DRAINAGE INFORMATION SHEET

PROJECT TITLE: MONTANO POINTE SUBD. ZONE ATLAS/DR.. FILE #: E-11/D20C

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: FORMERLY TAYLOR RANCH TRACT 25D, MONTANO POINTE

CITY ADDRESS: _____

ENGINEERING FIRM: BOHANNAN-HUSTON, INC CONTACT: KERRY DAVIS, PE

ADDRESS: 7500 JEFFERSON ST NE PHONE: 823-1000

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ✓ DRAINAGE REPORT
- ____ DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION
- ____ OTHER

PRE-DESIGN MEETING:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- ____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ✓ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- ✓ OTHER WORK ORDER (SPECIFY)

DATE SUBMITTED: Dec 16, 1991

BY: James K. Morgan

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 13, 1992

Kerry Davis, P.E.
Bohannan-Huston, Inc.
7500 Jefferson Street, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT FOR MONTANO POINTE SUBDIVISION
(E-11/D20C) ENGINEER'S STAMP DATED DECEMBER 16, 1991

Dear Mr. Davis:

Based on the information provided on the referenced submittal received January 10, 1991, the report is approved for Work Order and Final Plat. Financial guarantees should be in place prior to sign-off of the plat.

This approval is also based on the fact that you will provide Construction Coordination and Construction Management for that work within Montano Road committed by the City. I would recommend that you set up a meeting with your contractor and the City's contractor in advance before this work is to commence.

If you should have any questions, please do not hesitate to call me at 768-2650.

Cordially,

Gilbert Aldaz, P.E. & P.S.
Civil Engineer/Hydrology

xc: Dan Hogan, Hydrology Division Manager
Roger Green, DRC Chairman
Cleve Matthews, San-Far Partnership

GA
wp+2937

PURPOSE

The purpose of this report is to present the drainage management plan for preliminary plat and rough grading approval for Montano Pointe Subdivision, formerly Tract 25D of the Taylor Ranch Subdivision. The Drainage Ordinance and the Development Process Manual, including proposed revisions to the hydrologic computational methods, are utilized to develop the plan.

SITE LOCATION AND EXISTING CONDITIONS

The property is located between Kachina Street on the north and Montano Road on the south, with the existing Butterfield II subdivision to the west and the Mariposa Diversion Channel to the east (refer to the Location Map on Plate 1 in Appendix 4.)

The parcel generally slopes from west to east with a slight depression in the center of the parcel. The site vegetation consists of native grasses and weeds. No offsite drainage is encountered as surface flow, however at two locations offsite drainage crosses the site in existing storm sewers which discharge into the Mariposa Diversion Channel. The Mariposa Channel was designed with a free board of 3' during the 100yr event for the reach which runs the length of the proposed subdivision (Refer to excerpts from existing reports in Appendix 3.) The development of this site will not impact the existing storm sewers or easements.

HYDROLOGIC ANALYSIS

The new rational method hydrologic procedures identified within the proposed revision to Chapter 22, Section 22.2 of the Development Process Manual dated August, 1991, (DPM Update),has been utilized to determine peak flow rates for design of the storm drainage improvements within the project. The 100 year, 6 hour storm has been used as the design event.

The peak flow rate computed by the new rational method identified within the referenced DPM update for all onsite basins after development is 36.92 CFS, compared to 12.06 CFS under existing conditions. Please refer to Tables 1 and 2 in Appendix 1 for a detailed summary of hydrologic parameters and basin characteristics.

DRAINAGE MANAGEMENT PLAN

Under developed conditions, the site will be graded to deliver runoff from most of the developed lots into the street sections

which will convey runoff to a proposed side channel to be constructed on the south end of the site north of the intersection of Montano Road and Montano Pointe Road (Basin A) and a rundown located at the east end of La Mesa Court (Basin B). Both outfall structures will convey the runoff to the Mariposa Channel. Free discharge from the site will be accomplished in this manner as previously discussed in a predesign conference with the City of Albuquerque Hydrology Section and AMAFCA representatives.

Runoff from Basin A (13.32 cfs) will be conveyed by street sections to two type A drop inlets. The inlet computations are contained in Appendix 2.

Basin B (19.55 cfs) will be conveyed by street sections to an existing side channel rundown at the east end of the La Mesa Court, cul de sac, where it will be delivered to the Mariposa Channel. (Rundown curb opening capacity calculations included in appendix II.)

Runoff from Basin C (2.51 cfs) will flow toward an existing transverse grate drop inlet on Kachina Street just east of the proposed intersection with Montano Pointe Road. The existing drop inlet discharges directly into the Mariposa Division Channel. The impact upon the existing structure and storm sewer caused by this basin discharge is not significant.

Basin D (1.54 cfs) consisting of rear yards adjacent to AMAFCA right of way, will be allowed to discharge freely into an earthen swale which will convey it to a second side channel rundown on the Mariposa Diversion Channel.

OFFSITE BASINS

Initially, consideration was given to accepting flows from the Montano Road basin in an attempt to relieve the amount of ponding currently experienced at the proposed subdivision entrance. It was then discovered that the existing storm drain system in Montano Road was only designed for the 10 year event. The additional surface flows for the 100 year event not conveyed by the storm sewer exceed 100 cfs.

An alternative solution was then sought to improve the existing condition without directing the flows through the proposed residential area. After further review of the as-builts and discussions with AMAFCA and COA staff it was determined the original intent of the Montano Road plan was to utilize the storm sewer to remove nuisance flows from the north curb line. Flows in excess of the storm sewer capacity were to cross Montano Road to a rundown on the south side of Montano Road across from the proposed subdivision entrance. However, the construction of the road did not implement a cross grade which would allow the street to drain as intended.

It is proposed that an existing storm drain inlet on Montano

Road within this basin will be removed and replaced at the end of the new curb return with a double type "A" inlet. The sag condition on Montano Road at the existing inlet will be moved to the location of the proposed inlet to allow the collection of the majority of the flows. Please refer to the hydraulic computations in appendix II, which identify that the storm sewer inlet and connection to the box culvert has a capacity of approximately 83 cfs.

The intersection will then be regraded with a 2% crown. Flows which exceed the crown and overflow across the eastbound lanes will be directed to the existing rundown on the south side of Montano Road with a cross slope of over 1%. This is consistent with the intent of the SAD 197 Drainage Plan.

CONCLUSIONS

The proposed surface connections will convey developed runoff to the existing Mariposa Diversion Channel. Based upon previous discussion with AMAFCA, this channel contains adequate excess capacity to allow free discharge of developed runoff from the site.

It is therefore concluded that development of this project will not produce any significant impact to existing drainage facilities or proposed development in the area.

TABLE 1: HYDROLOGIC DISCHARGE DATA

ON-SITE BASINS

BASIN I.D.	AREA (AC.)	% LAND TREATMENT A	B	C	D	DISCHARGE (CFS/AC)	Q(R) (CFS)
A	3.784	0	28	10	62	3.52	13.32
B	5.553	0	28	10	62	3.52	19.55
C	0.714	0	28	10	62	3.52	2.51
D	0.439	0	28	10	62	3.52	1.54
* TOTAL	10.49						36.92

TABLE 2: HYDROLOGIC VOLUMETRIC DATA

ON-SITE BASINS

BASIN I.D.	AREA (AC.)	% LAND TREATMENT A	B	C	D	A(D) (AC.)	RUNOFF (IN/AC)	V(360) (CU.FT.)
A	3.784	0	28	10	62	2.35	1.46	20,054.44
B	5.553	0	28	10	62	3.44	1.46	29,429.79
C	0.714	0	28	10	62	0.44	1.46	3,784.06
D	0.439	0	28	10	62	0.27	1.46	2,326.61
*TOTAL	10.49							55,594.90

*Does not include AMAFCA's R-O-W.

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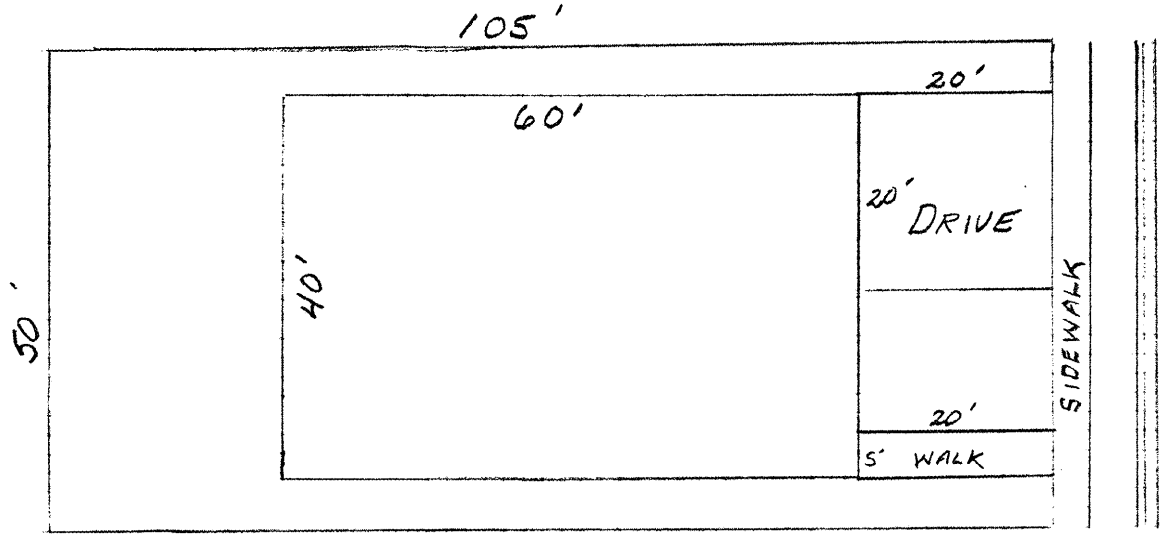


IMPERVIOUS AREAS

STREET	50'x16'	800
SIDEWALK	50'x4'	200
DRIVE	20'x20'	400
WALK	5'x20'	100
HOUSE	40'x60'	2400
PATIO	10'x10'	= 100'
	SUBTOTAL	4,000 SF

TOTAL LOT + ½ R/W = 50x130 = 6,500SF = 62% IMPERVIOUS

ASSUME 75% OF REMAINDER LUST LANDSCAPE B
(0.75)(0.38) = 0.28
ASSUME 25% OF REMAINER DESERT LANDSCAPE C

LAND TREATMENT	A	B	C	D	(ZONE 1)
Q	(0)(1.15)	+ (0.28)(1.91)	+ (0.10)(2.73)	+ (0.62)(4.37)	= 3.52
V	(0)(0.39)	+ (0.28)(0.61)	+ (0.10)(0.94)	+ (0.62)(1.93)	= 1.446

BOHANNAN-HUSTON INC.

PROJECT NAME TRACT 25D - TAYLOR RANCH SHEET _____ OF _____
PROJECT NO. _____ BY _____ DATE _____
SUBJECT PRELIMINARY DRAINAGE CH'D _____ DATE _____

EXISTING CONDITIONS

PRECIPITATION ZONE 1 - WEST OF RIO GRANDE
LAND CONDITION - TREATMENT A

* AREA = 10.49 AC CLASSIFIED AS SMALL WATERSHED ZONE 1

RUNOFF (IN) 0.39 IN

PEAK DISCHARGE (CFS/AC) 1.15 CFS

$Q_{TOTAL} = (1.15)(10.49) = 12.06$ CFS

$V_{TOTAL} = (0.39)(10.49)(3630\ \frac{CF}{IN \times ACRE}) = 38,078.70$ CF

BOHANNAN-HUSTON INC.

PROJECT NAME MONTANO POINTE SHEET 1 OF 1
PROJECT NO. 9119901 BY TKM DATE 9-30-91
SUBJECT EXISTING CONDITIONS CH'D DATE

RUN DOWN CALCULATION

WEIR EQUATION FOR SURFACE FLOW

Q_{100} = 19.55 CFS

$Q = C L H^{3/2}$

C = 3.00

L = 12' (CURB OPENING)

H = 0.87'
(ALLOWABLE BASED ON HEAD LIMITED TO 0.2' ABOVE CURB)

$Q = C L H^{3/2} \Rightarrow H = (Q/CL)^{2/3}$

$= (19.55/(3)12)^{2/3}$

$= 0.66' < 0.87'$ ✓

TYPE B RUNDOWN-12' WIDE

MANNING'S N = .0130 SLOPE = .0050

POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	1.00	3	12.00	0.00
2	0.00	0.00	4	12.00	1.00

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.1	0.1	1.2	2.1	12.2	1.7	12.0
0.2	0.2	2.4	6.5	12.4	2.7	12.0
0.3	0.3	3.6	12.6	12.6	3.5	12.0
0.4	0.4	4.8	20.2	12.8	4.2	12.0
0.5	0.5	6.0	29.0	13.0	4.8	12.0
0.6	0.6	7.2	38.9	13.2	5.4	12.0
0.7	0.7	8.4	49.7	13.4	5.9	12.0
0.8	0.8	9.6	61.5	13.6	6.4	12.0
0.9	0.9	10.8	74.1	13.8	6.9	12.0
1.0	1.0	12.0	87.5	14.0	7.3	12.0

BCHANNAN-HUSTON INC.

PROJECT NAME MONTANO POINTE SHEET 1 OF 1

PROJECT NO. 911701 BY DATE SEPT 30, 1991

SUBJECT CURB OPENING CAPACITY CH'D DATE

Inlet Capacity

Montano Pointe Rd

Install 2-Type A Inlet
One in East Curbline
One in West Curbline
Consider Sump Condition

$Q_{T_{100}} = 19.32$

½ street $Q = 6.66$ CFS

$Q/L = 0.95$ Using Height of Opening $H = 0.55$

See Figure 6 Next Page

$H/h = 0.8 \Rightarrow h = 0.44'$ Below Tc ✓ 0.67'

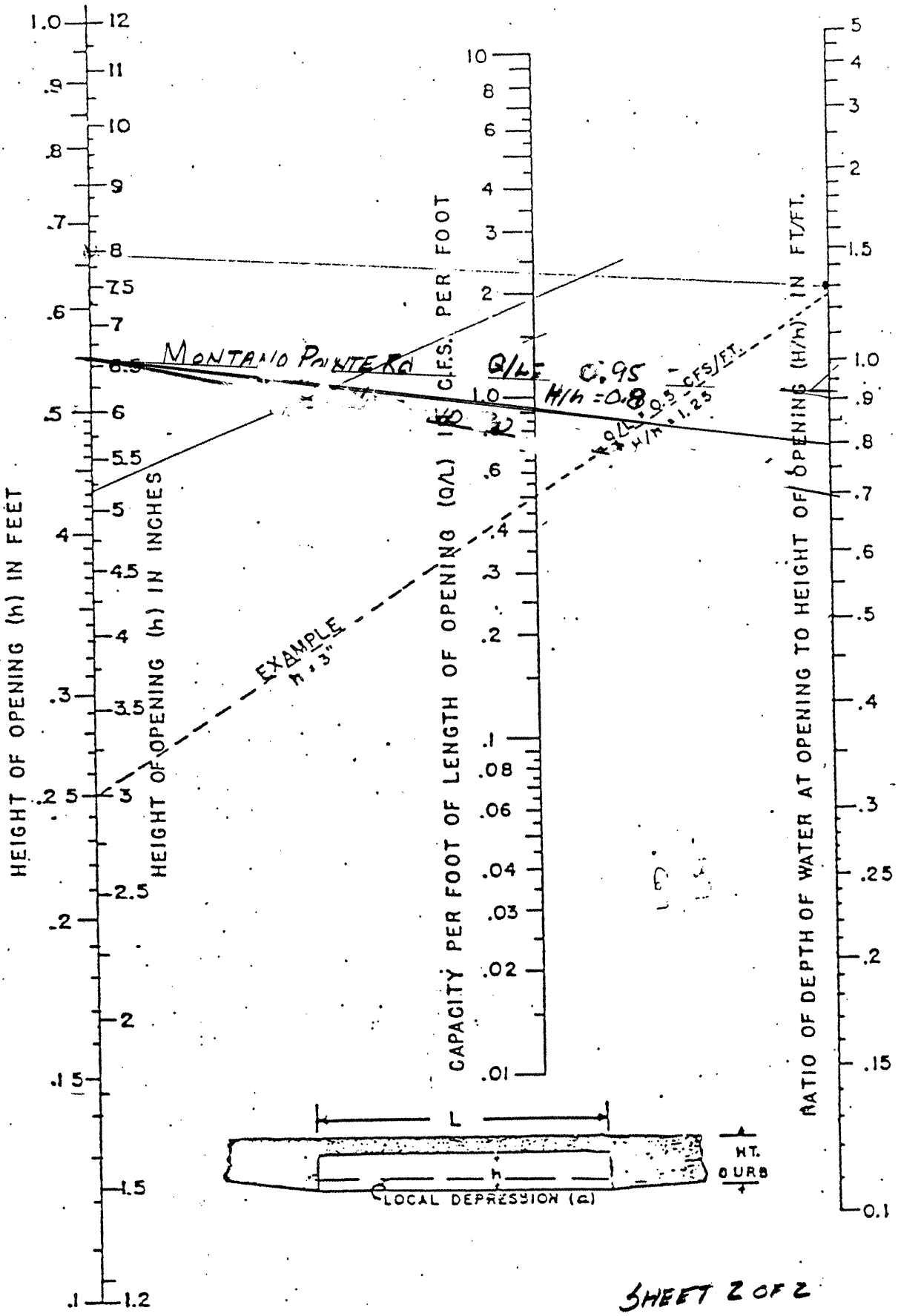
BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

FIGURE 6



SHEET 2 OF 2

NOMOGRAPH FOR CAPACITY OF CURB OPENING INLETS AT LOW POINTS

Q = 12.9 cfs

STREET CAPACITY

BASIN A

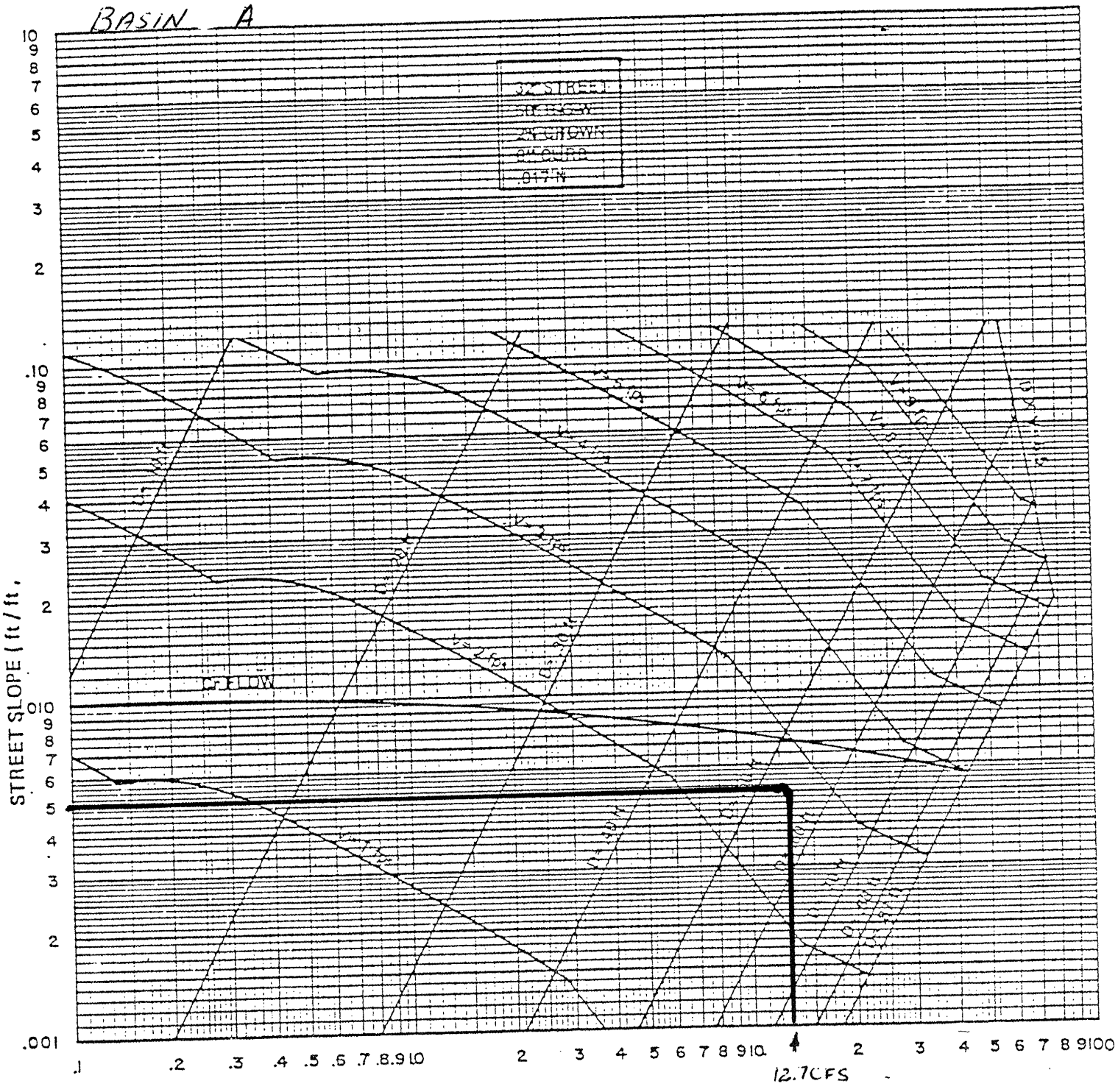


PLATE 22.3 D-1

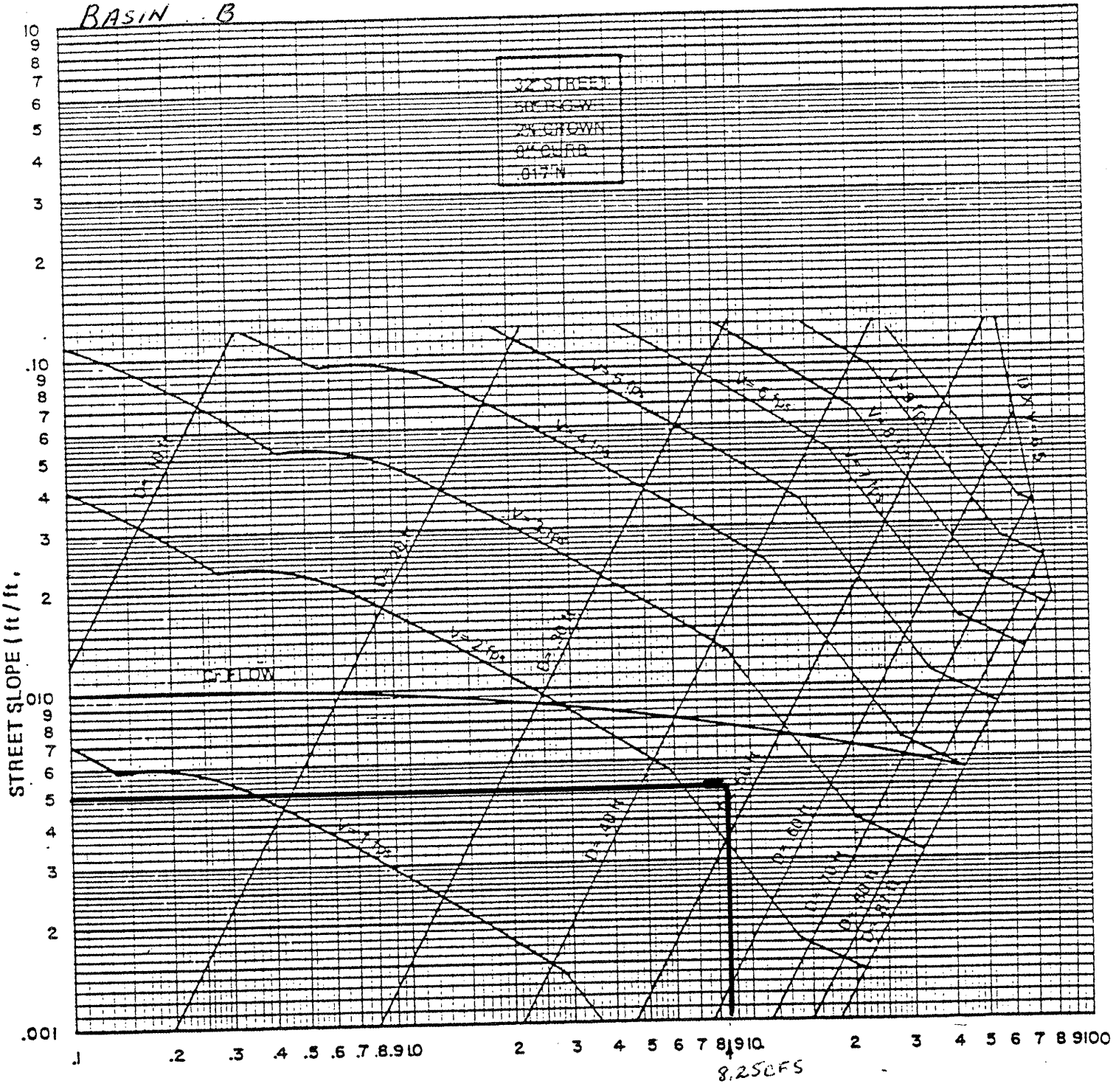
REV. 3-83

STREET CAPACITY

19.55 CFS

19.55 / 2 = 9.75

BASIN B



REV. 3-83

PLATE 22.3 D-1

24" CULVERT AT MONTANO POINTE

CULVERT RATING TABLE

24. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 2.00 SLOPE = 0.00300

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
2.00000	0.12504	0.17617	1.40889
4.00000	0.34416	0.74817	2.17389
6.00000	0.61418	1.69731	2.76352
8.00000	0.91669	2.97046	3.24042
10.00000	1.23901	4.49743	3.62986
12.00000	1.57080	6.19539	3.94411
14.00000	1.90258	7.96978	4.18894
16.00000	2.22490	9.71290	4.36554
18.00000	2.52741	11.29888	4.47054
20.00000	2.79743	12.56983	4.49335
22.00000	3.01655	13.28729	4.40480
24.00000	3.14159	12.39079	3.94411

INLET LATERALS AT MONTANO POINTE

CULVERT RATING TABLE

18. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 2.00 SLOPE = 0.00500

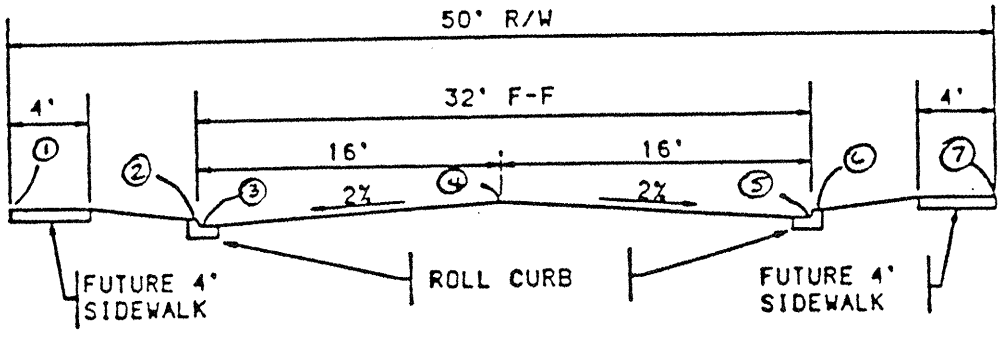
FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
2.00000	0.10733	0.19342	1.80210
4.00000	0.29241	0.80439	2.75096
6.00000	0.51564	1.78065	3.45329
8.00000	0.75883	3.02654	3.98843
10.00000	1.00831	4.42166	4.38520
12.00000	1.25151	5.82242	4.65233
14.00000	1.47474	7.05363	4.78296
16.00000	1.65981	7.87196	4.74268
18.00000	1.76715	7.42768	4.20321

TYPICAL 32' WIDE STREET WITH STANDARD CURB

MANNING'S N = .0170 SLOPE = .0050

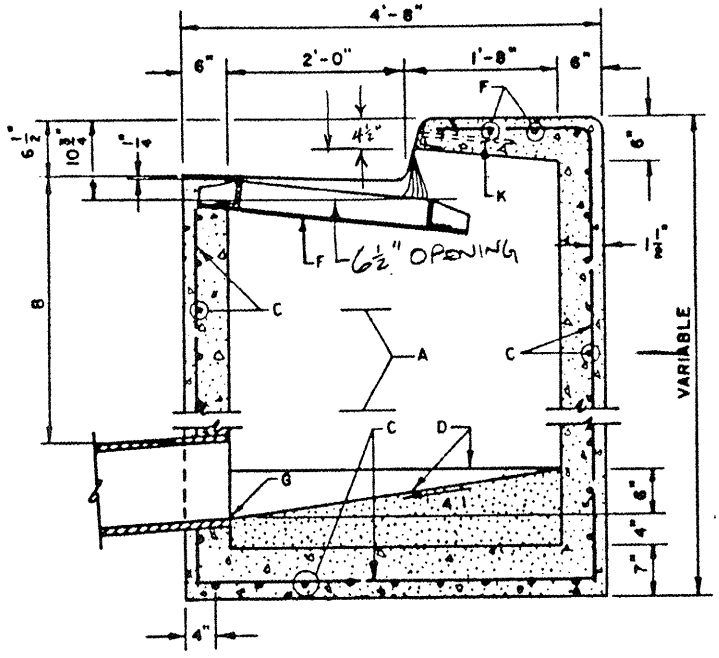
POINT	DIST	ELEV
1	0.00	0.87
2	9.00	0.67
3	9.10	0.00
4	25.00	0.32
5	40.90	0.00
6	41.00	0.67
7	50.00	0.87

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.1	0.1	0.5	0.4	10.1	0.8	10.0
0.2	0.2	2.0	2.6	20.3	1.3	19.9
0.3	0.3	4.5	7.7	30.4	1.7	29.9
0.4	0.4	7.7	18.0	32.6	2.4	31.9
0.5	0.5	10.8	32.1	32.8	3.0	31.9
0.6	0.6	14.0	49.1	33.0	3.5	32.0
0.7	0.7	17.3	65.7	35.9	3.8	34.7
0.8	0.8	21.2	79.5	44.9	3.8	43.7
0.9	0.9	24.5	92.6	51.2	3.8	50.0



TYPICAL STREET SECTION

NO SCALE



SECTION B-B

CURB OPENING $h = 6.5" = 0.54'$

WATER DEPTH $H = 5104.8 - 5103.8 = 1.0'$

$H/h = 1.0/0.54 = 1.85$

$Q_{OPENING} = (2.5\ CFS/FT)(13') = 32.5\ CFS$

Q_{GRATE} (PER NOMOGRAPH ATTACHED) = 48 CFS

$Q_{TOTAL} = 80.5\ CFS$

CHECK ORIFICE CONTROL W/ 36" PIPE

$Q = CA\sqrt{2gh}$

$h = {}^{FL}_{MIN}(MEDIAN)\ 4.32 - INV\ 98.82 = 5.46$

$h_{MAX} = 4.80 - 98.82 = 5.94$

$A = \pi r^2 = \pi (1.5)^2 = 7.07$

$Q = (0.6)(7.07)\sqrt{(64.4)(5.46)}$

$Q = 79.5\ CFS$ PRIOR TO FLOW OVERTOPPING MEDIAN OPENING

$Q_{MAX} = (0.6)(7.07)\sqrt{64.4(5.94)} = 83.0\ CFS$

BOHANNAN-HUSTON INC.

PROJECT NAME MONTANO POINTE SHEET ____ OF ____

PROJECT NO. ____ BY ____ DATE ____

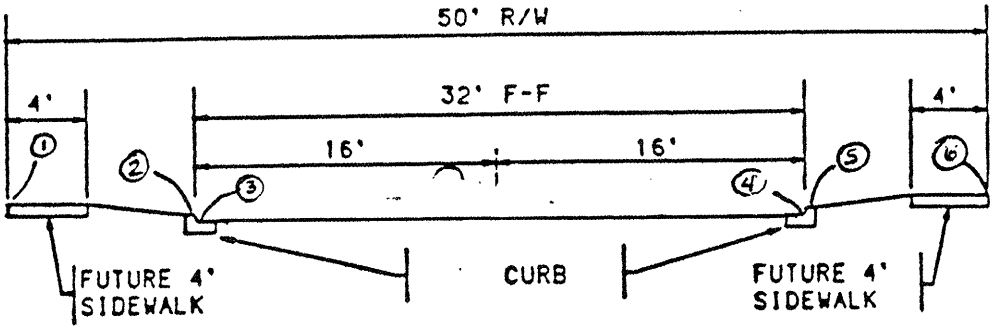
SUBJECT ____ CH'D ____ DATE ____

Cross Section of Montano Pointe Road at La Mesa Ct

MANNING'S N = .0170 SLOPE = .0050

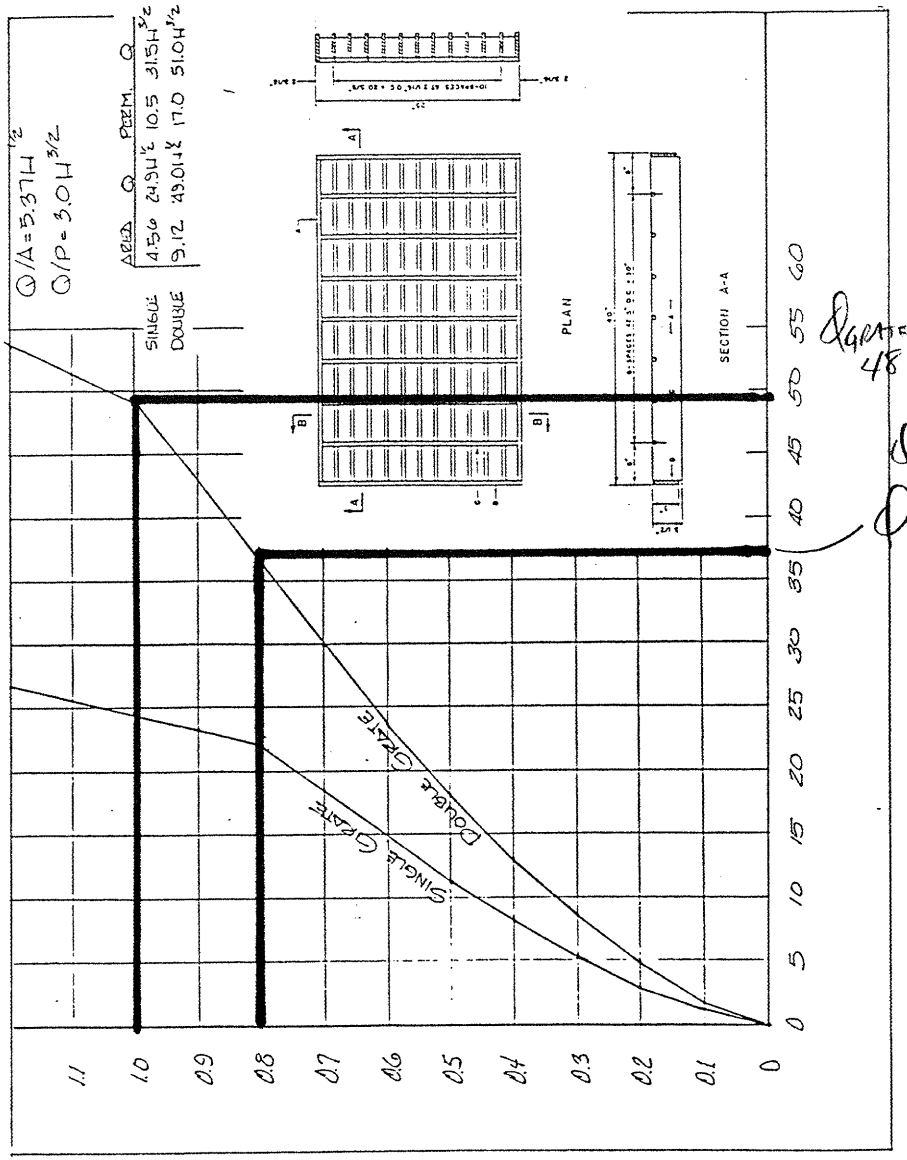
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.87	3	9.10	0.00	5	41.00	0.67
2	9.00	0.67	4	40.90	0.00	6	50.00	0.87

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.1	0.1	3.2	4.2	32.0	1.3	31.8
0.2	0.2	6.4	13.4	32.2	2.1	31.9
0.3	0.3	9.6	26.2	32.4	2.7	31.9
0.4	0.4	12.7	42.1	32.6	3.3	31.9
0.5	0.5	15.9	60.9	32.8	3.8	31.9
0.6	0.6	19.1	82.2	33.0	4.3	32.0
0.7	0.7	22.4	101.0	35.9	4.5	34.7
0.8	0.8	26.3	113.8	44.9	4.3	43.7
0.9	0.9	29.6	126.8	51.2	4.3	50.0



STREET SECTION

NO SCALE


Q/A=5.37H^1/2
Q/P=3.0H^3/2
AREA Q PERIM. Q
SINGLE 4.56 24.5H^2 10.5 31.5H^3/2
DOUBLE 9.12 49.0H^2 17.0 51.0H^1/2
SECTION B-B
PLAN
SECTION A-A
Q GRATE 48 CFS
Q GRATE Q=37CFS
h=6½" =.54'
DOUBLE GRATE
SINGLE GRATE

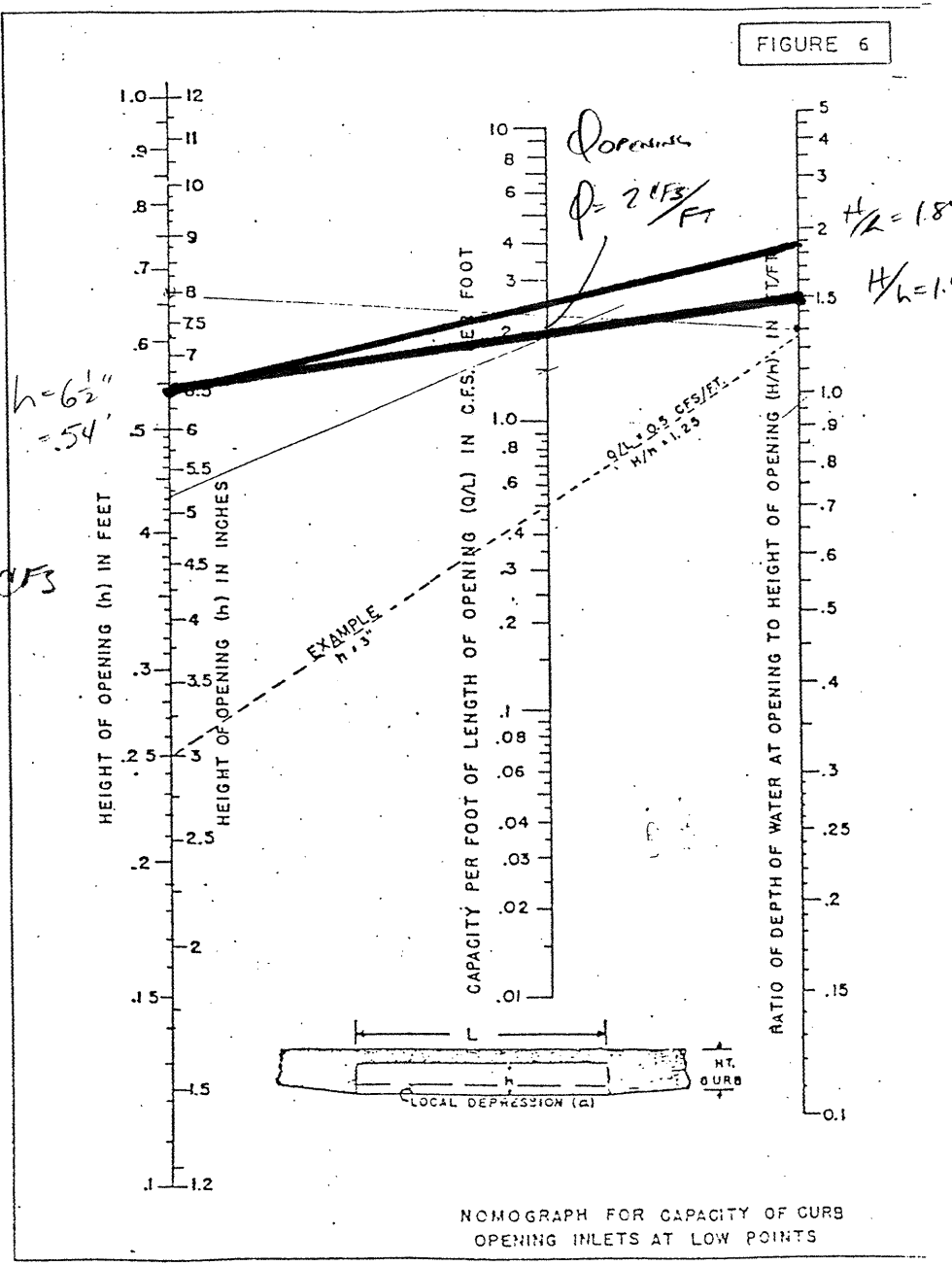


FIGURE 6
HEIGHT OF OPENING (h) IN FEET
HEIGHT OF OPENING (h) IN INCHES
CAPACITY PER FOOT OF LENGTH OF OPENING (Q/L) IN C.F.S. PER FOOT
RATIO OF DEPTH OF WATER AT OPENING TO HEIGHT OF OPENING (H/h)
Q OPENING Q= 2 CFS/FT
H/h = 1.85
H/h = 1.48
EXAMPLE h = 3"
Q/L = 0.5 CFS/FT. H/h = 1.25
LOCAL DEPRESSION (a)
HT. CURB
NOMOGRAPH FOR CAPACITY OF CURB OPENING INLETS AT LOW POINTS

ANALYZE MEDIAN OPENING AS WEIR:
FOR ADDITIONAL RUNOFF IN EXCESS OF STORM SEWER CAPACITY.

HEAD AVAILABLE = 4.8 MAX WATER SURFACE ELEV PRIOR TO BACKUP OF WATER INTO SUBDIVISION

− 4.35 AVG FLOWLINE ELEV ALONG NORTH MEDIAN

0.45'

$$Q_{MAX} = C'LH^{3/2} = (3.0)(90')(0.45)^{3/2}$$

Q_{MAX} = 81.5 CFS

+ Q_{SD} = 80.5 CFS

162 CFS > 100± CFS EXCESS

BOHANNAN-HUSTON INC.

PROJECT NAME MONTANO POINTE SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

SCANLON & ASSOCIATES
8008 Pennsylvania Circle NE
Albuquerque, New Mexico 87110
(505) 265-6941

Project SAD 197
Location MONTANO ROAD
Job No. 80034 Date 12-6-82
By A Ortega Sheet 2 of 2

42+00 to 45+50
(Capcity 0.95 cfs D=.25 50 cfs D=.87)

$= \frac{(350)(24)}{43560} = .19$ $Q_{100} = (1)(4.77)(.19) = .92$

$_{10} = (92)(.657) = .60 cfs + 6.31 = 6.91 cfs$

45+50 to 49+25
(Capcity 1.4 cfs D=.25 72 cfs D=.87)

$= \frac{(375)(24)}{43560} = .21$ $Q_{100} = (1)(4.77)(.21) = .99$

$= (.99)(.657) = .65 cfs + 6.91 = 7.56$

49+25 to 51+75
(Capcity 1.25 cfs D=.25 65 cfs D=.87)

$= \frac{(250)(24)}{43560} = .14$ $Q_{100} = (1)(4.77)(.14) = .66$

$_{10} = (.66)(.657) = .43 cfs + 7.56 = 7.99 cfs$

51+75 to 55+10
(Capcity 20 cfs D=.25 100 cfs D=.87)

$\frac{(335)(.24)}{43560} = .18$ $Q_{100} = (1)(4.77)(.18) = .88$

$_{10} = (.88)(.657) = .58 cfs + 7.99 = 8.57 cfs$

BUTTERFIELD II PHASE "A"

Drainage Addendum

Inlet Capacity (Triple "n")

Q_{100} = 24.2 CFS

$Q_{Grate} = CA\sqrt{2gh}$

$Q_{Grate} = 3[(.62)(.64)(.67)(6.26)(\sqrt{64.4}$ [illegible]

Q_{Grate} = 29.98 CFS > Q_{100} = 24.2 CFS

CAPACITY OF 45" x 73" RC ARCH PIPE

- 45 x 73 Arch = 57" RCP (Circular)
- $R = \frac{17.7}{15.84} = 1.13'$
- N = .013
- Upstream Invert = 2.46 (Soffit = 5.81)
- Downstream Invert = 2.06 (Soffit = 6.21)
- Q = 115 CFS

h_L (in pipe) $= \frac{29(.013^2)(146.64)}{(1.13)^{1.33}} \times \frac{(115/17.7)^2}{64.4} = .40'$

h_L (@ inlet) $= \frac{115^2}{.85^2(17.7)^2 64.4} = .91'$

h_L (Total) = .40' + .91' = 1.31'

EL. HG. = 5.81' + 1.31' = 7.12'

TC = 8.56

FL = 7.89

Bottom of Grate = 7.56 > 7.12 OK

CAPACITY OF SPECIAL DESIGN INLET

Clear Area of Ea. Section = 3.83 Ft.^{2}

- 14 Section, Total Clear Area = 53.62 Ft.^{2}

$Q = CA\ 2gh$

$H = \frac{Q^2}{C^2A^2 2g}$

C = .65 x .67 (2/3 Clog Factor) = .44

$H = \frac{(115)^2}{(.44)^2(53.62)^2(64.4)} = .37' < .67'$ OK

E11/D206

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 7, 1992

CERTIFICATE OF COMPLETION AND ACCEPTANCE

Mr. Anthony Sciarrillo
San-Far Joint Venture
No. 10 Tramway Loop N.E.
Albuquerque, NM 87122

RE: PROJECT NO. 4356.90, MONTANO POINTE SUBDIVISION, (MAP NO. E-11)

Dear Mr. Sciarrillo:

This is to certify that the City of Albuquerque accepts Project No. 4356.90 as being completed according to approved plans and construction specifications. The City of Albuquerque will accept for continuous maintenance all public infrastructure improvements constructed as part of Project No. 4356.90.

The project is described as follows:

- Installed water, sanitary sewer and storm sewer lines, including paving, to service Lots 1 through 55 in Montano Pointe Subdivision.
- The contractor's correction period began July 2, 1992 and will be effective for a period of one (1) year.

Sincerely,

Andre Houle, P.E.
Design/Construction Division
Public Works Department

AH:kj