

# CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

April 10, 2017

Shawn Biazar  
SBS Construction and Engineering, LLC  
10209 Snowflake Ct. NW  
Albuquerque, NM, 87114

**RE: 224 Muriel Street NE**  
**Grading Plan**  
**Stamp Date: 4/5/17**  
**Hydrology File: L21D072**

Dear Mr. Biazar:

PO Box 1293

Based upon the information provided in your submittal received 4/5/2017, the Grading Plan is approved for Building and SO-19 Permit.

Albuquerque

If you have any questions, please contact me at 924-3995 or [rbrissette@cabq.gov](mailto:rbrissette@cabq.gov).

New Mexico 87103

Sincerely,

*Renee C. Brissette*

[www.cabq.gov](http://www.cabq.gov)

Reneé C. Brissette, P.E.  
Senior Engineer, Hydrology  
Planning Department

**Location**  
LOT 7, CENTRAL BUSINESS PARK is located at 224 MURIEL ST., NE containing 0.1598 acre. See attached portion of Vicinity Map L-21-Z for exact location.

**Purpose**  
The purpose of this drainage report is to present a grading and drainage solution for new building and improvements with this tract of land.

**Existing Drainage Conditions**  
The site is fairly flat. The site does not fall within a 100 year floodplain. No offsite flows enter this site. The site drains from east to west to 224 MURIEL ST., NE. Under the current conditions the site generates a runoff of 0.31 cfs.

**Proposed Conditions and On-Site Drainage Management Plan**  
The runoff will continue to drain west under the proposed conditions. The site under the proposed conditions generates a runoff of 0.67 cfs, only an increase of 0.36 cfs from existing conditions. The increase in runoff is very insignificant and will not have any impact on the downstream strom drain structures capacity. First Flush ponds are proposed to intercept the 100-Year/10-day volume of proposed conditions minus the existing conditions. We are proposing to pond the 90th Percentile/First Flush requirement which is 0.34 inches times the impervious area. Total retention volume provided within pond A and B (277.65 cf) exceeds the ponding volume requirement for First Flush (80.86 cf). Pond B overflows into Pond B via 6" SD pipe. From there the runoff drains to Muriel Street via Sidewalk culvert.

**Calculations**  
City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, was used for runoff calculations. See this plan for AHYMO input and Summary output files.

\* ZONE 3  
\* 100-YEAR,6-HR STORM (UNDER EXISTING CONDITIONS)  
\*  
START TIME=0.0  
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN  
RAIN ONE=2.14 IN RAIN SIX=2.60 IN  
RAIN DELAY=3.10 IN DT=0.00512 HR  
COMPUTE NM HYD ID=1 HYD NO=101.0 AREA=0.000250 SQ MI  
PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00  
TP=0.1333 HR MASS RAINFALL=-1  
\*  
\* 10-YEAR,6-HR STORM (UNDER EXISTING CONDITIONS)  
\*  
START TIME=0.0  
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN  
RAIN ONE=1.43 IN RAIN SIX=1.73 IN  
RAIN DAY=2.07 IN DT=0.03333 HR  
COMPUTE NM HYD ID=1 HYD NO=111.0 AREA=0.000250 SQ MI  
PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00  
TP=0.1333 HR MASS RAINFALL=-1  
\*  
\* 100-YEAR,6-HR STORM (UNDER PROPOSED CONDITIONS)  
\*  
START TIME=0.0  
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN  
RAIN ONE=2.14 IN RAIN SIX=2.60 IN  
RAIN DELAY=3.10 IN DT=0.03333 HR  
COMPUTE NM HYD ID=1 HYD NO=100.1 AREA=0.000250 SQ MI  
PER A=0.00 PER B=5.00 PER C=54.00 PER D=41.00  
TP=0.1333 HR MASS RAINFALL=-1  
\*  
\* 10-YEAR,6-HR STORM (UNDER PROPOSED CONDITIONS)  
\*  
START TIME=0.0  
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN  
RAIN ONE=1.43 IN RAIN SIX=1.73 IN  
RAIN DAY=2.07 IN DT=0.03333 HR  
COMPUTE NM HYD ID=1 HYD NO=110.1 AREA=0.000250 SQ MI  
PER A=0.00 PER B=5.00 PER C=54.00 PER D=41.00  
TP=0.1333 HR MASS RAINFALL=-1  
\*  
FINISH

AHYMO PROGRAM SUMMARY TABLE (AHYMO\_97) -  
INPUT FILE = NAVIN.TXT

- VERSION: 1997.02d RUN DATE (MON/DAY/YR) =04/04/2017  
USER NO.= AHYMO-I-9702c01000R31-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1	NOTATION
START	RAINFALL	TYPE= 1							TIME= .00 RAIN6= 2.600		
COMPUTE NM HYD	101.00	-	1	.00025	.31	.009	.65670	1.531	1.955 PER IMP= .00		
START	RAINFALL	TYPE= 1							TIME= .00 RAIN6= 1.730		
COMPUTE NM HYD	111.00	-	1	.00025	.09	.003	.18834	1.533	.579 PER IMP= .00		
START	RAINFALL	TYPE= 1							TIME= .00 RAIN6= 2.600		
COMPUTE NM HYD	100.10	-	1	.00025	.67	.023	1.70564	1.500	4.172 PER IMP= 41.00		
START	RAINFALL	TYPE= 1							TIME= .00 RAIN6= 1.730		
COMPUTE NM HYD	110.10	-	1	.00025	.41	.013	.95484	1.500	2.554 PER IMP= 41.00		
FINISH											

#### POND VOLUME REQUIRED

TOTAL PONDING VOLUME REQUIRED (90TH PERCENTILE/FIRST FLUSH) = 0.34 INCHES x IMPERVIOUS AREA =  
(0.34/12 x 2,854.00) = 80.86 CF

#### POND CALCULATION

TOTAL POND AREA PROVIDED =  
PONDING CALCULATIONS:

POND A: AREA @ TOP = 233.25, AREA @ BOTTOM = 90.50  
POND VOLUME = (233.25+90.50)/2\*1.00 = 161.88 CF

POND B: AREA @ TOP = 159.79, AREA @ BOTTOM = 71.75  
POND VOLUME = (159.79+71.75)/2\*1.00 = 115.77 CF

TOTAL POND VOLUME PROVIDED = 277.65 CF

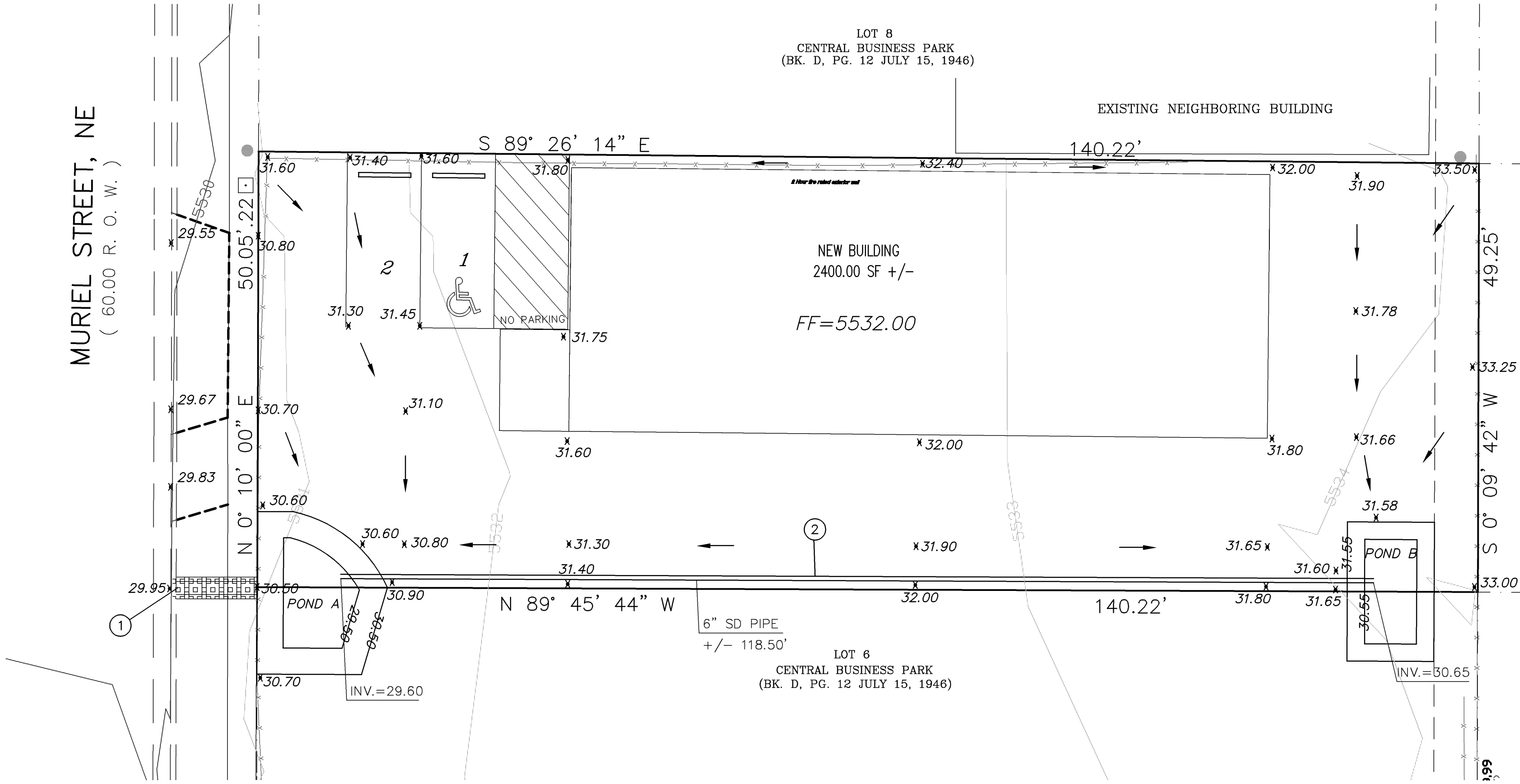
#### SIDEWALK CULVERT CALCULATIONS

12" Sidewalk Culvert Flow Capacity Calculation Using Orifice Equation

Orifice Equation: Q=CA (2gh)  
h (head) = 0.67'  
A = 0.67 sf  
g = 32.20

Q = 0.60 x 0.67 x (2 x 32.2 x 0.67)<sup>0.50</sup>  
= 2.64 cfs

2.64 cfs >> 0.82 cfs (Entire runoff generated from site)



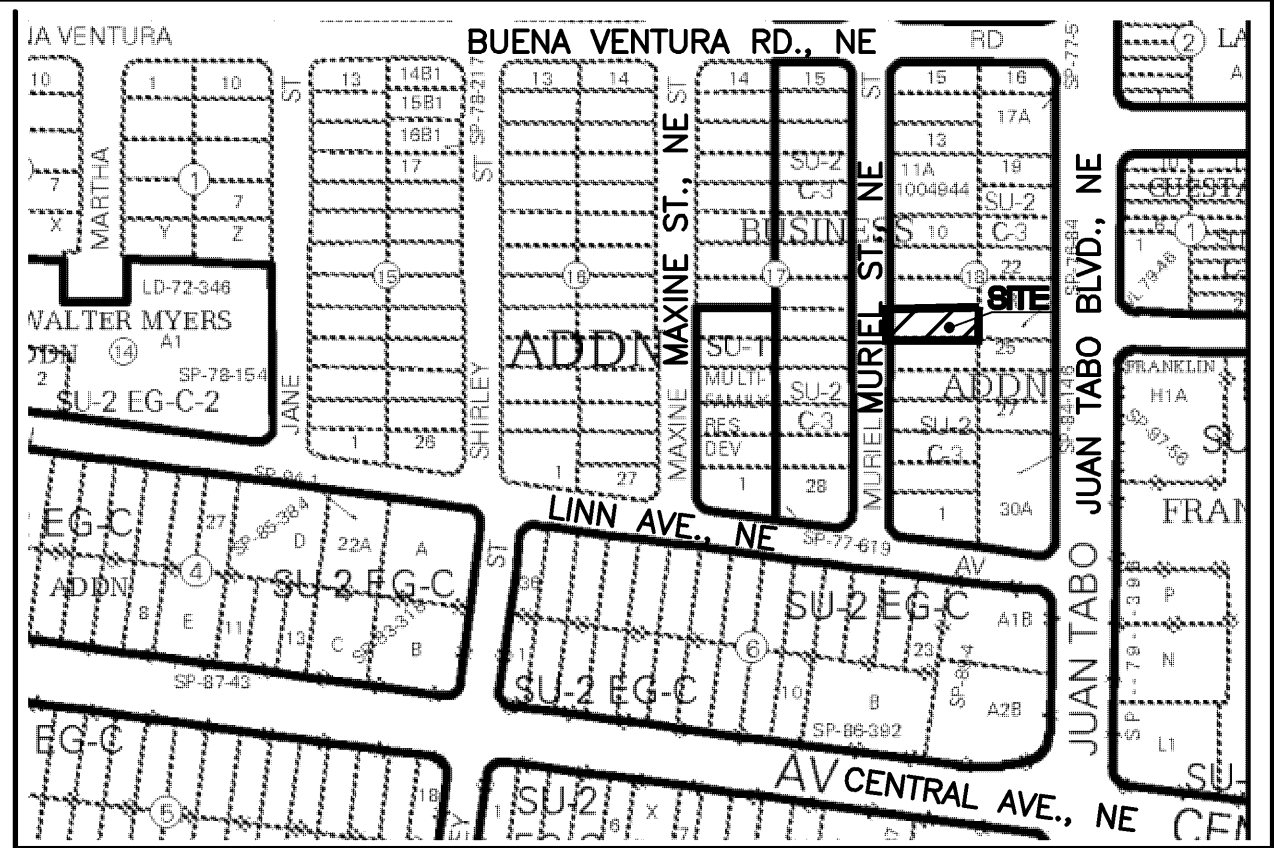
#### NOTES:

- 24" SIDEWALK CULRVET PER CITY STD DWG 2236 (TACK WELD PLATE AT THE BOLT).
- 6" STORM DRAIN PIPE

#### NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL FOR LOCATING SERVICE, 260-1990 OR "811", FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVALS	NAME	DATE
INSPECTOR		



#### VICINITY MAP:

#### LEGAL DESCRIPTION:

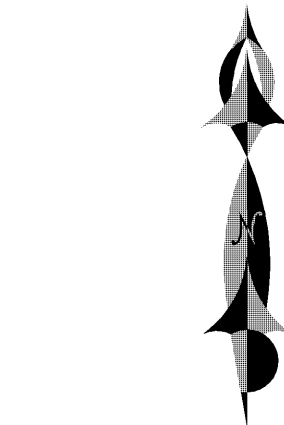
LOT 7, CENTRAL BUSINESS PARK  
CONTAINING 0.1598 ACRE  
ADDRESS: 224 MURIEL ST., NE

#### GENERAL NOTES:

- CONTOUR INTERVAL IS HALF (1.00) FOOT.
- UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
- THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
- SLOPES ARE AT 3:1 MAXIMUM.

#### LEGEND

---	5030	---	EXISTING CONTOUR (MAJOR)
---	5029	---	EXISTING CONTOUR (MINOR)
---		---	BOUNDARY LINE
x	28.50		PROPOSED SPOT ELEVATION
x	5029.16		EXISTING GRADE
x	5075.65		EXISTING FLOWLINE ELEVATION
	FL		
■		■	PROPOSED RETAINING WALL
	BC=89.08		BOTTOM OF CHANEL
	TC=28.50		TOP OF CURB
	TA=28.00		TOP OF ASPHALT
	HP		HIGH POINT
	86.65		AS-BUILT GRADES
	85.47		
	x 86.65		AS-BUILT SPOT ELEVATIONS



#### GRAPHIC SCALE



REZA AFGHPOUR  
P.E. #11814

#### SBS CONSTRUCTION AND ENGINEERING, LLC

10209 SNOWFLAKE CT., NW  
ALBUQUERQUE, NEW MEXICO 87114  
(505)899-3570

#### STORAGE BUILDING 224 MURIEL ST., NE GRADING PLAN

DRAWING: 201702-GD.DWG	DRAWN BY: SH-B	DATE: 3/25/2017	SHEET # 1
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LAST REVISION: 4-5-2017