Anderson, Richard

From: Anderson, Richard
Sent: Friday, August 14, 2015 10:00 AM
To: 'traver.jones@kimley-horn.com'; Steve.Haney@kimley-horn.com
Cc: Couch, Ashley; Clack, Michael; Grant, Randy; Murillo, Jesus; Venker, Steve; rorme@mark-taylor.com
Subject: FW: Mark-Taylor Silverstone Updated Drainage
Attachments: 2015-08-06 UG Storage Exhibit.pdf; 2015-08-07 Delineation Map.pdf; 2015-08-07 Grading and Drainage Plan.pdf; 2015-08-07 Storm Drain and Wall Plan.pdf; Stormwater Detention Calculations 2015-08-05.pdf; City of Scottsdale - Underground Stormwater Storage Policy.pdf

I have reviewed the revised stormwater storage design and analysis provided in the below e-mail for the use of partial underground stormwater storage and found it to be acceptable. The information in the below e-mail will be considered a revision to previously approved preliminary grading and drainage plan and drainage report with respect to the revised design and analysis presented.

The stipulations for the case will include verbage relating to the use of underground storage stating the storage will need to comply will the provisions of the City's underground storage policy as detailed in section 4-1.403 of the City's Design Standards and Policies Manual. A copy of the policy is attached.

Let me know if you have any questions.

Richard M. Anderson, P.E., CFM
Senior Civil Engineer
Stormwater Management
City of Scottsdale
Phone: 480-312-2729
Fax: 480-312-9202

From: traver.jones@kimley-horn.com [mailto:traver.jones@kimley-horn.com]
Sent: Friday, August 07, 2015 3:05 PM
To: Anderson, Richard
Cc: Steve.Haney@kimley-horn.com; rorme@mark-taylor.com
Subject: Mark-Taylor Silverstone Updated Drainage

Rich-

Thanks for taking the time to meet with us to discuss the Silverstone project on Wednesday. As discussed, we've reduced the surface detention area within the scenic corridor area to approximately 25% and provided underground detention for the displaced volume. I've attached a few exhibits and some calculations, and the "2015-08-06 UG Storage Exhibit" is intended to provide you with an overview of our design for the revised system.

As you can see, we are providing underground detention in 6' and 8' diameter tanks, and these tanks can bleed off at a controlled rate to the channel outfall. We're providing overflow structures immediately upstream of each of the

underground tanks. These structures will ensure that the underground detention fills first, and then once the tanks are full the storm water will bypass the tanks and discharge to the surface basins.

Could you please review the revised drainage concept and let me know if you find this to be sufficient? Feel free to contact me if you have any questions or concerns, of if you need any additional information. Thanks,

Traver Jones, P.E.
Kimley-Horn | 7740 North 16th Street, Suite 300, Phoenix, AZ 85020
Direct: 602 216 1234

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Sent: Friday, August 07, 2015 3:05 PM
To: Anderson, Richard
Cc: Steve.Haney@kimley-horn.com; rorme@mark-taylor.com
Subject: Mark-Taylor Silverstone Updated Drainage
Attachments: 2015-08-06 UG Storage Exhibit.pdf; 2015-08-07 Delineation Map.pdf; 2015-08-07 Grading and Drainage Plan.pdf; 2015-08-07 Storm Drain and Wall Plan.pdf; Stormwater Detention Calculations 2015-08-05.pdf

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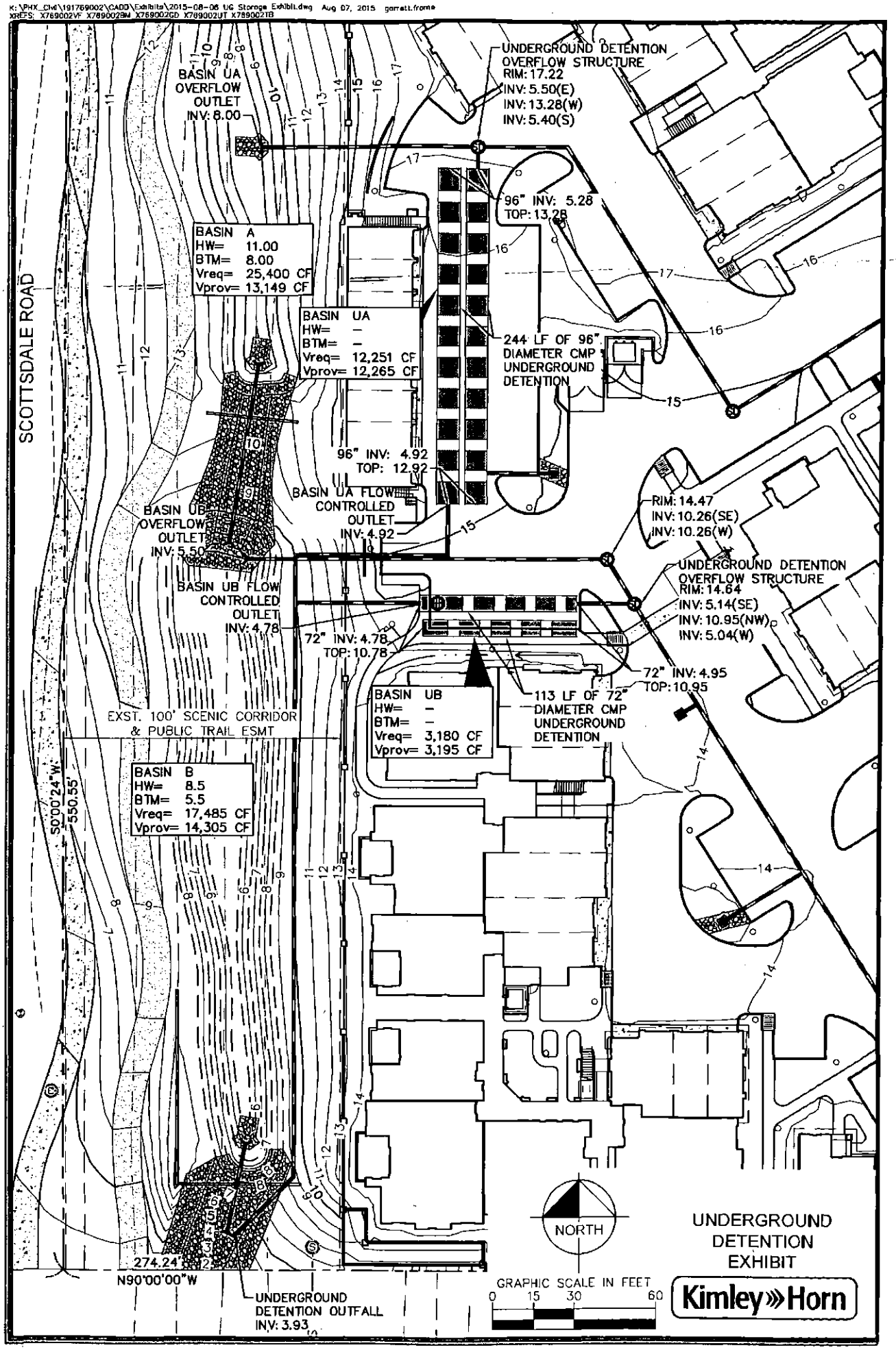


Case Drainage Report Review – Mark Taylor Silverstone - Parcel E

PROJECT NAME: MARK TAYLOR SILVERSTONE – PARCEL E OF SILVERSTONE
LOCATION: SOUTHEAST CORNER OF SILVERSTONE DRIVE AND SCOTTSDALE ROAD
CASE NUMBERS: 53-DR-2014

Review comments for case drainage report by Kimley-Horn, sealed March 10, 2015. The drainage report was received by the City of Scottsdale (City) on March 16, 2015. Our comments also reflect the information contained in the submittal for case 53-DR-2014. The date of our review is April 1, 2015; our review comments are as follows:

1. As an informational item, case drainage reports submitted in support of preliminary plat and development review applications should include a 90% level of design and analysis to allow an accurate analysis of the viability of the proposed project and an in-depth evaluation of the function and design of the stormwater management system by City staff.

2. The preliminary drainage report calculates a required detention volume for the development of around 44,200 cubic feet based on reduced rainfall from NOAA 14 hydrology and the City's recent changes in stormwater storage policy relating to previously developed sites. As previously stated, the required detention volume for this parcel was determined to be around 130,000 cubic feet per the approved stormwater master plan for Silverstone. The approved stormwater master plan must be revised to obtain approval for a reduction in the required stormwater storage for this parcel. Additionally, the revision to the stormwater master plan must be approved prior to development review approval of this case since the site design and layout of the development depend on the reduced stormwater storage volume as determined in the preliminary drainage report. The analysis in the revision to the stormwater master plan for the existing condition weighted C coefficient will to include 1) an exhibit based on aerial photographs showing previous development and showing the areas associated with different C coefficients 2) weighted C coefficient calculations for areas and associated C values as determined from the aerial photograph exhibit. The required stormwater storage volume as determined as part of the revised stormwater master plan will be used in the preliminary drainage report.

3. The approved stormwater master plan for Silverstone shows the bulk of this site draining to the east into what was supposed to be a stormwater storage basin designed for full storage located in the southeastern portion of the site and then draining into the storm drain outfall located at the southeast corner of the site. The approved stormwater master plan for Silverstone did not include provision for any drainage from this parcel to the parcel to the south in the developed condition. The preliminary drainage report shows almost the entire development draining to the west to proposed stormwater storage basins located along Scottsdale Road. The issue of draining the parcel inconsistent with the approved master plan should be evaluated as part of a revision to the approved stormwater master plan for Silverstone and submitted for City review and approval.

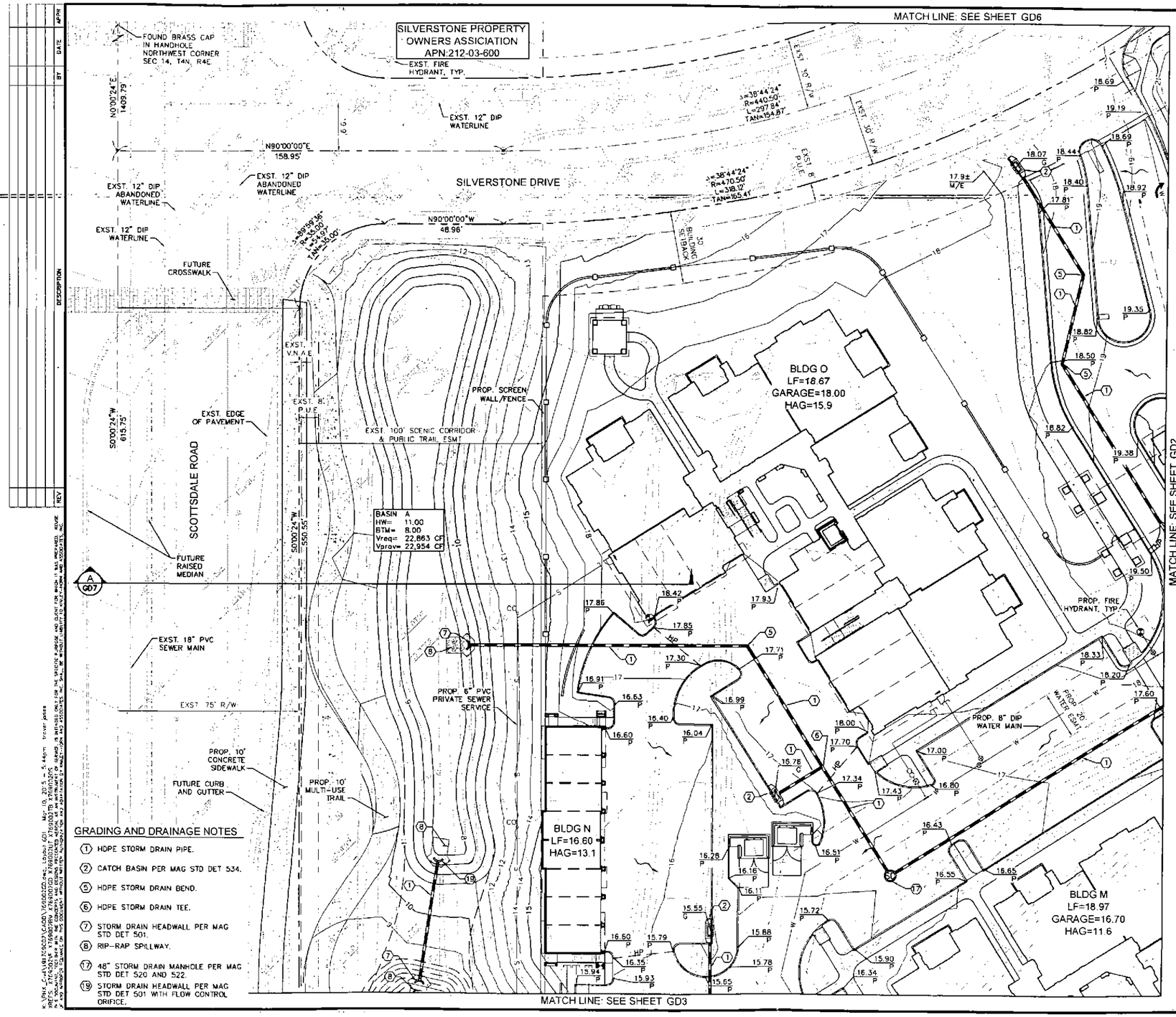
4. The City still has concerns about proposed improvements and grading located at the south end of the scenic corridor along Scottsdale Road and the ability of the future developer of parcel D to tie-in to these improvements. In short, provisions will need to be included in the design of the project to allow the future developer of parcel D to tie into the proposed storm drain outlet at an elevation that is consistent with the grading design proposed by this project. Additionally, the design of southern end of the southern stormwater storage basin includes a berm or levee that may be subject to failure.

5. Section 5.2 of the report should clarify if proposed storm drains will be designed to convey 100-year flows.

6. Section 3.7 states the outfall elevation of headwalls will be raised one foot above the basin bottom for water quality purposes. The City will allow up to a maximum of up to 6 inches of depth of retention for basins designed as detention basins and 3 inches is preferable due to the potential for standing water.

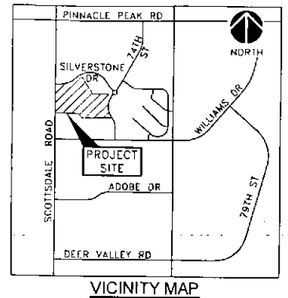
7. A .pdf copy of the preliminary drainage report should be provided with the revised drainage report for City records.

Richard M. Anderson, P.E., CFM
Senior Civil Engineer
Stormwater Management Division
City of Scottsdale
Phone: 480-312-2729
Fax: 480-312-9202



GRADING AND DRAINAGE NOTES

1. HDPE STORM DRAIN PIPE.
2. CATCH BASIN PER MAG STD DET 534.
5. HDPE STORM DRAIN BEND.
6. HDPE STORM DRAIN TEE.
7. STORM DRAIN HEADWALL PER MAG STD DET 501.
8. RIP-RAP SPILLWAY.
17. 48" STORM DRAIN MANHOLE PER MAG STD DET 520 AND 522.
19. STORM DRAIN HEADWALL PER MAG STD DET 501 WITH FLOW CONTROL ORIFICE.



VICINITY MAP
SCOTTSDALE, AZ
N.T.S.

DEVELOPER/OWNER
MARK TAYLOR APARTMENTS
6623 N. SCOTTSDALE RD.
SCOTTSDALE, ARIZONA 85250
PH: (480) 281-5554
CONTACT: CHRIS BROZINA

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
7740 N. 16TH STREET, SUITE 300
PHOENIX, ARIZONA 85020
TEL. NO. (602) 944-5500
CONTACT: STEVE HANEY, PE

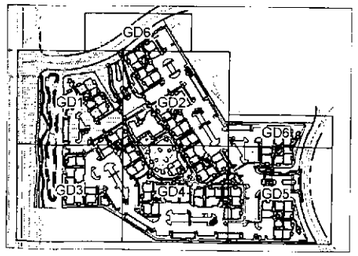
LAND SURVEYOR
AULERICH & ASSOCIATES, INC.
1030 E. GUADALUPE ROAD
TEMPE, ARIZONA 85283
PH: (480) 839-4000
CONTACT: CHRISTOPHER AULERICH, P.L.S.

ARCHITECT
ARCHITECT DESIGN GROUP
6623 N. SCOTTSDALE RD.
SCOTTSDALE, AZ 85250
PH: (480) 281-5549
CONTACT: ROB ORME, RA

BENCHMARK
PER AULERICH & ASSOCIATES, THE BENCHMARK IS A BRASS CAP IN HANDHOLE LOCATED AT THE NORTHWEST CORNER OF SECTION 14 AT THE INTERSECTION OF SCOTTSDALE ROAD AND PINNACLE PEAK ROAD, CITY OF SCOTTSDALE BENCHMARK NO. 2152.
ELEVATION=1840.266 PER CITY OF SCOTTSDALE DATUM

BASIS OF BEARINGS
PER AULERICH & ASSOCIATES, THE BASIS OF BEARING IS THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN AS SHOWN ON " MAP OF DEDICATION AND PARCEL MAP FOR SILVERSTONE AT PINNACLE PEAK, BOOK 883 OF MAPS, PAGE 17 MARICOPA COUNTY RECORDS, SAID BEARING BEING NORTH 00°00'24" EAST.

FLOOD INFORMATION
THE FLOOD ZONE DESIGNATION FOR THIS AREA IS ZONE AO.
DEFINED AS: FLOOD DEPTH OF 1 FOOT (SHEET FLOW ON SLOPING TERRAIN) AVERAGE DEPTH DETERMINED FOR AREA OF ALLUVIAL FAN FLOODING, VELOCITY DETERMINED AT 4 FPS.
MAP NUMBER 04013C1310L, REVISED OCTOBER 16, 2013.



KEY MAP
N.T.S.

NOTES:
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2. ADD 0.5' TO PAVEMENT (P) ELEVATIONS TO OBTAIN TOP OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.
3. REFER TO SHEET GD2 FOR LEGEND.

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ENGINEER S. J. HANEY
PE NO. 37059 DATE 2/19

NORTH
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Mark Taylor

SEC SCOTTSDALE ROAD AND SILVERSTONE DRIVE

PRELIMINARY GRADING & DRAINAGE PLAN

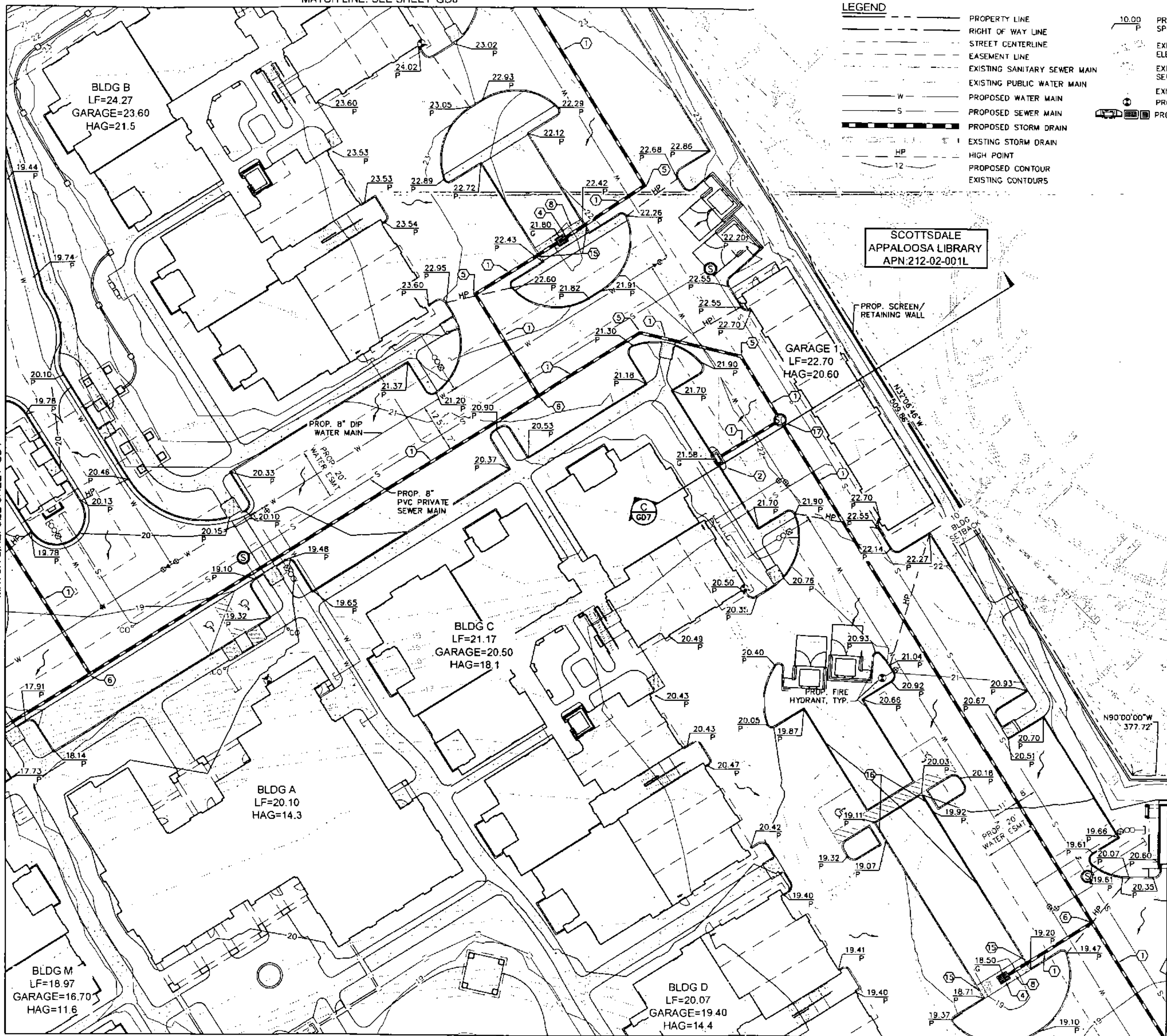
SCOTTSDALE, ARIZONA

PROJECT No.	191769002
SCALE (H):	1"=20'
SCALE (V):	NONE
DRAWN BY:	CGF
DESIGN BY:	TMJ
CHECK BY:	SEH
DATE:	2/19/15

GD1
1 OF 7 SHEETS

53-DR-2014
3/16/2015

MATCH LINE: SEE SHEET GD6



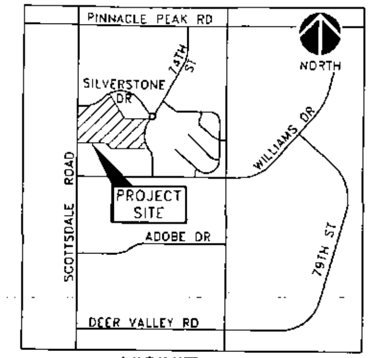
MATCH LINE: SEE SHEET GD1

MATCH LINE: SEE SHEET GD4

MATCH LINE: SEE SHEET GD6

LEGEND

- PROPERTY LINE
- RIGHT OF WAY LINE
- STREET CENTERLINE
- EASEMENT LINE
- EXISTING SANITARY SEWER MAIN
- EXISTING PUBLIC WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SEWER MAIN
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- HIGH POINT
- PROPOSED CONTOUR
- EXISTING CONTOURS
- PROPOSED PAVEMENT SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING SANITARY SEWER MANHOLE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CATCH BASIN



VICINITY MAP
SCOTTSDALE, AZ
N.T.S.

GRADING AND DRAINAGE NOTES

1. HDPE STORM DRAIN PIPE.
2. CATCH BASIN PER MAG STD DET 534.
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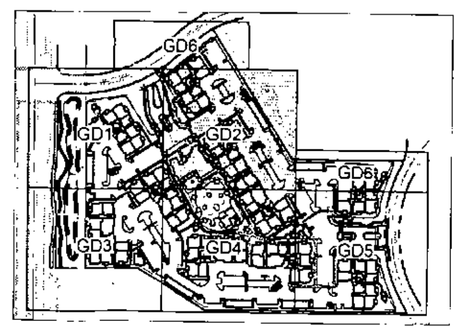
6. HDPE STORM DRAIN TEE.
8. RIP-RAP SPILLWAY.
13. 2' WIDE CURB OPENING.
16. 2' WIDE CONCRETE DRAINAGE CHANNEL.
17. 48" STORM DRAIN MANHOLE PER MAG STD DET 520 AND 522.



KEY MAP
N.T.S.

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NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

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ENGINEER S. HANEY
PE NO. 37059 DATE 2/15

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Mark Taylor

SEC SCOTTSDALE ROAD AND SILVERSTONE DRIVE

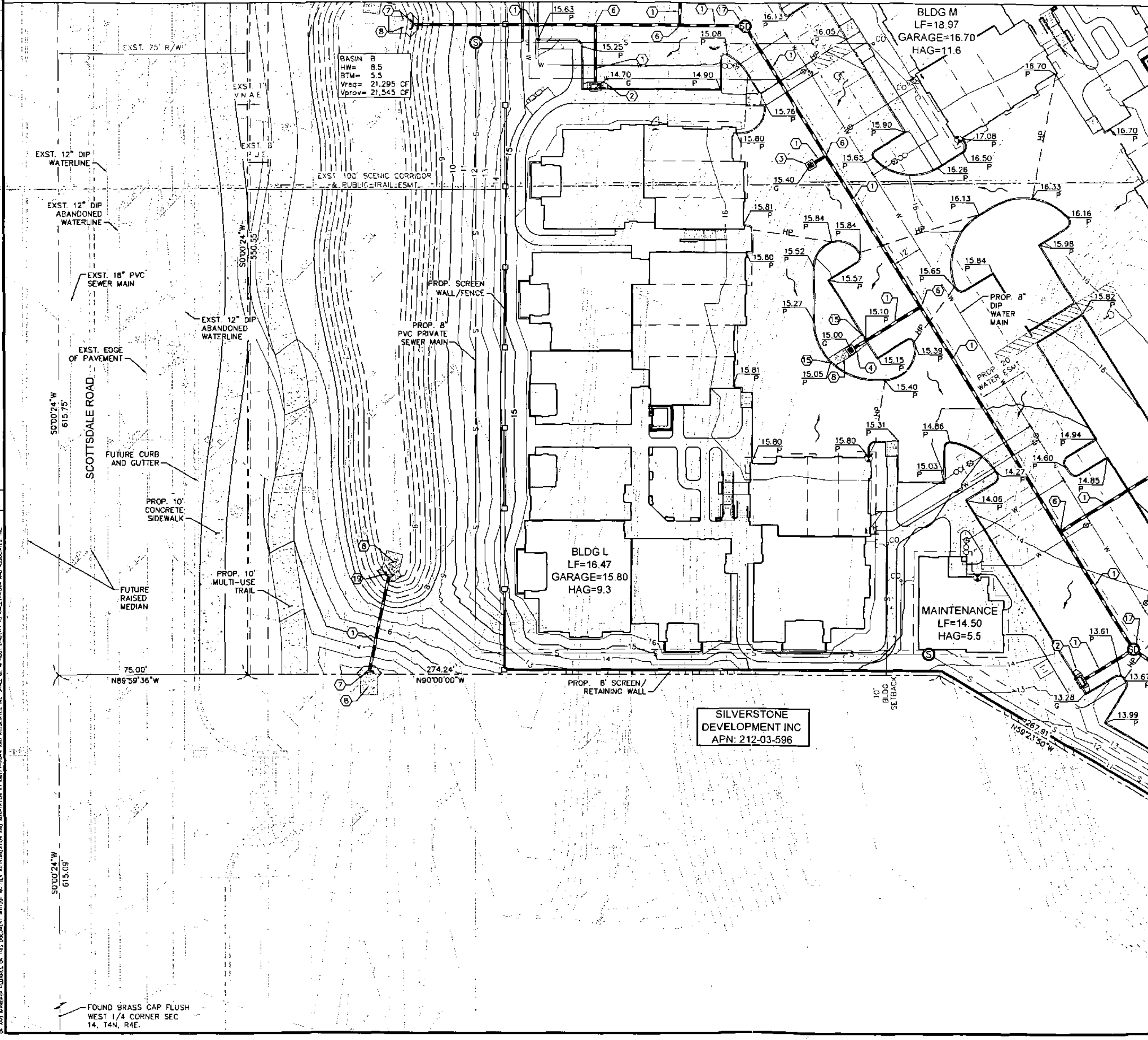
PRELIMINARY GRADING & DRAINAGE PLAN

SCOTTSDALE, ARIZONA

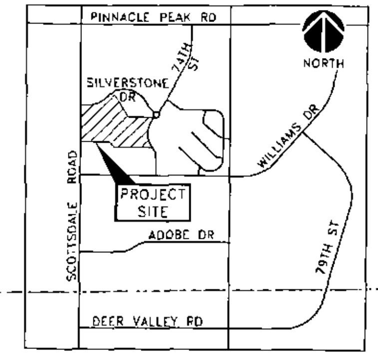
PROJECT No. 191769002	
SCALE (H): 1"=20'	
SCALE (V): NONE	
DRAWN BY: CGF	
DESIGN BY: TMJ	
CHECK BY: SEH	
DATE: 2/19/15	

GD2
2 OF 7 SHEETS

MATCH LINE: SEE SHEET GD1



MATCH LINE: SEE SHEET GD4



VICINITY MAP
SCOTTSDALE, AZ
N.T.S.

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1. HDPE STORM DRAIN PIPE.
2. CATCH BASIN PER MAG STD DET 534.
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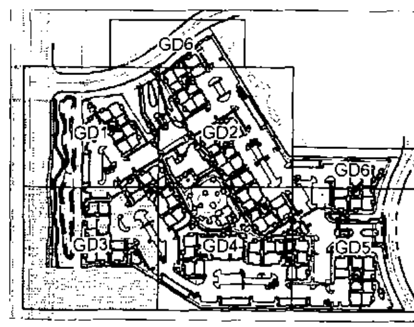

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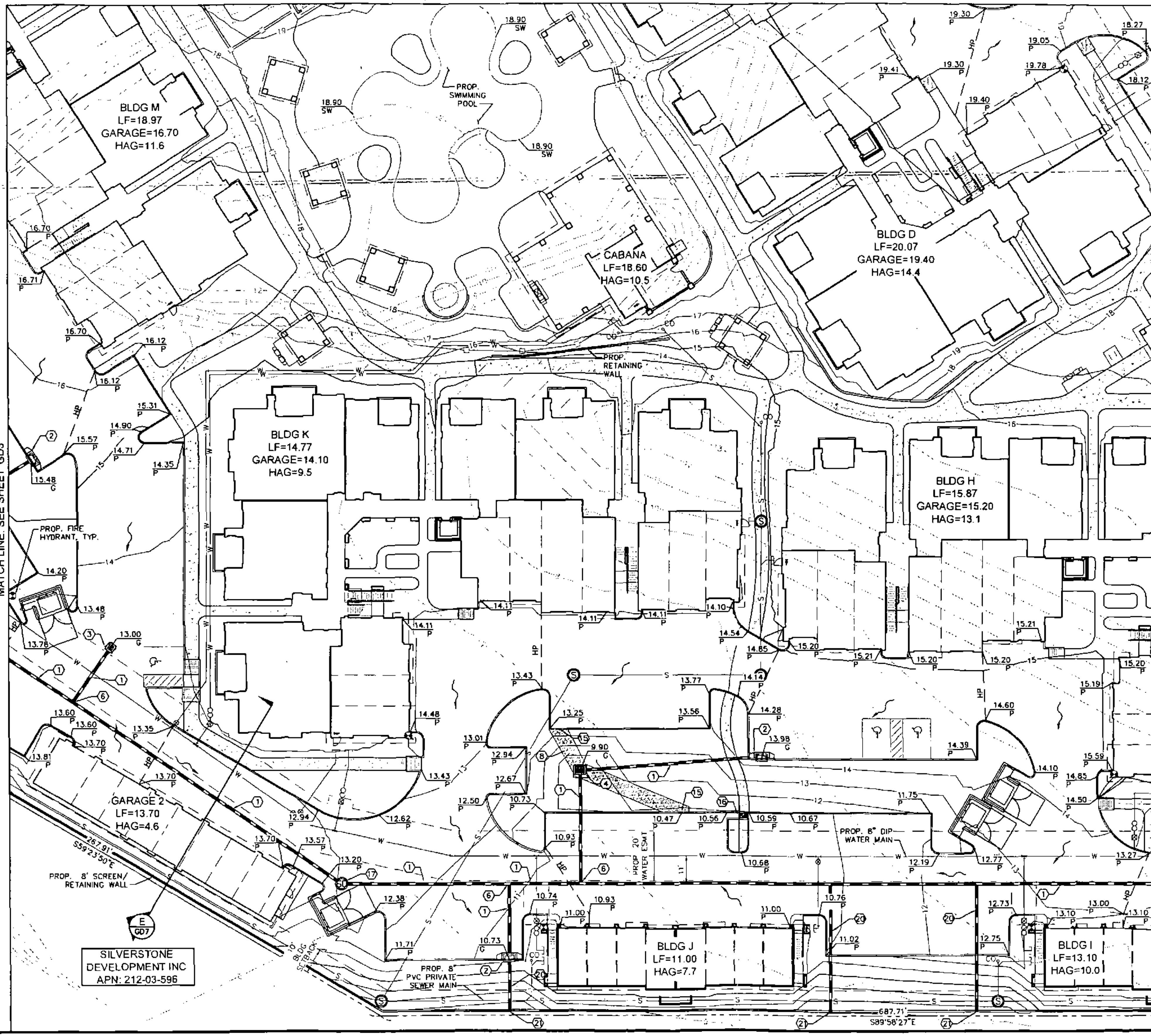
PRELIMINARY GRADING & DRAINAGE PLAN
SCOTTSDALE, ARIZONA

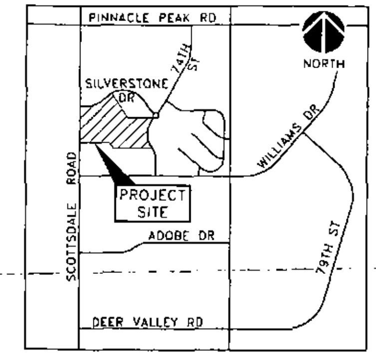
PROJECT No. 191769002	
SCALE (H):	1"=20'
SCALE (V):	NONE
DRAWN BY:	CGF
DESIGN BY:	TMJ
CHECK BY:	SEH
DATE:	2/19/15

GD3
3 OF 7 SHEETS

REV	DESCRIPTION	BY	DATE	APPR

MATCH LINE: SEE SHEET GD2





VICINITY MAP
SCOTTSDALE, AZ
N.T.S.

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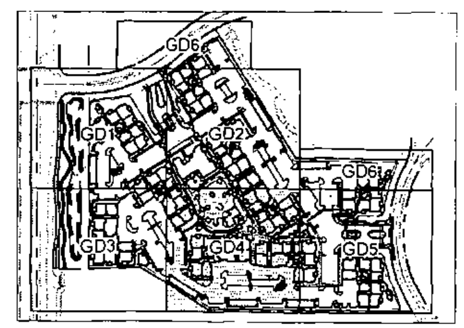
17. 48" STORM DRAIN MANHOLE PER MAG STD DET 520 AND 522.
20. STORM DRAIN HDPE BLEED-OFF PIPE.
21. STORM DRAIN OUTFALL THROUGH WALL.



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SCOTTSDALE, ARIZONA

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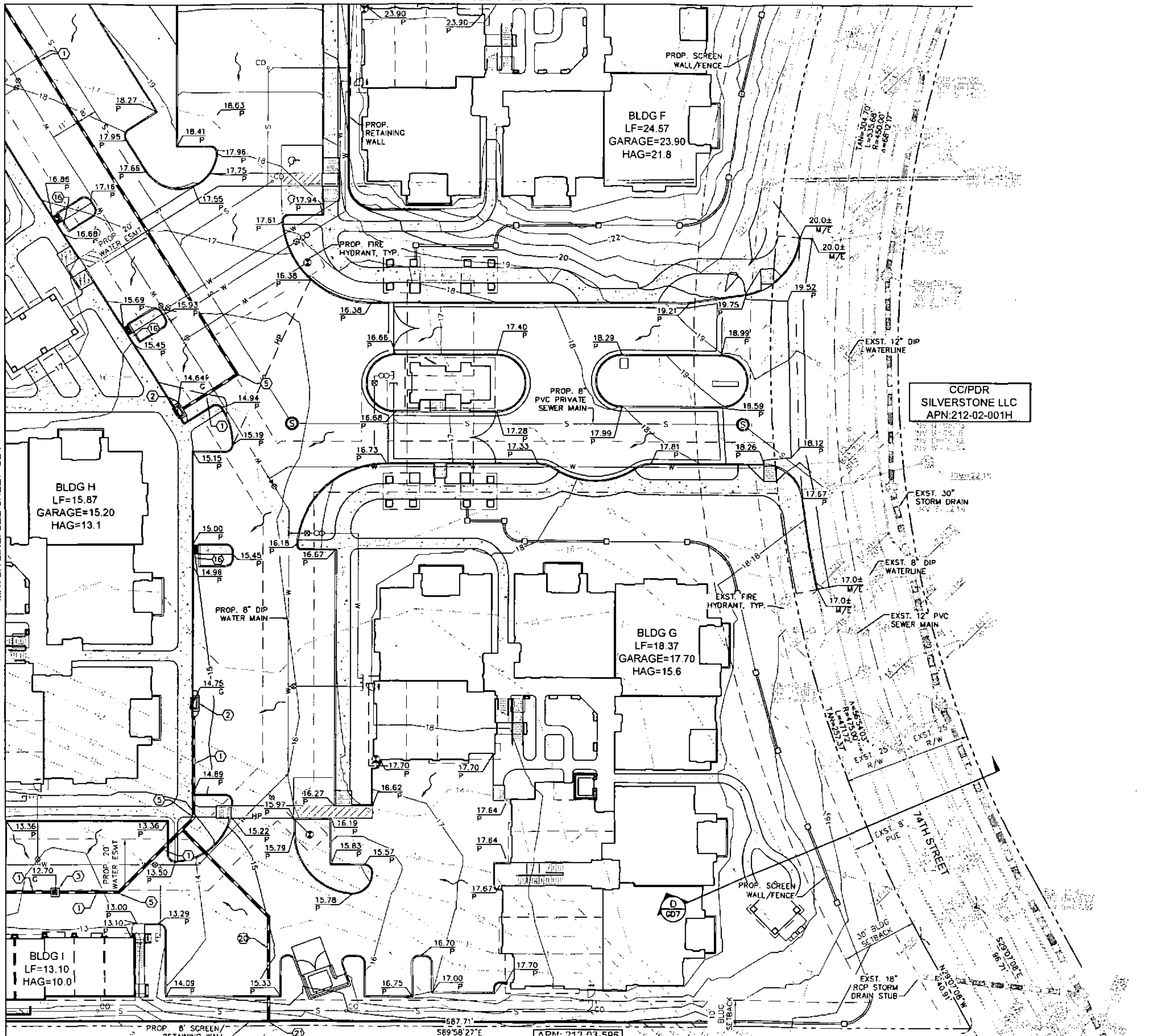
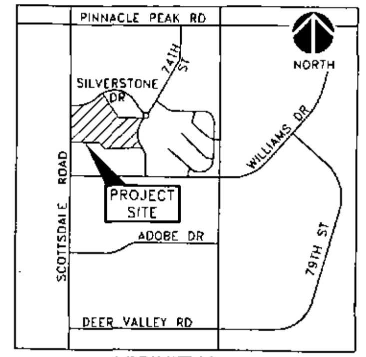
REV	DESCRIPTION	BY	DATE	APPR

GD4
4 OF 7 SHEETS





VICINITY MAP

SCOTTSDALE, AZ
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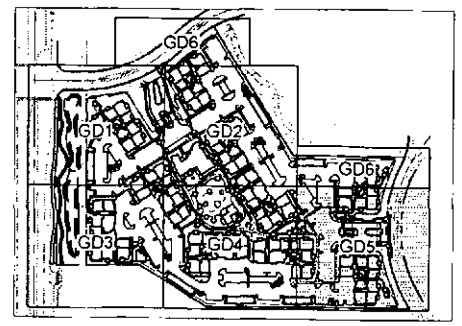

KEY MAP

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Mark Taylor

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SCOTTSDALE, ARIZONA

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DRAWN BY: CGF
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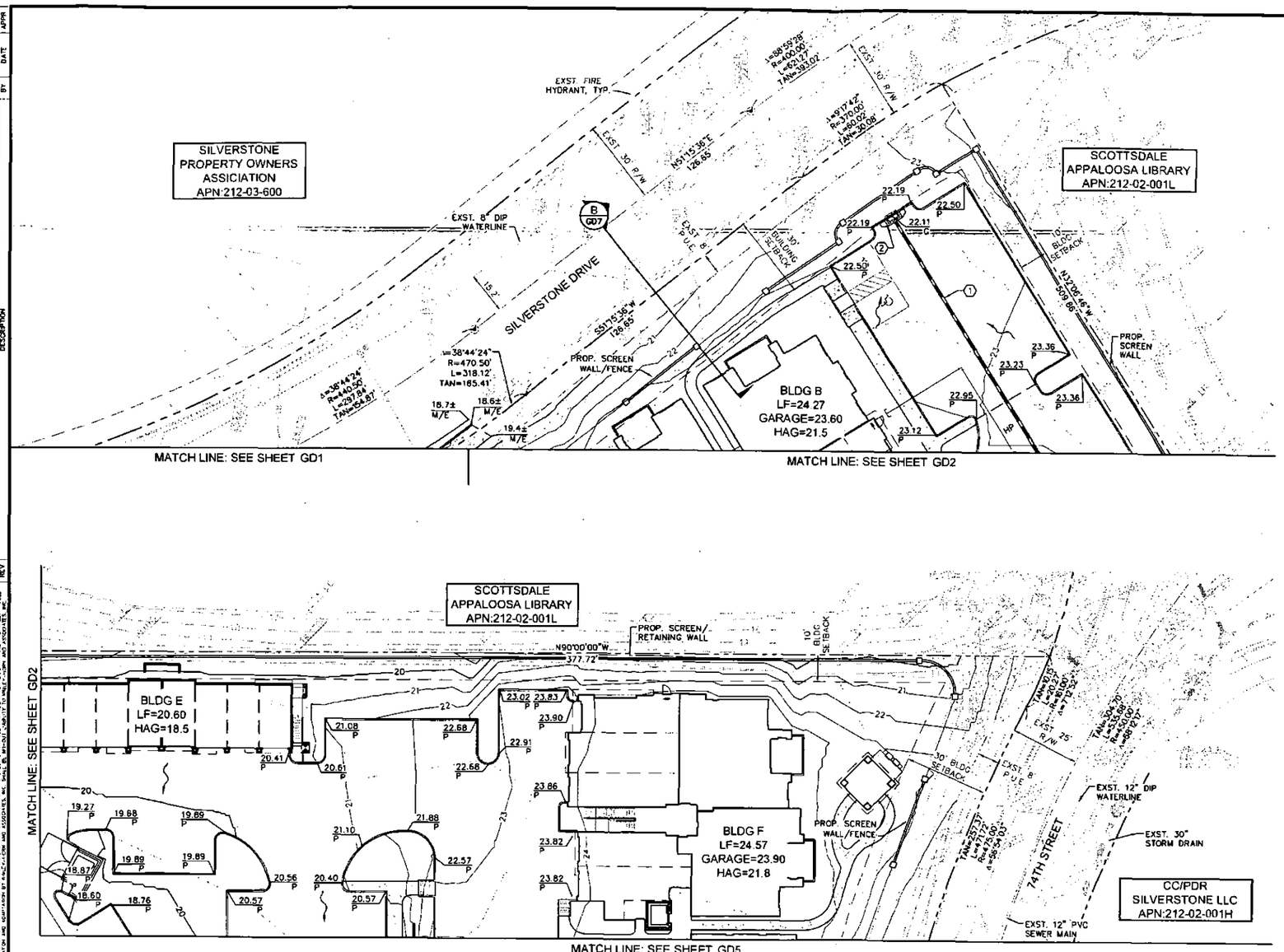
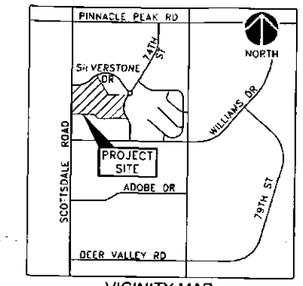
CHECK BY: SEH
DATE: 2/19/15

REV	DESCRIPTION	BY	DATE	APPR

GD5
5 OF 7 SHEETS



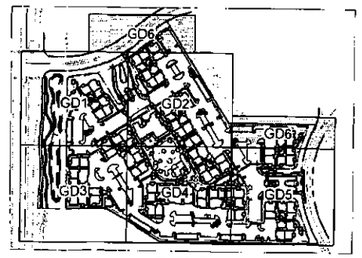


VICINITY MAP
SCOTTSDALE, AZ
N.T.S.

GRADING AND DRAINAGE NOTES

(1) HDPE STORM DRAIN PIPE.

(2) CATCH BASIN PER MAG STD DET 534.



KEY MAP
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Mark Taylor

SEC SCOTTSDALE ROAD AND SILVERSTONE DRIVE

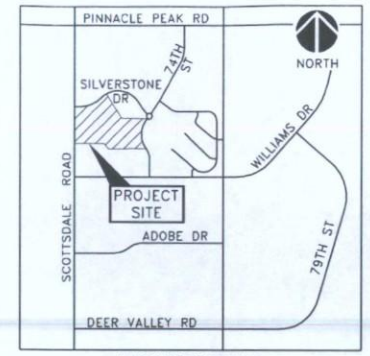
PRELIMINARY GRADING & DRAINAGE PLAN

SCOTTSDALE, ARIZONA

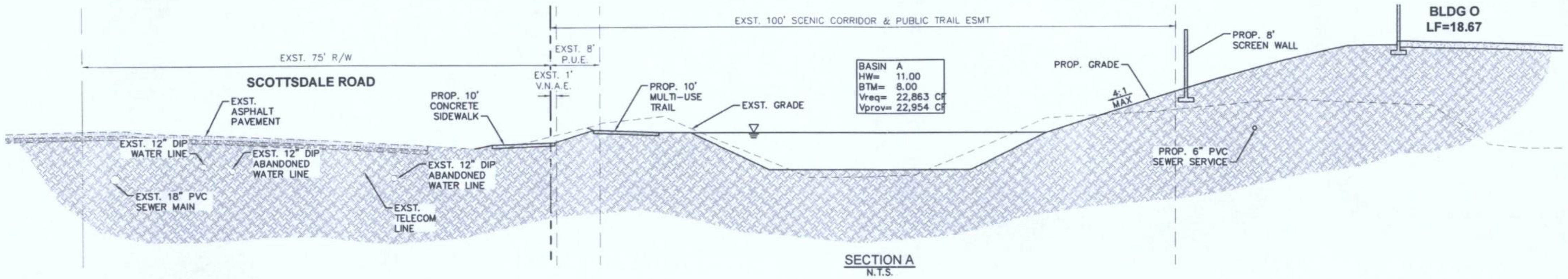
PROJECT No.	191769002
SCALE (H):	1"=20'
SCALE (V):	NONE
DRAWN BY:	CGF
DESIGN BY:	TMJ
CHECK BY:	SEH
DATE:	2/19/15

GD6
6 OF 7 SHEETS

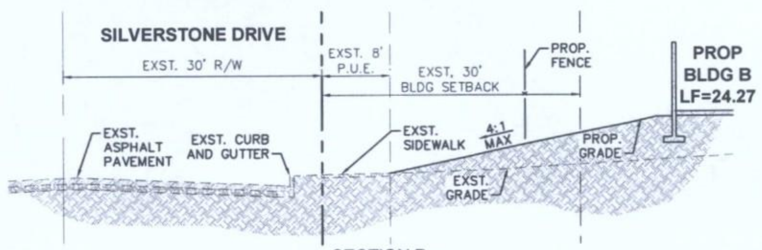
REV	DESCRIPTION	BY	DATE	APPR



VICINITY MAP
SCOTTSDALE, AZ
N.T.S.



SECTION A
N.T.S.



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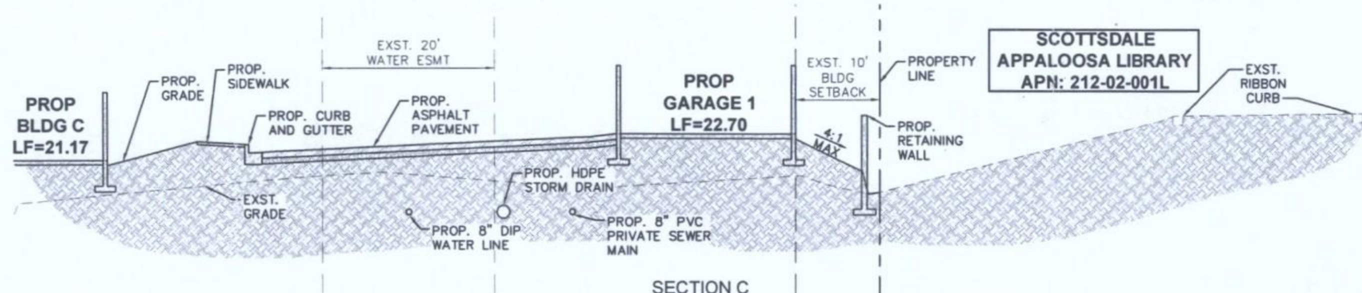

SECTION C
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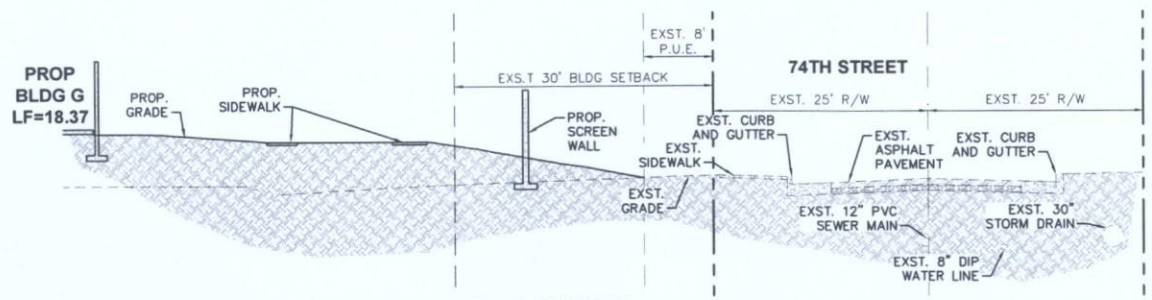

SECTION D
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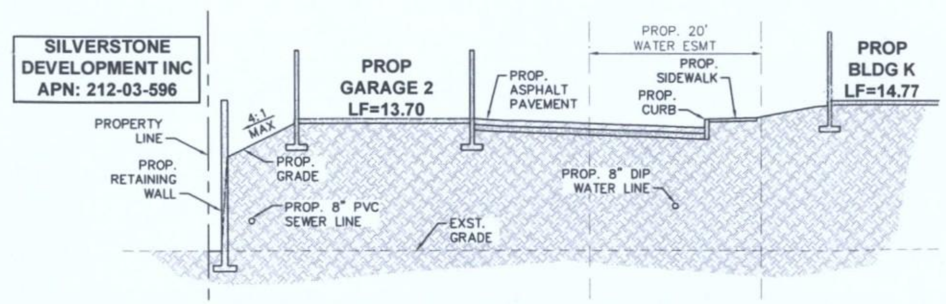

SECTION E
N.T.S.

REV	DESCRIPTION	BY	DATE	APPR

K:\PHX_Civil\191769002\CADD\769002XS.dwg, Layout:GD7 Mar 10, 2015 - 5:45pm trever.jones
XREFS: X769002XS X769002TB

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION PURPOSES
Kimley»Horn
ENGINEER S. HANEY
PE NO. 37059 DATE 2/15

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

Kimley»Horn © 2015
7740 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

Mark Taylor

SEC SCOTTSDALE ROAD AND SILVERSTONE DRIVE

SECTIONS

SCOTTSDALE, ARIZONA

PROJECT No. 191769002
SCALE (H): NONE
SCALE (V): NONE
DRAWN BY: CGF
DESIGN BY: TMJ
CHECK BY: SEH
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769002XS.dwg

GD7