

PROPERTY DOES NOT LIE WITHIN OR ADJACENT TO FLOOD HAZARD AREA

FIRM MAP PANEL # 138H

GRADING & DRAINAGE PLAN

THE PROPOSED COMMERCIAL PROJECT IS LOCATED IN THE NORTH VALLEY AREA OF METRO ALBUQUERQUE WITHIN BERNALILLO COUNTY. THE GRADING AND DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO. 88-46, AND THE COUNTY STORM DRAINAGE ORDINANCE. THE PLAN IS REQUIRED IN ORDER TO FACILITATE THE OWNER'S REQUEST FOR BUILDING PERMIT. THE PLAN SHOWS:

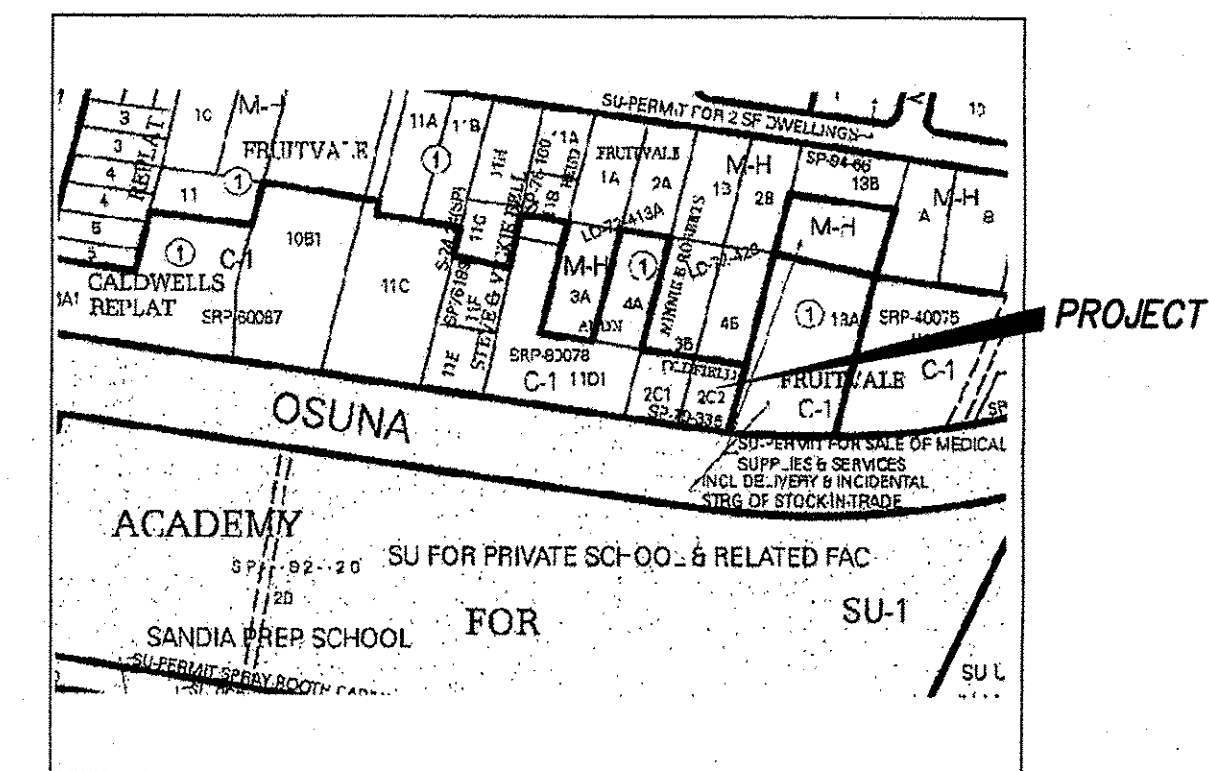
1. EXISTING CONTOURS, AND SPOT ELEVATIONS AND EXISTING DRAINAGE PATTERNS AND EXISTING STRUCTURES
2. PROPOSED IMPROVEMENTS: A 4800 SF OFFICE / EQUIP SALES, WAREHOUSE BLDG, PRIVATE ASPHALT DRIVEWAY AND PARKING, NEW GRADE ELEVATIONS, AND LANDSCAPING IMPROVEMENTS.
3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS.
4. QUANTIFICATION OF DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS WHICH CONTRIBUTE TO THE EXISTING FLOWS.

PRESENTLY, THE SITE IS VACANT, AND IS BOUNDED BY DEVELOPED COMMERCIAL PROPERTY. OSUNA ROAD ON THE SOUTH IS A 4-LANE DIVIDED CITY MAINTAINED MINOR ARTERIAL WITH CURB/GUTTER AND SIDEWALK. THE SITE TERRAIN SLOPES FROM NORTH TO SOUTH AT AVERAGE SLOPES UP TO 2-3%.

THE SITE IS NOT WITHIN OR ADJACENT TO A DESIGNATED FEMA FLOOD HAZARD ZONE. DEVELOPED LOT RUNOFF WILL BE PERMITTED TO DRAIN TO THE EXISTING DRIVEPADS. HISTORICAL OUTFALL LOCATIONS WILL REMAIN UNCHANGED WITH DEVELOPMENT. FREE DISCHARGE OF PROJECT RUNOFF IS ACCEPTABLE SINCE DOWNSTREAM DRAINAGE FACILITIES EXIST IN OSUNA (SEE SAD 1986). A PORTION OF SITE RUNOFF IS ROUTED THROUGH PROPOSED LANDSCAPING TO PROMOTE WATER HARVESTING. NO DEVELOPED FLOWS ENTER SITE. OFF SITE UNDEVELOPED FLOWS ENTER FROM THE NORTH AND ARE QUANTIFIED ON THE PLAN; ARE ACCEPTED AND ALLOWED TO DRAIN THROUGH THE SITE.

NOTES

1. ALL WORK WITHIN THE RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECS. FOR PUBLIC WORKS CONSTRUCTION, INCLUDING BERNALILLO COUNTY STREET STANDARDS.
2. AN EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN COUNTY R.O.W. AN APPROVED COPY OF THIS PLAN MUST BE SUBMITTED AT THE TIME OF APPLICATION.
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 LANDSCAPING AREA SHALL BE SOFT-LINED WITH NATIVE VEGETATION AND/OR GRAVEL.
5. CONTRACTOR SHALL ENSURE THAT NO SITE SOILS/SEDIMENT OR SILT ENTER THE RIGHT-OF-WAYS DURING CONSTRUCTION.
6. REVEGETATE ALL AREAS DISTURBED DUE TO CONSTRUCTION PER CITY OF ALBUQ. SPEC. 1011, NATIVE SEED MIX.
7. MAXIMUM SITE GRADING WITHOUT EROSION PROTECTION: 3 HORIZONTAL TO 1 VERTICAL, 3:1.
8. NEW ASPHALT PAVEMENT SHALL CONSIST OF 3" ASPHALT CONCRETE OVER 6" AGGREGATE BASE COURSE ON 8" COMPACTED SUBGRADE, 95% PROCTOR, ASTM D-1557



VICINITY MAP ZONE E-16

Scale: 1" = 20'

LEGEND

- +24.0 EXIST. SPOT ELEVATION
- 10 EXIST. CONTOUR
- 24.0 NEW SPOT ELEVATION
- 54 NEW CONTOUR
- NEW SWALE
- DRAINAGE DIRECTION, EXISTING
- FL FLOWLINE
- OPP EXISTING POWER POLE
- NG OR G NATURAL GROUND, EXISTING
- R/C REBAR AND CAP, EXISTING
- CLF CHAIN LINK FENCE, EXISTING
- NEW P.C.C., CONCRETE
- NEW RIPRAP, 6" DEPTH, TYPE VVL, D = 4" DIA. 50

CALCULATIONS

DESIGN CRITERIA

HYDROLOGIC METHODS PER SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL (DPM) REVISED JANUARY 1993 FOR CITY OF ALBUQUERQUE, ADOPTED BY THE COUNTY OF BERNALILLO
DISCHARGE RATE: $Q = \text{PEAK} \times \text{AREA}$, "Peak Discharge Rates For Small Watersheds"
VOLUMETRIC DISCHARGE: $VOLUME = E_{\text{Weighted}} \times \text{AREA}$
 $P_{100} = 2.35$ Inches, Zone 2
DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [] = 10 YEAR VALUES

UNDEVELOPED CONDITIONS

HISTORIC
LOT AREA = 0.31 ACRES, WHERE EXCESS PRECIP. "W" = 0.53 in. [0.13]
PEAK DISCHARGE, $Q_{100} = 0.5$ CFS [0.12], WHERE UNIT PEAK DISCHARGE = 1.6 CFS/AC. [0.4]
THEREFORE: $VOLUME_{100} = 596$ CF [148]

DEVELOPED CONDITIONS

DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

	AREA	LAND TREATMENT	Q_{Peak}	E
UNDEVELOPED	0.00 Ac.(0%)	A	1.56[0.38]	0.53[0.13]
LANDSCAPING/POND	0.03 Ac.(10%)	B	2.28[0.95]	0.78[0.28]
GRAVEL & COMPACTED SOIL	0.03 Ac.(10%)	C	3.14[1.71]	1.13[0.52]
ROOF - PAVEMENT	0.25 Ac.(81%)	D	4.70[3.14]	2.12[1.34]

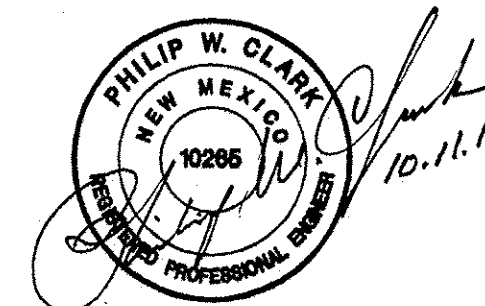
THEREFORE: $E_{\text{Weighted}} = 1.91$ in.[1.19] &

$Q_{100} = 1.34$ CFS
 $Q_{10} = 0.87$ CFS

$VOLUME_{100} = 2149$ CF
 $VOLUME_{10} = 1339$ CF

I, PHILIP W. CLARK, A PROFESSIONAL ENGINEER LICENSED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT I HAVE VISITED THE SITE SHOWN HEREON, AND THAT THE CONTOURS SHOWN REPRESENT THE EXISTING GROUND CONDITIONS, AND DO FURTHER CERTIFY THAT NO EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

Philip W. Clark
PHILIP W. CLARK NMPE #10265



PROJECT DATA

LEGAL DESCRIPTION

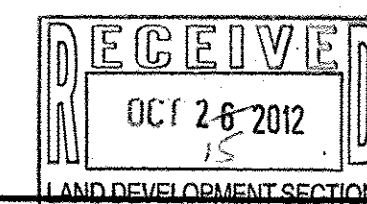
LOT 2C2, LANDS OF OLDFIELD
BERNALILLO COUNTY, NEW MEXICO

PROJECT BENCHMARK

TOP OF REBAR @ SE PROPERTY CORNER
SEE PLAN, ELEVATION = 5033.12, AS TIED FROM ACS CONTROL
12_E16 (ELEV. 5026.10), NAVD 88.

TOPOGRAPHIC DESIGN SURVEY

PERFORMED BY GEOMETRIC SERVICES, SEPT. 2012, COMPILED AND
SUPPLEMENTED BY CLARK CONSULTING ENGINEERS



Clark Consulting Engineers	
19 Ryan Road Edgewood, New Mexico 87015	
Tel: (505) 281-2444 Fax: (505) 281-2444	
DATE	REVISION
10.10.12	ADDR. GNTY C/MNTS
LOT 2C2, LANDS OF OLDFIELD BERNALILLO COUNTY, NEW MEXICO	
609 OSUNA RD NE - SW POSITIONING, INC.	
Grading & Drainage Plan	
DESIGNED BY: PWC	DRAWN BY: CCE
CHECKED BY: PWC	DATE: 5/17/12
JOB #: OSUNA_SWP1	FILE #: G/D
1 OF 1	