HYDROLOGY H11/D7 1 of 2 5 PLANS

H11/D7

5 Plans

GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

GODWIN
ENGINEERING
CORPORATION
*Professional Consultants*

Neal F. Godwin

3820 ACADEMY PARKWAY, NORTH
ALBUQUERQUE, NEW MEXICO 87109
PHONE (505) 345-8371

December 6, 1977

Mr. Val Valdez
Property Management Department
P.O. Box 1293
Albuquerque, NM 87103

c/o

Mr. Bruno Conegliano
Engineering Department

Gentlemen:

In accordance with your request of Monday, December 5, 1977, we enclose herewith a legal description to be used for a drainage easement extending Eastward from the East side of Eagles Nest Addition to the Rio Grande River.

We appreciate your cooperation and assistance in securing this easement. If you have any questions whatsoever or need further information, please advise.

Yours very truly,

Neal F. Godwin

Neal F. Godwin

NFG/jh

Enclosure: legal description

A strip of land 30 feet wide to be used for drainage purposes lying 15 feet in width on each side of the following described center line:

Beginning at a point, which point is the North East corner of Lot 7 of EAGLES NEST ADDITION to the City of Albuquerque, County of Bernalillo, New Mexico, as recorded in the office of the Bernalillo County Clerk and Recorder on March 31, 1977; running thence from said point of beginning EAST a distance of 400.00 feet, more or less, to the Rio Grande River. Containing 0.27548 acres more or less.

6-77

Frank Benavidez
Associated Land Surveyors
2923 San Mateo Blvd NE
Albq. NM.

Aug 11

Re: Drainage Report for
Eagle Nest Subdivision

Dear Mr. Benavidez:

The concept of the subject drainage report submitted by Mr. Yarell is approved. Detailed plans implementing the report will be required to be approved by the City Engineer before permits will be granted for the construction of the public improvements.

It appears this will include a grading plan or detail lot site plan showing the ponding areas discussed; it may require the reconstruction of the intersection to move the flows west, and possibly retaining walls to provide the grading and fill required.

As you know, I have felt these improvements may be expensive and difficult to construct. You and your client understand my concern and do not share it.

Construction plans will be reviewed for compliance. I suggest you obtain a copy of the "Interim Procedures for street and utility design and construction" to guide you as you proceed.

VTY
KH Lewis cc John Robert

CITY OF ALBUQUERQUE, NEW MEXICO
CITY ENGINEER'S OFFICE

MEMORANDUM - March 3, 1978
(Date)

TO:
- [ ] Robert Fosnaugh, Traffic Engineer
- [ ] William Otto, Water Engineer-2 copies
- [x] Bruno Conegliano, Assistant City Engineer-Hydrology
- [ ] Dwayne Sheppard, Assistant City Engineer-Field
- [ ] Bob Kielich, Assistant City Engineer-Design/Design Engineer
- [ ] Monte Urban, Chief Surveyor/Grant Snyder
- [ ] George Paul, Street Maintenance Engineer
- [ ]
- [ ]

FROM: Q. R. Kielich, Assistant City Engineer-Design

SUBJECT: EAGLES WEST ADDITION

Attached drawings are for WATER, SANITARY SEWER, STORM SEWER, PAVING, STREET GRADES, DRAINAGE, AND _____, for subject proposed project.

Request review and comments on attached drawings. Typed comments will be submitted to Celia Tomlinson, by 3-17-78.

QRK/tl

Attachments

GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

February 16, 1978

07-01

Copies to
Bob
Bruno
Duane
Bi

Mr. V. M. Kimmick, City Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Dear Mr. Kimmick:

We have been retained to provide design, survey, and other consulting services for improvements to Eagles Nest Addition. The improvements will include water, sewer, street paving, drainage, and site grading. Eagles Nest contains one short cul-de-sac which was dedicated by the plat thereof as filed on March 31, 1977.

Please accept this letter as our request for your approval of our company to provide the indicated services.

Respectfully submitted,

Neal F. Godwin, President
Reg. PE & LS No. 3620

APPROVED: V. M. Kimmick City Engineer DATE: 2-21-78

GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

January 27, 1978

07-01

RECEIVED
JAN 31
CITY ENGINEERS

Mr. Dennis Quintana
Property Management Dept.
City of Albuquerque

Dear Mr. Quintana:

Per your request of yesterday, please find herewith a sketch of the structure design as suggested to us by Mr. Bruno Conegliano of your engineering department. Please be advised that we concur with the design concept as the only practical way to conduct drainage from the lands on top of the mesa down the steep bank to the general level of the river.

As indicated to you yesterday, detailed designs have not been completed because of the previous uncertainty as to your ability to obtain the necessary easement. Once the easement is secured, we will complete detailed designs of this facility along with other site improvements in Eagles Nest Addition all of which will be submitted to and approved by the appropriate city staff departments before construction in accordance with standard proceedures.

We trust that this will satisfy your requirements for obtaining the storm drainage easement. If you have any further questions, please advise.

Yours very truly,

Neal F. Godwin

cc: Bruno Conegliano
Ray Pacioni

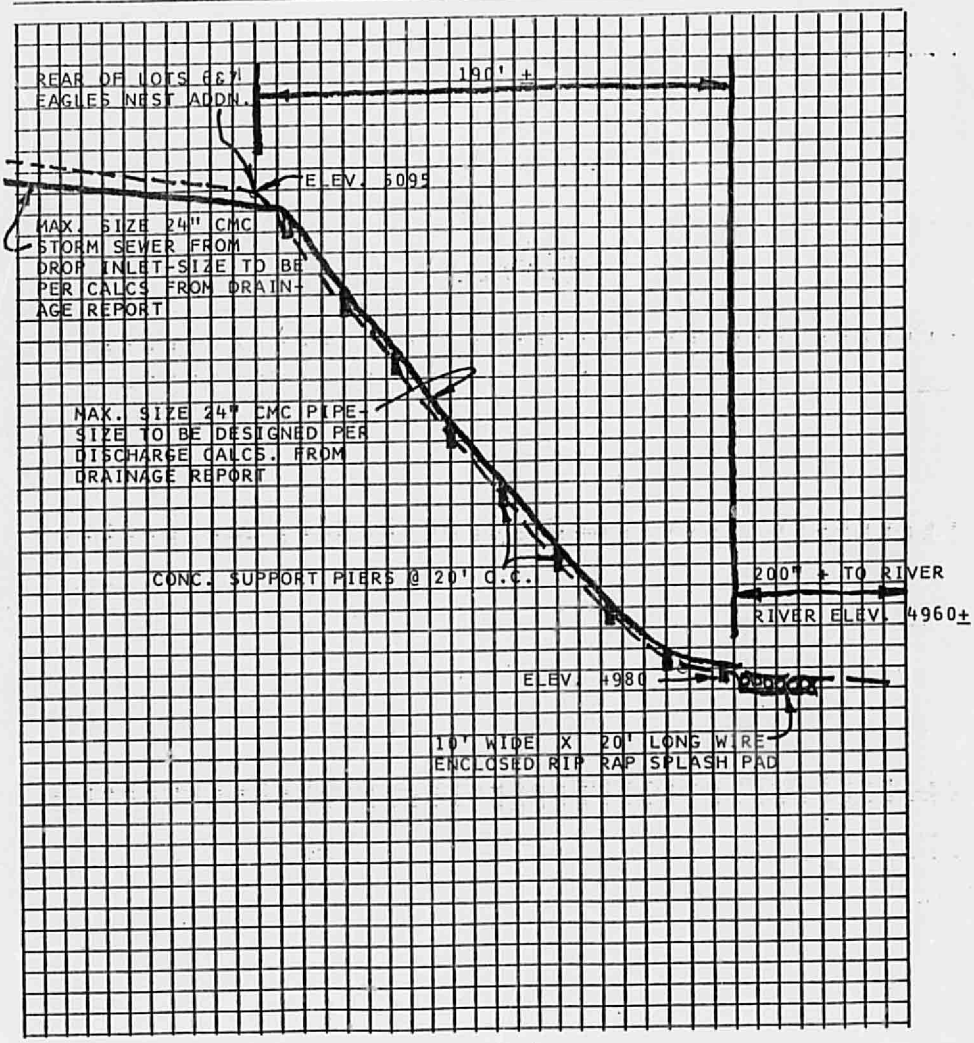
GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

EAGLES NEST ADDITION-STORM DRAINAGE DATE 1-27-78 JOB NO 07-01

SKETCH OF STRUCTURE DESIGN & CONCEPT BY NFG SHT 1 OF 1



GODWIN
ENGINEERING
CORPORATION
*Professional Consultants*
3820 ACADEMY PARKWAY, NORTH
ALBUQUERQUE, NEW MEXICO 87109

PM
28 JAN
1978

PROCLAIM LIBERTY THROUGHOUT ALL THE LAND
USA 13

Mr. Bruno Conegliano
Engineering Department
400 Marquette Ave. N.W.
Albuquerque, NM 87102

07-01

# CONTRACT DOCUMENTS, PLANS, SPECIFICATIONS, AND OTHER SUPPORTING DOCUMENTATION

FOR

CONSTRUCTION OF SITE IMPROVEMENTS

OF

GRADING, SANITARY SEWER, WATER, STORM SEWER, CURB & GUTTER, PAVING, AND SIDEWALK

IN

EAGLES NEST ADDITION
ALBUQUERQUE, NEW MEXICO

DEVELOPER:

RAY B. PACIONI
3616 N. 54TH PL.
PHOENIX, AZ. 85018

PREPARED BY:

GODWIN ENGINEERING CORPORATION
3820 ACADEMY PARKWAY NORTH
ALBUQUERQUE, NEW MEXICO

SET NO. 6

## CONTENTS

INVITATION FOR BIDS AND INSTRUCTIONS TO BIDDERS
CONSTRUCTION CONTRACT
BOND FORMS
PLANS
SPECIFICATIONS
SUPPORTING DOCUMENTATION
- REQUEST TO CITY WATER RESOURCES DEPARTMENT
- INSTRUCTIONS FROM WATER RESOURCES DEPT.
- AUTHORIZATION BY CITY ENGINEER FOR DESIGN
- REQUEST FOR PRELIMINARY ESTIMATE
- DESIGN FEE DEPOSIT SCHEDULE
- AGREEMENT TO PAY CITY DESIGN FEE
- NO PRO-RATA REQUEST
- AGREEMENT TO CONSTRUCT SEWER/WATER
- AGREEMENT TO CONSTRUCT PAVING
- PERMITS AND EASEMENTS
- SUBDIVISION PLAT

# INVITATION FOR BIDS AND INSTRUCTIONS TO BIDDERS

By this invitation, Ray B. Pacioni of 3616 N. 54th Pl., Phoenix, Arizona, will receive bids for the construction of site improvements of grading, sanitary sewer, water, storm sewer, curb & gutter, paving, and sidewalk in Eagles Nest Addition to the City of Albuquerque, New Mexico in accordance with the Contract Documents, Plans, Specifications, and Other Supporting Documentation until _____, _____, 1978, at the office of GODWIN ENGINEERING CORPORATION, 3820 Academy Parkway North, Albuquerque, New Mexico, at which time the bids will be opened, tabulated and considered. No bids will be considered if received after the hour and date above stated.

Ray B. Pacioni reserves the right to reject any or all bids, waive technicalities, and accept the bids deems to be in his best interest.

Ray B. Pacioni agrees to carefully canvass and consider each bid submitted. In consideration thereof, no bid may be withdrawn after the scheduled closing time for receipt thereof for at least thirty (30) days.

Bidders are advised that bids, contracts, construction, etc. are to be in accordance with the City of Albuquerque "Interim Procedures for Street and Utility Design and Construction" implemented February 2, 1977, Alternate I - Developer performs design and uses AHBA procedures, and City Wide Utilities and Cash Paving Contract No. 27,

Bidders are advised that Ray B. Pacioni intends to award one or two contracts and bidders are advised that they may bid on one or two schedules of work as follows:

Schedule 1. Grading, Curb & Gutter, Paving, and Sidewalk

Schedule 2. Sanitary Sewer, Water, and Storm Sewer

Bidders are requested to familarize themselves with the site and conditions of the work. A pre-bid tour of the site will be conducted by the engineer at a time to be announced later.

BY: S/ Ray B. Pacioni

INSERT CONTRACT/S

V

BOND FORMS

KNOW ALL MEN BY THESE PRESENTS

1. PERFORMANCE BOND:

That _____
(Here insert the name and address or legal title of Contractor

_____

as Principal, hereinafter called Contractor, and _____

_____
(Here insert the legal title of Surety)

_____

as Surety, hereinafter called Surety, are held and firmly bound unto _____
(Here insert the name and address or legal title of the Owner)

as Obligee, hereinafter called Owner, in the amount of _____

_____ Dollars ($_____), their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____

_____ entered into a contract with Owner for

_____ _____

in accordance with drawings and specifications prepared by

_____
(Here insert full name and title)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said contract, then this obligation shall be null & void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extention of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, the Owner having performed Owner's obligation thereunder, the Surety may promptly remedy the default, or shall promptly;

1) Complete the Contract in accordance with its terms and conditions, or

2) Obtain a bid or bids for submission to Owner for completing the Contract in accordance with its terms and conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof.

The Contractor shall guarantee any and all work performed under this bond against defective materials and workmanship, for a period of three years following its completion and acceptance.

Any suit under this bond must be instituted before the expiration of three (3) years from the date on which final payment under the contract falls due.

Following the completion and formal acceptance by the City of Albuquerque of any and all work performed under this Bond, the right of action with respect to the guarantee against defective materials and workmanship on this Bond shall accrue to and for the City of Albuquerque, a Municipal Corporation.

Signed and sealed this _____ day of _____ A.D. 19_____.

In the Presence of:

_____

_____

_____

(Address and Phone No. of Local Agent)

_____ (Seal)
(Principal)

_____
(Title)

_____ (Seal)
(Surety)

_____
(Title)

_____
(Local Agent of Surety)

2. LABOR AND MATERIAL PAYMENT BOND:

Note: This bond is issued simultaneously with another bond in favor of the owner conditioned for the full and faithful performance of the contract.

KNOW ALL MEN BY THESE PRESENTS:

That _____

(Here insert the name and address or legal title of Contractor)

_____

as Principal, hereinafter called Principal, and _____

_____

(Here insert the legal title of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto _____

(Here insert the name and address or legal title of Owner)

as Obligee, hereinafter called Owner, for the use and benefit of Claimants as hereinbelow defined, in the amount of _____

_____ Dollars ($_____),

for the payment whereof Principal and Surety bond themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____

_____ entered into a contract with Owner for

_____

in accordance with drawings and specifications prepared by

_____

(Here insert full name and title)

which contract is by reference made a part hereof, and is herein after referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material use or

reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant.

a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforementioned project is located, save that such service need not be made by a public officer.

b) After the expiration of two (2) years following the date of final settlement it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction as established by law.

Signed and sealed this_____day of_____
A. D. 19_____.

In the presence of:

_____

(_____(Seal)
((Principal)
(
(_____
(Title)

(_____(Seal)
((Surety)
(
(_____
(Title)

INSERT BOND FORM/S

This Plan
will be shot
IN two Sections

1978 CONSTRUCTION PLANS

FOR

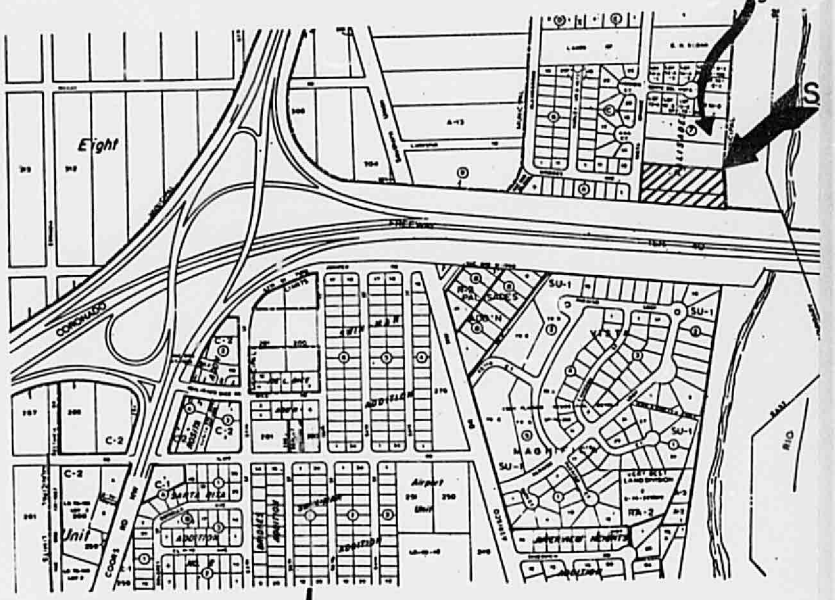
# SITE IMPROVEMENTS

(WATER, SEWER, PAVING, GRADING, DRAINAGE)

TO

# EAGLES NEST ADDITION

ALBUQUERQUE, NEW MEXICO




N

VICINITY MAP

NO SCALE

AL DISPOSAL SITE

# INDEX OF DRAWINGS

| SHT. NO. | DESCRIPTION |
|---|---|
| 1 | COVER SHEET |
| 2 | ESTIMATED QUANTITIES AND GENERAL NOTES |
| 3 | GRADING PLAN |
| 4 | PLAN - PROFILE EL AGUILA PL. |
| 5 | PLAN - PROFILE STORM SEWER |

DEVELOPER: RAY PACIONI
3616 N. 54TH PL.
PHOENIX, AZ. 85018

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
STATE OF NEW MEXICO
3520
NEAL F. GODWIN

| EAGLES NEST ADDITION<br>SITE IMPROVEMENTS | | |
|---|---|---|
| COVER SHEET | | DATE: 2/17/78 |
| | | DRWN: LMT |
| | | CHKD: YCB |
| REVISIONS | GODWIN ENGINEERING CORPORATION | SCALE: —— |
| | | JOB NO. 07/01 |
| | | SHT. NO. 1 OF 5 |

This Plan
will be shot
IN two Sections

## ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | QUANT. |
|---|---|---|
| S-13 | 8" VCP EX. STR. | 377 |
| S-19 | T & B 0-6 | 50 |
| S-20 | T & B 6-8 | 75 |
| S-21 | T & B 8-10 | 50 |
| S-22 | T & B 10-14 | 202 |
| S-17 | 4" VCP TEES | 13 |
| S-11 | 4" CI SERVICE | 273 |
| S-12 | 4' MH 4-6 TYPE C | 1 |
| S-56 | WET CONNECTION | 1 |
| | | |
| | | |
| C-2 | 6" AC PIPE W/T & B | 447 |
| W-27 | FITTINGS | 500 |
| W-37 | 6 X 6 TAP SLEEVE | 2 |
| W-63 | 6" GV | 3 |
| W-73 | VALVE BOX | 3 |
| W-78 | FH 4' BURY | 1 |
| W-30 | ACTUAL TAP | 2 |
| W-142 | 3/4" SER CONN | 13 |
| | | |
| | | |
| | | |
| | | |
| P-4 | GRADING | 1545 |
| P-5 | AC 1½" BASE | 1545 |
| P-9 | ES TACK | 1545 |
| P-13 | AC 1½" SURF | 1545 |
| P-17 | CONC C & G | 924 |
| P-24 | 4"X4' SW | 3606 |
| P-38 | ADJ MH | 1 |
| P-67 | 4" SUB BASE | 1545 |
| P-31 | REMOVE & DISPOSAL OF EXIST PAVING | 50 |
| | | |
| | | |
| | | |
| | | |
| E-1 | EXCAVATION & BACKFILL - SITE GRADING | 7305 |

NOTE: QUANTITIES SHOWN ARE ESTIMATES FOR BIDDING PURPOSES AN CONTRACTORS INFORMATION ONLY.

| ANT. | UNIT |
|---|---|
| 77 | LF |
| 50 | LF |
| 75 | LF |
| 50 | LF |
| 02 | LF |
| 13 | EA |
| 73 | LF |
| 1 | EA |
| 1 | EA |
| | |
| | |
| 47 | LF |
| 00 | LB |
| 2 | EA |
| 3 | EA |
| 3 | EA |
| 1 | EA |
| 2 | EA |
| 13 | EA |
| | |
| | |
| | |
| 545 | SY |
| 545 | SY |
| 545 | SY |
| 545 | SY |
| 924 | LF |
| 606 | SF |
| 1 | EA |
| 545 | SY |
| 50 | SY |
| | |
| | |
| | |
| | |
| 305 | CY |
| | |

AND

# GENERAL NOTES

1. All work shall be performed in accordance with the applicable provisions of Specifications as outlined for "City Wide Utilities and Cash Paving, Contract No. 27", and "Interim Procedures for Street and Utility Design and Construction" implemented February 2, 1977 including three year performance bonds, labor and material payment bonds, and including bond under Section 8a, Sidewalk Ordinance No. 219-1972, as amended.

2. All item numbers refer to item numbers of City Wide Utilities and Cash Paving Contract No. 27, except item numbers E-1, E-2, & E-3.

3. Item E-1 Site Grading, shall be performed in accordance with Sections 200, 201, and 203 of "New Mexico Standard Specifications for Public Works Construction", Latest Edition; except that allowable tolerance from design grade will be plus or minus two-tenths of a foot (0.2'); and Method of Measurement and Payment for same will be per Cubic Yard of excavated material, measured by contour method, in its original position only. No separate payment will be made for fill material, shrinkage, disposal of surplus material, nor clearing and grubbing.

4. Items E-2 and E-3 shall be performed in accordance with the requirements shown on the plans and the applicable provisions of "New Mexico Standard Specifications for Public Works Construction", Latest Edition.

## ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | QUANT. | UNIT |
|---|---|---|---|
| | | | |
| S-60 | DROP INLET TYPE C | 1 | EA |
| S-43 | SEWER MH. TYPE "E" | 1 | EA |
| S-4 | 18" RCP | 98 | LF |
| S-25 | T & B 0-8' | 100 | LF |
| E-2 | 18" CMC | 236 | LF |
| K-13 | RIP RAP | 28 | CY |
| E-3 | PIPE ANCHORS | 12 | EA |

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR STATE OF NEW MEXICO 3620 NEAL F. GODWIN

EAGLES NEST ADDITION
SITE IMPROVEMENTS

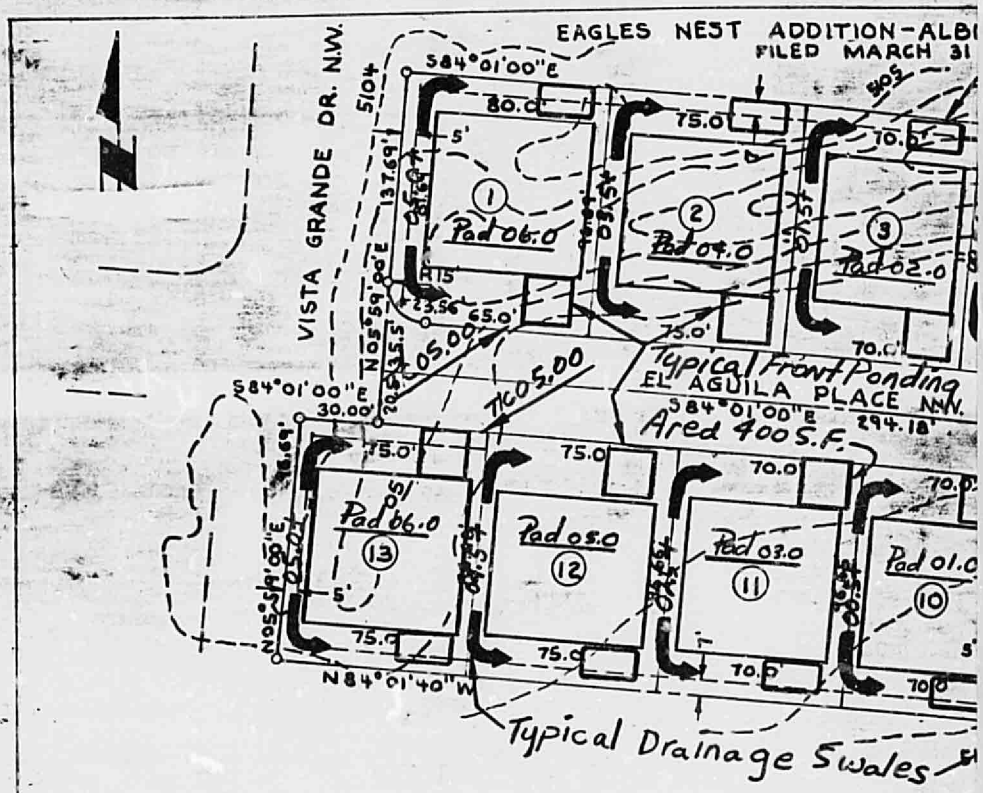
ESTIMATED QUANTITIES
GENERAL NOTES

| REVISIONS | |
|---|---|
| | |

GODWIN ENGINEERING CORPORATION

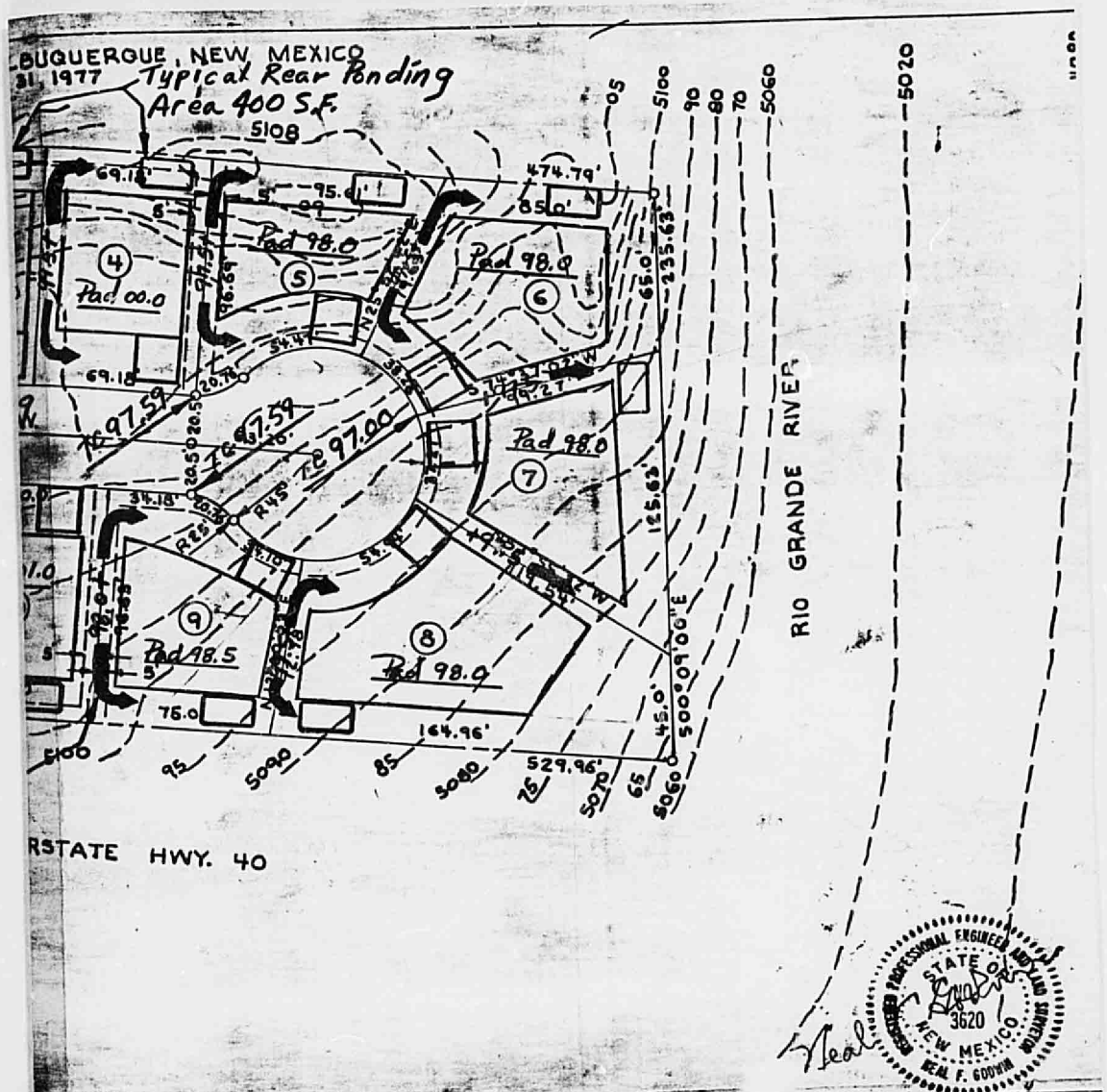
DATE: 2/20/78
DRWN: L.M.T.
CHKD: NFG
SCALE: —
JOB NO. 07/01
SHT. NO. 2 OF 5

This Plan
will be shot
IN two Sections




NOTE: For the contractors information the following quantities have been estimated using the original contours of the site and the design grades shown on the plans.

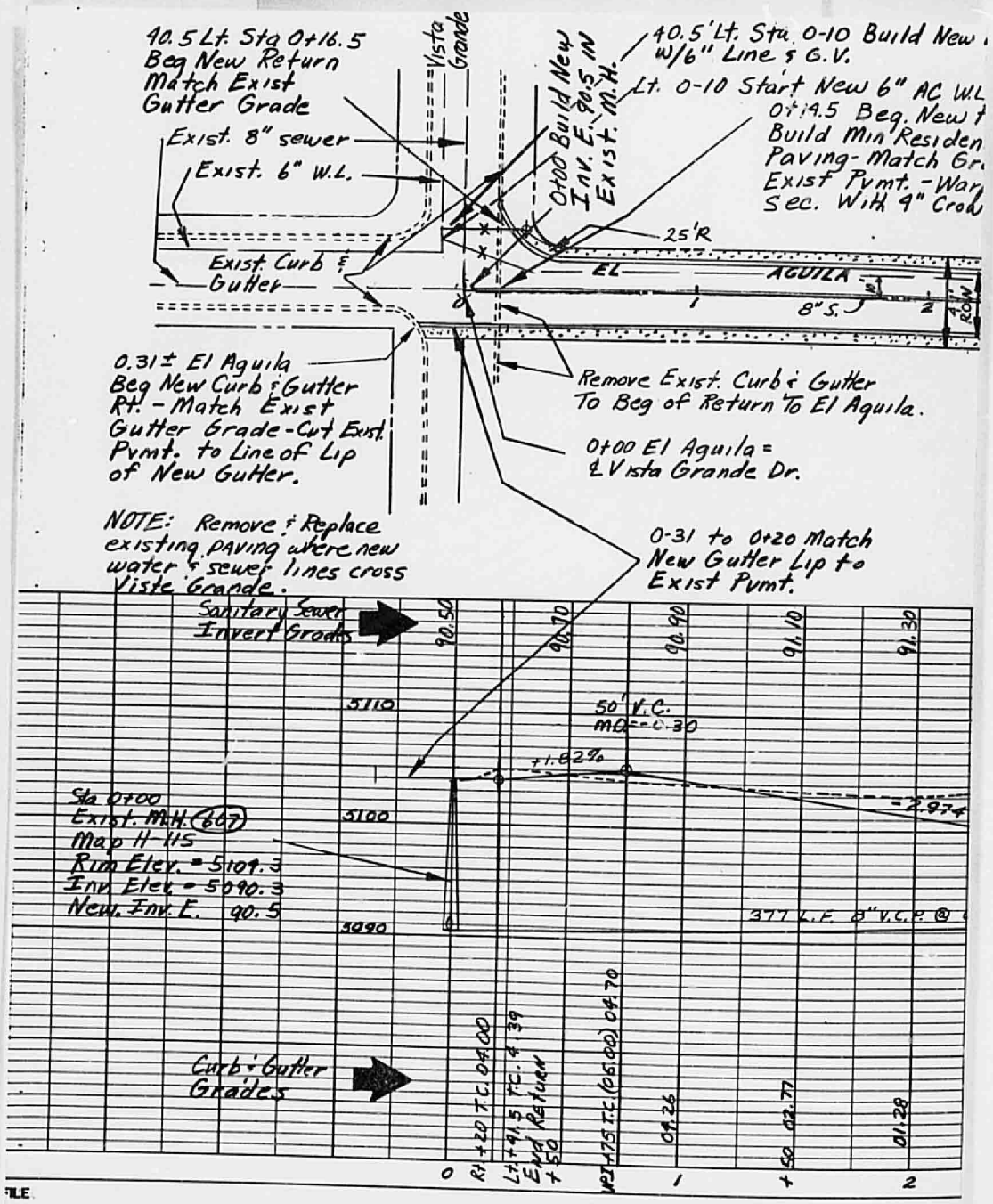
| | |
|---|---|
| Street Excavation | 1860 C.Y. |
| Site Excavation | 7305 C.Y. |
| Total Excavation | 9165 C.Y. |
| Fill on Site (Neat Line Measurement) | 6173 C.Y. |
| Estimated 15% Shrinkage | 1089 C.Y. |
| Total Fill Material Used on Site | 7262 C.Y. |
| Surplus Material to Dispose Of | 1903 C.Y. |



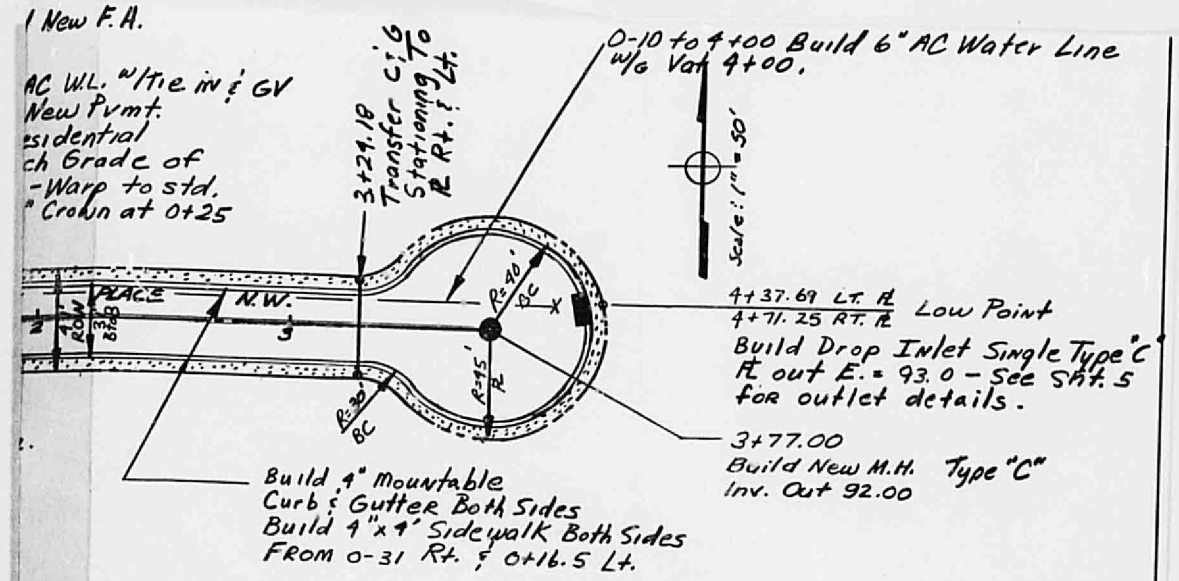

NOTE: SEE VICINITY MAP ON SHT. 1 FOR LOCATION OF DISPOSAL SITE FOR SURPLUS MATERIAL.

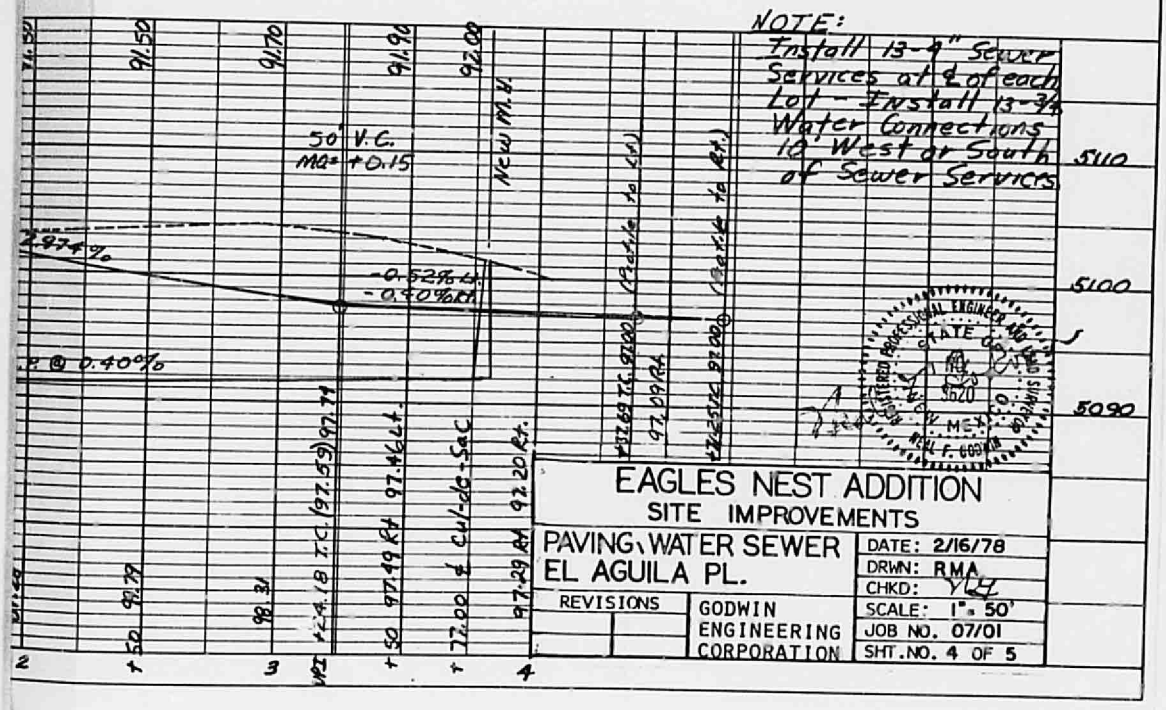
| | | |
|---|---|---|
| EAGLES NEST ADDITION<br>SITE IMPROVEMENTS | | |
| GRADING PLAN | | DATE: 2/17/78<br>DRWN: LMT<br>CHKD: |
| REVISIONS | GODWIN ENGINEERING CORPORATION | SCALE: 1" = 50'<br>JOB NO. 07/01<br>SHT. NO. 3 OF 5 |

This Plan
will be shot
on two Sections

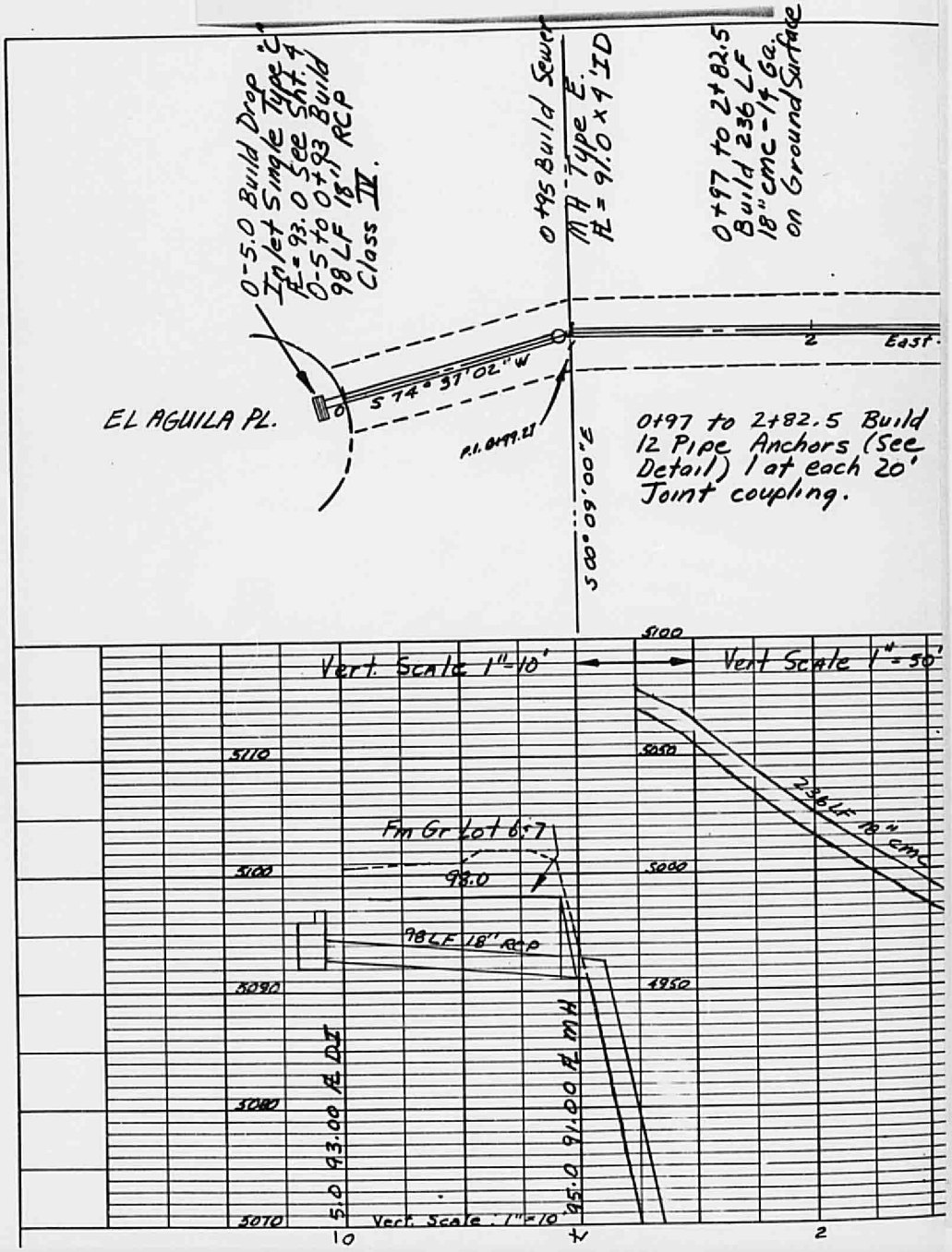



FILE

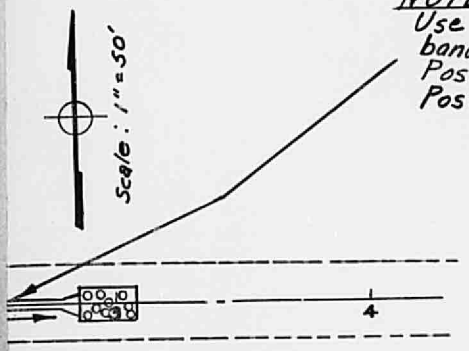

1 New F.A.
AC W.L. w/tie in & GV
New Pvmt.
esidential
ch Grade of
-Warp to std.
" Crown at 0+25
3+21.18
Transfer C & G
Stationing To
Rt. & Lt.
0-10 to 4+00 Build 6" AC Water Line
w/o Val 4+00.
Scale: 1" = 50'
PLACE
N.W.
R=40'
BC
R=45'
R=30'
BC
4+37.69 LT. ℄
4+71.25 RT. ℄ Low Point
Build Drop Inlet Single Type "C"
℄ out E. = 93.0 - See Sht. 5
for outlet details.
3+77.00
Build New M.H. Type "C"
Inv. Out 92.00
Build 4" Mountable
Curb & Gutter Both Sides
Build 4"x4' Sidewalk Both Sides
FROM 0-31 Rt. & 0+16.5 Lt.

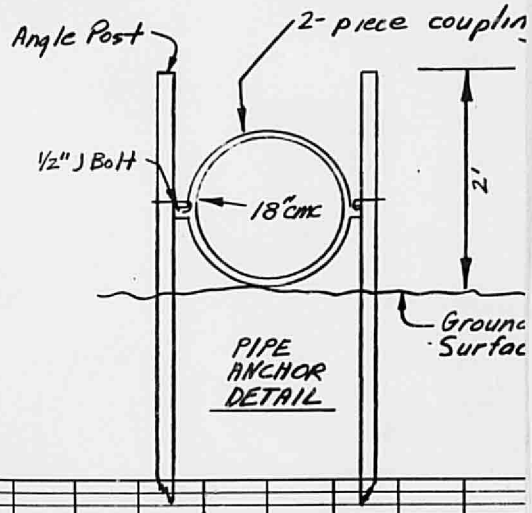

NOTE:
Install 13-4" Sewer
Services at ℄ of each
Lot - Install 13-3/4
Water Connections
10' West or South
of Sewer Services
91.50
91.70
91.90
92.00
New M.H.
50' V.C.
MQ= +0.15
2.974%
-0.52%
-0.40%
@ 0.40%
5110
5100
5090
97.77
98.31
+24.18 T.C. (97.59) 97.77
+50 97.49 Rt. 97.46 Lt.
+77.00 ℄ Cul-de-Sac
97.29 Rt. 92.20 Rt.
+72.69 T.C. 97.00 (Grade to Lt.)
97.09 Rt.
+72.69 T.C. 97.00 (Grade to Rt.)
REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
5620
NEIL F. GODWIN
EAGLES NEST ADDITION
SITE IMPROVEMENTS
PAVING, WATER SEWER
EL AGUILA PL.
DATE: 2/16/78
DRWN: RMA
CHKD:
SCALE: 1" = 50'
JOB NO. 07/01
SHT. NO. 4 OF 5
REVISIONS
GODWIN
ENGINEERING
CORPORATION

This Plan
will be shot
IN two Sections



NOTE:
Use 20' Joint Length w/2-peice coupling bands - Drive 2-2 1/2" x 2 1/2" x 1/4" x 7' long Ang Posts at each joint - secure coupling to Posts w/ 1/2" J-Bolts - See Detail

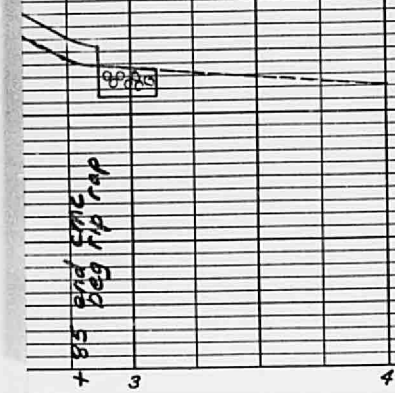



PIPE ANCHOR DETAIL

2+82.5 Build 18" CMC Flared End Section

2+85 to 3+10 Build Grouted Enclosed Wire Rap Splash Pad - 15' Wide x 2' Thick.




REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR STATE OF NEW MEXICO NO. 9620 NEAL F. GODWIN

| EAGLES NEST ADDITION SITE IMPROVEMENTS | |
|---|---|
| STORM SEWER | DATE: 2/17/78 |
| | DRWN: L.M.T. |
| | CHKD: YLB |
| REVISIONS | SCALE: — |
| GODWIN ENGINEERING CORPORATION | JOB NO. 07/01 |
| | SHT. NO. 5 OF 5 |

# SPECIFICATIONS

## GENERAL

All work shall be performed in accordance with the applicable provisions of Specifications as outlined for "City Wide Utilities and Cash Paving, Contract No. 27", and "Interim Procedures for Street and Utility Design and Construction" implemented February 2, 1977 including three year performance bonds, labor and material payment bonds, and including bond under Section 8a, Sidewalk Ordinance No. 219-1972, as amended.

All item numbers in contracts refer to item numbers of City Wide Utilities and Cash Paving Contract No. 27, except item nos. E-1, E-2, and E-3.

Item E-1, Site Grading shall be performed in accordance with Sections 200, 201, and 203 of "New Mexico Standard Specifications for Public Works Construction", latest edition; except that allowable tolerance from design grade will be plus or minus two-tenths of a foot (0.2'); and Method of Measurement and Payment for same will be per Cubic Yard of excavated material, measured by contour method, in its original position only. No separate payment will be made for fill material, shrinkage, disposal of surplus material, nor clearing and grubbing.

Item E-2 and E-3 shall be performed in accordance with the requirements shown on the plans and the applicable provisions of "New Mexico Standard Specifications for Public Works Construction", latest edition.

GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

November 22, 1977

Mr. Mark Holstad
Water Resources Department
P.O. Box 1293
Albuquerque, NM 87103

Dear Mark,

This will confirm our conversation of November 18, 1977 concerning the proposed development of "Eagles Nest, Addition to the City of Albuquerque".

As you requested, we enclosed herewith, one sepia reproducible showing the lots from the recorde plat and the topography. As discussed, we anticipate submitti g construction plans on behalf of the owner to provide for site provements as follows:

1. 6" Water line from Vista Grande to the cul-de-sac of El Aguilla.
2. One fire hydrant to be located at the P.C. of the property line at the Nor h East corner of Vista Grande and El Aguilla.
3. Sanitary Sewer line from the cul-de-sac of El Aguilla to Vista Grande.
4. Street paving with curb and gutter for El Aguilla using standard residential section 30' face to face.
5. Site grading of the lots including ponding areas.
6. Drainage structure to carry water from El Aguilla to the Rio Grande River.

We have this date obtained a copy of the previously approved Drainage report from Mr. Bruno Canigliano, however, some modification is anticipated in the drainage concepts previously outlined.

As discussed, the owner of this project is most anxious to start construction, therefore, if you find the above to be acceptable, may we have your written concurre e at your earliest convenience.

Your assistance in this matter is very much appreciated. If you have any questions whatsoever, please call.

Yours very truly,

Neal F. Godwin

NFG/jh

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

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

November 30, 1977

Mr. Neal F. Godwin
Godwin Engineering Corporation
3820 Academy Parkway, North
Albuquerque, New Mexico 87109

RE: EAGLES NEST - WATER AND SEWER REQUIREMENTS

Dear Mr. Godwin:

Your letter of November 22 outlines a proposed method of serving Eagles Nest Subdivision with water and sanitary sewer. Eagles Nest is a 13 unit subdivision located at the intersection of Bridges Avenue and Vista Grande Drive N.W., zoning map H11. This letter outlines the water and sanitary requirements relative to Eagles Nest.

Water

1. Service will be from the existing 6" waterline in Vista Grande.

2. There is a change in pressure zones from zone 2WR to zone 1W at 5063' as is indicated on the attached map. This should not affect the subject subdivision.

Sanitary Sewer

1. Service will be from the existing 8" sewer line at Vista Grande and Bridges.

2. According to As-Builts, the invert elevation at Vista Grande and Bridges is 5090.27; however, this should be verified in the field.

3. The sanitary sewer extension to be made will be gravity. As the current topography of several of the lots is such that gravity service may be impossible, either sufficient fill must be provided for these lots or private lift pumps must be provided for each of the appropriate lots to lift the sewage to the City main line.

If a review of the above letter or any further information is required, please contact this office.

Sincerely,

Mark Holstad

Mark Holstad, Engineer
Water Resources Department

MH:ds

Attachment

cc: Q.R. Kielich, Public Works Department w/attachment
M.E. Mendoza w/attachment
F/ Eagles Nest w/attachment

GODWIN
ENGINEERING
CORPORATION

*Professional Consultants*

3820 ACADEMY PARKWAY, NORTH • ALBUQUERQUE, NEW MEXICO 87109 • PHONE (505) 345-8371

February 16, 1978 07-01

Mr. V. M. Kimmick, City Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Dear Mr. Kimmick:

We have been retained to provide design, survey, and other consulting services for improvements to Eagles Nest Addition. The improvements will include water, sewer, street paving, drainage, and site grading. Eagles Nest contains one short cul-de-sac which was dedicated by the plat thereof as filed on March 31, 1977.

Please accept this letter as our request for your approval of our company to provide the indicated services.

Respectfully submitted,

Neal F. Godwin, President
Reg. PE & LS No. 3620

APPROVED: V. M. Kimmick City Engineer DATE: 2-21-78

City Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico

February 28, 1978
Date

Gentlemen:

I hereby request that a preliminary estimate of costs be prepared for:

Water Main
Sanitary Sewer
Storm Sewer
Street Paving
Alley Paving
Curb & Gutter
(Circle Desired Facility)

to serve the following property:

Lot or Tract Nos. Lots 1 through 13

Block No. _____

MRGCD Map No. _____

Name of Subdivision Eagles Nest Addition

The above description includes all the property to be served by the facilities, including accessory property, such as: accessory buildings, parking space, or other uses.

I am concerned with the facility extensions as the agent, owner, lessee (Circle one) of this property.

The owner of this property is _____
NAME

_____
STREET CITY STATE ZIP CODE

The described property is / is not (Circle One) annexed to the City.

Ray B. Pacioni
(REQUESTOR)

RAY PACIONI
3616 NORTH 54 th PLACE
(STREET ADDRESS)

PHOENIX, ARIZ. 85018
(CITY STATE ZIP CODE)

(602) 959-5267
(TELEPHONE NUMBER)

NO. _____

## DESIGN FEE DEPOSIT

DATE: _____

CITY ENGINEER
DEPARTMENT OF PUBLIC WORKS
ALBUQUERQUE, NEW MEXICO

PROJECT NUMBER(S)

SAS _____
W _____
P _____
SS _____
M _____

TOTAL FEE $_____ CHECK $_____ CASH $_____

### DEPOSIT SCHEDULE

| PROJECT | UNIT COST | QUANTITY | = | DEPOSIT FEE | CREDIT |
|---|---|---|---|---|---|
| SANITARY SEWER | $.21 per LF X | | = | | 0103714 |
| WATER | $.17 per LF X | | = | | 0103714 |
| PAVING | $.10 per SY X | | = | | 0103714 |
| STORM SEWER | $1.32 per LF X | | = | | 0103714 |
| | | | = | | |
| | TOTAL - - - - - - - - - - | | $ | | |

RECEIPT OF THE ABOVE DEPOSIT IS HEREBY ACKNOWLEDGED.

Robert E. Landon Treasurer
CITY OF ALBUQUERQUE

CC: City Engineer
(2 Copies)

DATE: _____

INSTRUCTIONS:

1. Prepare in quadruplicate.
2. Payments must be made at Treasurer's Office by applicant.
3. Two copies of signed form will be delivered to the City Engineer.
4. All quantities for deposit fees will be measured from plats or City maps.
5. Deposit fees shall be held by the Treasurer for a period of one year after the date on the final estimate. During this period these deposited fees may be applied to the required total Engineering Fee (10% of estimated cost). Deposits not utilized within above period will be transferred to the City Treasury. No refunds will be made.

# A G R E E M E N T

FOR ENGINEERING SERVICES
OFFICE OF CITY ENGINEER
PUBLIC WORKS DEPARTMENT
CITY OF ALBUQUERQUE, NEW MEXICO

THE UNDERSIGNED PERSON(S), FIRM, OR CORPORATION, HEREBY AGREES THAT UPON THE COMPLETION OF THE CONSTRUCTION OF_____.

_____

TO BE KNOWN AS CONSTRUCTION PROJECT NO._____AND LOCATED AS FOLLOWS:

HE OR THEY SHALL PAY TO THE CITY OF ALBUQUERQUE ANY PAYMENTS DUE, WITHIN THIRTY DAYS (30 DAYS) AFTER RECEIVING NOTICE THEREOF. IF THE ESTIMATED ~~10%~~ 6% ENGINEERING FEE IS LESS THAN ACTUAL "AS BUILT" THEN HE OR THEY SHALL PAY TO THE CITY OF ALBUQUERQUE, WITHOUT DEMAND THE DIFFERENCE: IF THE ESTIMATED ~~10%~~ 6% ENGINEERING FEE IS MORE THAN ACTUAL "AS BUILT", THEN THE CITY OF ALBUQUERQUE WILL REFUND THE DIFFERENCE TO THE PERSON(S) WHO ADVANCED THE PAYMENT. THIS PAYMENT IS FOR THE FURNISHING OF CONSTRUCTION PLANS, SPECIFICATIONS, SUPERVISION AND INSPECTION FOR SAID PROJECT(S).

NOTE: THE CITY ASSUMES NO RESPONSIBILITY FOR THE MAINTENANCE OF THIS PROJECT UNTIL A LETTER OF ACCEPTANCE HAS BEEN WRITTEN BY THE DIRECTOR OF PUBLIC WORKS.

SIGNED AND SEALED THIS 24th DAY OF February
A.D. 19 78

IN THE PRESENCE OF:

Mary N. Weston
Notary Public
My Commission Expires
August 2, 1980

FIRM OR CORPORATION
BY Ray B. Tocon

February 28, 1978
Date

Mr. Ray L. Dawson, Contract Manager
Public Works Department
P. O. Box 1293
Albuquerque, New Mexico 87103

Sir:

Reference our Private AHBA Contract for Water and/or Sewer extensions in _____ Addition.

Water Estimate No. _____ Sewer Estimate No. _____.

I request that there be no pro-rata on this Contract.

(FILL IN ONLY IF PRO-RATA REQUESTED)

I request that the cost of these extensions be pro-rated, and the pro-rata cost be collected from the following described property: _____

_____

_____

I presently own the balance of the property served and/or _____

_____.

NAME Ray B. Pacioni
RAY PACIONI

ADDRESS 3616 NORTH 54 th PLACE

PHOENIX, ARIZ. 85018

CITY SEWER/WATER LINES CONSTRUCTION AGREEMENT

THE UNDERSIGNED PERSON(S), FIRMS OR CORPORATION AGREES TO CONSTRUCT SEWER AND/OR WATER LINES IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE, NEW MEXICO STANDARD SPECIFICATIONS FOR SEWER AND WATER LINES, INCLUDING THE EXECUTION OF ALL BOND FORMS ATTACHED HERETO AND THE FURNISHING OF CERTIFICATES OF INSURANCE AS REQUIRED IN THE SPECIFICATIONS, INCLUDING THE CITY, ITS AGENTS, SERVANTS AND EMPLOYEES AS A BENEFICIARY THEREUNDER.

STREETS TO HAVE SEWER AND/OR WATER LINES CONSTRUCTED THEREIN ARE AS FOLLOWS:

_____

_____

_____

_____

_____

SIGNED AND SEALED THIS 24th DAY OF February A.D. 1978

IN THE PRESENCE OF:

Ray B. Pacioni
FIRM OR CORPORATION

Mary N. Cureton
Notary Public

BY _____

My Commission Expires August 2, 1980

CITY PAVING CONSTRUCTION AGREEMENT

THE UNDERSIGNED PERSON(S), FIRMS OR CORPORATIONS AGREES TO CONSTRUCT RESIDENTIAL STREET PAVING INCLUDING ALL INCIDENTAL WORK OF ADJUSTING MANHOLES, VALVE BOXES, ETC., TO GRADE IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE, NEW MEXICO SPECIFICATIONS FOR CITY CASH PAVING NO. 13 (APPLICABLE PARTS), AS PREPARED IN THE OFFICE OF THE CITY ENGINEER; INCLUDING THE EXECUTION OF ALL BOND FORMS ATTACHED HERETO AND THE FURNISHING OF CERTIFICATES OF INSURANCE AS REQUIRED IN THE SPECIFICATIONS INCLUDING THE CITY, ITS AGENTS, SERVANTS AND EMPLOYEES AS A BENEFICIARY THEREUNDER:

STREETS TO BE PAVED UNDER THIS AGREEMENT ARE DESCRIBED AS FOLLOWS:

SIGNED AND SEALED THIS 24th DAY OF February A.D. 1978

IN THE PRESENCE OF:

Mary N. Weston
Notary Public

Ray B. Paconi
FIRM OR CORPORATION

My Commission Expires
August 2, 1980

BY:

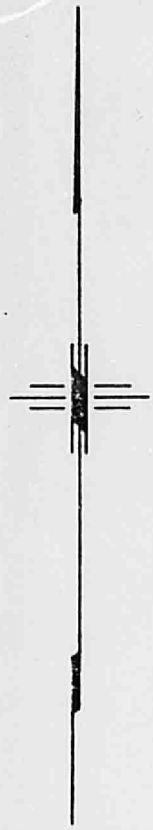
INSERT PERMIT/S

This Plan
will be shot
IN two Sections

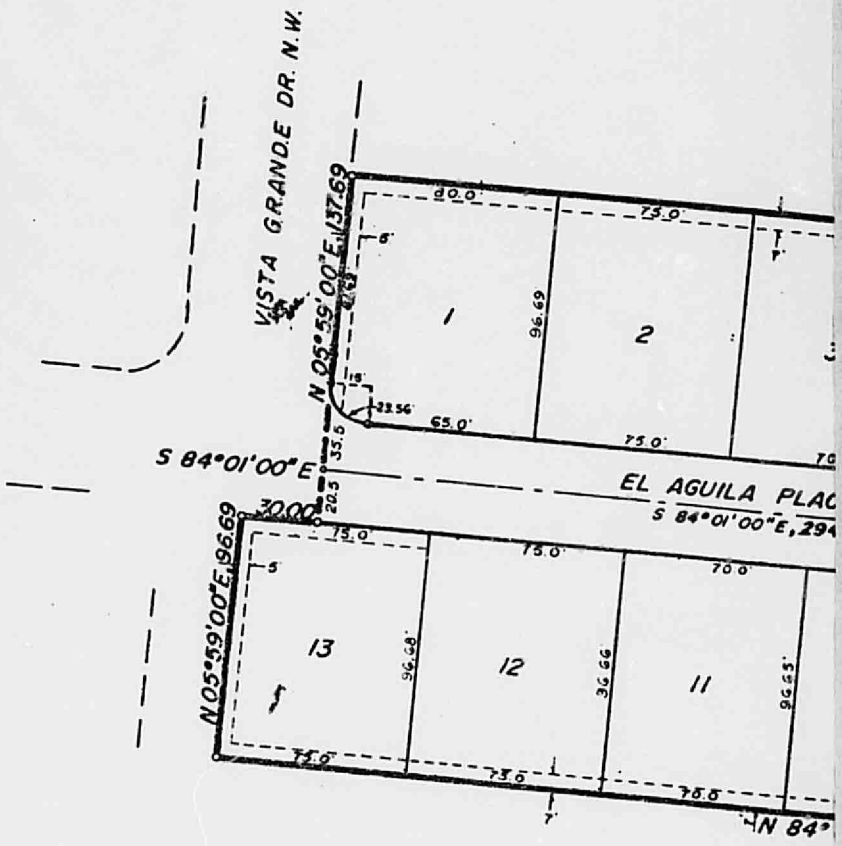
76-461

-11-1976

tor
.Mex.



Scale: 1" = 50'



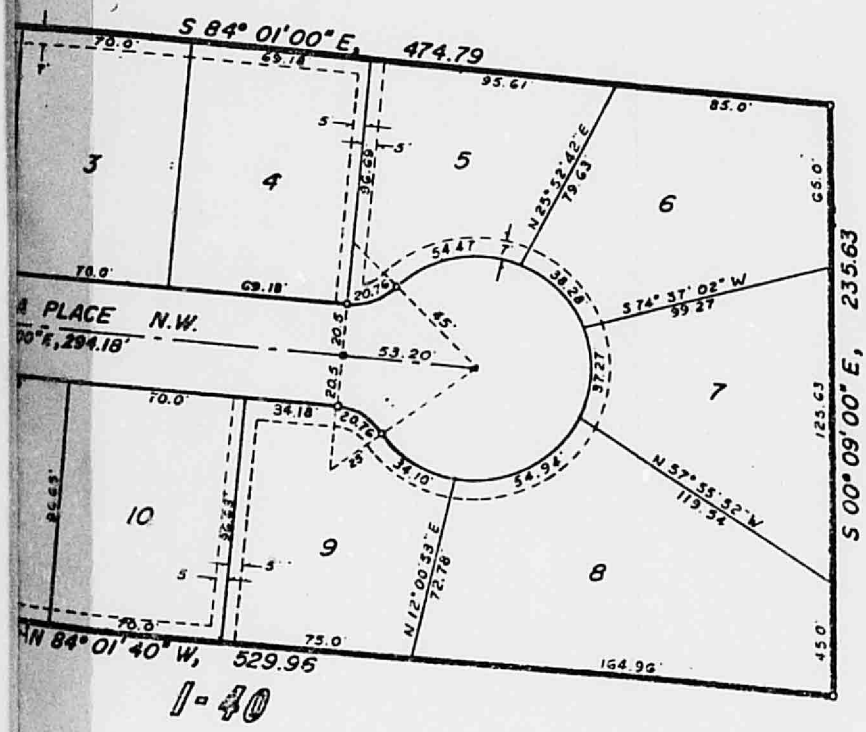

8-23-76

The foregoing Replat of the northerly eighty-four and thirty
in Block numbered Seven (7), of THE PALISADES, an Addition

# EAGLES NEST
## an addition
## Albuquerque, N. Mex.

77 17763
77 17763

State of New Mexico
County of Bernalillo } ss
This instrument was filed for record on
MAR 1977
At 9 o'clock A.M. recorded in Vol. C12
of records of said County Folio 17
Clerk & Recorder
Deputy Clerk




thirty eight one hundreds feet (84.38) of Lot numbered Nine (9) and all of Lot numbered Ten (10)
Addition to the City of Albuquerque, New Mexico as the same are shown and designated on said plat

DRAINAGE REPORT

FOR

EAGLES NEST ADDITION

ALBUQUERQUE, NEW MEXICO

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
STATE OF NEW MEXICO
NO. 3620
NEAL F. GODWIN

Prepared by:

Godwin Engineering Corporation
April 28, 1978 07-01

# DRAINAGE REPORT FOR
# EAGLES NEST ADDITION

## Introduction

The Eagles Nest Addition is an approved and recorded subdivision which lies immediately north of Interstate I-40 and extends from Vista Grande eastward to the west bank of the Rio Grande River. The subdivision contains 13 single family lots situated around a cul-de-sac approximately 400 feet long named El Aguila Place. (See Exhibit "A" attached).

A previous drainage report for the subdivision dated 7/15/76 was approved on 8/11/76 by the City of Albuquerque Engineering Department in accordance with AMAFCA Resolution 1972-2. That report quantified on-site ponding requirements and contemplated that certain drainage would be allowed to leave the site by draining westerly to Vista Grande. Subsequently, in 1977 the subdivision was acquired by new ownership who wanted to proceed with development of the lots. The slope of the land is such that in order to develop the lots in accordance with the 1976 drainage plan, some very expensive fill and retaining walls would have been required on the east two-thirds of the property (See Exhibit "B" attached). In discussing this problem with the City staff, it was suggested that the drainage might be carried eastward and thence down the west bank of the Rio Grande to the river.

After four months of effort in this direction, it became apparent that:

1. Ownership of the west bank of the Rio Grande could not be clearly determined by the City of Albuquerque Property Management Department for right-of-way pruposes.
2. A right-of-way could not be obtained thru whatever interest the

Middle Rio Grande Conservancy District might have in the river bank property.

3. Any run down structure on the river bank which would satisfy the City Engineering Department as to structural adequacy would be very expensive to build and generally undesireable from the City's point of view.

Further discussion of these problems with the City staff and the State Highway Department revealed that a plan could be devised that would effectively retain all on-site drainage resulting from development of the lots. See Exhibit "C" attached.

Purpose and Scope

The purpose of this report is to set forth the computations and factors related to the present plan for on-site retention of development generated drainage. Construction Plans for street and utility improvements have at this point been approved for engineering adequacy by the City staff and thus no discussion of street width or other general subdivision characteristics will be given herein.

Drainage Routing Concepts

As had been contemplated by the 1976 drainage plan, all excess drainage generated on the northern tier of lots will be retained in ponds on those lots. The street paving will be constructed with a north to south cross slope and no crown, so that all street drainage will flow to the south gutter of the street. Curb openings will be provided on the south side of the street near each side lot line between lots 6 thru 13 (7 locations).

Street drainage will thereby be allowed to leave the street at each side lot line rather than accumulate all at one point. The portion of street

drainage entering each of the south tier of lots will then be retained on that lot along with development generated drainage from the lot itself.

On lots 7 and 8, some minor amounts of sheet flow may occur from rear yards and fill slopes in the same pattern and quantity as presently occurs on the natural terrain. No special treatment will be required for that eventuality.

Factors

Average lot size for the subdivision is approximately 6790 square feet.

Average rooftop area will be 2000 square feet per lot.

Paved street and sidewalk area is 15610 square feet or 2230 square feet per lot for lots 7 thru 13.

Landscaped street area is 2940 square feet or 420 square feet per lot for lots 7 thru 13.

Tributary areas to ponding on lots 1 thru 6 are:

| | |
|---|---|
| rooftops | = 2000 sq. ft. |
| yard areas | = 3500 sq. ft. |
| total per lot | = 5500 sq. ft. |

Approximately 1300 square feet of yard area on each of lots 1 thru 6 will drain to the street and thence to ponding on lots 7 thru 13. Or

$\frac{1300 \times 6}{7}$ = 1100 square feet additional tributary yard area for each of lots 7 thru 13.

Tributary areas to ponding on lots 7 thru 13 are:

| | |
|---|---|
| rooftops | = 2000 sq. ft. |
| paved areas | = 2230 sq. ft. |
| yard areas | = 4790 sq. ft. |
| yard area from lots 1-6 | = 1100 sq. ft. |

landscaped street = 420 sq. ft.

Coefficients are:

yard area = (30% at 0.95 and 70% at 0.15) = 0.40

rooftops and paved area - 0.95

Calculations

Composite coefficient for lots 1 thru 6:

$$\frac{2000 \times 0.95}{5500} + \frac{3500 \times 0.40}{5500} = 0.59$$

Composite coefficient for lots 7 thru 13:

$$\frac{(2000 + 2230) \times 0.95}{10540} + \frac{(4790 + 1100 + 420) \times 0.40}{10540} = 0.62$$

R(100 yr. - 6 hr) = 2.5 inches

Required ponding on each of lots 1 thru 6 is:

$$\frac{0.59 \times 2.5 \times 5500}{12} = 676 \text{ cu.ft.}$$

Required ponding for each of lots 7 thru 13 is:

$$\frac{0.62 \times 2.5 \times 10540}{12} = 1361 \text{ cu.ft.}$$

Conclusions and Recommendations

From the foregoing calculations it is clear that substantially all on-site drainage can be retained on site, thereby eliminating the need for any run down structure to the Rio Grande River. Further, that the subdivision can be graded to slope with the natural lay of the land, thereby eliminating the need for excessive fills and retaining walls.

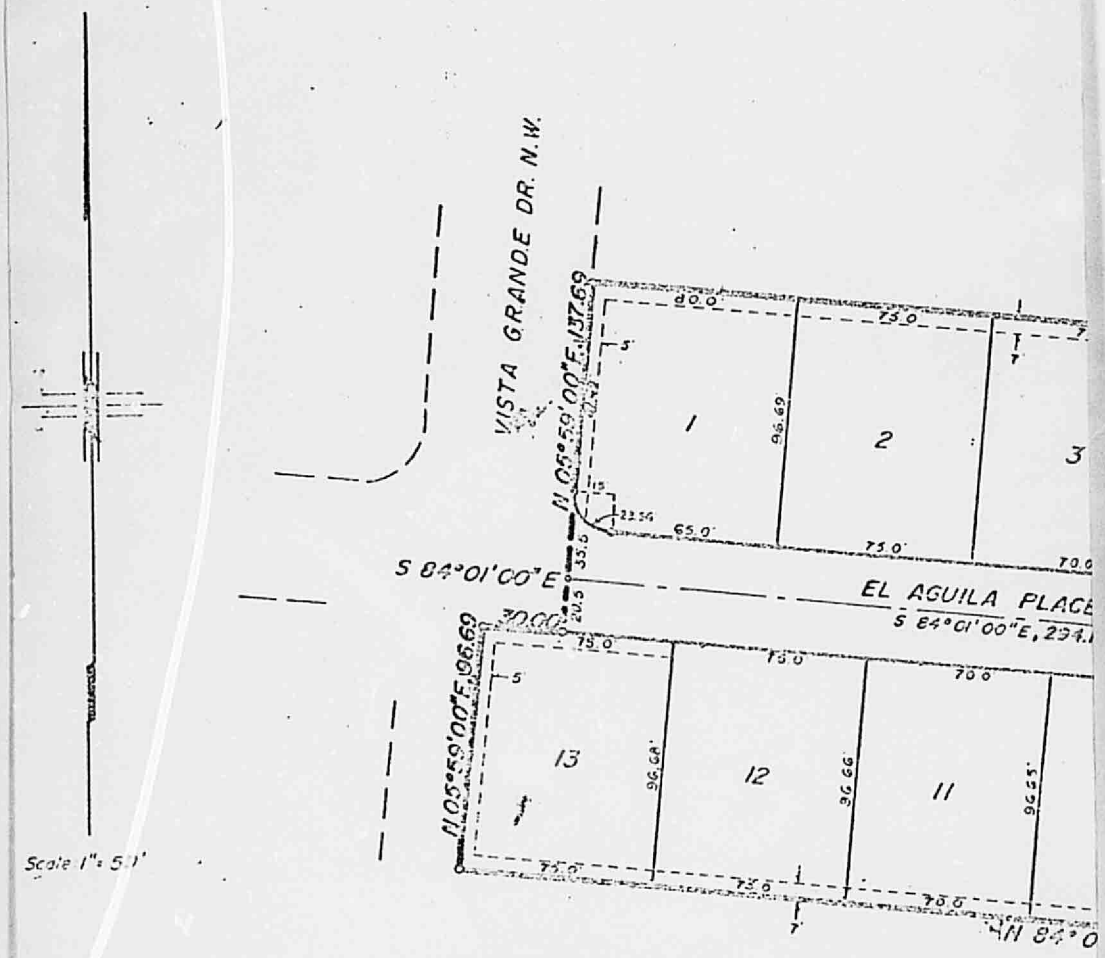
It is recommended that:

1. The lots be graded in accordance with Exhibit "C" including ponding areas.
2. All garages and driveways be placed on the uphill side of the lots so as to not interfere with ponding areas.

3. Lots 1 thru 6 have two ponds per lot of 338 cu. ft. capacity each in front and rear with swales as shown on Exhibit "C".
4. Lots 7 thru 13 have one extended pond of 1361 cu. ft. capacity on each lot with swales as shown on Exhibit "C".
5. Typical pond dimensions and swales are as indicated on sections A-A and B-B on Sheet 2 of 2 of Construction Plans.
6. That no impermeable lining material be placed in the bottom of any ponding areas.

This Plan
will be shot
IN two Sections

6-461




8-23-76

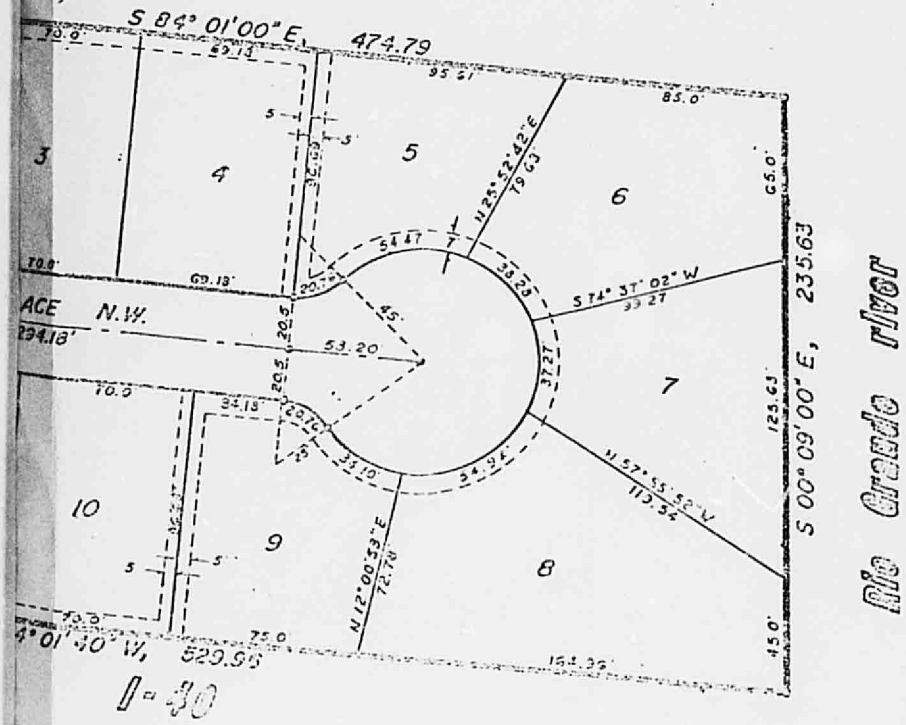
The foregoing Plat of the northerly eighty-four and thirty-

# FAGRAS NESC
## an addition
## Albuquerque, N. Mex.

77 19783
93 [illegible]

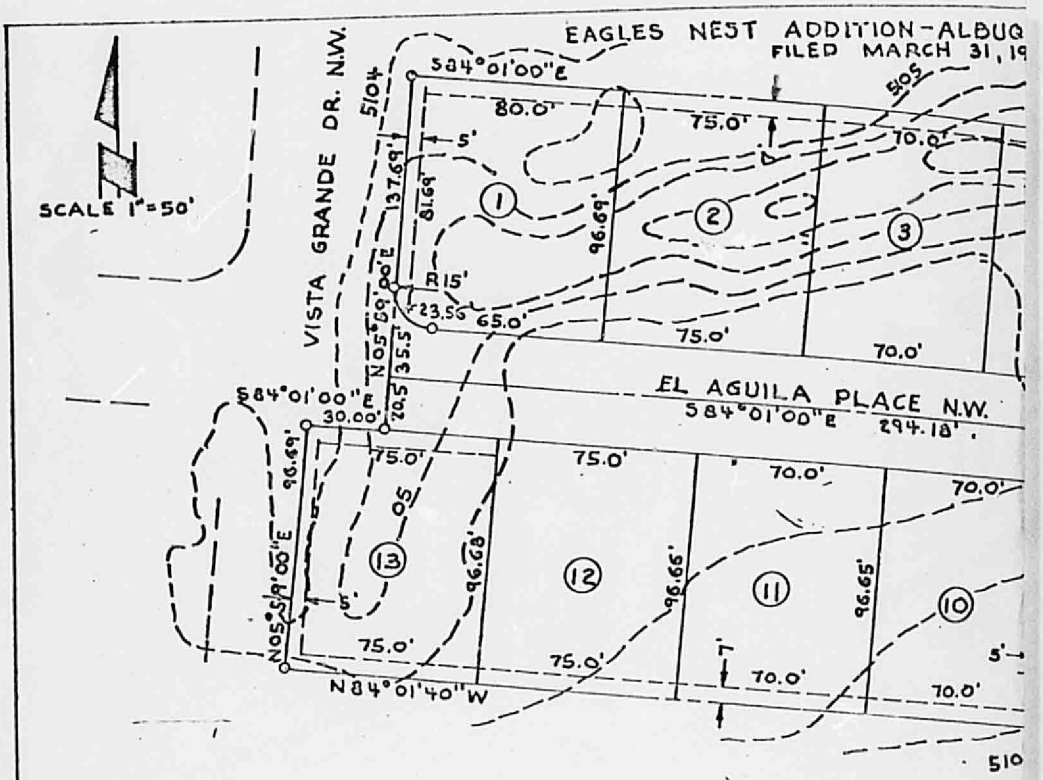
EXHIBIT "A"

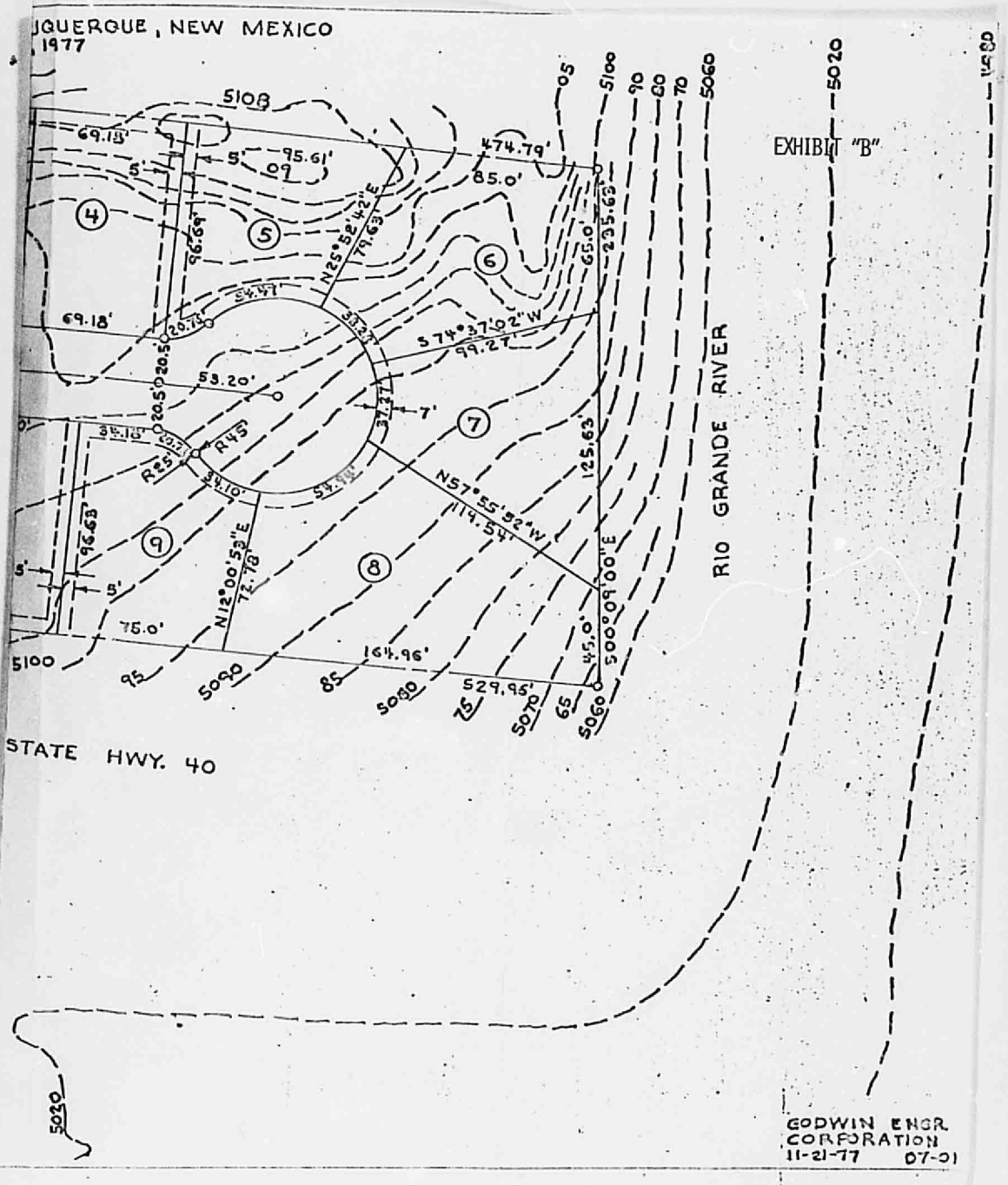
State of New Mexico
County of Bernalillo } SS
This instrument was filed for record on
MAR 7 1977
At [illegible] o'clock [illegible] m. Recorded in Vol. C12
of records of said County Folio 97
[illegible] Clerk & Recorder
Deputy Clerk

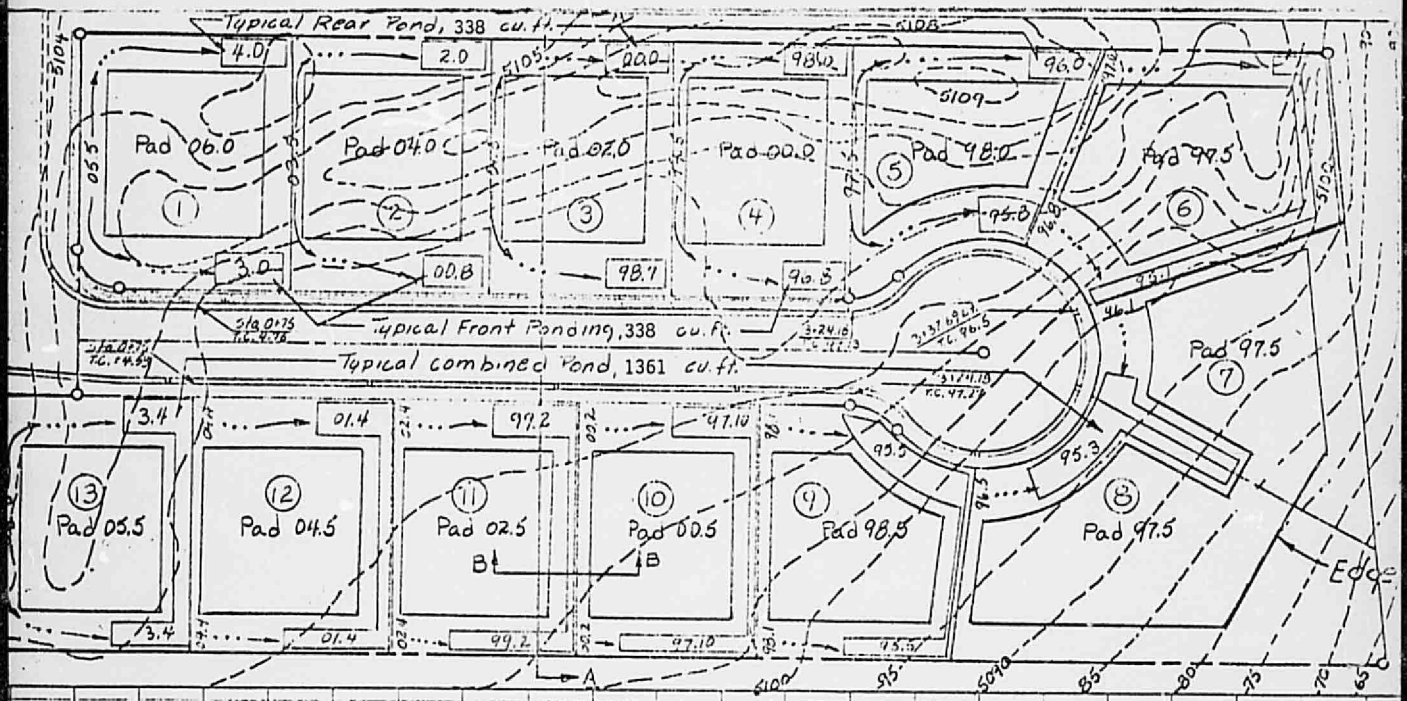



[illegible] (Du-3a) of Lot number Nine (9) and all of Lot number Ten (10)

This Plan
will be shot
IN two Sections




JQUERQUE, NEW MEXICO
1977
EXHIBIT "B"
RIO GRANDE RIVER
STATE HWY. 40
5108
5100
5090
5080
5070
5060
5020
5030
474.79'
85.0'
95.61'
69.18'
53.20'
99.27'
119.54'
164.96'
529.95'
125.63'
235.63'
45.0'
75.0'
96.69'
79.63'
72.78'
N25°52'42"E
S74°37'02"W
N57°55'52"W
N12°00'53"E
S00°09'00"E
R45
R25
GODWIN ENGR
CORPORATION
11-21-77 07-01




EAGLES NEST GRADING PLAN

SCALE 1" = 50'

EXHIBIT "C"

CITY OF ALBUQUERQUE, NEW MEXICO
CITY ENGINEER'S OFFICE

MEMORANDUM - March 31, 1978
(Date)

TO:
- [ ] Robert Fosnaugh, Traffic Engineer
- [ ] William Otto, Water Engineer-2 copies
- [x] Bruno Conegliano, Assistant City Engineer-Hydrology
- [ ] Dwayne Sheppard, Assistant City Engineer-Field
- [ ] Bob Kielich, Assistant City Engineer-Design/Design Engineer
- [ ] Monte Urban, Chief Surveyor/Grant Snyder
- [ ] George Paul, Street Maintenance Engineer
- [ ]
- [ ]

FROM: Q. R. Kielich, Assistant City Engineer-Design

SUBJECT: EAGLES NEST ADDITION

Attached drawings are for WATER, SANITARY SEWER, STORM SEWER, PAVING, STREET GRADES, DRAINAGE, AND _____, for subject proposed project.

Request review and comments on attached drawings. Typed comments will be submitted to CeliaTomlinson _____, by April 7, 1978.

QRK/tl

Attachments

Call Frank Benavidez
Assoc. Land Surveyors.
881-3432

# DRAINAGE REPORT
# FOR
# EAGLES NEST SUBDIVISION
# ALBUQUERQUE, NEW MEXICO

PREPARED BY: [illegible] P.E. No.5048 July 15, 1976

Ned Godwin

OBJECTIVE:
The general objective of this report is to determine the treatment of drainage runoff in the Eagles Nest Addition, a proposed development for patio homes, and be in accordance with the guide lines set forth by the AMAFCA Drainage Resolution of July 1972-2.

LOCATION, TERRAIN AND SOIL TYPE:

Eagles Nest Addition is a 2.6 acre tract, located on the West Mesa. It is bounded on the South by Interstate 40, on the West by Vista Grande Drive N.W., a paved and guttered street, on the North by undeveloped land and on the East by the top bank of the Rio Grande River.

EXTERNAL DRAINAGE:

Due to the location of the land and the manner in which the New Mexico Highway Dept. constructed Interstate 40, approximately one-half of the runoff is toward the river and the rest is toward Vista Grande Drive N.W. and Interstate 40, with a slight swale which keeps the runoff from going into the Interstate and instead diverts it to Vista Grande Drive N.W. This runoff is minimal, approximately 3 cfs.

INTERNAL DRAINAGE AND PROPOSED DEVELOPMENT:

In order to make the tract more usable, a retaining wall will be constructed along the easterly boundary line of proposed lot numbered 12 and along the southerly boundary line of proposed Lots numbered 12 and 13. A garden wall will be constructed on the North, East and South sides of the addition. The only street, a cul-de-sac, will be paved, 30 feet from face to face and will slope at a 0.50% grade towards the intersection of Bridges and Vista Grande N.W.
Single family patio homes will be constructed, utilizing approximately 2100 square feet of roof area and 500 square feet of driveways and sidewalks per lot. Some grass and southwest landscaping will be utilized on each lot.
In order to minimize the amount of runoff that will be caused by the development, the back and front yards will be used for retaining water. Only the water coming off of the sidewalks and driveways will be drained into the street.
Finished floors of the patio homes will be a minimum of 18 inches above the banks of the ponds to insure against flooding.

COMPUTATIONS:

RUNOFF THAT WILL BE DIRECTED TO BRIDGES N.W.

| | | | |
|---|---|---|---|
| SIDEWALKS AND DRIVEWAYS | 500 sq.ft. per lot X 22 | = | 11,000 sq.ft. |
| STREET | 300' X 30' | = | 9,000 sq.ft. |
| BULB OF CUL DE SAC | | | 3,978 sq.ft. |
| | TOTAL | | 23,978 sq.ft. |

23,978 sq.ft. = 0.55 acre
Length of longest run = 360 ft.
Average slope = 0.50%

Tc = 10 min. (as shown in fig. 3)

$I = \frac{189}{t+25}$ 100 yr. storm (as shown in fig.4) $= \frac{189}{10 + 25} = 5.4$

C = 0.95

Q = CIA = 0.95 X 5.4 X 0.55 = 2.82 cfs

This runoff (2.82 cfs) will be diverted to Bridges N.W. toward the drainage channel located at the intersection of Bridges and Alamogordo N.W. Bridges N.W. is a 32' face to face of curb street and slopes 0.5% to the west and has a capacity of 56.45 cfs. The present runoff of the tract toward the street is computed as follows:

A = 1.25 acres C = 0.45 I = 5.4
Q = 1.25 X 0.45 X 5.4 = 3.03 cfs

Therefore there is less runoff toward the street after development.

RUNOFF TO BE RETAINED:
PER LOT:
ROOFTOPS: 2100 sq.ft. ½ will drain to front yard
½ will drain to rear yard

PONDING:

ROOF 1050 sq.ft. GROUND 620 sq.ft = 1670 sq.ft = 0.04 acre
Using I = 5.4, C = 0.45
Q = ACI = 0.04 X 0.45 X 5.4 = 0.097 cfs
Using 3" in 6 hours for 100 year storm
Volume = 0.25 X 0.04 X 43560 X 0.45 = 196 cu.ft.
For 0.5' (6") deep $A = \frac{196}{.5} = 392$ 20' X 20' pond or 11.2' Rad.
A pond measuring 20' X 20' or having a radius of 11.2' and being 0.5' deep will be constructed in the front yard and a similar size pond will be constructed in the rear yard.

CONCLUSION:

The development of Eagles Nest Addition should incorporate the foregoing drainage plan to protect the tract itself and to insure a minimum runoff to the existing improved streets.

HYDROLOGY H11/D7 2 of 2 5 PLANS

# APPENDIX

A. LOCATION MAP

B. SOIL TEST

C. PROPOSED PLAT

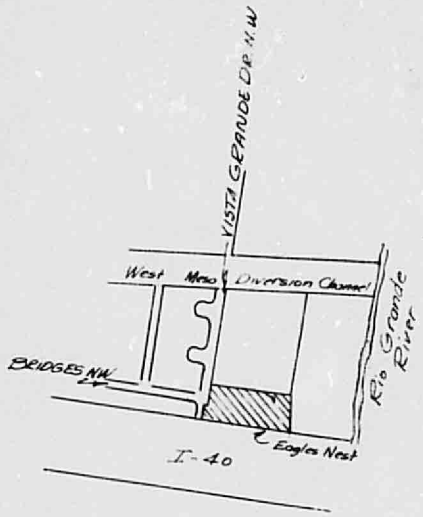
D. TOPOGRAPHIC MAP.

E. TYPICAL LOT PONDING SKETCH

F. FIGURE 3

G. FIGURE 4

LOCATION MAP
(A)



SOIL TEST
(B)

# Albuquerque TESTING LABORATORY

SUB SOIL INVESTIGATION — PHYSICAL TESTING — INSPECTION — RESEARCH

532 JEFFERSON ST., N. E. P. O. BOX 4101 PHONE 255-8916 255-1322
ALBUQUERQUE, NEW MEXICO 87106

Lab No. 6506 Date July 22, 1976

Report to Associated Land Surveyors (Frank G. Benavidez)

Submitted By Same Sampled By Steve Guiterrez, A.T.Lab.Representative

Project

Source of Material One (1) Shallow depth percolation test made at the requested location on the site on July 21, 1976, and at the approximate center of the Eagles Nest, an addition to the City of Albuquerque, New Mexico.

TEST RESULTS

**Test Data:** Percolation test was run in accordance with the procedures set forth in the U.S. Department of Health, Education & Welfare, Public Health Service Publication No. 526, "Manual of Septic Tank Practice". Test was run at a depth of approximately 1 foot beneath the existing ground's surface in a 1 foot ± square hole. The hole was allowed to saturate with water prior to running the test.

**Test Results:**

| Time Interval (Minutes) | Drop in Water level (Inches) |
|---|---|
| 0 to 10 | 3 |
| 10 to 20 | 2-3/4 |
| 20 to 30 | 2-1/4 |
| 30 to 40 | **2-3/16 |
| 40 to 50 | 1-13/16 |
| 50 to 60 | 1-9/16 |

**Percolation Rate 6.4

*Time in minutes required for water level to drop one inch, the drop occurring during the final 10 minute time period being used to calculate the percolation rate.

**Hole refilled and measurements continued.

**Grain Size Analysis:** (Cumulative % Passing)

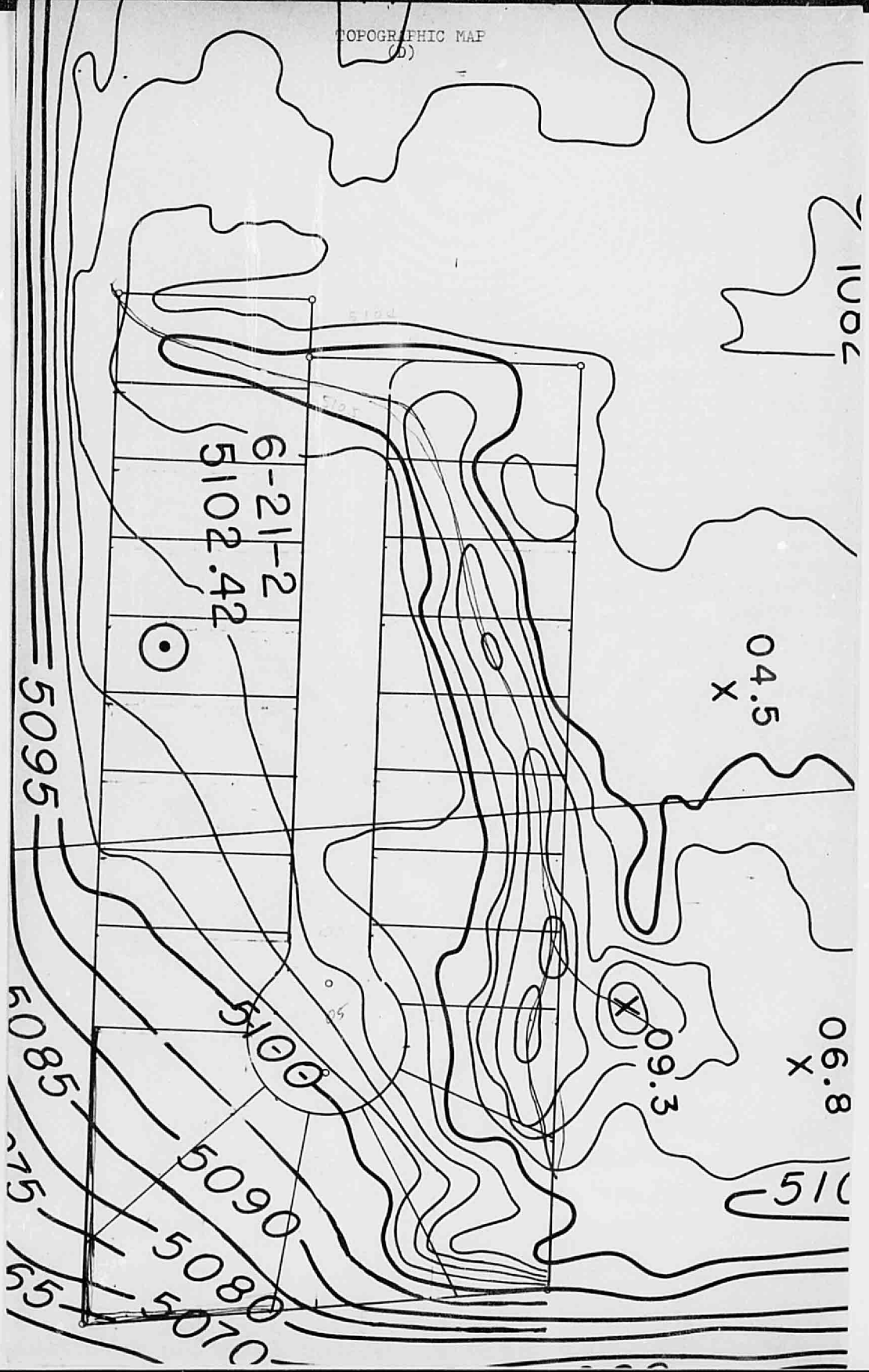
| Screen Size | |
|---|---|
| 3/8" | 100 |
| No.4 | 99.6 |
| No.10 | 97.2 |
| No.40 | 85.5 |
| No.80 | 55.6 |
| No.200 | 19.8 |
| Wash Test | 19.0 |

**Unified Soils Classification**

SM - Light tan, silty fine sand with slight calcareous cementation.

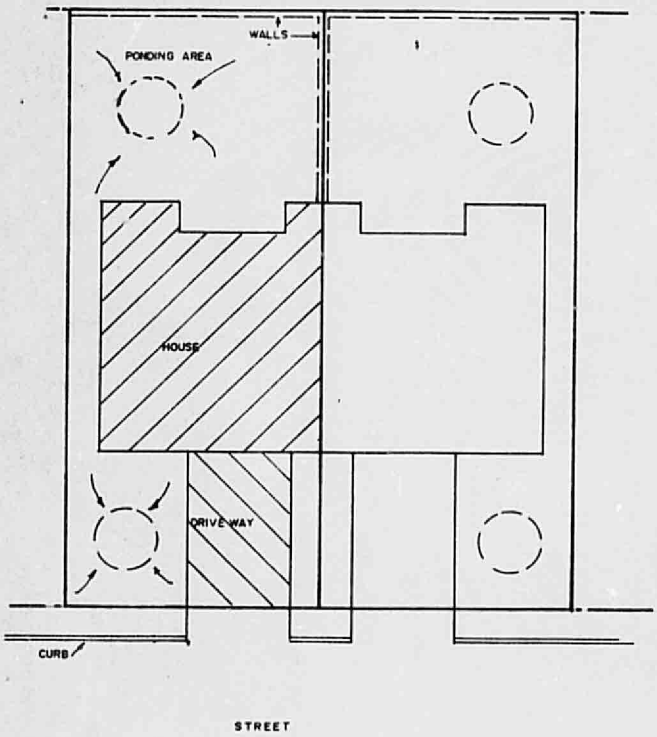
Respectfully Submitted,
ALBUQUERQUE TESTING LAB.
Original Signed By
Robert K. Lloyd
Registered Professional Engineer

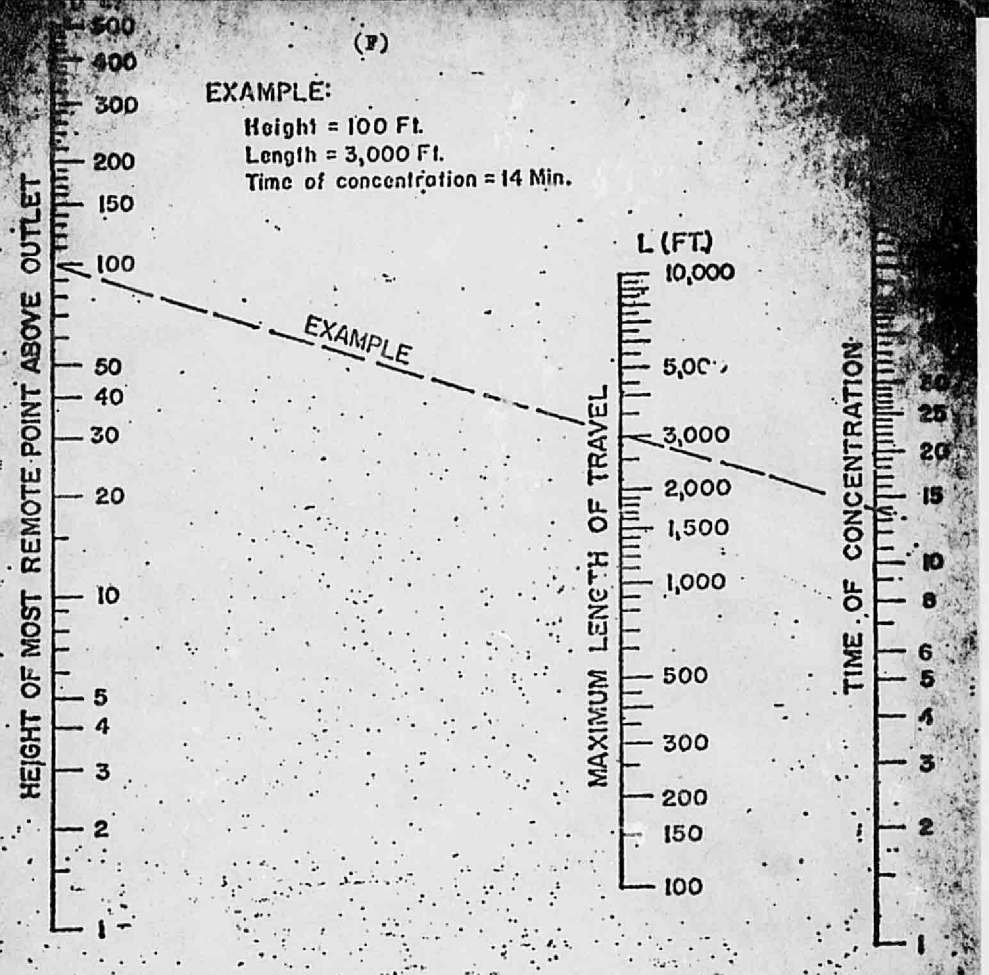
TOPOGRAPHIC MAP
(D)



TYPICAL PONDING SKETCH

(E)





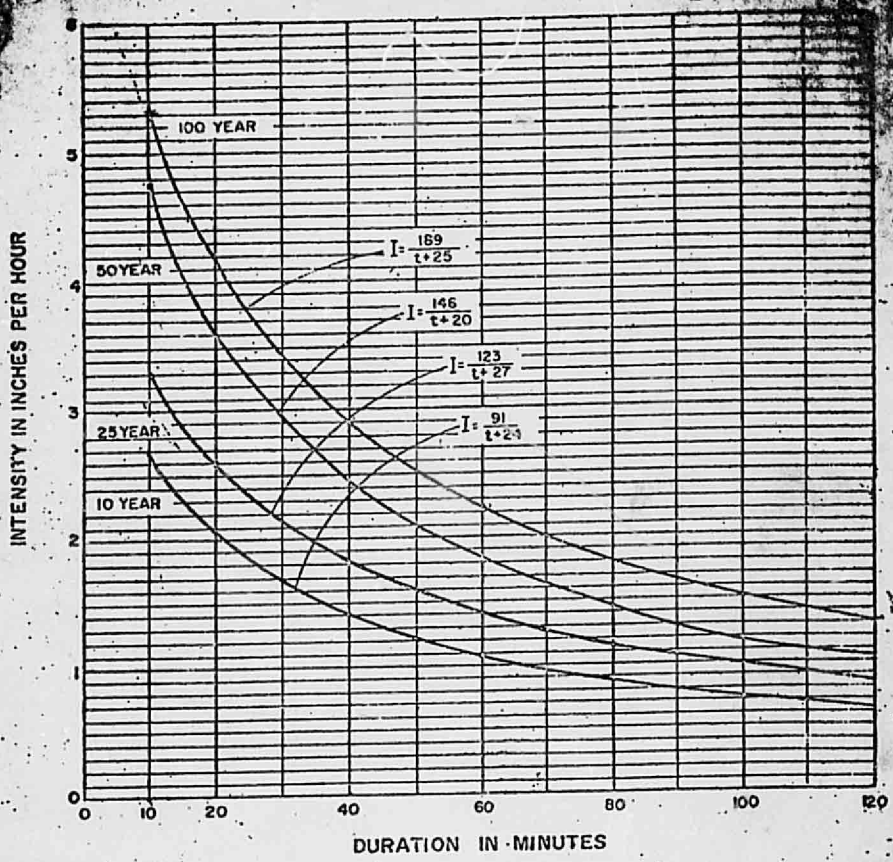

Based on study by P. Z. Kirpich,
Civil Engineering, Vol. 10, No. 6, June 1940, p. 332

# TIME OF CONCENTRATION OF SMALL DRAINAGE BASINS

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

FIGURE III

(G)




MASTER PLAN OF DRAINAGE
CITY OF ALBUQUERQUE - NEW MEXICO
AND ENVIRONS

INTENSITY DURATION
FREQUENCY CURVES

(ALBUQUERQUE AREA-1)

GORDON HERKENHOFF & ASSOC.
CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO

FIGURE IV