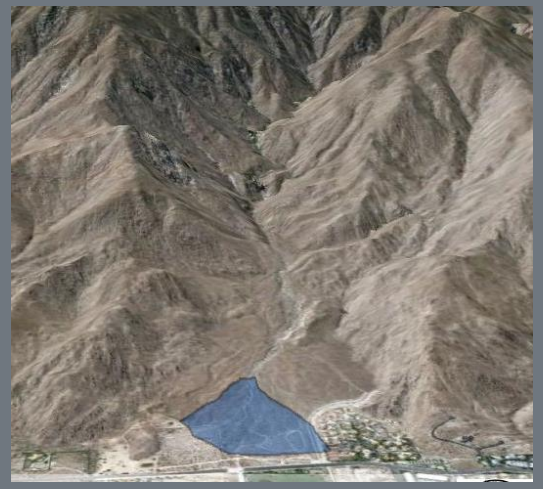
South Palm Canyon Drive
Low Water Crossing (Bridge) Project
City Project No. 06-18,
Fed. No. NBIL(502)

April 9, 2025



Oswit Canyon and Alluvial Fan

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Canyon Redevelopment Area

- **1991** – Canyon Redevelopment Project Area was formed to promote development of the area, given the known significant infrastructure needs related to flood control and drainage. The expected infrastructure, including a new bridge at the SPC Drive LWC, would be too costly to be absorbed by developers.

- **2001** – Tettemer & Associates developed the *Master Plan of Drainage for the Andreas Alluvial Cone, Dry Canyon, Arenas South and North Canyons, and Palm Canyon (1800 Feet Downstream of Bogert Trail) Drainage Courses* for Palm Canyon, LLC. The Tettemer study was produced to support the development of the ALTA subdivision east of SPC Drive and the necessary flood control improvements. The study would later provide the baseline hydrology for future studies and designs to eliminate the SPC Drive LWC.

- **2005** – Eagle Canyon Redevelopment Project coordinates with RCFC on size of basin and configuration of channel needed for their project, see exhibit with City's proposed smaller project (next slide)

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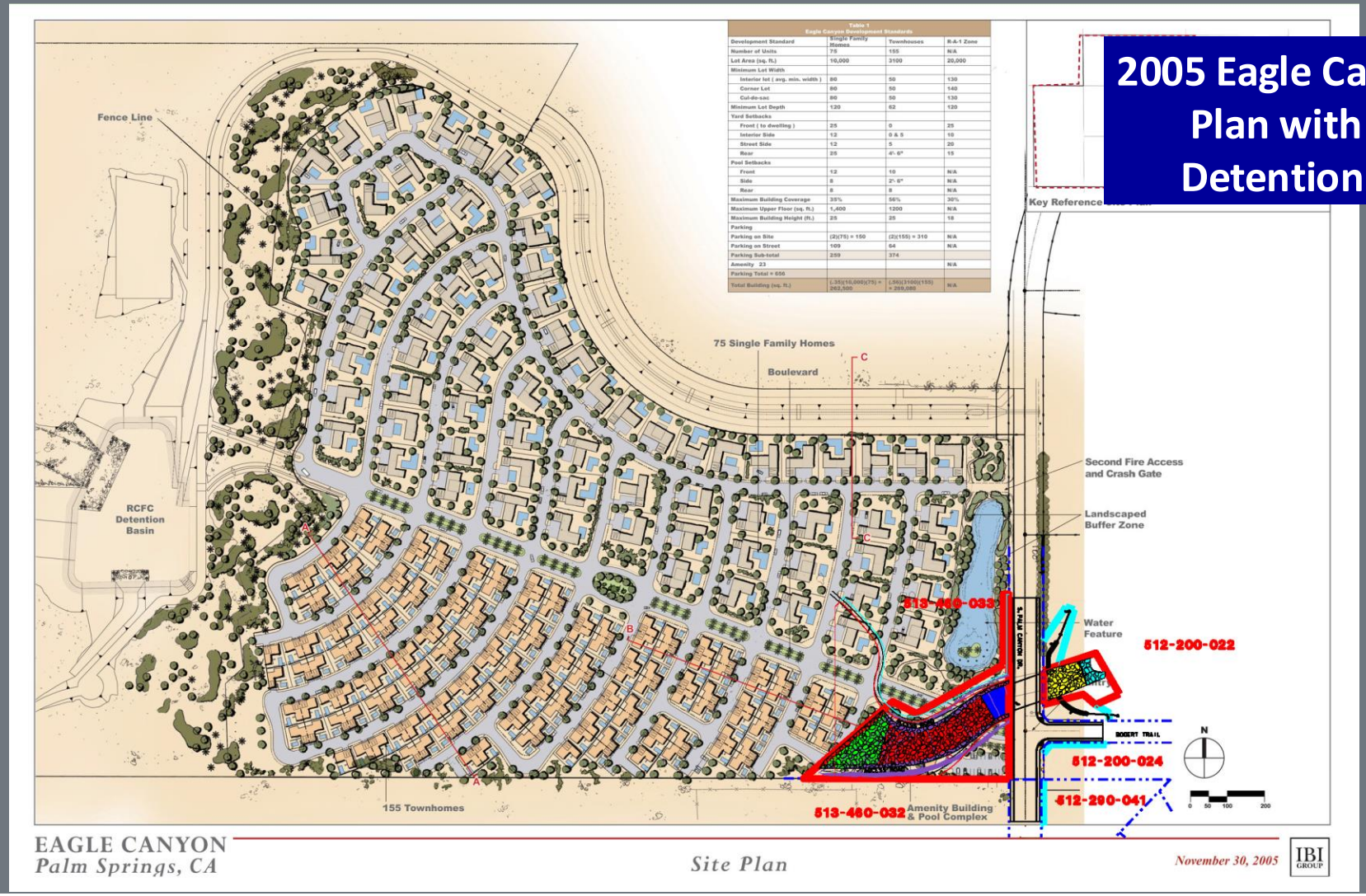
2005 Eagle Canyon Site Plan with RCFC Detention Basin



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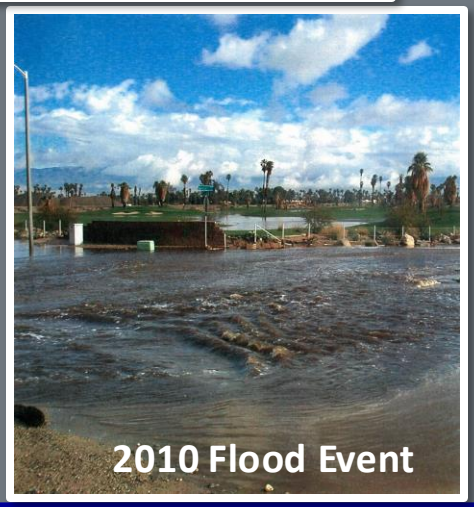
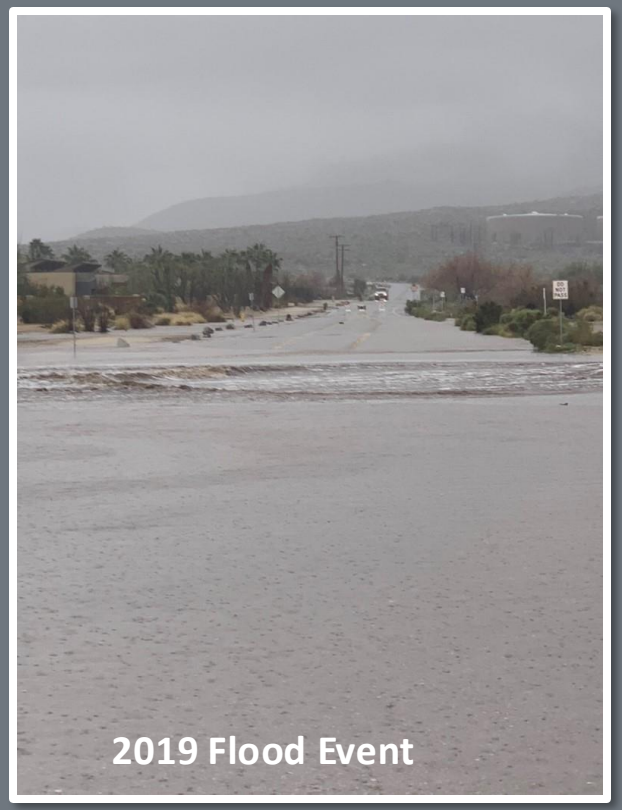
SPC Bridge & Flood Control Development

- **2005** – City of Palm Springs (City) applied for funding through the Highway Bridge Program (HBP) for construction of a new bridge on SPC Drive after flooding and flood damage occurred at the existing Low Water Crossings.
- **2006 –** Ordinance 1681 was passed in part to collect fees to build drainage infrastructure in the Canyon Area
- **2008** – City contracted Dokken Engineering (DE) as the environmental and engineering design consultants to redevelop SPC Drive with a new bridge, culvert, and off-site channel improvements to eliminate the existing Low Water Crossing.
- **2010** – DE coordinated with the USFWS, the City, and adjacent property owners including the golf course to develop design alternatives and ultimate concept selection.


2005 Flood Event


2010 Flood Event


2019 Flood Event

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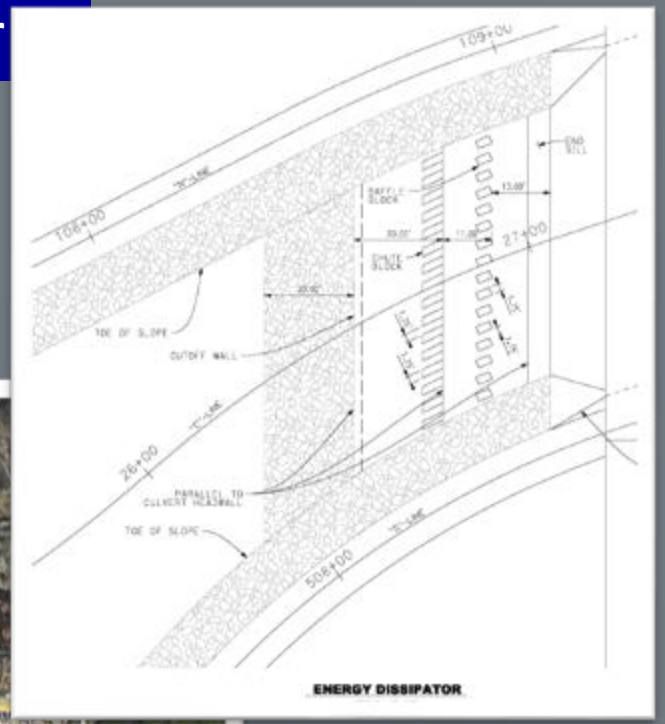
Eagle Canyon Development & Concrete Energy Dissipator

- **2012** – JE Fuller/Hydrology & Geomorphology, Inc developed the Arenas Canyon Stage 2 Active/Inactive Alluvial Fan Assessment for RCFC&WCD. The study was developed to support the Cherly Creek Levee Restoration Project to the north.
- **2014** – Private developers designed the Eagle Canyon residential development, which included a debris basin and storm drain system that would tie into the proposed culverts designed by DE. The developers ultimately abandoned their pursuit to develop this area. Meanwhile, DE incorporated a concrete energy dissipation system upstream of the RCB into the SPC Drive Bridge Project design.
- **2016** – DE submitted 100% PS&E for SPC Drive Bridge Project in November 2016.
- 2017 - Litigation Paused this Project.

Source: IBI GROUP, July 12, 2005



12/17/19 Memo describes 4 Options as follows:

Save Oswit Canyon Group hires Haimann Engineering in Dec. 2019

- **Option 1** – Construct a debris basin west of South Palm Canyon Drive in the path of natural drainage and connect to an expanded retention basin East of South Palm Canyon Drive. The retention basin would then connect to the pond in the Golf Course with water being balanced between those facilities. (see figure on next slides with comments)

- **Option 2** – Construct a retention basin with berm west of South Palm Canyon Drive, lined with HDPE liner for geotechnical stability, where water will be held and "allowed to infiltrate and evapotranspirate" (see figure on next slides with comments)

- **Option 3** – Construct a debris basin to keep all the water on the west side of South Palm Canyon Drive. "A smaller berm would be constructed than in Option 2. Dry wells would be installed to infiltrate accumulated water more (see figure on next slides with comments)

- **Option 4** – Construct a debris basin to keep all water on the west side of South Palm Canyon Drive. "A vegetated infiltration trench with a downstream curb would be installed to hold and infiltrate the capital storm. (see figure on next slides with comments)

It is important to note that Mr. Haimann stated "Four options are presented in this document. Note that hydrology studies and engineer's reports were not available to review flow calculations or debris flow calculations. Thus, these options, while feasible, will require engineering analysis to size the features, assess impacts, and develop cost estimates. " Mr. Haimann also stated "The sizing of the features will affect their desirability from an environmental impact, aesthetic impact, and cost effectiveness standpoint. To size the features, a local hydrology study is recommended. "

Option 1 Figure from 12/17/19 Memo

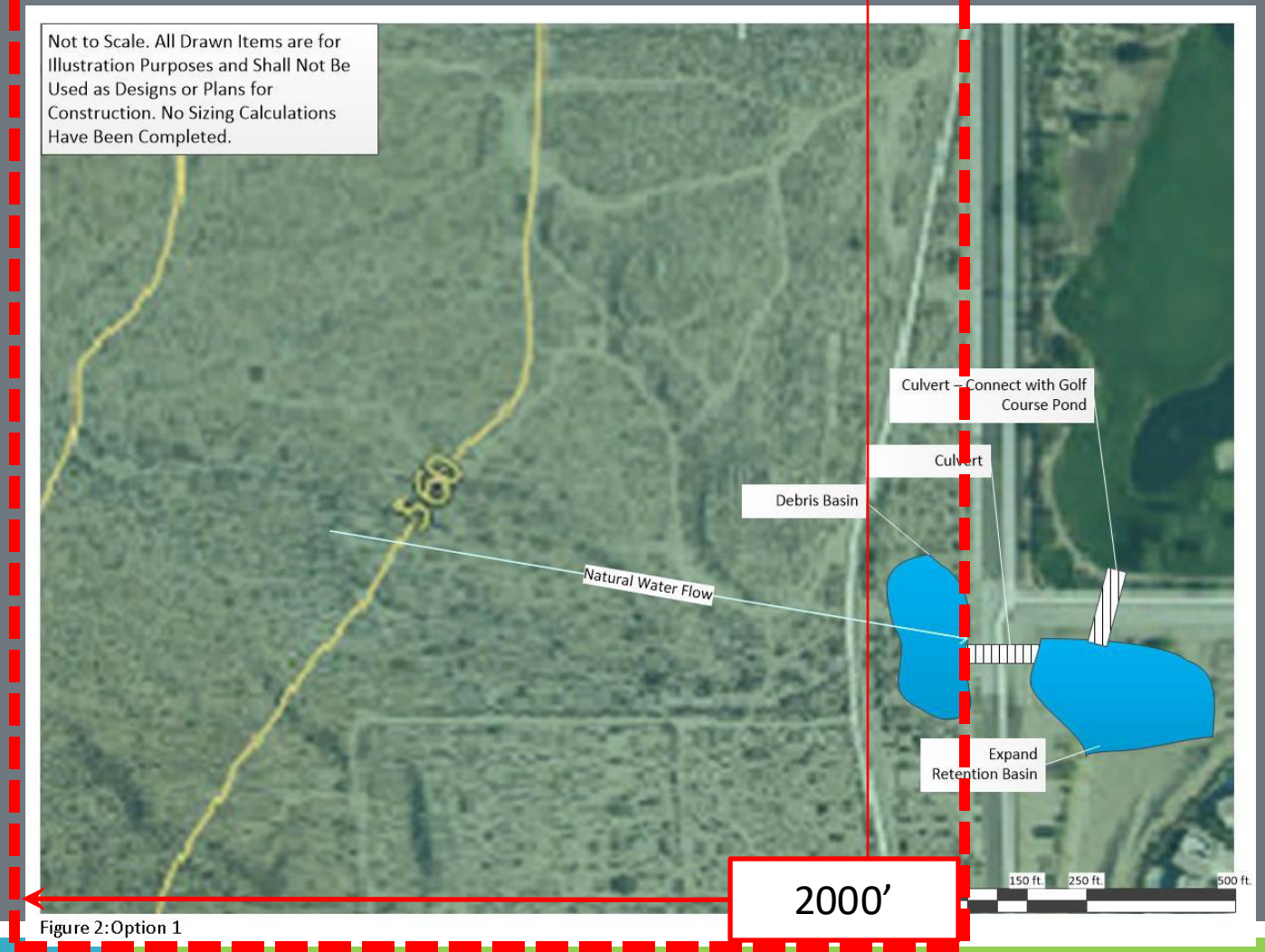


Figure 2: Option 1

Dokken Comments:

- Retention Basin on East side of SPC-Dr treats a separate watershed and connecting not possible
- Contributing watershed has a tributary area of 2,080 acres that creates a volume of 1,000 ac-ft. and requires a basin approx. 12' deep and 2,000' square as shown

Option 2 Figure from 12/17/19 Memo

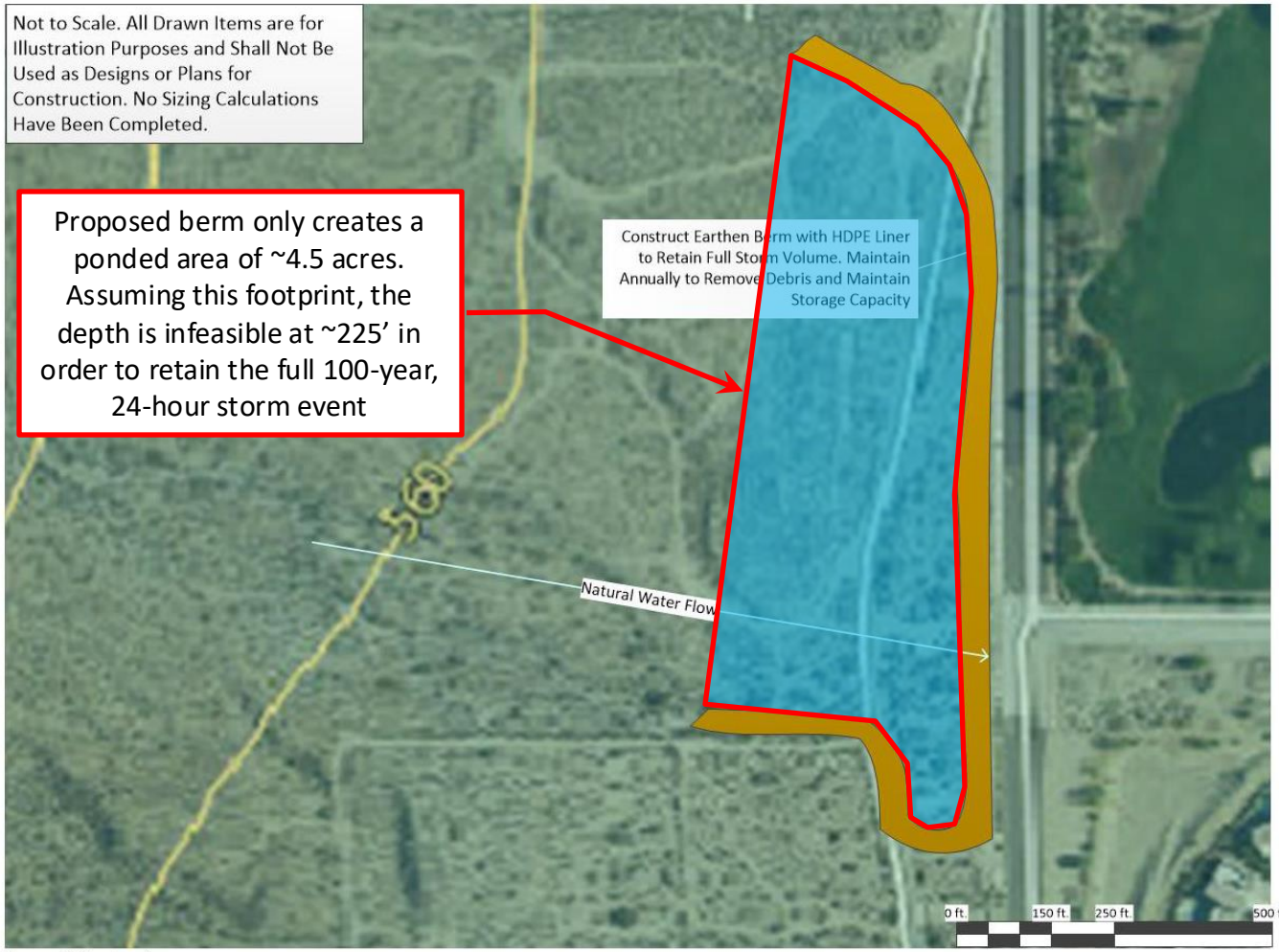


Figure 3: Option 2

Dokken Comments:

- **Basin layout as shown is approx. 2,500ft long by approx. 50ft wide and would need to be about 46ft deep to hold 1,000 ac-ft. of water**

Option 3 Figure from 12/17/19 Memo

Figure 4: Option 3

Dokken Comments:

- The proposed berm creates an efficient use of space, but this option offers less than Option 2 at ~1.2 acres.
- Based on 11 dry-wells shown with this footprint, the depths (calc'd to 835') are infeasible in order to retain the full 100-year, 24-hour storm volume. (Not accounting for the reduction in available volume runoff due to sediment volumes)

Option 4 Figure from 12/17/19 Memo

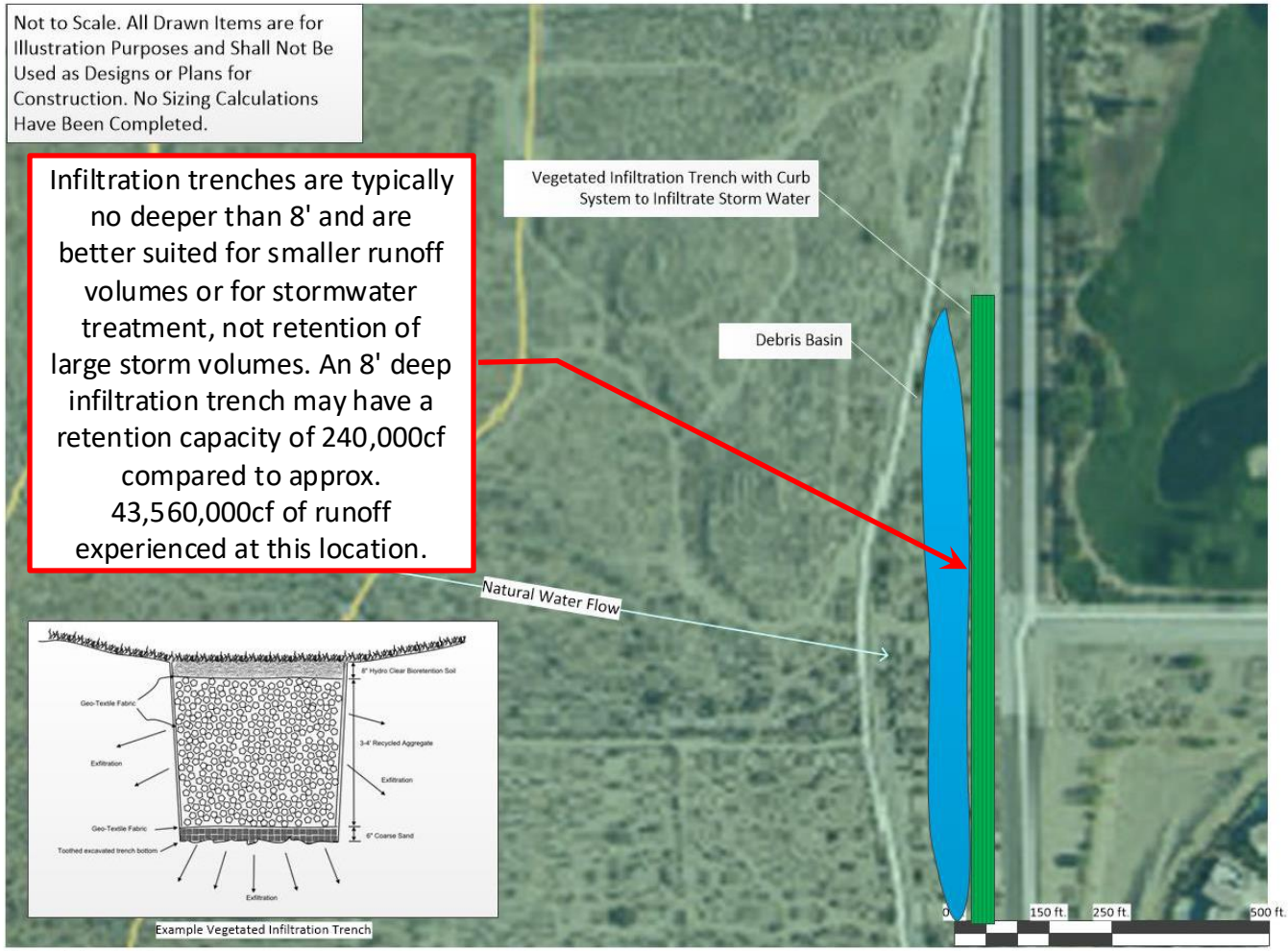


Figure 5: Option 4

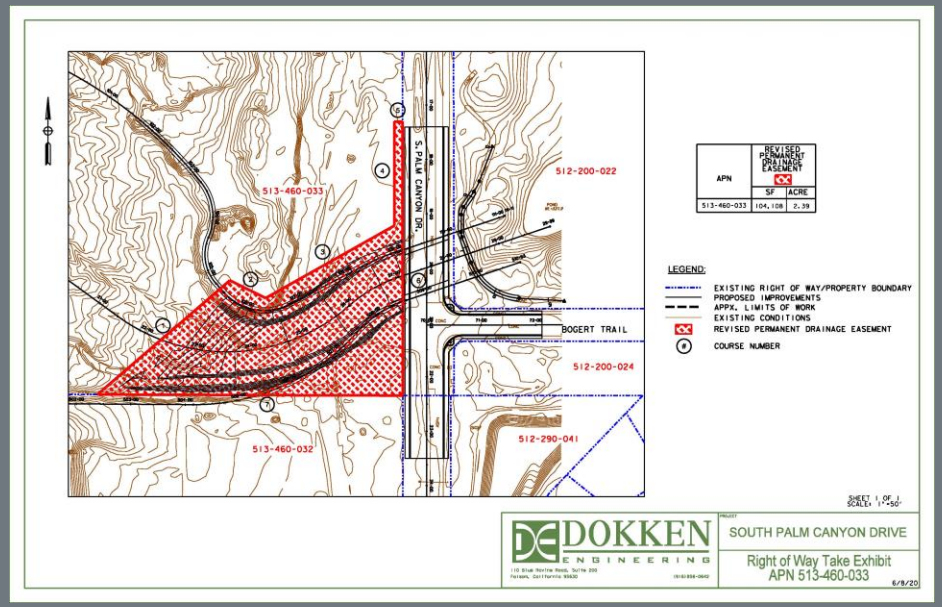
Dokken Comments:

- The sediment basin would provide for additional storage capacity but would still be infeasible.
- After accounting for the added infiltration trench capacity, the debris basin would need to be approx. 435' deep in order to retain the full 100-year, 24-hour storm volume. (Not accounting for the reduction in available volume runoff due to sediment volumes)

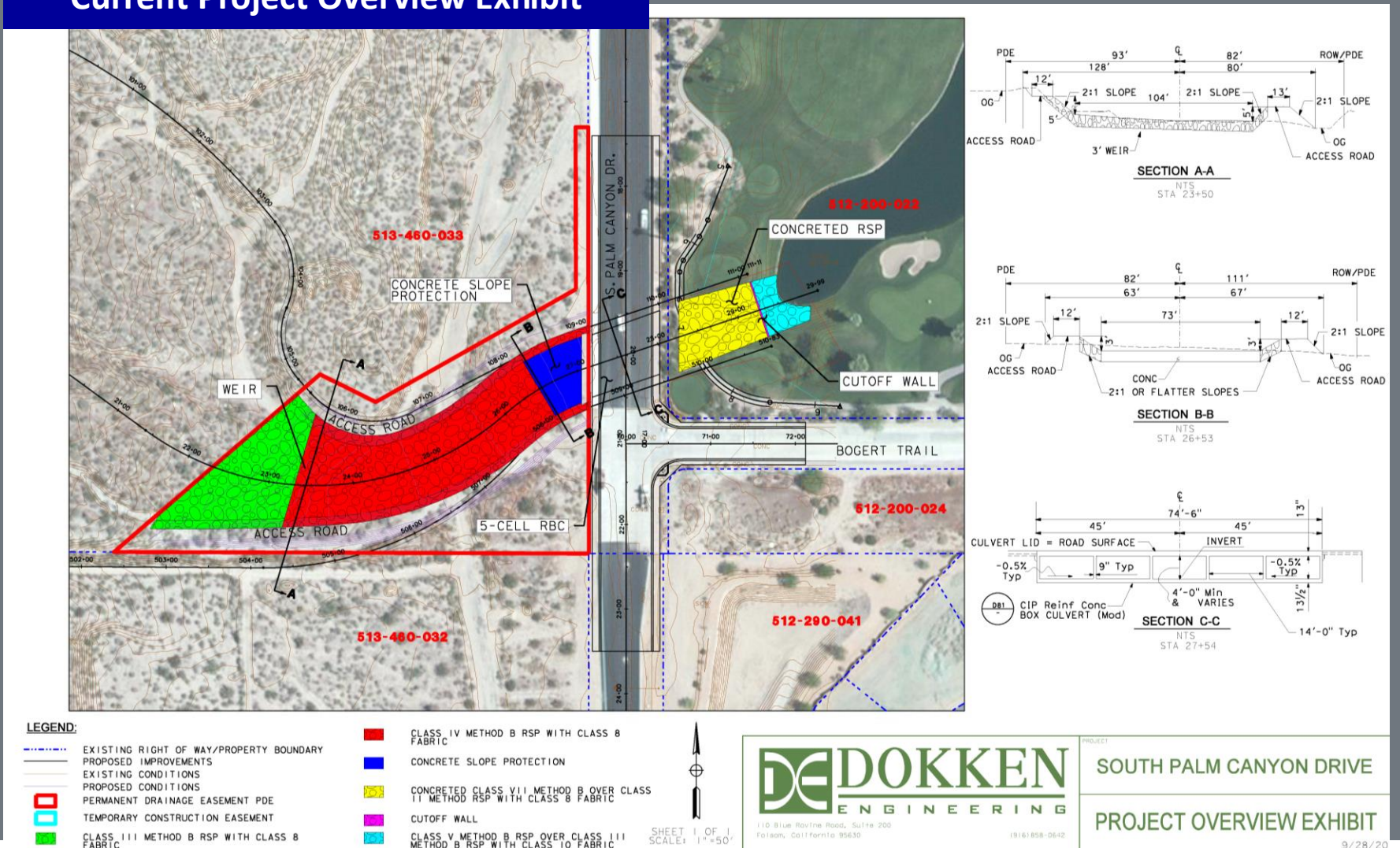
2020 Design Refinements

- City coordinated with DE to eliminate the concrete energy dissipation structure to improve the aesthetics with a more natural alternative. The City also confirmed that a levee certification is not required for the channel improvements and requested DE to update the drainage concept.
- Subsequent analysis indicated that the proposed berm improvements no longer needed to extend as far upstream as the previous designs. DE revised the channel grading to reduce the berms and improve hydraulics.
- DE developed a rock berm design upstream of the RCB to slow channel flow velocities and capture sediment to reduce the maintenance burden of the downstream golf course.
- Additional rock was incorporated into the design to protect the bank and channel improvements from erosion.
- A naturally colored concrete apron was added at the RBC entrance to improve hydraulics, reduce flood risk of SPC Drive, and protect the channel from erosion.

Final SPC Drive Bridge and Channel Concept



Current Project Overview Exhibit



LEGEND:

- EXISTING RIGHT OF WAY/PROPERTY BOUNDARY
- PROPOSED IMPROVEMENTS
- EXISTING CONDITIONS
- PROPOSED CONDITIONS
- PERMANENT DRAINAGE EASEMENT PDE
- TEMPORARY CONSTRUCTION EASEMENT
- CLASS III METHOD B RSP WITH CLASS 8 FABRIC
- CLASS IV METHOD B RSP WITH CLASS 8 FABRIC
- CONCRETE SLOPE PROTECTION
- CONCRETED CLASS VII METHOD B OVER CLASS II METHOD RSP WITH CLASS 8 FABRIC
- CUTOFF WALL
- CLASS V METHOD B RSP OVER CLASS III METHOD B RSP WITH CLASS 10 FABRIC

SHEET 1 OF 1
SCALE: 1"=50'

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110 Blue Ravine Road, Suite 200
Folsom, California 95630
(916)858-0642

PROJECT
SOUTH PALM CANYON DRIVE

PROJECT OVERVIEW EXHIBIT

9/28/20

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Proposed Northeasterly View From Trail

BEFORE

Proposed Easterly View from Inside Channel

AFTER

Proposed Northwesterly View from Roadway

BEFORE

AFTER

Proposed Westerly View from Roadway

BEFORE

AFTER

Recent Coordination with Oswit Group

February 28, 2024 – Dokken and Staff presented results of 4 options to Oswit Group at city hall. Oswit Requested Power Point presentation and hydrology information and indicated they would review all materials and provide feedback within 30 days. Presentation was provided the same day.

March 12, 2024 - Staff provided a link with the additional requested materials including the Hydrology Study.

April 11, 2024 – Oswit Group emailed a request for additional hydrology information however all the information requested was provided in March.

April 16, 2024 – Met with Oswit Group online to discuss the project. Staff requested written comments about the project from the Oswit Group. None were received.

Anticipated Costs - $9-10 Million
**Additional Rock Slope Protection per the Redesign - $1.8 Million

CVAG – Regional Funds not Participating
City Pays Non-Federally Participating costs
Questions?