

Note: Lots A-1, A-2, & A3, Block
D, Glorio Heights Addition
are subject to flooding
from the 100.- year storm.
Minimum finished floor
elevations for structures on
each lot shall be
established as:

Lot A1 - 5096.0'

Lot A2 - 5096.5'

Lot A3 - 5097.0'

Prior to building permit
release, a drainage plan
shall be submitted
and approved. Development
of each lot shall be
consistent with drainage
guidelines outlined in the
approved drainage report
dated 11/9/82 which is
on file with the
City Engineer's Office.

C.A. (PAT) COONCE & ASSOC.

ENVIRONMENTAL, WATER RESOURCES, & SANITARY CONSULTING ENGINEERS

PHONE (505) 296-1089

12324 PINERIDGE, N.E.
ALBUQUERQUE, N.M. 87112

DRAINAGE AND GRADING REQUIREMENT FOR LOTS A-1, A-2 AND A-3, BLOCK D, GLENRIO
HEIGHTS ADDITION

In assessing the best available information on the existing drainage conditions at Coors and Hanover, N.W., regarding the 100 year maximum volume flood, the following assumptions, methods and conclusions are presented.

The drainage model is the existing Coors Road system which drains to the north from the north side of Las Volcanes Rd. to Interstate 40. The drainage system includes 28 inlets: 4 double "C", 23 single "C" and 1 single "D". This section of Coors has three ponding areas in its length. These are reaches in which the slope direction changes. The last 10 inlets feed into a 48" RCP with a slope of 0.15% North. This empties into an open channel and thence flows into the Rio Grande river. The carrying capacity of this storm sewer is 56 cfs, which means that each inlet is capable of delivering an average of 2 cfs in a 100 year maximum volume storm.

The best estimate of the storm runoff was made from the preliminary FBFM numbers 350002 0021 and 0027. The volume was estimated by planimeter and average end area method. Only two contours (5094 foot and 5096 foot) are within this area. The average low point within the 5094 foot area was taken as 5093, which is the average of the low points within this area taken from the latest city topographic maps. Using this method, a total runoff of 96 acre-feet is ponded below the 5096 foot level. The 5094 foot contour contains 15.3 acre-feet.

If one assumes that the drainage system carries its full capacity of 56 cfs or 28 acre-feet during the six hour storm, there is still a deficit of 68 acre-feet. This means that the area will still pond to the 5094.3 level on Hanover to the east of Coors and go east on Hanover.

To add confidence to the fact that the Coors-Hanover basin will fill, one could assume that the drainage area is too high by 50%; this would give an inflow of 48 acre-feet, and an outflow of 28 acre-feet, or a deficit of 20 acre-feet. Since the 5094 contour only contains 15.3 acre-feet, again the basin would flood to the 5094.3 contour and drain eastward by way of Hanover.

It is therefore concluded that the best estimates to date are that the area of Coors and Hanover, N.W. during a 100 year maximum volume storm will fill to the 5094.3 foot level, which is the existing high point for containment on Hanover, N.W. east of the intersection of Coors and Hanover, N.W.

As a result of this analysis, it is recommended that lots 4-16 and 25-28, Block D, Glenrio Heights Addition at the southeast corner of Coors and Hanover, N.W. between Hanover and Brayton Road, N.W., have the conceptual drainage plan subject to the following conditions. The buildings should be located so that the finish floor is a minimum of 5096 ft. elevation and the total site after development should contain the same volume below the 5094.3 foot contour as it now contains in the natural state. In addition, the total developed runoff volume for this site must be contained below the 5094.3 level.



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

J11 - D17

September 21, 1982

Mr. Pat Coonce
C. A. Coonce & Associates
12324 Pineridge N.E.
Albuquerque, N.M. 87112

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR GLENRIO HEIGHTS LOTS 4-16 &
25-28, BLOCK D

Dear Pat:

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

a. Statement: "Discussion with Denney and Gross and the State Highway Department indicates that the Coors system was designed for the 10 year developed max. Q. storm."

Comment: What watershed was used in the analysis? Did the analysis just investigate flows generated in Coors Blvd. or did it incorporate runoff generated by contributing streets and developments?

b. Statement: "The above referenced inlets drain into a 48 inch RCP storm sewer with a slope of 0.15%."

Comment: What is the capacity of the storm sewer? How does this capacity compare to the total runoff generated in the watershed?

c. Statement: "The currently accepted flood plain maps, FHBM Panel No. 35002-00048, show this property to be out of the 100 year flood plain. This is due to the storm sewer system which was incorporated into the Coors Blvd. construction."

Comment: The Dec. 1979 maps are no longer the current document for obtaining flood hazard information. This office is permitted to use the maps prepared by Bohannon-Huston for studies of this type. How was it confirmed that the former maps incorporated the storm sewer into the analysis?

MUNICIPAL DEVELOPMENT DEPARTMENT

Richard S. Heller, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

Letter to Pat Co
CONCEPTUAL GRADING & DRAINAGE PLAN
GLENRIO HEIGHTS LOTS 4-16 & 25-28, BLK D
PAGE 2

d. Statement: "The assumptions which were made for this review draft are 1.25 inches of water contributed per unit area of watershed."

Comment: Where was this value obtained? What is the definition of a "unit area of watershed"?

e. Statement: "...the existing FHBM is appropriate and the storm sewer system was designed to handle the developed 10 year maximum Q. storm."

Comment: This statement must be verified quantitatively. Assumptions should also be included.

f. Statement: "Therefore no ponding was recommended for this conceptual grading and drainage plan."

Comment: How was this conclusion reached? The rate at which runoff leaves a site is determined by the capacity of the downstream drainage system. Also, the 100-year storm event is used to analyze the system.

The checklist contained in Chapter 22-Section 7 of the Development Process Manual should be used when preparing a Conceptual Grading and Drainage Plan. Please call if you have any questions concerning the above comments or the DPM checklist.

Very truly yours,



Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

cc: Hilda Cruz



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INFORMATION SHEET

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 LEGAL DESCRIPTION Block A Lot D, Glenrio Heights Addition
 ENGINEERING FIRM C.A. Coonce and Assoc. CONTACT C.A. Coonce
 ADDRESS 12324 Pineridge, N.E., 87112 PHONE 296-1089
 OWNER Arthur Dow CONTACT Hilda Cruz
 ADDRESS 1001 2nd, S.W. PHONE 293-4833
 ARCHITECT None CONTACT
 ADDRESS PHONE
 SURVEYOR Oliver Trujillo CONTACT Oliver Trujillo
 ADDRESS 221 Avalon Pl., N.W. PHONE None
 CONTRACTOR None CONTACT
 ADDRESS PHONE
 DATE SUBMITTED September 14, 1982
 BY C.A. Coonce

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HEIGHTS ADDITION

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The best estimate of the storm runoff was made from the preliminary FBFM numbers 350002 0021 and 0027. The volume was estimated by planimeter and average end area method. Only two contours (5094 foot and 5096 foot) are within this area. The average low point within the 5094 foot area was taken as 5093, which is the average of the low points within this area taken from the latest city topographic maps. Using this method, a total runoff of 96 acre-feet is ponded below the 5096 foot level. The 5094 foot contour contains 15.3 acre-feet.

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ALBUQUERQUE, N.M. 87112

CONCEPTUAL GRADING AND DRAINAGE PLAN FOR LOT A, BLOCK D OF
GLENRIO HEIGHTS ADDITION

This conceptual Grading and Drainage Plan is submitted for lots A-1, A-2 and A-3 of Block D of the Glenrio Heights Addition in Albuquerque, New Mexico as shown on a summary plat dated August 2, 1982. The total area is 2.5604 acres.

The building site locations and dimensions are preliminary and are based on what prospective purchasers intend to build. At present, only options to buy exist and no detailed designs have been accomplished.

The site is bounded on all street sides by curb, gutter and paved streets. It is proposed to change the eyelid at 59th Street and Glomi Place to a single 75 ft. R curve at the property line.

The attached drawings are sheets 1 and 2 of 2. Sheet 1 is the conceptual Grading and Drainage Plan, and sheet 2 consists of the surveyors elevations.

The intersection of Hanover and Coors N.W. is adequately drained. Discussions with Denny and Gross and the State Highway Department indicate that the Coors system was designed for the 10 year developed max. Q. storm. This corner is protected by eight storm drain inlets (seven single "C" inlets and one single "D" inlet). There are four single "C" inlets on Coors to the south of Hanover, one bordering the property in question and one directly across Coors at the western curb. There are two storm inlets on Hanover to the west of Coors. The one on the north is a single "C" and the one on the south is a single "D". Between Coors and the above mentioned Hanover inlets is a change of slope water block. North of the intersection of Hanover and Coors on Coors is a change of slope water block with a single "C" inlet on each side of Coors north of the water block. Along both Brayton and Hanover to the east of Coors, the flow direction changes to the east away from Coors. The above referenced inlets drain into a 48 inch RCP storm sewer with a slope of 0.15%.

The currently accepted flood plain maps, FHEM Panel No. 350002 0004B, show this property to be out of the 100 year flood plain. This is due to the storm sewer system which was incorporated into the Coors Blvd. construction.

The review draft of the FHEM, a study under progress by Bohannon Huston, Inc, shows this property within the 100 year flood plain. The assumptions which were made for this review draft are 1.25 inches of water contributed per unit area of the watershed, using this volume to compute the elevation needed to contain the total amount of water. No allowance was made for the existing storm drainage system, which contains at least 10 inlets within this area shown as a flood plain. There is no doubt that the results are approximately correct, based upon the assumptions made. However, if one follows this assumption to its logical conclusion, there would be no justification any storm sewer system throughout the city in so far as changing the flood hazard boundary is concerned.

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Due to the small lot size and the recommended grades, no unusual erosion problems exist and no special control measures are recommended other than normal construction practises of watering for dust control and for maximum compaction with minimum compactive effort

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RECEIVED

SEP 14 1982

ENGINEERING

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*who
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The intersection of Hanover and Coors N.W. is adequately drained. Discussions with Denny and Gross and the State Highway Department indicate that the Coors system was designed for the 10 year developed max. Q. storm. This corner is protected by eight storm drain inlets (seven single "C" inlets and one single "D" inlet). There are four single "C" inlets on Coors to the south of Hanover, one bordering the property in question and one directly across Coors at the western curb. There are two storm inlets on Hanover to the west of Coors. The one on the north is a single "C" and the one on the south is a single "D". Between Coors and the above mentioned Hanover inlets is a change of slope water block. North of the intersection of Hanover and Coors on Coors is a change of slope water block with a single "C" inlet on each side of Coors north of the water block. Along both Brayton and Hanover to the east of Coors, the flow direction changes to the east away from Coors. The above referenced inlets drain into a 48 inch RCP storm sewer with a slope of 0.15%.

The currently accepted flood plain maps, FHEM Panel No. 350002 0004B, show this property to be out of the 100 year flood plain. This is due to the storm sewer system which was incorporated into the Coors Blvd. construction.

The review draft of the FHEM, a study under progress by Bohannon Huston, Inc., shows this property within the 100 year flood plain. The assumptions which were made for this review draft are 1.25 inches of water contributed per unit area of the watershed, using this volume to compute the elevation needed to contain the total amount of water. No allowance was made for the existing storm drainage system, which contains at least 10 inlets within this area shown as a flood plain. There is no doubt that the results are approximately correct, based upon the assumptions made. However, if one follows this assumption to its logical conclusion, there would be no justification any storm sewer system throughout the city in so far as changing the flood hazard boundary is concerned.

Based upon the above discussion, it is concluded that the existing FHEM is appropriate and the storm sewer system was designed to handle the developed 10 year max. Q. storm. Therefore no ponding was recommended for this conceptual Grading and Drainage Plan. There is no offsite flow across the property and none is proposed.

Due to the small lot size and the recommended grades, no unusual erosion problems exist and no special control measures are recommended other than normal construction practises of watering for dust control and for maximum compaction with minimum compactive effort