7	0	0
123.50	0.10	242	13	13
123.60	0.10	809	53	66
123.70	0.10	1964	139	205

VOLUME (V3)				
RANGE = (123.40 TO 123.70)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.40	0	76	0	0
123.50	0.10	425	25	25
123.60	0.10	1010	72	97
123.70	0.10	1790	140	237

VOLUME (V2 & V3)				
RANGE = (123.70 TO 123.80)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.70	0	3754	0	0
123.80	0.10	6404	508	508

VOLUME (VG4)				
RANGE = (123.20 TO 123.40)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.20	0	5	0	0
123.30	0.10	40	3	3
123.40	0.10	158	10	13

VOLUME (VG5)				
RANGE = (122.80 TO 123.40)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
122.80	0	74	0	0
123.00	0.20	430	51	51
123.20	0.20	1432	186	237
123.40	0.20	2894	433	670

VOLUME (V4 & V5)				
RANGE = (123.40 TO 123.80)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.40	0	3052	0	0
123.60	0.20	4914	797	797
123.80	0.20	6522	1144	1941

VOLUME (V2, V3, V4 & V5)				
RANGE = (123.80 TO 124.00)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
123.80	0	12926	0	0
123.90	0.10	18310	1562	1562
124.00	0.10	24000	2116	3678

VOLUME (V1, V2, V3, V4 & V5)				
RANGE = (124.00 TO 124.10)				
ELEV. (FT)	CHANGE ELEV. (FT)	AREA (SF)	INC. VOLUME (CF)	TOTAL VOLUME (CF)
124.00	0	30516	0	0
124.10	0.10	38312	3441	3441

TABLE 1 - VOLUME DETERMINATION			
POTENTIAL STORAGE VOLUME GROUNDWATER (VG)			
DEPRESSION AREA	INC. VOLUME (CF)	TOTAL VOLUME (CF)	
VG1	1189	1189	
VG4	13	1202	
VG5	670	1872	
POTENTIAL VOLUME FROM GROUNDWATER (VG) = 1,872 CF			

TABLE 2 - ELEVATION DETERMINATION		
ONE-YEAR STORM VOLUME = 10,170 CF (HYD. NO 1)		
DEPRESSION AREA	INC. VOLUME (CF)	TOTAL VOLUME (CF)
V1	1556	1556
V2	205	1761
V3	237	1998
V2 & V3	508	2506
V4 & V5	1941	4447
V2, V3, V4 & V5	3678	8125
V1, V2, V3, V4 & V5	3441	11566

POTENTIAL VOLUME FROM RUNOFF (V) = 11,566 CF
 VOLUME AT 124.10 = 11,566 CF > 10,170 CF

TOTAL VOLUME = (VG) + (V)
 TOTAL VOLUME = 1,872 + 11,566 = 13,438 CF
 SINCE 13,438 CF > 10,890 CF (1/4 ACRE-FOOT)
 NEED TO NOW DETERMINE IF AVERAGE DEPTH AT ELEV.=124.10 IS GREATER THAN > 0.50 FEET

TABLE 3 - AVERAGE DEPTH DETERMINATION						
(AT ELEVATION = 124.10')						
	CONTOUR RANGE (FT)	CHANGE ELEV. (FT)	AREAS (SF)	INC. AREA (SF)	AVG. DEPTH (FT)	PRODUCT OF AREA x DEPTH (CF)
VG1 & V1	123.10 - 123.20	0.1	561	561	0.95	533
	123.20 - 123.40	0.2	2050-561	1489	0.8	1191
	123.40 - 123.60	0.2	3285-2050	1235	0.6	741
	123.60 - 123.80	0.2	4712-3285	1427	0.4	571
V2	123.40 - 123.50	0.1	242	242	0.65	157
	123.50 - 123.60	0.1	809-242	567	0.55	312
	123.60 - 123.70	0.1	1964-809	1155	0.45	462
V3	123.40 - 123.50	0.1	425	425	0.85	276
	123.50 - 123.60	0.1	1010-425	585	0.55	322
	123.60 - 123.70	0.1	1790-1010	780	0.45	351
V2 & V3	123.70 - 123.80	0.1	6404-3754	2650	0.35	928
VG4	123.20 - 123.30	0.1	40	40	0.85	34
	123.30 - 123.40	0.1	158-40	118	0.75	89
VG5	122.80 - 123.00	0.2	430	430	1.2	516
	123.00 - 123.20	0.2	1432-430	1002	1.0	1002
	123.20 - 123.40	0.2	2894-1432	1462	0.8	1170
V4 & V5	123.40-123.60	0.2	4914-3052	1862	0.6	1117
	123.60-123.80	0.2	6507-4914	1593	0.4	637
V2, V3, V4 & V5	123.80 - 123.90	0.1	18310-12926	5384	0.25	1346
	123.90 - 124.00	0.1	24000-18310	5690	0.15	854
V1, V2, V3, V4 & V5	124.00 - 124.10	0.1	38312-30516	7796	0.05	390
TOTAL =			38,296			13,360

AVERAGE DEPTH AT ELEV.=124.10 = (13,438 / 38,296) = 0.35'
 DEPTH OF 0.35' < MINIMUM DEPTH REQUIREMENT OF 0.5' FOR ILSF *
 * 310 CMR 10.57(2)(b)1.

LEGEND:

- N/F NOW OR FORMERLY
- OVERHEAD WIRES
- TREE TREE LINE
- UTILITY POLE
- GAS GATE
- GAS SERVICE (BURIED)
- WATER GATE
- WATER SERVICE (BURIED)
- DRAIN MANHOLE
- SUB-SURFACE DRAIN LINE
- EXISTING CONTOUR
- EXISTING CONTOUR
- LIGHT POLE
- WETLAND FLAG
- SPOT ELEVATION
- STONE WALL
- EDGE OF PAVEMENT

RESOURCE AREA DELINEATION PLAN

CONCORD, MASSACHUSETTS
(MIDDLESEX COUNTY)

FOR: SYMES DEVELOPMENT & PERMITTING INC.
 SCALE: 1"=20' SEPTEMBER 20, 2017
 REVISED SEPTEMBER 28, 2017
 REVISED NOVEMBER 27, 2017
 REVISED DECEMBER 5, 2017

STAMSKI AND McNARY, INC.
 1000 MAIN STREET PLANNING, MASSACHUSETTS
 ENGINEERING - PLANNING - SURVEYING

