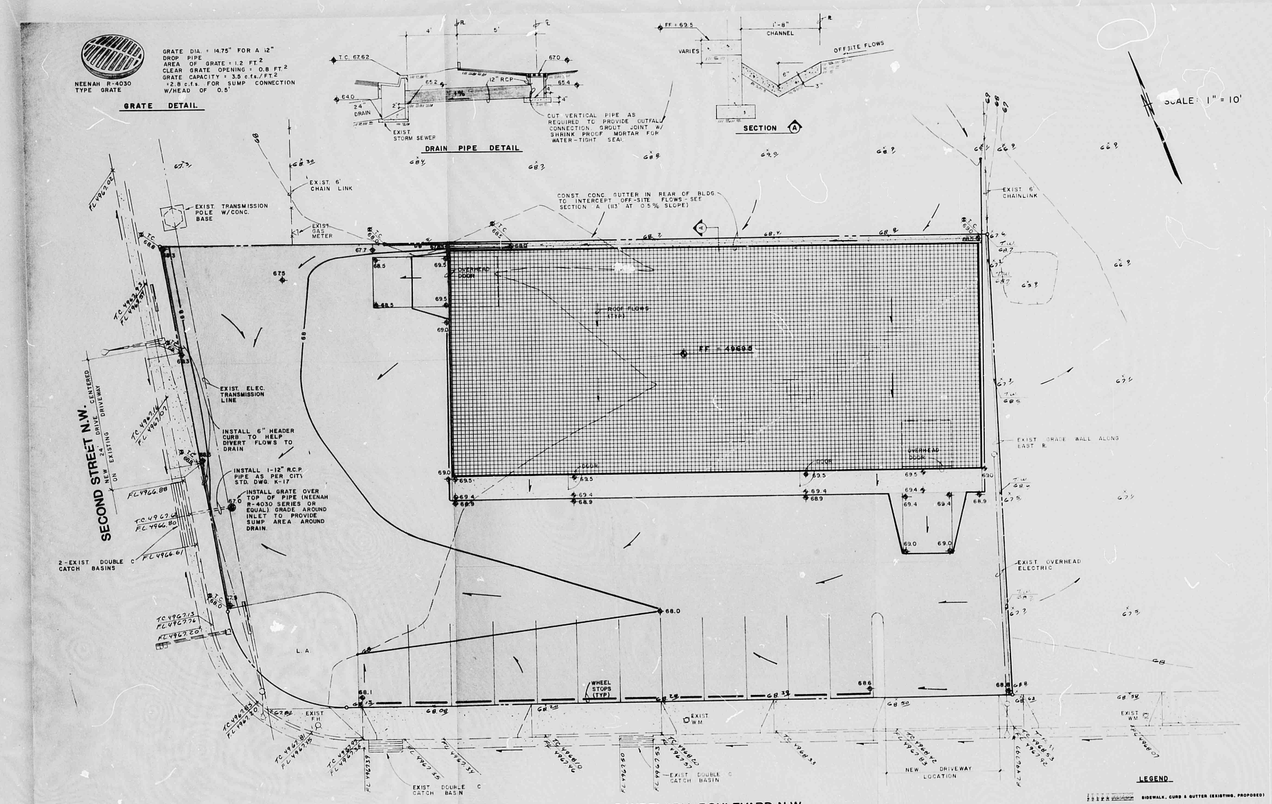
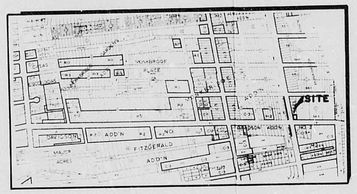
PUBLIC WORKS/HYDROLOGY

1 OF 2

G14/D35



FLOOD HAZARD BOUNDARY MAP



ZONE ATLAS G-14

LEGEND

- SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED)
- PROPOSED ASPHALT
- BUILDING (EXISTING, PROPOSED)
- PROPERTY LINE
- 68.75 — EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- 69.5 — PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED)
- L.A. — LANDSCAPED AREA
- T.W.W. — TOP OF WALL (OVER THAN 18" HIGH)
- T.R.W. — TOP OF RETAINING WALL (MORE THAN 18" HIGH)
- T.A. — TOP OF ASPHALT
- T.C. — TOP OF CURB
- F.L. — FLOW LINE
- F.F. — FINISHED FLOOR

CONSTRUCTION NOTES:

1. Before construction, the Contractor shall check and verify actual figures shown on the plans with field conditions. Any discrepancies found shall be identified and clarified, and if discrepancy be discovered, the contractor shall notify the Engineer of record immediately. Failure to do so constitutes that the Contractor assumes all risk and responsibility for the Contractor's failure to discover the issues in question and correct errors involved.
2. The Contractor shall be responsible for following the plans using his best skill and judgment. Deviations from the plans must be approved by Engineer and the City Hydrology Department prior to installation.
3. The Contractor must check the site plan for locations of utilities. Utilities shown are adjacent to sewers and shall take precautions to avoid damage to utilities. The Contractor shall take all necessary precautions, and notify "Al Bunch, Inc." (Underground Utilities Locating Service) 883-1214, 48 hrs. in advance of locating service, 765-1214 for any work that may interfere with said utilities.

NOTE:

The proposed improvements are comprised of a new building with sidewalk on the south side of the building and asphalt parking on the south and west sides.

The present site is undeveloped.

The intent of this plan is to show:

a) Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

b) The extent of proposed site improvements, including buildings, curbs and pavement.

c) The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.

d) The relationship of onsite improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES:

LEGAL: Lot 14 of Lands of D.E. and Helen M. Townes, Albuquerque, NM.

SURVEYOR: Alpha Surveying Group Inc. 623 Amherst NE, Albuquerque, NM. April 21, 1986.

B.M.: ACS Brass Cap 11-K14 located at the SW corner of Second St. ext and Candelaria Blvd. Elevation = 4968.03.

T.B.M.: Slant on curb at projection of west property line to Candelaria Blvd. Elevation = 5000.13.

SOILS: As per SCS Map No.21 Soil is type Ca, Hydrologic Soils Group "B".

FLOOD HAZARD: As per FEMA Map No.22, Second Street from the Candelaria intersection north-line within the 100-year Flood Hazard Area.

OFF-SITE DRAINAGE: The only offsite flows which affect this site are from the north. Flows from the south and west are blocked by the drip lakes along Second Street and Candelaria. Flows on the east side drain towards the west.

CALCULATIONS: Calculations are based on the City of Albuquerque D.P.M. Manual, Vol. II for the 100 year-6 hour storm, using the Rational Formula to compare the existing and proposed runoff rates.

RATIONAL METHOD: Q = CIA

Area of Site: 17622 sq.ft.= 0.40 Ac.

Run-off Coefficient:

Existing site:
Undeveloped Area = 17622 ft²

$C_u = \frac{17622\ (0.40)}{17622} = 0.40$

Developed Site:
Roof Area = 5600 ft²
Landscaped Area = 2279 ft²
Paved Area = 9743 ft²

$C_r = \frac{5600\ (0.90)}{17622} = 0.29$

$C_l = \frac{2279\ (0.25)}{17622} = 0.01$

$C_p = \frac{9743\ (0.95)}{17622} = 0.52$

Composite C = 0.40

Composite C = 0.92

Rainfall Intensity:

$I = P_6\ (6.96) = 2.31 = 4.65"$ per hour
$t_{min} = L/V$ (min (L/V 5-1))
t_c = 10 minutes

Existing Conditions:

$Q_{100} = (0.40)(4.65)(0.40)$
$= 0.7$ cfs

$V_{100} = (0.7)(300)\ (100\ sec/min)/2$
$= 1128$ sec. ft.

Developed Conditions:

$Q_{100} = (0.92)(4.65)(0.40)$
$= 1.7$ cfs

$V_{100} = (1.7)(300)(60)/2$
$= 2880$ sec. ft.

Summary of On-Site Conditions:

$Q_{100} = (1.7)-(0.7) = 1.0$ cfs (increase)
$V_{100} = (2880)-(1128) = 1680$ sec. ft. (increase)

Off-Site Calculations:

The area which drains onto this site from the north is about 150'x100' based on field observation.

Area = 150 x 100 = 15000 SF or 0.34 Ac.
C = 0.40 (assumed)
I = 4.65
Q = CIA = (0.40)(4.65)(0.34) = 0.63 cfs
V = (0.63)(300)(60)/2 = 945 CF ft

These flows will be diverted into a concrete channel along the north side of the building and well drain west and then march across the parking lot to a drain inlet in the SW corner of the site and then to Second Street. All flows from onsite will drain to this point also.

Channel Capacity for Offsite Flows:

n = 0.015
S = 0.005 ft./ft.
z = 0.0 ft
b = 1.0 ft
d = 0.50' = 0.4167 ft
Q = $\frac{1.486}{n}$ A $R^{2/3}$ $(S)^{1/2}$
= $\frac{1.486}{0.015}$ (0.4167)$^{5/3}$ $(0.005)^{1/2}$
= 1.9 cfs > 0.63 cfs needed

Q Total = Q onsite + Q offsite
= 1.70 + 0.63 = 2.3 cfs draining into pipe

Drain Capacity: Kutter's Formula
Pipe = 12" R.C.P.
n = 0.013
Slope = 1%
Q = 3.4 cfs

RECEIVED
JUN 02 1986
HYDROLOGY SECTION

WEISS-HINES ENGINEERING INC.
1100 ALVARADO N.E. SUITE B
ALBUQUERQUE, NEW MEXICO 87110
(505) 266-2446

REVISIONS	DATE

DESIGNED RWH 3-26-86
DRAWN 3-26-86
CHECKED CWC 3-26-86

DRAINAGE / GRADING PLAN
TOWNES OFFICE/WAREHOUSE
123 CANDELARIA BLVD. N.W.

SHEET 1 OF 1

R# 26 DATE 3-26-86 DOP

CITY OF ALBUQUERQUE

This microimage is certified to be a complete and accurate copy of the original as it appears in the files of the Public Works Department and was created in the normal course of business.

The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS115-1977)

DIRECTOR 11/5/92

NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 11/5/92

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

PLANS/PLATS ON FILE

FILE DESC: 614/D35

PLANS/PLATS 3

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

GRATE DETAIL

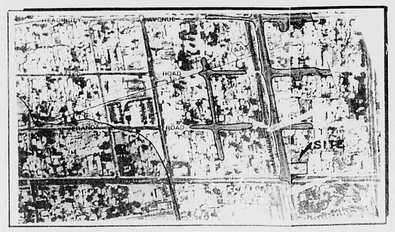
DRAIN PIPE DETAIL

SECTION A

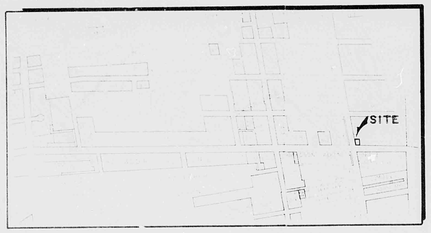
SCALE 1" = 10'

SECOND STREET N.W

CANDELARIA BOULEVARD N.W



FLOOD HAZARD BOUNDARY MAP



ZONE ATLAS G-14

LEGEND

SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED)
PROPOSED ASPHALT
BUILDING (EXISTING, PROPOSED)
PROPERTY LINE
EXISTING SPOT ELEVATION
EXISTING CONTOUR
PROPOSED SPOT ELEVATION
PROPOSED CONTOUR
SURFACE FLOW DIRECTION (EXISTING, PROPOSED)
L.A. LANDSCAPED AREA
T.G.W. TOP OF GRADE WALL (LESS THAN 18" HIGH)
T.R.W. TOP OF RETAINING WALL (MORE THAN 18" HIGH)
T.A. TOP OF ASPHALT
T.C. TOP OF CURB
F.L. FLOW LINE
F.F. FINISHED FLOOR

CONSTRUCTION NOTES

1. Before construction, the Contractor shall check and verify pertinent figures shown herein and shall make all applicable field measurements. Should any conflict, error or discrepancy be discovered, the contractor shall immediately stop work and notify the Engineer prior to construction.
2. The Contractor shall be responsible for following the grade plans and specifications. Any departure from the plans must be approved by the Engineer and the City Hydrology Department prior to construction.
3. The Contractor shall check the site plan for location of existing utilities and shall be responsible for protecting these utilities and repairing and effects to same and protect these utilities. He shall give 48 hours notice to U.N.M. Locating Service, 843-1234, for any work that may interfere with said utilities.

JUN 02 1998
HYDROLOGY SECTION

WEISS-HINES ENGINEERING INC.
1100 ALVARADO N.E. SUITE B
ALBUQUERQUE, NEW MEXICO 87110
(505) 266-3444

REVISIONS DATE

DESIGNED
DRAWN
CHECKED

DRAINAGE / GRADING PLAN
TOWNES OFFICE/WAREHOUSE
123 CANDELARIA BLVD. N.W.

SHEET OF

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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R# 26 DATE 3-26-02 OP

CITY OF ALBUQUERQUE

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DIRECTOR 11/5/02

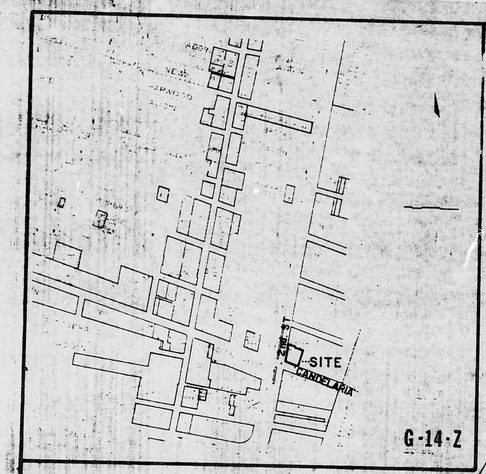
NOTARY PUBLIC

OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires
07/05/02

D24 C20 B16 A12

CITY OF ALBUQUERQUE

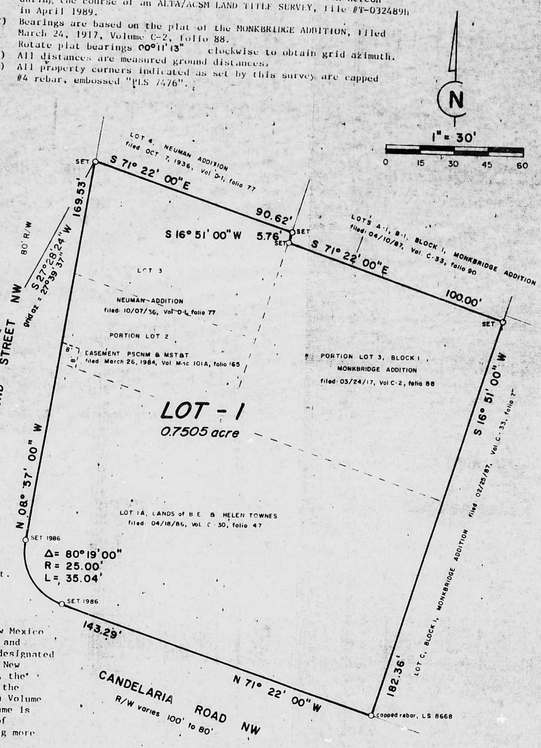
C D



11-G-14
X = 383014.03
Y = 1498760.14
NMCS Central Zone
G/G = 0.9996781
Delta alpha = - 0.° 14' 40"

SURVEY NOTES

1) A boundary survey was performed on the property as shown hereon during the course of an ALTA/ACSM LAND TITLE SURVEY, File #V-032489h in April 1989.
2) Bearings are based on the plat of the MONKBRIDGE ADDITION, filed March 24, 1917, Volume C-2, folio 88. Rotate plat bearings 00°11'13" clockwise to obtain grid azimuth.
3) All distances are measured ground distances.
4) All property corners indicated as set by this survey are capped #4 rebar, embossed "PLS 7476".



DISCLOSURE STATEMENT

The purpose of this Replat is to combine the parcels as shown hereon into one tract.

SURVEY DESCRIPTION

A certain tract of land situate in Section 5, Township 10 North, Range 3 East, New Mexico Principal Meridian, within the City of Albuquerque, Bernalillo County, New Mexico, and comprised of: LOT 1-A, LANDS OF B. E. and HELEN TOWNES, as the same is shown and designated on the plat thereof, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on April 18, 1986, in Volume C-30, folio 47; A portion of LOT 2 and LOT 3, the NEUMAN ADDITION, as the same is shown and designated on the plat thereof, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on October 7, 1936, in Volume D-1, folio 77; And a portion of LOT 3, BLOCK 1, the MONKBRIDGE ADDITION, as the same is shown and designated on the plat thereof, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on March 24, 1917, in Volume C-2, folio 88, and being more particularly described as follows:

BEGINNING at the Northwest corner of the tract herein described, said corner being the same as the southwest corner of Lot 4, the NEUMAN ADDITION, filed October 7, 1936, Vol. D-1, folio 77, whence the City of Albuquerque monument "11-G-14" bears S 27°28'24" W 489.24' feet distant; THENCE,

S 71° 22' 00" E, a distance of 90.62' feet along the southerly line of said Lot 4, NEUMAN ADDITION, to a point; THENCE,

S 16° 51' 00" W, a distance of 5.76' feet along the westerly line of Lot A-1, a replat of the MONKBRIDGE ADDITION, filed April 10, 1987, Vol. C-33, folio 90, to a point; THENCE,

S 71° 22' 00" E, a distance of 100.00' feet along the southerly line of Lot A-1, Lot B-1, a replat of the MONKBRIDGE ADDITION, filed April 10, 1987, Vol. C-33, folio 90, to the northeast corner of the tract herein described; THENCE,

S 16° 51' 00" W, a distance of 182.36' feet along the westerly line of Lot C, a replat of the MONKBRIDGE ADDITION, filed February 25, 1987, Vol. C-33, folio 7, to the southeast corner of the tract herein described, a point on the northerly line of Candelaria Road NW, THENCE,

N 71° 22' 00" W, a distance of 143.29' feet along said northerly line of Candelaria Road NW to a point; THENCE,

Northerly, along the arc of a curve having a Delta angle of 80° 19' 00", a radius of 25.00' feet and a length of 35.04' feet to a point on the easterly line of Second Street NW; THENCE,

N 08° 57' 00" E, a distance of 169.53' feet along the easterly line of said Second Street NW to the northwest corner and point of beginning of the tract herein described, containing 0.7505 acres more or less.

GENERAL NOTES

1) Total Acreage: 0.7505 acres/32,710 sq. ft.
2) Total number of lots created by this plat: 1 lot
3) Uniform Property Code No:
4) Utility Council Location System Log No.: 07 05 154
5) All easements shown are per recorded plat or made known to me by the owner(s), Utility Companies or other parties expressing an interest. The recording of this plat with the Office of the Bernalillo County Clerk does not affect or vacate existing easements or rights-of-way of record except as shown hereon.
6) An additional easement, (location not given) granted to allow access and maintenance of existing lines to PSCNM & MST&T, filed DEC 9, 1948, Vol D-93, folio 557

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

6-17-92

The foregoing instrument was acknowledged before me this 2nd day of July, 1989.
By: Harry K. Work
Notary Public

8969121

LOT 1, LANDS OF GIANT INDUSTRIES, INC.

A REPLAT OF
LOT 1-A, LANDS OF B. E. & HELEN TOWNES
LOT 3, and the Northerly 40' feet of LOT 2, the NEUMAN ADDITION
A PORTION OF LOT 3, BLOCK 1, THE MONKBRIDGE ADDITION
CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
JUNE 1989

RECEIVED SEP 0 1989 HYDROLOGY SECTION

State of New Mexico
County of Bernalillo } SS
This instrument was filed for record on AUG 0 9 1989 at 9:22 o'clock A.M. and recorded in Vol. C-39 of records of said County Folio 132
Clerk & Recorder
Deputy Clerk

DEVELOPMENT REVIEW BOARD APPROVALS

		DATE
CHIEF SURVEYOR		7/18/89
A.M.A.F.C.A.		7/18/89
PARKS AND RECREATION DEPARTMENT		7-18-89
TRANSPORTATION DEVELOPMENT		7/18/89
CITY ENGINEERING DEPT.	G S REEDER	7/18/89
WATER RESOURCES		7-18-89
PROPERTY MANAGEMENT	N/A	
PLANNING DIRECTOR		7-20-89

D.R.B. NO. 89-350 S.P. NO. SP-89-195

FREE CONSENT

The foregoing Replat of the tracts of land shown on this plat is being made in accordance with the desires of the undersigned owner(s) thereof. The undersigned owner(s) hereby freely consent to the foregoing and hereby represent that they are authorized to so act.

OWNER(S) B E TOWNES HELEN M TOWNES

STATE OF NEW MEXICO
COUNTY OF BERNALILLO SS

The foregoing instrument was acknowledged before me this 13th day of JULY, 1989.

SURVEYOR'S CERTIFICATE

I, Harry K. Work, a registered Professional Land Surveyor under the laws of the State of New Mexico, do hereby certify that this plat was prepared by me and meets the minimum requirements of the Albuquerque Subdivision Ordinance for monumentation and documentation and also meets the minimum requirements of the Amended Standards for Land Surveys in the State of New Mexico. I further certify that all the foregoing is true and correct to the best of my knowledge and belief.

July 3, 1989
HARRY K. WORK, NMPLS# 7476 date

G-062689h

HARRY K. WORK, LAND SURVEYOR
6327 ISLETA BLVD SW
ALBUQUERQUE, NEW MEXICO
87105 (505)873-1807
PO BOX 26193 87125

CITY OF ALBUQUERQUE
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REV 2 DATE 3-16-92 OP

CITY OF ALBUQUERQUE
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The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (MS115-1977)

11/8/92
DIRECTOR

NOTARY PUBLIC

07/08/92 final

C 20 B 16 A 12
CITY OF ALBUQUERQUE

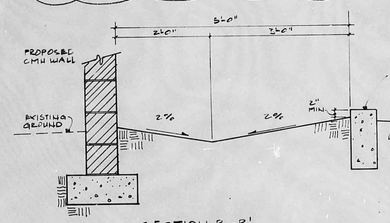
I, William F. Brewster, New Mexico Registered Professional Surveyor No. 10855, do hereby certify that the constructed finished floor elevation of the building located on Lot 1, Lands of Giant Industries, Inc., Albuquerque, New Mexico is equal to or above the proposed finished floor elevation shown on the construction plans for Giant Service Station #634 dated August 1989, that said elevation was determined from an actual field survey and is accurate to the best of my knowledge and belief.

William F. Brewster

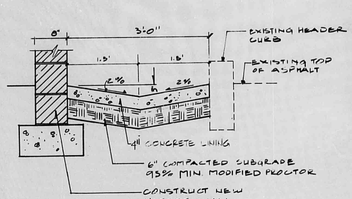
William F. Brewster NMRPS #10855

2-14-91

Date



SECTION B-B'
SCALE: 1"=1'-0"



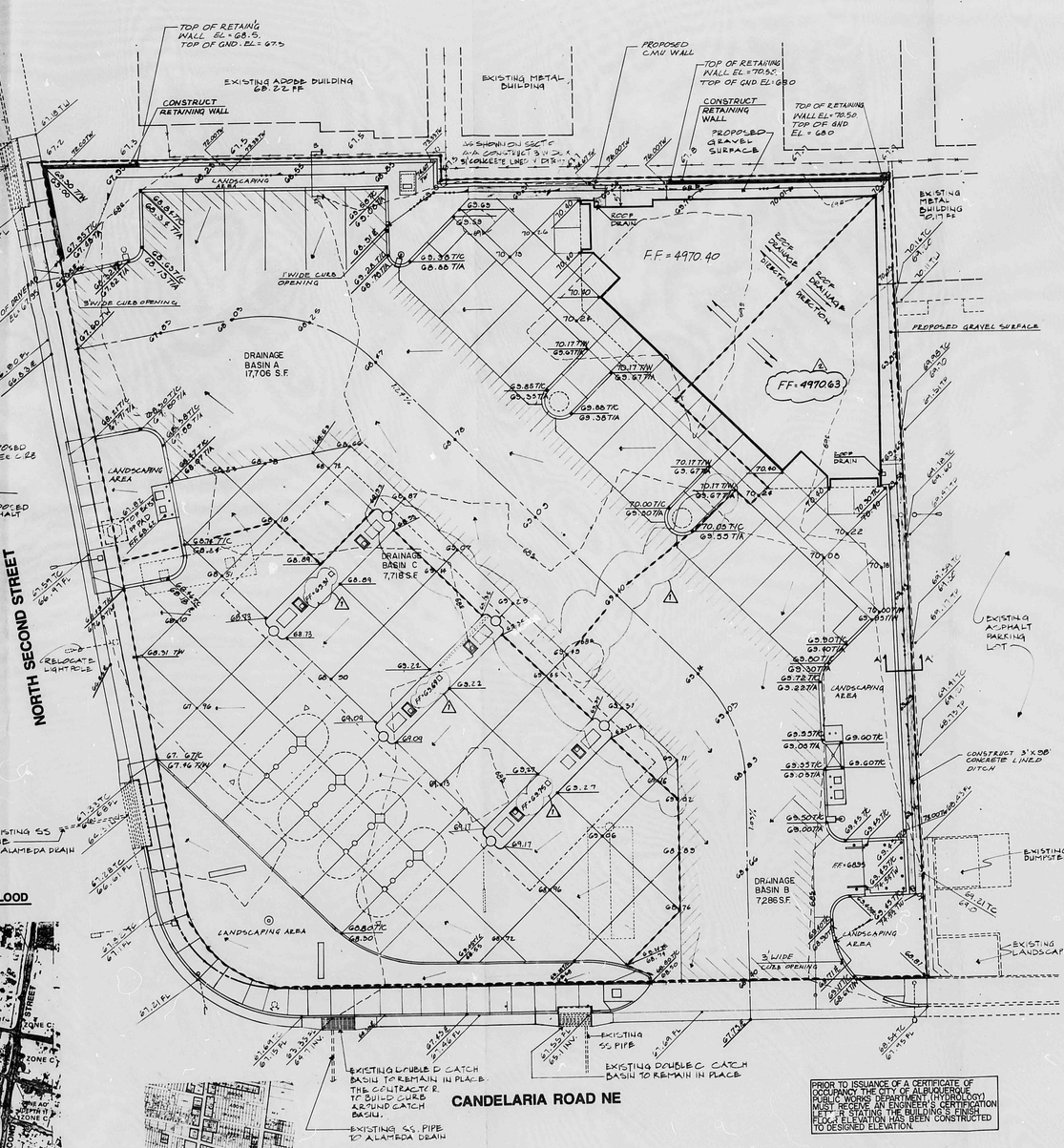
SECTION A-A'
SCALE: 1"=1'-0"

LEGEND

F.F.=70.40	Finish Floor Elevation
67.64 FL	Exist Flowline Elevation
68.5	Exist Ground Elevations
69.10 / 68.10	Proposed Finish Elevation
TC	Top of Curb Elevation
TA	Top of Asphalt Elevation
	Drainage Swale Flowline
	Proposed Curb & Gutter
	Proposed Sidewalk
	Proposed Header Curb
	Proposed Drainage Basin
	Existing Contour
	Existing Sidewalk and Existing Curb and Gutter
	Surface Flow Direction
	LIMIT OF ASPHALT
TW	TOP OF WALK

F.E.M.A. 100 YEAR FLOOD HAZARD MAP

VICINITY MAP G-14



PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY THE CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT (HYDROLOGY) MUST RECEIVE AN ENGINEER'S CERTIFICATION LETTER STATING THE BUILDING FINISH FLOOR ELEVATION HAS BEEN CONSTRUCTED TO DESIGNED ELEVATION.

SITE DRAINAGE AND GRADING PLAN

SCALE: 1"=10'-0"

SCOPE

The proposed improvements are comprised of a new building in the northeast corner of the lot, concrete sidewalks in front of the building and asphalt and concrete parking. Also included is an asphalt-lined drainage ditch.
The present site is undeveloped.

The intent of this plan is to show the following:

A. Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

B. The flow rate volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.

C. The relationship of on-site improvements with existing neighboring properties to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES

LEGAL DESCRIPTION:
Lot 1, Lands of Giant Industries, Inc.
City of Albuquerque, Bernalillo County, New Mexico

SURVEYOR: Harry K. Work, Land Surveyor #7676

BENCHMARK: ACS Brass Cap 11-C14 a City of Albuquerque Vertical Control Monument located at the southwest corner of Second Street and Candelaria Boulevard. Elevation = 4968.03.

SITE AREA

Acreage = 0.75 and/or 32,710 sq. ft.

SOILS

As per SCS Map Number 21, soil is type GM, Hydrologic Soils Group B.

FLOOD HAZARD

As per F.E.M.A. Number 22., the site is not in the 100-year flood hazard area.

OFF-SITE DRAINAGE

There are no off-site flows that will have any impact on this developed site. Likewise, the improvements for this project will not have any drainage impact to the properties located to the east and north. All drainage runoff from this site will drain west to existing drainage facilities located in Second Street and to existing drainage facilities located in Candelaria Boulevard.

CALCULATIONS

The calculations are based on the City of Albuquerque D.P.M. Manual, Volume II for the 100-year, 6-hour storm using the rational formula to compare the existing and proposed runoff rates.

RATIONAL METHOD Q = CIA

Area of Site: 32,710 sq. ft./0.75 ac

RUNOFF COEFFICIENT

Existing Condition
Undeveloped Area = 32,710 sq. ft.

Developed Site
Roof Area = 3,546 sq. ft.
Landscaping Area = 4,173 sq. ft
Paved Areas = 24,991 sq. ft.

EXISTING	DEVELOPED
$C_u = \frac{32,710 \times 0.40}{32,710} = 0.40$	$C_r = \frac{3,546 \times 0.90}{32,710} = 0.10$
	$C_l = \frac{4,173 \times 0.25}{32,710} = 0.03$
	$C_p = \frac{24,991 \times 0.95}{32,710} = 0.73$

Developed Composite C = 0.86

Undeveloped Composite C - 0.40

RAINFALL INTENSITY

6 hour rainfall for 100-year frequency = 2.2" (D.P.M. 22.2 D-1)
Tc = 10 minutes
(6.84) Tc (2.2") = 4.65"/hour

EXISTING CONDITIONS

Q_{100} = (0.40) (4.65) (0.75) = 1.40 cfs
Volume = 32,710 x $\frac{0.40}{12"/ft.}$ = 1,090 cu. ft.

~~75% IMPERVIOUS CN=98 RO=0.4"~~

DEVELOPED CONDITIONS

Drainage Basin A

Q_{100}= 0.86 * 4.65 * 0.41 = 1.85 cfs. use 2 cfs
Volume = 17,706 sq. ft. x $\frac{2.5"}{12"/ft.}$ = 2890 cu. ft.

~~87% IMPERVIOUS CN=94 RO=1.0"~~

Drainage Basin B

Q_{100}= 0.86 * 4.65 * 0.17 = 0.68 cfs. use 1 cfs
Volume = 7,286 sq. ft. x $\frac{1.0"}{12"/ft.}$ = 608 cu. ft.

Drainage Basin C

Q_{100}= 0.86 * 4.65 * 0.18 = 0.72 cfs use 1 cfs
Volume = 7,718 sq. ft. x $\frac{1.0"}{12"/ft.}$ = 1029 cu. ft.

SUMMARY OF EXISTING TO DEVELOPED SITE DRAINAGE RUNOFF CONDITIONS

The existing drainage runoff from the site is approximately split in half. Therefore, .70 cfs existing runoff is draining to Second Street and Candelaria, respectively.

The developed drainage runoff is split into three drainage basins: A, B, and C. Basin A will contribute 2 cfs into an existing double C drop inlet located in the northwest corner of the site in Second Street.

Basin B will contribute 1 cfs into an existing double C drop inlet in Candelaria Road.

Basin C will contribute 1 cfs into an existing double C drop inlet in the southwest corner of the site in Second Street.

The developed site will contribute an additional 1.6 cfs into the existing storm drainage system. Also, an additional ~~5873~~ 6 cf of runoff will discharge from the site.

RECEIVED FEB 14 1990 HYDROLOGY SECTION

WILSON & COMPANY
ENGINEERS | ARCHITECTS
6611 GULTON CT. NE ALBUQUERQUE, N.M. 87109
505-345-5345

PROJECT: GIANT SERVICE STATION # 634
2ND AND CANDELARIA
ALBUQUERQUE, N.M.

DRAWING TITLE: SITE DRAINAGE AND GRADING PLAN

NO.	DATE	REVISION
1	2-1-89	CONNER
2	2-14-90	Survey & Build

DATE: AUGUST 1989
JOB NO.: 89-515
DRAWN: R. MOUNA & R.M. RAMIREZ

WILSON & COMPANY ENGINEERS ARCHITECTS

DRAWING NO.: C1.1

PLAN SHOT TWICE ONCE ON LIGHT ONCE ON DARK

CITY OF ALBUQUERQUE
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REV 2/2 DATE 3-26-92

CITY OF ALBUQUERQUE

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The photographic process used meets the Basic Microfilm Standards of the National Micrographics Association (NMS115-1977)

DIRECTOR 11/5/92

NOTARY PUBLIC
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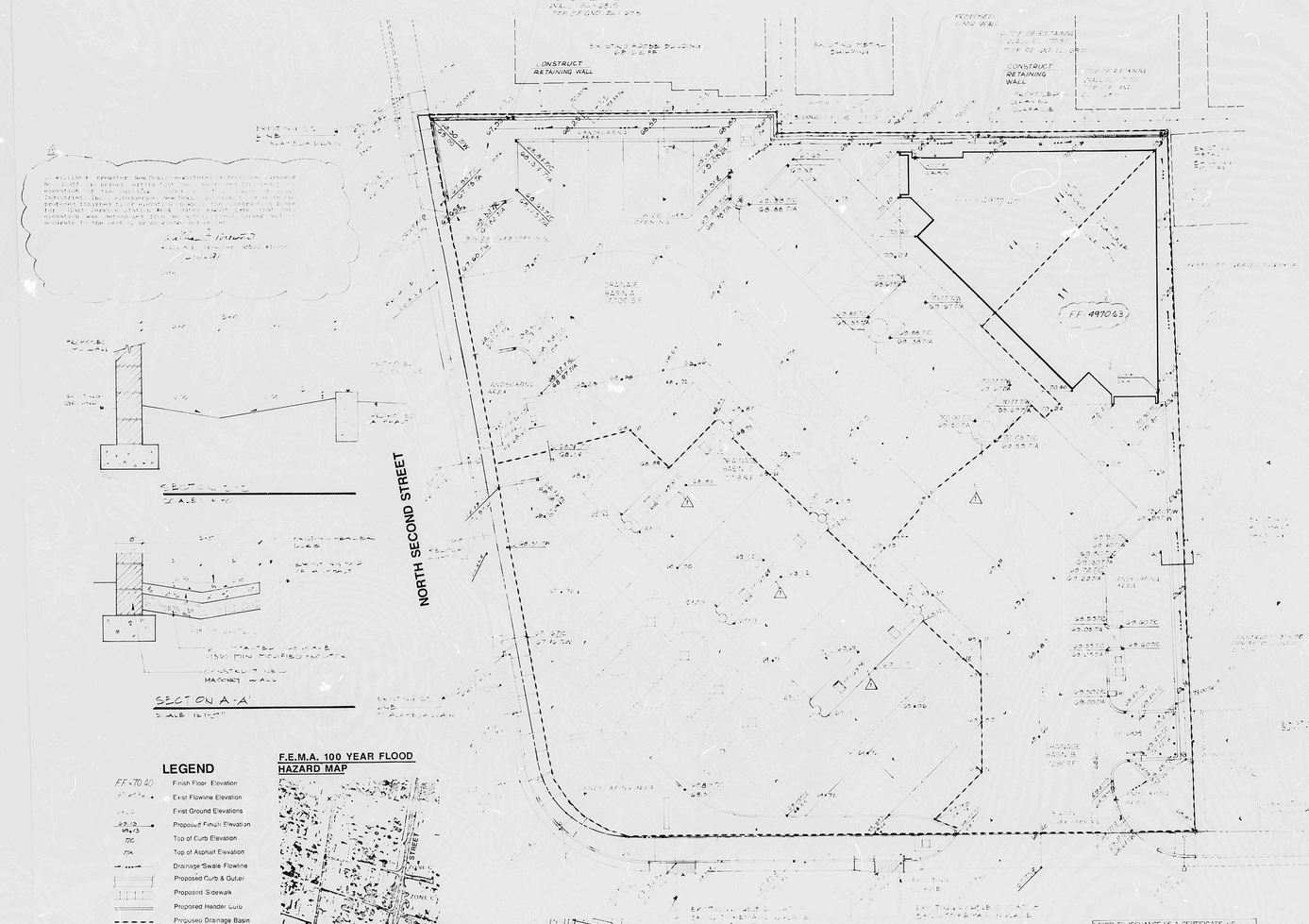
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F

PUBLIC WORKS/HYDROLOGY

2 OF 2

G14/D35



PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY THE CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT (PWD) BUILDING MUST RECEIVE AN ENGINEER'S CERTIFICATION LETTER STATING THE BUILDING FINISH FLOOR ELEVATION HAS BEEN CONSTRUCTED TO DESIGNED ELEVATION.

SITE DRAINAGE AND GRADING PLAN
SCALE:1"=10'-0"

SCOPE

The proposed improvements are comprised of a new building in the northeast corner of the lot, concrete sidewalks in front of the building and asphalt and concrete parking. Also included is an asphalt-lined drainage ditch.
The present site is undeveloped.

The intent of this plan is to show the following:

A. Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.

B. The flow rate, volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City requirements for drainage management.

C. The relationship of onsite improvements with existing neighboring properties to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES

LEGAL DESCRIPTION:
Lot 1, Lands of Giant Industries, Inc.
City of Albuquerque, Bernalillo County, New Mexico

SURVEYOR: Harry K. Work, Land Surveyor #7476

BENCHMARK: AGS Brass Cap H-G11 of City of Albuquerque Vertical Control Monument located at the southwest corner of Second Street and Candelaria Boulevard. Elevation = 5066.03

SITE AREA

Average = 0.75 acre or 32,710 sq. ft.

SOILS

As per SCS Map Number 21, soil is type 6M, Hydrologic Soils Group B

FLOOD HAZARD

As per F.E.M.A. Number 22, the site is not in the 100-year flood hazard area.

OFF SITE DRAINAGE

There are no off-site flows that will have any impact on this developed site. I know of no improvements for this project will in place any drainage impact to the properties located to the east and north. All drainage runoff from this site will drain west to existing drainage facilities located in Second Street and to existing drainage facilities located in Candelaria Boulevard.

CALCULATIONS

The calculations are based on the City of Albuquerque D.P.M. Manual, Volume II for the 100-year, 6-hour storm using the rational formula to compare the existing and proposed runoff rates.

RATIONAL METHOD Q = CIA

Area of Site: 32,710 sq. ft./0.75 ac

RUNOFF COEFFICIENT

Existing Condition
Undeveloped Area = 32,710 sq. ft.

Developed Site
Roof Area = 4,554 sq. ft.
Landscaping Area = 4,174 sq. ft.
Paved Area = 24,091 sq. ft.

EXISTING
A = (32,710 × 0.41) / 32,710 = 0.41

DEVELOPED
C = (4,546 × 0.90) / 32,710 = 0.13
C = (4,174 × 0.25) / 32,710 = 0.03
C = (24,091 × 0.95) / 32,710 = 0.73

Developed Composite C = 0.86

Undeveloped Composite C = 0.41

RAINFALL INTENSITY

6-hour rainfall for 100-year frequency = 2.2" (D.P.M. 22.D-31)
Tc = 10 minutes
so Ie = (2.2") / 6.0 hour

EXISTING CONDITIONS

Q = 0.41 (1.6/3.0) (2.2) = 1.80 cfs
Volume = 32,710 x 0.41 x 2.2 / 12 = 5,986 cu. ft.
= 12 ac. ft.

10% IMPERVIOUS CN=75 RO=0.4"

DEVELOPED CONDITIONS

Drainage Basin A

Q = 0.86 * 1.6/3.0 * 0.13 = 0.83 cfs use 2 cfs
Volume = 17,706 sq. ft. x 3.0 / 12 = 2,586 cu. ft.
= 12 ac. ft.

87% IMPERVIOUS CN=94 RO=1.8"

Drainage Basin B

Q = 0.86 * 1.6/3.0 * 0.17 = 0.88 cfs use 1 cfs
Volume = 7,250 sq. ft. x 1.8/12 / 12 = 872 cf

Drainage Basin C

Q = 0.86 * 1.6/3.0 * 0.73 = 3.72 cfs use 3 cfs
Volume = 27,754 sq. ft. x 1.8 / 12 / 12 = 3,466 cu. ft.
= 12 ac. ft.

SUMMARY OF EXISTING TO DEVELOPED SITE DRAINAGE/RUNOFF CONDITIONS

The existing drainage runoff from the site is approximately split in half. The first 50% of existing runoff is draining to Second Street and Candelaria, respectively.

The developed drainage runoff is split into three drainage basins, A, B, and C. Basin A will contribute 2 cfs into an existing double C drop inlet located in the northwest corner of the site in Second Street.

Basin B will contribute 1 cfs into an existing double C drop inlet in Candelaria Road.

Basin C will contribute 1 cfs into an existing double C drop inlet in the southwest corner of the site in Second Street.

The developed site will contribute an additional 1.8 cfs into the existing storm drainage system. Also, an additional 3272 cf of runoff will discharge from the site.

WILSON & COMPANY
ENGINEERS | ARCHITECTS
6611 GULTON CT. NE ALBUQUERQUE N.M. 87109

4 AUG 89

PROJECT: GIANT SERVICE STATION # 634
2ND AND CANDELARIA
ALBUQUERQUE, N.M.

DRAWING TITLE: SITE DRAINAGE AND GRADING PLAN

NO.	DATE	REVISION
1	7-7-89	Revised per City comments
2	7-24-89	Revised per City comments

DATE: AUGUST 1989
JOB NO. 89-515
DRAWN BY: R. MOLINA & R.M. RAMIREZ
WILSON & COMPANY ENGINEERS & ARCHITECTS

DRAWING NO. C1.1

PLAN SHOT TWICE
ONCE ON LIGHT
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B# 2 DATE 3-21-90 (2-21)

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CITY OF ALBUQERQUE C D F