

crossroads ventures llc

DRAFT
Environmental Impact Statement

Appendix 19A

Water Budget Analysis – Wildacres Resort

The Belleayre Resort at Catskill Park

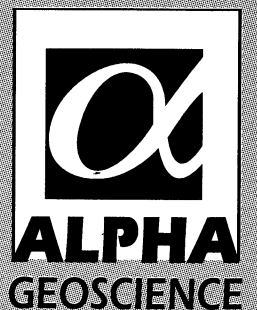
WATER BUDGET ANALYSIS

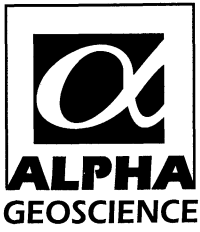
**Wildacres Resort
Belleayre Resort at Catskill Park
Highmount, New York**

Prepared for:

**Crossroads Ventures LLC
72 Andrew Lane Road
P.O. Box 267
Mount Tremper, New York 12457**

November 2002





Geology

Hydrology

Remediation

Water Supply

Water Budget Analysis

**Wildacres Resort
Belleayre Resort at Catskill Park
Highmount, New York**

Prepared for:

**Crossroads Ventures LLC
72 Andrew Lane Road
P.O. Box 267
Mount Tremper, New York 12457**

Prepared by:

**Alpha Geoscience
679 Plank Road
Clifton Park, New York 12065**

November 2002

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	METHODS	2
2.1	Existing Conditions	2
2.2	Post-Development Conditions	4
3.0	RESULTS	7
3.1	Existing Conditions	7
3.2	Post-Development Conditions	7
4.0	CONCLUSIONS	8
	REFERENCES	9

TABLES

Table 1	Developed Areas - Future Conditions
Table 2	Water Contributions by Soil Type - Existing Conditions
Table 3	Water Contributions by Soil Type - Future Conditions

FIGURE 1 Wildacres Resort Location Map

APPENDICES

Appendix A:	Soil Map Unit Areas-Existing Conditions
Appendix B1:	Water Budget Analysis Tables - Existing Soil Types, Wooded Areas
Appendix B2:	Water Budget Analysis Tables - Existing Soil Types, Non-Wooded Areas
Appendix C:	Soil Map Unit Areas-Future Conditions
Appendix D:	Water Budget Analysis Tables - Proposed Areas of Development

PLATES

Plate 1	Existing Conditions Soils Map - East Area
Plate 2	Existing Conditions Soils Map - West Area
Plate 3	Future Conditions - Developed Areas (East Area)
Plate 4	Future Conditions - Undeveloped Soils and Developed Land (West Area)
Plate 5	Future Conditions - Undeveloped Soils (East Area)

1.0 INTRODUCTION

This report presents the findings of a water budget analysis that was completed for the Wildacres Resort portion of the proposed Belleayre Resort at Catskill Park. The work was performed by Alpha Geoscience (Alpha) for Crossroads Ventures, L.L.C (Crossroads) as part of their assessment of potential environmental impacts associated with development of this portion of the overall project site. The Wildacres Resort project area is shown on Figure 1 and contains the proposed Wildacres hotel with Conference Center and Spa, octoplex units and their clubhouse, the Highmount Golf Club 18-hole course, and the 21-lot private home subdivision that will be known as the Highmount Estates.

The area covered by the water budget analysis is approximately 723 acres. The water budget area includes the project area, as well as the roads passing through the project area. The majority of that proposed development area is within the drainage basin that contains the water supplies for the Village of Fleischmanns. These water supplies, which consist of wells and springs, are downgradient of the project area and are being considered as the primary source of irrigation and potable water for the Wildacres Resort.

NYSDOH records indicate that Fleischmanns currently has a daily water usage of between 190,000 gpd and 300,000 gallons per day (gpd), depending on seasonal variation. A community the size of Fleischmanns is expected to use 80,000 gpd to 90,000 gpd, based on population and assuming a 20% to 30% leakage (DEIS, Section 3.9.3). This indicates that the current Fleischmanns water distribution system is losing 100,000 gpd to 220,000 gpd to leakage. The Village recently identified and repaired a number of leaks resulting in a decrease in water use of 185,000 gpd. The current demand of the estimated 351 users of the Village of Fleischmanns is 40,000 gpd. Since this reduction is very recent and long term demand figures are not available, the analysis in this report uses the worst case, more conservative, former demand for the Village. Alpha Geoscience evaluated the Fleischmanns water supply in 2000 (Alpha Geoscience, 2000) and again in 2002 (Alpha Geoscience, 2002). The existing water capacity of the Fleischmanns wells and springs is approximately 573,120 gpd, as determined for the drought conditions of 2001.

Alpha examined the potential effect that direct withdrawal by the Wildacres development might have on those resources (Alpha Geoscience, 2002). That examination revealed that direct withdrawal from the Fleischmanns water supply (as it currently exists, or from a proposed new well) to meet the Wildacres peak total flows for potable and irrigation water (250,560 gpd during the summer) would still leave Fleischmanns with a substantial excess capacity (Alpha Geoscience, 2002).

The purpose of the water budget analysis was to estimate the total quantitative change in the ground water resources affected by the Wildacres Resort project development. This was accomplished by first evaluating the amount of infiltration to the ground water system under existing conditions and then estimating the change in total infiltration that will be brought about as the result of the post-development conditions. The water budget provides a mechanism of estimating infiltration by balancing the amount of precipitation with runoff, percolation to the subsurface and evapotranspiration (evaporation of the ground surface and transpiration by plants). This balance is dependent on those factors such as vegetation cover, soil type and land use, which will change when development occurs. The change from the pre-development (existing conditions) to the post-development (peak development conditions) infiltration rates was estimated to assess impacts by factoring in modifications to the land by development. The amount of infiltration to the ground water system is the source of the Fleischmanns ground water supply. The estimated change in infiltration rates for the future conditions was used to assess the potential impacts to the Fleischmanns water supply resources.

2.0 METHODS

2.1 Existing Conditions

The areas that were analyzed for the existing conditions water budget correspond to the mapped soil areas within the project area as provided in the DEIS Section 3.6 and Appendix 12, "Soil Test Results". Plates 1 and 2 show the existing soil types and the mapped soil units throughout the entire Wildacres Resort project area. Each of the soil map units was numbered for identification and tracking purposes. Due to the large amount of open area in the western part of the project area, soil

map units containing both wooded and non-wooded areas were subdivided. The numbering scheme on the existing conditions soils map reflects these subdivisions (e.g., 141 VhD is subdivided into 141-1 VhD and 141-2 VhD). Each of the numbered map units is listed in Appendix A with their corresponding soil type and calculated area. The areas for each of the mapped units of the same soil type and forest cover (wooded or non-wooded), were then summed to arrive at a total area within the project site (Appendix A).

Water budget analyses were then completed for each soil type, both wooded and non-wooded, based on climatic data from the Slide Mountain Station (NOAA Station ID 307799) and on specific soil properties presented in the DEIS Appendix 12, "Soil Test Results", and the Soil Survey of Greene County, New York (USDA, 1993). The Slide Mt. weather station is the closest weather station to the project area with a thirty-year record of temperature and precipitation. Precipitation at the Slide Mountain station is likely to be more similar to the project area than any other NOAA station due to its proximity, comparable elevation and its similar physiographic setting. It is located 8.7 miles south-southeast of Pine Hill and at an elevation of 2649 feet AMSL. The vast majority of the Wildacres project area is situated above 2000 feet AMSL.

Information on physical properties of the soils was obtained from neighboring Greene County soil survey because the Ulster County soil survey is out of date and the Delaware County soil survey with modern soil classifications has not yet been published. The soil type classifications presented in the DEIS Appendix 12 represent the modern classifications of the soils within the water budget area, therefore, the physical properties of the soil types can be obtained from any of the modern published soil surveys (See DEIS Section 3.6, "Soils" for more information).

The water budget analysis for each soil type within the project is summarized in Appendices B1 and B2 for wooded and non-wooded areas, respectively. Some soil types (e.g., VhC, VhD, and VhF) were analyzed together for the water budget based on their similar soil properties.

2.2 Post-Development Conditions

The entire area to be developed was subdivided into the following four different categories for water budget purposes: the Wildacres Resort grounds (areas W1 through W6), the golf course (areas G1 through G5), the ponds (areas P1 through P2), and Highmount Estates (H1). The Wildacres Resort grounds contain all the roads, buildings, sidewalks and landscaping that comprise the Resort, maintenance and service buildings, and the waste water treatment plant (WWTP). The golf course areas include the driving range and all tees, greens and fairways, exclusive of the ponds. The areas of the proposed golf course, ponds, and Resort grounds of the eastern project area are all shown on Plate 3. The Highmount Estates area, shown on Plate 4, includes the proposed subdivision roads, cul-de-sacs, and the proposed area to be cleared and graded.

The total area of land within the water budget area that will have changes in the soil properties for water budget purposes is approximately 204 acres. This area is shown on Plates 3 and 4, which are keyed to Table 1. The remaining 519 acres within the water budget area will remain largely undeveloped; consequently, that acreage will retain the soil properties that currently exist. Many of these undeveloped areas appear on Plate 4 as isolated remnants of the existing forest cover. Soil properties were assigned to each of the proposed areas to be developed based on proposed land use. The total area for each of the four categories of development was calculated, as was the total area of pavement (roads, sidewalks, tennis courts), buildings and non-wooded (grassy) areas within each area (Table 1).

The future, undeveloped area comprises the majority of the acreage within the project area. The total area for each soil type that will not be developed was determined for the post development phase and is listed in Appendix C. Some of the numbered soil map units for the existing conditions are expected to be truncated, subdivided, or eliminated by the proposed development of the Wildacres Resort grounds, golf course, ponds and Highmount Estates. The numbering scheme used for the existing conditions soil map units is retained in the future conditions maps (Plates 4 and 5), with additional

letters where necessary to reflect subdivisions of a particular map unit (e.g., 100-1 HvF is subdivided into 100-1A HvF and 100-1B HvF). Most of the soil map units in the west area of the project are not expected to have any change in total area since little development other than Highmount Estates has been proposed there. The boundaries of those soil areas that are expected to change due to the proposed Highmount Estates development are highlighted with bold emphasis on Plate 4. Plate 5 shows the undeveloped soil areas that will remain in the eastern half of the project area after development of the golf course, ponds and hotel grounds. The soil map unit areas for the future conditions are included in Appendix C.

The water budgets for the existing and future conditions are the same for the soil types in the areas not to be developed (Appendices B1 and B2). Water budget analyses for the future conditions within each of the proposed development areas are summarized in Appendix D and were completed based on climatic data and estimated soil properties determined from land use. Several other key assumptions for the future, post-development, water budget analyses are presented in the following bullets:

- A weighted average approach was used to determine a runoff coefficient (CR) for each of the Wildacres Resort development areas (W1 through W6). The total areas of buildings (roof areas), pavement (roads, sidewalks, tennis courts), and non-wooded (grassy) areas were calculated for each area (Table 1). Runoff coefficients were then determined for each area by using published CR values in a weighted average.
- Soil moisture for each of the Wildacres development areas (W1 through W6) was determined by averaging the soil moisture for the existing soil types within each of the proposed development areas.
- The runoff coefficient and soil moisture values were determined for Highmount Estates (H1) in the same manner as with the Wildacres development areas (W1 through W6), except that the sizes and locations of the buildings (houses) that may be built in the Highmount Estates subdivision are unknown. Alpha considered the potential impacts to infiltration that the

houses may have if 21 houses were built (outside of area H1) and each house covered 4000 sq. ft. of soil area. The runoff from these buildings will drain to the soil surrounding the buildings and will have the effect of additional precipitation to the surrounding soils. This precipitation surcharge to the surrounding soils largely offsets the loss of infiltration beneath each of the houses; consequently, the resulting change in infiltration to the ground water system is expected to be negligible.

- The top soil that will be used in construction of the Highmount Country Club golf course (Areas G1 through G5) is assumed to be a sandy loam that will have an average thickness of eight inches. The average solum thickness (depth to root base) for the golf course areas (G1 through G5) is expected to be approximately twelve inches once the course has fully developed.
- All runoff from the Wildacres Resort and the golf course areas was assumed to enter the three proposed storm water detention ponds (P1, P2 and P4) and to be lost to the system (i.e., no infiltration). This approach in determining the total change in infiltration rates for the project area is conservative since, in reality, not all storm runoff will enter the detention ponds – some will percolate downward along the drainage swales and through the pond bottoms. If this added infiltration were included in the analysis, the resulting infiltration rate would be higher.
- Downward infiltration from the irrigation pond (P3) was assumed to be non-existent due to the fact that the bottom of the irrigation pond will be covered with a geotextile or a clay liner.
- Irrigation water for the golf course is assumed to originate from the Fleischmanns water supply, which is located down gradient of the project area. In order to maintain a conservative approach in estimating the potential change in infiltration to the ground water system, the positive effects of irrigation water surcharge on the golf course areas were not included in the water budget analyses for the future development areas (Appendix D). The application of irrigation water throughout the golf course, would theoretically meet the soil moisture demand of the grass within each of the golf course areas (G1 through G5); therefore, it is assumed that

the irrigation water will be completely removed from the system through evapotranspiration. However, the addition of irrigation water will actually increase the amount of infiltration to the ground water system by negating the soil moisture deficit that normally occurs during the summer months when the golf course would be in full operation. The irrigation water, in reality, will act as a precipitation surcharge with a resulting increase in infiltration throughout the golf course areas.

- The WWTP for Wildacres Resort will be designed such that the treated water can be diverted to the irrigation ponds or discharged to subsurface beds. Since the water passing through the WWTP will have been obtained from a source (Village of Fleischmanns) downgradient from and outside of the project area, WWTP discharge to the subsurface beds will be equivalent to additional recharge to the ground water system. In order to maintain a conservative approach in estimating the changes in infiltration to the ground water system, the beneficial and positive effects of WWTP subsurface discharge were not incorporated in the water budget analysis.

3.0 RESULTS

3.1 Existing Conditions

The water budget analysis performed for the existing conditions indicates that the infiltration rate for the entire area covered by the water budget analysis (723 acres) is approximately 695 gallons per minute (gpm), which is equivalent to 0.96 gpm per acre. Table 2 summarizes the annual infiltration by soil type under existing conditions.

3.2 Post-Development Conditions

Table 3 summarizes the annual infiltration estimated for each of the proposed development areas and for each soil type within the future, undeveloped project area. The water budget analysis for the future, post-development conditions indicates that the infiltration rate for the entire area will be approximately 708 gpm, which is equivalent to 0.98 gpm per acre. This 0.02 gpm per acre increase in the infiltration rate with respect to existing conditions represents a gain of approximately 14.5 gpm

over the entire 723-acre water budget area. This small change in infiltration, although negligible when compared to the normal seasonal and yearly climate fluctuations, does indicate a slight increase in the ground water resources available to the area.

4.0 CONCLUSIONS

A water budget analysis was completed for an area containing the Wildacres Resort portion of the proposed Belleayre Resort at Catskill Park. The purpose of the water budget analysis was to estimate the amount of infiltration contributing to the ground water system under existing conditions and after peak development of Wildacres Resort. The results indicate that the current infiltration rate for the study area, using the existing conditions, is approximately 0.96 gpm per acre. The results of the water budget analysis completed for the future, post-development conditions indicate that infiltration to the ground water system in the area of analysis will be approximately 0.98 gpm per acre. This positive change indicates that there is a very slight increase in infiltration to the ground water after peak development of the Wildacres Resort. This slight increase equates to a gain of approximately 14.5 gpm of recharge to the ground water system from the entire 723-acre water budget area. This slight increase is due to the fact that the positive infiltration characteristics of the golf course make up for the negative infiltration characteristics of buildings and paved areas.

Golf course irrigation, WWTP subsurface discharge, and pond infiltration were considered but not incorporated into the water budget calculations. Incorporation of these factors into the analysis would further increase the amount of infiltration to the ground water system and result in more ground water resources for the area of study.

The results of this analysis indicate that the development of Wildacres Resort will not negatively impact the quantity of available water resources in the study area. Since the study area is upgradient of the Fleischmanns water supply, the water resources available to Fleischmanns will not be impacted by the development of the Resort. The direct withdrawal of water from the Village of Fleischmanns water supply, for potable and irrigation purposes, will still leave Fleischmanns with excess capacity as discussed in Alpha (2000) and Alpha (2002).

REFERENCES

Alpha Geoscience, 2000, Water supply Evaluation, Village of Fleischmanns, Delaware County, New York, consulting report prepared for Crossroads Ventures LLC, 14 p.

Alpha Geoscience, 2002, Addendum to Alpha Geoscience (2000) report "Water Supply Evaluation, Village of Fleischmanns, Delaware County, New York", letter to Mr. Dean Gitter, Crossroads Ventures LLC, 2 p.

Broad, William A., 1993, Soil Survey of Greene County, New York, United States Department of Agriculture, Soil Conservation Service in cooperation with Cornell University Agricultural Experiment Station, 349 p.

F:\projects\2002\02121-02140\02129-Wildacres\wildacres water budget report.wpd

TABLES

**Table 1
Development Areas - Future Conditions**

**Wildacres Resort
Alpha Project No. 02129**

Note: Refer to Plates 3 and 4 for location of area IDs

Wildacres

Area ID	Total Area (sq. ft.)	Total Area (acres)	Buildings (sq. ft.)	Buildings (acres)	Pavement (sq.ft.)	Pavement (acres)	Remarks
W1	1,582,807	36.34	259,946	5.97	388,934	8.93	Hotel, 5 octoplex units, Marlowe 16 octoplex units
W2	871,357	20.00	139,737	3.21	215,840	4.96	
W3	18,972	0.44	730	0.02	4,360	0.10	WWTP
W4	17,865	0.41	1,800	0.04	5,321	0.12	
W5	29,816	0.68	7,342	0.17	2,677	0.06	
W6	57,476	1.32	8,701	0.20	19,893	0.46	
Total =	2,578,293	59.19	418,256	9.60	637,025	14.62	

Ponds

ID	Pond Area (sq. ft.)	Pond Area (acres)	Remarks
P1	25,450	0.58	storm water
P2	13,815	0.32	storm water
P3	129,505	2.97	irrigation pond
P4	9,688	0.22	storm water
Total =	178,458	4.10	

Golf Course Areas

Area ID	Total Area (sq. ft.)	- Pond Area (sq. ft.)	= Net Area (sq. ft.)	Net Area (acres)	Remarks
G1	1,802,799	0	1,802,799	41.39	Range; Holes 11, 12, 13, 16, 17
G2	598,117	9,688	588,429	13.51	Holes 14, 15
G3	2,108,621	143,320	1,965,301	45.12	Holes 2, 3, 4, 5, 6, 7, 8
G4	809,852	25,450	784,402	18.01	Holes 1, 9
G5	596,056	0	596,056	13.68	Holes 10, 18
Total =	5,915,445	178,458	5,736,987	131.70	

Highmount Estates

Area ID	Total Area (sq. ft.)	Total Area (acres)	Pavement (sq.ft)	Pavement (acres)
H1	392,509	9.01	63,442	1.46

Total Changed Area

Wildacres	2,578,293 sq. ft.
Golf Course	5,736,987 sq. ft.
Ponds	178,458 sq. ft.
Highmount	392,509 sq. ft.
Total	8,886,247 sq. ft. (204 acres)

TABLE 2
Water Contributions by Soil Type
Existing conditions

Wildacres Resort
Alpha Project No. 02129

	Soil Type	% of Project Area	Acreage	Percolation Rate (in/yr)	Total Perc. Rate (gpm)	gpm/acre
Wooded Areas	EkB	1.01%	7.32	21.90	8.3	1.1
	EkC	2.63%	18.99	16.49	16.2	0.9
	EkD	2.21%	15.99	16.49	13.6	0.9
	HrF (rock outcrop)	5.82%	42.06	0.00	0.0	0.0
	HrF (HaC)	11.82%	85.39	33.45	147.6	1.7
	HvD	0.09%	0.64	17.52	0.6	0.9
	HvF	3.54%	25.59	17.52	23.2	0.9
	LeB	0.82%	5.91	22.41	6.8	1.2
	LeC	2.73%	19.72	16.94	17.3	0.9
	LeD	2.77%	20.02	16.94	17.5	0.9
	LeF	2.14%	15.45	16.87	13.5	0.9
	OsB	1.32%	9.52	22.20	10.9	1.1
	OsC	0.27%	1.98	17.19	1.8	0.9
	VeD	1.65%	11.92	16.46	10.1	0.9
	VeF	2.37%	17.15	16.46	14.6	0.9
	VhB	0.07%	0.50	22.32	0.6	1.2
	VhC	4.98%	35.96	17.39	32.3	0.9
	VhD	16.82%	121.56	17.39	109.2	0.9
	VhF	10.47%	75.63	17.39	67.9	0.9
	VyB	2.13%	15.38	22.26	17.7	1.1
	VyC	4.68%	33.83	17.26	30.2	0.9
VyD	3.09%	22.36	17.26	19.9	0.9	
WIB	3.97%	28.70	22.07	32.7	1.1	
WIC	2.16%	15.62	16.85	13.6	0.9	
Non-Wooded Areas	EkC	0.19%	1.41	15.39	1.1	0.8
	EkD	0.25%	1.83	15.39	1.5	0.8
	HrF (rock outcrop)	1.50%	10.86	0.00	0.0	0.0
	HrF (HaC)	3.05%	22.04	31.79	36.2	1.6
	HvD	0.05%	0.37	16.64	0.3	0.9
	HvF	0.29%	2.07	16.64	1.8	0.9
	LeC	0.02%	0.14	16.00	0.1	0.8
	LeD	0.11%	0.78	16.00	0.6	0.8
	LeF	0.01%	0.04	15.87	0.0	0.8
	OsB	0.07%	0.48	21.20	0.5	1.1
	OsC	0.28%	2.00	13.54	1.4	0.7
	VeD	0.01%	0.10	15.89	0.1	0.8
	VeF	0.03%	0.19	15.89	0.2	0.8
	VhC	0.19%	1.40	16.48	1.2	0.9
	VhD	0.77%	5.55	16.48	4.7	0.9
	VhF	0.13%	0.94	16.48	0.8	0.9
	VyB	0.20%	1.46	21.24	1.6	1.1
	VyC	1.62%	11.72	16.33	9.9	0.8
VyD	0.61%	4.42	16.33	3.7	0.8	
WIB	0.31%	2.22	22.37	2.6	1.2	
	Paved Area	0.74%	5.38	0.00	0.0	0.0
	Marlowe Mansion	0.01%	0.07	0.00	0.0	0.0
		100.00%	722.7		694.4	

Total Infiltration Rate for Water Budget Area = 694.4 gpm/722.7 acres = 0.96 gpm/acre

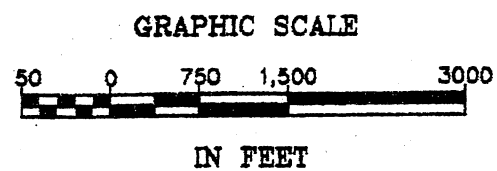
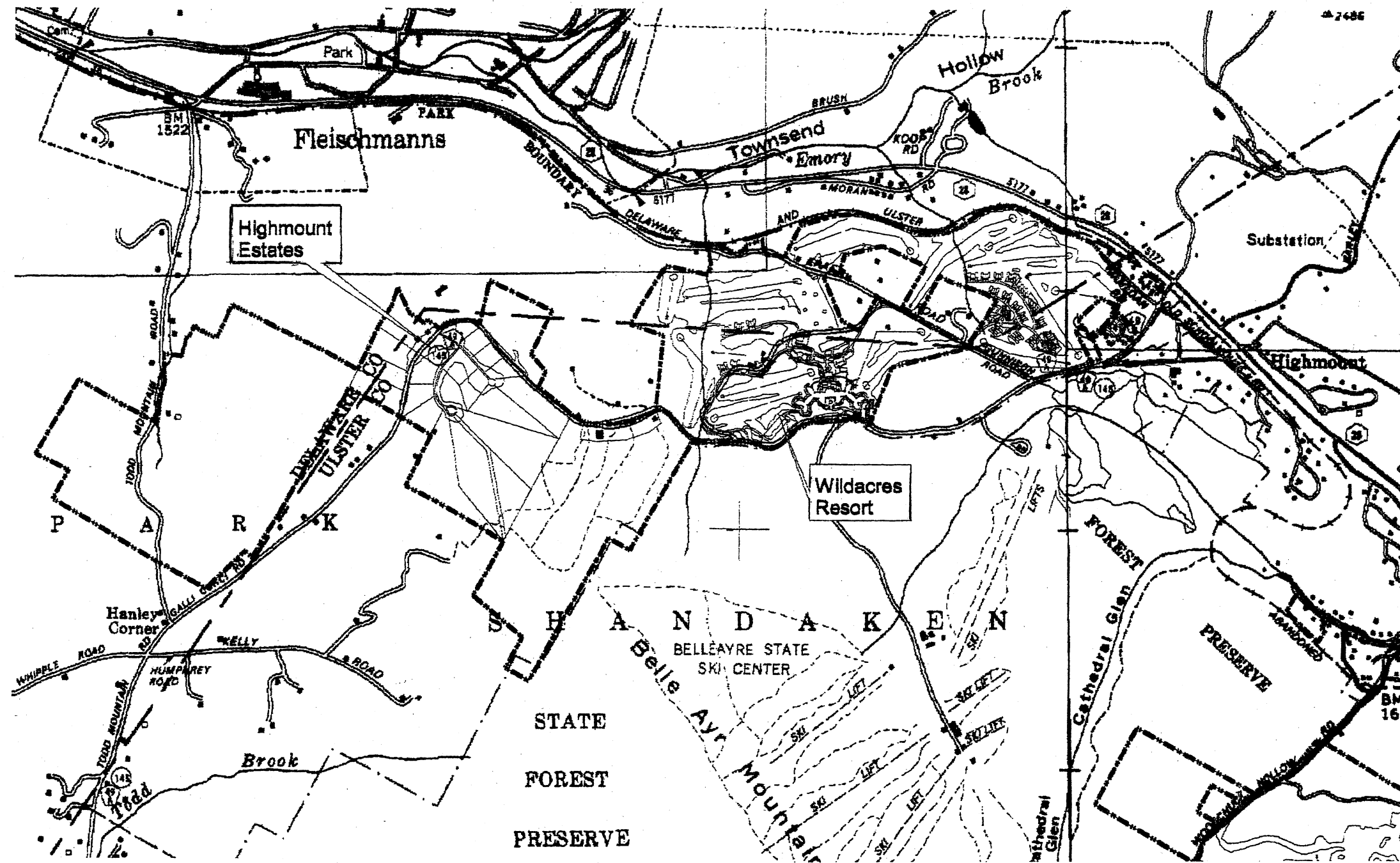
TABLE 3
Water Contributions by Soil Type
Future Conditions

Wildacres
Alpha Project No. 02129

	Soil Type	% of Project Area	Acreage	Percolation Rate (In/yr)	Total Perc. Rate (gpm)	gpm/acre
Undeveloped Wooded Areas	EkB	0.21%	1.50	21.90	1.7	1.1
	EKC	1.61%	11.64	16.49	9.9	0.9
	EKD	2.14%	15.45	16.49	13.2	0.9
	HrF (rock outcrop)	4.80%	34.69	0.00	0.0	0.0
	HrF (HaC)	9.74%	70.42	33.45	121.7	1.7
	HvD	0.09%	0.64	17.52	0.6	0.9
	HvF	1.99%	14.36	17.52	13.0	0.9
	LeB	0.09%	0.65	22.41	0.8	1.2
	LeC	1.99%	14.37	16.94	12.6	0.9
	LeD	2.77%	20.02	16.94	17.5	0.9
	LeF	2.14%	15.45	16.87	13.5	0.9
	OsB	0.24%	1.77	22.20	2.0	1.1
	OsC	0.27%	1.98	17.19	1.8	0.9
	VeD	1.61%	11.64	16.46	9.9	0.9
	VeF	2.37%	17.15	16.46	14.6	0.9
	VhB	0.06%	0.45	22.32	0.5	1.2
	VhC	1.88%	13.59	17.39	12.2	0.9
	VhD	11.69%	84.50	17.39	75.9	0.9
	VhF	10.08%	72.81	17.39	65.4	0.9
	VyB	1.19%	8.60	22.26	9.9	1.1
VyC	2.12%	15.30	17.26	13.6	0.9	
VyD	1.29%	9.30	17.26	8.3	0.9	
WIB	0.95%	6.89	21.02	7.5	1.1	
WIC	0.97%	7.01	16.85	6.1	0.9	
Undeveloped Non-Wooded Areas	EKC	0.19%	1.41	15.39	1.1	0.8
	EKD	0.25%	1.83	15.39	1.5	0.8
	HrF (rock outcrop)	1.50%	10.86	0.00	0.0	0.0
	HrF (HaC)	3.05%	22.04	31.79	36.2	1.6
	HvD	0.05%	0.37	16.64	0.3	0.9
	HvF	0.24%	1.74	16.64	1.5	0.9
	LeC	0.02%	0.14	16.00	0.1	0.8
	LeD	0.11%	0.78	16.00	0.6	0.8
	LeF	0.01%	0.04	15.87	0.0	0.8
	OsB	0.04%	0.28	21.20	0.3	1.1
	OsC	0.28%	2.00	13.54	1.4	0.7
	VeD	0.00%	0.00	15.89	0.0	0.0
	VeF	0.03%	0.19	15.89	0.2	0.8
	VhC	0.19%	1.40	16.48	1.2	0.9
	VhD	0.69%	5.01	16.48	4.3	0.9
	VhF	0.13%	0.94	16.48	0.8	0.9
	VyB	0.14%	1.02	21.24	1.1	1.1
	VyC	1.29%	9.33	16.33	7.9	0.8
VyD	0.61%	4.41	16.33	3.7	0.8	
WIB	0.05%	0.33	22.37	0.4	1.2	
Unchanged Paved Areas		0.61%	4.40	0.00	0.0	0.0
Wildacres Resort Area	W1	5.03%	36.34	13.86	26.0	0.7
	W2	2.77%	20.00	13.39	13.8	0.7
	W3	0.06%	0.44	18.48	0.4	1.0
	W4	0.06%	0.41	14.63	0.3	0.8
	W5	0.09%	0.68	14.47	0.5	0.7
	W6	0.18%	1.32	10.91	0.7	0.6
Ponds	P1	0.03%	0.22	0.00	0.0	0.0
	P2	0.04%	0.32	0.00	0.0	0.0
	P3	0.41%	2.97	0.00	0.0	0.0
	P4	0.08%	0.58	0.00	0.0	0.0
Golf Course	G1	5.73%	41.39	24.32	52.0	1.3
	G2	1.87%	13.51	24.32	17.0	1.3
	G3	6.24%	45.12	24.32	56.7	1.3
	G4	2.49%	18.01	24.32	22.6	1.3
	G5	1.89%	13.68	24.32	17.2	1.3
Highmount Estates	H1	1.25%	9.01	13.68	6.4	0.7
Totals=		100.00%	722.7		708.4	

Total Infiltration Rate for Water Budget Area = 708.4 gpm/722.7 acres = 0.98 gpm/acre

FIGURE 1



the LA group
 Landscape Architecture
 and Engineering, P.C.
 40 Long Alley
 Saratoga Springs
 New York 12866
 518/587-8100

Map adapted from The LA Group, P.C.



FIGURE 1
Wildacres Resort Location Map
Belleayre Resort at Catskill Park
Highmount, New York

Alpha Project No. 02129

APPENDIX A

Soil Map Unit Areas - Existing Conditions

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
15	EkB	20172		0	0	
161	EkB	73,426		0	0	
163	EkB	37,801		0	0	Total Soil Area Minus
165	EkB	187,532		0	0	Road Area (ft ²)
Total	EkB	318,931	0	0	0	318,931

6-1	EkC	15,150		0		
6-2	EkC	24,598	875	13,125	11,473	
14	EkC	91,357		0		
17-1	EkC	49,475		0		
17-2	EkC	5,679		0	5,679	
17-3	EkC	25,062		0		
17-4	EkC	40,374	553	8,295	32,079	
17-5	EkC	23,845		0		
17-6	EkC	31,535		0		
28	EkC	15,815		0		
30-1	EkC	87,397		0		
30-2	EkC	18,919	460	6,900	12,019	
30-3	EkC	32,136		0		
91	EkC	11,732		0		
124	EkC	32,110		0		
160	EkC	294,386		0		Total Soil Area Minus
164	EkC	117,353		0		Road Area (ft ²)
Total	EkC	916,923	1,888	28,320	61,250	888,603

5-1	EkD	61,200		0		
5-2	EkD	16,072	222	3,330	12,742	
5-3	EkD	76,939		0		
7-1	EkD	139,549		0		
7-2	EkD	21,408	471	7,065	14,343	
7-3	EkD	40,447	143	2,145	38,302	
7-4	EkD	88,483		0		
18-1	EkD	80,834		0		
18-2	EkD	2,041		0	2,041	
18-3	EkD	1,519		0	1,519	
29-1	EkD	11,481		0		
29-2	EkD	4,672		0	4,672	
29-3	EkD	210,664		0		
29-4	EkD	12,659	533	7,995	4,664	
29-5	EkD	1,567		0	1,567	
29-6	EkD	3,713		0		
145	EkD	23,634		0		Total Soil Area Minus
Total	EkD	796,882	1,369	20,535	79,850	776,347

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
9	HrF	197,198		0		
48	HrF	180,520		0		
51	HrF	59,188		0		
53-1	HrF	2,484,002		0		
53-2	HrF	22,071		0		
53-3	HrF	58,665		0		58,665
53-4	HrF	62,914		0		62,914
53-5	HrF	26,775		0		26,775
53-6	HrF	160,241		0		
53-7	HrF	24,469		0		
53-8	HrF	9,561		0		
53-9	HrF	32,928		0		
53-10	HrF	168,803		0		168,803
53-11	HrF	27,700		0		
53-12	HrF	99,008		0		99,008
53-13	HrF	6,105		0		6,105
53-14	HrF	3,244		0		
65	HrF	29,239		0		
69	HrF	159,642		0		
85-1	HrF	729,969		0		729,969
85-2	HrF	94,280		0		
85-3	HrF	35,430		0		
85-4	HrF	52,445		0		
85-5	HrF	15,201		0		
85-6	HrF	122,082		0		
85-7	HrF	75,584		0		
85-8	HrF	84,022		0		84,022
85-9	HrF	11,174		0		
85-10	HrF	79,390		0		
85-11	HrF	9,828		0		
85-12	HrF	203,471		0		
85-13	HrF	11,215		0		
85-14	HrF	181,112		0		181,112
85-15	HrF	31,126		0		
85-16	HrF	11,863		0		11,863
85-17	HrF	18,387		0		
85-18	HrF	14,769		0		
86-1	HrF	1,077,013		0		
86-2	HrF	8,612	309	4,635		3,977
98	HrF	74,258		0		
126	HrF	86,821		0		
137	HrF	149,001		0		
Total	HrF	6,989,326	309	4,635	1,433,213	6,984,691

81-1	HvD	15,039				
81-2	HvD	12,902				
81-3	HvD	16,194		0		16,194
Total	HvD	44,135	0	0	16,194	44,135

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
55-1	HvF	69,796		0		
55-2	HrF	17,399		0	17,399	
92-1	HvF	367,318		0		
92-2	HvF	23,842	440	6,600	17,242	
92-3	HvF	28,262		0		
92-4	HvF	10,213		0		
100-1	HvF	312,337		0		
100-2	HvF	30,669		0	30,669	
100-3	HvF	24,506		0		
100-4	HvF	5,546		0	5,546	
104	HvF	65,836		0		
116	HvF	23,488		0		
119-1	HvF	172,517		0		
119-2	HvF	22,887	251	3,765	19,122	
119-3	HvF	19,195		0		
122	HvF	21,063		0		
Total	HvF	1,214,874	691	10,365	89,978	Total Soil Area Minus Road Area (ft²) 1,204,509
146	LeB	94,212		0	0	Total Soil Area Minus Road Area (ft ²)
149	LeB	163,029		0	0	0
Total	LeB	257,241	0	0	0	257,241
8	LeC	221,461		0		
32-1	LeC	50,454		0		
32-2	LeC	6,277		0	6,277	
32-3	LeC	23,684		0		
33	LeC	17,231		0		
35	LeC	14,289		0		
37	LeC	254,905		0		
147	LeC	104,055		0		
150	LeC	173,130		0		
Total	LeC	865,486	0	0	6,277	Total Soil Area Minus Road Area (ft²) 865,486
36-1	LeD	760,499		0		
36-2	LeD	34,192		0	34,192	Total Soil Area Minus Road Area (ft ²)
36-3	LeD	111,404		0		0
Total	LeD	906,095	0	0	34,192	906,095
19	LeF	588,749		0		
31-1	LeF	61,140		0		
31-2	LeF	1,906		0	1,906	
31-3	LeF	1,048		0		
34	LeF	21,981		0		
Total	LeF	674,824	0	0	1,906	Total Soil Area Minus Road Area (ft²) 674,824

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
110-1	OsB	267,700		0		
110-2	OsB	25,494	300	4,500	20,994	
131	OsB	74,387		0		
144	OsB	72,746		0		
Total	OsB	440,327	300	4,500	20,994	Total Soil Area Minus Road Area (ft²)
						435,827

54-1	OsC	44,775		0		
54-2	OsC	158,577	4,770	71,550	87,027	
54-3	OsC	4,681		0		
54-4	OsC	2,528		0		
54-5	OsC	34,303		0		
Total	OsC	244,864	4,770	71,550	87,027	Total Soil Area Minus Road Area (ft²)
						173,314

39	VeD	425,457		0		
43	VeD	81,552		0		
167-1	VeD	7,673		0		
167-2	VeD	4,246		0	4,246	
167-3	VeD	4,720		0		
Total	VeD	523,648	0	0	4,246	Total Soil Area Minus Road Area (ft²)
						523,648

38-1	VeF	282,097		0		
38-2	VeF	8,473		0	8,473	
38-3	VeF	36,488		0		
40	VeF	20,171		0		
42	VeF	408,251		0		
Total	VeF	755,480	0	0	8,473	Total Soil Area Minus Road Area (ft²)
						755,480

50	VhB	21,656		0	0	Total Soil Area Minus Road Area (ft²)
					0	
Total		21,656	0	0	0	21,656

49	VhC	344,064		0		
64	VhC	59,888		0		
67	VhC	57,078		0		
84-1	VhC	42,884		0	42,884	
84-2	VhC	7,373		0		
87	VhC	18,984		0		
89	VhC	43,197		0		
95	VhC	23,302		0		
96	VhC	117,792		0		
99	VhC	654,781		0		
103	VhC	45,592		0		
105	VhC	8,807		0		
117-1	VhC	18,160		0	18,160	
117-2	VhC	106,568		0		
Total	VhC	1,627,670	0	0	61,044	Total Soil Area Minus Road Area (ft²)
						1,627,670

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
2	VhD	48,079		0		
3	VhD	45,443		0		
4	VhD	39,870		0		
16	VhD	266,000		0		
25-1	VhD	126,427		0		
25-2	VhD	31,531		0	31,531	
25-3	VhD	1,417,766		0		
47-1	VhD	532,006		0		
47-2	VhD	3,438		0	3,438	
47-3	VhD	25,000	417	6255	18,745	
56-1	VhD	18,062		0	18,062	
56-2	VhD	45,507		0		
56-3	VhD	25,587		0	25,587	
63-1	VhD	191,898		0		
63-2	VhD	31,235		0	31,235	
63-3	VhD	65,179		0		
63-4	VhD	18,211		0	18,211	
63-5	VhD	17,243		0		
63-6	VhD	4,272		0		
63-7	VhD	1,816		0		
63-8	VhD	39,211		0		
63-9	VhD	2,467		0	2,467	
63-10	VhD	39,395		0	39,395	
63-11	VhD	4,445		0		
63-12	VhD	1,633		0		
63-13	VhD	647		0		
68	VhD	58,771		0		
70	VhD	75,744		0		
75	VhD	19,211		0		
82-1	VhD	27,412		0		
82-2	VhD	4,549		0	4,549	
83-1	VhD	15,228		0		
83-2	VhD	7,597		0	7,597	
88	VhD	56,395		0		
90	VhD	217,079		0		
93-1	VhD	5,737	214	3210	2,527	
93-2	VhD	8,921		0		
94	VhD	45,971		0		
97	VhD	78,252		0		
101	VhD	32,500		0		
106	VhD	659,831		0		
109	VhD	149,586		0		
112	VhD	33,309		0		
113	VhD	21,284		0		
115-1	VhD	174,762		0		
115-2	VhD	10,730	265	3975	6,755	
115-3	VhD	30,362		0		
118-1	VhD	62,993		0		
118-2	VhD	10,913	481	7215	3,698	
120	VhD	167,586		0		
127	VhD	173,524		0		
129	VhD	44,207		0		
134	VhD	22,586		0		
135	VhD	85,231		0		
139	VhD	39,763		0		
141-1	VhD	65,220		0		
141-2	VhD	20,275		0	20,275	
141-3	VhD	3,542	157	2355	1,187	
143-1	VhD	13,467	457	6855	6,612	Total Soil Area Minus
143-2	VhD	82,116		0		Road Area (ft ²)
Total	VhD	5,567,022	1991	29,865	241,871	5,537,157

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
1	VhF	1,793,960		0		
10-1	VhF	475,972		0		
10-2	VhF	9,055	60	900	8,155	
10-3	VhF	3,911		0		
24	VhF	14,773		0		
27	VhF	23,445		0		
57-1	VhF	523,251		0		
57-2	VhF	7,310		0	7,310	
57-3	VhF	6,535		0	6,535	
66	VhF	66,212		0		
76-1	VhF	11,143		0	11,143	
76-2	VhF	2,420		0		
76-3	VhF	1,935		0	1,935	
76-4	VhF	3,822		0		
76-5	VhF	1,395		0	1,395	
80	VhF	67,499		0		
154-1	VhF	74,764		0		
154-2	VhF	8,831	295	4425	4,406	
154-3	VhF	84844		0		
159	VhF	73,360		0		
162	VhF	86,342		0		
						Total Soil Area Minus Road Area (ft ²)
Total	VhF	3,340,779	355	5,325	40,879	3,335,454

45-1	VyB	11,991		0	11,991	
45-2	VyB	6,400		0		
46-1	VyB	19,695		0	19,695	
46-2	VyB	11,462		0		
52	VyB	63,771		0		
62	VyB	63,469		0		
72-1	VyB	124,379		0		
72-2	VyB	8,711		0	8,711	
72-3	VyB	3,130		0		
74-1	VyB	60,652		0		
74-2	VyB	18,400		0	18,400	
108	VyB	118,192		0		
142-1	VyB	218,632		0		
142-2	VyB	10,173	353	5295	4,878	
						Total Soil Area Minus Road Area (ft ²)
Total	VyB	739,057	353	5,295	63,675	733,762

Soil Areas-Existing Conditions
Wildacres Resort Water Budget
Alpha Project No. 02129

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
11	VyC	16,966		0		
21	VyC	74,983		0		
22	VyC	36,186		0		
23	VyC	39,849		0		
26	VyC	50,233		0		
41	VyC	20,942		0		
44-1	VyC	209,327	1434	21510	187,817	
44-2	VyC	4,758		0		
44-3	VyC	9,113		0		
44-4	VyC	7,869		0		
44-5	VyC	4,493		0		
44-6	VyC	5,293		0		
44-7	VyC	15,992		0		
71	VyC	79,223		0		
73-1	VyC	12,206		0		
73-2	VyC	116,157		0	116,157	
78-1	VyC	22,449		0	22,449	
78-2	VyC	9,107		0		
79-1	VyC	96,381		0	96,381	
79-2	VyC	23,555		0		
79-3	VyC	2,650		0		
79-4	VyC	10,088		0		
107	VyC	84,389		0		
114-1	VyC	172,750		0		
114-2	VyC	69,362	1620	24300	45,062	
114-3	VyC	55,553		0		
121	VyC	11,962		0		
125	VyC	57,908		0		
128	VyC	37,163		0		
138	VyC	264,155		0		
140-1	VyC	56,366		0		
140-2	VyC	42,662	233	3495	39,167	
140-3	VyC	2,125		0		
148	VyC	38,332		0		
153-1	VyC	6,504	202	3030	3,474	
153-2	VyC	167,434		0		
156	VyC	50,731		0		
157	VyC	43,399		0		
166	VyC	8,077		0		
Total	VyC	2,036,692	3489	52,335	510,507	Total Soil Area Minus Road Area (ft ²) 1,984,357

Wildacres Resort Water Budget
 Alpha Project No. 02129
 Soil Areas-Existing Conditions

Area #	Soil Type	Area (ft ²)	Total Area (ft ²)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	Total Non-wooded Area (ft ²)
12	VyD	18,282		0		
13	VyD	24,878		0		
58	VyD	142,182		0		
59	VyD	28,455		0		
60	VyD	14,426		0		
61	VyD	37,722		0		
77-1	VyD	7,476		0	7,476	
77-2	VyD	4,909		0		
77-3	VyD	1,881		0		
77-4	VyD	25,412		0		
77-5	VyD	182,380		0	182,380	
77-6	VyD	3,154		0		
77-7	VyD	19,722		0		
77-8	VyD	3,338		0		
123	VyD	262,563		0		
155-1	VyD	4,221	98	1470	2,751	
155-2	VyD	113,480		0		
158	VyD	273,471		0		
Total	VyD	1,167,952	98	1,470	192,607	1,166,482
Total Soil Area Minus Road Area (ft ²)						
102-1	WIB	36,076		0		
102-2	WIB	100,616	ansion (3,812 sq. ft.)	0	100,616	
102-3	WIB	16,590		0		
102-4	WIB	10,080		0		
111	WIB	54,794		0		
133	WIB	55,134		0		
136	WIB	55,534		0		
151	WIB	1,018,245		0		
Total	WIB	1,347,069	0	0	100,616	1,347,069
Total Soil Area Minus Road Area (ft ²)						
20	WIC	239,237		0	0	
130	WIC	39,258		0	0	
132	WIC	152,501		0	0	
152	WIC	249,300		0	0	
Total	WIC	680,296	0	0	0	680,296
Total Soil Area Minus Road Area (ft ²)						

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Existing Conditions

Marlowe Mansion	Total Road Area	Total Soil Area	Total Project Area
3812	234,195	31,243,034	31,481,041

Marlowe Mansion	Total Road Area	Open Field Total Soil Area	Total Project Area
3812	234,195	3,054,799	31,481,041

Marlowe Mansion	Total Road Area	Wooded Total Soil Area	Total Project Area
3812	234,195	28,192,047	31,481,041

soil type total areas as a percentage of total area

EkB	0.0101	
EkC	0.0282	
EkD	0.0247	
HrF	----	6,984,691 = HrF
Rock Outcrop	0.0732	2,304,948 = HrF x .33
HaC	0.1487	4,679,743 = HrF x .67
HvD	0.0014	
HvF	0.0383	
LeB	0.0082	
LeC	0.0275	
LeD	0.0288	
LeF	0.0214	
OsB	0.0138	
OsC	0.0055	
VeD	0.0166	
VeF	0.0240	
VhB	0.0007	
VhC	0.0517	
VhD	0.1759	
VhF	0.1060	
VyB	0.0233	
VyC	0.0630	
VyD	0.0371	
WIB	0.0428	Marlowe Excluded
WIC	0.0216	
Roads	0.0074	
Marlowe	0.0001	
	<u>1.0000</u>	

non-wooded soil type areas as a percentage of total area

EkB	0.0000	
EkC	0.0019	
EkD	0.0025	
HrF	----	1,433,213 = HrF
Rock	0.0150	472960 = HrF x .33
HaC	0.0305	960,253 = HrF x .67
HvD	0.0005	
HvF	0.0029	
LeB	0.0000	
LeC	0.0002	
LeD	0.0011	
LeF	0.0001	
OsB	0.0007	
OsC	0.0028	
VeD	0.0001	
VeF	0.0003	
VhB	0.0000	
VhC	0.0019	
VhD	0.0077	
VhF	0.0013	
VyB	0.0020	
VyC	0.0162	
VyD	0.0061	
WIB	0.0031	Marlowe excluded
WIC	0.0000	
	<u>0.0969</u>	

Wooded soil type areas as a percentage of total area

EkB	0.0101	
EkC	0.0263	
EkD	0.0221	
HrF	----	5,551,478
Rock	0.0582	1,831,888
HaC	0.1182	3,719,490
HvD	0.0009	
HvF	0.0354	
LeB	0.0082	
LeC	0.0273	
LeD	0.0277	
LeF	0.0214	
OsB	0.0132	
OsC	0.0027	
VeD	0.0165	
VeF	0.0237	
VhB	0.0007	
VhC	0.0498	
VhD	0.1682	
VhF	0.1047	
VyB	0.0213	
VyC	0.0468	
VyD	0.0309	
WIB	0.0397	
WIC	0.0216	
	<u>0.8955</u>	

Wooded + Non-wooded + Roads + Marlowe = 1.0000

APPENDIX B1

Water Budget Analysis Tables - Existing Soil Types

Wooded Areas

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type EkB: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	5.32	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	5.32	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	5.32	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	5.32	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	5.32	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	5.08	-0.24	3.81	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	3.90	-1.18	4.47	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	3.50	-0.40	3.84	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	3.99	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	5.32	1.33	1.43	0.55
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	5.32	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	5.32	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	20.27
Total Percolation:	<u>21.90</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types EkC, EkD: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	5.32	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	5.32	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	5.32	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	5.32	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	5.32	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	4.61	-0.71	3.77	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	3.23	-1.38	4.20	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	2.64	-0.59	3.54	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	2.66	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	4.06	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	5.32	1.26	0.25	2.09
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	5.32	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff:	24.10
Total AET:	19.66
Total Percolation:	<u>16.49</u>
	<u>60.24</u>

WATER BUDGET DATA

**Wildacres Resort
Analysis for Soil Type HrF: Wooded
Alpha Project No. 02129**

	Direct HaC Precip.	Add'l HaC Precip due to Runoff from Rock Outcrop	Total Precip. To Halcott (HaC)	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	2.22	6.73	0.00	0.40	2.69	4.04	4.04	0.00	1.43	0.00	0.00	4.04
February	4.36	2.15	6.51	0.00	0.40	2.60	3.90	3.90	0.00	1.43	0.00	0.00	3.90
March	5.07	2.50	7.57	0.00	0.40	3.03	4.54	4.54	0.00	1.43	0.00	0.00	4.54
April	5.29	2.61	7.90	1.01	0.40	3.16	4.74	3.73	0.00	1.43	0.00	1.01	3.73
May	5.75	2.83	8.58	2.65	0.40	3.43	5.15	2.50	0.00	1.43	0.00	2.65	2.50
June	5.10	2.51	7.61	3.81	0.40	3.04	4.57	0.76	0.00	1.43	0.00	3.81	0.76
July	4.70	2.31	7.01	4.61	0.40	2.81	4.21	-0.40	-0.40	1.03	-0.40	4.61	0.00
August	4.91	2.42	7.33	3.93	0.40	2.93	4.40	0.47	0.00	1.43	0.40	3.93	0.07
September	4.72	2.32	7.04	2.81	0.40	2.82	4.23	1.42	0.00	1.43	0.00	2.81	1.42
October	4.72	2.32	7.04	1.43	0.40	2.82	4.23	2.80	0.00	1.43	0.00	1.43	2.80
November	6.00	2.96	8.96	0.25	0.40	3.58	5.37	5.12	0.00	1.43	0.00	0.25	5.12
December	5.11	2.52	7.63	0.00	0.40	3.05	4.58	4.58	0.00	1.43	0.00	0.00	4.58
		29.67	89.91										

Average Annual Precipitation: 60.24 inches plus run-on from Rock Outcrop (29.67 inches) = 89.91 inches

Runoff : 35.96
 Total AET: 20.50
 Total Percolation: 33.45
 PERC+AET+RUNOFF= 89.91

Note(s):

Total Wooded HrF area = 5,551,478 sq ft. , assumed to be 67% Halcott (HaC) and 33% Rock Outcrop.
 Wooded HaC area = 3,719,490sq ft
 Wooded Rock Outcrop area = 1,831,988 sq ft
 Monthly rainfall on Rock Outcrop area assumed to runoff directly to Halcott (HaC) area as additional precipitation to Halcott area
 (No percolation on Rock Outcrop area)

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types HvD, HvF: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	1.90	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	1.90	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	1.90	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	1.90	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	1.90	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	1.22	-0.68	3.74	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	0.45	-0.77	3.59	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.25	-0.20	3.15	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	0.27	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	1.67	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	1.90	0.23	0.25	3.12
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	1.90	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	18.63
Total Percolation:	17.52
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type LeB: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	3.20	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	3.20	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	3.20	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	3.20	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	3.20	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	2.89	-0.24	3.81	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	1.85	-0.87	4.16	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	1.56	-0.20	3.64	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	2.05	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	3.20	0.82	1.43	1.05
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	3.20	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	3.20	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	19.76
Total Percolation:	22.41
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types LeC, LeD: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	3.20	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	3.20	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	3.20	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	3.20	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	3.20	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	2.48	-0.72	3.78	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	1.34	-1.14	3.96	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.98	-0.36	3.31	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	1.00	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	2.40	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	3.20	0.80	0.25	2.55
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	3.20	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	19.20
Total Percolation:	16.94
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type LeF: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	3.60	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	3.60	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	3.60	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	3.60	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	3.60	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	2.91	-0.69	3.75	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	1.69	-1.22	4.04	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	1.30	-0.39	3.34	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	1.32	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	2.72	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	3.60	0.88	0.25	2.47
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	3.60	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	19.28
Total Percolation:	<u>16.87</u>
	60.24

**TABLE 8
WATER BUDGET DATA**

**Wildacres Resort
Analysis for Soil Type OsB: Wooded
Alpha Project No. 02129**

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	2.52	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	2.52	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	2.52	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	2.52	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	2.52	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	2.28	-0.24	3.81	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	1.26	-1.02	4.31	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	1.00	-0.26	3.70	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	1.49	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	2.52	1.03	1.43	0.85
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	2.52	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	2.52	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	19.97
Total Percolation:	<u>22.20</u>
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type OsC: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	2.52	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	2.52	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	2.52	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	2.52	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	2.52	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	1.79	-0.73	3.79	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	0.83	-0.96	3.78	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.54	-0.29	3.24	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	0.56	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	1.96	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	2.52	0.56	0.25	2.79
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	2.52	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	18.96
Total Percolation:	<u>17.19</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VeD, VeF: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	3.50	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	3.50	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	3.50	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	3.50	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	3.50	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	2.78	-0.72	3.78	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	1.57	-1.21	4.03	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.79	-0.78	3.73	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	0.81	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	2.21	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	3.50	1.29	0.25	2.06
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	3.50	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	19.69
Total Percolation:	16.46
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type VhB: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	2.16	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	2.16	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	2.16	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	2.16	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	2.16	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	1.89	-0.27	3.84	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	0.96	-0.93	4.22	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	0.76	-0.20	3.64	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	1.25	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	2.16	0.91	1.43	0.97
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	2.16	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	2.16	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	19.85
Total Percolation:	<u>22.32</u>
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VhC, VhD, VhF: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	2.16	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	2.16	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	2.16	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	2.16	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	2.16	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	1.48	-0.68	3.74	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	0.63	-0.85	3.67	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.38	-0.25	3.20	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	0.40	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	1.80	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	2.16	0.36	0.25	2.99
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	2.16	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	18.76
Total Percolation:	17.39
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type VyB: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	2.40	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	2.40	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	2.40	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	2.40	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	2.40	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	2.16	-0.24	3.81	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	1.16	-1.00	4.29	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	0.94	-0.22	3.66	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	1.43	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	2.40	0.97	1.43	0.91
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	2.40	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	2.40	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	19.91
Total Percolation:	<u>22.26</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VyC, VyD: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	2.40	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	2.40	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	2.40	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	2.40	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	2.40	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	1.69	-0.71	3.77	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	0.75	-0.94	3.76	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	0.49	-0.26	3.21	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	0.51	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	1.91	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	2.40	0.49	0.25	2.86
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	2.40	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	18.89
Total Percolation:	17.26
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type WIB: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.30	1.35	3.16	3.16	0.00	3.50	0.00	0.00	3.16
February	4.36	0.00	0.30	1.31	3.05	3.05	0.00	3.50	0.00	0.00	3.05
March	5.07	0.00	0.30	1.52	3.55	3.55	0.00	3.50	0.00	0.00	3.55
April	5.29	1.01	0.30	1.59	3.70	2.69	0.00	3.50	0.00	1.01	2.69
May	5.75	2.65	0.30	1.73	4.03	1.38	0.00	3.50	0.00	2.65	1.38
June	5.10	3.81	0.30	1.53	3.57	-0.24	-0.24	3.33	-0.17	3.74	0.00
July	4.70	4.61	0.30	1.41	3.29	-1.32	-1.56	2.13	-1.20	4.49	0.00
August	4.91	3.93	0.30	1.47	3.44	-0.49	-2.05	1.85	-0.28	3.72	0.00
September	4.72	2.81	0.30	1.42	3.30	0.49	0.00	2.34	0.49	2.81	0.00
October	4.72	1.43	0.30	1.42	3.30	1.87	0.00	3.50	1.16	1.43	0.72
November	6.00	0.25	0.30	1.80	4.20	3.95	0.00	3.50	0.00	0.25	3.95
December	5.11	0.00	0.30	1.53	3.58	3.58	0.00	3.50	0.00	0.00	3.58

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	18.07
Total AET:	20.10
Total Percolation:	22.07
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type WIC: Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.40	1.80	2.71	2.71	0.00	3.50	0.00	0.00	2.71
February	4.36	0.00	0.40	1.74	2.62	2.62	0.00	3.50	0.00	0.00	2.62
March	5.07	0.00	0.40	2.03	3.04	3.04	0.00	3.50	0.00	0.00	3.04
April	5.29	1.01	0.40	2.12	3.17	2.16	0.00	3.50	0.00	1.01	2.16
May	5.75	2.65	0.40	2.30	3.45	0.80	0.00	3.50	0.00	2.65	0.80
June	5.10	3.81	0.40	2.04	3.06	-0.75	-0.75	2.76	-0.74	3.80	0.00
July	4.70	4.61	0.40	1.88	2.82	-1.79	-2.54	1.57	-1.19	4.01	0.00
August	4.91	3.93	0.40	1.96	2.95	-0.98	-3.52	1.18	-0.39	3.34	0.00
September	4.72	2.81	0.40	1.89	2.83	0.02	0.00	1.20	0.02	2.81	0.00
October	4.72	1.43	0.40	1.89	2.83	1.40	0.00	2.60	1.40	1.43	0.00
November	6.00	0.25	0.40	2.40	3.60	3.35	0.00	3.50	0.90	0.25	2.45
December	5.11	0.00	0.40	2.04	3.07	3.07	0.00	3.50	0.00	0.00	3.07

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	24.10
Total AET:	19.30
Total Percolation:	16.85
	60.24

APPENDIX B2

**Water Budget Analysis Tables - Existing Soil Types
Non-Wooded Areas**

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types EkC, EkD: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	5.32	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	5.32	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	5.32	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	5.32	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	5.32	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	4.42	-0.90	3.86	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	3.07	-1.35	4.08	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.82	2.44	-0.63	3.48	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.89	2.38	-0.06	2.80	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	3.69	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	5.32	1.63	0.25	1.60
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	5.32	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	19.55
Total Percolation:	<u>15.39</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type HrF: Non-Wooded Alpha Project No. 02129

	Direct HaC Precip.	Run-on from Rock Outcrop	Total Precip. To Halcott (HaC)	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	2.22	6.73	0.00	0.42	2.83	3.90	3.90	0.00	1.43	0.00	0.00	3.90
February	4.36	2.15	6.51	0.00	0.42	2.73	3.77	3.77	0.00	1.43	0.00	0.00	3.77
March	5.07	2.50	7.57	0.00	0.42	3.18	4.39	4.39	0.00	1.43	0.00	0.00	4.39
April	5.29	2.61	7.90	1.01	0.42	3.32	4.58	3.57	0.00	1.43	0.00	1.01	3.57
May	5.75	2.83	8.58	2.65	0.42	3.60	4.98	2.33	0.00	1.43	0.00	2.65	2.33
June	5.10	2.51	7.61	3.81	0.42	3.20	4.41	0.60	0.00	1.43	0.00	3.81	0.60
July	4.70	2.31	7.01	4.61	0.42	2.95	4.07	-0.54	-0.54	1.03	-0.40	4.47	0.00
August	4.91	2.42	7.33	3.93	0.42	3.08	4.25	0.32	0.00	1.43	0.40	3.93	-0.08
September	4.72	2.32	7.04	2.81	0.42	2.96	4.09	1.28	0.00	1.43	0.00	2.81	1.28
October	4.72	2.32	7.04	1.43	0.42	2.96	4.09	2.66	0.00	1.43	0.00	1.43	2.66
November	6.00	2.96	8.96	0.25	0.42	3.76	5.19	4.94	0.00	1.43	0.00	0.25	4.94
December	5.11	2.52	7.63	0.00	0.42	3.20	4.42	4.42	0.00	1.43	0.00	0.00	4.42

29.67

Average Annual Precipitation: 60.24 inches plus run-on from Rock Outcrop (29.67 inches) = 89.91 inches

Runoff : 37.76

Total AET: 20.36

Note(s):

Total Non-Wooded HrF area = 1,433,213 sq ft. , assumed to be 67% Halcott (HaC) and 33% Rock Outcrop.

Non-Wooded HaC area = 960,253 sq ft

Non-Wooded Rock Outcrop area = 472,960 sq ft

Monthly rainfall on Rock Outcrop area assumed to runoff directly to Halcott (HaC) area as additional precipitation to Halcott area

Total Percolation: 31.79

PERC+AET+RUNOFF= 89.91

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types HvD,HvF: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	1.90	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	1.90	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	1.90	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	1.90	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	1.90	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	1.14	-0.76	3.72	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	0.41	-0.73	3.46	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.82	0.22	-0.19	3.04	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.89	0.21	-0.01	2.75	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	1.52	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	1.90	0.38	0.25	2.85
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	1.90	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	18.30
Total Percolation:	16.64
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types LeC, LeD: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	3.20	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	3.20	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	3.20	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	3.20	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	3.20	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	2.36	-0.84	3.80	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	1.26	-1.10	3.83	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.82	0.89	-0.37	3.22	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.89	0.87	-0.02	2.76	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	2.18	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	3.20	1.02	0.25	2.21
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	3.20	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	18.94
Total Percolation:	<u>16.00</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type LeF: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	3.60	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	3.60	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	3.60	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	3.60	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	3.60	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	2.80	-0.80	3.76	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	1.59	-1.21	3.94	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.81	1.16	-0.43	3.28	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.88	1.14	-0.02	2.76	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	2.45	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	3.60	1.15	0.25	2.08
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	3.60	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	19.07
Total Percolation:	15.87
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types OsB: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.32	1.44	3.07	3.07	0.00	2.52	0.00	0.00	3.07
February	4.36	0.00	0.32	1.40	2.96	2.96	0.00	2.52	0.00	0.00	2.96
March	5.07	0.00	0.32	1.62	3.45	3.45	0.00	2.52	0.00	0.00	3.45
April	5.29	1.01	0.32	1.69	3.60	2.59	0.00	2.52	0.00	1.01	2.59
May	5.75	2.65	0.32	1.84	3.91	1.26	0.00	2.52	0.00	2.65	1.26
June	5.10	3.81	0.32	1.63	3.47	-0.34	-0.34	2.18	-0.34	3.81	0.00
July	4.70	4.61	0.32	1.50	3.20	-1.41	-1.75	1.14	-1.04	4.24	0.00
August	4.91	3.93	0.32	1.57	3.34	-0.59	-2.35	0.91	-0.23	3.57	0.00
September	4.72	2.81	0.32	1.51	3.21	0.40	0.00	1.31	0.40	2.81	0.00
October	4.72	1.43	0.32	1.51	3.21	1.78	0.00	2.52	1.21	1.43	0.57
November	6.00	0.25	0.32	1.92	4.08	3.83	0.00	2.52	0.00	0.25	3.83
December	5.11	0.00	0.32	1.64	3.47	3.47	0.00	2.52	0.00	0.00	3.47

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	19.28
Total AET:	19.76
Total Percolation:	21.20
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Type OsC: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	2.52	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	2.52	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	2.52	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	2.52	0.00	3.07	0.00
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	2.52	0.00	3.34	0.00
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	1.69	-0.83	3.79	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	0.77	-0.92	3.65	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.81	0.48	-0.29	3.14	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.88	0.47	-0.01	2.75	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	1.78	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	2.52	0.74	0.25	2.49
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	2.52	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	21.40
Total Percolation:	13.54
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VeD, VeF: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	3.50	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	3.50	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	3.50	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	3.50	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	3.50	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	2.68	-0.82	3.78	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	1.52	-1.16	3.89	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.81	1.08	-0.44	3.29	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.88	1.06	-0.02	2.76	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	2.37	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	3.50	1.13	0.25	2.10
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	3.50	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	19.05
Total Percolation:	<u>15.89</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VhC, VhD, VhF: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	2.16	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	2.16	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	2.16	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	2.16	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	2.16	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	1.38	-0.78	3.74	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	0.56	-0.82	3.55	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.81	0.32	-0.24	3.09	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.88	0.31	-0.01	2.75	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	1.62	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	2.16	0.54	0.25	2.69
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	2.16	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	18.46
Total Percolation:	16.48
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VyB: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.32	1.44	3.07	3.07	0.00	2.40	0.00	0.00	3.07
February	4.36	0.00	0.32	1.40	2.96	2.96	0.00	2.40	0.00	0.00	2.96
March	5.07	0.00	0.32	1.62	3.45	3.45	0.00	2.40	0.00	0.00	3.45
April	5.29	1.01	0.32	1.69	3.60	2.59	0.00	2.40	0.00	1.01	2.59
May	5.75	2.65	0.32	1.84	3.91	1.26	0.00	2.40	0.00	2.65	1.26
June	5.10	3.81	0.32	1.63	3.47	-0.34	-0.34	2.06	-0.34	3.81	0.00
July	4.70	4.61	0.32	1.50	3.20	-1.41	-1.75	1.04	-1.02	4.22	0.00
August	4.91	3.93	0.32	1.57	3.34	-0.59	-2.35	0.83	-0.21	3.55	0.00
September	4.72	2.81	0.32	1.51	3.21	0.40	0.00	1.23	0.40	2.81	0.00
October	4.72	1.43	0.32	1.51	3.21	1.78	0.00	2.40	1.17	1.43	0.61
November	6.00	0.25	0.32	1.92	4.08	3.83	0.00	2.40	0.00	0.25	3.83
December	5.11	0.00	0.32	1.64	3.47	3.47	0.00	2.40	0.00	0.00	3.47

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	19.28
Total AET:	19.72
Total Percolation:	<u>21.24</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types VyC, VyD: Non-Wooded Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.42	1.89	2.62	2.62	0.00	2.40	0.00	0.00	2.62
February	4.36	0.00	0.42	1.83	2.53	2.53	0.00	2.40	0.00	0.00	2.53
March	5.07	0.00	0.42	2.13	2.94	2.94	0.00	2.40	0.00	0.00	2.94
April	5.29	1.01	0.42	2.22	3.07	2.06	0.00	2.40	0.00	1.01	2.06
May	5.75	2.65	0.42	2.42	3.34	0.69	0.00	2.40	0.00	2.65	0.69
June	5.10	3.81	0.42	2.14	2.96	-0.85	-0.85	1.57	-0.83	3.79	0.00
July	4.70	4.61	0.42	1.97	2.73	-1.88	-2.73	0.69	-0.88	3.61	0.00
August	4.91	3.93	0.42	2.06	2.85	-1.08	-3.81	0.41	-0.28	3.13	0.00
September	4.72	2.81	0.42	1.98	2.74	-0.07	-3.88	0.40	-0.01	2.75	0.00
October	4.72	1.43	0.42	1.98	2.74	1.31	0.00	1.71	1.31	1.43	0.00
November	6.00	0.25	0.42	2.52	3.48	3.23	0.00	2.40	0.69	0.25	2.54
December	5.11	0.00	0.42	2.15	2.96	2.96	0.00	2.40	0.00	0.00	2.96

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	25.30
Total AET:	18.61
Total Percolation:	16.33
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types WIB: Non-Wooded (Existing Conditions) Alpha Project No. 02129

	Precip. (inches)	Run-on from Marlowe (inches)	Precip. + Run-on (inches)	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC (inches)
January	4.51	0.17	4.68	0.00	0.32	1.50	3.18	3.18	0.00	3.50	0.00	0.00	3.18
February	4.36	0.17	4.53	0.00	0.32	1.45	3.08	3.08	0.00	3.50	0.00	0.00	3.08
March	5.07	0.19	5.26	0.00	0.32	1.68	3.58	3.58	0.00	3.50	0.00	0.00	3.58
April	5.29	0.20	5.49	1.01	0.32	1.76	3.73	2.72	0.00	3.50	0.00	1.01	2.72
May	5.75	0.22	5.97	2.65	0.32	1.91	4.06	1.41	0.00	3.50	0.00	2.65	1.41
June	5.10	0.19	5.29	3.81	0.32	1.69	3.60	-0.21	-0.21	3.27	-0.23	3.83	0.00
July	4.70	0.18	4.88	4.61	0.32	1.56	3.32	-1.29	-1.50	2.20	-1.07	4.39	0.00
August	4.91	0.19	5.10	3.93	0.32	1.63	3.47	-0.46	-1.97	1.89	-0.31	3.78	0.00
September	4.72	0.18	4.90	2.81	0.32	1.57	3.33	0.52	0.00	2.41	0.52	2.81	0.00
October	4.72	0.18	4.90	1.43	0.32	1.57	3.33	1.90	0.00	3.50	1.09	1.43	0.81
November	6.00	0.23	6.23	0.25	0.32	1.99	4.23	3.98	0.00	3.50	0.00	0.25	3.98
December	5.11	0.19	5.30	0.00	0.32	1.70	3.61	3.61	0.00	3.50	0.00	0.00	3.61
			62.52										

Average Annual Precipitation: 62.52 inches

Total Runoff (in.):	20.01
Total AET (in.):	20.14
Total Percolation (in.):	<u>22.37</u>
	<u>62.52</u>

Note(s):

Marlowe Mansion roof area = 3812 ft²

WIB Non-wooded Area, excluding Marlowe Mansion area = 100,616 ft²

Monthly rainfall on Marlowe Mansion assumed to run-off directly to WIB soil (soil area ID = 102-2 WIB)

(No percolation to ground water beneath mansion)

APPENDIX C

Soil Map Unit Areas - Future Conditions

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
15	EkB	20172		0		
<i>161</i>	<i>EkB</i>	<i>4,975</i>		0		
<i>163</i>	<i>EkB</i>	<i>6,526</i>		0		
<i>165-A</i>	<i>EkB</i>	<i>24,742</i>		0		
<i>165-B</i>	<i>EkB</i>	<i>8,735</i>		0		
Total	EkB	65,150	0	0	0	Total Soil Area Minus Road Area(ft ²) 65,150

6-1	EKC	15,150		0		
6-2	EKC	24,598	875	13,125	11,473	
14	EKC	91,357		0		
17-1	EKC	49,475		0		
17-2	EKC	5,679		0	5,679	
17-3	EKC	25,062		0		
17-4	EKC	40,374	553	8,295	32,079	
17-5	EKC	23,845		0		
17-6	EKC	31,535		0		
28	EKC	15,815		0		
30-1	EKC	87,397		0		
30-2	EKC	18,919	460	6,900	12,019	
30-3	EKC	32,136		0		
91	EKC	11,732		0		
<i>124</i>	<i>EKC</i>	<i>18,799</i>		0		
<i>160-A</i>	<i>EKC</i>	<i>6,021</i>		0		
<i>160-B</i>	<i>EKC</i>	<i>11,913</i>		0		
<i>160-C</i>	<i>EKC</i>	<i>12,670</i>		0		
<i>160-D</i>	<i>EKC</i>	<i>25,609</i>		0		
<i>164-A</i>	<i>EKC</i>	<i>37,824</i>		0		
<i>164-B</i>	<i>EKC</i>	<i>10,536</i>		0		
Total	EKC	596,446	1,888	28,320	61,250	Total Soil Area Minus Road Area(ft ²) 568,126

5-1	EkD	61,200		0		
5-2	EkD	16,072	222	3,330	12,742	
5-3	EkD	76,939		0		
7-1	EkD	139,549		0		
7-2	EkD	21,408	471	7,065	14,343	
7-3	EkD	40,447	143	2,145	38,302	
7-4	EkD	88,483		0		
18-1	EkD	80,834		0		
18-2	EkD	2,041		0	2,041	
18-3	EkD	1,519		0	1,519	
29-1	EkD	11,481		0		
29-2	EkD	4,672		0	4,672	
29-3	EkD	210,664		0		
29-4	EkD	12,659	533	7,995	4,664	
29-5	EkD	1,567		0	1,567	
29-6	EkD	3,713		0		
<i>145</i>	<i>EkD</i>	<i>0</i>		0		
Total	EkD	773,248	1,369	20,535	79,850	Total Soil Area Minus Road Area(ft ²) 752,713

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)
9	HrF	197,198		0	
<i>48</i>	<i>HrF</i>	<i>171,726</i>		0	
<i>51-A</i>	<i>HrF</i>	<i>50,665</i>		0	
<i>51-B</i>	<i>HrF</i>	<i>1,938</i>		0	
<i>53-1</i>	<i>HrF</i>	<i>2,373,324</i>		0	
53-2	HrF	22,071		0	
53-3	HrF	58,665		0	58,665
53-4	HrF	62,914		0	62,914
53-5	HrF	26,775		0	26,775
53-6	HrF	160,241		0	
53-7	HrF	24,469		0	
53-8	HrF	9,561		0	
53-9	HrF	32,928		0	
53-10	HrF	168,803		0	168,803
53-11	HrF	27,700		0	
53-12	HrF	99,008		0	99,008
53-13	HrF	6,105		0	6,105
53-14	HrF	3,244		0	
65	HrF	29,239		0	
69	HrF	159,642		0	
85-1	HrF	729,969		0	729,969
85-2	HrF	94,280		0	
85-3	HrF	35,430		0	
85-4	HrF	52,445		0	
85-5	HrF	15,201		0	
85-6	HrF	122,082		0	
85-7	HrF	75,584		0	
85-8	HrF	84,022		0	84,022
85-9	HrF	11,174		0	
85-10	HrF	79,390		0	
85-11	HrF	9,828		0	
85-12	HrF	203,471		0	
85-13	HrF	11,215		0	
85-14	HrF	181,112		0	181,112
85-15	HrF	31,126		0	
85-16	HrF	11,863		0	11,863
85-17	HrF	18,387		0	
85-18	HrF	14,769		0	
<i>86-1A</i>	<i>HrF</i>	<i>90,127</i>		0	
<i>86-1B</i>	<i>HrF</i>	<i>37,889</i>		0	
<i>86-1C</i>	<i>HrF</i>	<i>305,576</i>		0	
<i>86-1D</i>	<i>HrF</i>	<i>9,702</i>		0	
<i>86-1E</i>	<i>HrF</i>	<i>15,996</i>		0	
<i>86-1F</i>	<i>HrF</i>	<i>10,145</i>		0	
<i>86-1G</i>	<i>HrF</i>	<i>5,197</i>		0	
<i>86-1H</i>	<i>HrF</i>	<i>4,145</i>		0	
86-2	HrF	8,612	309	4,635	3,977
<i>98</i>	<i>HrF</i>	<i>0</i>		0	
<i>126-A</i>	<i>HrF</i>	<i>29,366</i>		0	
<i>126-B</i>	<i>HrF</i>	<i>10,874</i>		0	
<i>137-A</i>	<i>HrF</i>	<i>7,355</i>		0	
<i>137-B</i>	<i>HrF</i>	<i>3,899</i>		0	
<i>137-C</i>	<i>HrF</i>	<i>9,863</i>		0	
Total	HrF	6,016,310	309	4,635	1,433,213
					Total Soil Area Minus Road Area(ft ²)
					6,011,675

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
81-1	HvD	15,039		0		
81-2	HvD	12,902		0		Total Soil Area Minus Road Area(ft ²)
81-3	HvD	16,194		0	16,194	
Total	HvD	44,135	0	0	16,194	44,135

55-1	HvF	69,796		0		
55-2	HvF	17,399		0	17,399	
<i>92-1A</i>	<i>HvF</i>	<i>17,706</i>		0		
<i>92-1B</i>	<i>HvF</i>	<i>210,989</i>		0		
<i>92-1C</i>	<i>HvF</i>	<i>19,095</i>		0		
92-2	HvF	23,842	440	6,600	17,242	
92-3	HvF	28,262		0		
92-4	HvF	10,213		0		
<i>100-1A</i>	<i>HvF</i>	<i>29,797</i>		0		
<i>100-1B</i>	<i>HvF</i>	<i>78,211</i>		0		
<i>100-2</i>	<i>HvF</i>	<i>16,608</i>		0	16,608	
<i>100-3A</i>	<i>HvF</i>	<i>6,601</i>		0		
<i>100-3B</i>	<i>HvF</i>	<i>1,798</i>		0		
100-4	HvF	5,546		0	5,546	
<i>104-A</i>	<i>HvF</i>	<i>7,681</i>		0		
<i>104-B</i>	<i>HvF</i>	<i>8,167</i>		0		
116	HvF	13,512		0		
<i>119-1A</i>	<i>HvF</i>	<i>84,190</i>		0		
<i>119-1B</i>	<i>HvF</i>	<i>4,582</i>		0		
<i>119-1C</i>	<i>HvF</i>	<i>6,069</i>		0		
119-2	HvF	22,594	251	3,765	18,829	
119-3	HvF	18,909		0		Total Soil Area Minus Road Area(ft ²)
122	HvF	10,110		0		
Total	HvF	711,677	691	10,365	75,624	701,312

146	LeB	0		0	0	Total Soil Area Minus Road Area(ft ²)
149	LeB	28,280		0	0	
Total	LeB	28,280	0	0	0	28,280

8	LeC	221,461		0		
32-1	LeC	50,454		0		
32-2	LeC	6,277		0	6,277	
32-3	LeC	23,684		0		
33	LeC	17,231		0		
35	LeC	14,289		0		
37	LeC	254,905		0		
147	LeC	0		0		Total Soil Area Minus Road Area(ft ²)
150	LeC	43,850		0		
Total	LeC	632,151	0	0	6,277	632,151

36-1	LeD	760,499		0		
36-2	LeD	34,192		0	34,192	Total Soil Area Minus Road Area(ft ²)
36-3	LeD	111,404		0		
Total	LeD	906,095	0	0	34,192	906,095

19	LeF	588,749		0		
31-1	LeF	61,140		0		
31-2	LeF	1,906		0	1,906	Total Soil Area Minus Road Area(ft ²)
31-3	LeF	1,048		0		
34	LeF	21,981		0		
Total	LeF	674,824	0	0	1,906	674,824

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
110-1	<i>OsB</i>	56,907		0		
110-2	<i>OsB</i>	12,408		0	12,408	
131	<i>OsB</i>	20,134		0		
144	<i>OsB</i>	0		0		
Total	OsB	89,449	0	0	12,408	Total Soil Area Minus Road Area(ft²) 89,449

54-1	OsC	44775		0		
54-2	OsC	158,577	4,770	71,550	87,027	
54-3	OsC	4,681		0		
54-4	OsC	2,528		0		
54-5	OsC	34,303		0		
Total	OsC	244,864	4,770	71,550	87,027	Total Soil Area Minus Road Area(ft²) 173,314

39	VeD	425457		0		
43	VeD	81552		0		
167-1	VeD	0		0		
167-2	VeD	0		0	0	
167-3	VeD	0		0		
Total	VeD	507,009	0	0	0	Total Soil Area Minus Road Area(ft²) 507,009

38-1	VeF	282097		0		
38-2	VeF	8473		0	8,473	
38-3	VeF	36,488		0		
40	VeF	20,171		0		
42	VeF	408,251		0		
Total	VeF	755,480	0	0	8,473	Total Soil Area Minus Road Area(ft²) 755,480

50	VhB	19,520		0		
Total		19,520	0	0	0	Total Soil Area Minus Road Area(ft²) 19,520

49-A	VhC	7823		0		
49-B	VhC	186527		0		
49-C	VhC	68058		0		
67	VhC	57078		0		
84-1	VhC	42884		0	42,884	
84-2	VhC	7373		0		
87	VhC	18984		0		
89	VhC	19226		0		
95	VhC	23302		0		
96-A	VhC	9753		0		
96-B	VhC	8066		0		
96-C	VhC	5340		0		
99-A	VhC	67831		0		
99-B	VhC	25568		0		
99-C	VhC	14391		0		
99-D	VhC	14042		0		
103	VhC	8090		0		
105-A	VhC	4418		0		
105-B	VhC	4865		0		
105-C	VhC	22888		0		
117-1	VhC	18160		0	18,160	
117-2	VhC	18,151		0		
Total	VhC	652,818	0	0	61044	Total Soil Area Minus Road Area(ft²) 652,818

Wildacres Resort Water Budget
 Alpha Project No. 02129
 Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
2	VhD	48,079		0		
3	VhD	45,443		0		
4	VhD	39,870		0		
16	VhD	266,000		0		
25-1	VhD	126,427		0		
25-2	VhD	31,531		0	31,531	
25-3	VhD	1,417,766		0		
47-1A	VhD	155,045		0		
47-1B	VhD	16,731		0		
47-1C	VhD	30,428		0		
47-1D	VhD	98,391		0		
47-1E	VhD	162,048		0		
47-2	VhD	3,438		0	3,438	
47-3	VhD	25,000	417	6255	18,745	
56-1	VhD	18,062		0	18,062	
56-2	VhD	45,507		0		
56-3	VhD	25,587		0	25,587	
63-1	VhD	191,898		0		
63-2	VhD	31,235		0	31,235	
63-3	VhD	65,179		0		
63-4	VhD	18,211		0	18,211	
63-5	VhD	17,243		0		
63-6	VhD	4,272		0		
63-7	VhD	1,816		0		
63-8	VhD	39,211		0		
63-9	VhD	2,467		0	2,467	
63-10	VhD	39,395		0	39,395	
63-11	VhD	4,445		0		
63-12	VhD	1,633		0		
63-13	VhD	647		0		
68	VhD	58,771		0		
70	VhD	75,744		0		
75	VhD	19,211		0		
82-1	VhD	27,412		0		
82-2	VhD	4,549		0	4,549	
83-1	VhD	15,228		0		
83-2	VhD	7,597		0	7,597	
88	VhD	41,017		0		
90-A	VhD	28,677		0		
90-B	VhD	20,115		0		
90-C	VhD	23,138		0		
90-D	VhD	21,134		0		
93-1	VhD	5,737	214	3210	2,527	
93-2	VhD	8,921		0		
94	VhD	45,557		0		
97-A	VhD	7,646		0		
97-B	VhD	25,556		0		
101	VhD	30,087		0		
106-A	VhD	44,753		0		
106-B	VhD	94,218		0		
106-C	VhD	19,989		0		
106-D	VhD	17,964		0		
106-E	VhD	7,425		0		
106-F	VhD	41,650		0		
109	VhD	0		0		
112	VhD	2,449		0		
113	VhD	0		0		
115-1A	VhD	3,414		0		
115-1B	VhD	1,861		0		
115-1C	VhD	13,420		0		
115-1D	VhD	38,054		0		
115-2	VhD	10,730	287.26	4309	6,421	
115-3A	VhD	12,046		0		
115-3B	VhD	10,825		0		
118-1A	VhD	20,951		0		
118-1B	VhD	4,219		0		
118-2	VhD	10,913	481	7215	3,698	
120	VhD	4,315		0		
127-A	VhD	28,626		0		
127-B	VhD	24,806		0		
127-C	VhD	18,460		0		
129-A	VhD	2,533		0		
129-B	VhD	16,732		0		
134	VhD	0		0		
135	VhD	12,296		0		
139-A	VhD	4,426		0		
139-B	VhD	2,883		0		
141-1	VhD	0		0	0	
141-2	VhD	0		0	0	
141-3	VhD	0	0	0	0	
143-1	VhD	8,806	260	3900	4,906	
143-2	VhD	6,324		0		
Total	VhD	3,924,190	1659.26	24,889	218,369	Total Soil Area Minus Road Area(ft ²) 3,899,301

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
1	VhF	1,793,960		0		
10-1	VhF	475,972		0		
10-2	VhF	9,055	60	900	8,155	
10-3	VhF	3,911		0		
24	VhF	14,773		0		
27	VhF	23,445		0		
57-1	VhF	523,251		0		
57-2	VhF	7,310		0	7,310	
57-3	VhF	6,535		0	6,535	
66	VhF	66,212		0		
76-1	VhF	11,143		0	11,143	
76-2	VhF	2,420		0		
76-3	VhF	1,935		0	1,935	
76-4	VhF	3,822		0		
76-5	VhF	1,395		0	1,395	
80	VhF	67,499		0		
<i>154-1A</i>	<i>VhF</i>	<i>69,232</i>		0		
<i>154-1B</i>	<i>VhF</i>	<i>1,808</i>		0		
154-2	VhF	8,831	295	4425	4,406	
<i>154-3</i>	<i>VhF</i>	<i>59,765</i>		0		
159	VhF	25,609		0		
<i>162-A</i>	<i>VhF</i>	<i>2,676</i>		0		
<i>162-B</i>	<i>VhF</i>	<i>37,368</i>		0		
						Total Soil Area Minus Road
						Area(ft ²)
Total	VhF	3,217,927	355	5,325	40,879	3,212,602

45-1	VyB	11,991		0	11,991	
45-2	VyB	6,400		0		
<i>46-1</i>	<i>VyB</i>	<i>5,506</i>		0	5,506	
<i>46-2</i>	<i>VyB</i>	<i>6,292</i>		0		
52	VyB	63,771		0		
62	VyB	63,469		0		
72-1	VyB	124,379		0		
72-2	VyB	8,711		0	8,711	
72-3	VyB	3,130		0		
74-1	VyB	60,652		0		
74-2	VyB	18,400		0	18,400	
108	VyB	46,489		0		
<i>142-1</i>	<i>VyB</i>	<i>0</i>		0		
<i>142-2</i>	<i>VyB</i>	<i>0</i>	0	0	0	
						Total Soil Area Minus Road
						Area(ft ²)
Total	VyB	419,190	0	0	44,608	419,190

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area ID	Soil Type	Total Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)
11	VyC	16,966		0	
21	VyC	74,983		0	
22	VyC	36,186		0	
23	VyC	39,849		0	
26	VyC	50,233		0	
41	VyC	20,942		0	
<i>44-1</i>	VyC	<i>184,784</i>	1434	21510	163,274
<i>44-2</i>	VyC	<i>0</i>		0	
44-3	VyC	9,113		0	
44-4	VyC	7,869		0	
44-5	VyC	4,493		0	
44-6	VyC	5,293		0	
44-7	VyC	15,992		0	
71	VyC	79,223		0	
73-1	VyC	12,206		0	
73-2	VyC	116,157		0	116,157
78-1	VyC	22,449		0	22,449
78-2	VyC	9,107		0	
79-1	VyC	96,381		0	96,381
79-2	VyC	23,555		0	
79-3	VyC	2,650		0	
79-4	VyC	10,088		0	
<i>107-A</i>	VyC	<i>16,796</i>		0	
<i>107-B</i>	VyC	<i>11,795</i>		0	
<i>114-1A</i>	VyC	<i>37,160</i>		0	
<i>114-1B</i>	VyC	<i>2,079</i>		0	
<i>114-2</i>	VyC	<i>4,504</i>	0	0	4,504
<i>114-3A</i>	VyC	<i>5,289</i>		0	
<i>114-3B</i>	VyC	<i>2,882</i>		0	
121	VyC	11,962		0	
125	VyC	27,382		0	
<i>128-A</i>	VyC	<i>3,248</i>		0	
<i>128-B</i>	VyC	<i>6,289</i>		0	
<i>138-A</i>	VyC	<i>4,793</i>		0	
<i>138-B</i>	VyC	<i>9,273</i>		0	
<i>138-C</i>	VyC	<i>22,039</i>		0	
<i>138-D</i>	VyC	<i>17,795</i>		0	
<i>140-1</i>	VyC	<i>18,325</i>		0	
<i>140-2</i>	VyC	<i>0</i>	0	0	0
<i>140-3</i>	VyC	<i>0</i>		0	
<i>148</i>	VyC	<i>0</i>		0	
153-1	VyC	6,504	202	3030	3,474
153-2	VyC	28,207		0	
156	VyC	16,177		0	
157	VyC	0		0	
<i>166</i>	VyC	<i>6,315</i>		0	
Total	VyC	1,097,333	1636	24,540	406,239
					Total Soil Area Minus Road Area(ft ²)
					1,072,793

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

italics = area (ft²) has changed, or is new

Area #	Soil Type	Area (ft ²)	Road Lengths (ft)	Road Area (ft ²)	Total Non-wooded Area (ft ²)	
12	VyD	18,282		0		
13	VyD	24,878		0		
58	VyD	142,182		0		
59	VyD	28,455		0		
60	VyD	14,426		0		
61	VyD	37,722		0		
77-1	VyD	7,476		0	7,476	
77-2	VyD	4,909		0		
77-3	VyD	1,881		0		
77-4	VyD	25,412		0		
77-5	VyD	182,380		0	182,380	
77-6	VyD	3,154		0		
77-7	VyD	19,722		0		
77-8	VyD	3,338		0		
123-A	VyD	20,640		0		
123-B	VyD	2,463		0		
155-1	VyD	3,810	98	1470	2,340	
155-2A	VyD	19,824		0		
155-2B	VyD	24,144		0		
155-2C	VyD	8,431		0		
158	VyD	5,393		0		
Total	VyD	598,922	98	1,470	192,196	Total Soil Area Minus Road Area (ft²)
						597,452

102-1A	WIB	2,844		0		
102-1B	WIB	1,593		0		
102-2	WIB	14,337		0	14,337	
102-3	WIB	8,214		0		
102-4	WIB	4,077		0		
111-A	WIB	1,387		0		
111-B	WIB	4,746		0		
133	WIB	0		0		
136	WIB	7,747		0		
151	WIB	269,479		0		
Total	WIB	314,424	0	0	14,337	Total Soil Area Minus Road Area Minus Marlowe (ft²)
						314,424

20	WIC	239,237		0		
130-A	WIC	2,476		0		
130-B	WIC	14,812		0		
132-A	WIC	5,880		0		
132-B	WIC	3,366		0		
152-A	WIC	6,581		0		
152-B	WIC	33,000		0		
Total	WIC	305,352	0	0	0	Total Soil Area Minus Road Area (ft²)
						305,352

Wildacres Resort Water Budget
Alpha Project No. 02129
Soil Areas-Future Conditions

Undeveloped Areas		(A) + (B)	(C)	(A) + (B) + (C)	Total Developed Area as % of Total Proj. Area
(A) Total Road Area	(B) Total Soil Area	Total Undeveloped Project Area	Total Developed Project Area	Total Project Area	
191,629	22,403,165	22,594,794	8,886,247	31,481,041	0.28227

Non-Wooded		
Total Road Area	Total Soil Area	Total Project Area
191,629	2,794,086	31,481,041

Wooded		
Total Road Area	Total Soil Area	Total Project Area
191,629	19,609,079	31,481,041

soil type areas as a percentage of total area (D)

EkB	0.0021	
EkC	0.0180	
EkD	0.0239	
HrF	----	6,011,675 = HrF
Rock	0.0630	1,983,853 = HrF x .33
HaC	0.1279	4,027,822 = HrF x .67
HvD	0.0014	
HvF	0.0223	
LeB	0.0009	
LeC	0.0201	
LeD	0.0288	
LeF	0.0214	
OsB	0.0028	
OsC	0.0055	
VeD	0.0161	
VeF	0.0240	
VhB	0.0006	
VhC	0.0207	
VhD	0.1239	
VhF	0.1020	
VyB	0.0133	
VyC	0.0341	
VyD	0.0190	
WIB	0.0100	
WIC	0.0097	
Roads	0.0061	
		0.7177

Non-Wooded soil type areas as a percentage of total area (E)

EkB	0.0000	
EkC	0.0019	
EkD	0.0025	
HrF	----	1,433,213 = HrF
Rock	0.0150	472,960 = HrF x .33
HaC	0.0305	960,253 = HrF x .67
HvD	0.0005	
HvF	0.0024	
LeB	0.0000	
LeC	0.0002	
LeD	0.0011	
LeF	0.0001	
OsB	0.0004	
OsC	0.0028	
VeD	0.0000	
VeF	0.0003	
VhB	0.0000	
VhC	0.0019	
VhD	0.0069	
VhF	0.0013	
VyB	0.0014	
VyC	0.0129	
VyD	0.0061	
WIB	0.0005	
WIC	0.0000	
		0.0888

Wooded soil type areas as a percentage of total area (D-E)

EkB	0.0021	
EkC	0.0161	
EkD	0.0214	
HrF	----	
Rock	0.0480	
HaC	0.0974	
HvD	0.0009	
HvF	0.0199	
LeB	0.0009	
LeC	0.0199	
LeD	0.0277	
LeF	0.0214	
OsB	0.0024	
OsC	0.0027	
VeD	0.0161	
VeF	0.0237	
VhB	0.0006	
VhC	0.0188	
VhD	0.1169	
VhF	0.1008	
VyB	0.0119	
VyC	0.0212	
VyD	0.0129	
WIB	0.0095	
WIC	0.0097	
		0.6229

Wooded + Non-wooded + Roads + Developed Area = 1.0000

APPENDIX D

Water Budget Analysis Tables - Proposed Areas of Development

WATER BUDGET DATA

Wildacres Resort Analysis for Wildacres Developed Area W1 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.48	2.16	2.35	2.35	0.00	2.22	0.00	0.00	2.35
February	4.36	0.00	0.48	2.09	2.27	2.27	0.00	2.22	0.00	0.00	2.27
March	5.07	0.00	0.48	2.43	2.64	2.64	0.00	2.22	0.00	0.00	2.64
April	5.29	1.01	0.48	2.54	2.75	1.74	0.00	2.22	0.00	1.01	1.74
May	5.75	2.65	0.48	2.76	2.99	0.34	0.00	2.22	0.00	2.65	0.34
June	5.10	3.81	0.48	2.45	2.65	-1.16	-1.16	1.42	-0.80	3.45	0.00
July	4.70	4.61	0.48	2.26	2.44	-2.17	-3.33	0.47	-0.95	3.39	0.00
August	4.91	3.93	0.48	2.36	2.55	-1.38	-4.70	0.24	-0.23	2.78	0.00
September	4.72	2.81	0.48	2.27	2.45	-0.36	-5.06	0.20	-0.04	2.49	0.00
October	4.72	1.43	0.48	2.27	2.45	1.02	0.00	1.22	1.02	1.43	0.00
November	6.00	0.25	0.48	2.88	3.12	2.87	0.00	2.22	1.00	0.25	1.87
December	5.11	0.00	0.48	2.45	2.66	2.66	0.00	2.22	0.00	0.00	2.66

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	28.92
Total AET:	17.46
Total Percolation:	13.86
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Wildacres Developed Area W2 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.48	2.16	2.35	2.35	0.00	3.00	0.00	0.00	2.35
February	4.36	0.00	0.48	2.09	2.27	2.27	0.00	3.00	0.00	0.00	2.27
March	5.07	0.00	0.48	2.43	2.64	2.64	0.00	3.00	0.00	0.00	2.64
April	5.29	1.01	0.48	2.54	2.75	1.74	0.00	3.00	0.00	1.01	1.74
May	5.75	2.65	0.48	2.76	2.99	0.34	0.00	3.00	0.00	2.65	0.34
June	5.10	3.81	0.48	2.45	2.65	-1.16	-1.16	2.01	-0.99	3.64	0.00
July	4.70	4.61	0.48	2.26	2.44	-2.17	-3.33	0.93	-1.08	3.52	0.00
August	4.91	3.93	0.48	2.36	2.55	-1.38	-4.70	0.57	-0.36	2.91	0.00
September	4.72	2.81	0.48	2.27	2.45	-0.36	-5.06	0.51	-0.06	2.51	0.00
October	4.72	1.43	0.48	2.27	2.45	1.02	0.00	1.53	1.02	1.43	0.00
November	6.00	0.25	0.48	2.88	3.12	2.87	0.00	3.00	1.47	0.25	1.40
December	5.11	0.00	0.48	2.45	2.66	2.66	0.00	3.00	0.00	0.00	2.66

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	28.92
Total AET:	17.93
Total Percolation:	13.39
	60.24

WATER BUDGET DATA

Use HvF

Wildacres Resort Analysis for Wildacres Developed Area W3 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.38	1.71	2.80	2.80	0.00	1.90	0.00	0.00	2.80
February	4.36	0.00	0.38	1.66	2.70	2.70	0.00	1.90	0.00	0.00	2.70
March	5.07	0.00	0.38	1.93	3.14	3.14	0.00	1.90	0.00	0.00	3.14
April	5.29	1.01	0.38	2.01	3.28	2.27	0.00	1.90	0.00	1.01	2.27
May	5.75	2.65	0.38	2.19	3.57	0.92	0.00	1.90	0.00	2.65	0.92
June	5.10	3.81	0.38	1.94	3.16	-0.65	-0.65	1.30	-0.60	3.76	0.00
July	4.70	4.61	0.38	1.79	2.91	-1.70	-2.35	0.49	-0.81	3.72	0.00
August	4.91	3.93	0.38	1.87	3.04	-0.89	-3.23	0.30	-0.19	3.23	0.00
September	4.72	2.81	0.38	1.79	2.93	0.12	0.00	0.42	0.12	2.81	0.00
October	4.72	1.43	0.38	1.79	2.93	1.50	0.00	1.90	1.48	1.43	0.01
November	6.00	0.25	0.38	2.28	3.72	3.47	0.00	1.90	0.00	0.25	3.47
December	5.11	0.00	0.38	1.94	3.17	3.17	0.00	1.90	0.00	0.00	3.17

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	22.89
Total AET:	18.87
Total Percolation:	18.48
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Wildacres Developed Area W4 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.46	2.07	2.44	2.44	0.00	2.34	0.00	0.00	2.44
February	4.36	0.00	0.46	2.01	2.35	2.35	0.00	2.34	0.00	0.00	2.35
March	5.07	0.00	0.46	2.33	2.74	2.74	0.00	2.34	0.00	0.00	2.74
April	5.29	1.01	0.46	2.43	2.86	1.85	0.00	2.34	0.00	1.01	1.85
May	5.75	2.65	0.46	2.65	3.11	0.46	0.00	2.34	0.00	2.65	0.46
June	5.10	3.81	0.46	2.35	2.75	-1.06	-1.06	1.42	-0.92	3.67	0.00
July	4.70	4.61	0.46	2.16	2.54	-2.07	-3.13	0.53	-0.89	3.43	0.00
August	4.91	3.93	0.46	2.26	2.65	-1.28	-4.41	0.30	-0.23	2.88	0.00
September	4.72	2.81	0.46	2.17	2.55	-0.26	-4.67	0.27	-0.03	2.58	0.00
October	4.72	1.43	0.46	2.17	2.55	1.12	0.00	1.39	1.12	1.43	0.00
November	6.00	0.25	0.46	2.76	3.24	2.99	0.00	2.34	0.95	0.25	2.04
December	5.11	0.00	0.46	2.35	2.76	2.76	0.00	2.34	0.00	0.00	2.76

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	27.71
Total AET:	17.90
Total Percolation:	<u>14.63</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Wildacres Developed Area W5 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.45	2.03	2.48	2.48	0.00	3.58	0.00	0.00	2.48
February	4.36	0.00	0.45	1.96	2.40	2.40	0.00	3.58	0.00	0.00	2.40
March	5.07	0.00	0.45	2.28	2.79	2.79	0.00	3.58	0.00	0.00	2.79
April	5.29	1.01	0.45	2.38	2.91	1.90	0.00	3.58	0.00	1.01	1.90
May	5.75	2.65	0.45	2.59	3.16	0.51	0.00	3.58	0.00	2.65	0.51
June	5.10	3.81	0.45	2.30	2.81	-1.01	-1.01	2.99	-0.59	3.40	0.00
July	4.70	4.61	0.45	2.12	2.59	-2.03	-3.04	1.46	-1.53	4.12	0.00
August	4.91	3.93	0.45	2.21	2.70	-1.23	-4.26	1.00	-0.46	3.16	0.00
September	4.72	2.81	0.45	2.12	2.60	-0.21	-4.48	0.94	-0.06	2.66	0.00
October	4.72	1.43	0.45	2.12	2.60	1.17	0.00	2.11	1.17	1.43	0.00
November	6.00	0.25	0.45	2.70	3.30	3.05	0.00	3.58	1.47	0.25	1.58
December	5.11	0.00	0.45	2.30	2.81	2.81	0.00	3.58	0.00	0.00	2.81

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	27.11
Total AET:	18.67
Total Percolation:	14.47
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Wildacres Developed Area W6 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.53	2.39	2.12	2.12	0.00	3.50	0.00	0.00	2.12
February	4.36	0.00	0.53	2.31	2.05	2.05	0.00	3.50	0.00	0.00	2.05
March	5.07	0.00	0.53	2.69	2.38	2.38	0.00	3.50	0.00	0.00	2.38
April	5.29	1.01	0.53	2.80	2.49	1.48	0.00	3.50	0.00	1.01	1.48
May	5.75	2.65	0.53	3.05	2.70	0.05	0.00	3.50	0.00	2.65	0.05
June	5.10	3.81	0.53	2.70	2.40	-1.41	-1.41	2.28	-1.22	3.62	0.00
July	4.70	4.61	0.53	2.49	2.21	-2.40	-3.81	1.10	-1.18	3.39	0.00
August	4.91	3.93	0.53	2.60	2.31	-1.62	-5.43	0.67	-0.43	2.74	0.00
September	4.72	2.81	0.53	2.50	2.22	-0.59	-6.02	0.57	-0.10	2.32	0.00
October	4.72	1.43	0.53	2.50	2.22	0.79	0.00	1.36	0.79	1.43	0.00
November	6.00	0.25	0.53	3.18	2.82	2.57	0.00	3.50	2.14	0.25	0.43
December	5.11	0.00	0.53	2.71	2.40	2.40	0.00	3.50	0.00	0.00	2.40

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	31.93
Total AET:	17.40
Total Percolation:	10.91
	60.24

WATER BUDGET DATA

Wildacres Resort Analysis for Golf Course Areas G1 - G5 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.26	1.17	3.34	3.34	0.00	2.40	0.00	0.00	3.34
February	4.36	0.00	0.26	1.13	3.23	3.23	0.00	2.40	0.00	0.00	3.23
March	5.07	0.00	0.26	1.32	3.75	3.75	0.00	2.40	0.00	0.00	3.75
April	5.29	1.01	0.26	1.38	3.91	2.90	0.00	2.40	0.00	1.01	2.90
May	5.75	2.65	0.26	1.50	4.26	1.61	0.00	2.40	0.00	2.65	1.61
June	5.10	3.81	0.26	1.33	3.77	-0.04	-0.04	2.32	-0.08	3.85	0.00
July	4.70	4.61	0.26	1.22	3.48	-1.13	-1.17	1.38	-0.94	4.42	0.00
August	4.91	3.93	0.26	1.28	3.63	-0.30	-1.47	1.18	-0.20	3.83	0.00
September	4.72	2.81	0.26	1.23	3.49	0.68	0.00	1.86	0.68	2.81	0.00
October	4.72	1.43	0.26	1.23	3.49	2.06	0.00	2.40	0.54	1.43	1.53
November	6.00	0.25	0.26	1.56	4.44	4.19	0.00	2.40	0.00	0.25	4.19
December	5.11	0.00	0.26	1.33	3.78	3.78	0.00	2.40	0.00	0.00	3.78

Average Annual Precipitation: 60.24

Total Runoff :	15.66
Total AET:	20.26
Total Percolation:	24.32
	60.24

Note(s):

Soil moisture storage (ST) for golf course area based on sandy loam substrate with 12" root zone and soil moisture capacity of 0.20 in/in.
Runoff coefficient (CR) for golf course area determined from Dunne and Leopold, 1978

WATER BUDGET DATA

Wildacres Resort Analysis for Highmount Estates Area H1 (Future Conditions) Alpha Project No. 02129

	Precip.	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC
January	4.51	0.00	0.49	2.21	2.30	2.30	0.00	1.88	0.00	0.00	2.30
February	4.36	0.00	0.49	2.14	2.22	2.22	0.00	1.88	0.00	0.00	2.22
March	5.07	0.00	0.49	2.48	2.59	2.59	0.00	1.88	0.00	0.00	2.59
April	5.29	1.01	0.49	2.59	2.70	1.69	0.00	1.88	0.00	1.01	1.69
May	5.75	2.65	0.49	2.82	2.93	0.28	0.00	1.88	0.00	2.65	0.28
June	5.10	3.81	0.49	2.50	2.60	-1.21	-1.21	0.93	-0.95	3.55	0.00
July	4.70	4.61	0.49	2.30	2.40	-2.21	-3.42	0.26	-0.67	3.07	0.00
August	4.91	3.93	0.49	2.41	2.50	-1.43	-4.85	0.11	-0.15	2.65	0.00
September	4.72	2.81	0.49	2.31	2.41	-0.40	-5.25	0.09	-0.02	2.43	0.00
October	4.72	1.43	0.49	2.31	2.41	0.98	0.00	1.07	0.98	1.43	0.00
November	6.00	0.25	0.49	2.94	3.06	2.81	0.00	1.88	0.81	0.25	2.00
December	5.11	0.00	0.49	2.50	2.61	2.61	0.00	1.88	0.00	0.00	2.61

Average Annual Precipitation: 60.24

Note(s):

Total Runoff :	29.52
Total AET:	17.04
Total Percolation:	<u>13.68</u>
	<u>60.24</u>

WATER BUDGET DATA

Wildacres Resort Analysis for Soil Types WIB: Non-Wooded (Future Conditions) Alpha Project No. 02129

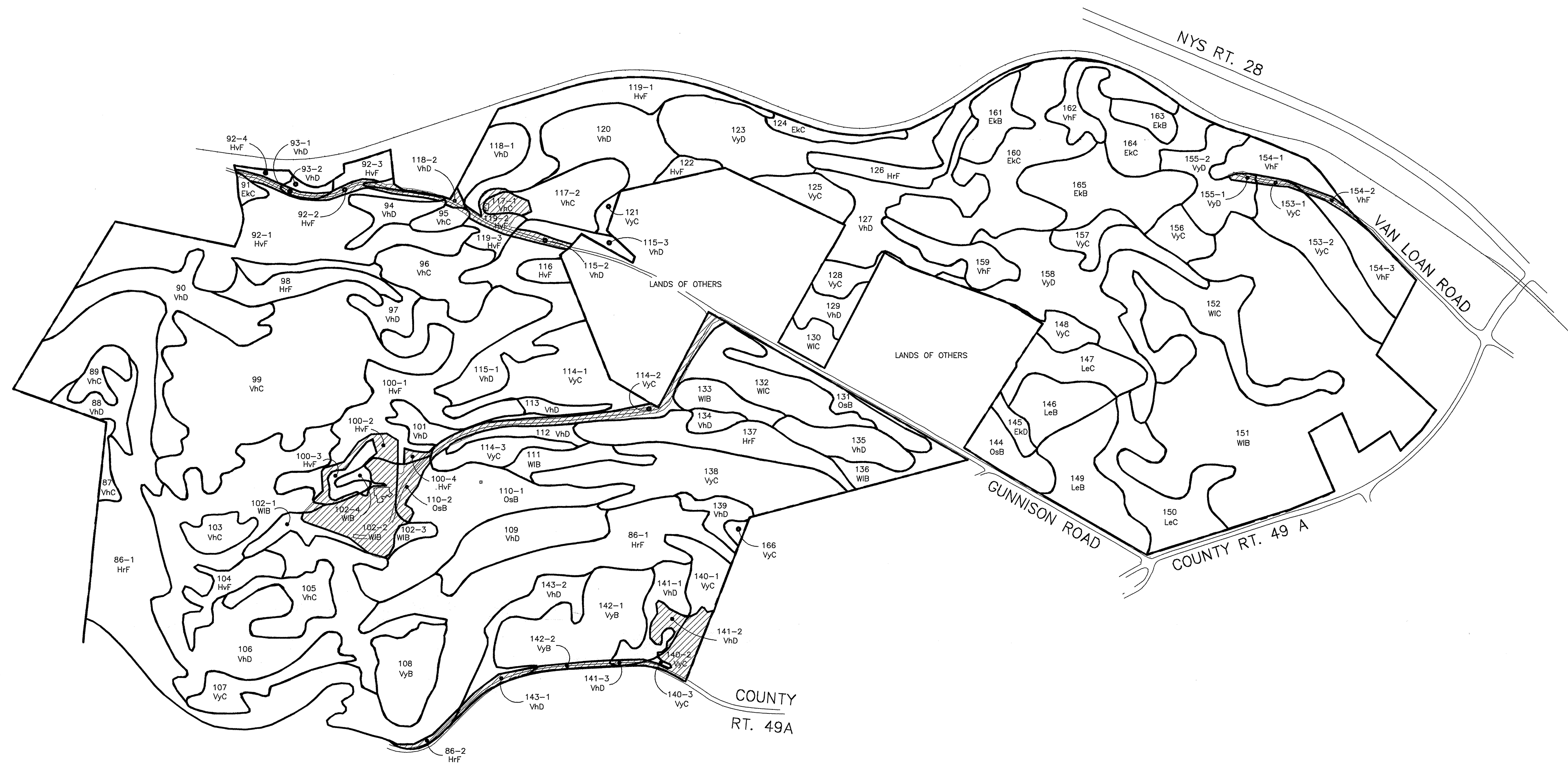
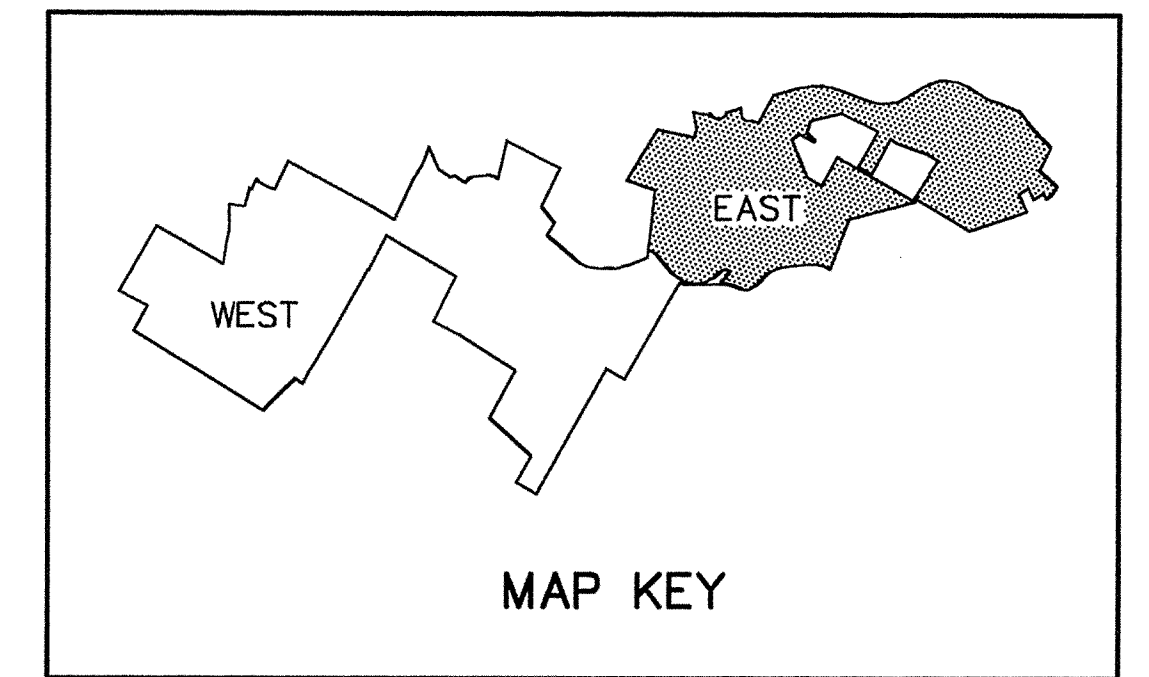
	Precip. (inches)	PET	Runoff Coeff. (CR)	Runoff (RO) CR x Precip.	Infiltration (INF)	INF-PET	Σ Neg (INF-PET)	Soil Moisture Storage (ST)	Δ ST	AET	PERC (inches)
January	4.51	0.00	0.32	1.44	3.07	3.07	0.00	3.50	0.00	0.00	3.07
February	4.36	0.00	0.32	1.40	2.96	2.96	0.00	3.50	0.00	0.00	2.96
March	5.07	0.00	0.32	1.62	3.45	3.45	0.00	3.50	0.00	0.00	3.45
April	5.29	1.01	0.32	1.69	3.60	2.59	0.00	3.50	0.00	1.01	2.59
May	5.75	2.65	0.32	1.84	3.91	1.26	0.00	3.50	0.00	2.65	1.26
June	5.10	3.81	0.32	1.63	3.47	-0.34	-0.34	3.15	-0.35	3.82	0.00
July	4.70	4.61	0.32	1.50	3.20	-1.41	-1.75	2.05	-1.10	4.30	0.00
August	4.91	3.93	0.32	1.57	3.34	-0.59	-2.35	1.71	-0.34	3.68	0.00
September	4.72	2.81	0.32	1.51	3.21	0.40	0.00	2.11	0.40	2.81	0.00
October	4.72	1.43	0.32	1.51	3.21	1.78	0.00	3.50	1.39	1.43	0.39
November	6.00	0.25	0.32	1.92	4.08	3.83	0.00	3.50	0.00	0.25	3.83
December	5.11	0.00	0.32	1.64	3.47	3.47	0.00	3.50	0.00	0.00	3.47

Average Annual Precipitation: 60.24 inches


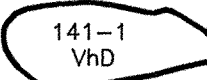
Total Runoff (in.):	19.28
Total AET (in.):	19.94
Total Percolation (in.):	<u>21.02</u>
	<u>60.24</u>

Note(s):

Soil Area excludes Marlowe Mansion, which is included in Wildacres Resort area W1 for the future conditions. This soil area is essentially undeveloped, however, the total percolation is different than existing conditions due to the exclusion of the Marlowe Mansion. The effects of the building are incorporated in the runoff coefficient for W1.



LEGEND

-  SOIL AREA DELINEATION WITH SYMBOL AND ID. NUMBER (HATCHED: NON-WOODED)
-  SOIL AREA DELINEATION WITH SYMBOL AND ID. NUMBER (NO HATCHING: WOODED)

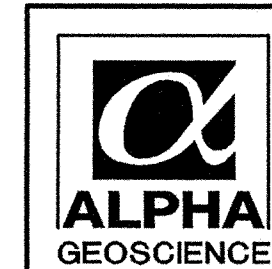
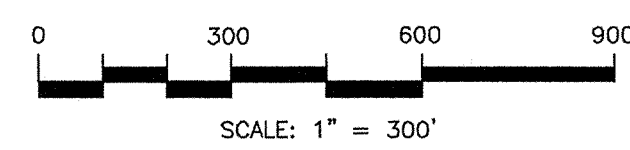
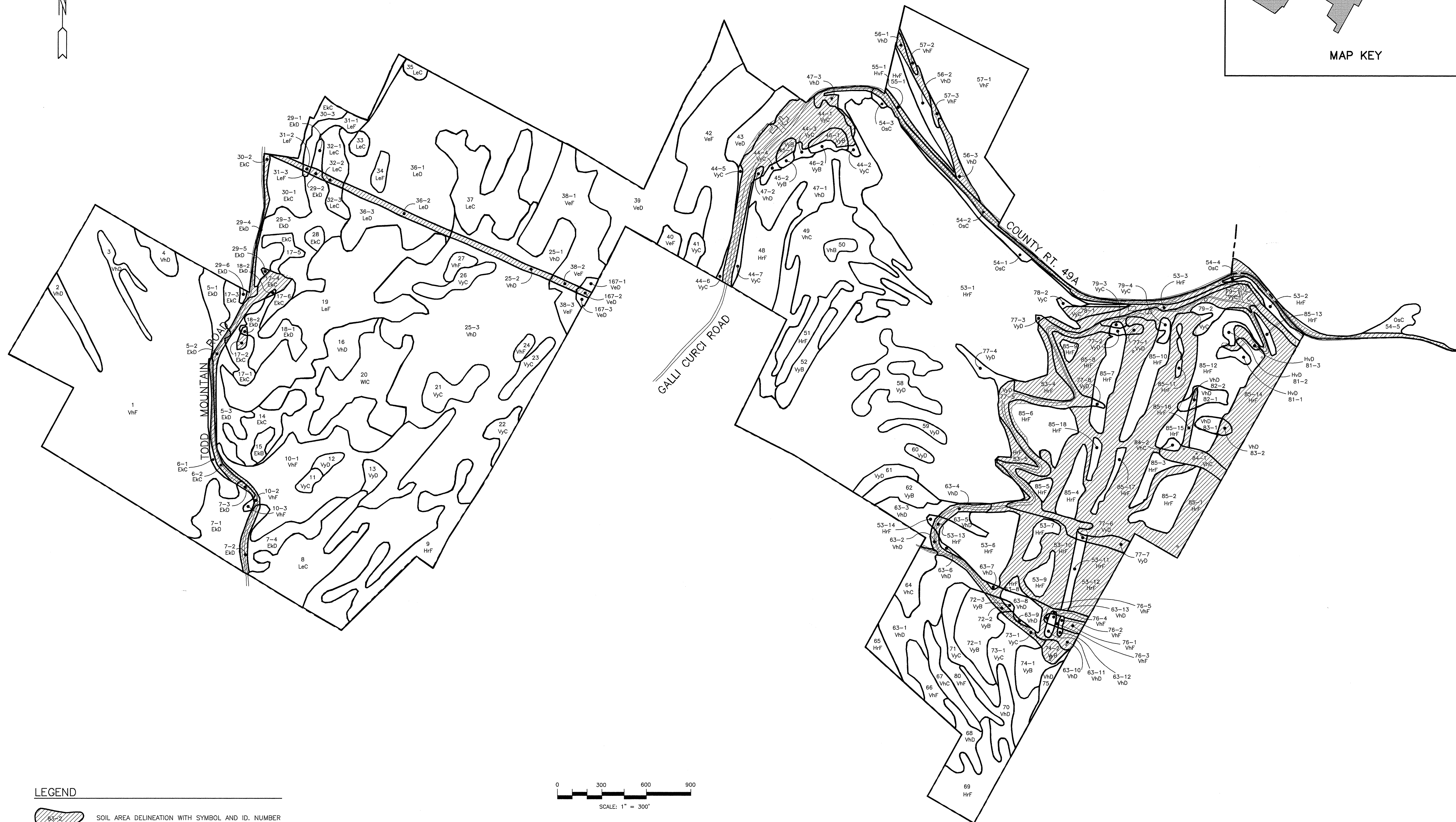
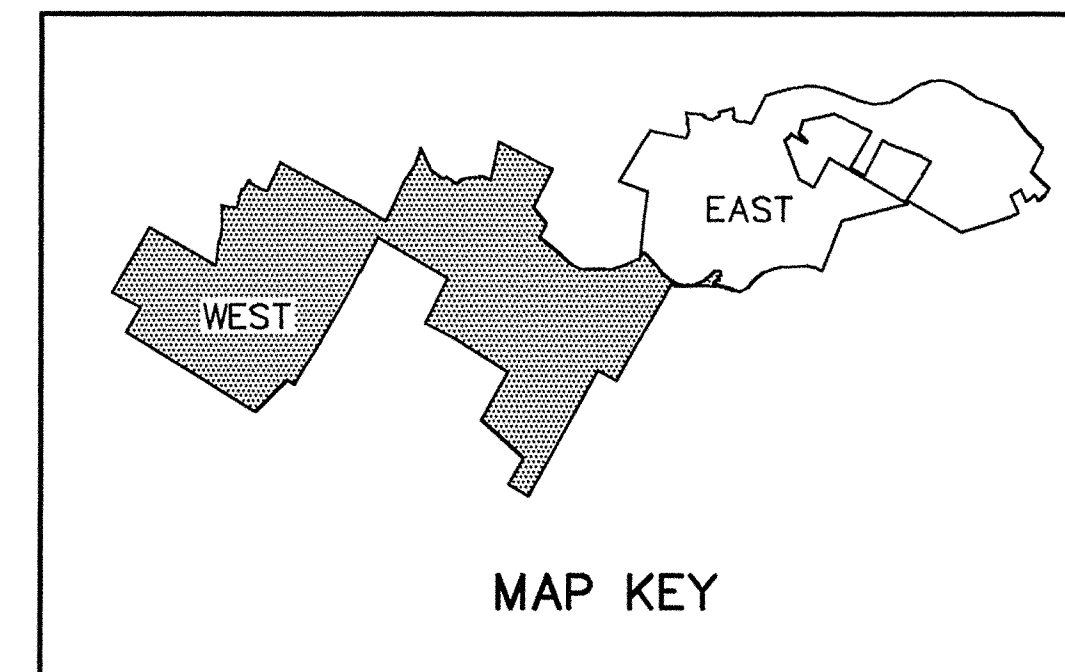


PLATE 1
EXISTING CONDITIONS
(EAST AREA)
SOIL AREA IDENTIFICATION MAP

PROJECT: 02129
 WILDACRES AREA-2E.DWG

WILDACRES RESORT
 HIGHMOUNT, NEW YORK



LEGEND

- SOIL AREA DELINEATION WITH SYMBOL AND ID. NUMBER (HATCHED: NON-WOODED)
- SOIL AREA DELINEATION WITH SYMBOL AND ID. NUMBER (NO HATCHING: WOODED)

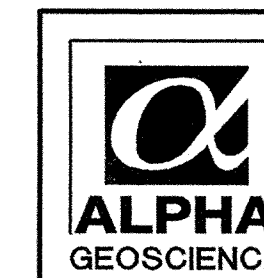
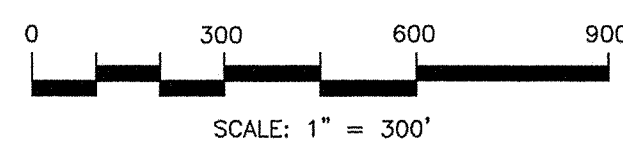
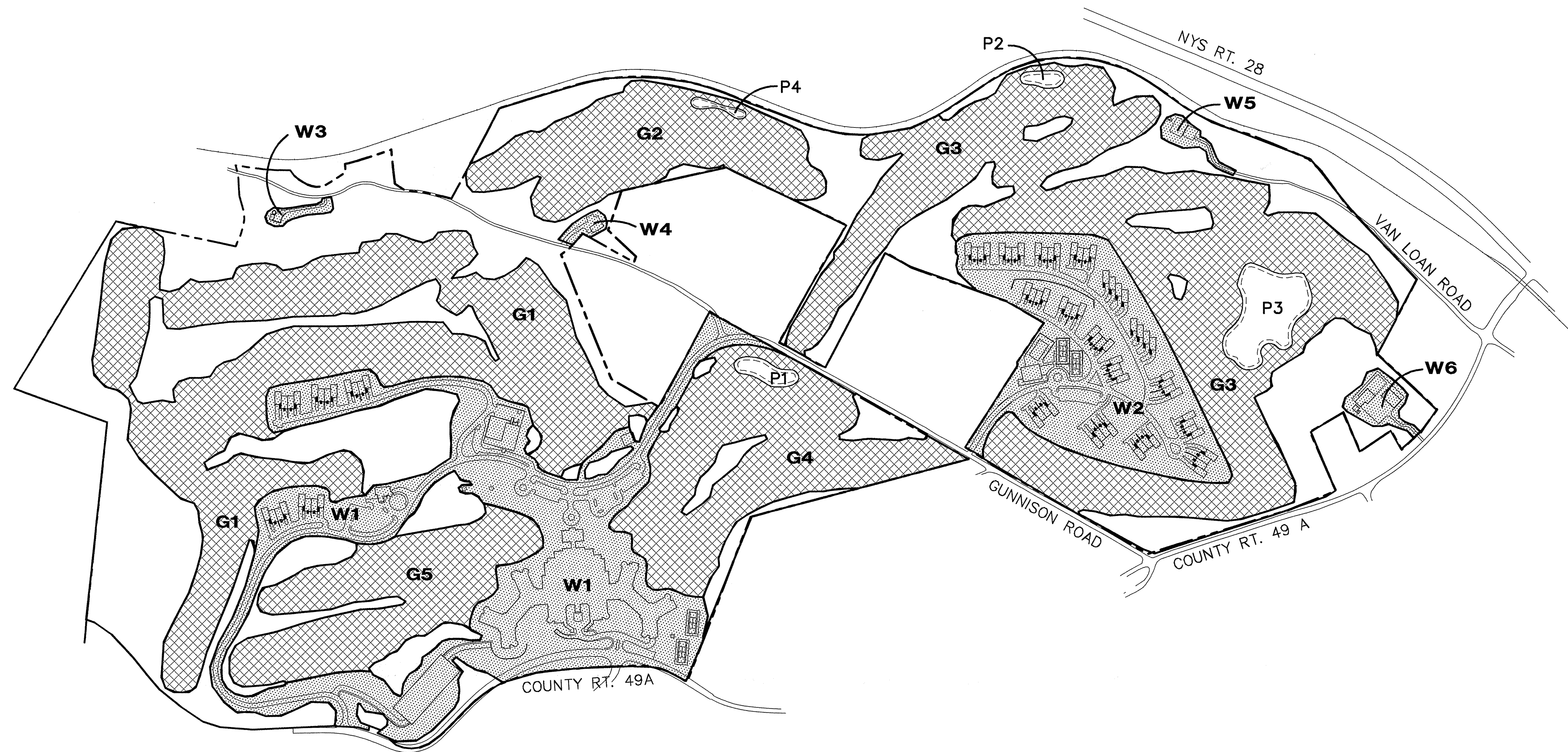
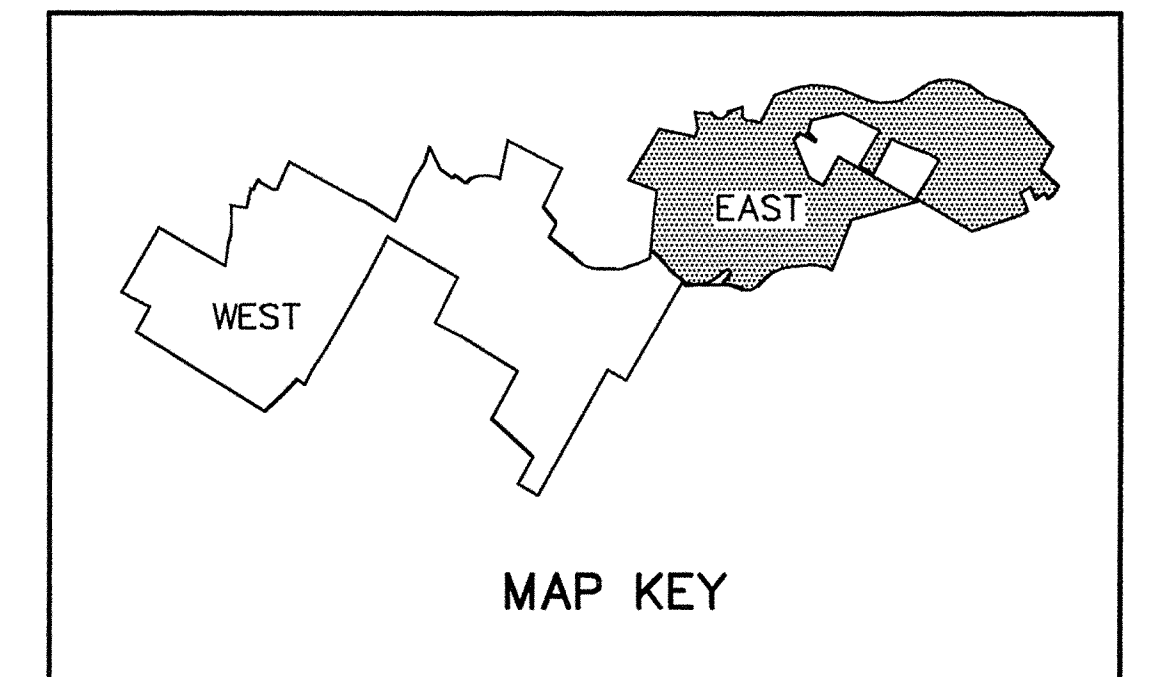






PLATE 2
EXISTING CONDITIONS
(WEST AREA)
SOIL AREA IDENTIFICATION MAP

PROJECT: 02129
 WILDACRES AREA-1E.DWG

WILDACRES RESORT
 HIGHMOUNT, NEW YORK



LEGEND

-  **G1** HIGHMOUNT COUNTRY CLUB GOLF COURSE AREA WITH ID.
-  **W3** WILD ACRES RESORT DEVELOPMENT AREA WITH ID.
-  **P2** POND WITH ID.
-  UNDEVELOPED SOIL AREA

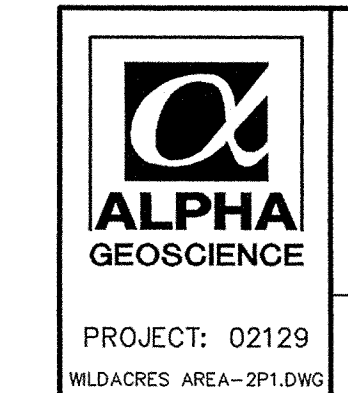
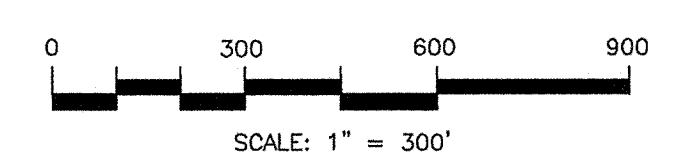
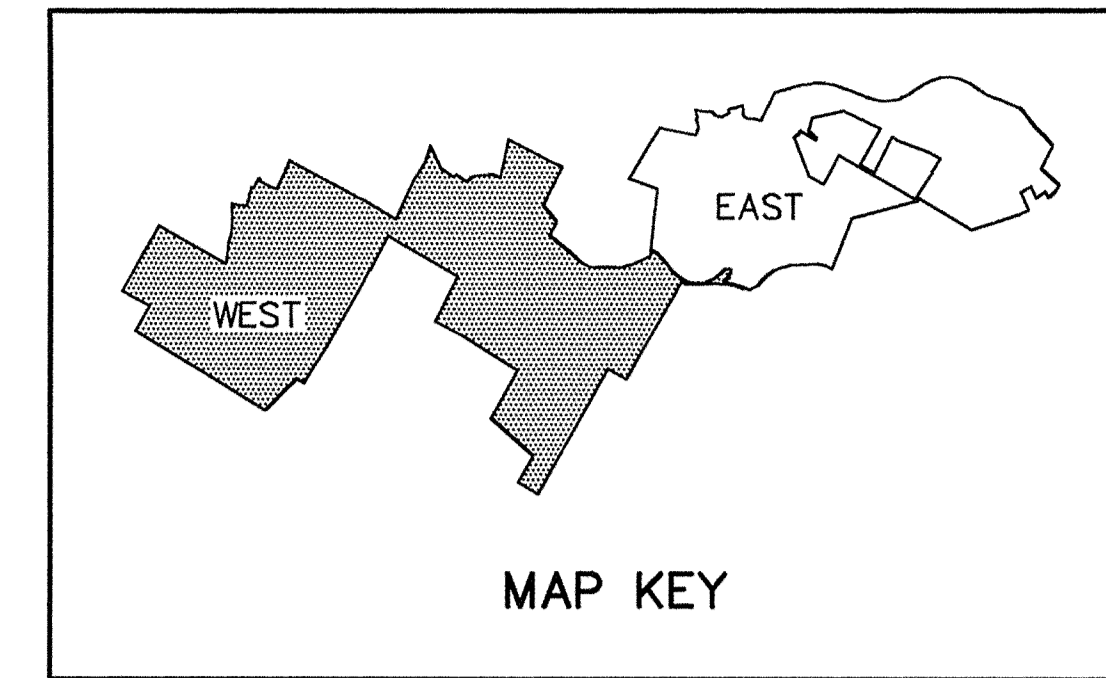


PLATE 3
FUTURE CONDITIONS - DEVELOPED LANDS
(EAST AREA)

WILDACRES RESORT
HIGHMOUNT, NEW YORK



- LEGEND**
- H1** PROPOSED HIGHMOUNT ESTATES DEVELOPMENT AREA
 - SOILS AREAS UNCHANGED FROM EXISTING CONDITIONS
SEE PLATE 2 FOR SOILS DESIGNATIONS
 - 47-1D VhD** SOILS AREAS ALTERED BY DEVELOPMENT BOUNDARY
 - HIGHMOUNT ESTATES SUBDIVISION BOUNDARY

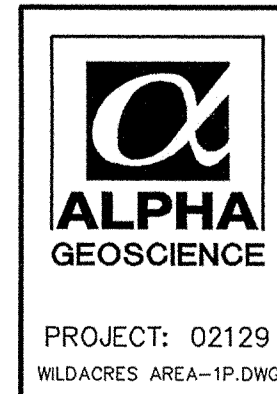
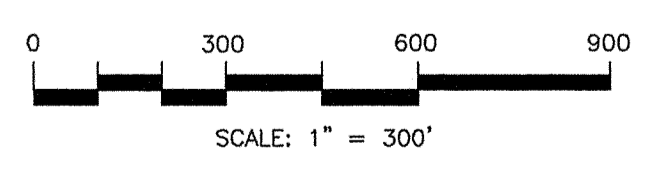
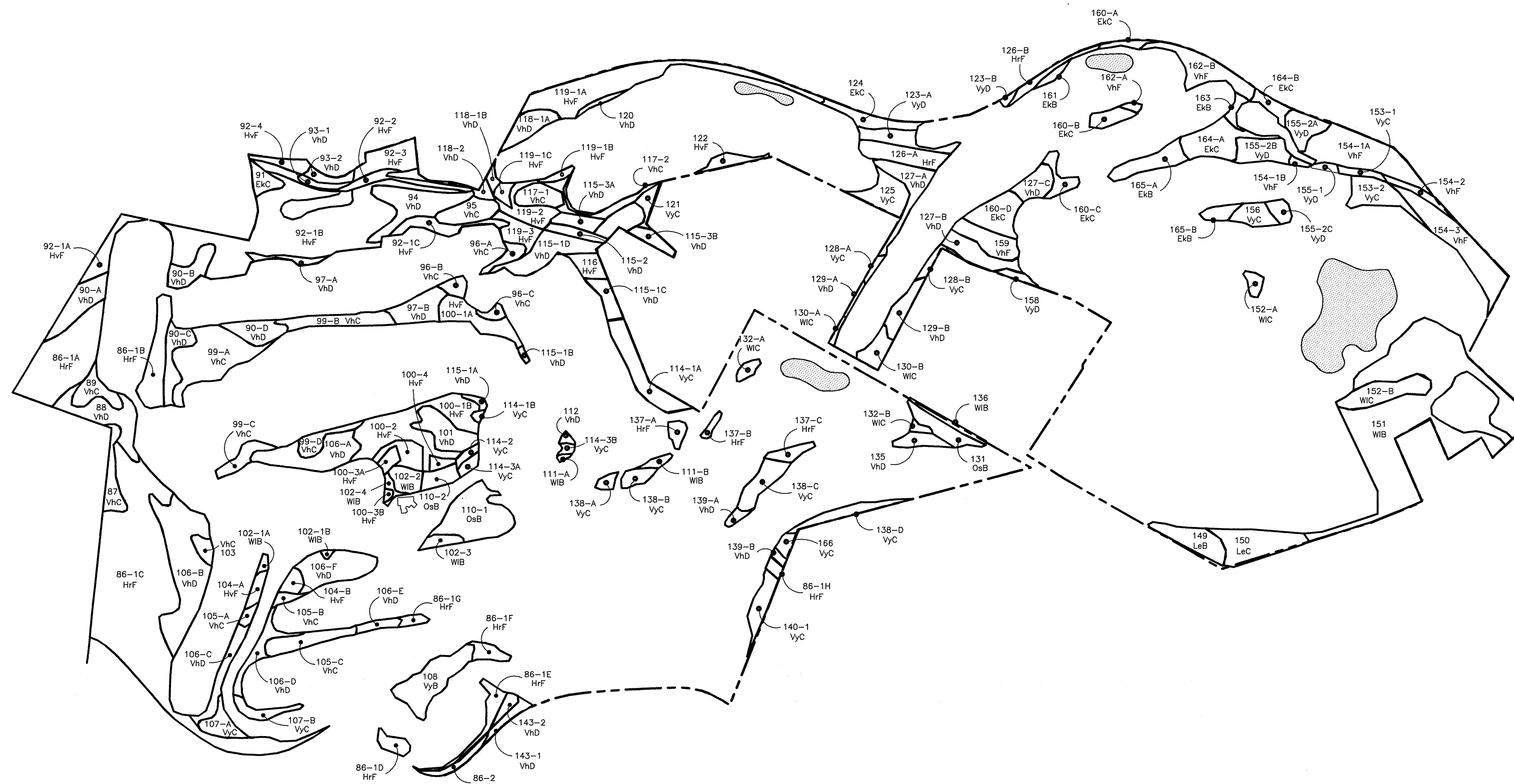
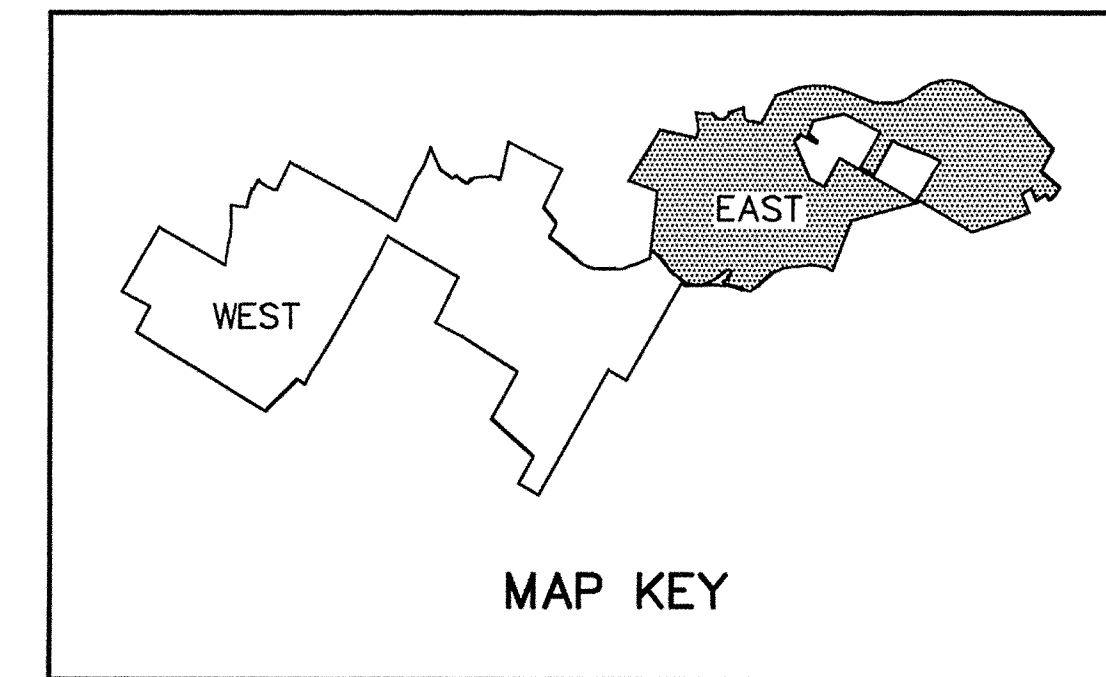


PLATE 4
FUTURE CONDITIONS – UNDEVELOPED SOILS AND DEVELOPED LANDS (WEST AREA)
 WILDACRES RESORT
 HIGHMOUNT, NEW YORK

PROJECT: 02129
 WILDACRES AREA-1P.DWG



LEGEND

86-1F Hrf
UNDEVELOPED SOIL AREA DELINEATION WITH SYMBOL AND ID. NUMBER UNDISTURBED FROM EXISTING CONDITIONS

PONDS

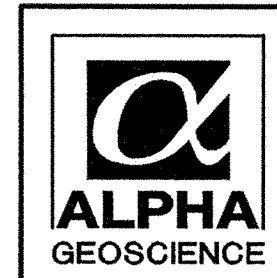
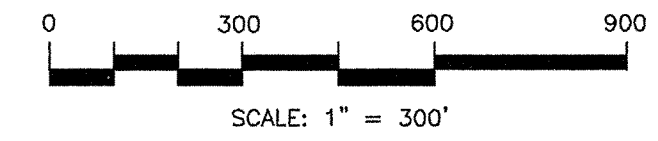


PLATE 5
FUTURE CONDITIONS – UNDEVELOPED SOILS
(EAST AREA)

PROJECT: 02129
WILDACRES AREA-2P2.DWG

WILDACRES RESORT
HIGHMOUNT, NEW YORK