

VICINITY MAP
SCALE: 1" = 750'

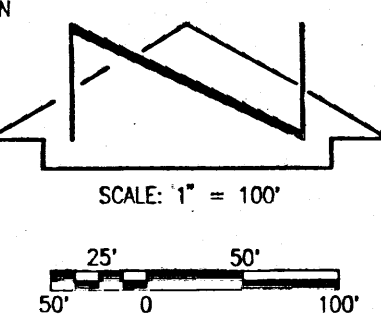
PROJECT BENCHMARK
AN ACS 3 1/4" ALUMINUM CAPSET FLUSH IN THE TOP OF THE CURB LOCATED IN THE NW QUADRANT OF THE INTERSECTION OF LOS VOLCANES RD. N.W. AND COORS BLVD. N.W. AND STAMPED 7-10, 1989.
ELEVATION = 5103.225 FEET (M.S.L.D.)
T.B.M.

A "C" CHISELED ON TOP OF THE CURB LOCATED NEAR THE S.E. PROPERTY CORNER AS SHOWN ON THE DRAWING.
ELEVATION = 5098.41 FEET (M.S.L.D.)

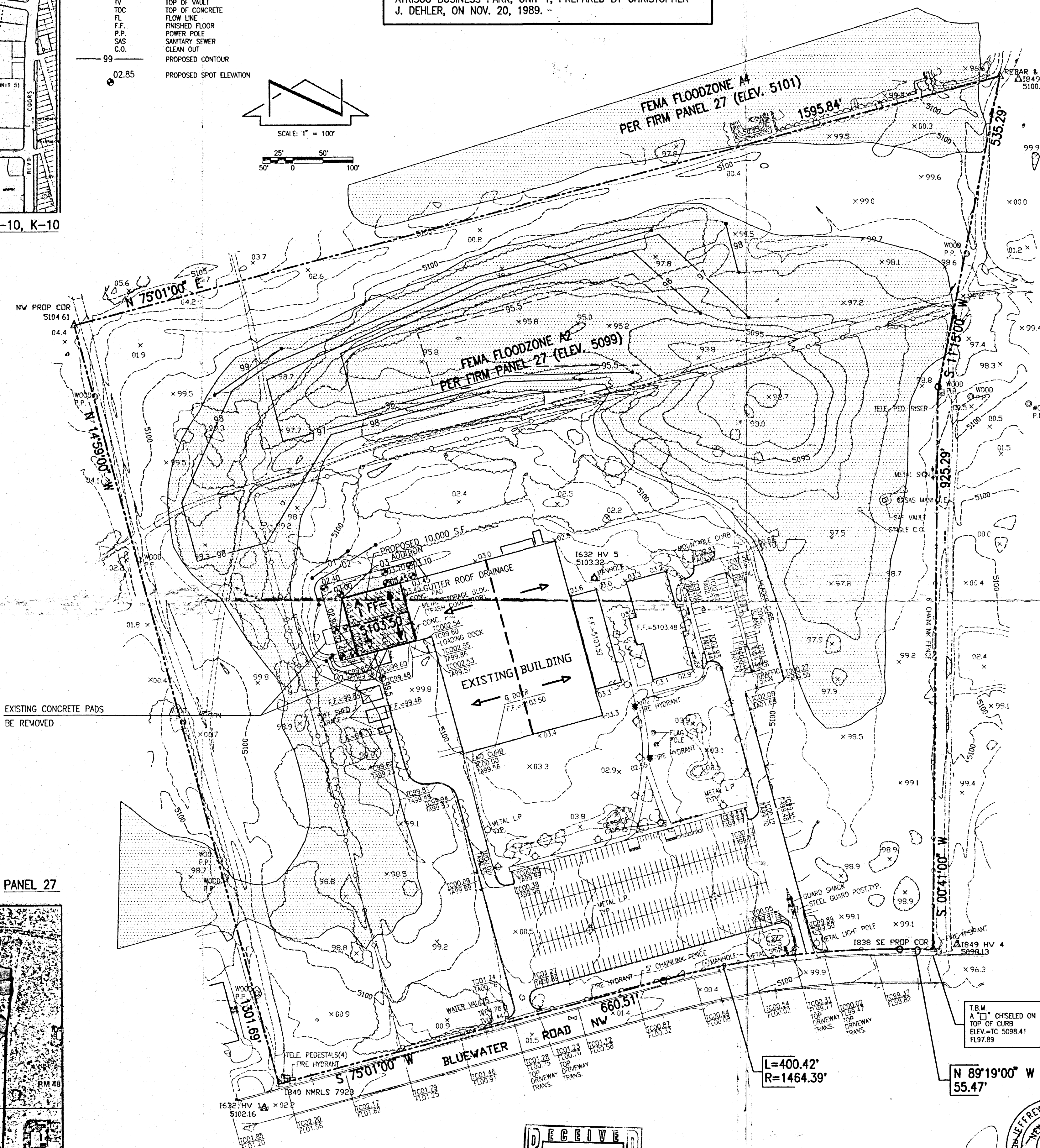
LEGAL DESCRIPTION
TRACT A, ATRISCO BUSINESS PARK, UNIT 1

LEGEND

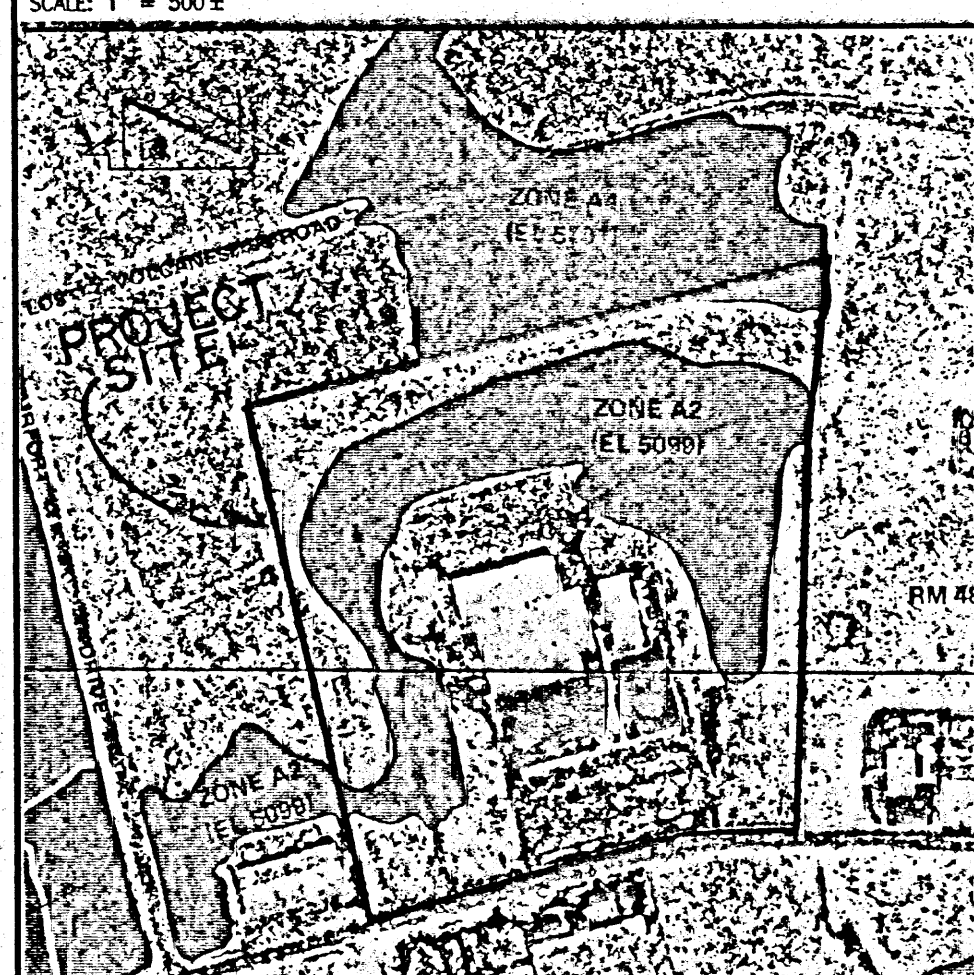
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- TOP OF CURB
- TOP OF ASPHALT
- TOP OF SIDEWALK
- TOP OF VAULT
- TOP OF CONCRETE
- FLOW LINE
- FINISHED FLOOR
- POWER POLE
- SANITARY SEWER
- CLEAN OUT
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION



NOTE:
THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. DATA SHOWN IS BASED UPON THE ALTA/ACSM LAND TITLE SURVEY OF TRACT A, ATRISCO BUSINESS PARK, UNIT 1, PREPARED BY CHRISTOPHER J. DEHLER, ON NOV. 20, 1989.



FLOODPLAIN MAP
SCALE: 1" = 500'



PANEL 27

DRAINAGE PLAN
The following items concerning the Elastimold Drainage Plan are contained hereon:

1. Vicinity Map
2. Floodplain Map
3. Grading Plan
4. Calculations

As shown by the Vicinity Map, the site is located on the north side of Bluewater Road N.W. within the Atrisco Business Park. At present, the site is developed commercially.

As shown by Panel 27 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site is impacted by a 100-year designated Flood Hazard Zone. Panel 27 indicates that an A2 flood zone with a maximum water surface elevation of 5099 lies along the north, east, and west sides of the site. None of the existing or proposed buildings lie within that floodplain. Grading is proposed within the floodplain in order to provide compensatory ponding.

The Grading Plan shows: 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, 4) existing floodplain limits, 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of a 10,000 square foot building addition at the northwest corner of the existing building. A concrete apron along the north and west sides of the addition are proposed. Additionally, grading is proposed within the floodplain to provide compensatory ponding. The volume of additional ponding provided within the floodplain far exceeds the increase in the 10-day developed runoff volume.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Calculations also analyze the existing and developed conditions for 10-day runoff volume. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. A minor increase in runoff is anticipated due to the proposed development. The increase in the 10-day runoff volume is accounted for in the grading within the floodplain area. Additional volume which far exceeds the 10-day runoff is proposed and provided for by this plan. Because of this, the development on this site and associated discharge to the floodplain will not have an adverse impact on adjacent properties, nor will this development have an adverse impact on the existing floodplain.

NOTE: Further development on this site may require preparation of a master drainage plan which would address providing a storm drain system to alleviate and/or reduce the flooding associated with the existing flood zone shown hereon.

CALCULATIONS

Site Characteristics

1. Precipitation Zone = 1
2. $P_{60} = P_{360} = 2.20$
3. Total Area (A_T) = 1,743,900 sf/40.03 ac
4. Existing Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	42.1
B	490,030/11.25	28.1
C	245,890/05.65	14.1
D	273,800/06.28	15.7

Developed Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	42.1
B	490,030/11.25	28.1
C	235,095/05.40	13.5
D	284,595/06.53	16.3

Existing Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = [(0.44)(16.85) + (0.67)(11.25) + (0.99)(5.65) + (1.97)(6.28)] / (40.03) = 0.82 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (0.82 / 12)(40.03) = 2.7431 \text{ ac.ft.; 119,490 cf}$$

2. Peak Discharge

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_P = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.65) + (4.37)(6.28) = 88.2 \text{ cfs}$$

3. 10-Day

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7431 + 6.28(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5124 \text{ ac.ft.; 153,000 cf}$$

4. Floodzone

Elev (ft)	Area(sf)	Volume (cf)	Σ Volume (cf)
5099	630,930	469,880	469,880
5098	308,830	204,220	710,100
5097	171,610	144,160	854,260
5096	116,710	85,130	939,390
5095	53,550	37,830	977,220
5094	22,110	12,045	989,265
5093	1,980		

Developed Condition

1. Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.44)(16.85) + (0.67)(11.25) + (0.99)(5.40) + (1.97)(6.53) / (40.03) = 0.83 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (0.83 / 12)(40.03) = 2.7635 \text{ ac.ft.; 120,380 cf}$$

2. Peak Discharge

$$Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

$$Q_P = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.40) + (4.37)(6.53) = 88.6 \text{ cfs}$$

3. 10-Day

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7635 + 6.53(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5634 \text{ ac.ft.; 155,220 cf}$$

4. Floodzone

Elev (ft)	Area(sf)	Volume (cf)	Σ Volume (cf)
5099	630,930	496,650	496,650
5098	362,370	288,200	784,850
5097	214,030	183,215	968,065
5096	152,390	64,690	1,032,755
5095.5	106,370	39,980	1,072,735
5095	53,550	37,830	1,110,565
5094	22,110	12,045	1,122,610
5093	1,980		

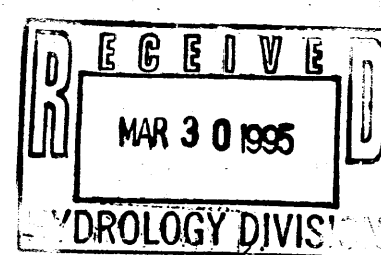
Comparison

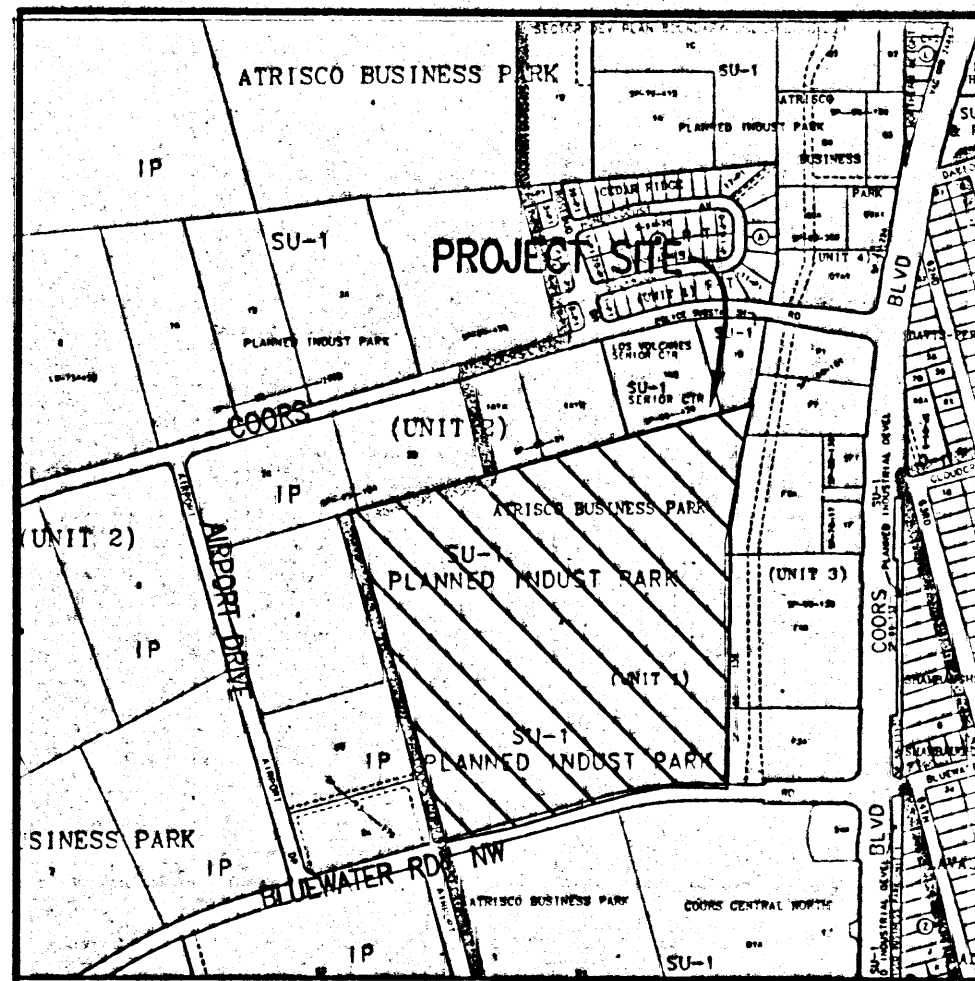
1. $\Delta V_{100} = 120,380 - 119,490 = 890 \text{ cf (increase)}$
2. $\Delta Q_{100} = 88.6 - 88.2 = 0.4 \text{ cfs (increase)}$
3. $\Delta V_{10\text{-Day}} = 155,220 - 153,000 = 2,220 \text{ cf (increase)}$
4. $\Delta V_{\text{Floodzone}} = 1,122,605 - 989,265 = 133,340 \text{ cf (increase)}$

GRADING AND DRAINAGE PLAN ELASTIMOLD

DESIGNED BY	J.G.M.	NEL	DATE	BY	REVISIONS	JOB NO.
DRAWN BY	S.G.H.					950202
APPROVED BY	J.G.M.					DATE 03-1995
						SHEET 1 OF 1

Jeff Mortensen & Associates, Inc.
600-9 MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS SURVEYORS (CSD) 345-4250





VICINITY MAP
SCALE: 1" = 750'

PROJECT BENCHMARK

AN ACS 3 1/4" ALUMINUM CEMENT FLUSH IN THE TOP OF THE CURB LOCATED IN THE NW QUADRANT OF THE INTERSECTION OF LOS VOLCANES RD. N.W. AND COORS BLVD. N.W. AND STAMPED "7-10, 1989"
ELEVATION = 5103.225 FEET (M.S.L.D.)

T.B.M.

A "C" CHISELED ON TOP OF THE CURB LOCATED NEAR THE S.E. PROPERTY CORNER AS SHOWN ON THE DRAWING
ELEVATION = 5098.41 FEET (M.S.L.D.)

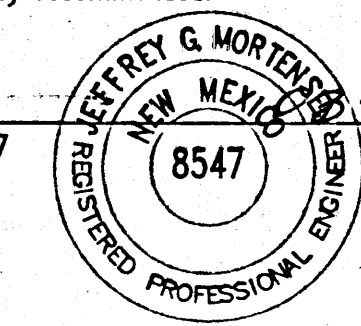
LEGAL DESCRIPTION

TRACT A, ATRISCO BUSINESS PARK, UNIT 1

DRAINAGE CERTIFICATION

As indicated by the as-built information shown hereon, the Elastimold Addition has been constructed in substantial compliance with the approved Grading and Drainage Plan. This includes the grading of the onsite retention pond at the north end of the site. It is based upon this analysis that issuance of a Permanent Certificate of Occupancy is hereby recommended.

Jeffrey S. Mortensen, NMPE 8547
Date: 03-30-95

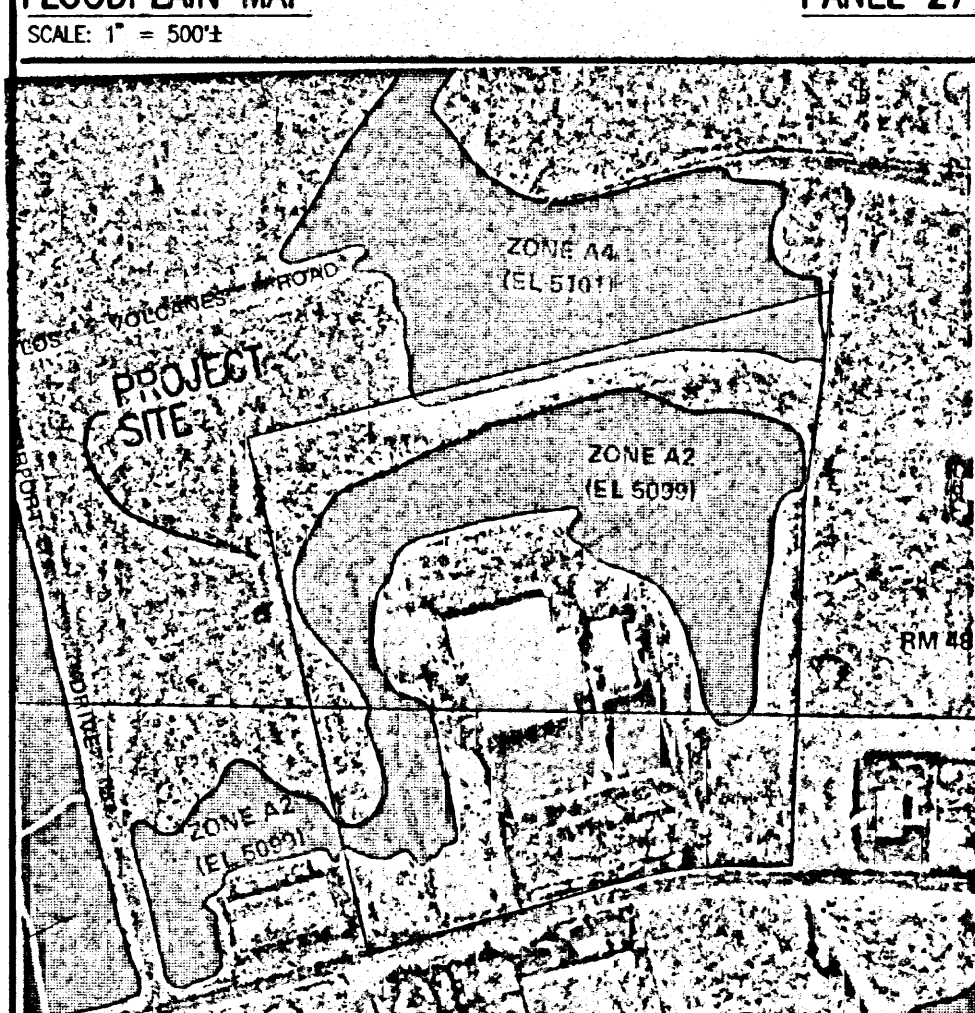


Erosion Control Measures:

- The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
- The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
- The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.
- Any areas of excess disturbance (traffic access, storage yard excavated material, etc.) shall be re-seeded according to C.O.A. Specification 1012 "Native Grass Seeding". This will be considered incidental to construction, therefore, no separate payment will be made.

EXISTING CONCRETE PADS
BE REMOVED

FLOODPLAIN MAP



PANEL 27
SCALE: 1" = 500'

LEGEND

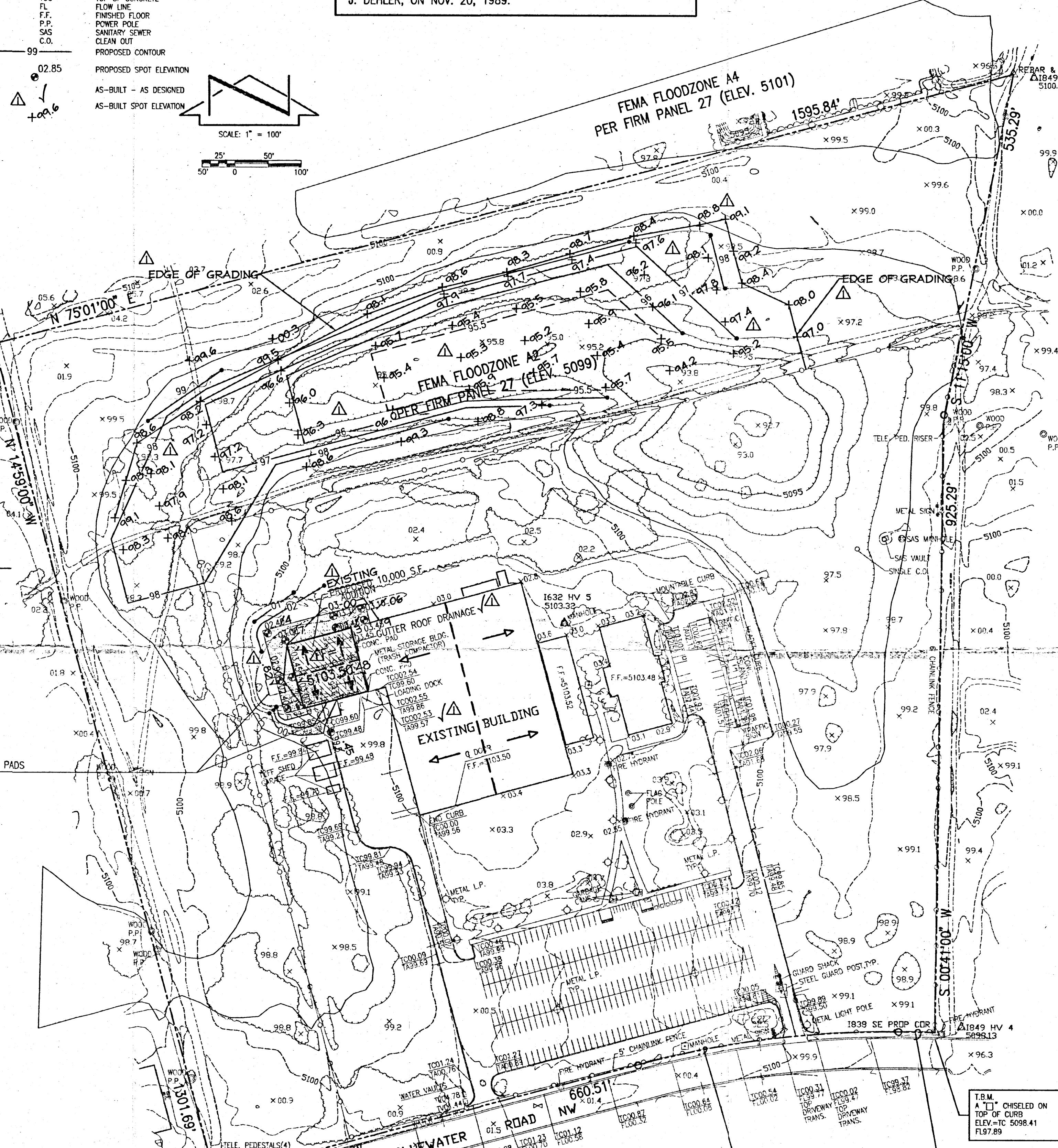
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- L.P. FIRE HYDRANT
- T.C. TOP OF CURB
- T.A. TOP OF ASPHALT
- T.S.W. TOP OF SIDEWALK
- T.V. TOP OF VAULT
- T.C. TOP OF CONCRETE
- F.L. FLOW LINE
- F.F. FINISHED FLOOR
- P.P. POWER POLE
- S.S. SANITARY SEWER
- C.O. CLEAN OUT
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- AS-BUILT - AS DESIGNED
- AS-BUILT SPOT ELEVATION



SCALE: 1" = 100'

NOTE:

THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. DATA SHOWN IS BASED UPON THE ALTA/ACSM LAND TITLE SURVEY OF TRACT A, ATRISCO BUSINESS PARK, UNIT 1, PREPARED BY CHRISTOPHER J. DEHLER, ON NOV. 20, 1989.



DRAINAGE PLAN

The following items concerning the Elastimold Drainage Plan are contained hereon:

- Vicinity Map
- Floodplain Map
- Grading Plan
- Calculations

As shown by the Vicinity Map, the site is located on the north side of Bluewater Road N.W. within the Atrisco Business Park. At present, the site is developed commercially.

As shown by Panel 27 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site is impacted by a 100-year designated Flood Hazard Zone. Panel 27 indicates that an A2 flood zone with a maximum water surface elevation of 5099 lies along the north, east, and west sides of the site. None of the existing or proposed buildings lie within that floodplain. Grading is proposed within the floodplain in order to provide compensatory ponding.

The Grading Plan shows: 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) the limit and character of the existing improvements, 3) the limit and character of the proposed improvements, 4) existing floodplain limits, 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of a 10,000 square foot building addition at the northwest corner of the existing building. A concrete apron along the north and west sides of the addition are proposed. Additionally, grading is proposed within the floodplain to provide compensatory ponding. The volume of additional ponding provided within the floodplain far exceeds the increase in the 10-day developed runoff volume.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Calculations also analyze the existing and developed conditions for 10-day runoff volume. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. A minor increase in runoff is anticipated due to the proposed development in the 10-day runoff volume is accounted for in the development within the floodplain area. Additional volume which far exceeds the ΔVolume 10 day is proposed and provided for by this plan. Because of this, the development on this site and associated discharge to the floodplain will not have an adverse impact on adjacent properties, nor will this development have an adverse impact on the existing floodplain.

NOTE: Further development on this site may require preparation of a master drainage plan which would address providing a storm drain system to alleviate and/or reduce the flooding associated with the existing flood zone shown hereon.

CALCULATIONS

Site Characteristics

- Precipitation Zone = 1
- $P_{6,100} = P_{360} = 2.20$
- Total Area (A_T) = 1,743,900 sf/40.03 ac
- Existing Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	42.1
B	490,030/11.25	28.1
C	245,890/05.65	14.1
D	273,800/06.28	15.7

Developed Land Treatment

- Developed Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	42.1
B	490,030/11.25	28.1
C	235,095/05.40	13.5
D	284,595/06.53	16.3

Existing Condition

- Volume

$$E_W = (E_A^A + E_B^B + E_C^C + E_D^D) / A_T$$

$$E_W = [(0.44)(16.85) + (0.67)(11.25) + (0.99)(5.65) + (1.97)(6.28)] / (40.03) = 0.82 \text{ in.}$$

$$V_{100} = (E_W/12)A_T$$

$$V_{100} = (0.82/12)(40.03) = 2.7431 \text{ ac.ft.; } 119,490 \text{ cf}$$
- Peak Discharge

$$Q_p = Q_{PA}^A + Q_{PB}^B + Q_{PC}^C + Q_{PD}^D$$

$$Q_p = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.65) + (4.37)(6.28) = 88.2 \text{ cfs}$$
- $V_{10\text{-Day}}$

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7431 + 6.28(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5124 \text{ ac.ft.; } 153,000 \text{ cf}$$
- Floodzone

Elev (ft)	Area (sf)	Volume (cf)	Σ Volume (cf)
5099	630,930	496,650	496,650
5098	362,370	288,200	784,850
5097	214,030	183,215	968,060
5096	152,390	64,690	1,032,750
5095.5	106,370	39,980	1,072,730
5095	53,550	37,830	1,110,560
5094	22,110	12,045	1,122,605
5093	1,980		

Developed Condition

- Volume

$$E_W = (E_A^A + E_B^B + E_C^C + E_D^D) / A_T$$

$$E_W = (0.44)(16.85) + (0.67)(11.25) + (0.99)(5.40) + (1.97)(6.53) / (40.03) = 0.83 \text{ in.}$$

$$V_{100} = (E_W/12)A_T$$

$$V_{100} = (0.83/12)(40.03) = 2.7635 \text{ ac.ft.; } 120,380 \text{ cf}$$
- Peak Discharge

$$Q_p = Q_{PA}^A + Q_{PB}^B + Q_{PC}^C + Q_{PD}^D$$

$$Q_p = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.40) + (4.37)(6.53) = 88.6 \text{ cfs}$$
- $V_{10\text{-Day}}$

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7635 + 6.53(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5634 \text{ ac.ft.; } 155,220 \text{ cf}$$
- Floodzone

Elev (ft)	Area (sf)	Volume (cf)	Σ Volume (cf)
5099	630,930	496,650	496,650
5098	362,370	288,200	784,850
5097	214,030	183,215	968,060
5096	152,390	64,690	1,032,750
5095.5	106,370	39,980	1,072,730
5095	53,550	37,830	1,110,560
5094	22,110	12,045	1,122,605
5093	1,980		

Comparison

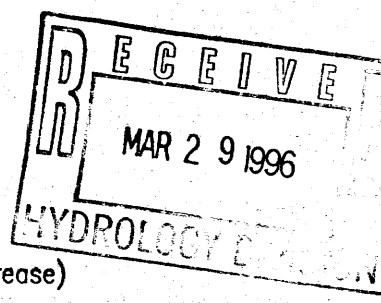
- $\Delta V_{100} = 120,380 - 119,490 = 890 \text{ cf (increase)}$
- $\Delta Q_{100} = 88.6 - 88.2 = 0.4 \text{ cfs (increase)}$
- $\Delta V_{10\text{-Day}} = 155,220 - 153,000 = 2,220 \text{ cf (increase)}$
- $\Delta V_{\text{Floodzone}} = 1,122,605 - 989,265 = 133,340 \text{ cf (increase)}$

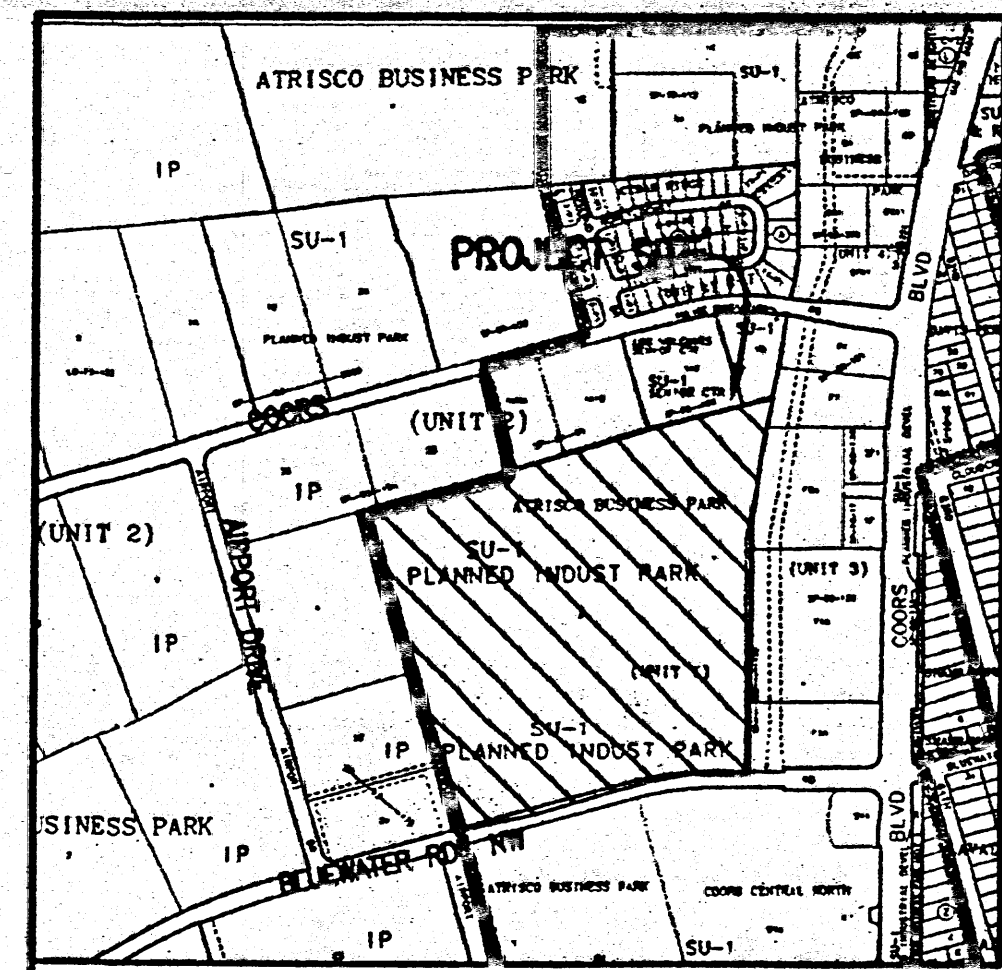


JEFF MORTENSEN & ASSOCIATES, INC.
600-8 MIDWAY PARK BLVD. NE
ALBUQUERQUE, NM 87109
ENGINEERS & SURVEYORS (930) 345-4250

GRADING AND DRAINAGE PLAN ELASTIMOLD

DESIGNED BY	J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO.
DRAWN BY	S.G.H.	1	3/96	JGM	AS-BUILT & CERTIFY	950204
APPROVED BY	J.G.M.					DATE 03-1995
						SHEET 1 OF 1





VICINITY MAP
SCALE: 1" = 750'

PROJECT BENCHMARK
AN ACS 3 1/4" ALUMINUM CAPSET FLUSH IN THE TOP OF THE CURB LOCATED IN THE NW QUADRANT OF THE INTERSECTION OF LOS VOLCANES RD. N.W. AND COOKS BLVD. N.W. AND STAMPED 7-10, 1989.
ELEVATION = 5103.225 FEET (M.S.L.D.)

T.B.M.
A "C" CHISELED ON TOP OF THE CURB LOCATED NEAR THE S.E. PROPERTY CORNER AS SHOWN ON THE DRAWING.
ELEVATION = 5098.41 FEET (M.S.L.D.)

LEGAL DESCRIPTION
TRACT A, ATRISCO BUSINESS PARK, UNIT 1

DRAINAGE CERTIFICATION

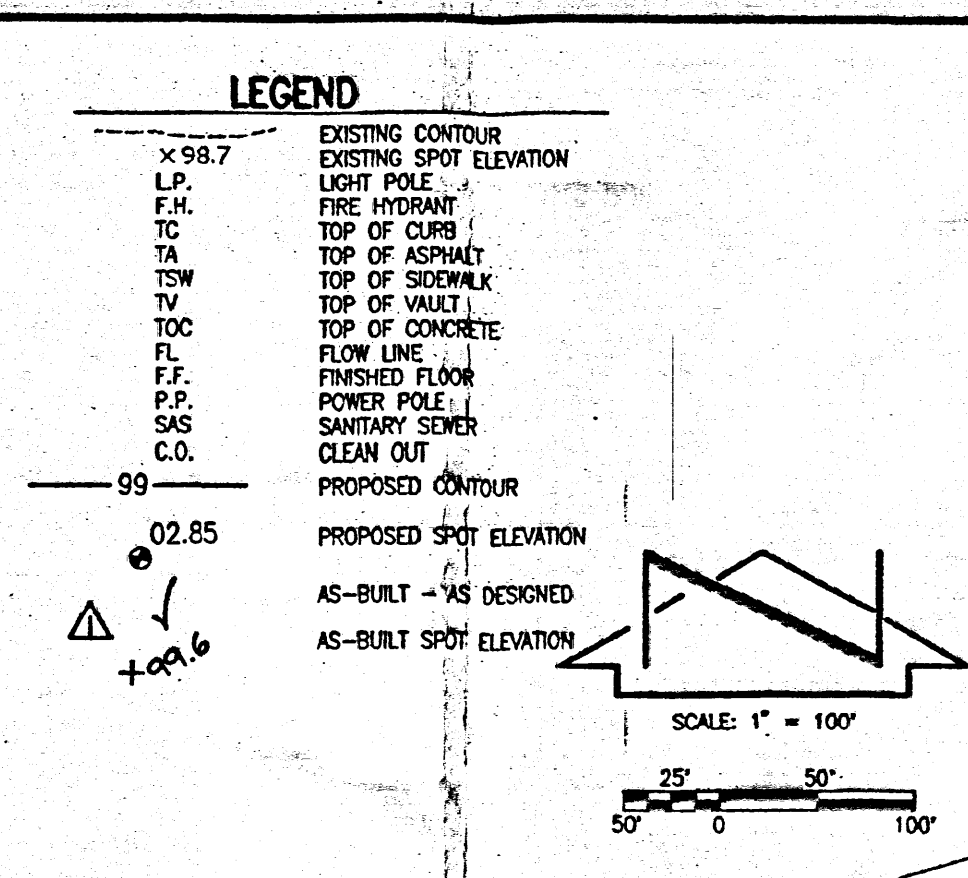
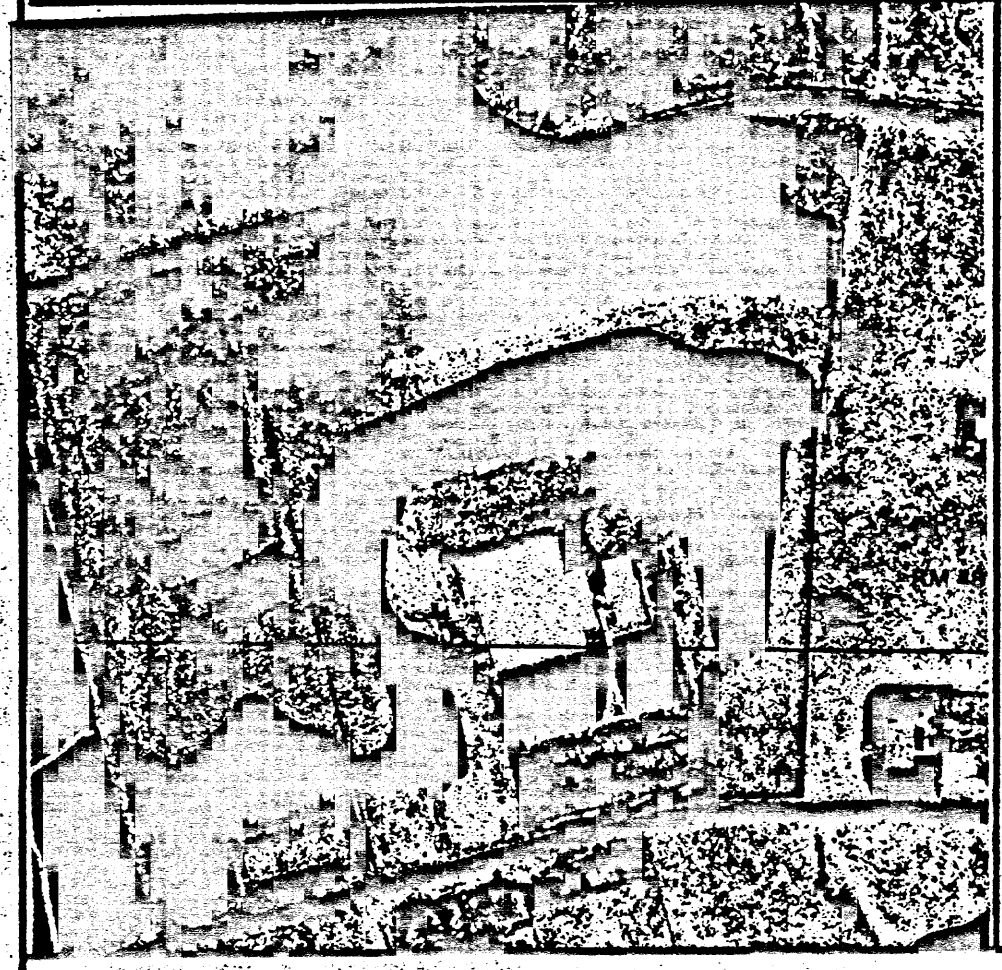
As indicated by the on-built information shown hereon, the Elastimold Addition has been constructed in substantial compliance with the approved Grading and Drainage Plan. This includes the grading of the onsite retention pond at the north end of the site. It is based upon this analysis that issuance of a Permanent Certificate of Occupancy is hereby recommended.

Jeffrey G. Mortensen, HME 8547
Date: 03-30-95

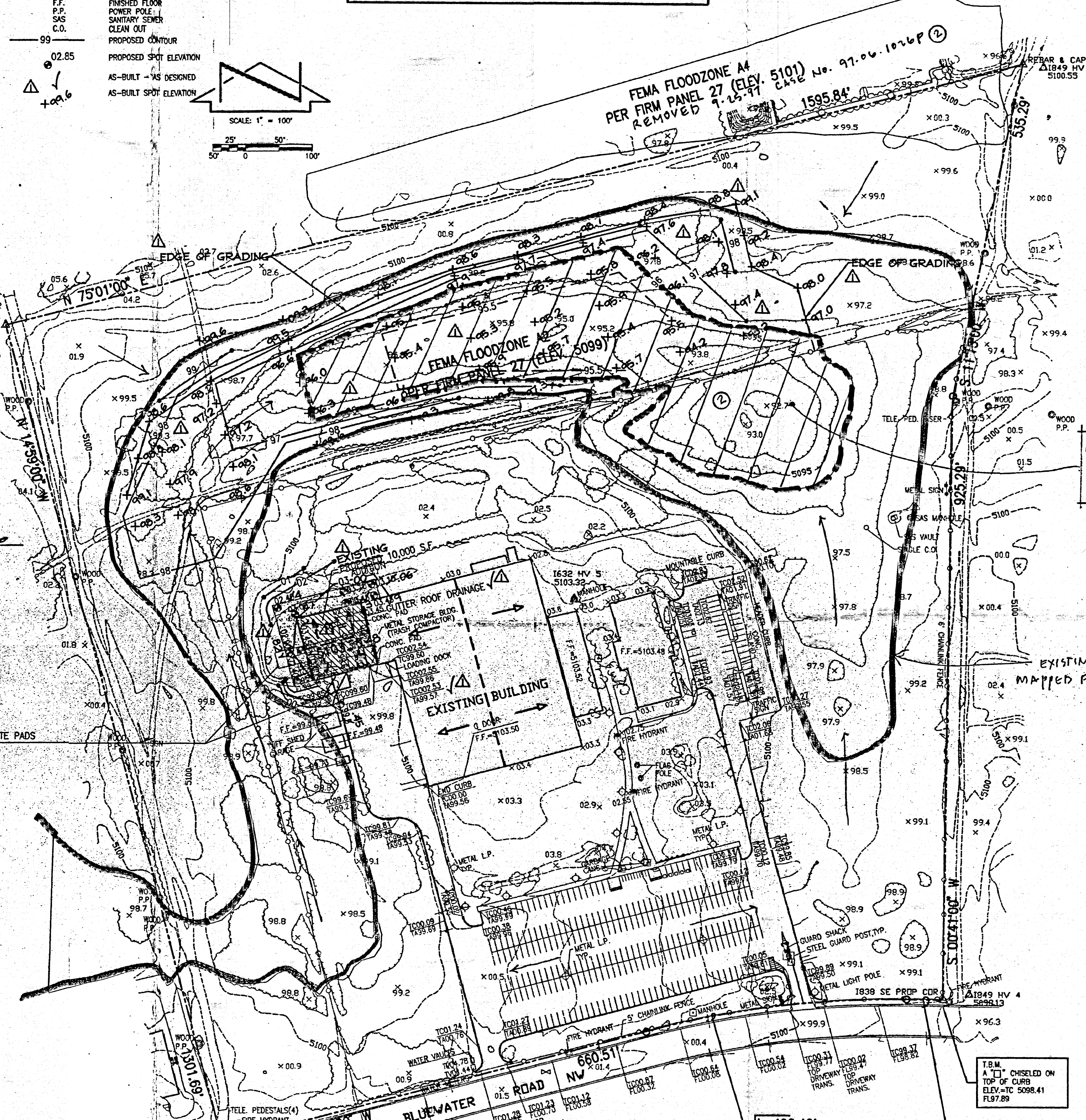
Erosion Control Measures:

- The contractor shall ensure that no soil erodes from the site into public right-of-way or onto private property.
- The contractor shall promptly clean up any material excavated within the public right-of-way so that the excavated material is not susceptible to being washed down the street.
- The contractor shall secure "Topsoil Disturbance Permit" prior to beginning construction.
- Any areas of excess disturbance (traffic access, storage yard excavated material, etc.) shall be re-seeded according to C.O.A. Specification 1012 "Native Grass Seeding". This will be considered incidental to construction; therefore, no separate payment will be made.

FLOODPLAIN MAP
SCALE: 1" = 500'



NOTE:
THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. DATA SHOWN IS BASED UPON THE ALTA/ACSM LAND TITLE SURVEY OF TRACT A, ATRISCO BUSINESS PARK, UNIT 1, PREPARED BY CHRISTOPHER J. DEHLER, ON NOV. 20, 1989.



The following items concerning the Elastimold Drainage Plan are contained hereon:

- Vicinity Map
- Floodplain Map
- Grading Plan
- Calculations

As shown by the Vicinity Map, the site is located on the north side of Bluewater Road N.W. within the Atrisco Business Park. At present, the site is developed commercially.

As shown by Panel 27 of 50 of the National Flood Insurance Program Flood Insurance Rate Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site is impacted by a 100-year designated Flood Hazard Zone. Panel 27 indicates that an A2 flood zone with a maximum water surface elevation of 5099 lies along the north, east, and west sides of the site. None of the existing or proposed buildings lie within that floodplain. Grading is proposed within the floodplain in order to provide compensatory ponding.

The Grading Plan shows: 1) existing and proposed grades indicated by spot elevations and contours at 1' intervals; 2) the limit and character of the proposed improvements; 3) the limit and character of the proposed improvements; 4) existing floodplain limits; 5) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of a 10,000 square foot building addition at the northwest corner of the existing building. A concrete apron along the north and west sides of the addition are proposed. Additionally, grading is proposed within the floodplain to provide compensatory ponding. The volume of additional ponding provided within the floodplain for exceeds the increase in the 10-day developed runoff volume.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The calculations also analyze the existing and developed conditions for 10-day runoff volume. The Procedure for 40-acre and Smaller Basins, as set forth in the Revision of Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, dated January, 1993, has been used to quantify the peak rate of discharge and volume of runoff generated. A minor increase in runoff is anticipated due to the proposed development. The increase in the 10-day runoff volume is accounted for in the grading within the floodplain area. Additional volume which far exceeds the 10-day runoff is proposed and provided for by this plan. Because of this, the development on this site and associated discharge to the floodplain will not have an adverse impact on adjacent properties, nor will this development have an adverse impact on the existing floodplain.

NOTE: Further development on this site may require preparation of a master drainage plan which would address providing a storm drain system to alleviate and/or reduce the flooding associated with the existing flood zone shown hereon.

EXISTING RETENTION POND
10 DAY VOL = 155,220 CF
WSE = 5096.0

CALCULATIONS

Site Characteristics

- Precipitation Zone = 1
- $P_{100} = P_{360} = 2.20$
- Total Area (A_T) = 1,743,900 sf/40.03 ac
- Existing Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	22.1
B	490,030/11.25	28.1
C	235,095/05.40	13.5
D	284,595/06.53	16.3

Developed Land Treatment

Treatment	Area (sf/ac)	%
A	734,180/16.85	22.1
B	490,030/11.25	28.1
C	235,095/05.40	13.5
D	284,595/06.53	16.3

Existing Condition

- Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (0.83 / 12) (40.03) = 2.7635 \text{ ac.ft.}; 120,380 \text{ cf}$$
- Peak Discharge

$$Q_p = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.40) + (1.97)(6.53) / (40.03) = 88.2 \text{ cfs}$$
- 10-Day

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7635 + 6.53(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5634 \text{ ac.ft.}; 155,220 \text{ cf}$$

Floodzone

Elev (ft)	Area (sf)	Volume (cf)	Σ Volume (cf)	Σ VOL (CF) ②
5099	630,930	496,880	496,880	1,122,610
5098	362,370	288,200	784,850	625,960
5097	214,030	183,215	968,060	337,160
5096	152,390	64,690	1,032,750	154,545
5095.5	106,370	39,980	1,072,730	89,855
5095	53,550	37,830	1,110,560	49,875
5094	22,110	12,045	1,122,605	12,045
5093	1,980			

DRAINAGE CERTIFICATION ②

I, the undersigned, being a Professional Engineer in the State of New Mexico, do hereby certify that the record information shown on the original Grading and Drainage Plan has been obtained by me or under my direct supervision and is true and correct to the best of my knowledge and belief. This certification is submitted to support a request for Letter of Map Revision. This drawing adequately represents the surface condition of the site as constructed retention pond. This certification is limited to information added to the Plan, as indicated by Revision No. 2, dated May 22, 2003.

The record information presented hereon is not necessarily complete and is intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose. This certification is limited to the site grading and drainage improvements and does not extend to the structural integrity of the materials used nor the workmanship of the contractor. Any future modifications to the site improvements shall render this certification null and void.

Dennis A. Lopez, HME 8547
Date: 03-30-95

Developed Condition

- Volume

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$

$$E_W = (0.44)(16.85) + (0.67)(11.25) + (0.99)(5.40) + (1.97)(6.53) / (40.03) = 0.83 \text{ in.}$$

$$V_{100} = (E_W / 12) A_T$$

$$V_{100} = (0.83 / 12) (40.03) = 2.7635 \text{ ac.ft.}; 120,380 \text{ cf}$$
- Peak Discharge

$$Q_p = Q_{100} = (1.29)(16.85) + (2.03)(11.25) + (2.87)(5.40) + (1.97)(6.53) / (40.03) = 88.2 \text{ cfs}$$

10-Day

$$V_{10\text{-Day}} = V_{360} + A_D (P_{10\text{-Day}} - P_{360}) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 2.7635 + 6.53(3.67 - 2.20) / 12 \text{ in/ft}$$

$$V_{10\text{-Day}} = 3.5634 \text{ ac.ft.}; 155,220 \text{ cf}$$

Floodzone

Elev (ft)	Area (sf)	Volume (cf)	Σ Volume (cf)	Σ VOL (CF) ②
5099	630,930	496,880	496,880	1,122,610
5098	362,370	288,200	784,850	625,960
5097	214,030	183,215	968,060	337,160
5096	152,390	64,690	1,032,750	154,545
5095.5	106,370	39,980	1,072,730	89,855
5095	53,550	37,830	1,110,560	49,875
5094	22,110	12,045	1,122,605	12,045
5093	1,980			

Comparison

- $\Delta V_{100} = 120,380 - 119,490 = 890 \text{ cf (increase)}$
- $\Delta Q_{100} = 88.6 - 88.2 = 0.4 \text{ cfs (increase)}$
- $\Delta V_{10\text{-Day}} = 155,220 - 153,000 = 2,220 \text{ cf (increase)}$
- $\Delta V_{\text{Floodzone}} = 1,122,605 - 989,265 = 133,340 \text{ cf (increase)}$

Construction Notes:

- Two (2) working days prior to any excavation, contractor must contact New Mexico One Call System 260-1990, for location of existing utilities.
- Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all potential obstructions. Should a conflict exist, the contractor shall notify the engineer in writing so that the conflict can be resolved with a minimum amount of delay.
- All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
- All construction within public right-of-way shall be performed in accordance with applicable City of Albuquerque Standards and Procedures.
- If any utility lines, pipelines, or underground utility lines are shown on these drawings, they are shown in an approximate manner only, and such lines may exist where none are shown. If any such existing lines are shown, the location is based upon information provided by the owner of said utility, and the information may be incomplete, or may be obsolete by the time construction commences. The engineer has conducted only preliminary investigation of the location, depth, size, or type of existing utility lines, pipelines, or underground utility lines. This investigation is not conclusive, and may not be complete, therefore, makes no representation pertaining thereto, and assumes no responsibility or liability therefor. The contractor shall inform itself of the location of any utility line, pipeline, or underground utility line in or near the area of the work in advance of and during excavation work. The contractor is fully responsible for any and all damage caused by its failure to locate, identify and preserve any and all existing utilities, pipelines, and underground utility lines. In planning and conducting excavation, the contractor shall comply with state statutes, municipal and local ordinances, rules and regulations, if any, pertaining to the location of these lines and facilities.

The design of planters and landscaped areas is not part of this plan. All planters and landscaped areas adjacent to the building(s) shall be provided with positive drainage to avoid any ponding adjacent to the structure. For construction details, refer to landscaping plan.