

# GRADING & DRAINAGE PLAN

## LEGEND

- EXIST SPOT ELEVATION +24.0
- EXIST CONTOUR 10
- NEW SPOT ELEVATION 24.0
- NEW CONTOUR 12
- NEW SWALE
- NEW DRAINAGE DIRECTION, EXISTING
- NEW CONCRETE CURB (0.3' HEIGHT)
- NEW P.C.C., CONCRETE
- TOP OF CURB, EXISTING
- FLOWLINE
- EXISTING POWER POLE
- FACE OF CURB/FACE OF CURB F-F

PROJECT IS NOT LOCATED WITHIN A FEDERAL DESIGNATED FLOOD HAZARD ZONE

FIRM MAP PANEL # 354 H

THE COMMERCIAL WAREHOUSE PROJECT IS LOCATED IN THE FAIR-GROUNDS ADDN. OF ALBUQUERQUE APPROXIMATELY 5 MILES EAST OF THE DOWNTOWN CORE OF ALBUQUERQUE, NM. THE GRADING & DRAINAGE SCHEME HEREON IS IN COMPLIANCE WITH THE BERNALILLO COUNTY FLOOD HAZARD ORDINANCE, NO.88-46, AND THE CITY 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 IMPROVEMENTS OF STRUCTURE
2. PROPOSED IMPROVED PAVED, SINGLE GRADE ELEVATIONS AND LANDSCAPING WATER HARVESTING AREAS
3. CONTINUITY BETWEEN EXISTING AND PROPOSED ELEVATIONS, QUANTIFICATION AND ACCEPTANCE OF UPSTREAM OFF-SITE FLOWS WHICH CONTRIBUTE TO THE DEVELOPED FLOWS GENERATED BY THE IMPROVEMENTS.

THE PURPOSE OF THE PLAN IS TO ESTABLISH CRITERIA FOR CONTROLLING STORM RUNOFF AND EROSION, AND ESSENTIALLY ALLOWING HISTORIC FLOWS TO DRAIN THROUGH THE PROPERTY. PRESENTLY, THE SITE IS BOUNDED ON THE NORTH AND SOUTH BY DEVELOPED PROPERTY, INDIANA & GEORGIA STREETS ON THE EAST AND WEST ARE PAVED WITH CURB, GUTTER AND SIDEWALK, AND MAINTAINED BY THE CITY OF ALBUQUERQUE. THE SITE FALLS GENERALLY AT 28 FROM SOUTHWEST TO NORTHEAST.

HISTORICAL SITE RUNOFF OUTFALL LOCATIONS WILL REMAIN UNCHANGED. SINCE THE EXIST. DRIVEWAY WILL BE USED ONLY MINIMAL GRADING IS PROPOSED WITHIN THE CITY R.O.W., FREE DISCHARGE OF DEVELOPED FLOW IS ACCEPTABLE SINCE THE TOTAL GENERATED DEVELOPED FLOW IS MINIMAL. WATER HARVESTING IS PROPOSED IN ORDER TO MITIGATE STORM RUNOFF (DISCHARGE) FROM THE SITE DUE TO THE IMPROVEMENTS.

**Grade and Restore Gravel Pavt in Drainage Easement to Georgia 0.3' Inverted Crown channel to Georgia**

PROVIDE ADDITIONAL SURVEY INFO TO CONFIRM THAT FLOWS WILL NOT CROSS OVER TO THE LOTS NORTH OF THE VACATED ALLEY/DRAINAGE EASEMENT

## 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:  $Q = Q_{PEAK} \times AREA$ , "Peak Discharge Rates For Small Watersheds"  
 VOLUMETRIC DISCHARGE:  $VOLUME = E_{weighted} \times AREA$   
 $P100 = 2.60$  inches, Zone 3 Time of Concentration,  $T_C = 10$  Minutes  
 DESIGN STORM: 100-YEAR/6-HOUR, 10-YEAR/6-HOUR [ ] = 10 YEAR VALUES

**EXISTING CONDITIONS**  
 LOT AREA = 0.51 ACRES, WHERE EXCESS PRECIP. 'C' = 1.29 in. [0.62]  
 PEAK DISCHARGE,  $Q100 = 1.76$  CFS [1], WHERE UNIT PEAK DISCHARGE 'C' = 3.45 CFS/AC [2.0]  
 THEREFORE:  $VOLUME_{100} = 2388$  CF [1148]

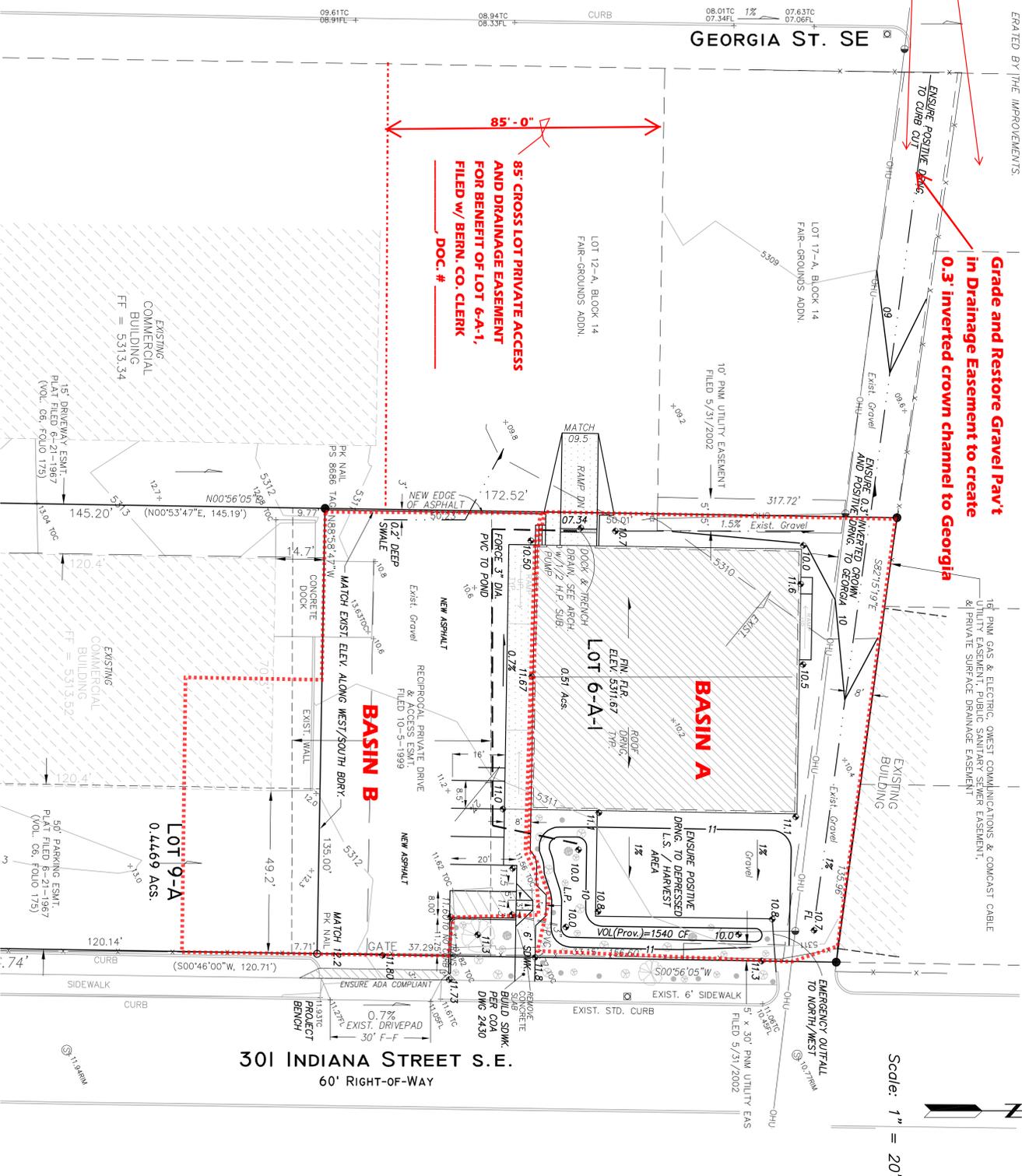
**DEVELOPED CONDITIONS**  
 DETERMINE LAND TREATMENTS, PEAK DISCHARGE AND VOLUMETRIC DISCHARGE FOR STUDY AREA

AREA	LAND TREATMENT	Q Peak	E
LANDSCAPING	A	1.87(0.58)	0.66(0.19)
GRAVEL & COMPACTED SOIL	B	2.60(1.19)	0.92(0.36)
ROOF - PAVEMENT	C	0.41 Ac.(80%)	1.29(0.62)
	D	5.02(3.39)	2.36(1.50)
		0.51 AC.	

THEREFORE:  $E_{weighted} = 2.10$  in. [1.29] &  $VOLUME_{100} = 3887$  CF  
 $Q100 = 2.36$  CFS &  $VOLUME_{100} = 4141$  CF  
 $Q100 = 1.53$  CFS

DETERMINE CAPACITY OF EAST BASIN TO HARVESTING AREA  
 BASIN AREA = 0.20 AC, THEREFORE @ 1500 CF IN = 1500 C.F.F.  
 THEN:  $3887$  CF -  $1500$  CF =  $2390$  CF VOL. TO WEST. OK

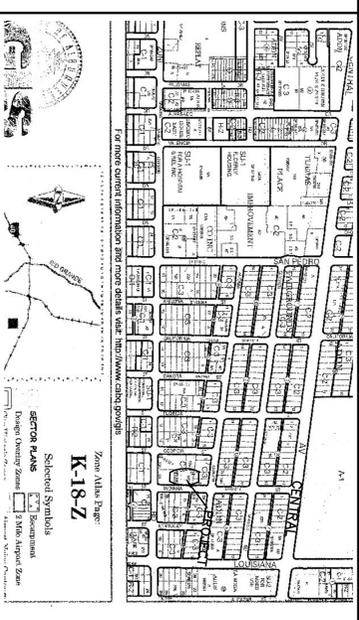
BREAK DOWN DRAINAGE FOR THE TWO BASINS, TO ENSURE THAT FLOWS DIRECTED TO THE NORTHERN DRAINAGE EASEMENT WILL REMAIN IN THE 0.3' SWALE



Scale: 1" = 20'

## NOTES

1. ALL WORK WITHIN THE RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECS. FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION, W/ 8 UPDATES.
2. ALL EXCAVATION/CONSTRUCTION PERMIT IS REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY 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 ASPHALT PARKING AREA SHALL DRAIN DIRECTLY ALONG EXISTING HISTORIC LOCATION.
5. CONTRACTOR SHALL ENSURE THAT NO 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. ALL DIMENSIONS TO FACE OF CURB, UNLESS NOTED OTHERWISE.



VICINITY MAP ZONE K-18-Z 1" = 750'

## PROJECT DATA

**LEGAL DESCRIPTION**  
 LOT 8-A-1, BLOCK 14, FAIRGROUNDS ADDITION  
 Albuquerque, Bernalillo County, New Mexico

**PROJECT BENCHMARK**  
 Top of curb of the Projection of the Project Southeast Corner  
 NSL Elevation = 5311.93' As Tied From ODA BRASS  
 CAP, 7.419, NSL 5325.99, NAVD88

**TOPOGRAPHIC DESIGN SURVEY**  
 PERFORMED BY ALPHA PRO SURVEYING, LLC, Date DEC. 2012

**Clark Consulting Engineers**  
 19 Ryan Road  
 Edgewood, New Mexico 87015  
 Tel: (505) 281-2444 Fax: (505) 281-2444

**Grading & Drainage Plan**  
 LOT 8-A-1, BLOCK 14, FAIRGROUNDS ADDITION  
 301 INDIANA STREET, NE ALBUQUERQUE A RPROJ PROJECT

DESIGNED BY: PWC DRAWN BY: COE JOB #: KRF00.GD  
 CHECKED BY: PWC DATE: 6/17/13 FILE #: 5/D 1 OF 1



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 AN EARTHWORK OF ANY KIND, NOR ANY DISTURBANCE OF THE EXISTING GROUND HAS OCCURRED ON THIS SITE SINCE THE CONTOURS WERE DETERMINED.

PHILIP W. CLARK NMP# 10265