

SITE ADDRESS: 19970 S Hwy 29 Middletown CA 95461  
APN: 014-280-180  
TOTAL AREA OF PROPERTY: 496 ACRES

PROPOSED FUTURE ACCESS  
ROAD TO MAINTENANCE  
COMPOUND, ACCESS  
POINT DEEDED BY  
CALTRANS, INSTRUMENT #  
93-015180 OF OFFICIAL  
RECORDS, ENCROACHMENT  
PERMIT FOR ACCESS ROAD  
CONSTRUCTION WILL BE  
NEEDED

PROPOSED MAINTENANCE  
COMPOUND LOCATION  
RIPARIAN VEGETATION, TYP

WELL #2  
(PERMIT #WE-4962)  
100 FT POLLUTION  
CONTROL RADIUS

ADDITIONAL CANDIDATE  
FOR FUTURE GOLF  
LODGING

WELL #1  
(PERMIT #WE-4968)  
100 FT POLLUTION  
CONTROL RADIUS

CRAZY CREEK TOP OF  
BANK, TRIBUTARIES &  
WETLANDS PER  
NORTHWEST BIOSURVEY'S  
MAP DATED 7/31/2018, TYP

50'-0" WETLAND  
SETBACK, TYP

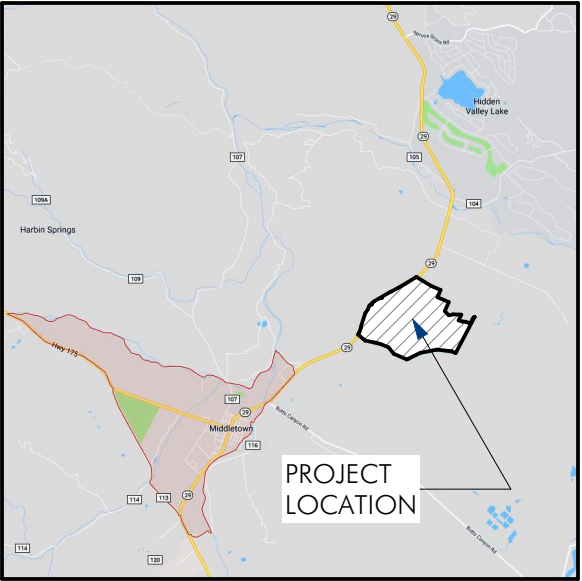
PRIMARY CANDIDATE  
FOR FUTURE GOLF  
LODGING

EXISTING SEPTIC  
SYSTEM TO REMAIN  
(PERMIT #11553)

PROPERTY LINE  
DIMENSIONS PER  
PRELIMINARY TITLE  
REPORT, TYP

PG&E POWERLINE ALIC  
EXISTING RANCH  
ROAD TO REMAIN  
PROPOSED PARKING  
AREA (17 STD SPACES + 3  
ADA SPACES = 20 TOTAL)  
PROPOSED CLUBHOUSE  
(UNDER SEPARATE PERMIT)  
PROPERTY LINE, TYP

PROPOSED PARKING  
AREA (46 STD SPACES)



VICINITY MAP

GOLF ACCESS  
PROPERTY  
ENTRANCE

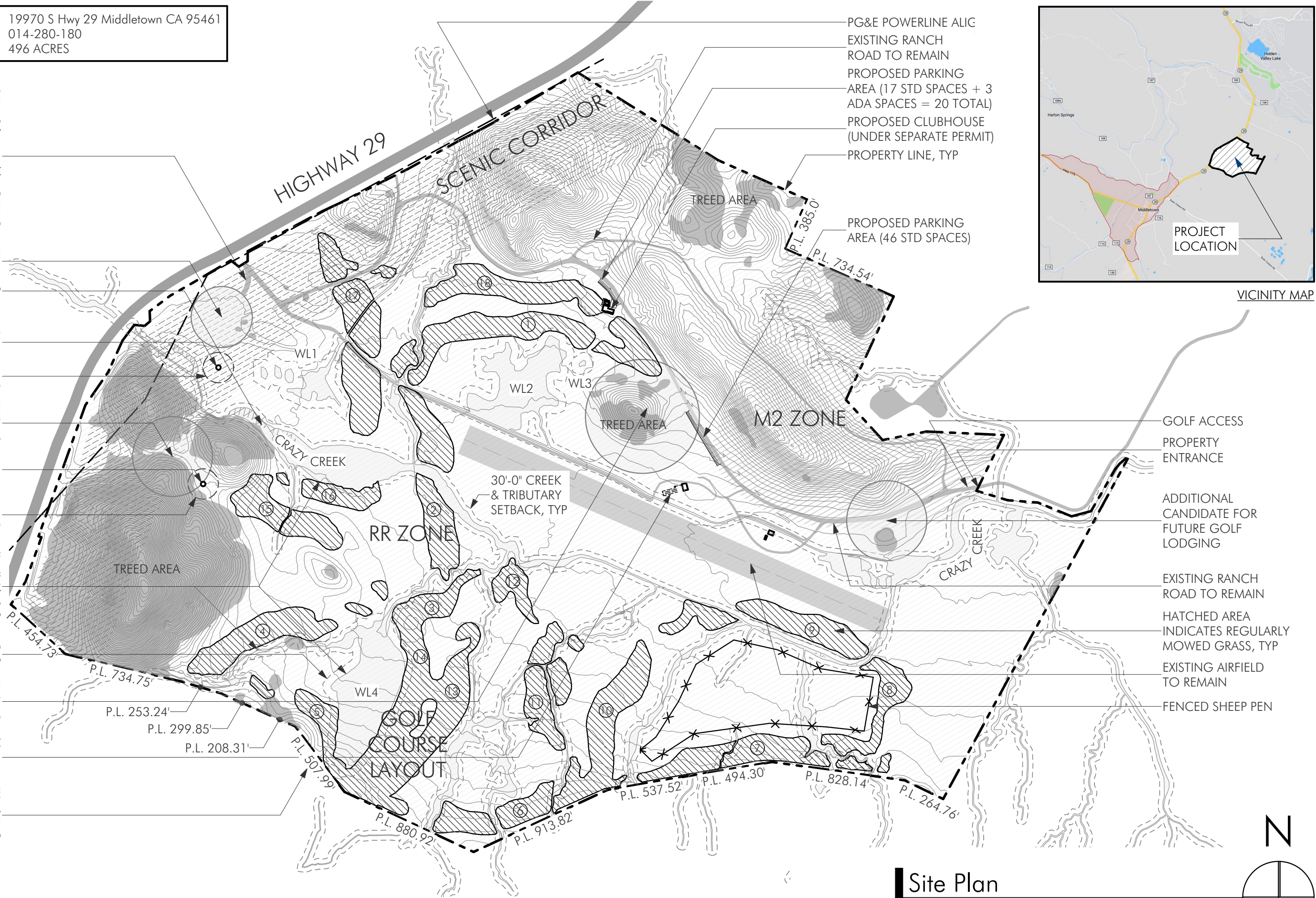
ADDITIONAL  
CANDIDATE FOR  
FUTURE GOLF  
LODGING

EXISTING RANCH  
ROAD TO REMAIN

HATCHED AREA  
INDICATES REGULARLY  
MOWED GRASS, TYP

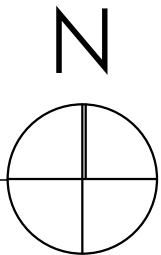
EXISTING AIRFIELD  
TO REMAIN

FENCED SHEEP PEN



Site Plan

SCALE: 1" = 600'-0"



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APN:

014-280-180

TOTAL AREA OF PROPERTY:

496 ACRES

AREA	CUT	FILL	NOTES
CU YDS			
A		-	STOCKPILE AREA
B		1000	FILL FOR FEATURE SHAPING
C		2000	FILL TO CAP EXISTING HILL
D		500	FILL FOR FEATURE SHAPING
E		500	FILL FOR FEATURE SHAPING
F		1000	FILL FOR FEATURE SHAPING
G	6000		CUT TO GENERATE FILL FOR FEATURE SHAPING
H		2000	FILL FOR FEATURE SHAPING
I		4000	FILL FOR FEATURE SHAPING
J	2000		POTENTIAL CUT AREA
K		500	FILL FOR FEATURE SHAPING
L		4000	FILL FROM "M" TO MAKE SMALL HILL
M	4000		CUT FOR "L"
N	2000		CUT TO CREATE GOLF FEATURE
O	5000		CUT TO CREATE GOLF FEATURE AND GENERATE FILL FOR "R", "S" AND "P"
P		1000	FILL FOR FEATURE SHAPING
Q			NEGILBLE
R		1000	FILL FOR FEATURE SHAPING
S		2000	FILL FOR FEATURE SHAPING
T		2000	FILL FOR FEATURE SHAPING
U	20000		MAIN CUT AREA, ALSO STOCKPILE AND POTENTIAL FOR WATER MANAGEMENT
V		2000	FILL FOR FEATURE SHAPING
W		1000	FILL FOR FEATURE SHAPING
X	3000		POTENTIAL CUT AREA
Y		2000	FILL FOR FEATURE SHAPING
Z			STOCKPILE AREA
AA		-	STOCKPILE AREA
AB		4000	FILL FOR CAPPING WOOD CHIP "DUNE"
AC		3000	FILL FOR FEATURE SHAPING
AD	4500		POTENTIAL CUT AREA
AE		1000	FILL FOR FEATURE SHAPING
AF		2000	FILL FOR FEATURE SHAPING
AG		-	STOCKPILE AREA
SUBTOTAL		36500	
CONTINGENCY		10000	EXTRA WHERE NEEDED INCLUDING AIRPORT IMPROVEMENTS (AH)
TOTAL		46500	BALANCED

LEGEND

GENERAL FILL AREAS (3'-10' TYP.)

GENERAL CUT AREAS (3'-6' TYP.)

GENERAL AREAS FOR AGRICULTURAL "MOLE" DRAINS, LEAVING IN PLACE INDIGENOUS SOILS

LIGHT FILL AREAS (1'-3' TYP.)

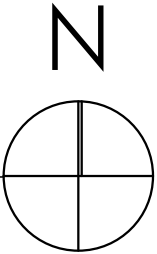
AREAS TO BE SHAPED BALANCING CUT/FILL, GENERALLY

SILT TRAP, SERVICE AND WATER RELEASE POINT, "BUBBLER" TYPE

4"-8" CORRUGATED PIPE DRAIN, DOUBLE-WALLED NDS TYPE

Conceptual Grading Plan

SCALE: 1" = 600'-0"





### Description of grading and golf course shaping

We estimate that an area of approximately 15-20 acres will be graded for the golf course. This area represents  $\pm 3\%$  of our total property acreage. Golf course grading constitutes cutting or filling or otherwise contouring the ground for golf, as opposed to merely preparing the existing soils for turf, by means of agricultural disking or tilling.

Across these 15-20 acres we intend to move and shape the indigenous soils, cutting and filling to create suitable features for golf. Typical cuts and fills will be in the 1-5 ft range, a few larger fills will be in the 5-15 ft range. Where appropriate, quality topsoil will be preserved. With the possible exception of capping a pile of wood chips on the west end of the property, we do not anticipate any fills greater than 15 ft in height. No fills are intended to support structures. The expected total volume of cut-to-fill is estimated to be 46,500 cubic yards, distributed between 20-25 work locations on the property. Please refer to the accompanying Golf Course Grading Concept Map & Table showing estimated quantities for each area in question. Generally, soil will be excavated with excavators and transported to fill locations using small off-road dump trucks.

We estimate importing a total of 20,000 cubic yards of specialty soils, sands and gravels to the property, with details roughly as follows:

- Rootzone growing medium for greens and tees: 10,000 cubic yards
- Gravel for greens and tees drainage: 3,500 cubic yards
- Sand for bunkers and drainage: 6,500 cubic yards

We are fully conversant with Chapter 30 of the Lake County Code which stipulates grading, erosion and dust control requirements. We have the potential for NOA in our soils and will take the necessary precautions as these will be stipulated in our permit conditions.

### Description of anticipated water use to operate the project

There is a considerable difference in water use requirements for golf course ESTABLISHMENT and golf course MAINTENANCE. There is a considerable difference in the water use for a conventional golf course and the kind of golf course that is proposed in our project. For purposes of establishing new grass, water lost to evapotranspiration (ET) must be replaced through either natural rainfall or artificial irrigation. After establishment, the grasses can be permitted to dry out and even go dormant depending on the playing characteristics that are produced by doing so, and the exact seasonal conditions. The following chart shows monthly ET rates for Zone 8 of the California Department of Water Resources map, which includes Middletown (copy attached), monthly historical rainfall for Middletown (1896 to 2016), and the difference between the two.

Month	Precip	ET	Surplus/Def
	Inches		
Jan	7.30	1.24	6.06
Feb	5.38	1.68	3.70
Mar	2.79	3.41	-0.62
Apr	1.22	4.80	-3.58
May	0.23	6.20	-5.97
June	0.02	6.90	-6.88
Jul	0.10	7.44	-7.34
Aug	0.42	6.51	-6.09
Sep	2.34	5.10	-2.76
Oct	5.37	3.41	1.96
Nov	8.83	1.80	7.03
Dec	10.07	0.93	9.14
Yr	44.11	49.40	-5.29

The heaviest water use—by far—will be during the one-time summer grow-in periods when the new grass is being established. The peak requirement for replacing a theoretical 7.44" of evapotranspiration minus 0.10" of rainfall in Middletown in July, for example, is roughly 6,000-8,000 gallons per acre per day.

The annual average to operate the golf course, however, will be much lower, likely in the range of 500-1,000 gallons per acre of turf per day. We intend to irrigate as little as possible for purposes of producing the optimal turf conditions for golf. Since we estimate irrigating a maximum of 100 acres of turf, and practically even less since there will be a gradation of water use from most intensive to least intensive for each area of the golf course, our theoretical annual water use to operate the established golf course will be maximum 100 acre-feet. This amount is comparable with the per-acre water use for growing grapes. The total annual rainfall on our property amounts to about 1,700 acre-feet, or seventeen times the amount that is required to irrigate the golf course, for reference. Exactly how much of this rain can be used for irrigating the golf course will depend on the exact timing of the rainfall and whether at that time the golf course grasses will be dormant or growing.

### Description of anticipated drainage method for the golf course

We anticipate using three or four different types of drainage for the golf course, namely the following:

1. Natural surface drainage, to the greatest possible extent;
2. Agricultural field drainage to remove water from the surfaces of the playing areas excluding the greens and the tees;
3. Internal drainage for the so-called “greens” and “tees”;
4. Feature drainage;

To the greatest extent possible, the natural surface drainage that currently exists on the property will be preserved. In contrast to conventional golf course drainage, whereby the terrain is intensively shaped to facilitate surface water to so-called catch basins, and such basins are connected into a series of pipes that rapidly transport water off the golf course, our aim is to install an extensive network of so-called “mole” drains that allow water to be removed from the surface but keeps the drain water in the drainage system so that it can be released slowly and gradually into the soils and the natural drainage patterns, over time. Coore & Crenshaw used a version of this type of drainage to great effect at the Shanqin Bay project in Hainan, China, where—not unlike Middletown—the majority of annual rainfall takes place during 2-3 months of rainy season.



Mole drain installation setup with mole plough and hopper for gravel backfill

The mole-drain system functions by permitting surface water to enter both the soil profile and a complex pattern of narrow gravel-filled slits or channels that then gradually drain into piped interceptor drains. The piped interceptor drains are then directed towards areas where this collected water can be gradually released and effectively soak back into the natural drainage patterns, as opposed to being released quickly and at high volumes. These exit points can be placed in flattish areas where the potential for soil erosion is minimal. They can be cleaned out and serviced, from time to time as needed, keeping in mind that for the majority of the season Middletown is free from rain, warm, sunny and dry. This time-honored agricultural method has the benefits of preserving the natural soils, removing moisture from the surface to prevent water logging but retaining moisture in the soils, improving the soils profile by adding oxygen, and consequently improving the quality of the grassland crop. For our purposes of using our natural soils as opposed to stripping or capping them, and keeping the natural contours, it is a far superior drainage method than conventional golf course drainage.

For the so-called golf “greens” and “tees”, which comprise around eight acres in total (about 1.6% of our total site area) a detailed soil profile is constructed to permit growing the very fine grasses that are required. We are including a copy of the aptly named United States Golf Association Recommendations For A Method Of Putting Green Construction. While many variants of this method exist, its general principles have been accepted as the preferred approach to building putting greens for golf. The idea of a “USGA green”, as this type of construction is called, is to create a particular and consistent soil profile that has particular and consistent drainage characteristics. Whereas the specifications for building tees are a little simpler than for the greens, the idea with the construction method is similar.

The last type of drainage is for isolated features such as grassy hollows or sand bunkers. Every instance will be a little bit different but generally these will either be drained by means of horizontal pipe drainage or by installing vertical sump drains that permit water to infiltrate the underlying soils.

### **Description of proposed approach to integrating the golf course with the land**

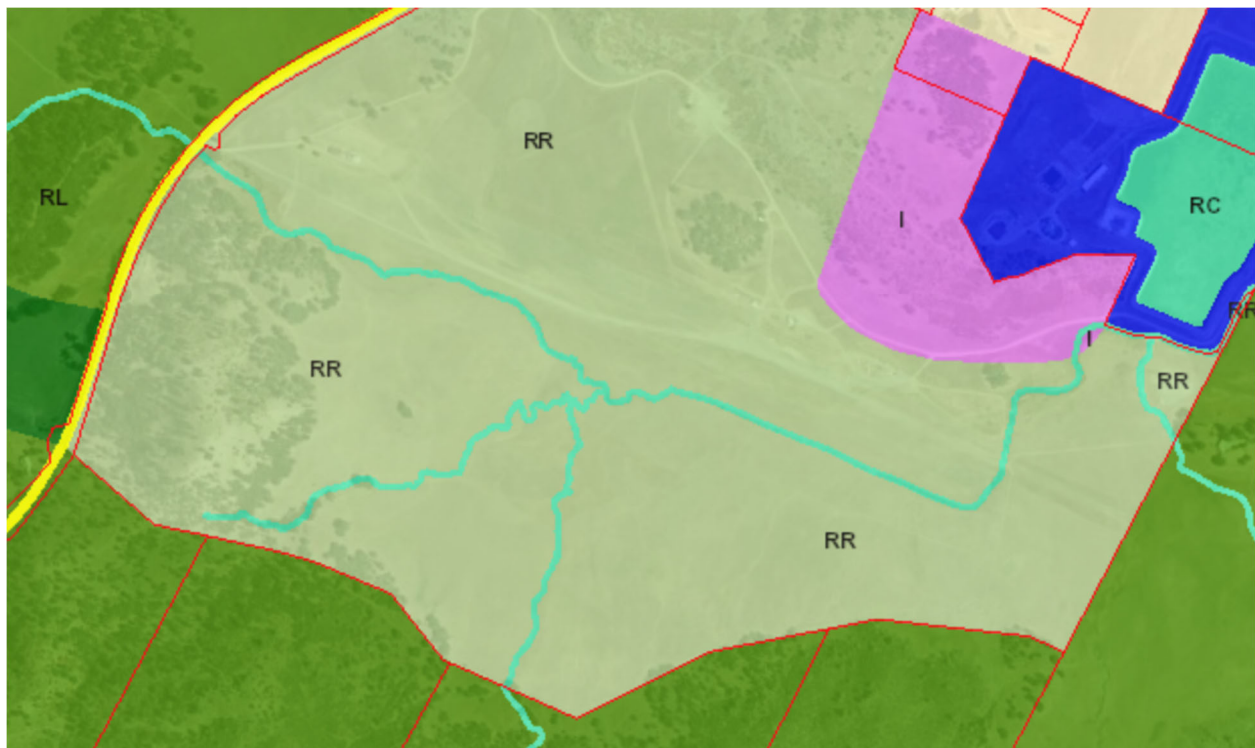
What follows is a description of the method that we propose for integrating the golf course with the lay of the land. In our view this is of supreme importance to the project. Above all we will observe the Base Zoning entitlements and the stipulations of our Grading Permit. The relevant base zonings on our property are the following:

- Rural Residential (RR)
- Waterway (WW)
- Wetlands (W)

In the event that activities will be required that are not permitted under either the Base Zoning or per our Grading Permit, we will obtain permissions to undertake such work. In consultation with the Lake County Grading & Stormwater Inspector, and our Biologist, we will determine in which instances such approvals will be necessary. We are planning an initial consultation to develop an understanding of how to proceed in this regard.

As evidenced by the Golf Site Plan, the golf course design integrates as many of the interesting natural features of the property as possible, as opposed to altering or running rough-shod over these. We firmly believe in preserving the natural drainage patterns and leaving the natural land contours, while making the necessary modifications to accommodate golf. Treading lightly on the land, however, also means integrating the design with the features of the land. There is an intuitive way to move across our property, and we have sought out this intuitive way during the design of the course. We fully understand that this type of approach requires greater attention to detail than a more generalist approach, but this is precisely one of the ways in which good projects separate themselves from not so good ones.

One of the most interesting interfaces between golf and natural features on our property is where the golf course plays up to, away from, alongside and over the many little ditches and small seasonal streams that are a part of our property. We have 7,210 ft of Crazy Creek, the main seasonal waterway on the property, and we have two blue-line streams. Both are evidenced in the map shown below. The West-most blue line stream is 3,286 ft in length, the other 1,872 ft.



In addition to these we have some 18,797 ft of stream segments (per Northwest Biosurvey report), ranging in average width (some are imperceptible) from one foot to nearly a hundred feet. Some of these are natural, some are man-made. Some were diverted when the gliderport was built, others were piped but the pipes no longer function as intended. In each situation where the golf interfaces with these features, such as where the course crosses Crazy Creek, where it plays up alongside one of the blue line streams or interplays with one of the smaller ditches, we will devise a solution for how to best protect potential resources while also allowing the golf course to reflect the natural splendor of our property. By contrast, the last thing we want to do is create disturbances where none are needed or to provide insufficient protections where these are needed the most.

As we have proposed in separate correspondence, we will prepare a test area and review this with the Lake County Grading & Stormwater Inspector, the golf course architect and the biologist. We submit that a pro-active, practical approach is in the interest of everyone, as opposed to an overly simplistic approach that does not properly take into consideration the nuances of protecting our property and its resources, as well as the requirements for the golf course.

*"Conservation means development as much as it does protection. I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us."*

- Theodore Roosevelt, 26th president of the United States and designator of the first National Wildlife Refuge. Quoted from the U.S. Fish & Wildlife Service website.