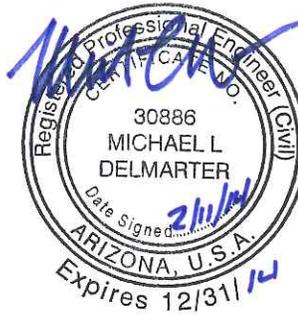


Drainage Technical Memorandum

To: City of Litchfield Park
From: Michael Delmarter, P.E.
Date: February 11, 2014
Subject: Wigwam Redevelopment
Parcel D – Located on a portion of the Wigwam Resort Property



Purpose

This memorandum has prepared to support the rezoning and general plan amendment effort for 2 21.5 acre parcel of land located within the Wigwam Golf Course property in Litchfield Park, Arizona. This memorandum in intended to summarize the existing onsite and offsite drainage conditions affecting the property and proposed drainage concepts that will be further defined with the development of an overall site plan for the property.

Property Description

The 21.5 acre parcel of land is proposed to be carved out of the existing Wigwam Blue and Gold golf courses. Parcel D is located in a portion of the existing Gold golf course within a portion of Section 22, T.2N., R.1W., GSRBM.

Existing Conditions

The parcel is located in the easternmost portion of the Wigwam Resort property within the “gold” golf course and is currently utilized for golf course purposes. It is located near the center of the existing golf course and will remain bounded on all side by golf course facilities. There is an existing golf course irrigation pond located near the center of the parcel which will need to be relocated and incorporated into the revised golf course routing.

The existing subdivisions to the north and south side of the Golf Course do not currently have stormwater retention facilities and currently discharge via sheet flow into the golf course property. There are no designated “retention” facilities in the golf course and once the local storage and infiltration capacities of the golf course are exceeded, excess flows could leave the site via sheet flow to the east. Any flows exiting the golf course on the east side are collected in a drainage ditch that has been constructed along the west side of Dysart Road.

The site is located completely in FEMA Zone X shaded per FIRM Map 04013C2155L dated October 16, 2013.

Proposed Development

Parcel D is proposed to be rezoned for residential/resort villa uses. No specific site plan has been developed at this time.

Proposed Drainage Conditions

The proposed development will utilize surface drainage or storm drains to convey onsite generated stormwater runoff to retention basins. If these basins are incorporated into landscape areas, the maximum water depth will be 3 feet. Note: it is anticipated that stormwater storage will be incorporated into the adjacent golf course property with an easement /agreement between the property owners.

The parcel will be required to retain the runoff generated by the 100 year-6 hour design storm event. The C Value is assumed to be 0.88 for detached high density residential product. Note: This value may be further refined using composite C values upon development of the final site plan for the parcel. Therefore, the required retention for the parcel is = $22.0 * 2.47 / 12 * 0.88 = 3.98$ acre-feet.

Summary/Conclusions

Parcel D

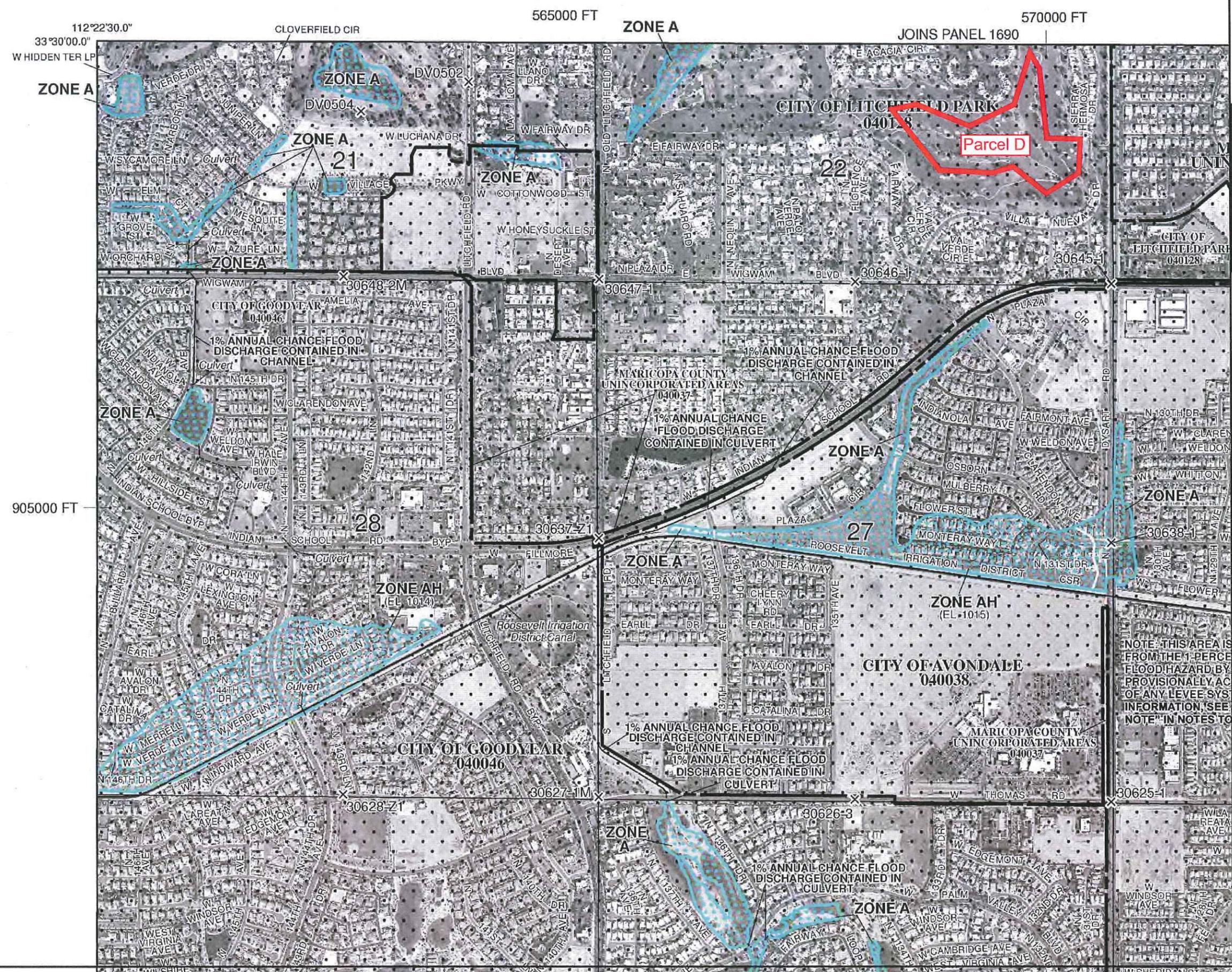
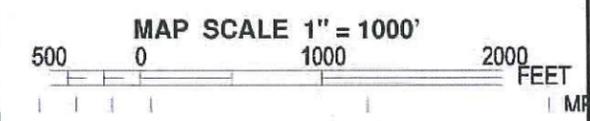
- Parcel is located in a Zone X floodplain
- Retention volume required for the East Parcel is 3.98 Acre-feet
- It may be possible to provide required storage in adjacent golf

General

- Retention facilities/basins will be required to bleed off or infiltrate within the Maricopa County 36 hour requirement.

Attachments:

1. FEMA MAP
2. Assessor's Map showing approximate property limits



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2155L

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2155 OF 4425
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	2155	L
AVONDALE, CITY OF	040038	2155	L
GOODYEAR, CITY OF	040046	2155	L
LITCHFIELD PARK, CITY OF	040128	2155	L
PHOENIX, CITY OF	040051	2155	L

NOTE: THIS AREA IS FROM THE 1-PERCENT FLOOD HAZARD BY PROVISIONALLY AC OF ANY LEVEE SYS INFORMATION, SEE NOTE IN NOTES TO

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
 04013C2155L
 MAP REVISED
 OCTOBER 16, 2013

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



Parcel C

Parcel D