

Location
TRACT A-2-B-2, Fountain Hills Subdivision is located at the northeast corner of Nunzio Avenue NW and Paradise Blvd., NW, containing 1.1941 acre. See attached portion of Vicinity Map C-12-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
This site falls within Master Drainage Plan for Fountain Hills under the City project number C12-D003. This project falls within Basin B-1-A. The site currently drain from northwest to southeast side of the site to Vista Fuente Road and Nunzio Avenue NW. This site drains to Nunzio Avenue. The allowable discharge under Basin B-1-A is (37.73 cfs / 9.03 acres) 4.18 cfs/acre. Therefore, the allowable discharge is (1.19 acres x 4.18 cfs/acre) 5.02 cfs.

Proposed Conditions and On-Site Drainage Management Plan
The proposed runoff under the developed conditions is 4.65 cfs which is less than allowable discharge of 5.02 cfs. We are proposing to pond the 90th Percentile/First Flush requirement (1,08.67 cf). Total retention volume provided is 1,229.78 cf which exceeds the required 1st flush ponding volume. Once the runoff reaches elevation of 5033 it drains out to Nunzios via inlet 3 through 4-6" pipe which are daylighted to the back of a 24" sidewalk culvert.

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

NOTICE TO CONTRACTOR
PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY (50-19")

1. AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. 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.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL, DIAL "811" (OR (505) 260-1990) FOR THE LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED.
7. WORK ON ARTERIAL STREETS MAY BE REQUIRED ON A 24 HOUR BASIS.
8. CONTRACTOR MUST CONTACT AUGIE ARMUJO AT (605) 857-8607 AND CONSTRUCTION COORDINATION AT 924-3416 TO SCHEDULE AN INSPECTION.

APPROVALS	NAME	DATE
INSPECTOR		

PIPE FLOW CAPACITY CALCULATIONS

4-6" discharge pipes from Inlet 2

h (head) = 1.75' (from elevation 5033.25 to elevation 5035.00)
A = 0.1963 sf
g = 32.20

$$Q = 4 \times 0.60 \times 0.1963 \times (2 \times 32.2 \times 1.75)$$

$$Q = 5.00 \text{ cfs} > 4.65 \text{ cfs}$$

*
ZONE 1
*

* 100-YEAR, 6-HR STORM (UNDER HISTORICAL CONDITIONS) *

START RAINFALL TIME=0.0
TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.03333 HR

* ON-SITE COMPUTE NM HYD ID=1 HYD NO=101.0 AREA=0.001876 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 HISTORICAL CONDITIONS) *

START RAINFALL TIME=0.0
TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.25 IN RAIN SIX=1.47 IN
RAIN DAY=1.77 IN DT=0.03333 HR

* ON-SITE COMPUTE NM HYD ID=1 HYD NO=111.0 AREA=0.001876 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 RAINFALL TIME=0.0
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RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.03333 HR

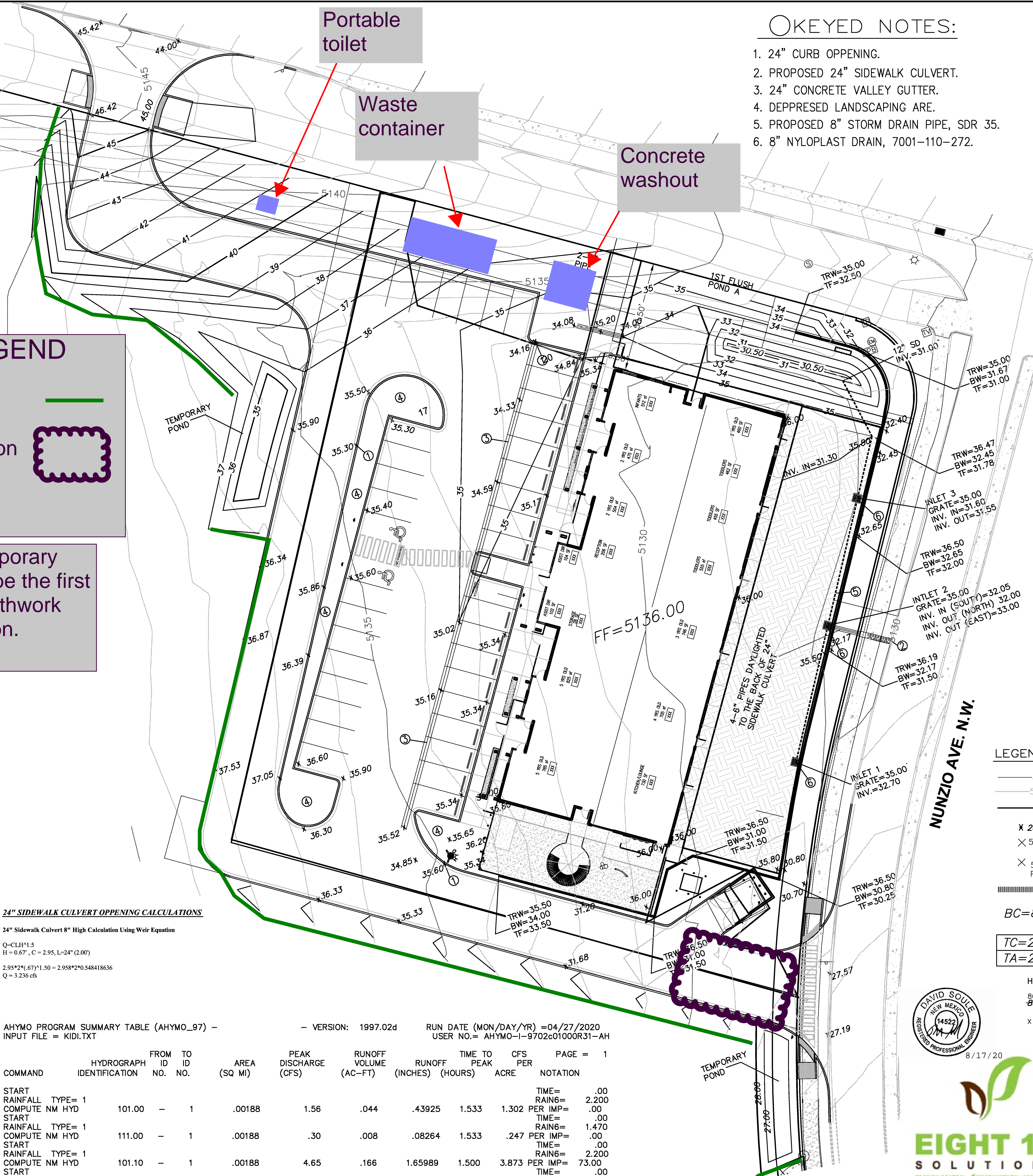
* ON-SITE COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.001876 SQ MI
PER A=0.00 PER B=12.00 PER C=15.00 PER D=73.00
TP=0.1333 HR MASS RAINFALL=-1

* 10-YEAR, 6-HR STORM (UNDER PROPOSED CONDITIONS) *

START RAINFALL TIME=0.0
TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.25 IN RAIN SIX=1.47 IN
RAIN DAY=1.77 IN DT=0.03333 HR

* ON-SITE COMPUTE NM HYD ID=1 HYD NO=111.1 AREA=0.001876 SQ MI
PER A=0.00 PER B=12.00 PER C=15.00 PER D=73.00
TP=0.1333 HR MASS RAINFALL=-1

FINISH



LEGEND

Silt Fence

Construction Entrance

Note: Temporary ponds to be the first item of earthwork construction.

24" SIDEWALK CULVERT OPENING CALCULATIONS

24" Sidewalk Culvert 8" High Calculation Using Weir Equation

Q=CLH^{1.5}
H = 0.67', C = 2.95, L=24" (2.00')
2.95*(2*(.67)^{1.5} = 1.958*2*0.548418636
Q = 3.236 cfs

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
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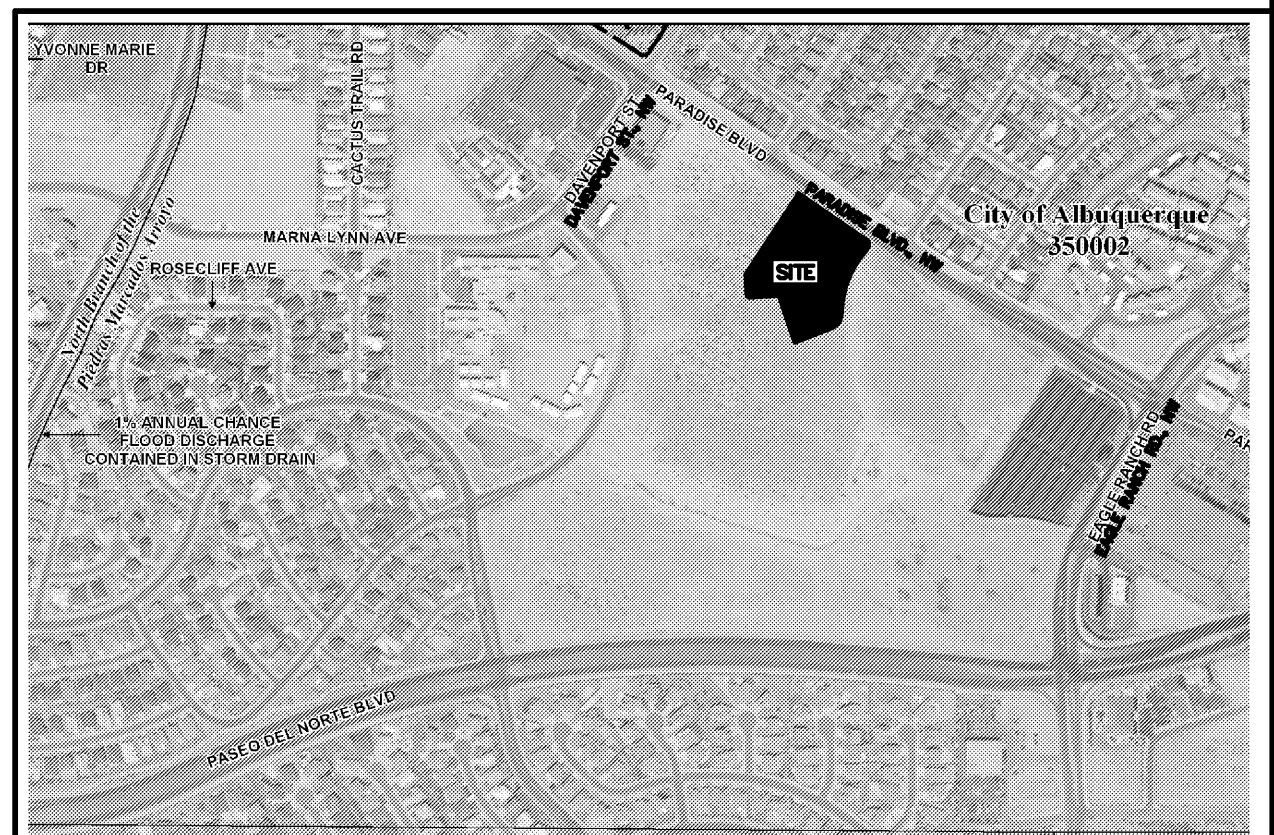
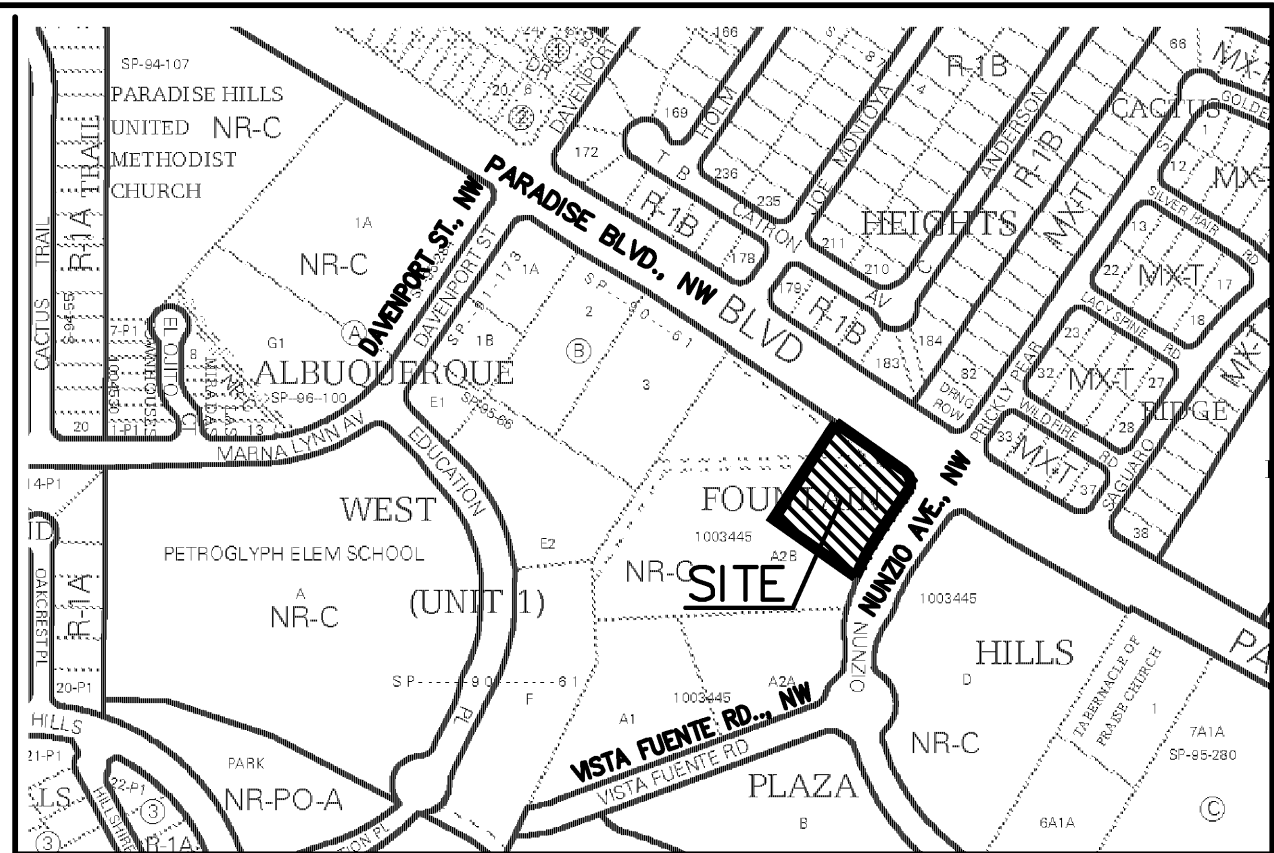
- VERSION: 1997.02d

RUN DATE (MON/DAY/YR) = 04/27/2020
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
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COMPUTE NM HYD	111.00	-	1	.00188	.30	.008	.08264	1.533	.247	TIME= .00 RAIN6= 1.470 PER IMP= .00
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START RAINFALL TYPE= 1										
COMPUTE NM HYD	111.10	-	1	.00188	2.91	.099	.99267	1.500	2.423	TIME= .00 RAIN6= 1.470 PER IMP= 73.00

KEYED NOTES:

1. 24" CURB OPENING.
2. PROPOSED 24" SIDEWALK CULVERT.
3. 24" CONCRETE VALLEY GUTTER.
4. DEPPRESSED LANDSCAPING ARE.
5. PROPOSED 8" STORM DRAIN PIPE, SDR 35.
6. 8" NYLOPLAST DRAIN, 7001-110-272.



FIRM MAP: FM35001C01166
EFFECTIVE DATE: 09-06-2008

LEGAL DESCRIPTION:
TRACT A-2-B-2 FOUNTAIN HILLS PLAZA
CONTAINING 1.1941 ACRES, 52,016.00 SF

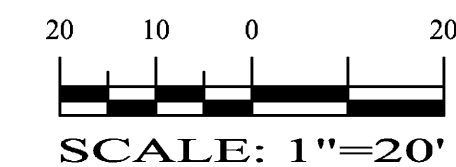
GENERAL NOTES:

- 1: CONTOUR INTERVAL IS HALF (1.00) FOOT.
- 2: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION LSS_302, HAVING AN ELEVATION OF 5444.159 FEET ABOVE SEA LEVEL.
- 3: 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.
- 4: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
- 5: 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
- 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 AS-BUILT SPOT ELEVATIONS
- X 86.65

GRAPHIC SCALE



THIS PLAN SHALL BE USED FOR EROSION AND SEDIMENT CONTROL PURPOSES DURING CONSTRUCTION ONLY. THIS PLAN IS NOT TO BE USED FOR FLOOD CONTROL AND OR GRADING ASPECTS OF THIS SITE. THIS PLAN SHOWS EXCERPTS OF GRADING PLANS PREPARED BY OTHERS. UTILIZATION OF APPROVED GRADING PLANS PREPARED BY OTHERS IS REQUIRED TO SHOW THE INTERIM CONSTRUCTION MEASURES TO ADDRESS THE EROSION AND SEDIMENT CONTROL OF THE SITE PER THE CITY OF ALBUQUERQUE ORDINANCE.

**KIDDIE ACADEMY WEST SIDE
GRADING PLAN**

DRAWING:	DRAWN BY:	DATE:	SHEET #
202002-GD.DWG	SH-B	03-29-2020	1 OF 2

LAST REVISION: 06-14-2020



Appendix D

Erosion and Sediment Control Plan Drawing

Part 7.2.4 of the CGP requires the SWPPP to contain a legible site map or drawing completed to-scale, showing the entire site, which identifies various stormwater related issues identified in the CGP.

This appendix contains the Erosion and Sediment Control Plan drawing meeting this requirement.

Erosion and Sediment Control Plan Drawing Notes:

1. All Erosion and Sediment Control (ESC) work on these plans, except as otherwise stated or provided hereon shall be permitted, constructed, inspected, and maintained in accordance with:
 - a. The City Ordinance § 14-5-2-11, the ESC Ordinance,
 - b. The EPA's 2017 Construction General Permit (CGP), and
 - c. The City Of Albuquerque Construction BMP Manual.
2. All BMP's must be installed prior to beginning any earth moving activities except as specified hereon in the Phasing Plan. Construction of earthen BMP's such as sediment traps, sediment basins, and diversion berms shall be completed and inspected prior to any other construction or earthwork. Self-inspection is required after installation of the BMPs and prior to beginning construction.
3. Self-inspections - At a minimum a routine compliance self-inspection is required to review the project for compliance with the Construction General Permit once every 14 days and after any precipitation event of 1/4 inch or greater until the site construction has been completed and the site determined as stabilized by the city. Reports of these inspections shall be kept by the person or entity authorized to direct the construction activities on the site.
4. BMPs shall be inspected and maintained until all disturbed areas are stabilized in accordance with the Final Stabilization Criteria (CGP 2.2.14.b). Generally, all disturbed areas, other than structures, must have uniform perennial vegetation that provides 70 percent or more of the cover provided by native vegetation or seed the disturbed area and provide non-vegetative mulch that provides cover for at least three years without active maintenance. Final stabilization must be documented on self-inspection reports and approved by the City of Albuquerque prior to removal of BMPs and discontinuation of inspections.

BMP Descriptions:

Silt Fence: Silt fence is a perimeter control used to control sediment from stormwater and dust. Silt fence consists of filter fabric stretched and anchored between posts spaced at regular intervals along downsloped areas of the site perimeter. It is partially entrenched in the ground in the direction of flow. It is sometimes reinforced with a wire mesh back.

Filter Fabric: Drain inlet filter fabric consists of plastic woven material with interwoven mesh fabric. It secures either above or below drain grates inlets to filter out sediment from stormwater.

Concrete Washout: A specific area of the site must be used for the concrete washout area. There are different ways to construct a concrete washout station. Its primary function is to catch wash water from concrete vehicles and equipment used in concrete pouring activities. Concrete washouts can be excavated as a pit in the ground or exist above ground. They are lined with plastic to prevent contact of the wastewater with the ground.

Stabilized Construction Entrance: Construction entrances/exits are generally filled with 1 to 3-inch aggregate to help remove sediment trapped on tires as vehicles exit the site. This mitigates trackout onto roads near construction projects.

Sequence of Control Measure Implementation/Construction Activity

Control Measure	Associated Construction Activity	Site Location	Estimated Date		Actual Date	
			Installation	Removal	Installation	Removal
Silt fence	All	Along project perimeter	8/10/2020	5/1/2021		
Construction entrance/exit	Driving	Entrance of project	8/10/2020	5/1/2021		
Temporary sediment ponds	All	NW site and SE site	8/10/2020	5/1/2021		
Concrete washout	Concrete activities	NW site	8/10/2020	5/1/2021		
Portable toilets	All	NW site	8/10/2020	5/1/2021		
Waste management	All	Throughout site	8/10/2020	5/1/2021		