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MASTER DRAINAGE STUDY
HOMESTEAD SUBDIVISIONS
REVISED OCTOBER 1977

WEISS
CONSULTING
ENGINEERS, INC.
Colorado Springs, Colorado

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HOMESTEAD SUBDIVISIONS
REVISED OCTOBER 1977

WEISS CONSULTING ENGINEERS, INC.

1815 North Tejon

Colorado Springs, Colo. 80907

(303) 634-0373

October 23, 1977

Mr. Dewitt Miller
Public Works Director
P.O. Box 1575
Colorado Springs, CO 80901

Dear Mr. Miller:

Transmitted herewith is a revised Master Drainage Study for the Homestead area lying north of North Carefree Circle and east of Oro Blanco Drive. This area consists of that previously covered in reports for Homestead Subdivision Filings No. 12, No. 13 and No. 14 dated August 7, 1973; November 17, 1973 and November 19, 1973.

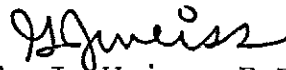
A revised preliminary plan for this area was approved by the City of Colorado Springs in August 1977, and the recorded plat for Homestead No. 12 was vacated so that the area could be developed in accordance with the new preliminary plan.

The storm run-off for the area remains approximately the same at the original outfall points while the internal routing is different due to the change of location of streets within the area.

If you have any questions on this report, please call me.

Sincerely,

WEISS CONSULTING ENGINEERS, INC.



G. J. Weiss P.E.-L.S. 4124

GJW/saw

LOCATION

The Homestead Subdivisions are located in a portion of Section 25, Township 13 South, Range 66 West in the City of Colorado Springs, Colorado. This specific area is located north of North Care-free Circle and east of Oro Blanco Drive being more specifically described as the original filings for Homestead No. 12, 13 and 14. The area now has a revised preliminary plan and will be platted into new filings of different sizes and locations from the originals and starting with Homestead Filing No. 12.

This development will contain about 98 acres with 90 acres being zoned for single family and 8 acres for P.U.D. The development lies in both the Templeton Gap and Sand Creek Drainage Basins.

This report revises a portion of the Homestead Master Drainage Study by United Western Engineers dated December 29, 1971 and approved January 6, 1972.

SOIL TYPE

Two soil types are encountered within the drainage confines of the development as follows:

The Baller Series (XR2-CE) consists of shallow, well-drained, non-calcareous, coarse textured soils. The soil ranges in texture from gravelly-loamy sand, loamy sand, sandy loam and gravelly-sandy loam. Some hard non-calcareous deposits of sandstone occur at depths of 10 to 20 inches from the surface. This type of soil lies in Hydrologic Group "D".

The Stapleton Series (R2-CE) consists of moderately coarse textured soils becoming gravelly with depth. The surface layer is sandy loam and sub-soil layer is of gravelly-sandy loam extending to a depth of 60 inches or more. This type of soil lies in Hydrologic Group "B".

COMPUTATION METHOD

The method of run-off computations utilized in this report is in accordance with that outlined in the manual for DETERMINATION OF STORM RUNOFF CRITERIA, CITY OF COLORADO SPRINGS, dated March 1977. A five year frequency six hour duration storm was used in this calculation using 2.1 inches of precipitation. The curve numbers (CN) for the respective basins and the computations are shown on the computation sheet included with this report.

EXTERNAL FLOWS

No external water enters this development.

INTERNAL FLOWS

Area F-1 discharges 10.5 c.f.s. down Pony Soldier Drive into Sod Buster Trail. This is less than the 11.7 c.f.s. flow shown on the original master plan.

Areas F-2 and E-1 discharge 13.2 c.f.s. down Iron Horse Drive into Portrait Place. This is less than the 15.7 c.f.s. flow shown on the original master plan.

Areas D-1, D-2 and D-3 discharge 67.5 c.f.s. down Wagon Master Drive into the intersection of Bunk House Drive in Homestead Subdivision Filing No. 2. This compares to 62.9 c.f.s. from the original master plan and 70.7 c.f.s. from the plan prepared for Homestead Filing No. 13, which was not recorded. Drainage facilities have already been built at this intersection to pick up the flow. Vertical curb and gutter will need to be constructed in Wagon Master from the west boundary of this study up to the intersection of Rawhide Lane.

Area C-1 discharges 15.6 c.f.s. down Bunk House Lane into Bunk House Drive. This compares to 11.1 c.f.s. as shown on the approved drainage plan for the original Homestead Subdivision Filing No. 12.

Area B-1 discharges 13.7 c.f.s. down Artistic Circle into Homestead Subdivision Filing No. 3. This compares to 15.5 c.f.s. as shown on the approved drainage plan for the original Homestead Filing No. 12.

Areas A-1, A-2, A-3 and A-4 outfall 49.2 c.f.s. into Inspiration Drive at its intersection with North Carefree Circle. The approved drainage plan for the original Homestead No. 12 shows 37.3 c.f.s. from the north and 13.6 c.f.s. from the R-5 area to the east for a total of 50.9 c.f.s. Vertical curb will need to be installed on Inspiration Drive from North Carefree Circle to Artistic Circle.

DRAINAGE FACILITIES

A total of 67.5 c.f.s. flows down Wagon Master Drive into the intersection of Bunk House Drive in Homestead Subdivision Filing No. 2. Facilities consisting of 4 - 12' catch basins and the associated piping have been installed in Wagon Master Drive downstream from the study in Homestead Subdivision Filing No. 2.

A total of 49.2 c.f.s. flows down Inspiration Drive into North Carefree Circle. One 8' catch basin has been installed at the northeast corner of the intersection in Homestead Subdivision Filing No. 7, and a 24" C.M.P. has been stubbed north on the west side of Inspiration Drive. The approved drainage plan for the original Homestead No. 12 indicates that 2 - 4' catchbasins, 2 - 6' grated catchbasins, 60 L.F. of 18" C.M.P. and 272 L.F. of 21" C.M.P. would need to be installed at an estimated cost of \$8,718.60. We are recommending that two 8' high velocity catchbasins be installed instead of the above at less cost and for more efficient collection of the storm water.

COST ESTIMATE

2 8' high velocity catchbasins @ 1500.00	= \$3000.00
50 L.F. of 24" C.M.P. @ 20.00	= 1000.00
Engineering and contingency (15%)	= 600.00
TOTAL	<u>\$4600.00</u>

This estimated cost is less than that proposed under the original Homestead No. 12 drainage report.

SUMMARY

Reference is made to a letter dated June 1, 1977, from the City Attorney and a letter dated June 11, 1977, from the Assistant City Engineer, said letters being made a part of this report.

This drainage report points out that the drainage generated by the new street layouts is in basic conformance with the original plan and that the costs do not exceed the original cost estimate. Under this criteria, the drainage fees already approved for the original Homestead No. 12 would not need to be inflated to the current fees.

~~When the drainage reports are submitted for the final plats that will fall within this revised master plan, an acreage will be indicated in the report stating what portion falls within the fee structure of the original Homestead No. 12 and what portion will be subject to the current drainage fees.~~

CERTIFICATIONS AND APPROVALS

Registered Engineer

I, Gerald J. Weiss, 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.

Gerald J. Weiss

Gerald J. Weiss P.E. - L.S. 4124

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 Col-Terra Inc. Ltd
R H Pugh

Title up.

Approved

City of Colorado Springs, Department of Public Works.

D. J. Griffin
City Engineer

Nov. 1, 1977
Date

Comments:

CITY OF COLORADO SPRINGS
CITY AND COUNTY

OFFICE OF
THE CITY ATTORNEY
112 N. NEWADA AVE — P. O. BOX 1575

June 1, 1977

RECEIVED

JUN 28

PUBLIC WORKS
ENGINEERING

Mr. Gary Rocks
Col-Terra Investments LTD
5180 N. Union Blvd
Colorado Springs, CO

Re: Homestead Subdivision Filing #12

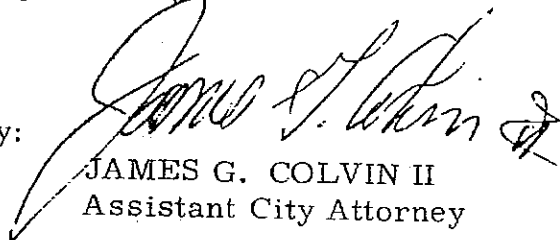
Dear Mr. Rocks:

On Tuesday, May 31, 1977, you and I met in my office to discuss the replatting of Homestead Subdivision Filing #12. It is my understanding that such was platted prior to September 6, 1973. If such is the case, Section 13-21 (F) replatting does exempt a replat of Homestead Subdivision Filing #12 from any increase in school or park fees if park and school fees have been paid or land has been dedicated.

Section 14-43.1 (Applicability of this Part for Replatting) pertains to the application of the drainage ordinance to the replat. If drainage fees have been paid upon the land, the land may be replatted without the additional assessment of drainage fees. It is my understanding that while drainage fees were not paid a letter of credit was filed with the Department of Public Works. In my opinion because it was the practice of the Department of Public Works at that time to allow letters of credit in lieu of drainage fees that such does constitute the payment of drainage fees. Should you have any questions concerning this, please feel free to contact me.

Very truly yours,

GORDON D. HINDS
City Attorney

By: 
JAMES G. COLVIN II
Assistant City Attorney

JUN - 8 1977

COL-TERRA	CT LEGAL
<input checked="" type="checkbox"/> JONES	<input type="checkbox"/> JTB
<input checked="" type="checkbox"/> KERR	<input type="checkbox"/> BOSTY
<input type="checkbox"/> GARY	<input type="checkbox"/> JENA
<input type="checkbox"/> GUY	<input type="checkbox"/> JENIST
<input type="checkbox"/> MARCIA	<input checked="" type="checkbox"/> FILE
	<input type="checkbox"/> DESTROY

JGC/jlg

cc/Public Works Director
Director of Planning

CITY OF COLORADO SPRINGS

DEPARTMENT OF PUBLIC WORKS • PHONE 471-6606 • P. O. BOX 1575
MUNICIPAL BUILDING • COLORADO SPRINGS, COLORADO 80901

June 11, 1977

Mr. Gary Rocks
Col-Terra Investments Ltd.
5180 North Union Boulevard
Colorado Springs, CO 80909

Re: Homestead No. 12 - Sand Creek Basin

Dear Gary:

In reference to the letter of June 1st from the Assistant City Attorney regarding drainage fees for Homestead Sub. Fil. #12, we wish to offer the following comments.

The current letter of credit for the fees expires on February 28, 1978. If in the construction of facilities you do not exceed the original estimate of costs there will be no need to inflate the drainage fee to the current per acre cost in this basin. If you are replatting the area and by doing so, you change the original drainage plan extensively then we shall have to require a new cost estimate and inflate the fees.

If there are no structures involved then the fee shall be paid prior to the expiration of the current letter of credit. No renewal of letter of credit for cash fees can be allowed.

Sincerely,



Robert A. Martin
Assistant City Engineer

RAM/ds

cc: Jan Dudzinski

JUL 13 1977

COL-TERRA	CT MGMT
<input checked="" type="checkbox"/> [initials]	<input type="checkbox"/> TED
<input type="checkbox"/> [initials]	<input type="checkbox"/> BETTY
<input checked="" type="checkbox"/> LARRY	<input type="checkbox"/> LORNA
<input type="checkbox"/> BOB	<input type="checkbox"/> [initials]
<input type="checkbox"/> MARCIA	RECEPTIONIST
	<input checked="" type="checkbox"/> [initials]
	DESTROY

