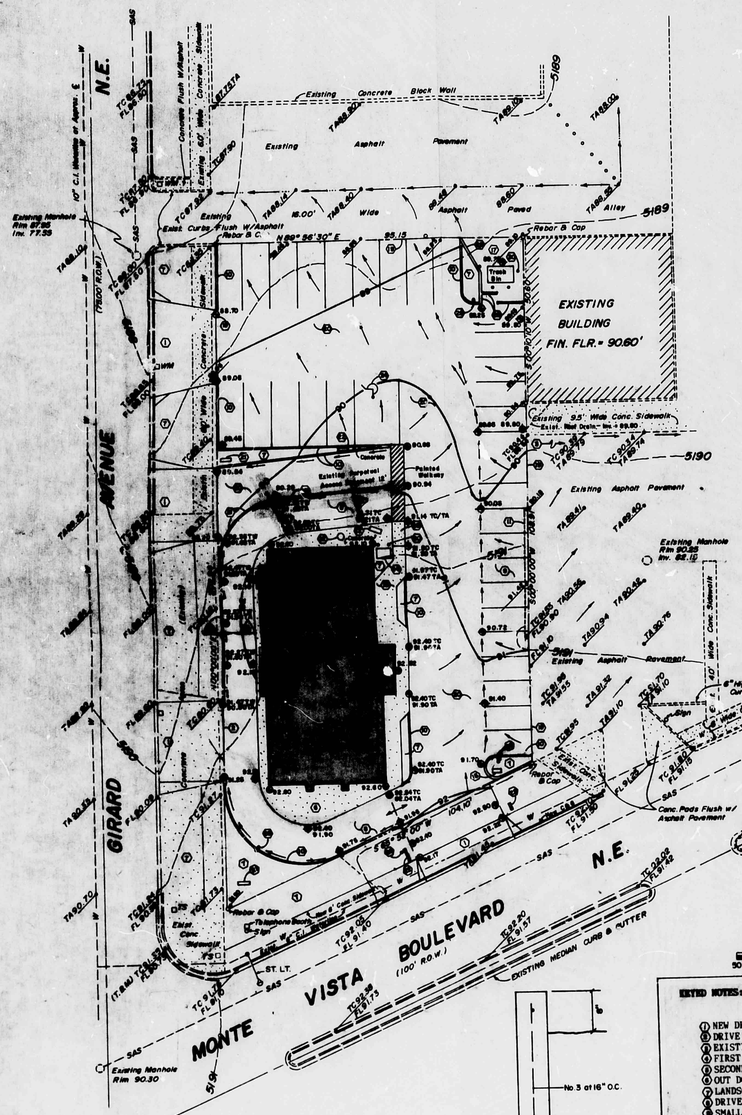
HYDROLOGY

K16/D23
ONE PLAN

K16-D23

1 PLAN



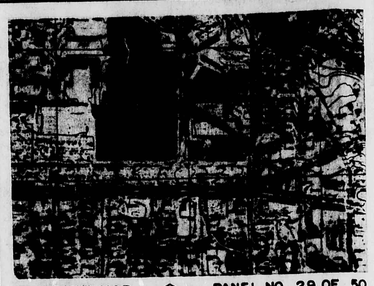
LEGAL DESCRIPTION:

A CERTAIN TRACT OR PARCEL OF LAND SITUATED WITHIN THE CITY LIMITS OF THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO; BEING AND COMPRISING LOT 2A, BLOCK 32, A REPLAT OF LOTS 1 THROUGH 8 AND TRACT "A", BLOCK 12, MONTE VISTA ADDITION, SECTION 22, T10N, R3E, N.M.P.M.

BENCH MARK:

A.C.S. STATION 5-K16 LOCATED 2.1 MILES EAST FROM DOWNTOWN ALBUQUERQUE AT THE TRISECTION OF CENTRAL AVENUE, MONTE VISTA BOULEVARD AND GIRARD BOULEVARD ON THE SOUTHEAST MEDIAN OF THE TRISECTION. STATION 16 45.8 FEET EAST OF CENTERLINE ON GIRARD BOULEVARD AND 23.3 FEET SOUTH OF CENTERLINE OF THE WESTBOUND LANE ON CENTRAL AVENUE. STATION IS A STANDARD A.C.S. BRASS DISK SET IN A CONCRETE CYLINDER IN THE GROUND. STATION IS STAMPED "5-K16, 1974 ACS". ELEVATION 5192.178.

TEMPORARY BENCH MARK ON SITE IS LOCATED ON TOP OF CURB NEAR THE SOUTHWEST CORNER OF THE SITE, A SQUARE CHISELED ON TOP OF CURB AT THE LOCATION SHOWN ON THE PLAN. ELEVATION 5191.38 FEET.



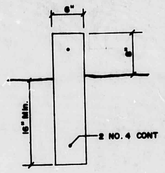
FLOODWAY MAP — NORTH — PANEL NO. 29 OF 50

VICINITY MAP — NORTH — ZONE ATLAS NO. K-16

LEGEND

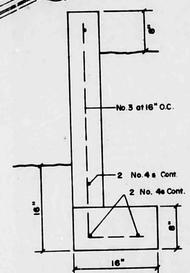
EXISTING	NEW	DESCRIPTION
		CONTOUR
		SPOT ELEVATION
		PROP LINE
		FLOW DIRECTION
—W—		WATERLINE
—SAS—		SEWER LINE (SANITARY)
—T—		TELEPHONE LINE

TC TOP OF CURB (CONCRETE)
TA TOP OF ASPHALT
FL FLOWLINE



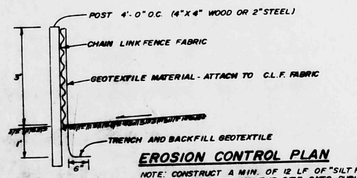
SECTION A

NOTES:
1. Curb to be 6" above drive-thru elev. at all points.
2. No footing required unless top of curb is a min. of 2' above grade



SECTION B

NOTES:
1. Curb to be 6" above drive-thru at all points.
2. Footing required where wall is exposed 2' above any grade.



EROSION CONTROL PLAN

NOTE: CONSTRUCT A MIN. OF 12 LF OF "SILT FENCE" AT EACH POINT OF DISCHARGE FROM THE SITE ONTO PUBLIC OR PRIVATE STREET OR OTHER PAVED AREA. CONSTRUCT BERMS AT EACH END OF FENCE AS NECESSARY TO CHANNEL ALL FLOW THROUGH FENCE.

KEYED NOTES:

1. NEW DRIVE PAD - SEE SITE PLAN FOR WIDTH.
2. DRIVE THRU EXIT - MATCH EXISTING CONCRETE PAD.
3. EXISTING FIRE HYDRANT - 180 FEET EAST ON DARTMOUTH DRIVE.
4. FIRST DRIVE-UP WINDOW.
5. SECOND DRIVE-UP WINDOW.
6. OUT DOOR DINING
7. LANDSCAPING AREA.
8. DRIVE THRU
9. SMALL CAR PARKING.
10. 6" PERMA CURB.
11. EXISTING CONCRETE CURB - REMOVE.
12. EXT. GREASE TRAP.
13. MENU BOARD.
14. ELECTRICAL TRANSFORMER.
15. SIGN - "IN" - "OUT".
16. CONCRETE WALKWAY.
17. REFUSE ENCLOSURE.
18. ENTRANCE TO RESTAURANT.
19. MATCH GRADE OF EXISTING ASPHALT AT PROPERTY LINE.
20. NEW ASPHALT CONCRETE (A.C.) PAVEMENT.
21. SIGN - "TACO BELL".
22. DRIVE THRU SIGN (BOTH SIDES)
23. CAR SENSOR LOOP.
24. HANDICAP SYMBOL, PAINTED.
25. HANDICAP RAMP - 12:1 MAX. SLOPE.
26. PAINTED LETTERING - SEE SITE PLAN.
27. PAINTED ARROWS - SEE SITE PLAN.
28. EXTERIOR LIGHT POLE.
29. 6" CMU WALL, 6'-0" HIGH.
30. 6" BOLLARD, CONCRETE FILLED.
31. RETAINING WALL.

DRAINAGE CALCULATIONS

I. REFERENCES:

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOLUME 2, DESIGN CRITERIA, CHAPTER 22, DRAINAGE, FLOOD CONTROL AND EROSION CONTROL.

B. FLOODWAY MAP, PANEL 29 OF 50, FEDERAL EMERGENCY MANAGEMENT AGENCY, OCTOBER 14, 1983.

II. ON-SITE RUNOFF CHARACTERISTICS:

A. UNDEVELOPED RUNOFF COEFFICIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	12,797	0.95	12,157
ROOFS	4,048	0.90	3,643
LAWNS & LANDSCAPING	-		
UNDEVELOPED	-		
TOTAL AREA	16,845 = 0.3867 Ac.		15,800

WEIGHTED "C" VALUE = 15,800 / 16,845 = 0.94

B. DEVELOPED RUNOFF COEFFIENT:

TYPE OF SURFACE	AREA	"C"VALUE	AREA("C")
STREETS, DRIVES, WALKS	13,185	0.95	12,526
ROOFS	2,627	0.90	2,364
LAWNS & LANDSCAPING	1,033	0.25	258
UNDEVELOPED	-		
TOTAL AREA	16,845		15,148

WEIGHTED "C" VALUE = 15,148 / 16,845 = 0.90

C. RAINFALL, 100-YR.,6-HR.:(REF. A., PLATE 22.2 D-1)
R_6 = 2.25 INCHES

D. TIME OF CONCENTRATION: USE 10 MINUTES.

E. RAINFALL INTENSITY,I: (For use with rational equation.) (REF. A., PLATE 22.2 D-2)
$I = R_6 \times 6.84 \times (T_c)^{-0.51} =$
$I = (2.25)6.84(10)^{-0.51} = 4.76$in./hr.

III. ON-SITE PEAK DISCHARGE:

A. EXISTING CONDITIONS:(BY RATIONAL EQUATION)
$Q_{100} = 0.94 \times 4.76 \times 0.39 = 1.75$ cfs
$Q_{10} = 0.657 \times 1.75 = 1.15$ cfs

B. DEVELOPED CONDITIONS:
$Q_{100} = 0.90 \times 4.76 \times 0.3[illegible] = 1.67$ cfs
$Q_{10} = 0.657 \times 1.67 = 1.10$ cfs

IV. ON-SITE VOLUME:

A. EXISTING CONDITIONS:
$V_{100} = 0.94\ (2.25/12)16,845 = 2,928$ CF
$V_{10} = 0.657 \times 2,928 = 1,924$ CF

B. DEVELOPED CONDITIONS:
$V_{100} = 0.90\ (2.25/12)16,845 = 2,843$ CF
$V_{10} = 0.657 \times 2,843 = 1,868$ CF

PRE-DESIGN CONFERENCE FINDINGS:

1. DRAINAGE PLAN PER DPM.
2. FREE DISCHARGE; ENGINEER MUST ADDRESS:
   A. BUILDING OVER IMPERVIOUS AREA.
   B. MINIMUM IMPACT ON DOWNSTREAM FACILITIES.
   C. NOT IN A FLOOD ZONE.
3. NEED TO ACCEPT OFF-SITE FLOWS IF APPLICABLE.

DRAINAGE COMMENTS:

1. THE SITE DOES NOT LIE WITHIN OR ADJACENT TO A DESIGNATED FLOOD HAZARD AREA.
2. THE SITE IS PRESENTLY PAVED WITH ASPHALT SURFACING OVER ALL NON-BUILDING SURFACES. THE EXISTING BUILDING IS TO BE REMOVED.
3. THE PROPOSED SITE WILL HAVE MINIMAL IMPACT ON DOWNSTREAM DRAINAGE FACILITIES. AT PRESENT, ALL SITE RUNOFF SHEET-FLOWS NORTH TO THE PAVED ALLEY WHICH DRAINS TO GIRARD AVENUE.
4. THE PROPERTY TO THE EAST OF THE SITE IS PAVED AND DRAINS TO THE EAST. THERE IS NO OFF-SITE FLOW ASSOCIATED WITH THIS SITE.

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.
2. 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 SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. 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.
4. ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

RECEIVED OCT 06 1986 HYDROLOGY SECTION

REVISED 10/4/86
REVISED 9/11/86

CONSTRUCTION DRAWINGS

FRANK D. LOVELADY NEW MEXICO 6512 REGISTERED PROFESSIONAL ENGINEER 12/4/86

GRADING AND DRAINAGE PLAN
PROPOSED TACO BELL SITE - M-80

2901 MONTE VISTA BOULEVARD, N.E.
ALBUQUERQUE, NEW MEXICO