**City of Albuquerque**
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 26, 2001

Lyle Losack, PE
Community Sciences Corporation
PO Box 1328
Corrales, NM 87048

**Re: Fineland Development Drainage Report**
**Engineer's Stamp dated 2-19-00, (A11/D1E)**

2-19-01

Dear Mr. Losack,

Based on information contained in your submittal dated 2-20-01, the above referenced plan cannot be approved for Site Development Plan for Subdivision, Preliminary Plat or Final Plat until all downstream easements are recorded since the location of the easement may affect your drainage plan. In addition, the infrastructure required in the Ridgeview project must be financially guaranteed in order to grant the bulk land variance.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Sr. Engineer, Hydrology

C: file

**City of Albuquerque**
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 9, 2000

Dr. Jeffrey L. Fine, PhD CEDS, Fineland, LLC
401 West End Avenue
New York, New York 10024

**SUBJECT: FINELAND DEVELOPMENT**
***EPC Case No: Z-98-31-1***

Dear Dr. Fine:

This letter of agreement pertains solely to the 40-acre parcel commonly referred to as the Fineland Development adjoining McMahon Boulevard between Unser Boulevard and Bandelier Drive in North West Albuquerque. As you are aware, the City is pursuing the improvement of McMahon Boulevard from Golf Course Road through the intersection of Unser Boulevard. Although such improvements, including the dedication of rights-of-way is a standard requirement of the development process, the City is willing to agree to construct the ultimate roadway section of McMahon at our expense if the right-of-way is dedicated. In this case, since you have already initiated the development process by the preparation of a bulk land plat, we are proposing the acceleration of the filing of that plat in exchange for construction of the roadway.

In pursuit of a timely extension to McMahon Boulevard, the City agrees to exempt the Fineland Development of all roadway and roadway related storm drainage costs (including sidewalks, bike trails, bike lanes, streetscaping, and street lighting) associated with McMahon Boulevard that might normally be attached as a condition of the development of your property. In consideration of this wavier, you the developer, agree to file immediately with the City, a bulk land plat conveying a 156-foot wide right-of-way for McMahon Boulevard through the Fineland Development. The filing of the bulk land plat with the City's Development Review Board shall occur within 30 calendar days of your acknowledgement and agreement with this proposal.

Please acknowledge your acceptance below and return this letter to Mr. Ed Adams of my staff at the following address:

Mr. Ed Adams, Manager
Public Works Department
Transportation Division
P.O. Box 1293
Albuquerque, New Mexico 87103

Should you have any questions or comments regarding this proposal, I can be reached at 505-768-3650.

Thank you for your cooperation on this matter.

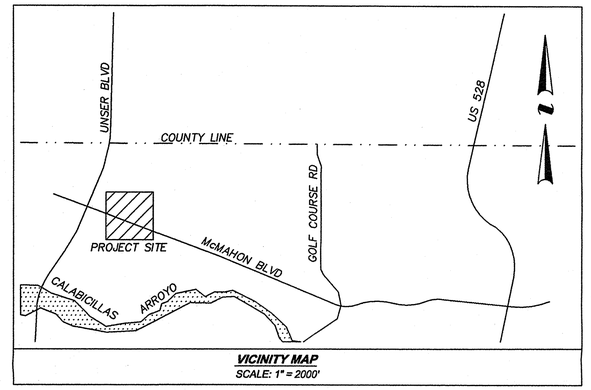
Sincerely,

Larry L. Blair, Director
Public Works Department

Date: 10/17/00
Dr. Jeffrey D. Fine, PhD CEDS, Fineland, LLC

c: Alan B. Armijo, City Councilor, District 1
Lawrence Rael, Chief Administrative Officer
John R. Castillo, Assistant Public Works Director
Ed Adams, Transportation Division Manager
Annette Baca, Transportation Division
Richard Dourte, Development Services, PWD
Community Sciences

COMMUNITY SCIENCES CORPORATION - CORRALES, NEW MEXICO - (505) 897-0000


**VICINITY MAP**
SCALE: 1" = 2000'

GENERAL NOTES:

LEGAL DESCRIPTION: NE1/4, SE1/4, SEC. 2, T11N, R2E, NMPM

SITE AREA: 40.06 ACRES

BENCHMARK: USGS BRASS CAP "SANDBERN", ELEVATION=5456.92

50' 0 100' 200'
SCALE: 1" = 100'

LEGEND

- FLOW DIRECTION
- EB3 — EXISTING BASIN ID, 100 YR. STORM
- PROPOSED SITE BOUNDARY
- MASTER DRAIN BASIN BOUNDARY

## FINELAND BASINS (EXISTING)

| | BASIN | AREA SQ. FT. | AREA SQ. MI. | %A | %B | %C | %D | $Q_{100}$ cfs* | $V_{100}$ AC FT.* |
|---|---|---|---|---|---|---|---|---|---|
| * | EA1 | 189961.97 | 0.0068 | 95 | 5 | 0 | 0 | 5.80 | 0.163 |
| | EA2.1 | 120174.79 | 0.0043 | 95 | 5 | 0 | 0 | 3.67 | 0.103 |
| | EA2.2 | 45501.75 | 0.0016 | 95 | 5 | 0 | 0 | 1.37 | 0.038 |
| | EA2 | 165682.54 | 0.0059 | – | – | – | – | 5.04 | 0.141 |
| | EA3.1 | 96858.37 | 0.0035 | 95 | 5 | 0 | 0 | 2.99 | 0.084 |
| | EA3.2 | 28168.80 | 0.0010 | 95 | 5 | 0 | 0 | 0.86 | 0.024 |
| | EA3 | 125027.17 | 0.0045 | – | – | – | – | 3.85 | 0.108 |
| | EA | 480665.68 | 0.0172 | – | – | – | – | 14.69 | 0.412 |
| | EB1.1 | 131184.44 | 0.0047 | 95 | 5 | 0 | 0 | 4.01 | 0.113 |
| | EB1.2 | 200498.77 | 0.0072 | 95 | 5 | 0 | 0 | 6.14 | 0.172 |
| | EB1.3 | 127107.89 | 0.0046 | 95 | 5 | 0 | 0 | 3.93 | 0.110 |
| | EB | 458791.10 | 0.0165 | – | – | – | – | 14.08 | 0.395 |
| * | EC1 | 124553.95 | 0.0045 | 95 | 5 | 0 | 0 | 3.84 | 0.108 |
| * | EC2.1 | 262056.96 | 0.0094 | 95 | 5 | 0 | 0 | 3.93 | 0.110 |
| * | EC2.2 | 133512.98 | 0.0048 | 95 | 5 | 0 | 0 | 4.10 | 0.115 |
| * | EC2.3 | 122840.67 | 0.0044 | 95 | 5 | 0 | 0 | 3.76 | 0.105 |
| | EC2 | 459123.37 | 0.0165 | – | – | – | – | 17.86 | 0.388 |
| * | EC3.1 | 89287.01 | 0.0032 | 95 | 5 | 0 | 0 | 2.73 | 0.077 |
| * | EC3.2 | 76434.14 | 0.0027 | 95 | 5 | 0 | 0 | 2.31 | 0.065 |
| * | EC3.3 | 56168.08 | 0.0020 | 95 | 5 | 0 | 0 | 1.71 | 0.048 |
| | EC3 | 221889.23 | 0.0079 | – | – | – | – | 6.75 | 0.190 |
| | EC | 805566.55 | 0.0311 | – | – | – | – | 24.61 | 0.686 |
| | OFFSITE BASINS (EXISTING) | | | | | | | | |
| | ED1 | 430019.96 | 0.0086 | 95 | 5 | 0 | 0 | 7.33 | 0.206 |
| | ED2 | 239938.74 | 0.0154 | 95 | 5 | 0 | 0 | 13.13 | 0.369 |
| | ED3 | 137718.54 | 0.0049 | 0 | 0 | 10 | 90 | 13.25 | 0.488 |
| | ED4 | 77912.93 | 0.0028 | 0 | 0 | 10 | 90 | 7.58 | 0.279 |
| | ED | 885590.17 | 0.0317 | – | – | – | – | 41.29 | 1.342 |

*COMMERCIAL BASINS TO BE PONDED TO HISTORIC RATES.

LYNELL C. LOSACK NEW MEXICO 14925 REGISTERED PROFESSIONAL ENGINEER
2/28/01

RECEIVED FEB 2 0 2001 HYDROLOGY SECTION

NOTICE OF APPROVAL MAR 07 2001 AMAFCA

| REVISIONS | BY |
|---|---|
| DESCRIPTION | |
| DATE | |

# FINELAND DEVELOPEMENT
## Bulkland Plat
## Existing Drainage Map

DATE: 12/2000
SCALE: AS Shown
DESIGNED: LCL
DRAWN: PJM
JOB NO.: 448-01-030

community sciences corporation
LAND PLANNING ENGINEERING SURVEYING

SHEET 1 / 2

# FINAL
# DRAINAGE REPORT

# FOR

# FINELAND DEVELOPMENT

**Prepared For:**

**Fineland Development**
**401 West End Ave.**
**New York, NY 10024**
**Ph: 212-724-8025**
**Fax: same as above**

**Prepared By:**

**Community Sciences Corporation**
**PO Box 1328**
**Corrales, NM 87048**
**Ph: 505-897-0000**
**Fax: 505-897-5195**
**Job: N291-33-130**


Lyle C. Losack, P.E.

Lyle C. Losack, PE

2/19/01

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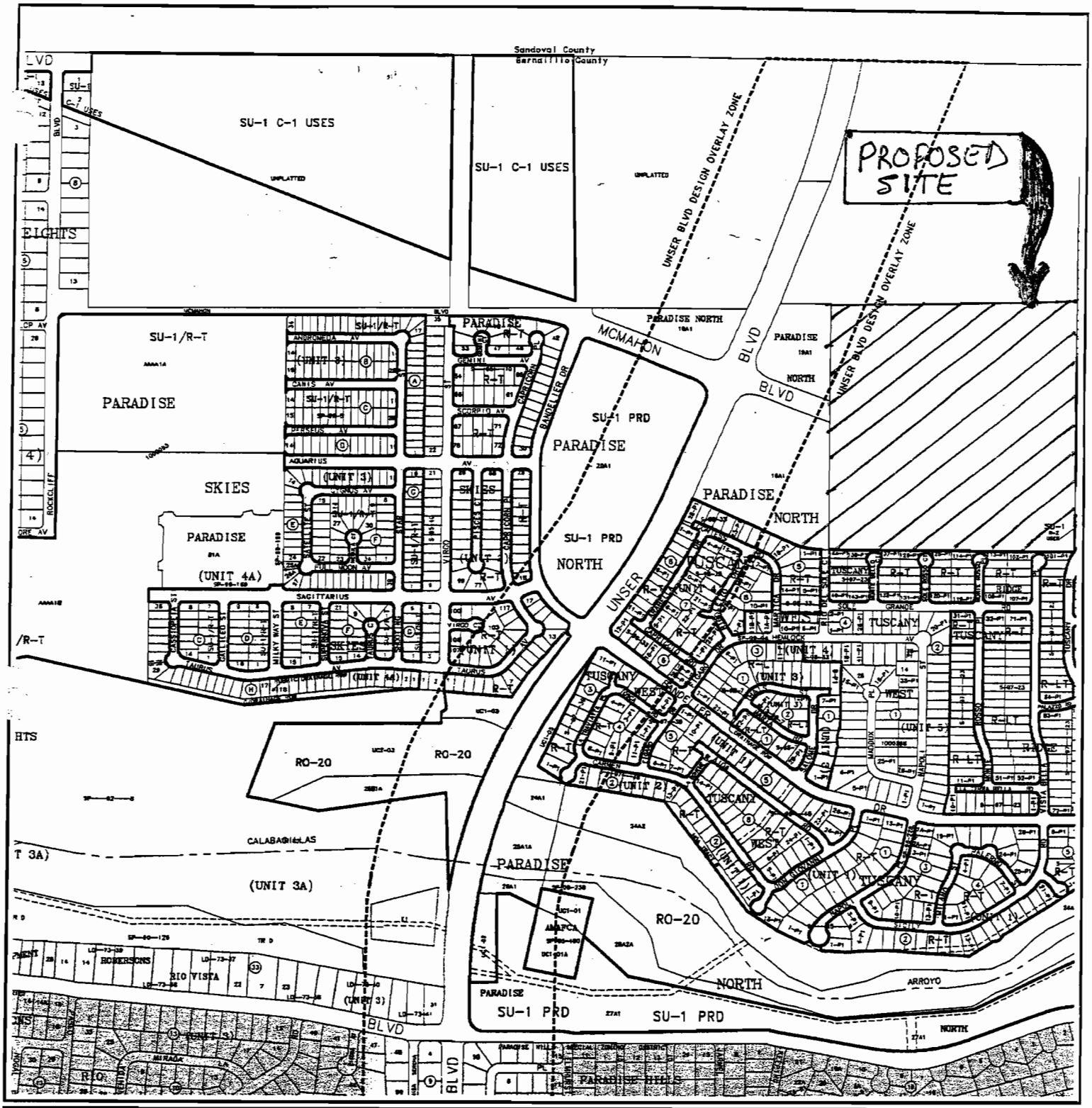
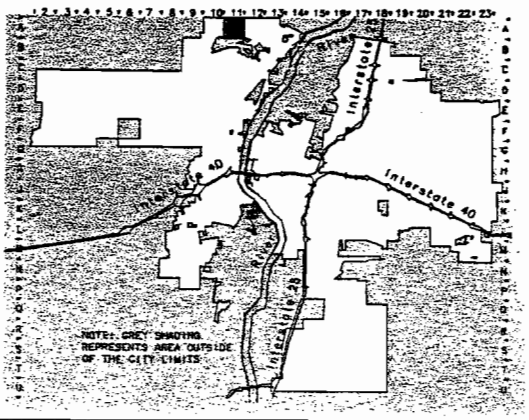



CITY OF
Albuquerque
Albuquerque Geographic Information System
PLANNING DEPARTMENT



GRAPHIC SCALE IN FEET
250 0 750 1000

# Zone Atlas Page

# A-11-Z

Map Amended through July 25, 2000

VICINITY MAP

## 1. Purpose and Scope

This parcel is now proposed as a bulk land plat to facilitate the development of the parcel in accordance with the present land plan, and to provide the required corridor for McMahon Blvd. The approximate 40-acre parcel is also in accordance with the recommendation of the Unser/McMahon Village Center Plan.

The planned development consist of three major tracts; Parcels A, B, & E – Commercial and Office (SU1 for C1), Parcel E & F – Multi-Family Residential (SU1 for R-2); and Parcel C – Single-Family Residential (R-LT). The property is bisected by the future construction of McMahon Boulevard.

This report presents an overall Drainage Management and Conceptual Grading Plan for Approval by the City of Albuquerque in order that the subsequent subdivision and development may proceed.

## 2. Site Description/ Existing Drainage Conditions

The Fineland Development is located east of the Unser Blvd and McMahon Blvd intersection. It is bounded by the Stonebridge Subdivision on the east, Tuscany Ridge Subdivision on the south, with undeveloped lands to the north and west, and bisected by the McMahon Boulevard corridor. In addition, no existing offsite flows impact this site. However, there are some combined flows along the west side to be negotiated.

The natural drainage divide between the Arroyo de las Calabacillas and Black Arroyo meanders. See Plate E1 of 1.

The FEMA Floodway Boundary and Floodway Map dated September 20, 1996 (panel no. 35001C104) shows the site to be outside Flood Hazard Zone (500-year floodway).

## 3. Design Criteria

The drainage plan presented in this report has been prepared in accordance with the City of Albuquerque Drainage Ordinances and Chapter 22 of the Development Process Manual (DPM).

The hydrological analysis is based on the 100-year frequency, 6-hour duration storm, as represented in Section 22, Part A, Hydrology, of the "Development Process Manual. Storage ponds are to be sized for the 100-year, 24-hour storm per the DPM.

Rainfall intensities per this report are as follows:

| Zone 1 | $P_{60}$ | $P_{360}$ | $P_{1440}$ |
|---|---|---|---|
| 1 | 1.87 | 2.20 | 2.66 |

**LAND TREATMENT**

**Residential** (DPM-Eqn a-4, pg 22-n)

N = Resident Units/ Acre = 63 (DU's est.)/10.53 = 5.98

D = 7 * SQ RT [ (n)(n) + 5(n) ] = 7 * SQ RT [ (5.98)(5.98) + 5(5.98) ]

= 56.73 ⟹ use 57 %

(similar to multi-family)

| Treatment Type | A | B | C | D |
|---|---|---|---|---|
| Residential | 0 | 15 | 22 | 57 |
| Commercial | 0 | 0 | 10 | 90 |
| McMahon Corridor | 0 | 0 | 10 | 90 |
| Multi Family | 0 | 15 | 15 | 70 |

## 4. DRAINAGE MANAGEMENT PLAN

The drainage is to be broken into three parts; residential, commercial, and multi-family.

The residential parcel is to be graded to the NE corner where it is proposed to accumulate in street flows and additional drop inlets be provided for these flows at the intersection of Crocked Creek Ave. and Stonebridge Drive in the Stone Bridge Subdivision. Initially, approximately 20.4 cfs was planned for this area per the Stonebridge drainage report. As the calculations now show, 37.51 cfs is required, a 17.11 cfs increase. Two additional inlets will capture this increase. With the surge pond downstream from this, the extended time to peak, and street

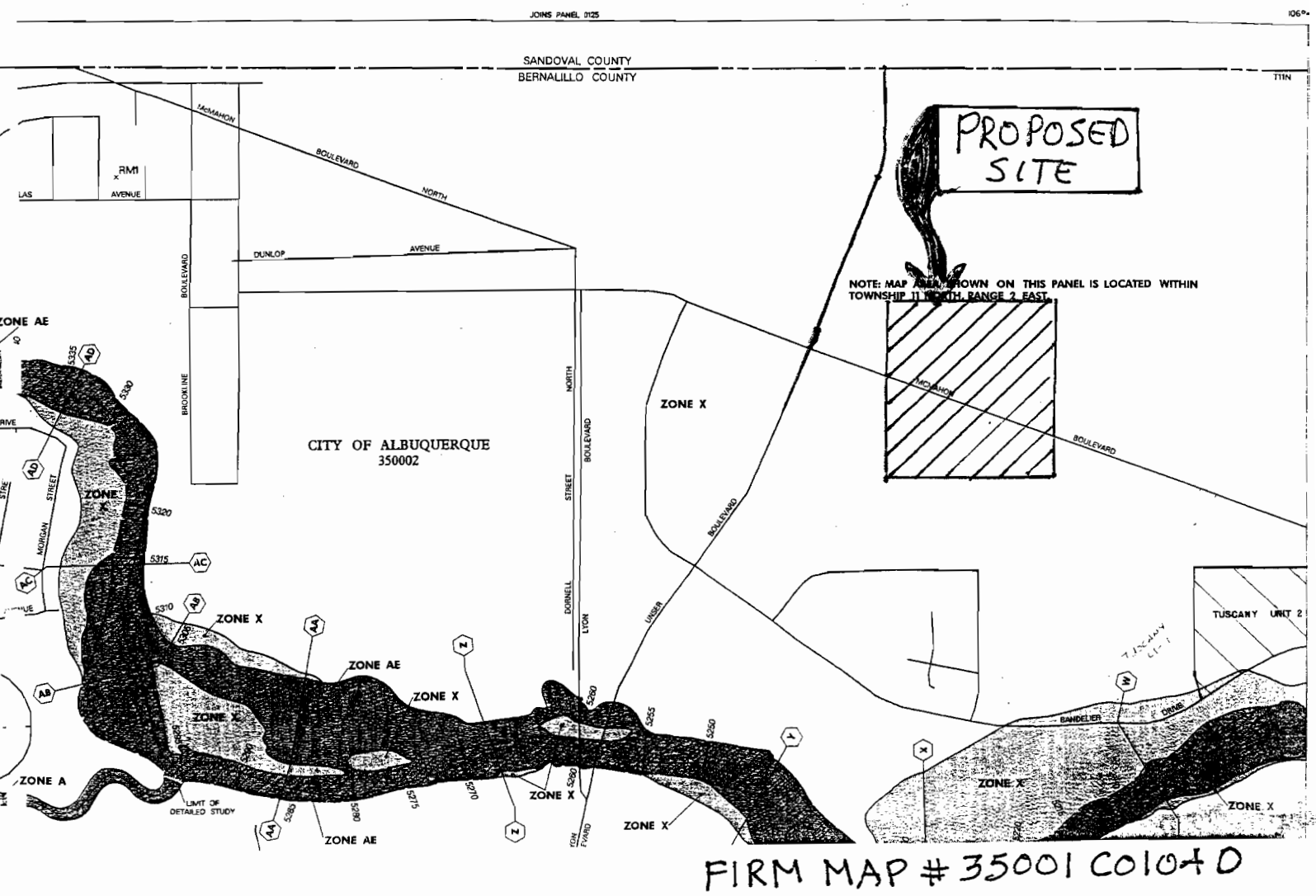
capacity available, the additional flows will have no impact on the present system (See Plate U1 of 1).

The multi-family parcel is to be accumulated and routed southeast along McMahon Blvd to a 36" outfall provided by the Tuscany Ridge Unit 2 construction. The Tuscany Ridge Unit 2 drainage report restricted flows to 24.0 cfs from the multi-family and commercial lots combined south of the McMahon corridor. The combined developed flows will be 73.59 cfs. An increase of 49.59 cfs which will result in a required storage pond volume of 1.976 AC.-FT. for the 100 year – 6 hour storm. Pond sized to carry the 100 year – 24 hour storm.

The commercial parcel north of the McMahon corridor is proposed to be ponded until development downs stream can provide for a storm drain outlet. Additional developed flows beyond historic flows are to be ponded and throttled to historic levels. Per the proposed Ridgeview subdivision drainage plan a 24" storm drain carrying 25.4 cfs is allocated for the Fineland and Smith Properties.

## 5. Conclusion

Per the overall drainage management plan for this area, no downstream impact will result from this bulk land plat. When development of these parcels proceed, detailed drainage plans will still be required for approval by the city of Albuquerque. The City may at this time utilize the proposed drainage plan, or modify it to accommodate ongoing master drainage planning in this area.




FIRM MAP # 35001 C0104 D

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*                   *FINELAND
*                   *100 YEAR EXISTING CONDITIONS
*                   **********************************
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                    RAIN DAY=2.66 IN DT=0.0333 HRS
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*                   **********************************
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*                   **********************************
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*                 **********************************
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*                 ******************************
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*                 ******************************
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| COMPUTE NM HYD | ED3 | - | 20 | .00490 | 13.25 | .488 | 1.86834 | 1.499 | 4.226 | PER IMP= | 90.00 |
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| FINISH | | | | | | | | | | | |

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*                    *FINELAND
*                    *100 YEAR EXISTING CONDITIONS
*                    **********************************
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                     RAIN ONE=1.87 IN RAIN SIX=2.2 IN
                     RAIN DAY=2.66 IN DT=0.0333 HRS

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                  1.9627  1.9680  1.9729  1.9777  1.9823  1.9867  1.9909
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                  2.0205  2.0238  2.0269  2.0300  2.0331  2.0360  2.0389
                  2.0418  2.0446  2.0473  2.0500  2.0526  2.0552  2.0578
                  2.0603  2.0627  2.0651  2.0675  2.0698  2.0721  2.0744
                  2.0766  2.0788  2.0810  2.0832  2.0853  2.0873  2.0894
                  2.0914  2.0934  2.0954  2.0974  2.0993  2.1012  2.1031
                  2.1050  2.1068  2.1086  2.1104  2.1122  2.1140  2.1157
                  2.1174  2.1191  2.1208  2.1225  2.1242  2.1258  2.1274
                  2.1290  2.1306  2.1322  2.1338  2.1353  2.1369  2.1384
                  2.1399  2.1414  2.1429  2.1444  2.1459  2.1473  2.1487
                  2.1502  2.1516  2.1530  2.1544  2.1558  2.1571  2.1585
                  2.1599  2.1612  2.1625  2.1639  2.1652  2.1665  2.1678
                  2.1691  2.1703  2.1716  2.1729  2.1741  2.1754  2.1766
                  2.1778  2.1791  2.1803  2.1815  2.1827  2.1839  2.1850
                  2.1862  2.1874  2.1886  2.1897  2.1909  2.1920  2.1931
                  2.1943  2.1954  2.1965  2.1976  2.1987  2.1998

*                    **********************************
COMPUTE NM HYD       ID=1 HYD NO=EA1 DA=0.0068 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   14.067    CFS   UNIT VOLUME =    .9987       B =   275.76      P60 = 1.8700
     AREA =      .006800 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
```

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

* **********
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA EA1

RUNOFF VOLUME = .44896 INCHES = .1628 ACRE-FEET
PEAK DISCHARGE RATE = 5.80 CFS AT 1.532 HOURS BASIN AREA = .0068 SQ. MI.

* **********
COMPUTE NM HYD ID=2 HYD NO=EA2.1 DA=0.0043 SQ MI
PER A=95 PER B=5 PER C=0 PER D=0
TP=-0.1333 HR MASS RAIN=-1

K = .162049HR TP = .133300HR K/TP RATIO = 1.215673 SHAPE CONSTANT, N = 2.926304
UNIT PEAK = 8.8954 CFS UNIT VOLUME = .9981 B = 275.76 P60 = 1.8700
AREA = .004300 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

* **********
PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA EA2.1

RUNOFF VOLUME = .44896 INCHES = .1030 ACRE-FEET
PEAK DISCHARGE RATE = 3.67 CFS AT 1.532 HOURS BASIN AREA = .0043 SQ. MI.

* **********
COMPUTE NM HYD ID=3 HYD NO=EA2.2 DA=0.0016 SQ MI
PER A=95 PER B=5 PER C=0 PER D=0
TP=-0.1333 HR MASS RAIN=-1

K = .162049HR TP = .133300HR K/TP RATIO = 1.215673 SHAPE CONSTANT, N = 2.926304
UNIT PEAK = 3.3099 CFS UNIT VOLUME = .9954 B = 275.76 P60 = 1.8700
AREA = .001600 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

* **********
PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA EA2.2

RUNOFF VOLUME = .44896 INCHES = .0383 ACRE-FEET
PEAK DISCHARGE RATE = 1.37 CFS AT 1.532 HOURS BASIN AREA = .0016 SQ. MI.

```
*                    ******************************
COMPUTE NM HYD       ID=4 HYD NO=EA3.1 DA=0.0035 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   7.2404    CFS   UNIT VOLUME =    .9977       B =   275.76      P60 = 1.8700
     AREA =      .003500 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=4 CODE=1

                                        HYDROGRAPH FROM AREA EA3.1


    RUNOFF VOLUME =      .44896 INCHES     =        .0838 ACRE-FEET
    PEAK DISCHARGE RATE =       2.99 CFS  AT   1.532 HOURS   BASIN AREA =   .0035 SQ. MI.



*                    ******************************
COMPUTE NM HYD       ID=5 HYD NO=EA3.2 DA=0.0010 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   2.0687    CFS   UNIT VOLUME =    .9928       B =   275.76      P60 = 1.8700
     AREA =      .001000 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=5 CODE=1

                                        HYDROGRAPH FROM AREA EA3.2


    RUNOFF VOLUME =      .44896 INCHES     =        .0239 ACRE-FEET
    PEAK DISCHARGE RATE =        .86 CFS  AT   1.532 HOURS   BASIN AREA =   .0010 SQ. MI.



*                    ******************************
COMPUTE NM HYD       ID=6 HYD NO=EB1.1 DA=0.0047 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   9.7229    CFS   UNIT VOLUME =    .9982       B =   275.76      P60 = 1.8700
     AREA =      .004700 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
*                    ***********
PRINT HYD            ID=6 CODE=1

                                        HYDROGRAPH FROM AREA EB1.1


    RUNOFF VOLUME =       .44896 INCHES     =        .1125 ACRE-FEET
    PEAK DISCHARGE RATE =       4.01 CFS  AT   1.532 HOURS   BASIN AREA =    .0047 SQ. MI.


*                    **********************************
COMPUTE NM HYD       ID=7 HYD NO=EB1.2 DA=0.0072 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   14.895    CFS   UNIT VOLUME =    .9988       B =   275.76      P60 = 1.8700
     AREA =       .007200 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=7 CODE=1

                                        HYDROGRAPH FROM AREA EB1.2


    RUNOFF VOLUME =       .44896 INCHES     =        .1724 ACRE-FEET
    PEAK DISCHARGE RATE =       6.14 CFS  AT   1.532 HOURS   BASIN AREA =    .0072 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=8 HYD NO=EB1.3 DA=0.0046 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =    9.5160    CFS   UNIT VOLUME =    .9982       B =   275.76      P60 = 1.8700
     AREA =       .004600 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=8 CODE=1

                                        HYDROGRAPH FROM AREA EB1.3


    RUNOFF VOLUME =       .44896 INCHES     =        .1101 ACRE-FEET
    PEAK DISCHARGE RATE =       3.93 CFS  AT   1.532 HOURS   BASIN AREA =    .0046 SQ. MI.
```

```
*                    ******************************
COMPUTE NM HYD       ID=9 HYD NO=EC1 DA=0.0045 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   9.3091    CFS   UNIT VOLUME =    .9982       B =   275.76      P60 = 1.8700
     AREA =      .004500 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=9 CODE=1

                                        HYDROGRAPH FROM AREA EC1

    RUNOFF VOLUME =      .44896 INCHES     =        .1078 ACRE-FEET
    PEAK DISCHARGE RATE =       3.84 CFS  AT   1.532 HOURS   BASIN AREA =   .0045 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=10 HYD NO=EC2.1 DA=0.0094 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   19.446    CFS   UNIT VOLUME =    .9989       B =   275.76      P60 = 1.8700
     AREA =      .009400 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=10 CODE=1

                                        HYDROGRAPH FROM AREA EC2.1

    RUNOFF VOLUME =      .44896 INCHES     =        .2251 ACRE-FEET
    PEAK DISCHARGE RATE =       8.02 CFS  AT   1.532 HOURS   BASIN AREA =   .0094 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=11 HYD NO=EC2.2 DA=0.0048 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   9.9297    CFS   UNIT VOLUME =    .9983       B =   275.76      P60 = 1.8700
     AREA =      .004800 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```

```
*                    ***********
PRINT HYD            ID=11 CODE=1
```

HYDROGRAPH FROM AREA EC2.2

RUNOFF VOLUME = .44896 INCHES = .1149 ACRE-FEET
PEAK DISCHARGE RATE = 4.10 CFS AT 1.532 HOURS BASIN AREA = .0048 SQ. MI.

```
*                    *******************************
COMPUTE NM HYD       ID=12 HYD NO=EC2.3 DA=0.0044 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1
```

K = .162049HR TP = .133300HR K/TP RATIO = 1.215673 SHAPE CONSTANT, N = 2.926304
UNIT PEAK = 9.1023 CFS UNIT VOLUME = .9981 B = 275.76 P60 = 1.8700
AREA = .004400 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

```
*                    ***********
PRINT HYD            ID=12 CODE=1
```

HYDROGRAPH FROM AREA EC2.3

RUNOFF VOLUME = .44896 INCHES = .1054 ACRE-FEET
PEAK DISCHARGE RATE = 3.76 CFS AT 1.532 HOURS BASIN AREA = .0044 SQ. MI.

```
*                    ***********************************
COMPUTE NM HYD       ID=13 HYD NO=EC3.1 DA=0.0032 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1
```

K = .162049HR TP = .133300HR K/TP RATIO = 1.215673 SHAPE CONSTANT, N = 2.926304
UNIT PEAK = 6.6198 CFS UNIT VOLUME = .9976 B = 275.76 P60 = 1.8700
AREA = .003200 SQ MI IA = .64250 INCHES INF = 1.64900 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

```
*                    ***********
PRINT HYD            ID=13 CODE=1
```

HYDROGRAPH FROM AREA EC3.1

RUNOFF VOLUME = .44896 INCHES = .0766 ACRE-FEET
PEAK DISCHARGE RATE = 2.73 CFS AT 1.532 HOURS BASIN AREA = .0032 SQ. MI.

```
*                    ******************************
COMPUTE NM HYD       ID=14 HYD NO=EC3.2 DA=0.0027 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   5.5855    CFS   UNIT VOLUME =    .9971       B =   275.76      P60 = 1.8700
     AREA =      .002700 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=14 CODE=1

                                    HYDROGRAPH FROM AREA EC3.2


    RUNOFF VOLUME =      .44896 INCHES     =        .0647 ACRE-FEET
    PEAK DISCHARGE RATE =       2.31 CFS  AT   1.532 HOURS   BASIN AREA =   .0027 SQ. MI.



*                    ******************************
COMPUTE NM HYD       ID=15 HYD NO=EC3.3 DA=0.0020 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   4.1374    CFS   UNIT VOLUME =    .9962       B =   275.76      P60 = 1.8700
     AREA =      .002000 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=15 CODE=1

                                    HYDROGRAPH FROM AREA EC3.3


    RUNOFF VOLUME =      .44896 INCHES     =        .0479 ACRE-FEET
    PEAK DISCHARGE RATE =       1.71 CFS  AT   1.532 HOURS   BASIN AREA =   .0020 SQ. MI.



*                    ******************************
COMPUTE NM HYD       ID=18 HYD NO=ED1 DA=0.0154 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   31.858    CFS   UNIT VOLUME =    .9993       B =   275.76      P60 = 1.8700
     AREA =      .015400 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
```

```
PRINT HYD            ID=18 CODE=1

                                    HYDROGRAPH FROM AREA ED1


    RUNOFF VOLUME =       .44896 INCHES     =        .3687 ACRE-FEET
    PEAK DISCHARGE RATE =      13.13 CFS  AT   1.532 HOURS   BASIN AREA =    .0154 SQ. MI.


*                    **********************************
COMPUTE NM HYD       ID=19 HYD NO=ED2 DA=0.0086 SQ MI
                     PER A=95 PER B=5 PER C=0 PER D=0
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .162049HR    TP =   .133300HR    K/TP RATIO =  1.215673     SHAPE CONSTANT, N =  2.926304
     UNIT PEAK =   17.791    CFS   UNIT VOLUME =     .9989       B =   275.76       P60 = 1.8700
     AREA =       .008600 SQ MI    IA =     .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=19 CODE=1

                                    HYDROGRAPH FROM AREA ED2


    RUNOFF VOLUME =       .44896 INCHES     =        .2059 ACRE-FEET
    PEAK DISCHARGE RATE =       7.33 CFS  AT   1.532 HOURS   BASIN AREA =    .0086 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=20 HYD NO=ED3 DA=0.0049 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   17.411    CFS   UNIT VOLUME =     .9987       B =   526.28       P60 = 1.8700
     AREA =       .004410 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   1.4268    CFS   UNIT VOLUME =     .9917       B =   388.14       P60 = 1.8700
     AREA =       .000490 SQ MI    IA =     .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=20 CODE=1

                                    HYDROGRAPH FROM AREA ED3
```

```
    RUNOFF VOLUME =      1.86834 INCHES      =         .4883 ACRE-FEET
    PEAK DISCHARGE RATE =       13.25 CFS  AT    1.499 HOURS    BASIN AREA =    .0049 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=21 HYD NO=ED4 DA=0.0028 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR     TP =   .133300HR     K/TP RATIO =   .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.9491     CFS   UNIT VOLUME =     .9982       B =   526.28       P60 = 1.8700
     AREA =       .002520 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =   .105867HR     TP =   .133300HR     K/TP RATIO =   .794199      SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   .81530     CFS   UNIT VOLUME =     .9840       B =   388.14       P60 = 1.8700
     AREA =       .000280 SQ MI     IA =     .35000 INCHES     INF =     .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=21 CODE=1

                                    HYDROGRAPH FROM AREA ED4


    RUNOFF VOLUME =      1.86834 INCHES      =         .2790 ACRE-FEET
    PEAK DISCHARGE RATE =        7.58 CFS  AT    1.499 HOURS    BASIN AREA =    .0028 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 15:59:18
```

```
*                   **********************************
*                   *FINELAND
*                   *100 YEAR DEVELOPED CONDITIONS
*                   **********************************
START               TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL            TYPE=1 RAIN QUARTER=0.0
                    RAIN ONE=1.87 IN RAIN SIX=2.2 IN
                    RAIN DAY=2.66 IN DT=0.0333 HRS
*                   **********************************
COMPUTE NM HYD      ID=1 HYD NO=DA1 DA=0.0068 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=1 CODE=1
*                   **********************************
COMPUTE NM HYD      ID=2 HYD NO=DA2 DA=.0059 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=2 CODE=1
*                   **********************************
COMPUTE NM HYD      ID=3 HYD NO=DA3 DA=0.0045 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=3 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=4 HYD NO=DB DA=0.0165 SQ MI
                    PER A=0 PER B=20 PER C=23 PER D=57
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=4 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=5 HYD NO=DC1 DA=0.0045 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=5 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=6 HYD NO=DC2 DA=0.0164
                    PER A=0 PER B=15 PER C=15 PER D=70
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=6 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=7 HYD NO=DC3 DA=0.0080
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=7 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=8 HYD NO=DD1 DA=0.0086 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=8 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=9 HYD NO=DD2 DA=0.0154 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=9 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=10 HYD NO=DD3 DA=0.0049
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=10 CODE=1
*                   ******************************
COMPUTE NM HYD      ID=11 HYD NO=DD4 DA=0.0028
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
*                   ***********
PRINT HYD           ID=11 CODE=1
FINISH
```

```
□(s16-67h8-5vOT□&18D

      AHYMO PROGRAM (AHYMO_97) -                        - Version:  1997.02c
           RUN DATE (MON/DAY/YR) = 12/15/2000
           START TIME (HR:MIN:SEC) = 08:55:20     USER NO.= AHYMO-I-9702c01000429-AH
           INPUT FILE = F:\N448\01\030\100PROP6.DAT

*                    **********************************
*                    *FINELAND
*                    *100 YEAR DEVELOPED CONDITIONS
*                    **********************************
START                TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL             TYPE=1 RAIN QUARTER=0.0
                     RAIN ONE=1.87 IN RAIN SIX=2.2 IN
                     RAIN DAY=2.66 IN DT=0.0333 HRS

                COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =    .033300 HOURS       END TIME =     5.994000 HOURS
                   .0000   .0016   .0033   .0050   .0067   .0085   .0103
                   .0121   .0140   .0160   .0180   .0200   .0221   .0243
                   .0265   .0288   .0312   .0336   .0361   .0387   .0414
                   .0442   .0471   .0501   .0533   .0566   .0600   .0636
                   .0674   .0714   .0757   .0808   .0863   .0922   .1044
                   .1323   .1754   .2374   .3221   .4335   .5756   .7527
                   .9690  1.1767  1.2619  1.3336  1.3972  1.4551  1.5084
                  1.5579  1.6041  1.6474  1.6881  1.7266  1.7629  1.7973
                  1.8298  1.8607  1.8900  1.9178  1.9442  1.9515  1.9573
                  1.9627  1.9680  1.9729  1.9777  1.9823  1.9867  1.9909
                  1.9950  1.9990  2.0029  2.0066  2.0102  2.0137  2.0172
                  2.0205  2.0238  2.0269  2.0300  2.0331  2.0360  2.0389
                  2.0418  2.0446  2.0473  2.0500  2.0526  2.0552  2.0578
                  2.0603  2.0627  2.0651  2.0675  2.0698  2.0721  2.0744
                  2.0766  2.0788  2.0810  2.0832  2.0853  2.0873  2.0894
                  2.0914  2.0934  2.0954  2.0974  2.0993  2.1012  2.1031
                  2.1050  2.1068  2.1086  2.1104  2.1122  2.1140  2.1157
                  2.1174  2.1191  2.1208  2.1225  2.1242  2.1258  2.1274
                  2.1290  2.1306  2.1322  2.1338  2.1353  2.1369  2.1384
                  2.1399  2.1414  2.1429  2.1444  2.1459  2.1473  2.1487
                  2.1502  2.1516  2.1530  2.1544  2.1558  2.1571  2.1585
                  2.1599  2.1612  2.1625  2.1639  2.1652  2.1665  2.1678
                  2.1691  2.1703  2.1716  2.1729  2.1741  2.1754  2.1766
                  2.1778  2.1791  2.1803  2.1815  2.1827  2.1839  2.1850
                  2.1862  2.1874  2.1886  2.1897  2.1909  2.1920  2.1931
                  2.1943  2.1954  2.1965  2.1976  2.1987  2.1998

*                    **********************************
COMPUTE NM HYD       ID=1 HYD NO=DA1 DA=0.0068 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   24.162     CFS   UNIT VOLUME =    .9989       B =   526.28       P60 = 1.8700
     AREA =      .006120 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   1.9800     CFS   UNIT VOLUME =    .9941       B =   388.14       P60 = 1.8700
     AREA =      .000680 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=1 CODE=1

                                        HYDROGRAPH FROM AREA DA1


    RUNOFF VOLUME =     1.86834 INCHES     =        .6776 ACRE-FEET
    PEAK DISCHARGE RATE =      18.38 CFS  AT   1.499 HOURS   BASIN AREA =   .0068 SQ. MI.


*                    **********************************
COMPUTE NM HYD       ID=2 HYD NO=DA2 DA=.0059 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   20.964     CFS   UNIT VOLUME =    .9988       B =   526.28       P60 = 1.8700
     AREA =      .005310 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   1.7180     CFS   UNIT VOLUME =    .9926       B =   388.14       P60 = 1.8700
     AREA =      .000590 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
```

```
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=2 CODE=1

                                        HYDROGRAPH FROM AREA DA2

    RUNOFF VOLUME =      1.86834 INCHES      =         .5879 ACRE-FEET
    PEAK DISCHARGE RATE =       15.95 CFS  AT    1.499 HOURS   BASIN AREA =    .0059 SQ. MI.


*                    **********************************
COMPUTE NM HYD       ID=3 HYD NO=DA3 DA=0.0045 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR     TP =   .133300HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    15.990     CFS    UNIT VOLUME =     .9986        B =    526.28       P60 = 1.8700
     AREA =       .004050 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =   .105867HR     TP =   .133300HR     K/TP RATIO =    .794199      SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =    1.3103     CFS    UNIT VOLUME =     .9907        B =    388.14       P60 = 1.8700
     AREA =       .000450 SQ MI     IA =     .35000 INCHES     INF =     .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=3 CODE=1

                                        HYDROGRAPH FROM AREA DA3

    RUNOFF VOLUME =      1.86834 INCHES      =         .4484 ACRE-FEET
    PEAK DISCHARGE RATE =       12.17 CFS  AT    1.499 HOURS   BASIN AREA =    .0045 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=4 HYD NO=DB DA=0.0165 SQ MI
                     PER A=0 PER B=20 PER C=23 PER D=57
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR     TP =   .133300HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    37.131     CFS    UNIT VOLUME =     .9991        B =    526.28       P60 = 1.8700
     AREA =       .009405 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =   .117553HR     TP =   .133300HR     K/TP RATIO =    .881867      SHAPE CONSTANT, N =  4.024364
     UNIT PEAK =    18.990     CFS    UNIT VOLUME =     .9997        B =    356.79       P60 = 1.8700
     AREA =       .007095 SQ MI     IA =     .41977 INCHES     INF =   1.02535 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=4 CODE=1

                                        HYDROGRAPH FROM AREA DB

    RUNOFF VOLUME =      1.47593 INCHES      =        1.2988 ACRE-FEET
    PEAK DISCHARGE RATE =       37.51 CFS  AT    1.499 HOURS   BASIN AREA =    .0165 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=5 HYD NO=DC1 DA=0.0045 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR     TP =   .133300HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    15.990     CFS    UNIT VOLUME =     .9986        B =    526.28       P60 = 1.8700
     AREA =       .004050 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =   .105867HR     TP =   .133300HR     K/TP RATIO =    .794199      SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =    1.3103     CFS    UNIT VOLUME =     .9907        B =    388.14       P60 = 1.8700
     AREA =       .000450 SQ MI     IA =     .35000 INCHES     INF =     .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

*                    ***********
PRINT HYD            ID=5 CODE=1
```

HYDROGRAPH FROM AREA DC1

RUNOFF VOLUME = 1.86834 INCHES = .4484 ACRE-FEET
PEAK DISCHARGE RATE = 12.17 CFS AT 1.499 HOURS BASIN AREA = .0045 SQ. MI.

```
*                   ******************************
COMPUTE NM HYD      ID=6 HYD NO=DC2 DA=0.0164
                    PER A=0 PER B=15 PER C=15 PER D=70
                    TP=-0.1333 HR MASS RAIN=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 45.324 CFS UNIT VOLUME = .9991 B = 526.28 P60 = 1.8700
AREA = .011480 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = 13.091 CFS UNIT VOLUME = .9994 B = 354.67 P60 = 1.8700
AREA = .004920 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

```
*                   ***********
PRINT HYD           ID=6 CODE=1
```

HYDROGRAPH FROM AREA DC2

RUNOFF VOLUME = 1.62055 INCHES = 1.4174 ACRE-FEET
PEAK DISCHARGE RATE = 39.79 CFS AT 1.499 HOURS BASIN AREA = .0164 SQ. MI.

```
*                   ******************************
COMPUTE NM HYD      ID=7 HYD NO=DC3 DA=0.0080
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 28.426 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.8700
AREA = .007200 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .105867HR TP = .133300HR K/TP RATIO = .794199 SHAPE CONSTANT, N = 4.514851
UNIT PEAK = 2.3294 CFS UNIT VOLUME = .9947 B = 388.14 P60 = 1.8700
AREA = .000800 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

```
*                   ***********
PRINT HYD           ID=7 CODE=1
```

HYDROGRAPH FROM AREA DC3

RUNOFF VOLUME = 1.86834 INCHES = .7972 ACRE-FEET
PEAK DISCHARGE RATE = 21.63 CFS AT 1.499 HOURS BASIN AREA = .0080 SQ. MI.

```
*                   ******************************
COMPUTE NM HYD      ID=8 HYD NO=DD1 DA=0.0086 SQ MI
                    PER A=0 PER B=0 PER C=10 PER D=90
                    TP=-0.1333 HR MASS RAIN=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 30.558 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.8700
AREA = .007740 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .105867HR TP = .133300HR K/TP RATIO = .794199 SHAPE CONSTANT, N = 4.514851
UNIT PEAK = 2.5041 CFS UNIT VOLUME = .9953 B = 388.14 P60 = 1.8700
AREA = .000860 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

```
*                   ***********
PRINT HYD           ID=8 CODE=1
```

HYDROGRAPH FROM AREA DD1

RUNOFF VOLUME = 1.86834 INCHES = .8569 ACRE-FEET
PEAK DISCHARGE RATE = 23.25 CFS AT 1.499 HOURS BASIN AREA = .0086 SQ. MI.

```
*                    ******************************
COMPUTE NM HYD       ID=9 HYD NO=DD2 DA=0.0154 SQ MI
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   54.720    CFS   UNIT VOLUME =    .9991       B =   526.28       P60 = 1.8700
     AREA =      .013860 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   4.4842    CFS   UNIT VOLUME =    .9977       B =   388.14       P60 = 1.8700
     AREA =      .001540 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=9 CODE=1

                                        HYDROGRAPH FROM AREA DD2

    RUNOFF VOLUME =     1.86834 INCHES     =       1.5345 ACRE-FEET
    PEAK DISCHARGE RATE =      41.61 CFS  AT   1.499 HOURS   BASIN AREA =   .0154 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=10 HYD NO=DD3 DA=0.0049
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   17.411    CFS   UNIT VOLUME =    .9987       B =   526.28       P60 = 1.8700
     AREA =      .004410 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   1.4268    CFS   UNIT VOLUME =    .9917       B =   388.14       P60 = 1.8700
     AREA =      .000490 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=10 CODE=1

                                        HYDROGRAPH FROM AREA DD3

    RUNOFF VOLUME =     1.86834 INCHES     =        .4883 ACRE-FEET
    PEAK DISCHARGE RATE =      13.25 CFS  AT   1.499 HOURS   BASIN AREA =   .0049 SQ. MI.


*                    ******************************
COMPUTE NM HYD       ID=11 HYD NO=DD4 DA=0.0028
                     PER A=0 PER B=0 PER C=10 PER D=90
                     TP=-0.1333 HR MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   9.9491    CFS   UNIT VOLUME =    .9982       B =   526.28       P60 = 1.8700
     AREA =      .002520 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

     K =   .105867HR    TP =   .133300HR    K/TP RATIO =   .794199     SHAPE CONSTANT, N =  4.514851
     UNIT PEAK =   .81530    CFS   UNIT VOLUME =    .9840       B =   388.14       P60 = 1.8700
     AREA =      .000280 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

*                    ***********
PRINT HYD            ID=11 CODE=1

                                        HYDROGRAPH FROM AREA DD4

    RUNOFF VOLUME =     1.86834 INCHES     =        .2790 ACRE-FEET
    PEAK DISCHARGE RATE =       7.58 CFS  AT   1.499 HOURS   BASIN AREA =   .0028 SQ. MI.


FINISH
```

```
      NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 08:55:20
□(s0p10h4099T□&16D
```

□(s16-67h8-5v0T□&18D
AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =12/15/2000
INPUT FILE = F:\N448\01\030\100PROP6.DAT USER NO.= AHYMO-I-9
702c01000029-AH

PAGE = 1

| COMMAND NOTATION | 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 |
|---|---|---|---|---|---|---|---|---|---|
| START TIME= .00 | | | | | | | | | |
| RAINFALL TYPE= 1 RAIN6= 2.200 | | | | | | | | | |
| COMPUTE NM HYD PER IMP= 90.00 | DA1 | - | 1 | .00680 | 18.38 | .678 | 1.86834 | 1.499 | 4.224 |
| COMPUTE NM HYD PER IMP= 90.00 | DA2 | - | 2 | .00590 | 15.95 | .588 | 1.86834 | 1.499 | 4.225 |
| COMPUTE NM HYD PER IMP= 90.00 | DA3 | - | 3 | .00450 | 12.17 | .448 | 1.86834 | 1.499 | 4.226 |
| COMPUTE NM HYD PER IMP= 57.00 | DB | - | 4 | .01650 | 37.51 | 1.299 | 1.47593 | 1.499 | 3.552 |
| COMPUTE NM HYD PER IMP= 90.00 | DC1 | - | 5 | .00450 | 12.17 | .448 | 1.86834 | 1.499 | 4.226 |
| COMPUTE NM HYD PER IMP= 70.00 | DC2 | - | 6 | .01640 | 39.79 | 1.417 | 1.62055 | 1.499 | 3.791 |
| COMPUTE NM HYD PER IMP= 90.00 | DC3 | - | 7 | .00800 | 21.63 | .797 | 1.86834 | 1.499 | 4.224 |
| COMPUTE NM HYD PER IMP= 90.00 | DD1 | - | 8 | .00860 | 23.25 | .857 | 1.86834 | 1.499 | 4.224 |
| COMPUTE NM HYD PER IMP= 90.00 | DD2 | - | 9 | .01540 | 41.61 | 1.535 | 1.86834 | 1.499 | 4.222 |
| COMPUTE NM HYD PER IMP= 90.00 | DD3 | - | 10 | .00490 | 13.25 | .488 | 1.86834 | 1.499 | 4.226 |
| COMPUTE NM HYD PER IMP= 90.00 | DD4 | - | 11 | .00280 | 7.58 | .279 | 1.86834 | 1.499 | 4.230 |
| FINISH | | | | | | | | | |

□(s0p10h4099T□&16D

# POND CALCULATIONS

## DA1

EXISTING - 0.163 AC-FT

ULTIMATE - 0.628 AC-FT

DIFFERENCE - 0.628 - 0.163 = 0.465 AC-F

PER D.P.M. pg. 22-14, EQN a-7

V1440 = V360 + Ad *(P1440-P360)/12"/FT

= 0.465 + [ 0.0068(640) ] (2.66-2.20/12)

= 0.632 AC-FT (43560/1.5 DEEP) = 18348.25 $FT^3$

SIZE = (SQ RT 18348.25)

= 135.5' EACH SIDE MIN.

## DA2

EXISTING - 0.103 + 0.038 = 0.141 AC-FT

ULTIMATE - 0.888 AC-FT

DIFFERENCE - 0.888 - 0.141 = 0.747 AC-F

V1440 = 0.888 + [ 0.0059(640) ] (2.66-2.20/12)

= 1.033 AC-FT (43560/1.5) = 29990.96 $FT^3$

SIZE = (SQ RT 29990.96)

= 173.2' EACH SIDE MIN.

**DA3**

**EXISTING - 0.084 + 0.024 = 0.108 AC-FT**

**ULTIMATE - 0.448 AC-FT**

**DIFFERENCE - 0.448 - 0.108 = 0.340 AC-F**

**V1440 = 0.448 + [ 0.0045(640) ] (2.66-2.20/12)**

**= 0.558 AC-FT (43560/1.5) = 16215.9 FT³**

**SIZE = (SQ RT 16215.9)**

**= 127.3' EACH SIDE MIN.**

**DC1**

**EXISTING - 0.108 AC-FT**

**ULTIMATE - 0.448 AC-FT**

**DIFFERENCE - 0.448 - 0.108 = 0.340 AC-F**

**V1440 = 0.448 + [ 0.0045(640) ] (2.66-2.20/12)**

**= 0.558 AC-FT (43560/1.5) = 16215.9 FT³**

**SIZE = (SQ RT 16215.9)**

**= 127.3' EACH SIDE MIN.**

**DC2**

**EXISTING - 0.110 + 0.115 + 0.105 + 0.024 + 0.034**

**= 0.388 AC-FT**

**ULTIMATE - 1.447 AC-FT**

**DIFFERENCE - 1.059 AC-F**

**V1440 = 1.447 + [ 0.0164(640) ] (2.66-2.20/12)**

**= 1.85 AC-FT (43560/1.5) = 53705.0 FT³**

**SIZE = (SQ RT 53705.0)**

**= 231.7' EACH SIDE MIN.**

# STORM DRAIN CALCULATIONS

I. Along McMahon to Tuscany Ridge Unit II.

Existing - 36" storm drain McMahon Blvd.
- 24 cfs allowed from Fineland Development

Proposed – pipe size (full flow)

Q = 24.0 cfs max.

n = 0.013

S .05%

Dn = 1.335 (nq/sq rt 5)

= 1.335 (0.013 (24)/sq rt .005) = 2.35' (12)

= 28" min → **use 30" min**

II. Outlet to Ridgeview Subdivision for Fineland Commercial Lots and Smith Properties.

Proposed - 24" storm drain in Ridgeview Subdivision
- 25.4 cfs allocated from Smith and Fineland Properties

Q = 25.4 cfs max

n = 0.013

S 1.7% average

Dn = 1.335 (0.013 (25.4)/sq rt 0.017) 3/8 = 1.89(12)

= 22.70" → **use 24" min**

III. Street Flow/Inlet Calculations
(Crooked Creek Avenue)

Q = 37.51 cfs

S = 2.33 %

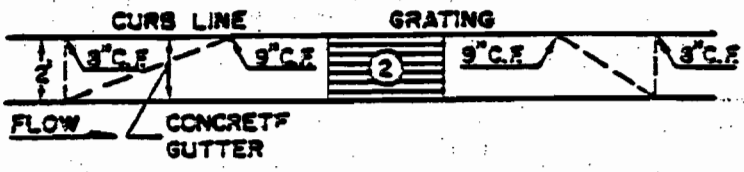
@ 2.33 % Road Capacity = 125.79 cfs

@ 37.51 cfs Depth = 4.58" = 0.38"

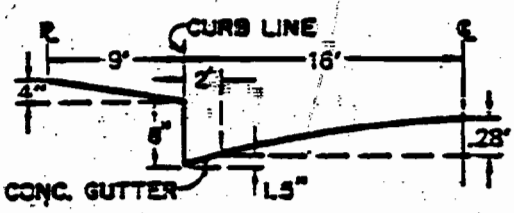
Chart Nomo – Plate 22.3 D-5
Shows 5.1 cfs/grate

- Stonebridge Drainage Plan allowed 20.4 cfs
- Required per bulk land plat 37.51 cfs
- Difference = 37.51 - 20.4 = 17.11 cfs
- @ 2 sides of street 17.11/2 = 8.56 cfs
- @ 5.1 cfs/grate use minimum 2 grates each side of street. This will capture additional flows plus some already allocated for the system.

# GRATING CAPACITIES FOR TYPE "A" , "C" and "D"




GRATING & GUTTER PLAN




TYPICAL HALF STREET SECTION
(ABOVE BASIN)




D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

## Channel Calculator

Given Input Data:

| | |
|---|---|
| Shape | Trapezoidal |
| Solving for | Depth of Flow |
| Flowrate | 37.5100 cfs |
| Slope | 0.0233 ft/ft |
| Manning's n | 0.0170 |
| Height | 8.0000 in |
| Bottom width | 336.0000 in |
| Left slope | 0.0200 ft/ft |
| Right slope | 0.0200 ft/ft |

Computed Results:

| | |
|---|---|
| Depth | 3.0427 in |
| Velocity | 5.2823 fps |
| Flow area | 7.1010 ft2 |
| Flow perimeter | 342.0867 in |
| Hydraulic radius | 2.9892 in |
| Top width | 336.1217 in |
| Area | 18.6756 ft2 |
| Perimeter | 352.0032 in |
| Percent full | 38.0344 % |

### Critical Information

| | |
|---|---|
| Critical depth | 4.5846 in |
| Critical slope | 0.0060 ft/ft |
| Critical velocity | 3.5055 fps |
| Critical area | 10.7003 ft2 |
| Critical perimeter | 345.1710 in |
| Critical hydraulic radius | 4.4640 in |
| Critical top width | 336.1834 in |
| Specific energy | 0.6672 ft |
| Minimum energy | 0.5731 ft |
| Froude number | 1.8496 |
| Flow condition | Supercritical |

**MAXIMUM STREET DRAINAGE CAPACITY**
**8-inch Max. Depth (8" CURB)**

| Street Width | Manning's Pavement Roughness n | Cross Sectional Area A (sf) | Hydralic Radius Rh (ft) | Longitudinal Slope S (ft/ft) | Velocity v (ft/s) | Maximum Capacity Q (cfs) |
|---|---|---|---|---|---|---|
| | | | | | | |
| 28-foot F/C to F/C VC | 0.017 | 14.8 | 0.506 | 0.0233 | 8.48 | 125.79 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# FINELAND COMMERCIAL PIPE SIZING
## Worksheet for Circular Channel

| Project Description | |
|---|---|
| Worksheet | FINELAND |
| Flow Element | Circular Channel |
| Method | Manning's Formula |
| Solve For | Full Flow Capacity |

| Input Data | | |
|---|---|---|
| Mannings Coefficient | 0.013 | |
| Slope | 0.012000 | ft/ft |
| Diameter | 24 | in |

| Results | | |
|---|---|---|
| Depth | 2.00 | ft |
| Discharge | 24.78 | cfs |
| Flow Area | 3.1 | ft² |
| Wetted Perimeter | 6.28 | ft |
| Top Width | 0.00 | ft |
| Critical Depth | 1.76 | ft |
| Percent Full | 100.0 | % |
| Critical Slope | 0.010823 | ft/ft |
| Velocity | 7.89 | ft/s |
| Velocity Head | 0.97 | ft |
| Specific Energy | 2.97 | ft |
| Froude Number | 0.00 | |
| Maximum Dischar | 26.66 | cfs |
| Discharge Full | 24.78 | cfs |
| Slope Full | 0.012000 | ft/ft |
| Flow Type | N/A | |

>25.4 OK

←

AT MIN. SLOPE,
HGL < PROPOSED GRADE (OK)
(5' MIN. COVER)



**Mr. Lyle Losack**
 37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666

# FINELAND COMMERCIAL PIPE SIZING
## Worksheet for Circular Channel

| Project Description | |
|---|---|
| Worksheet | FINELAND |
| Flow Element | Circular Channel |
| Method | Manning's Formula |
| Solve For | Full Flow Capacity |

| Input Data | | |
|---|---|---|
| Mannings Coefficient | 0.013 | |
| Slope | 0.032000 | ft/ft |
| Diameter | 24 | in |

| Results | | |
|---|---|---|
| Depth | 2.00 | ft |
| Discharge | 40.47 | cfs |
| Flow Area | 3.1 | ft² |
| Wetted Perimeter | 6.28 | ft |
| Top Width | 0.00 | ft |
| Critical Depth | 1.95 | ft |
| Percent Full | 100.0 | % |
| Critical Slope | 0.028486 | ft/ft |
| Velocity | 12.88 | ft/s |
| Velocity Head | 2.58 | ft |
| Specific Energy | 4.58 | ft |
| Froude Number | 0.00 | |
| Maximum Dischar | 43.53 | cfs |
| Discharge Full | 40.47 | cfs |
| Slope Full | 0.032000 | ft/ft |
| Flow Type | N/A | |

>25.4 OK

←

AT MAX. SLOPE
HGL < PROPOSED GRADE (OK)
(5' MIN. COVER)



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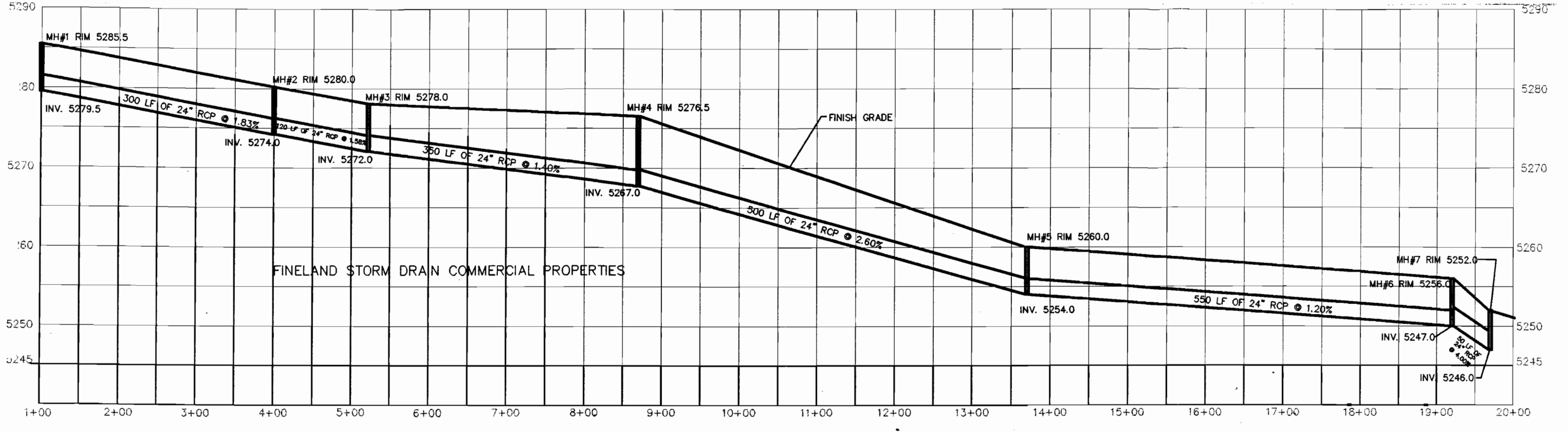
5290
5280
5270
5260
5250
5245
MH#1 RIM 5285.5
INV. 5279.5
300 LF OF 24" RCP @ 1.83%
MH#2 RIM 5280.0
INV. 5274.0
120 LF OF 24" RCP @ 1.58%
MH#3 RIM 5278.0
INV. 5272.0
350 LF OF 24" RCP @ 1.40%
MH#4 RIM 5276.5
INV. 5267.0
FINISH GRADE
500 LF OF 24" RCP @ 2.60%
MH#5 RIM 5260.0
INV. 5254.0
550 LF OF 24" RCP @ 1.20%
MH#7 RIM 5252.0
MH#6 RIM 5256.0
INV. 5247.0
50 LF 24" RCP @ 4.00%
INV. 5246.0
FINELAND STORM DRAIN COMMERCIAL PROPERTIES
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
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