DRAINAGE REPORT

For

West Side Kia Dealership
Adobe Wells Subdivision

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LOCATION:

The 6-acre site is located in the southeast corner of the intersection of Eagle Ranch Road NW and Westside Drive, just west of Coors Boulevard. The site is bordered on the south by the undeveloped property and by existing car lots to the east. The purpose of this report is to provide the drainage analysis and management plan for the commercial site to include the proposed Kia dealership for site plan for subdivision and site plan for building permit in the central portion of the site.

DRAINAGE BASINS DESIGNATIONS:

For the purpose of this report, the existing and developed drainage basins were designated as follows.

Existing Undeveloped Basins:

Basin A-B	Entire site consisting of Tract B1.

Developed Conditions:

Basins A–B	Developed parcels with on-site connections to existing underground storm drain

EXISTING DRAINAGE CONDITIONS:

The site is currently undeveloped with the exception of a previously constructed storm drain and waterline that transverse the site from south to north along the east property line. This primarily undeveloped site accepts no upland flows. All upland flows were intercepted by the construction of the storm drain located in Eagle Ranch Road. Upland flows from the north are intercepted by Westside Boulevard and conveyed to an existing storm sewer at its intersection with Coors Boulevard. The onsite runoff primarily drains from west to east to existing drop inlets that connect to an existing 60" storm drain that eventually outfalls to the Calabacillas Arroyo.

During the construction of the Eagle Ranch Road, the flows that previously entered the 60" storm drain were rerouted to the new storm sewer constructed in the new roadway. The 60" storm drain located within the proposed Kia site was connected to the new storm sewer and is intended to act as an overflow only. The calculated undeveloped runoff from this site for a 100-year, 6-hour storm event under existing conditions is 7.77 cfs.

FIRM MAP AND SOIL CONDITIONS:

The site is located on FIRM Map 35001C0108 D, Panel Number 108, as shown on the attached excerpts. The map shows that the site does not lie within a 100-year flood plain.

The site contains a soil type designated as Bluepoint Series by the Soil Conservation Service Soil Survey of Bernalillo County. The Bluepoint series consists of deep, somewhat excessively drained soils formed in sandy alluvium and eolian sediments on alluvial fans and terraces. Slopes range from one to fifteen percent. Permeability is rapid. Runoff is slow and the hazard of blowing is severe.

ONSITE DRAINAGE MANAGEMENT PLAN:

The on-site developed basins A and B are shown on exhibit B. The basins will surface flow to individual drop inlets that are connected to an existing on site underground storm drain system. The project is planned to be constructed in two phases and although the drop inlets are in the Phase II area, they will be constructed with Phase I. Water quality inlets will be use for this site as shown on the grading and drainage plans. The storm drain system conveys the flows north to the Calabacillas Arroyo. The total peak discharge from the site for a 100-year, 6-hour storm is 24.5 cfs. The flows upland of the existing section of storm drain that traverses the proposed Kia site were previously rerouted into the new storm drain constructed in Eagle Ranch Road. The existing 60" storm drain was

not abandoned and is intended to act as an overflow for the new Eagle Ranch Road storm sewer. There is ample capacity in the older storm sewer to convey the flows form the proposed Kia development to the Calabacillas Arroyo.

Due to the relatively minor grade differences between this site and the existing adjacent property to the east, a retaining wall is required along a portion of the east property line. The retaining wall will be constructed as part of Phase II of this site. In the interim, an earthen berm will be constructed in Phase I to prevent cross lot drainage by directing the flows from the site to the proposed drop inlets that will also be constructed in Phase I. Runoff in excess of the 100-year, 6-hour design storm will overflow to the east in the vicinity of the proposed retaining wall.

CRITERIA:

The site was analyzed using the procedures outlined in the Development Process Manual Volume 2, Chapter 22. The Weighted-E method was used in estimating volumes and flow rates of runoff from on-site basins. The existing and developed conditions for on site basins were analyzed for a 100-year, 6-hour rainfall event.

SUMMARY:

The proposed development will surface flow to individual drop inlets that are connected to an existing on site underground storm drain system. The storm drain system conveys the flows north to the Calabacillas Arroyo. The total peak discharge from the site for a 100-year, 6-hour storm is 24.5 cfs. Eagle Ranch Road and West Side Boulevard intercept all upland flows. No upland flows enter the site.

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Weighted E Method

Zone #1

Undeveloped Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs
1	156426.00	3.591	0.00561	100%	3.591047	0%	0.000	0%	0	0%	0.000	0.440	0.132	4.63
2	105955.00	2.432	0.00380	100%	2.432392	0%	0.000	0%	0	0%	0.000	0.440	0.089	3.14
	TOTALS	6.023											0.22	7.77

Developed Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs
1	156426.00	3.591	0.00561	0%	0	10%	0.359	5%	0.179552	85%	3.052	1.791	0.536	14.58
2	105955.00	2.432	0.00380	0%	0	10%	0.243	5%	0.12162	85%	2.068	1.791	0.363	9.88
	TOTALS	6.023											0.90	24.46

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad