HYDROLOGY

Q13/D1

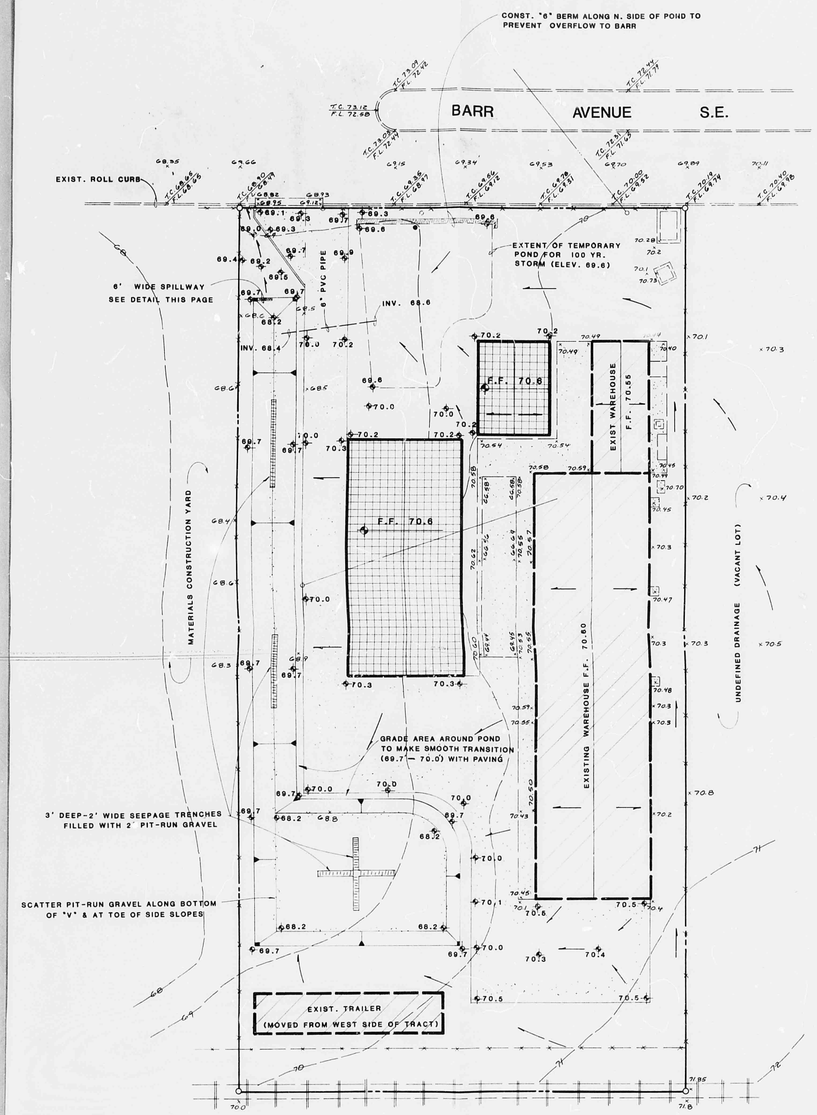
1 PLAN
NO DOCUMENTS

Q13/D1

1 Plan

No Documents

D 24 C 20 B 16 A 12 | CITY OF ALBUQUERQUE C D



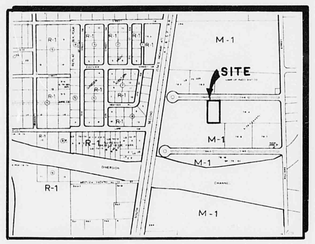
SCALE: 1"=20'

LEGEND

	SIDEWALK, CURB & GUTTER (EXISTING, PROPOSED)
	PROPOSED ASPHALT
	BUILDING (EXISTING, PROPOSED)
	PROPERTY LINE
12.7x	EXISTING SPOT ELEVATION
	EXISTING CONTOUR
12.5	PROPOSED SPOT ELEVATION
10	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

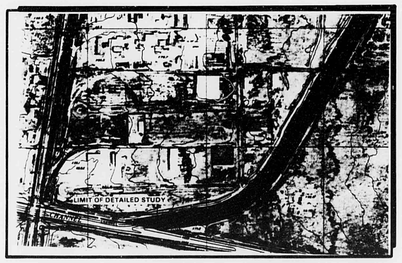
1. Before construction, the Contractor shall check and verify pertinent figures shown hereon and shall make all applicable field measurements. Should any conflict, error or discrepancy be discovered, the contractor shall notify the Engineer at once to resolve the problem. It is recommended that the Contractor meet with the Engineer for a pre-design conference to discuss the scope of work and critical areas involved.
2. The Contractor shall be responsible for following the plans using his best skill and attention. 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 locations of existing utilities within or adjacent to streets and shall take all necessary precautions and efforts to locate and protect these utilities. He shall give 48 hours notice to Line Locating Service, 765-1234, for any work that may interfere with said utilities.



VICINITY MAP ~~G~~-13

Q-13

Mr. Ice



FLOOD HAZARD MAP

SCOPE:

The proposed improvements, comprised of two ice production and storage buildings, concrete access drives and concrete pads, is located at 110 Barr Ave. S.E. (see location map). To control the increased flow from the site, a flood pond will be constructed on the west side of the property. The pond is designed to retain the entire runoff volume from the 100-year 6-hour storm. Topography and street elevations make it cost prohibitive to drain the site to Barr Avenue.

The present site is developed as an ice production-storage facility (Mr. Ice) and includes about 7,500 sq. ft. of buildings and 2,500 sq. ft. of concrete pads. Runoff from the property occurs as sheet flow which drains to the adjacent construction-materials yard to the west. Drainage from the site and the surrounding area eventually reaches a shallow ditch on the east side of the Santa Fe Railroad tracks. No obvious outfall exists for this ditch. Apparently, drainage waters simply pond and infiltrate locally.

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, walks 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:
Tract 5-A, Barr Industrial Park, Bernalillo County, New Mexico.

SURVEYOR:
Forstbauer Surveying Company, January 30, 1985.

B.M.:
BM-C-Q13 Corps of Engineers brass cap on NW corner of bridge at RR tracks and diversion channel on 2nd street S.W., Elevation = 4957.37.

T.B.M.:
NW corner of electric transformer concrete pad near NE corner of property. Elevation = 4870.73'.

SOILS:
Glin fine sandy loam (GA), Hydrologic Group B.

FLOOD HAZARD:
No hazard areas known to exist in site vicinity.

OFF-SITE DRAINAGE:
Site receives insignificant quantity of offsite flows from vacant land to east.

EROSION CONTROL:
Pond will be installed before building is constructed. This will ensure that all eroded sediments are captured on site.

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: 45,900 sq.ft.= 1.05 Ac.

Run-off Coefficient:

Existing site:	Developed Site:
A imp. = 0.23 Ac	A imp. = 0.43 Ac
Σ imp. = 22.2	Σ imp. = 41.7
"C" = 0.44 (DPM 22.2 C-1)	"C" = 0.52 (DPM 22.2 C-1)

Rainfall Intensity:

$I = P_6 (6.84) Tc^{-0.5} = 4.86"$ per hour
where $P_6 = 2.3$ "(DPM 22.2 D-1)
Tc = 10 minutes

Existing Conditions:	Developed Conditions:
Q100 = (0.44)(4.86)(1.05) = 2.2 cfs	Q100 = (0.52)(4.86)(1.05) = 2.6 cfs
V100 = (2.2)(5 Tc)(60 sec/in)/2 = 3,300 cu. ft.	V100 = (2.6)(50)(60)/2 = 3,900 cu. ft.

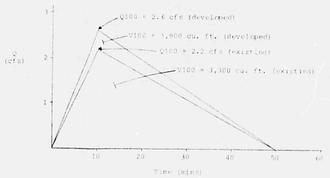
SUMMARY:

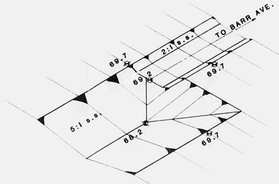
ΔQ100 = (2.6)-(2.2) = 0.4 cfs (increase)
ΔV100 = (3,900)-(3,300) = 600 cu. ft. (increase)

POND DESIGN:

Pond requirement is for retention of 100-year, 6-hour storm, 3,900 cu. ft. Pond shown on plan has a volume of approximately 4,000 cu. ft. at Elevation = 69.2'. If water ponds to above 69.2', flows will exit the pond over a 6'-wide spillway and onto Barr Ave. at the SW corner of the site. A 6" PVC pipe will transmit flows from a low area on the east side of the entrance drive to the pond. Gravel-filled seepage trenches will be constructed at three locations on the pond bottom to enhance infiltration and minimize the time during which water will stand in the pond after storms.

SITE HYDROGRAPHS





SPILLWAY DETAIL

RECEIVED
FEB 26 1985
HYDROLOGY SECTION

G13/D1

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

REVISIONS	DATE
DESIGNED WGH	2-1-85
DRAWN	2-5-85
CHECKED CLW	2-5-85

DRAINAGE / GRADING PLAN
PLANT FOR MR. ICE
110 BARR AVE. S.E.

WEISS-HINES ENGINEERING

WALTER G. HINES
NEW MEXICO
2-14-85

SHEET ___ OF ___

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

D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE

C D