CITY OF
Albuquerque
Public Works Department

April 22, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Dennis Lorenz
Brasher & Lorenz, Inc
2201 San Pedro Building #1-Suite 210
Albuquerque, NM 87110

RE: ALBUQUERQUE RETIREMENT RESIDENCE (F-21/D42), 4440 MORRIS ST. NE. ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. ENGINEER'S CERTIFICATION DATED 03/12/97.

Dear Mr. Lorenz:

Based on the information provided on your April 22, 1997 submittal, the above referenced project is approved for Certification of Occupancy.

If I can be of further assistance, please feel free to contact me at 924-3986.

Sincerely,

Bernie J. Montoya CE
Engineering Associate

c: Andrew Garcia
File

DRAINAGE REPORT

FOR

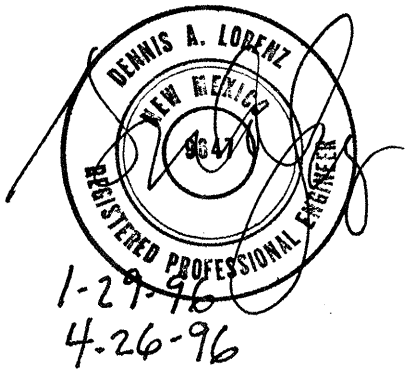
ALBUQUERQUE RETIREMENT RESIDENCE

Albuquerque, New Mexico

Prepared By:

BRASHER & LORENZ, INC.
Consulting Engineers
4425 Juan Tabo Blvd. NE Suite 202
Albuquerque, New Mexico 87111

January, 1996



1-29-96
4-26-96

TABLE OF CONTENTS

LIST OF FIGURES AND EXHIBITS

PURPOSE AND SCOPE

Pursuant to the established Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Drainage Report outlines the drainage management criteria for controlling developed runoff from the project site. The property is to be developed as the **Albuquerque Retirement Residence**, with associated paving, landscaping, utility, grading, and drainage improvements. The scope of this plan is to provide drainage criteria for the safe management of excess runoff, and design detail for the construction of the required grading, paving and drainage improvements.

EXISTING CONDITIONS

The project site is approximately 4.74 acres in size and is located on Morris Street NE, just north of La Grima de Oro Avenue. Presently the site is undeveloped. Site topography slopes from east to west at varying gradients. The site is covered with native grasses and vegetation. The site is classified as an infill project. Vehicular and pedestrian traffic, and the random dumping of fill dirt and construction waste have effected the natural land treatment characteristics.

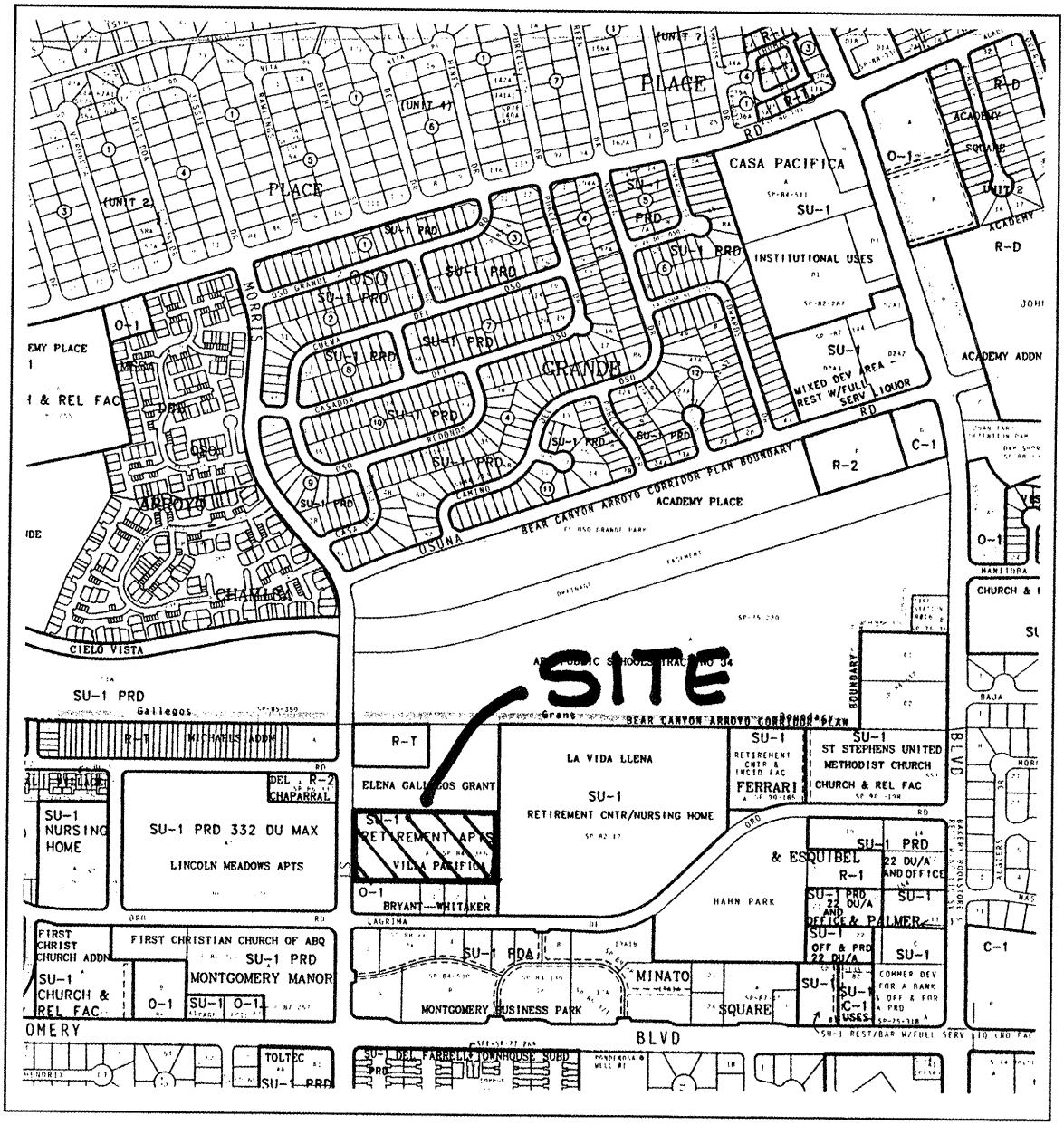
The site is bounded by Morris on the west, La Vida Llena on the east, and undeveloped property on the north and south. Off-site flows impact the site from the north. A portion of the undeveloped tract to the north drains onto the project site as sheet flow. Morris intercepts all runoff from the site and contributing properties. An existing 24 inch storm drain constructed by SAD 204 is the outfall for the project.

As shown by the attached Floodway Panel, this site does not lie within a designated flood hazard zone.

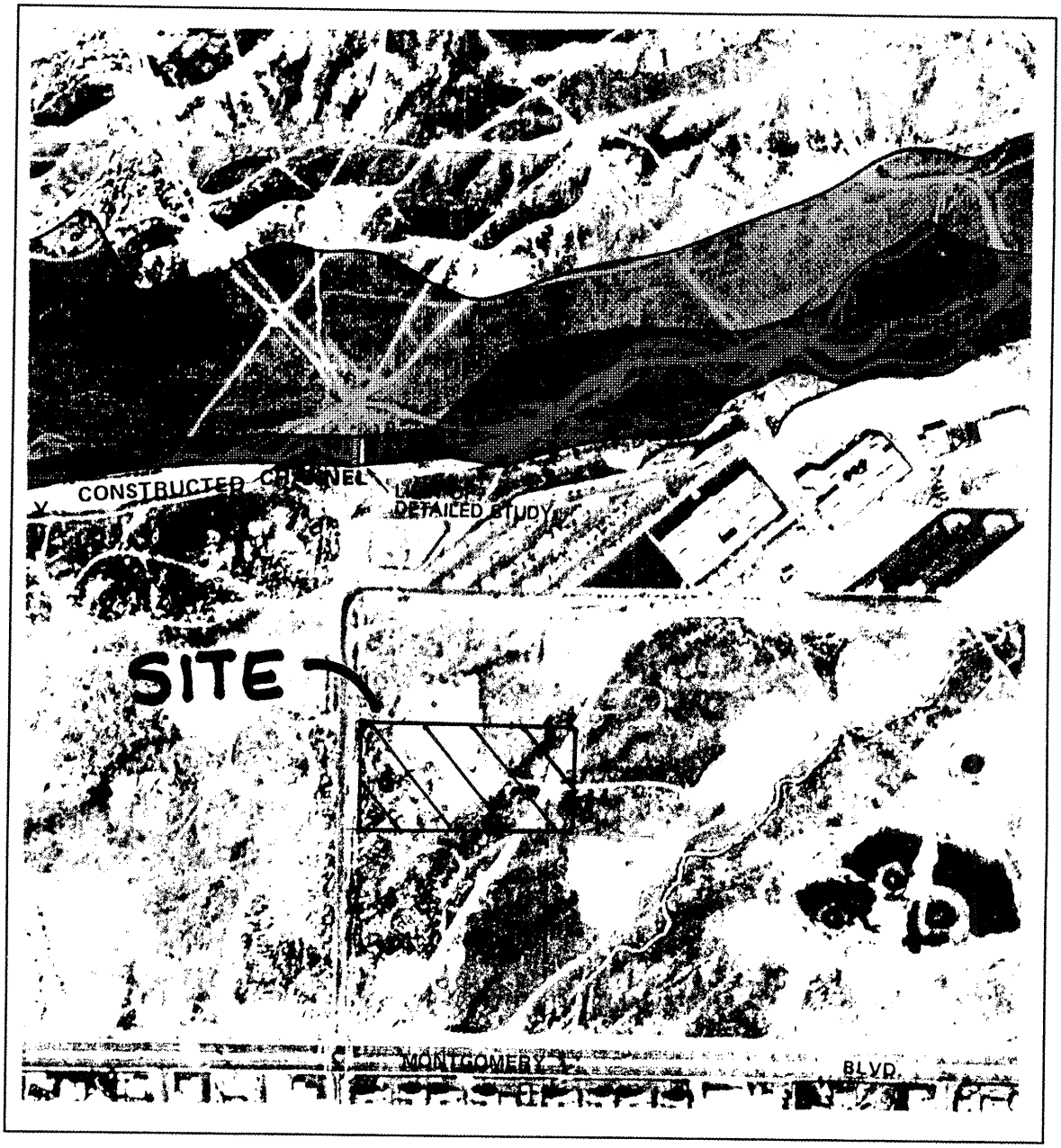
EXISTING DRAINAGE MASTERPLANS

The drainage criteria for this site was originally established by the "Drainage Study for Special Assessment District 204", prepared by William Matotan & Assoc, Inc, dated June 1984. The Plan recommended drainage improvements for Morris Street NE and contributing drainage basins. Per the Study, discharge from the project site is limited to 10 year developed flow rates.

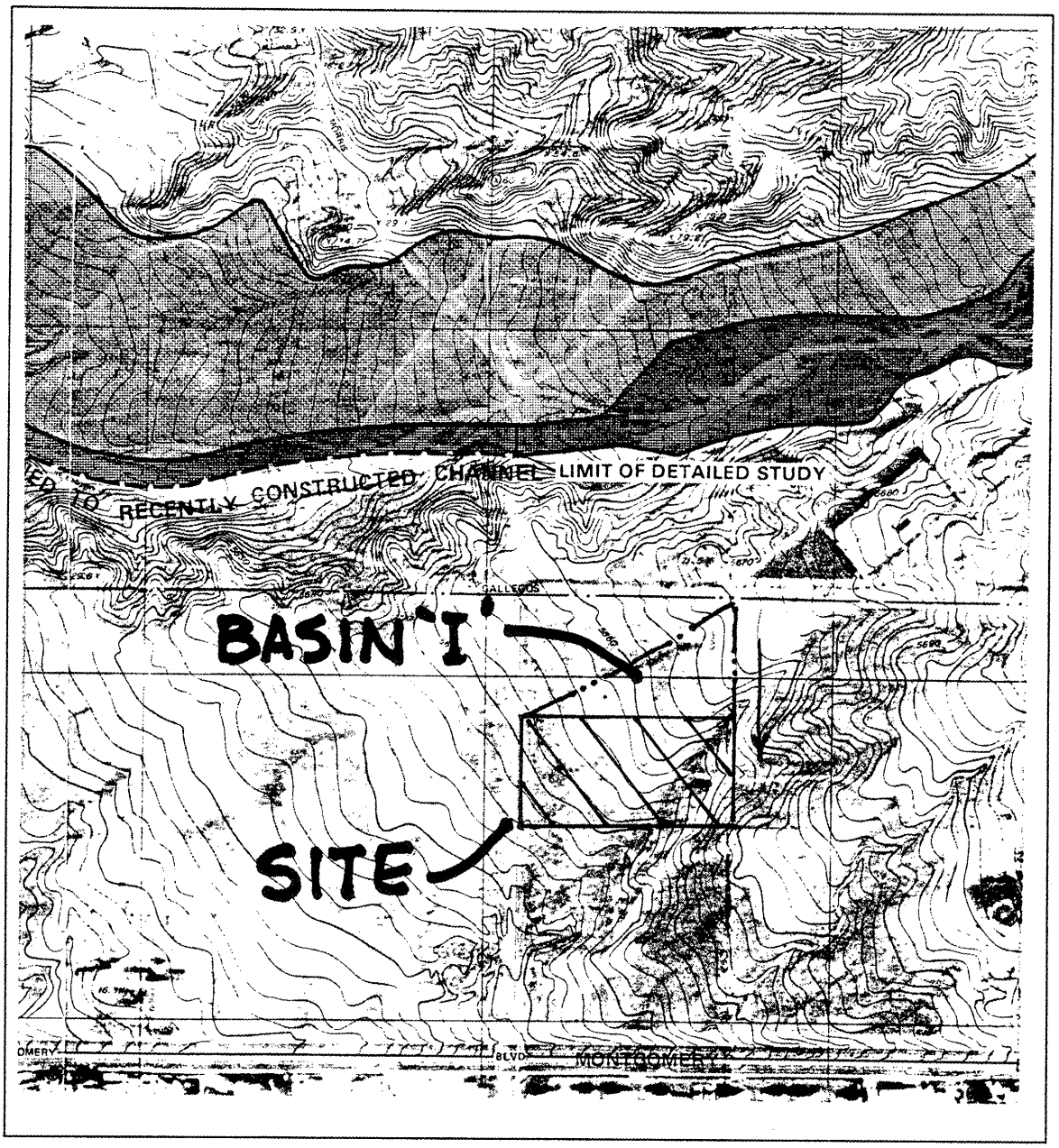
A Conceptual Grading and Drainage Plan was prepared for the project by Brasher & Lorenz, Inc. The Plan established grading and drainage criteria for the Albuquerque Retirement Residence, in accordance with the Masterplan. Per the Conceptual Plan, the site discharge is limited to 2.73 cfs per acre. The Conceptual Plan recommended a detention pond located at the southwest corner of the site.



LOCATION MAP
Figure 1



FLOOD INSURANCE RATE MAP
Figure 2



OFF-SITE DRAINAGE CONDITIONS MAP

Figure 3

PROPOSED CONDITIONS

As shown by the Plan, the project consists of the development of the property into a retirement community. The Plan shows the elevations required to properly grade and construct the recommended improvements. The direction of drainage flows are given by flow arrows and on-site drainage basins are identified. All drainage improvements recommended by the Plan are detailed on Sheet 2.

All flows are to be managed on-site by the improvements recommended by this plan. The On-site basins are managed as follows:

1. Basin "A" drains to a drop inlet located near Morris Street. The inlet drains to the existing 24 inch storm drain located in Morris. The drop inlet and storm drain are sized to accept undeveloped flow from off-site Basin "I".

2. Basin "B" drains to the detention pond by a private storm drain.

3. Basin "C" drains by surface flow to the detention pond.

4. Basin "D" free discharges to Morris Street.

The detention pond is designed to drain at a controlled rate of 1.2 cfs, which results in a storage requirement of 0.2461 acre feet. An emergency spillway is provided in the event the pond drain clogs.

TEMPORARY EROSION CONTROL PLAN

1. The intent of this temporary erosion control plan is to limit the discharge of sediment into the public street and/or storm drainage system and to protect adjacent properties from excess runoff during construction.

2. The Contractor shall obtain a Top Soil Disturbance Permit from Environmental Health prior to performing any earthwork related operations.

3. After the initial site clearing, the detention ponding area should be rough graded to create a storage area for excess runoff and sediment.

4. Temporary erosion control berms should be constructed along the north, south and west project boundaries per Detail F/2 to direct excess runoff to the ponding area.

5. It is the Contractor's responsibility to properly maintain all temporary erosion control facilities during the construction phase of the project.

CALCULATIONS

The calculations shown herein define the 100 year/6 hour design storm falling with the project area under existing and developed conditions. The Hydrology is per "Section 22.2, Part A, DPM, Vol 2" Dated January 1993. Calculations are provided to demonstrate on-site improvement capacities and determine downstream capacity.

CALCULATIONS

PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT ALLOWABLE DISCHARGE

BY _____ CHECKED BY _____ DATE 1-25-96 PAGE _____ OF _____

ALLOWABLE SITE DISCHARGE

PER DMP FOR SAD 204 (SEE ATTACHMENT):

ALLOWABLE $Q = Q_{10} = 32$ CFS

BASIN AREA = 11.71 AC

$\Rightarrow Q_{ALLOW} = 32 \text{ CFS} / 11.71 \text{ AC} = 2.73 \text{ CFS/AC}$

FOR THIS SITE:

$A = 4.74$ AC

$Q_{ALLOW} = 4.74 \text{ AC} (2.73) = 12.94$ CFS

WILLIAM MATOTAN & ASSOCIATES, INC.
ENGINEERS
230 Truman Street, N.E. - Albuquerque, N.M. 87108
Telephone 265-8467

Project SAD 204 Sheet 3 of 43
Area and Runoff Comps Job No. 698,1R
By JLG Chk'd WHRS Date 7/11/84

Drainage Area C

A = 11.71 Ac direct computation from map

Hydrologic Soil Group B

C = 0.7 Assume tract fully developed

I = 6.0 in/hr (DPM 22.2D-2)

Use Tc of 10 minutes

$Q_{100} = (0.7)(6)(11.7) = 50$ cfs

$Q_{10} = 32$ cfs

$V_{100} = (.7)(2.5)\frac{(11.7)(43560)}{12}$

$= 74324$ c.f

$V_{10} = 48830$ c.f

$T_o = \frac{2(74324)}{50} \div 60 = 49.5$ min

PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT POND DESIGN

BY _____ CHECKED BY _____ DATE 1-25-96 PAGE _____ OF _____

POND DESIGN

Q_{ALLOW} (SITE) = 12.94 CFS

LET BASINS "A" + "D" FREE DISCHARGE TO EXIST 24" SD

Q = 8.38 + 3.37 = 11.75 CFS

BASINS "B" + "C" TO BE ROUTED THRU DETENTION POND

Q_{INFLOW} = 9.49 CFS

$Q_{OUTFLOW}$ = 12.94 - 11.75 = 1.19 CFS

POND SIZING

ELEV	AREA (SF)	VOL (CF)	VOL (AF)
44	2183	0	0
45	2183	2183	.0501
46	2183	4366	.1002
47	2183	6549	.1503
48	2750	9016	.2070
49	3410	12096	.2777

PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT POND DESIGN

BY ____ CHECKED BY ____ DATE 1-25-96 PAGE ____ OF ____

POND OUTLET

Q_{OUT} = 1.19 CFS

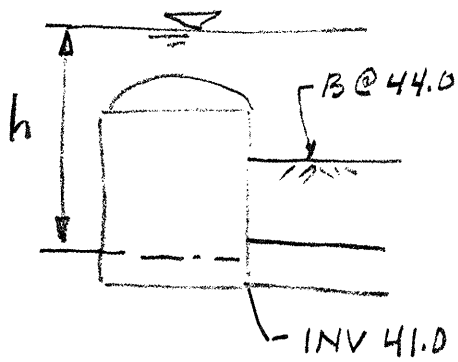
USE 4" DRAINLINE

A = 0.087 SF

USING ORIFICE EQN : $Q = CA\sqrt{2gh}$

C = 0.6 (BRATER - KING)

g = 32.2 F/S²



WSE	h	Q
44	2.83	0
45	3.83	0.8
46	4.83	0.9
47	5.83	1.0
48	6.83	1.1
49	7.83	1.2

PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT

BY CHECKED BY DATE 1-25-96 PAGE OF

POND DRAINLINE:

SEWER PIPES

Enter up to 10 pipes.
Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICTION (FT^1/6)	SLOPE (%)	VELOCITY (FPS)
1.60	8.00	0.0130	1.75	4.58

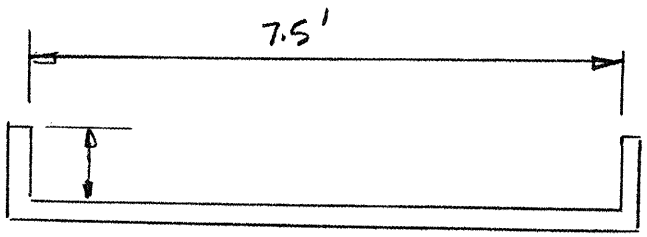
=> USE 8" DRAINLINE - RESTRICT POND OUTLET TO 4" DIA.

=> FOR COMPLETE POND ROUTING SEE AHYMD OUTPUT FILES

WEIRS

Enter up to 10 weirs.
Enter <Return> only for flowrate and length to end.

FLOWRATE (CFS)	LENGTH (FT)	COEFF (-)	HEAD (FT)
11.11	7.5	2.700	0.67
7.16	7.5	2.700	0.50



TYP SECTION

SPILLWAY ht = 8" Q_{100} = 9.5 CFS Q_{MAX} = 11.1 CFS

RUNDOWNS ht = 6" BASIN 'A.1' Q_{100} = 4.9 CFS

BASIN 'C' Q_{100} = 6.4 CFS

Q_{MAX} = 7.2 CFS

PROJECT NAME ALBQ RETIREMENT PES JOB NO. 5013

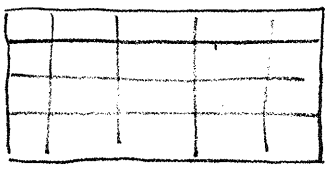
SUBJECT DROP INLET + SD

BY _____ CHECKED BY _____ DATE 1-25-96 PAGE _____ OF _____

DROP INLET CAPACITY

USE NMSHTD DESIGN MANUAL, FIG 309.4F FOR INLET IN SUMP (SEE ATTACHED)

FOR SINGLE 'D' INLET:



$P = 130" = 10.83'$

EFFECTIVE CLEAR OPENING
$= 35.5" \times 19.5"$
$= 692.25$ SI
$= 4.81$ SF

PER DESIGN; MAX H OVER GRATE = 1.0 FT

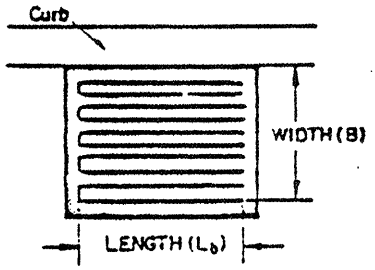
USING TABLE 'B': @ $d = 1'$ $q/SF = 4.0$

$\Rightarrow Q_{MAX} = 4(4.81) = 19.24$ CFS

FOR: BASIN 'A' $Q_{100} = 8.4$ CFS
BASIN 'B' $Q_{100} = 3.2$ CFS

UNDER INTERIM CONDITIONS, ASSUMING OFFSITE BASIN 'I' CONCENTRATES @ BASIN 'A' INLET
BASIN 'A' + 'I' $Q_{100} = 14.5$ CFS

$\Rightarrow$ GRATE CAPACITY EXCEEDS DEV PEAK Q_{100}'S

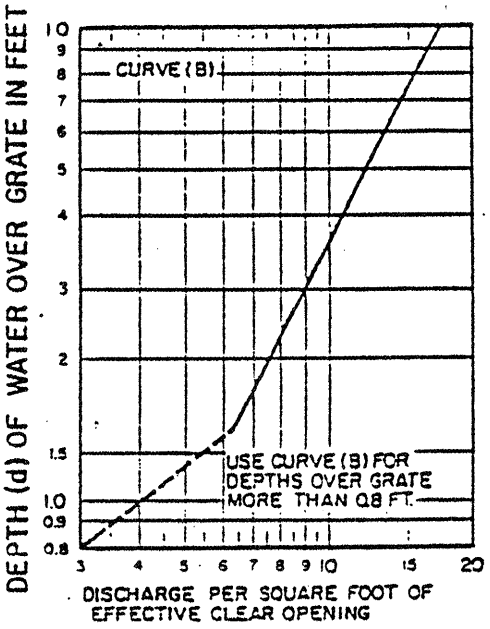


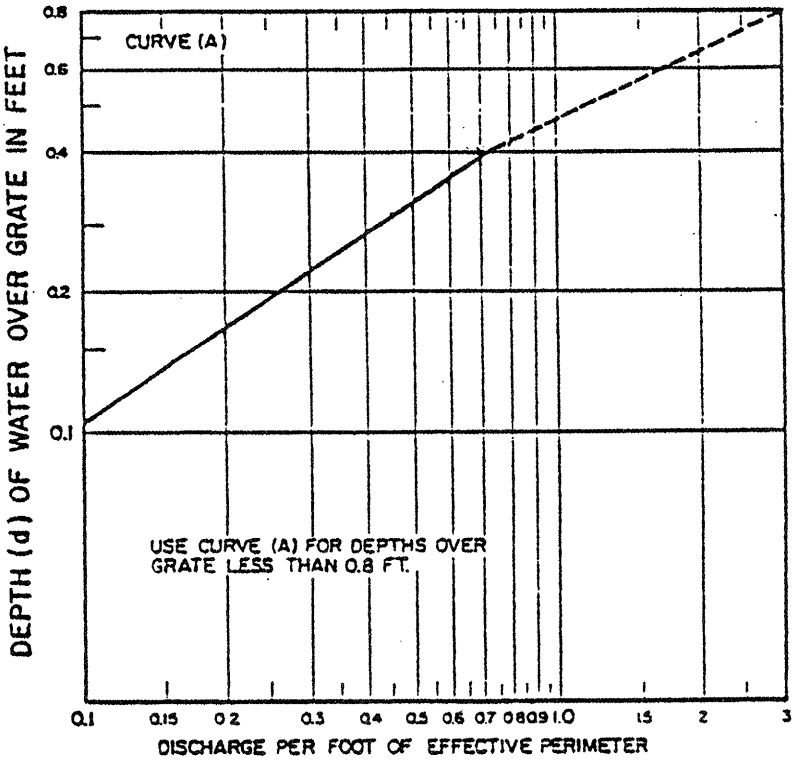
$P = 2B + L_b$

A = AREA OF CLEAR OPENING IN GRATE

TO ALLOW FOR CLOGGING DIVIDE P OR A BY 2 BEFORE OBTAINING d.

WITHOUT CURB $P = 2(B + L_b)$





BUREAU OF PUBLIC ROADS
REV. AUG. 1968

HYDRAULIC CAPACITY OF GRATE INLET IN SUMP

PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT STORM DRAINS

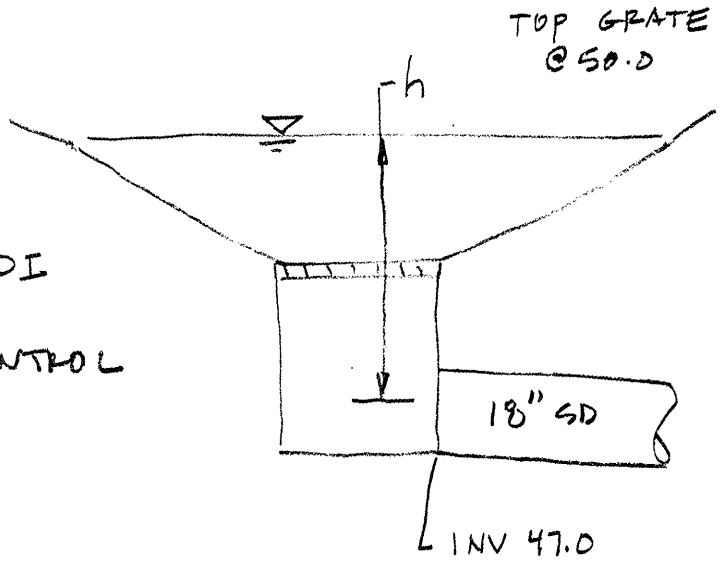
BY _____ CHECKED BY _____ DATE 1-25-96 PAGE _____ OF _____

BASIN 'A' SD TO PUBLIC 24" SD

Q_{100} = 8.4 CFS BASIN 'A'

UNDER INTERIM CONDITIONS SIZE SD FOR BASIN 'A' + 'I'

Q_{100} = 14.5 CFS



- ALLOW 1' HW OVER DI
- CHECK FOR INLET CONTROL

$A(18") = 1.77$ SF

$h = 3.25'$

$c = 0.6$

$Q_{MAX} = 15.4$ CFS > Q_{100}

- SEE ATTACHED PRINTOUT FOR PIPE FLOW CAPACITY.

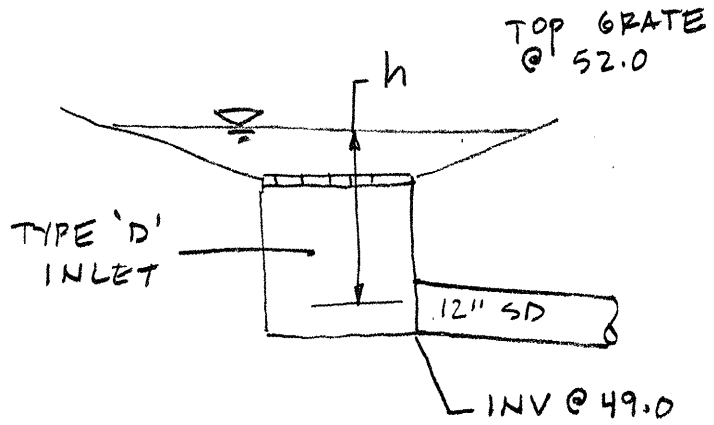
PROJECT NAME ALBQ RETIREMENT RES JOB NO. 5013

SUBJECT STORM DRAINS

BY _____ CHECKED BY _____ DATE 1-25-96 PAGE _____ OF _____

BASIN 'B' SD TO POND

Q_{100} = 3.2 CFS



- ALLOW 1' HW OVER DI
- CHECK FOR INLET CONTROL

FOR SUBMERGED ORIFICE $Q = CA\sqrt{2gh}$

WHERE: C = 0.6 · BRATER · KING

g = 32.2 FPS²

A (12") = 0.79 SF

h = 3.5'

Q_{MAX} = 7.1 CFS > Q_{100}

- SEE ATTACHED PRINTOUT FOR PIPE FLOW CAPACITY.

SEWER PIPES

Enter up to 10 pipes.
Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICTION (FT^1/6)	SLOPE (%)	VELOCITY (FPS)
4.36	12.00	0.0130	1.50	5.56
33.22	18.00	0.0130	10.00	18.80

BASIN 'A' Q_{100} = 8.4 CFS

BASIN 'A + I' Q_{100} = 14.5 CFS

> 18" Q_{MAX} = 33.2 CFS

BASIN 'B' Q_{100} = 3.2 CFS 12" Q_{MAX} = 4.4 CFS

```
**********************************************************************
************
*                          ALBQ. RETIREMENT RESIDENCE
*                               PROJECT HYDROLOGY
**********************************************************************
************
START                  TIME=0.0  PUNCH CODE=0
RAINFALL               TYPE=1  RAIN QUARTER=0.0  RAIN ONE=2.23
                       RAIN SIX=2.90  RAIN DAY=3.65  DT=0.03333 HRS
* UNDEVELOPED SITE
COMPUTE NM HYD         ID=1  HYD NO=101  DA=0.007406 SQ MI
                       PER A=0  PER B=0  PER C=100  PER D=0
                       TP=0.1333 HR  MASS RAIN=-1
* UNDEVELOPED BASIN "I"
COMPUTE NM HYD         ID=2  HYD NO=102  DA=0.004297 SQ MI
                       PER A=100 PER B=0  PER C=0  PER D=0
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED SITE
COMPUTE NM HYD         ID=3  HYD NO=103  DA=0.007406 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "A"
COMPUTE NM HYD         ID=4  HYD NO=104  DA=0.002922 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "B"
COMPUTE NM HYD         ID=5  HYD NO=105  DA=0.001094 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "C"
COMPUTE NM HYD         ID=6  HYD NO=106  DA=0.002219 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "D"
COMPUTE NM HYD         ID=7  HYD NO=107  DA=0.001172 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "A.1"
COMPUTE NM HYD         ID=8  HYD NO=108  DA=0.001719 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR  MASS RAIN=-1
* DEVELOPED BASIN "A.2"
COMPUTE NM HYD         ID=9  HYD NO=109  DA=0.001203 SQ MI
                       PER A=0  PER B=20  PER C=20  PER D=60
                       TP=0.1333 HR MASS RAIN=-1
* DEVELOPED BASINS "B+C"
COMPUTE NM HYD         ID=10  HYD NO 110  DA=0.003312 SQ MI
```

```
                    PER A=0   PER B=20   PER C=20   PER D=60
                    TP=0.1333 HR  MASS RAIN=-1
* ROUTE BASINS "B+C" THRU POND
ROUTE RESERVOIR     ID=11  HYD NO=111  INFLOW ID=10 CODE=2
                    OUT(CFS)      STORAGE(AC-FT)    ELEV(FT)
                    0             0                 44.0
                    0.8           0.0501            45.0
                    0.9           0.1002            46.0
                    1.0           0.1503            47.0
                    1.1           0.2070            48.0
                    1.2           0.2777            49.0
* UNDEVELOPED SITE
PRINT HYD           ID=1  CODE=1
* UNDEVELOPED BASIN "I"
PRINT HYD           ID=2  CODE=1
* DEV SITE
PRINT HYD           ID=3  CODE=1
* DEV BASIN "A"
PRINT HYD           ID=4  CODE=1
* DEV BASIN "B"
PRINT HYD           ID=5  CODE=1
* DEV BASIN "C"
PRINT HYD           ID=6  CODE=1
* DEV BASIN "D"
PRINT HYD           ID=7  CODE=1
* DEV BASIN "A.1"
PRINT HYD           ID=8  CODE=1
* DEV BASIN "A.2"
PRINT HYD           ID=9  CODE=1
* DEV BASINS "B+C"
PRINT HYD           ID=10  CODE=2
PLOT HYD            ID=10
* ROUTE BASINS "B+C" THRU POND
PRINT HYD           ID=11  CODE=2
PLOT HYD            ID=11
FINISH
```

AHYMO SUMMARY TABLE (AHYM0194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =01/28/1996
INPUT FILE = 5013.DAT USER NO.= BRASHERE.I01

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.900
COMPUTE NM HYD	101.00	-	1	.00741	17.65	.574	1.45337	1.500	3.724	PER IMP= .00
COMPUTE NM HYD	102.00	-	2	.00430	6.07	.183	.79828	1.500	2.205	PER IMP= .00
COMPUTE NM HYD	103.00	-	3	.00741	21.20	.824	2.08531	1.500	4.473	PER IMP= 60.00
COMPUTE NM HYD	104.00	-	4	.00292	8.38	.325	2.08531	1.500	4.480	PER IMP= 60.00
COMPUTE NM HYD	105.00	-	5	.00109	3.15	.122	2.08531	1.500	4.499	PER IMP= 60.00
COMPUTE NM HYD	106.00	-	6	.00222	6.37	.247	2.08531	1.500	4.483	PER IMP= 60.00
COMPUTE NM HYD	107.00	-	7	.00117	3.37	.130	2.08531	1.500	4.496	PER IMP= 60.00
COMPUTE NM HYD	108.00	-	8	.00172	4.94	.191	2.08531	1.500	4.488	PER IMP= 60.00
COMPUTE NM HYD	109.00	-	9	.00120	3.46	.134	2.08531	1.500	4.496	PER IMP= 60.00
COMPUTE NM HYD	110.00	-	10	.00331	9.49	.368	2.08531	1.500	4.479	PER IMP= 60.00
ROUTE RESERVOIR	111.00	10	11	.00331	1.16	.368	2.08523	2.133	.545	AC-FT= .246
FINISH										

```
    AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
         RUN DATE (MON/DAY/YR) = 01/28/1996
         START TIME (HR:MIN:SEC) = 15:45:09     USER NO.= BRASHERE.I01
         INPUT FILE = 5013.DAT

**************************************************************************
*                      ALBQ. RETIREMENT RESIDENCE
*                         PROJECT HYDROLOGY
**************************************************************************
START              TIME=0.0  PUNCH CODE=0
RAINFALL           TYPE=1  RAIN QUARTER=0.0  RAIN ONE=2.23
                   RAIN SIX=2.90  RAIN DAY=3.65  DT=0.03333 HRS

              COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
              DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                 .0000   .0055   .0110   .0167   .0225   .0284   .0345
                 .0406   .0469   .0534   .0600   .0668   .0738   .0809
                 .0882   .0958   .1035   .1115   .1197   .1282   .1370
                 .1461   .1555   .1653   .1754   .1860   .1971   .2086
                 .2207   .2334   .2469   .2530   .2596   .2667   .2818
                 .3156   .3677   .4425   .5446   .6787   .8498  1.0629
                1.3228  1.5642  1.6650  1.7500  1.8257  1.8946  1.9579
                2.0168  2.0718  2.1233  2.1719  2.2176  2.2608  2.3018
                2.3405  2.3773  2.4122  2.4453  2.4767  2.4850  2.4927
                2.5002  2.5074  2.5143  2.5210  2.5275  2.5338  2.5400
                2.5459  2.5518  2.5575  2.5630  2.5685  2.5738  2.5790
                2.5841  2.5891  2.5940  2.5988  2.6036  2.6082  2.6128
                2.6173  2.6218  2.6262  2.6305  2.6347  2.6389  2.6431
                2.6471  2.6512  2.6552  2.6591  2.6630  2.6668  2.6706
                2.6743  2.6780  2.6817  2.6853  2.6889  2.6925  2.6960
                2.6995  2.7029  2.7063  2.7097  2.7131  2.7164  2.7197
                2.7229  2.7262  2.7294  2.7325  2.7357  2.7388  2.7419
                2.7450  2.7480  2.7511  2.7541  2.7570  2.7600  2.7629
                2.7658  2.7687  2.7716  2.7745  2.7773  2.7801  2.7829
                2.7857  2.7885  2.7912  2.7939  2.7966  2.7993  2.8020
                2.8046  2.8073  2.8099  2.8125  2.8151  2.8177  2.8202
                2.8228  2.8253  2.8279  2.8304  2.8329  2.8353  2.8378
                2.8402  2.8427  2.8451  2.8475  2.8499  2.8523  2.8547
                2.8571  2.8594  2.8618  2.8641  2.8664  2.8687  2.8710
                2.8733  2.8756  2.8779  2.8801  2.8824  2.8846  2.8868
                2.8890  2.8912  2.8934  2.8956  2.8978  2.9000

* UNDEVELOPED SITE
COMPUTE NM HYD     ID=1  HYD NO=101  DA=0.007406 SQ MI
                   PER A=0  PER B=0  PER C=100  PER D=0
                   TP=0.1333 HR  MASS RAIN=-1

   K =   .109928HR    TP =   .133300HR    K/TP RATIO =   .824663     SHAPE CONSTANT, N =  4.329256
   UNIT PEAK =   20.921    CFS   UNIT VOLUME =    .9997       B =   376.56      P60 = 2.2300
   AREA =      .007406 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
   RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* UNDEVELOPED BASIN "I"
COMPUTE NM HYD     ID=2  HYD NO=102  DA=0.004297 SQ MI
                   PER A=100 PER B=0  PER C=0  PER D=0
                   TP=0.1333 HR  MASS RAIN=-1

   K =   .159556HR    TP =   .133300HR    K/TP RATIO =  1.196967     SHAPE CONSTANT, N =  2.968088
   UNIT PEAK =   9.0005    CFS   UNIT VOLUME =    .9982       B =   279.21      P60 = 2.2300
```

```
    AREA =      .004297 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED SITE
COMPUTE NM HYD      ID=3  HYD NO=103  DA=0.007406 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   17.544    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.2300
    AREA =      .004444 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   7.6792    CFS   UNIT VOLUME =    .9986       B =   345.54      P60 = 2.2300
    AREA =      .002962 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "A"
COMPUTE NM HYD      ID=4  HYD NO=104  DA=0.002922 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   6.9217    CFS   UNIT VOLUME =    .9978       B =   526.28      P60 = 2.2300
    AREA =      .001753 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   3.0298    CFS   UNIT VOLUME =    .9959       B =   345.54      P60 = 2.2300
    AREA =      .001169 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "B"
COMPUTE NM HYD      ID=5  HYD NO=105  DA=0.001094 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   2.5915    CFS   UNIT VOLUME =    .9949       B =   526.28      P60 = 2.2300
    AREA =      .000656 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   1.1344    CFS   UNIT VOLUME =    .9882       B =   345.54      P60 = 2.2300
    AREA =      .000438 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "C"
COMPUTE NM HYD      ID=6  HYD NO=106  DA=0.002219 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   5.2564    CFS   UNIT VOLUME =    .9973       B =   526.28      P60 = 2.2300
    AREA =      .001331 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
```

```
    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   2.3009    CFS   UNIT VOLUME =    .9945       B =   345.54      P60 = 2.2300
    AREA =      .000888 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "D"
COMPUTE NM HYD      ID=7  HYD NO=107  DA=0.001172 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   2.7763    CFS   UNIT VOLUME =    .9955       B =   526.28      P60 = 2.2300
    AREA =      .000703 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   1.2152    CFS   UNIT VOLUME =    .9893       B =   345.54      P60 = 2.2300
    AREA =      .000469 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "A.1"
COMPUTE NM HYD      ID=8  HYD NO=108  DA=0.001719 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   4.0720    CFS   UNIT VOLUME =    .9965       B =   526.28      P60 = 2.2300
    AREA =      .001031 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   1.7824    CFS   UNIT VOLUME =    .9927       B =   345.54      P60 = 2.2300
    AREA =      .000688 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASIN "A.2"
COMPUTE NM HYD      ID=9  HYD NO=109  DA=0.001203 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR MASS RAIN=-1

    K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   2.8497    CFS   UNIT VOLUME =    .9955       B =   526.28      P60 = 2.2300
    AREA =      .000722 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


    K =   .122335HR    TP =   .133300HR    K/TP RATIO =   .917739     SHAPE CONSTANT, N =  3.857355
    UNIT PEAK =   1.2474    CFS   UNIT VOLUME =    .9893       B =   345.54      P60 = 2.2300
    AREA =      .000481 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

* DEVELOPED BASINS "B+C"
COMPUTE NM HYD      ID=10  HYD NO 110  DA=0.003312 SQ MI
                    PER A=0  PER B=20  PER C=20  PER D=60
                    TP=0.1333 HR  MASS RAIN=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.8456 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 2.2300
AREA = .001987 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .122335HR TP = .133300HR K/TP RATIO = .917739 SHAPE CONSTANT, N = 3.857355
UNIT PEAK = 3.4342 CFS UNIT VOLUME = .9963 B = 345.54 P60 = 2.2300
AREA = .001325 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

* ROUTE BASINS "B+C" THRU POND
ROUTE RESERVOIR ID=11 HYD NO=111 INFLOW ID=10 CODE=2

OUT(CFS)	STORAGE(AC-FT)	ELEV(FT)
0	0	44.0
0.8	0.0501	45.0
0.9	0.1002	46.0
1.0	0.1503	47.0
1.1	0.2070	48.0
1.2	0.2777	49.0

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	44.00	.000	.00
.07	.00	44.00	.000	.00
.13	.00	44.00	.000	.00
.20	.00	44.00	.000	.00
.27	.00	44.00	.000	.00
.33	.00	44.00	.000	.00
.40	.00	44.00	.000	.00
.47	.00	44.00	.000	.00
.53	.00	44.00	.000	.00
.60	.04	44.00	.000	.00
.67	.13	44.01	.001	.01
.73	.21	44.03	.001	.02
.80	.25	44.05	.002	.04
.87	.28	44.07	.004	.06
.93	.32	44.10	.005	.08
1.00	.35	44.13	.006	.10
1.07	.37	44.15	.008	.12
1.13	.31	44.18	.009	.14
1.20	.38	44.20	.010	.16
1.27	1.02	44.25	.012	.20
1.33	2.65	44.41	.021	.33
1.40	5.40	44.80	.040	.64
1.47	8.74	45.49	.075	.85
1.53	9.08	46.41	.120	.94
1.60	6.73	47.15	.159	1.02
1.67	4.94	47.61	.185	1.06
1.73	3.90	47.93	.203	1.09
1.80	3.24	48.14	.217	1.11
1.87	2.75	48.28	.227	1.13
1.93	2.36	48.39	.235	1.14
2.00	2.03	48.47	.240	1.15
2.07	1.70	48.53	.244	1.15
2.13	1.19	48.55	.246	1.16
2.20	.81	48.54	.245	1.15

2.27	.61	48.50	.243	1.15
2.33	.51	48.46	.239	1.15
2.40	.43	48.41	.236	1.14
2.47	.36	48.35	.232	1.13
2.53	.31	48.29	.227	1.13
2.60	.27	48.22	.223	1.12
2.67	.23	48.15	.218	1.12
2.73	.21	48.08	.213	1.11
2.80	.19	48.01	.208	1.10
2.87	.17	47.93	.203	1.09
2.93	.16	47.84	.198	1.08
3.00	.14	47.75	.193	1.07
3.07	.13	47.66	.187	1.07
3.13	.12	47.56	.182	1.06
3.20	.11	47.47	.177	1.05
3.27	.11	47.38	.172	1.04
3.33	.10	47.29	.167	1.03
3.40	.10	47.20	.162	1.02
3.47	.10	47.11	.157	1.01
3.53	.10	47.03	.152	1.00
3.60	.09	46.93	.147	.99
3.67	.09	46.83	.142	.98

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
3.73	.09	46.73	.137	.97
3.80	.09	46.64	.132	.96
3.87	.09	46.54	.127	.95
3.93	.09	46.45	.123	.94
4.00	.09	46.35	.118	.94
4.07	.08	46.26	.113	.93
4.13	.08	46.17	.109	.92
4.20	.08	46.08	.104	.91
4.27	.08	45.99	.100	.90
4.33	.08	45.90	.095	.89
4.40	.08	45.81	.091	.88
4.47	.08	45.72	.086	.87
4.53	.08	45.63	.082	.86
4.60	.08	45.55	.078	.85
4.67	.08	45.46	.073	.85
4.73	.08	45.38	.069	.84
4.80	.08	45.30	.065	.83
4.87	.08	45.22	.061	.82
4.93	.08	45.13	.057	.81
5.00	.08	45.05	.053	.81
5.07	.08	44.98	.049	.78
5.13	.08	44.90	.045	.72
5.20	.08	44.83	.042	.67
5.27	.08	44.77	.039	.62
5.33	.08	44.72	.036	.57
5.40	.08	44.66	.033	.53
5.47	.08	44.62	.031	.49
5.53	.08	44.57	.029	.46
5.60	.08	44.53	.027	.43
5.67	.08	44.50	.025	.40
5.73	.08	44.46	.023	.37
5.80	.08	44.43	.022	.35
5.87	.08	44.40	.020	.32
5.93	.08	44.38	.019	.30

6.00	.08	44.36	.018	.28
6.07	.08	44.33	.017	.27
6.13	.05	44.31	.016	.25
6.20	.02	44.29	.015	.23
6.27	.01	44.27	.013	.21
6.33	.01	44.25	.012	.20
6.40	.01	44.23	.011	.18
6.47	.00	44.21	.010	.17
6.53	.00	44.19	.010	.15
6.60	.00	44.18	.009	.14
6.67	.00	44.16	.008	.13
6.73	.00	44.15	.007	.12
6.80	.00	44.13	.007	.11
6.87	.00	44.12	.006	.10
6.93	.00	44.11	.006	.09
7.00	.00	44.10	.005	.08
7.07	.00	44.09	.005	.08
7.13	.00	44.09	.004	.07
7.20	.00	44.08	.004	.06
7.27	.00	44.07	.004	.06
7.33	.00	44.07	.003	.05
7.40	.00	44.06	.003	.05

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
7.47	.00	44.06	.003	.04
7.53	.00	44.05	.003	.04
7.60	.00	44.05	.002	.04
7.67	.00	44.04	.002	.03
7.73	.00	44.04	.002	.03
7.80	.00	44.04	.002	.03
7.87	.00	44.03	.002	.03
7.93	.00	44.03	.002	.02
8.00	.00	44.03	.001	.02
8.07	.00	44.03	.001	.02
8.13	.00	44.02	.001	.02
8.20	.00	44.02	.001	.02
8.27	.00	44.02	.001	.02
8.33	.00	44.02	.001	.01
8.40	.00	44.02	.001	.01
8.47	.00	44.01	.001	.01
8.53	.00	44.01	.001	.01
8.60	.00	44.01	.001	.01
8.67	.00	44.01	.001	.01
8.73	.00	44.01	.001	.01
8.80	.00	44.01	.000	.01
8.87	.00	44.01	.000	.01
8.93	.00	44.01	.000	.01
9.00	.00	44.01	.000	.01
9.07	.00	44.01	.000	.01
9.13	.00	44.01	.000	.00

PEAK DISCHARGE = 1.155 CFS - PEAK OCCURS AT HOUR 2.13
MAXIMUM WATER SURFACE ELEVATION = 48.552
MAXIMUM STORAGE = .2461 AC-FT INCREMENTAL TIME= .033330HRS

* UNDEVELOPED SITE
PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

```
    RUNOFF VOLUME =     1.45337 INCHES     =        .5741 ACRE-FEET
    PEAK DISCHARGE RATE =      17.65 CFS  AT   1.500 HOURS   BASIN AREA =   .0074 SQ. MI.


* UNDEVELOPED BASIN "I"
PRINT HYD          ID=2  CODE=1

                                PARTIAL HYDROGRAPH   102.00

    RUNOFF VOLUME =      .79828 INCHES     =        .1829 ACRE-FEET
    PEAK DISCHARGE RATE =       6.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0043 SQ. MI.


* DEV SITE
PRINT HYD          ID=3  CODE=1

                                PARTIAL HYDROGRAPH   103.00

    RUNOFF VOLUME =     2.08531 INCHES     =        .8237 ACRE-FEET
    PEAK DISCHARGE RATE =      21.20 CFS  AT   1.500 HOURS   BASIN AREA =   .0074 SQ. MI.


* DEV BASIN "A"
PRINT HYD          ID=4  CODE=1

                                PARTIAL HYDROGRAPH   104.00

    RUNOFF VOLUME =     2.08531 INCHES     =        .3250 ACRE-FEET
    PEAK DISCHARGE RATE =       8.38 CFS  AT   1.500 HOURS   BASIN AREA =   .0029 SQ. MI.


* DEV BASIN "B"
PRINT HYD          ID=5  CODE=1

                                PARTIAL HYDROGRAPH   105.00

    RUNOFF VOLUME =     2.08531 INCHES     =        .1217 ACRE-FEET
    PEAK DISCHARGE RATE =       3.15 CFS  AT   1.500 HOURS   BASIN AREA =   .0011 SQ. MI.


* DEV BASIN "C"
PRINT HYD          ID=6  CODE=1

                                PARTIAL HYDROGRAPH   106.00

    RUNOFF VOLUME =     2.08531 INCHES     =        .2468 ACRE-FEET
    PEAK DISCHARGE RATE =       6.37 CFS  AT   1.500 HOURS   BASIN AREA =   .0022 SQ. MI.
```

* DEV BASIN "D"
PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 107.00

RUNOFF VOLUME = 2.08531 INCHES = .1303 ACRE-FEET
PEAK DISCHARGE RATE = 3.37 CFS AT 1.500 HOURS BASIN AREA = .0012 SQ. MI.

* DEV BASIN "A.1"
PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 108.00

RUNOFF VOLUME = 2.08531 INCHES = .1912 ACRE-FEET
PEAK DISCHARGE RATE = 4.94 CFS AT 1.500 HOURS BASIN AREA = .0017 SQ. MI.

* DEV BASIN "A.2"
PRINT HYD ID=9 CODE=1

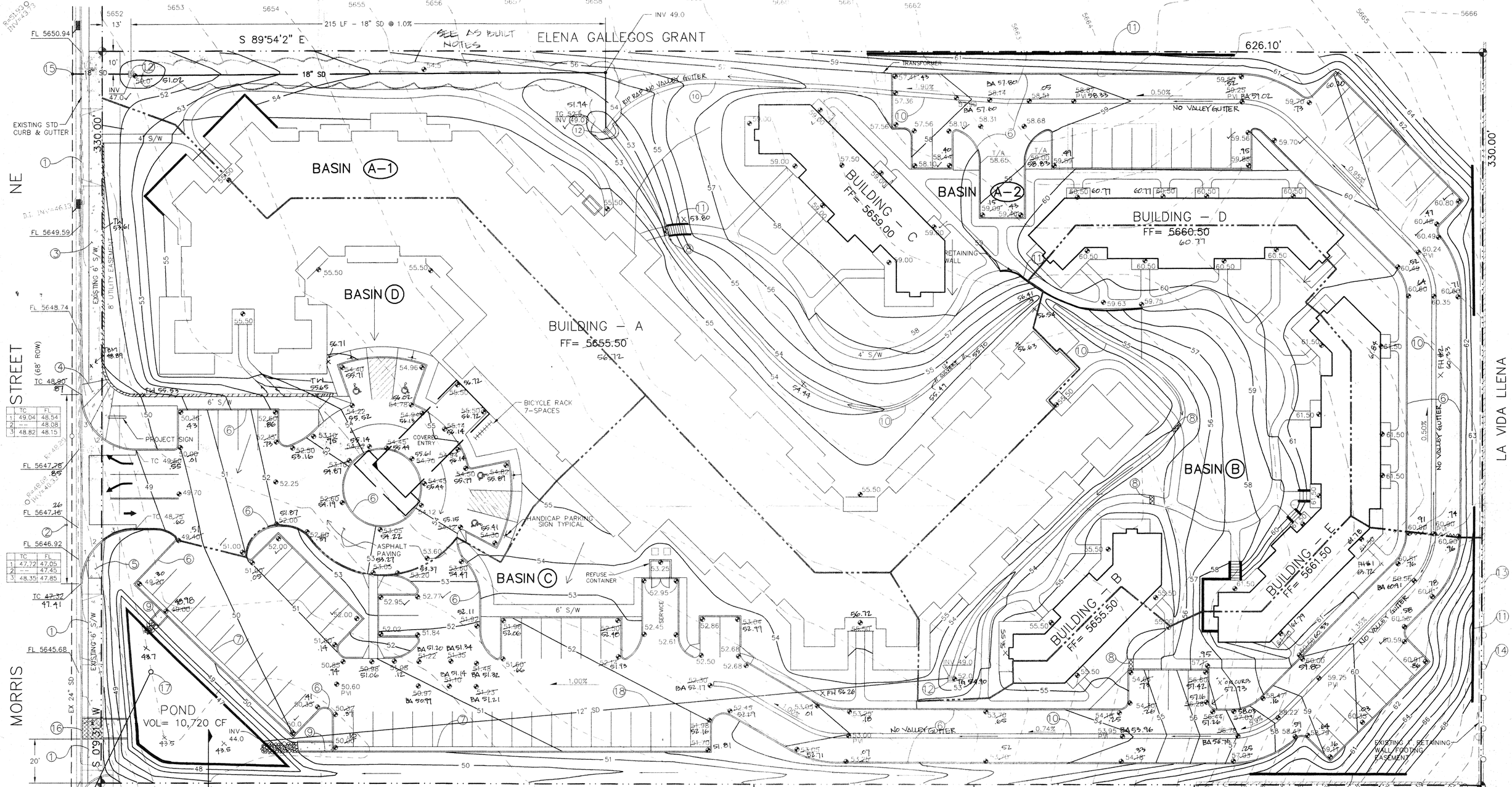
PARTIAL HYDROGRAPH 109.00

RUNOFF VOLUME = 2.08531 INCHES = .1338 ACRE-FEET
PEAK DISCHARGE RATE = 3.46 CFS AT 1.500 HOURS BASIN AREA = .0012 SQ. MI.

* DEV BASINS "B+C"
PRINT HYD ID=10 CODE=2

PARTIAL HYDROGRAPH 110.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.400	5.4	2.800	.2	4.200	.1	5.599	.1
.067	.0	1.467	8.7	2.866	.2	4.266	.1	5.666	.1
.133	.0	1.533	9.1	2.933	.2	4.333	.1	5.733	.1
.200	.0	1.600	6.7	3.000	.1	4.400	.1	5.799	.1
.267	.0	1.667	4.9	3.066	.1	4.466	.1	5.866	.1
.333	.0	1.733	3.9	3.133	.1	4.533	.1	5.933	.1
.400	.0	1.800	3.2	3.200	.1	4.600	.1	5.999	.1
.467	.0	1.866	2.7	3.266	.1	4.666	.1	6.066	.1
.533	.0	1.933	2.4	3.333	.1	4.733	.1	6.133	.0
.600	.0	2.000	2.0	3.400	.1	4.800	.1	6.199	.0
.667	.1	2.066	1.7	3.466	.1	4.866	.1	6.266	.0
.733	.2	2.133	1.2	3.533	.1	4.933	.1	6.333	.0
.800	.2	2.200	.8	3.600	.1	4.999	.1	6.399	.0
.867	.3	2.266	.6	3.666	.1	5.066	.1	6.466	.0
.933	.3	2.333	.5	3.733	.1	5.133	.1	6.533	.0
1.000	.4	2.400	.4	3.800	.1	5.199	.1	6.599	.0
1.067	.4	2.466	.4	3.866	.1	5.266	.1	6.666	.0
1.133	.3	2.533	.3	3.933	.1	5.333	.1	6.733	.0



KEYED NOTES:

All references made to COA Std Dwgs refer to the City of Albuquerque Standard Drawings for Public Works Construction.

1. Remove and dispose existing drivepad. Construct standard curb & gutter and 6' sidewalk.
2. Remove and dispose approx 86 LF curb & gutter and sidewalk. Construct 36' concrete valley gutter drive entrance per COA Std Dwg 2420.
3. Existing 6' sidewalk to remain.
4. Construct wheel chair ramp per COA Std Dwg 2441.
5. Construct modified wheel chair ramp per COA Std Dwg 2426.
6. 6" concrete curb.
7. 6" concrete curb & gutter.
8. Construct 24" sidewalk culvert per COA Std Dwg 2236.
9. Construct drainage rundown per Detail E/2.
10. Construct concrete alley gutter per COA Std Dwg 2415.
11. Construct retaining wall. See Architectural Planset.
12. Construct Type "D" drop inlet per COA Std Dwg 2206.
13. Existing concrete retaining wall to remain.
14. Existing 6' chain link fence to remain.
15. Construct 18" storm drain from property line to drop inlet. For manhole connection to public storm drain see Public Works Planset.
16. Construct pond overflow spillway per Detail B/2.
17. Construct pond drainline per Detail A/2.
18. Construct 12" storm drain.

	TC	FL
1	49.04	48.54
2	---	48.08
3	48.82	48.15

	TC	FL
1	47.72	47.05
2	---	47.45
3	48.35	47.85

AS-BUILT NOTE: ELEVATIONS INDICATED "BA" REFLECT TOP OF COMPACTED SUBGRADE

STORM DRAIN LINE EXTENDED W/ ADDITIONAL DROP INLET - NO CHANGE TO ORIGINAL DRAINAGE CONCEPT

ENGINEER'S CERTIFICATION

I, the undersigned, being a Professional Engineer registered in the state of New Mexico, do hereby certify that the as-built information shown hereon is based on actual field measurements by Brasher & Lorenz, Inc. and that as of this date, the as-built condition of the site is in substantial compliance with the approved Grading and Drainage Plan prepared by Brasher & Lorenz, Inc., dated July 26, 1995.

This certification does not extend to the structural integrety of improvements.

Raul Brasher, NM PE #7282

PAUL T. BRASHER No. 7282 REGISTERED PROFESSIONAL ENGINEER 7-26-96

PROPERTY ADDRESS	Morris Street NE
LEGAL DESCRIPTION	Tract A, Villa Pacifica
PROJECT BENCHMARK	TBM: NW property corner, a 1/2" rebar with cap. Elevation 5651.75 feet
SURVEY	Topographic and Field Measurement by Brasher & Lorenz, Inc Dated December, 1995

BA = BOTTOM OF ASPHALT

LEGEND

- EXISTING CONTOUR ELEVATION
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR ELEVATION
- PROPERTY LINE
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- DRAINAGE SWALE
- DRAINAGE BASIN DIVIDE
- RETAINING WALL

FILE: SITEG-D.DWG

1 inch = 20 ft.

Holiday RETIREMENT CORP.
2250 McGilchrist St. S.E., Suite 200 Salem,OR 97302
P.O. Box 14111 Salem, OR 97309-5026
(503)370-7070 Fax(503)364-5716

JEANNIE A. LORENZ NEW MEXICO 8647 REGISTERED PROFESSIONAL ENGINEER 7-26-96

REVIEWED APR 2 1997 HYDROLOGY SECTION

DATE
REVISED DATE
4-15-96
7-26-96
SHEET
C-1

GRADING AND DRAINAGE PLAN

ALBUQUERQUE RETIREMENT RESIDENCE
ALBUQUERQUE, NEW MEXICO

COLSON AND COLSON GENERAL CONTRACTOR, INC.
2264 McGILCHRIST STREET SE, SUITE 100
SALEM, OREGON, 97302
PHONE (503) 370-7070

Curry • Brandaw Architects
471 High Street Southeast
Salem, Oregon 97301
503/399-1090 Fax 399-0565

BRASHER & LORENZ, INC.
Consulting Engineers
4425 Juan Tabo Blvd. NE Suite 202
Albuquerque, New Mexico 87111
Ph: 505-296-0422 Fax: 505-296-0466