

September 3, 1991

~~Mr. Glen Schlueter~~ *SUSAN HAYES*
Storm Drainage Utility
City of Fort Collins
P.O. Box 580
Fort Collins, Colorado 80522

Dear Glen:

The Helmsire Inn is located at the Southeast corner of South College Avenue and Edwards Street. It is an existing bed and breakfast establishment that is adding 1000 square feet of asphalt parking. There is some interior remodeling that is also being done.

The site drains from Southwest to Northeast. College Avenue has a high point in this block and drains both North and South. There is a catch basin in the College Avenue gutter at the Edwards Street corner. It accepts only College Avenue runoff, and I believe the storm drain flows back South to Pitkin Street. There does not appear to be any storm water overtopping of College Avenue at this intersection.

Edwards Street drains East in the South gutter. The alley drains from South to North in the inverted crown of the existing asphalt. The main parking area has an inverted crown that drains from West to East and flows North in the alley to the Edwards Street gutter. The existing asphalt parking spaces on both sides of the alley drain to the center of the alley.

It is proposed to construct the six new parking spaces so that they also drain to the centerline of the alley.

The existing site does not have any offsite drainage entering it other than the alley flows entering from the South. The runoff from this site does not flow onto any private property. The entire runoff flows to the Edwards Street south gutter.

The existing site does not have onsite storm water detention. The proposed additional asphalt parking develops 0.10 cubic feet per second of runoff in a ten-year storm.

Because of the very small increase of runoff and no practical means of detention, we are requesting a variance to the onsite detention requirement. We are not proposing any erosion control devices for this small

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construction project. When the 1000 square feet is stripped of topsoil, it will be lower than the alley asphalt and, therefore, not cause silting onto the alley. It is expected the base and asphalt will be placed in a very short period of time so that no erosion will occur.

The runoff calculations and the drainage plan are enclosed as part of this report. If you have any questions regarding this site, please call.

Sincerely,

Richard A. Rutherford

Richard A. Rutherford, P.E. & L.S.
President

jrr

enclosures



SUBJECT HELL HIRE INN _____ BAR _____ DATE 9/3/91STORM DRAINAGE _____ SHEET NO. _____

PROJECT NO. _____

AREA OF PROPERTY 24,000 S.F.
AREA OF ALLEY 3,000 S.F.
TOTAL AREA 27,000 S.F. = 0.62 AC.

IMPERVIOUS AREA 23,005 S.F. 85.2%

PERVIOUS AREA 3995 S.F. 14.8%

$$\text{DEV. } C = (1 \times 0.852) + (0.2 \times 0.148) = 0.88$$

$$T_c = \frac{1.87 \cdot (1.1 - 0.88) \cdot 300^{1/2}}{0.77^{1/3}} = 8 \text{ MIN.}$$

$$\text{DEV. } Q_{2\text{yr}} = 0.88 \times 2.7 \times 0.62 = 1.47 \text{ C.F.S.}$$

$$\text{DEV. } Q_{10\text{yr}} = 0.88 \times 4.8 \times 0.62 = 2.62 \text{ C.F.S.}$$

$$T_c = 4 \text{ MIN. } \text{DEV. } Q_{100\text{yr}} = 1.25 \times 0.88 \times 7.2 \times 0.62 = 4.46 \text{ C.F.S.}$$

RUNOFF INCREASE DUE TO 1000 S.F. NEW ASPHALT

$$Q_{2\text{yr}} = 0.88 \times 2.7 \times 0.023 = 0.05 \text{ C.F.S.}$$

$$Q_{10\text{yr}} = 0.88 \times 4.8 \times 0.023 = 0.10 \text{ C.F.S.}$$

$$Q_{100\text{yr}} = 1.25 \times 0.88 \times 7.2 \times 0.023 = 0.17 \text{ C.F.S.}$$