M 15/ D 2

1 PLAN

Goldberg - Mann & Associates, Inc.
Engineers - Planners
911 Pennsylvania St., N.E. Albuquerque, New Mexico 87110 (505) 265-3521

July 12, 1979

9-71

Mr. Claudio Vigil
Craddock Development Company
2501 Yale Boulevard S.E.
Albuquerque, New Mexico 87106

Re: Drainage Report for Commerce Center, Phase II

Dear Mr. Vigil:

We are herewith transmitting three (3) copies of the drainage report for the Commerce Center, Phase II of the Newport West Business Park. This report is in accordance with the requirements of the City of Albuquerque, Resolution 1972-2 and the Albuquerque Metropolitan Arroyo Flood Control Authority.

We have enjoyed working with you on this project, and look forward to future opportunities to assist you.

Yours truly,

GOLDBERG-MANN & ASSOCIATES, INC.

Thomas T. Mann, Jr., P.E.
President

TTM:pe
Enc.

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

August 15, 1979

Mr. Tom Mann
Goldberg-Mann & Associates
911 Pennsylvania N.E.
Albuquerque, New Mexico 87110

Re: Drainage Report for Commerce Center, Phase II

Dear Tom:

Staff has reviewed your drainage report received on August 7, 1979. There are a few problems with the report, and addressing them in a satisfactory manner will clear the report for approval.

1. Under existing conditions, Figure 3 does show the property in the Flood Hazard Area.

2. Offsite flows and the ability of the existing system (streets and storm drains) must be evaluated to insure that the property will not be subject to flood hazard.

3. The construction of infiltration ponds over the 54" drains could create structural stability. The 54" pipe should have capacity to accept all flows from the site without ponding.

Therefore, the capacity of the drop inlet shown on the westerly property line should be sufficient to take any and all overflow from the site as no overflow of the wall on the west property line can be tolerated.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

RSH/fs

cc - Rich Leonard, AMAFCA
Drainage File

R8A

Goldberg - Mann & Associates, Inc.
Engineers - Planners
911 Pennsylvania St., N.E. Albuquerque, New Mexico 87110 (505) 265-3521

RECEIVED
AUG 27 1979
CITY ENGINEER

August 24, 1979

9-96

Mr. Richard Heller
City Engineer
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Newport Industrial Park West, Unit 1 - Drainage

Dear Dick:

This letter is to confirm our conversation of August 24, 1979.

In accordance with the agreement today and previous agreements, Craddock will construct a concrete line channel from just west of Yale Boulevard to University Boulevard. This channel will accept the flows as delineated in the drainage report prepared by Andrew, Asbury & Robert, for the Newport Industrial Park - West, Unit 1. It is also recognized that the drainage structure at University is inadequate. Therefore, Craddock has two options. The first option is to provide temporary ponding on the west end of their property until such time as the crossing structure at University has been improved. The second option is for Craddock to retain an engineer to design a new crossing structure at University. The City will pay to construct the crossing structure. As you know, the channel has already been designed and is currently under review by the City.

This will allow Craddock to begin their development in this area. As soon as Craddock has decided which option to exercise, I will notify you.

If you have any questions or comments, please do not hesitate to call.

Thank you very much for your assistance in this matter.

Yours truly,

GOLDBERG-MANN & ASSOCIATES, INC.

Thomas T. Mann, Jr., P.E.
President

TTM:pe

xc: Claudio Vigil
Dick Johnson

Goldberg - Mann & Associates, Inc.
Engineers - Planners
911 Pennsylvania St., N.E. Albuquerque, New Mexico 87110 (505) 265-3521

August 27, 1979 9-71

RECEIVED
AUG 29 1979
CITY ENGINEER

Mr. Richard S. Heller
City Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Drainage Report for Commerce Center, Phase II

Dear Dick:

My letter is in response to your letter dated August 15, 1979, and our meeting of August 24, 1979.

The drainage report entitled, "Drainage Report for the Newport Industrial Park - West, Unit 1" was prepared in December of 1978. This drainage report was prepared by Andrews, Asbury & Robert and was approved by the City. In that report, it recommended the building of two (2) 54 inch RCP's to accept the flow coming from the culverts under Yale Boulevard and to convey that flow through the subject property. The subject property will then be filled above the flood plain level. In addition, the pipes in effect delete the arroyo which generated the flood plain in the first place. Hopefully this will explain Item 1 of your letter.

I have visited the site and am attaching a sketch to show the location of the storm drain inlets for the intersection of Yale Boulevard and Alamo. It is my opinion that the storm inlets are not capable of introducing the 485 cubic feet per second of flow into the 54" pipes recommended by the report. There are grates equivalent to approximately 21 single 'D' drop inlets draining that intersection. The majority of the grates, 15 to be exact, form two cattleguard type inlets. The two cattleguard inlets do not appear to be effective in that they are built in a crowned street section rather than a flat street section. Also, Yale Boulevard is on a fairly steep grade where the inlets are located. The remaining six inlets are located at the low point of Alamo. I believe these inlets are relative effective. If you were to

construct additional inlets, I think that they would be necessary south of the project site in Yale. I would recommend a type 'A' inlet rather than any additional cattleguard inlets. Also, additional inlets could be constructed in Alamo. However, I think you will agree with me that in order to introduce 485 cfs. through drop inlets is a very difficult proposition.

As per our conversation, we will delete the ponds over the 54" drains. In addition, we will delete the retaining wall shown and the drop inlet. All storm water runoff will be introduced directly into the channel that is just west of the subject property.

I believe this should answer all of your comments. Therefore, I request that you approve our drainage report at your earliest possible convenience.

If you have any questions or comments, please do not hesitate to call.

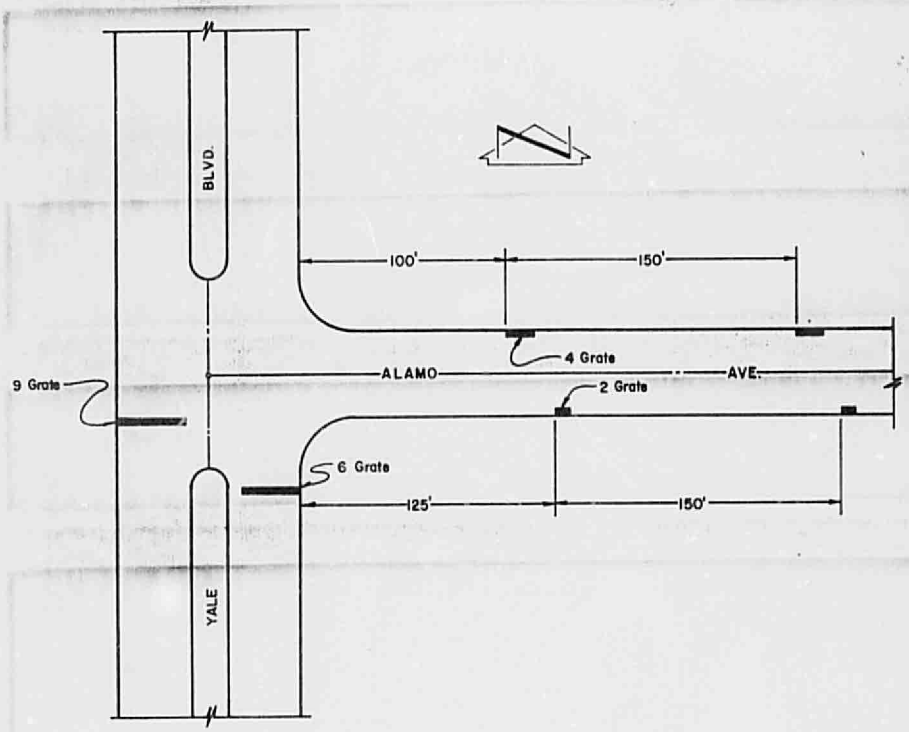
Thank you.

Yours truly,

GOLDBERG-MANN & ASSOCIATES, INC.

Thomas T. Mann, Jr., P.E.
President

TTM:pe
xc: Claudio Vigil
Dick Johnson


BLVD.
100'
150'
4 Grate
9 Grate
ALAMO
AVE.
2 Grate
6 Grate
125'
150'
YALE

RECEIVED
NOV 0 1 1979
CITY ENGINEER

Craddock
Development Company
2600 Yale S.E., Albuquerque, New Mexico 87106 (505) 842-9136

October 26,1979

M15-02

Mr. Bruno Conegliano
City Hall
400 Marquette, S.W.
Albuquerque,N.M.

Dear Mr. Conegliano:

The purpose of this letter is to confirm with you Craddock Development's position concerning the Drainage Study Report for Commerce Center Phase II. Craddock Development Company has chosen at this time not to design the Drainage Structure at the intersection of University Blvd. and the drainage channel.

In lieu of the above, Craddock Development Company will build a temporary ponding field at the BDM site to provide on-site ponding till the drainage structure gets built.

Any questions concerning the above matter should be directed towards the Architectural Dept. at Craddock Development Company.

Thank you.

Lee Gamelsky

Lee Gamelsky

Craddock
Development Company

2600 Yale Boulevard, S.E., Albuquerque, New Mexico 87106 (505) 842-9136

RECEIVED
DEC 07 1979
CITY ENGINEER

December 3, 1979

M15-02

Mr. R. S. Heller
City Engineer
City of Albuquerque
PO Box 1293
Albuquerque, New Mexico 87103

RE: Commerce Center Phase II

Dear Mr. Heller,

This is to confirm with you the intent of the letter sent to me, dated November 21, 1979.

The conditional approval granted for the Commerce Center Phase II (C.C.-II) building permit only applies to that project (C.C.-II). If a contract and work order have not been issued by the time the project is completed the certificate of occupancy will be withheld.

The city, however, will make a concerted and faithful effort in initialing a contract and work order before the Commerce Center Phase II is completed, March 1, 1980.

Very truly yours,

Lee Gamelsky

Lee Gamelsky
Architect Department

CC: Mr. B. Conegliano - City Engineer
Mr. F. Aguire - City Engineer
Mr. Charles Volz - Chief Building Official
Mr. Rick Leonard A.M.A.F.C.A.

Commercial Center, Phase II

Goldberg - Mann

1. Report states project does not lie in flood prone area - Map shows it does - need flood limits defined in relation to proposed buildings, elevations.
2. Report does not address offsite flows other than stating (2) 54" RCPs will carry area east of Yale Blvd - also states offsite flows can pass thru site via drainage easement - said easement will be disrupted by 1) Landscaped ponding areas, 2) block wall to be built across west end of easement
3. Difficult to verify areas draining to ponds. Can't verify if ponds will reach or exceed capacities shown.
4. If outlet into 54" RCP is plugged - pond will back up to elev. 81.5 before going over top of block wall. Water will be directly against proposed bldg (FF 82.5) and existing bldg north side of site. Additionally water will be 2' deep in pond "B". Suggest overflow weir at elevation lower than 81.5.
5. Ponds over pipe?

RECEIVED
AUG 07 1979
CITY ENGINEER

DRAINAGE REPORT for the COMMERCE CENTER phase II project

Goldberg · Mann & Associates
Engineers-Planners
911 Pennsylvania N.E. Albuquerque, New Mexico 87110

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PURPOSE AND SCOPE

The purpose of this drainage report is to establish a criteria for controlling surface runoff from a particular development in a manner that is acceptable to the City of Albuquerque and to the Albuquerque Metropolitan Arroyo Flood Control Authority.

This report will determine the runoff resulting from a 100 year frequency storm falling on the site under existing and developed conditions.

The scope of this report is to insure that the proposed project will be protected from storm runoff and that the construction of this project will not increase the flooding potential of the adjacent properties.

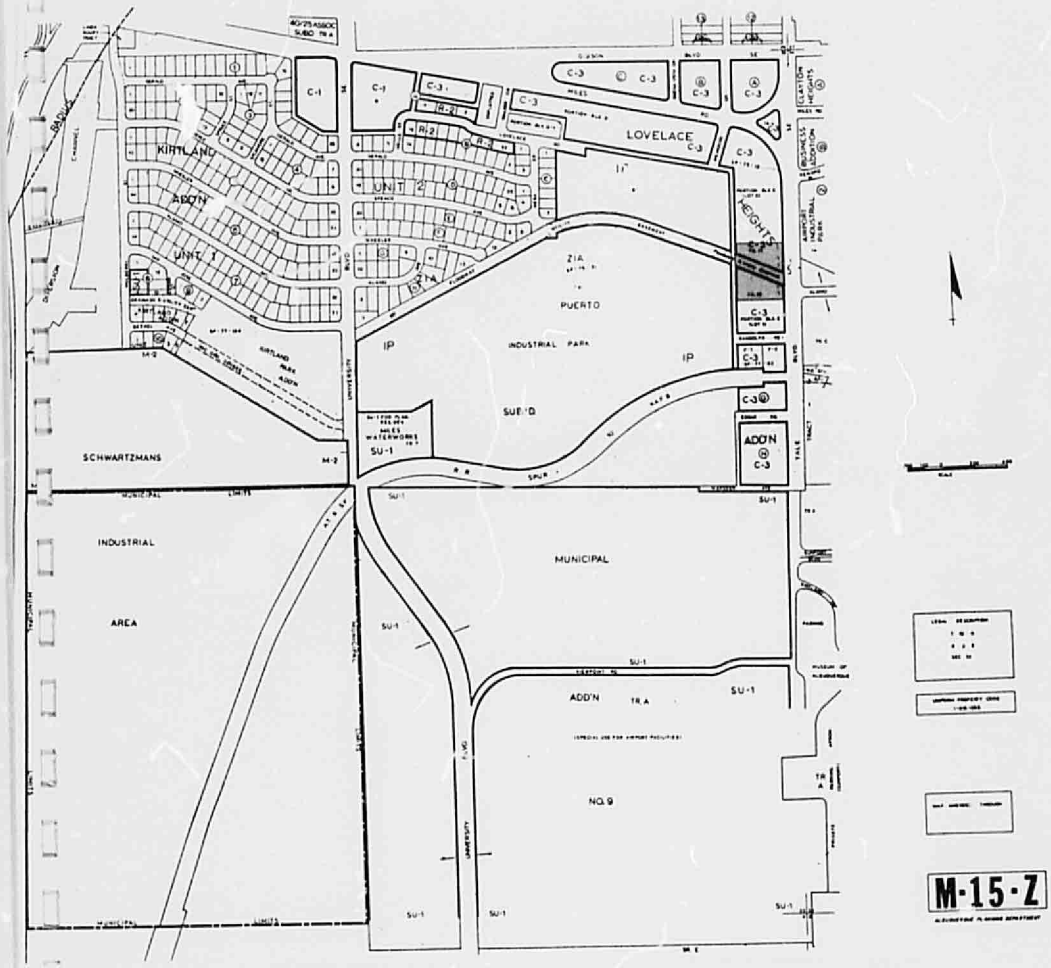
LOCATION AND DESCRIPTION OF PROJECT

The Commerce Center, Phase II of the Newport West Business Park is comprised of a portion of Lot 2 and all of Lot 3 of the Newport West Subdivision, and all of Lot 4 of the Newport West Subdivision Number II. The parcel is located within the corporate limits of the city of Albuquerque in the southeast quadrant. The parcel is located adjacent to and west of Yale Boulevard, south of Gibson. The location of the project is shown on Figure 1, the vicinity map.

The parcel is approximately 2.66 acres and will be developed into three office buildings and associated parking. The natural topography has been obliterated. The site is currently graded to drain from east to west.

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____



APPLICANT

NAME: Craddock Development Co.
ADDRESS: 2501 Yale Blvd. S.E.
Albuquerque, N.M. 87106
PHONE: 842-9136
SIGNATURE: _____
Claudio Vigil

LOCATION OF PARCEL

Tracts
LOT NO: 11 and 13 BLOCK NO: --
SUBDIVISION: Zia Puerto Subdivision
STREET ADDRESS: Yale Blvd. S.E.

CURRENT ZONING: C-3

DESIGN CRITERIA

In analyzing the storm runoff, the Rational Formula, $Q = CIA$, is used.

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

I = Intensity in inches/hour for a duration equal in minutes and obtained from Figure 3, Intensity Duration Frequency Curves, Albuquerque Area 1961. (Note: Where a Time of Concentration (Tc) is less than ten minutes, the intensity value derived from a Tc of ten minutes is employed.)

C = Runoff Coefficient (No Units). This coefficient represents the integrated effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time distribution and peak rate of runoff.

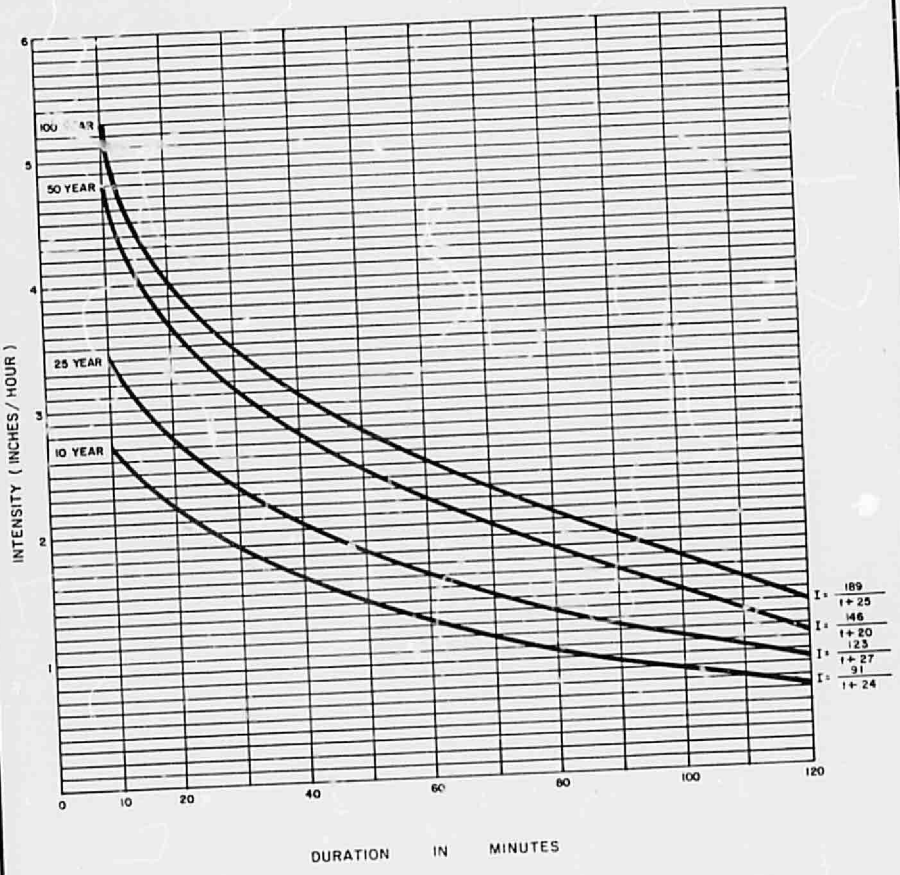
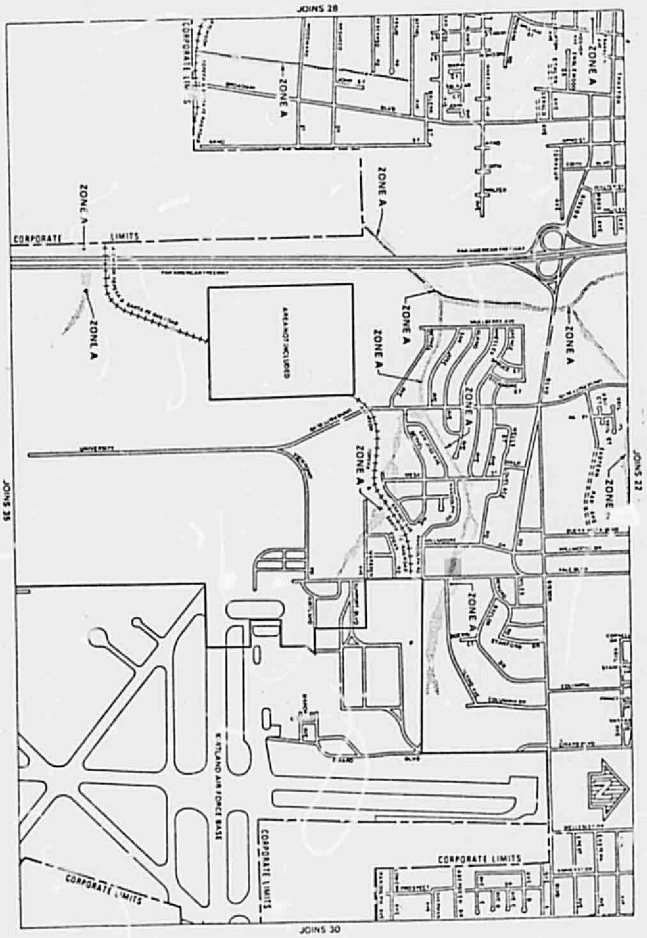


FIGURE 2

INTENSITY DURATION FREQUENCY CURVES


JOINS 28
ZONE A
CORPORATE LIMITS
ZONE A
ZONE A
ZONE A

EXISTING DRAINAGE CONDITIONS

The flood hazard map is shown in Figure 3. The project 1) does not lie in a flood plain, 2) does lie adjacent to an artificial water course, and 3) has a drainage easement on the property.

The existing contours are shown on the drainage plan, Figure 4. The parcel slopes from east to west and is bounded on the east by Yale Boulevard. The land to the south is developed as an office building and is approximately 10 to 12 feet higher than the project site. The land to the north is also developed as an office complex and is slightly higher than the proposed project. A 60' flood way and utility easement almost bisects the property. At the present time two (2) 54" reinforced concrete pipes are being constructed in the easement to convey the water from Yale Boulevard and east of Yale Boulevard through the site. The land west of the site is lower than the project site. All site flows can enter the site. The flows are not large and they will be allowed to flow through the site into the drainage easement. Erosion will not result from upland runoff or from the proposed construction activities.

PROPOSED DRAINAGE CONDITIONS

The proposed drainage plan is shown on Figure 4. Runoff from Yale Boulevard and east of Yale Boulevard will be conveyed through the property by two (2) 54" reinforced concrete pipes. Runoff from the property to the south is diverted to the 54" RCP's by drop inlets and pipes off the proposed site.

A pond area was proposed for the southwest corner of the site north of the proposed project. That ponding area was never constructed. Therefore, the amount of stormwater runoff that would have been stored in that pond will be allowed to enter the project site and be detained in the ponding areas before being conveyed into the 54" RCP. The property to the north and the subject property are both owned by Craddock, so multiple ownership is not a problem.

Figure 4, the drainage plan, shows that all water will be conveyed toward the center of the site. Two large ponding areas will be provided to detain the stormwater before it is conveyed into the 54" reinforced concrete pipes. The flow from the drop inlet into the 54" pipe will be regulated by a 3" diameter orifice. In addition, two and one half inches of water will be detained on each roof by the use of controlled orifice downspouts. A tapered block wall will be constructed along a portion of the west property line in order to create additional ponding.

The drainage plan shows 1) existing contours at 1'-0" intervals, 2) proposed grades indicated by spot elevations and contours, 3) swales, 4) continuity between proposed and existing elevations, 5) that all runoff will be conveyed into ponds before leaving the site, and 6) that a retaining wall will be required along a portion of the west property line.

The ponds will retain an excess of 100% of the runoff that results from a 100 year frequency storm. The pond depths are not greater than 18 inches and therefore fencing is not required.

CONCLUSIONS

The following conclusions and recommendations are made for the development of the Commerce Center, Phase II of the Newport West Business Park.

1. The construction of the two 54 inch reinforced concrete pipes through the drainage-way should be completed prior to the construction of this project.
2. Detain two and one-half inches of rainfall on the roofs of each building.
3. Utilize controlled orifice downspouts to drain the water from the roofs.
4. Provide ponding areas in the center of the project site to detain an excess of 11,386 cubic feet of runoff.
5. Drain Pond A into Pond B.
6. Drain Pond B into the drop inlet.
7. Construct the drop inlet connected to one of the 54 inch reinforced concrete pipes.
8. Construct a block wall for a portion of the west property line to create a ponding area.
9. Allow stormwater runoff from the property north of the project site onto the site.

CALCULATIONS

Area of Parcel = 2.66 x 43,560 = 115,870 s.f.

Impervious Area = 76,360 s.f.

Required Pond Volume = 76,360 x 0.1 = 7,636 c.f.

Pond Deleted From Adjacent Project = 3.75 x 30 x ¼ x 300 =

8,438 c.f.

Total Required Pond Volume = 16,074 c.f.

POND VOLUMES

Water will be ponded on each roof.

Bldg. 4 60 x 95 x 2.5/12 = 1,188 c.f.

Bldg. 5 70 x 120 x 2.5/12 = 1,750 c.f.

Bldg. 6 70 x 120 x 2.5/12 = 1,750 c.f.

Total Roof Ponding = 4,688 c.f.

Pond A

52 x 16 x 1.5 + 13 x 41 x 1.5 = 3,607

Pond B

$(\frac{70 \times 18 \times 1.5}{2})$ = 1,890 c.f.

Ponding in Parking

12.5 x 900 x ¼ + (6.7 x 900 x ½)2 = 8,842

Total Pond Volume = 19,027 c.f.