CITY OF ALBUQUERQUE

January 13, 2006

Diane Hoelzer, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

Re: Sandia National Lab Office Building, Innovation Parkway east of Eubank Blvd, Grading and Drainage Plan
Engineer's Stamp dated 12-20-05 (M21-D5G)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal received 12-22-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso).

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: Charles Caruso, DMD Storm Drainage Design
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1002668 EPC#:_____

ZONE MAP/DRG. FILE #: M21/D5 G
WORK ORDER#:_____

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Cartesian Surveys Inc
ADDRESS: 2104 Southern Blvd. SE
CITY, STATE: Rio Rancho, NM

CONTACT: Will Plotner
PHONE: 896-3050
ZIP CODE: 87124

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

Result

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
DEC 22 2005
HYDROLOGY SECTION

DATE SUBMITTED: 22nd Dec 2005

BY: T. Pavankumar (PAVANK.TOLETI)

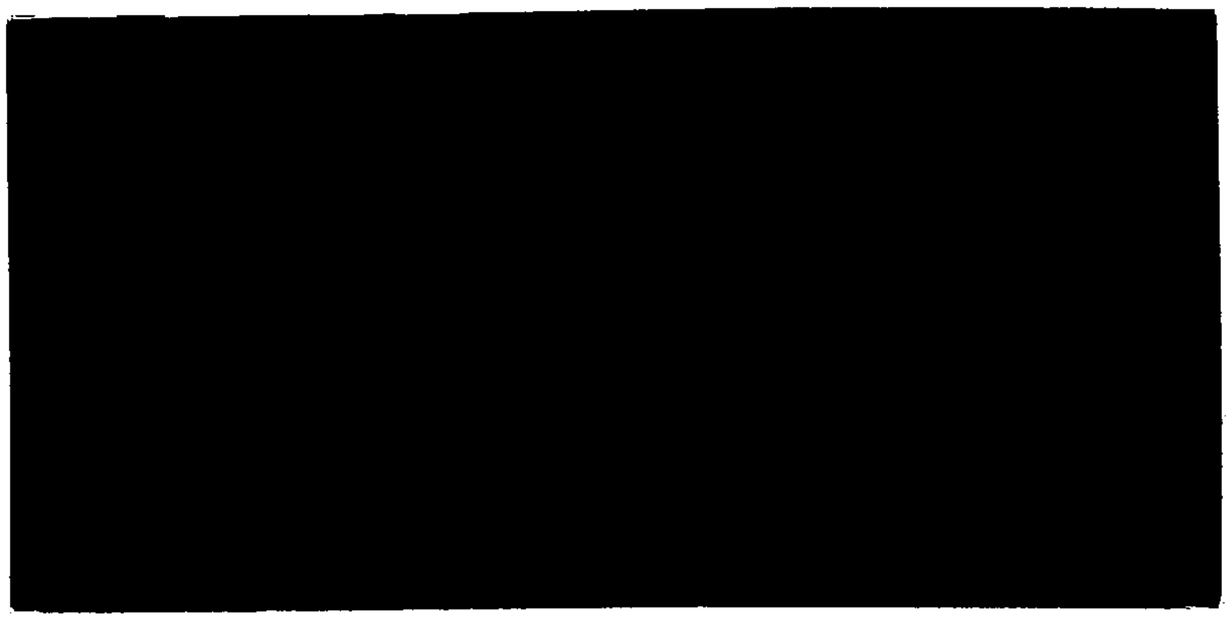
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

1.3 cfs/Acre to S. Eubank SD

Area = 10.177 Acres

Allowable → 13.2 cfs
to S. Eubank SD



MARK GOODWIN
& ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT

for

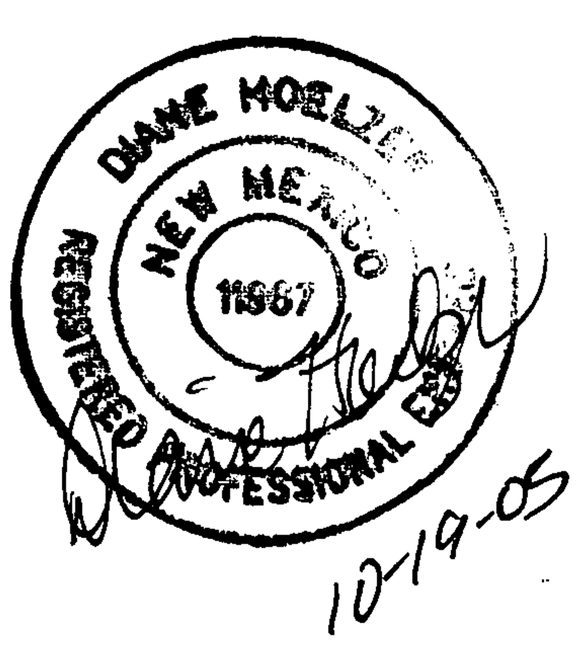
Sandia Science & Technology Park

Prepared for

LYDA-SWINERTON BUILDERS, LLC
1011 Indian School Rd NW
Albuquerque, NM 87104

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199
(505) 828-2200



October 2005

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DEC 22 2005
HYDROLOGY SECTION

TABLE OF CONTENTS

I. PROJECT DESCRIPTION

II. DESIGN CRITERIA

III. EXISTING DRAINAGE CONDITIONS

IV. DEVELOPED DRAINAGE CONDITIONS

V. C0NCLUSIONS

FIGURE 1: VICINITY MAP

APPENDIX A - HYDROLOGY

AHYMO PRINTOUTS
POND CALCULATIONS

POCKET 1: GRADING AND DRAINAGE PLAN

I. PROJECT DESCRIPTION

The proposed site area comprises approximately 10.117 acres and is located just east of Eubank Blvd. The current legal description of the site is the east half (E ½) Tract K, Sandia Science and Technology Park.

The purpose of this report is to present the drainage management plan for the new office-building in order to obtain Grading and Drainage Plan approval for Building Permit and Conceptual Grading and Drainage Plan for Site Development Plan for Building Permit. All applicable ordinances, the DPM and AHYMO were utilized to prepare this plan.

II. DRAINAGE DESIGN CRITERIA

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual. The 100-year, 6-hour storm event was utilized to determine site runoff rates using P(1 hr) = 1.74", P(6 hr)=2.22"and P(24 hr) = 2.67", obtained from the latest NOAA Precipitation Atlas. The on-site land treatment values used were type B=15% and D=85%. AHYMO printouts are provided in Appendix A.

III. EXISTING DRAINAGE CONDITION 73

The site presently consists of undeveloped land covered by native vegetation and open areas of the native sandy surface. Slope is predominantly toward the west. At the present time there is no offsite runoff entering the undeveloped portion of the site. The master drainage plan for the South Eubank Storm Drainage Analysis (dated November 1995, prepared by Smith Engineering Company) states that the site can discharge a maximum of 1.3 cfs/acre to the Existing South Eubank Storm Drain.

10,117 ac x 1.3 cfs/ac = 13,152 cfs AM

43.17 + 3.95 = 47.1 cfs

IV. DEVELOPED DRAINAGE CONDITIONS

The total developed conditions flow from this site covering both lots is 37.74 cfs. The 10.117 acre site will drain to the Existing South Eubank Storm Drain routed through the onsite pond with a max discharge of 0.981 cfs/acre which is equal to allowable cfs/acre from previously approved master plan on South Eubank Storm Drainage Analysis (dated November 1995, prepared by Smith Engineering Company). A New 2' valley gutter is constructed along the south side of the poperty to direct the flow into the pond. The discharge from the pond is connected to the storm drain on south Eubank as shown in the plans; the calculations for the pond are attached in Appendix A.

V. CONCLUSIONS

The proposed drainage scheme for the new buildings can be readily accommodated through the implementation of this plan. It has been adequately shown in this report that the internal conveyance of storm water to off-site facilities can be accomplished while meeting all current City requirements.

L-20-Z L-21-Z L-22-Z

M-20-Z M-22-Z

N-20-Z N-21-Z N-22-Z

IP

GIBSON AV

SANDIA

SU-1 IP USES

DEVELOPMENT RD

SU-1 IP USES

RESEARCH

RESEARCH RD

SU-1 IP USES

PARK

SHAW MITCHELL MALLORY PARTNERSHIP

IP

H1

H2

R-LT

R-LT (UNIT 5)

(UNIT 4)

(UNIT 1)

SU-1 IP USES

IP

AND

IP

SHAW MITCHELL MALLORY PARTNERSHIP

SU-1 MH PARK

FOUR HILLS MOBILE HOME PARK

R-D

FOUR HILLS VILLAGE 20TH INSTALLMENT

IP

TECHNOLOGY

PARKWAY

INNOVATION

IP

PARK

PROJECT SITE

IP

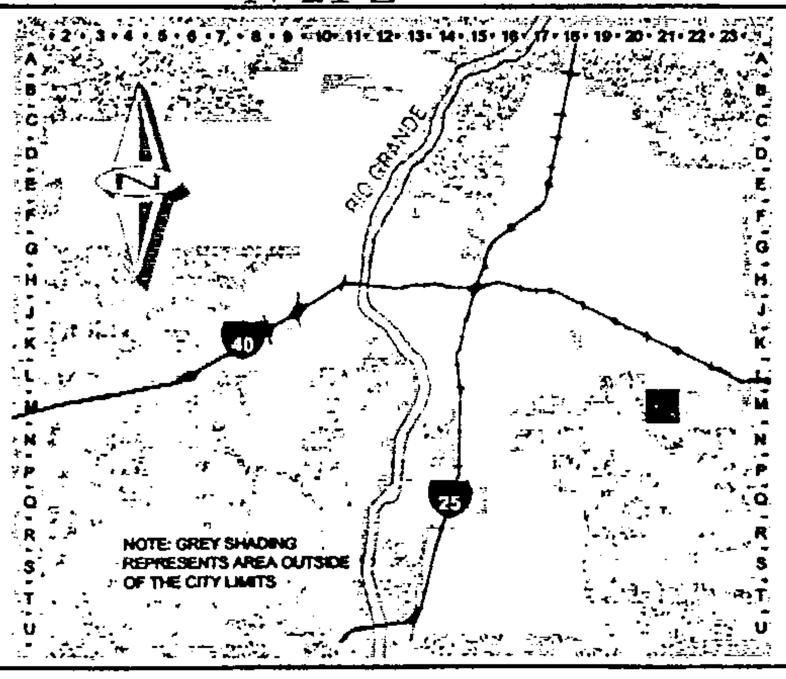
A-1

TIJERAS ARROYO

A-1

R-D

EUBANK BLVD



Zone Atlas Page: **M-21-Z**

Map amended through: **Aug 06, 2004**

Selected Symbols

- Unincorporated Areas
- Sector Plan Boundaries
- Parcel Boundaries
- Easement Lines
- Freeway Lanes
- Jurisdictional Boundaries
- Westgate Wall
- Escarpment
- Grant Boundaries
- Petroglyph
- H-1 Buffer Zone
- Arroyos
- LDN Noise Level
- Airport Clearance Zone
- Design Overlay Zones

0 750 1,500 Feet

CITY OF ALBUQUERQUE 1706 THREE HUNDRED YEARS 1706 • 2006 ALBUQUERQUE Haciendo Historia

AGIS Albuquerque Geographic Information System

PLANNING DEPARTMENT

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APPENDIX A

HYDROLOGY

```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
         RUN DATE (MON/DAY/YR) = 12/09/2005
         START TIME (HR:MIN:SEC) = 14:57:28     USER NO.= AHYMO-I-9702dGoodwinM-AH
         INPUT FILE = SNLOB.DAT

START                TIME=0.0
*****    SANDIA NATIONAL LAB OFFICE PARK
*****    100-YEAR 6-HOUR STORM EVENT
*****    FILE: SNLOB.DAT  DECEMBER 9 2005 BY:DLH
*****    ZONE ATLAS: M-21
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.74 IN RAIN SIX=2.22 IN
                     RAIN DAY=2.67 IN DT=0.05 HR

               COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =    .050000 HOURS       END TIME =     6.000000 HOURS
                  .0000   .0054   .0111   .0168   .0228   .0290   .0354
                  .0420   .0489   .0560   .0635   .0713   .0794   .0880
                  .0970   .1065   .1165   .1272   .1387   .1510   .1643
                  .1716   .1797   .2032   .2587   .3541   .5017   .7142
                 1.0047  1.2339  1.3374  1.4239  1.4996  1.5673  1.6286
                 1.6845  1.7359  1.7831  1.8267  1.8670  1.9043  1.9136
                 1.9224  1.9307  1.9385  1.9459  1.9531  1.9599  1.9664
                 1.9728  1.9789  1.9848  1.9905  1.9960  2.0014  2.0067
                 2.0118  2.0168  2.0217  2.0265  2.0312  2.0357  2.0402
                 2.0446  2.0489  2.0532  2.0573  2.0614  2.0654  2.0694
                 2.0732  2.0771  2.0808  2.0845  2.0882  2.0918  2.0954
                 2.0989  2.1024  2.1058  2.1092  2.1125  2.1158  2.1191
                 2.1223  2.1255  2.1286  2.1317  2.1348  2.1379  2.1409
                 2.1439  2.1468  2.1497  2.1526  2.1555  2.1584  2.1612
                 2.1640  2.1667  2.1695  2.1722  2.1749  2.1776  2.1802
                 2.1829  2.1855  2.1881  2.1906  2.1932  2.1957  2.1982
                 2.2007  2.2032  2.2056  2.2081  2.2105  2.2129  2.2153
                 2.2176  2.2200

*****
***** * DEVELOPED CONDITIONS *
*****
***** ************************
***** SANDIA NATIONAL LAB OFFICE BUILDING
***** ************************
```

***** TOTAL PROJECT SITE
***** 10.1136 ACRES
*****

```
COMPUTE NM HYD      ID=1 HYD NO=100.SITE AREA=0.0158 SQ MI
                    PER A=0 PER B=15 PER C=0 PER D=85
                    TP=0.13 HR MASS RAINFALL=-1

     K =   .070850HR    TP =   .130000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   54.368    CFS   UNIT VOLUME =    .9991       B =   526.28      P60 = 1.7400
     AREA =      .013430 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .129980HR    TP =   .130000HR    K/TP RATIO =   .999845     SHAPE CONSTANT, N =  3.530849
     UNIT PEAK =   5.8808    CFS   UNIT VOLUME =    .9988       B =   322.57      P60 = 1.7400
     AREA =      .002370 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD           ID=1 CODE=1

                                  HYDROGRAPH FROM AREA 100.SITE

   RUNOFF VOLUME =      1.77025 INCHES      =       1.4917 ACRE-FEET
   PEAK DISCHARGE RATE =      37.72 CFS  AT   1.500 HOURS   BASIN AREA =    .0158 SQ. MI.

ROUTE RESERVOIR     ID=2   HYD=POND.500 INFLOW=1  CODE=5
                     OUTFLOW(CFS)     STORAGE(AF)    ELEV(FT)
                     0                0              68.7
                     2.96             0.07337        69.7
                     5.12             0.16500        70.7
                     6.61             0.27709        71.7
                     7.82             0.41192        72.7
                     8.87             0.57181        73.7
                     9.81             0.75855        74.7

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

   TIME       INFLOW     ELEV       VOLUME     OUTFLOW
   (HRS)      (CFS)      (FEET)     (AC-FT)    (CFS)
```

8.87 73.7
x 74.5 > .2
9.89 74.7

$x - 74.5 = \frac{9.81 - 8.87}{74.7 - 73.7}(.94) = \frac{.94}{1}$

74.5 higher than pond crest

$x - 74.5 =$

$9.81 - 8.87 = .94\ (.8) = .75$

$74.7 - 73.7 = 1$

$8.87 + .75 = 9.62$

.00	.00	68.70	.000	.00
.25	.00	68.70	.000	.00
.50	.00	68.70	.000	.00
.75	.03	68.70	.000	.00
1.00	1.42	68.87	.012	.50
1.25	4.59	69.16	.034	1.36
1.50	37.72	72.40	.371	7.45
1.75	14.37	74.30	.683	9.43
2.00	8.72	74.48	.717	9.60
2.25	2.55	74.03	.633	9.18
2.50	1.30	73.18	.489	8.32
2.75	.81	72.23	.348	7.25
3.00	.58	71.24	.226	5.92
3.25	.47	70.31	.129	4.28
3.50	.42	69.61	.067	2.69
3.75	.38	69.17	.034	1.39
4.00	.37	68.98	.020	.82
4.25	.36	68.89	.014	.56
4.50	.36	68.85	.011	.44
4.75	.35	68.83	.010	.39
5.00	.36	68.83	.009	.38
5.25	.37	68.82	.009	.37
5.50	.38	68.83	.009	.37
5.75	.39	68.83	.009	.38
6.00	.40	68.83	.010	.39
6.25	.06	68.80	.007	.29
6.50	.02	68.75	.004	.14
6.75	.01	68.72	.002	.07
7.00	.00	68.71	.001	.03
7.25	.00	68.70	.000	.01
7.50	.00	68.70	.000	.01
7.75	.00	68.70	.000	.00

PEAK DISCHARGE = 9.609 CFS - PEAK OCCURS AT HOUR 1.95
MAXIMUM WATER SURFACE ELEVATION = 74.486
MAXIMUM STORAGE = .7186 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA POND.500

$$t_b = 2,107 \cdot E \cdot \frac{\Delta t}{Q_p} - .25\frac{\Delta_D}{\Delta_T}$$

$$= 2,107 \cdot 1.77 \cdot \frac{10.117}{37.3} - .25(.85)$$

$$t_b = .802 \qquad .21$$

Diradius = 0.21 $37.3 - 9.7$

$$A_2 \quad \frac{L_1 + L_2}{2} h = 14,016 \times 3600 = 50,458$$

$$= \frac{.802 + .21}{2}(37.3 - 9.7) = 1$$

$\pi.6$

```
RUNOFF VOLUME =     1.77023 INCHES     =       1.4917 ACRE-FEET
PEAK DISCHARGE RATE =       9.61 CFS  AT   1.950 HOURS   BASIN AREA =    .0158 SQ. MI.


FINISH

     NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 14:57:28
```

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

New Mexico 35.05 N 106.56 W 5370 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 3
G.M. Bonnin, D. Todd, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2003

Extracted: Fri Oct 14 2005

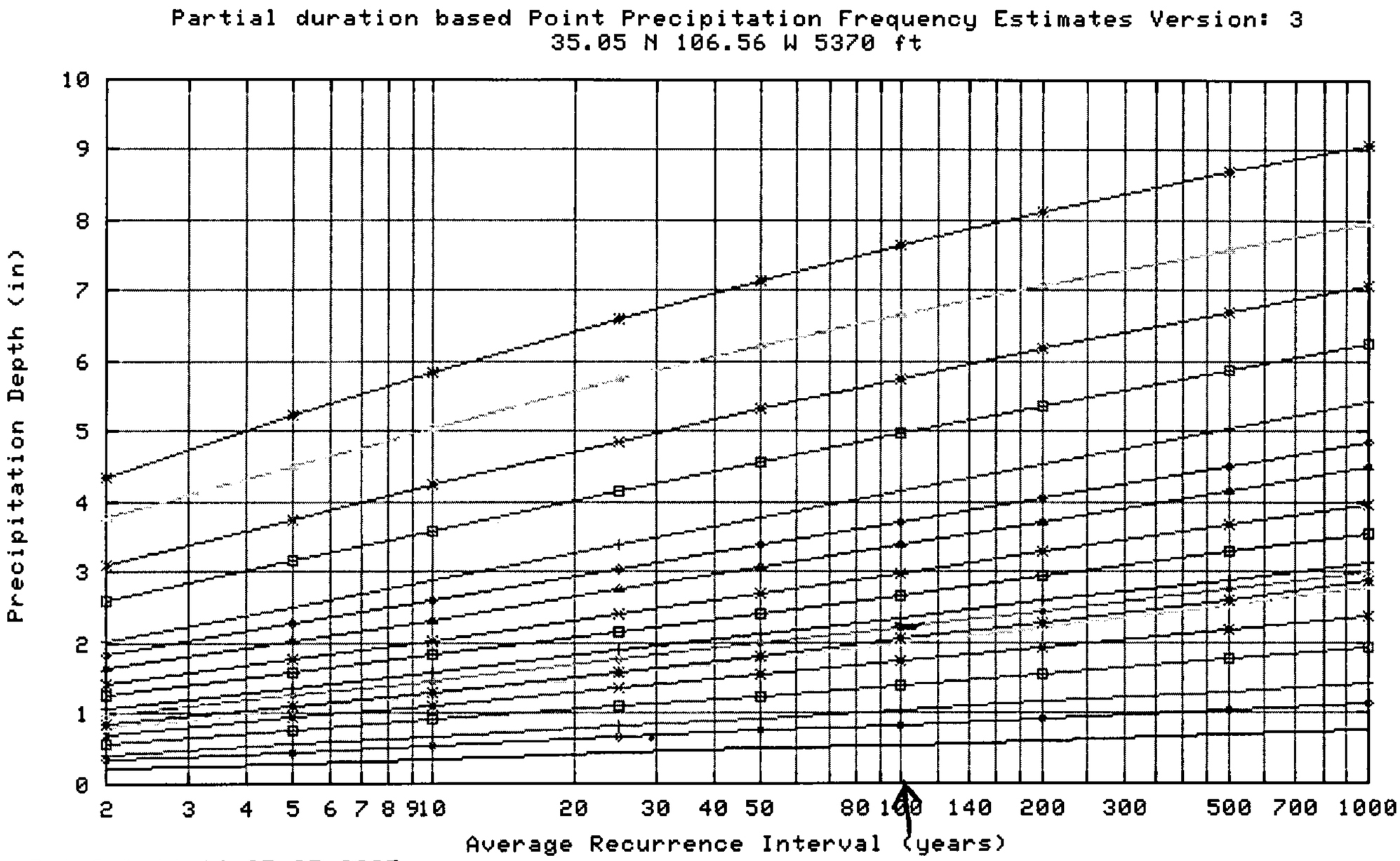
Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | D

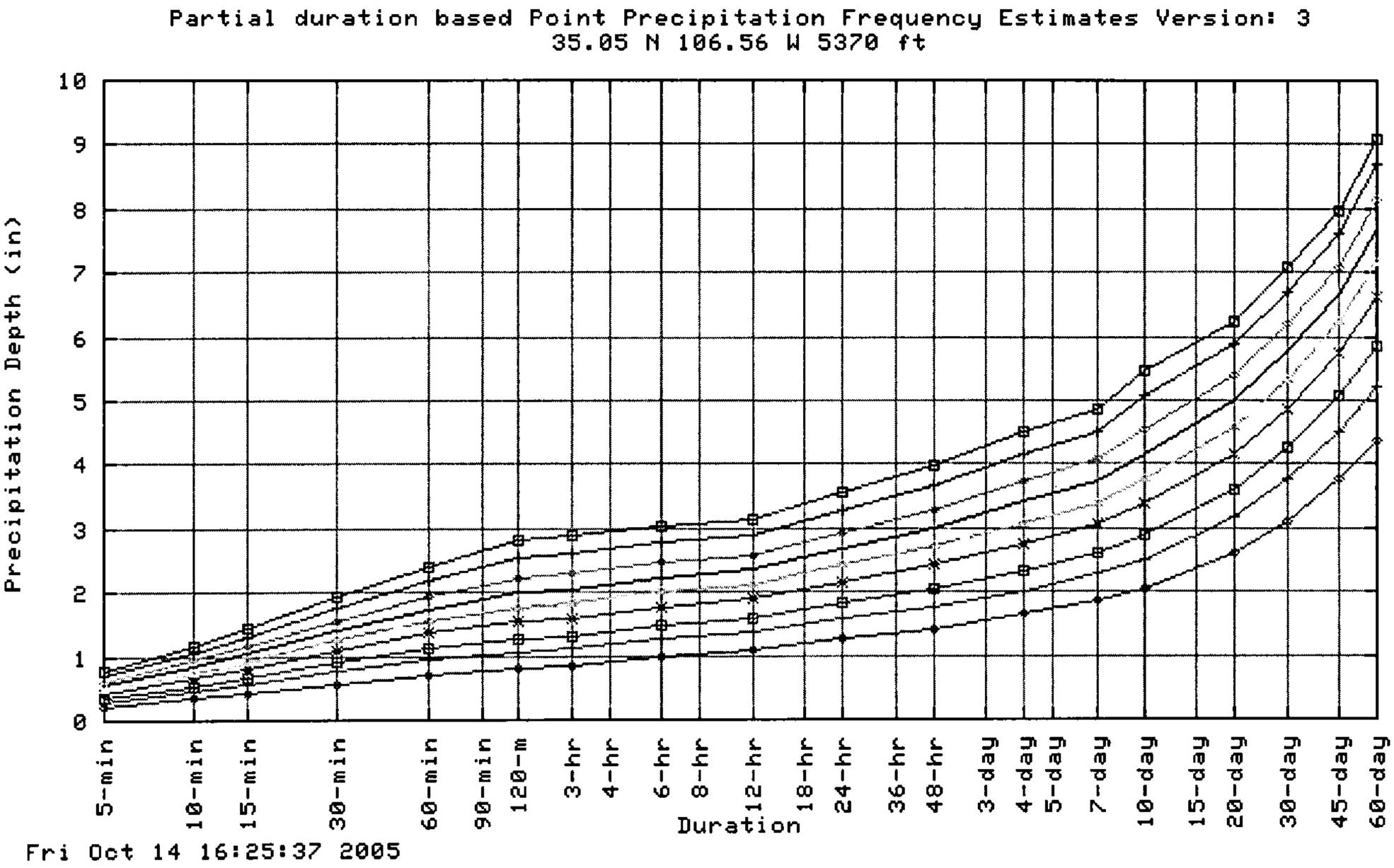
Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.22	0.34	0.42	0.57	0.70	0.81	0.85	0.98	1.09	1.26	1.41	1.64	1.85	2.04	2.59	3.10	3.77	4.36
5	0.30	0.46	0.56	0.76	0.94	1.07	1.11	1.26	1.38	1.58	1.77	2.02	2.28	2.51	3.16	3.76	4.52	5.22
10	0.36	0.54	0.67	0.91	1.12	1.27	1.32	1.48	1.60	1.83	2.04	2.33	2.61	2.89	3.60	4.25	5.06	5.85
25	0.43	0.66	0.82	1.10	1.37	1.55	1.60	1.77	1.90	2.16	2.42	2.75	3.06	3.39	4.16	4.87	5.74	6.62
50	0.49	0.75	0.93	1.25	1.55	1.77	1.82	1.99	2.13	2.42	2.70	3.07	3.39	3.77	4.58	5.32	6.22	7.15
100	0.55	0.84	1.04	1.40	1.74	2.00	2.05	2.22	2.35	2.67	2.99	3.40	3.73	4.16	4.99	5.76	6.67	7.66
200	0.61	0.94	1.16	1.56	1.93	2.23	2.29	2.46	2.59	2.94	3.29	3.73	4.07	4.55	5.38	6.18	7.09	8.13
500	0.70	1.06	1.32	1.77	2.19	2.55	2.62	2.78	2.90	3.29	3.68	4.17	4.51	5.05	5.88	6.70	7.60	8.70
1000	0.76	1.16	1.44	1.93	2.39	2.80	2.88	3.02	3.13	3.55	3.97	4.51	4.85	5.44	6.25	7.08	7.95	9.09

Text version of table

* These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.


Partial duration based Point Precipitation Frequency Estimates Version: 3
35.05 N 106.56 W 5370 ft
Precipitation Depth (in)
0
1
2
3
4
5
6
7
8
9
10
2 3 4 5 6 7 8 9 10 20 30 40 50 80 100 140 200 300 500 700 1000
Average Recurrence Interval (years)
Fri Oct 14 16:25:37 2005
Duration
5-min
10-min
15-min
30-min
60-min
2-hr
3-hr
6-hr
12-hr
24-hr
48-hr
4-day
7-day
10-day
20-day
30-day
45-day
60-day



Confidence Limits -

*** Upper bound of the 90% confidence interval Precipitation Frequency Estimates (inches)**

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.26	0.39	0.49	0.66	0.81	0.95	1.00	1.15	1.25	1.44	1.59	1.78	2.01	2.21	2.81	3.34	4.06	4.70
5	0.35	0.53	0.65	0.88	1.09	1.26	1.30	1.47	1.57	1.79	1.99	2.20	2.48	2.72	3.43	4.05	4.87	5.63
10	0.41	0.62	0.77	1.04	1.29	1.49	1.53	1.72	1.82	2.08	2.30	2.53	2.84	3.12	3.89	4.58	5.46	6.31
25	0.50	0.76	0.94	1.27	1.57	1.81	1.86	2.05	2.16	2.45	2.71	2.99	3.31	3.66	4.50	5.24	6.18	7.13
50	0.57	0.86	1.07	1.44	1.78	2.06	2.11	2.31	2.42	2.74	3.03	3.35	3.68	4.07	4.94	5.73	6.71	7.71
100	0.63	0.97	1.20	1.61	2.00	2.32	2.38	2.58	2.68	3.03	3.36	3.70	4.05	4.49	5.39	6.20	7.20	8.26
200	0.70	1.07	1.33	1.79	2.22	2.59	2.65	2.84	2.95	3.33	3.69	4.06	4.42	4.92	5.81	6.65	7.65	8.78
500	0.80	1.22	1.51	2.04	2.52	2.96	3.03	3.21	3.31	3.72	4.13	4.55	4.92	5.47	6.36	7.21	8.21	9.40
1000	0.88	1.33	1.65	2.22	2.75	3.26	3.33	3.49	3.59	4.03	4.47	4.93	5.30	5.91	6.77	7.63	8.60	9.85

* The **upper** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
** These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

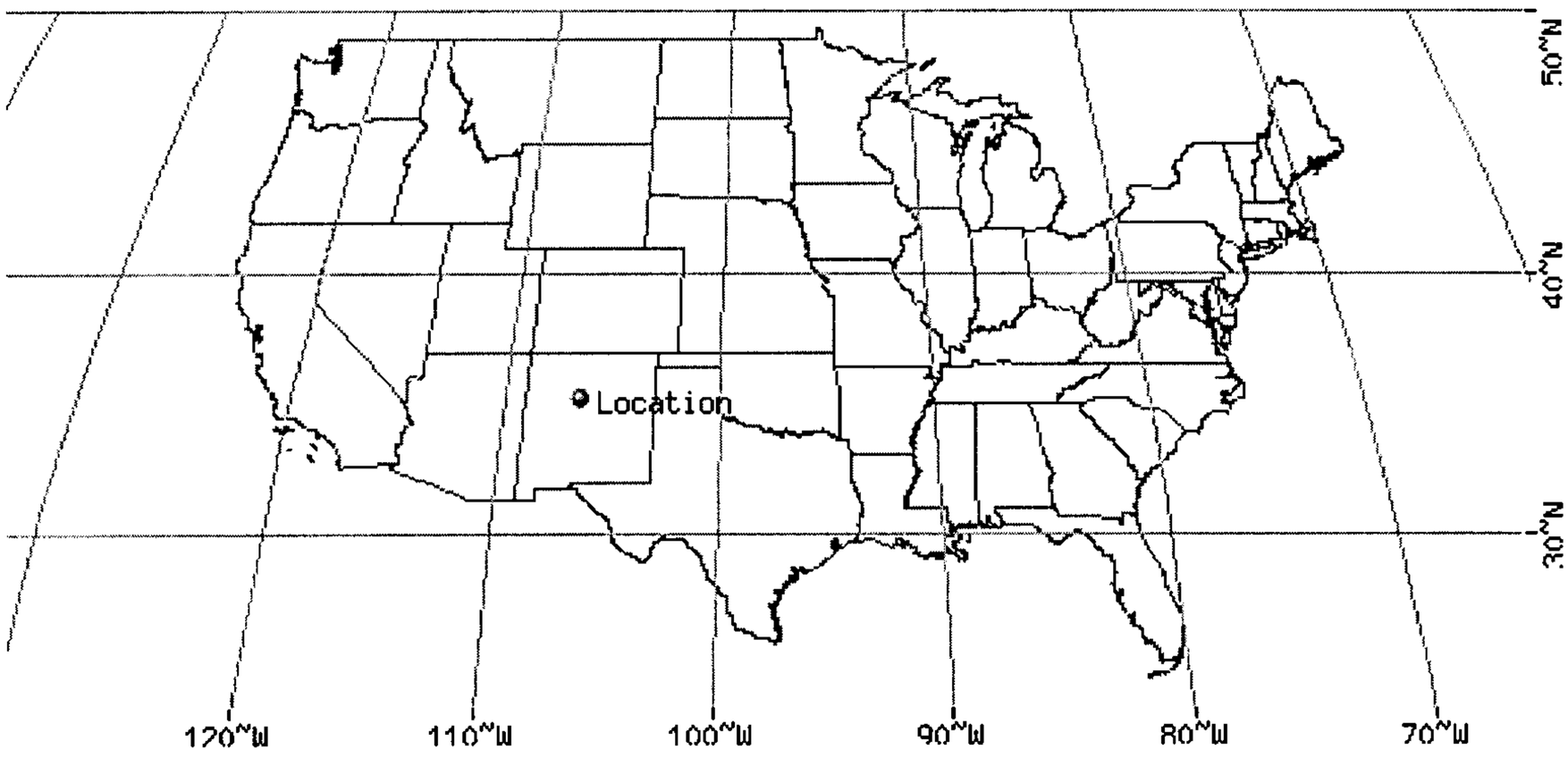
*** Lower bound of the 90% confidence interval Precipitation Frequency Estimates (inches)**

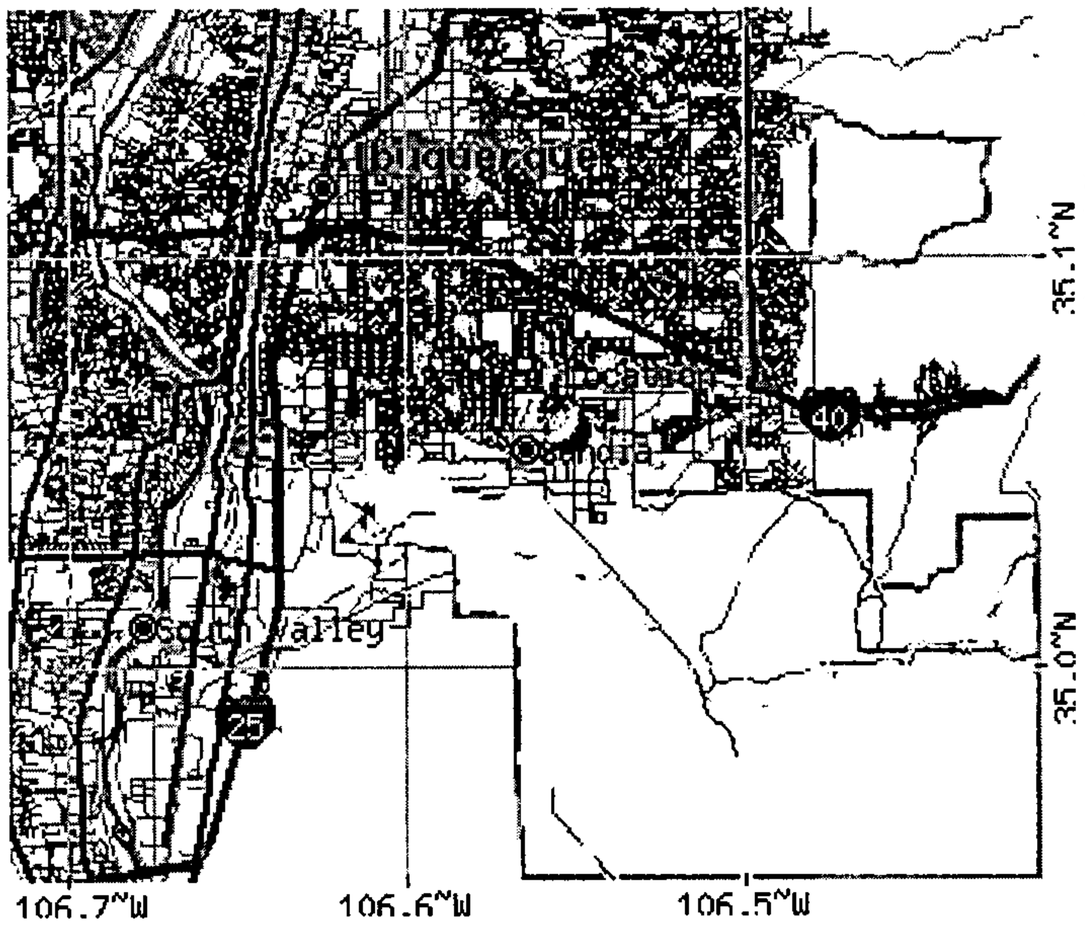
ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.19	0.29	0.37	0.49	0.61	0.70	0.74	0.86	0.96	1.11	1.26	1.50	1.70	1.88	2.39	2.86	3.50	4.03
5	0.26	0.39	0.49	0.66	0.81	0.92	0.97	1.10	1.21	1.39	1.57	1.85	2.09	2.32	2.92	3.46	4.19	4.84
10	0.31	0.47	0.58	0.78	0.97	1.09	1.14	1.29	1.40	1.60	1.81	2.13	2.40	2.67	3.32	3.92	4.69	5.42
25	0.37	0.57	0.70	0.95	1.17	1.32	1.37	1.53	1.66	1.89	2.14	2.51	2.80	3.12	3.83	4.48	5.31	6.12
50	0.42	0.64	0.79	1.07	1.32	1.50	1.55	1.71	1.84	2.11	2.39	2.79	3.10	3.46	4.21	4.89	5.74	6.61
100	0.47	0.71	0.88	1.19	1.47	1.68	1.74	1.90	2.03	2.33	2.64	3.08	3.40	3.80	4.57	5.27	6.14	7.07
200	0.52	0.79	0.98	1.32	1.63	1.86	1.92	2.09	2.22	2.54	2.88	3.37	3.70	4.13	4.90	5.65	6.51	7.50
500	0.58	0.89	1.10	1.48	1.83	2.11	2.17	2.34	2.46	2.83	3.21	3.75	4.08	4.57	5.34	6.09	6.96	8.00
1000	0.63	0.96	1.19	1.61	1.99	2.30	2.37	2.52	2.64	3.04	3.44	4.04	4.37	4.89	5.66	6.42	7.26	8.34

* The **lower** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **less** than.
** These precipitation frequency estimates are based on a partial duration maxima series. **ARI** is the Average Recurrence Interval.

Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Maps -





These maps were produced using a direct map request from the U.S. Census Bureau Mapping and Cartographic Resources **Tiger Map Server**.

Please read disclaimer for more information.

LEGEND

- State
- County
- Indian Resv
- Lake/Pond/Ocean
- Street
- Expressway
- Highway
- Connector
- Stream
- Military Area
- National Park
- Other Park
- City
- County

Scale 1:228583 (0 2 4 6 8 mi; 0 2 4 6 8 10 km)
*average--true scale depends on monitor resolution

Other Maps/Photographs -

View USGS digital orthophoto quadrangle (DOQ) covering this location from TerraServer; **USGS Aerial Photograph** may also be available
from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the USGS for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information
about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study,
please refer to our documentation.

Using the **National Climatic Data Center's (NCDC)** station search engine, locate other climate stations within:

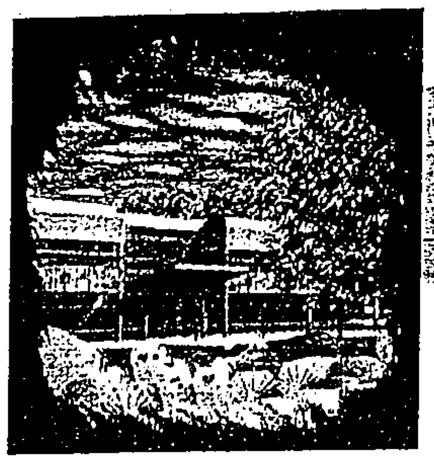
+/-30 minutes ...OR... +/-1 degree of this location (35.05/-106.56). Digital ASCII data can be obtained directly from **NCDC**.

Find Natural Resources Conservation Service (NRCS) SNOTEL (SNOwpack TELemetry) stations by visiting the **Western Regional Climate Center's state-specific SNOTEL station maps**.

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

Disclaimer

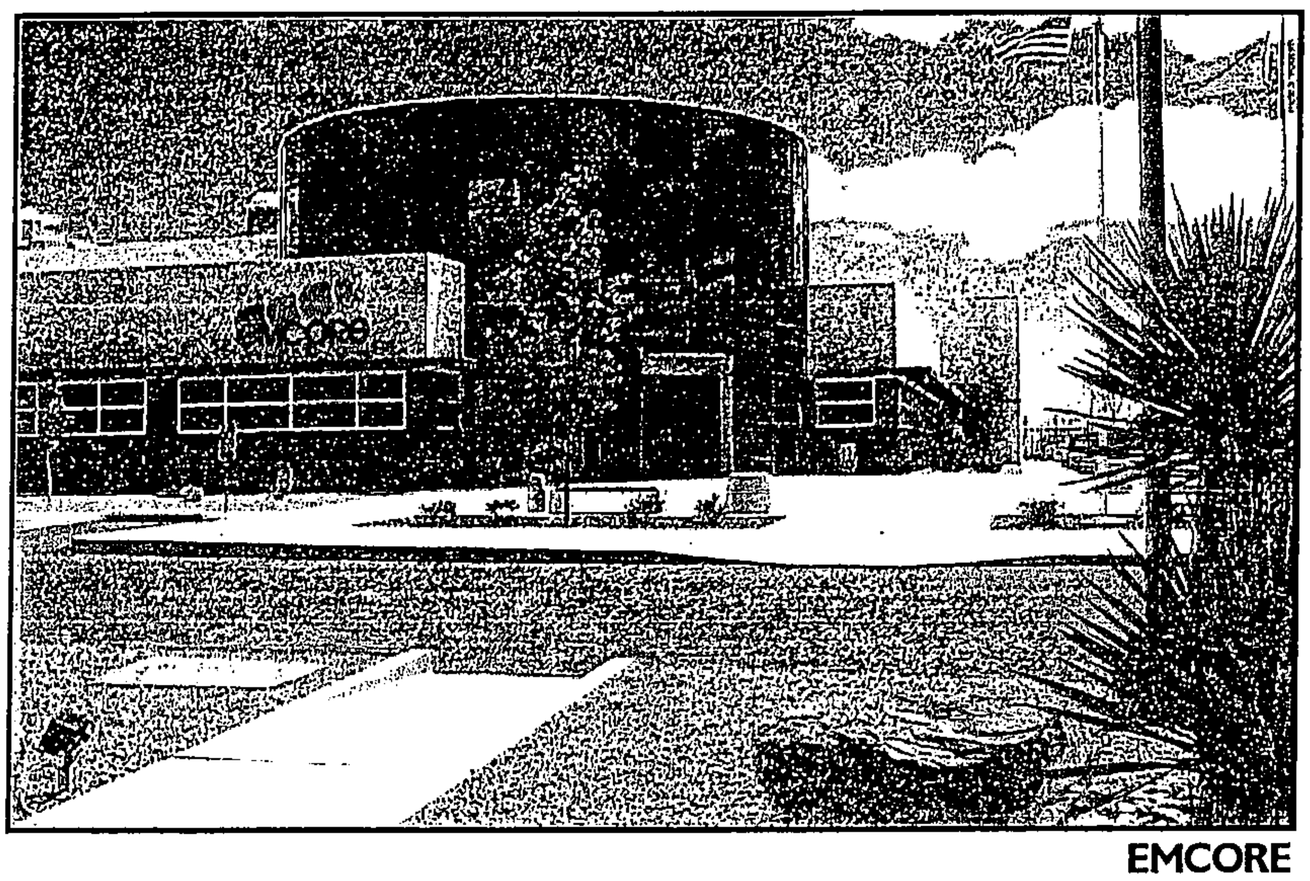


1. EXECUTIVE SUMMARY

SANDIA SCIENCE & TECHNOLOGY PARK
"THE GATEWAY TO ALBUQUERQUE'S HIGH-TECH ECONOMY"

PURPOSE

This Master Development Plan covering the approximately 217 acres of the Sandia Science & Technology Park (SS&TP) provides an overall framework for the continuing development of the Park. The SS&TP is a unique opportunity for the enhancement of Albuquerque's high-technology economy and provides for a research park located in direct proximity to Sandia National Laboratories (SNL), encouraging co-location of researchers in a congenial collaborative environment. The Sandia Science and Technology Park is a public/private partnership committing the landowners and the other parties to the Park to build out their vision of a large science and technology research park in a campus-style setting in the South Eubank corridor.



EMCORE

The parties are further committed to the development of the Sandia Science and Technology Park with the understanding that its success will positively impact New Mexico's economy and the Albuquerque regional economy. It is anticipated that technology-based companies and their suppliers will locate facilities within the SS&TP to jointly pursue commercial activities with SNL and the other area research institutions and companies. The result will be new and better jobs for New Mexicans.

The development of the Sandia Science and Technology Park serves a unique public purpose that is not replicated elsewhere in the Albuquerque Metropolitan Area. The unique role of the SS&TP is based on its location immediately adjacent to SNL, a distinct advantage for the commercialization of technology ventures sponsored by SNL. The Park provides a site for SNL technology partners and suppliers to locate and/or expand facilities in close proximity to the highly specialized technology and highly trained staff of SNL. The development of the Sandia Science and Technology Park meets many other public purpose goals as well, as described below.

GOALS AND OBJECTIVES

- Create a unique science and technology research park in close proximity to Sandia National Laboratories and the Department of Energy facilities in the South Eubank Corridor.

- Strengthen the economic base of the greater community through the provision of new, high paying, high technology jobs.

- Partner with both private and public entities in a model relationship for future industrial park development.

- Water harvesting within parking lot islands and other landscape areas are encouraged.

- Individual tracts will drain to the streets or public storm drains, to the greatest extent possible and/or practical.

- All development within the SS&TP will conform to this master plan's drainage requirements.

- Where the sites can not drain to the street, private ribbon channels, with easements, will be constructed to convey drainage to proposed public storm drains or to public streets.

- The SS&TP has restricted allowable discharge rates. Peak flow rates will be mitigated using on-site detention ponds and control structures.

- Public storm drains will be constructed throughout the site such that all streets within the Park are restricted to the depth of street flow at the top of curb height and the energy grade line within the right-of-way.

The Illustrative Master Plan identifies primary streets and potential lot configurations. The street system is anticipated to remain through out the project life, however, the lot lines shown should be construed only as conceptual, for reference and subject to change as individual developments arise.

Lots 1-8 have an allowable discharge of 167cfs in the 100yr storm. This will allow free discharge from that portion of the SS&TP provided that the developed impervious area (including public streets) does not exceed 90% of the total area. The Manzano Mesa Master Drainage Plan defines allowable discharge for this portion of the SS&TP.

Lots 20, 21 39, and 40 will follow the guidelines provided in Amendment #2 to the South Eubank Storm Drainage Analysis, which indicates that those areas may discharge 1.3cfs/acre to the South Eubank Storm Drain. Lots 20 and 21 will require onsite ponds that will drain to the proposed storm drain in Innovation Parkway. Similarly, Lots 39 and 40 will require onsite ponds that will drain to the proposed storm drain in Progress Place.

This Drainage Master Plan proposes to construct a new storm drain from the southwest corner of the existing MHP and south through the SS&TP (the SLO lands) directly to the Tijeras Arroyo. This new storm drain would accept flows from the MHP, as well as accept fully developed flows from Lots 23-29 and 33-34. Pipe sizes for the storm drain outfall may be reduced if an agreement for ponding on MHP lands is made between the MHP and the SS&TP. A new outfall line, energy dissipation structure, and easements to the Tijeras Arroyo will be required. Phasing of the Park will allow deferral of this new line to Phase 2. This phase begins to develop the eastern SLO lands (Lots 22-36), and thus the storm line is not required until that time.

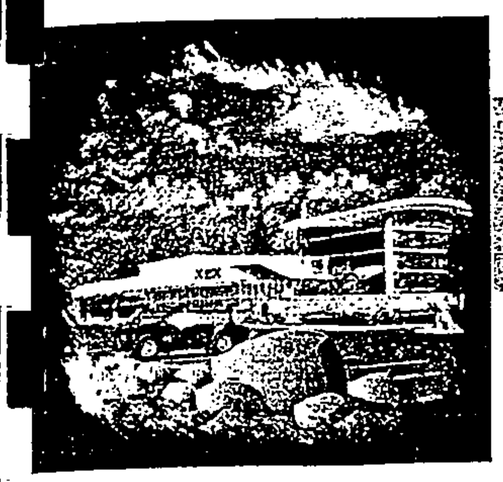
Allowable discharge rates for all of the remaining lands (Lots 9-19, 22, 30-32, and 35-38) within the Park are defined by Amendment #2 to the South Eubank Storm Drainage Analysis, with a minor modification. This plan proposes to modify Amendment #2 by allowing the MHP to have free discharge to the new storm drain (discharging MHP and site flows to the Tijeras Arroyo) described in the paragraph above. This modification has a number of advantages:

- No land within the Park will have to be encumbered for massive dedicated public ponding areas and instead, reduces the ponding requirements sufficiently to allow ponding within the developments (parking and driveway areas, landscaping areas, etc.).

- Lots 23-29 and 33-34 get free discharge, this is an advantage since ponding over the existing landfill areas has the potential to increase methane gas generation.

- Lots 9-19, 22, 30-32, and 35-37 have a less restrictive allowable discharge rate, which will allow those lots to have smaller ponds than would otherwise be required.

This Drainage Master Plan provides a safe, innovative, and economical solution to drainage management requirements of the SS&TP.



800 Work stations
Fire Marshall - Fire flows info.
need to get to Roger Green

Conceptual GMD Plan 10 days
Conceptual Utility 15 days
GMD Plan 15 days
Public L. Plans 13 days

DRAINAGE MASTER PLAN

Previous Drainage Management Plans

There are a number of existing drainage reports, master drainage plans, and drainage studies which address the drainage conditions within the SS&TP vicinity. These governing documents are as follows:

- The South Eubank Storm Drainage Analysis, (dated November 1995, prepared by Smith Engineering Company).
- Amendment #2 to the South Eubank Storm Drainage Analysis, (dated November 2, 1998, prepared by Smith Engineering Company)
- The Manzano Mesa Master Drainage Plan, (dated August 1996, prepared by Smith Engineering Company)

This Master Drainage Plan conforms to these plans.

Existing Drainage Infrastructure

The most important drainage feature for the SS&TP is the existing and planned large diameter South Eubank Storm Drain. Phase 1 of this storm drainage project, which runs from the Manzano Mesa Park Detention Pond to the Tijeras Arroyo, is complete. Phase 2 is currently under construction, and runs from the Manzano Mesa Park Detention Pond north up Elizabeth Street to Central Ave. The large majority of SS&TP currently drains to this existing storm drain.

Drainage From Existing Tracts

All of the land within the SS&TP, with the exception of the approximately 40-acre State Land Office (SLO) lands holding the existing landfill, generally drains via surface runoff from east to west. Flows are conveyed across the tracts by natural sheet flow and shallow concentrated flows within existing natural swales. Again, with the exception of the above SLO tract, none of the lands within the SS&TP are impacted by offsite drainage. Flows from the SS&TP lands drain to Eubank, where they are picked up by the Phase I South Eubank Storm Drain. For the far southern portion of the site, small amounts of drainage may cross the Eubank alignment and enter the base via sheet flow and shallow concentrated flows.

The existing South Pointe Mobile Home Park (MHP), located east of the SMM Partnership Tract A, currently drains to the southwest corner of the MHP and south across the SLO lands, directly to the Tijeras Arroyo in a non-engineered fashion. There is no existing drainage downstream easement for this MHP drainage. This drainage runs to the southwest corner of the SLO tract, where flows join the offsite drainage from the MHP. The combined flows then drain directly to the Tijeras Arroyo.

The western half of the approximately 20-acre SLO tract located north of the existing PNM switching station is currently being developed by EMCORE. The drainage plan calls for the site to drain to a large pond on the south side of the site. The controlled discharge from the pond drains to a new storm drain to be constructed with the EMCORE project. The new storm drain will tie to the South Eubank Storm Drain and extend east to the edge of the EMCORE site. The eastern half of the tract drains to a small pond located adjacent to the EMCORE project. That pond also drains to the new storm drain.

Proposed Conditions

The significant proposed drainage management concepts and goals are as follows:

- Minimize or eliminate large, dedicated ponds that reduce buildable area
- Minimize expensive public and private storm drainage infrastructure

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1000554 EPC#:_____

ZONE MAP/DRG. FILE #:M21/D5G
WORK ORDER#:775181

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Survey Southwest Ltd.
ADDRESS: 33 Lomas NE
CITY, STATE: ABQ, NM

CONTACT: Dan Graney
PHONE: 998-0303
ZIP CODE: 87102

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
AUG 28 2007
HYDROLOGY SECTION

DATE SUBMITTED:August 27, 2007

BY: Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE

August 28, 2007

Diane Hoelzer, P.E.
Mark Goodwin & associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Re: Sandia National Lab Office Building, 1601 Innovation Parkway,
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 02/27/07 (M-21/D005G)
Certification dated 08/27/07

Based upon the information provided in your submittal received 8/28/07, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy Sims
Plan Checker
Development and Building Services

C: CO Clerk-Katrina Sigala
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

July 16, 2007

J. David Dekker, Registered Architect
2101 Mountain Road NW
Albuquerque, NM 87104

Re: Certification Submittal for Final Building Certificate of Occupancy for Innovation Parkway Office Complex, [M-21 / D5G]
1611 Innovation Parkway SE
Architect's Stamp Dated 07/16/07

Dear Mr. Dekker:

The TCL / Letter of Certification submitted on July 16, 2007 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: INNOVATION PARKWAY OFFICE COMPLEX ZONE MAP/DRG. FILE # M-21-Z D054
DRB#: 06DRB-00110 EPC#: WORK ORDER#: 1004665

LEGAL DESCRIPTION: TRACT K, SANDIA SCIENCE & TECH. PARK
CITY ADDRESS: 1611 INNOVATION PARKWAY SE, ALBUQ. NM, 87123

ENGINEERING FIRM: MARK GOODWIN & ASSOCIATES INC CONTACT: DIANNE HOUSER
ADDRESS: 8916 ADAMS STREET NE PHONE: 828-2200
CITY, STATE: ALBUQ. NM 87113 ZIP CODE: 87113

OWNER: GBG, LLC CONTACT: BRENT DePonte
ADDRESS: 7770 JEFFERSON NE SUITE 100 PHONE: 884-7077
CITY, STATE: ALBUQ., NM ZIP CODE: 87109

ARCHITECT: STUDIO SW ARCHITECTS (FORMERLY DCSW) CONTACT: DAVE DEKKER
ADDRESS: 2101 MOUNTAIN ROAD NW PHONE: 843-9639
CITY, STATE: ALBUQ. NM, ZIP CODE: 87104

SURVEYOR: SURVEY SOUTHWEST CONTACT: DAN GRANBY
ADDRESS: 333 LOMAS BLVD NE PHONE: 505-998-0303
CITY, STATE: ALBUQ. NM ZIP CODE: 87102

CONTRACTOR: CAMERON SWINERTON BUILDERS CONTACT: JOSH SIMPSON
ADDRESS: 1570 PACHECO ST. STE. A6 PHONE: 505-988-7193 EXT 224
CITY, STATE: SANTA FE NM, ZIP CODE: 87505

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
__X__ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
__X__ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

RECEIVED
JUL 16 2007
HYDROLOGY SECTION

SUBMITTED BY: _____ DATE: 7/16/07

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

STUDIO SW ARCHITECTS

Studio Southwest
Architects Inc.

TRAFFIC CERTIFICATION

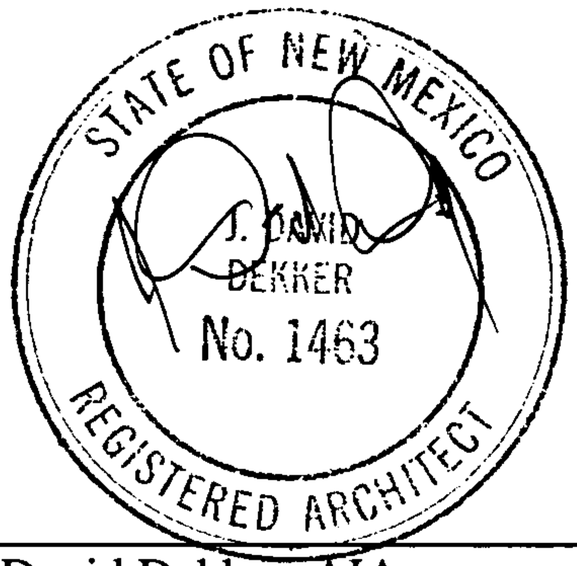
I, J. DAVID DEKKER, NMRA 1463, OF THE FIRM STUDIO SOUTHWEST ARCHITECTS, INC., (FORMERLY KNOWN AS DCSW, INC.) HEREBY CERTIFY THAT THIS PROJECT IS IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE DRB, AA OR TCL APPROVED PLAN DATED 02/06/06. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED DAVE DEKKER OF THE FIRM STUDIO SOUTHWEST ARCHITECTS. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON 07/10/07 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR CERTIFICATE OF OCCUPANCY.

-<u>EXCEPTIONS TO ORIGINAL DOCUMENT</u>

1.) SECURITY FENCE WAS ADDED TO PARKING SPACES NORTH OF BUILDING

2.) FOUR HANDICAP SPACES WERE RE-LOCATED FROM FRONT ENTRY TO EAST SIDE OF BUILDING TO ALLOW FOR BUILDING DRAINAGE.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENTS ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.



J. David Dekker, AIA
Senior Principal

7/16/07
Date

Albuquerque
2101 Mountain Road NW
Albuquerque, NM 87104
T 505.843.9639
F 505.843.9683
mail@studioswarch.com

Santa Fe
130 Grant Avenue, Suite 102
Santa Fe, NM 87501
T 505.982.7191
F 505.992.0585
mail@studioswarch.com

www.studioswarch.com

CITY OF ALBUQUERQUE

June 28, 2007

Diane Hoelzer, P.E.
Mark Goodwin & associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Re: Sandia National Lab Office Building, 1601 Innovation Parkway,
Approval of 90 Day Temporary Certificate of Occupancy (C.O.)
Engineer's Stamp dated 02/27/07 (M-21/D005G)
Certification dated 06/27/07

Based upon the information provided in your submittal received 6/27/07, the above referenced certification is approved for release of 90-day Temporary Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy Sims
Plan Checker
Development and Building Services

C: CO Clerk-Katrina Sigala
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1000554 EPC#:_____

ZONE MAP/DRG. FILE #:M21/D5G
WORK ORDER#:775181

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Survey Southwest Ltd.
ADDRESS: 33 Lomas NE
CITY, STATE: ABQ, NM

CONTACT: Dan Graney
PHONE: 998-0303
ZIP CODE: 87102

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☒ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JUN 27 2007
HYDROLOGY SECTION

DATE SUBMITTED:June 27, 2007

BY: Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Hydrology Dept
1st Floor – One Stop
Plaza del Sol

DATE: June 27, 2007

RE: Sandia Science Office Building

ITEMS BEING TRANSMITTED

2-27-07	Grading and Drainage Plan
	Drainage Information Sheet

X Temporary C.O.

RECEIVED
JUN 27 2007
HYDROLOGY SECTION

Notes: Thanks,

PROJECT ENGINEER: Diane Hoelzer

Diane Hoelzer, PE

P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax

CITY OF ALBUQUERQUE

March 9, 2007

Diane Hoelzer, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

Re: SNL Office Bldg Grading and Drainage Plan
Engineer's Stamp dated 2-27-07 (M21/D5G)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal dated 2-27-07, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit.

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: file
Sertil Kanbar, DMD

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

M-21|D005G

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1000554 EPC#:_____

ZONE MAP/DRG. FILE #:M21/D5G
WORK ORDER#:775181

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

Diane Hoelzer
Stamp Date → 2|27|07
– e-mail –

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Cartesian Surveys Inc
ADDRESS: 2104 Southern Blvd. SE
CITY, STATE: Rio Rancho, NM

Diane @ Goodwin Engineering

CONTACT: Will Plotner
PHONE: 896-3050
ZIP CODE: 87124

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN 2-27-07 REVISED
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

<Resubmittal>

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
FEB 27 2007
HYDROLOGY SECTION

DATE SUBMITTED:February 27, 2007 BY: Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

LOT 2A, BLOCK 4
SANDIA RESEARCH PARK
(7/28/00, 00C-196)

from newly established property corner

Curt's
924-3864 FAX

3

574.85'

65

675.48'

Recorded
2/22/06
Bk 2006C Pg57

TRACTS A+B
Emcore Developmt

TRACT A
8.9380 acres

PRIVATE DRAINAGE EASEMENT GRANTED BY THIS PLAT FOR AND TO BE MAINTAINED BY OWNERS OF TRACT B

58'

110'

S00°51'36"W

1 9

576.13'

65.

7" W

1 TAG "LS 11184" (TYP)

PUBLIC SERVICE SUB-STATION
SUMMARY PLAT
(8/24/82, C20-24)

SANDIA SCIENCE + TECH PARK.

****
*** RX REPORT ***
****

RECEPTION OK

TX/RX NO	9238
CONNECTION TEL	505 797 9539
SUBADDRESS	
CONNECTION ID	
ST. TIME	03/09 09:42
USAGE T	00'27
PGS.	1
RESULT	OK

CITY OF ALBUQUERQUE

June 27, 2006

Diane Hoelzer, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

Re: SNL Office Bldg Grading and Drainage Plan
Engineer's Stamp dated 3-15-06 (M21/D5G)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal dated 6-2-06, the above referenced plan is approved for Grading Permit, Foundation Permit and Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions feel free to call the Municipal Development Department Hydrology Section at 768-3654 (Charles Caruso).

Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne, E.I.
Engineering Associate, Planning Dept.
Development and Building Services,

BUD

C: file
Charles Caruso, DMD

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1000554 EPC#:_____

ZONE MAP/DRG. FILE #:M21/D5G
WORK ORDER#:775181

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Cartesian Surveys Inc
ADDRESS: 2104 Southern Blvd. SE
CITY, STATE: Rio Rancho, NM

CONTACT: Will Plotner
PHONE: 896-3050
ZIP CODE: 87124

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN (3-15-06)
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JUN 02 2006
HYDROLOGY SECTION

DATE SUBMITTED: June 2, 2006

BY: Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. . One or more of the following levels of submittal may be required based on the following:

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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

D. Mark Goodwin and Associates, P.A.
Consulting Engineers

P.O. Box 90606 ❖ Albuquerque, NM 87199
(505) 828-2200 ❖ (505) 797-9539 fax
e-mail: dmg@swcp.com

LETTER OF TRANSMITTAL

TO: Brad Bingham
City Hydrology
1st Floor One Stop
Plaza del Sol

DATE: June 2, 2006

RE: Sandia Science Office Bldg

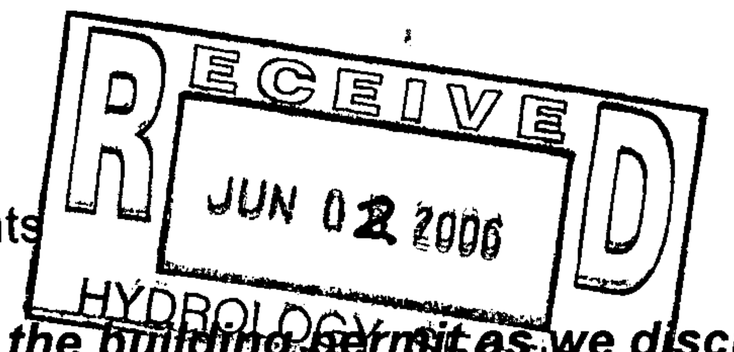
We are sending:

Copies	Date	Description
1	3-15-06	Revised Grading Plan

X **For processing asap.**

____ As requested

____ For your review and comments



NOTES: ***Apparently this is what is holding up the building permit as we discussed yesterday . Please let Arlene Protillo that the building permit plan set can be signed off now. Thanks.***

Project Engineer: Diane Hoelzer

Diane Hoelzer, PE

M-21/D56

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Bradley L. Bingham, PE

One Stop (1st Floor)

DATE: December 23, 2005

RE: **Sandia National Lab Office building**

M-21/D5G

ITEMS BEING TRANSMITTED

1	Letter related to yesterday Hydrology Submittal of the same job.

□ FOR YOUR USE

□ AS YOU REQUESTED

□ FOR YOUR RECORDS

□ FOR YOUR COMMENTS

Notes:

OIL LEAKS
$1200

$67 testing

- Assist - Booster - $400
- Master Cylinder

- Cables — $200

- Alarm — $150

PROJECT ENGINEER: Pavan Toleti, PE

RECEIVED
DEC 23 2005
HYDROLOGY SECTION

Betty Lou Chavez
Betty Lou Chavez

P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax
www.goodwinengineers.com

3366

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

December 21, 2005

Bradley L. Bingham, PE
Principal Engineer, Planning Department
Development and Building Services
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Sandia national Lab office building, Innovation Parkway Grading and Drainage Plan (M21-D5G)

Dear Mr. Bingham:

Our office has received your comments letter, dated November 28th, 2005, which asks for more information to be provided on our grading and drainage plan for the referenced site.

Your itemized comments have been addressed as follows:

- *The property is not plotted and at presents both the east property and west property of the lot K is under same ownership, so there is no need to have any agreement to place the said pond.* Yes ther
- *The invert at the connection is (67.72) shown in the plan. We have changed the alignment of the storm drain so that it will not affect the existing fire hydrant.*
- *We also removed the concrete rundown and had the storm inlet consisting of Triple 'c" inlet and an 18" SD pipe as shown in the G&D Plan.*

Please contact our office if you have any questions.

Sincerely,
MARK GOODWIN & ASSOCIATES, P.A.

T. Pavankumar
Pavan K. Toleti
Project Engineer

PKT/wp

Attachment

RECEIVED
DEC 23 2005
HYDROLOGY SECTION

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

July 6, 2007

J. David Dekker, Registered Architect
Studio SW Architects
2101 Mountain Road NW
Albuquerque, NM 87104

Re: Certification Submittal for Final Building Certificate of Occupancy for Innovation Parkway Office Complex, [M-21 / D5G]
1611 Innovation Parkway
Stamp Dated

Dear Mr. Dekker:

The TCL / Letter of Certification submitted on July 6, 2007 is not sufficient for acceptance by this office for final Certificate of Occupancy (C.O.).

The TCL (or DRB Site Plan) submitted for Final C.O. needs to be the ***exact*** copy of the approved TCL in the plan set approved for building permit and the letter of Certification needs to have an Architect's Stamp.

Resubmit acceptable package along with fully completed Drainage Information Sheet to front counter personnel for log in and evaluation by Transportation.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: INNOVATION PARKWAY OFFICE COMPLEX ZONE MAP/DRG. FILE # M-21 - # D05G
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT K, SANDIA SCIENCE AND TECHNOLOGY PARK
CITY ADDRESS: 1611 INNOVATION PARKWAY SE, ALBUQ. NM, 87123

ENGINEERING FIRM: D. MARK GOODWIN & ASSOCIATES, P.A. INC. CONTACT: DIANNE HOUSER
ADDRESS: 8916 ADAMS ST NE PHONE: 505-828-2200
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87113

OWNER: GBG, LLC CONTACT: BRENT DEPONT
ADDRESS: 7770 JEFFERSON NE SUITE 100 PHONE: 505-884-7077
CITY, STATE: ALBUQUERQUE NM ZIP CODE: 87109

ARCHITECT: STUDIO SW ARCHITECTS CONTACT: DAVE DEKKER
ADDRESS: 2101 MOUNTAIN RD NW PHONE: 505-843-9639
CITY, STATE: ALBUQUERQUE, NM 87104 ZIP CODE: 87104

SURVEYOR: CARTESIAN SURVEYS INC. CONTACT: WIL PLOTNER
ADDRESS: P.O. BOX 44414 PHONE: 505-896-3050
CITY, STATE: RIO RANCHO, NM ZIP CODE: 87174-4414

CONTRACTOR: CAMERON SWINERTON CONTACT: JOSH SIMPSON
ADDRESS: 1570 PACHECO ST. STE. A6 PHONE: 505-220-6147
CITY, STATE: SANTA FE NM, ZIP CODE: 87505

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
X ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
X CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

RECEIVED
JUL 06 2007
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

SUBMITTED BY: _____ DATE: 7/5/07

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

TRAFFIC CERTIFICATION

I, J. DAVID DEKKER, NMPE OR NMRA 1463, OF THE FIRM STUDIO SOUTHWEST ARCH., HEREBY CERTIFY THAT THIS PROJECT IS IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE DRB, AA OR TCL APPROVED PLAN DATED 3/16/06. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY MATT DOBSON OF THE FIRM CARLSON/SCHNABEL. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON JULY 3, 2007 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY.

(DESCRIBE ANY EXCEPTIONS AND/OR QUALIFICATIONS HERE IN A SEPARATE PARAGRAPH.)

(DESCRIBE ANY DEFICIENCIES AND/OR REQUIRED CORRECTIONS HERE IN A SEPARATE PARAGRAPH.)

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

Signature of Engineer or Architect

July 5, 2007
Date

ENGINEER'S OR ARCHITECT'S STAMP

RECEIVED
JUL 06 2007
HYDROLOGY SECTION

SAMPLE OF LANGUAGE, ONLY!!

MUST BE PLACED ON COMPANY LETTERHEAD.

CITY OF ALBUQUERQUE

January 26, 2006

Diane Hoelzer, P.E.
Mark Goodwin & Associates, PA
PO Box 90606
Albuquerque, NM 87199

Re: Sandia National Lab Office Building, Innovation Parkway
Grading and Drainage Plan
Engineer's Stamp dated 1-19-06 (M21-D5G)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal received 1-20-06, the above referenced plan is approved for Foundation Permit, Building Permit and Grading Permit

This plan will now be the plan that must be certified for the release of Certificate of Occupancy.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rudy E. Rael, Associate Engineer
Planning Department
Development and Building Services

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1002668 EPC#:_____

ZONE MAP/DRG. FILE #: M21/D56
WORK ORDER#:_____

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Cartesian Surveys Inc
ADDRESS: 2104 Southern Blvd. SE
CITY, STATE: Rio Rancho, NM

CONTACT: Will Plotner
PHONE: 896-3050
ZIP CODE: 87124

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87505

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN 1-19-06
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

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JAN 20 2006
HYDROLOGY SECTION

RECEIVED
JAN 20 2006
HYDROLOGY SECTION

DATE SUBMITTED: January 19, 2006

BY: Diane Hoelzer, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

January 19, 2006

Mr. Bradley Bingham
Plaza del Sol
Hydrology Dept.
P.O. Box 1293
Albuquerque, NM 87103

Re: Revised Grading Plan for Sandia National Lab Office Building (3rd revision)
Engineer's stamp 1-19-06 (M21/D5G)

Dear Mr. Bingham,

This is the third and last revision to the best of my knowledge. The City reviewers keep changing the location of the building and parking areas with respect to the north property line and the future right of way line to the south. We also changed the trail and handicap rap locations in the future right of way as well as created a 2 percent cross slope to accommodate DRC comments.

Thank you for your patience and call me if you have any questions.

Sincerely,

MARK GOODWIN AND ASSOCIATES, P.A.

Diane Hoelzer, P.E.

file:/5089 / Sandia NLOB / dr_1.ltr

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JAN 20 2006
HYDROLOGY SECTION

CITY OF ALBUQUERQUE

November 28, 2005

Diane Hoelzer, P.E.
Mark Goodwin & Associates, PA
PO Box 90606
Albuquerque, NM 87199

Re: Sandia National Lab Office Building, Innovation Parkway
Grading and Drainage Plan
Engineer's Stamp dated 11-09-05 (M21-D5G)

Dear Ms. Hoelzer,

Based upon the information provided in your submittal received 11-09-05, the above referenced plan is approved for Foundation Permit but cannot be approved for Building Permit ~~or SO-19~~ until the following comments are addressed:

1. It appears that the pond in the South West corner of Tract K is impeding into the next lot. Is tract K lots 20 & 21 and lot 20 or 21 is being utilized or do you need an agreement from the owner west of this property to place said pond?
2. An invert is needed at the connection of the existing SD in Innovation Parkway. Will this SD adversely affect the existing fire Hydrant?

Just as a side note, would it not be just as effective and economically sound to use a Double C inlet and a 30" SD pipe or so, to have drainage flow into the pond.

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

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept.
Development and Building Services

C: File

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DEC 22 2005
HYDROLOGY SECTION

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

M-21/D56

PROJECT TITLE: Sandia National Lab Office Building
DRB #: 1002668 EPC#:_____

ZONE MAP/DRG. FILE #: M21/D56
WORK ORDER#:_____

LEGAL DESCRIPTION: The east half of Tract K, Sandia Science and Technology Park
CITY ADDRESS:_____

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: Diane Hoelzer
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Deponte Investments
ADDRESS: 7770 Jefferson NE Ste 100
CITY, STATE: Albuquerque, NM

CONTACT: Josh Simpson
PHONE: 220-6147
ZIP CODE: 87109

ARCHITECT: DCSW Architects Inc.
ADDRESS: 320 Central Ave SW
CITY, STATE: Albuquerque, NM

CONTACT: Dave Dekker
PHONE: 843-9639
ZIP CODE: 87102

SURVEYOR: Cartesian Surveys Inc
ADDRESS: 2104 Southern Blvd. SE
CITY, STATE: Rio Rancho, NM

CONTACT: Will Plotner
PHONE: 896-3050
ZIP CODE: 87124

CONTRACTOR: Camerson Swinerton Builders
ADDRESS: 1570 Pacheco Ste A6
CITY, STATE: Santa Fe, NM

CONTACT: Josh Simpson
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CHECK TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
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- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
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- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
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- ☐ SECTOR PLAN APPROVAL
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- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☒ OTHER (SPECIFY) SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
NOV 16 2005
HYDROLOGY SECTION

DATE SUBMITTED: November 15, 2005

BY: Diane Hoelzer

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

Rundown this size cheaper than aDRC Inlet and 30"

→ No To Building P. & SD 19 Font. OK

- Is ~~Tract~~ K lots 20 & 21 and lot 20 is the subject Property
- It appears Pond is on next property

2) Invert needed to connect @ existing SD in Inn. Pkwy
Is this CRP ~~too close~~ going to effect FH.

DRAINAGE REPORT

for

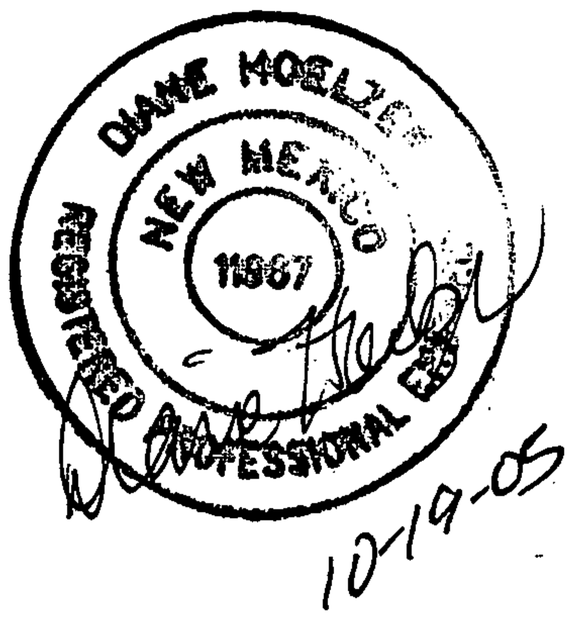
Sandia Science & Technology Park

Prepared for

LYDA-SWINERTON BUILDERS, LLC
1011 Indian School Rd NW
Albuquerque, NM 87104

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199
(505) 828-2200



October 2005

TABLE OF CONTENTS

I. PROJECT DESCRIPTION

II. DESIGN CRITERIA

III. EXISTING DRAINAGE CONDITIONS

IV. DEVELOPED DRAINAGE CONDITIONS

v. C0NCLUSIONS

FIGURE 1: VICINITY MAP

APPENDIX A - HYDROLOGY

AHYMO PRINTOUTS
POND CALCULATIONS

POCKET 1: GRADING AND DRAINAGE PLAN

I. PROJECT DESCRIPTION

The proposed site area comprises approximately 10.117 acres and is located just east of Eubank Blvd. The current legal description of the site is the east half (E ½) Tract K, Sandia Science and Technology Park.

The purpose of this report is to present the drainage management plan for the new office-building in order to obtain Grading and Drainage Plan approval for Building Permit and Conceptual Grading and Drainage Plan for Site Development Plan for Building Permit. All applicable ordinances, the DPM and AHYMO were utilized to prepare this plan.

II. DRAINAGE DESIGN CRITERIA

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual. The 100-year, 6-hour storm event was utilized to determine site runoff rates using P(1 hr) = 1.74", P(6 hr)=2.22"and P(24 hr) = 2.67", obtained from the latest NOAA Precipitation Atlas. The on-site land treatment values used were type B=15% and D=85%. AHYMO printouts are provided in Appendix A.

III. EXISTING DRAINAGE CONDITION

The site presently consists of undeveloped land covered by native vegetation and open areas of the native sandy surface. Slope is predominantly toward the west. At the present time there is no offsite runoff entering the undeveloped portion of the site. The master drainage plan for the South Eubank Storm Drainage Analysis (dated November 1995, prepared by Smith Engineering Company) states that the site can discharge a maximum of 1.3 cfs/acre to the Existing South Eubank Storm Drain.

IV. DEVELOPED DRAINAGE CONDITIONS

The total developed conditions flow from this site covering both lots is 37.74 cfs. The 10.177 acre site will drain to the Existing South Eubank Storm Drain routed through the onsite pond with a max discharge of 1.30 cfs/acre which is equal to allowable cfs/acre from previously approved master plan on South Eubank Storm Drainage Analysis (dated November 1995, prepared by Smith Engineering Company). A New 2' valley gutter is constructed along the south side of the poperty to direct the flow into the pond. The discharge from the pond is connected to the storm drain on south Eubank as shown in the plans; the calculations for the pond are attached in Appendix A.

V. CONCLUSIONS

The proposed drainage scheme for the new buildings can be readily accommodated through the implementation of this plan. It has been adequately shown in this report that the internal conveyance of storm water to off-site facilities can be accomplished while meeting all current City requirements.

L-21-Z

L-20-Z

L-22-Z

M-20-Z

M-22-Z

N-20-Z

N-22-Z

N-21-Z

IP

SANDIA

SU-1 IP USES

SU-1 IP USES

RESEARCH

SU-1 IP USES

PARK

SHAW MITCHELL MALLORY PARTNERSHIP

SHAW MITCHELL MALLORY PARTNERSHIP

SU-1 MH PARK

FOUR HILLS MOBILE HOME PARK

R-D

FOUR HILLS VILLAGE 20TH INSTALLMENT

TECHNOLOGY

PARK

PROJECT SITE

A-1

TIJERAS ARROYO

GIBSON AV

EUBANK BLVD

DEVELOPMENT RD

RESEARCH RD

BRITT ST

INNOVATION PARKWAY

R-LT (UNIT 5)

(UNIT 1)

(UNIT 4)

HORSESHOE

CAMPER & BOAT

SINGING

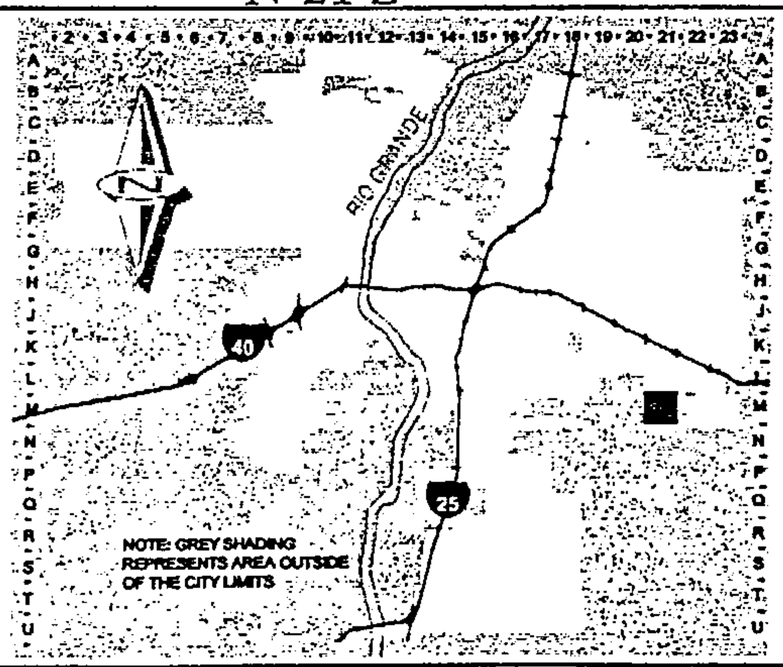
Zone Atlas Page: **M-21-Z**

Map amended through: **Aug 06, 2004**

Selected Symbols

- Unincorporated Areas
- Sector Plan Boundaries
- Parcel Boundaries
- Easement Lines
- Freeway Lanes
- Jurisdictional Boundaries
- Westgate Wall
- Escarpment
- Grant Boundaries
- Petroglyph
- H-1 Buffer Zone
- Arroyos
- LDN Noise Level
- Airport Clearance Zone
- Design Overlay Zones

0 750 1,500 Feet



CITY OF ALBUQUERQUE 1706 THREE HUNDRED YEARS 1706 • 2006 ALBUQUERQUE Haciendo Historia

A lbuquerque G eographic I nformation S ystem

PLANNING DEPARTMENT

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APPENDIX A

HYDROLOGY

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =10/19/2005
INPUT FILE = C:\DOCUME~1\pavan\Desktop\PAVAN\SANDIA~1.TXT USER NO.= AHYMO-I-9702dGoodwinM-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.220
COMPUTE NM HYD	100.30	-	3	.01570	27.62	.783	.93479	1.500	2.74	PER IMP=	.00
COMPUTE NM HYD	100.40	-	4	.01570	37.74	1.481	1.76832	1.500	3.75	PER IMP=	85.00
ROUTE RESERVOIR	101.50	4	5	.01570	13.11	1.481	1.76830	1.800	1.30	AC-FT=	.589
FINISH											

Q allowable = 1.3 CFS / Acre

Q provided = 1.3 CFS/Acre.

```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
         RUN DATE (MON/DAY/YR) = 10/19/2005
         START TIME (HR:MIN:SEC) = 09:18:58     USER NO.= AHYMO-I-9702dGoodwinM-AH
         INPUT FILE = C:\DOCUME~1\pavan\Desktop\PAVAN\SANDIA~1.TXT


START                TIME=0.0
*****    Sandia science N.M.
*****    FILE: c:\AHYMO\SANDIA.DAT    September , 2005 BY PAVAN
*****
*****    100-YEAR 6-HOUR STORM EVENT
*****
***** UN-DEVELOPED CONDITIONS
*****
RAINFALL             TYPE=1 RAIN QUARTER=0.0 IN
                     RAIN ONE=1.74 IN RAIN SIX=2.22 IN
                     RAIN DAY=2.67 IN  DT=0.033333 HR


                COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =     .033333 HOURS       END TIME =     5.999940 HOURS
  .0000   .0036   .0073   .0111   .0149   .0188   .0228
  .0269   .0311   .0354   .0398   .0443   .0489   .0536
  .0585   .0635   .0686   .0740   .0794   .0851   .0909
  .0970   .1032   .1098   .1165   .1236   .1310   .1387
  .1468   .1553   .1643   .1691   .1742   .1797   .1915
  .2180   .2587   .3171   .3968   .5016   .6353   .8016
 1.0046  1.1924  1.2710  1.3374  1.3964  1.4501  1.4995
 1.5455  1.5883  1.6286  1.6664  1.7021  1.7358  1.7678
 1.7980  1.8267  1.8539  1.8797  1.9042  1.9106  1.9166
 1.9224  1.9279  1.9333  1.9385  1.9435  1.9483  1.9530
 1.9576  1.9621  1.9664  1.9707  1.9748  1.9789  1.9828
 1.9867  1.9905  1.9942  1.9979  2.0014  2.0050  2.0084
 2.0118  2.0152  2.0185  2.0217  2.0249  2.0281  2.0312
 2.0342  2.0372  2.0402  2.0432  2.0461  2.0489  2.0517
 2.0545  2.0573  2.0600  2.0627  2.0654  2.0680  2.0707
 2.0732  2.0758  2.0783  2.0808  2.0833  2.0858  2.0882
 2.0906  2.0930  2.0954  2.0977  2.1000  2.1024  2.1046
 2.1069  2.1092  2.1114  2.1136  2.1158  2.1180  2.1201
 2.1223  2.1244  2.1265  2.1286  2.1307  2.1328  2.1348
 2.1368  2.1389  2.1409  2.1429  2.1448  2.1468  2.1488
```

```
2.1507  2.1526  2.1546  2.1565  2.1584  2.1602  2.1621
2.1640  2.1658  2.1677  2.1695  2.1713  2.1731  2.1749
2.1767  2.1785  2.1802  2.1820  2.1837  2.1855  2.1872
2.1889  2.1906  2.1923  2.1940  2.1957  2.1974  2.1990
2.2007  2.2024  2.2040  2.2056  2.2073  2.2089  2.2105
2.2121  2.2137  2.2153  2.2169  2.2184  2.2200
```

****** BASIN 1 - (10.1117 ACRES),

```
COMPUTE NM HYD       ID=3 HYD NO=100.3 AREA=0.0157 SQ MI
                     PER A=0 PER B=0 PER C=100 PER D=0
                     TP=0.1333 HR MASS RAINFALL=-1

     K =    .104400HR    TP =    .133300HR    K/TP RATIO =    .783199     SHAPE CONSTANT, N =  4.586262
     UNIT PEAK =   46.231    CFS   UNIT VOLUME =    1.000       B =   392.52      P60 = 1.7400
     AREA =       .015700 SQ MI    IA =     .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333

PRINT HYD            ID=3 CODE=1

                                   PARTIAL HYDROGRAPH   100.30

     RUNOFF VOLUME =       .93479 INCHES      =         .7827 ACRE-FEET
     PEAK DISCHARGE RATE =     27.62 CFS  AT    1.500 HOURS   BASIN AREA =    .0157 SQ. MI.
```

****** DEVELOPED CONDITIONS

***** BASIN 1 (10.1117 AC)'

```
COMPUTE NM HYD       ID=4 HYD NO=100.4 AREA=0.0157 SQ MI
                     PER A=0 PER B=15 PER C=0 PER D=85
                     TP=0.1333 HR MASS RAINFALL=-1

     K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   52.687    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 1.7400
     AREA =       .013345 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033333
```

2.40	1.72	3.82	.328	8.58
3.20	.49	.61	.037	1.80
4.00	.36	.15	.009	.43
4.80	.35	.12	.007	.35
5.60	.38	.12	.007	.37
6.40	.03	.06	.003	.17
7.20	.00	.00	.000	.01

PEAK DISCHARGE = 13.111 CFS PEAK OCCURS AT HOUR 1.80
MAXIMUM WATER SURFACE ELEVATION = 5.580
MAXIMUM STORAGE = .5885 AC-FT INCREMENTAL TIME= .033333HRS

PRINT HYD ID=5 CODE=24

PARTIAL HYDROGRAPH 101.50

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	2.000	12.8	4.000	.4	6.000	.4
.667	.0	2.667	6.7	4.667	.4	6.667	.1
1.333	3.0	3.333	1.2	5.333	.4	7.333	.0

RUNOFF VOLUME = 1.76830 INCHES = 1.4806 ACRE-FEET
PEAK DISCHARGE RATE = 13.11 CFS AT 1.800 HOURS BASIN AREA = .0157 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 09:18:58

K = .133279HR TP = .133300HR K/TP RATIO = .999845 SHAPE CONSTANT, N = 3.530853
UNIT PEAK = 5.6989 CFS UNIT VOLUME = .9979 B = 322.57 P60 = 1.7400
AREA = .002355 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.40

RUNOFF VOLUME = 1.76832 INCHES = 1.4807 ACRE-FEET
PEAK DISCHARGE RATE = 37.74 CFS AT 1.500 HOURS BASIN AREA = .0157 SQ. MI.

***** DEVELOPED PORTION OF RUNOFF TO BE ROUTED THROUGH POND

ROUTE RESERVOIR ID=5 HYD NO=101.5 INFLOW ID=4 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	DEPTH(FT)
	0.00	0.00	0.00
	2.94	0.06	1.00
	5.64	0.13	2.00
	7.418	0.23	3.00
	8.84	0.35	4.00
	12.34	0.49	5.00
	13.67	0.66	6.00

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

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.80	.20	.01	.000	.02
1.60	26.04	5.10	.508	12.48

POND-2 Version: 4.01
S/N: 88020607

CALCULATED 10-19-2005 09:22:14
DISK FILE : F:SANDIA .VOL

Planimeter scale: 1 inch = 1 ft.

Elevation (ft)	Planimeter (sq.in.)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume * (acre-ft)	Volume Sum (acre-ft)
69.00	2,178.00	0.05	0.00	0.00	0.00
75.00	7,950.00	0.18	0.33	0.66	0.66
		Elevations With Areas Interpolated From The Closest Two Planimeter Readings			
70.00	-----	0.07	0.17	0.06	0.06
71.00	-----	0.08	0.20	0.13	0.13
72.00	-----	0.11	0.23	0.23	0.23
73.00	-----	0.13	0.26	0.35	0.35
74.00	-----	0.15	0.29	0.49	0.49

$$IA = (sq.rt(Area1) + ((Ei-E1)/(E2-E1))*(sq.rt(Area2)-sq.rt(Area1)))^2$$

where: E1, E2 = Closest two elevations with planimeter data
Ei = Elevation at which to interpolate area
Area1,Area2 = Areas computed for E1, E2, respectively
IA = Interpolated area for Ei

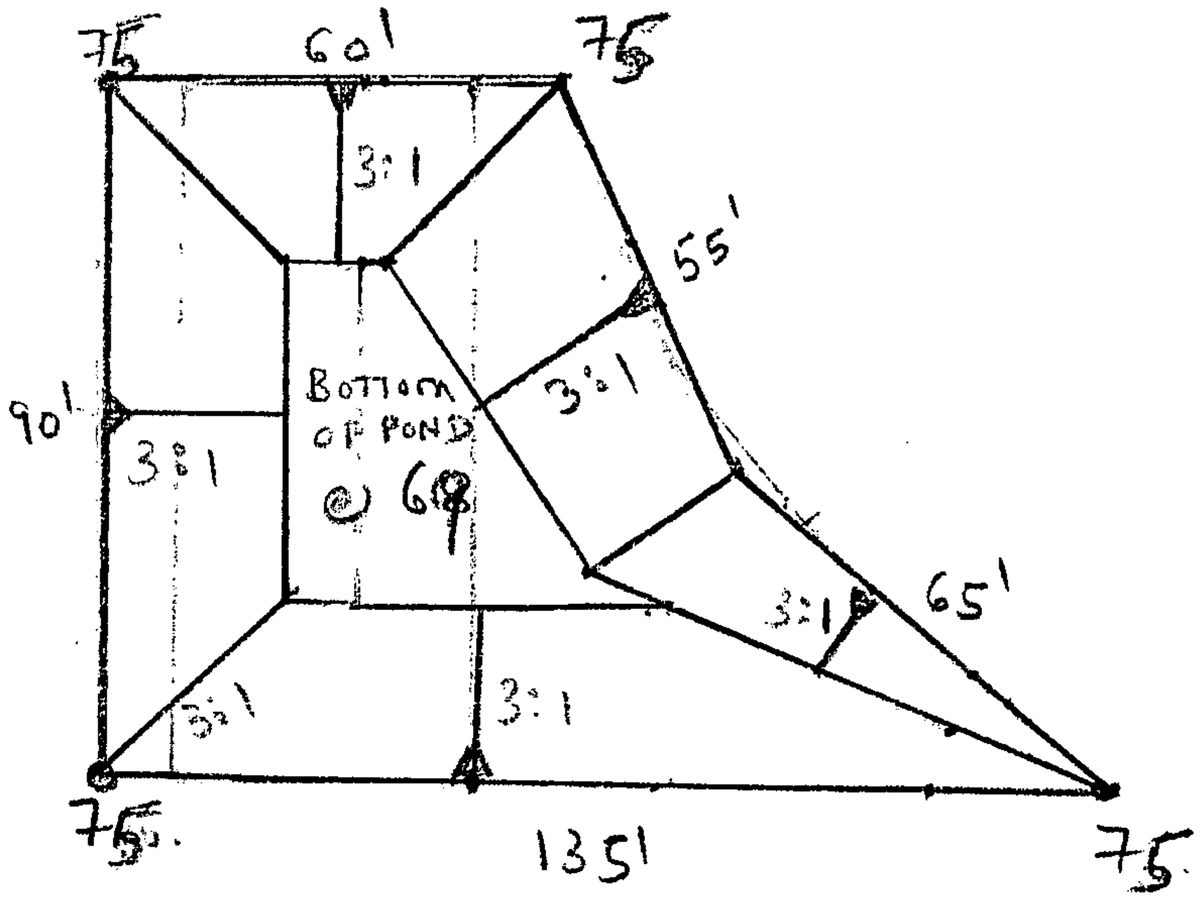
* Incremental volume computed by the Conic Method for Reservoir Volumes.

$$Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))$$

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

PROJECT SANDIA SCIENCE & TECH PARK
SUBJECT POND CALCS
BY Pavan DATE 14th Oct '05
CHECKED _____ DATE _____
SHEET ____ OF ____



SCALE 1" = 40'

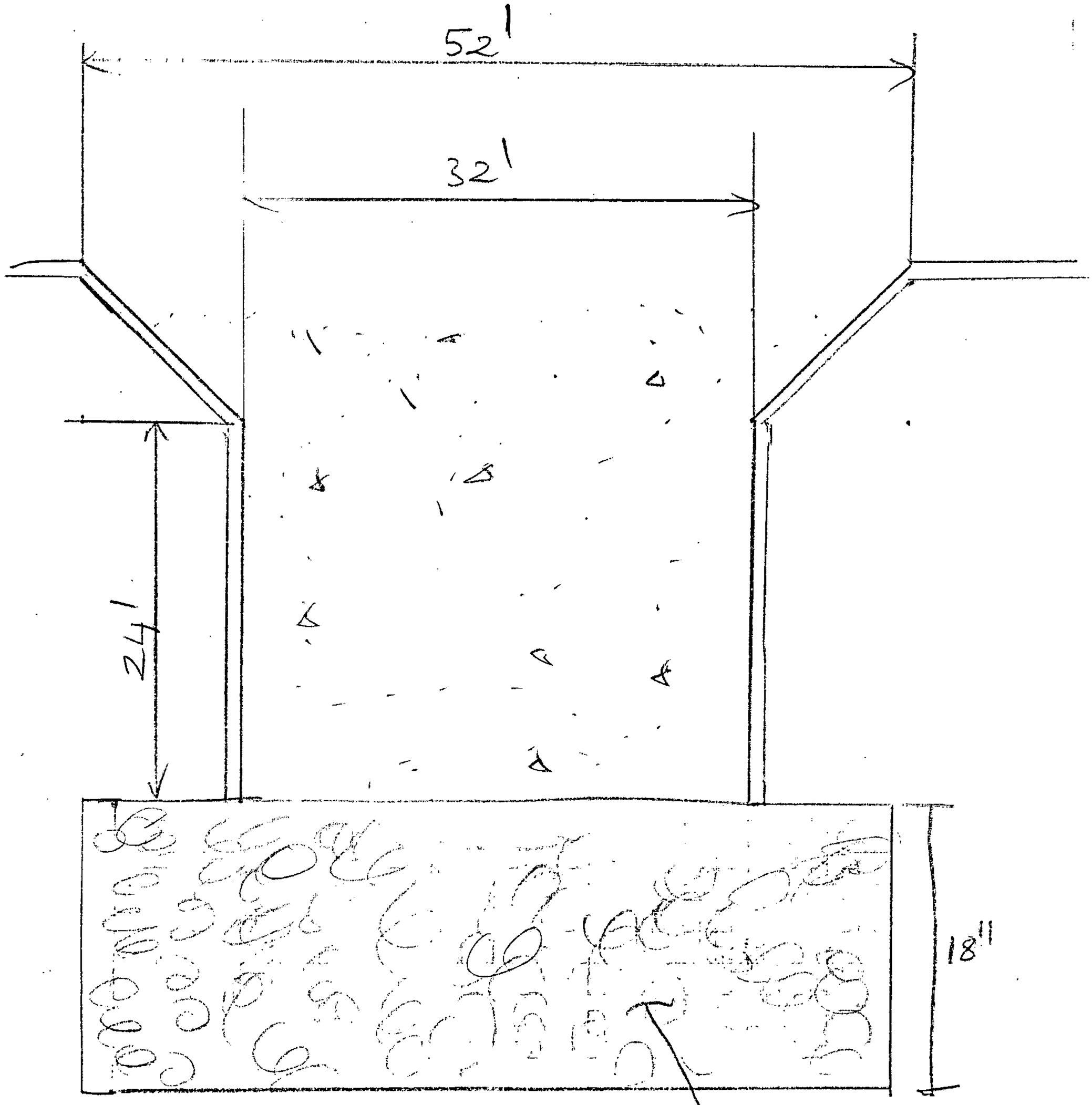
VOLUME CALS

Area @ 75 = 7950 S.F

Area @ 69 = 2178 S.F

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

PROJECT SANDIA TECH
SUBJECT POND DETAIL RUNDOWN.
BY _____ DATE _____
CHECKED _____ DATE _____
SHEET ____ OF ____



INLET DETAIL
SCALE 1" = 10'

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

PROJECT Sandia Test.
SUBJECT Channel calculations
BY Pavan. DATE
CHECKED DATE
SHEET OF

DESIGN OF CONCRETE CHANNEL

$Q = 37.74.$

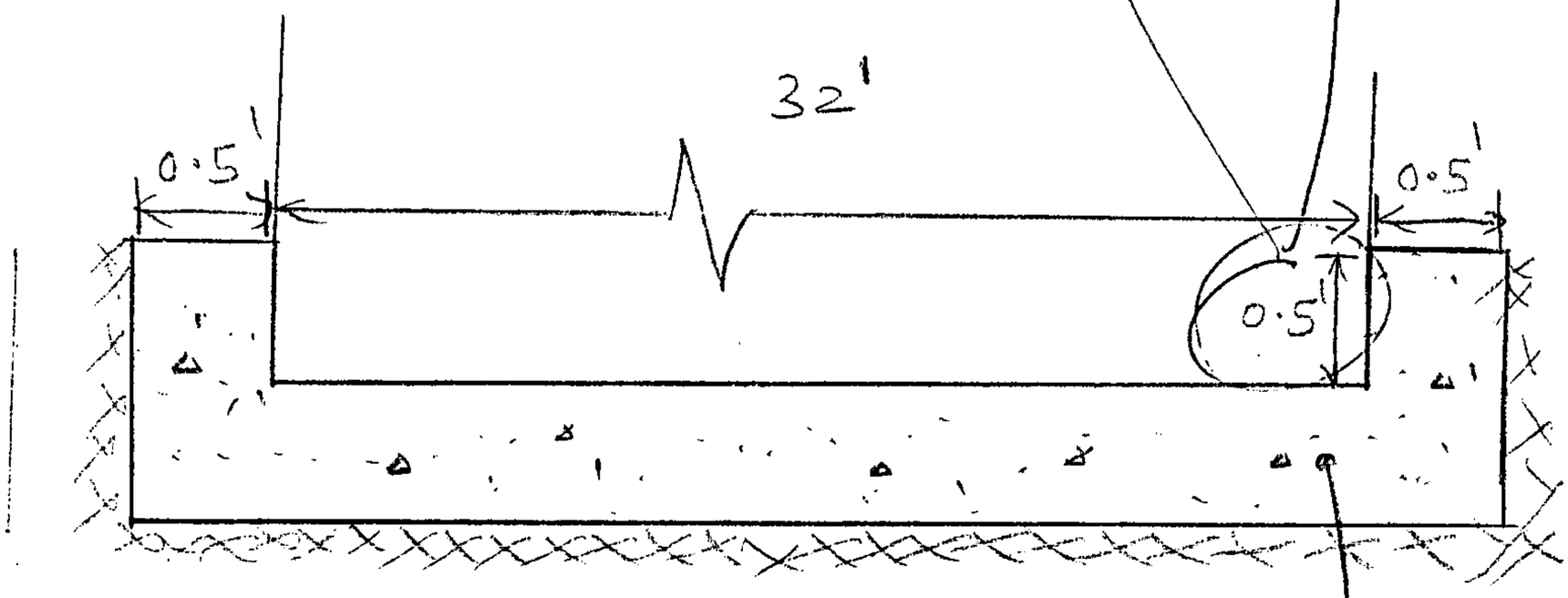
$Q = 0.6 A \sqrt{2gh}.$

$37.74 = 0.6 \times x . \sqrt{2 \times 32.2 \times 0.25}$

~~$x = 0.177$~~.

$A = x^2 = \frac{37.74}{40 \times 0.5}$

$x = 31.35 \simeq \underline{32'}$



DETAIL OF CHANNEL

3000 PSI Concrete

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

New Mexico 35.05 N 106.56 W 5370 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 3
G.M. Bonnin, D. Todd, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2003

Extracted: Fri Oct 14 2005

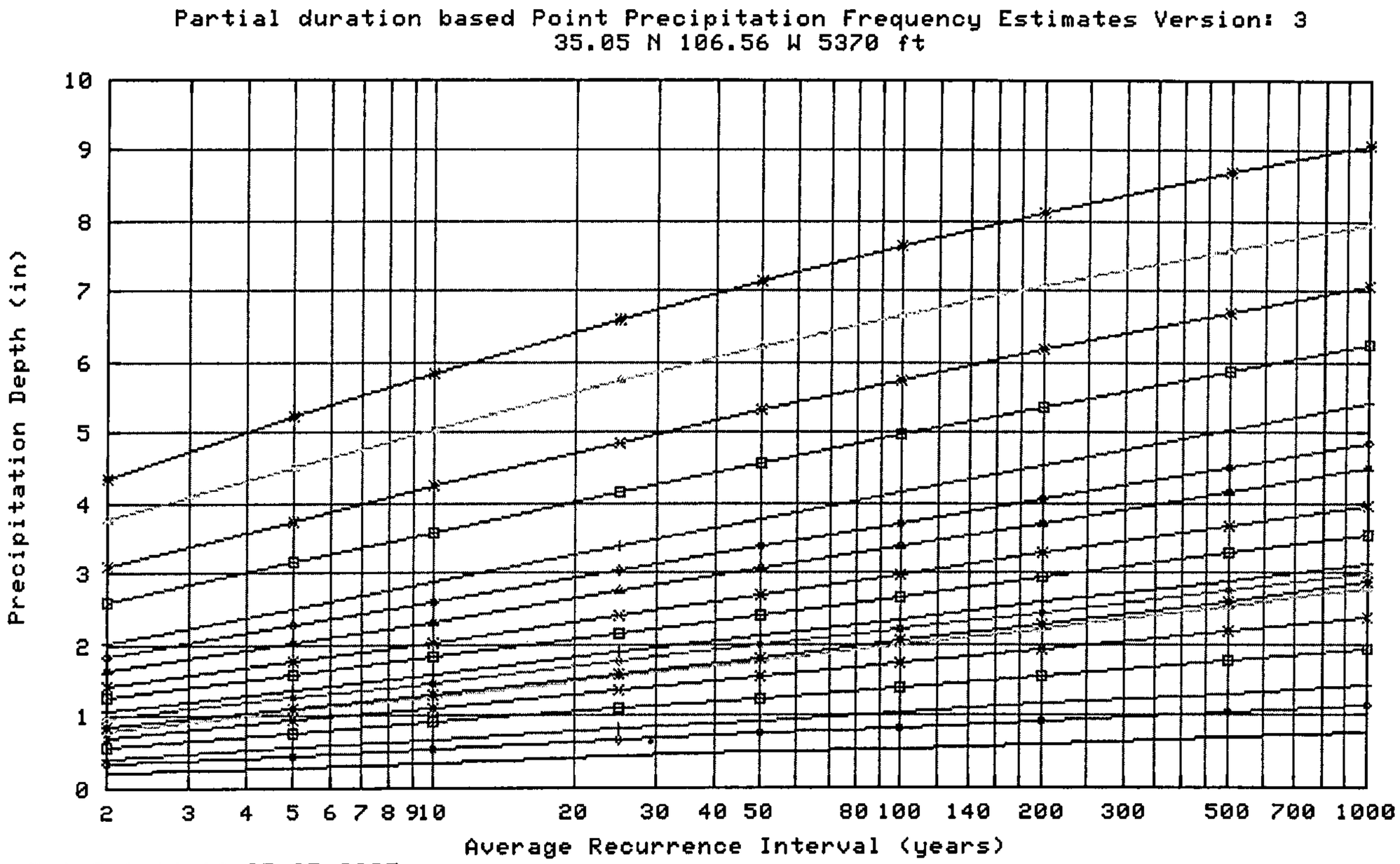
Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | D

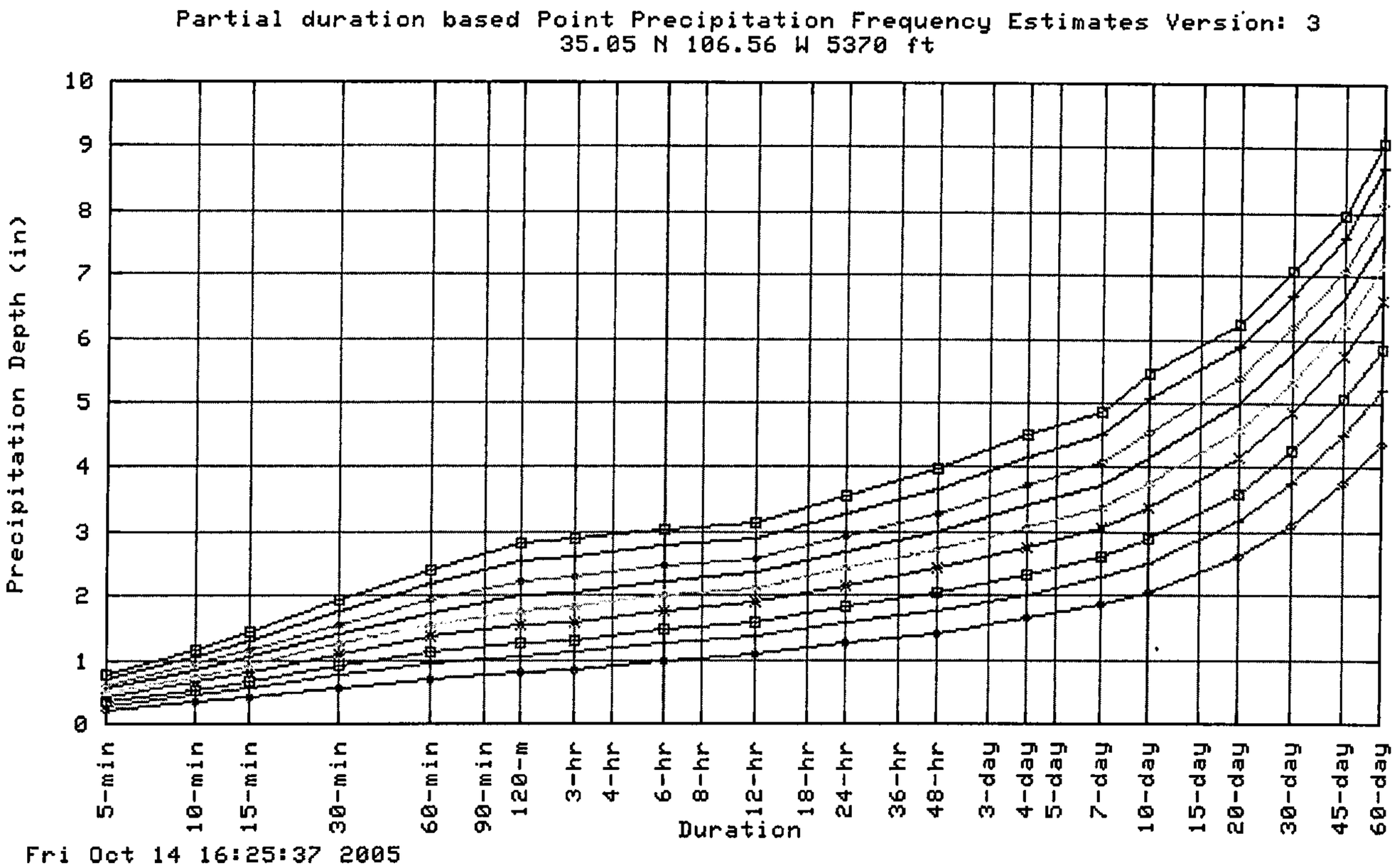
Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.22	0.34	0.42	0.57	0.70	0.81	0.85	0.98	1.09	1.26	1.41	1.64	1.85	2.04	2.59	3.10	3.77	4.36
5	0.30	0.46	0.56	0.76	0.94	1.07	1.11	1.26	1.38	1.58	1.77	2.02	2.28	2.51	3.16	3.76	4.52	5.22
10	0.36	0.54	0.67	0.91	1.12	1.27	1.32	1.48	1.60	1.83	2.04	2.33	2.61	2.89	3.60	4.25	5.06	5.85
25	0.43	0.66	0.82	1.10	1.37	1.55	1.60	1.77	1.90	2.16	2.42	2.75	3.06	3.39	4.16	4.87	5.74	6.62
50	0.49	0.75	0.93	1.25	1.55	1.77	1.82	1.99	2.13	2.42	2.70	3.07	3.39	3.77	4.58	5.32	6.22	7.15
100	0.55	0.84	1.04	1.40	1.74	2.00	2.05	2.22	2.35	2.67	2.99	3.40	3.73	4.16	4.99	5.76	6.67	7.66
200	0.61	0.94	1.16	1.56	1.93	2.23	2.29	2.46	2.59	2.94	3.29	3.73	4.07	4.55	5.38	6.18	7.09	8.13
500	0.70	1.06	1.32	1.77	2.19	2.55	2.62	2.78	2.90	3.29	3.68	4.17	4.51	5.05	5.88	6.70	7.60	8.70
1000	0.76	1.16	1.44	1.93	2.39	2.80	2.88	3.02	3.13	3.55	3.97	4.51	4.85	5.44	6.25	7.08	7.95	9.09

Text version of table

* These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.


Partial duration based Point Precipitation Frequency Estimates Version: 3
35.05 N 106.56 W 5370 ft
Precipitation Depth (in)
0
1
2
3
4
5
6
7
8
9
10
2 3 4 5 6 7 8 9 10 20 30 40 50 80 100 140 200 300 500 700 1000
Average Recurrence Interval (years)
Fri Oct 14 16:25:37 2005
Duration
5-min
10-min
15-min
30-min
60-min
120-m
3-hr
6-hr
12-hr
24-hr
48-hr
4-day
7-day
10-day
20-day
30-day
45-day
60-day



Confidence Limits -

*** Upper bound of the 90% confidence interval Precipitation Frequency Estimates (inches)**

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.26	0.39	0.49	0.66	0.81	0.95	1.00	1.15	1.25	1.44	1.59	1.78	2.01	2.21	2.81	3.34	4.06	4.70
5	0.35	0.53	0.65	0.88	1.09	1.26	1.30	1.47	1.57	1.79	1.99	2.20	2.48	2.72	3.43	4.05	4.87	5.63
10	0.41	0.62	0.77	1.04	1.29	1.49	1.53	1.72	1.82	2.08	2.30	2.53	2.84	3.12	3.89	4.58	5.46	6.31
25	0.50	0.76	0.94	1.27	1.57	1.81	1.86	2.05	2.16	2.45	2.71	2.99	3.31	3.66	4.50	5.24	6.18	7.13
50	0.57	0.86	1.07	1.44	1.78	2.06	2.11	2.31	2.42	2.74	3.03	3.35	3.68	4.07	4.94	5.73	6.71	7.71
100	0.63	0.97	1.20	1.61	2.00	2.32	2.38	2.58	2.68	3.03	3.36	3.70	4.05	4.49	5.39	6.20	7.20	8.26
200	0.70	1.07	1.33	1.79	2.22	2.59	2.65	2.84	2.95	3.33	3.69	4.06	4.42	4.92	5.81	6.65	7.65	8.78
500	0.80	1.22	1.51	2.04	2.52	2.96	3.03	3.21	3.31	3.72	4.13	4.55	4.92	5.47	6.36	7.21	8.21	9.40
1000	0.88	1.33	1.65	2.22	2.75	3.26	3.33	3.49	3.59	4.03	4.47	4.93	5.30	5.91	6.77	7.63	8.60	9.85

* The **upper** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
** These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

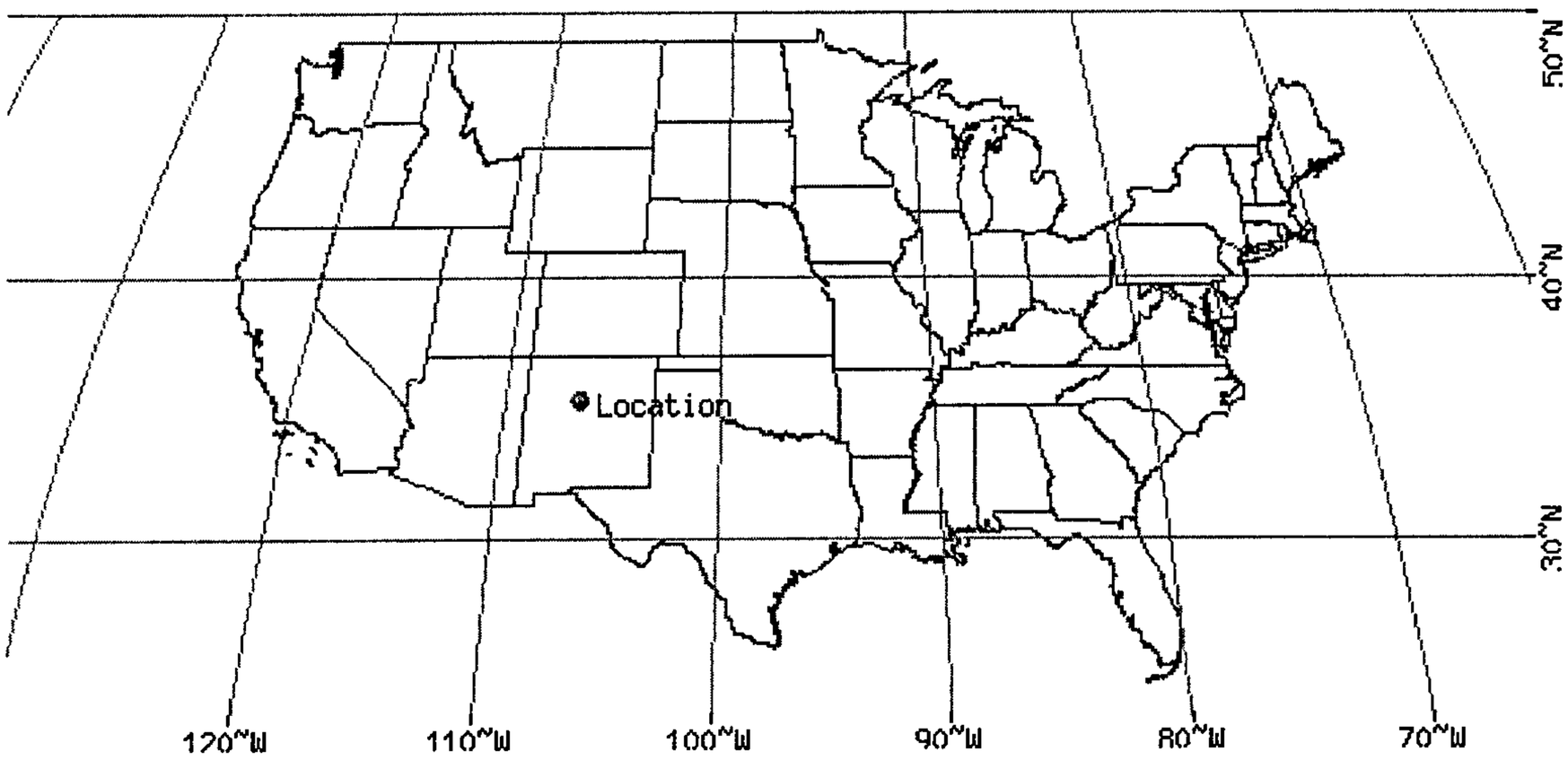
*** Lower bound of the 90% confidence interval Precipitation Frequency Estimates (inches)**

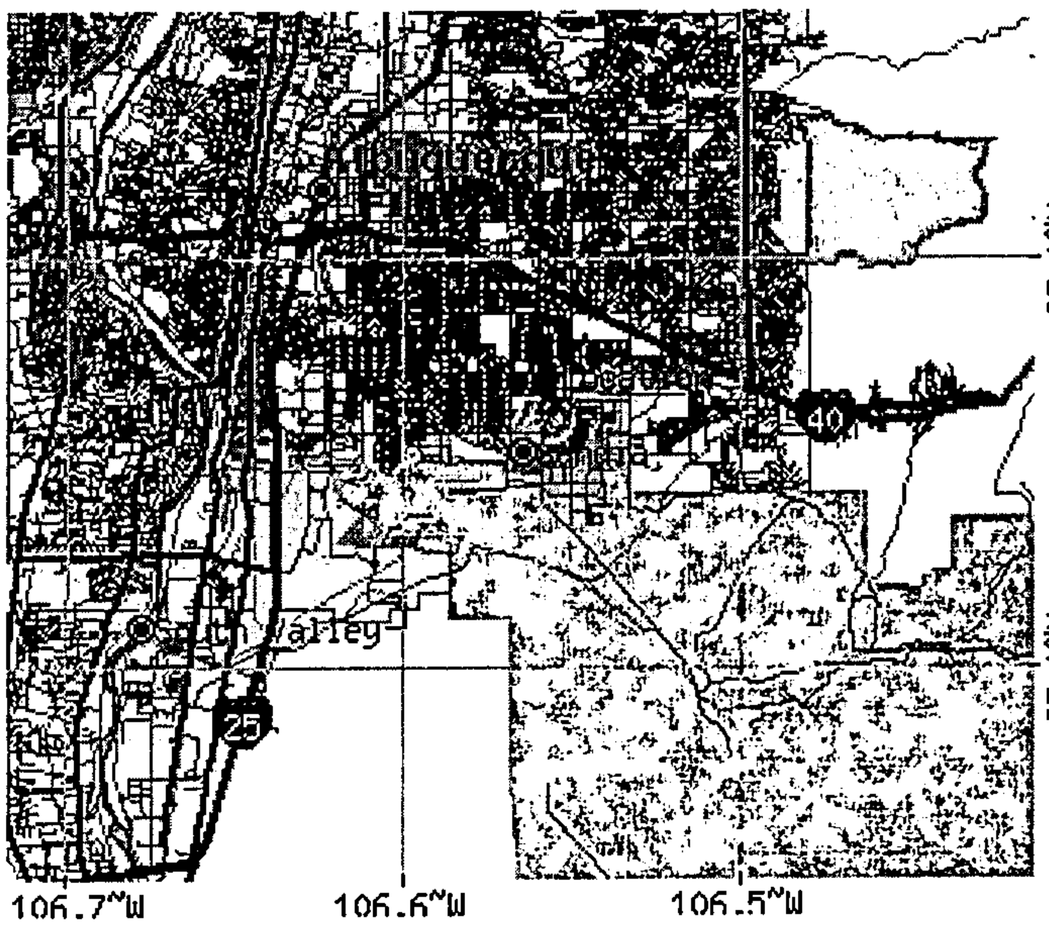
ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.19	0.29	0.37	0.49	0.61	0.70	0.74	0.86	0.96	1.11	1.26	1.50	1.70	1.88	2.39	2.86	3.50	4.03
5	0.26	0.39	0.49	0.66	0.81	0.92	0.97	1.10	1.21	1.39	1.57	1.85	2.09	2.32	2.92	3.46	4.19	4.84
10	0.31	0.47	0.58	0.78	0.97	1.09	1.14	1.29	1.40	1.60	1.81	2.13	2.40	2.67	3.32	3.92	4.69	5.42
25	0.37	0.57	0.70	0.95	1.17	1.32	1.37	1.53	1.66	1.89	2.14	2.51	2.80	3.12	3.83	4.48	5.31	6.12
50	0.42	0.64	0.79	1.07	1.32	1.50	1.55	1.71	1.84	2.11	2.39	2.79	3.10	3.46	4.21	4.89	5.74	6.61
100	0.47	0.71	0.88	1.19	1.47	1.68	1.74	1.90	2.03	2.33	2.64	3.08	3.40	3.80	4.57	5.27	6.14	7.07
200	0.52	0.79	0.98	1.32	1.63	1.86	1.92	2.09	2.22	2.54	2.88	3.37	3.70	4.13	4.90	5.65	6.51	7.50
500	0.58	0.89	1.10	1.48	1.83	2.11	2.17	2.34	2.46	2.83	3.21	3.75	4.08	4.57	5.34	6.09	6.96	8.00
1000	0.63	0.96	1.19	1.61	1.99	2.30	2.37	2.52	2.64	3.04	3.44	4.04	4.37	4.89	5.66	6.42	7.26	8.34

* The **lower** bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **less** than.
** These precipitation frequency estimates are based on a partial duration maxima series. **ARI** is the Average Recurrence Interval.

Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Maps -





These maps were produced using a direct map request from the U.S. Census Bureau Mapping and Cartographic Resources Tiger Map Server.

Please read disclaimer for more information.

LEGEND

State
County
Indian Resv
Lake/Pond/Ocean
Street
Expressway
Highway
Connector
Stream
Military Area
National Park
Other Park
City
County

Scale 1:228583
0 2 4 6 8 mi
0 2 4 6 8 10 km
*average--true scale depends on monitor resolution

Other Maps/Photographs -

View USGS digital orthophoto quadrangle (DOQ) covering this location from TerraServer; **USGS Aerial Photograph** may also be available
from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the USGS for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information
about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study,
please refer to our documentation.

Using the **National Climatic Data Center's (NCDC)** station search engine, locate other climate stations within:

+/-30 minutes ...OR... +/-1 degree of this location (35.05/-106.56). Digital ASCII data can be obtained directly from **NCDC**.

Find Natural Resources Conservation Service (NRCS) SNOTEL (SNOwpack TELemetry) stations by visiting the **Western Regional Climate Center's state-specific SNOTEL station maps**.

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

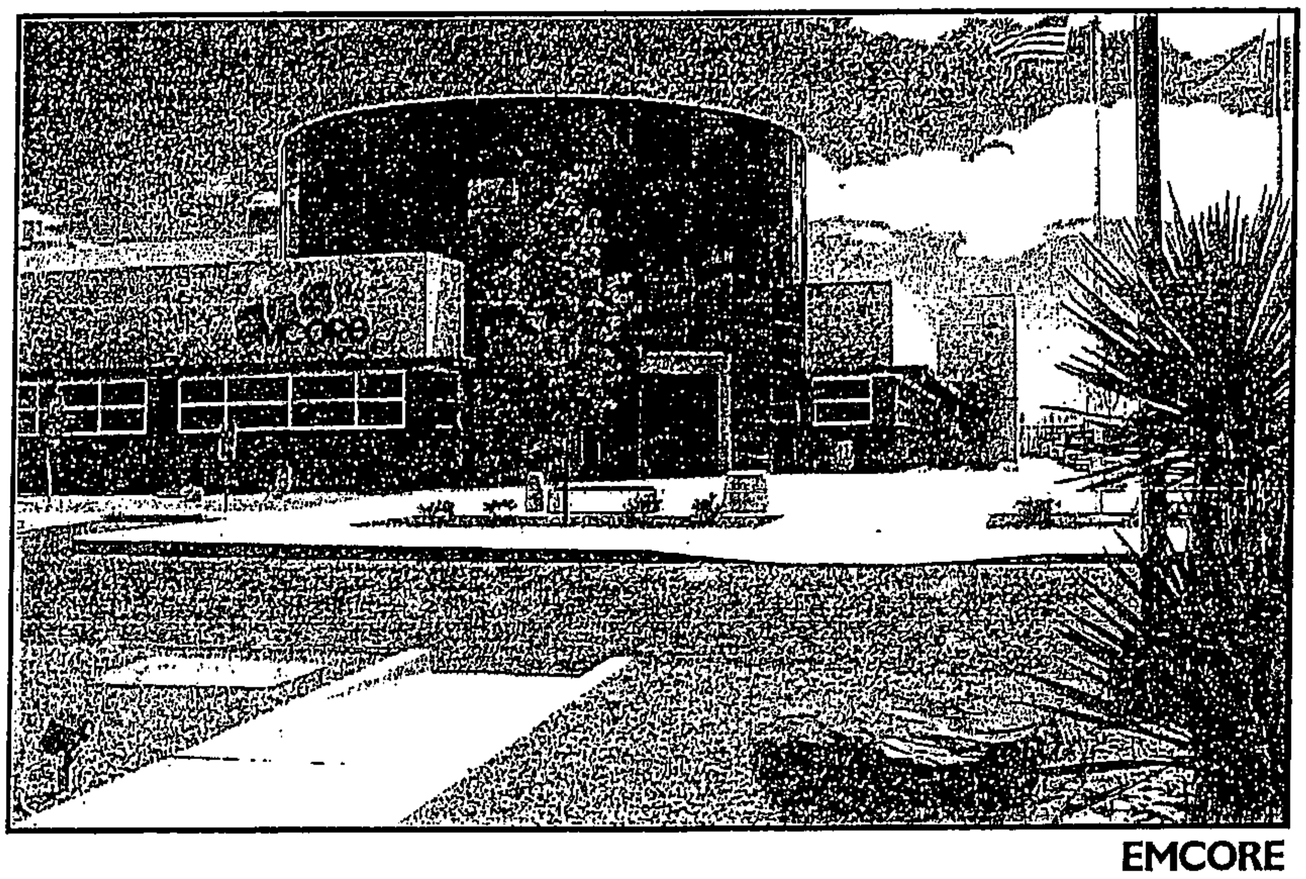
Disclaimer

1. EXECUTIVE SUMMARY

SANDIA SCIENCE & TECHNOLOGY PARK
"THE GATEWAY TO ALBUQUERQUE'S HIGH-TECH ECONOMY"

PURPOSE

This Master Development Plan covering the approximately 217 acres of the Sandia Science & Technology Park (SS&TP) provides an overall framework for the continuing development of the Park. The SS&TP is a unique opportunity for the enhancement of Albuquerque's high-technology economy and provides for a research park located in direct proximity to Sandia National Laboratories (SNL), encouraging co-location of researchers in a congenial collaborative environment. The Sandia Science and Technology Park is a public/private partnership committing the landowners and the other parties to the Park to build out their vision of a large science and technology research park in a campus-style setting in the South Eubank corridor.



EMCORE

The parties are further committed to the development of the Sandia Science and Technology Park with the understanding that its success will positively impact New Mexico's economy and the Albuquerque regional economy. It is anticipated that technology-based companies and their suppliers will locate facilities within the SS&TP to jointly pursue commercial activities with SNL and the other area research institutions and companies. The result will be new and better jobs for New Mexicans.

The development of the Sandia Science and Technology Park serves a unique public purpose that is not replicated elsewhere in the Albuquerque Metropolitan Area. The unique role of the SS&TP is based on its location immediately adjacent to SNL, a distinct advantage for the commercialization of technology ventures sponsored by SNL. The Park provides a site for SNL technology partners and suppliers to locate and/or expand facilities in close proximity to the highly specialized technology and highly trained staff of SNL. The development of the Sandia Science and Technology Park meets many other public purpose goals as well, as described below.

GOALS AND OBJECTIVES

- Create a unique science and technology research park in close proximity to Sandia National Laboratories and the Department of Energy facilities in the South Eubank Corridor.
- Strengthen the economic base of the greater community through the provision of new, high paying, high technology jobs.
- Partner with both private and public entities in a model relationship for future industrial park development.

- Water harvesting within parking lot islands and other landscape areas are encouraged.
- Individual tracts will drain to the streets or public storm drains, to the greatest extent possible and/or practical.
- All development within the SS&TP will conform to this master plan's drainage requirements.
- Where the sites can not drain to the street, private ribbon channels, with easements, will be constructed to convey drainage to proposed public storm drains or to public streets.
- The SS&TP has restricted allowable discharge rates. Peak flow rates will be mitigated using on-site detention ponds and control structures.
- Public storm drains will be constructed throughout the site such that all streets within the Park are restricted to the depth of street flow at the top of curb height and the energy grade line within the right-of-way.

The Illustrative Master Plan identifies primary streets and potential lot configurations. The street system is anticipated to remain through out the project life, however, the lot lines shown should be construed only as conceptual, for reference and subject to change as individual developments arise.

Lots 1-8 have an allowable discharge of 167cfs in the 100yr storm. This will allow free discharge from that portion of the SS&TP provided that the developed impervious area (including public streets) does not exceed 90% of the total area. The Manzano Mesa Master Drainage Plan defines allowable discharge for this portion of the SS&TP.

Lots 20, 21, 39, and 40 will follow the guidelines provided in Amendment #2 to the South Eubank Storm Drainage Analysis, which indicates that those areas may discharge 1.3cfs/acre to the South Eubank Storm Drain. Lots 20 and 21 will require onsite ponds that will drain to the proposed storm drain in Innovation Parkway. Similarly, Lots 39 and 40 will require onsite ponds that will drain to the proposed storm drain in Progress Place.

This Drainage Master Plan proposes to construct a new storm drain from the southwest corner of the existing MHP and south through the SS&TP (the SLO lands) directly to the Tijeras Arroyo. This new storm drain would accept flows from the MHP, as well as accept fully developed flows from Lots 23-29 and 33-34. Pipe sizes for the storm drain outfall may be reduced if an agreement for ponding on MHP lands is made between the MHP and the SS&TP. A new outfall line, energy dissipation structure, and easements to the Tijeras Arroyo will be required. Phasing of the Park will allow deferral of this new line to Phase 2. This phase begins to develop the eastern SLO lands (Lots 22-36), and thus the storm line is not required until that time.

Allowable discharge rates for all of the remaining lands (Lots 9-19, 22, 30-32, and 35-38) within the Park are defined by Amendment #2 to the South Eubank Storm Drainage Analysis, with a minor modification. This plan proposes to modify Amendment #2 by allowing the MHP to have free discharge to the new storm drain (discharging MHP and site flows to the Tijeras Arroyo) described in the paragraph above. This modification has a number of advantages:

- No land within the Park will have to be encumbered for massive dedicated public ponding areas and instead, reduces the ponding requirements sufficiently to allow ponding within the developments (parking and driveway areas, landscaping areas, etc.).
- Lots 23-29 and 33-34 get free discharge, this is an advantage since ponding over the existing landfill areas has the potential to increase methane gas generation.
- Lots 9-19, 22, 30-32, and 35-37 have a less restrictive allowable discharge rate, which will allow those lots to have smaller ponds than would otherwise be required.

This Drainage Master Plan provides a safe, innovative, and economical solution to drainage management requirements of the SS&TP.

6. INFRASTRUCTURE & ENGINEERING

800 work stations
Fire Marshall - Fire flows info.
need to get to Roger Green.

Concepted GMD Plan 10 days
Concepted Utility 15 days
GMD Plan 15 days
Public L. Plans 13 days

DRAINAGE MASTER PLAN

Previous Drainage Management Plans

There are a number of existing drainage reports, master drainage plans, and drainage studies which address the drainage conditions within the SS&TP vicinity. These governing documents are as follows:

- The South Eubank Storm Drainage Analysis, (dated November 1995, prepared by Smith Engineering Company).
- Amendment #2 to the South Eubank Storm Drainage Analysis, (dated November 2, 1998, prepared by Smith Engineering Company)
- The Manzano Mesa Master Drainage Plan, (dated August 1996, prepared by Smith Engineering Company)

This Master Drainage Plan conforms to these plans.

Existing Drainage Infrastructure

The most important drainage feature for the SS&TP is the existing and planned large diameter South Eubank Storm Drain. Phase I of this storm drainage project, which runs from the Manzano Mesa Park Detention Pond to the Tijeras Arroyo, is complete. Phase 2 is currently under construction, and runs from the Manzano Mesa Park Detention Pond north up Elizabeth Street to Central Ave. The large majority of SS&TP currently drains to this existing storm drain.

Drainage From Existing Tracts

All of the land within the SS&TP, with the exception of the approximately 40-acre State Land Office (SLO) lands holding the existing landfill, generally drains via surface runoff from east to west. Flows are conveyed across the tracts by natural sheet flow and shallow concentrated flows within existing natural swales. Again, with the exception of the above SLO tract, none of the lands within the SS&TP are impacted by offsite drainage. Flows from the SS&TP lands drain to Eubank, where they are picked up by the Phase I South Eubank Storm Drain. For the far southern portion of the site, small amounts of drainage may cross the Eubank alignment and enter the base via sheet flow and shallow concentrated flows.

The existing South Pointe Mobile Home Park (MHP), located east of the SMM Partnership Tract A, currently drains to the southwest corner of the MHP and south across the SLO lands, directly to the Tijeras Arroyo in a non-engineered fashion. There is no existing drainage downstream easement for this MHP drainage. This drainage runs to the southwest corner of the SLO tract, where flows join the offsite drainage from the MHP. The combined flows then drain directly to the Tijeras Arroyo.

The western half of the approximately 20-acre SLO tract located north of the existing PNM switching station is currently being developed by EMCORE. The drainage plan calls for the site to drain to a large pond on the south side of the site. The controlled discharge from the pond drains to a new storm drain to be constructed with the EMCORE project. The new storm drain will tie to the South Eubank Storm Drain and extend east to the edge of the EMCORE site. The eastern half of the tract drains to a small pond located adjacent to the EMCORE project. That pond also drains to the new storm drain.

Proposed Conditions

The significant proposed drainage management concepts and goals are as follows:

- Minimize or eliminate large, dedicated ponds that reduce buildable area
- Minimize expensive public and private storm drainage infrastructure