DRAINAGE INFORMATION SHEET

PROJECT TITLE: Sego-Cox Addition ZONE ATLAS/DRNG. FILE #: E-16

LEGAL DESCRIPTION: Sego-Cox Addition, Tract "A"

CITY ADDRESS: Osuna Road N.E.

ENGINEERING FIRM: Espey, Huston & Assoc. CONTACT: Dennis A. Lorenz
ADDRESS: 4801 Indian School, Suite 204 Albuquerque, N.M. 87110 PHONE: (505) 255-1625

OWNER: Bill Sego CONTACT: Bill Sego
ADDRESS: 4808 Jefferson N.E. Albuquerque, N.M. 87109 PHONE: (505) 883-9100

ARCHITECT: N/A CONTACT:
ADDRESS: PHONE:

SURVEYOR: Espey, Huston & Associates CONTACT: Tim Aldrich
ADDRESS: 4801 Indian School, Suite 204 Albuquerque, N.M. 87110 PHONE: (505) 255-1625

CONTRACTOR: N/A CONTACT:
ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES
___ NO
X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED
JAN 28 1985
HYDROLOGY SECTION

DRB NO. 85-65
EPC NO. AX-84-27 / Z-84-123 10/8/84
PROJ NO.

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

X SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
X 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: January , 1985

BY: Dennis A. Lorenz

ESPEY, HUSTON & ASSOCIATES, INC.
Engineering & Environmental Consultants
4801 INDIAN SCHOOL ROAD, N.E., SUITE 204
ALBUQUERQUE, N.M. 87110
(505) 255-1625

EH&A Job No. 6027

CORPORATE OFFICE
P.O. BOX 519
AUSTIN, TEXAS 78767

DRAINAGE MANAGEMENT PLAN
FOR
SEGO-COX ADDITION
LOTS 1-8

Prepared for:

Bill Sego
4808 Jefferson N.E.
Albuquerque, New Mexico 87109

January 1985

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

PRE-DESIGN CONFERENCE RECAP

HYDROLOGY SECTION PROJECT NO.: E-16 DATE: 1/3/85

PLANNING DIVISION NOS. EPC: _____ DRB: _____

SUBJECT: Sago Cox Subdivision Tract A

LEGAL DESCRIP.: "Same"

APPROVAL REQUESTED

X PRELIMINARY PLAT X FINAL PLAT

_____ SITE DEVELOPMENT PLAN _____ BUILDING PERMIT

_____ ROUGH GRADING

	WHO:	REPRESENTING:
ATTENDANCE:	Dennis Lorenz	Espey, Huston & Assoc,
	Billy Goolsby	City

X Approved Drainage Plan/Report required for Preliminary Plat and/or Site Development Plan sign-off.

_____ Approved Drainage Plan/Report required for Final Plat and/or Building Permit sign-off.

X Subdivision Improvements Agreement or Financial Security required.

FINDINGS: Easement required for discharge to existing watercourse to the north.
Discharge to be determine by analysis of downstream capacity.
Individual tract/lot drainage plans will be required prior to building permit sign-off.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Billy J. Goolsby SIGNED: Dan C. Lorenz

TITLE: CE Design Hydrology TITLE: STAFF ENGR

DATE: 1/3/85 DATE: 1-3-85

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

TABLE OF CONTENTS

LIST OF FIGURES AND EXHIBITS

PURPOSE AND SCOPE

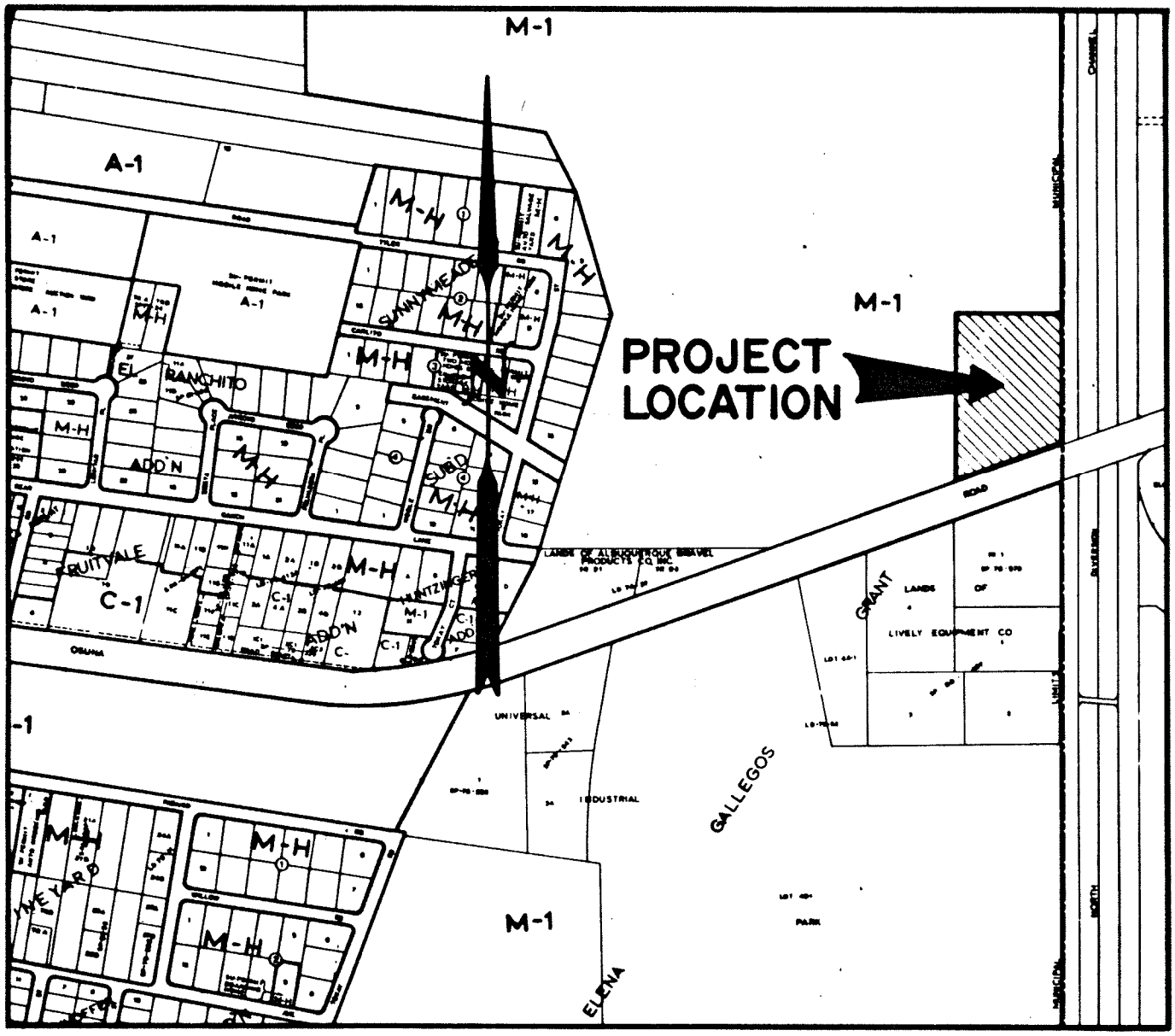
The purpose of this report is to establish the criteria for controlling surface runoff from the Sego-Cox Addition in a manner which is acceptable to the City of Albuquerque and the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA). The plan determines the excess runoff resulting from 100-year/6-hour and 10-year/6-hour frequency storms falling within the project site and contributing drainge basins under existing and developed conditions.

The scope of this plan is to ensure that the project site will be protected from storm runoff and that the project will not increase the flooding potential to adjacent properties and downstream areas.

LOCATION AND DESCRIPTION

The Sego-Cox Addition is located on Osuna Road N.E., adjacent to the AMAFCA North Diversion Channel. The site is more particularly described as Tract "A", Sego-Cox Addition. The vicinity map (See Figure 1) graphically depicts the location of the site.

The site is approximately 10.0 acres in size and is presently undeveloped. The natural topography slopes gently from the southeast to the northwest at approximately 2%. The major soil group present on the site is Embudo gravelly fine sandy loam (See Figure 2). This soil is found on slopes of 0% to 5% on the east mesa. Runoff is medium, and the hazard of water erosion is moderate. The U.S.D.A. Soil Conservation Service has classified this unit as a Type "C" soil.

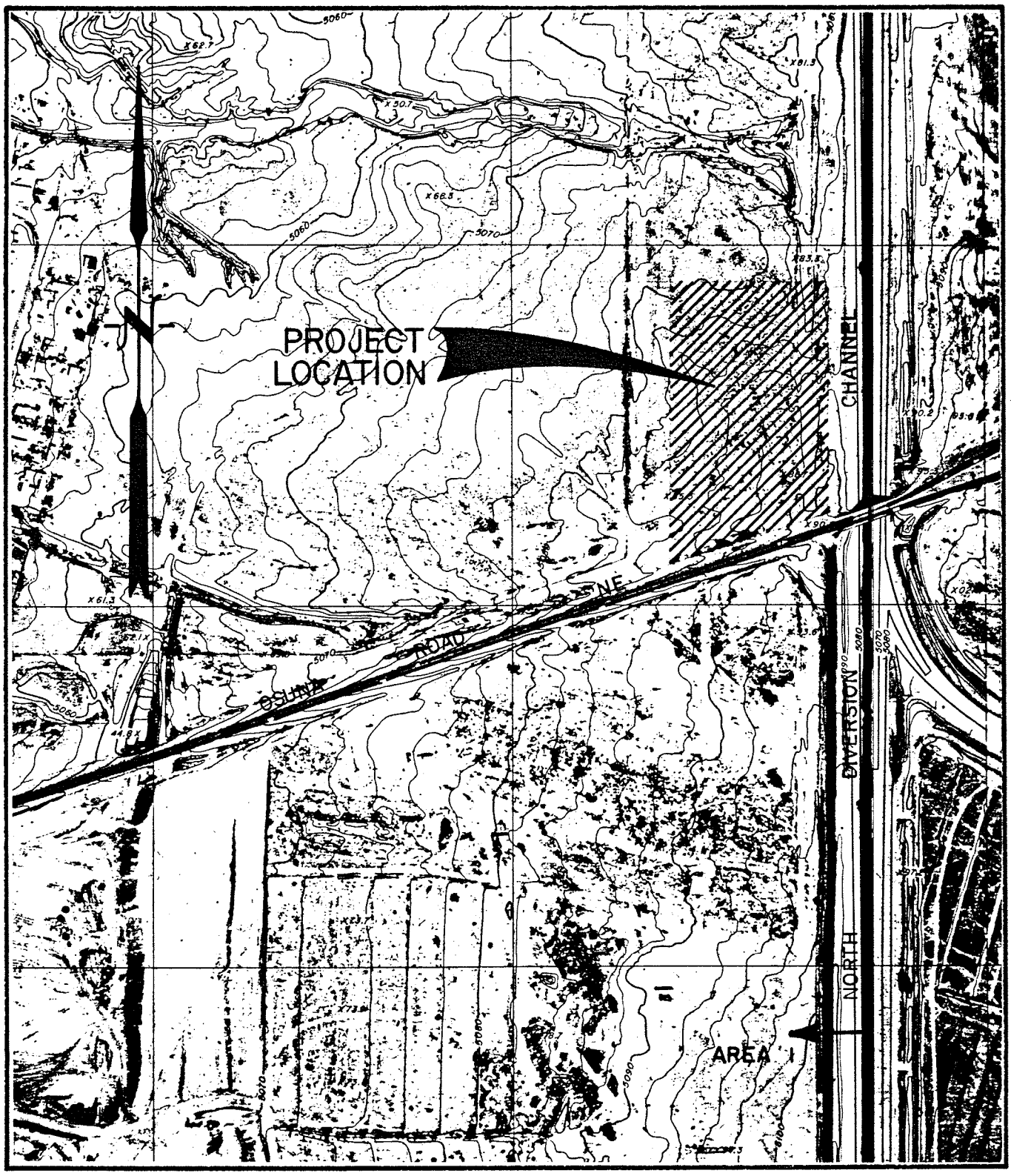


VICINITY MAP

E-16

SCALE : 1" = 800'

FIGURE 1



FLOOD HAZARD MAP

SCALE : 1" = 400'

FIGURE 3

EXISTING DRAINAGE CONDITIONS

The project site is currently undeveloped. The site is bounded by Osuna Road on the south, the AMAFCA North Diversion Channel on the east, and undeveloped land on the north and west.

Plate I illustrates the existing on-site drainage basins affecting the site (See back pocket). No off-site flows enter the site. The site is bounded on the east by the AMAFCA North Diversion Channel and on the south by Osuna Road N.E., neither of which contribute off-site flows. Basin "A" drains in a northwesterly direction to the northwest corner of the property. An existing ditch-dike is located along the north property line to collect sheet flows and convey them to the northwest corner of the site. Basin "B" flows in a northwesterly direction to the northwest property corner. A 9' high berm is located adjacent to the west property line. This berm diverts all sheet flows from Basin "B" to the northwest corner of the site. At the northwest corner of the site Basins "A" and "B" combine and are conveyed by a swale along the eastside of the berm in a northerly direction to a depression located approximately 400 feet north of the site (See Figure 4). Here the storm water ponds and either evaporates or percolates as no outfall exists to drain the stormwater through the berm.

The undeveloped property to the north and west of the Sego-Cox Addition is owned by Albuquerque Gravel Products Company (AGP). The existing 9' high berm was constructed by AGP to keep off-site stormwater from entering a gravel pit on the property west of the Sego-Cox Addition.

PROPOSED DRAINAGE CONDITIONS

The proposed drainage management plan (See Plate 2) is included in the back pocket of this report. The plan shows 1) drainage basins; 2) developed peak flows; 3) existing and proposed elevations indicated by spot elevations and contours at one foot intervals; 4) continuity between existing and proposed elevations; 5) proposed street improvements; and 6) proposed drainage patterns and structures.

The proposed development will consist of an eight (8) lot industrial park subdivision. The subdivision improvements (i.e., street paving, utilities and drainage), will be provided by the present owner. Individual lots will be developed by future owners at a later date. Therefore, individual grading and drainage plans will be required for each lot at the time of development. The development of each individual lot shall be in accordance with the recommendations outlined in this drainage management plan.

As shown by the plan, all storm water will be routed overland to the discharge point located at the northwest corner of the site. Basin "A" drains to the west property line where all flows will be intercepted by an improved channel within a ten foot wide drainage easement. Basin "B" drains westward into the proposed private street. The street will convey stormwater to the end of the proposed cul-de-sac where an improved channel will convey the stormwater to the northwest corner of the site. At this point, Basins "A" and "B" combine and drain north along the east side of the existing berm to the natural ponding area.

Drainage easements will be required for conveyance and ponding of stormwater on the adjacent property to the north.

EROSION CONTROL

Erosion control will not result due to this development. Improved drainage channels will be provided for conveyance of all on-site storm water. Upon leaving the site, the velocity of the generated runoff will be reduced by a rip rap erosion control pad located at the outfall of the proposed channels.

The site presently has ditch-dike erosion control features along the north and west property lines for conveyance of stormwater to the northwest corner of the site. Therefore, no additional erosion control measures need to be taken during the construction phase.

CONCLUSIONS

The following conclusions can be made regarding this development:

1. This site does not lie within a designated flood hazard zone.

2. No off-site flows enter the property.

3. Private drainage easements will be required for conveyance and retention of storm water.

4. Drainage improvements will be provided in compliance with this plan.

5. Individual drainage plan/reports will be required for the future development of each individual lot.

DRAINAGE CRITERIA

IN THIS ANALYSIS THE RATIONAL METHOD OF ESTIMATING RUNOFF IS USED IN ACCORDANCE WITH THE DEVELOPMENT PROCESS MANUAL, VOLUME II, CHAPTER 22. THE FOLLOWING DESIGN CONSTANTS ARE USED IN THE ANALYSIS:

1. RAINFALL; P100 = 2.20 in P10 = 1.46 in
2. SOIL; EMBUDO - TYPE 'B' SOIL
3. 'C' FACTOR; UNDEVELOPED C = 0.34
   ON-SITE DEVELOPED C = 0.85
   @ 85% IMPERVIOUS FOR INDUSTRIAL PARK
   PLATE 22.2 C-1 DPM

I. EXISTING CONDITIONS

BASIN A

LENGTH = 850 Ft.
EL. DIFF. = 13 Ft.
SLOPE = .015294 ft/ft
TIME OF CONCENTRATION = 10 Min.
RUNOFF COEFF. = .34
AREA = 5.1 Acres

P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.6503 Inches/Hr.
I10 = 3.0552 Inches/Hr.

Q100 = 8.0636 c.f.s.
Q10 = 5.2978 c.f.s.

VOL100 = 13848 c.f.
VOL10 = 9098.1 c.f.

BASIN B

LENGTH = 850 Ft.
EL. DIFF. = 13 Ft.
SLOPE = .015294 ft/ft
TIME OF CONCENTRATION = 10 Min.
RUNOFF COEFF. = .34
AREA = 4.9 Acres

P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.6503 Inches/Hr.
I10 = 3.0552 Inches/Hr.

Q100 = 7.7474 c.f.s.
Q10 = 5.09 c.f.s.

VOL100 = 13305 c.f.
VOL10 = 8741.4 c.f.

TOTAL SITE

LENGTH = 850 Ft.
EL. DIFF. = 13 Ft.
SLOPE = .015294 ft/ft
TIME OF CONCENTRATION = 10 Min.
RUNOFF COEFF. = .34
AREA = 10 Acres

P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.6503 Inches/Hr.
I10 = 3.0552 Inches/Hr.

Q100 = 15.811 c.f.s.
Q10 = 10.388 c.f.s.

VOL100 = 27152 c.f.
VOL10 = 17839 c.f.

II. DEVELOPED CONDITION

BASIN A

LENGTH = 930 Ft.
EL. DIFF. = 12 Ft.
SLOPE = .012903 ft/ft
TIME OF CONCENTRATION = 10 Min.
RUNOFF COEFF. = .85
AREA = 4.96 Acres

P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.6503 Inches/Hr.
I10 = 3.0552 Inches/Hr.

Q100 = 19.606 c.f.s.
Q10 = 12.881 c.f.s.

VOL100 = 33669 c.f.
VOL10 = 22121 c.f.

BASIN B

LENGTH = 1305 Ft.
EL. DIFF. = 15 Ft.
SLOPE = .011494 ft/ft
TIME OF CONCENTRATION = 10.91 Min.
RUNOFF COEFF. = .85
AREA = 5.04 Acres

P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.4482 Inches/Hr.
I10 = 2.9225 Inches/Hr.

Q100 = 19.056 c.f.s.
Q10 = 12.52 c.f.s.

VOL100 = 34212 c.f.
VOL10 = 22477 c.f.

TOTAL SITE

LENGTH = 1305 Ft.
EL. DIFF. = 15 Ft.
SLOPE = .011494 ft/ft
TIME OF CONCENTRATION = 10.91 Min.
RUNOFF COEFF. = .85
AREA = 10 Acres

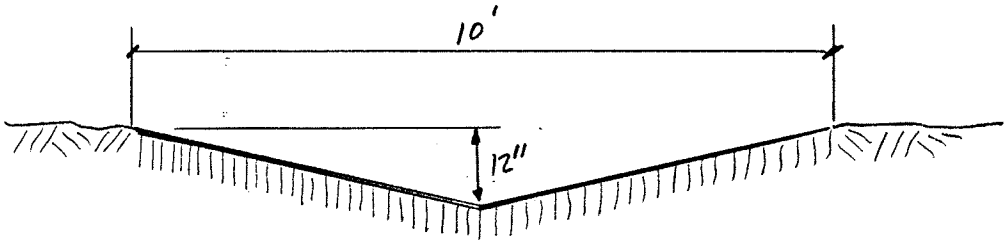
P100 = 2.2 Inches.
P10 = 1.4454 Inches.

I100 = 4.4482 Inches/Hr.
I10 = 2.9225 Inches/Hr.

Q100 = 37.81 c.f.s.
Q10 = 24.841 c.f.s.

VOL100 = 67881 c.f.
VOL10 = 44598 c.f.

III. CHANNEL CAPACITY



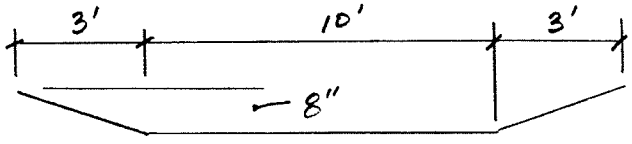
SECTION

USING MANNINGS: $Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$

WHERE: $n = 0.013$
$A = 5$ SF
$R = 0.49$
$S = 0.005$ MIN.

THEN: $Q = 25.2$ CFS $> Q_{100}$
$V = 5.0$ FPS

IV. RUNDOWN CAPACITY @ CUL-DE-SAC



SECTION

USING WEIR: $Q = 3.33 L H^{3/2}$

WHERE: $L = 13'$ (AVE)
$H = 0.67'$

THEN: $Q = 33.1$ CFS $> Q_{100}$

7 March 1985

City of Albuquerque
Municipal Development
Engineering Division
Design Hydrology Section
Albuquerque, New Mexico

Gentlemen:

Please accept this letter as acknowledgment that Albuquerque Gravel Products Company is the owner of the M1 Property adjacent to and north of the Sego-Cox addition, Tract A, and that we have reviewed the Drainage Management Plan for the Sego-Cox addition, Lots 1-8 as prepared by Espey Houston and Associates, Inc., Job #6027.

After such review, we have no objections to accepting the developed flow rate onto our property as outlined in that report.

Sincerely,

Buddie G Chappell

Albuquerque Gravel Products Company
Buddie G. Chappell
President

E161 D3
30

85 20444

DRAINAGE COVENANT

THIS COVENANT made this 11th day of MARCH, 1985, by and between WILLIAM A. SEGO AND ROGER S. COX ("Benefitted Owner"), and ALBUQUERQUE GRAVEL PRODUCTS CO. (NSL), a New Mexico corporation ("Encumbered Owner", which term includes successors and assigns).

RECITAL

The Encumbered Owner is owner of certain real property located in Albuquerque, New Mexico (the "Encumbered Property") and more particularly described as: the Tract zoned M-1 of Albuquerque Gravel Products North of, west of, and adjacent to Sego-Cox Addition, Tract A.

The Encumbered Owner has agreed to accept certain drainage waters onto the Encumbered Property from the property south of and east of the Encumbered Property more particularly described as follows (the "Benefitted Property"): Sego-Cox Addition, Tract A, Lots 1-8.

AMOUNT OF DRAINAGE WATERS

The Encumbered Owner shall be obligated to accept onto the Encumbered Property from the Benefitted Property surface drainage waters (the "Drainage Waters") in an amount equal to the developed flow rate from the Benefitted Property as shown on the Drainage Management Plan for the Sego-Cox Addition, Lots 1-8 prepared by Espey-Houston Associates, Inc., Job 6027.

DESCRIPTION OF FACILITIES

The Encumbered Owner shall be under no present obligation to contruct facilities to handle the Drainage Waters provided that Encumbered Owner retains the Drainage Waters in a safe manner until such time as Encumbered Owner further develops the Encumbered Property.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Encumbered Owner set forth herein shall be binding upon the Encumbered Owner, its heirs, and assigns, and the property of the Encumbered Owner as described herein and will run with said property until released by the Benefitted Owner. This Covenant may be filed in the real property records of the Bernalillo County Clerk pertaining to Encumbered Property.

ENCUMBERED OWNER:

ALBUQUERQUE GRAVEL PRODUCTS CO. (NSL)
A New Mexico Corporation

By: Buddie Chappell
Buddie Chappell, President

BENEFITTED OWNER:

By: Roger Cook

By: William A. Sego

Approved:

C. N. Shepherd 3/12/85
City Engineer
CITY OF ALBUQUERQUE

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me on this 11th day of March, 1985, by Buddie Chappel, President of ALBUQUERQUE GRAVEL PRODUCTS CO. (NSL), a New Mexico Corporation, on behalf of said corporation.

(Seal)

Charles R. Rehbein
Notary Public
My Commission Expires: Nov 1, 1986

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me on this 11th day of March, 1985, by William A. Sego and Roger E. Cook.

(Seal)

Charles R. Rehbein
Notary Public

My Commission Expires: Nov 1, 1986

FILED WITH CITY CLERK'S OFFICE

10/4/85 dw

United New Mexico Bank at Albuquerque
Post Office Box 1081
Albuquerque, New Mexico 87103-1081
Telephone 505 765-5190

Tony J. Elwell
Senior Vice President

IRREVOCABLE LETTER OF CREDIT NO. 1612

September 27, 1985

Mr. Bob V. Stover
Chief Administrative Officer
City of Albuquerque
Albuquerque, NM 87103

Dear Mr. Stover:

At the request of Sego-Cox Subdivision, a Partnership, we establish our Irrevocable Letter of Credit in your favor for the account of Sego-Cox Subdivision, a Partnership, to the extent of and not to exceed, Twelve Thousand Three Hundred Twenty and no/100 ($12,320.00). This Letter of Credit has been established to ensure the completion of installation of sidewalks, as provided by the agreement between Sego-Cox Subdivision, a Partnership and City of Albuquerque which agreement is recorded in Book Miscellaneous 235-A, at Pages 57 to 73, of the records of the County of Bernalillo, State of New Mexico ("The Agreement") a draft or draft(s) for any amount to, but not in excess of Twelve Thousand Three Hundred Twenty and no/100 ($12,320) is/are available at site at United New Mexico Bank at Albuquerque between May 23, 1986 and July 23, 1986.

When presented for negotiation the draft is/are to be accompanied by the following documents:

City's notarized certificate stating that Sego-Cox Subdivision has failed to comply with the terms of the agreement and also certifying that "the undersigned is Chief Administrative Officer of the City of Albuquerque and is authorized to sign this statement," and also certifying that the amount of the draft does not exceed 125% of cost in completing the improvements specified in the Agreement.

We hereby agree with the drawer of draft(s) drawn under and in compliance with the terms of this credit that such draft(s) will be duly honored on the presentation to the drawee if negotiated between May 23, 1986 and July 23, 1986.

The draft(s) drawn under this credit must be endorsed and contain the clause: "Drawn under Letter of Credit and Agreement #1612 of United New Mexico Bank at Albuquerque, dated September 27, 1985". The amount of such draft(s) must be endorsed on the reverse side thereof and this Letter of Credit must be attached to that draft which exhausts this credit.

This credit is subject to the Uniform Customs and Practice for Documentary Credits (1983 Revision), International Chamber of Commerce, Publication #400. This credit terminates on July 23, 1986 at 3:00 p.m., New Mexico time.

UNITED NEW MEXICO BANK AT ALBUQUERQUE

Robert J. Furey
Vice President

Approved as to Form
City of Albuquerque

Assistant City Attorney

City Attorney

E16 D3

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

July 29, 1985

Richard Hall
Hall Engineering
337 Eubank NE
Albuquerque, NM 87123

REF: SEGO-COX ADDITION
CITY PROJECT NO. 2442

Dear Mr. Hall:

In regard to the above referenced subject, and your request to allow public water to be conveyed through the site, I hereby respond with the following discussion. I have discussed the matter with Fred Aguirre and the consensus is that, due to the specific situation, allowance of the request would be in violation of the Drainage Ordinance. The policy practice by The City Engineers Office, in compliance with the Drainage Ordinance, requires that public waters be kept within a public right-of-way/easement. Also retention ponding would be the resultant condition which is no longer allowed. Consequently the request is here by denied.

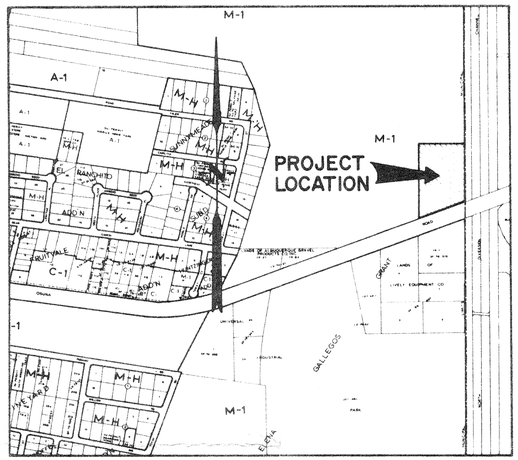
Should you have any questions or comments concerning this matter, please contact myself or Fred Aguirre.

Cordially,

Billy J. Goolsby

Billy J. Goolsby
CE/Design Hydrology

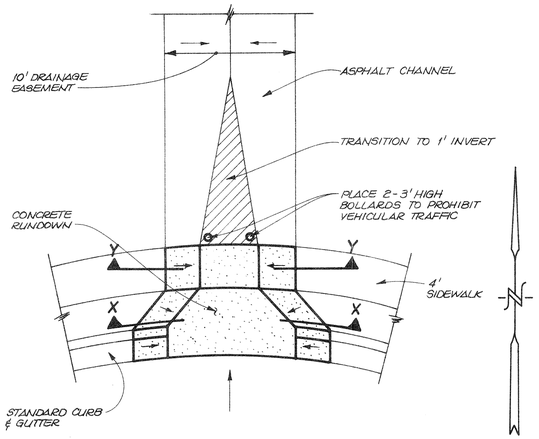
BJG/cl



LOCATION MAP

SCALE: 1" = 800'

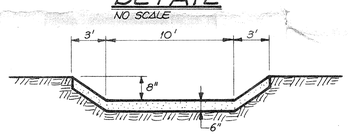
E-16



PLAN

DRAINAGE RUNDOWN DETAIL

NO SCALE



SECTION X-X

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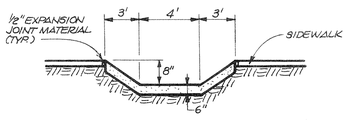


SECTION Y-Y

NO SCALE

Scale : 1" = 50'

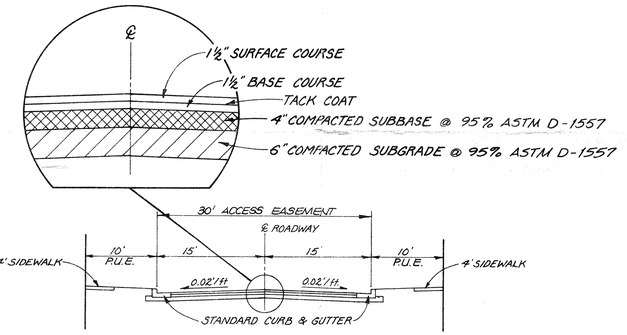
0 10 50
5 25 100

NOTE: ALL STREET ELEVATIONS SHOWN HEREON ARE PRELIMINARY AND SUBJECT TO REVISION

① CURVE DATA
R = 339.00'
Δ = 19° 18' 25"
L = 114.23'
T = 57.66'

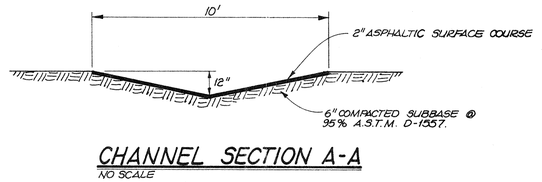
LEGEND

- 78.82 — PROPOSED SPOT ELEVATION
- 5175 — EXISTING CONTOUR
- DIRECTION OF FLOW
- SWALE
- BASIN BOUNDARY



TYPICAL ROADWAY SECTION

NTS



CHANNEL SECTION A-A

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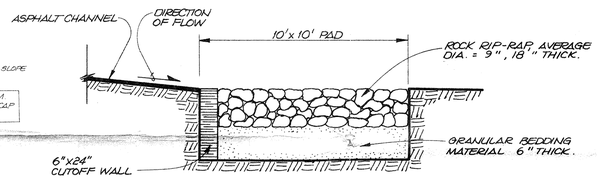
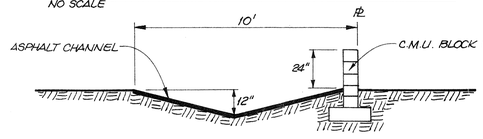


EROSION CONTROL PAD DETAIL

NO SCALE



SPLASHBLOCK DETAIL

NO SCALE

RECEIVED
JAN 28 1985
HYDROLOGY SECTION

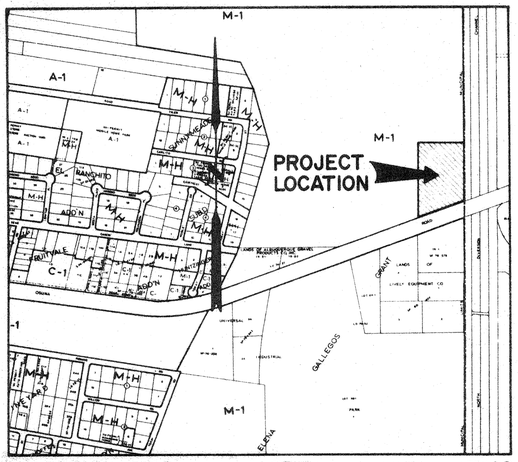
NO	REVISIONS	BY	DATE

SEGO - COX ADDITION
DRAINAGE PLAN

ESPEY, HUSTON & ASSOC., INC.
Engineering & Environmental Consultants
4801 INDIAN SCHOOL ROAD NE SUITE 204
ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 255-1625

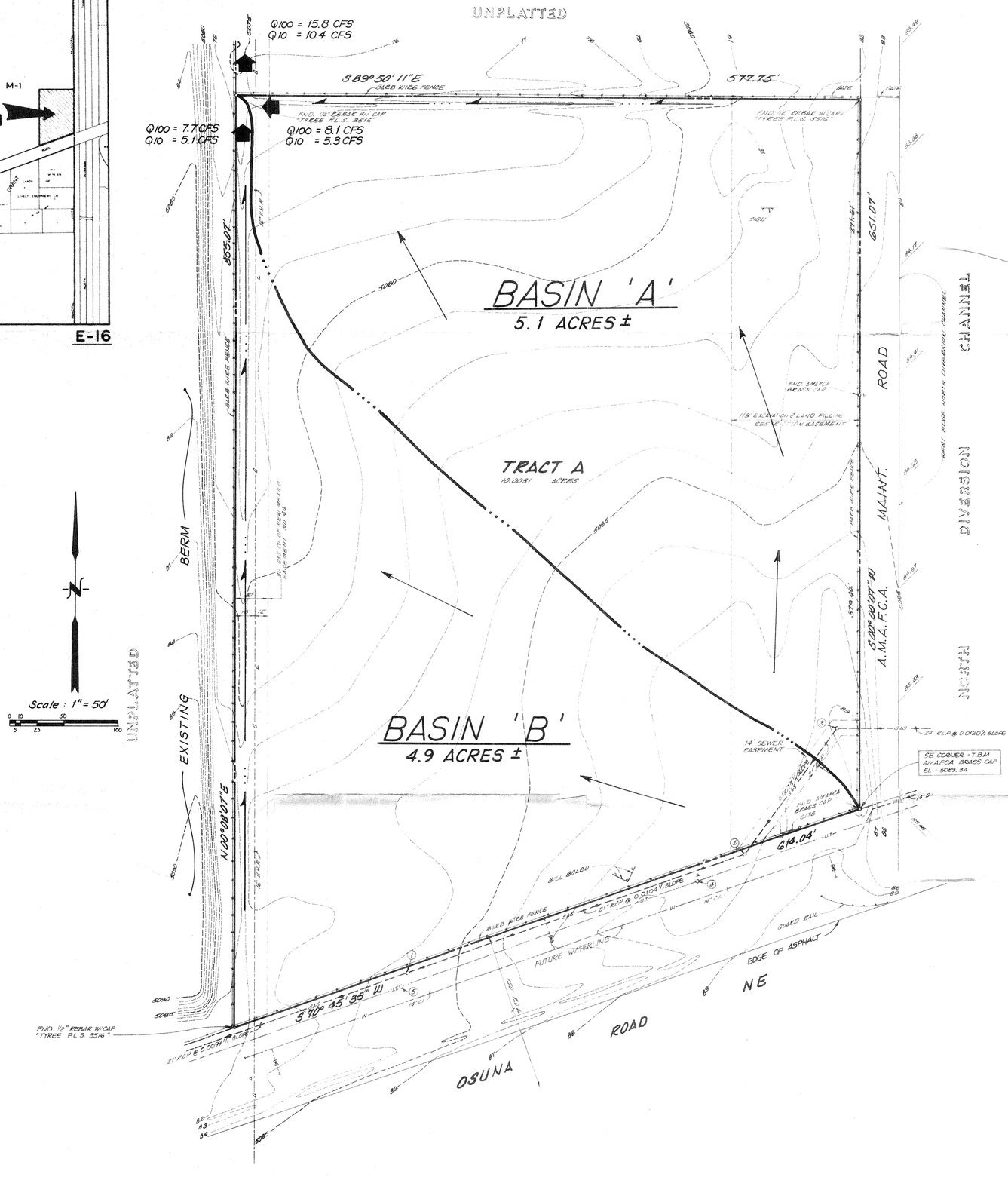
DESIGNED BY DAL DATE 1-85
DRAWN BY BT/RD FB --
CHECKED BY DAL JOB NO. 6027
APPROVED BY

PLATE 2



LOCATION MAP **E-16**

SCALE: 1" = 800'



LEGEND

- DRAINAGE AREA BOUNDARY
- DRAINAGE SWALE
- 5085 EXISTING CONTOURS
- PROPERTY LINE
- DIRECTION OF FLOW

RECEIVED
JAN 28 1985
HYDROLOGY SECTION

NO.	REVISIONS	BY	DATE

SEGO - COX ADDITION
EXISTING DRAINAGE BASIN BOUNDARIES

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DESIGNED BY D.L. DATE JAN. 1985
DRAWN BY R.D. FB
CHECKED BY JOB NO. 6027-03
APPROVED BY

PLATE I