



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 19, 2002

Martin Garcia, P.E.
ABQ Engineering, Inc.
1631 Eubank NE
Albuquerque, New Mexico 87112

RE: CARMEL ENTERPRISES OFFICE PARK PHASE 1 (C-18/D54)
(5711 Carmel Ave NE)

ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 4/19/2000 rev. 7/18/2002
ENGINEERS CERTIFICATION DATED 7/18/2002

Dear Mr. Garcia:

Based upon the information provided in your Engineers Certification submittal dated 7/18/2002, the above referenced site is approved for Permanent Certificate of Occupancy for Phase 1.

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Public Works Department

C: Vickie Chavez, COA
✓ drainage file
approval file

CITY OF ALBUQUERQUE



May 1, 2006

Mr. Martin Garcia, P.E.
ABQ ENGINEERING, INC.
6739 Academy Rd. NE, STE 130
Albuquerque, NM 87109

Re: CARMEL OFFICE PARK, PHASE II
5900, 5908, 5916, 5924 Anaheim Avenue NE
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 06/27/2000 (C-18/D54)
Certification dated 04/25/2006

P.O. Box 1293

Dear Martin,

Albuquerque

Based upon the information provided in your submittal received 04/28/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

New Mexico 87103

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

www.cabq.gov

Sincerely,

Arlene V. Portillo
Plan Checker, Planning Dept. - Hydrology
Development and Building Services

C: CO Clerk
File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 5, 2000

Ron Booth, PE
ABQ Engineering
1631 Eubank NE, Ste C
Albuquerque, NM 87112

Re: Carmel Office Park Phase II Grading & Drainage Plan
Engineer's Stamp dated 6-28-00 (C18/D54)

Dear Mr. Booth,

Based upon the information provided in your resubmittal dated 9-7-00, the above referenced plan is approved for Site Plan for Building Permit, Building Permit and SO#19 Permit. Please change top of wall elevation on the east side from 26.0 to 28.5.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within City R/W. A copy of this approval letter must be on hand when applying for the excavation permit.

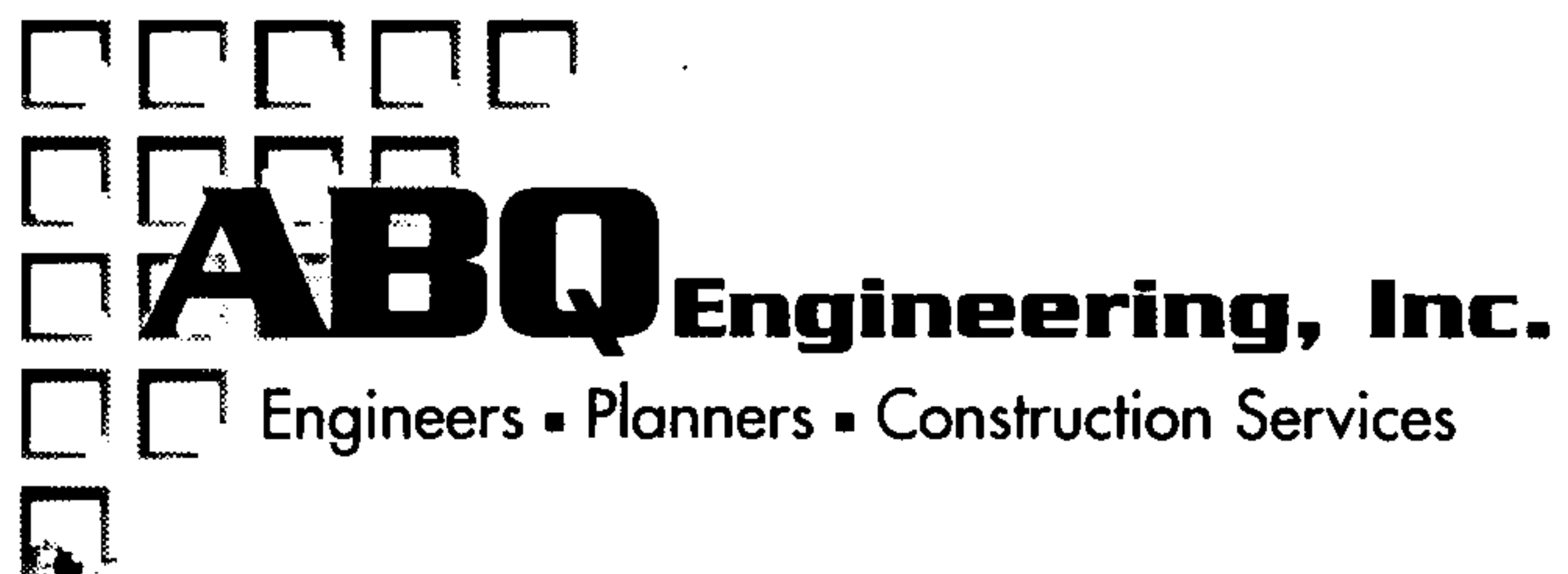
Also, prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required. This will include the signature from Street Maintenance for the sidewalk culvert.

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

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer Hydrology

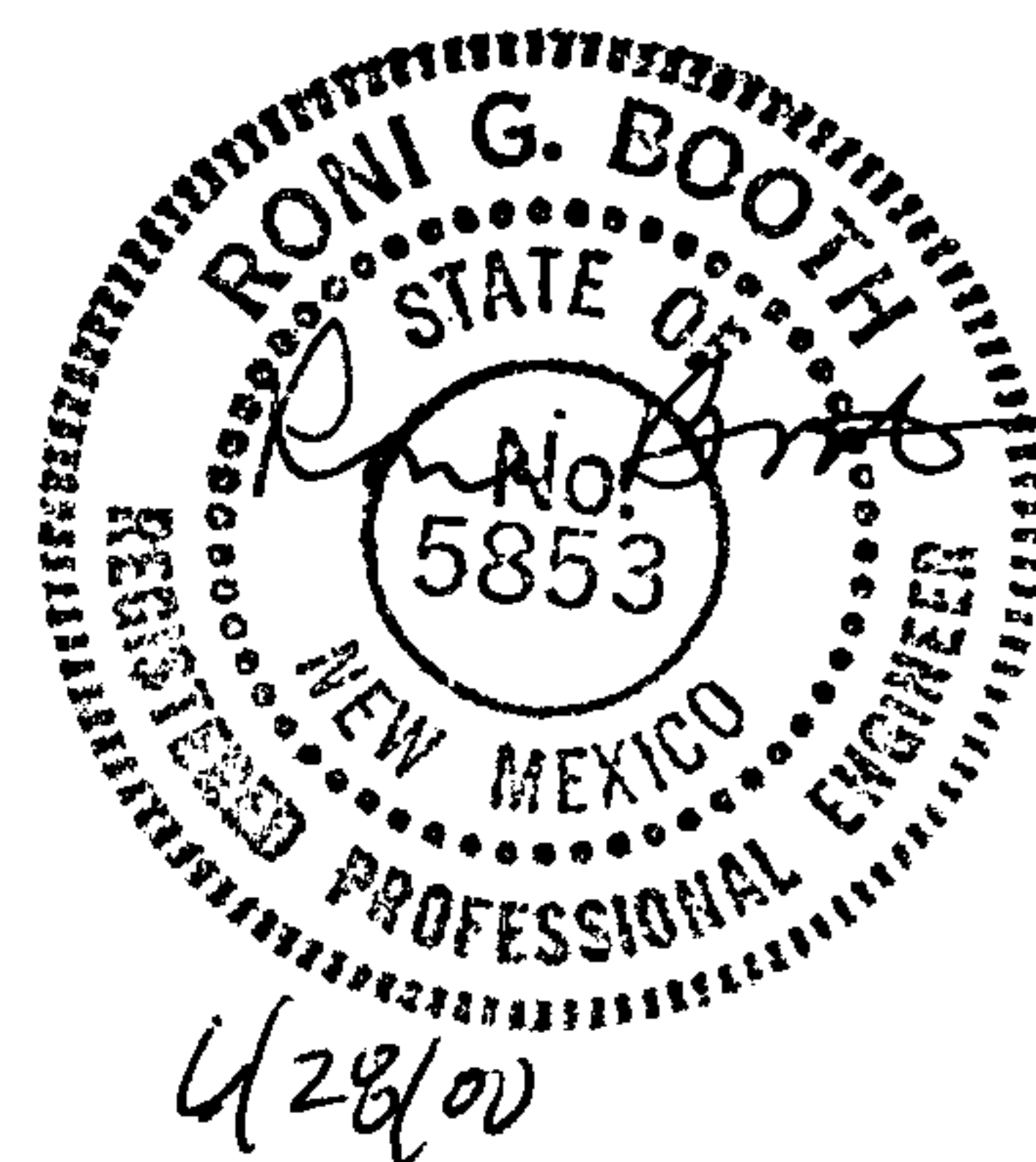
C: file



CARMEL ENTERPRISES OFFICE PARK PHASE II

GRADING AND DRAINAGE PLAN

JUNE 2000



DRAINAGE STUDY, PHASE II CARMEL ENTERPRISES OFFICE PARK

I. INTRODUCTION

This report documents the methods used to determine and control the storm water runoff from the Carmel Enterprises Office Park. The project will consist of five office buildings, landscaping, and associated parking areas. This Report details **Phase II** of the Carmel Enterprises Office Park Project. Phase I was approved by the City of Albuquerque in May. Also, per City of Albuquerque letter to Nancy Musinski, Wilson & Company, dated May 2, 2000, this phase of the project will be developed using the approved "Summary Drainage Report for The Sub area I-25 Frontage Road to San Pedro/Paseo Del Norte to Anaheim", hereafter referred to as the *Wilson Company Report*.

II. PROJECTION DESCRIPTION

The proposed **Phase II** Carmel Enterprises Office Park is located at San Pedro Drive and Anaheim Avenue North East and consists of lots 12, 13, 14, and 15. Planned development consists of an office building on each lot, with parking and landscaping that meet City of Albuquerque Standards. **Phase I** consisted of the office building on lot 21.

Drainage is as follows, part of lot 19 and all of lot 20 will drain through lot 21 to lot 12. Lots 13, 14 and 15 will drain to Lot 12. At Lot 12, there will be a drainage structure that limits discharge to Anaheim Avenue to 10.1 cfs, which is below the historical runoff. See Appendix D, Drawings, for drainage areas.

Anaheim Avenue is an existing improved street that continues west past this project. The only improvements required will be the south curb and gutter for approximately 155 feet. Carmel Avenue is an existing improved street that will need no improvements. There will be no discharge to this street.

Down stream capacity of Anaheim Avenue has been determined by the *Wilson Company Report* and this **Phase II** report follows the recommendations in that report.

III. METHODOLOGY

The hydrology calculations follow the guidelines set forth in Section 22.2 of the Albuquerque Development Process Manual (DPM). The site soil is silty sand of the hydrologic type "B". The 100 year, 24-hour storm was used to compute the runoff quantities. Peak discharges from the site contributory basins were computed per DPM Section 22.2. The onsite runoff was then routed to the proposed pond and discharge point using AHYMO. Field inspection confirms that offsite drainage will not reach this site, as Lot # 23, owned by the City of Albuquerque, has been graded and the arroyo filled in. See photo #1 and #2 below.

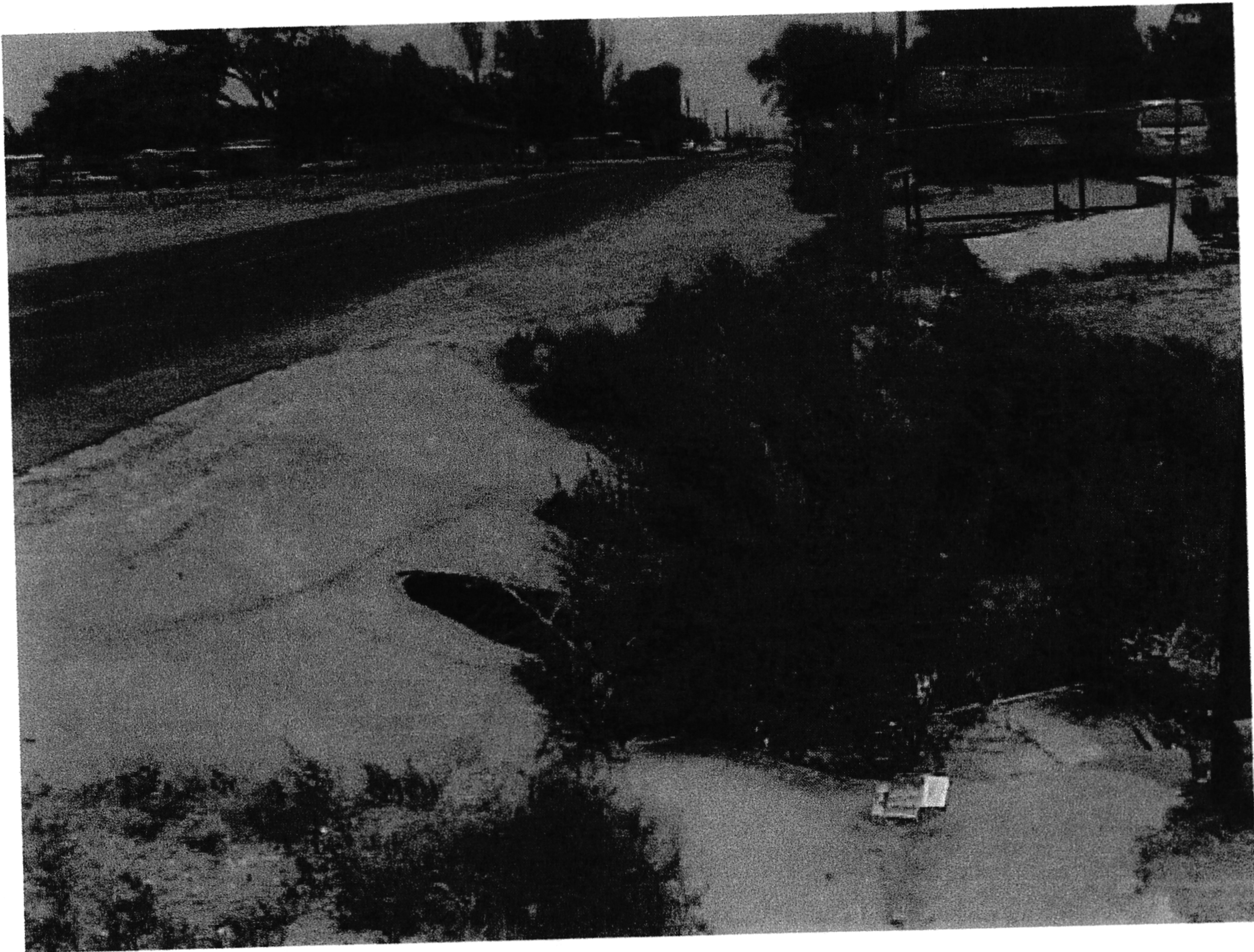


Photo #1. 2 – 36" Culverts at San Pedro, East side at Culvert Inlets.

IV. PROJECT DATA

The area of the **Phase II** project site is 3.56 acres. Drainage from part of lot 19 and all of lot 20, (Albuquerque Country Day School and Carmel Enterprises Office Complex) drain through this project. These lots are located south of the Carmel Enterprises Office Park and total 2.23 acres. The natural slope is from east to west at approximately 3.0%. The project area is traversed by the North Domingo Baca, South Arroyo. According to the *Wilson Company Report*

A FEMA flood plain transects northeast of the project area and ... The flood plain will remain in effect until the as-built plans for the entire Paseo del Norte storm drain are provided to FEMA. It is then up to FEMA to make the decision to remove the flood plain. (A copy of this page from the *Wilson Company Report* is provided in Appendix B.)

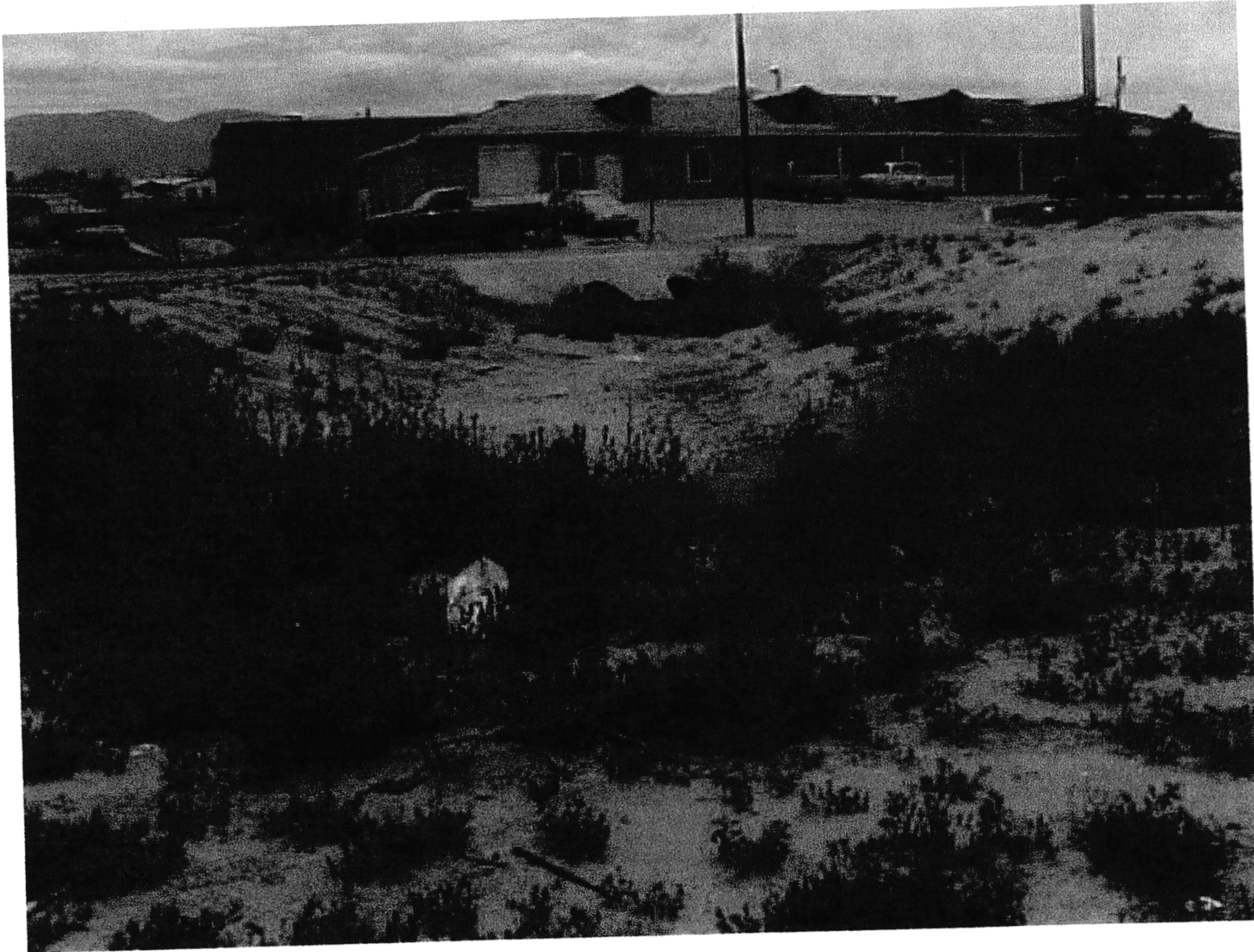


Photo #2. 36" Culvert Outlets. Looking east, area that photo was taken is higher than San Pedro Crossing.

Until FEMA makes this map revision, the owners are aware of and will provide flood insurance required for the properties. This flood plain is shown on sheet C-1.

V. DRAINAGE CONDITIONS

For the Carmel Enterprises Office Park project the outlet weir was designed to limit the discharge flow (at the undeveloped rate) to prevent any impact on facilities downstream. This facility is located in the northwest corner of the site. This discharge, 10.1 cfs, was taken into account in the *Wilson Company Report*. The discharge will be to Anaheim Avenue. The downstream improvements are detailed in the *Wilson Company Report* on page 7. (A copy of this page from the *Wilson Company Report* is provided in Appendix B.) No offsite flow can reach this project, see above Section III and Photo #1 and #2.

To contain the discharge in Anaheim, the owner will construction curb & gutter on the south side of Anaheim Avenue to their west property line. This is approximately 110 feet. At the west property line, the flow will be contained as described in the *Wilson Company Report*. The owners of this project will participate in this downstream project.

Since there are different owners for each lot, cross lot drainage easements and access

agreements have been filed with the Bernalillo County. Copies are provided in Appendix C.

VI. DRAINAGE COMPUTATIONS (Reference Appendix A)

The proposed development is in Precipitation Zone 3. The Land Treatment Area for the proposed Carmel Enterprises Office Park and the offsite drainage basins are as follows:

Onsite Drainage Area

Office Park, Lot 21, Phase I

Type "D" (Roof)	0.75 Acres
Type "B" (Irrigated Lawns)	0.14 Acres
Total	0.89 Acres

Albuquerque Country Day School and Carmel Enterprises Office Complex, (Lot 20 and ½ of Lot 19)

Type "D" (Roof)	0.75 Acres
Type "B" (Irrigated Lawns)	0.14 Acres
Type "C" (Unpaved Roadways)	0.44 Acres
Total	1.33 Acres

Office Park, Lot 12, 13, 14 and 15, Phase II

Type "D" (Roof)	3.06 Acres
Type "B" (Irrigated Lawns)	0.53 Acres
Total	3.56 Acres

Total onsite acreage used for drainage computation, consisting of the Carmel Enterprises Office Park, Carmel Enterprises Office Complex and the Albuquerque Country Day School, is 5.78 Acres. Cross-lot drainage will be utilized. Drainage Easements have been filed with Bernalillo County. Copies are provided in Appendix C.

The run-off from the front parking area for the Albuquerque Country Day School (Lot 19) was allowed to discharge to Carmel Avenue. The larger rear area (0.432 Ac) drains to the west (Carmel Enterprises Office Complex) and then to Anaheim Avenue through this proposed development, (Carmel Enterprises Office Park). The Carmel Enterprises Office Complex (Lot 20) drains to the west through Carmel Enterprises Office Park and then to Anaheim Avenue. The total site run-off will be controlled by ponding in the parking areas of this development. The maximum water depth in the parking area located

in the northwest part of the development will be 14 inches. This depth happens near the outlet weir. The maximum water depth for the balance of the parking area will be 6". The existing undeveloped discharge from the site is 10.76 cfs. The fully developed discharge will be controlled by a weir and will discharge to Anaheim Avenue at a rate of 10.11, which is below the existing undeveloped flow rate of 10.76 cfs.

VII. SUMMARY

The onsite flow from lots 12, 13, 14, 15, 20, 21, and part of lot 19 will be discharged, at 10.1 cfs, to Anaheim Avenue. This is slightly below the historic undeveloped discharge rate. This plan flows the guidelines presented in the *Wilson company Report*. Drainage calculations are presented in Appendix A. The Drainage Plan drawings are presented in Appendix B.

VIII. REFERENCES

Development Process Manual – Volume 2, City of Albuquerque, 1993.

Summary Drainage Report for The Subarea I-25 Frontage Road to San Pedro/Paseo Del Norte to Anaheim, December 1999, Revised March 2000, by Wilson & Company.

IX. CONSTRUCTION COST

Each unit is estimated to cost \$550,000.00. The total cost of the complete project will be \$2,200,000.00.

Project # 92218 Client SHIFFER
 Project Title CARMEL OFFICE PARK
 Subject _____ Drawn By _____
 Description HYDROLOGY CALCS

Calculated By RGB Date 6/8/29
 Checked By _____ Date _____
 Sheet # 1 OF _____

OUTLET OPENING @ NORTHWEST CORNER OF PROP

6" X 2'-8" - ACTS AS WEIR UNTIL DEPTH
 REACHES 6"
 - ACTS AS ORIFACE AFTER 6"

WEIR $Q = 3.49 L H^{3/2}$

ORIFACE $Q = 0.62 A \sqrt{2gh}$

HEAD (ft)

FLOW (cfs)

0	0
.5	2.3
1.0	6.5
1.5	7.9
2.0	9.1
<u>2.5</u>	10.2

30" 2"
 report says
 14"

Volume 2, January 1993

Cals for Q1

Precipitation Zone 3

100 Year Storm Depth, P (360)	2.6
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Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing
Type "D" (Roof)		0.417
Type "C" (Unpaved Roadway)		0.403
Type "B" (Irrigated Lawns)		0.066
Type "A" (Undeveloped)		0

Total (Acres)	0.886
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Excess Precipitaion, (in)	1.77
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Volume (100), cf	5679.90
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Volume (10),cf	3805.53
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Q (100), cfs	3.66
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Q (10), cfs	2.45
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Volume 2, January 1993

Cals for Q3

Precipitation Zone

3

100 Year Storm Depth, P (360)

2.6

Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing
Type "D" (Roof)		0.794
Type "C" (Unpaved Roadway)		0.403
Type "B" (Irrigated Lawns)		0.132
Type "A" (Undeveloped)		0

Total (Acres)

1.329

Excess Precipitaion, (in)

1.89

Volume (100), cf

9129.99

Volume (10),cf

6117.10

Q (100), cfs

5.72

Q (10), cfs

3.83

SUMMARY

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
  INPUT FILE = carmel.txt
9702a0100003C-SH

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- VERSION: 1997.02c

RUN DATE (MON/DAY/YR) =06/08/1999
USER NO.= AHYMO-I-

[illegible]

4.0 Improvements

4.1 Proposed Drainage Systems

Exhibit 1 shows the locations of storm drain lines proposed to accommodate the peak 100-year 6-hour flows for the proposed development. Hydraulic calculations for the proposed storm drains, ditch flow, and street flow are provided in the Appendix. The proposed systems are summarized in Table A, Summary of Proposed Drainage Systems, and are described as follows:

Line A consists of 280 feet of 30" RCP storm drain in San Pedro Drive and two inlets in sump condition. It will intercept the flow from Basin 940.1 in the NAAMDP. Line A extends north to the 48" North Domingo Baca Dam outlet pipe. It connects to an existing stub-out at the manhole at the intersection of San Pedro Drive and Anaheim Avenue.

Line B consists of 160 feet of 30" RCP and a 640-feet long improved ditch. The system begins at the existing 30" culvert under Carmel Avenue just east of the I-25 Frontage Road. The 30" RCP will intercept the culvert flows, which are discharging from Carmel drainage basin. The 30" RCP will discharge to the improved ditch, which will intercept overland runoff from Holly Avenue and ultimately discharge to the existing 4-48" CMP's under the frontage road. Concrete wingwalls may be required to prevent erosion and to direct the flows into the existing 48" CMP's.

The ditch is to be initially constructed under SAD 224 as an earthen-lined ditch. When upstream development occurs, the following is required:

1. The developer will landscape and maintain the segment north of Holly Avenue.
2. The developer will concrete-line the segment south of Holly Avenue, and the City of Albuquerque will maintain it.

Line C consists of 100 feet of 30" RCP storm drain within the I-25 Frontage Road right of way in the northwest corner of the project. Three inlets in sump at the upstream end of Line C will intercept the flow from the Scott basin.

The 30" RCP will extend north and daylight to the ditch that conveys the North Domingo Baca flows to 2 of the 4 existing 9'x4' concrete box culverts (CBC's). The third of the four CBC's is enclosed and dedicated to the existing 54" North Domingo Baca Dam outlet pipe, and the fourth box is open but only conveys flows approaching from the north because the closed box blocks flows from the south. This multi-CBC structure is shown on Exhibit 1 in the Appendix.

 **Anaheim overland flow** discharges to the west terminus of Anaheim Avenue. Here the street will be vacated and a cul-de-sac will be built to access the property. The overland flow on Anaheim Avenue will be conveyed through this cul-de-sac via a rundown and easement channel to the multi-CBC structure. The upstream developers of the Scott basin and Carmel Enterprises Office Park shall share the costs and design.

2.3 Site Development Constraints

The project site poses a number of constraints to the project. The constraints are described as follows:

1.  A FEMA flood plain transects northeast of the project area and continues along the I-25 Frontage Road to the southwest corner of the project (see Exhibit 1, Drainage Area Map). The flood plain is part of the CLOMR for the PdN Storm Drain. The flood plain will remain in effect until the as-built plans for the entire Paseo del Norte storm drain are provided to FEMA. It is then up to FEMA to make the decision to remove the floodplain.
2. Carmel Avenue is at grade or slightly higher than the land to the south. Because of this, runoff from the land south of Carmel cannot be conveyed to Carmel. Therefore, this runoff is cross-lot drainage south to Holly Avenue.
3. There is an old landfill site at the northeast corner of PdN and the I-25 Frontage Road. Environmental constraints will dictate the development of this parcel, which is labeled "Lot 8A" on Exhibit 1 in the Appendix.
4. The North Domingo Baca Arroyo (South) discharges to a ditch through the Coronado Mobile Home Park on the west side of I-25. Per the NAAMDP the existing discharge through the multi CBC's upstream of the mobile home park is 307 cfs. Per a 1995 analysis the capacity of the smallest culvert in the mobile home park is 390 cfs. The following paragraphs describe the history of the South NDB Arroyo flows through the Coronado Mobile Home Park and the channel stability.

2.3a Coronado Mobile Home Park (MHP) Historic Flows

Prior to the construction of the Lower Domingo Baca Dam, the 100-year storm flows at the Coronado MHP were approximately 800 to 1,000 cfs. Since the capacity of the South NDB channel through the MHP is 390 cfs, this channel was subject to flooding causing damage to the residences in the MHP. Therefore, in 1997, AMAFCA constructed the Lower Domingo Baca Dam to reduce flow in the MHP to the capacity of the channel. To secure the integrity of the South NDB channel through the MHP, the following flows were developed to control runoff from future development.

<u>AREA</u>	<u>BASIN</u>	<u>Q100 ALLOW</u>	<u>STATUS</u>
Lower NDB Dam	-	188 cfs	Developed
La Cueva Oeste Unit 1	939.16 / 940.2	68 cfs	Developed
La Cueva Oeste Unit 2 & 3	940.0	35 cfs	Developed
Trailers N. Anaheim / E. SP	939.14	30 cfs	Developed
San Pedro / Anaheim SE	940.1	19 cfs	Semi-Developed
SAD 221 Improvements	943.1	32 cfs	Developed
This Study Area	943.2	30 cfs	Undeveloped

Basin 943.2 is divided into four areas: Anaheim – 4 cfs; Scott – 15 cfs; Enterprise – 10 cfs; and Lot 16 – 1 cfs (Total = 30 cfs).



Engineering Solutions & Design, Inc.

4848 Tramway Ridge NE, Suite 222 • Albuquerque, New Mexico 87111
Tel: (505) 298-1851 • Fax: (505) 298-0272

MEMORANDUM

TO: Whom it May Concern

FROM: Jack Chappelle, P.E.

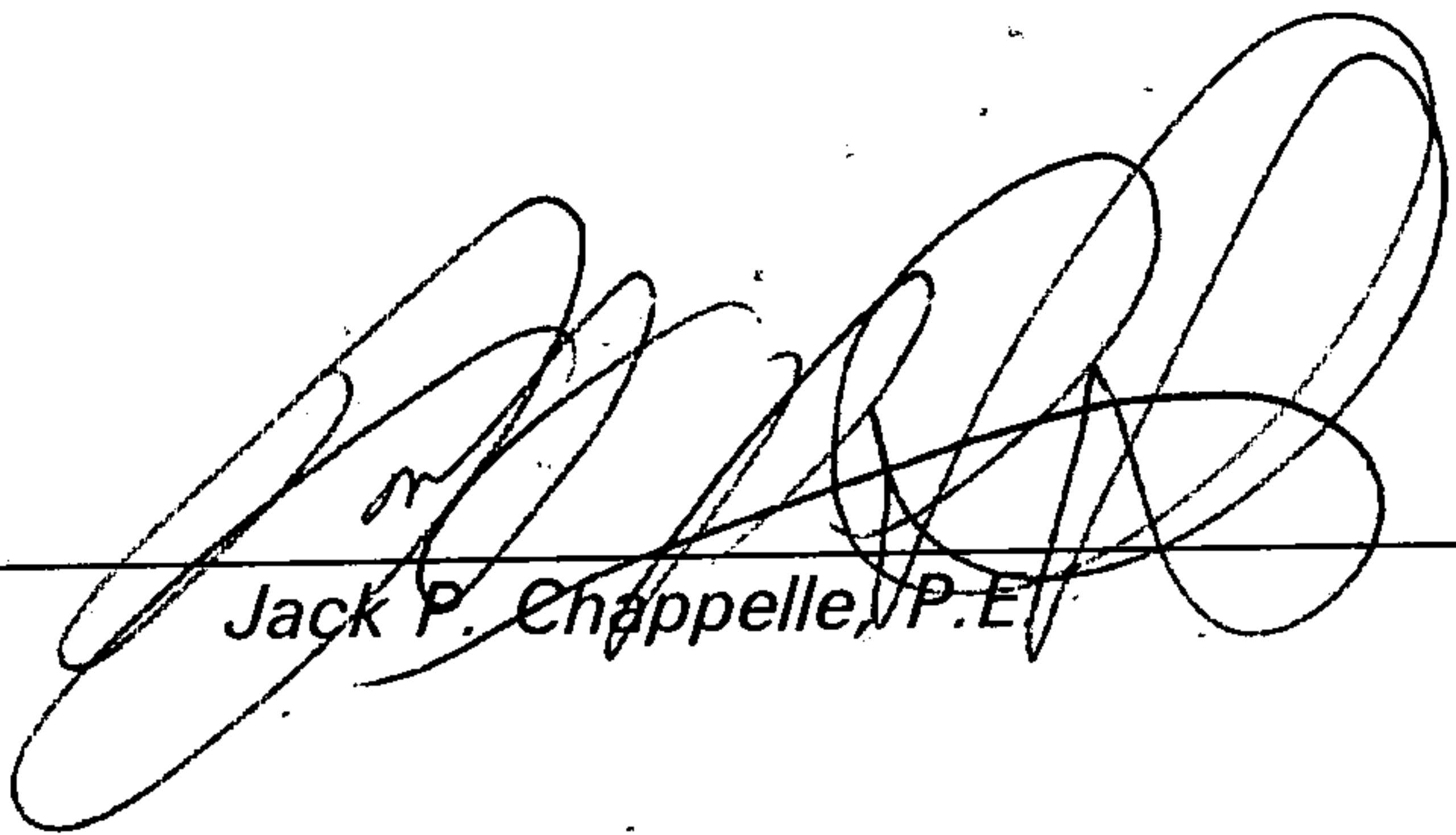
DATE: February 21, 2000

SUBJECT: Certification - Analysis of Impact of Sacramento Landfill on the Development at the Northeast Corner of Carmel Avenue NE and Frontage Road NE

C18/DS4

The referenced study has determined that the impact from landfill gas generated by the Sacramento Landfill on the development at the northeast Corner of Carmel Avenue NE and Frontage Road NE is minimal. We are recommending that the structure proposed to be built on the property have conduit seals installed on all underground utilities that enter it. This abatement measure is adequate to address any potential landfill gas entry to the structure.

Signed:



Jack P. Chappelle, P.E.



1560/110mn.1



CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

September 5, 2007

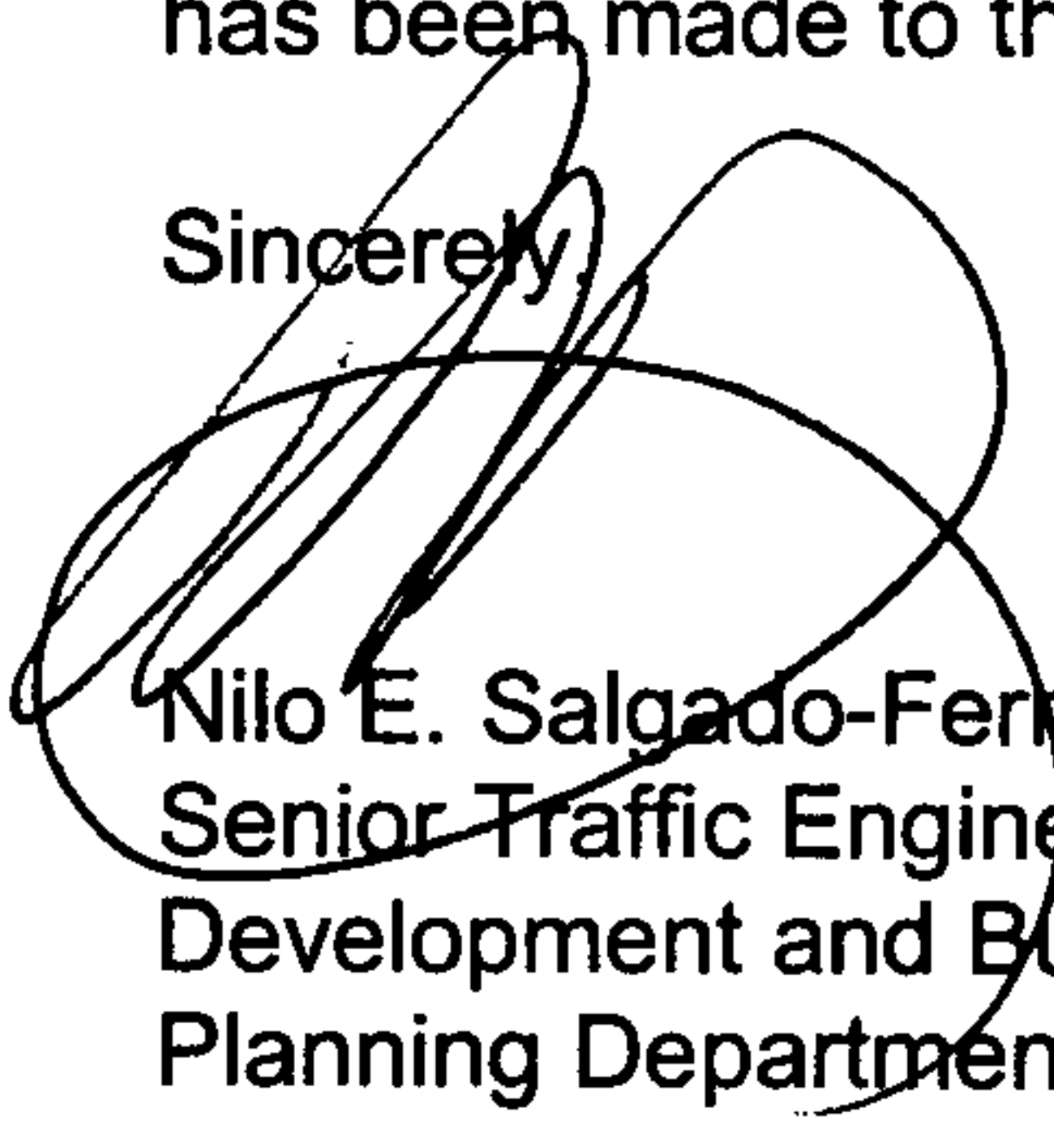
Martin Garcia, P.E.
6739 Academy Rd. NE, Ste. 130
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
Carmel Office Park-Phase II(Lots 12-15), [C-18 / D54]
5900,5908,5916 & 5924 Anaheim Ave.
Engineer's Stamp Dated 08/31/07

Dear Mr. Garcia:

The TCL / Letter of Certification submitted on September 4, 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

September 04, 2007

Mr. Nilo Salgado-Fernandez, PE
Senior Traffic Engineer
City of Albuquerque Development and Building Services
600 Second Street NW
Albuquerque, NM 87102

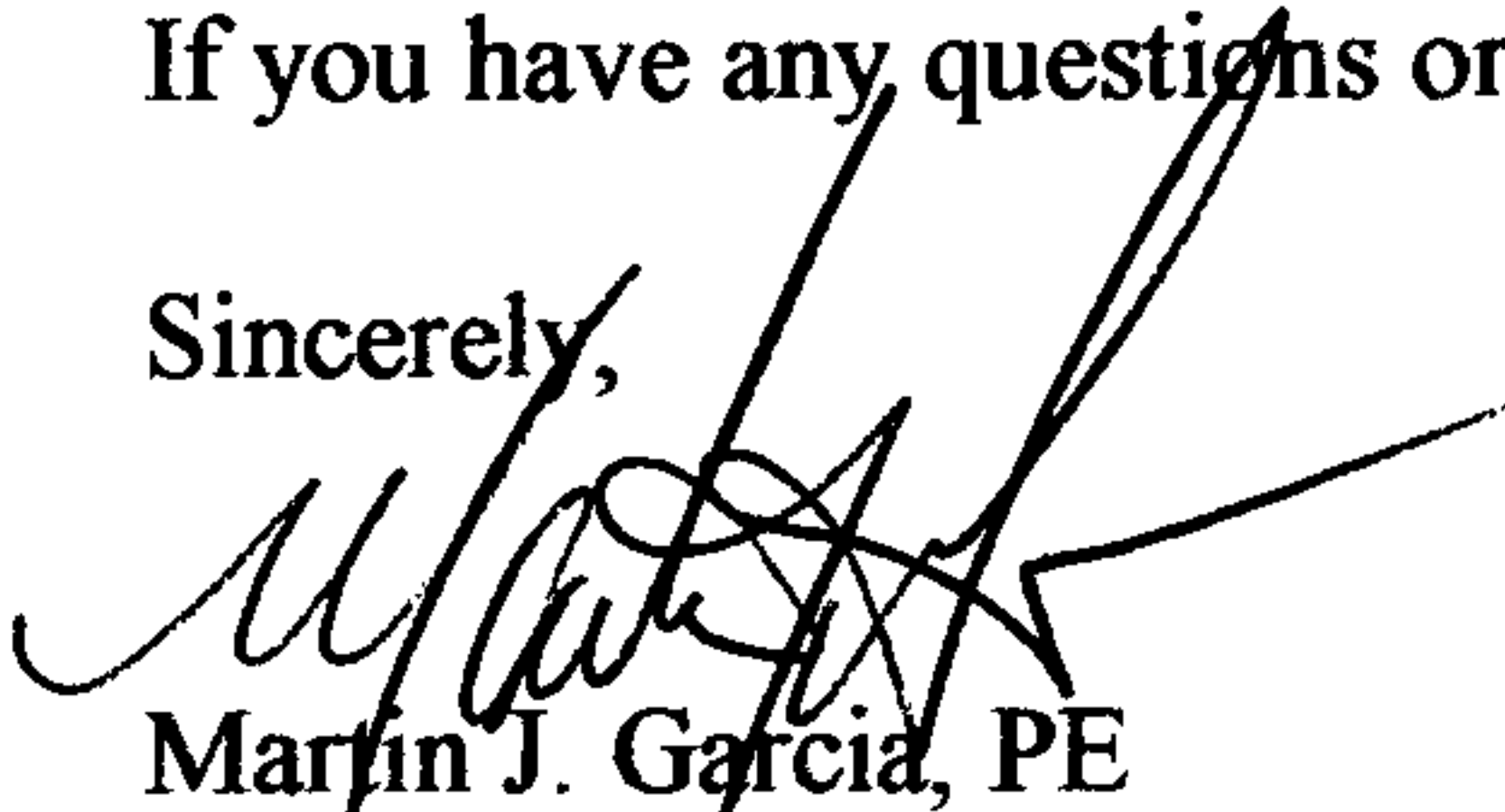
RE: As Built Certification Submittal for Final Building Certificate of Occupancy for
5900, 5908, 5916, and 5924 Anaheim Ave. NE-Carmel Office Park-Phase III (C-18/D54)

Dear Mr. Salgado-Fernandez:

Submitted herewith is the as built certification submitted on the approved site plan for
this project, in accordance with your letter dated July 26, 2006. Please release the final
certificate of occupancies for these buildings.

If you have any questions or require additional information, please call me at 255-7802.

Sincerely,



Martin J. Garcia, PE
ABQ Engineering Inc.
20158



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department
Transportation Development Services Section***

August 19, 2002

Martin J. Garcia, Registered Professional Engineer,
ABQ Engineering, Inc.
1631 Eubank Blvd. N.E., Suite C,
Albuquerque, NM 87112

Re: Certification Submittal for Final Building Certificate of Occupancy for
Carmel Enterprises Office Park, [C-187/D054] ☐
5711 Carmel N.E.
Engineer's Stamp Dated 08/15/02

Dear Mr. Garcia:

The TCL / Letter of Certification submitted on August 16, 2002 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to Building and Safety and final C.O. has been logged in at the Building Safety Section downstairs.

On future submittals please complete the Drainage and Transportation Information sheet fully and more legibly ("contractor" and "surveyor" are not so critical).

Sincerely,

Mike Zamora, Commercial Plan Checker
Development and Building Services
Planning Department

c: Hydrology file
Mike Zamora



ABQ Engineering, Inc.

Engineers • Planners • Construction Services

August 15, 2002

Mr. Mike Zamora
Plan Review
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87102

RE: Traffic Circulation Layout Certification for 5711 Carmel NE

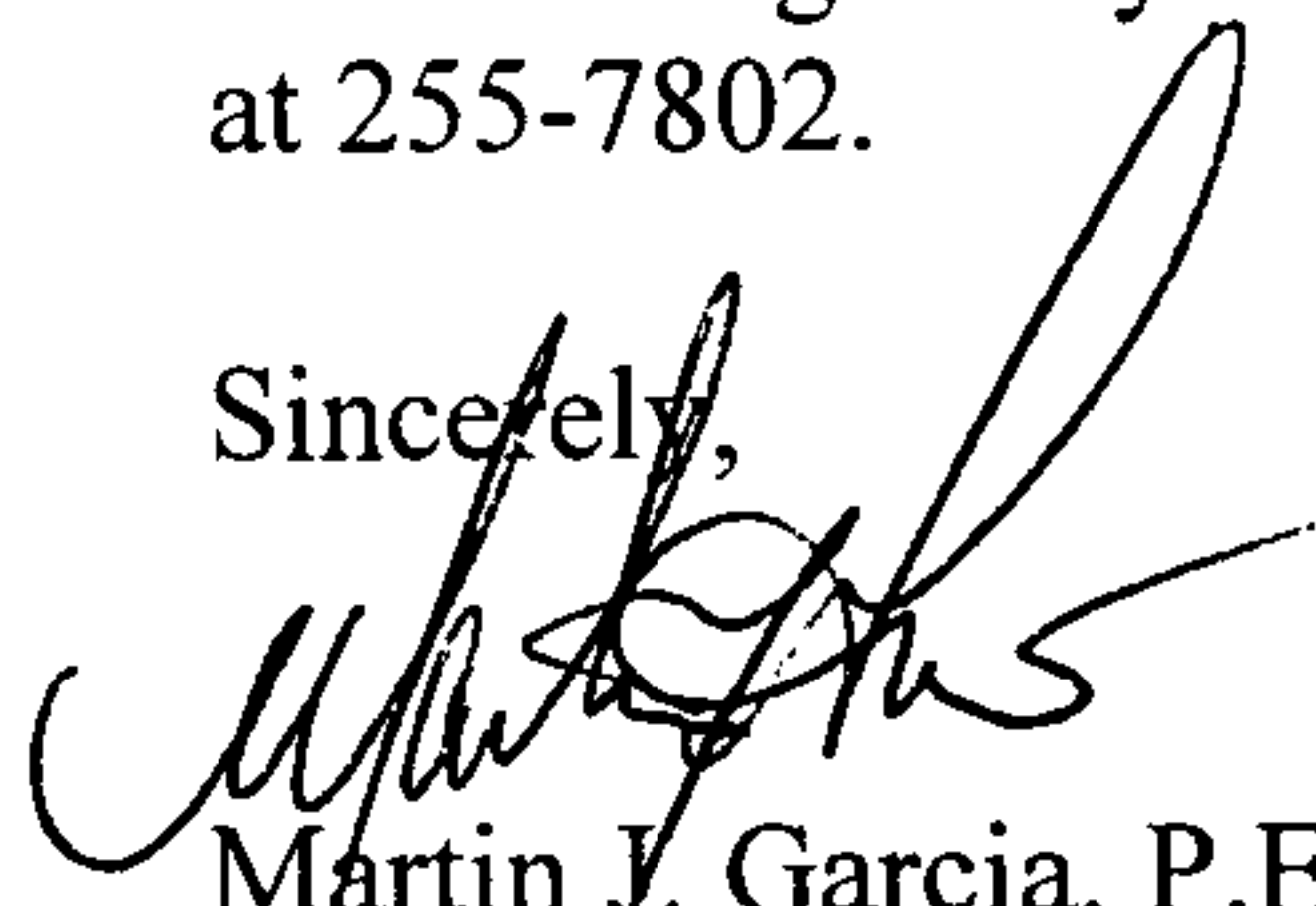
Dear Mr. Zamora:

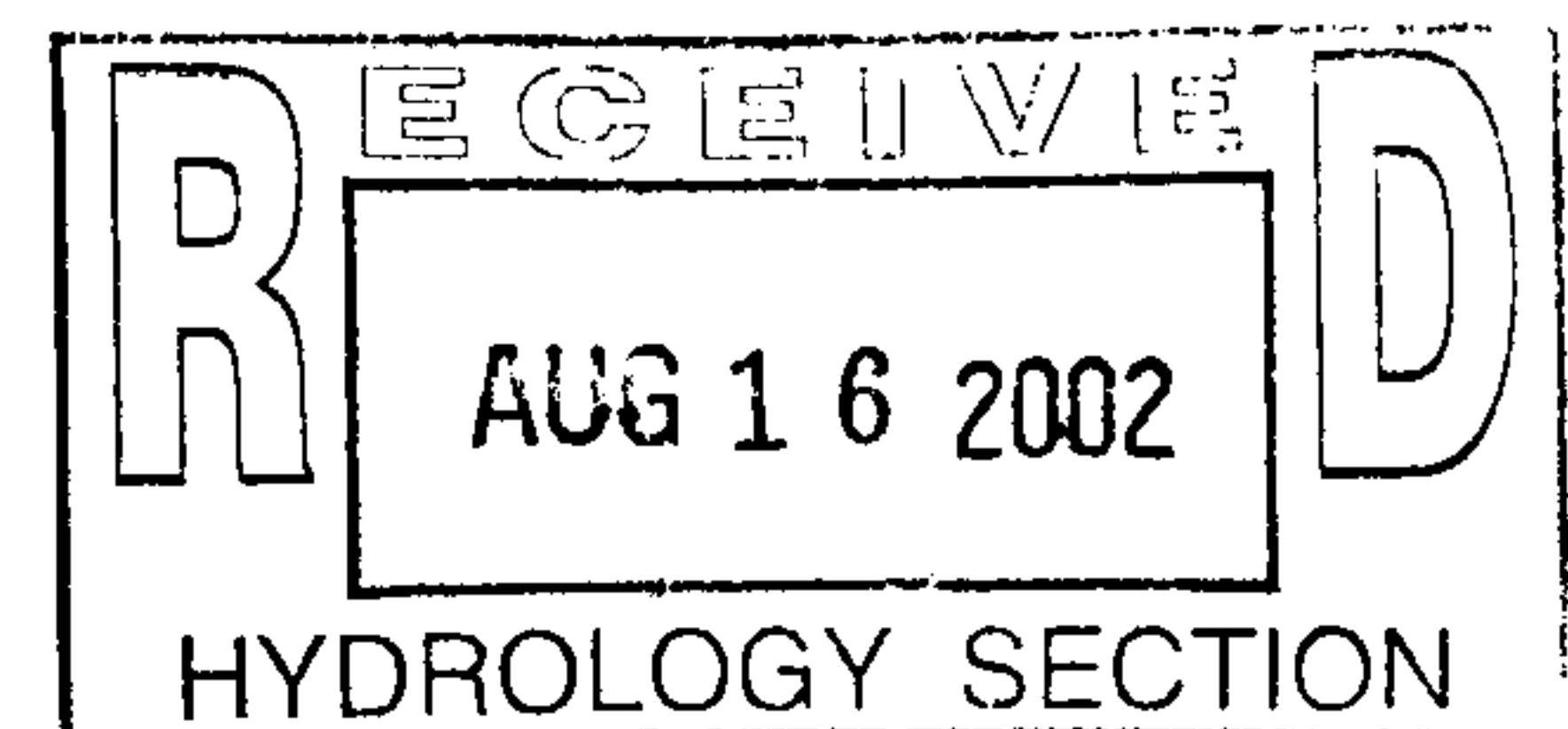
This Letter of Certification is being sent to satisfy the requirements of the City for obtaining a final Certificate of Occupancy. Enclosed herewith is the Traffic Circulation Layout Certification for 5711 Carmel NE which is part of the Carmel Office Park improvements, and copies of the cross access agreements as you requested in your letter of August 8, 2002. The property owner has been notified of the need for diagonal-hatch striping on the end stall as required in your letter and have indicated that the striping will be addressed as soon as is possible.

This certification for final C.O. is being submitted on a copy of the approved plan obtained from the City's microfilm file. Please note that the hand-written comments are part of the approved plans. As we discussed, the mark-up in red reflect the as-built field conditions. Overall there were no substantive changes to the approved plans. Parking stalls were installed at a width of 9'0" instead of 8'6". The additional width better accommodates ingress and egress to and from the parking spaces.

As with the previous submittal, I have included the certification and Engineer's stamp on the drawings. If you have any questions or require additional information, please call me at 255-7802.

Sincerely,


Martin J. Garcia, P.E.
Civil Engineer
ABQ Engineering, Inc.
22085





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department
Transportation Development Services Section***

August 7, 2002

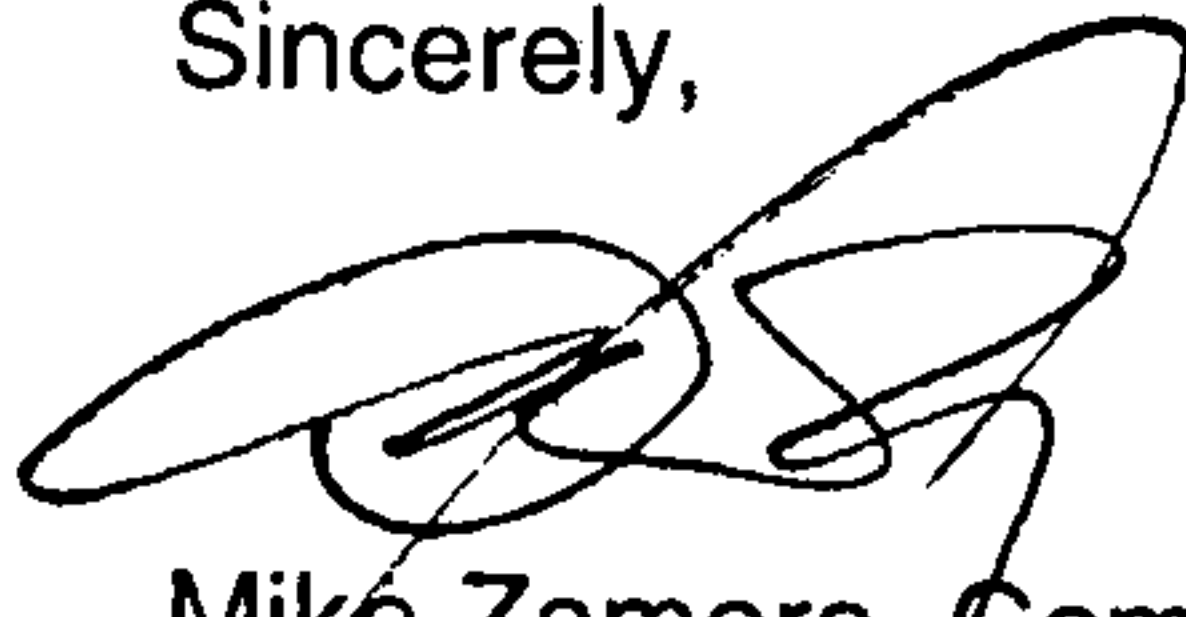
Martin Garcia, Registered Architect
1631 Eubank N.E.
Suite C
Albuquerque, NM 87112

Re: Certification Submittal for Final Building Certificate of Occupancy for
Carmel Enterprise Office Park, [C-18 / D054]
5900 Anaheim Ave. N.E.
Engineer's Stamp Dated 07/30/02

Dear Mr. Garcia:

The TCL / Letter of Certification submitted on August 5, 2002 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to Building and Safety and final C.O. has been logged in by Vicki Chavez in the Building Safety Section downstairs.

Sincerely,



Mike Zamora, Commercial Plan Checker
Development and Building Services
Planning Department

c: Hydrology file
Mike Zamora



ABQ Engineering, Inc.

Engineers • Planners • Construction Services

August 5, 2002

Mr. Mike Zamora
Plan Review
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87102

Dear Mr. Zamora:

Enclosed herewith is the Traffic Circulation Layout Certification for 5900 Anaheim NE and 5711 Carmel NE that are part of the Carmel Office Park improvements. As-built field conditions are as noted on the plans.

If you have any questions or require additional information, please call me at 255-7802.

Sincerely,

Martin J. Garcia, P.E.
Civil Engineer
ABQ Engineering, Inc.
22085





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 27, 2000

Roni G. Booth, P.E.
ABQ Engineering, Inc.
1631 Eubank NE, Suite C
Albuquerque, New Mexico 87112

RE: *Revised Grading and Drainage Plan for Phase I of the Carmel Office Park, Lots 12-15 and Lot 21, Block 16, Tract A, Unit B, NAA (C18/D54) Submitted for Building Permit Approval, Engineer's Stamp Dated 4/19/00.*

Dear Mr. Booth:

Based on the information provided on April 21, 2000, the above referenced plan is approved for Building Permit release for Phase I only. No further grading, other than what is shown on this plan, will be allowed on Lots 13, 14 and 15.

Please attach a copy of this approval letter along with the approved plan to the set of construction drawings for Building Permit sign-off.

As you are aware, the Engineer's Certification is required prior to release of the Certificate of Occupancy for this building. As part of the certification of this plan, you must verify that the spillway has been constructed in accordance with this plan.

If you have any questions or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: John Shiffer, Carmel Enterprises
Whitney Reiersen, City Hydrology
File



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 7, 2000

Roni G. Booth, P.E.
ABQ Engineering, Inc.
4401 Silver SE
Albuquerque, New Mexico 87108

RE: *Drainage Report and Grading and Drainage Plan for Phase I of the Carmel Office Park, (C18/D54) Submitted for Site Development Plan for Building Permit Approval and Building Permit Approval, Engineer's Stamp Dated 1/28/00 on the Report, Plans Dated 2/4/00.*

Dear Mr. Booth:

Based on the information provided with the submittals of January 27, 2000 and February 4, 2000, the above referenced plan is approved for Site Development Plan approval for Phase I only.

After the site plan has been approved by the DRB, the above referenced plan may be approved for Building Permit release. Please attach a copy of this approved Grading and Drainage plan to the set of construction drawings for permit release.

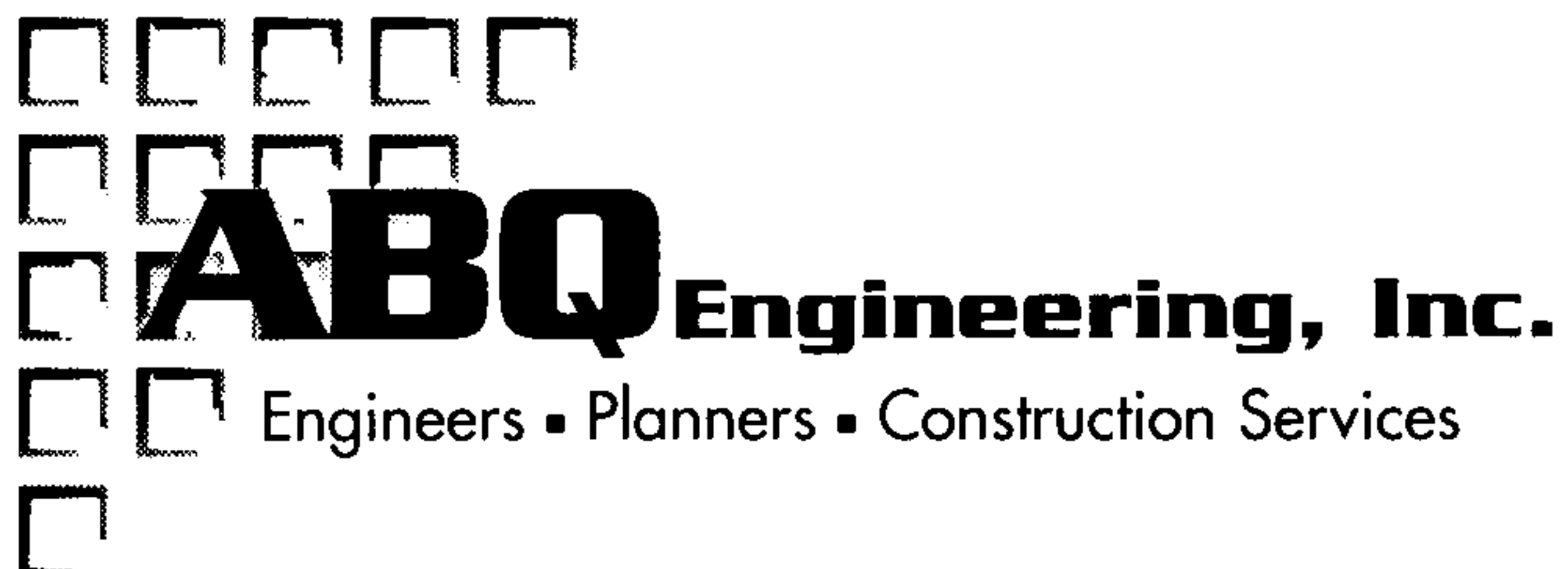
As you are aware, the Engineer's Certification is required prior to the release of the Certificate of Occupancy for this site. The certification must include As-Built elevations to verify that all drainage features have been constructed, especially the retaining walls and the pond.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

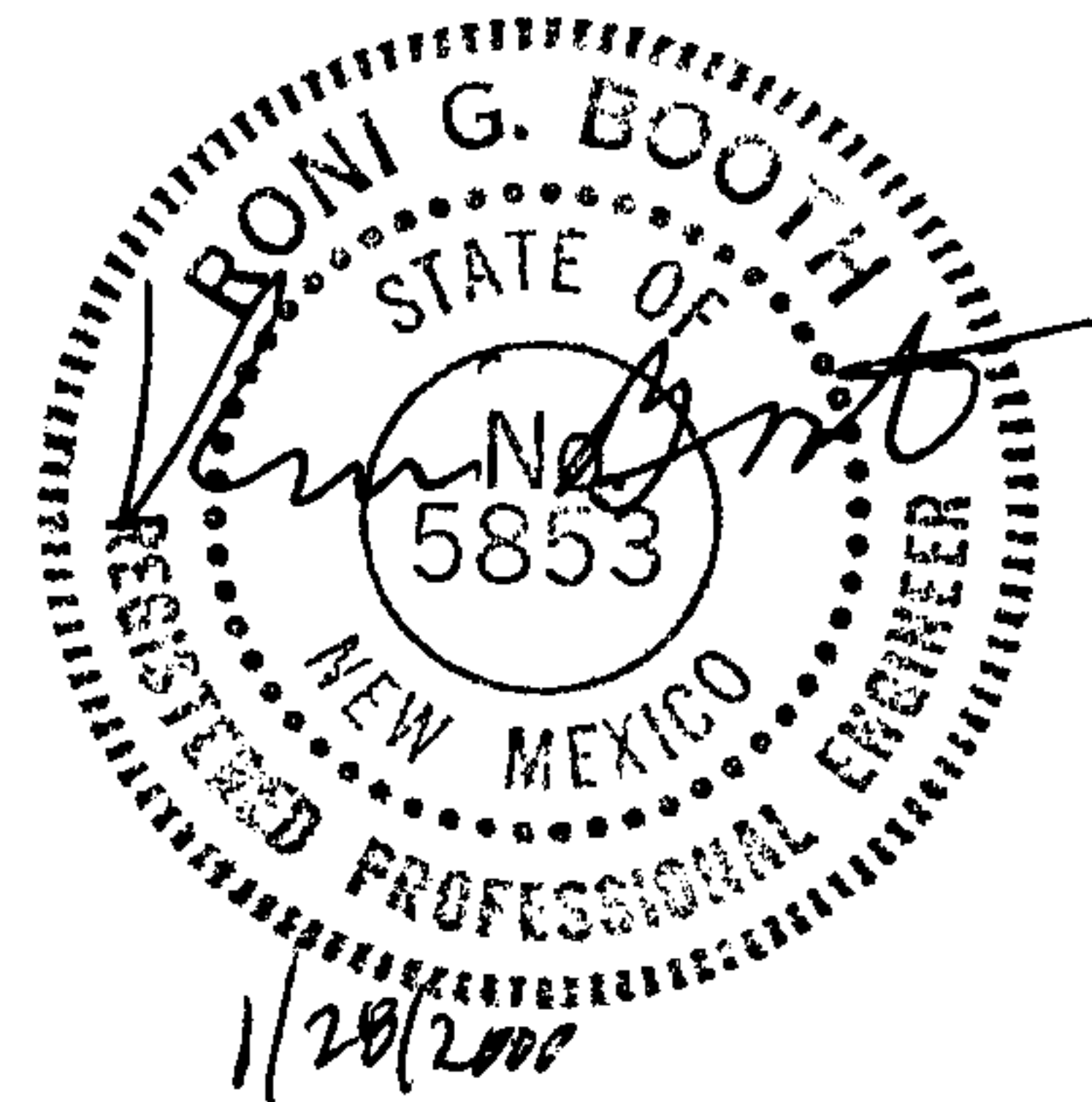
c: Fred Aguirre, DRB 99-282
Whitney Reiersen, City Hydrology
File



CARMEL ENTERPRISES OFFICE PARK

GRADING AND DRAINAGE PLAN PHASE I AMENDMENT

JANUARY 2000



**DRAINAGE STUDY
CARMEL ENTERPRISES
OFFICE PARK
Phase I Drainage**

I. INTRODUCTION

This report documents the methods used to determine and control the storm water runoff from the Carmel Enterprises Office Park. The project will consist of five office buildings, landscaping, and associated parking areas. This amendment details **Phase I** of the project.

II. PROJECTION DESCRIPTION

The proposed Carmel Enterprises Office Park is located at San Pedro Drive and Anaheim Avenue North East and consists of lots 12, 13, 14, 15 and 21. Planned development consists of an office building on each lot, with parking and landscaping that meet City of Albuquerque Standards. **Phase I** will consist of the building on lot 21. Also, part of lot 19 and all of lot 20 will drain through lot 21. See Appendix B, drawings, for drainage areas. Lot 12 will be used to pond runoff for **Phase I**, outside of the 100 year flood zone.

Phase II will consist of buildings on lots 12, 13, 14, and 15. These buildings will only be constructed when all drainage issues are resolved for the Anaheim drainage corridor.

III. METHODOLOGY

The hydrology calculations follow the guidelines set forth in Section 22.2 of the Albuquerque Development Process Manual (DPM). The site soil is silty sand of the hydrologic type "B". The 100 year, 10 day storm was used to compute the runoff quantities for the onsite pond size. The offsite flow will not be changed. The size of the pond for **Phase I** runoff is 0.75 Ac-Ft. Phase II of the project will incorporate the final approved requirements of the analysis (submitted by Wilson & Company) for the Anaheim drainage corridor.

IV. PROJECT DATA

The area of the **Phase I** project site is 0.89 acres. Drainage from part of lot 19 and all of lot 20, (Albuquerque Country Day School and Carmel Enterprises Office Complex) drain through this project. These lots are located east of the **Phase I** project site and total 1.33 acres. The natural slope is from east to west at approximately 3.0%.

V. DRAINAGE COMPUTATIONS

The proposed development is in Precipitation Zone 3. The Land Treatment Area for the proposed Carmel Enterprises Office Park **Phase I** Construction (including pond on Lot 12) and ½ Lot 19, and Lot 20 drainage basins are as follows:

Onsite Drainage Area

Office Park, Lot 21

Type "D" (Roof)	0.75 Acres
Type "B" (Irrigated Lawns)	0.14 Acres
Type "C" (Unpaved Roadway)	0.00 Acres
Total	0.89 Acres =

Albuquerque Country Day School and Carmel Enterprises Office Complex, (Lot 20 and ½ of Lot 19)

Type "D" (Roof)	0.75 Acres
Type "B" (Irrigated Lawns)	0.14 Acres
Type "C" (Unpaved Roadway)	0.44 Acres
Total	1.33 Acres —

? Type "D" (Roof) (Pond of lot 12)	0.32 Acres
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Grand Total	2.54 Acres
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The total onsite run-off will be retained by ponding at lot 12, "Phase I Onsite Pond" (capacity of 0.75 Ac-Ft, required 0.78 Ac-Ft), outside the 100 year flood zone. The run-off from the front area for the Albuquerque Country Day School (Lot 19) was allowed to discharge to Carmel Avenue. The rear area (0.443 Ac) drains to lot 21 and then to the "Phase I Onsite Pond". The Carmel Enterprises Office Complex (Lot 20) drains to lot 21, then to "Phase I Onsite Pond".

VI. SUMMARY

The proposed **Phase I** drainage plan for Carmel Enterprises Office Park will contain all of the runoff from Lot 21, Lot 19, pond on Lot 12 and ½ Lot 20 in **Phase I** pond located on lot 12. The Drainage Plan drawings are presented in Appendix B.

Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing	Proposed
Type "D" (Roof)		0	1.82
Type "C" (Unpaved Roadway)		0	0.44
Type "B" (Irrigated Lawns)		0	0.28
Type "A" (Undeveloped)		2.54	0
Total (Acres)		2.54	2.54
Excess Precipitaion, (in)		0.66	2.02 ✓
Volume (100), cf		6085.33	18587.05 ✓
Volume (10),cf		4077.17	12453.32
Q (100), cfs		4.75	11.38
Q (10), cfs		3.18	7.63

17755
33,782 cf

P(10 days) 4.9

Volume On-Site

Volume (100yr-10day) acre-ft
Volume (100yr-10day) cu-ft

0.78
33782.23

100-yr 10-day required

Hydrology Calculations - Carmel Enterprises, Phase I

DPM - Section 22.2

Volume 2, January 1993

Cals for Q1

Precipitation Zone **3**

100 Year Storm Depth, P (360) **2.6**

Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing	
Type "D" (Roof)		0.417	
Type "C" (Unpaved Roadway)		0.403	
Type "B" (Irrigated Lawns)		0.066	
Type "A" (Undeveloped)		0	
Total (Acres)		0.886	
Excess Precipitaion, (in)		1.77	
Volume (100), cf		5679.90	
Volume (10),cf		3805.53	
Q (100), cfs		3.66	
Q (10), cfs		2.45	

Hydrology Calculations - Carmel Enterprises, Phase I

DPM - Section 22.2

Volume 2, January 1993

Cals for Q2

Precipitation Zone 3
100 Year Storm Depth, P (360) 2.6

Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing	
Type "D" (Roof)		0.377	
Type "C" (Unpaved Roadway)		0	
Type "B" (Irrigated Lawns)		0.066	
Type "A" (Undeveloped)		0	
Total (Acres)		0.443	
Excess Precipitaion, (in)		2.15	
Volume (100), cf		3450.10	
Volume (10),cf		2311.57	
Q (100), cfs		2.06	
Q (10), cfs		1.38	

Hydrology Calculations - Carmel Enterprises, Phase I

DPM - Section 22.2

Volume 2, January 1993

Cals for Q3

Precipitation Zone 3
100 Year Storm Depth, P (360) 2.6

Treatment Area	A	B	C	D
Excess Precipitation Factors	0.66	0.92	1.29	2.36
Peak Discharge Factors	1.87	2.6	3.45	5.02

Land Treatment Area	Acres	Existing	
Type "D" (Roof)		0.794	
Type "C" (Unpaved Roadway)		0.403	
Type "B" (Irrigated Lawns)		0.132	
Type "A" (Undeveloped)		0	
Total (Acres)		1.329	
Excess Precipitaion, (in)		1.89	
Volume (100), cf		9129.99	
Volume (10),cf		6117.10	
Q (100), cfs		5.72	
Q (10), cfs		3.83	

Checked _____ Date _____
Approved _____ Date _____
Sheet 1 Of 1

ABQ Engineering, Inc.
Engineers • Planners • Construction Services
4401 Silver SE • Suite A
Albuquerque, New Mexico 87108
(505) 255-7802 • Fax (505) 255-7902

Job No. _____
Title CARMEL-LOT 21
By RGB Date 1/27/2022

POND VOLUME CALCULATIONS

CONTOUR ELEV FT	CONTOUR AREA FT ²	AVG VOL BETWEEN CDTGNS FT ³
9	37 X 109 = 4033	
10	43 X 115 = 4945	4489
11	49 X 121 = 5929	5437
12	55 X 127 = 6985	6457
13	61 X 133 = 8113	7549
14	67 X 139 = 9313	8713

TOTAL 32645 cu ft
REQD 33782 cu ft } ok

APPENDIX B