Encompass
ENGINEERING & SURVEYING

Road Certification for

Parcel #385635

Harmon Short Plat **SP-10-00007**

11/05/18

I reviewed the Private Road Certification for the above project. Based on the information provided, the road serving the above stated lot, is in general compliance with Kittitas County Road Standards.

Engineer/Surveyor
Encompass Engineering & Surveying
407 Swiftwater Drive
Cle Elum, WA 98922
Job #17198

Applicant/Owner
Leslie & Velma Harmon
1540 Hidden Valley Road
Cle Elum, WA 98922

I. Introduction

The purpose of this report is to provide partial certification that the road serving Parcel #385635 is in general compliance 2005 Kittitas County High Density Private Road Minimum Design Standards.

II. Project Information

Kittitas County Short Plat	SP-10-00007
Owner Name	Harmon, Leslie and Velma
Average Lot Acreage	5 Acres
Lots to be served	3 – 14
Terrain	Rolling
Column on Table 12-1	High Density
New or Existing Road(s)	New private road
Road Name(s)	TBD
Road Maintenance Agreement	Recommended to owner to establish agreement.
Contractor	Thayer Excavating

III. Compliance with Kittitas County Private Road Standards

The following are parameters that were checked to determine compliance with the 2005 Kittitas County High Density Private Road Minimum Design Standards.

a. *Easement Width*

40-ft minimum.

b. *Total Roadway Width*

22-ft minimum – 20-ft roadway with (2) 1-ft gravel shoulders.

c. *Road Surface*

Gravel.

d. *Road Compaction*

Road sub-grade compaction was inspected in October 2018 with sub-grade meeting compaction requirements. Final road grading and compaction was inspected November 2, 2018. The top course was

probed with a T-style handle steel soil probe with the probe advancing less than 1-inch indicating a compacted top course.

e. Drainage

The existing topography includes slopes from the south to the north with the new road oriented east-west. A drainage swale was provided on the south side to capture runoff and either convey the runoff west to a new culvert passing under the new road, or east to the new cul-de-sac where the swale ends and allows runoff to disperse to the north. Existing drainage patterns on the north side of the new road were not altered and will continue to disperse north.

f. Turnaround

Per Appendix D of the 2006 International Fire Code a 48-ft minimum radius Cul-De-Sac was added for turnaround access.

g. Maximum Road Grade

The road grades were checked utilizing a smart level with no grades exceeding 12%.

h. Time of Construction

The roadway was constructed in October of 2018.

i. Road Barrier(s)

During the site visit for the Road Certification it was confirmed that no barriers were present or in the process of construction.

j. Sight Distance

The stopping sight distance requirements have been met Per Exhibit 8 in the 2001 AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads.

k. Horizontal Curvature

The horizontal curvature distance requirements have been met Per Exhibit 10 in the 2001 AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads.

l. Vertical Curvature

The vertical curvature distance requirements have been met Per Exhibit 12 in the 2001 AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads.

m. Access

Site access is served off Hidden Valley Road with a paved apron.

n. Speed Limit

The speed limit on Hidden Valley Road Drive is 35 mph. The speed limit for the new road to be determined.

o. Channelization

Not applicable.

p. Temporary Erosion and Sediment Control

The site was observed to be stabilized for erosion and sediment control during construction.

q. Cut/Fill Slopes

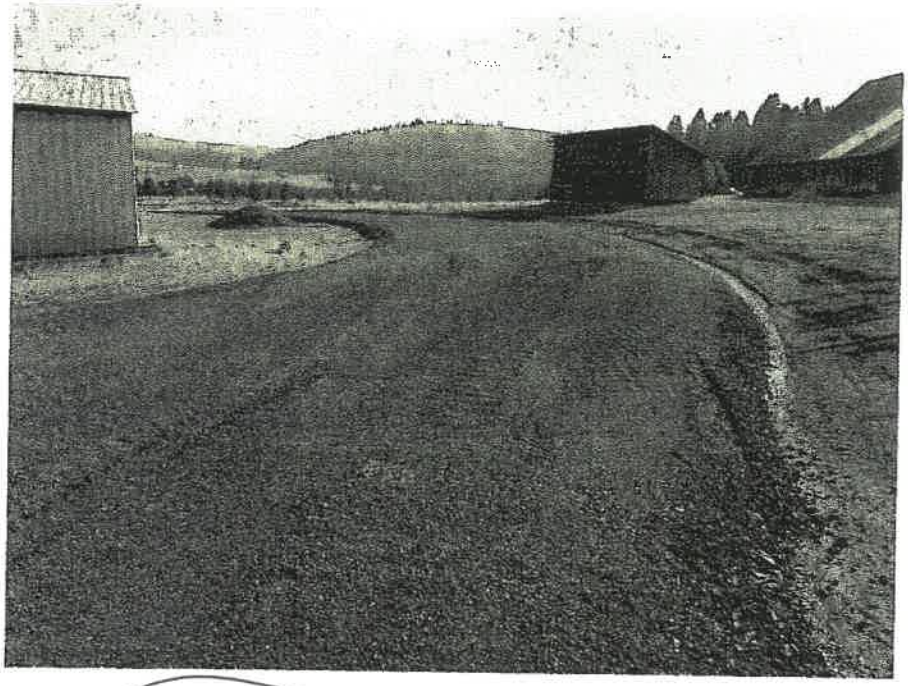
Not applicable.

r. Miscellaneous

Owner responsible for road maintenance or establishing road maintenance agreement.

photograph 1.

Photograph 1. Looking north at paved apron connecting to Hidden Valley Road.

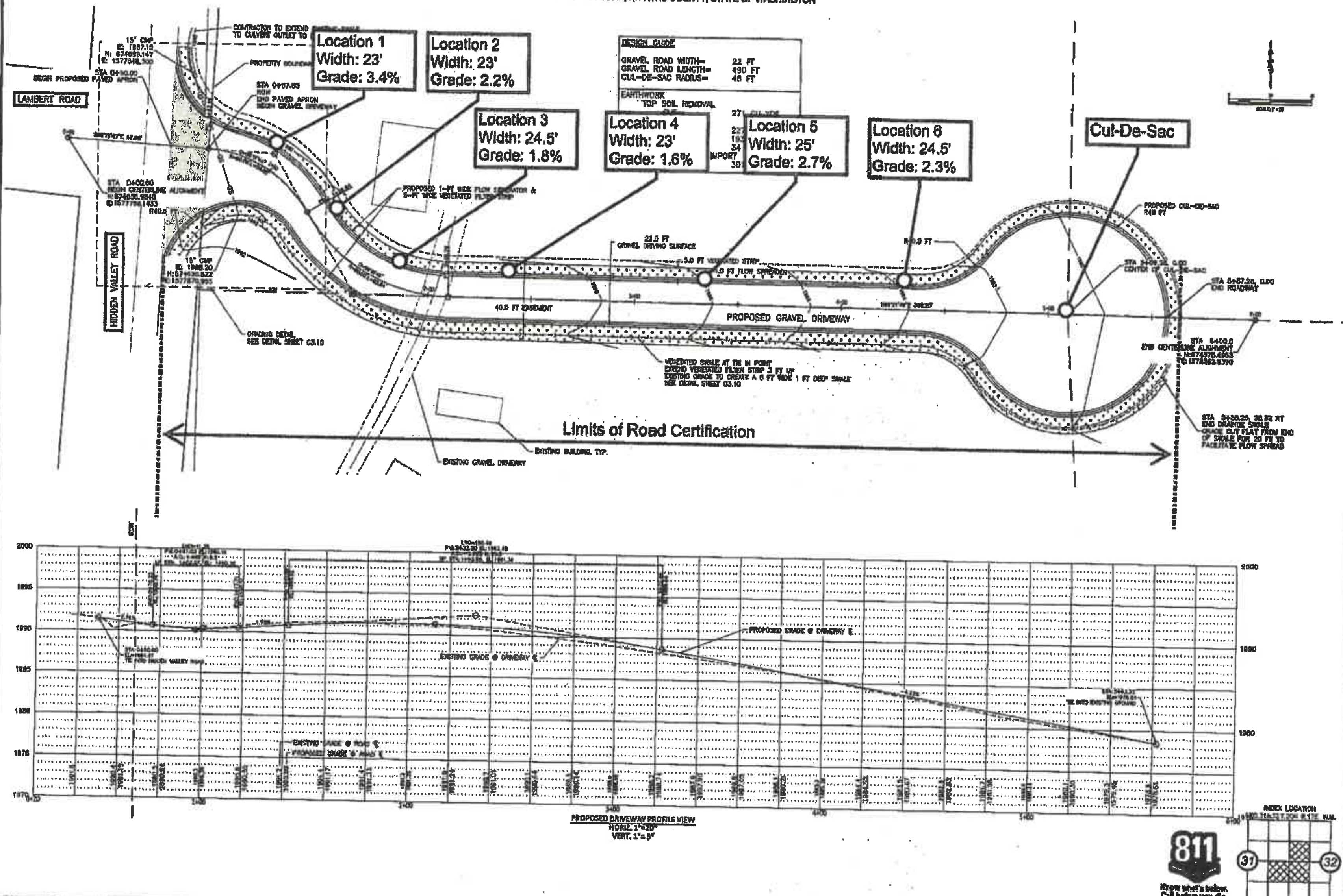


Vertical clearance

Photograph 2. Looking east near the paved apron.

HARMON DRIVEWAY

PTN. OF NE 1/4 OF SE 1/4 OF SECTION 31, T.20 N., R. 17 E. &
W 1/2 OF W 1/2 OF SECTION 32, T.20 N., R.17 E., W.M.
CITY OF CLE ELUM, KITTITAS COUNTY, STATE OF WASHINGTON



Encompass ENGINEERING & SURVEYING

HARMON DRIVEWAY

VELMA HARMON

ROAD PLAN & PROFILE

01/21/2019

SHEET C3.00

Table 12-1

Private Road Minimum Design Standards

	Private Roads					
	Driveway		High-Density			Low Density
	Single	Joint-Use	0 - 5 Acres Average Lot Size			5.01 Acres and Larger Average Lot Size[1]
Design Elements						
Number of Lots Served	1	2	3 -14	15 - 40	40+[2]	3 - 40+
Minimum Easement Width	0	20	40	60	60	60
Paved Apron[3]	N/A	N/A	Req'd	Req'd	Req'd	Req'd
Roadway Width	8	12	20	22	AASHTO	20
Graveled Shoulder Width	N/A	N/A	1	1	AASHTO	1
Minimum Centerline Radius (ft)	N/A	N/A	60	60	AASHTO	60
Surfacing Requirements[4]	Gravel	Gravel	Gravel	BST/ACP	AASHTO	Gravel
Minimum Crushed Stone Depth	N/A	6"	6"	6"	AASHTO	6"
Maximum Grade %[5]						12
Flat	N/A	N/A	8	8	8	
Rolling	N/A	N/A	12	12	12	
Mountainous	N/A	N/A	12	12	12	
County Road Approach Permit	Req'd	Req'd	Req'd	Req'd	Req'd	Req'd
Stopping Site Distance	N/A	N/A	AASHTO	AASHTO	AASHTO	AASHTO
Entering Site Distance	N/A	N/A	AASHTO	AASHTO	AASHTO	AASHTO
Ditch Slope (inside slope)	Slopes steeper than 2:1 should only be used when achieving a 2:1 slope is impractical					

[1]Residual lots within a proposed development shall not be considered when computing average lot size

[2]Engineer design per AASHTO and/or WSDOT required for 40+ High-Density lots.

[3]Applies to all roads accessing existing paved roadway

[4]All private roadways serving three or more lots shall achieve 95% compaction and shall be inspected and certified by a licensed engineer prior to surfacing.

[5] A variance request is required for grades above 12%.