HYDROLOGY C17/D6 1 of 2 8 PLANS

C17/D6

8 PLANS

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

SMP

March 20, 1985

Dev. File
C-17/D6

Mr. Steven C. Corle
Leedshill-Herkenhoff, Inc.
500 Copper Avenue NW
Albuquerque, New Mexico 87102

RE: CITY PROJECT NUMBER 1418 (84-39)

Gentlemen:

This is to certify that the City of Albuquerque hereby accepts Project Number 1418 (84-39) as being completed according to construction specifications and accepts same. The project is more particularly described as follows:

Storm Drainage Improvements from Domingo Baca Arroyo north along west property line of Mel Smith Reservoir Site then east along north property line to Street "A" in Loop Industrial District, Unit III. W.O. 1418.

Sincerely,

C. D. Sheppard, P.E.

C. Dwayne Sheppard, P.E.
City Engineer

CDS/fs

cc: New Concepts, Inc.
Reeves Construction
Bill McNamara, Assistant City Engineer/Field
Jim Fink, Planning & Programming Engineer, MDD/ENG
Josie Gutierrez, New Meter Sales Clerk, Water Resources
Claudia Gallegos, Standby Charges Clerk, Water Resources
Inez Barela, CIP Office
Denise Wilcox, Administrative Assistant, MDD/ENG
Greg Olson, Assistant City Engineer/Design
File

LEEDSHILL-HERKENHOFF, INC.
500 Copper Avenue N.W.
P. O. Box 1217
Albuquerque, New Mexico 87103
(505) 247-0294

1690-1845.32-83

C17-D6

November 3, 1983

Mr. Fred Aguirre
City Engineering/Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Sun North Estates

We have reviewed the proposed lot layout changes prepared by Southwest Surveying Company on Sun North Estates, formerly San Mateo Mobile Home Planned Development Area (see attached sheet). We find no change in the street layout nor widths. Based on the fact that a large percentage of these streets have been constructed to the basic grades approved in the construction plans which complies to the approved Engineer's Study on Storm Drainage for San Mateo Mobile Home Estates, dated August 5, 1979, we find that the proposed change will not effect the overall drainage pattern from the site.

If there are any questions, please contact me.

Russell B. Givler

RUSSELL B. GIVLER

bz

Attachment

cc: Mr. Art Reeves
Mr. Dan Graney

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

June 11, 1982

BRIAN
FILE

Mr. Arthur Reeves
San Mateo Partners
901 Hazeldine Ave. SE
Albuquerque, NM 87106

RE: REMOVAL OF A PORTION OF THE WILSHIRE AVENUE N.E. PAVING FROM SAD 201 (YOUR LETTER, MAY 20, 1982)

Dear Mr. Reeves:

We have reviewed your requests, as stipulated in your letter of May 20, 1982, and concur with all of them except for the diameter of pipe to be connected to the catch basins. This diameter must be 24 inches. We are also in agreement with you on your obligation to reimburse us for the design costs already incurred by the City, as a result of Molzen-Corbin & Associates' work. Additionally, your proposal of collaboration between your engineer and Molzen-Corbin to assure compatibility with SAD 201 is satisfactory to us.

We will require that you participate in the SAD 201 storm sewer assessments for the benefits received by your property from the SAD 201 storm sewer system. However, these assessments will be reduced by the cost of catch basin, storm drain connection and stubout work that you accomplish.

Sincerely,

Richard S. Heller

Richard S. Heller
City Engineer

JH/RSH/br

cc: Mr. Clint Dodge, Gordon Herkenhoff & Assoc.
Mr. Hans Coucheron-Aamot, Molzen-Corgin & Assoc.
C. M. Easterling, Prin. Asst. City Engineer
J. Hicks, Special Assessments Engineer

816-1845.34-82

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0294

May 24, 1982

Brian Burnett
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SAN MATEO MOBILE HOME PLANNED DEVELOPMENT AREA -
OFF SITE STORM SEWER

The realignment of the off site storm sewer also required an increase in the slope of the pipeline. With the increase in the slope the size of the pipeline could be reduced from a 36" to a 30" line and still carry the required flow of 45 cfs.

If there are any additional questions concerning this storm sewer, please contact me.

Russell P. Givler

RUSSELL P. GIVLER
RBG:er

bill buckley
architect

telephone (505) 255-9196
740 san mateo ne suite b albuquerque, nm 87108

RECEIVED
APR 13 1982
ENGINEERING

6 April 82

Mr. Chuck Easterling
AMAFCA
City of Albuquerque

Re: Drainage Review, 5510 Wilshire Blvd., NE, Albuquerque, New Mexico.

Dear Mr. Easterling,

Please be advised that the plans as submitted have grades to coordinate with the Master Drainage Plan for this development as submitted by Herkenhoff & Associates, Inc. Those Engineering drawings have been submitted already under Review #1422. If there are further problems with this project please notify this office as soon as possible at the above number. I hope this information will be adequate to permit prompt acceptance of this project for construction. Thank you for your consideration to this matter.

Sincerely,

William Philip Buckley
Architect, NCARB Registered

4.14.82

Bill,
The referenced plans should be drafted per the "Construction Plan Checklists." The standard review process will be followed once the plans are submitted.
If you have any questions, please call Brian Burnett CE/Hydrology

347-1845.22-82

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0294

March 1, 1982

Mr. Bill Buckley
Architect
740 San Mateo N.E.
Albuquerque, New Mexico 87108

RE: RECREATION BUILDING FOR SAN MATEO MOBILE HOME
PLANNED DEVELOPMENT AREA

Dear Sir:

I have reviewed your recreation building site plans dated February 19, 1982. The drainage report approved on August 7, 1979, for this development was prepared with a rational "C" of 0.70. The new configuration results in a higher value of 0.73. This 0.03 difference results in an increase in run-off of three tenths of one percent (0.3%) for this area. This is insignificant, and does not alter the approved drainage analysis, or downstream design.

I would like to note that the elevations used on your plan are derived from the original grading plan. Since these are in a state of revision, your floor elevations, etc., could be affected.

Finally, the number of spaces required for parking on the approved development plan is 36. This one space discrepancy may or may not be important. But I thought I'd mention it.

If we can be of further assistance, please give me a call at 247-0294.

Respectfully,

Steven G. Corle

STEVEN G. CORLE
Civil Engineer

437-1845.22-82

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0294

March 17, 1982

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

RE: SAN MATEO MOBILE HOME PLANNED DEVELOPMENT AREA

Dear Sir:

This manufactured housing subdivision is in the final design stages here in our office. Because the dirt work is complicated and of a fairly large quantity, we would like to respectfully request that the grading plan be reviewed and approved at this time, rather than waiting several weeks for the full set of construction drawings to be submitted. This would have the following advantages:

1. It would allow the owner to "fast track" his construction, thus minimizing his time to completion. This reduces his costs by some 4,200 dollars per week.

2. It would allow simultaneous grading of the development site and the north bank of the Domingo Baca Arroyo. This bank is to receive a one-half channel lining as approved by the City.

I have spoken with Brian Burnette of the hydrology section, as well as Bob Kielich of the design branch regarding this project. Mr. Burnette has the grading plan and is reviewing the hydrology. Mr. Kielich indicates that should you be willing, the sheets could be signed off and then included with the full set of plans when they are submitted.

Please call me if I can do anything to move this along.

Respectfully,

Steven G. Corle

STEVEN G. CORLE
SGC:er

cc: Brian Burnette
Bob Kielich
Art Reeves

JACK M. CLIFFORD & COMPANY
TWO SAN PEDRO PARK, SUITE 201
2201 SAN PEDRO DRIVE NE
ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 884-5573

C17-U1

May 5, 1981

Mr. Gerald Davenport, Director
Department of Municipal Development
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Loop Industrial District Concerns

Dear Mr. Davenport:

We have recently had several meetings with administrators of your Department concerning developments of concern to us within the Loop Industrial Park. This area is generally shown on the enclosed zone atlas page C-17Z as outlined in red. There are several questions as to City policy and intentions within this area for which we need immediate definitive answers in order not to further delay pending development plans by the Jack M. Clifford Co. within this industrial park area. These concerns are as follows:

1. Jefferson Street Crossing of the Domingo Baca Arroyo

It is crucial that a policy decision be made as to how this major collector street crossing is to be handled. Such a decision is not only vital to our own development plans, but it is also vital to the efficient handling of traffic deriving from the Motorola, Sperry Flight Systems and Signetics plant operations at Richfield Road and north, all of whom will be served by the crossing at Jefferson St., NE. In this regard, responses are immediately needed to the following questions:

a. Is money available which will allow the City to meet its responsibilities to finance major arroyo crossings on arterials? Can priorities be changed, if necessary, to provide for such construction immediately?

b. If permanent crossing construction funds are not immediately available, what is the nature of an approved interim crossing which could be installed rapidly and allow for our continued development and the orderly operation of the large plants being constructed in this area?

c. Prior meetings with your engineering staff have given rise to the opinion that if a "dip section" at Jefferson and the Domingo Baca is installed as an interim crossing solution, that the City will forbid our selling lots on Jefferson on the approaches to the "dip," until a permanent crossing is installed.

We question the legality of any such bar to our sale of lots for the reasons outlined and request a written definition of the City policies and restrictions believed to be enforceable in this regard.

In brief, as concerns the installation of a crossing of the Domingo Baca at Jefferson St., NE, firm commitments as to City intentions are needed to replace a variety of conflicting policy statements to which we have been recently subject. The City itself also requires that the uncertainties surrounding the Jefferson St. crossing be laid to rest so that engineering investments in special assessment district 201 can be minimized and its development proceed rapidly.

2. Washington Street Crossing of the Domingo Baca Arroyo

Recent conversations with City engineering staff have met with the requirement that a 70 acre subdivision being submitted for approval at Washington St. and the Domingo Baca will have such approval withheld pending agreement by the Jack M. Clifford Co. to finance construction of a permanent bridge crossing to replace the present "dip section" now in place at Washington St.'s crossing of the Domingo Baca. We believe this requirement to be unnecessary and illegal for the following reasons:

a. The existing "dip section" is a public right-of-way established as such its inclusion in a special assessment district through which City funds were expended;

b. Historically, the "dip section" has been used as a public right-of-way for approximately eight years, and its utilization has included its heavy use for access to the City landfill site in the immediate area. In this regard, the record is plain that the City did not require construction of a permanent crossing structure to serve its own convenience in operating the landfill;

c. City policies accept the responsibility for construction of arterial arroyo crossings except where such is needed to meet the requirements of a developer in advance of expenditure of public funds.

Therefore, if, in fact, City position is that private convenience equal to City convenience cannot be served through developer use of the present "dip section," but that private monies must first be expended for construction of a Washington St. crossing of the arroyo as a condition to subdivision approval, such a position is discriminatory and illegal. Basically, such a position would constitute an attempt to coerce expenditure of private monies for an area of public responsibility because such an expenditure could not be secured as a matter of law.

We seriously question that such is the intent of your administration and request clarification and the dropping of this requirement as a condition of subdivision approval.

3. Access to Lots Fronting on Richfield Road, NE

We have submitted plans to the City engineering staff which provide for access to Richfield Road from our properties fronting that street. Motorola Corporation, whose pending development is at Jefferson and Richfield Road, also has submitted plans calling for such access to their new plant. Assuming the City landfill between Richfield and the Domingo Baca will ultimately be used as a City park, presumably the City will also want access to that park off of Richfield as is being requested by Motorola and ourselves.

Accordingly, we believe that questions of practicality as well as of law require that owners of properties fronting on Richfield be allowed direct access from that street. If you do not concur with that position, our attorneys request written designation of the City policies and/or ordinances which permit denial of public access to lands fronting on public streets.

4. Drainage of Sheet Flow to Landfill Site

On the east side of the City landfill site, which constitutes our west property line, a high berm and chain link fence have been constructed. A survey of this berm and fence by our engineers shows that it encroaches upon our property. This berm is of particular concern to us in that it prevents our passing onto the landfill, historical sheet flow whose passing onto neighboring properties is permitted by established City drainage policies.

We want your assistance in determining how sheet flow onto the landfill site will be permitted and wish to discuss the question of encroachment with you.

5. Drainage Assessment District

With the encouragement and assistance of the City Engineer, our Company has requested the establishment of a single-purpose special assessment district to provide for equitable financing of drainage and street improvements being installed within the area shown in red by the attached map. Recent inquiries to City staff have failed to produce answers as to the progress of this district. Our engineers are now developing an overall drainage plan for the Loop Industrial Park which may include recommendations for large storm sewers. We particularly need to know how these costs can be prorated in view of enabling legislation changes proposed to the last legislature, if, in fact, they can be included in an assessment district.

6. Joint Use of Landfill Access Road

The Jack M. Clifford & Co. proposes a joint use of the present landfill access road wherein the Company would bear the expense of the upgrading necessary to allow its use as a dedicated public street. As noted earlier, we understand that the ultimate use of the landfill properties will be as a City park.

We request direction as to what actions should be taken to secure a license allowing use of the present access street to the landfill in the way noted.

In closing, we wish to note that too frequently our meetings with City staff have not included representation from among all of the agencies whose approval of a project's features is necessary. In our experience, this has sometimes resulted in one agency recommending a line of progress which at a later time is reversed by a second administration in another department. Therefore, we are asking that you review our informational needs in the foregoing areas carefully, in the hope that a meeting can be called at the earliest date possible to help us with these problems.

Your action in this regard will be sincerely appreciated.

Very truly yours,

Jack M. Clifford
President

JMC:pb

Enclosure

cc: Wain Cooper
Gordon Herkenhoff & Associates

DRAFT COPY

AGREEMENT

THIS AGREEMENT is made and entered into by and between THE CITY OF ALBUQUERQUE, a municipal corporation, hereinafter called "City," and JACK M. CLIFFORD & CO., a New Mexico corporation, hereinafter called "Owner."

WITNESSETH:

WHEREAS Owner owns certain property located in the City of Albuquerque, New Mexico, abutting Jefferson Street, NE, lying between Wilshire Avenue and the Domingo Baca Arroyo, which property is described as Lots 1 through 15, Unit V, Loop Industrial District;

WHEREAS the Owner has presented a drainage plan for said land to the City for their approval,

NOW, THEREFORE, the Parties agree as follows:

1. Owner will establish a 30' wide private drainage easement located along the western property line of Lots 1-11, Unit V, Loop Industrial District; and Owner will, at its sole expense, construct a soft-lined channel located along the western property line of Lots 1-11, Unit V, Loop Industrial District, a concrete lined spillway in advance of where the channel empties into the Domingo Baca Arroyo, and a rip-rap pad at the bottom of the arroyo where the spillway discharges. The plans and specifications for construction of soft-lined channel, spillway and erosion control pad will conform CITY ENGINEER ~~STANDARDS~~ REQUIREMENTS. ~~to those described in the Engineer's Report 1777.12 on Storm Drainage for Lots 1-15, Unit V, Loop Industrial District on June, 1981 by Gordon Herkenhoff & Associates, Inc.~~
2. Owner will establish a private maintenance agreement whereby the Owner or subsequent property owners will perform all maintenance of said soft-lined channel and spillway in perpetuity.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands and seals this _____ day of _____, 1981.

JACK M. CLIFFORD & CO.	CITY OF ALBUQUERQUE
By_____	By_____
Title_____	Title_____

DRAFT COPY

AGREEMENT

THIS AGREEMENT is made and entered into by and between THE CITY OF ALBUQUERQUE, a municipal corporation, hereinafter called "City" and JACK M. CLIFFORD & CO., a New Mexico corporation, hereinafter called "Owner."

WITNESSETH:

WHEREAS Owner owns certain property located in the City of Albuquerque, New Mexico, described as Lots 1 through 15, Unit V, Loop Industrial District, hereinafter called "Property," and

WHEREAS the City has enacted a certain Council Bill No. R-408 creating the "Albuquerque, New Mexico Special Assessment District No. 201," hereinafter called "District," and

WHEREAS the Property described above lies in the area covered by the District,

NOW, THEREFORE, the Parties agree as follows:

1. Owner hereby agrees to waive its right to protest its participation within the District but reserves its rights ~~to review and approve the storm sewer design and expense at the~~ TO PROTEST ITS PARTICIPATION IN THE STORM SEWER ASSESSMENTS ASSOCIATED WITH THE INTERSECTION ~~intersection~~ of San Mateo Boulevard, NE, and Wilshire Avenue, NE, and the intersection of Jefferson Street, NE, and Wilshire Avenue, NE.

2. Owner agrees to require any purchaser of all or a portion of the Property to waive their rights to protest their participation in the District.

~~3. City agrees to allow Owner to review and approve the design for drainage at the intersections described in paragraph "1" above.~~

IN WITNESS WHEREOF, the undersigned have hereunto set their hands and seals this _____ day of _____, 1981.

CITY OF ALBUQUERQUE

By_____

Title_____

JACK M. CLIFFORD & CO.

By_____

Title_____

371-1645.34-80

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 17102
(505) 247-0294

RSM BMA
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RETURN

RECEIVED
FEB 28 1980
CITY ENGINEER

February 27, 1980

C17-D6

Mr. Jerry Storz
6920 Fairoaks Boulevard
Carmichael, California 95608

RE: SAN MATEO MOBILE HOME PARK

Dear Jerry:

Pursuant to our telephone conversation yesterday afternoon regarding our meeting with Mr. Richard Heller, City Engineer yesterday morning relating to storm drainage channel treatment for the referenced project, we are providing this letter report, and we will give Mr. Heller a copy to provide a basis for future negotiations which you may have with each other.

Mr. Heller agrees with us that construction of the half paving of the channel indicated on the Engineering drawings should not be done because the possibility exists that such treatment could be severely damaged by channel flows. However, he does believe that a channel lining without freeboard capable of accomodating the 10 year storm should be constructed in lieu of the half channel lining. This would require approximately 22 square feet of lining per lineal foot of channel compared to the 14.5 square feet plus the three foot deep cut-off wall indicated for the half paving.

We have some serious reservations regarding constructing facilities within this arroyo on a piecemeal basis due to its orientation at near right angles to the tributary channels delivering flows. We believe that considerable deliberation, design work, and construction may be required at the two points of delivery of tributary flows, before channel lining should be accomplished. The substantial rates of flow anticipated from these tributaries during the design storm require that such considerations be made before channel lining is comtemplated. We expressed these reservations to Mr. Heller during our discussion yesterday.

As we have discussed previously, it will be necessary to provide some bank protection opposite the alignment of the entrance of the two contributing tributaries, and a riprap blanket is suggested. While the permanence of such an installation is highly questionable, it would be remiss not to provide such minimal protection to reduce erosion possible by flows directed at near right angles to those channel walls adjacent to your development. Further, a channel bottom fully ten feet wide with a minimum depth of 4.5 feet below the proposed finished grades in the referenced development adjacent to the channel should be excavated to insure that the water surface in the 100 year storm is not above finished grade in the development

to prevent the possibility of dike or embankment failure due to erosion.

If any further information is required, please advise us.

Very truly yours,

J. E. PINO
JEP:er

cc: Richard Heller

1569-1645.22-79

RSH

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

August 9, 1979

RECEIVED
AUG 09 1979
CITY ENGINEER

Mr. R. S. Heller
City Engineer
Municipal Development Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SAN MATEO MOBILE HOME ESTATES

Dear Mr. Heller:

I have a number of questions related to approvals required for the referenced mobile home park.

1) I have been unable to have our site development plan signed-off due to drainage. I submitted our conceptual drainage concept to Mr. Congeliano in a letter dated June 14, 1979 and have yet to receive a response to this letter. I might add that this letter was sent at Mr. Congeliano's request in order to have the site development plan signed off.

2) In regards to our formal drainage report, submitted August 7, I should remind you that our client is aware of the 7 day ordinance deadline, and will be in Albuquerque, Monday, August 13th to pick up the approved drainage report.

3) After lengthly discussion with Bob Kielick, Walter Nickerson and Building Inspection, I find that approvals are required for

1) Construction of Wilshire Blvd. (public R.O.W.).
2) Hook-ups to City water in Wilshire and sewer in Jefferson St.
3) Recreational Building (building permit).

Other than the items mentioned above it becomes apparent to me that because this is a private development we are not required to have <u>any other approvals</u> other than when we are operating in the public R.O.W.

This strikes me as rather strange. As a consequence, I would ask that you please inform me if in fact other approvals are required.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er

1554-1645.25-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247 0295

August 7, 1979

Mr. R. S. Heller
City Engineer
Municipal Development Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: SAN MATEO MOBILE HOME ESTATES DRAINAGE REPORT

Dear Mr. Heller:

Transmitted herewith are two (2) copies of the referenced report for your review. Should you have any questions please call.

Sincerely,

Charles W. Campbell

CHARLES W. CAMPBELL

RECEIVED
AUG 07 1979
CITY ENGINEER

CWC:p
Encl.

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES McCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
KLESTON LAWS, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
3600 PROSPECT AVE. N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

July 20, 1979

Mr. J. E. Pino
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, NW
Albuquerque, N.M. 87102

Dear Mr. Pino:

Reference your July 16, 1979, letter Re: Drainage Management - San Mateo Mobile Home Park.

Messrs. Heller, Conegliaro and I do not disagree with your assessment, and we do not object with your designing the Mobile Home Park without the 50-foot easement.

We do expect you to provide protection for the North Domingo Baca Channel where it turns sharply to the south.

Sincerely,

Richard E. Leonard

Richard E. Leonard
Executive Engineer

ic
cc: Mr. Heller
Mr. Conegliano

1413-1645.22-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

July 16, 1979

RECEIVED
JUL 16 1979
CITY ENGINEER

Mr. Richard Leonard, Executive Engineer
Albuquerque Metropolitan Arroyo Flood
Control Authority
P.O. Box 25851
Albuquerque, New Mexico 87125

RE: DRAINAGE MANAGEMENT - SAN MATEO MOBILE HOME PARK

Dear Mr. Leonard:

Pursuant to our letter dated July 2, 1979 and our meeting with Messrs. Heller, Conegliano, and yourself on July 5th regarding the referenced subject, we have researched available mapping, replotted and refined presentation of our survey information, and researched New Mexico State Highway Department files regarding the 1955 storm affecting that area. We have tabulated and graphed our findings and interpretations relative to map research, and have attached copies. One (1) print of profiles and cross-sections ascertained by our field survey is attached. A commentary on our findings at the New Mexico State Highway Department is also presented.

The attached tabulation and graph indicates that the northbound lanes serve as a substantial barrier to overflow of the entire roadway by surface flows from the east. The first expectation would be for overland flows from the east to be directed northerly on the east side of the northbound lanes. If flows have sufficient velocity or approach in standing waves adequate to overflow the northbound lane, the configuration of the entire freeway-Frontage Road cross section (similiar to the "Cross Section of Sta. 24 + 92.8" indicated on the attached profile-cross section sheet) would tend to dissipate energy before the flow could overflow the entire section. The profile and cross section sheet shows that if the swale between the southbound lanes and the west Frontage Road has a water surface level with the east edge of pavement of the west Frontage Road, it would create about a minimum of 0.5 foot and an average of one foot of elevation head to move flows north and south in the swale prior to any overflow of the road. These factors develop a strong possibility that overflow of the freeway system would only occur at the lower elevations.

While it is not probable that any accurate prediction can be made relative to the exact location where flows from the east might overflow the freeway, previously presented evidence suggests that the most probable collection areas would be east of the northbound lanes. The tabulation and graph indicates that Richfield and Eagle Rock Avenues and the La Cueva Arroyo are three most likely points. It is believed that these are more vunerable points than any existing in the reach east of the Loop Industrial District Subdivision. In researching State Highway Department records, we did not find any evidence that they did any hydrologic or hydraulic studies relative to the flooding in this area in the 1955 flood mentioned in the

Corps of Engineers Flood Plain Information, Part 1, Albuquerque, New Mexico (Pg 5, August 20-21, 1955), however the 1959 design of the north-bound lanes, the east Frontage Road, and the associated drainage structures supports the probabilities indicated. The overall elevation of the north-bound lanes is well above the existing roadway. One 36" pipe culvert was added at the Richfield Avenue structure, two 36" pipe culverts were added at the Eagle Rock Avenue structure, and two 36" pipe culverts were added to the La Cueva Arroyo structure. None of the structures south to the Domingo Baca Arroyo were enlarged.

We believe that all of the foregoing information provides positive evidence that the greatest potential for the highway overflow is north of the Loop Industrial District Subdivision. We believe that the decision to eliminate the requirement for the 50 foot easement between Wilshire Boulevard and the North Domingo Baca Arroyo easement indicated by the November 1974 Drainage Report for that subdivision is well advised. There is a strong possibility that this easement was specified as a result of accepting the general statement in the A.M.A.F.C.A. Northeast Heights Drainage Management Plan that highway overflow is possible in this area without being permitted detailed investigation of the physical factors discussed hereinbefore.

In keeping with our discussion on July 5th, we are proceeding with design of the San Mateo Mobile Home Park without providing for the 50 foot easement. We trust that this letter and its attachments will furnish all evidence necessary to substantiate this action. If anything further would be helpful or is required, please advise us, and we will respond immediately.

Very truly yours,

J. E. PINO
JEP:er
Encl. 2

cc: Mr. Richard Heller, City Engineer
City Hall
400 Marquette Avenue N.W.
Albuquerque, New Mexico 87102

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
City Hall
400 Marquette Avenue N.W.
Albuquerque, New Mexico 87102

Mr. Jerry Evans, Vice President
Centurion Equities, Inc.
11182 Penrose Street
Sun Valley, California 91352

cc: Mr. Jim White
Gordon Herkenhoff and Associates, Inc.
P.O. Box 4295
Santa Fe, New Mexico 87501

1293-1645.12-79

Please find file

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

July 2, 1979

RECEIVED

JUL 02 1979

CITY ENGINEER

Mr. Richard Leonard, Executive Engineer
Albuquerque Metropolitan Arroyo Flood
Control Authority
P.O. Box 25851
Albuquerque, New Mexico 87125

RE: DRAINAGE MANAGEMENT - SAN MATEO MOBILE HOME PARK

Dear Mr. Leonard:

Pursuant to our telephone conversation on June 30th regarding the referenced subject, we request that the following information, suggestions, and proposals be considered.

As we have discussed on several occasions, a requirement has been made to conduct a possible 100 year frequency storm runoff overflow on Interstate 25 at Wilshire Blvd. N.E. from that street south to the North Domingo Baca Arroyo. While we cannot find any evidence that the estimated overflow was ever quantified in the course of developing the A.M.A.F.C.A. Northeast Heights Drainage Management Plan, the drainage study for the Loop Industrial Park (Nov. 1974) states that A.M.A.F.C.A. Topographic Sheet C18 indicated a 6 inch deep overflow, and this was translated to a quantity of 283 cubic feet per second. We have spoken to Mr. Kleston Laws, Project Engineer, and Mr. Leslie Botham, Project Hydrologist for Leonard Rice during the preparation of the A.M.A.F.C.A. Northeast Heights Drainage Management Plan regarding the actual location and quantification of such an overflow. They have no record or recollection of the details. An extended conversation with Mr. Botham did indicate that he thought that the overflow was conceived as a backwater situation caused by the inability of the existing highway structures to handle anticipated flows, and this situation was caused principally by upstream transfer of flows from the La Cueva Arroyo to the North Domingo Baca Watershed. Phase A of the aforementioned management plan does cover this situation, and temporary facilities are indicated in the final plan to provide an interim solution. As you suggested we did review this situation, and take no exception to the findings that there could easily be watershed transfer in periods of high flow. Our study did raise a question regarding the exact result to be anticipated in the event of backwater conditions at highway structures. Our field profiles and cross-sections coupled with the A.M.A.F.C.A. topographic maps indicate that the most probable location for highway overflow in such heavy flow conditions would be at Richfield Avenue where the overflow note occurs on the drainage management plan. The system of freeway and Frontage Road median ditches would not permit direct flows across the freeway in the Wilshire Avenue reach without lateral flows in both North and South directions. We could not, therefore, concur with the findings that there would be overflow at exactly the Wilshire Avenue location.

The Loop Industrial Park Drainage Plan indicated that at a point just West of the intersection with San Mateo Boulevard, the questionable flow on Wilshire Avenue be channelized and drained to the south 800 feet to the North Domingo Baca drainage channel West of the Coronado Mobile Home Park. Since this would require a substantial dip section in Wilshire Avenue to still and turn the high velocity street flow and since there is little existing gradient available for the south oriented interceptor channel, the drainage plan indicated a substantial cut with a corresponding fill to the west. This also necessitates lowering of the North Domingo Baca channel flow line at the point where it leaves the Coronado Mobile Home Park. These requirements do not conform to the approved design for the San Mateo Mobile Home Park. The only remaining outfall is at some point west of the proposed location where the dip section in the street can be effected, and outfall can be made to the main channel of the Domingo Baca Arroyo approximately 1600 feet to the south. This would have to be accomplished either across the proposed development or adjacent to the west boundary. Either solution would result in costs which would probably result in the development of this project becoming uneconomical.

Due to the complexities surrounding this situation, we suggest that a meeting between A.M.A.F.C.A. and the City be arranged to discuss and determine the origin of the problem. If it is found that the provision of temporary upstream facilities would alleviate the problem, then we propose that a meeting be arranged with the developer to discuss means of effecting construction of these facilities.

If we can be of assistance in any manner, please advise us, and we will respond immediately. Our client is in a most difficult time situation with certain contractual agreements, therefore all efforts to expedite conclusions regarding this matter will be appreciated.

Very truly yours,

J. E. PINO
JEP:er

cc: Richard Heller, City Engineer
City Hall
400 Marquette Avenue N.W.
Albuquerque, New Mexico 87102

Bruno Conegliano, Asst. City Engineer-Hydrology
City Hall
400 Marquette Avenue N.W.
Albuquerque, New Mexico 87102

cc: Jerry Evans
Centurion Equities, Inc.
11182 Penrose Street
Sun Valley, California 91352

1181-1645.22-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

RECEIVED
JUN 19 1979
CITY ENGINEER

June 14, 1979

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
P.O. Box 1293
Albuquerque, New Mexico

RE: SAN MATEO MOBILE HOME ESTATES - DRAINAGE

Dear Mr. Conegliano:

Pursuant to our meeting and on-site investigation on this date, we are herewith providing you with the following drainage concepts we are proposing to utilize in development of the referenced project:

1) Offsite:

a. Sheetflow crossing I-25: It was previously ascertained in a drainage report completed for Loop Industrial Park dated November, 1974, that sheetflow crosses I-25 in the vicinity of the intersection with Wilshire Blvd. during the 100 year design storm. The report also indicated a dip section would be placed in Wilshire Blvd. West of San Mateo Blvd. N.E. to divert these flows south through a 50' drainage easement to the North branch of the Domingo Baca Arroyo. We believe that due to existing gradients, this solution is not practical, and as a consequence we are proposing to divert these flows in the existing swale between Southbound I-25 and the West Frontage Road. We have investigated the feasibility of this alternate solution and are prepared to present our findings if required.

b. Sheetflow entering from Coronado Mobile Home Park: as was evidenced on-site, in the 100 year design storm there exists the possibility that our site will be exposed to sheetflow eminating from Coronado Mobile Home Park. We are proposing to collect these floodwaters in an existing 20' well collector line easement on the east of our site and direct them to the North branch of the Domingo Baca Arroyo.

2) Onsite: the site will be graded such that an area of the northerly portion of the site encompassing approximately 10 acres will be allowed to drain to Wilshire Blvd. The southerly portion will be directed on interior streets through the westerly extremity of the City Reservoir site to the Domingo Baca Arroyo. There shall be no on-site ponding pursuant to your letter dated December 11, 1978.

As you are aware we are anxious to pursue the Engineering for this project and would appreciate a response to our above proposal at your earliest possible convenience, so that we can proceed with a formal drainage report.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
cc: Mr. R. S. Heller
Mr. Richard E. Leonard

1062-1645.21-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

May 30, 1979

Mr. Bruno Conegliano
Assistant City Engineer - Hydrology
P.O. Box 1293
Albuquerque, New Mexico

RE: SAN MATEO MOBILE HOME ESTATES - DRAINAGE REPORT
STORM DRAINAGE PLAN: LOOP INDUSTRIAL DISTRICT
(APPROVED 2-28-77)
YOUR CORRESPONDENCE DATED 12-11-78

Dear Mr. Conegliano:

Pursuant to our conversation of May 30, 1979 I am hereby submitting the referenced documents for your review. As you will note, the drainage report for the Loop Industrial District indicates that floodwaters from our site will be directed to the west or, for the northerly portion of the site, to Wilshire Boulevard. Due to the diverse ownership in the general area, we feel it would be more appropriate to direct the floodwaters as follows:

1) The southerly portion of the site will drain directly to the Domingo Baca flood control facility as shown. We are anticipating that some floodwaters, perhaps equal to the historic flows, will be allowed to assume their historic course to the west of the property. This situation is due primarily to the extremely flat gradients the site exhibits on its westerly boundaries. I might add that we have discussed the utilization of a portion of the City reservoir site as a drainage easement with Water Resources and have received their approval of this matter.

2) The northerly portion of the site will be allowed to drain as originally shown on the drainage report to Wilshire Boulevard. Wilshire Boulevard will then drain to Jefferson St.

In addition, we will construct the improvements on the North Branch of the Domingo Baca arroyo in accordance with City policy. Should you have any questions regarding our proposal presented here, please call. As you know, we are quite anxious to proceed with the sign-off of our development plan to enable the developer to proceed with his construction drawings.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Encls.

COMMENT — Albuquerque/Bernalillo County Planning Department

- FFIC ENGINEER ☐
- ENGINEER ☐
- TER ENGINEER ☐
- UID WASTE ENGINEER ☐
- RONMENTAL HEALTH ☐
- KS & RECREATION ☐
- T. OF TRANSPORTATION ☐
- AFCA ☐

RECEIVED MAY 02 1979 CITY ENGINEERS

y Requested 5-15-79

duled for Public Hearing 5-17-79

u have suggestions or information on case, please so indicate on this form return it to the Planning Department.

cooperation is appreciated. 5-1-79

TP-	V-	CZ-	SC-
S-	AX-	CSU-	CRV-
FSL-	Z- 19	SC5-	

1. Require a drainage study for the revised plan prior to approval of development plan ~~and~~ grading plan and building plans.
2. Included in the study shall be the treatment of the adjacent arroyo.
3. A drainage easement is required across this property for the North Branch of the North Domingo De Baca Arroyo which crosses the Coronado

For further information contact [signature] in the Planning Dept.

858-1645.22-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

RECEIVED
MAY 02 1979
CITY ENGINEERS

April 30, 1979

Mr. Richard E. Leonard
Executive Engineer
A.M.A.F.C.A.
P.O. Box 25851
Albuquerque, New Mexico 87125

C17-D6

RE: DOMINGO BACA ARROYO/JEFFERSON ST.
SAN MATEO MOBILE HOME ESTATES

Dear Mr. Leonard:

At the April 20th Environmental Planning Commission hearing the referenced mobile home park was given a 30 day deferral. One of the reasons for deferral was that the developer should be required to provide emergency access to Los Angeles Drive via Jefferson St. (see enclosed map).

As you are aware, Jefferson St. in this reach crosses the Domingo Baca flood control facility. Should we be required to construct a bridge at this location it would place the construction of the park in serious jeopardy from an economic standpoint. Due to the fact that this access point to the park will carry absolutely no through traffic and is to be used for emergency vehicles only, we are proposing to provide a temporary dip section at this location. In a meeting on April 26th I met with Mr. Conegliano, Mr. Killick and Mr. Fosnaugh and they collectively agreed that a temporary dip section in this location for emergency purposes would be acceptable.

Mr. Conegliano suggested that we contact AMAFCA as the flood control facility is under your ownership. As a consequence, we are hereby requesting of AMAFCA approval to place a temporary dip section on Jefferson St. as it crosses the Domingo Baca Arroyo. We would appreciate a written response on your part concerning this matter at your earliest convenience.

Should you have any questions regarding our proposal please feel free to call. Thank you.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Encl.
cc: Mr. Bruno Conegliano
Assistant City Engineer - Hydrology
P.O. Box 1293
Albuquerque, New Mexico 87103

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

MAYOR
David Rusk

April 30, 1979

Mr. Charles W. Campbell
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, N.W.
Albuquerque, NM 87102

Ref: San Mateo Mobile Home Estates-Development Plan

Dear Mr. Campbell:

This letter follows our conversation of Friday, April 27, 1979, regarding the captioned project.

Under the conditions outlined in your letter of April 20, 1979, I have no objections to the construction of a temporary dip section across Domingo Baca Arroyo. Of course, you are aware that you need the concurrence of AMAFCA on this proposal. You will also need to request that the City includes the constructions of a permanent crossing facility on Jefferson in the next capital improving program.

Mr. Kielich, of our Design Section, will have to review the proposal before it is accepted.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/ms

cc: Bob Kielich
Richard Heller, City Engineer
Rich Leonard-AMAFCA
Drainage File

800-1645.22-79

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102

(505) 247-0295

April 20, 1979

RECEIVED
APR 27 1979
CITY ENGINEERS

Mr. Bruno Conegliano
Assistant City Engineer-Hydrology
P.O. Box 1293
Albuquerque, New Mexico

RE: SAN MATEO MOBILE HOME ESTATES-DEVELOPMENT PLAN

Dear Mr. Conegliano:

On April 19th the EPC held a public hearing on the referenced plan, the end result of which was a 30 day deferral. One of the stipulations of the deferral was that the developer investigate providing paved access to Los Angeles on Jefferson Street (refer to enclosed map).

As you are aware Bruno, Jefferson St. crosses the Domingo Baca at this location. Quite obviously if the developer were required to build a bridge it would place the project in serious jeopardy from an economic standpoint, - I must add at this point that this access will be used for emergency access only and will not carry any through traffic. The southern entry to the park will be provided with a crash gate for emergency purposes.

At any rate, I am hereby requesting that we be allowed to provide a temporary dip section at Jefferson and the Domingo Baca based on the following:

1) The roadway is to be used for emergency access only and

2) Is temporary to the extent that the bridge crossing will be constructed at such a time that CIP monies are available.

Gordon Herkenhoff and Associates has never been a proponent of dip sections as we feel on collector facilities they pose serious liability problems for the City of Albuquerque. Nevertheless, in this particular case we feel that since the roadway will not be used as a through street it will not pose the aforementioned problems.

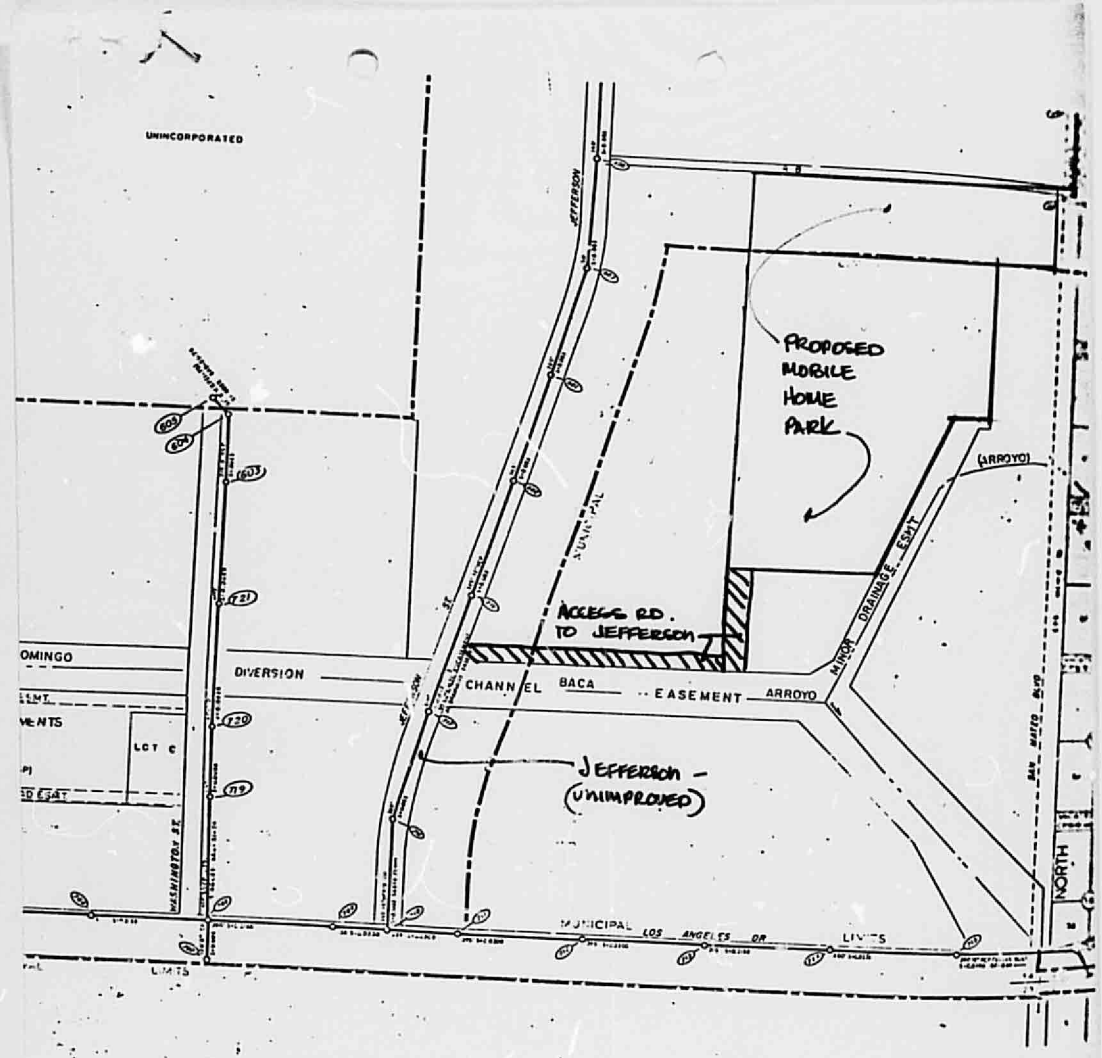
I would appreciate a response to our request as soon as possible to enable the Planning Department to process our development plan.

Thank you.

Sincerely,

Charles W. Campbell

Charles W. Campbell
CWC:er
Encl.
cc: Mr. W. W. Atkinson
Mr. Jerry Evans



LEGEND	
SANITARY SEWER LINE	(121) MANHOLE NUMBER. Proper identification must include map number. (Example: G23-121)
MANHOLE	200 100 0 200 400 SCALE
LAMPHOLE or CLEANOUT	
D.E. DEAD END or STUB	

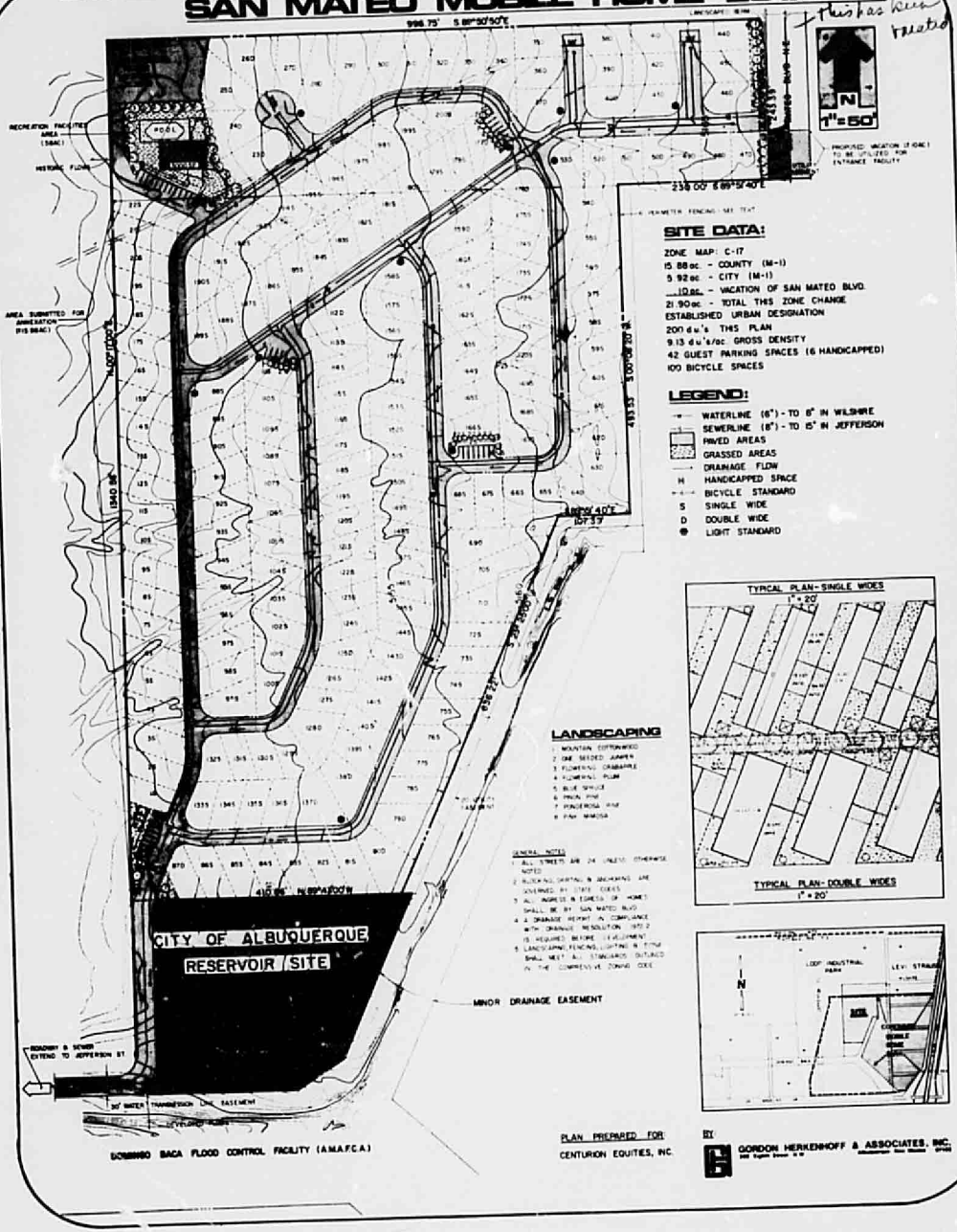
NEXT SHEET No. D-17N

CITY OF
PUBLIC
ENG
SANITARY SE

9-10-75	
4-75	
10-76	
1-77	

DEVELOPMENT PLAN: SAN MATEO MOBILE HOME ESTATES

This has been treated



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

December 11, 1978

Mr. Charles W. Campbell
Gordon Herkenhoff & Assoc., Inc.
302 Eighth St. N.W.
Albuquerque, New Mexico 87102

RE: DEVELOPMENT PLAN FOR MOBILE HOME PARK IN THE LOOP INDUSTRIAL DISTRICT SUBDIVISION

Dear Mr. Campbell:

In reply to your letter dated 11/22/78 and pursuant to our subsequent telephone conversation, the developer of this tract will not be required to retain on site the runoff resulting from the 100 yrs. frequency storm. He will be responsible for the cost of the construction of the improvement on the North branch of the Domingo Baca arroyo in accordance with City Policy. The drainage report will have to include detailed assessment of the improvements necessary to prevent damages from the flood flow in the Arroyo and of the proper mode of collection of the offsite flows generated East of this parcel and their conveyance to a point of discharge.

Very Truly Yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/tl

cc: Rick Leonard, AMAFCA
Richard Heller, City Engineer
Dr. File

The Atchison, Topeka and Santa Fe Railway Company

A Santa Fe Industries Company

214 First St. S.W., Albuquerque, New Mexico 87102, Telephone 505/247-0741

March 3, 1977

35-03

Mr. Wain Cooper
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, NW
Albuquerque, New Mexico 87102

Dear Mr. Cooper:

This has reference to your letter of October 22 concerning the preliminary design of street grades in the Loop Industrial District and, more specifically, to Mr. Clifford's request for a 50 ft. wide drainage easement on SFLI property located approximately 400 ft. south of the south line of Richfield Street running westerly to the Loop Industrial property.

I am pleased to inform you that Santa Fe Land Improvement Company feels the plans you furnished are satisfactory and, furthermore, that they will grant the necessary easement upon presentation of a suitable document and written assurance from Clifford & Company, et al, that they will provide SFLI with the two conditions referred to on Page 2 of your letter of October 22.

Look forward to hearing from you.

Yours truly,

S. R. Norling, Manager
Industrial Development

cc - Mr. Jack M. Clifford
Clifford & Associates
Two San Pedro Park, Suite 201
2201 San Pedro Drive, N.E.
Albuquerque, New Mexico 87110

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

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

February 28, 1977

Mr. Wain Cooper
Gordon Herkenhoff & Assoc.
302 8 N.W.
Albuquerque, N.M. 87101

SUBJECT: DRAINAGE REPORT FOR LOOP INDUSTRIAL DISTRICT

Dear Sir:

The report submitted by your letter of February 3, 1977 has been reviewed. The concepts shown on the plan are approved. However, for that portion of the area to the north of the municipal limits and your client's ownership, it will be necessary to have streets or easements dedicated before actual development may be started.

The use of the power line easement for drinage will be subject to approval of the Public Service Company and the execution of an instrument satisfactory to the property owner if other than Jack M. Clifford and Co.

An additional copy of the Storm Drainage Plan is requested.

Sincerely,

V. M. Kimmick
City Engineer

VMK/fs Bruno Conegliano
cc: Jim Smith
Bob Kielich
Dwayne Sheppard

Public Works Department

Director — Erwin F. Hensch, P. E. 766-7467
Engineering 766-7441 — V. M. Kimmick, P. E.
Street Maint. 766-7755 — G. E. Paul, P. E.

Ass't. Director — Harold R. Orr, Jr. P. E.
Liquid Waste 766-7535 — R. P. Lowe, P. E.
Water 766-7437 — W. H. Otto, P. E.

AN EQUAL OPPORTUNITY EMPLOYER

Design

Sheet 1 of 2

Estimate Date:
Requestor:
Gordon Herkenhoff & Associates
302 Eighth St. N.W.
Albuquerque, NM 87102
phone: 247-0294

Job No.: 1384
Work Order Date:
Map No. C-17

Date of Request: 1-27-82

Name of Subdivision or Description of Property to be Served:

SAN MATEO MOBILE HOME SUBDIVISION - CHANNEL LINING

Specific Location:

Concrete lined Channel from W R/W of San Mateo W. 250', then S. approx. 504', then W. approx. 108', then S.W. to S. Property Line approx. 636'

SD

Developer to Pay: 6% engineering

Item No.	Short Description	Contract Unit Price	Est. Quantity	Est. Amount	As-Built Quantity	As-Built Amount
P-42	4" PCC SDWK		636 SF			
K-49	STR. CONC.		46 CY			
K-50	REIN. STR. CONC.		163 CY			
K-51	4" REIN.CHAN LIN		28,221 SF			
K-67	GR RPRP		65 CY			
K-62	FLTR CLTH		844 SF			
K-72	STR ST		40,243 LB			

Subtotal
Contingencies 10%
Engineering 6%
Testing Fee 2%

Total Cost

Notes:

1. For staking, construction, and inspection use Drawing No. 1384.
2. This work shall be done in accordance with the specifications of Block-to Block Contract No. 30.
3. If payment of the full amount (B-2-B) or engineering fee (AHBA) is not made before expiration date of Contract No. 30, then this document must be revised prior to entering into construction contract. Backfill compaction shall be according to specified street use.

SUBMITTED BY:

GK Kulick 12 Feb 82
Design Engineer /Date

No Work Order Issued as of 1/22/87

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

SMP

March 20, 1985

DEA. FILE
C-17/D6

Mr. Steven C. Corle
Leedshill-Herkenhoff , Inc.
500 Copper Avenue NW
Albuquerque, New Mexico 87102

RE: CITY PROJECT NUMBER 1418 (84-39)

Gentlemen:

This is to certify that the City of Albuquerque hereby accepts Project Number 1418 (84-39) as being completed according to construction specifications and accepts same. The project is more particularly described as follows:

Storm Drainage Improvements from Domingo Baca Arroyo north along west property line of Mel Smith Reservoir Site then east along north property line to Street "A" in Loop Industrial District Unit III. W.O. 1418.

Sincerely,

C. D. Sheppard, P.E.

C. Dwayne Sheppard, P.E.
City Engineer

CDS/fs

cc: New Concepts, Inc.
Reeves Construction
Bill McNamara, Assistant City Engineer/Field
Jim Fink, Planning & Programming Engineer, MDD/ENG
Josie Gutierrez, New Meter Sales Clerk, Water Resources
Claudia Gallegos, Standby Charges Clerk, Water Resources
Inez Barela, CIP Office
Denise Wilcox, Administrative Assistant, MDD/ENG
Greg Olson, Assistant City Engineer/Design
File

ENGINEER'S STUDY ON STORM DRAINAGE
FOR
SAN MATEO MOBILE HOME ESTATES

RECEIVED
AUG 07 1979
CITY ENGINEER

Prepared for: Centurion Equities, Inc.

By: Gordon Herkenhoff and Associates

Date: August 5, 1979

I hereby certify that this Drainage Report for San Mateo Mobile Home Estates was prepared under by direction, conforms to Drainage Resolution 1972-2 and the City of Albuquerque Resolution No. 59-1976, and is true and correct to the best of my knowledge and belief.

G. E. Herkenhoff 8-5-79

GORDON HERKENHOFF date

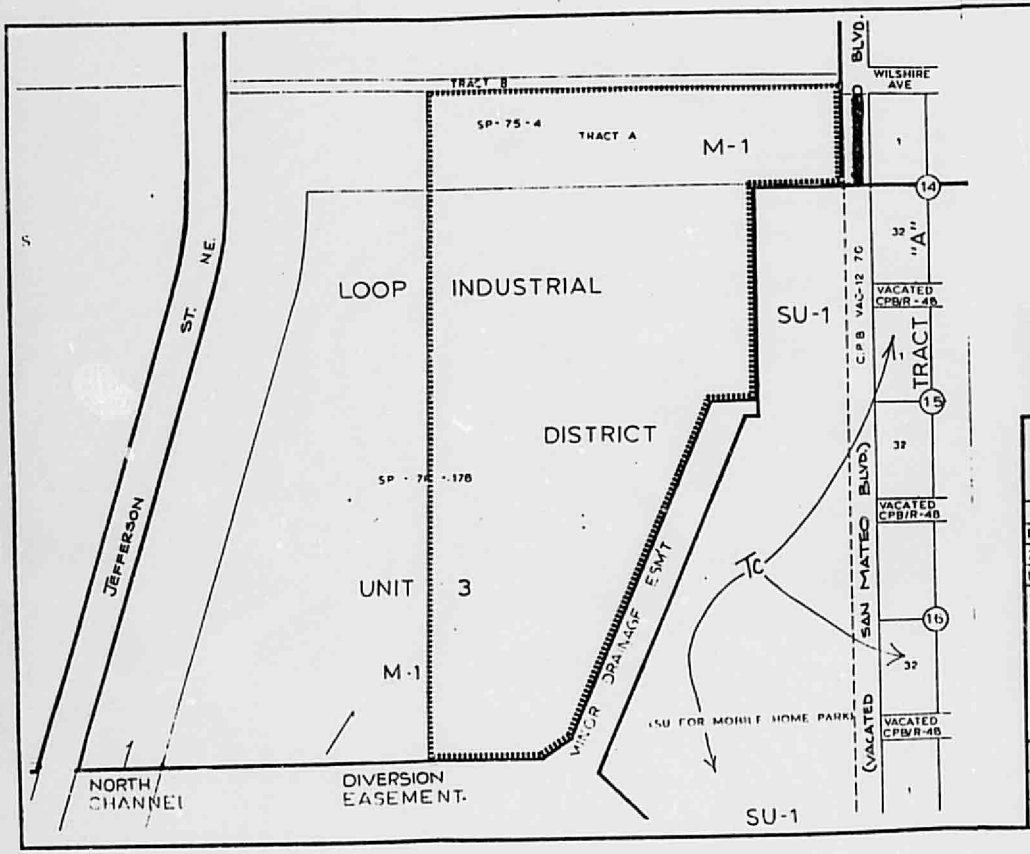
APPROVED:

8/15/79

For the City of Albuquerque

Contingent on providing protection @ the intersection of flows of the well collector line and the North Domingo Baca - RSA

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 243 NEW MEXICO G. E. HERKENHOFF



STUDY AREA

Approx. 21.5 Acres

Albuquerque-Bernalillo County PLANNING DEPARTMENT

	By	Date	Checked	Scale: 1"=300'
Plat:	MT			Air Photo: C-17
Zoning:			"	Source: C-17
Land Use:			"	MRGCD: N/A

Description:

Tract A, Unit 1, Loop Industrial District Sub'd. (SP-75-4) & a portion of Unit III, Loop Industrial District Sub'd. (SP-76-178)

Zone Change: M-1 to SU-1 (Mobile Home Park)

Applicant or Agent: Centurion Equities Inc.

EPC Hearing: 4/19/79

CC BCC Hearing:

File Number: Z-79-31

ENGINEER'S STUDY ON STORM DRAINAGE

FOR

SAN MATEO MOBILE HOME ESTATES

PURPOSE AND SCOPE

The purpose of this study is to present the results of a drainage analysis performed and to make general recommendations for conveying storm water runoff.

STUDY AREA

The study area is bounded on the north by the southerly right-of-way of Wilshire Boulevard, N.E., on the west by the vacated westerly portion of San Mateo Boulevard, N.E., the Coronado Mobile Home Park and the North Branch of the Domingo Baca Arroyo; on the south by the Mel Smith City Reservoir Site, and on the west by a line running N 00° 17'00" E from the N.E. corner of the Mel Smith Reservoir site a distance of 1,076.93' to a point, thence N 00° 11'00" E a distance of 233.63' to a point on the southerly right-of-way of Wilshire Boulevard N.E. containing 21.25 acres more or less.

GENERAL

Centurion Equities, Inc. is preparing to develop this parcel as a mobile home park, the zoning and site plan for which were approved by the Environmental Planning Commission on May 17, 1979. This report consists of determining the peak runoff that can be expected from a 100 year design storm, sizing the required drainage facilities and establishing recommendations for the development of the study area. Two letters of note related to this report are included in the Appendix. The first of which is from Mr. Bruno Conegliano dated December 11, 1979 regarding drainage requirements of the park. The second is a letter from Mr. Richard Leonard dated July 20, 1979 regarding drainage upstream.

HYDROLOGY

The rational formula, Q = CIA, is used in determining the on site runoff with Q = peak flow, A = area in acres, I = rainfall intensity (in/hr) and C = runoff factor. The 100 year storm curve from the intensity duration curves from the Master Plan of Drainage for Albuquerque and Environs, by Gordon Herkenhoff and Associates, Inc., 1963 is used in determining rainfall intensity. The runoff coefficient for the study areas varies from 0.90 to 0.30; being the weighted average of the runoff coefficient for roof areas (0.95), paved parking areas and streets (0.90), and unimproved or landscaped areas (0.30). The initial time of concentration is set at 10 minutes, with longer times calculated from the time required for the runoff water to travel a particular distance.

The drainage areas as they would appear after development are delineated on a 1"=50' scale map included with this report. The topography was taken from a photogrammetric survey done by Thomas R. Mann and Associates in May, 1979.

SITE DEVELOPMENT

A. Off site - Flows: Off site flows are generated by (1) shallow sheet flow eminating from Coronado Mobile Home Park and (2) vacant land to the east of the northerly portion of the subject site.

1. The contributing drainage area for the flows from Coronado is 12.76 acres (refer to Exhibit D in Appendix). These flows, as they enter the subject site, are shallow sheet flows in character. Their velocity, due to the moderating influences of being routed through streets, mobile home pads, retaining walls and across curbs and gutters, are as a consequence very low. In order to protect the subject property from these shallow sheet flows a diversion facility will be constructed within the limits of a 20' well collector line easement which lies between the subject property and Coronado Mobile Home Park. The swale will collect these sheet flows and direct them to the North Branch of the Domingo Baca Arroyo. The use of this well

collector line easement has been discussed with the Water Resources Department of the City of Albuquerque and a letter of agreement from them is included in the Appendix of this report.

2. The contributing drainage area for the vacant lands to the east is 2.79 acres. In addition, outfall is contributed by a 12" C.M.P. eminating from Coronado Mobile Home Park. These flows also exhibit shallow sheet flow characteristics at low velocities. These flows will be directed to the swale described in 1 above (Q = 6 cfs).

Pursuant to Mr. Conegliano's letter, treatment will be provided to the North Branch of the Domingo Baca Arroyo as protection to the subject site. Refer to the Appendix for proposed treatment.

B. On site Development: The subject property will be developed with grades shown on the enclosed drainage plan. As per Mr. Conegliano's letter, no on site ponding is required. Historically this site drained as sheet flow to the west, approximately half of which was directed to the Domingo Baca Arroyo at the Jefferson Street intersection. The other half of which continued to the north to Richfield Ave. These historic flows to the Domingo Baca/Jefferson St. intersection have exhibited the following characteristics:

Rate:

Area = 21.25 acres

$*T_c$ = 17 min, I = 189/25+17 = 4.5

(run: 2450', rise: 34')

C = 0.40

Q = (21.25)(4.5)(0.40) = 38 cfs

$*T_c$ calculated to Jefferson/Domingo Baca intersection

Volume:

Area = 925,650 S.F.

C = 0.40

Rainfall = 2.4"

: (925,650)(0.40)(2.4"/12" = 74,052 C.F.

In order to prevent sheet flow from leaving the subject property and creating a problem similar to Coronado Mobile Home Park, the site will be graded to direct floodwater both north and south. After a thorough engineering analysis it became eminently obvious that the entire site could not be physically graded to direct all flows south to the Domingo Baca. As a consequence, the northerly portion of the site (6.8 acres) has been graded to Wilshire Boulevard, where the flows will then proceed west to Jefferson and north on Jefferson to Richfield Ave. The characteristics of these drainage areas is as follows:

1. Drainage Area 1 (Area draining to Wilshire Boulevard):

Rate: A = 6.8 acres

*T_c = 17 min, I = 189/25+17 = 4.5

**C = 0.70

Q = (6.8)(4.5)(0.70) = 21.42 cfs

*T_c is calculated to Jefferson/Richfield intersection

** Refer to Appendix for 'C' calculations

Volume: A = 296,208 S.F.

C = 0.70

Rainfall = 2.4"

: (296,208)(0.70)(2.4"/12") = 41,469 C.F.

2. Drainage Area 2 (Area draining to Domingo Baca):

Rate: A = 12.15 acres

*T_c = 10 min, I = 189/25+10 = 5.4

C = 0.70

Q = (12.15)(5.4)(0.70) = 46 cfs

Volume: A = 529,254 S.F.

C = 0.70

Rainfall = 2.4"

: (529,254)(0.70)(2.4"/12") = 74,095 C.F.

*T_c calculated to Domingo Baca Arroyo

3. Drainage Area 3 (Area draining to west as sheet flow): The far western tier of lots will be graded such that they drain as sheet flow with low velocities to the west. The area is 2.3 acres in size and is 110' in width.

Volume: A = 100,188 S.F.

C = 0.70

Rainfall = 2.4"

: (100,188)(0.70)(2.4")/12" = 14026 C.F.

Drainage Area 2 will drain through the Mel Smith Reservoir Site. Refer to Appendix for correspondence from Water Resources indicating their approval of such.

RECOMMENDATION

It is recommended that the City of Albuquerque approve this report in that it provides for adequate site protection together with accommodating the requirements set forth in drainage regulations.

APPENDIX INDEX

Appendix A - Presentation Drainage Plan and Grading Plan

Appendix B - Nomograph to Determine Time of Concentration (California Culberts Practice)

Appendix C - Intensity - Duration Frequency Curves

Appendix D - Orthophoto - Contour Map of Off Site Flows

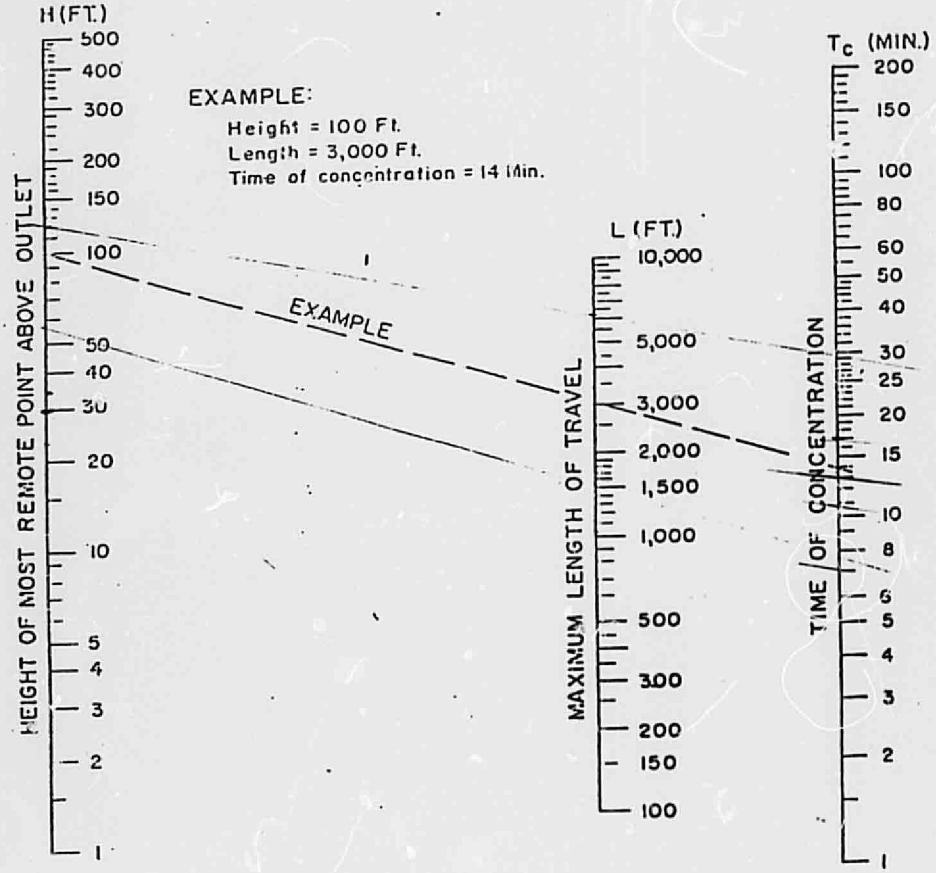
Appendix E - Iso Pluvial Map of the 100 year - 6 hour precipitation.

Appendix F - Correspondence

Appendix G - Hydrologic and Hydraulic Computations

APPENDIX A

APPENDIX B

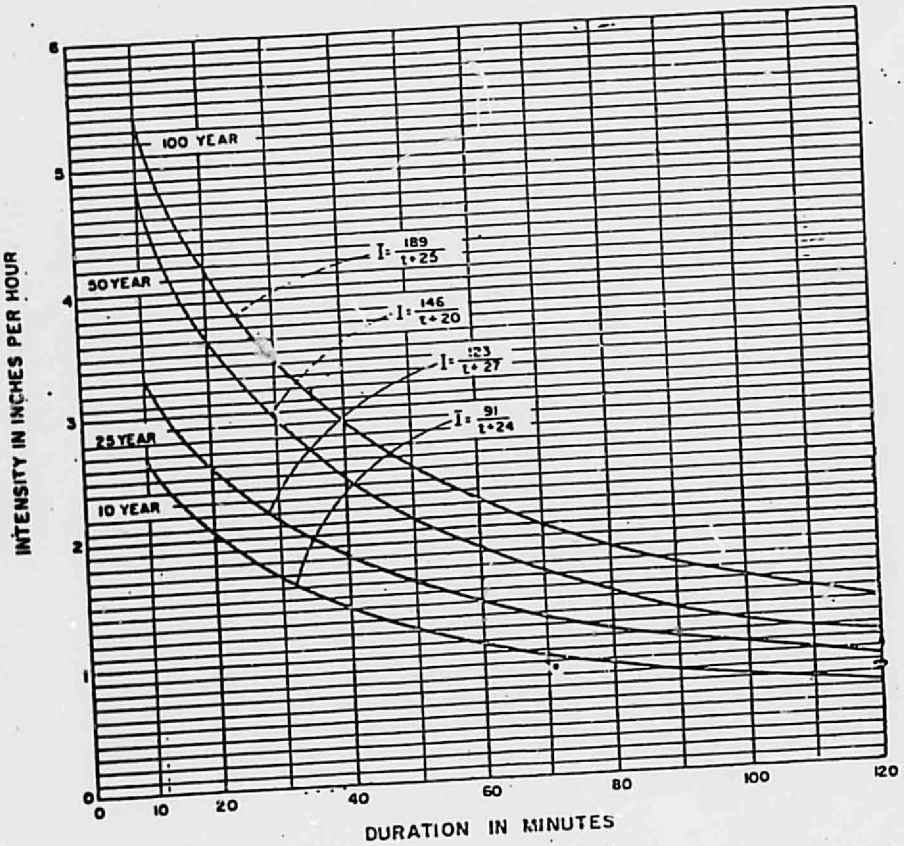


Based on study by P. Z. Kirpich,
Civil Engineering, Vol. 10, No 6, June 1940, p 332

FIG. 1 TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

Reprinted from "Design of Roadside Drainage Channels - Hydraulic Engineering Circular No 6", April 1962, U S Dept

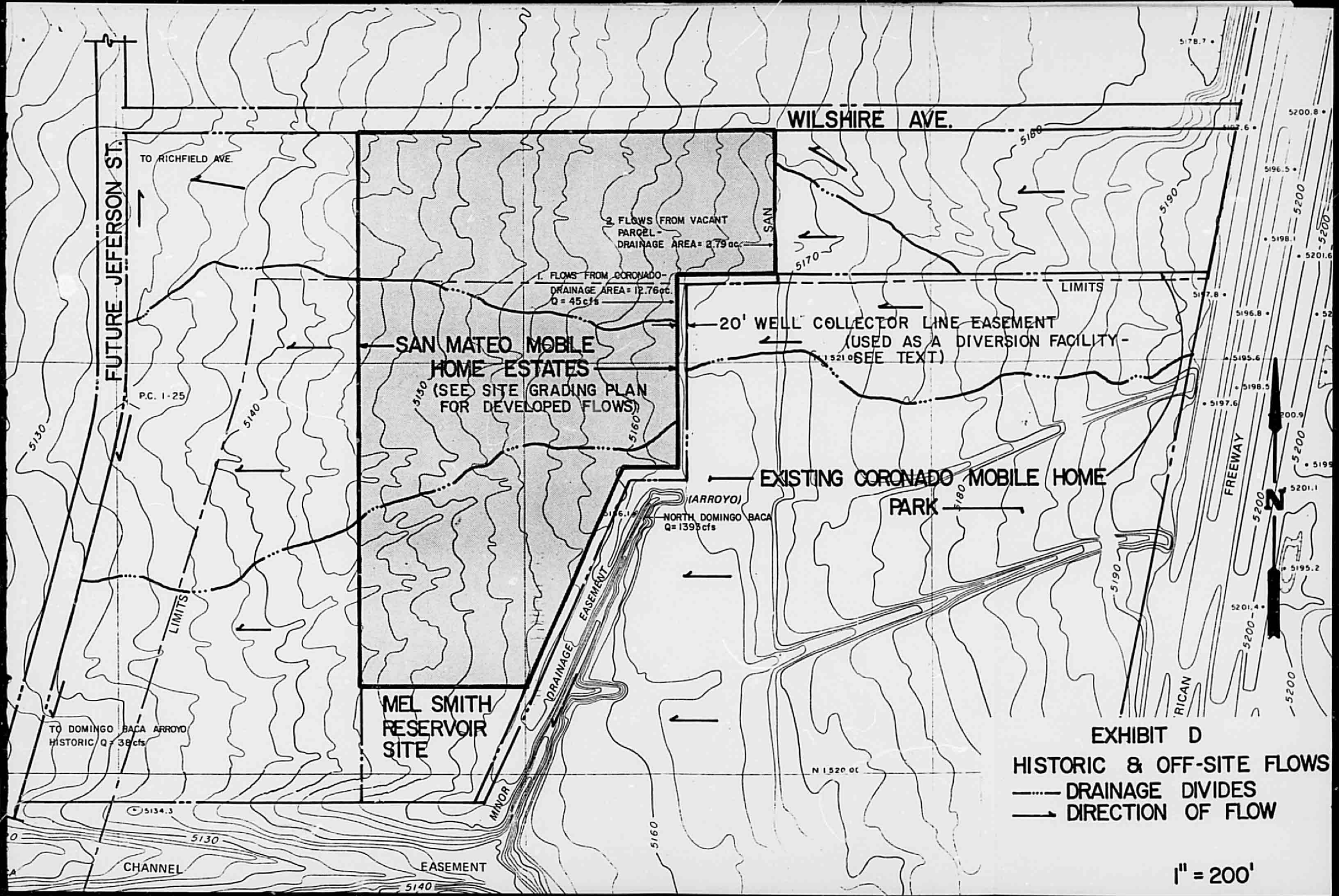
APPENDIX C



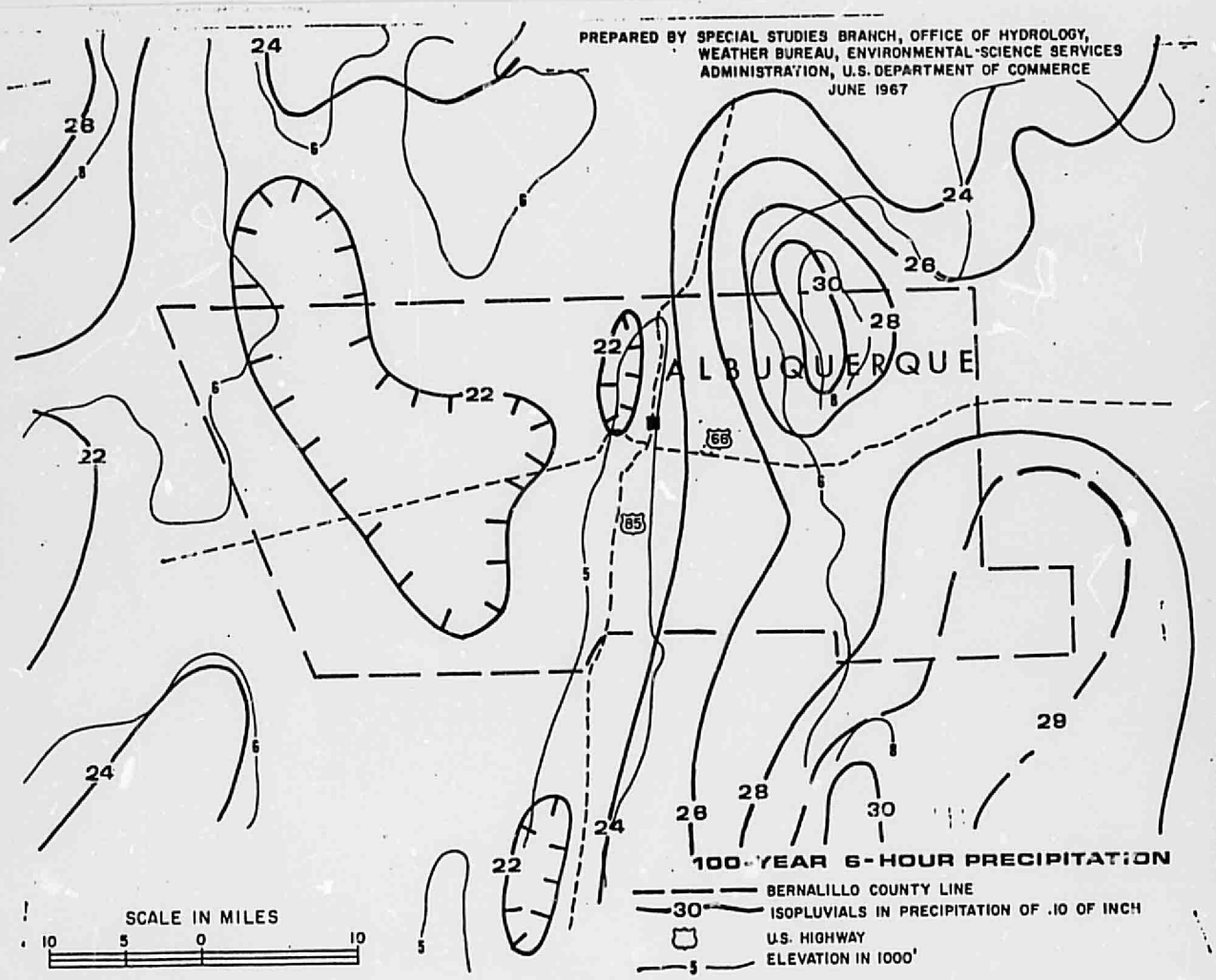
INTENSITY DURATION FREQUENCY CURVES

ALBUQUERQUE, N.M.

APPENDIX D


WILSHIRE AVE.
FUTURE JEFERSON ST.
TO RICHFIELD AVE.
2. FLOWS FROM VACANT PARCEL - DRAINAGE AREA = 2.79 ac.
1. FLOWS FROM CORONADO - DRAINAGE AREA = 12.76 ac. Q = 45 cfs
SAN MATEO MOBILE HOME ESTATES
(SEE SITE GRADING PLAN FOR DEVELOPED FLOWS)
20' WELL COLLECTOR LINE EASEMENT (USED AS A DIVERSION FACILITY - SEE TEXT)
EXISTING CORONADO MOBILE HOME PARK
(ARROYO)
NORTH DOMINGO BACA Q = 1393 cfs
MEL SMITH RESERVOIR SITE
TO DOMINGO BACA ARROYO HISTORIC Q = 38 cfs
P.C. I-25
LIMITS
MINOR DRAINAGE EASEMENT
CHANNEL EASEMENT
FREEWAY
N
EXHIBIT D
HISTORIC & OFF-SITE FLOWS
DRAINAGE DIVIDES
DIRECTION OF FLOW
1" = 200'

APPENDIX E


PREPARED BY SPECIAL STUDIES BRANCH, OFFICE OF HYDROLOGY,
WEATHER BUREAU, ENVIRONMENTAL SCIENCE SERVICES
ADMINISTRATION, U.S. DEPARTMENT OF COMMERCE
JUNE 1967
ALBUQUERQUE
66
85
100-YEAR 6-HOUR PRECIPITATION
BERNALILLO COUNTY LINE
30 ISOPLUVIALS IN PRECIPITATION OF .10 OF INCH
U.S. HIGHWAY
5 ELEVATION IN 1000'
SCALE IN MILES
10 5 0 10

APPENDIX E

APPENDIX F

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

December 11, 1978

Mr. Charles W. Campbell
Gordon Herkenhoff & Assoc., Inc.
302 Eighth St. N.W.
Albuquerque, New Mexico 87102

RE: DEVELOPMENT PLAN FOR MOBILE HOME PARK IN THE LOOP INDUSTRIAL DISTRICT SUBDIVISION

Dear Mr. Campbell:

In reply to your letter dated 11/22/78 and pursuant to our subsequent telephone conversation, the developer of this tract will not be required to retain on site the runoff resulting from the 100 yrs. frequency storm. He will be responsible for the cost of the construction of the improvement on the North branch of the Domingo Baca arroyo in accordance with City Policy. The drainage report will have to include detailed assessment of the improvements necessary to prevent damages from the flood flow in the Arroyo and of the proper mode of collection of the offsite flows generated East of this parcel and their conveyance to a point of discharge.

Very Truly Yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/tl

cc: Rick Leonard, AMAFCA
Richard Heller, City Engineer
Dr. File

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES McCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
ELESTON LAWS, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
3600 PROSPECT AVE. N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

July 20, 1979

Mr. J. E. Pino
Gordon Herkenhoff & Associates, Inc.
302 Eighth Street, NW
Albuquerque, N.M. 87102

Dear Mr. Pino:

Reference your July 16, 1979, letter Re: Drainage Management - San Mateo Mobile Home Park.

Messrs. Heller, Conegliano and I do not disagree with your assessment, and we do not object with your designing the Mobile Home Park without the 50-foot easement.

We do expect you to provide protection for the North Domingo Baca Channel where it turns sharply to the south.

Sincerely,

Richard E. Leonard

Richard E. Leonard
Executive Engineer

ic
cc: Mr. Heller
Mr. Conegliano

HYDROLOGY C17/D6 2 of 2 8 PLANS

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

MAYOR
David Rush

August 2, 1979

Charles Campbell
Gordon Herkenhoff & Associates, Inc.
302 Eighth NW
Albuquerque, New Mexico 87102

In Re: SAN MATEO MOBILE HOME ESTATES DRAINAGE INVOLVING
MEL SMITH RESERVOIR SITE AND RELATED EASEMENTS

Dear Mr. Campbell:

In regard to your requests concerning utilization of Water Resources Department property and easements in resolving the drainage problems with the San Mateo Mobile Home Estates, please be advised that we will continue to work with you and your client to find acceptable solutions for your drainage plan which are acceptable to both parties.

Sincerely,

Paul D. Noland, Director
Water Resources Department

Vito C. Yardoza for

By: Walter H. Nickerson, Jr., P.E.
Chief Engineer
Water Resources Department

WHN:ler

cc: P. Noland
M. E. Mendoza
f/ Project
f/ Reader's

APPENDIX G

DESIGN NOTES

NORTH DOMINGA BACA: The North Domingo Baca Arroyo is shown in the Northeast Heights Drainage Management Plan as having a Q of 1404 cfs with lined channel treatment. Pursuant to Mr. Conegliano's letter we are providing channel treatment to our half of the Arroyo. The calculations related to this are as follows:

$n = 0.0191$ (weighted)
$a = 72$ S.F.
$wp = 27.84$
$r = 72 \div 27.84 = 2.59$
$s = 0.022$ (existing)

$$Q = \left(\frac{1.486}{0.0191}\right) (0.022)^{\frac{1}{2}} \quad (2.59)^{\frac{2}{3}} \quad (72) = 1567 \text{ cfs}$$

This includes 1' - 0" of freeboard. Once the remaining half of the channel is lined it will exhibit the following:

$n = 0.022$
$a = 84$ S.F.
$wp = 25.65$
$r = 84 \div 25.65 = 3.27$
$s = 0.022$

$$Q = \left(\frac{1.486}{0.022}\right) (0.022)^{\frac{1}{2}} \ (3.27) \ 2/3 \ (84) = 1854 \text{ cfs}$$

This includes 1.5' of freeboard.

In addition, we will provide a retaining wall at the location shown on the drainage plan at the outlets to the North Domingo Baca for added protection to San Mateo Mobile Home Estates.

WEIGHTED COEFFICIENT CALCULATIONS FOR CENTURION PARK (TYPICAL)

MOBILE HOME LOTS TYPICAL

Total Lot Sixe 34' x 123'	=	4,182 S.F.	
14 x 80 Mobile Home (Maximum)		1,120 S.F.	(0.95c)
Drive 40 x 12		480 S.F.	(0.90c)
Patio 8 x 30		240 S.F.	(0.90c)
Landscaped Area		1,900 S.F.	(0.30c)
Streets 13 x 34		442 S.F.	(0.90c)

Weighted Coefficient: 0.64

Use 0.70 As Safety Factor

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Centurion			SHEET NUMBER 1 OF 5
	COMPUTED BY Cooper	CHECKED BY	JOB NUMBER	DATE 3-1-79

Channel Along East R/W (20' easement)

Area = 13 acres

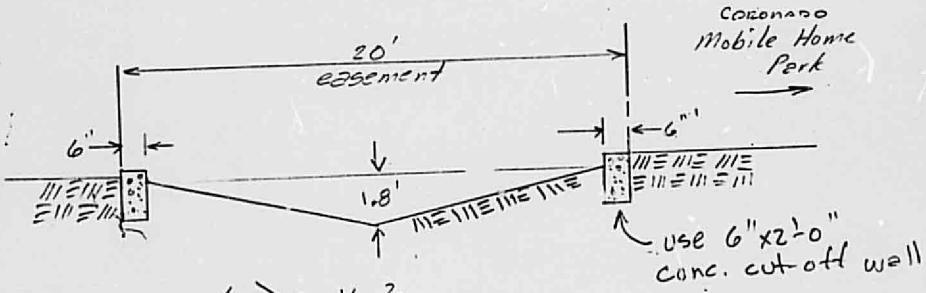
$C = 0.7$

use $T_c = 10$ min, $I = 189/10+25 = 5.4$

$Q = (.7)(5.4)(13) = 49$ cfs

slope along channel = 0.5%

use earth lined channel, $n = 0.03$



$A = 9(1.8) = 16.2$

$P = 9.18$

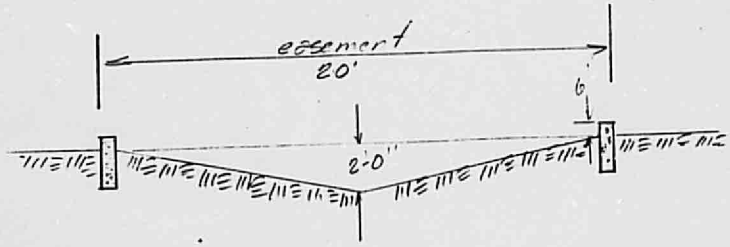
$R = 16.2/9.18 = .88$

$Q = \frac{1.486}{.03}(.005)^{1/2}(.88)^{2/3}\,16.2 = 51$ cfs

$V = 51/16.2 = 3.1$ fps

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Centurion			SHEET NUMBER 2 OF 5
	COMPUTED BY Cooper	CHECKED BY	JOB NUMBER	DATE

Channel to be Constructed Within MEL SMITH RESERVOIR SITE



use channel slope = 0.5%, earth lined, n = .03

$A = 2 \times 9 = 18$

$P = 18.44$

$R = .98$

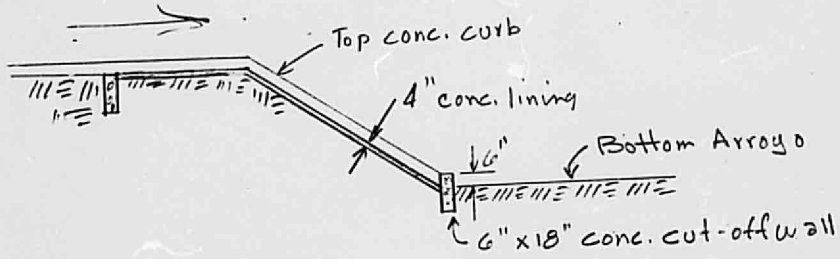
$Q = \frac{1.486}{.03} \overset{.17}{.005^{1/2}} \left(\frac{\overset{.98}{18}}{18.44}\right)^{2/3} 18 = 61 \text{ cfs}$ ok

$V = \frac{61}{18} = 3.4 \text{ fps}$

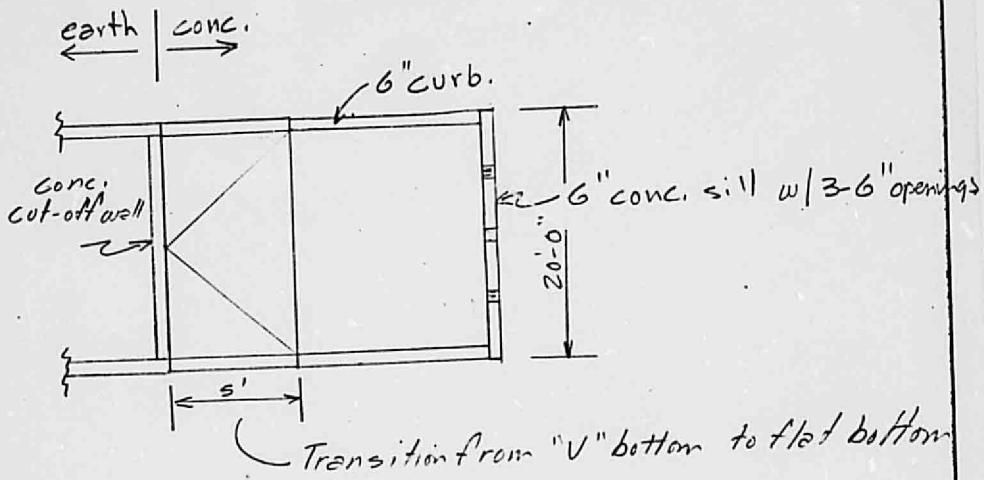
GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Centurion			SHEET NUMBER 3 OF 5
	COMPUTED BY Cooper	CHECKED BY	JOB NUMBER	DATE

Channel along East R/W (20' easement) & Reservoir

Section Entering Arroyo @ NORTH DOMINGO BACA AND DOMINGO BACA (TYPICAL)



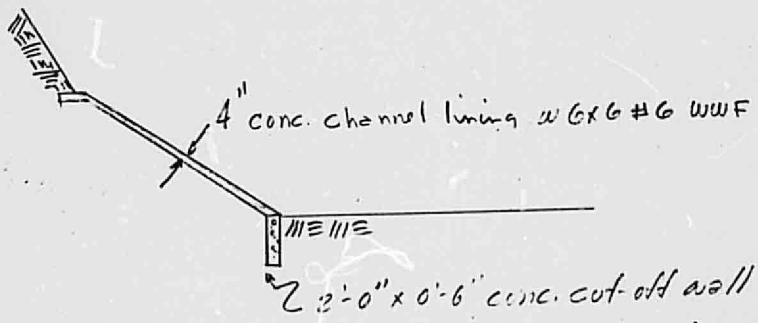
SECTION



PLAN

GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE · SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT Centurion			SHEET NUMBER 4 OF 5
	COMPUTED BY	CHECKED BY	JOB NUMBER	DATE

North Domingo Baca Channel Protection (GENERAL):



Concrete lined Channel

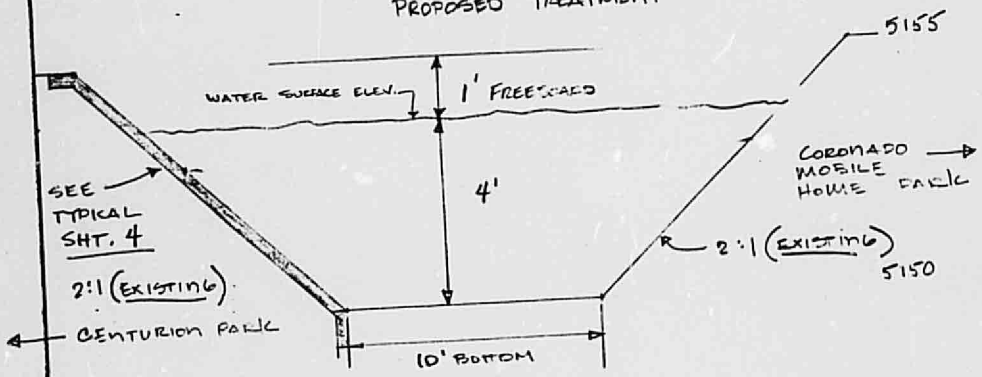
GORDON HERKENHOFF & ASSOCIATES ALBUQUERQUE SANTA FE ENGINEERING COMPUTATIONS	NAME OF PROJECT			SHEET NUMBER 5 OF 5
	COMPUTED BY	CHECKED BY	JOB NUMBER	DATE

NORTH DOMINGO BACA CHANNEL TREATMENT:

EXISTING & PROPOSED

CONDITIONS

EXISTING CROSS SECTION & PROPOSED TREATMENT



SCALE:
HOR 1" = 5'
VERTICAL: 1" = 2.5'

* Q = 1404 cfs (REQUIRED CAPACITY)
n = 0.0191 (WEIGHTED)
A = 72 S.F.
WP = 27.84
R = 72 ÷ 27.84 = 2.59
S = 0.022 (EXISTING)

$$Q = \frac{1.486}{0.0191} \; 0.022^{1/2} = (2.59)^{2/3} \; 72 = 1567 \text{ cfs}$$

* NORTHEAST HEIGHTS DRAINAGE MANAGEMENT PLAN.

INFORMATION AND ELEVATIONS RELATING
TO DRAINAGE CROSSINGS OF INTERSTATE
HIGHWAY 25 BETWEEN THE NORTH
DOMINGO BACA ARROYO AND LA
CUEVA ARROYO FROM A.M.A.F.C.A.
SHEETS B-18 & C-18

North Domingo Baca Arroyo -
Structure = 4 each 4 x 9 concrete box culverts

Elevation Inlet (East of East Frontage Road)	=	5195.2	(Spot Elevation)
Elevation East Frontage Road	=	5201.3	(Interpolated Spot Elevation)
Elevation Swale Between Southbound I-25 and West Frontage Road	=	5196.5	(Adjusted Survey)
Elevation West Frontage Road	=	5197.6	(Adjusted Survey)

North Branch North Domingo Baca Arroyo -
Structure = 8 each 48" reinforced concrete pipe culverts

Elevation Inlet (East of East Frontage Road)	=	5197.3	(Spot Elevation)
Elevation Northbound Lanes	=	5201.1	(Interpolated Spot Elevation)
Elevation Swale Between Southbound I-25 and West Frontage Road	=	5196.5	(Adjusted Survey)
Elevation West Frontage Road	=	5197.7	(Adjusted Survey)

Wilshire Boulevard -
No Structure

Elevation East of East Frontage Road	=	5200.0	(Contour)
Elevation Northbound Lanes	=	5201.2	(Adjusted Survey)
Elevation Swale Between Southbound Lanes I-25 and West Frontage Road	=	5295.9	(Adjusted Survey)
West Frontage Road	=	5297.8	(Adjusted Survey)

South of Levi Strauss Building -
Structure = 1 each 30" Reinforced concrete pipe culvert

Elevation Inlet (East of East Frontage Road)	=	5197.0	(Spot Elevation)
Elevation Northbound Lanes	=	5200.4	(Interpolated Spot Elevation)
Elevation West Frontage Road	=	5197.4	(Interpolated Spot Elevation)

Richfield Avenue -
Structure = 4 each of 36" Reinforced concrete pipe culvert

Elevation Inlet (East of East Frontage Road)	=	5193.8	(Spot Elevation)
Elevation Northbound Lanes	=	5199.9	(Interpolated Spot Elevation)
Elevation West Frontage Road	=	5197.0	(Interpolated Spot Elevation)

Information and Elevations Relating
to Drainage Crossings of Interstate
Highway 25 between the North
Domingo Baca Arroyo and La Cueva
Arroyo from A.M.A.F.C.A.
Sheets B-18 & C-18
Page 2

S. of Oakland Avenue -
Structure = 1 each 42" Reinforced concrete pipe culvert

Elevation Inlet (East of East Frontage Road)	=	5195.0 (Spot Elevation)
Elevation Northbound Lanes	=	5199.6 (Interpolated Spot Elevation)
Elevation West Frontage Road	=	5196.6 (Interpolated Spot Elevation)

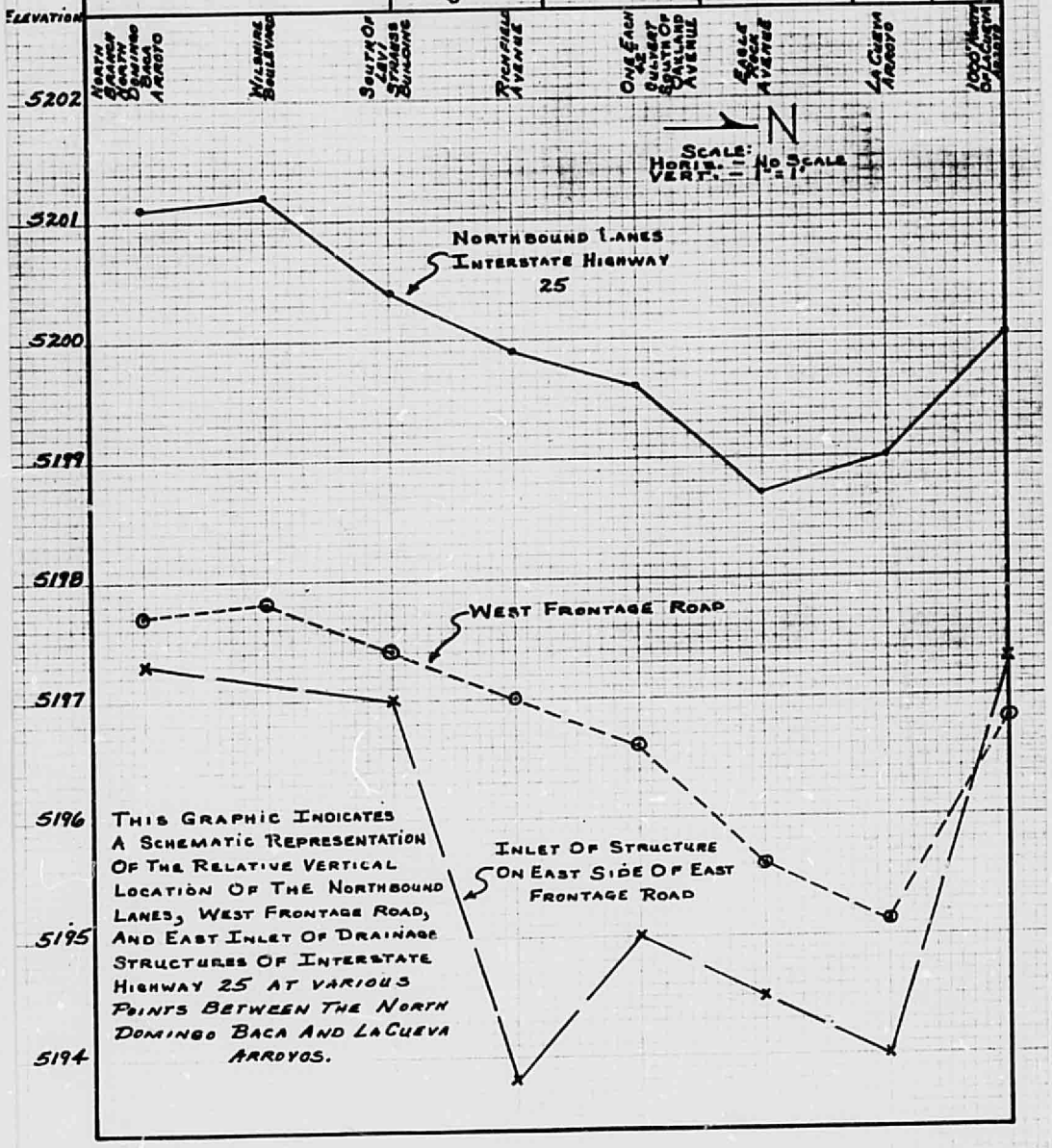
Eagle Rock Avenue -
Structure = 5 each 36" Reinforced concrete pipe culverts

Elevation Inlet (East of East Frontage Road)	=	5194.5 (Spot Elevation)
Elevation Northbound Lanes	=	5198.7 (Interpolated Spot Elevation)
Elevation West Frontage Road	=	5195.6 (Interpolated Spot Elevation)

La Cueva Arroyo (Alameda Ave.) -
Structure = 8 each 36" Reinforced concrete pipe culverts

Elevation Inlet (East of East Frontage Road)	=	5194.0 (Spot Elevation)
Elevation Northbound Lanes	=	5199.0 (Interpolated Spot Elevation)
Elevation West Frontage Road	=	5195.1 (Interpolated Spot Elevation)

GORDON HERKENHOFF & ASSOCIATES SANTA FE NEW MEXICO ENGINEERING COMPUTATIONS	NAME OF PROJECT SAN MATEO MOBILE HOME PARK STORM DRAINAGE INFORMATION		SHEET NUMBER 1 OF 1
	COMPUTED BY P	CHECKED BY	JOB NUMBER	DATE 7/15/79



THIS GRAPHIC INDICATES A SCHEMATIC REPRESENTATION OF THE RELATIVE VERTICAL LOCATION OF THE NORTHBOUND LANES, WEST FRONTAGE ROAD, AND EAST INLET OF DRAINAGE STRUCTURES OF INTERSTATE HIGHWAY 25 AT VARIOUS POINTS BETWEEN THE NORTH DOMINGO BACA AND LA CUEVA ARROYOS.