HYDROLOGY D17/D42 LOT 29A INTERSTATE INDUSTRIAL

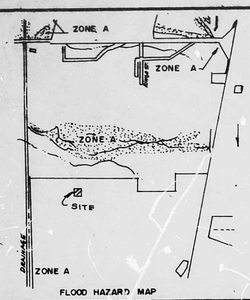
D17/D42

LOT 29A

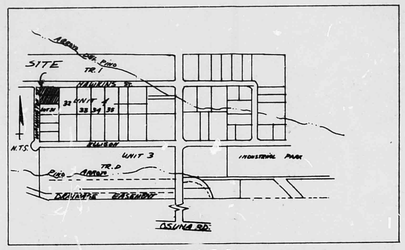
INTERSTATE

INDUSTRIAL

2 PLANS



FLOOD HAZARD MAP



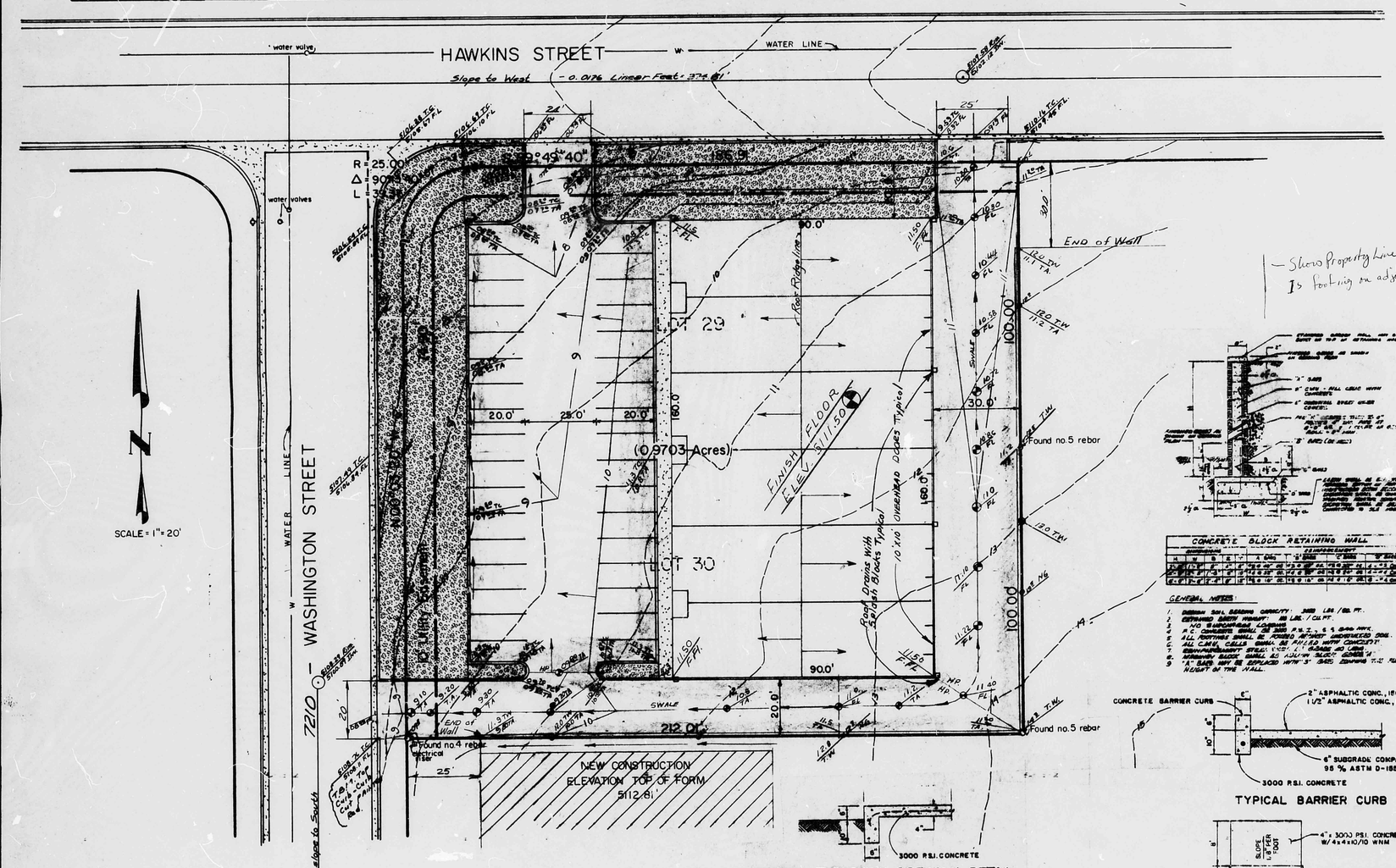
VICINITY MAP D-17-Z

LEGAL DESCRIPTION:

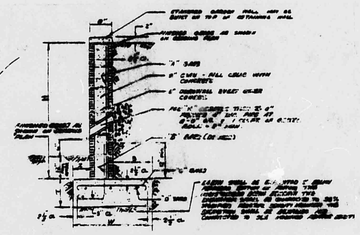
Lot 29-A of Interstate Industrial Tract, Unit 4
Albuquerque, New Mexico
Zone Atlas Map No. D-17

SOIL TYPE: EmB- Embudo gravelly fine sandy loam, 0-5 percent slopes.

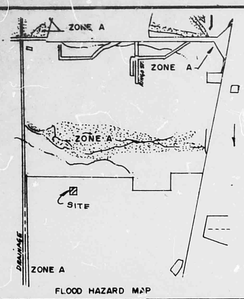
GRADING AND DRAINAGE PLAN
FOR
LOT 29-A
OF INTERSTATE INDUSTRIAL TRACT-UNIT IV
FILED MAY 7, 1979 RECORDED VOL.D9 FOL.119



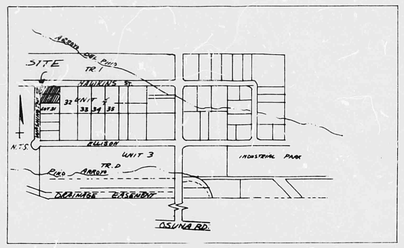
— Show Property Line, Is footing on adjoining Property?



| CONCRETE BLOCK RETAINING WALL | | |



FLOOD HAZARD MAP



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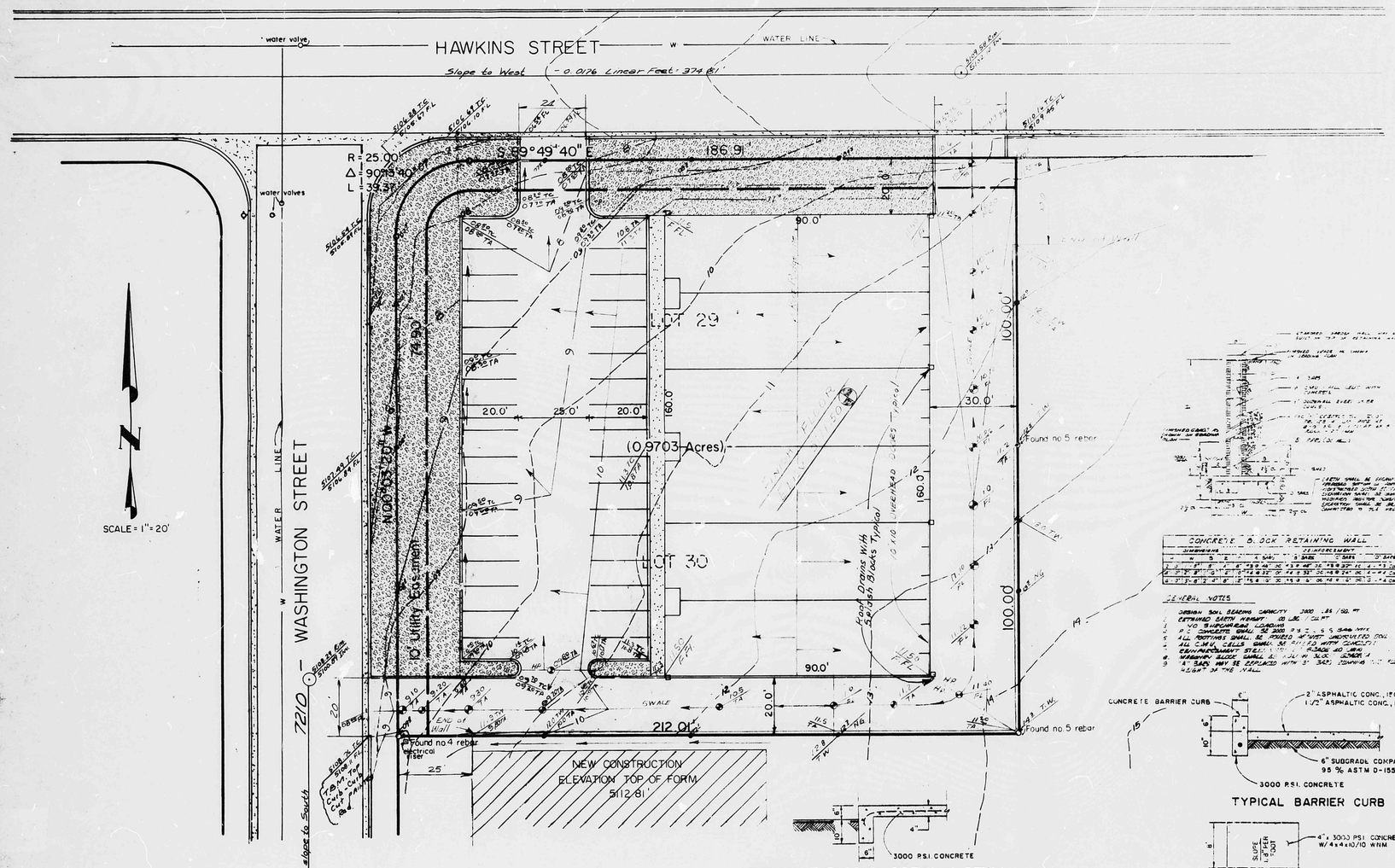
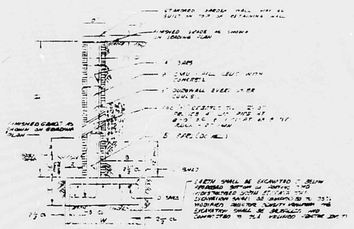
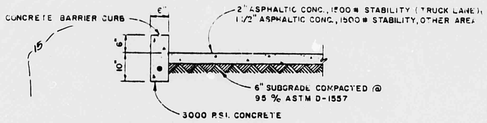
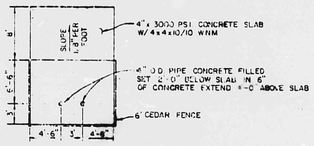






TYPICAL BARRIER CURB

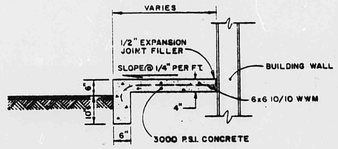
TYPICAL TURNDOWN SIDEWALK DETAIL



TYPICAL DUMPSTER PAD DETAIL

LEGEND:

- Proposed spot elevation
- Finish — spot elevation
- Existing contour
- Proposed contour
- Direction of runoff
- TC Top of curb
- FL Flow line
- FG Finished grade
- TA Top of Asphalt
- TW Top of Wall
- D Roof Drain w/ Splash Blocks (8 Total See plans)



TYPICAL STOREFRONT SIDEWALK

BENCHMARK INFORMATION:

Albuquerque, Control Station: 8-D17A is located approximately 400' south of the intersection of Ellison NE and Jefferson NE, and 45' west of center line of Jefferson NE. Elevation of Control Station: 5145.55

DRAINAGE PLAN:

The following items required by the City of Albuquerque Drainage Section concerning the drainage plan for Lot 29-A of Unit 4 - Interstate Industrial Tract and contained herein:

A. Vicinity Map
B. Flood Hazard Map
C. Grading and Drainage Plan
D. Calculations

The site is located on the southwest corner of the intersection of Washington and Hawkins St. At present, the site is undeveloped. No significant offsite watershed flows are contributing onto the subject property, subject site accepts and allows offsite flows to continue as they are in their present condition. The parcel to the south, Lot 31, is undeveloped and its runoff does not drain into this lot. Lot 29-A is owned by the same developers and its runoff will flow to north pond. On the north the site fronts on Washington and the flows within Washington will stay within the limits of its pavement.

The site does not lie within a designated flood hazard zone as shown by Flood Hazard Map, Page three of fifteen.

The grading - drainage plan does not require any ponding to be shown. The plan also shows that the total runoff for this project drains to the north, west, and by means of paved swales which discharge into the street.

The plan shows:

A. Existing contours at one foot intervals.
B. Proposed grades indicated by contours and spot elevations
C. Swales as indicated by the legend.

CALCULATIONS

EXISTING SWALE AT CURB CUT

Broad Crestsed weir
Q = CLH3/2
Q = CIA

RUNOFF FACTOR: C = 0.99
RAINFALL INTENSITY: I = 4.65in/hr
TIME OF CONCENTRATION: 10min.
AREA: = 0.325 acres
Q = (0.99 (4.65)(0.325) = 1.49 cfs

Q = CLH3/2
1.49 = (2.6 (1.0 H3/2
$\frac{1.49}{2.6}$ = H3/2
H = 0.43 ft.

For street flows less than 0.5 ft. in depth, the swale flow will not over-top the curb.

EAST SWALE (paved section)

Q = 1.49 cfs
S = 0.0060
n = 0.02
Triangular section = 12.5:1
depth = 1.2 @ property line
area = $\frac{1.2 \times 30}{2}$ = 18.0

R = A/Pw = 18/30.09 = 0.60
Q = 1.486/n x $AR^{2/3}S^{1/2}$
Q = 1.486/0.02(18.0)(0.60)$^{2/3}$(0.0060)$^{1/2}$=75.96

Capacity versus 1.49 cfs peak flow.

SOUTH SWALE (paved section)

Q = CIA AREA = 0.0073 acres
Q = (0.99)(4.65)(0.0073) = 0.03 cfs
Q = CLH$^{3/2}$

0.03 = (26)(1.0)H$^{3/2}$
H = 0.01
Q = 1.486/n x $R^{2/3}S^{1/2}A$
Q = 1.486/0.02(0.4)$^{2/3}$(4.0)(0.0156)$^{1/2}$

A= 4.0
R = 4/10.0 = 0.4
S = $\frac{11.0 - 8.5}{160}$ = 0.0156

Q = 20.04 cfs Capacity versus 0.03 cfs peak flow.

Northwest Swale (Paved Section)

Q = CIA Area = 0.410
Q = (0.99) (4.65) (0.410) = 1.89 cfs
Q = CLH$^{3/2}$
1.89 = (2.6) (1.0) H$^{3/2}$
H = 0.62 feet For street flows less than 0.62 ft. in depth, the swale flow will not over-top the curb
Q = $\frac{1.486}{n}$ $AR^{2/3}S^{1/2}$
Q = $\frac{1.486}{0.02}$ (6) (0.48)$^{2/3}$ (0.010)$^{1/2}$
Q = 27.2 cfs capacity versus 1.89 cfs peak flow

A = 6 Sq. ft.
R = 6/12.5 = 0.48
S = $\frac{9.8 - 8.20}{160}$ = 0.010

RECEIVED
SEP 9 RECD
HYDROLOGY SECTION

Revised 9/8/82

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CIVIL ENGINEERING · SURVEYING · LAND PLANNING
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ALBUQUERQUE, NEW MEXICO 87110 266-8791

D17/D42