


**GILPIN GEOSCIENCES, INC.**  
**Earthquake & Engineering Geology**

**MEMORANDUM**

To: Brian Bordona  
Napa County Planning, Building, and Environmental Services  
1195 Third Street  
Napa, CA 94558

From: Lou Gilpin, EG, PhD, Gilpin Geosciences, Inc. 

Date: December 1, 2016

Project: Walt Ranch Vineyard Development

Project No.: 91525.01

Subject: Rebuttal Response to Comments - Circle Oaks Road Distress

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This memorandum is in response to the rebuttal comments presented at the 18 November 2016 Board of Supervisor's hearing and in a letter from Provencher & Flatt, LLP Attorney for Appellants, COHA and COCWD, dated 28 November 2016 entitled:

*Walt Ranch Vineyard Conversion Project Appeal of the August 1, 2016, Planning Director's certification of the EIR and approval of the Agricultural Erosion Control Plan No. P11-00205- ECPA proposed by the Walt-Brambletree Corporation.*

The issue of concern is the vehicular traffic generated by the proposed development and ongoing operation of the Walt Vineyards that access the site via Circle Oaks Drive. The County maintained streets of the Circle Oaks community show signs of distress from weak embankment fill, poor surface drainage control, and an alignment that crosses unmitigated landslide deposits that pre-date the development. Over the years numerous roadway failures have been repaired by County Department of Public Works crews or awarded to grading contractors. Areas of chronic roadway distress have been addressed with frequent superficial periodic maintenance.

The COHA's expert, KC Engineering Company presented their conclusions on the status of the Circle Oaks streets in a letter dated 17 October 2016. They note that at this time (**before** any Walt Ranch Vineyard Conversion improvements have been initiated), the future stability of the road embankment in several areas is a critical concern. In addition, they opine: " Experience on previous projects has shown that embankments of this type can fail suddenly as a result of heavy rain and the infiltration of water into road cracks." Like the March 2016 Highway 121 roadway failure, cumulative distress,

poor drainage control, and only superficial maintenance can lead to catastrophic failure of public roadways. KC Engineering concludes with the recommendation

*In our opinion, the County should retain a qualified Geotechnical Engineering consultant to perform an evaluation of both areas and provide recommendations for pavement rehabilitation and slope stabilization.*

The weekly garbage collection by Berryessa Garbage Service (Personal telecommunication, 21 November 2016) using Heil 5000, 20 cubic yard capacity, cab over engine equipment presents the greatest impact to road performance of the Circle Oaks road system. The truck's gross weight is 51,000 pounds (see attached specifications sheet). The truck weight is distributed 15,000 pounds front wheels, 36,000 pounds rear wheels. The truck wheelbase is from 12 to 14 feet or 150% greater than a normal automobile and weighs close to 13 times as much.

The garbage truck visits each residence, stopping and starting, along the entire road system every week. At each residential stop and start, the energy generated by shifting the weight of the truck back and forth from the front to rear wheels is sent through the roadway pavement and gravel section and subgrade to deliver a significant low frequency vibration to the underlying landslide deposits. The frequent stops, great weight, and long wheelbase combine to deliver several orders of magnitude greater impact than normal automobiles contributing to the low stability underlying hillside deposits. In fact, I believe **nonstop** travel of even heavy equipment loads is less of an impact on the roads and slope instability than the oscillatory, low frequency vibrations generated by the constant stopping and starting of the presently used garbage trucks.

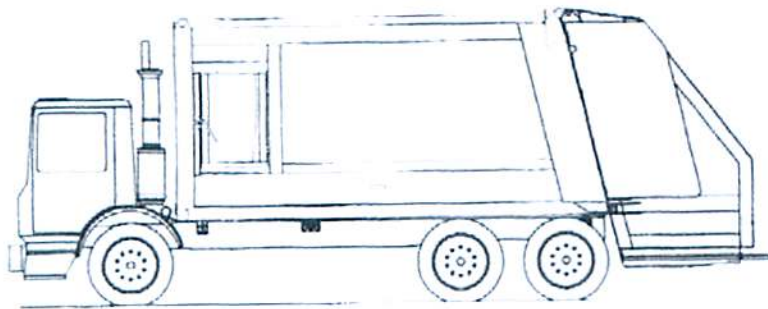
Recognizing the sensitive condition of the Circle Oaks road system, the Applicant has agreed to route any heavy construction equipment traffic through access points other than Circle Oaks. In addition, the Applicant has agreed to limit the maximum traffic loads to 64,000 pounds. In my opinion, restricting the loads for throughgoing Walt Ranch truck travel (no stop and start garbage pickup) will result in less impact than the present garbage pickup road use.

We trust this memorandum provides you with the information you require at this time. If you have any questions regarding this memorandum, please call or email.



Circle Oaks is serviced by Berryessa Garbage collection. They use the Heil 5000-20yd<sup>3</sup> cab over truck

# SPECIFICATIONS



## PERFORMANCE SPECIFICATIONS

Compaction..... 1,000 + Lbs. per Yd<sup>3</sup>  
 Hopper Size..... 3.94 Cubic Yards  
 Packing Cycle Time..... 16-18 Seconds  
 Reload Time..... 6-7 Seconds

## Formula<sup>®</sup> 5000

High Compaction Rear Loader

All designs, specifications and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is for information purposes only and shall not be construed to warrant suitability of the unit for any particular purpose, as performance may vary with the conditions encountered. The only warranty is our standard written warranty for this product at the time of shipment.

HYDRAULIC SPECIFICATIONS	
<b>PUMP</b>	
Type	High pressure gear
Max. operating pressure	2500 psi
GPM at working RPM	42 GPM (159 liters per min.)
<b>OIL RESERVOIR</b>	
Tank capacity	50 gallons (190 liters)
Filters (replaceable)	100 Mesh (140 Micron)
	suction line: 6 Micron return line with in-cab monitor
<b>VALVES</b>	
Shut-off	Ball valve in suction line between pump and reservoir
Packing control	Spool type
Ejector and tailgate raise	Spool type

CHASSIS REQUIREMENTS											
MODEL	MIN. GVWR	MINIMUM GAWR				USABLE CA		USABLE CT		MIN. Platform	
		Conventional		Cab-Over Engine							
		Front	Rear	Front	Rear	inches	mm	inches	mm	inches	mm
F5000 - 18	39,000	11,000	29,000	13,000	26,000	124	3150	NA	NA	155	3937
F5000 - 18	48,000	12,000	36,000	14,000	34,000	NA	NA	108	2473	155	3937
F5000 - 20	51,000	13,000	38,000	15,000	36,000	NA	NA	126	3200	165	4191
F5000 - 25	54,000	14,000	40,000	16,000	38,000	NA	NA	156	3962	200	5080
F5000 - 27	57,000	15,000	42,000	17,000	40,000	NA	NA	167	4242	212	5385
F5000 - 32	62,000	16,000	46,000	18,000	44,000	NA	NA	197	5004	240	6095


### NOTES

1) Any chassis sent to The Heil Co. with less than these minimum GVWR/GAWRs will not be mounted. 2) If CA/CT is not as recommended, contact Heil Environmental Industries, Ltd. for applicable weight distribution and GVWR/GAWR requirements.

TAILGATE SPECIFICATIONS									
HOPPER CAPACITY		LOADING SILL HEIGHT		HOPPER LOADING WIDTH		HOPPER OPENING HEIGHT		CYCLE TIME	
y <sup>3</sup>	m <sup>3</sup>	Below Chassis Frame						Seconds	
		inches	mm	inches	mm	inches	mm	Complete	Reload
3.94	3.01	3.8	97	80	2032	55	1397	16-18	6-7


BODY SPECIFICATIONS														
MODEL	BODY CAPACITY		OVERALL LENGTH		OVERALL LENGTH Tailgate Raised		OVERALL WIDTH		OVERALL HEIGHT Above Frame		OVERALL HEIGHT Tailgate Raised		GROSS WEIGHT Approximate	
	y <sup>3</sup>	m <sup>3</sup>	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	lbs.	kg.
F5000 - 18	18	13.7	225	5715	275	6985	96	2438	96	2438	208	5283	14,300	6,487
F5000 - 20	20	15.3	235	5969	285	7239	96	2438	96	2438	208	5283	14,600	6,623
F5000 - 25	25	19.1	270	6858	320	8128	96	2438	96	2438	208	5283	15,100	6,850
F5000 - 27	27	20.6	282	7163	332	8433	96	2438	96	2438	208	5283	15,500	7,031
F5000 - 32	32	24.4	310	7874	360	9144	96	2438	96	2438	208	5283	16,200	7,349

CYLINDERS																		
TAILGATE RAISE (2)					PACKING BLADE (2) Double Acting				UPPER PANEL (2) Double Acting				EJECTION (1) Double Acting Telescopic					
MODEL	BORE		STROKE		BORE		STROKE		BORE		STROKE		MODEL	STAGES	BORE		STROKE	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm			inches	mm		
ALL	4	102	26	660	5.5	140	24	609	5	127	36	914	F5000-18	4	6	152	95.5	2426
													F5000-20	4	6	152	105.2	2672
													F5000-25	4	6	152	134.1	3406
													F5000-27	4	6	152	145.8	3703
													F5000-32	5	7	178	173.6	4410



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