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GRADING AND DRAINAGE PLAN

FOR THE

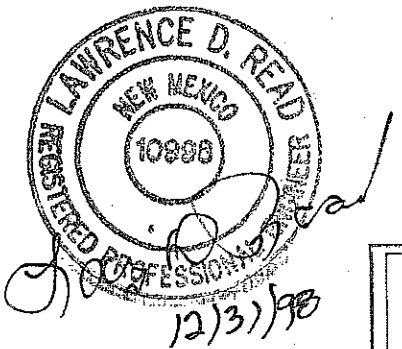
HEALTH CARE FOR THE HOMELESS

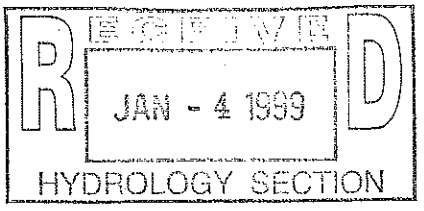
LOCATED AT

1217 FIRST STREET N.W.

ALBUQUERQUE, NEW MEXICO

DECEMBER 1998





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I. PURPOSE OF THIS REPORT

This report has been prepared to submit to the City of Albuquerque Public Works - Hydrology Department for Building Permit Approval.

This project is an infill project that proposes to renovate the existing northeast and southeast on the site. The northwest building and numerous small buildings in the center portion of the site will be removed and replaced with a new building that will connect between the two remaining buildings. A landscaped courtyard will be constructed in the central portion of First Street frontage. Three paved parking lots are proposed, one will enter off mountain and will parallel the west side of the southern building, the second will enter off Rosemont Street and will parallel the west side of the northern building, the third will enter off Second Street and run perpendicular to Second Street. The remaining portions of the block, northwest and southwest corners are owned by third parties and are not part of this project.

II. LOCATION

This site is located at 1217 First Street NW. and includes most of the city block bounded by First Street on the east, Second Street on the west, Mountain Avenue on the south, and Rosemont Avenue on the north. The areas within this city block not included are the northwest and southwest corners as described above.

III. LEGAL DESCRIPTION

Lots 5-A and 13-A, Paris Addition No. 2

IV. ZONING AND SURROUNDING DEVELOPMENT

The present zoning of the site is M-1, Light Manufacturing. The proposed use, a healthcare clinic, is an approved usage under the existing zoning.

V. FLOOD HAZARD ZONES

As shown on panel 35001C0332 D, Dated September 20, 1996, all of Rosemont Ave, First Street, and Second Street adjacent to the parcel are in an AO 100-year floodplain, Flood Depths of 1 to 3 feet deep. This floodplain encroaches into the site at the drivepads on Rosemont Ave. and Mountain Ave. However, the existing and new buildings are not within the limits of the floodplain.

VI. EXISTING SITE CONDITIONS AND DRAINAGE PATTERNS

The existing site is developed as a Construction Company Office and Storage Yard.

There are four permanent buildings and numerous portable buildings and mobile buildings onsite. The only buildings proposed to remain are the buildings on the northeast and southeast corners of the site. The western half of the northeast building is proposed to be removed. The majority of the site that is used for drive access and storage has been graded and covered with material that appears to be asphalt millings and emulsion seal coat. The site is void of landscaping. The site has been graded to utilize the existing minimal vertical elevation differential to drain away from the permanent buildings. Therefore, the current discharge is via shallow sheet flow towards the nearest street - typically through a drivepad. There is an existing french drain located in the central area of the site that appears to be plugged by sediment and garbage. This plan proposes to remove the french drain.

VII. PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The proposed modifications to the site, as shown on the Grading Plan in Appendix B, include removal of all the small structures, portable structures, and mobile buildings onsite leaving only the buildings at the northeast and southeast corner of the site. Additionally, the west half (approximately) of the building at the northeast corner of the site will be removed.

The proposed new construction includes a infill building between the two remaining buildings, a new landscaped patio between the existing and new building on First Street, and new parking lots perpendicular to both Mountain and Rosemont Ave. and west of the existing buildings, and a new parking lot perpendicular to Second Street and about half way between Rosemont and Mountain Ave.

The grading plan proposes to drain all of the remaining existing buildings, the new patio, and the east half of the new building to First Street via Two 24" sidewalk culverts located at the north and south sides of the new patio. To avoid an 8" dropoff at the back of the sidewalk, a 24" x 24" trench grate is proposed adjacent to the back of the sidewalk. This is shown as Basin 'C' on the Drainage Basin Map in Appendix B.

The northwest corner of the new building, the new north parking lot, and the landscape area between the northeast building and the north parking lot are proposed to drain north through a swale in the landscaping and 24" sidewalk culvert into Rosemont Ave. This area is shown as Basin 'D' on the Drainage Basin Map in Appendix B.

The remaining southeast building, south end of the new building, and south parking lot drain into Mountain Ave. via a swale in the parking lot and 24" sidewalk culvert into Mountain. This area is shown as Basin 'F' on the Drainage Basin Map in Appendix B.

The remaining west parking lot, on Second Street, drains into Second Street via a swale in the landscaping on the north side of the parking lot that briefly crosses the parking

lot and into a 24" sidewalk culvert into Second Street just north of the drivepad. This Basin is shown as Basin 'E' on the Drainage Basin Map in Appendix B.

The runoff discharge points discussed above are similar in location to the existing discharge points from the site. As noted in the Summary below, the runoff peak rates and volumes generated by the proposed construction are very close to those generated by the existing development.

VIII. OFFSITE RUNOFF

There are two offsite drainage basins that affect this project as shown on the Offiste Drainage Map in Appendix B. The first basin, Basin 'A' includes the block between Rosemont Ave. and Kinley Ave. and is bordered on the west about midway between First and Second Street and on the east by the railroad tracks. This report assumes that all runoff in First Street north of Kinley is intercepted in the existing four 'P' Type inlets at Kinley Ave and First Street. This appears to be a reasonable assumption since there is a high area in first at the south side of Kinley that would increase the interception capacity of those inlets. This basin includes several commercial and industrial type developments that are mostly buildings, paved parking lots, and compacted earth storage areas. The land treatment percentages used in the AHYMO runs included in Appendix A are based on Table A.5 in the DPM Section 22.2. Visual inspection of the sites and photogramitry based Floodway Maps appear to justify the assumptions for this basin.

The second offsite basin, Basin 'B', includes the area between First Street and the west side of the railroad tracks west of First. This basin begins at Kinley Ave. on the north and runs south to adjacent to Rosemont Ave. This area will discharge to First Street only after initial ponding has become deep enough to provide some head to drive the flow since the basin in almost flat. The land treatment percentages used in the AHYMO runs included in Appendix A are based on Table A.5 in the DPM Section 22.2. Although this basin is almost entirely compacted earth parking and stroage areas, the higher percentage of Type D land treatment have been used since the existing zoning would allow development of this basin similar to what is sugested in Table A.5.

The runoff from both offsite basin collects in First Street and runs south to the intersection at Rosemont where four 'P' Type inlets collect the runoff.

IX. SUMMARY OF RUNOFF

100-Year Storm

BASIN	EXISTING CONDITIONS Q_{100} (cfs)	EXISTING CONDITIONS V_{100} (cf)	DEVELOPED CONDITIONS Q_{100} (cfs)	DEVELOPED CONDITIONS V_{100} (cf)
A	14.36	25,574	14.36	25,574
B	8.94	15,899	8.94	15,899
C	2.50	4,661	2.42	4,400
D	0.84	1,481	0.84	1,481
E	0.89	1,525	0.88	1,568
F	1.41	2,526	1.43	2,614

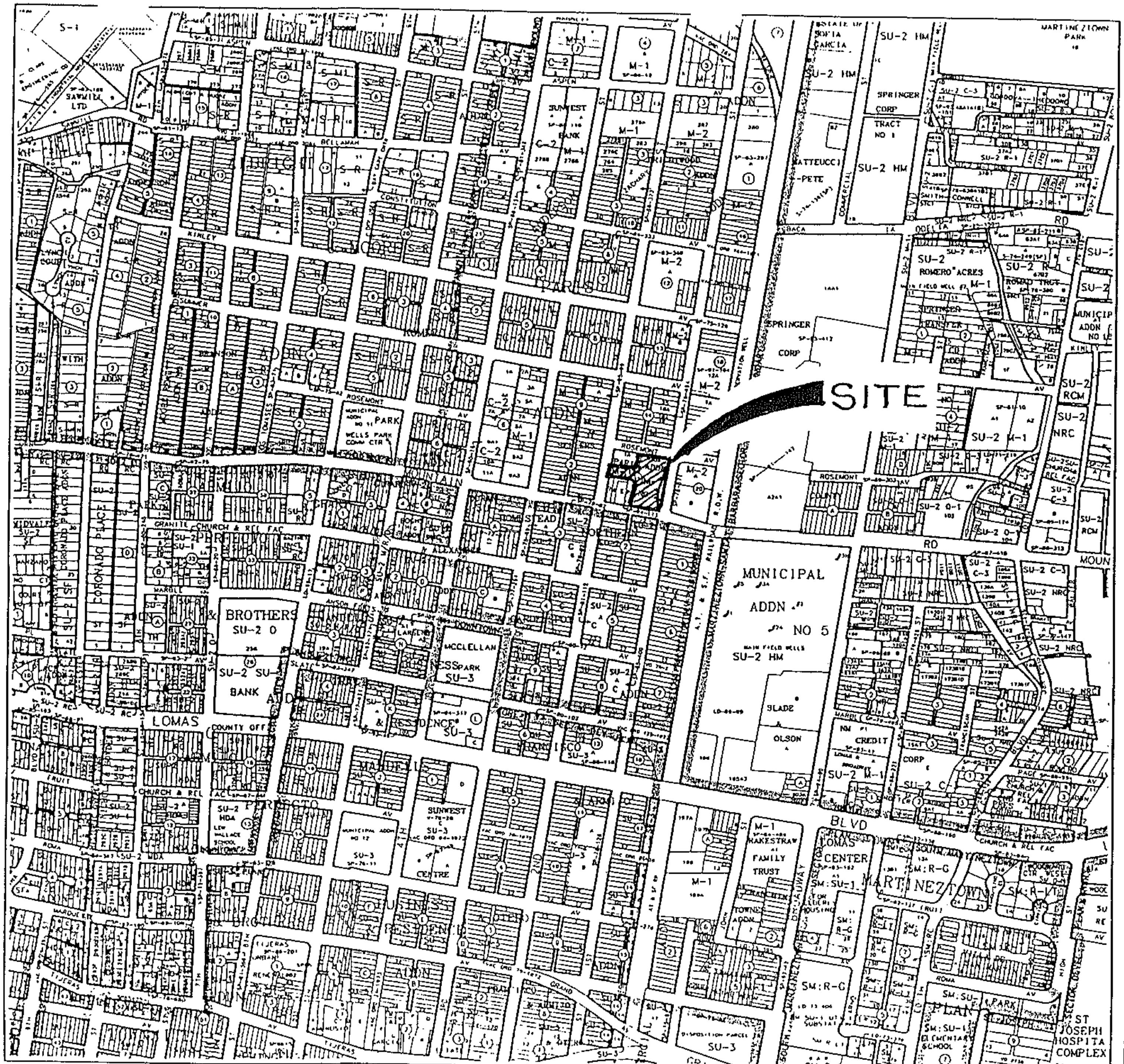
10-Year Storm

	EXISTING CONDITIONS Q_{100} (cfs)	EXISTING CONDITIONS V_{100} (cf)	DEVELOPED CONDITIONS Q_{100} (cfs)	DEVELOPED CONDITIONS V_{100} (cf)
A	9.57	17,050	9.57	17,050
B	5.96	10,593	5.96	10,593
C	1.67	3,107	1.61	2,933
D	0.56	987	0.56	987
E	0.59	1,017	0.59	1,045
F	0.94	1,684	0.95	1,743

X. CONCLUSION

Since this area is included in a 100-year floodplain with designation Zone AO, it is assumed that the inlets and storm drain do not have the capacity to handle the runoff generated from more intense storm events. However, the floodplain boundaries appear to place the depth of flooding within the right-of-way on First Street and in the parking areas on Rosemont Ave. and Mountain Ave. By inspection of the surveyed elevations in the areas of the floodplain boundaries, it would appear that the flood elevations in a 100-year event will be about 3" below the finished floor elevation of the existing and proposed new building.

Please note that this project is an infill and renovation project in nature and that the adjacent parcels and offsite drainage basins contributing flows to this site are developed similar to there zoning and capacity. Therefore, the amount of flooding in current conditions should not become worst. Also, the proposed renovations of this site have not increased the peak runoff rates or volumes above current rates and therefore should not increase the flood level downstream of the site.



GRAPHIC SCALE IN FEET

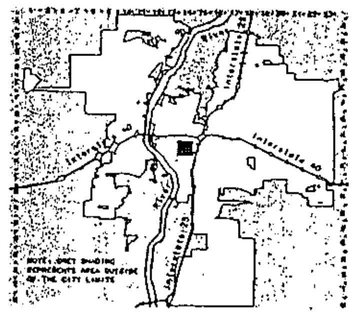
250 0 500 1000

CITY OF Albuquerque

Albuquerque **G**eographic **I**nformation **S**ystem

PLANNING DEPARTMENT

Map Amended through April 18, 1996



LEGAL DESCRIPTION

T10N

R3E

SEC 17

UNIFORM PROPERTY CODE

1-014-058

J-14-Z

APPENDIX A

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =12/30/1998
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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
*S COMPUTE 100 YR. 24 HR. HYDROGRAPHS FOR HEALTHCARE/HOMELESS										
*S HOME100.DAT - HYMO PER JAN 1993 DPM REVISIONS										
*S										
*S PRECIPITATION ZONE 2 PER FIGURE A-1										
*S										
RAINFALL TYPE= 2										RAIN24= 2.750
*S										
*S COMPUTE RUNOFF FOR EXISTING CONDITIONS - OFFSITE BASINS										
*S										
*S										
*S OFFSITE - BASIN A										
*S										
*S USE 80% TYPE D - HEAVY INDUSTRIAL PER TABLE A-5										
*S										
COMPUTE NM HYD	101.10	-	1	.00511	14.36	.587	2.15427	1.500	4.391	PER IMP= 80.00
*s										
*S OFFSITE - BASIN B										
*S										
*S USE 80% TYPE D - HEAVY INDUSTRIAL PER TABLE A-5										
*S										
COMPUTE NM HYD	102.10	-	2	.00318	8.94	.365	2.15428	1.500	4.395	PER IMP= 80.00
*s										
*s										
*S ONSITE - BASIN C										
*S										
COMPUTE NM HYD	103.10	-	3	.00083	2.50	.107	2.41108	1.500	4.715	PER IMP= 100.00
*s										
*S ONSITE - BASIN D										
*S										
COMPUTE NM HYD	104.10	-	4	.00029	.84	.034	2.16725	1.500	4.502	PER IMP= 81.00
*s										
*S ONSITE - BASIN E										
*S										
COMPUTE NM HYD	105.10	-	5	.00031	.89	.035	2.14157	1.500	4.469	PER IMP= 79.00
*s										
*S ONSITE - BASIN F										
*S										
COMPUTE NM HYD	106.10	-	6	.00048	1.41	.058	2.28275	1.500	4.606	PER IMP= 90.00
*s										
*s										
*S										
*S COMPUTE RUNOFF FOR DEVELOPED CONDITIONS										
*S										
*S										
*S ONSITE - BASIN C										
*S										
COMPUTE NM HYD	107.10	-	7	.00083	2.42	.101	2.28020	1.500	4.555	PER IMP= 91.00
*S										
*S ONSITE - BASIN D										
*S										
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*s										
*S ONSITE - BASIN E										
*S										
COMPUTE NM HYD	109.10	-	9	.00031	.88	.036	2.16242	1.500	4.453	PER IMP= 83.00
*s										
*S ONSITE - BASIN F										
*S										
COMPUTE NM HYD	110.10	-	10	.00048	1.43	.060	2.34581	1.500	4.644	PER IMP= 96.00
*S										
*S										
*S EXISTING CONDITIONS - RUNOFF TO ROSEMONT AND FIRST										
*S										
*S										
ADD HYD	151.10	1& 2	51	.00829	23.31	.952	2.15427	1.500	4.393	
ADD HYD	151.20	51& 4	52	.00858	24.14	.986	2.15471	1.500	4.396	
*S										
*S TOTAL EXISTING RUNOFF TO INTERSECTION										
*S										

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
*S										
*S										
*S EXISTING CONDITIONS - RUNOFF TO MOUNTAIN AND FIRST										
*S										
*S										
ADD HYD	154.10	3& 6	54	.00131	3.92	.165	2.36406	1.500	4.675	
*S										
*S TOTAL EXISTING RUNOFF TO INTERSECTION										
*S										
*S										
*S										
*S EXISTING CONDITIONS - RUNOFF TO MOUNTAIN AND SECOND										
*S										
*S										
*S TOTAL EXISTING RUNOFF TO INTERSECTION										
*S										
*S										
*S										
*S DEVELOPED CONDITIONS										
*S										
*S										
*S DEVELOPED CONDITIONS - RUNOFF TO ROSEMONT AND FIRST										
*S										
*S										
ADD HYD	161.10	1& 2	61	.00829	23.31	.952	2.15427	1.500	4.393	
ADD HYD	161.20	51& 8	62	.00858	24.14	.987	2.15598	1.500	4.397	
*S										
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION										
*S										
*S										
*S										
*S DEVELOPED CONDITIONS - RUNOFF TO MOUNTAIN AND FIRST										
*S										
*S										
ADD HYD	163.10	7&10	63	.00131	3.85	.161	2.30424	1.500	4.587	
*S										
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION										
*S										
*S										
*S										
*S DEVELOPED CONDITIONS - RUNOFF TO MOUNTAIN AND SECOND										
*S										
*S										
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION										
*S										
+S										
FINISH										

←(s0p10h4099T-&16D

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     *S      HOME100.DAT      -     HYMO PER JAN 1993 DPM REVISIONS
     *S
     *S PRECIPITATION ZONE 2 PER FIGURE A-1
     *S
     *--------------------------------------------------------------------
     *--------------------------------------------------------------------
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                         RAIN DAY=2.75 DT=0.03

                    COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                    DT =     .030000 HOURS        END TIME =     17.970000 HOURS
     *--------------------------------------------------------------------
     *--------------------------------------------------------------------
     *S
     *S COMPUTE RUNOFF FOR EXISTING CONDITIONS - OFFSITE BASINS
     *S
     *--------------------------------------------------------------------
     *S
     *S  OFFSITE - BASIN A
     *S
     *S USE 80% TYPE D - HEAVY INDUSTRIAL PER TABLE A-5
     *S
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                         RAIN=-1

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          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


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          AREA =      .001022 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
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     PRINT HYD           ID=1      CODE=10

                                   PARTIAL HYDROGRAPH   101.10

          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
          .000        .0          3.600        .1         7.200        .1        10.800        .1        14.400        .1
          .300        .0          3.900        .1         7.500        .1        11.100        .1        14.700        .1
          .600        .0          4.200        .1         7.800        .1        11.400        .1        15.000        .1
          .900        .0          4.500        .1         8.100        .1        11.700        .1        15.300        .1
         1.200        .2          4.800        .1         8.400        .1        12.000        .1        15.600        .1
         1.500       14.4         5.100        .1         8.700        .1        12.300        .1        15.900        .1
         1.800        5.0         5.400        .1         9.000        .1        12.600        .1        16.200        .1
         2.100        2.4         5.700        .1         9.300        .1        12.900        .1        16.500        .1
         2.400         .6         6.000        .1         9.600        .1        13.200        .1        16.800        .1
         2.700         .3         6.300        .1         9.900        .1        13.500        .1        17.100        .1
         3.000         .1         6.600        .1        10.200        .1        13.800        .1        17.400        .1
         3.300         .1         6.900        .1        10.500        .1        14.100        .1        17.700        .1

        RUNOFF VOLUME =     2.15427 INCHES      =        .5871 ACRE-FEET
        PEAK DISCHARGE RATE =      14.36 CFS  AT   1.500 HOURS   BASIN AREA =    .0051 SQ. MI.


     *S
     *S  OFFSITE - BASIN B
     *S
     *S USE 80% TYPE D - HEAVY INDUSTRIAL PER TABLE A-5
     *S
     COMPUTE NM HYD      ID=2   HYD NO= 102.1   DA=0.00318 SQ MI
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                         RAIN=-1

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          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


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                                  PARTIAL HYDROGRAPH    102.10

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       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0          3.600        .1         7.200        .1        10.800        .0        14.400        .0
      .300        .0          3.900        .0         7.500        .1        11.100        .0        14.700        .0
      .600        .0          4.200        .0         7.800        .1        11.400        .0        15.000        .0
      .900        .0          4.500        .0         8.100        .0        11.700        .0        15.300        .0
     1.200        .1          4.800        .0         8.400        .0        12.000        .0        15.600        .0
     1.500       8.9          5.100        .0         8.700        .0        12.300        .0        15.900        .0
     1.800       3.1          5.400        .0         9.000        .0        12.600        .0        16.200        .0
     2.100       1.5          5.700        .1         9.300        .0        12.900        .0        16.500        .0
     2.400        .4          6.000        .1         9.600        .0        13.200        .0        16.800        .0
     2.700        .2          6.300        .1         9.900        .0        13.500        .0        17.100        .0
     3.000        .1          6.600        .1        10.200        .0        13.800        .0        17.400        .0
     3.300        .1          6.900        .1        10.500        .0        14.100        .0        17.700        .0

      RUNOFF VOLUME =     2.15428 INCHES     =        .3654 ACRE-FEET
      PEAK DISCHARGE RATE =       8.94 CFS  AT    1.500 HOURS    BASIN AREA =    .0032 SQ. MI.


   *S
   *S
   *S  ONSITE - BASIN C
   *S
   COMPUTE NM HYD       ID=3    HYD NO= 103.1    DA=0.00083 SQ MI
                        PER A=0 PER B=0 PER C=0 PER D=100 TP=-.133
                        RAIN=-1

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      UNIT PEAK =   3.2843     CFS    UNIT VOLUME =    .9962        B =   526.28       P60 = 2.0100
      AREA =       .000830 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .030000

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                                  PARTIAL HYDROGRAPH    102.10

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0          3.600        .1         7.200        .1        10.800        .0        14.400        .0
      .300        .0          3.900        .0         7.500        .1        11.100        .0        14.700        .0
      .600        .0          4.200        .0         7.800        .1        11.400        .0        15.000        .0
      .900        .0          4.500        .0         8.100        .0        11.700        .0        15.300        .0
     1.200        .1          4.800        .0         8.400        .0        12.000        .0        15.600        .0
     1.500       8.9          5.100        .0         8.700        .0        12.300        .0        15.900        .0
     1.800       3.1          5.400        .0         9.000        .0        12.600        .0        16.200        .0
     2.100       1.5          5.700        .1         9.300        .0        12.900        .0        16.500        .0
     2.400        .4          6.000        .1         9.600        .0        13.200        .0        16.800        .0
     2.700        .2          6.300        .1         9.900        .0        13.500        .0        17.100        .0
     3.000        .1          6.600        .1        10.200        .0        13.800        .0        17.400        .0
     3.300        .1          6.900        .1        10.500        .0        14.100        .0        17.700        .0

      RUNOFF VOLUME =     2.15428 INCHES     =        .3654 ACRE-FEET
      PEAK DISCHARGE RATE =       8.94 CFS  AT    1.500 HOURS    BASIN AREA =    .0032 SQ. MI.


   *S
   *S  ONSITE - BASIN D
   *S
   COMPUTE NM HYD       ID=4    HYD NO= 104.1    DA=0.00029 SQ MI
                        PER A=0 PER B=0 PER C=19 PER D=81 TP=-.133
                        RAIN=-1

      K =   .072485HR     TP =   .133000HR     K/TP RATIO =   .545000      SHAPE CONSTANT, N =  7.106420
      UNIT PEAK =   .92949     CFS    UNIT VOLUME =    .9873        B =   526.28       P60 = 2.0100
      AREA =       .000235 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .030000


      K =   .107204HR     TP =   .133000HR     K/TP RATIO =   .806046      SHAPE CONSTANT, N =  4.440701
      UNIT PEAK =   .15890     CFS    UNIT VOLUME =    .9199        B =   383.55       P60 = 2.0100
      AREA =       .000055 SQ MI     IA =     .35000 INCHES     INF =     .83000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .030000

PRINT HYD            ID=4       CODE=10

                                  PARTIAL HYDROGRAPH    104.10
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	.8	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.3	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.1	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.16725 INCHES = .0335 ACRE-FEET
PEAK DISCHARGE RATE = .84 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

```
*s
*S  ONSITE - BASIN E
*S
COMPUTE NM HYD       ID=5   HYD NO= 105.1   DA=0.00031 SQ MI
                     PER A=0 PER B=0 PER C=21 PER D=79 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .96906 CFS UNIT VOLUME = .9873 B = 526.28 P60 = 2.0100
AREA = .000245 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .107204HR TP = .133000HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = .18774 CFS UNIT VOLUME = .9270 B = 383.55 P60 = 2.0100
AREA = .000065 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

```
PRINT HYD            ID=5      CODE=10
```

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	.9	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.3	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.1	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.14157 INCHES = .0354 ACRE-FEET
PEAK DISCHARGE RATE = .89 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

```
*s
*S  ONSITE - BASIN F
*S
COMPUTE NM HYD       ID=6   HYD NO= 106.1   DA=0.00048 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.7094 CFS UNIT VOLUME = .9926 B = 526.28 P60 = 2.0100
AREA = .000432 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .107204HR TP = .133000HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = .13842 CFS UNIT VOLUME = .9035 B = 383.55 P60 = 2.0100
AREA = .000048 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

```
PRINT HYD            ID=6      CODE=10
```

PARTIAL HYDROGRAPH 106.10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	1.4	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.5	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.2	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.28275 INCHES = .0584 ACRE-FEET
PEAK DISCHARGE RATE = 1.41 CFS AT 1.500 HOURS BASIN AREA = .0005 SQ. MI.

```
*s
*s
*---------------------------------------------------------------------
*---------------------------------------------------------------------
*S
*S COMPUTE RUNOFF FOR DEVELOPED CONDITIONS
*S
*---------------------------------------------------------------------
*S
*S  ONSITE - BASIN C
*S
COMPUTE NM HYD       ID=7   HYD NO= 107.1   DA=0.00083 SQ MI
                     PER A=0 PER B=4 PER C=5  PER D=91 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.9887 CFS UNIT VOLUME = .9962 B = 526.28 P60 = 2.0100
AREA = .000755 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .118131HR TP = .133000HR K/TP RATIO = .888206 SHAPE CONSTANT, N = 3.993617
UNIT PEAK = .19924 CFS UNIT VOLUME = .9339 B = 354.74 P60 = 2.0100
AREA = .000075 SQ MI IA = .41667 INCHES INF = 1.01667 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

```
PRINT HYD            ID=7      CODE=10
```

PARTIAL HYDROGRAPH 107.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	2.4	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.9	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.4	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.1	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.28020 INCHES = .1009 ACRE-FEET
PEAK DISCHARGE RATE = 2.42 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

```
*S
*S  ONSITE - BASIN D
*S
COMPUTE NM HYD       ID=8   HYD NO= 108.1   DA=0.00029 SQ MI
                     PER A=0 PER B=7 PER C=7 PER D=86 TP=-.133
                     RAIN=-1
```

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .98687 CFS UNIT VOLUME = .9873 B = 526.28 P60 = 2.0100
AREA = .000249 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .030000

K = .119497HR TP = .133000HR K/TP RATIO = .898476 SHAPE CONSTANT, N = 3.944947
UNIT PEAK = .10729 CFS UNIT VOLUME = .8785 B = 351.48 P60 = 2.0100
AREA = .000041 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR

```
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000

PRINT HYD            ID=8      CODE=10
```

PARTIAL HYDROGRAPH 108.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	.8	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.3	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.1	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

```
      RUNOFF VOLUME =     2.20492 INCHES      =        .0341 ACRE-FEET
      PEAK DISCHARGE RATE =         .84 CFS  AT    1.500 HOURS   BASIN AREA =    .0003 SQ. MI.


*S
*S  ONSITE - BASIN E
*S
COMPUTE NM HYD       ID=9   HYD NO= 109.1   DA=0.00031 SQ MI
                     PER A=0 PER B=8 PER C=9 PER D=83 TP=-.133
                     RAIN=-1

      K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
      UNIT PEAK =   1.0181    CFS   UNIT VOLUME =    .9889       B =   526.28       P60 = 2.0100
      AREA =       .000257 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


      K =   .118774HR    TP =   .133000HR    K/TP RATIO =   .893039     SHAPE CONSTANT, N =  3.970534
      UNIT PEAK =   .13995    CFS   UNIT VOLUME =    .9064       B =   353.20       P60 = 2.0100
      AREA =       .000053 SQ MI    IA =    .42059 INCHES    INF =   1.02765 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000

PRINT HYD            ID=9      CODE=10
```

PARTIAL HYDROGRAPH 109.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	.9	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.3	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.1	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

```
      RUNOFF VOLUME =     2.16242 INCHES      =        .0358 ACRE-FEET
      PEAK DISCHARGE RATE =         .88 CFS  AT    1.500 HOURS   BASIN AREA =    .0003 SQ. MI.


*S
*S  ONSITE - BASIN F
*S
COMPUTE NM HYD       ID=10   HYD NO= 110.1   DA=0.00048 SQ MI
                     PER A=0 PER B=4 PER C=0 PER D=96 TP=-.133
                     RAIN=-1

      K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
      UNIT PEAK =   1.8234    CFS   UNIT VOLUME =    .9936       B =   526.28       P60 = 2.0100
      AREA =       .000461 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000


      K =   .131790HR    TP =   .133000HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =  3.563124
      UNIT PEAK =   .46904E-01CFS   UNIT VOLUME =    .8638       B =   324.91       P60 = 2.0100
      AREA =       .000019 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .030000
```

```
PRINT HYD            ID=10      CODE=10
```

PARTIAL HYDROGRAPH 110.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	1.4	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.5	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.3	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.1	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.34581 INCHES = .0601 ACRE-FEET
PEAK DISCHARGE RATE = 1.43 CFS AT 1.500 HOURS BASIN AREA = .0005 SQ. MI.

```
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S EXISTING CONDITIONS - RUNOFF TO ROSEMONT AND FIRST
*S
*--------------------------------------------------------------------
*S
ADD HYD              ID 51 HYD 151.1 ID I 1 ID II 2
ADD HYD              ID 52 HYD 151.2 ID I 51 ID II 4
*S
*S TOTAL EXISTING RUNOFF TO INTERSECTION
*S
PRINT HYD            ID=52 CODE 10
```

PARTIAL HYDROGRAPH 151.20

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.1	7.200	.1	10.800	.1	14.400	.1
.300	.0	3.900	.1	7.500	.1	11.100	.1	14.700	.1
.600	.0	4.200	.1	7.800	.1	11.400	.1	15.000	.1
.900	.0	4.500	.1	8.100	.1	11.700	.1	15.300	.1
1.200	.4	4.800	.1	8.400	.1	12.000	.1	15.600	.1
1.500	24.1	5.100	.1	8.700	.1	12.300	.1	15.900	.1
1.800	8.5	5.400	.1	9.000	.1	12.600	.1	16.200	.1
2.100	4.0	5.700	.1	9.300	.1	12.900	.1	16.500	.1
2.400	1.0	6.000	.1	9.600	.1	13.200	.1	16.800	.1
2.700	.4	6.300	.2	9.900	.1	13.500	.1	17.100	.1
3.000	.2	6.600	.1	10.200	.1	13.800	.1	17.400	.1
3.300	.2	6.900	.1	10.500	.1	14.100	.1	17.700	.1

RUNOFF VOLUME = 2.15471 INCHES = .9860 ACRE-FEET
PEAK DISCHARGE RATE = 24.14 CFS AT 1.500 HOURS BASIN AREA = .0086 SQ. MI.

```
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S EXISTING CONDITIONS - RUNOFF TO MOUNTAIN AND FIRST
*S
*--------------------------------------------------------------------
*S
ADD HYD              ID 54 HYD 154.1 ID I 3 ID II 6
*S
*S TOTAL EXISTING RUNOFF TO INTERSECTION
*S
PRINT HYD            ID=54 CODE 10
```

PARTIAL HYDROGRAPH 154.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.1	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	3.9	5.100	.0	8.700	.0	12.300	.0	15.900	.0

1.800	1.4	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.7	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.2	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.1	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.36406 INCHES = .1652 ACRE-FEET
PEAK DISCHARGE RATE = 3.92 CFS AT 1.500 HOURS BASIN AREA = .0013 SQ. MI.

```
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S EXISTING CONDITIONS - RUNOFF TO MOUNTAIN AND SECOND
*S
*  ------------------------------------------------------------------
*S
*S TOTAL EXISTING RUNOFF TO INTERSECTION
*S
PRINT HYD           ID=5 CODE 10
```

PARTIAL HYDROGRAPH 105.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.0	7.200	.0	10.800	.0	14.400	.0
.300	.0	3.900	.0	7.500	.0	11.100	.0	14.700	.0
.600	.0	4.200	.0	7.800	.0	11.400	.0	15.000	.0
.900	.0	4.500	.0	8.100	.0	11.700	.0	15.300	.0
1.200	.0	4.800	.0	8.400	.0	12.000	.0	15.600	.0
1.500	.9	5.100	.0	8.700	.0	12.300	.0	15.900	.0
1.800	.3	5.400	.0	9.000	.0	12.600	.0	16.200	.0
2.100	.1	5.700	.0	9.300	.0	12.900	.0	16.500	.0
2.400	.0	6.000	.0	9.600	.0	13.200	.0	16.800	.0
2.700	.0	6.300	.0	9.900	.0	13.500	.0	17.100	.0
3.000	.0	6.600	.0	10.200	.0	13.800	.0	17.400	.0
3.300	.0	6.900	.0	10.500	.0	14.100	.0	17.700	.0

RUNOFF VOLUME = 2.14157 INCHES = .0354 ACRE-FEET
PEAK DISCHARGE RATE = .89 CFS AT 1.500 HOURS BASIN AREA = .0003 SQ. MI.

```
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S DEVELOPED CONDITIONS
*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S DEVELOPED CONDITIONS - RUNOFF TO ROSEMONT AND FIRST
*S
*--------------------------------------------------------------------
*S
ADD HYD             ID 61 HYD 161.1 ID I 1 ID II 2
ADD HYD             ID 62 HYD 161.2 ID I 51 ID II 8
*S
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION
*S
PRINT HYD           ID=62 CODE 10
```

PARTIAL HYDROGRAPH 161.20

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.600	.1	7.200	.1	10.800	.1	14.400	.1
.300	.0	3.900	.1	7.500	.1	11.100	.1	14.700	.1
.600	.0	4.200	.1	7.800	.1	11.400	.1	15.000	.1
.900	.0	4.500	.1	8.100	.1	11.700	.1	15.300	.1
1.200	.4	4.800	.1	8.400	.1	12.000	.1	15.600	.1
1.500	24.1	5.100	.1	8.700	.1	12.300	.1	15.900	.1
1.800	8.5	5.400	.1	9.000	.1	12.600	.1	16.200	.1
2.100	4.1	5.700	.1	9.300	.1	12.900	.1	16.500	.1
2.400	1.0	6.000	.1	9.600	.1	13.200	.1	16.800	.1
2.700	.4	6.300	.2	9.900	.1	13.500	.1	17.100	.1
3.000	.2	6.600	.1	10.200	.1	13.800	.1	17.400	.1
3.300	.2	6.900	.1	10.500	.1	14.100	.1	17.700	.1

```
     RUNOFF VOLUME =     2.15598 INCHES     =         .9866 ACRE-FEET
     PEAK DISCHARGE RATE =      24.14 CFS  AT    1.500 HOURS    BASIN AREA =    .0086 SQ. MI.


*S
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*--------------------------------------------------------------------
*S
*S DEVELOPED CONDITIONS - RUNOFF TO MOUNTAIN AND FIRST
*S
*--------------------------------------------------------------------
*S
ADD HYD             ID 63 HYD 163.1 ID I 7 ID II 10
*S
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION
*S
PRINT HYD           ID=63 CODE 10

                                PARTIAL HYDROGRAPH   163.10

  TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
   HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS
  .000      .0       3.600      .0       7.200      .0      10.800      .0      14.400      .0
  .300      .0       3.900      .0       7.500      .0      11.100      .0      14.700      .0
  .600      .0       4.200      .0       7.800      .0      11.400      .0      15.000      .0
  .900      .0       4.500      .0       8.100      .0      11.700      .0      15.300      .0
 1.200      .1       4.800      .0       8.400      .0      12.000      .0      15.600      .0
 1.500     3.8       5.100      .0       8.700      .0      12.300      .0      15.900      .0
 1.800     1.4       5.400      .0       9.000      .0      12.600      .0      16.200      .0
 2.100      .7       5.700      .0       9.300      .0      12.900      .0      16.500      .0
 2.400      .1       6.000      .0       9.600      .0      13.200      .0      16.800      .0
 2.700      .1       6.300      .0       9.900      .0      13.500      .0      17.100      .0
 3.000      .0       6.600      .0      10.200      .0      13.800      .0      17.400      .0
 3.300      .0       6.900      .0      10.500      .0      14.100      .0      17.700      .0

     RUNOFF VOLUME =     2.30424 INCHES     =         .1610 ACRE-FEET
     PEAK DISCHARGE RATE =       3.85 CFS  AT    1.500 HOURS    BASIN AREA =    .0013 SQ. MI.


*S
*--------------------------------------------------------------------
*--------------------------------------------------------------------
*S
*S DEVELOPED CONDITIONS - RUNOFF TO MOUNTAIN AND SECOND
*S
*--------------------------------------------------------------------
*S
*S TOTAL DEVELOPED RUNOFF TO INTERSECTION
*S
PRINT HYD           ID=9 CODE 10

                                PARTIAL HYDROGRAPH   109.10

  TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW        TIME    FLOW
   HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS         HRS     CFS
  .000      .0       3.600      .0       7.200      .0      10.800      .0      14.400      .0
  .300      .0       3.900      .0       7.500      .0      11.100      .0      14.700      .0
  .600      .0       4.200      .0       7.800      .0      11.400      .0      15.000      .0
  .900      .0       4.500      .0       8.100      .0      11.700      .0      15.300      .0
 1.200      .0       4.800      .0       8.400      .0      12.000      .0      15.600      .0
 1.500      .9       5.100      .0       8.700      .0      12.300      .0      15.900      .0
 1.800      .3       5.400      .0       9.000      .0      12.600      .0      16.200      .0
 2.100      .1       5.700      .0       9.300      .0      12.900      .0      16.500      .0
 2.400      .0       6.000      .0       9.600      .0      13.200      .0      16.800      .0
 2.700      .0       6.300      .0       9.900      .0      13.500      .0      17.100      .0
 3.000      .0       6.600      .0      10.200      .0      13.800      .0      17.400      .0
 3.300      .0       6.900      .0      10.500      .0      14.100      .0      17.700      .0

     RUNOFF VOLUME =     2.16242 INCHES     =         .0358 ACRE-FEET
     PEAK DISCHARGE RATE =        .88 CFS  AT    1.500 HOURS    BASIN AREA =    .0003 SQ. MI.


*S
FINISH

     NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 09:43:29
←(s0p10h4099T~&16D
```

SIDEWALK CULVERT CAPACITY

AS A CHANNEL PER MANNING EQN

use $n = 0.013$ $d = 0.5'$ $s = 2\%$

$Q_{CAP} = 7.8\ cfs \gg Q_{100} = \frac{2.42}{2} = 1.2\ cfs$

(WORST CASE ½ BASIN A)

AS A WEIR

$Q = KLH^{3/2}$ $K = 2.6$ Broad Crest, $H = 0.5'$

$= (2.6)(2')(.5')^{3/2}$

$= 1.84\ cfs \gg Q_{100} = \frac{2.42}{2} = 1.2\ cfs$

(WORST CASE ½ BASIN A)

NOTE: 24" culverts have been used as the outlet for Basins C, D, E, & F

Q_{100} (C) = 2.42 cfs - 2 culverts installed

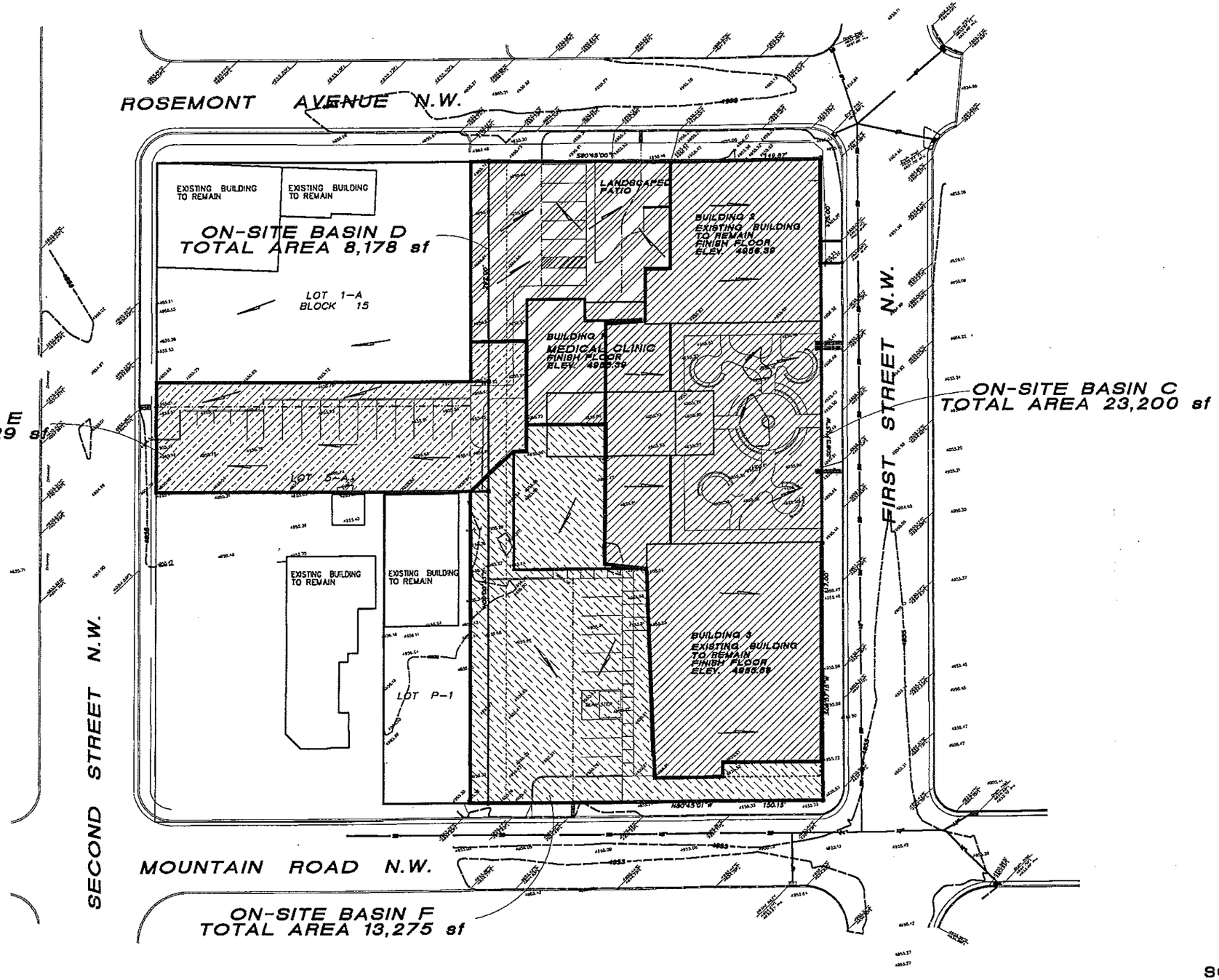
Q_{100} (D) = 0.84 cfs

Q_{100} (E) = 0.88 cfs

Q_{100} (F) = 1.43 cfs

All $Q_{100} < Q_{CAP} = 1.8\ cfs$ OK

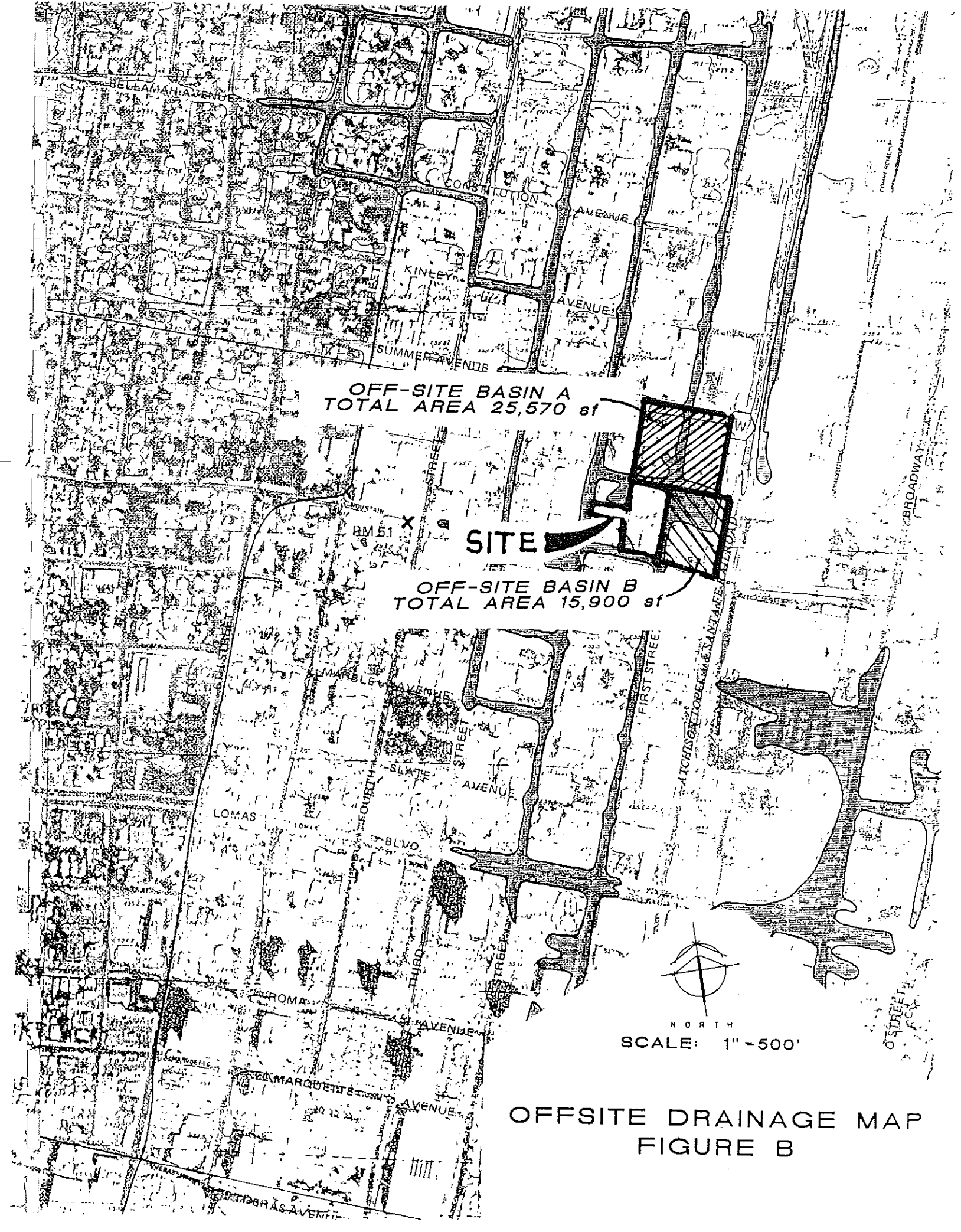
APPENDIX B



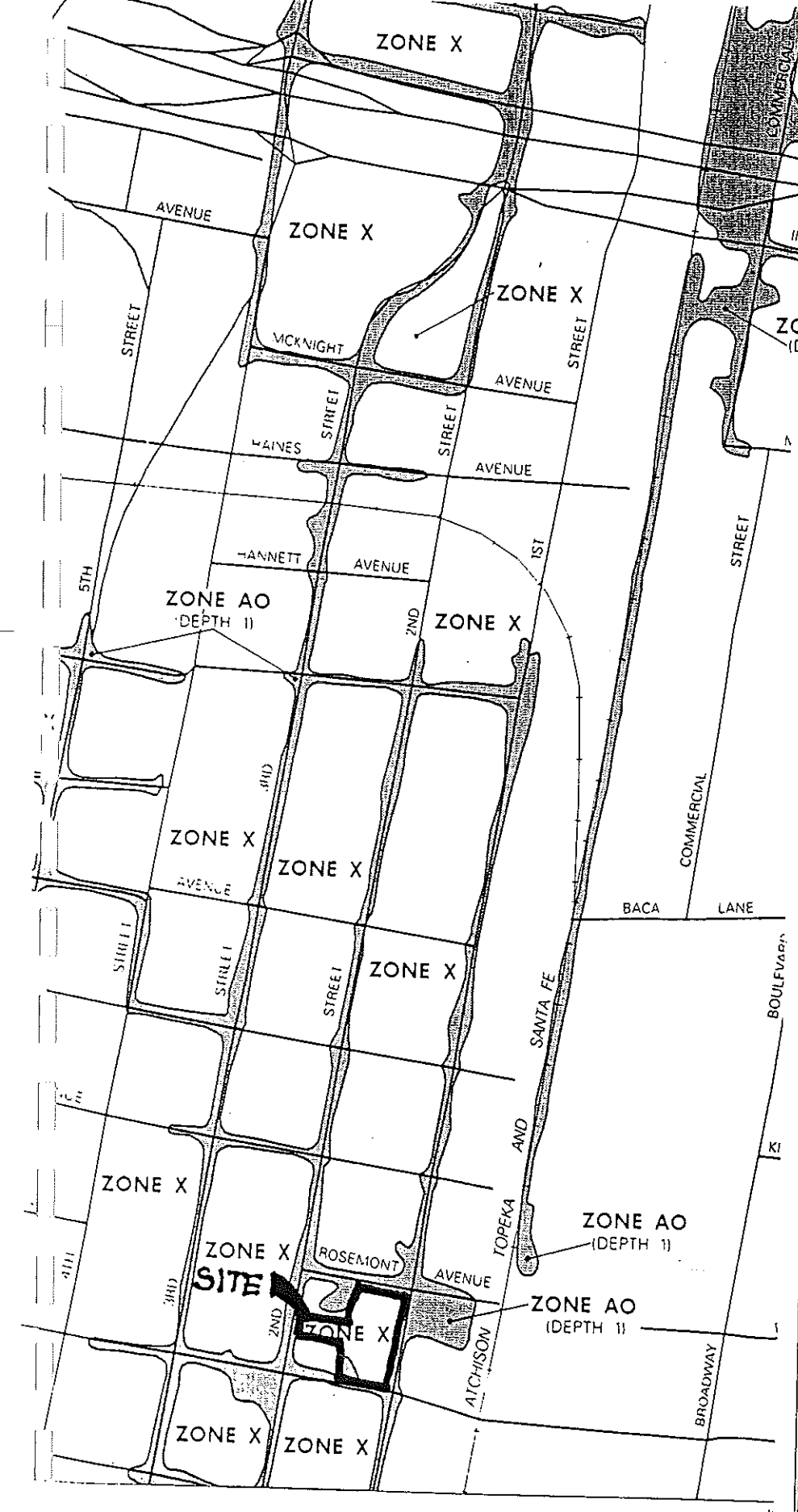
NORTH

SCALE: 1" = 50'

ONSITE DRAINAGE MAP
FIGURE A



OFFSITE DRAINAGE MAP
FIGURE B



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 332 OF 825

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0332	D
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0332	D

MAP NUMBER
35001C0332 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency