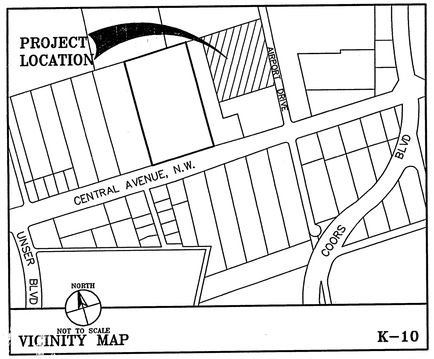


VICINITY MAP K-10

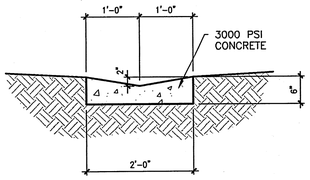
LEGEND:

51.0	EXISTING SPOT ELEVATION
• 51.00	NEW SPOT ELEVATION
51	EXISTING CONTOUR
51	NEW CONTOUR
	SWALE
51.0 ✓	VERIFIED ELEVATION
~~51.0~~	AS BUILT ELEVATION
	BASIN BOUNDARY
	PROPERTY LINE
FL	FLOW LINE
GND	GROUND
INV	INVERT
TA	TOP OF ASPHALT
TC	TOP OF CURB
TG	TOP OF GRATE
TS	TOP OF CONCRETE SLAB
TW	TOP OF WALL
TBM	TEMPORARY BENCH MARK

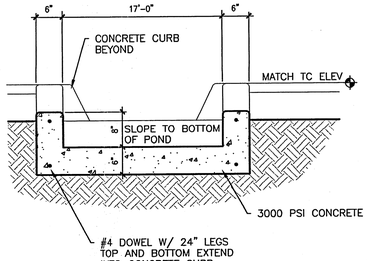
BENCH MARK:
ACS CONTROL STATION 5-K-10 LOCATED AT THE INTERSECTION OF COORS ROAD & CENTRAL AVENUE
ELEVATION = 5093.733 FT.

ADDRESS:
221 AIRPORT ROAD NW

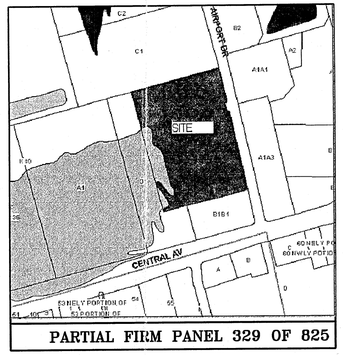
LEGAL DESCRIPTION:
LOTS A-1-A-1 & B-1-A-1 WEST 66 ADDITION



1 CONCRETE SWALE
3/4"=1'-0"



2 CONCRETE RUNDOWN
3/4"=1'-0"



PARTIAL FIRM PANEL 329 OF 825

GRADING AND DRAINAGE PLAN
LOT A-1-A-1~~A & B-1-A-1~~
A-1-A-1-A

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING THE LOTS ~~A-1-A-1 & B-1-A-1~~ WEST 66 ADDITION ATRISCO BUSINESS PARK, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. VICINITY MAP
2. GRADING PLAN
3. CALCULATIONS

THE PROPOSED IMPROVEMENTS, AS SHOWN BY THE VICINITY MAP, ARE LOCATED ON THE WEST SIDE OF AIRPORT DRIVE NW, NORTH OF CENTRAL AVENUE NW. LOT A-1-A-1 IS CURRENTLY DEVELOPED, LOT B-1-A-1 IS CURRENTLY UNDEVELOPED. THE EXISTING FLOW FROM LOTS A-1-A-1 AND B-1-A-1 ARE ROUTED TO THE EXISTING DETENTION POND LOCATED AT THE SOUTH EAST CORNER OF LOT A-1-A-1.

THE MASTER DRAINAGE PLAN FOR THIS SUBDIVISION WAS PREPARED BY EASTERLING AND ASSOCIATES. THE MASTER PLAN ESTABLISHED A DISCHARGE RATE OF 0.1 CFS/ACRE. THE EXISTING CONTROL OUTLET HAS A DISCHARGE RATE OF .67 CFS.

THE LANDS TO THE WEST AND TO NORTH SLOPE AWAY FROM THE SITE. THE SITE TO THE SOUTH HAS BEEN DEVELOPED WITH FLOWS DIRECTED TO AN ON SITE DETENTION POND PREVENTING OFF SITE FLOW FROM THAT DIRECTION, THEREFORE OFF SITE FLOWS ARE CONSIDERED INSIGNIFICANT.

THE GRADING PLAN SHOWS:

1. THE EXISTING AND PROPOSED GRADES, INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS.
2. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
3. THE LIMIT AND CHARACTER OF EXISTING IMPROVEMENTS, AND
4. THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.

THE PROPOSED IMPROVEMENTS CONSIST OF A WAREHOUSE / OFFICE ADDITION WITH ASSOCIATED PARKING AND LANDSCAPING. THE EXISTING POND WAS SIZED TO ACCEPT THE RUNOFF FROM THE DEVELOPED LOT A-1-A-1 AND THE UNDEVELOPED CONDITIONS FOR LOTS B-1-A-1 AND B-1-B-1. THE RUNOFF FROM LOT B-1-B-1 NOW DRAINS TO A POND ON THAT SITE. THE PROPOSED RUNOFF FROM THE SUBJECT SITE WILL DRAIN TO THE EXISTING POND. THE POND SIZE WILL BE MODIFIED TO ACCOUNT FOR THE CHANGE IN REQUIRED PONDING VOLUME. THE EXISTING CONTROLLED DISCHARGE WAS SIZED FOR LOT A-1-A-1 ONLY. THE EXISTING CONTROLLED DISCHARGE WILL BE INCREASED TO ACCOUNT FOR THE AREA OF LOT A-1-B-1.
THE EXISTING DISCHARGE IS 0.67 CFS. THE ALLOWABLE DISCHARGE RATE FOR THE COMBINED SITE IF 0.1 CFS/ACRE x 10.576 ACRES = 1.06 CFS. THE PROPOSED RUNOFF RATE IN 1.02 CFS.

FIRM FLOOD HAZARD ZONE

THE EAST EDGE OF THE SITE FALL WITHIN THE FIRM FLOOD HAZARD ZONE AE (FIRM PANEL 329 OF 825). THE BUILDING ADDITION DOES NOT FALL WITH IN THE FLOOD HAZARD ZONE.

CONSTRUCTION NOTES

1. TWO WORKING DAY PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CALL FOR LOCATION OF EXISTING UTILITIES.
2. ALL WORK WITHIN THE CITY RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE CITY OF ALBUQUERQUE STANDARD AND PROCEDURE.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, LAWS, AND RULES CONCERNING SAFETY AND HEALTH.
4. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS AND INFORM THE ARCHITECT / ENGINEER OF ANY DISCREPANCY BETWEEN THE INFORMATION SHOWN THE PLANS AND THOSE OF THE EXISTING SITE.
5. THE OWNER SHALL VERIFY LOCATIONS OF PONDS WITH GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION WORK ON THIS PROJECT, AND INFORM THE ARCHITECT / ENGINEER OF ANY ADDITIONAL REQUIREMENTS.

CALCULATIONS

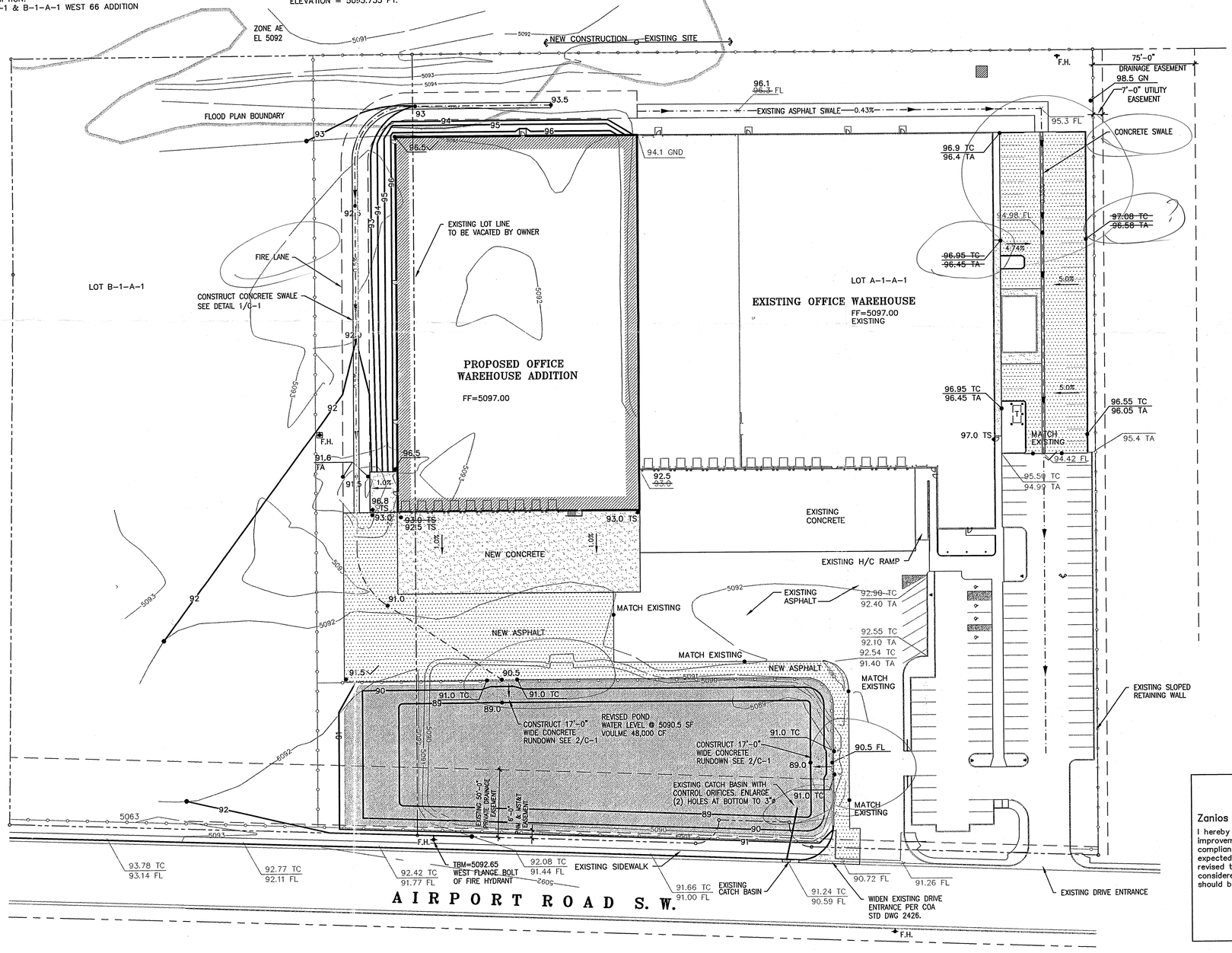
PRECIPITATION ZONE = 1
TOTAL SITE AREA = 10.576 ACRES
EXISTING CONDITIONS
LAND TREATMENT A=68% B=2% C=0% D=31%
E = 0.44(0.68)+0.67(0.02)+1.97(0.31) = 0.91 INCHES
V = 0.91(10.576) / 12 = 0.803 ACRE FEET
Q = [1.29(0.68) + 2.03(0.02) + 4.37(0.31)] 10.576 = 23.73 CFS
DEVELOPED CONDITIONS
LAND TREATMENT A=45% B=4% C=0% D=52%
E = 0.44(0.45)+0.67(0.03)+1.97(0.52) = 1.24 INCHES
V = 1.24(10.576) / 12 = 1.091 ACRE FEET
Q = [1.29(0.45) + 2.03(0.03) + 4.37(0.52)] 10.576 = 30.73 CFS
INCREASE IN VOLUME OF RUNOFF = 1.091 - 0.803 = 0.287 ACRE FT
INCREASE IN RATE OF RUNOFF = 30.73 - 23.73 = 7.00 CFS

POND VOLUME
T_c: 0.2 HR 0.25 Ad/At = 0.25(0.52)/60 = 0.217 HR
T_p: 2.107 E At/Qp - 0.25 Ad/At = 0.768 HR
T_p= (0.7 Tc)+((1.6-Ad/At))/12) = 0.230 HR
$V_{required}$= 46,850 CF
VOLUME @ ELEV 5090.5
V =[0.5*(39460+24540)*1.5]= 48,000 CF

ORIFICES CALCULATIONS

WATER SURFACE ELEVATION	905
EXISTING OF DI FLOOR	892
EXISTING 1 1/4"ø HOLE INV	895
EXISTING DISCHARGE RATE	067 CFS
PROPOSED DISCHARGE RATE	102 CFS

$Q = k A \sqrt{2gh}$
h=(905-895)-025/2= 0875 FT
ΔQ=102-067=035 CFS
$035 = k \Delta A \sqrt{2g(0875)}$ $\Delta A = 0078\ ft^2 = 1123\ in^2$
$\Delta A = 2(A_1 - A_{EXIST})$ $A_{EXIST} = 123\ in^2$ triple
$A_1 = 1/2\ \Delta A + A_{EXIST} = 1/2(1123) + 123 = 684\ in^2$
$DIA_1 = 295\ in^2$ USE (2) 3"ø HOLES



0 20' 40' 80'
1" = 40'-0"

NORTH

GRADING AND DRAINAGE PLAN

SEPTEMBER 25, 2000 SCALE; 1" = 40'-0"

Engineer's Certification for
Permanent Certificate of Occupancy
Zanios Foods Addition – Tract A-1-A-1 & A-1-B-1

I hereby certify that I have inspected the site grading and drainage improvements and that they have been completed in substantial compliance with the approved grading and drainage plan; and are expected to function as intended. Proposed contours have not been revised to reflect the as-constructed information and should be considered approximate. Spot elevations which have not been revised should be considered approximate.

J. Arthur Blessen 8-10-01
Arthur Blessen, PE date
NM PE# 13481

RECEIVED AUG 1 0 2001 HYDROLOGY SECTION

CLAUDIO VIGIL ARCHITECTS

ZANIOS FOODS
WAREHOUSE ADDITION PHASE III
221 AIRPORT ROAD, N.W.
ALBUQUERQUE, NEW MEXICO

JOHN ARTHUR BLESSEN NEW MEXICO 13481 REGISTERED PROFESSIONAL ENGINEER
8-28-00
Rev 12/7/00
AS BUILT 8/10/01

SHEET C-1
PROJECT NUMBER 00000

1305 Tijeras NW Albuquerque, NM 87102-2882
Phone: 505/842-1113 Fax: 505/842-1330