

**GRADING AND DRAINAGE PLAN**

**PURPOSE AND SCOPE**

Pursuant to the Drainage Ordinance for the City of Albuquerque and the Development Process Manual, this Grading and Drainage Plan outlines the drainage management criteria for controlling developed runoff from the project site. The project consists of the design and construction of the Silver Star Auto Haus, located at 5111 Wilshire Avenue NE. The project includes a 6,000 square foot building with paving, landscaping, utility, grading, and drainage improvements to support the project. The purpose of this Plan is to support site development plan and building permit approval. The scope of this plan is to present grading and drainage criteria for the safe management of excess runoff impacting the site from upstream drainage basins, and controlling excess runoff from the project site in a well-managed, non-erosive manner.

**EXISTING CONDITIONS**

The property is located at 5111 Wilshire Avenue NE, between Jefferson Street and San Mateo Blvd NE. The site is presently undeveloped. Site topography slopes to the west. The site presently drains west onto Tract D-1A1 where excess runoff flows overland within the paved parking lot to an existing private detention pond located at the northwest corner of Tract D-1A1. The pond was constructed with the development of Tract D-1A1 in accordance with the approved Grading and Drainage Plan for Tracts D-1A1 and D-1A2, prepared by Easterling & Associates, 1994. The pond drains at a controlled rate of 13.2 cfs to an existing public drainage system located in Jefferson Street NE. Per the approved plan, the project site was allowed to free discharge to the detention pond. Properties to the east drain either south to Wilshire Avenue, or north to the detention pond by an existing 10-inch private storm drain. No off site flows impact the site. As shown by the attached FIRM Panel the site does not lie within a mapped 100 year Flood Zone.

**PROPOSED IMPROVEMENTS**

As stated above, the project consists of the construction of a 6,000 square foot building with paving, landscaping, utility, grading, and drainage improvements. Although the approved Grading and Drainage Masterplan for the property allows free discharge across Tract D-1A1 to the existing detention pond, no drainage easements exist giving the site legal permission to drain to the pond. The property owner has been unable to obtain a drainage easement, therefore, the developed site will retain the 100 year-10 day volume within a linear pond located along the west side of the site. The pond will evacuate by a sump pump designed to drain the pond within 24 hours. The pump discharge line will drain to Wilshire Avenue by a curb penetration.

First flush storage will be attained within the retention pond by elevating the pond outlet 1-foot above the pond bottom.

Construction will disturb an area of less than 1.0 acres; therefore a Storm Water Pollution Prevention Plan will not be required.

**CALCULATIONS**

The calculations shown herein define the 100-year/6 hour design storm falling within the project area under existing and proposed conditions. The hydrology is per "Section 22.2, Part A, Development Process Manual, Vol 2", dated June 1997.

ZONE:		PROJECT HYDROLOGY									
P <sub>24</sub> HOUR		SILVER STAR AUTO HAUS									
P <sub>10</sub> DAY		AHYMO									
BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)		
SITE	0.98	0.00	0.00	0.97	0.01	1.14	3.09	0.093	0.094		
		PROPOSED CONDITIONS									
BASIN	AREA (ac)	A (ac)	B (ac)	C (ac)	D (ac)	E	Q (cfs)	VOL (ac ft)	10 Day VOL (ac ft)		
SITE	0.98	0.00	0.15	0.15	0.68	1.76	4.01	0.144	0.235		

**FIRST FLUSH CRITERIA**

By ordinance the site is required to retain the 90<sup>th</sup> percentile rainfall depth. In order to comply with this criterion, where practical, all surface areas will be treated through landscaped areas before release to downstream public drainage facilities. The proposed plan will route runoff through a permanent retention pond with flush storage. Storage in excess of the 90<sup>th</sup> percentile rainfall will be provided as illustrated below.

90 <sup>th</sup> percentile depth	0.44"
Less initial abstraction	0.10"
Total retained depth	0.34"
Site Area Type D - 0.68 ac	
Storage requirement = Adj(0.34") = 0.68 ac(43.560 ft/ac)(0.34"/12"/ft) = 839 cf	
First flush storage to be provided within the retention pond, below the inlet grate elevation of 5154.00.	
Total first flush volume within pond = 0.032 ac(43.560 ft/ac)(1.07') = 1.394 cf	

IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE DRAINAGE ORDINANCE, EFFECTIVE MAY 12, 2014, ALL NEW DEVELOPMENT PROJECTS ARE REQUIRED TO MANAGE THE RUNOFF WHICH OCCURS DURING THE 90TH PERCENTILE STORM EVENT. IN ORDER TO COMPLY WITH THIS CRITERIA, WHERE PRACTICAL, ALL SURFACE DRAINAGE SHALL BE ROUTED THROUGH LANDSCAPED AREAS BEFORE RELEASE INTO DOWNSTREAM DRAINAGE FACILITIES. THIS PLAN RECOMMENDS ALL LANDSCAPED AREAS BE DEPRESSED A MINIMUM OF 3-INCHES BELOW THE ADJACENT PAVED SURFACE TO RETAIN THE FIRST FLUSH RUNOFF.

**PROJECT DATA**

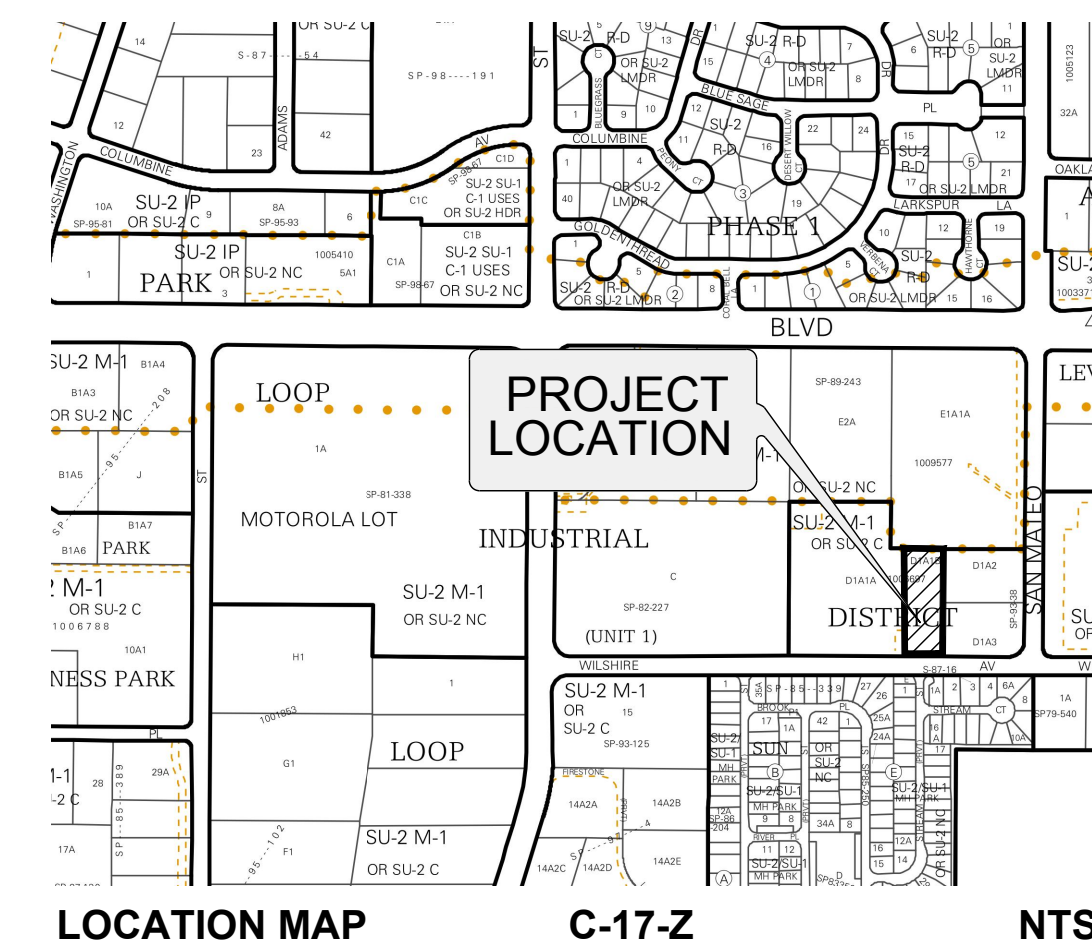
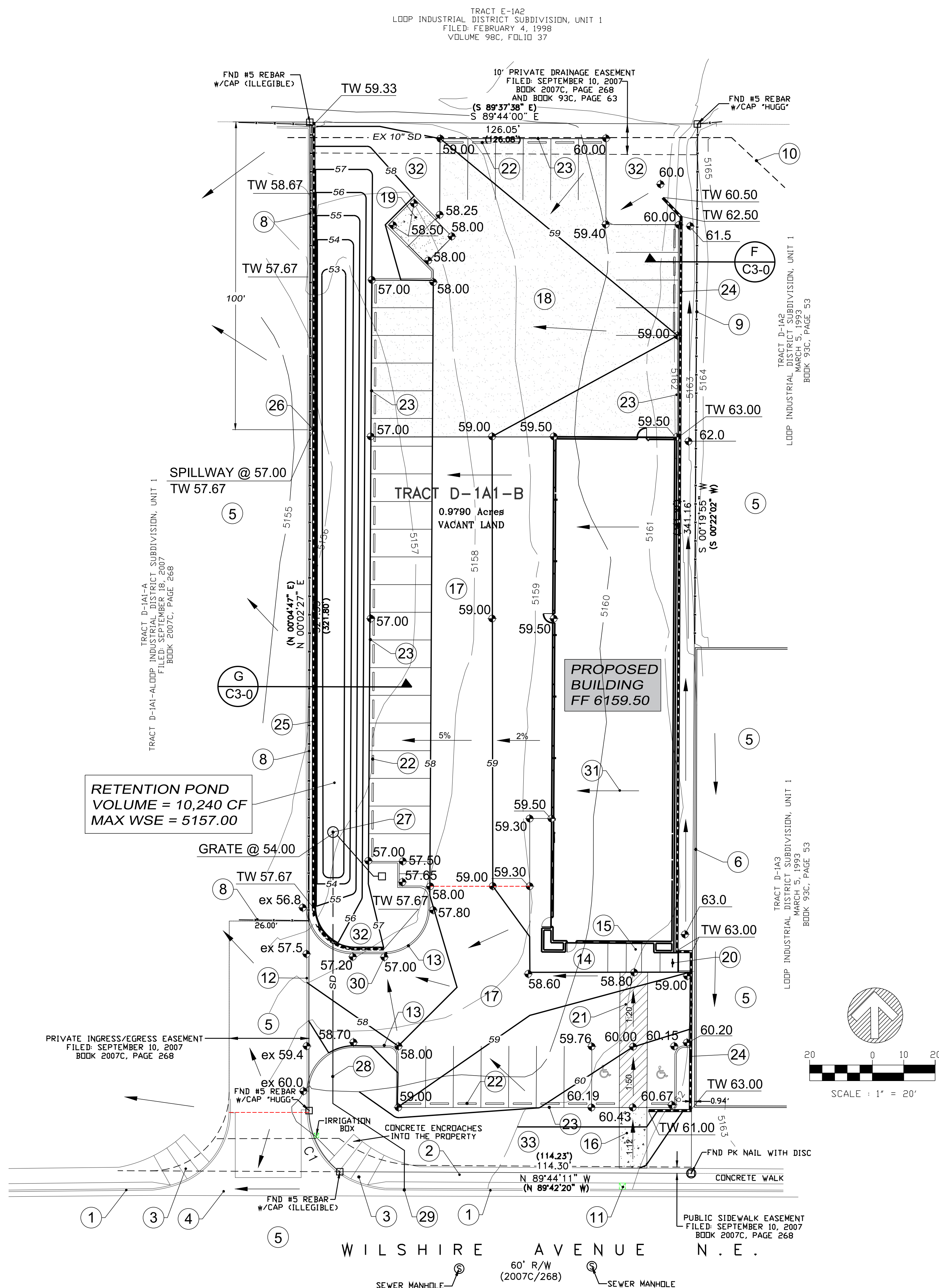
PROPERTY ADDRESS:  
5111 WILSHIRE AVE NE  
ALBUQUERQUE, NEW MEXICO

LEGAL DESCRIPTION:  
TRACT D-1A1-B  
LOOP INDUSTRIAL DISTRICT  
SUBDIVISION  
ALBUQUERQUE, NEW MEXICO

SURVEY:  
ALL PROJECT SURVEYING BY  
THE SURVEY OFFICE, LLC.  
FEBRUARY 2018

**GENERAL NOTES**

- LDC recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.
- This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not recommended.
- Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement.
- This Plan is prepared to establish on-site drainage and grading criteria only. LDC assumes no responsibility for subsurface analysis, foundation/structural design, or utility design.
- Local codes may require all footings to be placed in natural undisturbed soil. If the Contractor plans to place footings on engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes LDC to prepare the Certification, we must be notified PRIOR to placement of the fill.
- LDC recommends that the Owner obtain the services of a Geotechnical Engineer to test and inspect all earthwork aspects of the project.
- The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information shown hereon does not constitute a boundary survey. A boundary survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction.
- All spot elevations are finished grade or top of pavement, unless noted otherwise.
- The City of Albuquerque has received its EPA MS4 Permit for stormwater quality with an effective date of March 1, 2012.
- See Site Plan for dimension control and location of all site improvements.



**LEGEND**

ITEM	EXISTING	PROPOSED
PROPERTY LINE	---	---
SPOT ELEVATION	× 75.5	● 01.5
CONTOUR W/ ELEVATION	--- 5800 ---	--- 5800 ---
DIRECTION OF FLOW	---	---
RIDGE LINE	---	---
SLOPE GRADING	---	---
TOP CURB/FLOWLINE	EX TC 75.75 EX FL 75.25	TC 75.75 FL 75.25
TOP WALL/FINISH GRADE	EX TW 75.75 EX FG 75.25	TW 75.75 FG 75.25
CONCRETE CURB	---	---
BLOCK WALL	---	---
RETAINING WALL	---	---
STORM DRAIN	--- 84" SD ---	--- 24" SD ---
UTILITY POLE	pp○	---
WATER METER	⊠ WM	---
SEWER MANHOLE	⊙	---
IRRIGATION BOX	⊠	---
DRAINAGE RIDGE LINE	---	---



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