FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

April 10, 1987

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: REVISED GRADING PLAN OF BDM, RECEIVED APRIL 1, 1987 FOR BUILDING PERMIT APPROVAL (M-15/D4B)

Dear Tom:

The above referenced submittal, revised March 26, 1987 is approved for Building Permit sign-off by Hydrology. Include these approved plans with the construction sets routed for sign-off.

Separate retaining wall construction permits will also be required by the Code Administration Division.

Prior to Certificate of Occupancy release by Hydrology, the storm drains included with Work Order 3183 must be constructed.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Don Murphy, Craddock

RAG/bsj

Tom Mann & Associates, Inc.
Engineers
811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505-265-5611

30429
March 30, 1987

Mr. Roger Green
Hydrology Section
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: BDM Grading and Drainage Plan (M-15/D4B)

Dear Roger:

I have received your comments on the above referenced plan and have addressed them as follows:

1. The proposed drainage easements have been showed on the above referenced plan.

2. Offsite flow rates have been provided.

3. The temporary bench mark is shown on the above referenced plan.

4. The flow line elevations have been shown on the above referenced plan.

5. The area shown on the plan which referenced Sheet 2.4-6 is for fine grading only as per the architectural drawings. As you can see, we are providing adequate drainage away from the proposed building. The grade differential varies from an elevation of 5157 to 5154 and should not pose a drainage problem.

6. The calculations have been revised to provide to proper sizing of the proposed drainage facilities.

If you should have any questions or comments concerning any aspect of this matter, please do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

Leonard P. Utter
Project Engineer

LPU:dj

INFORMATION SHEET

PROJECT TITLE: BD ZONE ATLAS/DRNG. FILE #: M-15/P4B

LEGAL DESCRIPTION: TRACT 2 NEWPORT INDUSTRIAL PARK - WEST UNIT 1

CITY ADDRESS: 1801 RANDOLF RD. S.E

ENGINEERING FIRM: TOM MANN CONTACT: LEONARD UTTER

ADDRESS: 811 DALLAS N.E. 87110 PHONE: 265-5611

OWNER: CRADDOCK CONTACT: DON MURPHY

ADDRESS: 2309 RENARD PL. S.E PHONE: 842-9136

ARCHITECT: HOK CONTACT: JODI ERNST

ADDRESS: 1110 VERMONT AVE. N.W. SUITE 330 WASH. D.C. 20005 PHONE: (202) 457-9400

SURVEYOR: TOM MANN & ASSOC. CONTACT: TOM MANN

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

CONTRACTOR: BRADBURY / STAMM CONTACT: RICHARD VITALTO

ADDRESS: 1217 FIRST ST. N.W. PHONE: 765-1200

RECEIVED
APR 01 1987
HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. Z-75-131-5

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

X OTHER REVISIONS (SPECIFY)

DATE SUBMITTED: 4-1-87

BY: _____

Tom Mann & Associates, Inc.
Engineers

811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505-265-5611

30429
March 12, 1987

Mr. Roger Green
Hydrology Department
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: BDM - Waterline and Storm sewer extension
Project No. 3183

Dear Roger:

Transmitted herewith are the calculations for the proposed storm sewer on the above subject project. I have increased the size from 24" to 30" RCP pipe based on my calculation.

If you should have any questions or comments concerning any aspect of this matter, please do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

Leonard P. Utter
Project Engineer

LPU:dj

DRAINAGE INFORMATION SHEET

X429

PROJECT TITLE: BD.

ZONE ATLAS/DRNG. FILE #: M-15/D4B

LEGAL DESCRIPTION: TRACT 2 NEWPORT INDUSTRIAL PARK - WEST UNIT 1

CITY ADDRESS: 1801 RANDOLF RD. S.E

ENGINEERING FIRM: TOM MANN CONTACT: TOM MANN

ADDRESS: 811 DALLAS N.E. 87110 PHONE: 265-5611

OWNER: CRADDOCK CONTACT: DON MURPHY

ADDRESS: 2309 RENARD PL. S.E PHONE: 842-9136

ARCHITECT: HOK CONTACT: JODI ERNST

ADDRESS: 1110 VERMONT AVE. N.W. SUITE 330 WASH. D.C. 20005 PHONE: (202) 457-9400

SURVEYOR: TOM MANN & ASSOC. CONTACT: TOM MANN

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

CONTRACTOR: BRADBURY / STAMM CONTACT: RICHARD VITALITO

ADDRESS: 1217 FIRST ST. N.W. PHONE: 765-1200

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
MAR 12 1987
HYDROLOGY SECTION

DRB NO. _____

EPC NO. Z-75-131-5

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 3-12-87

BY: Tom Mann

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

March 9, 1987

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE.
Albuquerque, New Mexico 87110

RE: GRADING & DRAINAGE PLAN SUBMITTAL OF BDM RECEIVED FEBRUARY 13, 1987 FOR BUILDING PERMIT APPROVAL (M-15/D48)

Dear Tom:

I have reviewed the above referenced submittal, dated February 13, 1987, and the following additional information is required prior to Building Permit approval:

1. Show drainage easements in accordance with the plat action taking place.

2. Provide off-site flow rates into Drainage Basin I.

3. Provide a Temporary Bench Mark adjacent to the project site.

4. Show existing flow line elevations at all drive pads to show water block heighth being provided.

5. Provide Sheet 2.4-6 for information since it is referred to for grading details.

6. Provide the hydraulic calculations used to size the storm drains to be constructed under City Work Order.

Comments have been provided at the D.R.C. in regards to Sheets 1 - 4 for construction of public infrastructures.

If you have any questions, call me at 768-2650.

Cordially,

Roger A Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bs

DRAINAGE INFORMATION SHEET

PROJECT TITLE: BDM ZONE ATLAS/DRNG. FILE #: M-15/D4B

LEGAL DESCRIPTION: TRACT 2 NEWPORT INDUSTRIAL PARK-WEST UNIT 1

CITY ADDRESS: 1801 RANDOLF RD. S.E.

ENGINEERING FIRM: TOM MANN & ASSOC. INC. CONTACT: TOM MANN

ADDRESS: 811 DALLAS N.E. 87110 PHONE: 265-5611

OWNER: CRADDOCK CONTACT: DON MURPHY

ADDRESS: 2309 RENARD PL. S.E. PHONE: 892-9136

ARCHITECT: HOK CONTACT: JODI ERNST

ADDRESS: 1110 VERMONT AVE. NW SUITE 330 WASH. D.C. PHONE: (202) 457-9400

SURVEYOR: TOM MANN & ASSOC. CONTACT: TOM MANN

ADDRESS: 811 DALLAS N.E. PHONE: 265-5611

CONTRACTOR: BRADBURY/STAMM CONTACT: RICHARD ~~WYATT~~ VITTITOW

ADDRESS: 1217 FIRST ST. N.W. PHONE: 765-1200

PRE-DESIGN MEETING:

✓ YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
FEB 13 1987
HYDROLOGY SECTION

DRB NO. _____

EPC NO. Z-75-131-5

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

* ADDITIONAL SET OF BLUELINES FOR YOUR INFORMATION.

DATE SUBMITTED: 2-13-87

BY: Tom Mann

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 24, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New MExico 87110

RE: REVISED GRADING & DRAINAGE PLAN OF BDM, PHASE IV, WEST PARKING LOT, RECEIVED DECEMBER 17, 1986 FOR GRADING/PAVING PERMIT APPROVAL (M-15/D48)

Dear Tom:

The above referenced submittal revised December 15, 1986 is approved for Grading/Paving permit. The contractor may proceed with the grading and paving in accordance with this approved plan. It is understood that the required structure into the concrete lined channel will be constructed under a City Work Order.

Please notify Rick Duran, Drainage Inspector, at 764-1699 when the paving is completed so that a final inspection can be made.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Susan Brown, Bradbury & Stamm

RAG/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: BDM West Parking ZONE ATLAS/DRNG. FILE #: M-15-Z

LEGAL DESCRIPTION: _____

CITY ADDRESS: 1801 Randolph Rd SE

ENGINEERING FIRM: Tom Mann & Assoc. CONTACT: Tom Mann

ADDRESS: 811 Dallas NE PHONE: 265-5611

OWNER: Crapdoc CONTACT: Don Murray

ADDRESS: 2309 Renard Pl SE PHONE: 842-9136

ARCHITECT: HOK CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Tom Mann & Assoc. CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: Bradbury & Stamm CONTACT: Susan Brown

ADDRESS: _____ PHONE: 765-1200

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

X DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ SITE DEVELOPMENT PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ BUILDING PERMIT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ CERTIFICATE OF OCCUPANCY APPROVAL

____ ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

____ OTHER _____ (SPECIFY)

RECEIVED
DEC 17 1986
HYDROLOGY SECTION

DATE SUBMITTED: Susan D. Brown 12-17-86

BY: _____

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

November 25, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: DRAINAGE & GRADING PLAN OF BDM PHASE IV, WEST PARKING LOT, RECEIVED NOVEMBER 20, 1986 FOR GRADING/PAVING PERMIT APPROVAL (M-15/D4B)

Dear Tom:

I have reviewed the above referenced submittal and have the following comments to be addressed before Hydrology's approval for Grading Paving permit:

1. The outlet structure into the existing concrete channel must be processed as a work order item since it ties into a major public facility within a public easement. This also ensures the appropriate design review and inspection.

2. Revise sheets 2.2-2 and 2.2-5 to identify the outlet structure as a work order item and to be constructed under separate drawings.

3. On Sheet 2.2-2 show some type of interim measures to direct runoff into the concrete channel until the outlet structure is in place.

The construction drawings of the outlet structure submitted to the DRC for Work Order should include details of the 36" RCP penetration into the concrete channel lining, and the joint detail between the overflow spillway and channel lining.

If you have any questions, call me at 768-2650.

Cordially,

Roger A Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Andre Houle, DRC

RAG/bsj

DRAINAGE INFORMATION SHE

PROJECT TITLE: BDM Phase II West Parking ZONE ATLAS/DRNG. FILE #: _____

LEGAL DESCRIPTION: Lots 5-8 NZ Commercial

CITY ADDRESS: 1805 Randolf Rd SE

ENGINEERING FIRM: Tom Mann & Assoc Inc CONTACT: Tom Mann

ADDRESS: 811 Dallas NE PHONE: 265-5611

OWNER: Craddock CONTACT: Don Murphy

ADDRESS: 2309 Renard Pl SE PHONE: 842-9136

ARCHITECT: HOK CONTACT: Chris Monson

ADDRESS: _____ PHONE: (202) 456-9706

SURVEYOR: Tom Mann & Assoc CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: Bradbury Stamm CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
NOV 20 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 86-753

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 11/20/86

BY: Tom Mann

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

November 3, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: REVISED CONCEPTUAL GRADING & DRAINAGE PLAN SUBMITTAL OF BDM PHASE IV, NEWPORT INDUSTRIAL PARK, RECEIVED OCTOBER 16, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (M-15/D48)

Dear Tom:

The above referenced submittal, revised October 15, 1986, is approved for Site Development Plan sign-off by the City Engineer.

Any subsequent platting actions or Building Permit requests may require an approved infrastructure listing from the DRB and financial guarantees.

The previously approved Drainage Plan prepared by your office for Tract 4-A-2 (M-15/D22) requires that the subject site accept developed off-site flows of 9.3 cfs. Any replat of Tract 4-A-3 should provide a private drainage easement for this purpose. Also, any detailed Drainage and Grading Plans prepared for Building Permits must show these off-site flows being accepted.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

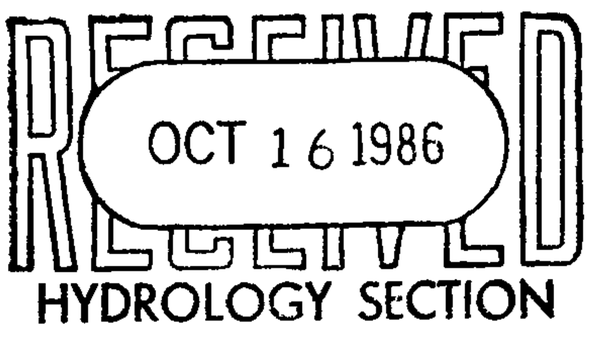
Roger A. Green, P.E.
C.E./Hydrology Section

cc: Don Murphy, Craddock Dev.

RAG/bsj

Tom Mann & Associates, Inc.
Engineers
811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505-265-5611

30426
October 15, 1986



Mr. Roger Green
Hydrology Section
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Conceptual Grading and Drainage Plan for BDM (M-15/D4B)

Dear Roger:

I have received your letter dated October 3, 1986 and would like to address your comments.

How about from north along west side?

1? Offsite flows on Renard Place have been identified on the plan as being 23.2 cfs. Those flows are from a previous report done by Asbury, Andrews and Roberts.

2. Public flows from Renard will be intercepted by catch basins and conveyed to the channel with a 24" RCP. At the present time, I envision a drainage easement being required, different from the one that currently exists. As this moves through platting, we will coordinate the location of the easement.

How about N. side of channel? Retaining walls?

3. Since this site has a very substantial slope, it will not be difficult to direct all flows in the manner we propose. Essentially, the vast majority of the flows will be retained on site and conveyed to a drop inlet at the northwest corner of the site to enter the concrete drainage channel.

4. We have shown the existing legal tract boundaries. I have also shown what is going to be the future or proposed property line.

5. Hopefully, all existing easements have now been shown. I have added the one easement that we failed to previously show.

6. A review of the Asbury, Andrews, and Roberts Drainage Report for Randolph Court indicated specific flows for the court. That report indicated that Lot 8 would drain entirely into Randolph Court. Due to the grade of the land and the parking

lot, it will be a relatively simple matter to divert the majority of the flows from Lot 8 or Drainage Basin 4, into Drainage Basin 3, and thereby keep it from entering Randolph Court. I have added a note to the drawing that indicates that 61% of the flow from Drainage Basin 4 must go to Drainage Basin 3. This would allow the 'C' factors to remain in the same proportion as originally developed by Asbury, Andrews, and Roberts. Therefore, this project will not impact Randolph Court.

Hopefully, this answers your questions. Should you have any further questions or comments, please do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

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

TTM:djj

RESUBMITTAL

DRAINAGE INFORMATION SHEET

PROJECT TITLE: BDM Phase IV ZONE ATLAS/DRNG. FILE #: M-15/D4B

LEGAL DESCRIPTION: Tract 2 Newport Industrial Park - West Unit 1

CITY ADDRESS: 1801 Randolf Rd. SE

ENGINEERING FIRM: Tom Mann & Assoc Inc CONTACT: Tom Mann

ADDRESS: 811 Dallas NE 87110 PHONE: 265-5611

OWNER: Craddock CONTACT: Don Murphy

ADDRESS: 2309 Renard Pl SE PHONE: 842-9136

ARCHITECT: HOK CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Tom Mann CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: Bradbury/Stamm CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
OCT 16 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. E-75-131-S

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

X CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

X SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 10.15.86

BY: Tom Mann

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 3, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dalles, NE
Albuquerque, New Mexico 87110

RE: CONCEPTUAL GRADING & DRAINAGE PLAN SUBMITTAL OF BDM PHASE IV, NEWPORT INDUSTRIAL PARK, RECEIVED SEPTEMBER 22, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (M-15/D4B)

Dear Tom:

I have reviewed the above referenced plan, dated September 22, 1986, and have the following comments to be addressed:

1. Off-site flows are not identified or quantified into Drainage Basin 1. These should include flows from the north and public flows from Renard Place.

2. Public flows from Renard Place must be picked up with inlets within the public Right-of-Way and conveyed to the outlet channel with a subsurface storm drain with the required drainage easements identified. Public flows are not allowed across private parking areas.

3. Provide proposed spot elevations and existing TC/FL curb elevations for the undeveloped areas to be developed.

4. Show existing legal tract boundaries so areas of cross lot drainage can be identified and easement requirements determined.

5. All existing easements must be shown on Site Plan. I believe there is an utility easement across Drainage Basin 3 between Randolph Court and the existing concrete channel that is not shown.

6. The design of storm drain in Randolph Court assumed a developed "C" value of 0.43 for the watershed south of Randolph Court. Your proposed development has a "C" value of 0.70, therefore, the downstream capacity of the storm drain and streets must be reanalyzed with a fully developed watershed to determine if free discharge from your Drainage Basin 4 is allowable (See Drainage File M-15/D4A by Andrews, Asbury, & Robert).

If you have any questions, call me at 769-2650.

Cordially,

Roger A Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

Standard Form Letter to:

Don Murphy, Craddock Dev.

RAG/bsj

DRAINAGE INFORMATION SHT

PROJECT TITLE: BDM Phase IV ZONE ATLAS/DRNG. FILE #: M-15 / D4B

LEGAL DESCRIPTION: Tract 2 Newport Industrial Park West Unit 1

CITY ADDRESS: 1801 Randolf Rd. SE

ENGINEERING FIRM: Tom Mann & Assoc Inc CONTACT: Tom Mann

ADDRESS: 811 Dallas NE PHONE: 265-5611

OWNER: Craddock CONTACT: Don Murphy

ADDRESS: 2309 Renard Pl SE PHONE: 842-9136

ARCHITECT: HOK CONTACT: Chris Munson

ADDRESS: 1110 Vermont Ave NW Suite 300 Washington DC 20005 PHONE: (202) 457 9400

SURVEYOR: Tom Mann & Assoc Inc CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: Unknown CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
SEP 22 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

___ YES

_X_ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. Z-75-131-5

PROJ. NO. _____

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

_X_ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

_X_ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 9.9.86

BY: Tom Mann

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

August 20, 1985

Mr. Jeff Mortensen
Tom Mann & Associates
811 Dallas NE
Albuquerque, NM 87110

REF: DRAINAGE PLAN FOR CRADDOCK DEVELOPMENT OFFICE BUILDING (M15-D22)
RECEIVED JULY 18, 1985

Dear Mr. Mortensen:

I have reviewed the referenced plan and forward the following comments:

1. Prior to Building Permit sign-off by Hydrology City approved street grades for Miles Road should be submitted.

2. Future development will need to address the acceptance and conveyance of public waters entering the subject tract from Renard Place SE.

If you should have any questions, please feel free to call me at 766-7644.

Sincerely,

Carlos A. Montoya
City/County Flood Plain Admin.

CAM:mrk

30422

INFORMATION SHEET

PROJECT TITLE BDM LAB TYPE OF SUBMITTAL RESUBMITTAL

ZONE ATLAS PAGE NO. M 15 D10 CITY ADDRESS _____

LEGAL DESCRIPTION SAME

ENGINEERING FIRM TOM MANN & ASSOC. CONTACT JEFFREY G. MORTENSEN

ADDRESS 811 DALLAS NE PHONE 265-5611

OWNER SAME CONTACT _____

ADDRESS _____ PHONE _____

ARCHITECT SAME CONTACT _____

ADDRESS _____ PHONE _____

SURVEYOR SAME CONTACT J.G. MORTENSEN

ADDRESS _____ PHONE _____

CONTRACTOR SAME CONTACT _____

ADDRESS _____ PHONE _____

PRE-DESIGN MEETING:

___ YES
X NO
X COPY OF ~~CONFERENCE RECAP SHEET~~ PAST CORRESPONDENCE PROVIDED M15-D9

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
✓ BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 6/15/84

BY: J.G. MORTENSEN

RECEIVED
JUN 18 1984
HYDROLOGY SECTION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 9, 1984

Mr. Jeffrey Mortensen
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: GRADING & DRAINAGE PLAN FOR BDM LAB (M15-D9) RECEIVED MAY 9, 1984

Dear Jeff,

I have reviewed the above referenced submittal and only have one comment.

The median that is to be extendend onto the adjacent site, in about the middle of the plan, will block flows running north along the east side of the lab structure. I feel a sidewalk culvert is appropriate to allow the flows to drain as proposed.

Should you have any questions or comments, please contact me at 766-7644.

Sincerely yours,

Billy J. Goolsby

Billy J. Goolsby, PE
City/County Flood Plain Admin.

BJG/cl

30422

INFORMATION SHEET

PROJECT TITLE BDM LAB TYPE OF SUBMITTAL GRADING & DRAINAGE PLAN

ZONE ATLAS PAGE NO. M 15 CITY ADDRESS RANDOLPH RD SE

LEGAL DESCRIPTION TRACT 2, NEWPORT IND. PARK - WEST, UNIT 1

ENGINEERING FIRM TOM MANN & ASSOC. CONTACT JEFFREY G. MORTENSEN

ADDRESS 811 DALLAS NE PHONE 265-5611

OWNER CRADDOCK DEV. CONTACT GEORGE SANDERS

ADDRESS _____ PHONE 842-9136

ARCHITECT GEO. SANDERS CONTACT SAME

ADDRESS _____ PHONE SAME

SURVEYOR TOM MANN CONTACT J.G. MORTENSEN

ADDRESS _____ PHONE _____

CONTRACTOR BRADBURY & STAMM CONTACT ARCHITECT

ADDRESS _____ PHONE _____

PRE-DESIGN MEETING:

~~X~~ YES
X NO
X COPY OF ~~CONFERENCE RECAP SHEET~~ PAST APPROVAL PROVIDED

M-15, D9

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 05/09/84

BY: J.G. MORTENSEN

RECEIVED
MAY 09 1984
HYDROLOGY SECTION

Tom Mann Associates, Inc.
Engineers
811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505-265-5611

RECEIVED
MAY 31 1983
CITY ENGINEER

To DRB

30421
May 25, 1983

M15-09

Brian G. Burnett
Hydrology Division
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87102

RE: BDM Phase II/Craddock Development

Dear Brian:

This letter is to confirm our telephone conversation on May 25, 1983, concerning the status of BDM Phase II and the construction of a retaining wall in the vicinity of Building No. 2540, Newport East Business Park. The following conclusions resulted from our conversation:

1. The concept for the construction of BDM Phase II has undergone some minor modification and, therefore, a revised Grading and Drainage Plan will be submitted to your office for review.

2. A 32 foot face-to-face street will be designed and constructed within the Buena Vista Drive S.E. alignment shown on the plat presented to the DRB on May 24, 1983, DRB-83-274. This will be a public street and therefore designed in accordance with City of Albuquerque Standards. I will work closely with your office and Traffic Engineering to ensure adequate design.

3. The retaining wall mentioned in your February 23, 1982, letter to Mr. Don Murphy, Craddock Development Company, will be constructed in conjunction with the new BDM Phase II building. Those two items will be let in the same contract.

4. The design and construction of the connection between the existing 36-inch and 60-inch concrete pipes which carry runoff generated primarily by the Albuquerque International Airport will be the responsibility of the Albuquerque International Airport. This connection, as pointed out in your letter dated February 23, 1982, to Mr. Don Murphy, will take place in the 20-foot easement just south of the property of Craddock Development.

Hopefully the information presented above will address your concerns regarding the status of these Craddock Development projects. If you have any further

questions or comments concerning this information, please do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

Jeffrey G. Mortensen, P.E.
Project Engineer

JGM:ra
CC: Donald J. Murphy

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

M15 - D9

February 23, 1982

Mr. Jeff Mortensen
Tom Mann & Associates
811 Dallas N.E.
Albuquerque, N.M. 87110

RE: BDM MASTER DRAINAGE PLAN

Dear Jeff:

The referenced master plan is approved in concept.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7467

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

RECEIVED

JAN 25 1982

ENGINEERING

DRAINAGE REPORT INFORMATION SHEET

PROJECT TITLE BDM MASTER DRAINAGE PLAN

ZONE ATLAS PAGE NO. M-15 CITY ADDRESS RANDOLPH ROAD

LEGAL ADDRESS TRACT 2, NEWPORT INDUSTRIAL PARK-WEST- UNIT 1

ENGINEERING FIRM TOM MANN & ASSOC. CONTACT JEFF MORTENSEN

ADDRESS 811 DALLAS NE PHONE 265-5611

OWNER CRADDOCK DEV. CO. CONTACT CLAUDIO VIGIL

ADDRESS 2501 YALE BLVD SE PHONE 842-9136

ARCHITECT/~~SURVEYOR~~ CLAUDIO VIGIL CONTACT CLAUDIO VIGIL

ADDRESS 2501 YALE BLVD. SE PHONE 842-9136

DATE SUBMITTED 1/ /82

BY JEFF MORTENSEN

Tom Mann Associates, Inc.
Engineers
811 DALLAS, N.E. • ALBUQUERQUE • NEW MEXICO • 87110 • 505-265-5611

10302
January 25, 1982

M15-09

RECEIVED
JAN 25 1982
ENGINEERING

Mr. Brian Burnett
Civil Engineer/Hydrology
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: BDM Master Drainage Plan

Dear Brian:

Transmitted herewith for your review are two (2) prints of the subject plan. Accompanying these prints are supplemental calculations to assist you in your evaluation.

If you have any questions or comments concerning this submittal, do not hesitate to call.

Sincerely,

TOM MANN & ASSOCIATES, INC.

Jeffrey G. Mortensen
Project Engineer

JGM:bb
Encs.
xc: Claudio Vigil

PROJECT: BDM MASTER DRAINAGE PLAN
PROJECT NO.: 1090

DRAINAGE BASIN RUNOFF SUMMARY
CONDITION: EXISTING

DESCRIPTION	AREA (ac)	Q-100 (cfs)	V-100 (cf.)	Q-10 (cfs)	V-10 (cf.)
OFFSITE	15.00	7.0	16,500	3.0	8,700
OFFSITE + SITE	27.50	14.0	42,900	7.4	12,300
SITE ONLY	12.50	11.0	27,800	4.4	13,200

PROJECT: RDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: OFFSITE
CONDITION: EXISTING

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
NATIVE GRASS (BKD/BCC)	A	15.00	68	100 %
COMPOSITE:		15.00	68	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 1400 ft.

DROP: 90 ft.
SLOPE: 6.4 %

TIME OF CONCENTRATION: 0.10 hr.

STORM CHARACTERISTICS:

100 yr.; 6 hr.	10 yr.; 6 hr.
RAINFALL: 2.3 in.	RAINFALL: 1.6 in.
RUNOFF: 0.30 in.	RUNOFF: 0.07 in.
DISTRIBUTION CURVE: 75	DISTRIBUTION CURVE: 75
DISCHARGE: 1.55 cfs/ac/in	DISCHARGE: 1.55 cfs/ac/in
PEAK DISCHARGE (Q): 7.0 c.f.s.	PEAK DISCHARGE (Q): 1.6 c.f.s.
VOLUME: 16,500 c.f. 0.38ac.ft.	VOLUME: 3,700 c.f. 0.08ac.ft.

PROJECT: BDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: OFFSITE + SITE
CONDITION: EXISTING

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
NATIVE GRASS (BKD/BCC)	A	22.60	68	82 %
LANDSCAPING	A	0.60	60	2 %
IMPERVIOUS AREA		4.30	95	16 %
	COMPOSITE:	27.50	72	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 2100 ft.

DROP: 122 ft.
SLOPE: 5.8 %

TIME OF CONCENTRATION: 0.14 hr.

STORM CHARACTERISTICS:

FREQUENCY: 100 yr.; 6 hr.
RAINFALL: 2.3 in.
RUNOFF: 0.43 in.
DISTRIBUTION CURVE: 75
DISCHARGE: 1.53 cfs/ac/in
PEAK DISCHARGE (Q): 18.0 c.f.s.

VOLUME: 42,900 c.f. 0.98ac.ft.

FREQUENCY: 10 yr.; 6 hr.
RAINFALL: 1.6 in.
RUNOFF: 0.13 in.
DISTRIBUTION CURVE: 75
DISCHARGE: 1.53 cfs/ac/in
PEAK DISCHARGE (Q): 5.4 c.f.s.

VOLUME: 12,900 c.f. 0.29ac.ft.

PROJECT: BDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: SITE ONLY
CONDITION: EXISTING

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
NATIVE GRASS (BKD/BCC)	A	7.60	68	61 %
LANDSCAPING	A	0.60	40	5 %
IMPERVIOUS AREA		4.30	95	34 %
COMPOSITE:		12.50	77	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 910 ft.

DROP: 33 ft.
SLOPE: 3.6 %

TIME OF CONCENTRATION: 0.09 hr.

STORM CHARACTERISTICS:

FREQUENCY:	100 yr.; 6 hr.
RAINFALL:	2.3 in.
RUNOFF:	0.41 in.
DISTRIBUTION CURVE:	75
DISCHARGE:	1.55 cfs/ac/in
PEAK DISCHARGE (Q):	11.8 c.f.s.
VOLUME:	27,800 c.f. 0.64ac.ft.

FREQUENCY:	10 yr.; 6 hr.
RAINFALL:	1.6 in.
RUNOFF:	0.23 in.
DISTRIBUTION CURVE:	75
DISCHARGE:	1.55 cfs/ac/in
PEAK DISCHARGE (Q):	4.4 c.f.s.
VOLUME:	10,300 c.f. 0.24ac.ft.

PROJECT: SDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN RUNOFF SUMMARY
CONDITION: DEVELOPED

DESCRIPTION	AREA (ac)	Q-100 (cfs)	V-100 (cf.)	Q-10 (cfs)	V-10 (cf.)
OFFSITE	15.00	7.0	16,500	1.4	9,700
OFFSITE + SITE	27.50	24.6	63,100	10.0	33,800
SITE ONLY	12.50	24.2	56,700	12.5	27,300

PROJECT: BDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: OFFSITE
CONDITION: DEVELOPED

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
NATIVE GRASS (BKD/ECC)	A	15.00	68	100 %
COMPOSITE:		15.00	68	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 1400 ft.

DROP: 90 ft.
SLOPE: 6.4 %

TIME OF CONCENTRATION: 0.10 hr.

STORM CHARACTERISTICS:

FREQUENCY:	100 yr.; 6 hr.
RAINFALL:	2.3 in.
RUNOFF:	0.30 in.
DISTRIBUTION CURVE:	75
DISCHARGE:	1.55 cfs/ac/in
PEAK DISCHARGE (Q):	7.0 c.f.s.
VOLUME:	16,500 c.f. = 0.38ac.ft.

RECEIVED

JAN 25 1982

ENGINEERING

FREQUENCY:	10 yr.; 6 hr.
RAINFALL:	1.6 in.
RUNOFF:	0.07 in.
DISTRIBUTION CURVE:	75
DISCHARGE:	1.55 cfs/ac/in
PEAK DISCHARGE (Q):	1.6 c.f.s.
VOLUME:	3,700 c.f. = 0.08ac.ft.

PROJECT: BDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: OFFSITE + SITE
CONDITION: DEVELOPED

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
NATIVE GRASS (BKD/BCC)	A	15.00	49	55 %
LANDSCAPING	A	2.30	60	8 %
IMPERVIOUS AREA		10.20	95	37 %
COMPOSITE:		27.50	77	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 2100 ft.

DROP: 122 ft.
SLOPE: 5.8 %

TIME OF CONCENTRATION: 0.14 hr.

STORM CHARACTERISTICS:

FREQUENCY: 100 yr.; 6 hr.
RAINFALL: 2.3 in.
RUNOFF: 0.63 in.
DISTRIBUTION CURVE: 75
DISCHARGE: 1.53 cfs/ac/in
PEAK DISCHARGE (Q): 26.6 c.f.s.

VOLUME: 63,100 c.f. 1.45ac.ft.

RECEIVED

JAN 25 1982

ENGINEERING

FREQUENCY: 10 yr.; 6 hr.
RAINFALL: 1.6 in.
RUNOFF: 0.24 in.
DISTRIBUTION CURVE: 75
DISCHARGE: 1.53 cfs/ac/in
PEAK DISCHARGE (Q): 10.0 c.f.s.

VOLUME: 23,800 c.f. 0.55ac.ft.

PROJECT: RDM MASTER DRAINAGE PLAN
PROJECT NO.: 1030

DRAINAGE BASIN: SITE ONLY
CONDITION: DEVELOPED

LAND-USE DESCRIPTION:

DESCRIPTION	SOIL GROUP	AREA (ac)	Cn	% OF TOTAL
LANDSCAPING	A	2.30	60	18 %
IMPERVIOUS AREA		10.20	95	82 %
COMPOSITE:		12.50	89	100 %

WATERSHED CHARACTERISTICS:

FLOW TYPE: GULLIED
LENGTH: 910 ft.

DROP: 33 ft.
SLOPE: 3.6 %

TIME OF CONCENTRATION: 0.09 hr

STORM CHARACTERISTICS:

FREQUENCY:	100 yr.; 6 hr.	10 yr.; 6 hr.
RAINFALL:	2.3 in.	1.6 in.
RUNOFF:	1.25 in.	0.65 in.
DISTRIBUTION CURVE:	75	75
DISCHARGE:	1.55 cfs/ac/in	1.55 cfs/ac/in
PEAK DISCHARGE (Q):	24.2 c.f.s.	12.5 c.f.s.
VOLUME:	56,700 c.f. 1.30ac.ft.	29,300 c.f. 0.67ac.ft.

Craddock
Development Company

2501 Yale Blvd., S.E., Albuquerque, New Mexico 87106 (505) 842-9136

February 1, 1980

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

MIS-09

RE: Craddock Development - BDM Building

Dear Mr. Heller,

As per your conversations with Tom Mann on January 30, 1980, we are hereby submitting this letter as our guarantee that we will construct the improvements required for drainage on the BDM site.

The improvements that are required and that were approved by your department, are shown on Sheet 11 of the Construction Plans for the Newport Industrial Park - West, Unit 1. These plans were approved in March of 1979. The drainage channel shown on Sheet 11 will be constructed within the next four (4) to six (6) months. It will be much easier for us to construct that run-down during Phase II of our development of the BDM site. As a temporary solution, we will provide an earthlined rundown from Randolph Road to the newly constructed drainage channel.

Therefore, I request that you authorize your Drainage Division to sign off on our Certificate of Occupancy. We need to obtain that Certificate at the earliest possible date.

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

Thank you,

Richard H. Johnston
Vice President/General Manager

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 31, 1980

Mr. Richard Johnson
Vice President and General Manager
Craddock Development Company
2501 Yale Blvd. S.E.
Albuquerque, New Mexico 87106

Re: Drainage Requirements for Craddock Development Company

Dear Mr. Johnson:

In response to your letter of January 4, 1980, the City has engaged the firm of Gardner Engineers, Inc. for the design of the new University Blvd. Crossing Structure near San Jose S.E. Preliminary design work is in progress. Because of that action by the City and our anticipation of a new crossing structure at University Blvd. S.E., we concur in the direct discharges of storm water runoff from the Craddock property located west of Yale Ave. as designated on the map key page M-15, copy attached to your letter.

Having also reviewed Map Key Page M-16 (Craddock properties east of Yale Ave.), we note that the Yale and Alamo intersection is directly affected and that the channel westerly to the South Diversion Channel may be overloaded by direct discharge of subject lands east of Yale. We have preliminary indications that the Yale/Alamo intersection and some adjacent private property will flood in the event of the 100 year storm. Therefore, would you consider a committment to analyze (under present day conditions) both the intersection and the downstream channel and to assist the City to alleviate dificiencies at the Yale/Alamo intersection in lieu of assistance at the University Blvd. crossing?

Yours very truly,

Richard S. Heller
City Engineer

HRO/RSH/fs

cc - Bruno Conegliano
Fred Aguirre

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

March 29, 1979

M15-D1

Mr. Kent M. Whitman, P.E.
P.O. Box 1328
Corrales, N.M. 87048

Re: Drainage Report For the BDM Office Complex

Dear Mr. Whitman:

I have reviewed the drainage report for the captioned development and my comments are as follows:

This office has not yet received the construction plans for the channel along the north boundary line of this property. I would like to suggest that your office coordinates with the firm of Andrew, Asbury and Roberts so that the following recommendations are incorporated in the construction plans for the mentioned channel. The 9ft wide drainage channel at the eastern boundary of this parcel is carrying 40cfs of offsite flow to the channel at the north boundary line, at the velocity of 10.9fps. This flow and velocity would cause excessive disturbance to the flow moving westward in the main channel, possibly causing a hydraulic jump. The flow needs to be collected and discharged through a pipe at the flow line of the main channel. It is recommended that the pipe alignment intersects the channel at an angle not greater than 15 degrees.

Secondly, given the nature of the soils in the area, which appear to be essentially alluvial terrace sands and gravels, the assumed value of the runoff coefficientshould be 0.1-0.2 and certainly not 0.4. Therefore, the pond must be increased in size to accommodate the larger runoff. Emptying of the pond will be allowed, but the pipe size cannot be greater than 8 inches. The overflow spillway needs to be designed to release the natural runoff at no greater rate than predevelopment flows. Further, this spillway must be extended and connected to the channel lining, to prevent undercutting or undermining of said lining. Provisions must also be made to prevent any flow from the area indicated as "future parking", to the east of the first phase of construction, to sheet flow against the channel lining for the same reason. Greater amount of detail will have to be supplied with the construction plans: for example, how will the runoff from the eastern-most parking lot be conveyed to the pond? (a 54 ft contour line is shown

at the north entrance of the parking lot. This elevation corresponds to the elevation at the top of the berm). An appropriate rundown to the bottom of the pond is recommended. Similarly, a rundown must be provided for the point of inflow from the future development. The drawing supplied indicates a distance of 20ft from the top of the berm to the edge of the channel at the northwest corner: this distance is inconsistent with a 3-to-1 side slope for the berm. Provisions must be made to prevent water accumulation in the parking islands. Greater detail must also be supplied for the connection of the channel at the east boundary, to the proposed dip section at Randolph Road.

Finally, I note that a modification of the plat must be made in order to provide appropriate drainage easement over the transition section of the channel immediately north of Randolph Road. Similarly, the construction of an appropriate inlet at the north end of the east channel may require a different R.O.W. configuration. These concerns will have to be satisfied before approval is granted to the drainage report.

Very truly yours,

Bruno Conegliano

Assistant City Engineer-Hydrology

cc - Dick Heller
Rich Leonard
Drainage file

Reading file

Craddock
Development Company
2501 Yale Blvd., S.E., Albuquerque, New Mexico 87106 (505) 842-9136

February 1, 1980

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

RE: Craddock Development - BDM Building

Dear Mr. Heller,

As per your conversations with Tom Mann on January 30, 1980, we are hereby submitting this letter as our guarantee that we will construct the improvements required for drainage on the BDM site.

The improvements that are required and that were approved by your department, are shown on Sheet 11 of the Construction Plans for the Newport Industrial Park - West, Unit 1. These plans were approved in March of 1979. The drainage channel shown on Sheet 11 will be constructed within the next four (4) to six (6) months. It will be much easier for us to construct that run-down during Phase II of our development of the BDM site. As a temporary solution, we will provide an earthlined rundown from Randolph Road to the newly constructed drainage channel.

Therefore, I request that you authorize your Drainage Division to sign off on our Certificate of Occupancy. We need to obtain that Certificate at the earliest possible date.

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

Thank you.

Richard H. Johnston
Vice President/General Manager

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

January 31, 1980

Mr. Richard Johnson
Vice President and General Manager
Craddock Development Company
2501 Yale Blvd. S.E.
Albuquerque, New Mexico 87106

Re: Drainage Requirements for Craddock Development Company

Dear Mr. Johnson:

In response to your letter of January 4, 1980, the City has engaged the firm of Gardner Engineers, Inc. for the design of the new University Blvd. Crossing Structure near San Jose S.E. Preliminary design work is in progress. Because of that action by the City and our anticipation of a new crossing structure at University Blvd. S.E., we concur in the direct discharges of storm water runoff from the Craddock property located west of Yale Ave. as designated on the map key page M-15, copy attached to your letter.

Having also reviewed Map Key Page M-16 (Craddock properties east of Yale Ave.), we note that the Yale and Alamo intersection is directly affected and that the channel westerly to the South Diversion Channel may be overloaded by direct discharge of subject lands east of Yale. We have preliminary indications that the Yale/Alamo intersection and some adjacent private property will flood in the event of the 100 year storm. Therefore, would you consider a committment to analyze (under present day conditions) both the intersection and the downstream channel and to assist the City to alleviate dificiencies at the Yale/Alamo intersection in lieu of assistance at the University Blvd. crossing?

Yours very truly,

Richard S. Heller
City Engineer

HRO/RSH/fs

cc - Bruno Conegliano
Fred Aguirre

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

April 10, 1987

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: REVISED GRADING PLAN OF BDM, RECEIVED APRIL 1, 1987 FOR BUILDING PERMIT APPROVAL (M-15/D4B)

Dear Tom:

The above referenced submittal, revised March 26, 1987 is approved for Building Permit sign-off by Hydrology. Include these approved plans with the construction sets routed for sign-off.

Separate retaining wall construction permits will also be required by the Code Administration Division.

Prior to Certificate of Occupancy release by Hydrology, the storm drains included with Work Order 3183 must be constructed.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Don Murphy, Craddock

RAG/bsj

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

March 9, 1987

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: GRADING & DRAINAGE PLAN SUBMITTAL OF BDM RECEIVED FEBRUARY 13, 1987 FOR BUILDING PERMIT APPROVAL (M-15/D48)

Dear Tom:

I have reviewed the above referenced submittal, dated February 13, 1987, and the following additional information is required prior to Building Permit approval:

1. Show drainage easements in accordance with the plat action taking place.

2. Provide off-site flow rates into Drainage Basin I.

3. Provide a Temporary Bench Mark adjacent to the project site.

4. Show existing flow line elevations at all drive pads to show water block heighth being provided.

5. Provide Sheet 2.4-6 for information since it is referred to for grading details.

6. Provide the hydraulic calculations used to size the storm drains to be constructed under City Work Order.

Comments have been provided at the D.R.C. in regards to Sheets 1 - 4 for construction of public infrastructures.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

RAG/bsj

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 24, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New MExico 87110

RE: REVISED GRADING & DRAINAGE PLAN OF BDM, PHASE IV, WEST PARKING LOT, RECEIVED DECEMBER 17, 1986 FOR GRADING/PAVING PERMIT APPROVAL (M-15/D48)

Dear Tom:

The above referenced submittal revised December 15, 1986 is approved for Grading/Paving permit. The contractor may proceed with the grading and paving in accordance with this approved plan. It is understood that the required structure into the concrete lined channel will be constructed under a City Work Order.

Please notify Rick Duran, Drainage Inspector, at 764-1699 when the paving is completed so that a final inspection can be made.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Susan Brown, Bradbury & Stamm

RAG/bsj

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

November 25, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New MExico 87110

RE: DRAINAGE & GRADING PLAN OF BDM PHASE IV, WEST PARKING LOT, RECEIVED NOVEMBER 20, 1986 FOR GRADING/PAVING PERMIT APPROVAL (M-15/D4B)

Dear Tom:

I have reviewed the above referenced submittal and have the following comments to be addressed before Hydrology's approval for Grading Paving permit:

1. The outlet structure into the existing concrete channel must be processed as a work order item since it ties into a major public facility within a public easement. This also ensures the appropriate design review and inspection.

2. Revise sheets 2.2-2 and 2.2-5 to identify the outlet structure as a work order item and to be constructed under separate drawings.

3. On Sheet 2.2-2 show some type of interim measures to direct runoff into the concrete channel until the outlet structure is in place.

The construction drawings of the outlet structure submitted to the DRC for Work Order should include details of the 36" RCP penetration into the concrete channel lining, and the joint detail between the overflow spillway and channel lining.

If you have any questions, call me at 768-2650.

Cordially,

Roger A Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Andre Houle, DRC

RAG/bsj

X.C.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

October 3, 1986

Tom Mann, P.E.
Tom Mann & Associates, Inc.
811 Dallas, NE
Albuquerque, New Mexico 87110

RE: CONCEPTUAL GRADING & DRAINAGE PLAN SUBMITTAL OF BDM PHASE IV, NEWPORT INDUSTRIAL PARK, RECEIVED SEPTEMBER 22, 1986 FOR SITE DEVELOPMENT PLAN APPROVAL (M-15/D4B)

Dear Tom:

I have reviewed the above referenced plan, dated September 22, 1986, and have the following comments to be addressed:

(1.) Off-site flows are not identified or quantified into Drainage Basin 1. These should include flows from the north and public flows from Renard Place. ✓

X 2. Public flows from Renard Place must be picked up with inlets within the public Right-of-Way and conveyed to the outlet channel with a subsurface storm drain with the required drainage easements identified. Public flows are not allowed across private parking areas.

(3.) Provide proposed spot elevations and existing TC/FL curb elevations for the undeveloped areas to be developed.

X 4. Show existing legal tract boundaries so areas of cross lot drainage can be identified and easement requirements determined.

X 5. All existing easements must be shown on Site Plan. I believe there is an utility easement across Drainage Basin 3 between Randolph Court and the existing concrete channel that is not shown.

6. The design of storm drain in Randolph Court assumed a developed "C" value of 0.43 for the watershed south of Randolph Court. Your proposed development has a "C" value of 0.70, therefore, the downstream capacity of the storm drain and streets must be reanalyzed with a fully developed watershed to determine if free discharge from your Drainage Basin 4 is allowable (See Drainage File M-15/D4A by Andrews, Asbury, & Robert).

If you have any questions, call me at 763-2650.

Cordially,

Roger A Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

Standard Form Letter to:

Don Murphy, Craddock Dev.

RAG/bs

for a single DBL C
w/ no clogging factor

```
*** DESIGN SUMMARY TABLE FOR INLET *** BDM
COMPOUND SECTION
COMBINATION, SUMP
INCLINED THROAT - THROAT ANGLE  15
HEIGHT OF INLET OPENING =  6
P-1-7/8-4

DEPTH OF FLOW (FT) =  .67   - curb height
WIDTH OF SPREAD =  29.33

LENGTH OF INLET =  6.5
GRATE WIDTH =  2
CURB OPENING LENGTH =  6.5
WIDTH OF SPECIAL SHAPING =  0
DEPRESSION OF INLET =  0
MANNINGS N =  .017
STREET GRADE =  0
STREET WIDTH =  80
SECTION NO. =  1   STREET CROSS SLOPE =  .06   WIDTH OF SECTION =  2
SECTION NO. =  2   STREET CROSS SLOPE =  .02   WIDTH OF SECTION =  38
TOTAL DISCHARGE =  23.2
INTERCEPTED FLOW =  17.15
BY-PASS FLOW =  6.05
INLET INTERCEPTION EFFICIENCY =  .74
```

```
*** DESIGN SUMMARY TABLE FOR INLET *** BDM
COMPOUND SECTION
COMBINATION, SUMP
INCLINED THROAT - THROAT ANGLE  30
HEIGHT OF INLET OPENING =  6
P-1-7/8-4

DEPTH OF FLOW (FT) =  .82  ← < 0.2' + curb height ∴ OK
WIDTH OF SPREAD =  36.77

LENGTH OF INLET =  6.5
GRATE WIDTH =  2
CURB OPENING LENGTH =  6.5
WIDTH OF SPECIAL SHAPING =  10
DEPRESSION OF INLET =  0
MANNINGS N =  .017
STREET GRADE =  .02
STREET WIDTH =  184
SECTION NO. =  1   STREET CROSS SLOPE =  .06   WIDTH OF SECTION =  2
SECTION NO. =  2   STREET CROSS SLOPE =  .02   WIDTH OF SECTION =  90
TOTAL DISCHARGE =  23.2
INTERCEPTED FLOW =  23.2
BY-PASS FLOW =  0
INLET INTERCEPTION EFFICIENCY =  1
```

```
*** DESIGN SUMMARY TABLE FOR INLET *** BDM
COMPOUND SECTION
```

Storm Inlet Capacity (Double 'C' Storm Inlet)

Q = 13 cfs (DPM Plate 22.3D-6)
Where S = 0.018 (Average slope in Renard Place S.E.)
n = 0.67'
Therefore, use 2 Double 'C' storm inlets = 26 cfs > 23.2 cfs

Capacity of 30" RCP Storm Pipe

Q = 36 cfs > 23.2 cfs (in Renard Place S.E.)
Where n = 0.013
S = 0.0075 (Average of two lowest slopes)

Using Field Hydraulics Calculator for Gravity Flow in Pipes.
(Manning Formula)

community sciences corporation

BDM OFFICE COMPLEX

Drainage Management Plan

Prepared For:

Craddock Development Company

Prepared By:

Community Sciences Corporation

December, 1978

Kent M. Whitman

Kent M. Whitman, P.E.

P.O. Box 1328
Corrales, New Mexico 87048
(505) 897-0000

SURVEYING
ENGINEERING
LAND PLANNING

TABLE OF CONTENTS *PAGE*

A) Purpose and Scope

Craddock Development Company is currently planning development of approximately 12 acres of Southeast Albuquerque into an office/ business park complex to be known as the BDM Office Complex. The purpose of this report is to present a Drainage Management Plan for BDM which is acceptable to AMAFCA and to the City of Albuquerque.

B) Site Location and Topography

The BDM Office Complex is located in Southeast Albuquerque on Randolph Road approximately 700' west of Yale Boulevard. (See Plate #1) The natural ground had been quite irregular in topography, however, the entire site has now been pre-graded to a uniform slope from southeast to northwest of approximately 6%. Soils consist mainly of alluvial sands and silts, and decomposed granite is the major soil constituent.

C) Design Criteria

1) Engineering Parameters

For calculation of runoff rates and required storage volumes a C of 0.4 has been assumed for undeveloped areas. A composite C of 0.87 was calculated for the site in the developed state. The inflow hydrograph for the design of the detention pond is based on the 100 year - 1 hour rainfall of 2.05" for the subject area. For considerations of runoff rates this figure is more critical than the 100 year - 6 hour value normally adopted.

Rate of runoff calculations for the Offsite Drainage Basin and for the Site in an undeveloped state have been based on the frequency - intensity - duration relationship for a 100 year storm as presented by Gordon Herkenhoff and Associates in their 1963 Master Plan of Drainage for the City of Albuquerque. This relationship is expressed by the following equation: $I = 189/(Tc+25)$.

2) Flood Control Regulations

The drainage plan presented in this report has been designed to comply with the 1972 AMAFCA Resolution in regard to rate of runoff leaving the Site. That Resolution has been interpreted to say that the rate of runoff allowed to leave the site after development shall be no greater than the rate running off prior to development. Volume considerations on major arroyo systems east of the AMAFCA South Diversion Channel are not considered critical.

D) Computational Procedures

Appendix A contains samples of the various types of hydraulic calculations performed. Proposed conveyance swales were sized based on the Manning Equation for Uniform Flow. Times of concentration were estimated based upon the Kirpich Nomagraph for Overland Flow. Outflow structure capacities were calculated based on the Oriface Equation and the Broad-crested Weir Formula. Runoff calculations for development of the pond inflow hydrograph were performed by computer using a program based on the Soil Conservation Service Triangular Hydrograph Method for Thunderstorms West of 105° longitude. C factors were converted to CN factors through use of the equation "CN = 87 + 29.7 (C - 0.5)".

E) Offsite Drainage

Plate 2 illustrates the offsite basins which potentially contribute runoff to the Site. This Plate and the appurtenant basins shown on it were prepared through reference to two other drainage studies. The first is titled "Drainage Report for Newport Industrial Park West, Unit 1, Site Improvements", December 1978, by Andrews, Asbury, and Robert Inc. This report studies a broader area encompassing the subject site in general terms and makes certain recommendations for peripheral drainage improvements which are assumed to be adopted. The second report is titled "Drainage Report For Office Building #4", December 1976, by Community Sciences Corporation. This report presents a drainage plan for a small 1.5 acre site adjacent to Yale Boulevard.

The Andrews, Asbury, Robert Report recommends a dip section in Randolph Road at the southeast corner of the Site to collect flows from the upper portion of Basin C and discharge them across the subject parcel and into the proposed concrete channel to be located along the north boundary of the Site. This report has adopted that approach, and a City of Albuquerque drainage channel has been indicated on Plate 3 to act as a conveyance across the Site.

Basins A & B will be intercepted by Randolph Road and diverted westward.

F) Drainage Plan

Since the runoff from the Site can be discharged directly into a major drainage conveyance, the objective is to limit the rate to that occurring naturally. This will be accomplished through use of a detention pond with controlled release outlet. The outlet will limit the rate of discharge to 25 cfs-that occurring naturally for the 100 year storm. Plate 3 illustrates the plan, and Plate 4 depicts the inflow hydrograph for the pond. For simplicity sake the out-

flow hydrograph has been assumed to be linear, a conservative assumption considering that the outflow varies as the square of the hydraulic head. The shaded area on Plate 4 represents the volume of storage required to provide the necessary retention.

PLATE 1

LOCATION MAP

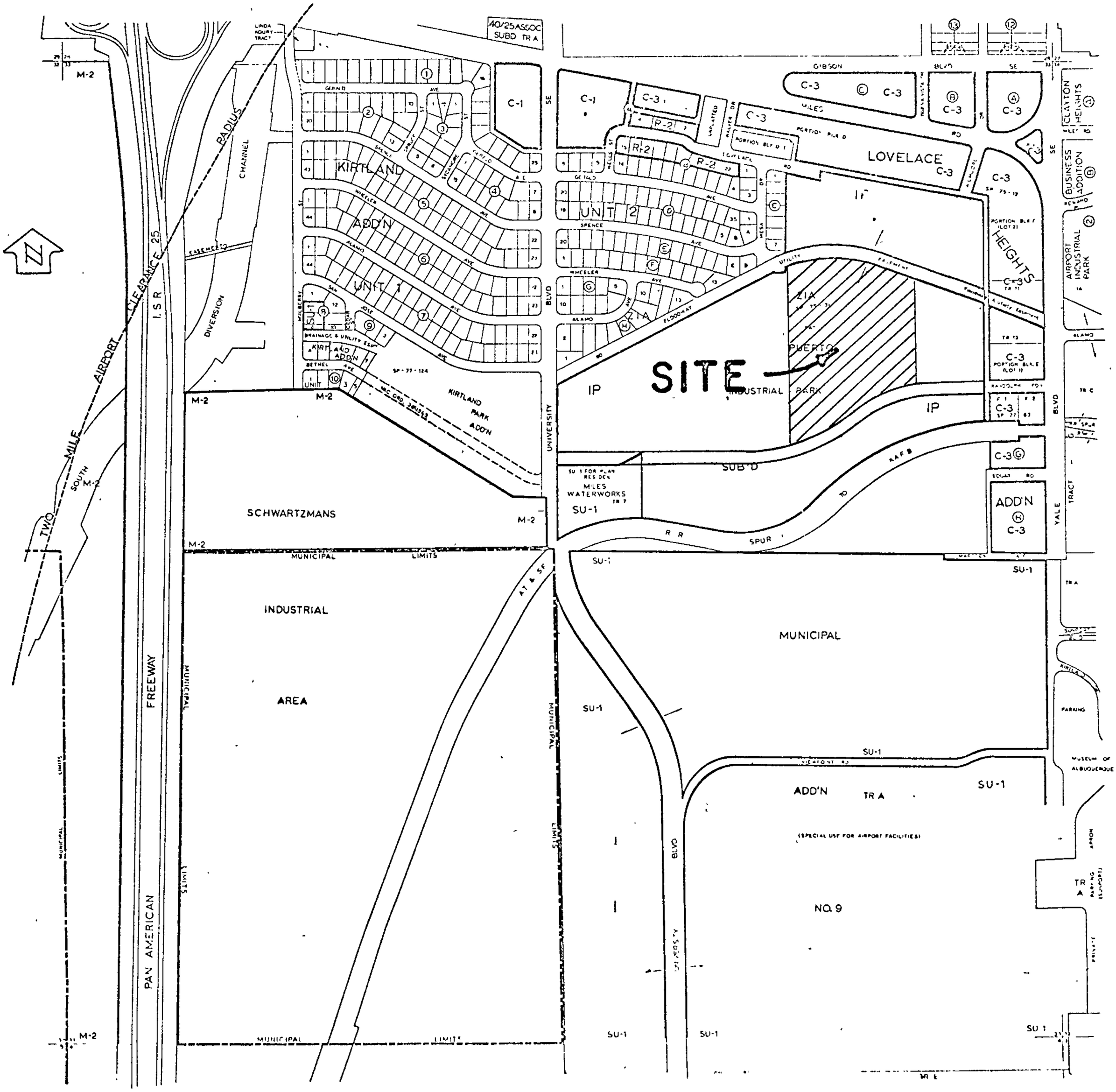
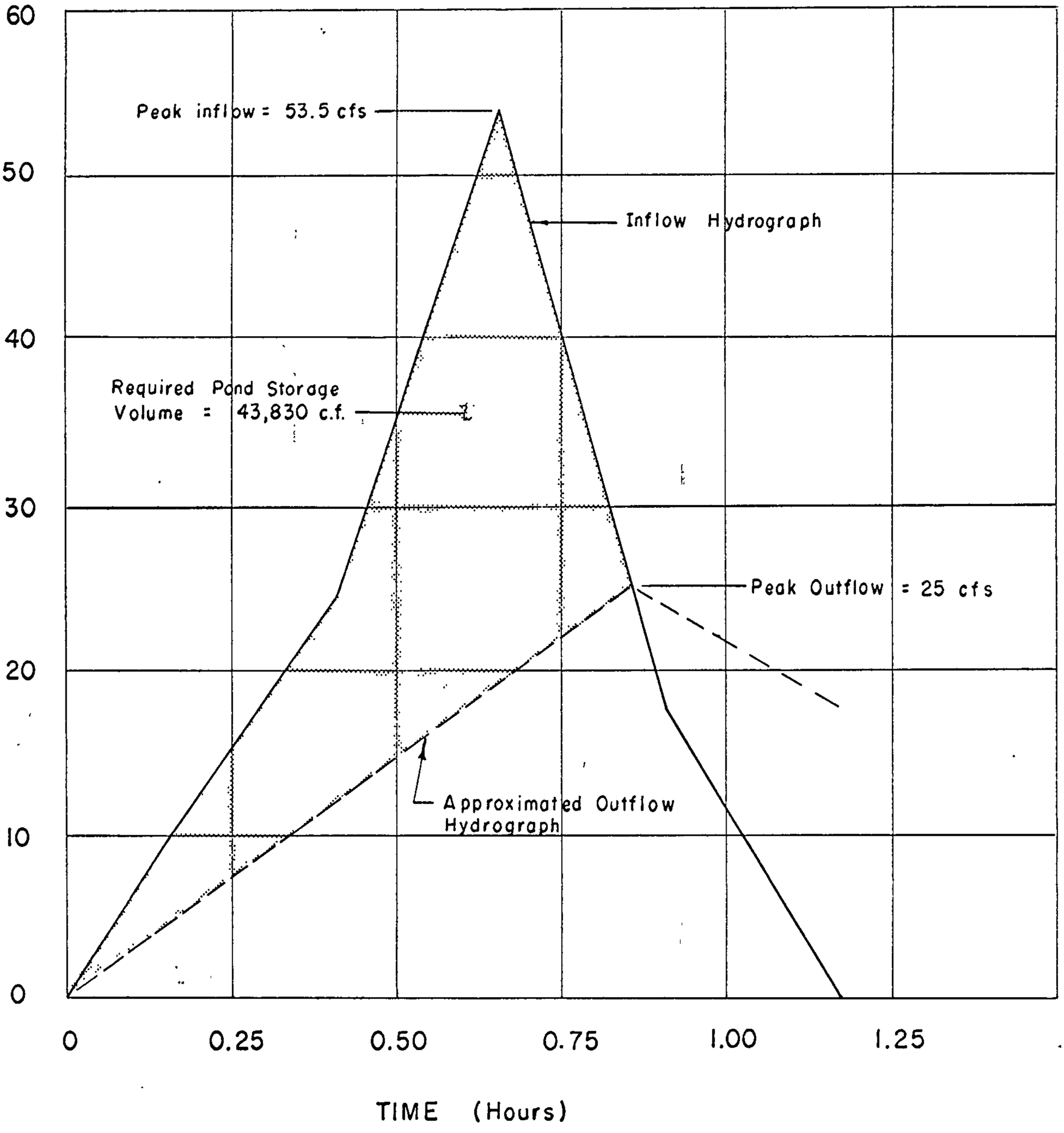


PLATE 4

POND INFLOW HYDROGRAPH



APPENDIX A - Calculations

1) Composite C

Gross Area = 11.60 acres
Area in Buildings @ C = 0.95 = 1.6 acres = 14%
Area in Landscaping @ C = 0.5 = 0.9 acres = 8%
Area Left Natural @ C = 0.4 = 0.9 acres = 8%
Area in Parking @ C = 0.95 = 8.2 acres = 70%

$Cc = ([.14 + .70] \times .95) + (.08 \times .5) + (.08 \times .4)$
$= 0.87$

2) Natural (allowable) Rate of Runoff

$C = 0.4$
$Tc < 10$ minutes
$I = 5.4$ inches/hour
$A = 11.6$ acres

$Q = (0.4)\ (5.4)\ (11.6) = 25$ cfs

3) Offsite Flow Rate - Basin C

$Tc\ (L = 2100, \Delta H = 120) < 10$ minutes
$C = 0.4$
$I = 5.4$ inches/hour
$A = 18.33$ acres

$Q = (0.4)\ (5.4)\ (18.33) = 40$ cfs

4) Actual Pond Volume

$$Vol = \left[\frac{112^2 + (112+18)^2}{2}\right] \times 3$$
$$= 44{,}200 \text{ cf}$$

5) Max Outlet Capacity - Trickle Tube

a) = 30" CMP

$$h = \frac{Q^2}{C^2 A^2 2g}$$

$$= \frac{25^2}{.62^2 4.91^2 (64.4)} = 1.05'$$

$\therefore$ depth in trickle tube = 2.5/2 + 1.05
= 2.3'

6) Trickle Tube

$h = 3' - 2.3 = 0.7$
$A = 0.25\ SF \times 24 = 6\ SF$

$Q = CA\sqrt{2gh}$
$= 0.62\ (6)\sqrt{64.4(.7)}$
$= 25\ cfs$

7) Offsite Channel Capacity

a) Entrance

$Width = 30'$
$yc = \left(\frac{q^2}{g}\right)^{1/3} = \left[\frac{(40/30)^2}{32.2}\right]^{1/3} = 0.38'$

$Vc = 3.5\ fps$

$entrance\ depth = yc + 1.5\left(\frac{Vc^2}{2g}\right) = 0.67'$

b) Channel

$BW = 9'$
$SS = 0$
$slope = 0.034\ ft/ft$
$n = 0.013$
$Q = 40\ cfs$

$from\ Manning\quad Q = (A)\frac{1.49}{n} R^{2/3} S^{1/2}$

$solving\ for\ depth = 0.41'$

PLATES 2 & 3

M-15/D-4B

This is on Micro Film

SCALE 1" = 40'

20 0 40 80

EXISTING SANITARY SEWER LINE

R-7383

60' FLOODWAY & DRAINAGE EASEMENT

30' 50' 30'

MH RIM 59.46 INV. 44.5

MH RIM 57.84 INV. 48.2

MH RIM 65.24 INV. 55.41

8" S

T.W 61.36

T.W 60.90

T.W 64.74 T/C 68.26

T/C 69.22

T/C 68.28

T/W 64.80

T/W 64.76

FL 59.02

FL 57.00

FL 57.64

FL 57.14

T.W 62.56

36" DIA. 45° PIPE

36" DIA. PIPE

FL. 59.29

T/W 68.82

T/W 68.85

T/C 69.50

FL. 59.49

T/C 64.25

T/W 68.78

T/C 64.35

5165

FOR CONTINUATION SEE CITY PROJECT #1879

EXIST. 6" HEADER CURB

T.C. 61.50

T/C 62.27

T/A 62.32

T.C. 68.0

T/A 62.94

T/A 63.80

T/A 64.98

NEW ASPHALT PAVING

6" ASPHALT CURB

T.C. 72.0

T.C. 72.30

T.C. 72.5

T.C. 69.00

CONSTRUCT 2'-0" CURB & GUTTER

CONSTRUCT GRAVEL TRICKLE CHANNEL

T.C. 68.80

T.C. 69.60

T.C. 74.00

T.C. 75.00

T.C. 78.55

T.C. 79.15

POWER POLE

EXISTING ASPHALT

T/A 69.23

T.C. 70.80

T.C. 71.10

CONSTRUCT 1'-0" SIDEWALK CULVERT PER TYP. DETAIL INV'S CURB = 71.10 Δ

POWER MANHOLES IN WALL GRADE

T/C 70.92 T/A 70.51

T/C 71.01 T/A 69.99

EXISTING CONC. PAD

T/C 70.98 T/A 70.40

T/C 70.98 T/A 70.09

EXISTING TRANS-FORMER PAD

T/A 72.5

6' WALL

INSTALL 6" PVC (SDR-35) DRAIN LINE B S = 0.0050 Δ

PROPOSED ARCADE ADDITION F.F. = 5173.80 Δ

EXISTING MECHANICAL PAD

EXISTING BUILDING PHASE I F.F. = 5173.80 (T.B.M.)

PROPOSED PHASE II F.F. = 5173.80

CONSTRUCT INLET PER TYPICAL DETAIL. GRATE ● 5172.75 INV. - ● 5171.90 Δ

RAMP SIDEWALK FOR HANDICAP ACCESS Δ

T.C. 81.00

T.C. 83.60

T.C. 84.00

PLANTER

EXISTING 45' POWER POLE

8' DIRT PILE

4' DIRT PILE

5185

5180

T.C. 90.02

T.C. 90.08

T.C. 91.3

FL. 88.53

FL. 89.74

BUENA VISTA DRIVE S.E. (STREET GRADES AS PER CITY PROJECT #1879)

FL. 81.92

FL. 83.32

50' ROW

40' F-F

90' ROW

82' F-F

PROJECT SITE

VICINITY MAP

SCALE 1" = 800'

M-15

PROJECTED FACE OF CURB

ASPHALT PAVING

SIDEWALK SECTI

DOWEL DE

SIDEWALK CULVE

NO SCALE

10'

5' ℄

6"

FINISH GRADE

PIT-RUN GRAVEL FILTER

2"+ CLEAN GRAVEL (RIVER ROCK)

SECTION A-A

SCALE 1" = 3'

CONSTRUCTION NOTES

A. JOIN HEADER [illegible] OR WEAKENED PLANE JOINT, PLACE [illegible] JOINT MATERIAL.
B. SIDEWALK OR SETBACK, (VARIABLE).
C. 5" RADIUS, (TYPICAL).
D. [illegible] STEEL PLATE EMBEDMENT TYP.
E. ROD ANCHOR 1' x 6"
F. "V" GROOVE.
G. SIDEWALK GRADE.
H. DOWEL AND JOINT, (OPTIONAL).
J. GUTTER FLOWLINE ELEV.
K. 1/2" DIA. GROUND STAINLESS STL. HANDRAIL SIGN
L. BOTTOM OF GUTTER.
M. GRADE BREAK, 24" MIN. 18" MIN.
N. SLOPE 1/4" PER FT. MIN.

· LEGEND ·

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5625 EXISTING CONTOUR
- 25 PROPOSED CONTOUR
- SWALE
- T.C. 56.21 EXISTING TOP OF CURB
- FL. 54.69 EXISTING FLOW LINE
- CONCRETE
- BASIN BOUNDARY

CONSTRUCTION NOTES:

1 TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.

2 PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

3 ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

GRATING SHALL BE 26"x 30" CLOW F-3033 OR APPROVED EQUAL. GRATE ELEV. 5172.75

FINISH GRADE

5"x 2" ANGLE WINGNORS (TYP. ALL 4 SIDES)

4"

1. From SCS Bernalillo
   B&D Bluepoint Rokan
   BCC Bluepoint Lcamy
   Hydrologic Soil Grou
2. Existing Condition
   A_{total} = 157,860 sf
   A_{imp} = 0 sf
   % = impervious = 0%
   'C' = 0.16 (DPM Plat
3. Developed Condition
   A_{total} = 157,860 sf
   A_{imp} = 109,360 sf
   % = impervious = 10
   'C' factor = 0.55 (D

Rational Method

1. Discharge: Q = CiA
   where C Varies
   $i = P_6$ (6.84)
   P_6 = 2.3 in (D
   T_c = 10 min (
   A = area = 3.6
2. Volume: $V = CP_6A(1/$
   where C varies
   P_6 = 2.3 in (
   A = 157,860 sf

PROJECT. BAS

A standard
of 8-inch
witness pos
Boulevard S.

Elevation =

TEMPORARY

The finish