

CITY OF ALBUQUERQUE



August 28, 2006

John MacKenzie, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

**Re: American Cement Silos, Carlton Street NW, Grading and Drainage Plan
Engineer's Stamp dated 8-18-06 (G15-D101)**

Dear Mr. MacKenzie,

Based upon the information provided in your submittal received 8-18-06, 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 your next submittal, please correct your SO#19 notes to reflect the most current information. A copy of the current notes is attached. In addition, please use the precipitation frequency estimates defined within the Development Process Manual.**

A separate permit (SO#19) is required for construction within City Right of Way. A copy of this approval letter must be on hand when applying for the excavation permit. 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 924-3981.

Sincerely,

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

C: Edward Elwell, DMD Street / Storm Maintenance
Antoinette Baldonado, Construction Services
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: American Cement Silos

DRB #: _____

EPC#: _____

ZONE MAP/DRG. FILE #: G-15-1/D101

WORK ORDER#: _____

LEGAL DESCRIPTION: lots Numbered 8-A thru 21-A of Pleasant Acres Subdivision

CITY ADDRESS: CARLTON ST NW, Albuquerque, NM 87107

ENGINEERING FIRM: Mark Goodwin & Associates, PA

ADDRESS: PO Box 90606

CITY, STATE: Albuquerque, NM

CONTACT: Pavan K. Toletie, EIT

PHONE: 828-2200

ZIP CODE: 87199

OWNER: ABQ Engineering Inc

ADDRESS: 6739 Academy Rd NE # 130 .

CITY, STATE: Albuquerque, NM

CONTACT: Mr. Ron Booth

PHONE: (505) 255-7802

ZIP CODE: 87109

ARCHITECT: _____

ADDRESS: _____

CITY, STATE: _____

CONTACT: _____

PHONE: _____

ZIP CODE: _____

SURVEYOR: _____

ADDRESS: _____

CITY, STATE: _____

CONTACT: _____

PHONE: _____

ZIP CODE: _____

CONTRACTOR: _____

ADDRESS: _____

CITY, STATE: _____

CONTACT: _____

PHONE: _____

ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

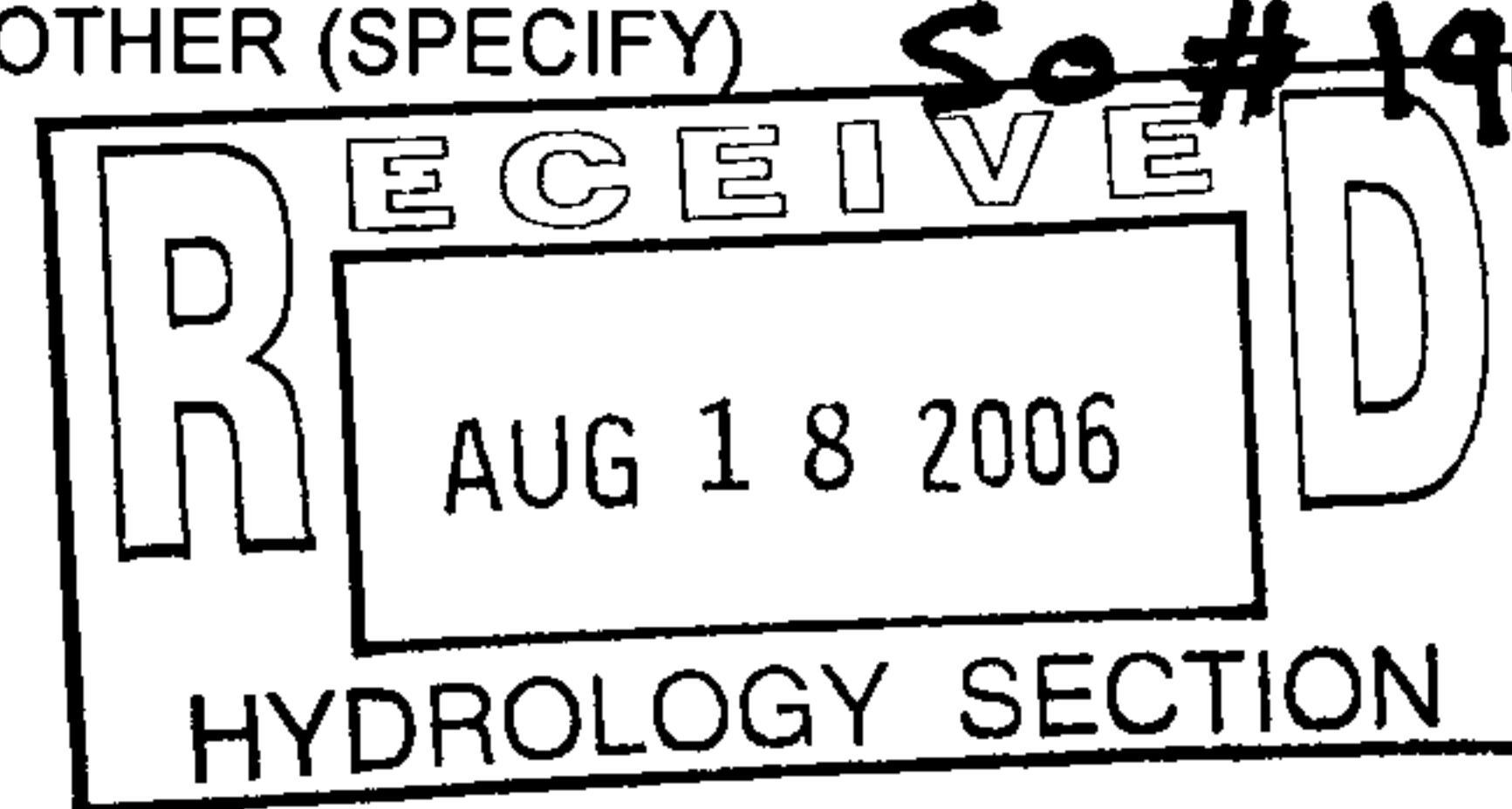
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, **REQUIRES TCL or equal**
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☒ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

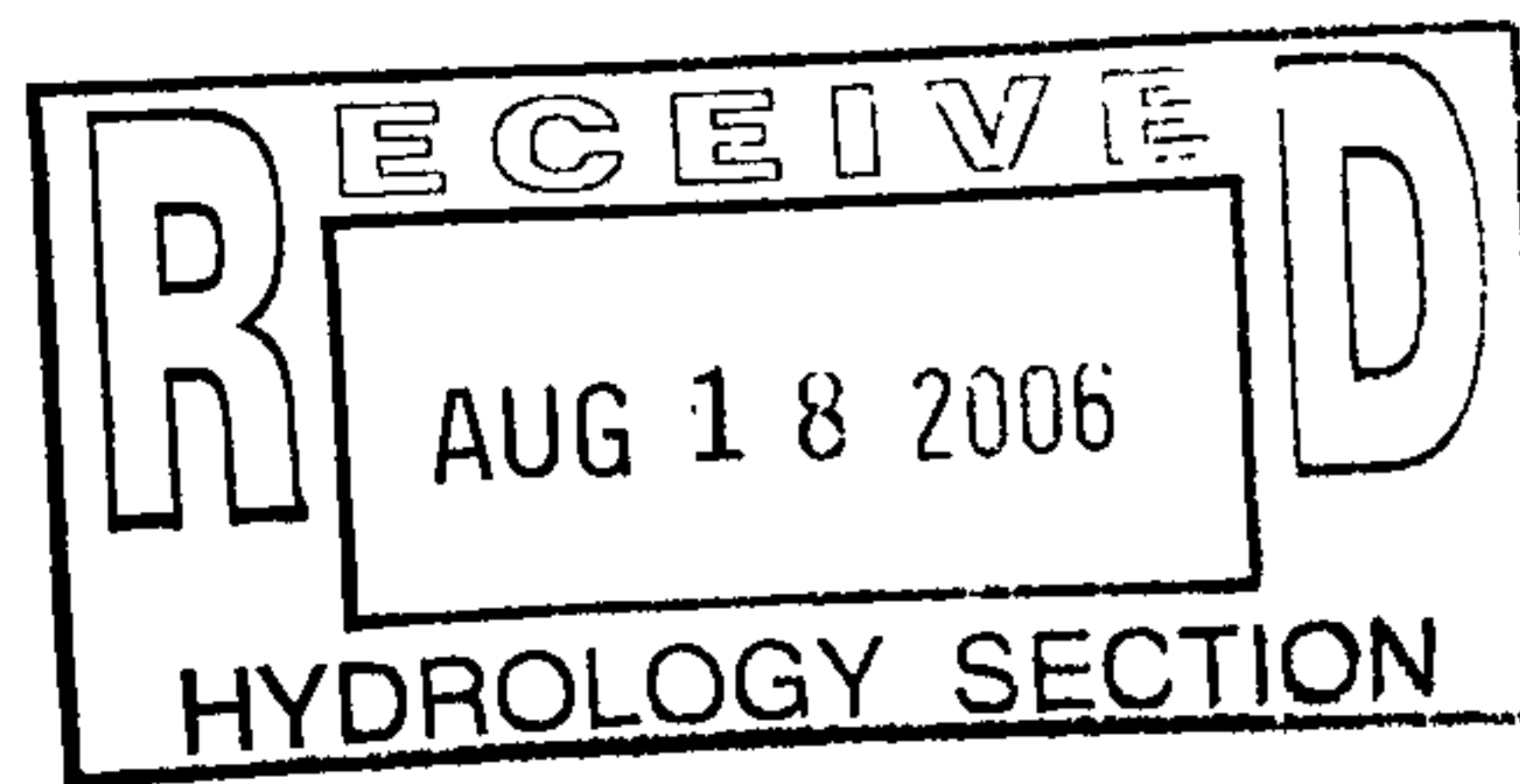


DATE SUBMITTED: August 18 2006

BY: Pavan k. Toleti (T. Parankumar)

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of 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
CONSULTING ENGINEERS

dmg

**DRAINAGE CALCULATIONS
FOR
AMERICAN CEMENT SILOS**

Prepared by

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

August 2006



8-18-06

AHYMO PROGRAM (AHYMO_97) - - VERSION: 1997.02D
 RUN DATE (MON/DAY/YR) = 05/03/2006
 START TIME (HR:MIN:SEC) = 09:07:09 USER NO.= AHYMO-I-9702DGOODWINM-AH
 INPUT FILE = C:\DOCUME~1\PAVAN\DESKTOP\PAVAN\AMERIC~1.TXT

START TIME=0.0
 ***** AMERICAN CEMENT N.M.
 ***** FILE: C:\AHYMO\AMERICAN CEMENT MAY 3, 2006 BY PAVAN

 ***** 100-YEAR 6-HOUR STORM EVENT

 ***** DEVELOPED CONDITIONS

 RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
 RAIN ONE=1.63 IN RAIN SIX=2.15 IN
 RAIN DAY=2.46 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	.0045	.0090	.0137
.0090	.0135	.0180	.0227
.0180	.0225	.0270	.0317
.0270	.0315	.0360	.0407
.0360	.0405	.0450	.0492
.0450	.0495	.0540	.0585
.0540	.0585	.0630	.0673
.0630	.0675	.0720	.0757
.0720	.0765	.0810	.0848
.0810	.0855	.0900	.0936
.0900	.0945	.0990	.1022
.0990	.1035	.1080	.1112
.1080	.1125	.1170	.1206
.1170	.1215	.1260	.1293
.1260	.1305	.1350	.1382
.1350	.1395	.1440	.1469
.1440	.1485	.1530	.1558
.1530	.1575	.1620	.1646
.1620	.1665	.1710	.1733
.1710	.1755	.1800	.1822
.1800	.1845	.1890	.1912
.1890	.1935	.1980	.2000
.1980	.2025	.2070	.2088
.2070	.2115	.2160	.2177
.2160	.2205	.2250	.2266
.2250	.2295	.2340	.2353
.2340	.2385	.2430	.2440
.2430	.2475	.2520	.2526
.2520	.2565	.2610	.2611
.2610	.2655	.2700	.2695
.2700	.2745	.2790	.2779
.2790	.2835	.2880	.2862
.2880	.2925	.2970	.2944
.2970	.3015	.3060	.3035
.3060	.3105	.3150	.3118
.3150	.3195	.3240	.3170
.3240	.3285	.3330	.3221
.3330	.3375	.3420	.3271
.3420	.3465	.3510	.3320
.3510	.3555	.3600	.3368
.3600	.3645	.3690	.3415
.3690	.3735	.3780	.3461
.3780	.3825	.3870	.3506
.3870	.3915	.3960	.3550
.3960	.4005	.4050	.3593
.4050	.4095	.4140	.3635
.4140	.4185	.4230	.3676
.4230	.4275	.4320	.3716
.4320	.4365	.4410	.3755
.4410	.4455	.4500	.3793
.4500	.4545	.4590	.3830
.4590	.4635	.4680	.3866
.4680	.4725	.4770	.3901
.4770	.4815	.4860	.3935
.4860	.4905	.4950	.3968
.4950	.4995	.5040	.3999
.5040	.5085	.5130	.4029
.5130	.5175	.5220	.4058
.5220	.5265	.5310	.4086
.5310	.5355	.5400	.4113
.5400	.5445	.5490	.4139
.5490	.5535	.5580	.4164
.5580	.5625	.5670	.4188
.5670	.5715	.5760	.4211
.5760	.5805	.5850	.4233
.5850	.5895	.5940	.4254
.5940	.5985	.6030	.4274
.6030	.6075	.6120	.4293
.6120	.6165	.6210	.4311
.6210	.6255	.6300	.4328
.6300	.6345	.6390	.4344
.6390	.6435	.6480	.4359
.6480	.6525	.6570	.4373
.6570	.6615	.6660	.4386
.6660	.6705	.6750	.4398
.6750	.6795	.6840	.4409
.6840	.6885	.6930	.4419
.6930	.6975	.7020	.4428
.7020	.7065	.7110	.4436
.7110	.7155	.7200	.4443
.7200	.7245	.7290	.4449
.7290	.7335	.7380	.4454
.7380	.7425	.7470	.4458
.7470	.7515	.7560	.4461
.7560	.7605	.7650	.4463
.7650	.7695	.7740	.4464
.7740	.7785	.7830	.4464
.7830	.7875	.7920	.4463
.7920	.7965	.8010	.4461
.8010	.8055	.8100	.4458
.8100	.8145	.8190	.4453
.8190	.8235	.8280	.4447
.8280	.8325	.8370	.4440
.8370	.8415	.8460	.4432
.8460	.8505	.8550	.4423
.8550	.8595	.8640	.4413
.8640	.8685	.8730	.4401
.8730	.8775	.8820	.4388
.8820	.8865	.8910	.4374
.8910	.8955	.9000	.4358
.9000	.9045	.9090	.4341
.9090	.9135	.9180	.4323
.9180	.9225	.9270	.4304
.9270	.9315	.9360	.4283
.9360	.9405	.9450	.4261
.9450	.9495	.9540	.4238
.9540	.9585	.9630	.4213
.9630	.9675	.9720	.4187
.9720	.9765	.9810	.4159
.9810	.9855	.9900	.4130
.9900	.9945	.9990	.4099
.9990	1.0035	1.0080	.4066
1.0080	1.0125	1.0170	.4031
1.0170	1.0215	1.0260	.4004
1.0260	1.0305	1.0350	.3975
1.0350	1.0395	1.0440	.3944
1.0440	1.0485	1.0530	.3911
1.0530	1.0575	1.0620	.3876
1.0620	1.0665	1.0710	.3839
1.0710	1.0755	1.0800	.3800
1.0800	1.0845	1.0890	.3759
1.0890	1.0935	1.0980	.3716
1.0980	1.1025	1.1070	.3671
1.1070	1.1115	1.1160	.3624
1.1160	1.1205	1.1250	.3575
1.1250	1.1295	1.1340	.3524
1.1340	1.1385	1.1430	.3471
1.1430	1.1475	1.1520	.3416
1.1520	1.1565	1.1610	.3359
1.1610	1.1655	1.1700	.3300
1.1700	1.1745	1.1790	.3239
1.1790	1.1835	1.1880	.3176
1.1880	1.1925	1.1970	.3111
1.1970	1.2015	1.2060	.3044
1.2060	1.2105	1.2150	.2975
1.2150	1.2195	1.2240	.2904
1.2240	1.2285	1.2330	.2831
1.2330	1.2375	1.2420	.2756
1.2420	1.2465	1.2510	.2679
1.2510	1.2555	1.2600	.2599
1.2600	1.2645	1.2690	.2517
1.2690	1.2735	1.2780	.2433
1.2780	1.2825	1.2870	.2347
1.2870	1.2915	1.2960	.2259
1.2960	1.3005	1.3050	.2169
1.3050	1.3095	1.3140	.2077
1.3140	1.3185	1.3230	.1983
1.3230	1.3275	1.3320	.1887
1.3320	1.3365	1.3410	.1789
1.3410	1.3455	1.3500	.1689
1.3500	1.3545	1.3590	.1587
1.3590	1.3635	1.3680	.1483
1.3680	1.3725	1.3770	.1377
1.3770	1.3815	1.3860	.1269
1.3860	1.3905	1.3950	.1159
1.3950	1.3995	1.4040	.1047
1.4040	1.4085	1.4130	.0933
1.4130	1.4175	1.4220	.0817
1.4220	1.4265	1.4310	.0700
1.4310	1.4355	1.4400	.0581
1.4400	1.4445	1.4490	.0461
1.4490	1.4535	1.4580	.0340
1.4580	1.4625	1.4670	.0218
1.4670	1.4715	1.4760	.0095
1.4760	1.4805	1.4850	.0000

***** BASIN I - (2.36 ACRES)

COMPUTE NM HYD ID=3 HYD NO=100.3 AREA=0.00354 SQ MI

[PER A=0 PER B=47 PER C=0 PER D=53]
TP=0.1333 HR MASS RAINFALL=-1

A = 2.266 Acres

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.4073 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.6300
AREA = .001876 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .135215HR TP = .133300HR K/TP RATIO = 1.014365 SHAPE CONSTANT, N = 3.479959
UNIT PEAK = 3.9799 CFS UNIT VOLUME = .9967 B = 318.86 P60 = 1.6300
AREA = .001664 SQ MI IA = .50000 INCHES INF = 1.25000 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 = 1.27292 INCHES = .2403 ACRE-FEET
PEAK DISCHARGE RATE = 6.49 CFS AT 1.500 HOURS BASIN AREA = .0035 SQ. MI.

***** BASIN II (EXISTING) - (1.80 ACRES)

COMPUTE NM HYD ID=4 HYD NO=100.4 AREA=0.0027 SQ MI
[PER A=0 PER B=63 C=0 PER D=37]
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.9441 CFS UNIT VOLUME = .9965 B = 526.28 P60 = 1.6300
AREA = .000999 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .135215HR TP = .133300HR K/TP RATIO = 1.014365 SHAPE CONSTANT, N = 3.479959
UNIT PEAK = 4.0689 CFS UNIT VOLUME = .9970 B = 318.86 P60 = 1.6300
AREA = .001701 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 = 1.06114 INCHES = .1528 ACRE-FEET
PEAK DISCHARGE RATE = 4.38 CFS AT 1.500 HOURS BASIN AREA = .0027 SQ. MI.

A = 1.728 Acres

***** BASIN II (DEVELOPED) - (1.80 ACRES)

COMPUTE NM HYD ID=5 HYD NO=100.5 AREA=0.0027 SQ MI
~~PER A=0 PER B=60 C=0 PER D=40~~
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.2639 CFS UNIT VOLUME = .9965 B = 526.28 P60 = 1.6300
AREA = .001080 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .135215HR TP = .133300HR K/TP RATIO = 1.014365 SHAPE CONSTANT, N = 3.479959
UNIT PEAK = 3.8752 CFS UNIT VOLUME = .9967 B = 318.86 P60 = 1.6300
AREA = .001620 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 100.50

RUNOFF VOLUME = 1.10084 INCHES = .1585 ACRE-Feet
PEAK DISCHARGE RATE = 4.49 CFS AT 1.500 HOURS BASIN AREA = .0027 SQ. MI.

A=1.728 Acres

***** BASIN III (OFFSITE) - (0.83 ACRES)

COMPUTE NM HYD ID=6 HYD NO=100.6 AREA=0.0012 SQ MI
~~PER A=0 PER B=100 C=0 PER D=0~~
TP=0.1333 HR MASS RAINFALL=-1

K = .135215HR TP = .133300HR K/TP RATIO = 1.014365 SHAPE CONSTANT, N = 3.479959
UNIT PEAK = 2.8705 CFS UNIT VOLUME = .9953 B = 318.86 P60 = 1.6300
AREA = .001200 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 100.60

RUNOFF VOLUME = .57138 INCHES = .0366 ACRE-Feet
PEAK DISCHARGE RATE = 1.37 CFS AT 1.500 HOURS BASIN AREA = .0012 SQ. MI.

A=0.768 Acres

BASIN
II
PROPOSED

BASIN
III

RUN DATE (MON/DAY/YR) =05/03/2006
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	PAGE = 1	
NOTATION												
START												
										TIME=	.00	
RAINFALL TYPE= 1										RAIN6=	2.150	
COMPUTE	NM	HYD	100.30	-	3	.00354	6.49	.240	1.27292	1.500	2.863	PER IMP= 53.00
COMPUTE	NM	HYD	100.40	-	4	.00270	4.38	.153	1.06114	1.500	2.537	PER IMP= 37.00
COMPUTE	NM	HYD	100.50	-	5	.00270	4.49	.159	1.10084	1.500	2.599	PER IMP= 40.00
COMPUTE	NM	HYD	100.60	-	6	.00120	1.37	.037	.57138	1.500	1.780	PER IMP= .00
FINISH												

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	0.20	0.31	0.39	0.52	0.64	0.76	0.81	0.93	1.02	1.16	1.27	1.54	1.72	1.87	2.31	2.73	3.34	3.84
5	0.28	0.42	0.52	0.70	0.87	1.01	1.06	1.21	1.30	1.45	1.60	1.90	2.10	2.30	2.80	3.29	3.98	4.58
10	0.33	0.51	0.63	0.84	1.04	1.20	1.26	1.42	1.51	1.68	1.85	2.18	2.39	2.63	3.18	3.70	4.44	5.11
25	0.41	0.62	0.76	1.03	1.27	1.47	1.53	1.70	1.80	1.99	2.18	2.55	2.78	3.07	3.65	4.22	5.00	5.74
50	0.46	0.70	0.87	1.17	1.45	1.68	1.75	1.92	2.02	2.22	2.43	2.84	3.08	3.40	4.00	4.59	5.38	6.17
100	0.52	0.79	0.98	1.32	1.63	1.90	1.97	2.15	2.23	2.46	2.69	3.13	3.36	3.73	4.33	4.93	5.72	6.58
200	0.58	0.88	1.09	1.47	1.82	2.12	2.20	2.38	2.46	2.69	2.94	3.42	3.64	4.06	4.64	5.26	6.02	6.92
500	0.66	1.00	1.24	1.67	2.07	2.43	2.51	2.68	2.75	3.00	3.27	3.80	4.01	4.48	5.04	5.65	6.36	7.32
1000	0.72	1.09	1.35	1.82	2.26	2.67	2.76	2.92	2.98	3.23	3.51	4.10	4.28	4.79	5.32	5.92	6.56	7.57



CITY OF ALBUQUERQUE



July 17, 2006

John MacKenzie, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

**Re: American Cement Silos, Carlton Street NW, Grading and Drainage Plan
Engineer's Stamp dated 6-06-06 (G15-D101)**

Dear Mr. MacKenzie,

Based upon the information provided in your submittal received 6-08-06, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

1. All supplemental calculations must have a cover sheet, be bound together, and be stamped, signed, and dated by a licensed engineer. These calculations must be referenced by name within the write-up on the grading and drainage plan.
2. Your write up refers to an existing aerial photo, but this photo is not provided.
3. Add the proposed mobile home office to your proposed improvements listed in your write up.
4. Provide a copy of the current FEMA Flood Insurance Rate Map on your grading and drainage plan.
5. Your plan shows a proposed pond in the southeast corner of the site. Where is the outfall for this pond? Why are you retaining water here? Based on the elevations shown, the flow should be able to reach the street.

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: File