HYDROLOGY

E10/D5

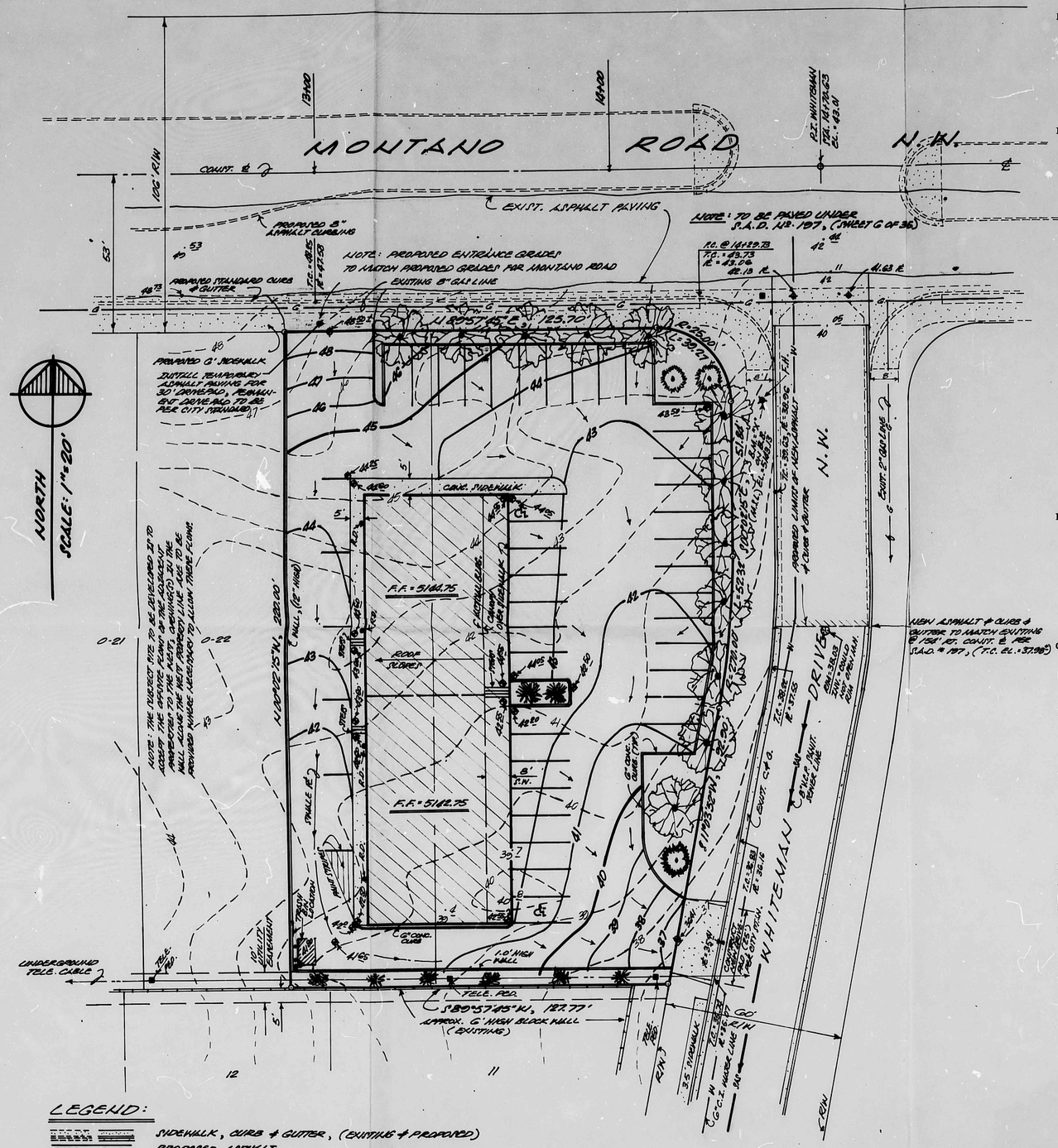
ONE PLAN

1 PLAN FOR

DLS ENTERPRISES

OFFICE BLDG.

E10 - D5



LEGEND:

- SIDEWALK, CURB & GUTTER, (EXISTING & PROPOSED)
- PROPOSED ASPHALT
- PROPOSED BUILDING
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- DIRECTION OF SURFACE FLOWS
- TC = TOP OF CURB ELEVATION
- FL = FLOW LINE ELEVATION OF CURB
- R.D. ROOF DRAINS

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. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agriculture, Soil Conservation Service.

C. Floodway Map, Panel 14 of 50, Federal Emergency Management Agency.

II. GENERAL INFORMATION:

A. Soil Type (Ref.B., Sheet No. 20) Soil type is either MWA, Madurez-Wink association, hydrologic soil group "B"; or, BKD, Bluepoint-Koran association, hydrologic soil group "A". Since the site is on the boundary between these two soil types, assume the soil to be hydrologic soil group "B".

B. Imperviousness:

Type of Surface	Existing Area Sq.Ft.	Acres	Proposed Area Sq.Ft.	Acres
Building roof	0	0	6960	0.16
Concrete Surfaces	0	0	1075	0.02
Asphalt Surfaces	0	0	20472	0.47
Landscaping	0	0	3020	0.07
Undeveloped surface	31,527	0.72	0	0
Site total	31,527	0.72	31527	0.72
Percent impervious	0%		90%	

C. "C" Factor (See Ref. A., Plate 22.2 C-1)
1. Undeveloped "C" Factor = 0.34
2. Developed "C" Factor = 0.86

D. Rainfall, 100-year, 6-hour, R_6: (See Ref.A., Plate 22.2 D-1) R_6 = 2.2 inches.

E. Time of Concentration, T_c: For a site of this size, the minimum time of concentration of 10 minutes is applicable.

F. Rainfall Intensity, I: (See Ref. A, Plate 22.2 D-2)

$I = R_6 \times 6.84 \times T_c^{-0.51} = 2.2 \times 6.84 \times (10)^{-0.51}$

I = 4.65 In/Hr

III. PEAK DISCHARGE:

A. Existing Conditions. (Use Rational Equation.)
$Q_{100} = 0.34 \times 4.65 \times 0.72 = 1.14$ cfs
$Q_{10} = 0.657 \times 1.14 = 0.75$ (Ref. A., Plate 22.2 D-1)

B. Developed Conditions.
$Q_{100} = 0.86 \times 4.65 \times 0.72 = 2.88$ cfs
$Q_{10} = 0.657 \times 2.88 = 1.89$ cfs

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.

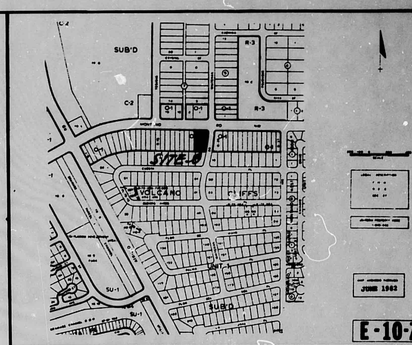
EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION. HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

1. ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY THE CONSTRUCTION OF BERMS, DIKES, SKALES, PONDS AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF FROM LEAVING THE SITE AND ENTERING SAID PROPERTY.

2. ADJACENT PUBLIC RIGHTS-OF-WAY SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER PUBLIC STREETS.

3. THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY AND ALL SEDIMENT WITHIN PUBLIC STREETS THAT HAS BEEN ERODED FROM THE SITE.



— VICINITY MAP —

OFFSITE FLOWS:

AREA = 46,500 SQ. FT. (FROM FLOODWAY MAP)

T_c = 10 MIN. I = 4.65

C = 0.16 (BKD SOIL - HYDROLOGIC GROUP "A")

Q = CIA = 0.16 X 4.65 X (46,500/43,560) = 0.79 CFS

LEGAL DESCRIPTION :

LOTS NUMBERD "O-23" AND "O-24" OF THE VOLCANO CLIFFS SUBDIVISION TO THE CITY OF ALBUQUERQUE. NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT OF SAID SUBDIVISION FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON MARCH 29, 1965, (BK. D4-31).

BENCH MARK: STATION "8-E10", AN "X" CUT ON THE BONNET BOLT OF FIRE HYDRANT AT THE S.W. CORNER OF THE INTERSECTION OF WHITEMAN AND MONTAÑO ROAD, N.W.; ELEVATION , (M.S.L.)= 5143.126

DRAINAGE COMMENTS:

THE FOLLOWING ITEMS CONCERNING THE SUBJECT SITE ARE CONTAINED HEREON:

1.) SITE DRAINAGE AND GRADING PLAN

2.) VICINITY MAP

3.) LEGAL DESCRIPTION

4.) LIMITS AND CHARACTER OF EXISTING AND PROPOSED IMPROVEMENTS.

5.) DRAINAGE CALCULATIONS

AS SHOWN ON THE VICINITY MAP, THE SITE IS LOCATED AT THE SOUTHWEST INTERSECTION OF MONTANO ROAD, N.W. AND WHITEMAN N.W., TAYLOR RANCH, NEW MEXICO; THE SITE IN IT'S PRESENT CONDITION IS TOTALLY UNDEVELOPED.

THE PROJECT SITE, (1.) DOES NOT LIE WITHIN A FLOOD PLAIN, (2.) DOES NOT LIE ADJACENT TO A NATURAL OR ARTIFICIAL WATER COURSE, (3.) HAS NO DRAINAGE EASEMENTS ON THE PROPERTY; PER THE PRE-DESIGN CONFERENCE WITH THE CITY OF ALBUQUERQUE, HYDROLOGY ENGINEERING DEPARTMENT, THE FREE-DISCHARGE OF FLOWS INTO WHITEMAN DRIVE, N.W. IS ACCEPTABLE.

BASED ON A SITE INVESTIGATION, IT HAS BEEN DETERMINED THAT THE FREE DISCHARGE OF FLOWS OF THE EXISTING AND PROPOSED QUANTITIES HAVE NO ADVERSE AFFECT ON DOWNSTREAM PROPERTIES.

E10/D5

FRANK D. LOVELADY — NEW MEXICO — 5512 — REGISTERED PROFESSIONAL ENGINEER — 8-10-65

GRADING & DRAINAGE PLAN FOR D.L.S. ENTERPRISES OFFICE BUILDING (MONTAÑO ROAD N.W. & WHITEMAN DR. N.W.) TAYLOR RANCH AUGUST, 1965