

Original
Do Not Remove

RETURN WITHIN 2 WEEKS TO:
CITY OF COLORADO
STORM WATER & SEWER DIVISION
101 W. COSTILLA, SUITE 113
COLORADO SPRINGS, CO 80903
(719) 578-6212

WOODMEN VALLEY SHOPPING CENTER

DRAINAGE REPORT

JULY 17, 1979

REVISED AUGUST 31, 1979

PREPARED BY:

MILE-HI ENGINEERING INC.
2422 South Downing Street
Denver, Colorado 80210

744-7229

PREPARED FOR:

FLICKINGER ASSOCIATES, LTD. A.I.A.
7290 Samuel Drive, Suite 301
Denver, Colorado 80201

427-6443

Drainage Concept and format
approval subject to the
attached letters from
El Paso County and Locant
Press, grouted rip-rap
channel to Cottonwood
Creek and revision
to cost estimate.

Gary R. Haynes
Acting City Engineer

RSW.B 9/18/79

September 5, 1979

Mr. Gerald Banks
City Engineer - Colorado Springs
105 W. Costilla Street
Colorado Springs, CO 80903

Re: Storm Sewer Easement
1025 East Woodmen Road
Colorado Springs, CO 80918

Dear Mr. Banks,

Looart Press, Inc. agrees to grant an easement for the controlled flow of storm sewer water down the east side of our property at 1025 East Woodmen Road to carry water from the present point of entrance onto our property from Yorkshire Estates south to Cottonwood Creek.

We propose that the easement be restricted in width as necessitated by the terrain. We have previously granted the telephone company an easement described as follows:

"A STRIP OF LAND TEN (10) FEET IN WIDTH, BEING FIVE (5) FEET ON EACH SIDE OF A CENTERLINE DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF WOODMAN ROAD, AND FIVE (5) FEET WEST OF THE EAST LINE OF THE SOUTHWEST ONE-QUARTER (SW $\frac{1}{4}$) OF SECTION 8, TOWNSHIP 13 SOUTH RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN: THENCE SOUTH, PARALLEL TO THE EAST LINE OF SAID SOUTHWEST ONE-QUARTER (SW $\frac{1}{4}$), A DISTANCE OF 1267.28 FEET TO THE POINT OF TERMINUS, SAID TEN (10) FOOT EASEMENT BEING WEST OF, PARALLEL WITH AND ABUTTING THE WESTERLY LOT LINE OF LOTS 1 THROUGH 10, BLOCK 1, YORKSHIRE ESTATES; EL PASO COUNTY, COLORADO"

Mr. Gerald Banks
September 5, 1979
Page 2

The storm sewer easement should be immediately adjacent to the above described telephone easement with it being understood that overland access to the storm sewer easement would be through and on the telephone company easement rather than through our property to the west.

In addition, this easement is conditioned upon: the construction, at no cost to Looart Press, of a safe and adequate means of receiving the water from the proposed underground storm sewer pipe through Yorkshire Estates and diverting the water in a southerly direction; the construction, at no cost to Looart Press, of a surface ditch, rip-rap lined, from the above receptacle/diverter to Cottonwood Creek; the future maintenance of this entire system by the City of Colorado Springs; and the providing to Looart Press for its approval prior to construction of the plans and drawings for such construction.

The thirty-five acres south of the Looart property, through which some of the easement will run, is being purchased by Looart from Northhills Ranch Corporation. We can assure you that when such property is owned by Looart Press, we will provide you with an easement as described above to complete your access to Cottonwood Creek.

Very truly yours
LOOART PRESS, INC.



Gary O. Loo
President

TSK:pz

MAX L. ROTHSCHILD, P.E.
DIRECTOR OF TRANSPORTATION

MARK BRENTON
HIGHWAY ADMINISTRATOR

JRGE MADRIL, L.S.
ENGINEERING ADMINISTRATOR



PHONE (303) 471-5774

EL PASO COUNTY

DEPARTMENT OF TRANSPORTATION

3170 CENTURY STREET
COLORADO SPRINGS, COLORADO 80907

Sept. 11, 1979

Jerry Banks
City Engineering
P.O. Box 1575
Colo. Spgs., Co. 80901

Dear Jerry,

We have approved the location of the storm sewer as it passes through Yorkshire Estates from Woodmen Valley Shopping Center to Looart Sub. Filing No. 2. We would request that two inlets be installed on this storm sewer. The first one being at the west R.O.W. line of Prince Dr. at the easement according to our plans. The other one being on the main line around lots 5 and 6 in the Baron-Prince intersection. This inlet should be redesigned to handle the changed flows. We also plan to install some other inlets on this line and we would appreciate it if you would provide stub-outs in the locations of the inlet laterals shown on the plans we provided you.

Sincerely,

M L R By *George E. Modahl*
Max L. Rothschild P.E. *9/11/79*
Director of Transportation

By: *Guenther Polok*
Guenther Polok
Drainage Engineer

WOODMEN VALLEY SHOPPING CENTER

COLORADO SPRINGS, COLORADO

STORM DRAINAGE REPORT

OBJECTIVE OF DRAINAGE STUDY:

The objective of this study is to identify and solve the storm drainage problems coincident with the development of Woodmen Valley Shopping Center and to satisfy the storm drainage requirements of the City of Colorado Springs, County of El Paso, State of Colorado.

LOCATION OF PROJECT:

Woodmen Valley Shopping Center is a 15.34 acre tract of land located within Section 8, T.13S., R.66W. of the 6th P.M. More particularly, the site is bounded by: Woodmen Road along the Northern boundary, Academy Blvd. along the Eastern boundary and an El Paso County residential subdivision known as Yorkshire Estates along the Southern and Western boundaries. The tract of land has been annexed to the City of Colorado Springs under the name and style of Falcon Fair Addition No. 1 and No. 2.

BASIN CHARACTERISTICS:

Woodmen Valley Shopping Center lies entirely within the Cottonwood Creek Drainage Basin. The offsite area draining to the site is approximately 60 acres in area. This offsite ground has been developed into 1.0 acre rural homesites. Existing zoning indicates approximately 8.6 acres of this 60 acres is zoned business-commercial. Existing drainage patterns for the tributary area is generally Southwesterly for overland flows, and Westerly & Southerly for roadside channels. Existing drainage systems are comprised of residential rural streets with roadside drainage ditches and driveway culverts. Academy Blvd. has drainage facilities that intercepts all drainage from the East and directs it to roadside inlets and storm sewer. The storm sewer discharges storm runoff into an earthen drainage swale on the West side of Academy Blvd. This existing drainage course extends Southwesterly to a point of intersection with Woodmen Road. An existing 43" x 27" C.M.P. arch culvert under Woodmen Road directs off-site drainage onsite. An existing onsite drainage swale then directs storm-

water Westerly to the natural low between Lots 7 & 8, Block 4 Yorkshire Estates, and thence to Baron Road and via roadside ditches until it intercepts a small detention pond immediately West of Yorkshire Estates. Looart Press Inc. own the site where the detention pond is situated. The present development of the Looart Press site has drainage provisions included within their site to convey stormwater runoff from upstream and convey it to Cottonwood Creek. Refer to Basin Drainage Plan at rear of this report.

IMPROVED SITE CONDITION:

Woodmen Valley Shopping Center site will be developed into a local retail shopping center and approximately 85 percent impervious land cover will result from the development. To accommodate the development of the entire site, the existing drainageway will be deleted and a proposed storm sewer will be provided to intercept anticipated offsite drainage flows. The proposed storm sewer shall extend from the existing downstream detention pond across Yorkshire Estates via property line easements of Lot 3 & 4, Block 1 and Lots 7 & 8, Block 4 and Baron Rd. R.O.W. to the proposed site and thence extend upstream to the Woodmen Road drainage system. The storm sewer has been sized to convey the anticipated peak discharge for the entire upstream tributary basin. The peak discharge includes future development of upstream commercial areas.

All onsite drainage will be conveyed to area drains and thence to the storm sewer. The site shall have been graded to intercept and direct all runoff to the predetermined lows onsite. Stormwater inlets will intercept the runoff and direct it to the proposed storm sewer. No detention ponding has been proposed for the site.

STORM RUNOFF ANALYSIS:

The storm runoff affecting the site has been analyzed by the modified S.C.S. Methodology. The 100 year - 6 hr. duration storm of 3.5 inch intensity was used in all computations in accordance with criteria of the City of Colorado Springs.

The soil types as mapped by the local S.C.S. office, encountered in the drainage system are:

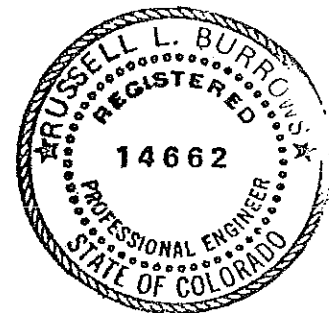
<u>Soil Type</u>	<u>Hydrologic Group</u>
R7 - BD	A
C4 - CE	B
R4 - AB	B

Runoff curve numbers are taken from Table 2 - "Runoff Curve Numbers For Selected Agricultural, Suburban, And Urban Land Use"; City of Colorado Springs - Determination of Storm Runoff Criteria, March 1977. Weighted CN numbers were computed for each basin, refer to Appendix Basin Criteria.

MILE-HI ENGINEERING INC.

Prepared by: Russell L. Burrows
Russell L. Burrows, P.E.

Reviewed by: Lee S. Bublitz
Lee S. Bublitz, P.E.



Wickliff & Company

Real Estate Developers

RE: Drainage Report as revised 8/31/79
Woodmen Valley Shopping Center

The developer has read and will comply with all requirements specified
in this Drainage Report as approved by the City Engineer.

WOODMEN & ACADEMY ASSOCIATES,
a Colorado Limited Partnership

BY: Steven E. Wickliff
Title: General Partner

The above and foregoing statement was acknowledged before me this 18th
day of September, 1979, A.D.

Witness my hand and seal:

MY COMMISSION EXPIRES: January 9, 1983

Lynda D. Kyle
Notary Public

BASIN CRITERIA

MILE-HI ENGINEERING INC.
 2422 South Downing Street
 DENVER, COLORADO 80210
 Phone: 744-7229

JOB #7941
 SHEET NO. 1 OF 5
 CALCULATED BY R.L.B. DATE 7-17-79
 CHECKED BY DATE REV. 8-30-79
 SCALE

BASIN No.	AREA	% TOTAL AREA	UNDEVELOPED STATE				DEVELOPED STATE				AREA -SM-
			TYPE DEV.	% IMP.	CN	CN x %	TYPE DEV.	% IMP.	CN	CN x %	
I-A	8.9	100	RES-A	20	51	51	COM-A	20	98	98	0.01390
I-B	5.00	0.58	RES-A	20	51	29.6	RES-A	20	51	29.6	0.1356
	3.0	0.42	PAST. POOR-A	-	68	28.6	COM-A	85	98	41.2	
	8.68		TOTAL			58.2				70.8	
I-C	20.59	0.59	RES-A	20	51	30.1	RES-A	20	51	30.1	0.5454
	14.31	0.41	RES-B	20	68	27.9	RES-B	20	68	27.9	
	34.90		TOTAL			58.0				58.0	
II-A	3.41	1.0	COM-A	85	89	89	COM-A	85	98	98	0.0532
II-B	2.21	0.43	RES-A	20	51	21.9	RES-A	20	51	21.9	0.0806
	2.95	0.57	PAST. POOR-A	-	68	38.8	COM-A	85	98	55.9	
	5.16		TOTAL			60.7				77.8	
III	18.03	1.0	PAST. FAIR-B	-	70	70	COM-B	85	92	92	0.2818
IA-C	25.59	0.49	RES-A	20	51	25.0	RES-A	20	51	25.0	0.0820
	14.31	0.27	RES-B	20	68	18.4	RES-B	20	68	18.4	
	12.58	0.24	PAST. POOR-A	-	68	16.3	COM-A	85	98	23.5	
	52.48		TOTAL			59.7				66.9	
I _{A-C} & II _{A-B}	52.48	0.86	ABOVE	-	59.7	51.3	ABOVE	-	66.9	57.5	0.0954
	3.41	0.06	COM-A	85	89	5.3	COM-A	85	98	5.9	
	2.95	0.05	PAST. POOR-A	-	68	3.4	COM-A	85	98	4.9	
	2.21	0.03	RES-A	20	51	1.5	RES-A	20	51	1.5	
	61.05		TOTAL			61.5				69.8	
I _{A-C} , II _{A-B}	61.05	0.77	ABOVE	-	61.5	47.4	ABOVE	-	69.8	53.7	0.1236
III	18.03	0.23	PAST. FAIR-B	-	68	15.6	COM-B	85	92	21.2	
79.08		TOTAL			63.0				74.9		

MILE-HI ENGINEERING INC.

2422 South Downing Street
DENVER, COLORADO 80210
Phone: 744-7229

JOB #7941

SHEET NO. 2 OF 5

CALCULATED BY R.L.B. DATE 9-5-79

CHECKED BY _____ DATE _____

SCALE _____

BASIN NO.	AREA (Ac.)	% TOTAL AREA	UNDEVELOPED STATE				DEVELOPED STATE				AREA -SM-
			TYPE DEV.	% IMP.	CN	CN x %	TYPE DEV.	% IMP.	CN	CN x %	
IV	18.0	1.00	RES-B	30	72	72	RES-B	30	72	72	0.0281
I, C, II, A, B & III	79.08	0.81	ABOVE	-	63	51.0	ABOVE	-	74.9	60.7	
IV	18.00	0.19	RES-B	30	72	13.7	RES-B	30	72	13.7	
	97.08		TOTAL			64.7				74.4	0.1517

MILE-HI ENGINEERING INC.
 2422 South Downing Street
 DENVER, COLORADO 80210
 Phone: 744-7229

JOB #7941
 SHEET NO. 3 OF 5
 CALCULATED BY F.L.B.
 CHECKED BY _____
 DATE 7-17-79
 REV. 8-30-79

100 YR. - 6 HR. STORM - DEVELOPED CONDITION

MAJOR BASIN	SUB BASIN	AREA SQ. MI.	BASIN		T _c (HR.)	CN	FLOW		
			LENGTH	HEIGHT			9P	Q	9 (C.F.S.)
I	A	0.01390	1000'	23'	0.16	98	1130	3.27	51.4
	B	0.01356	910'	40'	0.15	70.8	1150	1.05	16.4
	C	0.0545	2320'	86'	0.20	58	1070	0.45	26.3
II	A	0.00532	500'	11'	0.10	98	1270	3.27	22.1
	B	0.00806	950'	40'	0.12	77.8	1220	1.49	13.5
III		0.02818	1420'	23'	0.12	92	1220	2.64	90.8
I A-C		0.0820	2370'	97'	0.28	66.9	950	0.84	65.4
II A & B		0.01338	1450'	46'	0.18	85.8	1080	2.10	30.3
I A-C & II A & B		0.0954	2970'	47'	0.28	69.8	950	1.00	90.6
I A-C & II A & B & III		0.1236	3370'	52'	0.29	74.9	930	1.29	148.3
I A-C II A & B III & IV		0.1517	4520'	72'	0.31	74.4	910	1.26	173.9

SCALE

100 YR - 6 HR. STORM - EXISTING CONDITION (1979)

MAJOR BASIN	SUB BASIN	AREA SQ. MI.	BASIN		T _c (HR.)	CN	FLOW		Q (CFS)
			LENGTH	HEIGHT			Q _P	Q	
I	A	0.01390	1000'	23'	0.16	51	1130	0.22	3.5
	B	0.01356	910'	40'	0.15	58.2	1150	0.46	7.2
	C	0.0545	2320'	86'	0.20	58	1070	0.45	26.3
II	A	0.00532	500'	11'	0.10	89	1270	2.36	15.9
	B	0.00806	950'	40'	0.12	60.7	1220	0.56	5.5
III		0.02818	1160'	23'	0.25	70	990	1.01	28.2
IA-C		0.0820	2870'	97'	0.28	59.7	950	0.52	40.5
IIAB		0.01338	1450'	46'	0.18	70	1080	1.01	14.6
IA-C & IIAB		0.0954	2970'	47'	0.28	61.5	950	0.59	53.5
IA-C & IIAB & III		0.1236	3370'	52'	0.29	63	930	0.67	77.0
IA-C, IIAB, III & IV		0.1517	4520'	72'	0.31	64.7	910	0.74	102.2

SCALE

MILE-HI ENGINEERING INC.
 2422 South Downing Street
 DENVER, COLORADO 80210
 Phone: 744-7229

JOB # 7941
 SHEET NO. 4
 OF 5
 CALCULATED BY E.L.B.
 DATE 7-17-79
 CHECKED BY _____
 DATE REV. 8-30-79

CALCULATIONS

STORM SEWER CALCULATIONS:

CONDUIT FROM M.H. # ST-2 TO M.H. # ST-3

CONDITIONS:

HYD. SLOPE = 1.80 %

$Q_{100} = 148.3$ C.F.S.

CALCS.

TRY 42" ϕ R.C.P. $n = 0.013$

$Q = \frac{0.463}{n} D^{8/3} S^{1/2}$

$Q = 135$ C.F.S. $< Q_{100} \therefore$ TOO SMALL

TRY 48" ϕ R.C.P. $n = 0.013$

$Q = \frac{0.463}{n} D^{8/3} S^{1/2}$

$Q = 192.7$ C.F.S. $> Q_{100} \therefore$ O.K.

CONDUIT FROM M.H. # ST-3 TO M.H. # ST-4

CONDITIONS:

HYD. SLOPE = 2.25 %

$Q_{100} = 148.3$ C.F.S.

CALCS.

TRY 42" ϕ R.C.P. $n = 0.013$

$Q = \frac{0.463}{n} D^{8/3} S^{1/2}$

$Q = 150.9$ C.F.S. $> Q_{100} \therefore$ O.K.

MILE-HI ENGINEERING INC.
2422 South Downing Street
DENVER, COLORADO 80210
Phone: 744-7229

JOB # 7941
SHEET NO. 2 OF 5
CALCULATED BY R.L.B. DATE 8-30-79
CHECKED BY _____ DATE _____
SCALE _____

STORM SEWER INLET SIZING

AREA DRAIN NORTH OF BLDG #5

GIVEN: SUB BASIN III-B
 $Q_S = 5.6$ C.F.S.
PONDING DEPTH 6 INCHES - SUMP CONDITION
#13 INLET TO BE USED

REF. DRCOG DRAINAGE CRITERIA MANUAL
STORM INLETS

CALCS: Use Fig. 4-1

Q/FT^2 OF GRATE OPENING IN SUMP = 3.5 C.F.S.

#13 INLET OPENING AREA = 2.33 SQ.FT.

$Q_{THEORETICAL} = 3.5 \times 2.33 = 8.2$ C.F.S.

ALLOW. CAPACITY = 50% OF $Q_{THEORETICAL}$

ALLOW. CAPACITY = 0.5×8.2 C.F.S. = 4.1 C.F.S.

$Q_S = 5.6$ C.F.S. \therefore 1.5 C.F.S. WILL
OVERFLOW INTO SUBBASIN
III-A.

CONDUIT SIZE: FROM #13 INLET TO 42" ϕ R.C.P.

CONDITIONS: $Q_S = 31.6$ C.F.S.
HYD. SLOPE = 2.0%

CALCS: TRY 24" ϕ R.C.P. $m = 0.013$

$$Q = \frac{0.463}{m} D^{8/3} S^{1/2}$$

$$Q = 32.0 \text{ C.F.S.} > Q_S \quad \therefore \text{O.K.}$$

MILE-HI ENGINEERING INC.
2422 South Downing Street
DENVER, COLORADO 80210
Phone: 744-7229

JOB #7941

SHEET NO. 3 OF 5

CALCULATED BY R.L.B. DATE 7-18-79

CHECKED BY DATE 8-30-79

SCALE

STORM SEWER & INLET SIZING

AREA DRAINS BEHIND BLDG. #3

GIVEN: $Q_5 = 9.2$ C.F.S.
PONDING DEPTH 6 INCHES
#13 INLETS TO BE USED AT TWO LOCATIONS
GRADES PREDETERMINED BY SITE GRADING PLAN.

REF. DRCOG DRAINAGE CRITERIA MANUAL
STORM INLETS

CALCS: USE FIG. 4-1

Q/ft^2 OF GRATE OPENING IN SUMP = 3.5 C.F.S.

#13 INLET OPENING AREA = 2.33 SQ.FT.

$Q_{THEORETICAL} = 3.5 \times 2.33 = 8.2$ C.F.S.

ALLOW. CAPACITY = 50% OF $Q_{THEORETICAL}$

ALLOW. CAPACITY = $.5 \times 8.2 = 4.1$ C.F.S.

TOTAL CAPACITY OF TWO INLETS = 8.2 C.F.S.

$Q_5 = 9.2$ C.F.S. \therefore 1.0 C.F.S. WILL OVERFLOW INTO
SUB BASIN III-A

CONDUIT SIZE:

GIVEN $Q_p = 14.3$ C.F.S.

HYD. S = 1.4%

CALC. TRY 18" ϕ R.C.P. $n = 0.013$

$Q = \frac{0.463}{n} D^{8/3} S^{1/2}$

$Q_{ALL} = 12.5$ C.F.S.

$Q_5 > Q_{ALL} \therefore$ 1.8 C.F.S. WILL BYPASS

INLETS AND FLOW INTO SUBBASIN III-A

STORM SEWER INLET SIZING

AREA DRAINS WITHIN ENTRANCE DRIVE

GIVEN: $Q_S = 27.3$ C.F.S. - SUB-BASIN III-C
SUMP CONDITION - 2 INLETS

REF. CITY OF COLO. SPRINGS
DETERMINATION OF STORM RUNOFF CRITERIA
MARCH 1977

CALCS: USE TABLE 6 - SUMP CAPACITY
@ $L = 10$ FT. $Q_{ALL} = 23.0$ C.F.S.
 $L = 5$ FT. $Q_{ALL} = \frac{28+19}{2} = 10.3$ C.F.S.
 $Q_{TOTAL} = 33.3$ C.F.S.

∴ USE D-10R INLET $L = 10$ FT & $L = 5$ FT.

CONDUIT SIZE: FROM D-10R INLETS TO #13 INLET.

CONDITIONS: $Q_S = 27.3$ C.F.S.
HYD SLOPE = 3.00%

CALCS: TRY 21" ϕ R.C.P. $m = 0.013$

$$Q = \frac{0.463}{m} D^{8/3} S^{1/2}$$
$$Q = 27.5 \text{ C.F.S.} > Q_S \therefore \text{O.K.}$$

MILE-HI ENGINEERING INC.
2422 South Downing Street
DENVER, COLORADO 80210
Phone: 744-7229

JOB # 7941

SHEET NO. 5

OF 5

CALCULATED BY R.L.B.

DATE 7-18-79
REV. 8-30-79

CHECKED BY

DATE

SCALE

TYPE D-10-R INLET W. OF BLDG # 5

CONDITIONS: $Q_S = 17.5 \text{ C.F.S.} + 3.3 \text{ C.F.S.}$ OVERFLOW FROM
SUB BASINS III-B & III-D

$Q_T = 20.8 \text{ C.F.S.}$

REF. CITY OF COLO. SPRINGS

DETERMINATION OF STORM RUNOFF CRITERIA
MARCH 1977

CALCS: USE TABLE G - SUMP CAPACITY

@ L=10.0 FT $Q_{ALL} = 23.0 \text{ C.F.S.}$

\therefore USE TYPE D-10-R INLET, L=10 FT.

CONDUIT SIZE - FROM INLET TO 42" ϕ R.C.P.

CONDITIONS: $Q_S = 33.3 \text{ C.F.S.}$

HYD. S = 2.6%

CALCS: TRY 24" ϕ R.C.P. $n = 0.013$

$Q = \frac{0.463}{n} D^{8/3} S^{1/2}$

$Q = 36.3 \text{ C.F.S.} > Q_S \therefore \text{O.K.}$

COST ESTIMATE

MILE-HI ENGINEERING INC.
 2422 South Downing Street
 DENVER, COLORADO 80210
 Phone: 744-7229

JOB #7941 WOODMEN VALLEY
 SHEET NO. 1 OF 1
 CALCULATED BY E.L.B. DATE 8-31-79
 CHECKED BY _____ DATE _____
 SCALE _____

COST ESTIMATE

MAJOR STORM DRAINAGE FACILITIES

ITEM	DESCRIPTION	QUANTITY/UNIT	UNIT COST	AMOUNT
1.	48" R.C.P. CLASS III	942.8 L.F.	\$ 50.00	\$47,140.00
2.	M.H. #1 (E.P.C.)*	1 EA.	1000.00	1000.00
3.	? INLET #1 (E.P.C.)	1 EA.	1050.00	1050.00
4.	24" R.C.P. CLASS II	27 L.F.	19.70	530.00
5.	INLET #3 (E.P.C.)	1 EA.	3500.00	3500.00
6.	M.H. #2 (E.P.C.)	1 EA.	1000.00	1000.00
7.	M.H. #ST-3 (S.I.D.)	1 EA.	875.00	875.00
8.	42" R.C.P. CLASS III	555 L.F.	45.00	24,975.00
9.	M.H. #ST-4 (S.I.D.)	1 EA.	875.00	875.00
10.	M.H. #ST-5 (S.I.D.)	1 EA.	875.00	875.00
11.	SPECIAL MANHOLE	1 EA.	4500.00	4500.00
12.	WATERLINE - 4" BLOWOFF	L.S.	1500.00	1500.00
	ADJUSTMENT TO FINISH GRADE			
13.	D-10R INLET (L=60FT.)	1 EA.	1600.00	1600.00
14.	GROUTED RIPRAP	5 C.Y.	100.00	500.00
15.	PAVEMENT REPAIR	600 S.Y.	3.00	1800.00
				90,230.00
			SUBTOTAL	\$ 91,720.00
			10% ENGINEERING & CONTINGENCIES	9170.00
				9,022.00
				\$ 99,242.00
				100,890.00

* Use New Fees For Reimbursement Credits

MAPS

Insert to Woodmen
Valley Shopping Center
Drainage Plan

CITY OF COLORADO SPRINGS
DEPARTMENT OF PUBLIC WORKS • ADMINISTRATION (303) 471-6660 • ENGINEERING (303) 471-6806
105 WEST COSTILLA • P.O. BOX 1575
COLORADO SPRINGS, COLORADO 80901

MINUTES OF THE DRAINAGE BOARD MEETING
OF MARCH 20, 1980, HELD AT 105 W. COSTILLA
IN THE PUBLIC WORKS CONFERENCE ROOM

<u>MEMBERS PRESENT</u>	<u>MEMBERS ABSENT</u>	<u>OTHERS PRESENT</u>
Leigh Whitehead, Chairman Jerry Weiss George Jury Rick Simpson Gerald Watts	None	Robert Martin, Special Proj. Admin. Gary Haynes, Assistant City Engineer Jerry Gromko, City Engineer Russell Burrows, Mile Hi Engineering Daniel Wilhelm, Wickliff & Co. James Harpool, Flickinger Assoc. Randy Stempsey, LooArt Press, Inc. Bernard Trott, LooArt Press, Inc. Bradley Gubser, R. Keith Hook & Assoc.

The meeting was called to order at 3:07 p.m. by the Chairman.

Item One

The minutes of the February 21, 1980, meeting were declared approved as presented.

Item Two

Request for reimbursement of costs incurred in the Cottonwood Creek Basin for Woodmen Valley Subdivision No. 1 (See Attachment). The Assistant City Engineer briefed the Board as to the City's recommendation and the amount that the City is recommending is \$83,313.16 subject to final inspection by the City Engineering staff.

The Board heard a motion from Mr. Watts to approve the request subject to the City's acceptance of the project and the completion of the project by April 1, 1980, to be eligible for a June, 1980, reimbursement. Vote 5-0 in favor of the motion.

Item Three

Request for amendment to the approved drainage plan for Woodmen Valley Subdivision No. 1 (See Attachment). The Assistant City Engineer explained the proposal to the Board and the change in the way that the flow from the Woodmen Valley area would be handled through the LooArt property.

Mr. Bernard Trott, representing LooArt, addressed the Board at this time and explained that they have hired R. Keith Hook and Associates to study the erosion problem that LooArt is having at Cottonwood Creek. Mr. Trott explained that if they could get together with Wickliff and Company to handle the erosion problem, they would grant an easement across their property.

Dan Wilhelm from Wickliff and Company then addressed the Board as to the problems that his company has had with trying to resolve the issue since September of 1979, and that it was their opinion that they have not contributed to the drainage problems that LooArt appears to be having.

Russ Burrows from Mile Hi Engineering then addressed the Board as to his firm's design that would pick up the outfall point from the Woodmen Valley area and, to correct Mr. Wilhelm's statement, that there was some increase in the drainage flow released on the LooArt property.

The Board heard from others regarding this subject, and after discussing the item Mr. Simpson moved that it be tabled giving the two parties time to work out their differences before coming back to the Board. Seconded by Mr. Jury, the motion passed 5-0.

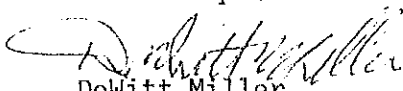
Item Four

The Board reorganization was established and Mr. Weiss moved that Rick Simpson be Chairman for the coming year. Seconded by Mr. Watts. Vote was 5-0 in favor of the motion.

Mr. Weiss nominated George Jury for Vice-Chairman. Seconded by Mr. Simpson. Vote was 5-0 in favor of the motion.

The meeting was adjourned at 4:16 p.m.

Respectfully Submitted,


DeWitt Miller
Director of Public Works

DM/RAM/b11

RAM
cc: Drainage Board Members
Drainage Board Minutes Book
Drainage Board Minutes File
George H. Fellows & City Council
Jan T. Dudzinski, Land Development
Robert A. Martin, Special Proj. Admin.
Gary R. Haynes, Asst. City Engineer
Gerald J. Gromko, City Engineer
Russell Burrows, Mile Hi Engineering
Daniel Wilhelm, Wickliff & Co.
James Harpool, Flickinger Assoc.
Randy Stempsey, LooArt Press, Inc.
Bernard Trott, LooArt Press, Inc.
Bradley Gubser, R. Keith Hook & Assoc.

Insert to Woodmen Valley Shopping Center Drainage Plan

CITY OF COLORADO SPRINGS
DEPARTMENT OF PUBLIC WORKS • ADMINISTRATION (303) 471-6660 • ENGINEERING (303) 471-6606
105 WEST COSTILLA • P.O. BOX 1575
COLORADO SPRINGS, COLORADO 80901

CITY OF COLORADO SPRINGS

DRAINAGE BOARD AGENDA

For March 20, 1980

The Colorado Springs Drainage Board will meet at 3:00 P.M., Thursday, March 20, 1980 at 105 W. Costilla.

The agenda is as follows:

Item 1

Approval of the minutes for the February 21, 1980 meeting. (The minutes were previously mailed to all concerned.)

Item 2

Request for reimbursement of costs to construct approved drainage facilities in Woodmen Valley Subdivision No. 1 (Woodmen Valley Shopping Center). The request involves a partial completion of the required facilities.

Item 3

Request for amendment to the approved drainage plan for Woodmen Valley Subdivision No. 1.

Item 4

Other discussion.

Gary R. Haynes

Gary R. Haynes
Assistant City Engineer

GRH/ro

Atchs

cc: Drainage Board Members
George H. Fellows
DeWitt L. Miller

Gordon Hinds
Robert Martin
Public Affairs

Gary R. Haynes
Jan Dudzinski

*TR 2-28-80
as
CS
7/10/76
(G + 10/90)
3/20/80*

March 20, 1980 Drainage Board Meeting

Item No. 2 Request for Reimbursement for Woodmen Valley Subdivision No. 1:

Mile Hi Engineering, Inc. has submitted a request on behalf of Wickliff and Company for reimbursement for certain drainage facilities constructed within the Woodmen Valley Subdivision No. 1. The subdivision is located at the intersection of Woodmen Road and Academy Boulevard and is within the Cottonwood Creek Drainage Basin. A summary of the costs follows:

	<u>Developer Submittal</u>	<u>Staff Approval</u>
Storm Sewer Construction	\$97,629.32	\$97,629.32
Supervision	14,663.93	9,762.93
	<u>\$112,293.25</u>	<u>\$107,392.25</u>

Computation of Reimbursement:

Cost of improvements	=	\$107,392.25
Less Drainage Fee	=	24,079.09
(15.337 Acres @ \$1570)		<u> </u>
Total Reimbursement		\$ 83,313.16

Staff Recommendation:

The staff recommends that a reimbursement of ~~\$83,313.66~~ be approved subject to the final acceptance of the facilities by the City Engineer. The staff also notes that the facilities that are complete represent a partial completion of the requirements of the approved drainage plan.



March 20, 1980 Drainage Board Meeting

Item No. 3 Request for Amendment of Approved Drainage Plan for Woodmen Valley
Subdivision No. 1

Flickinger Associates, LTD on behalf of Wickliff and Company has requested an amendment to the approved drainage plan as described in the attached letter, dated February 27, 1980. The request involves deletion of an improved channel from the storm sewer outlet to Cottonwood Creek across property owned by Looart Press, Inc. and construction of rip rap protection of the outfall provided Looart will grant an easement to the City.

The City Engineering Division established Woodmen Valley's outfall point at the end of the storm sewer along the easterly boundary of the Looart property. Further, the staff requested Mile Hi Engineering consultant to Wickliff and Company, to contact Looart Press, Inc. concerning the protection of the outfall point on their property.

Wickliff and Company at that point agreed with Looart's request to construct a rip rap channel across an unplatted portion of Looart's property (point "B" to point "C" on the attached drawing). The channel was added to the drainage plan, and the plan was approved by the City Engineer.

The proposed revision and the approved drainage plan are available for review in the City Engineer's office.

*All of the following pages apply
to this item*

