CITY OF SCOTTSDALE

Water and Wastewater Study
Combined

Preliminary Basis of Design

Sewer

FOR

Acoya Shea & Scottsdale Senior Living

APN# 175-33-093H

7373 E Shea Boulevard

Scottsdale, AZ 85260

Submittal - *July 2, 2020*

PRELIMINARY Basis of Design Report

☑ ACCEPTED

☐ ACCEPTED AS NOTED

☐ REVISE AND RESUBMIT

CITY OF SCOTTSDALE

SCOTTSDALE WATER

9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If accepted; the preliminary approval is granted under the condition that a final basis of design report will also be submitted for city review and approval (typically during the DR or PP case). The final report shall incorporate further water or sewer design and analysis requirements as defined in the city design standards and policy manual and address those items noted in the preliminary review comments (both separate and included herein). The final report shall be submitted and approved prior to the plan review submission.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY rsacks DATE 7/7/2020

Prepared for:

Ryan A+E, Inc.

3900 E. Camelback Road, Suite 100

Phoenix, AZ 85018

Prepared by:

Mike Jackson, P.E.

IMEG

1600 N Desert Drive, Suite 230

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Phone: (480) 951-0517 Fax: (480) 951-2353

REGISTERED PROFESSIONAL ENGINEER (CIVIL)
CERTIFICATE NO.
38775
MIKE A.
JACKSON
Date Signed 7/2/2020
ARIZONA, U.S.A.

July 2, 2020

6-ZN-2020
7/6/2020

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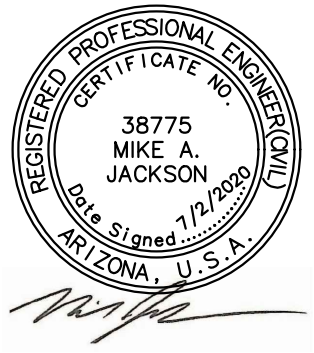
Appendix



INTRODUCTION

Ryan Companies is planning to develop a new 4 story senior living building at the southwest corner of Shea Boulevard and N. 74th Street, serving the City of Scottsdale. The development is a 2.57acre site that will consist of 160 residential units with shared areas to be used for dining and entertainment. The site proposes a total of 137 parking spaces which will be provided in an underground garage and supplemented with minimal surface parking.

An existing sewer service is proposed to serve this project. Enclosed in this report are preliminary proposed demand calculations, and capacity calculations for the project.

EXISTING CONDITIONS

The site is currently a vacated car wash and service facility. There is an existing 10" VCP gravity sanitary sewer line located within 74th Street. There is an existing sewer line that taps into the 10" line and enters the site at the midpoint of the east property line.

For the purposes of this preliminary report, we have assumed the existing sewer is adequate and acceptable for reuse and the stub is a 6" diameter pipe with adequate depth. It is expected the stub depth, location, and size will need to be verified in the field prior to construction.

A sewer force main runs parallel to the 10" VCP line in 74th Street and an additional 8" PVC gravity line is located north of the centerline in Shea boulevard. We anticipate no connections or impacts to these existing lines located within the vicinity of our project.

PROPOSED USE

160 Units, Common Areas, and Amenities

Building Area
46,801 sf Garage Area
178,267 sf Building Area (excluding underground garage area)
225,068 sf Total Area

Finished Floor Elevation = 1356.50

DESIGN CRITERIA

Average Sewer Design Flows (per unit) per DS&PM Figure 7-1.2[1]:
380 gpd per unit
Peaking factor = 4.5.

[1] The Average Daily Demand was calculated using the "Resort Hotel (includes site amenities)" land use from Figure 7-1.2 of the DS&PM

PROPOSED DESIGN FLOW

Average Day Demand = 380 gpd/room *160 = 60,800 gpd (42.2 gpm or 0.09 cfs)

DESIGN FLOW WITH PEAKING FACTOR

Design Flow with Peaking Factor = 60,800 * 4.5 = 273,600 gpd (190 gpm or 0.42 cfs)
Maximum Design Flowrate = 190 gpm (0.42 cfs)

CAPACITY CALCULATIONS

The proposed Boutique Hotel demand based on unit demands and peaking factor above is 190 gpm.

Based on the City of Scottsdale existing sewer model, to be verified by the City, it is our understanding that there is capacity in the existing 8" line for this additional flow. However, this has not been confirmed with existing demand data or existing flow modeling.

6" Sewer Service
The capacity of the existing 6" sewer at an assumed slope of 2.0% @ 0.70 d/D = 298 gpm (0.665 cfs)

The depth of flow at the Maximum Design Flowrate = 0.25 feet, which is d/D = 0.50

The velocity of flow at the Maximum Design Flowrate = 3.95 ft/s

CONCLUSIONS

It is proposed to utilize the existing 6" sewer service at the east property line. It is assumed the existing line will be adequate to serve the proposed project, pending slope verification and existing flow modeling. The sewer lines at the project will conform to the City of Scottsdale and UPC standards with a minimum pipe slope of 2%. Proposed sewer construction, materials, and appurtenances shall be per DSPM, Chapters 6 & 7 and the City of Scottsdale Standard Detail Series 2300 and 2400.

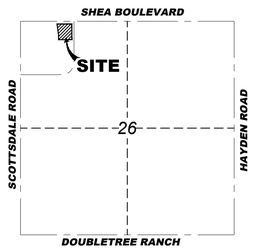
Appendix 1: Preliminary Grading/Utility Plan

1600 N. Desert Drive, Suite 230, Tempe, AZ 85281
480.951.0517 Fax: 480.951.2353 imegcorp.com

7373 E SHEA BOULEVARD
SCOTTSDALE, ARIZONA

A PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 26,
TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA

PRELIMINARY GRADING AND DRAINAGE PLAN



VICINITY MAP
NTS

LEGAL DESCRIPTION

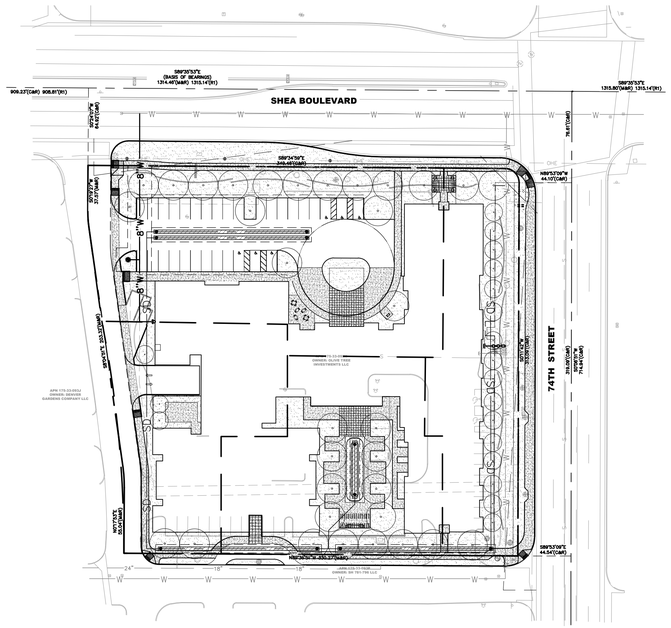
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MARICOPA, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

PARCEL NO. 1:
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 26,
TOWNSHIP 3 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 26;THENCE SOUTH 89 DEGREES 58 MINUTES 07 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION, A DISTANCE OF 908.81 FEET; THENCE SOUTH 00 DEGREES 01 MINUTES 53 SECONDS WEST, A DISTANCE OF 65.00 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF SHEA BOULEVARD, MARKING THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 58 MINUTES 07 SECONDS EAST ALONG SAID RIGHT–OF–WAY LINE, A DISTANCE OF 349.62 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 12.00 FEET TO THE RIGHT; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89 DEGREES 46 MINUTES 45 SECONDS, FOR AN ARC DISTANCE OF 18.80 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF 74TH STREET;THENCE SOUTH 00 DEGREES 11 MINUTES 22 SECONDS EAST ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 313.05 FEET; THENCE NORTH 89 DEGREES 58 MINUTES 07 SECONDS WEST, A DISTANCE OF 330.46 FEET; THENCE NORTH 00 DEGREES 05 MINUTES 41 SECONDS WEST, A DISTANCE OF 55.05 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 115.00 FEET TO THE LEFT; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 08 DEGREES 20 MINUTES 12 SECONDS, FOR AN ARC DISTANCE OF 16.73 FEET; THENCE NORTH 08 DEGREES 25 MINUTES 53 SECONDS WEST, A DISTANCE OF 203.20 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 100.00 FEET TO THE RIGHT; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 08 DEGREES 27 MINUTES 46 SECONDS, FOR AN ARC DISTANCE OF 14.77 FEET; THENCE NORTH 00 DEGREES 01 MINUTES 53 SECONDS EAST, A DISTANCE OF 37.57 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 2:
EASEMENTS, INCLUDING ACCESS EASEMENTS, UTILITY EASEMENTS AND OTHER EASEMENT RIGHTS OF WHICH INSURED IS THE BENEFICIARY, AS CONTAINED IN THAT CERTAIN DECLARATION OF RECIPROCAL EASEMENTS AND RESTRICTIONS RECORDED SEPTEMBER 7, 1994 IN DOCUMENT NO. 94–0664703, OF OFFICIAL RECORDS.

LEGEND

——— – – ———	PROPERTY BOUNDARY	S	SLOPE
– – – – – – – – – –	SAWCUT LINE/LIMITS OF GRADING	FT	FOOT
——— – ———	CENTER LINE	TC	TOP OF CURB ELEVATION
1581 —— ——	EXISTING MINOR CONTOUR	GB	GRADE BREAK
—— 1580 —— ——	EXISTING MAJOR CONTOUR	SW	SIDEWALK
—— —— 1581 ———	PROPOSED MINOR CONTOUR	P	PAVEMENT
——— 1580 ———	PROPOSED MAJOR CONTOUR	C	CONCRETE
——— W ———	PROPOSED WATER LINE SERVICE	–◆–	GRADE BREAK
–•–•–•–•–•–	CONCEPTUAL GAS LINE	1.0%	FLOW ARROW
——6"S——	PROPOSED SANITARY SEWER LINE	P=1425.00	PROPOSED SPOT ELEVATION
		(P=1424.25)	EXISTING SPOT ELEVATION

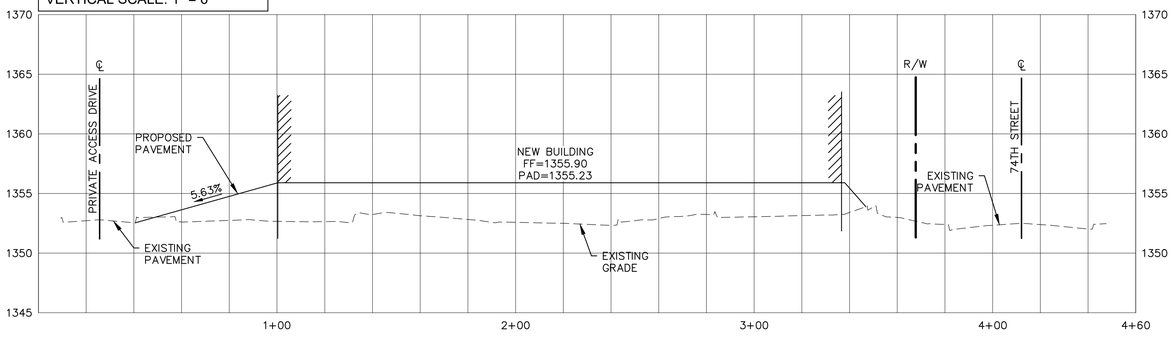


INDEX MAP
NTS

DRAINAGE STATEMENT

THIS PROJECT HAS BEEN DESIGNED TO CONFORM TO THE CITY OF SCOTTSDALE STORM DRAINAGE DESIGN REQUIREMENTS. DUE TO THE SITE BEING COMPLETELY DEVELOPED AND LACKING ANY APPARENT EXISTING RETENTION VOLUME, THE FIRST FLUSH VOLUME IS GREATER THAN THE PRE VS POST VOLUME. A RATIONAL METHOD ANALYSIS WAS PERFORMED FOR THE FIRST FLUSH AND THE PROPOSED DRAINAGE IMPROVEMENTS WILL INCLUDE AN ABOVE GROUND BASIN AND UNDERGROUND RETENTION SYSTEMS. PROPOSED STORM DRAIN INLETS AND STORM DRAIN PIPES WILL BE ADEQUATELY SIZED TO CONVEY THE EXPECTED PEAK FLOWS TO THE UNDERGROUND STORAGE SYSTEMS. THE UNDERGROUND STORAGE WILL DISCHARGE TO THE EXISTING STORM DRAIN NETWORK SOUTH OF THE PROPERTY. EXCESS FLOWS GENERATED ONSITE WILL OVERFLOW TO THE EXISTING STREETS AND DRAIN TO THE SOUTH, WHICH GENERALLY MATCH THE HISTORIC OVERFLOW PATTERN. NO ADVERSE IMPACTS TO THE OFFSITE DOWNSTREAM PROPERTIES ARE ANTICIPATED AS A RESULT OF THE PROPOSED IMPROVEMENTS.

PROFILE VIEW OF SECTION A-A
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 6'



SHEET INDEX	
DRAWING NUMBER	SHEET TITLE
C1	COVER SHEET
C2	PRELIMINARY GRADING & DRAINAGE PLAN
C3	PRELIMINARY UTILITY PLAN

ARCHITECT

RYAN A+E, INC.
533 S. THIRD STREET, SUITE 100
MINNEAPOLIS, MINNESOTA 55415
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CONTACT: CARY MOLASH

CIVIL ENGINEER

IMEG CORP
1600 N. DESERT DRIVE, SUITE 230
TEMPE, AZ 85281
PHONE: 480–378–3925
CONTACT: MIKE JACKSON

SITE DATA

A.P.N: 175–33–093H
AREA :112,072 SF OR 2.573 AC.
ADDRESS: 7373 E. SHEA BOULEVARD
SCOTTSDALE, AZ 85260

BASIS OF BEARING

THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 26. SAID LINE BEARS SOUTH 89 DEGREES 35 MINUTES 53 SECONDS WEST.

SITE BENCHMARK

FOUND 3" CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE 160' EAST OF THE INTERSECTION OF SHEA BLVD AND MILLER ROAD. THE NORTH QUARTER CORNER OF SECTION 26

ELEVATION = 1355.13 (NAVD'88)

FLOOD PLAIN CERTIFICATION

THIS IS TO CERTIFY THAT THE SUBJECT PROPERTY LIES WITHIN ZONE 'X' AS DESIGNATED ON THE FIRM FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C1760L, DATED OCTOBER 16, 2013.

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV (IN AO ZONE, USE DEPTH)
045012	1760 10/16/13	L	12.04.2015	X	N/A

THE LOWEST FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A 100–YEAR STORM, AND ARE IN ACCORDANCE WITH SCOTTSDALE REVISED CODE, CHAPTER 37 –FLOODPLAIN AND STORMWATER REGULATION.

Call at least two full working days before you begin excavation
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

RYAN

RYAN A+E, INC.
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CONSULTANTS

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FAX: 480.951.2353
www.imegcorp.com

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO.
38775
MIKE A. JACKSON
Date Signed 7/7/2020
ARIZONA U.S.A.

PROJECT INFORMATION

ACOYA SHEA SENIOR LIVING

7373 E. SHEA BLVD.
SCOTTSDALE, AZ 85260

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the State of Arizona

MIKE JACKSON

REGISTRATION NO.	DATE
38775	07.01.2020

DRAWN BY	CHECKED BY
AM	MJ
JOB NO.	DATE
20001090.00	07.01.2020

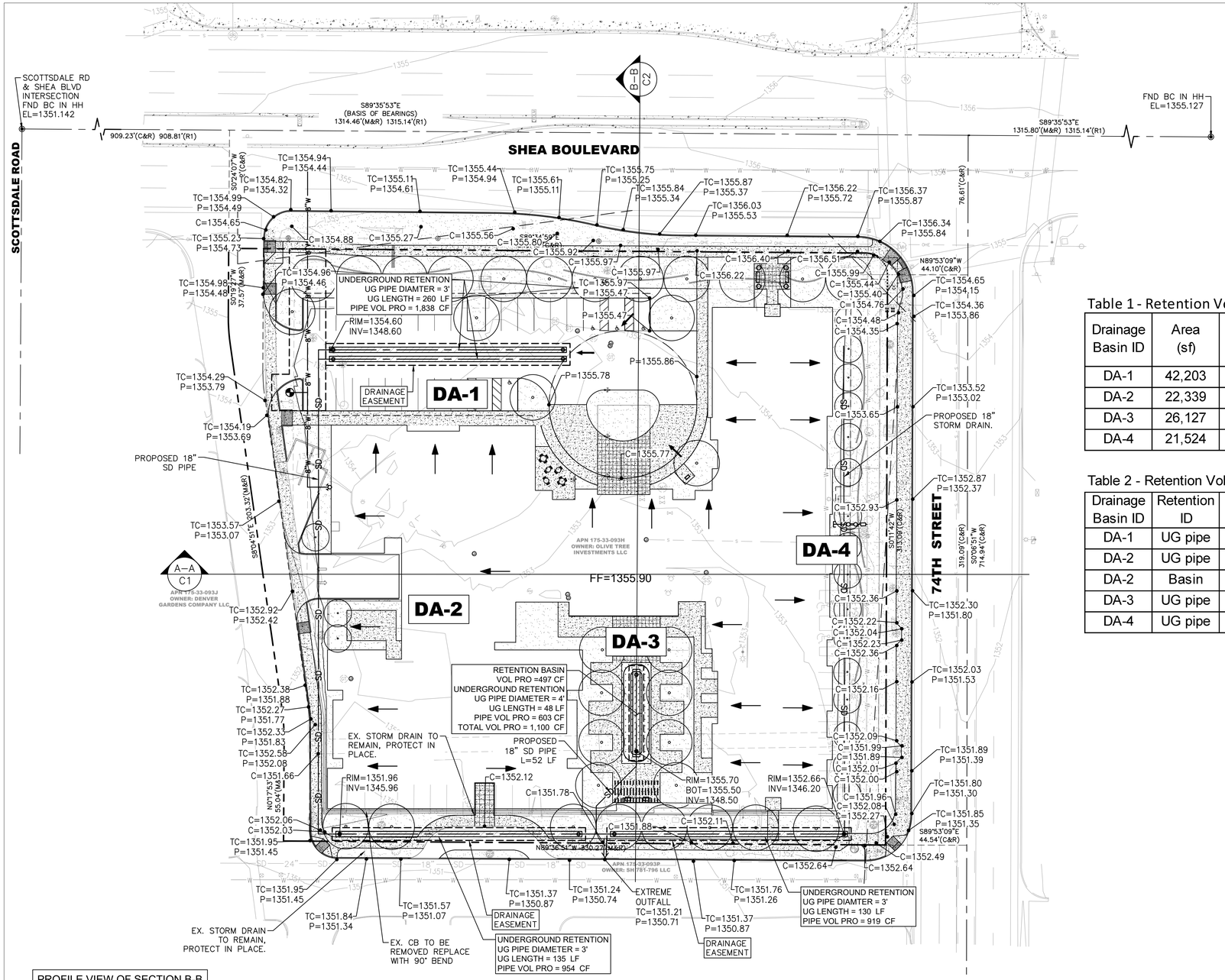
PRELIMINARY NOT FOR CONSTRUCTION

COVER SHEET

C1

6-ZN-2020
7/6/2020

NOT FOR CONSTRUCTION



PROFILE VIEW OF SECTION B-B
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 6'

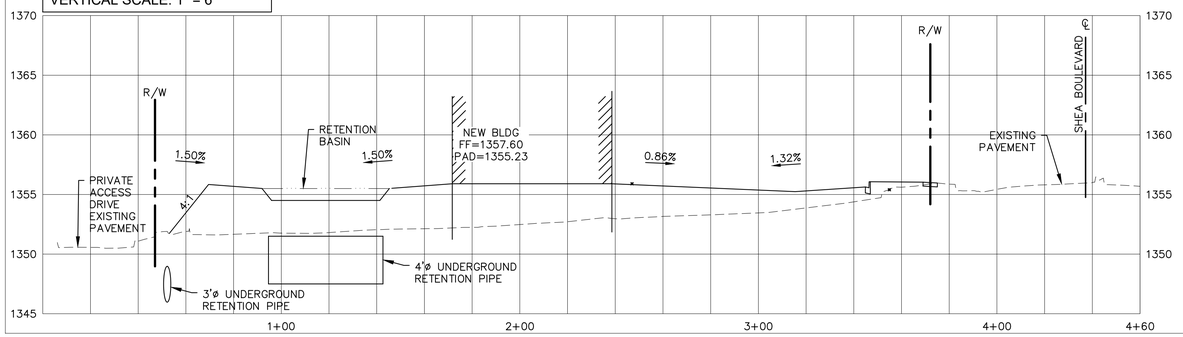


Table 1 - Retention Volume Requirements

Drainage Basin ID	Area (sf)	Area (ac)	C_w *	Precipitation** (in)	Retention Volume Required (cf)
DA-1	42,203	0.97	1	0.5	1,758
DA-2	22,339	0.51	1	0.5	931
DA-3	26,127	0.60	1	0.5	1,089
DA-4	21,524	0.49	1	0.5	897

Table 2 - Retention Volume Provided

Drainage Basin ID	Retention ID	Pipe Dia (ft)	Pipe area (sf)	Length (ft)	Volume (cf)	Drain Time (hrs)*
DA-1	UG pipe	3	7.07	260	1,838	0.5
DA-2	UG pipe	3	7.07	135	954	0.3
DA-2	Basin	na	na	na	1,100	0.3
DA-3	UG pipe	4	12.56	48		
DA-4	UG pipe	3	7.07	130	919	0.3

30 15 0 30 60
SCALE: 1" = 30'

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MIKE JACKSON

REGISTRATION NO. 38775
DATE 07.01.2020

DRAWN BY AM
CHECKED BY MJ
JOB NO. 20001090.00
DATE 07.01.2020

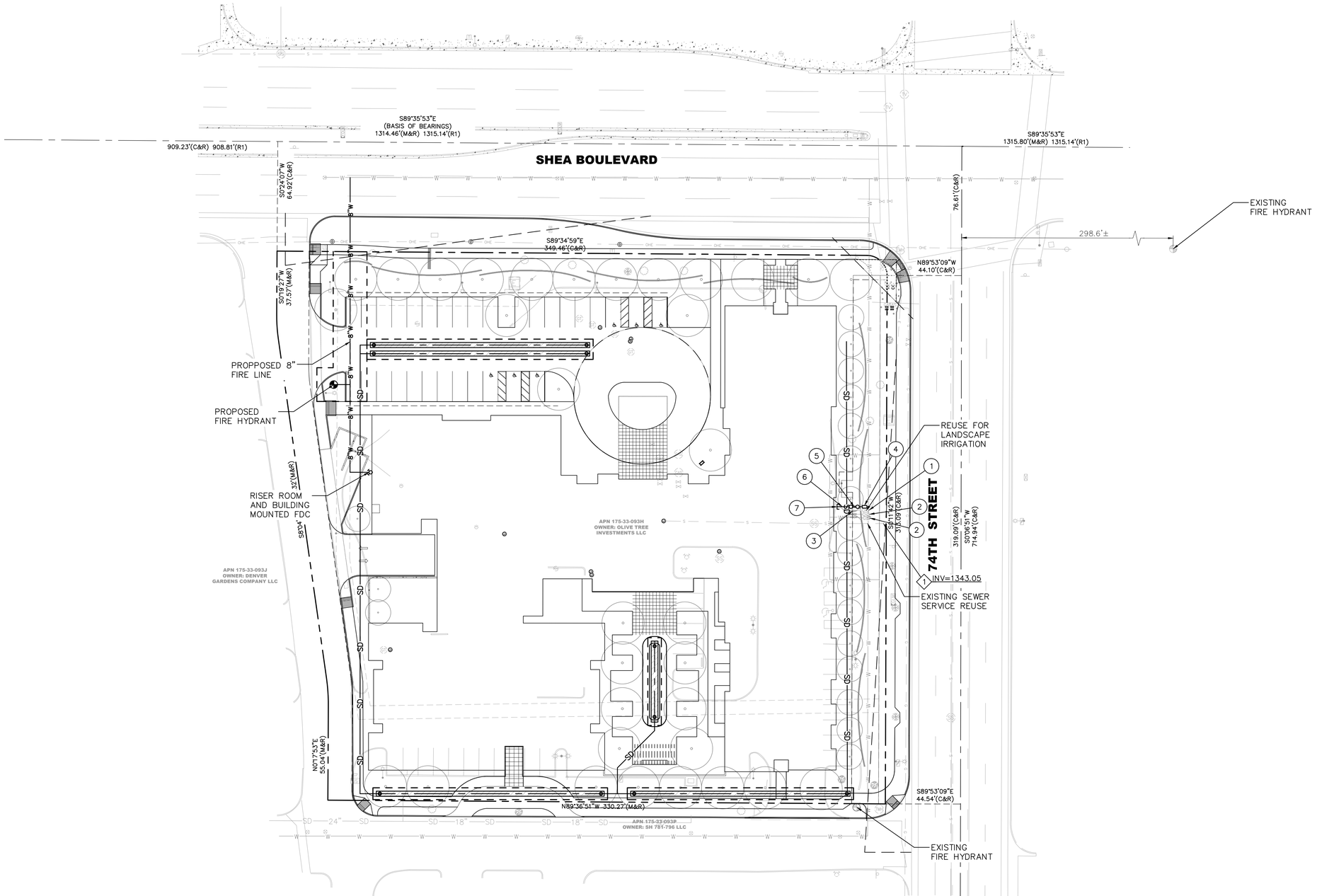
PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY GRADING & DRAINAGE PLAN

C2

6-ZN-2020
7/6/2020

NOT FOR CONSTRUCTION



WATER KEYNOTES

1. EXISTING 1.5" WATER METER
2. EXISTING 2" WATER METER TO BE ABANDONED
3. EXISTING 1.5" BACKFLOW
4. INSTALL NEW 3" METER
5. INSTALL NEW 3" BACKFLOW
6. INSTALL NEW 3" WATERLINE
7. REFER TO BUILDING PLUMBING PLAN FOR CONTINUATION.

SEWER KEYNOTES

1. EXISTING 6" PVC SEWER LATERAL

30 15 0 30 60

SCALE: 1" = 30'

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JOB NO.	DATE
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PRELIMINARY
NOT FOR CONSTRUCTION

PRELIMINARY UTILITY PLAN

C3

6-ZN-2020
7/6/2020

NOT FOR CONSTRUCTION

Preliminary Basis of Design

Water

FOR

Acoya Shea & Scottsdale Senior Living

APN# 175-33-093H

7373 E Shea Boulevard

Scottsdale, AZ 85260

Submittal - *July 2, 2020*

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SCOTTSDALE WATER
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For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY rsacks DATE 7/7/2020

See comments on utility plan.

Prepared for:

Ryan A+E, Inc.

3900 E. Camelback Road, Suite

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Prepared by:

Mike Jackson, P.E.

IMEG

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Phone: (480) 951-0517 Fax: (480) 951-2353

July 2, 2020

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CERTIFICATE NO.
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MIKE A.
JACKSON
Date Signed 7/2/2020
ARIZONA, U.S.A.

6-ZN-2020
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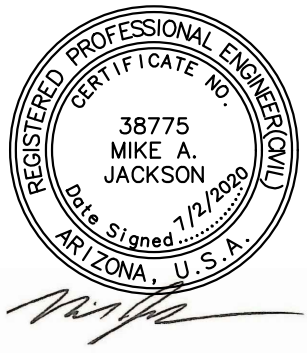


INTRODUCTION

Ryan Companies is planning to develop a new 4 story senior living building at the southwest corner of Shea Boulevard and N. 74th Street, serving the City of Scottsdale. The development is a 2.57 acre site that will consist of 160 residential units with shared areas to be used for dining and entertainment. The site proposes a total of 137 parking spaces which will be provided in an underground garage and supplemented with minimal surface parking.

An existing 1.5" landscape service will be utilized. Two existing 2" domestic water services will be abandoned and a new 3" water service connection, meter, and backflow preventer will be used for domestic water service. A new 8" DIP fire line will be required to meet the new fire flow requirements on-site, it is expected this line will tap off a 12" water line in Shea Boulevard. In addition to the fire service, a new private fire hydrant will tee off the 8" line on-site and an easement will be provided per the city requirements.

EXISTING CONDITIONS

The site is currently a vacated car wash and service facility located in pressure zone 2. There is an existing 6" DIP waterline in N 74th Street. There are three existing water meters that currently service the site which tap off of the existing 6" DIP line in 74th Street. These meters include a 1.5" meter and two 2" meters with backflows located at the east property line. In addition to the three meters a fireline service taps off of the existing 12" ACP waterline in Shea Boulevard and enters the northeast corner of the site.

Two existing fire hydrants are located within the vicinity of the project. One is located at the southeast corner of the site tapped off the 6" DIP and one east of 74th Street along the south side of Shea Boulevard that is tapped off the 12" ACP. A fireflow test for each hydrant is provided in Appendix 2.

PROPOSED USE

160 Units, Common Areas, and Amenities

Building Area
- 46,801 sf Garage Area
- 178,267 sf Building Area (excluding underground garage area)
- 225,068 sf Total Area

Finished Floor Elevation = 1356.50

DESIGN CRITERIA

Average Day Water Demands (per unit):
- 0.56 gpm (inside use)
- 0.07 gpm (outside use)

0.63 gpm per room (Total Use) per DS&PM figure 6-1.2[1]

Max Day Peak Factor = 2.0
Peak Hour Factor = 3.5
Peaking Factors are taken from the DS&PM Section 6-1.404

Building construction Type is VA. The minimum fire flow for this coverage area, would be 8,000 gpm per IFC Appendix B. The building will be sprinklered and we anticipate that the city fire department will allow for at least a 50% reduction in required fire flow to the site.
Minimum Fire Flow = Max Day + 4,000 gpm

PROPOSED DESIGN FLOW

Average Day Demand = 0.63 gpm * 160= 100.8 gpm
Maximum Day Demand = 100.8 x 2 = 201.6 gpm
Peak Hour Demand = 100.8 x 3.5 = 352.8 gp

DOMESTIC METER SIZING

This project will utilize the existing meters and reroute the onsite service to accommodate the new development.

The following design process is used to determine the meter size per Figure 6-1.4 of Scottsdale DS&PM. As required, the Initial Service Line Design Flow is calculated from 2015 IPC Appendix E.

The number of fixture units per room is calculated based on a lavatory, water closet, and shower. The assumed number of water supply fixture units per room is 4.3. Since there are 160 rooms, we anticipate a total number of fixture units of 688. Using the 2015 IPC Appendix E Table E103.3(3), the total demand is 159 gpm. Based on the criteria in the DS&PM, add 10 gpm[2] and multiply by 1.5 safety factor. The final initial service line design flow is 253.5 gpm. Based upon DS&PM, one compound 3-inch meter can supply 350 gpm. A new 3" meter and backflow preventer will be installed and brought into the building as a 3-inch water service.

CONCLUSIONS

The proposed project will utilize the three existing water service lines. We anticipate the new fire line will be an 8-inch service once reduced fire flow requirements are confirmed with the fire department. The 8-inch service will continue to the building after the new fire hydrant. The water lines servicing the project will conform to the City of Scottsdale DS&PM and 2015 IPC. Proposed water construction, materials, and appurtenances shall

[1] The Average Daily Demand was calculated using the "Resort Hotel (includes site amenities)" land use from Figure 6-1.2 of the DS&PM
[2] Per the DS&PM 6-1.202, 10 gpm is added to account for a hose bib or a single zone of irrigation.

be per DSPM, Chapters 6 & 7 and the City of Scottsdale Standard Detail Series 2300 and 2400.

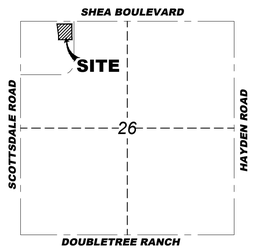
Appendix 1: Preliminary Grading/Utility Plan

1600 N. Desert Drive, Suite 230, Tempe, AZ 85281
480.951.0517 Fax: 480.951.2353 imegcorp.com

7373 E SHEA BOULEVARD
SCOTTSDALE, ARIZONA

A PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 26,
TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA

PRELIMINARY GRADING AND DRAINAGE PLAN



VICINITY MAP
NTS

LEGAL DESCRIPTION

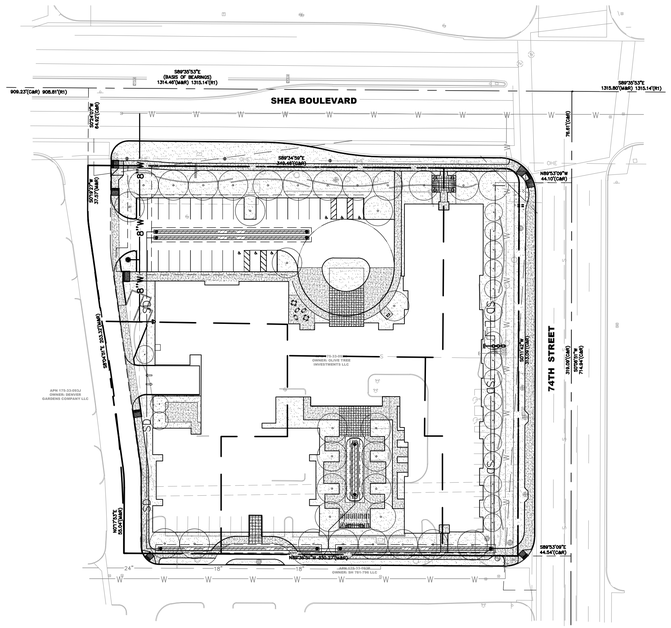
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MARICOPA, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

PARCEL NO. 1:
A PORTION OF THE EAST HALF OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 26,
TOWNSHIP 3 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN,
MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 26;THENCE SOUTH 89 DEGREES 58 MINUTES 07 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION, A DISTANCE OF 908.81 FEET; THENCE SOUTH 00 DEGREES 01 MINUTES 53 SECONDS WEST, A DISTANCE OF 65.00 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF SHEA BOULEVARD, MARKING THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 58 MINUTES 07 SECONDS EAST ALONG SAID RIGHT–OF–WAY LINE, A DISTANCE OF 349.62 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 12.00 FEET TO THE RIGHT; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 89 DEGREES 46 MINUTES 45 SECONDS, FOR AN ARC DISTANCE OF 18.80 FEET TO THE WESTERLY RIGHT–OF–WAY LINE OF 74TH STREET;THENCE SOUTH 00 DEGREES 11 MINUTES 22 SECONDS EAST ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 313.05 FEET; THENCE NORTH 89 DEGREES 58 MINUTES 07 SECONDS WEST, A DISTANCE OF 330.46 FEET; THENCE NORTH 00 DEGREES 05 MINUTES 41 SECONDS WEST, A DISTANCE OF 55.05 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 115.00 FEET TO THE LEFT; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 08 DEGREES 20 MINUTES 12 SECONDS, FOR AN ARC DISTANCE OF 16.73 FEET; THENCE NORTH 08 DEGREES 25 MINUTES 53 SECONDS WEST, A DISTANCE OF 203.20 FEET TO THE BEGINNING OF A CURVE WITH A RADIUS OF 100.00 FEET TO THE RIGHT; THENCE NORTHERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 08 DEGREES 27 MINUTES 46 SECONDS, FOR AN ARC DISTANCE OF 14.77 FEET; THENCE NORTH 00 DEGREES 01 MINUTES 53 SECONDS EAST, A DISTANCE OF 37.57 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 2:
EASEMENTS, INCLUDING ACCESS EASEMENTS, UTILITY EASEMENTS AND OTHER EASEMENT RIGHTS OF WHICH INSURED IS THE BENEFICIARY, AS CONTAINED IN THAT CERTAIN DECLARATION OF RECIPROCAL EASEMENTS AND RESTRICTIONS RECORDED SEPTEMBER 7, 1994 IN DOCUMENT NO. 94–0664703, OF OFFICIAL RECORDS.

LEGEND

——— – – ———	PROPERTY BOUNDARY	S	SLOPE
– – – – – – – – – –	SAWCUT LINE/LIMITS OF GRADING	FT	FOOT
——— – ———	CENTER LINE	TC	TOP OF CURB ELEVATION
1581 —— ——	EXISTING MINOR CONTOUR	GB	GRADE BREAK
—— 1580 —— ——	EXISTING MAJOR CONTOUR	SW	SIDEWALK
—— —— 1581 ———	PROPOSED MINOR CONTOUR	P	PAVEMENT
——— 1580 ———	PROPOSED MAJOR CONTOUR	C	CONCRETE
——— W ———	PROPOSED WATER LINE SERVICE	–◆–	GRADE BREAK
–•–•–•–•–•–	CONCEPTUAL GAS LINE	1.0%	FLOW ARROW
——6"S——	PROPOSED SANITARY SEWER LINE	P=1425.00	PROPOSED SPOT ELEVATION
		(P=1424.25)	EXISTING SPOT ELEVATION

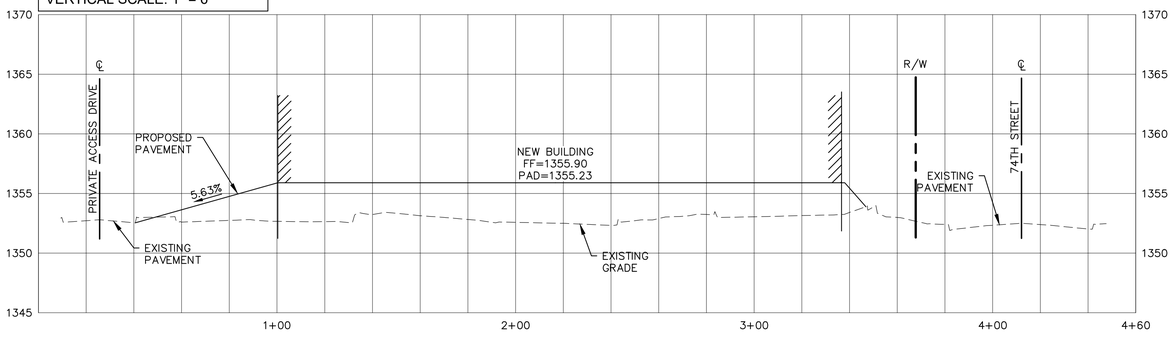


INDEX MAP
NTS

DRAINAGE STATEMENT

THIS PROJECT HAS BEEN DESIGNED TO CONFORM TO THE CITY OF SCOTTSDALE STORM DRAINAGE DESIGN REQUIREMENTS. DUE TO THE SITE BEING COMPLETELY DEVELOPED AND LACKING ANY APPARENT EXISTING RETENTION VOLUME, THE FIRST FLUSH VOLUME IS GREATER THAN THE PRE VS POST VOLUME. A RATIONAL METHOD ANALYSIS WAS PERFORMED FOR THE FIRST FLUSH AND THE PROPOSED DRAINAGE IMPROVEMENTS WILL INCLUDE AN ABOVE GROUND BASIN AND UNDERGROUND RETENTION SYSTEMS. PROPOSED STORM DRAIN INLETS AND STORM DRAIN PIPES WILL BE ADEQUATELY SIZED TO CONVEY THE EXPECTED PEAK FLOWS TO THE UNDERGROUND STORAGE SYSTEMS. THE UNDERGROUND STORAGE WILL DISCHARGE TO THE EXISTING STORM DRAIN NETWORK SOUTH OF THE PROPERTY. EXCESS FLOWS GENERATED ONSITE WILL OVERFLOW TO THE EXISTING STREETS AND DRAIN TO THE SOUTH, WHICH GENERALLY MATCH THE HISTORIC OVERFLOW PATTERN. NO ADVERSE IMPACTS TO THE OFFSITE DOWNSTREAM PROPERTIES ARE ANTICIPATED AS A RESULT OF THE PROPOSED IMPROVEMENTS.

PROFILE VIEW OF SECTION A-A
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 6'



SHEET INDEX	
DRAWING NUMBER	SHEET TITLE
C1	COVER SHEET
C2	PRELIMINARY GRADING & DRAINAGE PLAN
C3	PRELIMINARY UTILITY PLAN

ARCHITECT

RYAN A+E, INC.
533 S. THIRD STREET, SUITE 100
MINNEAPOLIS, MINNESOTA 55415
PHONE: 612–492–4000
CONTACT: CARY MOLASH

CIVIL ENGINEER

IMEG CORP
1600 N. DESERT DRIVE, SUITE 230
TEMPE, AZ 85281
PHONE: 480–378–3925
CONTACT: MIKE JACKSON

SITE DATA

A.P.N: 175–33–093H
AREA :112,072 SF OR 2.573 AC.
ADDRESS: 7373 E. SHEA BOULEVARD
SCOTTSDALE, AZ 85260

BASIS OF BEARING

THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 26. SAID LINE BEARS SOUTH 89 DEGREES 35 MINUTES 53 SECONDS WEST.

SITE BENCHMARK

FOUND 3" CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE 160' EAST OF THE INTERSECTION OF SHEA BLVD AND MILLER ROAD. THE NORTH QUARTER CORNER OF SECTION 26

ELEVATION = 1355.13 (NAVD'88)

FLOOD PLAIN CERTIFICATION

THIS IS TO CERTIFY THAT THE SUBJECT PROPERTY LIES WITHIN ZONE 'X' AS DESIGNATED ON THE FIRM FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C1760L, DATED OCTOBER 16, 2013.

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV (IN AO ZONE, USE DEPTH)
045012	1760 10/16/13	L	12.04.2015	X	N/A

THE LOWEST FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) ON THIS PLAN ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A 100–YEAR STORM, AND ARE IN ACCORDANCE WITH SCOTTSDALE REVISED CODE, CHAPTER 37 –FLOODPLAIN AND STORMWATER REGULATION.

Call at least two full working days before you begin excavation
ARIZONA811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

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RYAN A+E, INC.
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Phoenix, AZ 85018
602-322-6100 tel
602-322-6300 fax

WWW.RYANCOMPANIES.COM

OWNER

CONSULTANTS

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TEMPE, AZ 85281
PH: 480.951.0517
FAX: 480.951.2353
www.imegcorp.com

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO.
38775
MIKE A. JACKSON
Date Signed 7/7/2020
ARIZONA U.S.A.

PROJECT INFORMATION

ACOYA SHEA SENIOR LIVING

7373 E. SHEA BLVD.
SCOTTSDALE, AZ 85260

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the State of Arizona

MIKE JACKSON

REGISTRATION NO.	DATE
38775	07.01.2020

DRAWN BY	CHECKED BY
AM	MJ
JOB NO.	DATE
20001090.00	07.01.2020

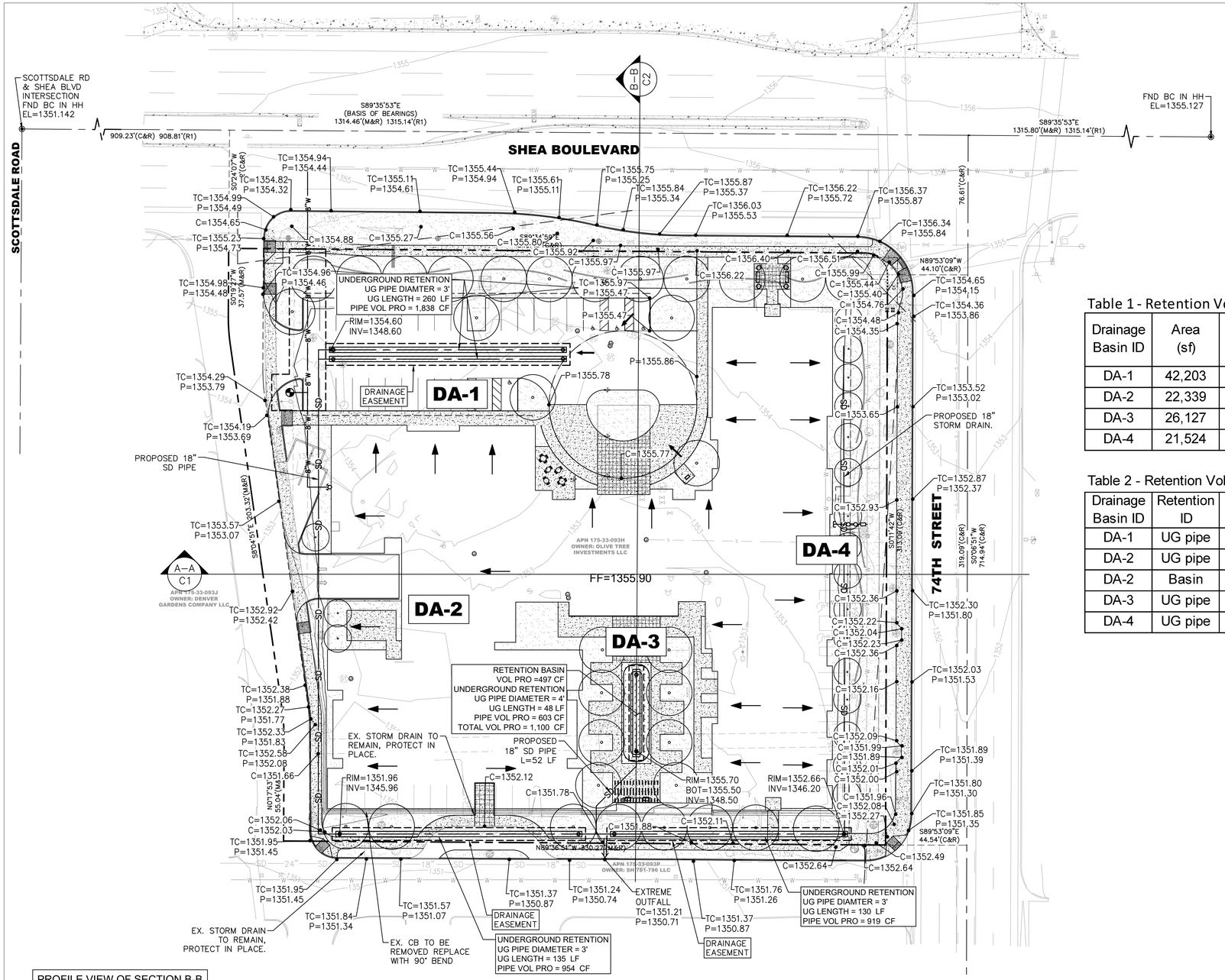
PRELIMINARY NOT FOR CONSTRUCTION

COVER SHEET

C1

6-ZN-2020
7/6/2020

NOT FOR CONSTRUCTION



PROFILE VIEW OF SECTION B-B
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 6'

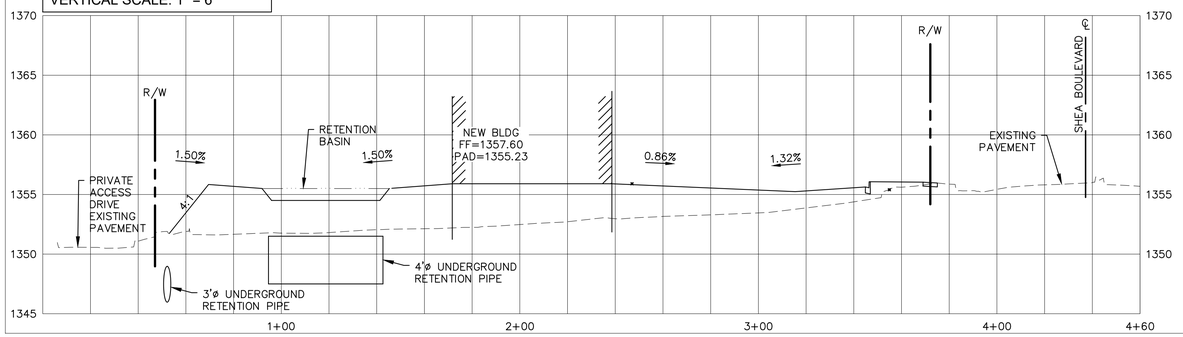


Table 1 - Retention Volume Requirements

Drainage Basin ID	Area (sf)	Area (ac)	C_w *	Precipitation** (in)	Retention Volume Required (cf)
DA-1	42,203	0.97	1	0.5	1,758
DA-2	22,339	0.51	1	0.5	931
DA-3	26,127	0.60	1	0.5	1,089
DA-4	21,524	0.49	1	0.5	897

Table 2 - Retention Volume Provided

Drainage Basin ID	Retention ID	Pipe Dia (ft)	Pipe area (sf)	Length (ft)	Volume (cf)	Drain Time (hrs)*
DA-1	UG pipe	3	7.07	260	1,838	0.5
DA-2	UG pipe	3	7.07	135	954	0.3
DA-2	Basin	na	na	na	1,100	0.3
DA-3	UG pipe	4	12.56	48		
DA-4	UG pipe	3	7.07	130	919	0.3

30 15 0 30 60
SCALE: 1" = 30'

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MIKE JACKSON

REGISTRATION NO. 38775
DATE 07.01.2020

DRAWN BY AM
CHECKED BY MJ
JOB NO. 20001090.00
DATE 07.01.2020

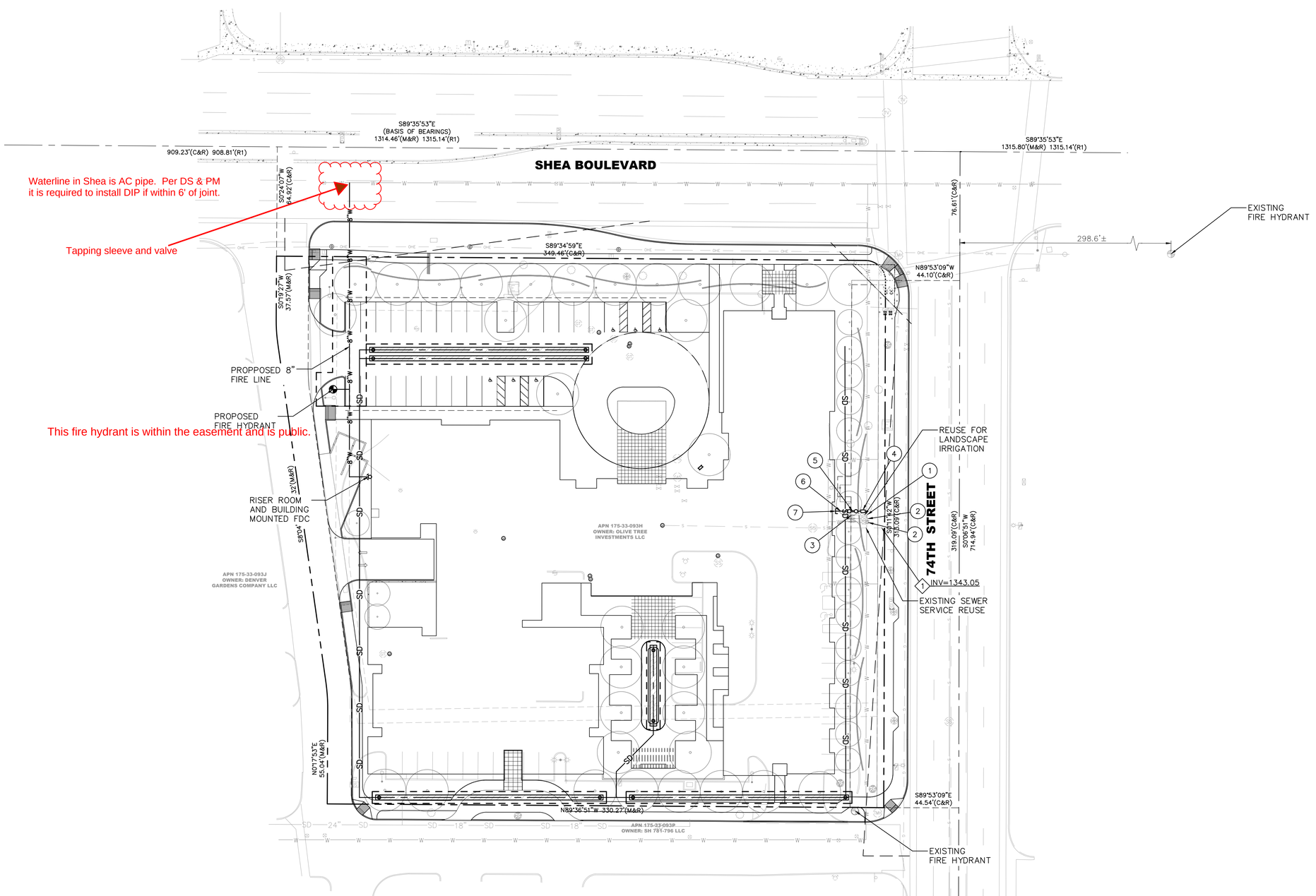
PRELIMINARY NOT FOR CONSTRUCTION

PRELIMINARY GRADING & DRAINAGE PLAN

C2

6-ZN-2020
7/6/2020

NOT FOR CONSTRUCTION



WATER KEYNOTES

1. EXISTING 1.5" WATER METER
2. EXISTING 2" WATER METER TO BE ABANDONED
3. EXISTING 1.5" BACKFLOW
4. INSTALL NEW 3" METER
5. INSTALL NEW 3" BACKFLOW
6. INSTALL NEW 3" WATERLINE
7. REFER TO BUILDING PLUMBING PLAN FOR CONTINUATION.

SEWER KEYNOTES

1. EXISTING 6" PVC SEWER LATERAL

30 15 0 30 60

SCALE: 1" = 30'

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AM	MJ
JOB NO.	DATE
20001090.00	07.01.2020

PRELIMINARY
NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION

PRELIMINARY UTILITY PLAN

C3

6-ZN-2020
7/6/2020

Appendix 2: Fire Flow Tests

1600 N. Desert Drive, Suite 230, Tempe, AZ 85281
480.951.0517 Fax: 480.951.2353 imegcorp.com

ALLIED Fire Protection Inc.

Lic. #ROC L-16-169478 Lic. #ROC L-05-169479

2845 N. Norfolk • Mesa, AZ 85215 • 480-830-4163 • Fax: 480-854-1753 • www.alliedfireco.com

FIRE HYDRANT FLOW CALCS

Performed for:
7373 E Shea Blvd
Scottsdale, AZ

FH location: East of 74th St, 375'+/- south of Shea Blvd.

Performed by: Richard Hinkley/Bryant Villaverde

Date: June 26, 2020
Time: 7:30am

Static:	84	psi before flowing
Residual:	80	psi while flowing
Pitot:	55	pitot gage reading
Diameter:	2.5	size of opening tested
This hydrant is flowing:	1244	GPM from the test outlet
Projected available hydrant flow:	5561	GPM Note 1

6-ZN-2020
7/6/2020

ALLIED Fire Protection Inc.

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FIRE HYDRANT FLOW CALCS

Performed for:
7373 E Shea Blvd/74th Ave
Scottsdale, AZ

FH location NEC of Shea and 74th ST

Performed by: Richard Hinkley/Bryant Villaverde

Date: June 26, 2020
Time: 7:40am

Static:	88	psi before flowing
Residual:	78	psi while flowing
Pitot:	48	pitot gage reading
Diameter:	2.5	size of opening tested
This hydrant is flowing:	1163	GPM from the test outlet
Projected available hydrant flow:	3273	GPM Note 1

6-ZN-2020
7/6/2020