

MASTER  
DRAINAGE REPORT

"EASTCREST"

COLORADO SPRINGS

Four Square Engineering &  
Surveying, Inc.  
4052 Templeton Gap Rd.  
Suite #3  
Colorado Springs, Colo.

August 17, 1978

Mr. DeWitt Miller  
Director of Public Works  
City of Colorado Springs

ATTN: Donnell Jeffries, City Engineer

Dear Sir:

Transmitted herewith is the Master Drainage Plan for the area to be known as "EASTCREST" Southeast of the intersection of Pikes Peak Ave., 2nd Murray Blvd.

Upon approval please sign the original and three copies for the appropriate distribution.

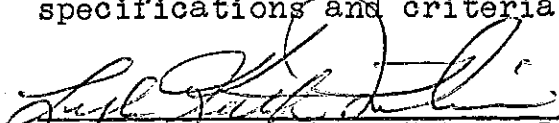
Sincerely yours,

  
\_\_\_\_\_  
Lyle Keith Martin P.E. & L.S.

CERTIFICATIONS AND APPROVALS

Registered Engineer

I, Lyle Keith Martin, a registered engineer in the state of Colorado, hereby certify that the attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. I further certify that said drainage report is in accordance with all City of Colorado Springs ordinances and specifications and criteria.

  
\_\_\_\_\_  
Lyle Keith Martin, P.E. - L.S.

Developer


The developer has read and will comply with all of the requirements specified in the drainage report, as approved by the City Engineer.

By  \_\_\_\_\_

Title owner

Approved

City of Colorado Springs, Department of Public Works.

  
\_\_\_\_\_  
City Engineer

8/21/78  
Date

Comments:

*Remove Small Ditch As Shown*

## GENERAL DESCRIPTION

The area known as EASTCREST is located in the East One-Half of Section 14, Township 14 South, Range 66 West of the 6th P.M., El Paso County, Colorado. This subdivision area covers approximately 28 acres and is primarily single family lots.

The area lies atop two master basins, Sand Creek on the Southeast and Spring Creek on the North and West side of the twenty-eight acres and is bounded by two major arterials Pikes Peak and Murray.

## EXTERIOR DRAINAGE

Flow from the exterior of this site is limited to 3.98 CFS as indicated on the drainage plan of Eastborough No. 10, this water is contained in Pikes Peak Avenue. No other exterior flow enters or traverses the proposed site.

## INTERNAL FLOWS

The area split by two drainage basins contains 18.02 acres in Spring Creek and 10.48 acres in Sand Creek. All drainage in Spring Creek is directed to either Pikes Peak or Murray with both of the streets carrying surface flows.

All drainage in Sand Creek is directed to 2 series of outfall points within Eastborough Subdivision No. 8, which carry surface runoff to the streets below this proposed plat.

## METHOD OF RUN-OFF COMPUTATIONS

As the areas in each drainage basin are less than twenty acres the City of Colorado Springs Criteria Rational Method of computing flows was used, based on the six hour duration storm on a five year frequency.

The natural soil on this site is mostly loamy sand in texture and falls within Hydrologic Soil Group A with lot sizes one-quarter acre.

## DRAINAGE FACILITIES

Structures will be required both in Spring Creek and Sand Creek as indicated on the plan and detail sheets. The Developer will be required to pay cash fees in Spring Creek after the completion of Phase I, in which the majority of the structures are required. In the Sand Creek portion the structures are estimated to exceed the fee's which should result in a small credit.

Phase I of the proposed Master Plan consists of 4.64 acres and is entirely within Spring Creek Basin.

Every effort has been made to prevent runoff into existing developed lots adjacent to this site.

The Church site shown on the drainage plan develops approximately 8.1 CFS and development of this site will be by others.

COST ESTIMATES

"EASTCREST"

SPRING CREEK

1 - 6' D 10R	@ \$1,375.00	=	\$ 1,375.00
160 LF 24" RCP	@ \$ 35.00	=	\$ 5,600.00
420 LF Concrete "V" Ditch	@ \$ 12.50	=	\$ 5,250.00
1 Concrete Curb Outlet	@ \$ 600.00	=	\$ 600.00
			<hr/>
			\$ 12,825.00
Engineering @ 10%			1,282.00
			<hr/> <hr/>
	TOTAL		\$ 14,107.00

Spring Creek Fees for 1978 = \$ 2,198.00/Acre  
 18.02 Acres Total = \$ 39,607.96  
 Cash Fees due on Total = \$ 25,500.96 ✓

*PAID \$ 16,024.08 - 6.13.79  
 DUE \$ 2,070.97 - 11 OF 8.5.80*

EASTCREST SUBDIVISION NO. 1

Spring Creek 4.64 acres x \$2,198.00 = \$ 10,198.72  
 Structures = \$ 14,107.00

Structures required as above; all structures are in Phase I of Master Plan. No cash fees due on Phase I.

COST ESTIMATES

"EASTCREST"

SAND CREEK

1 - 10' D 10R	@ \$1,750.00	=	\$ 1,750.00	
160 LF 24" RCP	@ \$ 35.00	=	\$ 5,600.00	
Transition Structure (2)		=	\$ 1,200.00	
<del>100 LF of Concrete Ditch</del>	<del>@ \$ 12.50</del>	<del>=</del>	<del>\$ 1,250.00</del>	
<del>5' Curb opening</del>		<del>=</del>	<del>\$ 700.00</del>	
400 LF Concrete "V" Ditch	@ \$ 12.50	=	\$ 5,000.00	
			<u>\$ 15,750.00</u>	13,550 <sup>00</sup>
Engineering @ 10%			<del>1,575.00</del>	1,355 <sup>00</sup>
TOTAL			<u><u>\$ 17,325.00</u></u>	<u>14,905<sup>00</sup></u>

Fee's for Sand Creek 10.48 acres @ \$1,272.00	=	\$ 13,330.55	
Potential Credit to Developer	=	<del>\$ 3,994.45</del>	1,574 <sup>45</sup>
Cash Bridge Fee's Due City	=	\$ 2,588.56	

FEES : \$13,513.06  
           1,894.74  


---

 TOTAL \$ 15,407.80  
 PAID : 1,894.74 - 6.13.79  


---

 FEES DUE \$13,513.06  
 CREDITS 7,409.16 - 10% ENG. INC'D  


---

 FEES DUE \$ 6,103.90 - 8.5.80 - J.T.D.

MAJOR BASIN	SUB BASIN	AREA		BASIN		Tc Hrs	Tc Min	C*	I	Q = A C I
		S.F.	Acres	LENGTH	HEIGHT					
A	1	176,750	4.05	450	16	.05	3.0	.65	6.1	16.08
	2	131,300	3.01	1200	24	.15	9.0	.53	4.6	8.04
B	1	48,875	1.12	600	22	.06	3.6	.62	6.2	4.3
C	1	140,300	3.22	1500	28	.17	10.2	.54	4.4	7.65
D	1	136,000	3.12	500	22	.05	3.0	.53	6.1	10.09
	2	31,450	0.72	400	10	.06	3.6	.50	5.5	1.98
	3	22,800	0.52	300	6	.04	2.4	.50	6.2	1.62
E	1	235,200	5.39	1200	18	.16	9.6	.53	4.6	13.16
	2	60,000	1.37	800	6	.14	8.4	.53	4.9	3.57
	3	75,000	1.72	850	8	.14	8.4	.50	4.9	4.21
	4	39,000	0.89	500	32	.04	2.4	.53	6.2	2.94
	5	47,600	1.09	600	40	.05	3.0	.50	6.1	3.33
										Weighted runoff curve No.'s
										C* Using City Criteria No's Avgd.

HYDROLOGIC COMPUTATION - BASIC DATA

PROJECT:

By:

Date:

RATIONAL METHOD

Page

of

Pages