HYDROLOGY K16/D9 WALGREENS RADIO SHACK

K16-D9

WALGREENS

RADIO SHACK

2 PLANS

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.

4520 MONTGOMERY BLVD. SUITE 3
ALBUQUERQUE, N.M. 87109
(505) 881-7376

February 22, 1984

John Armstrong
City Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Walgreens at Central and Dartmouth S.E.
Drainage Plan (K16-D9)

K16-D9

Dear Mr. Armstrong;

In response to your letter dated February 6, 1984 and our conversation this morning, I offer the following information;

1. Designation for existing and proposed grades have been clarified. Additional grades have been added as requested to clearly define the directions of flow, and sections have been added where necessary. The plan and profile for the alleyway has been extended to include the full length from Dailey Place to Silver Ave.. Additional information has been included to define the exit from the existing doorway west of the new parking lot, through the landscaping strip.

   Hydrologic and hydraulic calculations for the alleyway are attached indicating the quantity depth and velocity of flows. The anticipated velocities are 1.3 p.s.f., which is well below the minimum erosive velocity as noted in the Handbook of Hydraulics, Sixth Edition.

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HYDROLOGY SECTION

John Armstrong
City Hydrology
City of Albuquerque
February 22, 1984

2. Flows leaving the north parking lot will be approximately 2.17 c.f.s.. Clarification of the plan indicate that parking lot flows will be diverted and prevent from entering the existing buildings south of Dailey Place.

3. A new information sheet is attached.

Upon receipt of your approval of the grading plan, two copies will be delivered to the Architect and Contractor for insertion into the field sets.

Your timely assistance in this matter is appreciated.

Sincerely,

Victor J. Chavez

Victor J. Chavez, P.E.

VJC/dls
Encl.

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FEB 23 1984
HYDROLOGY SECTION

INFORMATION SHEET

PROJECT TITLE Walgreens - Central Ave. TYPE OF SUBMITTAL Drainage Plan

ZONE ATLAS PAGE NO. K-16-Z CITY ADDRESS See Below*

LEGAL DESCRIPTION University Heights

ENGINEERING FIRM Chavez-Grieves Cons.Eng.,Inc. CONTACT Victor J. Chavez

ADDRESS 4520 Montgomery N.E.,Ste.#3 PHONE (505) 881-7376

OWNER Parkland Hills, Inc. CONTACT Al Anella

ADDRESS Sandia Savings Building Suite 1200, 87102 PHONE (505) 247-2222

ARCHITECT de La Torre/Rainhart CONTACT George Rainhart

ADDRESS 6121 Indian School Rd.,N.E.#141 PHONE (505) 881-0550

SURVEYOR Ronald A. Forstbauer Surveying Co. CONTACT Ronald A. Forstbauer

ADDRESS 516 Chama N.E. PHONE (505) 268-0248

CONTRACTOR The Jaynes Corporation CONTACT Pat Woodford

ADDRESS 2906 Broadway N.E. PHONE (505) 345-8591

PRE-DESIGN MEETING:

____ YES
_X_ NO
____ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL

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

*(Address)
Walgreens 2950 Central S.E.,Store A
Radio Shack 2950 Central S.E.,Store B
Wild Rose 2950 Central S.E.,Store C

Silver Sunbeam 103 Dartmouth S.E.

DATE SUBMITTED February 22, 1984

BY: Victor J. Chavez, P.E.

RECEIVED FEB 2 5 1984 HYDROLOGY SECTION

Job Walgreens on Central
Subject Drainage report.
Client de la Torre & Reinhart

Sheet No. 1 of
Job No.
By VJC Date 7/27/83

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc. Albuquerque, NM

Area Draining from Site (This site only) = 200(142) = 28,400 ft² = 0.65 Ac

$Q = 0.90(5.4)(.65) = 3.16$ cfs.

Distance to Silver. 200'

Total Drop = 2.28' from site

= 1.9' from exist. prop. to west.

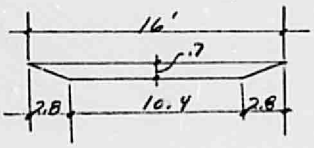
Assume 8" curb.

Slope Avail = 1.03/200 = 0.005

Det. Sec. Req. to transmit 3.16 cfs.

Use n = 0.030

$$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$$



$A = 10.4(.7) + 2.8(.7) = 9.24$ ft²

$R = 9.24/16.17 = 0.57$

$$Q = \frac{1.486}{0.03}(9.24)(.57)^{.66}(0.005)^{1/2} = 22.2 \text{ cfs.}$$

$V = 22.2/9.24 = 2.4$ fps.

for d = .25' A = 2.85 ft² R = 0.0.23

$Q = 49.53(2.85)(0.23)^{.66}(0.0207) = 3.74$

∴ Water will flow appr. 3.7 cfs.

w/ a velocity of 1.3 f.p.s.

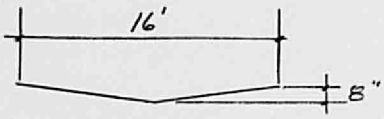
FEB 3 1984
HYDROLOGY SECTION

Job Walgreens on Central
Subject Drainage Report
Client de la Torre & Reinhart

Sheet No. 1-a of
Job No.
By VJC Date 3/84

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc. Albuquerque, NM

Revise Alley section as requested by Bob Keilick.



Typical Section.

$Q = 3.16$ cfs.

$Q = \frac{1.486}{0.03} A R^{2/3} (.005)^{1/2}$

$Q = 3.5 A R^{2/3}$

for	$d = .33'$	$A = 1.32$	$R = 0.16$	$Q = 1.36$.
	$d = .5$	$A = 2.5$	$R = 0.25$	$Q = 3.47$
	$d = .45$	$A = 2.43$	$R = 0.22$	$Q = 3.10$

Water depth = 5.4"

Vel. = 1.30 f.p.s.

Job Volcanoes on Central

Subject Drainage Report

Client de la Torre & Reinhart

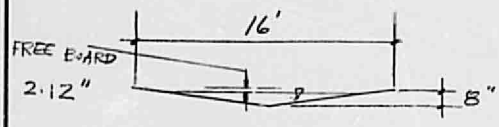
Sheet No. 1a of

Job No.

By VJC Date 2/84

CHAVEZ-GRIEVES / CONSULTING ENGINEERS, Inc. Albuquerque, NM

Revise Alley section as requested by Bob Keilick.



Typical Section.

$Q = 3.16$ cfs.

$Q = \frac{1.486}{0.03} A R^{2/3} (.005)^{1/2}$

$Q = 3.5 A R^{2/3}$

for $d = .33'$ $A = 1.32$ $R = 0.16$ $Q = 1.36$ cfs

$d = .5$ $A = 3.0$ $R = 0.25$ $Q = 4.17$ cfs

$d = .45$ $A = 2.43$ $R = 0.22$ $Q = 3.10$ cfs

Water depth = 5.4"

Vel = 1.30 f.p.s.

Revise for $s = 0.0032$ $Q = 2.802 A R^{2/3}$

$d = .45$ $A = 2.43$ $R = 0.22$ $Q = 2.48$ cfs.

$d = .5$ $A = 3.0$ $R = 0.25$ $Q = 3.34$ cfs

$d = .47$ $A = 2.65$ $R = 0.234$ $Q = 2.81$

App. depth = 0.49 feet

$V = 1.11$ f.p.s.

$\frac{V^2}{2G} = 1.11/64.4 = 0.019'$

FREE BOARD $= 8'' - 12 \times 0.49' = 2.12''$

```
FLOW RATE=  3.16  CFS
SIDE SLOPE=  12  TO 1
BOTTOM WIDTH=  .5  FEET
CHANNEL SLOPE=  .0032  FEET PER FEET
N FACTOR(ROUGHNESS)=  .03
FLOW DEPTH IS  .469524501712  FEET
FROUDE NUMBER IS  .281201443962
```

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

February 6, 1984

Mr. Victor J. Chavez
Chavez/Grieves Consulting Engineers, Inc.
4520 Montgomery Boulevard NE Suite 3
Albuquerque, NM 87109

REF: WALGREENS AT CENTRAL AND DARTMOUTH SE DRAINAGE PLAN (K19-D9)

Dear Mr. Chavez:

These are my comments on the plan and letter as submitted January 23, 1984:

1. The plan must address grades, existing and proposed, along the property lines, more sepcifically:

   a. Show both existing and proposed grades.

   b. Use sections to improve clarity.

   c. Grading in the easement north of the alley must be addressed. Show how these grades interface with the proposed alley grades.

   d. Alley grades must address the entire alley, not part of it.

      i. Hydraulic and hydrology calculations must be submitted to show that water will be conveyed to Silver Ave, without excessive erosion or damage to adjoining property. Water levels must have a reasonable amount of freeboard. Item 1.b. of your letter says calculations were attached, but this office failed to receive them.

      ii. If you are going to consider that no water enters the easement, north of the alley, show sufficient detail (Section, etc) to guarantee this. Submit calculations. I fail to see how the contractor can match existing grades in the dirt if those grades are not shown on the plan-show proposed grades.

e. Elevations for the landscaped area west of the proposed north parking lot have not been sufficiently addressed:

   i. Grades outside the existing building to the west are above finished floor. Show how, with a section, you intend to keep water out of the existing building. It should be noted that there is an existing door on the east side of that building which is not shown on the plan, how is this to be handled?

   ii. Show roof drainage, if any, into this area.

f. Existing elevations on the plan are inconsistant. The legend shows them in parenthesis and it appears some are not shown that way on the plan, or are they proposed elevations?

g. The elevations on the drivepad on Central do not meet City standards. They must be 0.33 feet above the top of the curb at the Right-of-Way.

2. Analyze the flows leaving the north parking area. This means quantify the flow and show hydraulic calculations to show they will actually turn west and not enter the building. It is not clear, from the plan, what it actually looks like in front of that building, the sidewalk is higher than finished floor. Are there any doors in front of the building? Your letter says there is an 8" curb in front but the plan does not bear this out.

3. Please include an information sheet with all submittals, whether they be new or resubmittals.

4. In general, the plan needs to demonstrate that the drainage can exit the site to public Right-of-Way without damaging the adjoining properties. I suggest in the future you refer to the "Drainage Report and Drainage Plan Checklist" in the "Development Process Manual". This would probably result in fewer comments on the plan. As for prior approval of certain items, in most cases comments not included in previous letters were brought about by clarification on later submittals or something that was not shown at all on prior submittals. In any case, if a legitimate comment is made, even if we missed it on an earlier submittal, and it is for the overall good of the project, then you should try to comply with it because arguing the point will do little, if any good.

Please call this office for clarification and further explanation.

Sincerely,

John Armstrong

JA:mrk

cc: Lee Gamelsky, De La Torre/Rainhart, 6121 Indian School Rd. NE #141

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.
4520 MONTGOMERY BLVD. SUITE 3
ALBUQUERQUE, N.M. 87109
(505) 881-7376

January 20, 1984

RECEIVED
JAN 25 1984
HYDROLOGY SECTION

John Armstrong
Department of Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Walgreens at Central and Dartmouth S.E.
Drainage Plan (K18-D9)

Dear Mr. Armstrong;

Attached are copies of previous correspondence from the City of Albuquerque with comments on the above referenced drainage plan. It was implied, each time, that provided adequate response was received by the City the drainage plan would be approved.

The letter dated June 9, 1983 had one specific item requiring a change on the plan and four items requiring either a clarification or supplemental information. The items requested were delivered to the City, including an Information Sheet.

On July 28, 1983 a conditional approval of a drainage plan was obtained provided six items were addressed. All six items have been addressed with the exception of item 1. An 8 inch water block was requested and a 6 inch water block was provided. This follow up information was provided to the City as early as October, 1983.

On January 17. 1984 the latest comments on the drainage plan were received. A total of thirteen items are listed. Included are items that have either been previously addressed or should not relate to this drainage plan. Supplemental information on each of the items is as follows:

1. Grades within 25 feet of the property line have been requested. I would like to point out that on December 23, 1983, a letter was received from the Hydrology Department which states, "If it is a property line, grading outside this area is not allowed." A copy of this letter can be provided upon request. Existing grades are shown on the attached plan. The only grading change outside of the property line that is proposed is the change associated with the required regrading of the alley way. A copy of the proposed

alley grades has been submitted.

1.a. Structures west of the new building are shown on the attached plan. Included are the door locations and finished floor elevations. As noted in Item 1, above, the only off-site grading will be in the alley south of the new building. No changes in the area immediately west are proposed. The new development will not drain into this area and has no impact on it.

1.b. Attached is a copy of the calculations for the anticipated hydraulic conditions for flows in the alley. The anticipated velocity is 1.3 f.p.s.. While it is impossible to totally eliminate erosion on an earth lined channel the small amount of erosion, which may occur, is acceptable. As you know, soil erosion is a function of a number of variables in the physical and chemical make-up of the in-situ soils. This information is not available in the soils report for the site nor is it usually provided. However, in the Western Albuquerque Metropolitan Area Drainage Management Plan, soils similar to those on the site were investigated. In areas with slopes far in excess of those proposed for the alley way an average of .15 ac.ft./sq.mi./yr. of sediment will be produced. When compared to the alley, 0.11 ac., the maximum sedimentation, which should be anticipated, is 1.12 c.f. per year. This would erode at a rate of 0.00047 feet per year if all the erosion occurs in fifty percent of the alley. This would appear to be an acceptable rate.

1.b.i. Water will not enter the alley from the parking area north of the building, as can be seen by the one-half foot drop toward the road in the existing elevations. The new construction matches existing elevations along the north edge of the alley. Since no construction is proposed in the alley, details have not been provided.

1.c. Elevations for the landscaped area west of the north parking lot are shown on the attached plan. Runoff from the proposed construction will not flow toward the adjacent building. There are no doors or roof drains on the adjacent building which impact the proposed development.

2. The finished elevations for the drive pad on Central are shown.

3. The sanitary sewer under the building has been abandoned.

4. The date shown on the legal description was the date that the survey was prepared. The filing date of August 3, 1983 was approximately three months after the submittal of the drainage plan.

5. A new TBM has been shown on the plans.

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HYDROLOGY SECTION

6. Revision date is shown on attached plan.

7. Flows leaving the north parking lot will encounter a cross slope of 1.6 percent and a curb 8 inches high prior to going into any building. The change in directions begins prior to leaving the parking lot and a full 90° change is not required. Additional elevations have been added to help clarify this.

8. In our last submittal in July,1983 a conservative analysis of existing conditions indicated that the maximum water depth in Dartmouth would be 0.32 feet. In our subsequent conversation, both six inch and eight inch water blocks were mentioned as being adequate. Efforts to provide an eight inch water block create problems with access to the new building. The six inch block provided will adequately retain the anticipated flows in Dartmouth right-of-way. The velocity of the flows in Dartmouth will be approximately 1.95 f.p.s.. The velocity head is 0.06 feet. As a result, it does not appear that the water will be able to flow up to enter the building as noted in your comments. Even if it would "flow up the handicapped ramp" the proposed sidewalks slope away from the building.

9. A copy of the Information Sheet originally submitted in June, 1983 is attached.

Your timely assistance in resolving this matter is appreciated.

Sincerely,

Victor J. Chavez

Victor J. Chavez, P.E.

VJC/dls
Encl.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

HYDROLOGY SECTION PROJ. NO. K16-D9 DATE: 7-28-83

PLANNING DIVISION NO.

CONFERENCE RECAP

SUBJECT: Conditional approval of drainage plan for Walgreens @ Central and Dartmouth, SE

	WHO	REPRESENTING
ATTENDANCE:	John Armstrong	Hydrology - City
	Victor Chavez	Consulting Engineers, Inc.
	Lee Gamelsky	de la Torre-Reinhart P.A.

FINDINGS: The plan is conditionally approved subject to:

1. 8" Water block to be constructed at North entrance from Dartmouth to prevent public water from entering the site.
2. Private drainage easement to be dedicated across the South end of Tract "B" and will cover the present water course.
3. Existing and proposed elevations at property lines will be shown on drawings and will be approved.
4. Alley Graded:
   a. Approved by appropriate city agencies
   b. Existing approved alley grades may be used if they exist and are able to handle flows to Silver, SE.
5. Show roof drains
6. Summary plat approval and filing

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: [illegible] SIGNED: [illegible]

TITLE: City Hydrology TITLE: Cons. Eng.

DATE: 7/28/83 DATE: 7/28/83

RECEIVED JAN 23 1984 HYDROLOGY SECTION

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

K16 - D9

June 9, 1983

Mr. Gordon Walhood
Chavez-Grieves
6121 Indian School Rd. NE
Suite 120
Albuquerque, N.M. 87110

RE: DRAINAGE PLAN FOR WALGREENS ON CENTRAL

Dear Gordon:

My comments regarding the referenced plan:

1. Retention ponding cannot be allowed along the south boundary due to the fact that:

   a. the ponds will become a public attractive nuisance; and
   b. over an extended period of time damage could occur to the existing CMU due to saturation of the foundation. No CMU wall

I suggest that you either route the runoff to the street or provide some means for the ponds to drain.

2. It is stated that runoff from the north will be directed to Dailey Place. I am abit confused about the status of Dailey Place. My zone atlas shows it as being a dedicated street. Is it to be vacated?

3. In the future, please reference the Master Drainage Study for identification of flood hazard areas. The 1979 FEMA maps are of little use.

4. I would like to make a general comment regarding release rates from a site. The Drainage Ordinance is written such that no developments are "grandfathered" based on existing conditions. The criteria for each development must be evaluated in terms of the downstream capacity of the infrastructure system. In areas which have been partially or completely developed in the past, and new development takes place on the site, we do try and be practical in terms of what changes are required. I think it is important that criteria in the future be established along these lines.

5. Please supply this office with a completed copy of the Drainage Information Sheet.

Please call if you have any questions.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

INFORMATION SHEET

PROJECT TITLE Walgreens - Central Ave. TYPE OF SUBMITTAL Drainage Plan

ZONE ATLAS PAGE NO. K-16-Z CITY ADDRESS See Below*

LEGAL DESCRIPTION University Heights

ENGINEERING FIRM Chavez-Grieves Cons.Eng.,Inc CONTACT Victor J. Chavez

ADDRESS 6121 Indian School Rd.,N.E.,#220 PHONE (505) 881-7376

OWNER Parkland Hills, Inc. CONTACT Al Anella

ADDRESS Sandia Savings Bldg., Suite 1200, 87102 PHONE (505) 247-2222

ARCHITECT de La Torre/Rainhart CONTACT George Rainhart

ADDRESS 6121 Indian School Rd.,N.E.#141 PHONE (505) 881-0550

SURVEYOR Ronald A. Forstbauer Surveying Co. CONTACT Ronald A. Forstbauer

ADDRESS 516 Chama N.E. PHONE (505) 268-0248

CONTRACTOR N/A CONTACT N/A

ADDRESS N/A PHONE N/A

DATE SUBMITTED June 13, 1983

BY Victor J. Chavez, P.E.

*(Address)

Walgreems	2950 Central S.E., Store A
Radia Shack	2950 Central S.E., Store B
Wild Rose	2950 Central S.E., Store C

Silver Sunbeam 103 Dartmouth S.E.

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 17, 1984

Mr. Victor J. Chavez
Chavez Grieves/Consulting Engineers, Inc.
6121 Indian School Road NE Suite 120
Albuquerque, NM 87110

REF: WALGREENS AT CENTRAL & DARTMOUTH SE DRAINAGE PLAN (K16-D9)

Dear Mr. Chavez:

These are my comments on the above mentioned plan as submitted 1/6/84:

1. Grades, existing and proposed, must be shown, along with any improvements within a minimum of 25 feet outside the property lines.

   a. Show structures west of the new building along with finished floor elevations and door openings. Also, address the proposed grading in this area and show how it is to interface with alley grades to the south.

   b. Analyze flows down the alley and show that the proposed section will carry them without erosion.

      i) Is water entering the alley from the parking area in front of the building? If not, show enough detail (Section etc.) to guarantee proper construction.

   c. Show proposed grading in landscaped area west of the north parking area. It appears that proposed grades east of the existing building are higher than the finished floor. Show doors and roof drainage from this building and some scheme to keep water out.

2. Show the required grades on the drivepad on Central.

3. If the sanitary sewer line under the building is to be abandoned, state so on the plan.

4. The filing date on the legal description is incorrect.

5. If you propose to use the City brass cap for a bench mark, you need to show the location on the plan. This is only permissible, in lieu of a TBM on site, if the City control can be easily seen from the site.

6. Future submittals should have a revised date on the drawing.

7. Analyze the flows leaving the north parking area. It appears that they will have to make a 90° turn. Is there something adequate to turn them or will they go into the building to the south?

8. Per our conference recap of 7/28/83, the water block to be constructed at the north entrance from Dartmouth was to be eight (8) inches high. The plan shows only 6" can this be justified? Demonstrate that water from Central will not flow up the handicapped ramp and enter the building.

9. Please include an information sheet with your next submittal.

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

Thank you,

John Armstrong
Civil Egnineer/Hydrology

JA:mrk

1759

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.
6121 INDIAN SCHOOL RD., N.E. SUITE 120
ALBUQUERQUE, N.M. 87110
PH. (505) 881-7376

RECEIVED
JAN 06 1984
HYDROLOGY SECTION

LETTER OF TRANSMITTAL

TO: John Armstrong
City Hydrolpgy
City of Albuquerque
Albuquerque, NM

DATE: 1-6-84
JOB NO. D01-122-50
RE: Walgreens on Central

GENTLEMEN:

We are sending you X ATTACHED ___UNDER SEPARATE COVER the following items:

__ SHOP DI[illegible]GS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __ _____
X PRINTS __ SAMPLES

COPIES	DATE	NO.	DESCRIPTION
1			File Plat
2			Grading Plan
1			Alley Grading

THESE ARE TRANSMITTED as checked below:

__ FOR APPROVAL
X FOR YOUR USE
__ AS REQUESTED
__ FOR REVIEW AND COMMENT
__ APPROVED AS SUBMITTED
__ APPROVED AS NOTED
__ _____

__ RETURNED FOR CORRECTIONS
__ RESUBMIT ___ COPIES FOR APPROVAL
__ SUBMIT ___ COPIES FOR DISTRIBUTION
__ RETURN ___ CORRECTED PRINTS
__ PRINTS RETURNED AFTER LOAN TO US
__ FOR BIDS DUE _____ 19___

REMARKS:

Alley grades submitted to Bob Kielich on 10-9-83, still waiting for his comments. Will be forwarded upon receipt.

COPY TO: File

SIGNED: Victor J. Chavez, P.E.

If enclosures are not as noted, kindly notify us at once.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

HYDROLOGY SECTION PROJ. NO. K16-D9 DATE: 7-28-83

PLANNING DIVISION NO. _____

CONFERENCE RECAP

SUBJECT: Conditional approval of drainage plan for Walgreens @ Central and Dartmouth, SE

WHO	REPRESENTING
ATTENDANCE: John Armstrong	Hydrology - City
Victor Chavez	Consulting Engineers, Inc.
Lee Gamelsky	de la Torre-Reinhart P.A.

FINDINGS: The plan is conditionally approved subject to:

1. 8" Water block to be constructed at North entrance from Dartmouth to prevent public water from entering the site.
2. Private drainage easement to be dedicated across the South end of Tract "B" and will cover the present water course.
3. Existing and proposed elevations at property lines will be shown on drawings and will be approved.
4. Alley Graded:
   a. Approved by appropriate city agencies
   b. ~~Existing approved alley grades may be used if they exist and are able~~ to handle flows to Silver, SE.
5. Show roof drains
6. Summary plat approval and filing

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: [signature] SIGNED: V. J. Chavez

TITLE: City Hydrology TITLE: Proj Eng.

DATE: 7/28/83 DATE: 7/28/83

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.

6121 INDIAN SCHOOL RD., N.E. SUITE 220
ALBUQUERQUE, N.M. 87110
PH. (505) 881-7376

July 28, 1983

Received 7/28/83
File K16-D9

John Armstrong
City of Albuquerque
Department of Hydrology
P.O. Box 1293
Albuquerque
Albuquerque, New Mexico 87103

RE: Walgreens Drainage Plan

Dear Mr. Armstrong;

As requested, the proposed plan has been reviewed to determine the effects of flows from the site and to quantify from upstream areas to the site.

Existing conditions from the southwest corner of the site to Silver indicated a relatively level unpaved alleyway with a total available drop of 1.7 feet. Assuming a maximum of an eight inch curb at Silver, the available slope is 0.005. Provided the alley is graded with six inch deep channel and 4:1 side slopes the anticipated water depth in the event of a 100-year storm will be three inches with an average velocity of 1.3 f.p.s.. This cross-section will not allow flow to enter developed areas to the west and will have the capacity to carry additional flows from residential areas to the east.

The upstream drainage area consists mostly of rainfall along Central Avenue between Dartmouth and Wellesley Drive. A portion of this flow can be diverted to Richmond by the existing grade. The maximum flow that can reach the intersection immediately northeast of the site is less than 5 c.f.s.. Existing slope along Central Avenue is 0.008 and along Dartmouth is 0.006. This would indicate that the majority of the flow would remain in Central Avenue. For the sake of brevity, I have assumed that the split at Dartmouth and Central Avenue will be 50:50. Including flows from the parking area east of the site, the total maximum flow to the site will be 2.8 c.f.s.. With these conditions, the anticipated water depth through the site is 0.23 feet.

With the proposed conditions on the site and grading through the alleyway from the site to Silver Avenue the development will not be flooded nor increase threat of flooding to downstream areas.

Your timely assistance in this matter is greatly appreciated.

Sincerely,

Victor J. Chavez

Victor J. Chavez, P.E.

VJC/dlk

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Name of Report Walgreens, etc. Chavez-Gr

DR # K16-D4

Action taken	Date of Action	Time in Between.
Rec'd	5/24	
Intrd	6/9	
Rec'd Reply	7/18	

MUNICIPAL DEVELOPMENT DEPARTMENT

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

AN EQUAL OPPORTUNITY EMPLOYER

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.

6121 INDIAN SCHOOL RD., N.E. SUITE 120
ALBUQUERQUE, N.M. 87110
PH. (505) 881-7376

LETTER OF TRANSMITTAL

TO: City of Albuquerque
ATTN: Fred Aguirre
P.O. Box 1293
Albuquerque, New Mexico

DATE: 7-13-83
JOB NO. D01-122-50
RE: Walgreens on Central

K16.09

GENTLEMEN:

We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

__ SHOP DRAWINGS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __ _____
X PRINTS __ SAMPLES

RECEIVED
JUL 18 1983
ENGINEERING

COPIES	DATE	NO.	DESCRIPTION
4			Revised Drainage

THESE ARE TRANSMITTED as checked below:

__ FOR APPROVAL
X FOR YOUR USE
X AS REQUESTED
__ FOR REVIEW AND COMMENT
__ APPROVED AS SUBMITTED
__ APPROVED AS NOTED
__ _____

__ RETURNED FOR CORRECTIONS
__ RESUBMIT ___ COPIES FOR APPROVAL
__ SUBMIT ___ COPIES FOR DISTRIBUTION
__ RETURN ___ CORRECTED PRINTS
__ PRINTS RETURNED AFTER LOAN TO US
__ FOR BIDS DUE _____ 19__

REMARKS:

COPY TO: File

SIGNED: Victor J. Chavez, P.E.

If enclosures are not as noted, kindly notify us at once.

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

K16 - D9

June 9, 1983

Mr. Gordon Walhood
Chavez-Grieves
6121 Indian School Rd. NE
Suite 120
Albuquerque, N.M. 87110

RE: DRAINAGE PLAN FOR WALGREENS ON CENTRAL

Dear Gordon:

My comments regarding the referenced plan:

1. Retention ponding cannot be allowed along the south boundary due to the fact that:

   a. the ponds will become a public attractive nuisance; and
   b. over an extended period of time damage could occur to the existing CMU due to saturation of the foundation.

I suggest that you either route the runoff to the street or provide some means for the ponds to drain.

2. It is stated that runoff from the north will be directed to Dailey Place. I am abit confused about the status of Dailey Place. My zone atlas shows it as being a dedicated street. Is it to be vacated?

3. In the future, please reference the Master Drainage Study for identification of flood hazard areas. The 1979 FEMA maps are of little use.

4. I would like to make a general comment regarding release rates from a site. The Drainage Ordinance is written such that no developments are "grandfathered" based on existing conditions. The criteria for each development must be evaluated in terms of the downstream capacity of the infrastructure system. In areas which have been partially or completely developed in the past, and new development takes place on the site, we do try and be practical in terms of what changes are required. I think it is important that criteria in the future be established along these lines.

5. Please supply this office with a completed copy of the Drainage Information Sheet.

Please call if you have any questions.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

CHAVEZ GRIEVES / CONSULTING ENGINEERS, INC.
6121 INDIAN SCHOOL RD., N.E. SUITE 120
ALBUQUERQUE, N.M. 87110
PH. (505) 881-7376

LETTER OF TRANSMITTAL

TO: City Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

DATE: 6-8-83
JOB NO. D01-122-50
RE: Walgreens on Central

GENTLEMEN:

We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

__ SHOP DRAWINGS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __ _____
X PRINTS __ SAMPLES

RECEIVED
JUN 08 1983
ENGINEERING

COPIES	DATE	NO.	DESCRIPTION
2	6-8-83		Civil Site Plans

THESE ARE TRANSMITTED as checked below:

X FOR APPROVAL
__ FOR YOUR USE
__ AS REQUESTED
__ FOR REVIEW AND COMMENT
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__ _____

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__ RETURN ___ CORRECTED PRINTS
__ PRINTS RETURNED AFTER LOAN TO US
__ FOR BIDS DUE _____ 19___

REMARKS:
Please log-in for approval

COPY TO: File

SIGNED: Gordon A. Walhood, Jr., P.E.

If enclosures are not as noted, kindly notify us at once.

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

HYDROLOGY SECTION PROJ. NO. _____ DATE: 4/18/83

PLANNING DIVISION NO. _____

CONFERENCE RECAP

K16

SUBJECT: Lots 12, 13 & 14, Block 32, University Hts Subd.

WHO	REPRESENTING
ATTENDANCE: Fred J. Aguirre	
Vic Chavez	
Brian Tong	

FINDINGS:

1. Ponding not required - existing impervious area
2. Discharge into a public R/W via an approved curb or a driveway.
3. Drainage Plan required as outlined in the DPM, Vol 2
4. Report or private easement required for drainage across lot lines.

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: Fred J Aguirre — SIGNED: Victor Chavez

TITLE: City Engineer — TITLE: Project Eng.

DATE: 4/18/83 — DATE: 4/18/83.