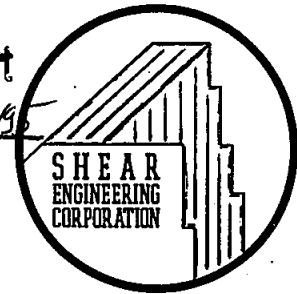


Final Approved Report

~~B. HAMDAN~~ Date 6/28/95



March 27, 1995

Project No: 1473-01-95

Basil Hamdan, Civil Engineer  
City of Fort Collins Stormwater Utility  
P.O. Box 580  
Ft. Collins, Colorado 80522

**Re: DRAINAGE AND EROSION CONTROL REPORT**  
**Lot 1, Block 1, Fourth Fairview Subdivision; Fort Collins, Colorado**  
**1320 Southridge Drive P.U.D.**

Dear Basil,

1320 Southridge Drive P.U.D. is Lot 1, Block 4, Fourth Fairview Subdivision located in the SE 1/4 of Section 15, T7N, R69W of the 6th P.M., City of Fort Collins, Colorado. The P.U.D. will consist of a 672 square foot addition to an existing residence. The addition will consist of a two car garage with a one (1) bedroom living unit above. The site is more specifically located at the northeast corner of the intersection of Southridge Drive and Fairview Drive. The corner lot is 109' wide by 80' deep (8,557 square feet; 0.20 acre), and is located within the Canal Importation Basin as delineated on the City's Stormwater Basin map. There is an existing 1,374 square foot (0.027 acre) residence. The garage/apartment unit will be an attached addition to the existing residence. There will be a certain amount of concrete flatwork removal to facilitate construction of the addition. There will be a new concrete drive and sidewalk adjacent to the proposed garage. The garage faces south to Fairview Drive.

**DRAINAGE:**

Re-development of this site would have absolutely no effect on the overall drainage impact within the Canal Importation Basin. A detention pond is not required. Our calculations indicate that there will be a very minor increase in runoff due to the construction of the addition for the immediate site. Refer to the table below.

**LAND USE SUMMARY:**

	<u>ROOF</u>	<u>CONCRETE</u>	<u>LAWN</u>
C=	0.95	0.95	0.20
	<u>acres</u>	<u>acres</u>	<u>acres</u>
HISTORIC	0.031	0.008	0.157
DEVELOPED	0.020	0.046	0.130

*I think these are swapped. Whoops*

Refer to page 1 in the calculations for the determination of the composite runoff coefficient.

**RUNOFF CALCULATIONS:**

	<u>AREA</u> (acres)	<u>C<sub>100</sub></u>	<u>INTENSITY</u> (iph)	<u>Q<sub>100</sub></u> (cfs)
HISTORIC	0.20	0.44	9.10	0.80
DEVELOPED	0.20	0.56	9.10	1.02

The intensity is based on a time of concentration of five (5') minutes.

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March 27, 1995

Project No: 1473-01-95

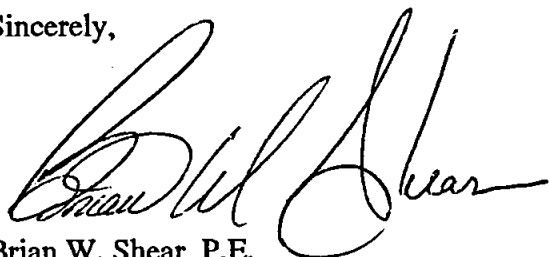
Lot 1, Block 1, Fourth Fairview Subdivision; Fort Collins, Colorado  
1320 Southridge Drive P.U.D.

**EROSION CONTROL:**

The required control security deposit will be \$ 1,000.00. Erosion control security requirement calculations are found on the attached estimate.

If you have any questions concerning this minor P.U.D. development, please call at 226-5334.

Sincerely,



Brian W. Shear, P.E.  
Shear Engineering Corporation



BWS / mb

cc: Wendell and Jeani Marsee

SHEAR ENGINEERING CORPORATION

RUNOFF COEFFICIENTS FOR  
 Lot 1, Block 1, Fourth Fairview Sundivision  
 1320 Southridge Drive P.U.D.

PAGE : 1

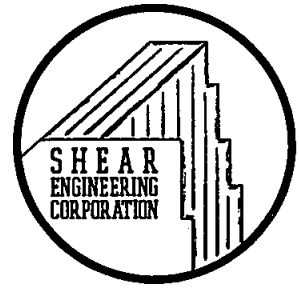
PROJECT : 1320 SOUTHRIDGE DRIVE P.U.D.  
 PROJ. NO. : 1473-01-95 DATE: 03/27/95  
 LOCATION : FORT COLLINS BY: MBO  
 FILE : MARSEE  
 NOTES : CANAL IMPORTATION BASIN

EXISTING CONDITIONS				DEVELOPED CONDITIONS			
SURFACE CHARACTERISTICS		RUNOFF COEF.		SURFACE CHARACTERISTICS		RUNOFF COEF.	
	AREA (acres)	"C"	C*A		AREA (acres)	"C"	C*A
STREETS				STREETS			
ASPHALT	0.000	0.950	0.000	ASPHALT	0.000	0.950	0.000
CONCRETE	0.008	0.950	0.008	CONCRETE	0.020	0.950	0.019
GRAVEL	0.000	0.500	0.000	GRAVEL	0.000	0.500	0.000
ROOFS	0.031	0.950	0.029	ROOFS	0.046	0.950	0.044
LAWNS SANDY SOIL				LAWNS SANDY SOIL			
FLAT < 2%	0.000	0.100	0.000	FLAT < 2%	0.000	0.100	0.000
AVERAGE 2 - 7%	0.000	0.150	0.000	AVERAGE 2 - 7%	0.000	0.150	0.000
STEEP > 7%	0.000	0.200	0.000	STEEP > 7%	0.000	0.200	0.000
LAWNS HEAVY SOIL				LAWNS HEAVY SOIL			
FLAT < 2%	0.157	0.200	0.031	FLAT < 2%	0.130	0.200	0.026
AVERAGE 2 - 7%	0.000	0.250	0.000	AVERAGE 2 - 7%	0.000	0.250	0.000
STEEP > 7%	0.000	0.350	0.000	STEEP > 7%	0.000	0.350	0.000
TOTAL AREA	0.196		0.068	TOTAL AREA	0.196		0.089
	C2	C10	C100		C2	C10	C100
COMPOSITE C VALUE	0.349	0.349	0.437	COMPOSITE C VALUE	0.453	0.453	0.566
USE	0.35	0.35	0.44	USE	0.45	0.45	0.57

CONCLUDE: THE MINOR INCREASE IN IMPERVIOUSNESS WILL RESULT IN AN SLIGHT INCREASE IN RUNOFF

ASSUME :	Tc = 5.0 MINUTES	HISTORIC DEVELOPED	
I2 =	3.29 iph	Q2 =	0.23 0.29
I10 =	5.64 iph	Q10 =	0.39 0.50
I100 =	9.10 iph	Q100 =	0.78 1.02

THESE FLOWS ARE NEGLIBLE



March 27, 1995

Project No. 1473-01-95

Basil Hamdan  
City of Fort Collins Stormwater Utility  
P.O. Box 580  
Ft. Collins, Colorado 80522

**Re: Lot 1, Block 1, Fourth Fairview Subdivision; Fort Collins, Colorado  
1320 Southridge Drive P.U.D.**

Dear Basil,

Attached is the erosion control security deposit estimate for Lot 1, Block 1, Fourth Fairview Subdivision.

**ESTIMATE 1:**

65 LF of silt fence at \$3.50 per LF \$ 227.50

**TOTAL ESTIMATED COST:** **\$ 227.50**

x 1.50

**\$ 341.25**

**ESTIMATE 2:**

re-vegetate the disturbed area of 0.01 acres at \$1,300.00 per acre \$13.00

**TOTAL ESTIMATED COST:** **\$ 13.00**

x 1.50

**\$ 19.50**

The total required erosion control security deposit would be \$ 1,000.00.

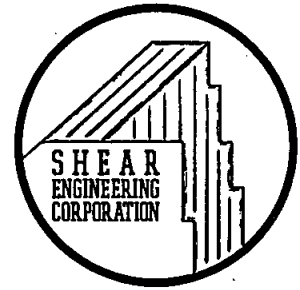
If you have any questions, please call at 226-5334.

Sincerely,

Brian W. Shear, P.E.  
Shear Engineering Corporation

BWS / mb

cc: Wendell and Jeanni Marsee  
Dave Stringer; City of Fort Collins Engineering



March 27, 1995

Project No. 1473-01-95

**Re: EROSION CONTROL SECURITY DEPOSIT REQUIREMENTS:**

**Lot 1, Block 1, Fourth Fairview Subdivision; Fort Collins, Colorado  
1320 Southridge Drive P.U.D.**

- A. An erosion control security deposit is required in accordance with City of Fort Collins policy (Chapter 7, Section C : SECURITY; page 7.23 of the City of Fort Collins Development Manual). In no instance shall the amount of the security be less than \$1000.00.
1. According to current City of Fort Collins policy, the erosion control security deposit is figured based on the larger amount of 1.5 times the estimated cost of installing the approved erosion control measures or 1.5 times the cost to re-vegetate the anticipated area to be disturbed by construction activity.
    - a The cost to install the proposed erosion control devices for Lot 1, Block 1, Fourth Fairview Subdivision is \$ 227.50. 1.5 times this estimate is \$341.25.
      - i. unit prices have been provided by Connell Resources.
    - b. Based on current data provided by the City of Fort Collins Storm Water Utility, and based on an actual anticipated net affected disturbed area during construction of the addition to the existing residence on Lot 1, Block 1, Fourth Fairview Subdivision (approximately 0.01 acres) we estimate that the cost to re-vegetate the disturbed area will be \$13.00 (\$1,300.00 per acre x 0.01 acres). 1.5 times the cost to re-vegetate the disturbed area is \$ 19.50.
      - i. The 0.01 acres is the actual disturbed area of Lot 1, Block 1, Fourth Fairview Subdivision.
      - ii. The \$1,300.00 per acre for re-seeding sites of less than 1 acre was quoted to us by the City of Fort Collins Storm Water Utility staff.

**CONCLUSION:**

**The erosion control security deposit amount required for Lot 1, Block 1, Fourth Fairview Subdivision will be \$ 1,000.00.**