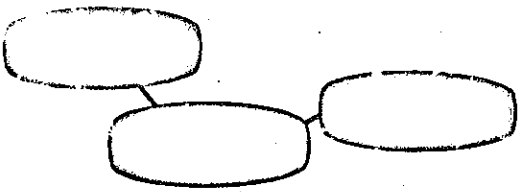

planners · consultants · engineers

Suite 200
4525 Northpark Drive
Colorado Springs, Colo. 80907

(303) 593 3222

March 28, 1972

Mr. DeWitt Miller
City Hall
P.O. Box 1575
Colorado Springs, Colorado

Subject: Vista Grande Terrace North Master Drainage Plan

Dear Deke:

Transmitted herewith is the revised master drainage study on that portion of the Vista Grande Terrace development lying North of Filing Numbers 5, 6 and 8. This plan was revised due to changes in all street alignments North of Vickers Drive. Also a revision was made within Vista Grande Terrace Filing 10 to take some of the water off of Vickers Drive.

Included are calculations, cost estimates for the respective drainage basins and special plan details.

If you have any questions, please do not hesitate to call.

Respectfully,

O E Watts

O. E. Watts
PE-LS 9853

CA/ce1

by S K Rocha
COL-TERRA INVESTMENTS

March 30, 1972
Date

APPROVED:

George Jury
City Engineer

Date

VISTA GRANDE TERRACE NORTH
MASTER DRAINAGE COST ESTIMATE

ITEM	QUANTITY	UNIT PRICE	COST
6' Catch Basin	2 each	$ 400.00	$ 800.00
8' Catch Basin	15 each	450.00	6750.00
12' Catch Basins	4 each	700.00	2800.00
16' Catch Basins	12 each	775.00	9300.00
21" CMP	90 LF	9.00	810.00
24" CMP	350 LF	10.00	3500.00
27" CMP	140 LF	11.00	1540.00
30" CMP	400	12.00	4800.00
36" CMP	920	17.00	15640.00
42" CMP	1050	20.00	21000.00
48" CMP	810	25.00	20250.00
60" CMP	490	37.50	18375.00
72" CMP	700	50.00	35000.00
Curb Outlet	1	300.00	300.00
Spec. Curb Inlet	1	500.00	500.00
		Subtotal	$141365.00
		10% Engr'g.& Cont.	14136.50
		TOTAL----------	$155501.50

VISTA GRANDE TERRACE NORTH

All facilities are in the Cottonwood Creek Drainage Basin.

Drainage Fees:

1971 fees
Filing No. 10
North Shooks Run - Templeton Gap

28.7 Acres x $467.00/Acre = $13,402.90

Cottonwood Creek

36.2 Acres x $583.00 = $21,104.60

$34,507.50

1972 fees
Remaining Acreage
Cottonwood Creek

169.1 Acres x $635.00 = $107,378.50

TOTAL FEES $141,886.00

Cottonwood Creek Over-run: $13,625.50

Total Over-run: $27,028.40

$T_{PO} = .54 + .6\,T_c$ $\qquad$ $q_p = \frac{484\,AQ}{T_{PO}}$

MAJOR BASIN	SUB BASIN	AREA Planim. Read	AREA 1"=100' MILE	BASIN LENGTH	BASIN HEIGHT	Tc	DITCH LENGTH	DITCH SLOPE	V	TPO	FLOW Q	FLOW qp	Tb
I	A	30.90	.00965	600	20	.068				.540	1.70	14.70	
	B	24.7	.00886	600	36	.058				.535	.02	0.16	
	C	15.5	.0049	650	42	.055				.533	1.25	5.56	
	D	32.27	.0080	820	42	.074				.544	↓	8.90	
	E	20.71	.0074	700	58	.052				.531		8.43	
	F	21.37	.0077	850	62	.063				.538		8.66	
	G	41.30	.0146	1200	74	.087				.552		16.22	
	H	16.70	.0061	750	36	.069				.541		6.82	
II	A	10.00	.0036	620	30	.059				.535	1.25	4.05	
	B	19.12	.0069	670	35	.060				.536	↓	7.74	
	C	6.00	.0022	460	30	.041				.525		2.48	
	D	29.83	.0107	1000	49	.082				.549		11.79	
	E	26.95	.0097	1150	60	.087				.552		10.60	
	F	14.17	.0051	580	46	.046				.528		5.82	
	G	21.94	.0079	830	42	.072				.543		8.77	
	H	25.[illegible]	.0080	720	59	.053				.532	1.25	9.[illegible]	

HYDROLOGIC COMPUTATION – BASIC DATA

PROJ: YGT - North

By: CEA

Date: 27 Mar '72

UNITED WESTERN ENGINEERS
planners · consultants · engineers
Suite 200
4525 Northpark Drive
Colorado Springs, Colo. 80907

MAJOR BASIN	SUB BASIN	AREA Planim. Read	AREA MILE	BASIN LENGTH	BASIN HEIGHT	Tc	DITCH LENGTH	DITCH SLOPE	V	TPO	FLOW Q	FLOW qp	Tb
II	I	[illegible]	[illegible]	42	32	[illegible]				.522	1.25	[illegible]	
	I	9.71	.00348	470	70	.043				.526	1.25	4.00	
III	A	17.[illegible]	[illegible]	630	48	.068				.541	1.25	6.82	
	B	[illegible]	.01312	1250	70	.091				.555	1.25	14.30	
	C	31.[illegible]	.01133	570	17	.066				.540	1.25	13.69	
	D	27.07	.00971	760	47	.061				.537	1.25	10.94	
	E	29.78	.01068	980	72°	.070				.542	1.25	11.92	
	F	9.00	.00323	350	26	.033				.520	1.25	3.76	
	G	9.37	.00336	530	30	.049				.529	1.25	3.84	
	H	16.71	.00595	650	44	.054				.532	1.25	6.81	
		15.09	.00541	[illegible]	-	.073				[illegible]	1.25	[illegible]	
	J	30.26	.01085	650	[illegible]	[illegible]				.531	1.50	14.83	
	K	26.64	[illegible]	550	50	[illegible]				.525	1.25	11.02	
		11.60	[illegible]	470	14	[illegible]				.535	1.25	4.70	
	[illegible]	[illegible]	[illegible]	1050	[illegible]	[illegible]				[illegible]	1.25	[illegible]	

HYDROLOGIC COMPUTATION — BASIC DATA

PROJ: [illegible]

By [illegible]
Date: [illegible]

UNITED WESTERN ENGINEERS
planners consultants engineers
Suite 200
4525 Northpark Drive
Colorado Springs, Colo 80907

MAJOR BASIN	SUB BASIN	AREA Planim. Read	AREA MILE	BASIN LENGTH	BASIN HEIGHT	Tc	DITCH LENGTH	DITCH SLOPE	V	TPO	FLOW Q	FLOW qp	Tb
III	N	14.41	.0517	75[illegible]	50	.063				.538	1.25	5.81	
	O	4.85	.00246	39[illegible]	22	.039				.523	1.25	2.85	
	P	46.17	.01656	1100	30	.076				.546	1.50	22.02	
	Q	13.65	.0049	600	34	.054				.532	1.25	5.16	
IV	A	20.5[illegible]	.00735	42[illegible]	34	.145				.587	1.25	7.59	
	B	7.21	.00255	780	16	.099				.559	1.25	2.80	
	C	20.9	.0074	570	28	.055				.533	1.25	8.50	
VII	A	28.0	.0100	1170	72	.085				.551	1.25	11.0	
	B	16.7	.0059	800	54	.062				.537	1.25	6.74	
	C	12.5	.0044	330	22	.038				.523	1.25	5.18	
	D	30.7	.0110	760	35	.070				.542	1.25	12.29	
	E	18.1	.0064	610	17	.075				.545	1.25	7.20	
	F	6.1	.0021	350	9	.050				.530	1.25	2.49	

HYDROLOGIC COMPUTATION – BASIC DATA

PROJ: IGT North

By:

Date:

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BASIN	BASIN	Planim Read	MILE	LENGTH	HEIGHT	Tc	LENGTH	SLOPE	V	TPO	Q	qp	To
VII	G	30.6	.0109	600	24	.050				.530	1.50	15.03	
VIII	A	786	.0102	700	56	.052				.531	1.25	11.64	
	B	28.3	.0101	670	56	.060				.536	1.25	11.55	
	C	8.9	.0031	400	22	.040				.524	1.26	3.53	
	D	29.9	.0107	1090	35	.110				.566	1.25	11.46	
	E	16.7	.0057	500	16	.07				.542	1.50	8.02	
IX	A	12.7	.0045	600	56	.046				.528	1.25	5.21	
	(1"=100)												
DRAINAGE TO NORTH	School	16.2	.0058	750	19	1086				.522	1.70	8.6	
"	Cottonwood Circle [illegible]	34.3	.0127	1000	54	1085				.552	1.25	13.4	
	NE Council	19.6	.0070	600	16	.095				.545	1.25	7.8	
INFLOW FROM EAST	(1"=300')	11.85	.05125	1800	68	.14			SOIL R7-BD TYPE A	.584	~~1.12~~ 1.70	~~45.0~~ 53.9	

HYDROLOGIC COMPUTATION — BASIC DATA

PROJ:

By:

Date:

UNITED WESTERN ENGINEERS

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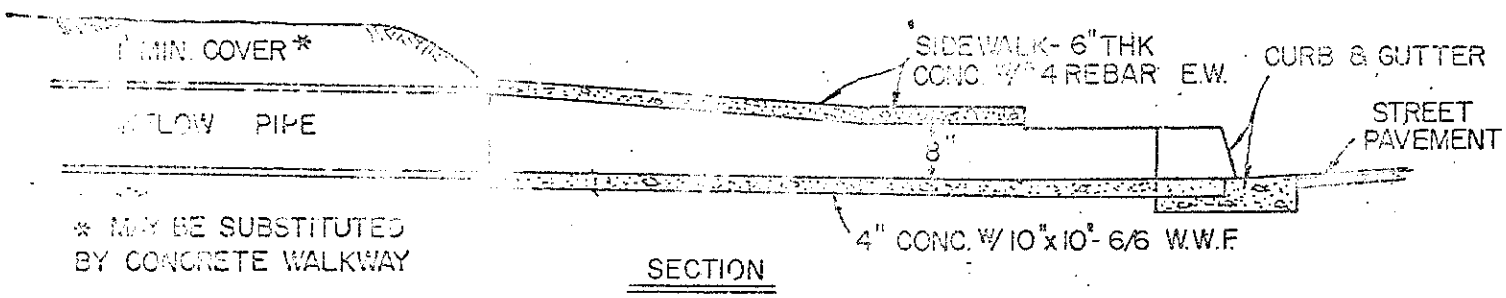
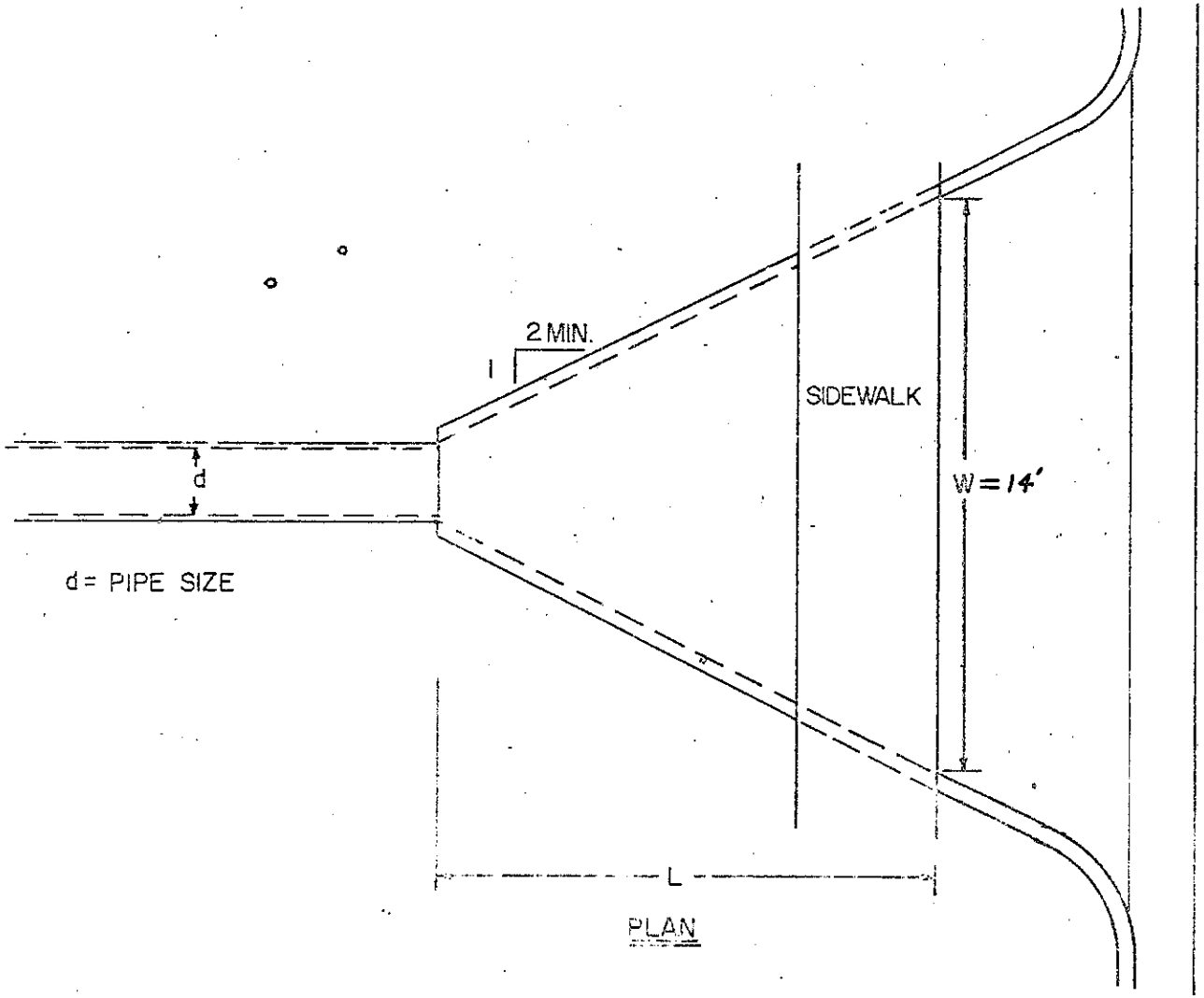
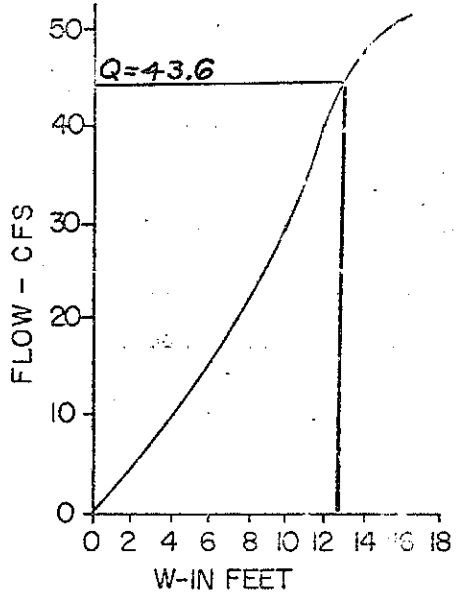


* MAY BE SUBSTITUTED BY CONCRETE WALKWAY

SECTION



PLAN



STREET INLET
FOR CULVERTS

SCALE 1"= 5'

VISTA GRANDE
TERRACE No. 10
RED ONION CIRCLE WEST