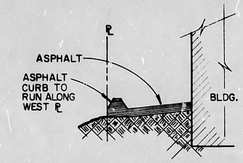
HYDROLOGY

E17/D41M
ONE PLAN

E 17/D41M

1 PLAN

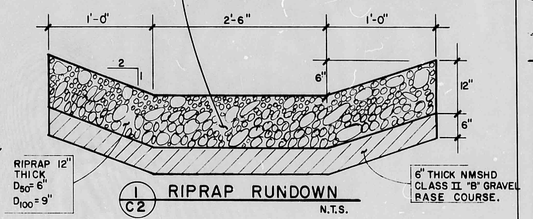


3 C-3 ENERGY DISSIPATOR (@ ROOF DRAINS) N.T.S.

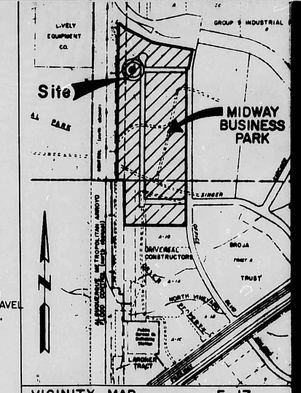
BITUMINOUS SUBFACING SHOULD BE CONSTRUCTED OF DENSE-GRADED, CENTRAL PLANT-MIX, ASPHALTIC CONCRETE. BASE COURSE AND ASPHALTIC CONCRETE SHOULD CONFORM WITH NEW MEXICO STATE HIGHWAY DEPARTMENT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

2 C-2 TYPICAL PAVING SECTION N.T.S.

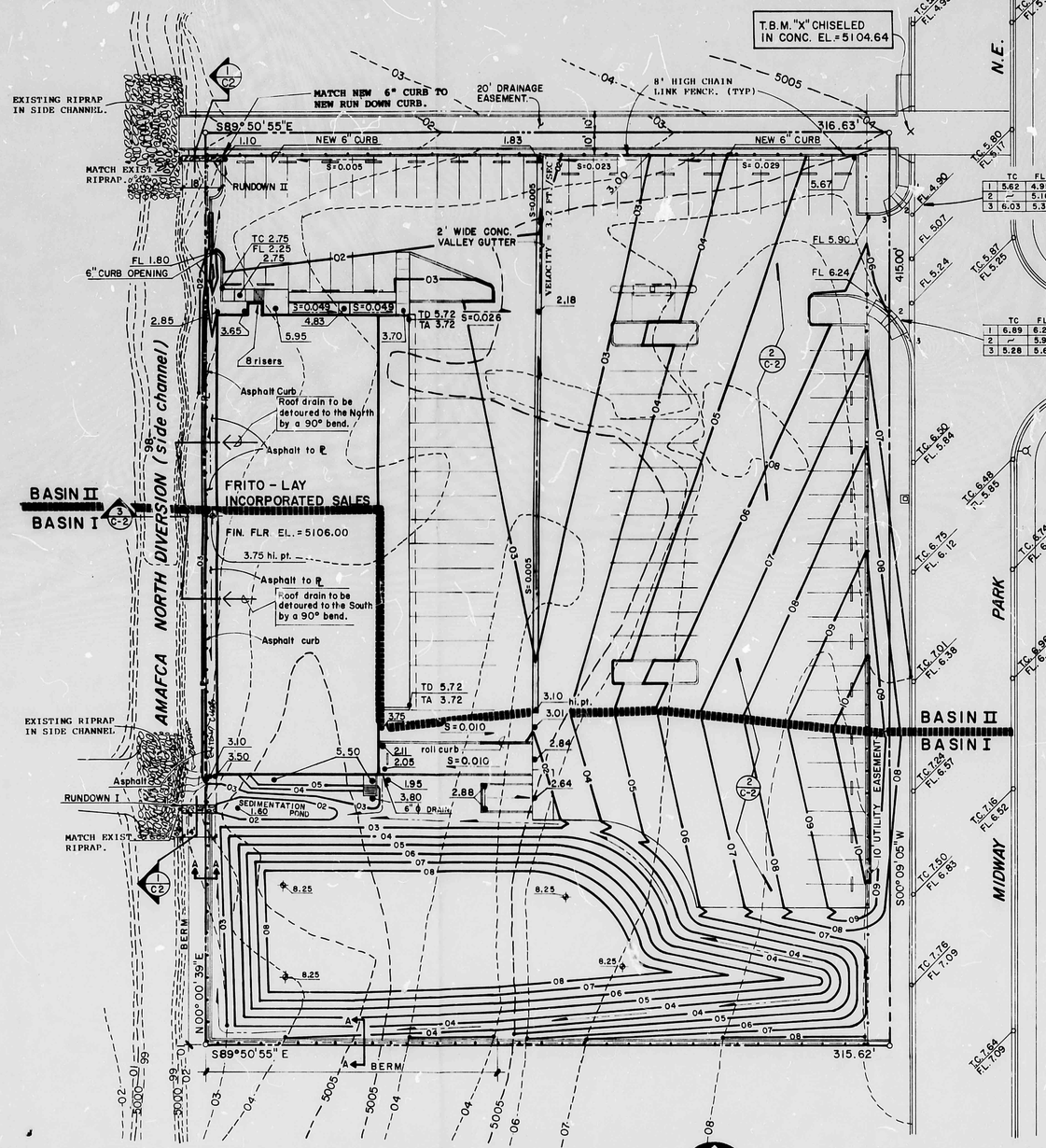
RIPRAP TO BE CONST. IN ACCORDANCE WITH N.M.S.H.D. STD. RD. SPEC'S FOR RD. & BRIDGE CONST. 1984 EDITION, SEC. 603, CLASS "A".



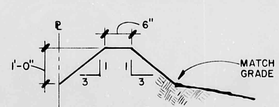
1 C2 RIPRAP RUNDOWN N.T.S.



VICINITY MAP E-17
FLOOD HAZARD PANEL No.16



GRADING AND DRAINAGE PLAN
SCALE: 1"=30'



SECTION "A A" (BERM)
N.T.S.

NOTICE TO CONTRACTOR

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS PUBLIC WORKS CONSTRUCTION, 1985.
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM OF DELAY.
4. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL DURING THE CONSTRUCTION PHASE, INCLUDING ANY PROVISIONS THAT NEED TO BE TAKEN TO DIVERT ANY SEDIMENT FROM ENTERING THE CITY RIGHT-OF-WAY, I.E., WINDROWS, SILT FENCING, OR APPROVED EQUAL.
5. CONTRACTOR IS TO NOTIFY AMAFCA FIELD ENGINEER AT 884-2215, 48 HOURS PRIOR TO ANY CONSTRUCTION WITHIN THE AMAFCA NORTH DIVERSION SIDE CHANNEL.
6. PRIOR TO RELEASE OF CERTIFICATE OF OCCUPANCY, THE CONTRACTOR IS TO PROVIDE, IN WRITING, THE APPROVAL AND ACCEPTANCE BY AMAFCA FOR THE RUNDOWNS TO CITY OF ALBUQUERQUE, HYDROLOGY SECTION.

DRAINAGE PLAN

SALES DISTRIBUTION CENTER

FOR FRITO-LAY INCORPORATED

LOCATION AND EXISTING CONDITION:

The site is located west of the intersection of Midway Park and Midway Place N.E. in Midway Business Park containing approximately 3.01 acres. The site is undeveloped and slopes from east to west with an average slope of 1.7 percent. Runoff from the site is intercepted by the earthen side channel of the North Diversion Channel and is conveyed to existing surface inlets into the North Diversion Channel.

There is a concrete drainage channel on the north 10 feet of the site that intercepts runoff form the streets. The concrete drainage channel design was part of the "Southwest Investors Drainage Plan for Midway Business Park", December, 1983 prepared by Andrews, Asbury & Robert, Inc. In the report, this site was assumed to be 86 percent impervious and allowed for total runoff without detention of waters.

PROPOSED CONDITION:

Proposed development of the site includes a building and dock with associated parking and landscaped areas. Runoff from the site will continue to flow to the west into the earthen side channel of the North Diversion Channel in compliance with the approved Drainage Plan for Midway Business Park.

CALCULATIONS:

Area = 3.01 acres
I = 2.2 in./hr. Plate 22.2 D-2
6-hour, 100-year rainfall = 2.2 in. Plate 22.2 D-1
i = (2.2)(2.2) = 4.84 in./hr.

EXISTING ON-SITE CONDITIONS:

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	0.09	0.09	
Roofs	0.90	-0-	-0-	
Lawns & Landscaping	0.25	-0-	-0-	
Undeveloped	0.40	2.92	1.17	
TOTAL		3.01	1.26	0.42

Q(100) = (0.42)(4.84)(3.01) = 6.12 cfs
Q(10) = (0.657)(6.12) = 4.02 cfs
CN = 70 Plate 22.2 C-2
Direct Runoff = 0.35 in. Plate 22.2 C-4
V(100) = (0.35)(3.01)(43560)/12 = 3822 cu. ft.
V(10) = (0.657)(3824) = 2513 cu. ft.

BASIN I
PROPOSED ON-SITE CONDITIONS: AREA = 1.24 ACRES

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	0.40	0.38	
Roofs	0.90	0.21	0.19	
Lawns & Landscaping	0.25	0.03	0.01	
Undeveloped	0.40	0.60	0.24	
TOTAL		1.24	0.82	0.66

Q(100) = (0.66)(4.84)(1.24) = 3.96 cfs
Q(10) = (0.657)(3.96) = 2.60 cfs
CN = 78 Plate 22.2 C-3
Direct Runoff = 0.77 in. Plate 22.2 C-4
V(100) = (0.77)(1.24)(43560)/12 = 3466 cu. ft.
V(10) = (0.657)(3466) = 2277 cu. ft.

BASIN II
PROPOSED ON-SITE CONDITIONS: AREA = 1.77 ACRES

SURFACE TYPE	"C" VALUE	A (ACRES)	"C"X A	COMPOSITE "C"=CXA/A
Streets, Drives, Walks	0.95	1.51	1.43	
Roofs	0.90	0.16	0.14	
Lawns & Landscaping	0.25	0.10	0.03	
Undeveloped	0.40	-0-	-0-	
TOTAL		1.77	1.60	0.90

Q(100) = (0.90)(4.84)(1.77) = 7.71 cfs
Q(10) = (0.657)(7.71) = 5.07 cfs
CN = 86 Plate 22.2 C-3
Direct Runoff = 1.71 in. Plate 22.2 C-4
V(100) = (1.71)(1.77)(43560)/12 = 10987 cu. ft.
V(10) = (0.657)(10987) = 7218 cu. ft.

MINIMUM CAPACITY OF RUNDOWNS:

$Q = 1.486\ A\ S^{5/3}\ R^{1/2}/NP$
S = 0.11 MINIMUM
N = 0.045
A = 1.75
P = 4.74
Q = 9.86 csf > 7.71 cfs > 3.96 cfs.
FREEBOARD ALLOWED

ENTRANCE CONDITIONS AT RUNDOWNS:

Q = CLH 3/2
C = 3.0
H = 0.5

BASIN I:

L = 3.73 - O.K.

BASIN II:

L = 7.27 - O.K.

LEGAL DESCRIPTION:

LOT 16, SUBDIVISION PLAT FOR "MIDWAY BUSINESS PARK", A REPLAT OF LOT 1A1, ALBUQUERQUE, INDUSTRIAL PARK SITE, LYING WITHIN SECTIONS 26, 27 AND 35, T 10 N, R 3 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO, AS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON MARCH 15, 1984 IN VOLUME C23, FOLIO 97 (1 OF 3).

BENCH MARK DATA:

THE STATION MARK IS A 2-1/2 INCH BRASS TABLET STAMPED "UNIV. CONTRACTORS, INC. N.E. PROP. COR.-NAA 8A" SET IN CONCRETE. THE BRASS TABLET IS LOCATED AT THE INTERSECTION OF OSUNA RD. AND THE NORTH DIVERSION CHANNEL. ELEVATION = 5092.19.

T.B.M. SEE PLAN.

SURVEY DATA:

SURVEY DATA PROVIDED BY A & E ENGINEERING, INC., 1330 SAN PEDRO N.E., SUITE 101, ALBUQUERQUE, NEW MEXICO, 266-8791.

LEGEND:

SPOT ELEVATION (EXISTING)
SPOT ELEVATION (NEW)
CONTOUR (EXISTING)
CONTOUR (NEW)
PROPERTY LINE

Sales Distribution Center
for
Frito-Lay Incorporated
5941 Midway Park NE
Albuquerque, New Mexico 87109

Project Title

Drawn By GC Checked By

Project No Date 10/30/86

VICTOR J. CHAVEZ NEW MEXICO 7016 PROFESSIONAL ENGINEER

10/30/86

Revisions Architect Engineer

Rev. 8-18-86

GRADING AND DRAINAGE PLAN

RECEIVED DEC 17 1986 HYDROLOGY SECTION

C2

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