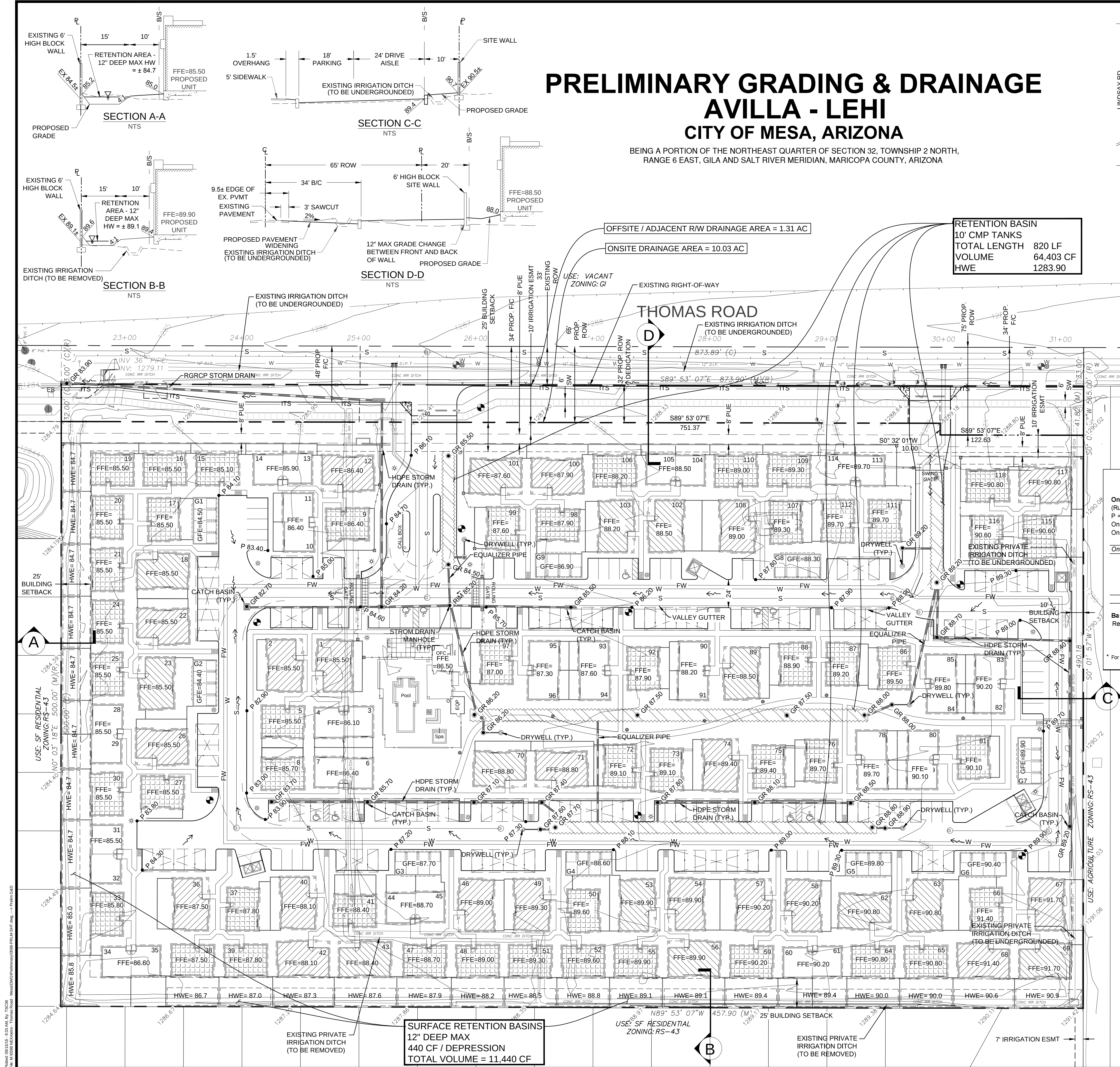


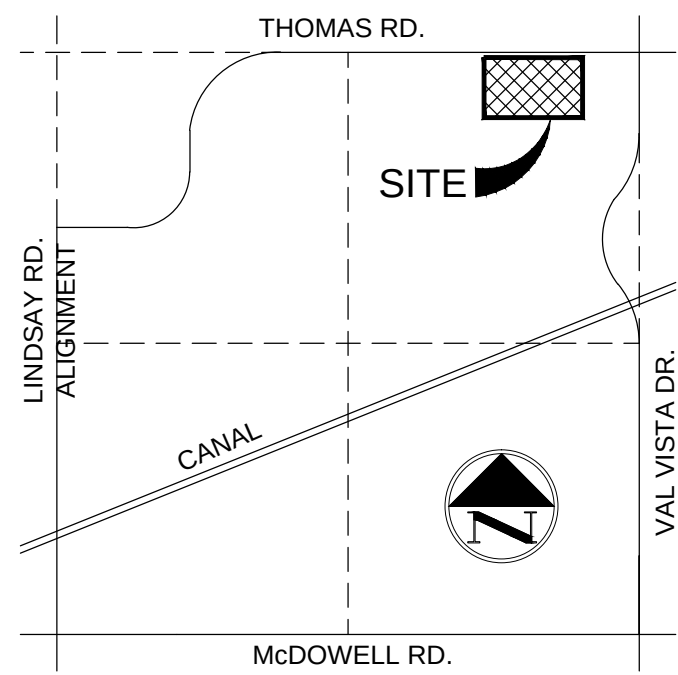


PRELIMINARY GRADING & DRAINAGE

AVILLA - LEHI

CITY OF MESA, ARIZONA

BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 2 NORTH, RANGE 6 EAST, GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA



VICINITY MAP

DEVELOPER/APPLICANT

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PROPERTY OWNER

PARCELS 1 - 4 - ENGEL INVESTMENTS
LIMITED PARTNERSHIP
PARCEL 5 - E. RODNEY ENGEL JR., ET AL

DEVELOPMENT CONSULTANT

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FLOOD ZONE

FLOOD ZONE DESIGNATION "X" PER F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C2260L, PANEL 2260 OF 4425, DATED OCTOBER 16, 2013. ZONE "X" - AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

AVILLA - LEHI - PRELIMINARY RETENTION VOLUME CALCULATIONS

Onsite Runoff Volume		ROW Runoff Volume			
(Runoff Volume $V = C \times A \times (P/12)$)					
P = Rainfall (100-yr. 2-hr)	2.2 in.				
Onsite Area	10.03 ac.	Half ROW Area	1.31 ac.		
Onsite Runoff Coefficient	0.8	ROW Runoff Coefficient	0.95		
Onsite Runoff Volume	64,080 cf.	ROW Runoff Volume	10,932 cf.	Total	75,012 cf.

Underground CMP's	Dia (ft)	Length (ft)	Volume
Surface Retention Basins	10	820	64,403 cf.
	Area (ft ²)	Depth (ft)	
	11,440	1	11,440 cf.
Total Volume Provided			75,843 cf.

Basin Drain Time/Drywell Calculation
Retention Basin Drain Time = Required Volume / Perc Rate
Perc Rate = 0.6 cfs
Total Basin Drain Time = 34.7 hrs
*Surface Perc Rate + Drywell Perc rate

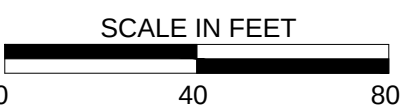
* For Preliminary Design a Surface Basin Perc Rate is assumed to be zero and only 0.5 cfs per drywell (6 drywells)

NOTES:

- THE INTENT OF THIS PLAN IS TO PROVIDE A CONCEPTUAL DRAINAGE LAYOUT THAT SHOWS SCHEMATIC DRAINAGE AND RETENTION SYSTEMS. THE LAYOUT SHOWS THAT ADEQUATE RETENTION CAN BE PROVIDED ON-SITE, THROUGH A COMBINATION OF SURFACE AND UNDERGROUND RETENTION FOR 100% OF THE REQUIRED RETENTION VOLUME. THIS VOLUME MAY BE REDUCED UPON ANALYSIS OF THE OUTFALL IMPACT TO DOWNSTREAM PROPERTIES.
- DRYWELLS ARE PROVIDED TO DRAIN UNDERGROUND RETENTION SYSTEMS. DRYWELLS ARE TO BE MAXWELL PLUS DUEL CHAMBER DRYWELLS OR APPROVED EQUAL.
- EXISTING RUNOFF FLOWS IN A NORTHWESTERLY DIRECTION. FLOWS FROM THE SOUTH ARE INTERCEPTED AND RETAINED ON SITE BY LEHI CROSSING, AN EXISTING RESIDENTIAL SUBDIVISION. WHILE FLOWS FROM THE EAST ARE INTERCEPTED BY AN EXISTING CONCRETE IRRIGATION CHANNEL AND ARE DIRECTED NORTH TO THOMAS ROAD. FLOWS WILL CONTINUE TO BE CUT OFF BY A PROPOSED SITE WALL AND GRADING WILL DIRECT FLOWS TO THOMAS ROAD.

LEGEND

ABBREVIATIONS			
FFE	FINISHED FLOOR ELEVATION	8" PUBLIC WATER MAIN	W
G	GUTTER ELEVATION	8" PRIVATE SEWER	S
ESMT	EASEMENT	GRADE BREAK	---
GR	GRATE ELEVATION	STORM DRAIN PIPE	---
PUE	PUBLIC UTILITY EASEMENT	10-FT CMP TANK	---
P	PAVEMENT ELEVATION	FLOW ARROW	---
ROW	RIGHT OF WAY	DUAL CHAMBER DRYWELL	---
		CATCH BASIN	---
		STORM DRAIN MANHOLE	---
		SANITARY SEWER MANHOLE	---
		2" BACKFLOW / METER	---
		FIRE HYDRANT	---



consulting
Terrascope
civil engineering • surveying • urban planning

SEAL:
DAVID M. SOLTYSIK
09/12/16
EXPIRES 3/31/2018

AVILLA
LEHI

PRELIMINARY GRADING & DRAINAGE

NEXMETRO DEVELOPMENT, LLC

2355 E. CAMELBACK RD., SUITE 805
PHOENIX, ARIZONA 85016

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

DATE:	DESCRIPTION
05/12/16	DESIGN REVIEW
09/12/16	REVISED 25' SETBACK

CHECKED BY:	DMS
DRAWN BY:	TAT
TITLE:	GRADING AND DRAINAGE PLAN
SHEET No.	1 of 1
PROJECT No.	0598