WOOD PATEL

DRAINAGE REPORT
FOR
FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS

June 12, 2023
WP# 215319.10

Plan # _____
Case # 38-DR-2022
Q-S # _____
☒ Accepted
☐ Corrections
N.Baronas 8/3/2023
Reviewed By Date

EXPIRES 06-30-25

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EXPIRES 06-30-25

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1.0 INTRODUCTION

1.1 General Background

The Fairmont Scottsdale Princess Sunset Villas and Bungalows (Site) includes nine (9) proposed resort/hotel buildings on approximately 3.7 acres of the approximate 38-acre parcel of the Fairmont Scottsdale Princess in the City of Scottsdale (APN#215-08-695). The project will include hardscape, landscape, and utility improvements to support the development. The Site is located approximately 1,330-feet to the east of Scottsdale Road and directly south of Hacienda Way within Section 35, Township 4 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. Refer to Exhibit 1 – *Vicinity Map* for the project location. The existing property, currently zoned C-2, is primarily developed with buildings, parking lot, pool, sidewalks, and a variety of landscaping (desert and grass).

This Drainage Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (WOODPATEL's) understanding of the City of Scottsdale technical drainage requirements (Ref. 2) and the *Drainage Design Manuals for Maricopa County Hydrology and Hydraulics (2018)* (Ref. 7 and 8), as applicable to the Site.

1.2 FEMA Regulated Flood Zones

The Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Map (FIRM) information for communities that adhere to FEMA regulations. The FEMA FIRM panel for this Site is 04013C1320L, effective date October 16, 2013, and indicates the Site falls within "Zone AO" shaded (Refer to Exhibit 2 – *FEMA FIRM*).

"Zone AO" shaded is defined by FEMA as follows:

> *"Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined".*

It is WOODPATEL's understanding, based on experience and interpretations of the City of Scottsdale floodplain ordinance, that development of land within FEMA Zone "AO" is acceptable if the lowest finish floor elevation is above or properly protected from the anticipated 100-year water surface elevation. This Site will be designed in accordance with the City's floodplain ordinance to comply with Federal and State regulations.

2.0 HYDROLOGY ANALYSIS

2.1 Offsite Hydrology

The proposed Site does not receive any offsite flows, only modifications to pre-existing flows from the Fairmont Scottsdale community. *Drainage Report for Privado Welcome Building and Parking Modifications by Wood, Patel & Associates, Inc., dated February 21, 2023* (Ref. 1) provides a history of the current offsite drainage and retention. Offsite flows that will be considered due to modifications of existing drainage areas are the stormwater flows on Cottage Terrace and Hacienda Way. These flows will be collected by existing catch basins within Cottage Terrace. Offsite flows from the north of the

Fairmont Scottsdale community are diverted around the community by the proposed improvements in Appendix A - *Storm Storage Waiver / Proposed Drainage Improvements Exhibit*. These improvements allow any development within the community to only consider the flows within the Fairmont Scottsdale community. The Fairmont Scottsdale Princess Community slopes from north to south which ultimately outfalls into the retention basin on the TPC Golf Course. All existing flows to the north of the proposed Site are collected into strategically placed catch basins that outfall into the TPC Golf Course.

2.2 Onsite Hydrology

Per the existing stormwater waiver approved for the Site, no stormwater retention is existing or required. Refer to Appendix A - *Storm Water Storage Waiver / Proposed Drainage Improvements Exhibit.* Although retention is not required, the City of Scottsdale requires the First Flush Volume to be captured and treated to comply with Federal and State regulations. The First Flush Volume will be treated by the Contech Debris Separating Baffle Box treatment system (DSBB). Refer to Appendix F - *Contech Debris Separating Baffle Box Treatment System* for the manufacturer's detail. The DSBB was sized based on the treatment rate of the system compared to the flow rate of the First Flush Volume as calculated from Section 6.4.1 of the *Drainage Policies and Standards for Maricopa County* (Ref. 8). Refer to Appendix D - *Hydrologic and Hydraulic Calculations*, for the First Flush Flow rate calculation. The First Flush Flow required to be treated is 0.34 cfs for the proposed stormwater system.

Onsite flow rates for the proposed development were calculated using the Rational Method, as outlined in the *Drainage Design Manual for Maricopa County, Arizona: Volume I – Hydrology* (Ref 7). NOAA Atlas 14 precipitation data was obtained and utilized to develop Intensity-Duration-Frequency (I-D-F) curves for the Site. Rational Method flows were computed at concentration points within the Site at key design locations. Runoff coefficients were estimated to reflect post-development land use conditions for the 2-year, 10-year, and 100-year events. (Refer to Appendix D – *Hydrologic and Hydraulic Calculations*).

The proposed drainage system will include eight (8) 12-inch ADS catch basins, ten (10) 8-inch ADS catch basins, twenty-six (26) air breaks used for roof drain connections, and nine (9) 48-inch storm drain manholes, H.D.P.E pipe, and the DSBB. Refer to Exhibit 5 - *Storm Drain Layout* for the proposed layout.

Ref. 1 provides a history of the current onsite drainage and retention. Based on the information above, the proposed site improvements mimic current drainage patterns and areas of retention for onsite with very minimal alteration.

2.3 Establishing Lowest Floor (LF88 Elevations)

The Grading and Drainage Plan has been designed to comply with the City of Scottsdale floodplain ordinance for a Zone "AO" floodplain. It is our understanding, unless other flood-proof measures are presented and approved, the proposed Lowest habitable Finished Floor (LFF) elevation must be designed a minimum of 1-foot above the anticipated 100-year flood elevation plus the City of Scottsdale requires an additional 1-foot above the flood depth, which results in a minimum finished floor elevation of 2 feet above the Highest Adjacent natural Grade (HAG) which is the regulatory flood elevation. Since

the Site was disturbed after the Zone "AO" Special Flood Hazard Zone was established, the current condition of the Site could not determine the HAG. The HAG uses topographical information showing the pre-disturbed condition of the Site. (Refer to Appendix B - *Regional Contour Map / Opinion of Existing Highest Natural Grade Elevation*)

Utilizing Curry's Corner 7.5-minute Topographic Survey Map by USGS from 1964 for the pre-disturbed condition (Refer to Appendix C - *Curry's Corner Quadrangle Map*) with a contour interval of 10 feet, the approximate highest natural grade of this Site would require the conversion of NAVD29 datum to NAVD88 datum by adding 1.749 feet to the NAVD29 datum.

Using AutoCAD Civil 3D, the quad map was aligned to the Site using common monument lines and previously surveyed monuments by WOODPATEL. The 10-foot interval contours were digitized, adjusted to NAVD88 and applied to a surface model. The surface model was supplemented with break lines at estimated ridge and flowline locations and used to display interpolated 1-foot contours for the pre-disturbed condition. The proposed Site was overlaid on the contour map to determine the HAG elevation of the highest building to be 1551.08. The regulatory flood elevation of the lowest building was calculated to be 1550.07. The proposed lowest finish floor elevation on Site is 1552.80 which is 2.73 feet above the regulatory flood elevation. For HAG, LAG, and Regulatory Flood Elevation values of all the proposed buildings Refer to Appendix B - *Regional Contour Map / Opinion of Highest Natural Grade Elevation* and Appendix C - *Curry's Corner Quadrangle Map.*

In addition, using the same Curry's Corner 7.5-minute Topographic Survey Map, the Lowest Adjacent Grade (LAG) at the lowest building was determined to be 1547.16, 5.64-feet below the lowest finished floor.

3.0 HYDRAULIC ANALYSIS

The Site was designed to collect the runoff from onsite and transfer it through the proposed stormwater system to the outfall of the Site, an existing 36-inch H.D.P.E. pipe. Refer to Exhibit 5-*Storm Drain Layout* for layout and sizes of proposed pipes. The total flow exiting the site is 13.22 cfs connecting into the existing storm system. The stormwater will then flow to the south through the proposed treatment structure (DSBB).

4.0 TREATMENT

The DSBB treatment structure will be installed within the existing 36-inch stormwater line within Cottage Terrace to treat the stormwater upstream of its location. The flows passing through this structure will be from the proposed Site as well as existing flows stated in Ref. 4 and the overall calculations in Table 3 – *Existing Rational Method* within Appendix D. Refer to Exhibit 3 – *Existing Drainage Map*. In total, the proposed and existing flows expected to pass through this structure are 66.8 cfs and 110.2 cfs for the 10- and 100-year events respectively. The DSBB system will treat the first flush flow based on the 10-year event calculated to be 1.7 cfs.

5.0 MAINTENANCE

Ongoing maintenance of the designed or recommended drainage systems is required to preserve the design integrity and purpose of the drainage system. Failure to provide maintenance can prevent the drainage system from performing to its intended design purpose and can result in reduced performance. Maintenance within the public right-of-way is the responsibility of the governing municipality. However, it is the responsibility of landowners (such as private developers or property owners' associations) for facilities on private property. Prior to ultimate condition build-out upstream of drainage structures, additional maintenance may be required due to an increase in sedimentation build-up. A regular maintenance program is required to have drainage systems perform to the level of protection or service, as presented in this Report and the projects' plans and specifications.

6.0 CONCLUSIONS

Based on our analysis of the Site, the following conclusions can be made:

1. This Drainage Report has been prepared in accordance with WOODPATEL's understanding of the City of Scottsdale technical drainage requirements and the *Drainage Design Manuals for Maricopa County Hydrology and Hydraulics (2018)*, as applicable to the Site.

2. The Site is within a FEMA designated "Zone AO" shaded.

3. The Site is protected from offsite flows from the north by improvements, as outlined in the approved stormwater storage waiver.

4. No stormwater retention has been provided for this project, per the approved stormwater storage waiver.

5. The onsite 100-year storm event will be conveyed south by existing storm drain and overland flow, to the existing TPC Golf Course.

6. The 100-year high water elevation is 1537.80 in the adjacent TPC golf course, which is 15 feet below the proposed lowest finish floor elevation of 1552.80.

7. All finished floors for the proposed nine (9) buildings and the future building are above their relative highest adjacent natural grade, with the lowest difference in finished floor and natural grade being 2.84 feet. It is our understanding this is in compliance with the City's floodplain ordinance, which requires the lowest finished floor to be a minimum of 2-feet above (1-foot for AO and 1-foot of freeboard) the natural highest grade.

8. The estimated low natural ground elevations are lower than all nine (9) proposed building finished floor elevations.

9. Ongoing maintenance is required for the existing drainage systems to maintain design performance. Maintenance is the responsibility of the private parties involved.

7.0 REFERENCES

1. *Drainage Report for Fairmont Scottsdale Privado Welcome Building and Parking Modifications* by Wood, Patel & Associates, Inc., date February 21, 2023

2. *Design Standards & Policies Manual*, City of Scottsdale, 2018.

3. *Drainage Report for Fairmont Scottsdale Hotel Expansion* by Wood, Patel & Associates, Inc., dated May 1, 2015.

4. *Drainage Report for Fairmont Scottsdale Western Theme Town* by Wood, Patel & Associates, Inc., dated May 15, 2015.

5. *Drainage Memo for Fairmont Scottsdale Sunset Beach Pool* by Wood, Patel & Associated, Inc., dated September 11, 2015.

6. *Curry's Corner Quadrangle,* 7.5 Minute Series Topographic Map, USGS, 1964.

7. *Drainage Design Manual for Maricopa County, Volume I Hydrology, Arizona, 2018.*

8. *Drainage Design Manual for Maricopa County, Volume II Hydraulics, Arizona, 2018.*

9. *Drainage Policies and Standards for Maricopa County*, Arizona, 2016.

APPENDIX A – STORM STORAGE WAIVER / PROPOSED DRAINAGE IMPROVMENTS EXHIBIT

Princess

10/22

Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC# 6332-07-7

The applicant/developer must complete and submit this form to the city for processing and obtain approval of waiver request *before submitting Improvement plans.* Denial of the waiver may require the developer to submit a revised site plan to the Development Review Board.

Date 7/14/08 **Project Name** Fairmont Scottsdale Princess Resort

Project Location 7575 East Princess Drive Scottsdale, AZ 85255

Applicant Contact John Bulka **Company Name** Wood Patel & Associates

Phone 480-834-3300 Fax 480-834-3320 E-mail jbulka@woodpatel.com

Address 1855 N. Stapley Mesa, AZ 85203

Waiver Criteria

A waiver is an intentional relinquishment of a claim or right. A project must meet at least one of six criteria listed below for the city to consider waiving some or all required stormwater storage. Check the applicable box and provide a signed engineering report and supporting engineering analyses that demonstrate the project meets the criteria *and* that the effect of a waiver will not increase the potential for flooding on any property.

☐ 1. The runoff for the project has been included in a storage facility at another location. The applicant must demonstrate that the stormwater storage facility was specifically designed to accommodate runoff from the subject property and that the runoff will be conveyed to this location through an adequately designed conveyance facility.

☒ 2. The development is adjacent to a watercourse or channel that an engineering analysis shows is designed and constructed to handle the additional runoff without increasing the potential for flood damage to the subject property or to any other property.

☐ 3. The development is on a parcel less than one-half acre in size in an area where the engineering analysis demonstrates there is no significant increase in potential for flood damage due to its development.

☐ 4. Stormwater storage requirements conflict with requirements of the Environmentally Sensitive Lands Ordinance (ESLO). The applicant must demonstrate there is no increased potential for flood damage to the subject property or to any other property. Such conflicts with ESLO may include:

- Total land requirements for storage basin, easements, setbacks, and NAOS prevent building allowable footprint per zoning.
- Topography prevents building storage basin.
- Creating a storage facility requires wash modification.
- Instances where the Zoning Administrator cannot allow a modification to ESL requirements.

☐ 5. The project is located within the Downtown Fee Reduction Area as described and approved by City Council Resolution #6238 (see map). The applicant must demonstrate there is no increased potential for flood damage to any property. Even if the project is located in the Downtown area, if the project creates additional potential for increased flood damage, the developer must provide alternative mitigation methods to prevent the damage.

☐ 6. The project is located within a watershed that drains directly to the Salt River Pima-Maricopa Indian Community (SRPMIC) (see map). The project must provide the pre-development peak discharge flow to the SRPMIC, and attenuate flows over and above pre-development.

By signing below, I certify that the stated project meets the waiver criteria selected above as demonstrated by the attached documentation.

John Bulka

Developer or Engineer (circle one)

7-16-08

Date

Planning & Development Services Department

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

SWW

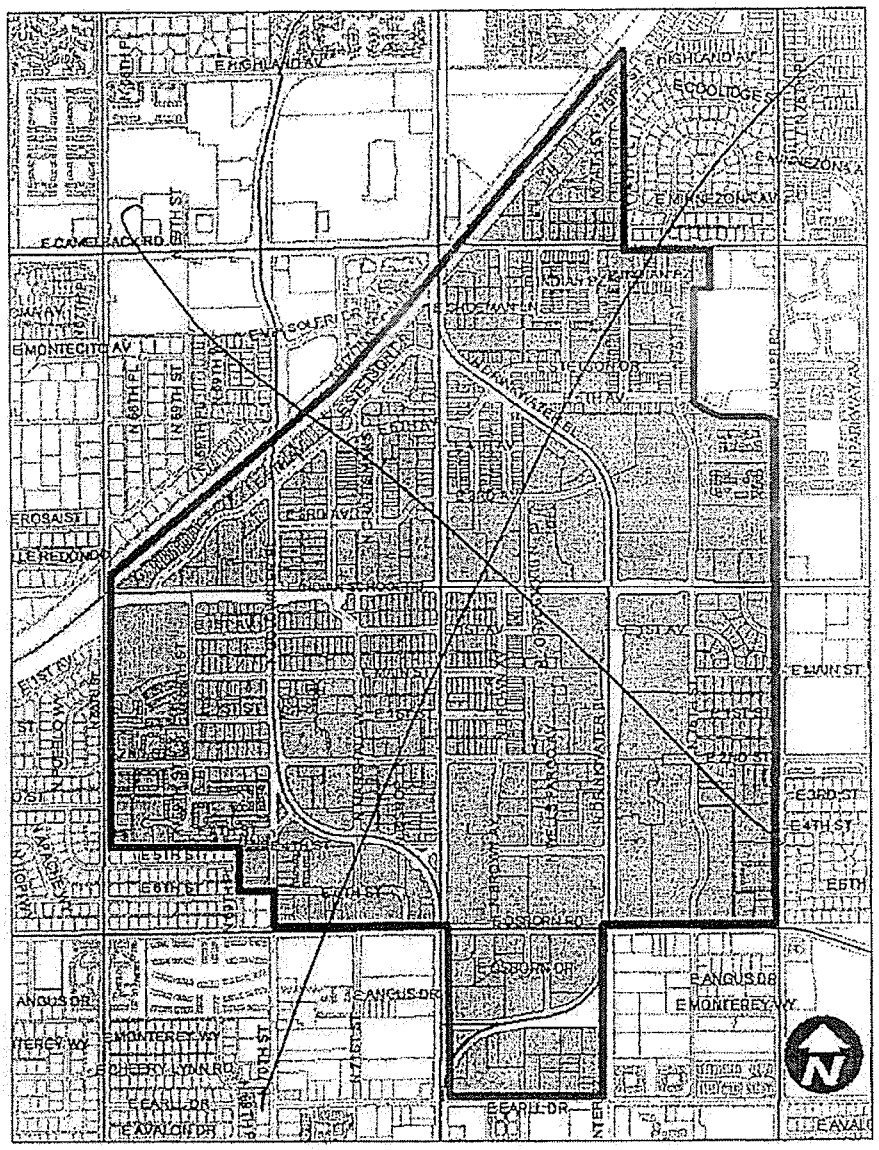
6332-07-7

Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___ - PA - ____ ____ - ZN - ____ ____ - UP - ____ ____ - DR - ____ ____ - PP - ____ PC#_____



NOT APPLICABLE

Figure 1. Designated Area for Downtown Stormwater Storage Waivers

Planning & Development Services Department

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

Request for Stormwater Storage Waiver

City of Scottsdale Case Numbers:

___ - PA - ____ ____ - ZN - ____ ____ - UP - ____ ____ - DR - ____ ____ - PP - ____ PC#_____

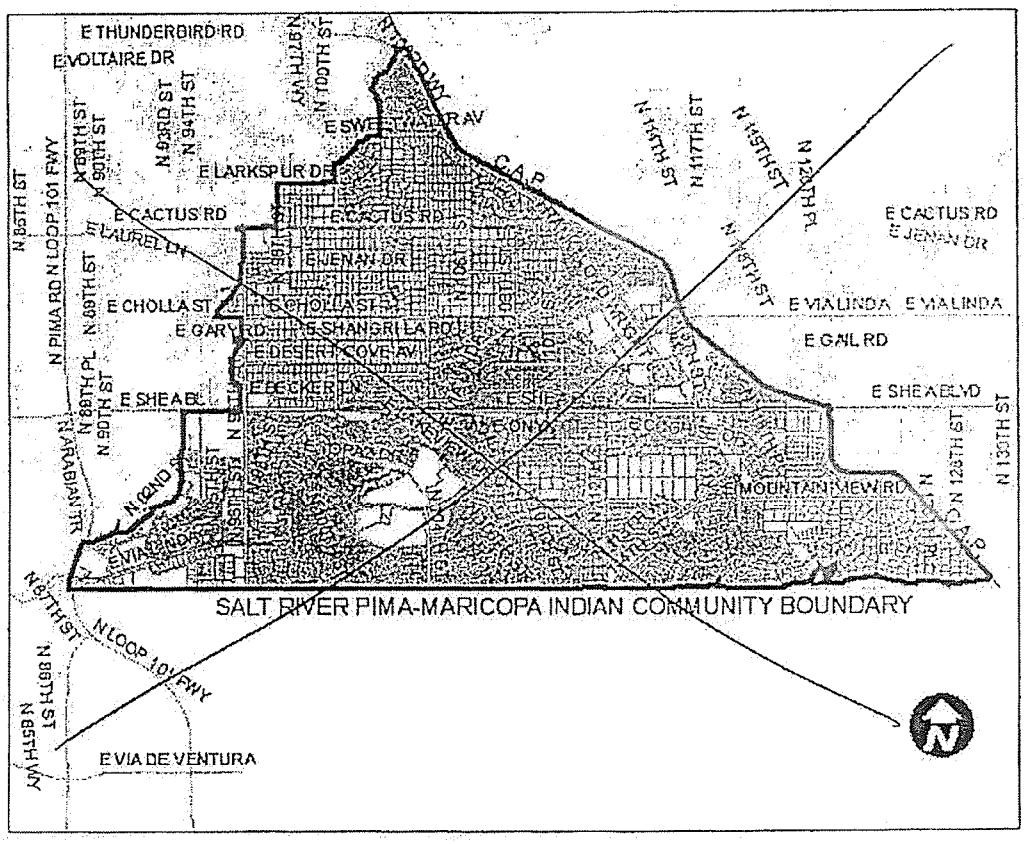


Figure 2. Watersheds Draining to Salt River Pima-Maricopa Indian Community

NOT APPLICABLE

Planning & Development Services Department

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Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC#_____

CITY STAFF TO COMPLETE THIS PAGE

Project Name FAIRMONT SCOTTSDALE PRINCESS RESORT

Check Appropriate Boxes:

☐ Meets waiver criteria (specify): ☐ 1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

☑ Recommend approve waiver.

☐ Recommend deny waiver:
- ☐ None of waiver criteria met.
- ☐ Downstream conditions prohibit waiver of any storage.
- ☐ Other:

Explain: _____

☐ Return waiver request:
- ☐ Insufficient data provided.
- ☐ Other: _____

Explain: _____

Recommended Conditions of Waiver:
- ☒ All storage requirements waived.
- ☐ Pre development conditions must be maintained.
- ☑ Other:

Explain: In land improvements exceed cost of in-lieu fee.

☒ **Waiver approved per above conditions.**

☐ **Waiver denied.**

C. Ashley Gould — 10/23/08

Floodplain Administrator or Designee — Date

Planning & Development Services Department
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

Request for Stormwater Storage Waiver

292-SA-2007 City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC#_____

In-Lieu Fee and In-Kind Contributions

If the city grants a waiver, the developer is required to calculate and contribute an In-Lieu Fee based on what it would cost the city to provide the waived storage volume, including costs such as land acquisition, construction, landscaping, design, construction management, and maintenance over a 75-year design life. For FY 2007/2008, this cost is $3.22 per cubic foot of stormwater stored. This unit cost will be updated annually, but the city reserves the right to revise the unit cost at any time at its sole discretion.

The Floodplain Administrator considers in-kind contributions on a case-by-case basis. An in-kind contribution can serve as part of or instead of the calculated in-lieu fee. The Floodplain Administrator or designee must approve in-lieu fees and in-kind contributions.

Project Name Fairmont Scottsdale Princess Resort

The waived stormwater storage volume is calculated as follows:

V = CRA; where
V = stormwater storage volume required, in cubic feet,
C = weighted average runoff coefficient over disturbed area,
R = 100-year/2-hour precipitation depth, in feet (2.82 inches, or 0.235 feet, for all regions of Scottsdale), and
A = area of disturbed ground, in square feet

Furthermore,

$V_w = V - V_p$; where
V_w = volume waived,
V = volume required, and
V_p = volume provided

C = 0.9
A = 424,753
V = 89,826
V_p = 0
V_w = 89,826

☐ An In-Lieu Fee will be paid, based on the following calculations and supporting documentation:
In-lieu fee ($) = V_w (cu. ft.) x $3.22 per cubic foot = 289,240

☒ An In-Kind Contribution will be made, as follows:
See attachment. Princess Drive Bridge Reconstruction, in accordance with approved plans.

☐ No In-Lieu Fee is required. Reason:

Approved by: C. Ashley Conklin 10/23/08

Floodplain Administrator or Designee — Date

Planning & Development Services Department
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

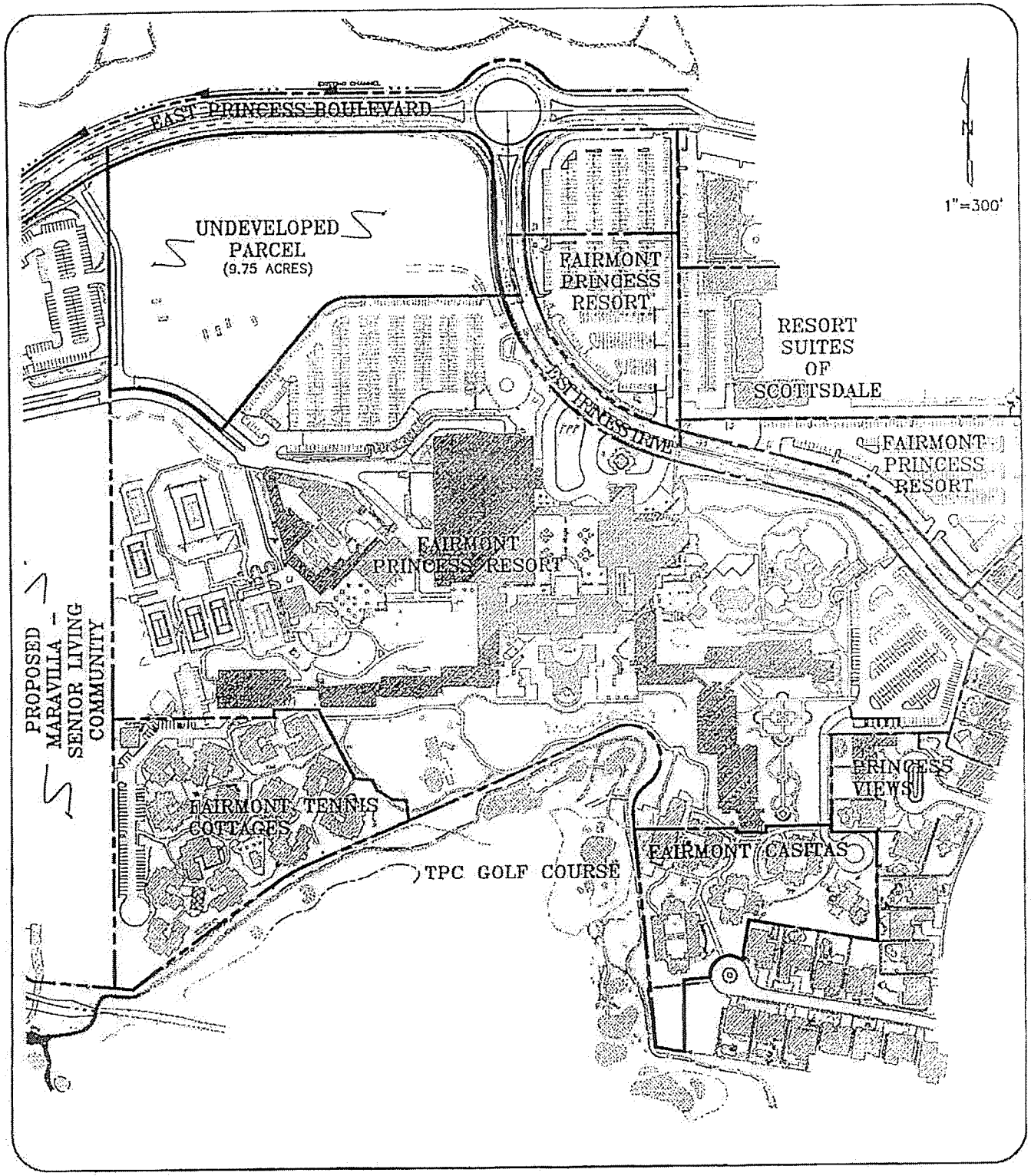


EXHIBIT 1

FAIRMONT SCOTTSDALE PRINCESS RESORT

ENGINEER	J. Bulka
DESIGNER	J. Haywood
CAD TECHNICIAN	J. Sanchez
SCALE	1"=300'
DATE	07/14/08
JOB NUMBER	07910
REF. SHEET	1 OF 1

WOOD/PATEL & ASSOCIATES INC.
Civil Engineers, Hydrologists and Land Surveyors
1855 North Stapley Drive
Mesa, Arizona 85203
(480) 834-3300
(480) 834-3320 FAX

Attachment to Stormwater Storage Waiver Request
for Fairmont Scottsdale Princess Resort & Regional Flood Control

The Fairmont Scottsdale Princess Resort (Site) is a 60 acre resort located near the southwest corner of Princess Boulevard and Princess Drive. The Site is bounded by the Princess Blvd. to the north, the Maravilla Scottsdale Senior Living Community to the east, the TPC Golf Course to the south and existing residential developments to the west (see Exhibit 1, attached). The existing Fairmont Scottsdale Princess Resort consists of multiple hotel buildings, a ballroom, spa, tennis cottages, tennis courts, and parking. A majority of the site is developed and portions are being updated and renovated. At the north end of the site there is a 9.75 acre portion of the property that has yet to be developed, and other portions are scheduled for upgrades.

It is Wood/Patel's understanding that the ownership of the Fairmont Scottsdale Princess Resort, Strategic Hotels and Resorts, has agreed to fund regional flood control improvements to the public road/channel crossing at Princess Blvd and Scottsdale Road, in return for the City approving this waiver and it being applicable to the entire site. The improvements consist of removing the existing concrete box culvert crossing and replacing it with a bridge structure. The cost of a new bridge structure is estimated at $1,053,000.

City of Scottsdale In-Lieu Fees:

V(req) Volume required = CRA = (0.90) x (0.235 feet) x (9.75 acres) = 89,826 cu-ft.

C (Runoff Coefficient) = 0.90

R (100-year/2-hour precipitation depth) = 0.235 feet

Site area = 9.75 acres

City of Scottsdale In-Lieu Fees = V(req) x $3.22 = (89,826 cu-ft) x $3.22 = $289,240

Summary:

Public Drainage Improvements = $1,053,000 (*)

City of Scottsdale in Lieu Fee = $289,240

(*) See Sheet 2 of 2 Engineering Preliminary Opinion of Probable Cost

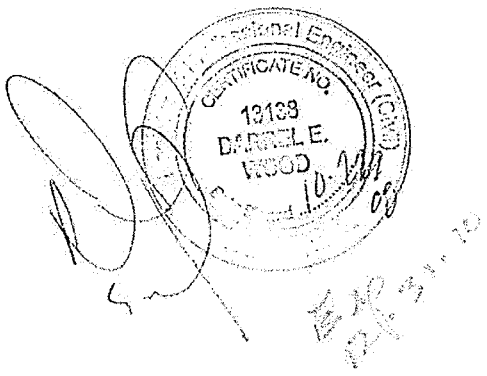
Attachment to Stormwater Storage Waiver Request
for Fairmont Scottsdale Princess Resort & Regional Flood Control

Engineering Preliminary Opinion of Probable Cost (*)

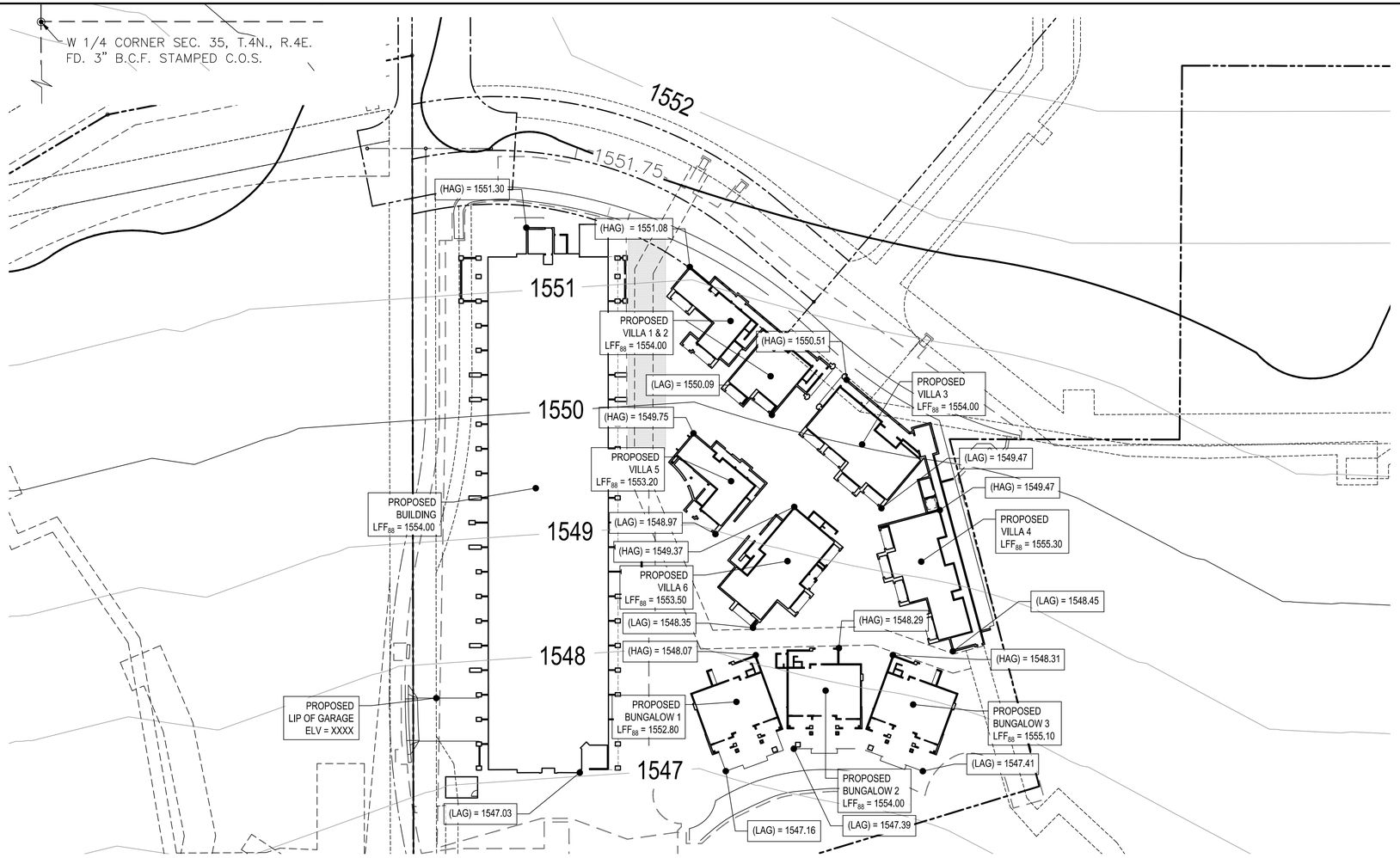
Prepared Bridge Structure at Princess Drive, just east of Scottsdale Road serving unnamed wash.

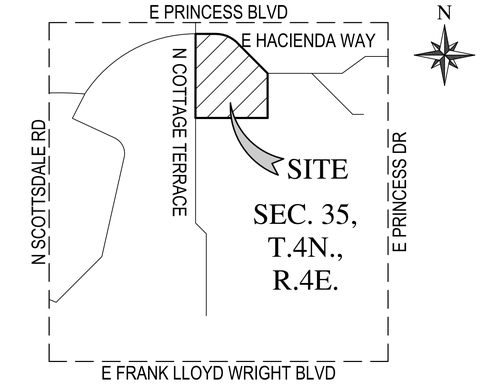
Estimated Bridge Surface = 8,100 square feet x $130/s.f. $1,053,000

(*) Offered without the benefit of construction documents and specifications.



APPENDIX B – REGIONAL CONTOUR MAP / OPINION OF EXISTING HIGHEST NATURAL GRADE ELEVATION





VICINITY MAP

N.T.S.

LEGEND

———	PROPOSED BUILDING OUTLINE
—·—·—	BOUNDARY LINE
- - - -	SECTION LINE
—1550—	ESTIMATED 5' CONTOUR NAVD88 DATUM
—1541—	ESTIMATED 1' CONTOUR NAVD88 DATUM
1551.75	ORIGINAL 1964 CURRYS CORNER CONTOURS ON NAVD88 DATUM
HAG	HIGHEST ADJACENT NATURAL GRADE
LAG	LOWEST ADJACENT NATURAL GRADE
RFD	REGULATORY FLOOD DEPTH = HAG +2' (ZONE AO DEPTH (1') = 1' FREEBOARD)
LGF	LOWEST GARAGE FLOOR

ELEVATION STATEMENT

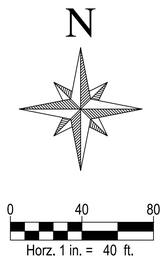
THE WORK PRODUCT PRESENTED IS THE RESULT OF OBTAINING BEST AVAILABLE HISTORICAL ELEVATION INFORMATION, AND EMPLOYING PROFESSIONAL JUDGMENT TO BEST PRESENT IN SITE GROUND ELEVATIONS. ELEVATIONS ARE BASED ON 1964 CURRYS CORNER NGVD29 DATUM CONVERTED TO NAVD88 USING MARICOPA LAND SURVEY CONVERSION OF 1.749 FT.

BENCHMARK

THE VERTICAL DATUM FOR THIS EXHIBIT IS BASED ON GDACS POINT 43017-1, 3 INCH CITY OF SCOTTSDALE BRASS CAP FLUSH LOCATED ON SCOTTSDALE ROAD SOUTH OF PRINCESS DRIVE HAVING AN ELEVATION OF 1552.985, CITY OF SCOTTSDALE NAVD88 DATUM.

FEMA SUMMARY TABLE									
NAME	ADDRESS	LOWEST FINISHED FLOOR ELEVATION (LF88)	GARAGE DOOR LIP ELEVATION	HIGHEST ADJACENT NATURAL GRADE	LOWEST ADJACENT NATURAL GRADE	REGULATORY FLOOD ELEVATION	FEMA REQUIREMENTS		
BUILDINGS							FLOOD VENTING	WET FLOODPROOFING	OTHER
VILLA 1	7575	1,554	N/A	1,551.08	1,550.06	1,553.08	NO VENT	NOT REQUIRED	N/A
VILLA 2	7575	1,554	N/A	1,551.08	1,550.06	1,553.08	NO EVENT	NOT REQUIRED	N/A
VILLA 3	7575	1,554	N/A	1,550.51	1,549.47	1,552.51	NO VENT	NOT REQUIRED	N/A
VILLA 4	7575	1,555.3	N/A	1,549.6	1,548.45	1,551.6	NO VENT	NOT REQUIRED	N/A
VILLA 5	7575	1,553.2	N/A	1,549.75	1,548.97	1,551.75	NO VENT	NOT REQUIRED	N/A
VILLA 6	7575	1,553.3	N/A	1,549.37	1,548.35	1,551.37	NO VENT	NOT REQUIRED	N/A
BUNGALOW 1	7575	1,552.8	N/A	1,548.07	1,547.16	1,550.07	NO VENT	NOT REQUIRED	N/A
BUNGALOW 2	7575	1,554	N/A	1,548.29	1,547.39	1,550.29	NO VENT	NOT REQUIRED	N/A
BUNGALOW 3	7575	1,555.1	N/A	1,548.31	1,547.41	1,550.31	NO VENT	NOT REQUIRED	N/A
BUILDING	7575	1,554	1,548	1,551.3	1,547.03	1,553.3	NO VENT	NOT REQUIRED	N/A

1) WHEN REQUIRED AS INDICATED ABOVE, FLOOD VENTS SHALL BE PROVIDED ON AT LEAST 2 SEPARATE WALLS. THE FLOOD VENTS SHALL HAVE ONE SQUARE INCH OF OPENING SPACE FOR EVERY SQUARE FOOT OF ENCLOSED SPACE BELOW THE REGULATORY FLOOD ELEVATION, OR AS NOTED ABOVE. SEE ARCHITECTURAL PLANS FOR VENTS OPENINGS. PROPOSED GRADE ADJACENT TO BUILDING MAY EFFECT VENT LOCATIONS, CONSULT ENGINEER PRIOR TO CONSTRUCTION WITH ANY QUESTIONS.
2) WHEN REQUIRED AS INDICATED ABOVE, WET FLOODPROOFING SHALL BE PROVIDED UP TO THE REGULATORY FLOOD DEPTH. WET FLOODPROOFING CONSIST OF CONSTRUCTION WITH FLOOD RESISTANT MATERIALS.
3) WHEN REQUIRED AS NOTED ABOVE, ELECTRICAL AND MECHANICAL EQUIPMENT SHALL BE ELEVATED ABOVE THE REGULATORY FLOOD DEPTH.
4) PROPOSED BUILDING M1 WILL BE A STRUCTURALLY INDEPENDENT NON-RESIDENTIAL STRUCTURE.
5) FEMA DEFINES DRY FLOODPROOFING AS A COMBINATION OF MEASURES THAT RESULT IN A STRUCTURE, INCLUDING THE ATTENDANT UTILITIES AND EQUIPMENT, BEING WATERTIGHT WITH ALL ELEMENTS SUBSTANTIALLY IMPERMEABLE TO THE ENTRANCE OF FLOODWATER AND WITH STRUCTURAL COMPONENTS HAVING THE CAPACITY TO RESIST FLOOD LOADS.



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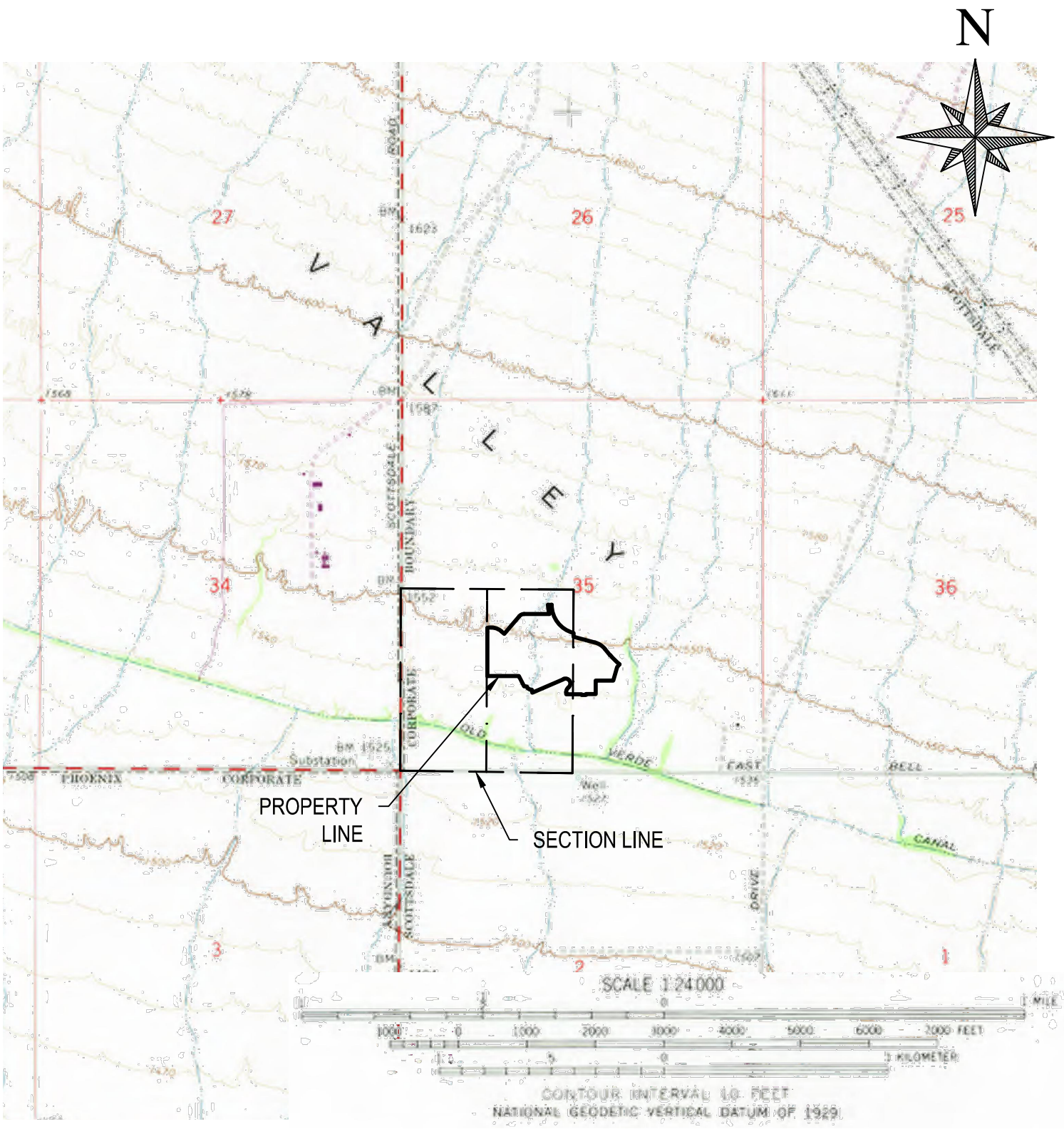
FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS & BUNGALOWS

NOT FOR CONSTRUCTION

COMPLETED SURVEY FIELD WORK ON	N/A
CHECKED BY	RS
CAD TECHNICIAN	AJ
SCALE	1" = 40'
DATE	06/09/2023
JOB NUMBER	215319.10
SHEET	1 OF 2

Z:\2021\215319\Project Support\Reports\5319.10 - Sunset Bungalows\Drainage\Exhibits\5319.10-AAX-C1-Lowest Floor Elevation Exhibit.dwg



NOT
FOR CONSTRUCTION OR RECORDING

WOOD PATEL

PRINCESS SUNSET BUNGALOWS

REGIONAL CONTOUR MAP/OPINION OF EXISTING HIGHEST NATURAL GRADE ELEVATION

DATE	06/09/2023	SCALE	1" = 1'	SHEET	2 OF 2
JOB NO.	215319	DESIGN	RS	CHECK	RS
		DRAWN	AJS	RFI #	N/A

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APPENDIX C – CURRY'S CORNER QUADRANGLE MAP

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CURRYS CORNER QUADRANGLE
ARIZONA—MARICOPA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

(NEW RIVER SE) 3551 I SE

(WILDCAT HILL) 3651 IV SE

112°00' 33°45' 111°52'30" 33°42'30" 33°37'30"

R. 3 E. R. 4 E. R. 5 E.

CAVE CREEK 8.1 MI. CAVE CREEK 6 MI.

3651 IV SW (CAVE CREEK)

510 000 FEET 990 000 FEET 960 000 FEET 480 000 FEET

T. 5 N. T. 4 N. T. 3 N.

Ironwood Golf Course

PARADISE VALLEY

Currys Corner

PINNACLE PEAK SUBSTATION

Water Tank

Park

Trailer Park

Paradise Valley Hi

Well

BM 1630

BM 1838

BM 1787

BM 1525 Substation

BMX1891

CAVE CREEK ROAD

SCOTTSDALE ROAD

PIMA ROAD

JOMAX ROAD

PINNACLE PEAK ROAD

BELL ROAD

EAST BELL ROAD

OLD VERDE CANAL

UNION HILLS DRIVE

GREENWAY BLVD

SCOTTSDALE BOUNDARY

PHOENIX CORPORATE

SCOTTSDALE CORPORATE

ARIZONA CANAL

TATUM BLVD

40TH STREET

64TH STREET

PIMA DRIVE

WALDORF

66 MI. TO INTERSTATE 17

FORT MC DOWELL 11 MI.

(MC DOWELL PEAK) 3651 III NE

(SUNNYSLOPE) 3551 II SE

(SAWIK MTN.) 3651 III SE

(UNION HILLS) 3551 I NE

(PARADISE VALLEY) SCOTTSDALE P.O. 9.5 MI.
3651 III SW PHOENIX (CIVIC CENTER) 21 MI.

SCALE 1:24 000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Medium-duty — Light-duty
Unimproved dirt

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

Revisions shown in purple compiled from aerial photographs taken 1973. This information not field checked

GN MN 0°31' 9 MILS 13½° 240 MILS

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ARIZONA

QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

MAR 2 0 1975

CURRYS CORNER, ARIZ.
N3337.5—W11152.5/7.5

1964
PHOTOREVISED 1973
AMS 3651 III NW—SERIES V898

2560

APPENDIX D – HYDROLOGIC AND HYDRAULIC CALCULATIONS

IDF DATA FROM FCDMC NOAA – ATLAS 14 PRECIPITATION DATA

WOOD PATEL

SITE I-D-F CURVE

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319.1
Project Engineer Darin Moore, PE

RAINFALL DEPTHS, INCHES

Duration	Average Reccurence Interval (years)					
	2	5	10	25	50	100
5-min	0.257	0.346	0.415	0.507	0.578	0.651
10-min	0.391	0.526	0.631	0.772	0.880	0.990
15-min	0.484	0.652	0.782	0.957	1.090	1.230
30-min	0.651	0.879	1.050	1.290	1.470	1.650
60-min	0.806	1.090	1.300	1.600	1.820	2.050
2-hr	0.931	1.240	1.480	1.800	2.040	2.290
3-hr	1.020	1.330	1.580	1.920	2.200	2.480
6-hr	1.210	1.540	1.810	2.170	2.450	2.750
12-hr	1.360	1.720	2.000	2.380	2.670	2.970
24-hr	1.610	2.070	2.450	2.970	3.380	3.810

RAINFALL INTENSITY, INCHES/HOUR

Duration minutes	Frequency, years					
	2	5	10	25	50	100
5	3.08	4.15	4.98	6.08	6.94	7.81
10	2.35	3.16	3.79	4.63	5.28	5.94
15	1.94	2.61	3.13	3.83	4.36	4.92
30	1.30	1.76	2.10	2.58	2.94	3.30
60	0.81	1.09	1.30	1.60	1.82	2.05
120	0.47	0.62	0.74	0.90	1.02	1.15
180	0.34	0.44	0.53	0.64	0.73	0.83
360	0.20	0.26	0.30	0.36	0.41	0.46
720	0.11	0.14	0.17	0.20	0.22	0.25
1440	0.07	0.09	0.10	0.12	0.14	0.16

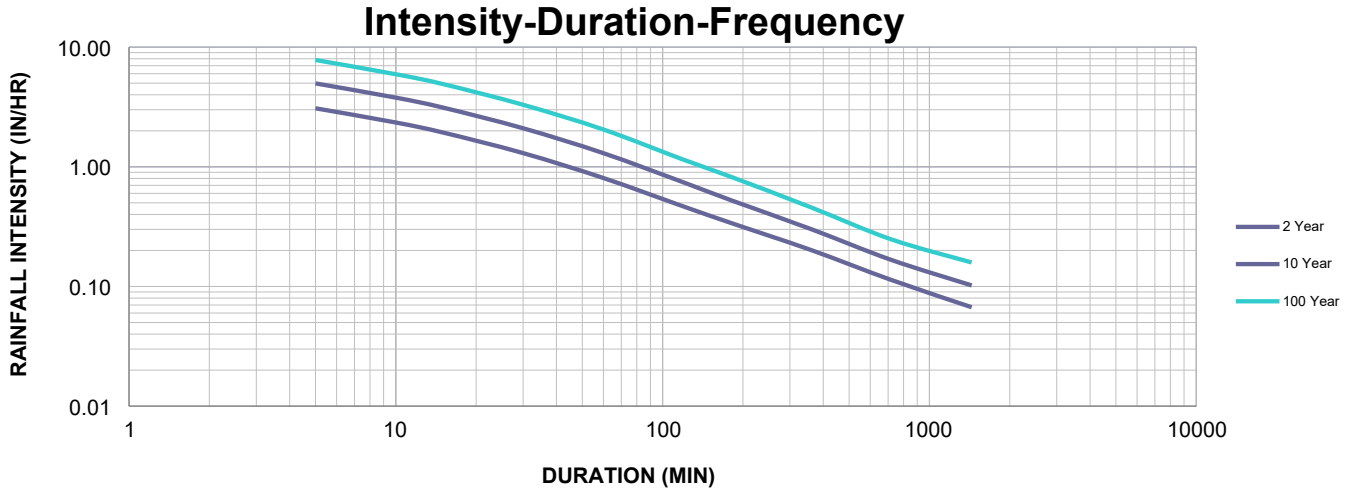


TABLE 1 – PROPOSED WEIGHTED C VALUES 100-YEAR

WOOD PATEL

COMPOSITE WEIGHTED "C" VALUE CALCULATIONS

100-YEAR

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319
Project Engineer Darin Moore, PE

Proposed C Value

Drainage Subbasin ID	Area	Paved & Roof		Grassed		Natural Desert		100 YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	%	"C"	%	"C"	"C"
A1	1.02	39.4	0.95	60.6	0.30		0.45	**0.56**
A2	0.09	100	0.95		0.30		0.45	**0.95**
A3	0.11	78.0	0.95	22.0	0.30		0.45	**0.81**
A4	0.12	81.7	0.95	18.3	0.30		0.45	**0.83**
A5	0.14	76.7	0.95	23.3	0.30		0.45	**0.80**
A6	0.16	66.2	0.95	33.8	0.30		0.45	**0.73**
A7	0.02	67.1	0.95	32.9	0.30		0.45	**0.74**
A8	0.02	63.7	0.95	36.3	0.30		0.45	**0.71**
A9	0.11	39.7	0.95	60.3	0.30		0.45	**0.56**
A10	0.08	79.6	0.95	20.4	0.30		0.45	**0.82**
A11	0.29	31.5	0.95	68.5	0.30		0.45	**0.50**
A12	0.28	19.6	0.95	80.5	0.30		0.45	**0.43**
R1	0.28		0.95		0.30	100	0.45	**0.45**
R2	0.05		0.95		0.30	100	0.45	**0.45**
R3	0.05		0.95		0.30	100	0.45	**0.45**
R4	0.09		0.95		0.30	100	0.45	**0.45**
R5	0.05		0.95		0.30	100	0.45	**0.45**
R6	0.08		0.95		0.30	100	0.45	**0.45**
R7	0.10		0.95		0.30	100	0.45	**0.45**
R8	0.05		0.95		0.30	100	0.45	**0.45**
R9	0.05		0.95		0.30	100	0.45	**0.45**
R-F1	0.05		0.95		0.30	100	0.45	**0.45**
R-F2	0.14		0.95		0.30	100	0.45	**0.45**
R-F3	0.10		0.95		0.30	100	0.45	**0.45**
R-F4	0.10		0.95		0.30	100	0.45	**0.45**
R-F5	0.11		0.95		0.30	100	0.45	**0.45**
R-F6	0.11		0.95		0.30	100	0.45	**0.45**
R-F7	0.10		0.95		0.30	100	0.45	**0.45**

TABLE 2 – PROPOSED WEIGHTED C VALUES 10-YEAR

WOOD PATEL

COMPOSITE WEIGHTED "C" VALUE CALCULATIONS

2-year & 10-year

Project	Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location	Scottsdale AZ
Project Number	215319
Project Engineer	Darin Moore, PE

Proposed C Value

Drainage Subbasin ID	Area	Paved & Roof		Grassed		Natural Desert		100 YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	%	"C"	%	"C"	"C"
A1	1.02	39.4	0.90	60.6	0.20		0.37	**0.48**
A2	0.09	100	0.90		0.20		0.37	**0.90**
A3	0.11	78.0	0.90	22.0	0.20		0.37	**0.75**
A4	0.12	81.7	0.90	18.3	0.20		0.37	**0.77**
A5	0.14	76.7	0.90	23.3	0.20		0.37	**0.74**
A6	0.16	66.2	0.90	33.8	0.20		0.37	**0.66**
A7	0.02	67.1	0.90	32.9	0.20		0.37	**0.67**
A8	0.02	63.7	0.90	36.3	0.20		0.37	**0.65**
A9	0.11	39.7	0.90	60.3	0.20		0.37	**0.48**
A10	0.08	79.6	0.90	20.4	0.20		0.37	**0.76**
A11	0.29	31.5	0.90	68.5	0.20		0.37	**0.42**
A12	0.28	19.6	0.90	80.5	0.20		0.37	**0.34**
R1	0.28		0.90		0.20	100	0.37	**0.37**
R2	0.05		0.90		0.20	100	0.37	**0.37**
R3	0.05		0.90		0.20	100	0.37	**0.37**
R4	0.09		0.90		0.20	100	0.37	**0.37**
R5	0.05		0.90		0.20	100	0.37	**0.37**
R6	0.08		0.90		0.20	100	0.37	**0.37**
R7	0.10		0.90		0.20	100	0.37	**0.37**
R8	0.05		0.90		0.20	100	0.37	**0.37**
R9	0.05		0.90		0.20	100	0.37	**0.37**
R-F1	0.05		0.90		0.20	100	0.37	**0.37**
R-F2	0.14		0.90		0.20	100	0.37	**0.37**
R-F3	0.10		0.90		0.20	100	0.37	**0.37**
R-F4	0.10		0.90		0.20	100	0.37	**0.37**
R-F5	0.11		0.90		0.20	100	0.37	**0.37**
R-F6	0.11		0.90		0.20	100	0.37	**0.37**
R-F7	0.10		0.90		0.20	100	0.37	**0.37**

TABLE 3 – EXISTING RATIONAL METHOD

WOOD PATEL

RATIONAL METHOD SUMMARY

100 YEAR, 10 YEAR

Project	Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location	Scottsdale AZ
Project Number	215319.1
Project Engineer	Darin Moore, PE

EXISTING ON-SITE WATERSHEDS

										100 YEAR				10 YEAR			
Drainage Subbasin ID	**Longest Watercourse 'L' (ft)**	**Longest Watercourse 'L' (mi)**	**Drainage Area 'A' (sf)**	**Drainage Area 'A' (Acres)**	**'K_b' Type[1]**	**Watershed Resistance Coefficient 'K_b'**	**Top Elevation**	**Bottom Elevation**	**Basin Slope 'S' (ft/mi)**	**Calculated Q100 'Tc' (See Note 2) (min)**	**100 YEAR Intensity 'i' (in/hr)**	**100 YR Runoff Coefficient 'C'**	**Q100 Flow (cfs)**	**Calculated Q10 'Tc' (See Note 2) (min)**	**10 YEAR Intensity 'i' (in/hr)**	**10 YR Runoff Coefficient 'C'**	**Q10 Flow (cfs)**
E3	186	0.035	6,320	0.15	A	0.0452	60.2	53.5	189.8	3.2	8.48	0.45	**0.6**	3.9	5.24	0.37	**0.3**
E4	573	0.108	115,992	2.66	A	0.0373	53.0	47.1	54.4	5.5	7.62	0.74	**15.0**	6.6	4.60	0.68	**8.3**
E5A	277	0.053	12,884	0.30	A	0.0433	52.3	51.5	15.2	6.4	6.80	0.60	**1.2**	7.9	3.91	0.53	**0.6**
S1	323	0.061	14,586	0.33	A	0.0430	57.0	46.0	179.7	2.9	8.63	0.50	**1.4**	3.5	5.36	0.42	**0.8**
S3	92	0.017	6,522	0.15	A	0.0452	52.5	50.6	108.8	1.8	8.89	0.50	**0.7**	2.2	5.58	0.42	**0.4**
S18	83	0.016	5,982	0.14	A	0.0454	52.5	51.3	76.1	2.0	8.89	0.95	**1.2**	2.4	5.58	0.90	**0.7**

Notes

1. Per Drainage Design Manual for Maricopa County, Vol. I, Hydrology (2013), Table 3.1: Equation for Estimating Kb in the Tc Equation
2. Minimum Tc is 5 minutes.

TABLE 4 – PROPOSED RATIONAL METHOD

WOOD PATEL

STORMCEPTOR RATIONAL METHOD SUMMARY

100 YEAR, 10 YEAR

Project	Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location	Scottsdale AZ
Project Number	215319.1
Project Engineer	Darin Moore, PE

PROPOSED ON-SITE WATERSHEDS										100 YEAR				10 YEAR				2 YEAR			
Drainage Subbasin ID	**Longest Watercourse 'L' (ft)**	**Longest Watercourse 'L' (mi)**	**Drainage Area 'A' (sf)**	**Drainage Area 'A' (Acres)**	**'K_b' Type[1]**	**Watershed Resistance Coefficient 'K_b'**	**Top Elevation**	**Bottom Elevation**	**Basin Slope 'S' (ft/mi)**	**Calculated Q100 'Tc' (See Note 2) (min)**	**100 YEAR Intensity 'i' (in/hr)**	**100 YR Runoff Coefficient 'C'**	**Q100 Flow (cfs)**	**Calculated Q10 'Tc' (See Note 2) (min)**	**10 YEAR Intensity 'i' (in/hr)**	**10 YR Runoff Coefficient 'C'**	**Q10 Flow (cfs)**	**Calculated Q2 'Tc' (See Note 2) (min)**	**2 YEAR Intensity 'i' (in/hr)**	**2 YR Runoff Coefficient 'C'**	**Q2 Flow (cfs)**
A1	632	0.120	44,590	1.02	A	0.0399	1554.0	1547.7	52.6	6.1	7.40	0.56	**4.2**	7.4	4.41	0.48	**2.1**	9.2	2.46	0.48	**1.2**
A2	84	0.016	3,752	0.09	A	0.0467	1554.0	1552.7	81.7	5.0	7.81	0.95	**0.6**	5.0	4.98	0.90	**0.4**	5.0	3.08	0.90	**0.2**
A3	95	0.018	4,718	0.11	A	0.0460	1554.0	1552.2	100.0	5.0	7.81	0.81	**0.7**	5.0	4.98	0.75	**0.4**	5.0	3.08	0.75	**0.2**
A4	110	0.021	5,362	0.12	A	0.0457	1554.0	1552.2	86.4	5.0	7.81	0.83	**0.8**	5.0	4.98	0.77	**0.5**	5.0	3.08	0.77	**0.3**
A5	75	0.014	6,305	0.14	A	0.0452	1554.0	1552.3	119.7	5.0	7.81	0.80	**0.9**	5.0	4.98	0.74	**0.5**	5.0	3.08	0.74	**0.3**
A6	94	0.018	6,934	0.16	A	0.0450	1555.3	1552.5	157.3	5.0	7.81	0.73	**0.9**	5.0	4.98	0.66	**0.5**	5.0	3.08	0.66	**0.3**
A7	50	0.009	763	0.02	A	0.0510	1554.0	1552.3	179.5	5.0	7.81	0.74	**0.1**	5.0	4.98	0.67	**0.1**	5.0	3.08	0.67	**0.0**
A8	55	0.010	1,014	0.02	A	0.0502	1555.1	1553.5	153.6	5.0	7.81	0.71	**0.1**	5.0	4.98	0.65	**0.1**	5.0	3.08	0.65	**0.0**
A9	100	0.019	4,793	0.11	A	0.0460	1560.2	1554.6	295.7	5.0	7.81	0.56	**0.5**	5.0	4.98	0.48	**0.3**	5.0	3.08	0.48	**0.2**
A10	150	0.028	3,404	0.08	A	0.0469	1555.3	1551.7	125.3	5.0	7.81	0.82	**0.5**	5.0	4.98	0.76	**0.3**	5.0	3.08	0.76	**0.2**
A11	170	0.032	12,680	0.29	A	0.0433	1555.1	1552.8	71.4	5.0	7.81	0.50	**1.1**	5.0	4.98	0.42	**0.6**	5.0	3.08	0.42	**0.4**
A12	220	0.042	12,242	0.28	A	0.0434	1554.0	1546.0	193.2	5.0	7.81	0.43	**0.9**	5.0	4.98	0.34	**0.5**	5.0	3.08	0.34	**0.3**
R1			2,161	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R2			2,157	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R3			3,936	0.09	A	0.0465			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R4			2,162	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R5			3,522	0.08	A	0.0468			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R6			4,147	0.10	A	0.0464			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R7			2,254	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R8			2,327	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R9			2,255	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R-F1			6,241	0.14	A	0.0453			26.4	5.0	7.81	0.45	**0.5**	5.0	4.98	0.37	**0.3**	5.0	3.08	0.37	**0.2**
R-F2			4,545	0.10	A	0.0461			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F3			4,334	0.10	A	0.0463			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F4			4,767	0.11	A	0.0460			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F5			4,654	0.11	A	0.0461			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F6			4,445	0.10	A	0.0462			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F7			3,243	0.07	A	0.0471			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
Total			163,706	3.76									16.05				8.65				5.2

Notes

1. Per Drainage Design Manual for Maricopa County, Vol. I, Hydrology (2013), Table 3.1: Equation for Estimating Kb in the Tc Equation
2. Minimum Tc is 5 minutes.

TABLE 5 – FIRST FLUSH FLOW

WOOD PATEL

First Flush Flow

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319.1
Project Engineer Darin Moore, PE

PROPOSED ON-SITE WATERSHEDS

Drainage Subbasin ID	Runoff Coefficient 'C'	Time of Concentration 'T_C' (hr)	First Flush Intensity 'I_{FF}' (in/hr)	Drainage Area 'A' (Acres)	First Flush Flow 'Q_{FF}' (cfs)
A1	1	7.39	0.068	1.02	0.07
A2	1	5.00	0.100	0.09	0.01
A3	1	5.00	0.100	0.11	0.01
A4	1	5.00	0.100	0.12	0.01
A5	1	5.00	0.100	0.14	0.01
A6	1	5.00	0.100	0.16	0.02
A7	1	5.00	0.100	0.02	0.00
A8	1	5.00	0.100	0.02	0.00
A9	1	5.00	0.100	0.11	0.01
A10	1	5.00	0.100	0.08	0.01
A11	1	5.00	0.100	0.29	0.03
A12	1	5.00	0.100	0.28	0.03
R1	1	5.00	0.100	0.05	0.00
R2	1	5.00	0.100	0.05	0.00
R3	1	5.00	0.100	0.09	0.01
R4	1	5.00	0.100	0.05	0.00
R5	1	5.00	0.100	0.08	0.01
R6	1	5.00	0.100	0.10	0.01
R7	1	5.00	0.100	0.05	0.01
R8	1	5.00	0.100	0.05	0.01
R9	1	5.00	0.100	0.05	0.01
R-F1	1	5.00	0.100	0.14	0.01
R-F2	1	5.00	0.100	0.10	0.01
R-F3	1	5.00	0.100	0.10	0.01
R-F4	1	5.00	0.100	0.11	0.01
R-F5	1	5.00	0.100	0.11	0.01
R-F6	1	5.00	0.100	0.10	0.01
R-F7	1	5.00	0.100	0.07	0.01
Total					0.34

Notes

1. Per Drainage Policies and Standards for Maricopa County, AZ, June 2016, Standard 6.4.1: First Flush

QFF=C*IFF*A

IFF=PFF/TC

PFF=0.5 inches

TABLE 6 – CATCH BASIN INLET SUMMARY

Nyloplast Inlet Capacity Table

DISCLAIMER: SAFETY FACTORS ARE NOT INCLUDED IN THESE CALCULATIONS. ACTUAL CALCULATIONS SHOULD BE CARRIED OUT AND VERIFIED BY THE DESIGN ENGINEER TAKING INTO ACCOUNT ALL LOCAL CONDITIONS. NYLOPLAST RECOMMENDS USING A MINIMUM SAFETY FACTOR OF 1.25 FOR PAVED AREAS AND 2.0 FOR TURF AREAS. ADS/NYLOPLAST IS NOT RESPONSIBLE FOR MISUSE OF THIS TOOL.

Input	
Type of Grate	8" Standard
Head (ft)	0.5

Properties	
Orifice Flow Area (in)	**18.77**
Orifice Flow Area (ft)	**0.13**
Weir Flow Perimeter (in)	**21.30**
Weir Flow Perimeter (ft)	**1.78**

Solution	
Capacity (cfs)	**0.44**
Capacity (gpm)	**197.82**

$$Q_{weir} = CLH^{3/2}$$

$C = 3.33\ Weir\ Discharge\ Coefficient$

$L = Perimeter\ of\ Grate\ Opening\ (ft)$

$H = Flow\ Height\ of\ Water\ Surface\ Above\ Weir\ (ft)$

$$Q_{orifice} = CA\sqrt{2gh}$$

$C = 0.60\ Orifice\ Discharge\ Coefficient$

$A = Area\ of\ the\ Orifice\ (ft^2)$

$g = Gravitational\ Constant\ \left(32.2\frac{ft}{s^2}\right)$

$H = Depth\ of\ Water\ Above\ Center\ of\ Orifice\ (ft)$

REV 2.1.21

Nyloplast Inlet Capacity Table

DISCLAIMER: SAFETY FACTORS ARE NOT INCLUDED IN THESE CALCULATIONS. ACTUAL CALCULATIONS SHOULD BE CARRIED OUT AND VERIFIED BY THE DESIGN ENGINEER TAKING INTO ACCOUNT ALL LOCAL CONDITIONS. NYLOPLAST RECOMMENDS USING A MINIMUM SAFETY FACTOR OF 1.25 FOR PAVED AREAS AND 2.0 FOR TURF AREAS. ADS/NYLOPLAST IS NOT RESPONSIBLE FOR MISUSE OF THIS TOOL.

Input	
Type of Grate	12" Standard
Head (ft)	0.5

Properties	
Orifice Flow Area (in)	**60.62**
Orifice Flow Area (ft)	**0.42**
Weir Flow Perimeter (in)	**43.75**
Weir Flow Perimeter (ft)	**3.65**

Solution	
Capacity (cfs)	**1.42**
Capacity (gpm)	**638.88**

$$Q_{weir} = CLH^{3/2}$$

$C = 3.33\ Weir\ Discharge\ Coefficient$

$L = Perimeter\ of\ Grate\ Opening\ (ft)$

$H = Flow\ Height\ of\ Water\ Surface\ Above\ Weir\ (ft)$

$$Q_{orifice} = CA\sqrt{2gh}$$

$C = 0.60\ Orifice\ Discharge\ Coefficient$

$A = Area\ of\ the\ Orifice\ (ft^2)$

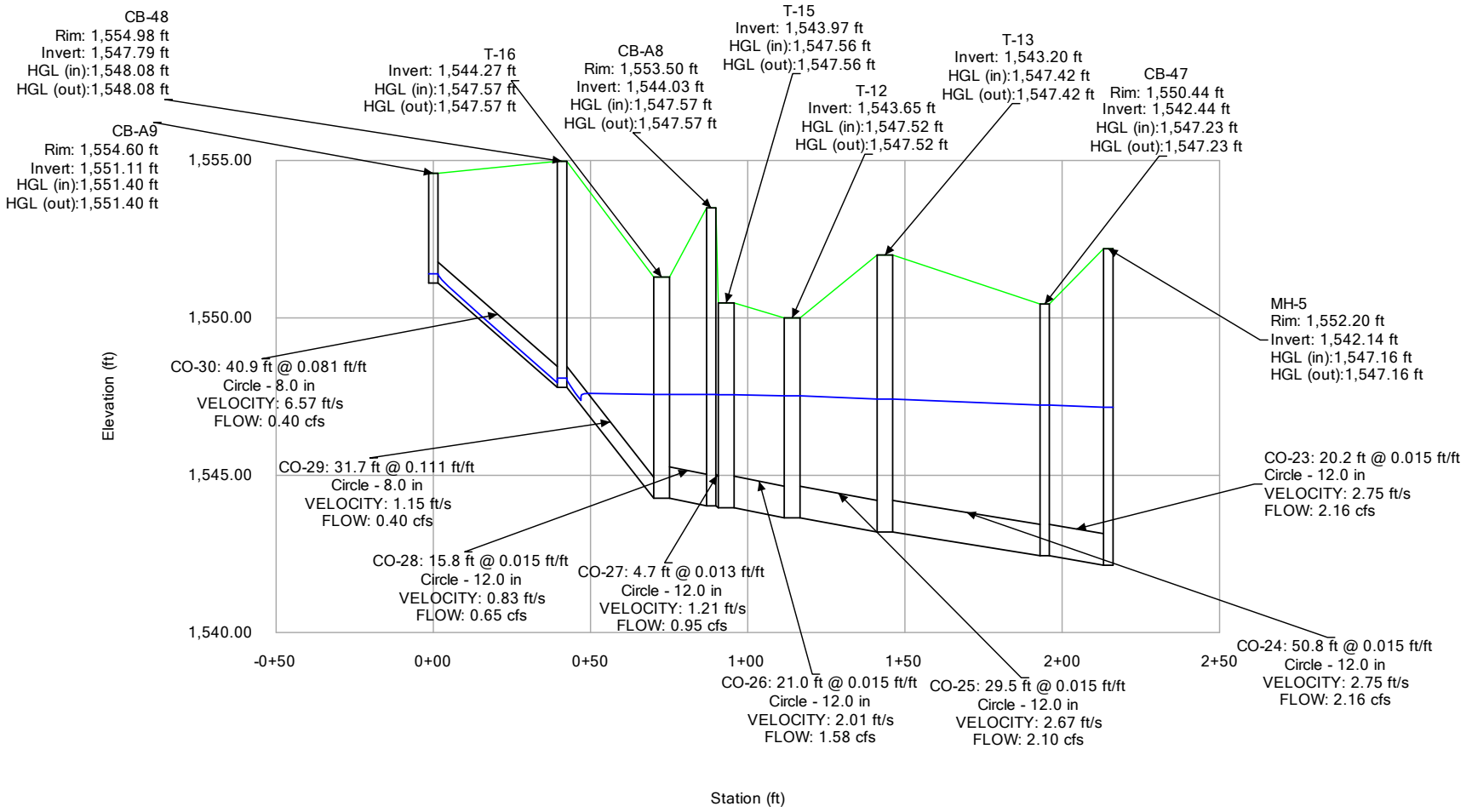
$g = Gravitational\ Constant\ \left(32.2\frac{ft}{s^2}\right)$

$H = Depth\ of\ Water\ Above\ Center\ of\ Orifice\ (ft)$

REV 2.1.21

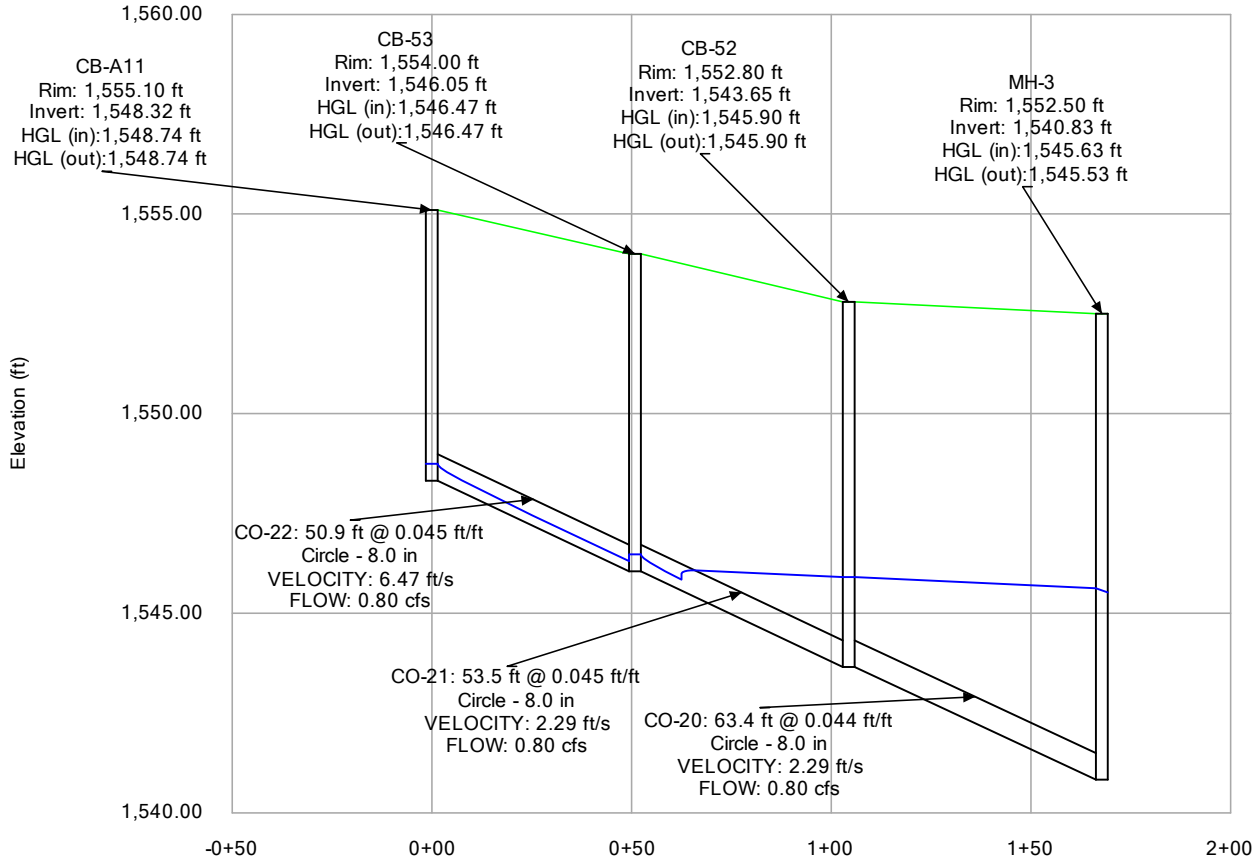
APPENDIX E – STORMCAD MODELING RESULTS

Profile Report
Engineering Profile - CB-A9 TO M-5 (5319.10-StormCAD.stsw)



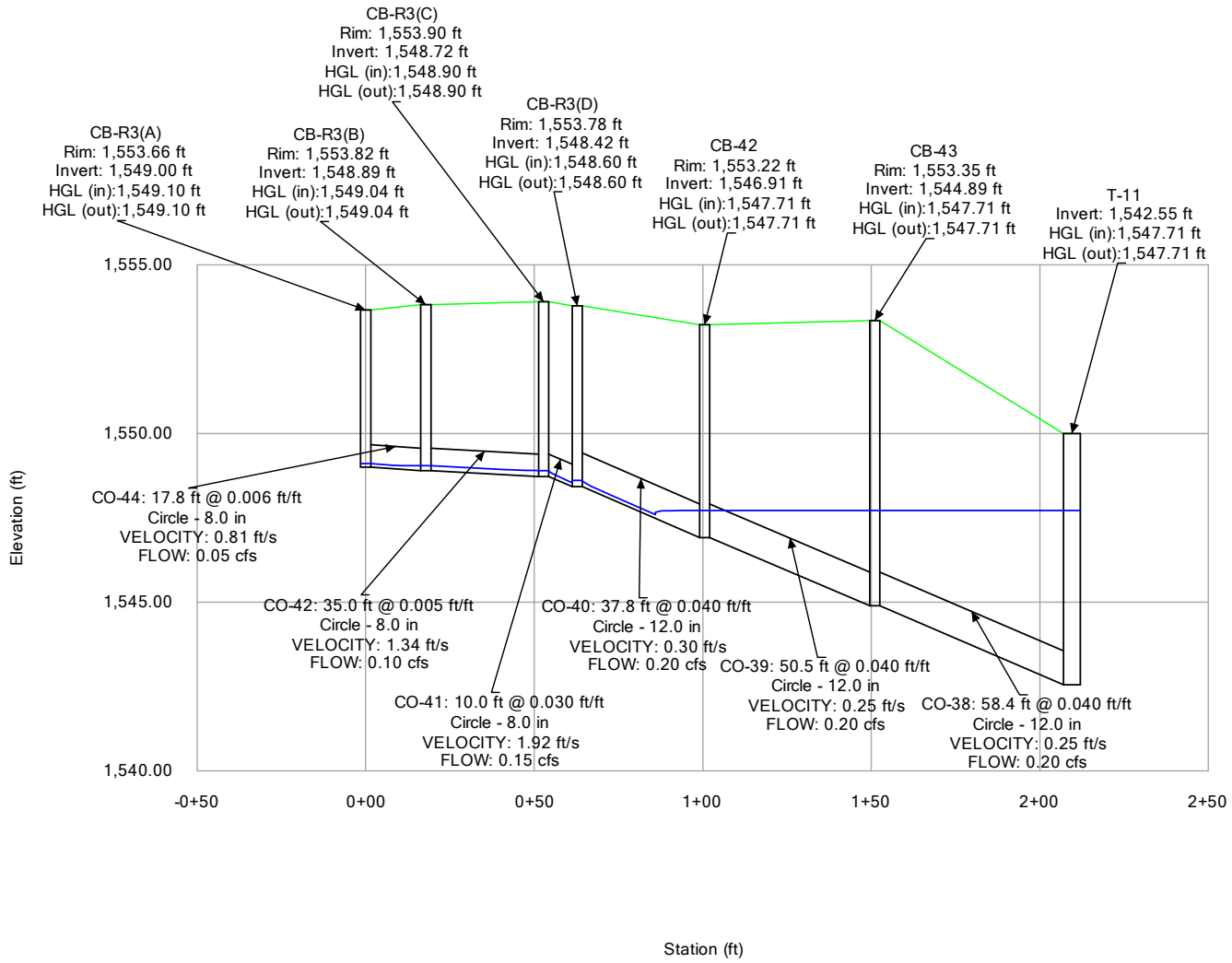
Profile Report

Engineering Profile - CB-A11 TO MH-3 (5319.10-StormCAD.stsw)

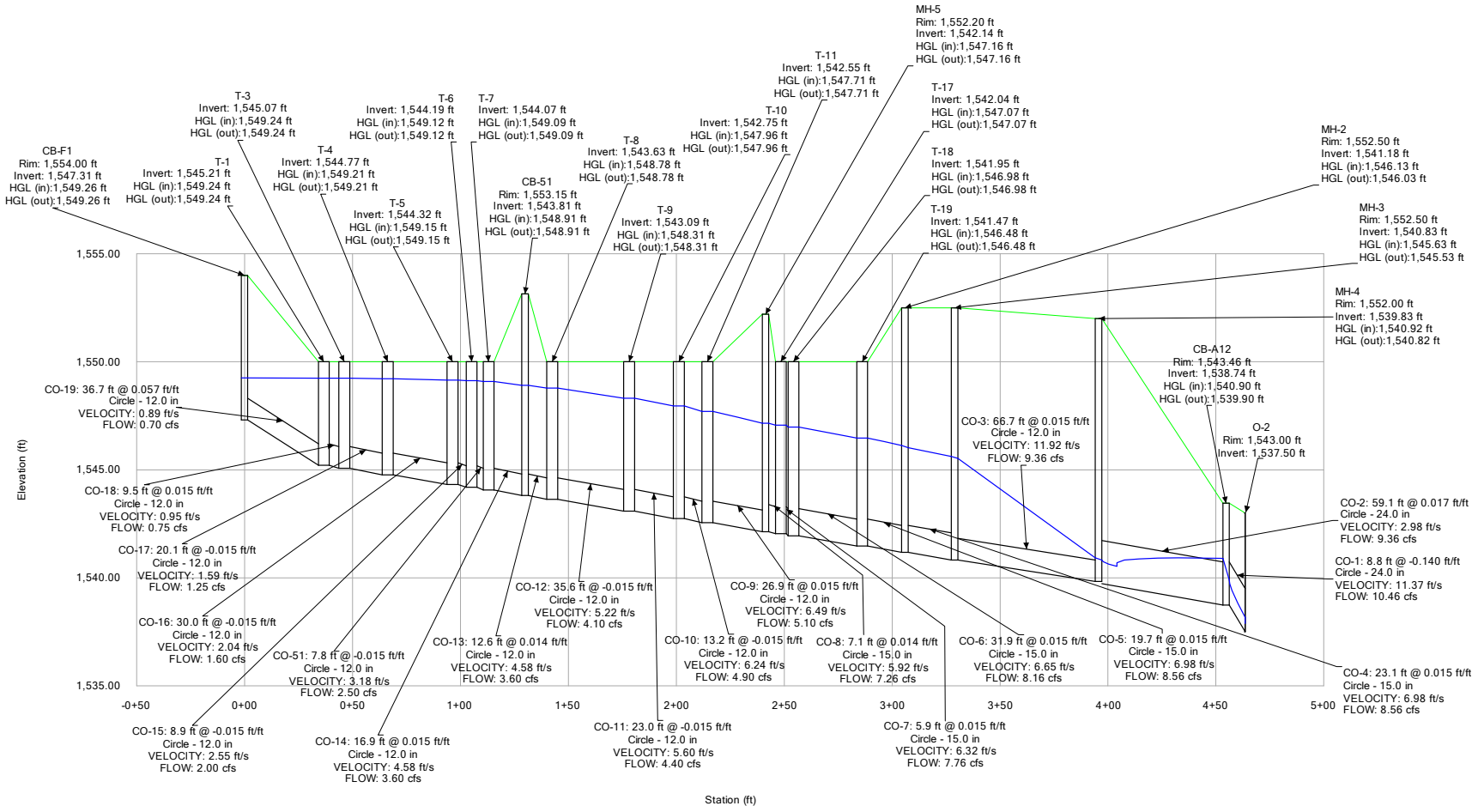


Profile Report

Engineering Profile - CB-R3(A) TO T-11 (5319.10-StormCAD.stsw)



Profile Report
Engineering Profile - F1-O1 (5319.10-StormCAD.stsw)



APPENDIX F – CONTECH DEBRIS SEPARATING BAFFLE BOX TREATMENT SYSTEM

SITE SPECIFIC DATA*

PROJECT NUMBER	742047
PROJECT NAME	FAIRMONT SCOTTSDALE PRINCESS
PROJECT LOCATION	SCOTTSDALE, AZ
STRUCTURE ID	025
WATER QUALITY FLOW RATE (CFS)	1.70
PROVIDED TREATMENT FLOW RATE (CFS)	25.79
PEAK FLOW RATE (CFS)	66.80
PEAK STORM DURATION (YEARS)	10.00

PIPE DATA	I.E.	MATERIAL	DIAMETER
INFLOW PIPE 1	1546.5	HDPE	36
OUTFLOW PIPE 1	1546.5	HDPE	36
RIM ELEVATION	1537.9		
SURFACE LOADING REQUIREMENT			HS20
FRAME AND COVER			(2) 36"x72" (1) 36"ø
CORROSIVE SOIL CONDITIONS			NA
KNOWN GROUNDWATER ELEVATION			NA

NOTES:

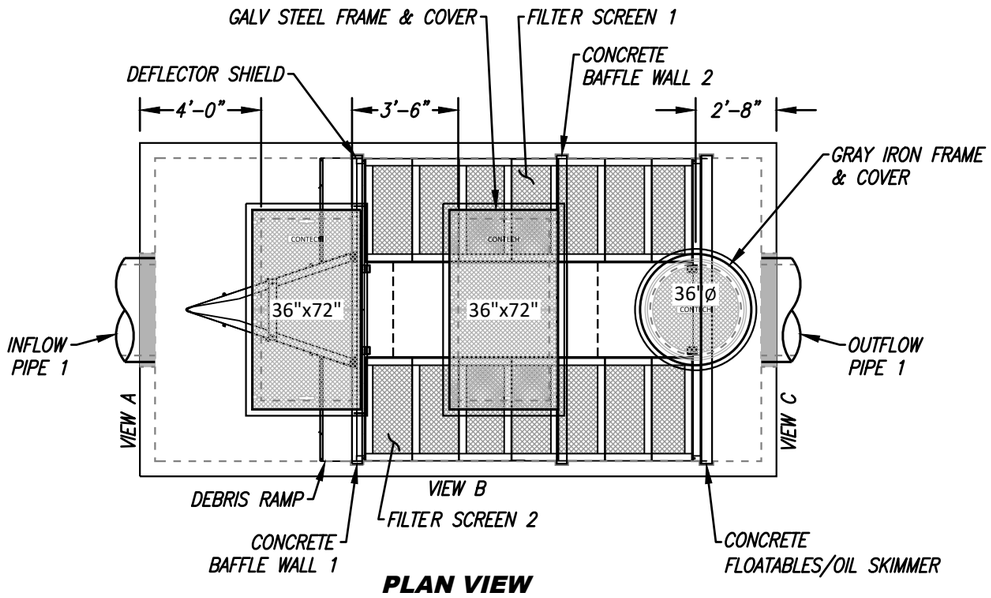
*PER ENGINEER OF RECORD

DSBB PERFORMANCE DATA

TREATMENT FLOW RATE (CFS)	1.70
FULL CAPTURE TRASH FLOW RATE (CFS)	0.00
SETTLING AREA (SF)	200.00
LOADING RATE (GPM/SF)	3.81
SCREEN SYSTEM STORAGE CAPACITY (CF)	163.88
SEDIMENT STORAGE CAPACITY (CF)	580.00
80% TSS REMOVAL @ 231 MICRON	

DSBB STORAGE CAPACITIES

CAGE SCREEN CAPACITY				
	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	TOTAL (CF)
SCREEN 1	11.50	3.17	2.25	81.94
SCREEN 2	11.50	3.17	2.25	81.94
SEDIMENT CHAMBER CAPACITY				
CHAMBER 1	6.50	10.00	3.00	195.00
CHAMBER 2	6.42	10.00	3.00	192.50
CHAMBER 3	6.42	10.00	3.00	192.50



PLAN VIEW

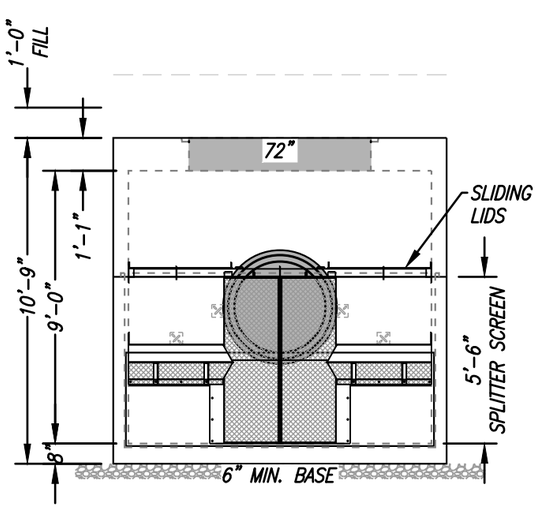
GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS, AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS, AND ACCESSORIES PLEASE CONTACT CONTECH.

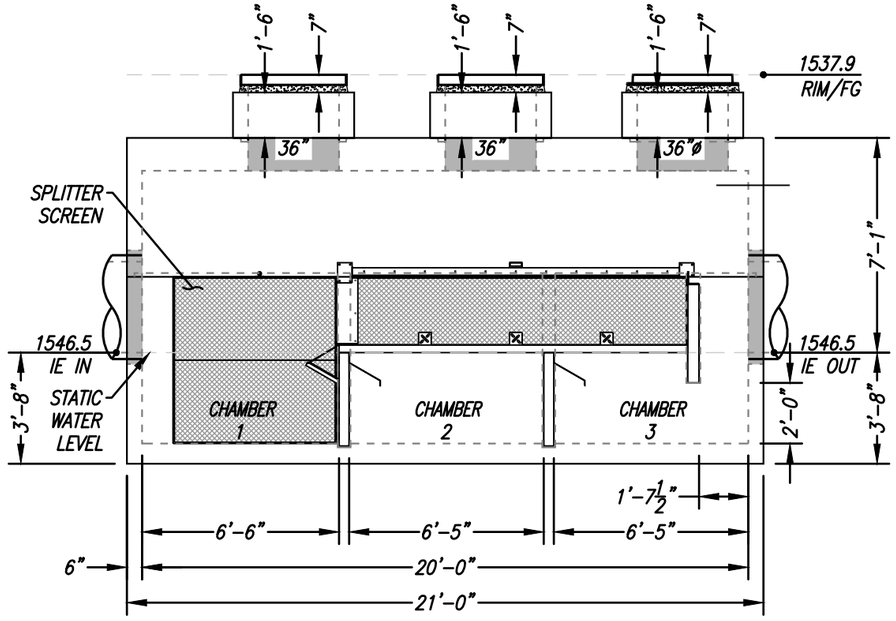
INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE DEBRIS SEPARATING BAFFLE BOX AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. MANUFACTURER RECOMMENDS A 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH).
4. ALL GAPS AROUND PIPES SHALL BE SEALED WATERTIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS AND COVERS. ALL COVERS SHALL BE SHIPPED LOOSE. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.

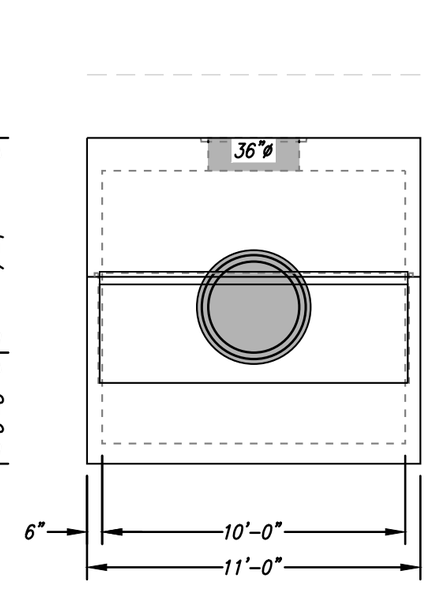
1:60 SCALE



INLET ELEVATION VIEW A



ELEVATION VIEW B



OUTLET ELEVATION VIEW C

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com

DSBB-10-20-108
DUAL STAGE HYDRODYNAMIC SEPARATOR
STANDARD DETAIL

6/12/23DAVID.HOPKINS

Calculation of Head Loss in DSBB Unit

In bypass, if screens are completely clogged.

Project Name	Fairmont Scottsdale Princess – Sunset Villas & Bung
Project #	742047
Location	Scottsdale, AZ
Completed By	DAH

Inputs:

DSBB Size	DSBB-10-20	(Dropdown)

Inlet

Flow (cfs)	66.8

Outlet

Pipe Material	HDPE	(Dropdown)
Pipe Shape	Round	(Dropdown)
Pipe Diameter (in)	36	
Box Width (in)	24	
Box Height (in)	42	

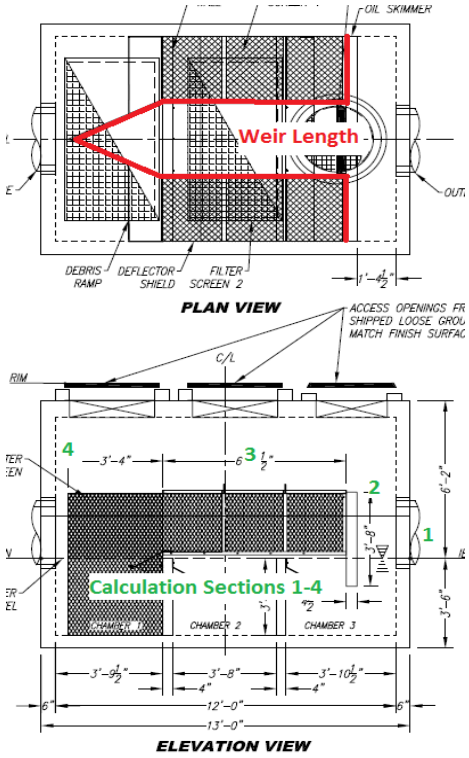
Step 1:
Input design information on left in blue
Step 2:
Change light green cell in Sections 1, 2 and 3 until "OK"

Section 1: Outlet Pipe		Within 5%?	% Error
Depth in Pipe (ft)	2.18	OK	2.98%
Velocity in Pipe (fps)	12.14		
EGL in Pipe (ft)	4.47		

Section 2: Exit Chamber		Within 5%?	% Error
HGL in Exit Chamber (ft)	5.52	OK	1.12%
Velocity in Exit Chmbr (fps)	1.21		
Entrance Loss	1.13		
EGL in Exit Chamber (ft)	5.60		

Section 3: Head Over Weir		Within 5%?	% Error
Length of Weir (ft)	41.80	*Note: Must be larger than	
Weir Submerged?	Submerged	Section 2 HGL	
HGL Before Weir (ft)*	5.523	OK	4.40%

Section 4: Inlet Chamber	
HGL at Entrance Chamber (ft)	5.52
Inside Ceiling to Invert (ft)	6.00
Velocity at Entrance (fps)	1.21
EGL Start of Box	5.55
Total Head Loss (ft) (EGL Weir-EGL Pipe)*1.3	**1.40**



Limitations and Restrictions on Use
(Assumptions required for calculations to be valid)

1. Inlet and outlet pipe sizes are the same diameter.
2. Inlet-pipe flow is subcritical.
3. Flow in outlet-pipe at the exit is critical (no further restrictions down stream).
4. Tops of sediment partitions, inlet-pipe inverts, and outlet-pipe inverts are at the same elevation.
5. Baffle-box ceiling height is always above the water level.
6. Sediment in final chamber does not significantly restrict flow under skimmer panel (if present).
7. Baffle Box is significantly wider than outlet pipe diameter.
8. Top of basket is above water height. (This requirement does not affect these head loss calcuations, but affects retention of flatable debris).

If you have any questions, please contact:
Scott Sertich
scott.sertich@conteches.com

CONTECH® ENGINEERED SOLUTIONS

v8.0
5/23/2023
STS

CONTECH ENGINEERED SOLUTIONS

DEBRIS SEPARATING BAFFLE BOX SCREEN FLOW RATE CALCULATOR

Project ID:	742047
Project Name:	Fairmont Scottsdale Princess – Sunset V
Project Location:	Scottsdale, AZ
Unit ID:	
Date:	6/12/2023

EOR/ Contractor:	Robert Saunders
Designed By:	David Hopkins
CONTECH Rep:	Zach Hubard

Pipe Diameter, D	36	**in.**
	3.00	**ft.**
Safety Factor, SF	1	**unitless**
Treatment Flow Rate	1.70	**cfs**
	763	**gpm**
Water Depth in Pipe, d	5	**in.**
	0.42	**ft.**
Radius, r	18	**in.**
	1.50	**ft.**
% full	13.89%	
Total Area, A	1017.88	**in^2**
	7.07	**ft^2**
Total Perimeter, C	113.10	**in.**
	9.42	**ft**
Wetted Area, Aw	85.62	**in^2**
	0.59	**ft^2**
Wetted Perimeter, P	27.50	**in.**
	2.29	**ft**
Hydraulic Radius, R	3.11	**in.**
	0.259	**ft**
Elevation	Below	
ϕ	1.53	**radians**
s	27.50	**in.**

Step 1:
Input Project Information above in Blue
Step 2:
Input Design Variables into the Green cells to the left. Input the Pipe Diameter and Safety Factor first followed by the required Treatment Flow Rate last. The Cell for the Treatment Flow Rate initiates a looped calculation once the cell value is changed. This variable should always be the last input.

Constants		
Gravity, g	32.174	**ft/s^2**
Discharge Coefficient, C_d	0.66	**unitless**
Screen Open Area, OA	0.37	**%**

HGL_O, HGL at Entrance of Outlet Pipe	0.42	**ft**
ϕ, Central Angle (Theta)	43.76	**deg**
T, Top Water Surface Width	2.07	**ft**
A, Area of Section Flow	0.59	**ft^2**
h_m, Mean Depth of Flow	0.29	**ft**
V_o, Velocity at Entrance of Outlet Pipe	3.04	**ft/s**
Q_o, Volumetric Flow Rate of Outlet Pipe	1.81	**ft^3/s**
Froude Number	1	**unitless**

	RESULTS											
Model	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**4-8-84**	**5-10-84**	**6-12-84**	**8-16-96**	**10-20-108**	**11-24-132**	**11-34-136**
HGL (ft)	N/A	N/A	N/A	N/A	N/A	0.46	0.45	0.44	0.43	0.42	0.42	0.42
Rate (ft3/s)	N/A	N/A	N/A	N/A	N/A	1.81	1.81	1.81	1.81	1.81	1.81	1.81

This spreadsheet performs iterative calculations to determine the screened treatment flow rate and the associated maximum HGL inside of the DSBB at this treatment flow rate. The user only needs to input the required pipe size, safety factor and desired volumetric treatment flow rate. The spreadsheet is designed to incrementally increase the water elevation of the outlet pipe until the desired treatment flow rate is achieved. A simultaneous set of calculations is performed during this incremental step to determine the headloss through the DSBB as a result of the water passing through the box and the screen. The basis for these calculations is the Bernoulli Energy Equation combined with an empirically determined equation for the losses associated with the screen. Flow rate, velocity, flow area, and constants are direct factors to the outcome of these calculations.

Limitations and Restrictions on Use (Assumptions required for calculations to be valid)

1. Inlet and outlet pipe sizes are the same diameter.
2. Inlet-pipe flow is subcritical.
3. Flow in outlet-pipe at the exit is critical (no further restrictions down stream).
4. Tops of sediment partitions, inlet-pipe inverts, and outlet-pipe inverts are at the same elevation.
5. The DSBBB ceiling height is always above the water level.
6. Sediment in final chamber does not significantly restrict flow under skimmer panel (if present).
7. The DSBB screen channel is not significantly wider than outlet pipe diameter.
8. Top of basket is above water height. (This requirement does not affect these head loss calculations, but affects retention of floatable debris.)

Revision: DSBB Screen Flow Calculator Full Capture round pipe.xlsm

APPENDIX G – FAIRMONT SCOTTSDALE PRINCESS – SUNSET VILLAS & BUNGALOWS CONSTRUCTION DOCUMENTS

FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
SCOTTSDALE, ARIZONA
A PORTION OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

ENGINEER'S NOTES

1. MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION INCLUDING LATEST REVISION AND CURRENT SUPPLEMENTALS THEREOF PER THE LOCAL TOWN OR CITY) ARE INCORPORATED INTO THIS PLAN IN THEIR ENTIRETY.
2. ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION COVERED BY THIS PLAN SHALL BE IN ACCORDANCE WITH THE M.A.G. STANDARD SPECIFICATIONS AND DETAILS AND CURRENT SUPPLEMENTS THEREOF PER THE LOCAL CITY OR TOWN UNLESS SPECIFIED OTHERWISE IN THESE PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL REQUIRED STANDARD SPECIFICATIONS, DETAILS AND SUPPLEMENTS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, SEQUENCING, AND SAFETY CONCERNS ASSOCIATED WITH THIS PROJECT DURING CONSTRUCTION, UNLESS SPECIFICALLY ADDRESSED OTHERWISE IN THIS PLAN OR ELSEWHERE IN THE CONTRACT.
4. THE CONTRACTOR IS TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION COVERED BY THIS PLAN.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE ALL WORK COVERED BY THIS PLAN.
6. THE QUANTITIES AND SITE CONDITIONS DEPICTED IN THESE PLANS ARE FOR GENERAL INFORMATIONAL PURPOSES ONLY AND MIGHT NOT REFLECT ACTUAL QUANTITIES AND SITE CONDITIONS. CONTRACTORS SHALL SATISFY THEMSELVES AS TO ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
7. A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL 48 HOURS IN ADVANCE FOR BLUE STAKE (1-800-STAKE-IT) PRIOR TO ANY EXCAVATION.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION OF CONSTRUCTION AFFECTING UTILITIES AND THE COORDINATION OF ANY NECESSARY UTILITY RELOCATION WORK.
9. ALL PAVING, GRADING, EXCAVATION, TRENCHING, PIPE BEDDING, CUT FILL AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THE SOILS (GEOTECHNICAL) REPORT FOR THIS PROJECT IN ADDITION TO THE REFERENCED REQUIRED SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL BE AWARE THAT CERTAIN UTILITIES REQUIRE PROPER ATTENTION AND CAREFUL PLANNING DURING SITE CONSTRUCTION. PLEASE NOTE THAT UTILITIES ON THESE PLANS MAY NOT EXHIBIT THE FULL PROTECTIVE COVER REQUIRED DURING THE SUBGRADE PREPARATION PHASE OF THE CONSTRUCTION. IN SUCH INSTANCES, THE CONTRACTOR SHALL PROVIDE ADDITIONAL PROTECTION (SUCH AS RAMPING) OR INCREASED PIPE STRENGTH TO PROVIDE THE NECESSARY PROTECTION REQUIRED TO PREVENT DAMAGE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL HOLD THE ENGINEER HARMLESS IN ALL CASES FOR DAMAGES TO UTILITIES WHERE INADEQUATE PROTECTIVE MEASURES OCCUR.
10. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES AT POINTS OF TIE-IN PRIOR TO COMMENCING ANY NEW CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AGENT.
11. CONTRACTOR TO VERIFY AND COORDINATE ALL DIMENSIONS AND SITE LAYOUT WITH ARCHITECT'S FINAL SITE PLAN AND FINAL BUILDING DIMENSIONS BEFORE STARTING WORK. REPORT DISCREPANCIES TO OWNER'S AGENT.
12. COORDINATION BETWEEN ALL PARTIES IS ESSENTIAL PART OF CONTRACT.
13. CONTRACTOR IS RESPONSIBLE FOR PROJECT AND SITE CONDITIONS, AND TO WORK WITH WEATHER CONDITIONS AS THE PROJECT SITE MAY BE LOCATED IN A FLOOD PRONE AREA AND SUBJECT TO FLOODING AND ITS HAZARDS.
14. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER, OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITION, OR PAVEMENT CROSS-SLOPE DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THESE PLANS NOT ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.
15. CONTRACTOR IS RESPONSIBLE TO COORDINATE UTILITY CROSSINGS AT CULVERT CROSSINGS BEFORE STARTING WORK ON CULVERT. COORDINATE WITH OWNER REPRESENTATIVE. VERIFY UTILITY LINES AND/OR CONDUITS ARE IN PLACE BEFORE STARTING CULVERT WORK.
16. CONSTRUCT RETENTION BASIN AS SHOWN. CONTRACTOR TO SCARIFY BOTTOM OF BASIN TWO FEET DEEP AND NOT ALLOW COMPACTION OVER 80%.
17. THIS PROJECT REQUIRES A REGULAR ONGOING MAINTENANCE PROGRAM FOR THE DESIGNED DRAINAGE SYSTEM(S) TO PRESERVE THE DESIGN INTEGRITY AND THE ABILITY TO PERFORM ITS OPERATIONAL INTENT. FAILURE TO PROVIDE MAINTENANCE WILL JEOPARDIZE THE DRAINAGE SYSTEM(S)' PERFORMANCE AND MAY LEAD TO IT'S INABILITY TO PERFORM PROPERLY AND/OR CAUSE DAMAGE ELSEWHERE IN THE PROJECT.
18. SEWER LINES DESIGNED IN PROFILE AND PUBLIC WATER LINES ARE REQUIRED TO BE ASBUILT AND THE INSTALLATION AND TESTING WITNESSED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH ARIZONA ADMINISTRATIVE CODES R18-9-E301 "4.01 GENERAL PERMIT: SEWAGE COLLECTIONS SYSTEMS" AND R18-5-507 AND 508 "APPROVAL OF CONSTRUCTION" AND "RECORD DRAWINGS", RESPECTIVELY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY OWNER 72 HOURS IN ADVANCE WHEN THOSE SYSTEMS ARE READY TO BE WITNESSED.
19. THE WORK PRODUCT PRESENTED IS BELIEVED TO BE COMPLIANT WITH THE INTENT OF THE CURRENT AMERICANS DISABILITIES ACT (ADA) REQUIREMENTS AS INTERPRETED BY THE REVIEWING AGENCY(S); IF CONSTRUCTION OF THE PROJECT IS DELAYED, THIS WORK PRODUCT SHOULD BE UPDATED TO ACCOUNT FOR ANY RELEVANT ADA UPDATES BEFORE CONSTRUCTION BEGINS.
20. LOWEST FLOOR (LF) REFERS TO EITHER FLOOR/SLAB ELEVATION OR TOP OF BASEMENT SLAB. LF ELEVATIONS ON THE GRADING AND DRAINAGE PLANS FOR RESIDENTIAL UNITS REFLECT SLAB ON GRADE CONDITIONS AND CANNOT BE LOWERED WITHOUT AGENCY APPROVAL IN LOCATIONS WHERE 'SPECIAL FLOOD HAZARD AREAS' EXIST. IN NON-FLOOD HAZARD LOCATIONS, TO ENSURE THAT ADEQUATE RESIDENTIAL LOT DRAINAGE CAN BE ACHIEVED, A PROFESSIONAL ENGINEER SHOULD BE CONSULTED IF THE LF FOR THE SLAB IS PROPOSED TO BE LOWERED, OR IF A BASEMENT IS TO BE CONSTRUCTED.

EARTHWORK QUANTITIES (ESTIMATED)

RAW CUT:	687	CY
RAW FILL:	6,689	CY

QUANTITIES ARE ESTIMATED IN PLACE. NO PRECOMPACTION, SHRINK OR SWELL IS ASSUMED.

CITY OF SCOTTSDALE NOTES

PLEASE REFER TO SHEET C2 FOR CITY OF SCOTTSDALE NOTES.

QUANTITIES

PLEASE REFER TO SHEET C2 FOR ESTIMATED QUANTITIES FOR WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS.

LEGEND

PLEASE REFER TO SHEET C2 FOR LEGEND AND LIST OF ABBREVIATIONS.

FINISH FLOOR ELEVATION CALCULATION

FEMA SUMMARY TABLE				
NAME	LF_{88}	HAG	LAG	RFD
BUILDINGS				
VILLA 1	1,554.00	1,551.08	1,550.06	1,553.08
VILLA 2	1,554.00	1,551.08	1,550.06	1,553.08
VILLA 3	1,554.00	1,550.51	1,549.47	1,552.51
VILLA 4	1,555.30	1,549.6	1,548.45	1,551.60
VILLA 5	1,553.20	1,549.75	1,548.97	1,551.75
VILLA 6	1,553.30	1,549.37	1,548.35	1,551.37
BUNGALOW 1	1,552.80	1,548.07	1,547.16	1,550.07
BUNGALOW 2	1,554.00	1,548.29	1,547.39	1,550.29
BUNGALOW 3	1,555.10	1,548.31	1,547.41	1,550.31

ALL ELECTROMECHANICAL EQUIPMENT SHALL BE ELEVATED TO RFD ELEVATION.

ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION: 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 ONE-HUNDRED YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE REVISED CODE, CHAPTER 37-FLOODPLAIN AND STORMWATER REGULATIONS.

"THE ENGINEER OF RECORD ON THESE PLANS HAS RECEIVED A COPY OF THE APPROVED STIPULATIONS FOR THIS PROJECT AND HAS DESIGNED THESE PLANS IN CONFORMANCE WITH THE APPROVED STIPULATIONS."

ENGINEER SIGNATURE — DATE 06/13/2023

FEMA FIRM NOTE (ZONE AO)

ACCORDING TO FEMA FLOOD INSURANCE RATE MAPPING, THE SUBJECT PROPERTY IS LOCATED IN 'SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD' "ZONE AO". ZONE AO IS DESCRIBED AS: "FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY SHEET FLOW ON SLOPING TERRAIN); AVERAGE DEPTHS DETERMINED. FOR AREAS OF ALLUVIAL FAN FLOODING, VELOCITIES ALSO DETERMINED."

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM	INDEX DATE	FIRM ZONE	BASE FLOOD ELEVATION (IN AO ZONE, USE DEPTH)
04013C	1320	L	10/16/2013	07/20/2021	AO	1

PARCEL DESCRIPTION

PARCEL NO. 2: (TENNIS COTTAGES PARCEL)
THAT PORT OF THE SOUTHWEST ONE-QUARTER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTH ONE-QUARTER CORNER OF SAID SECTION 35;
THENCE NORTH 00 DEGREES 08 MINUTES 41 SECONDS EAST, ALONG THE NORTH-SOUTH MED-SECTION LINE OF SAID SECTION 35, A DISTANCE OF 1486.58 FEET;
THENCE NORTH 89 DEGREES 49 MINUTES 06 SECONDS WEST, 840.00 FEET OF THE POINT OF BEGINNING;
THENCE SOUTH 27 DEGREES 44 MINUTES 13 SECONDS EAST, 177.75 FEET;
THENCE SOUTH 83 DEGREES 46 MINUTES 19 SECONDS EAST, 39.13 FEET;
THENCE SOUTH 26 DEGREES 47 MINUTES 27 SECONDS EAST, 26.35 FEET;
THENCE SOUTH 58 DEGREES 07 MINUTES 53 SECONDS EAST, 43.04 FEET;
THENCE SOUTH 88 DEGREES 18 MINUTES 25 SECONDS EAST, 29.86 FEET;
THENCE SOUTH 07 DEGREES 07 MINUTES 02 SECONDS EAST, 47.49 FEET;
THENCE SOUTH 66 DEGREES 38 MINUTES 00 SECONDS WEST, 275.66 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS OF 150.00 FEET;
THENCE SOUTH WESTERLY ALONG SAID CURVE THOUGH A CENTRAL ANGLE OF 12 DEGREES 08 MINUTES 15 SECONDS, AN ARCH DISTANCE OF 31.78 FEET;
THENCE SOUTH 54 DEGREES 29 MINUTES 46 SECONDS WEST, 446.31 FEET;
THENCE NORTH 84 DEGREES 49 MINUTES 13 SECONDS WEST, 43.57 FEET;
THENCE NORTH 00 DEGREES 01 MINUTES 45 SECONDS EAST, 619.54 FEET;
THENCE SOUTH 89 DEGREES 49 MINUTES 06 SECONDS EAST, 377.78;
THENCE NORTH 00 DEGREES 01 MINUTES 45 SECONDS EAST, 18.00 FEET;
THENCE SOUTH 89 DEGREES 49 MINUTES 06 SECONDS EAST, 103.52 FEET TO THE POINT OF BEGINNING.
EXCEPT ONE-HALF OF ALL OIL AND MINERAL RIGHTS AS RESERVED IN INSTRUMENT RECORDED IN BOOK 124, PAGE 39, RECORDS OF MARICOPA COUNTY, ARIZONA; AND ALSO
EXCEPT ALL OIL GAS, OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, METALS, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION; AND ALSO
EXCEPT ALL URANIUM, THORIUM OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIALS WHETHER OR NOT OF COMMERCIAL VALUE, AS SET FORTH IN SECTION 37-231, ARIZONA REVISED STATUTES.

SOILS REPORT NOTE

A SOILS GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROJECT TITLED FAIRMONT CASITAS ADDITION BY ALPHA GEOTECHNICAL & MATERIALS, INC. DATED DECEMBER 15, 2021. REPORT NO. 21-G-12692.

STIPULATION CONFORMANCE STATEMENT

"THE ENGINEER OF RECORD ON THESE PLANS HAS RECEIVED A COPY OF THE APPROVED STIPULATIONS FOR THIS PROJECT AND HAS DESIGNED THESE PLANS IN CONFORMANCE WITH THE APPROVED STIPULATIONS."

ENGINEER SIGNATURE — DATE 06/13/2023

NO CONFLICT SIGNATURE BLOCK

UTILITY	UTILITY COMPANY	NAME OF COMPANY REPRESENTATIVE	TELEPHONE NUMBER	DATE CONTACTED	DATE SIGNED
ELECTRIC	ARIZONA PUBLIC SERVICE	HAILEY PARKS	602-493-4401	08/22/2022	
TELEPHONE	LUMEN	JEANETTE DEBOARD	480-221-7810	08/22/2022	
NATURAL GAS	SOUTHWEST GAS	ANDY SAKS	480-730-3857	08/22/2022	
CABLE TV	COX COMMUNICATIONS	JACOB HORSMAN	-	08/22/2022	
OTHER	MCI	RICHARD YOUNG	602-615-8995	08/22/2022	

ENGINEER'S CERTIFICATION

I DARIN L. MOORE, P.E., AS THE ENGINEER OF RECORD FOR THIS DEVELOPMENT, HEREBY CERTIFY THAT ALL UTILITY COMPANIES LISTED ABOVE HAVE BEEN PROVIDED FINAL IMPROVEMENT PLANS FOR REVIEW, AND THAT ALL CONFLICTS IDENTIFIED BY THE UTILITIES HAVE BEEN RESOLVED. IN ADDITION, "NO CONFLICT" FORMS HAVE BEEN OBTAINED FROM EACH UTILITY COMPANY AND ARE INCLUDED IN THIS SUBMITTAL. 01/30/2023

SIGNATURE — DATE 06/13/2023

SHEET INDEX

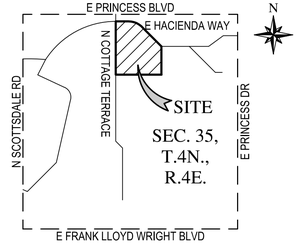
BENCHMARK

CITY OF SCOTTSDALE BRASS CAP FLUSH 450'± NORTH OF PRINCESS DRIVE ON SCOTTSDALE ROAD, BEING THE WEST QUARTER CORNER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST.
CITY OF SCOTTSDALE DATUM, NAVD88 DATUM
ELEVATION=1553.22'.

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON NAVD 1988, MCDOT, AND MEET THE FEMA BENCHMARK MAINTENANCE (BMM) CRITERIA.

PUBLIC UTILITIES

WATER	CITY OF SCOTTSDALE
SEWER	CITY OF SCOTTSDALE
ELECTRIC	APS
TELEPHONE	CENTURYLINK
NATURAL GAS	SOUTHWEST GAS
CABLE TV	COX COMMUNICATIONS



VICINITY MAP
N.T.S.

OWNER / DEVELOPER

STRATEGIC HOTELS & RESORTS
150 NORTH RIVERSIDE PLAZA, SUITE 4270
CHICAGO, IL 60606
CONTACT: TIMOTHY TAYLOR
PHONE: (312) 658-6038

ENGINEER

WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN AVENUE, SUITE 100
PHOENIX, ARIZONA 85021
CONTACT: DARIN MOORE, P.E.
PHONE: (602) 335-8500
FAX: (602) 335-8580

ARCHITECT

KOLLIN ALTOMARE ARCHITECTS
4265 E. CONANT STREET, SUITE 101
LONG BEACH, CA 90808
CONTACT: PAUL ALTOMARE
PHONE: (562) 597-8760

PROJECT SITE DATA

ASSESSOR PARCEL NUMBER(S):
215-08-695
PROJECT SITE ADDRESS:
7505 EAST PRINCESS BOULEVARD
SCOTTSDALE, ARIZONA
PROJECT SITE AREA(S):
NET AREA = 6.09 AC
DISTURBED AREA = 1.96± AC
ZONING:
C2

CITY OF SCOTTSDALE CIVIL APPROVAL

REVIEW & RECOMMENDED APPROVAL BY:

PAVING		SIGNS & MARKINGS	
GRADING & DRAINAGE		PLANNING	
WATER & SEWER		FIRE	
RETAINING WALLS		SIGNALS & STREET	

ENGINEERING DEPARTMENT MANAGER — DATE

WOOD PATEL
Wood, Patel & Associates, Inc.
Civil Engineering
Water Resources
Land Survey
Construction Management
602.335.8500
www.woodpatel.com

FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
COVER SHEET

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/30/2023
ARIZONA U.S.A.
EXPIRES 06-30-25

SCALE (HORIZ.) N/A
SCALE (VERT.) N/A
DATE 06/13/2023
JOB NUMBER 215319.10
SHEET C1 OF 18

Z:\2021\215319\Dwg\Imp\5319.10 - Sunset Bungalows\5319.10-CV SB.dwg

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

CITY OF SCOTTSDALE NOTES

GENERAL CONSTRUCTION NOTES FOR CAPITAL PROJECTS

1. ALL IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THE 2020 MARICOPA COUNTY ASSOCIATION OF GOVERNMENTS STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE SUPPLEMENTAL STANDARD SPECIFICATIONS AND DETAILS AND CITY OF SCOTTSDALE'S DESIGN STANDARDS & POLICIES MANUAL (DS&PM). IF THERE IS A CONFLICT, THE LATTER SHALL APPLY. ALL FACILITIES CONSTRUCTION SHALL COMPLY WITH THE LATEST BUILDING CODES AS AMENDED AND ADOPTED BY THE CITY OF SCOTTSDALE.
2. THE ENGINEERING DESIGNS ON THESE PLANS ARE APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. BASED ON THE INFORMATION SUBMITTED ON THE PLANS AND ASSOCIATED DOCUMENTS, THE CITY HAS REVIEWED AND FOUND THEM TO BE IN ACCORDANCE WITH THE SCOTTSDALE REVISED CODE AND ARE ACCEPTABLE FOR PERMIT ISSUANCE. THIS ACCEPTANCE BY THE CITY DOES NOT AUTHORIZE VIOLATIONS OF ANY APPLICABLE CODE, ORDINANCE OR STANDARD AS ADOPTED BY THE SCOTTSDALE REVISED CODE.
4. APPROVAL OF THE PLANS BY THE CITY IS VALID FOR SIX MONTHS. IF A PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN SIX MONTHS OF REVIEW, THE PLANS SHALL BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
5. ANY DEVIATION FROM THE APPROVED PLANS SHALL BE REVIEWED AND APPROVED BY THE CITY PRIOR TO THAT CHANGE BEING INCORPORATED INTO THE PROJECT.
6. A CITY CAPITAL PROJECTS INSPECTOR WILL INSPECT ALL WORK WITHIN THE CITY RIGHTS-OF-WAY, EASEMENTS AND FACILITIES.
7. ANY SPECIAL INSPECTION REQUIRED SHALL BE IN ADDITION TO ANY ROUTINE INSPECTION BY THE CITY.
8. CITY ENCROACHMENT AND BUILDING PERMITS ARE REQUIRED FOR WORK IN PUBLIC RIGHTS-OF-WAY, EASEMENTS GRANTED FOR PUBLIC PURPOSES AND FACILITIES. PERMITS WILL BE ISSUED BY THE CITY THROUGH THE CITY'S ONE STOP SHOP. COPIES OF ALL PERMITS SHALL BE RETAINED ON-SITE AND SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE WORK STOPPAGE UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR SALVAGING PROTECTED NATIVE PLANTS PRIOR TO THE START OF CONSTRUCTION.
10. CONTRACTOR SHALL CONTACT AZ 811 TWO FULL WORKING DAYS PRIOR TO BEGINNING EXCAVATION.
11. ALL EXCAVATION AND GRADING WHICH IS NOT IN PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC PURPOSES MUST CONFORM TO SECTION 1803 AND APPENDIX J OF THE LATEST INTERNATIONAL CODE COUNCIL AS ADOPTED AND AMENDED BY THE CITY OF SCOTTSDALE. A PERMIT FOR THIS GRADING MUST BE SECURED FROM THE CITY.
12. THRUST RESTRAINT, WHERE REQUIRED, ON ALL CITY WATER LINES SHALL BE PROVIDED USING MEGALUG MECHANICAL JOINT RESTRAINTS OR CITY-APPROVED EQUAL.
13. ANY ASPHALT MIX DESIGN USED ON CITY PROJECTS SHALL HAVE BEEN APPROVED FOR THAT USE PER SECTION 5-10 OF THE CITY'S DS&PM AND APPEAR ON THE "APPROVED LIST OF ASPHALT MIXES" AS DISTRIBUTED BY THE EAST VALLEY ASPHALT COMMITTEE (EVAC).
14. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND REPLACE, AT NO ADDITIONAL COST TO THE CITY, ANY AND ALL PAVEMENT, SIDEWALK, CURB AND GUTTER, DRAINAGE STRUCTURES, ETC. OUTSIDE THE PAY LIMIT THAT ARE DAMAGED DUE TO THEIR ACTIVITIES ON THE PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, THE REMOVAL AND REPLACEMENT OF NEWLY CRACKED ROADWAY INFRASTRUCTURE, THE REMOVAL AND REPLACEMENT OF EXISTING CRACKED ROADWAY INFRASTRUCTURE WHERE THE CRACKS HAVE BEEN ENLARGED DUE TO THE CONTRACTOR'S OPERATIONS, THE REMOVAL AND REPLACEMENT OF DEFORMED ROADWAY INFRASTRUCTURE. ALL SAWCUTS USED FOR THE REMOVAL OF THESE ITEMS SHALL BE PERPENDICULAR AND PARALLEL TO THE CENTERLINE CONTROLLING THAT ITEM, OR AT THE DIRECTION OF THE CITY'S CAPITAL PROJECTS INSPECTOR.
15. ALL CAPITAL IMPROVEMENT PROJECTS SHALL MEET THE PROCEDURES AND STANDARDS FOR THE USE OF TEMPORARY/SECURITY FENCING AROUND THE PERIMETER OF CONSTRUCTION SITES, AS DEFINED IN THE CITY'S ZONING ORDINANCE, ARTICLE VII, SECTION 7.700.

GENERAL NOTES FOR PUBLIC WORKS CONSTRUCTION

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MAG UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF SCOTTSDALE SUPPLEMENTAL STANDARD SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS. IF THERE IS A CONFLICT, THE CITY'S SUPPLEMENTAL STANDARD DETAILS WILL GOVERN.
2. THE CITY ONLY APPROVES THE SCOPE, NOT THE DETAIL, OF ENGINEERING DESIGNS; THEREFORE, IF CONSTRUCTION QUANTITIES ARE SHOWN ON THESE PLANS, THEY ARE NOT VERIFIED BY THE CITY.
3. THE APPROVAL OF PLANS IS VALID FOR SIX (6) MONTHS. IF A RIGHT-OF-WAY PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN THIS TIME FRAME, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
4. A CITY INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF SCOTTSDALE. NOTIFY INSPECTION SERVICES 72 HOURS BEFORE BEGINNING WORK.
5. WHENEVER EXCAVATION IS NECESSARY, CALL THE BLUE STAKE CENTER, 811, TWO WORKING DAYS BEFORE EXCAVATION BEGINS.
6. PERMISSION TO WORK IN THE RIGHT-OF-WAY (PWR) PERMITS ARE REQUIRED FOR ALL WORKS WITHIN THE RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. COPIES OF ALL PERMITS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL THE PROPER PERMIT DOCUMENTATION IS OBTAINED.

FIRE NOTE:

1. ALL PRIVATE STREETS AND DRIVES SHALL CONFORM TO THE FIRE DEPARTMENT GUIDELINES FOR EMERGENCY VEHICLE ACCESS.

SEWER NOTE:

1. THE ONSITE SEWER SYSTEM CONSTRUCTED BY THIS PLAN SET IS A PRIVATE SYSTEM AND WILL NOT BE MAINTAINED BY THE CITY OF SCOTTSDALE.
2. MAINTENANCE OF THE ONSITE SEWER SYSTEM IS THE RESPONSIBILITY OF THE OWNER.

WATER NOTE:

1. THE WATER SYSTEM SHOWN HEREIN HAS BEEN DESIGNED TO ADEQUATELY SUPPLY WATER IN SUFFICIENT QUANTITY AND PRESSURE TO MEET LOCAL FIRE REQUIREMENTS.

PAVING QUANTITIES WITHIN PUBLIC RIGHT-OF-WAY (ESTIMATED)

3" A.C. OVER 5" A.B.C.	858	SY
8" P.C.C. OVER 4" A.B.C.	19	SY
6" VERTICAL CURB & GUTTER	349	LF
MOUNTABLE CURB	29	LF
6" SINGLE CURB	13	LF
CONCRETE SIDEWALK	10,605	SF
CURB TRANSITION	2	EA
SIDEWALK RAMP	1	EA

PUBLIC WATER QUANTITIES (ESTIMATED)

4" DIP WATER LINE	406	LF
3" WATER LINE	169	LF
4" DOMESTIC WATER SERVICE & METER	1	EA
4" DOUBLE CHECK VALVE BACKFLOW	1	EA
CONNECT TO EXISTING WATERLINE	3	EA

PUBLIC SEWER QUANTITIES (ESTIMATED)

CONNECT TO EXISTING SEWER LINE	1	EA

LEGEND

EXISTING SURVEY

- SECTION LINE
- RIGHT OF WAY
- PROPERTY LINE
- ROAD CENTERLINE
- EASEMENT
- SURVEY MARKER
- E — UG ELECTRIC (BURIED CABLE)
- E (CONDUIT) — UG ELECTRIC (CONDUIT)
- E (DUCT BANK) — UG ELECTRIC (DUCT BANK)
- OHE — OVERHEAD ELECTRIC
- OHT — OVERHEAD TELEPHONE
- T — UG TELEPHONE
- TV — CABLE TELEVISION
- OHTV — OVERHEAD CABLE TELEVISION
- T (DUCT BANK) — TELEPHONE DUCT BANK
- BARBED WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- BLOCK WALL
- 4"G (MATERIAL) — GAS LINE
- 8"S (MATERIAL) — SEWER LINE
- STORM DRAIN PIPE
- 4"IRR (MATERIAL) — IRRIGATION LINE
- 8"W (MATERIAL) — WATER LINE
- CURB
- SIDEWALK
- -1300- — MAJOR CONTOUR
- -1299- — MINOR CONTOUR
- VEGETATION
- BUILDING
- (S) — SEWER MANHOLE
- (D) — STORM DRAIN MANHOLE
- (T) — TELEPHONE MANHOLE
- P 0.00 — SPOT ELEVATION
- SIGN
- JUNCTION BOX/RISER
- FIRE HYDRANT
- WATER VALVE
- STREET/PARKING LIGHT
- UTILITY POLE
- CATCH BASIN

PROPOSED GRADING, DRAINAGE & PAVING

- 1300 — MAJOR CONTOUR
- 1299 — MINOR CONTOUR
- C 0.00 / P 0.00 — SPOT ELEVATIONS
- STORM DRAIN PIPE
- STORM DRAIN CATCH BASIN
- 1.0% — SLOPE ARROW
- GB / RIDGE — GRADE BREAK/RIDGE
- RIP RAP
- TW 0.00 / TF 0.00 — WALL ELEVATION
- ROOF DRAIN/DRAIN ARROW
- DRYWELL
- OUTFALL ELEVATION EL:XX.XX — SITE ULTIMATE OUTFALL LOCATION & ELEVATION
- WALL
- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- STREET/PARKING LIGHT

PROPOSED WATER & SEWER

- WATER LINE
- WATER LINE FITTINGS
- BACKFLOW PREVENTION DEVICE
- WATER VALVE
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- WATER METER
- PLUG
- REDUCER
- TAPPING SLEEVE & VALVE
- CURB STOP
- PRESSURE RELEASE VALVE
- AIR/VACUUM RELEASE VALVE
- SEWER LINE
- SEWER MANHOLE
- CLEANOUT

ABBREVIATIONS

A.L.	AREA LIGHT
C	CONCRETE ELEVATION
CO	CURB OPENING
E.O.	ELECTRICAL OUTLET
E.S.V.A.E.	EMERGENCY VEHICLE ACCESS EASEMENT
FH	FIRE HYDRANT
G	GUTTER ELEVATION
INV	INVERT ELEVATION
I.V.	IRRIGATION VALVE
I.V.B.	IRRIGATION VALVE BOX
NG	NATURAL GROUND ELEVATION
P	PAVEMENT ELEVATION
RIM	RIM ELEVATION
TB	TOP OF BANK
TC	TOP OF CURB

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
NOTES & QUANTITIES

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO.
36382
DARRIN L. MOORE, RPE
Date Signed 6/13/23
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C2 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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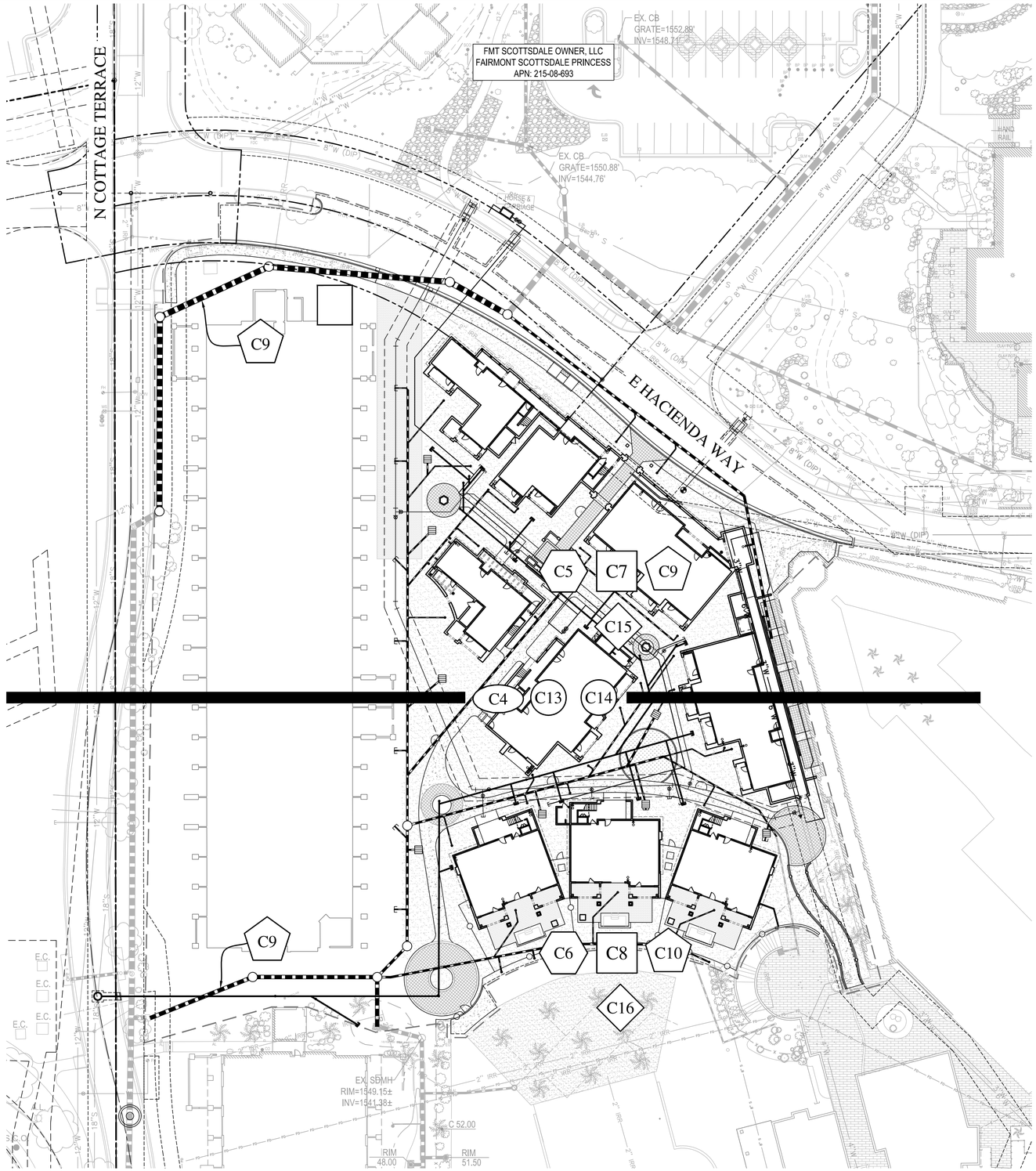


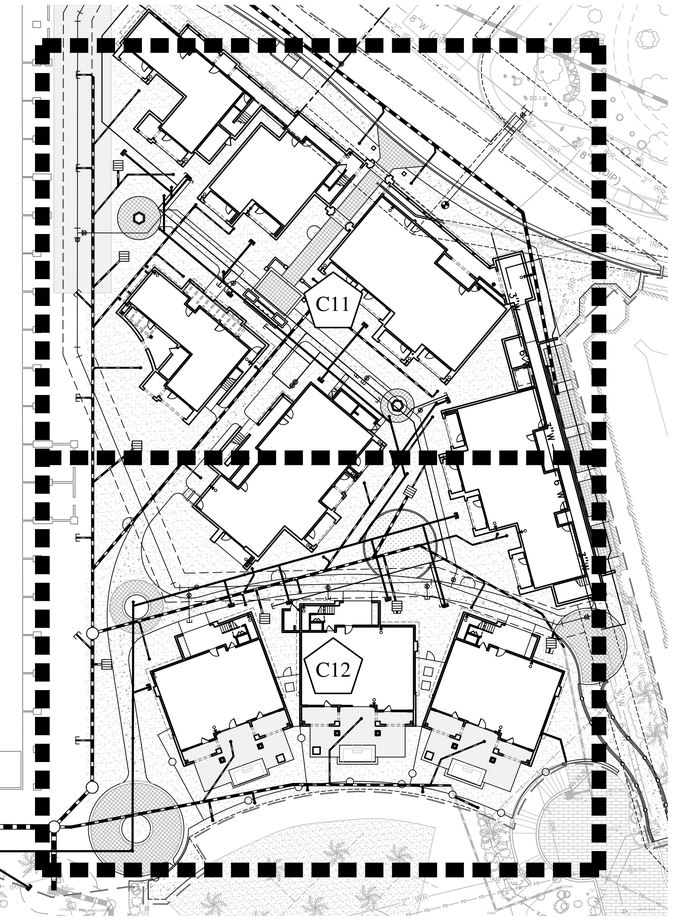
INDEX MAP LEGEND

- CX — DEMOLITION
- CX — GRADING & DRAINAGE
- CX — PAVING
- CX — STORM DRAIN
- CX — WATER & FIRE LINE
- CX — SEWER

N

0 30 60

Horz. 1 in. = 30 ft.



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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN

INDEX MAP

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
ARIZONA, U.S.A.
06/13/2023

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 30'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C3 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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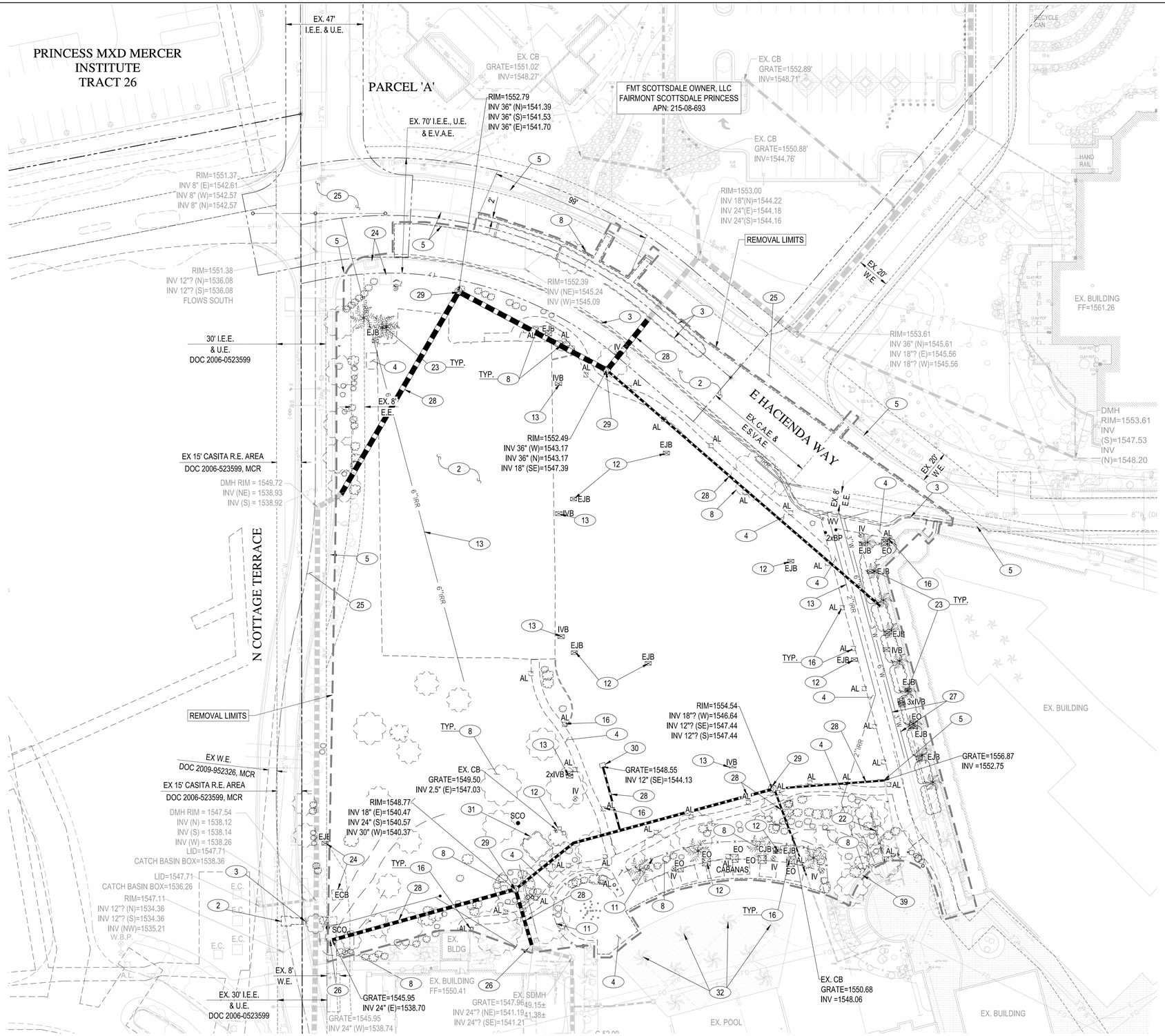

N

0 30 60

Horz. 1 in. = 30 ft.

DEMOLITION NOTES

(2) REMOVE EXISTING ASPHALT PAVEMENT.

(3) REMOVE EXISTING CURB OR CURB & GUTTER.

(4) REMOVE EXISTING SIDEWALK.

(5) EXISTING CURB OR CURB & GUTTER TO REMAIN AND PROTECTED IN-PLACE.

(8) REMOVE EXISTING LANDSCAPE. CONTRACTOR TO COORDINATE WITH LANDSCAPE ARCHITECT PRIOR TO REMOVAL TO CONFIRM REMOVAL OR PROTECT IN-PLACE.

(11) EXISTING FENCE TO BE SALVAGED. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR PLACEMENT.

(12) EXISTING ELECTRICAL LINE AND EQUIPMENT TO BE REMOVED. CONTRACTOR TO COORDINATE WITH APS PRIOR TO REMOVALS.

(13) EXISTING IRRIGATION LINE AND EQUIPMENT TO BE RELOCATED. SEE LANDSCAPE PLAN FOR DETAILS.

(16) EXISTING LIGHT POLE TO BE SALVAGED FOR RELOCATION.

(22) REMOVE EXISTING WALL.

(23) EXISTING DATE PALM TO BE SALVAGED. SEE LANDSCAPE PLAN FOR DETAILS.

(24) EXISTING ELECTRICAL TO REMAIN AND PROTECTED IN-PLACE.

(25) EXISTING ASPHALT PAVEMENT TO REMAIN AND PROTECTED IN-PLACE.

(26) EXISTING CATCH BASIN TO REMAIN AND PROTECTED IN-PLACE.

(27) EXISTING WATER LINE TO BE RELOCATED. SEE WATER AND SEWER PLAN ON SHEET C13-C16 FOR LIMITS.

(28) EXISTING STORM DRAIN LINE TO BE REMOVED. REMOVAL TO BE COORDINATED WITH OWNER AS THIS IS PART OF AN ACTIVE DRAINAGE SYSTEM.

(29) EXISTING STORM DRAIN MANHOLE TO BE REMOVED. REMOVAL TO BE COORDINATED WITH OWNER AS THIS IS PART OF AN ACTIVE DRAINAGE SYSTEM.

(30) EXISTING CATCH BASIN TO BE REMOVED.

(31) EXISTING POOL EQUIPMENT BUILDING TO BE REMOVED.

(32) EXISTING TREE TO REMAIN AND PROTECTED IN-PLACE.

(39) EXISTING RETAINING WALL TO REMAIN AND PROTECTED IN-PLACE.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
DEMOLITION PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36382
DARIN L. MOORE
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 30'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C4 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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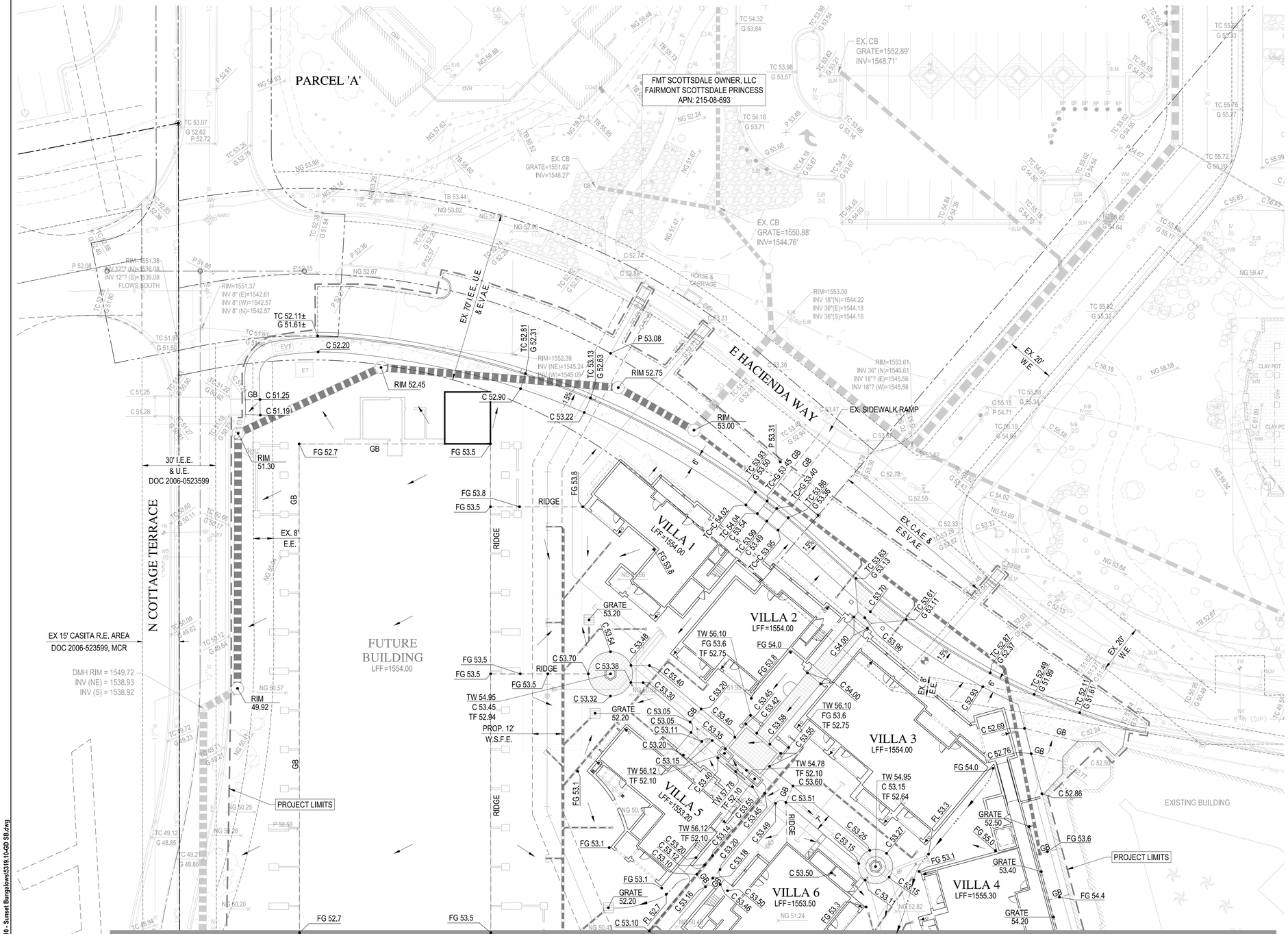

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer Seal
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 06/13/23
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C5 OF 18

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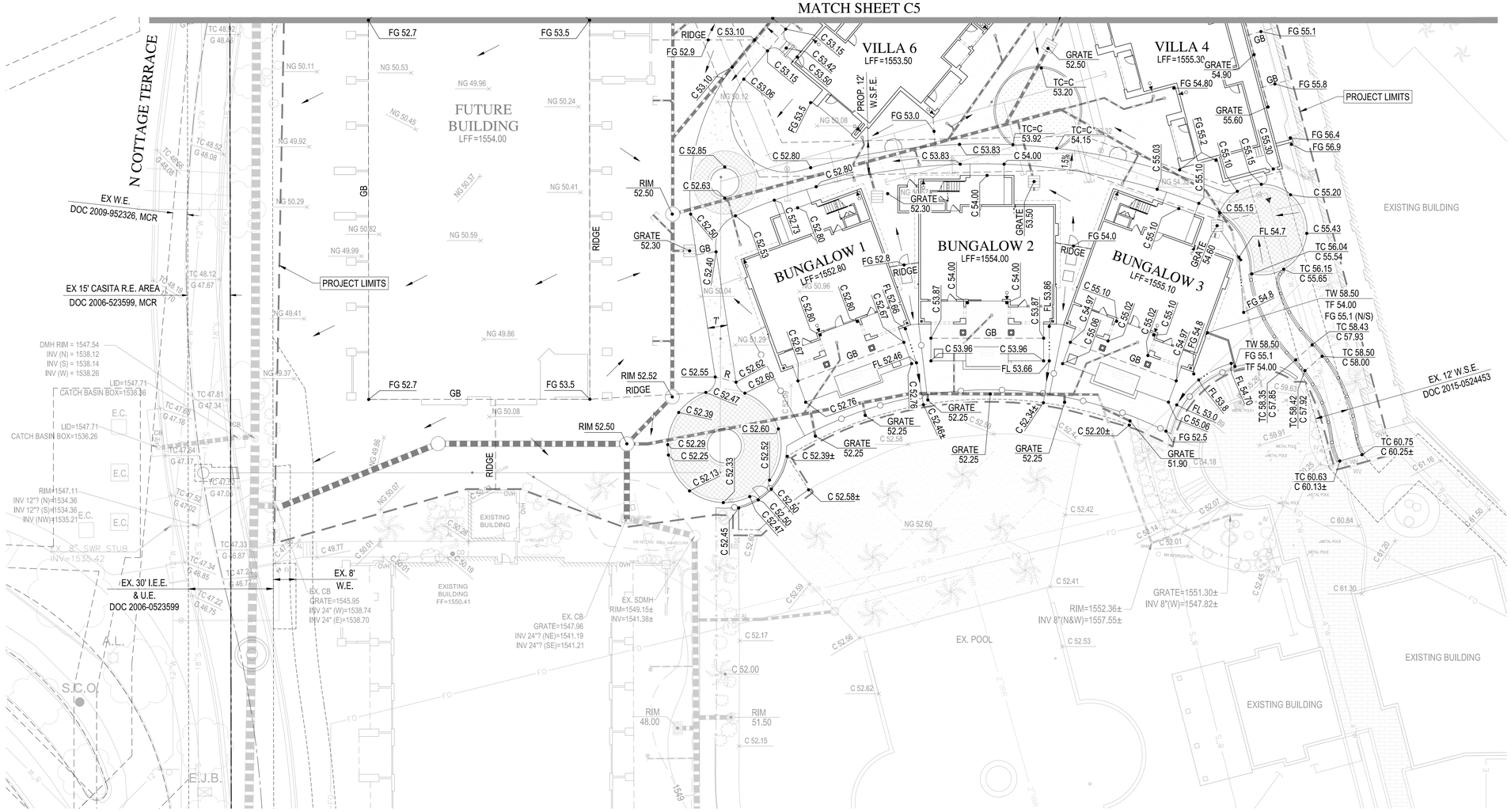
MATCH SHEET C5



0 20 40

Horz. 1 in. = 20 ft.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/13/23
This item is not valid without the signature and original seal of the certifying professional engineer.
ARIZONA U.S.A.
DARIN L. MOORE
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C6 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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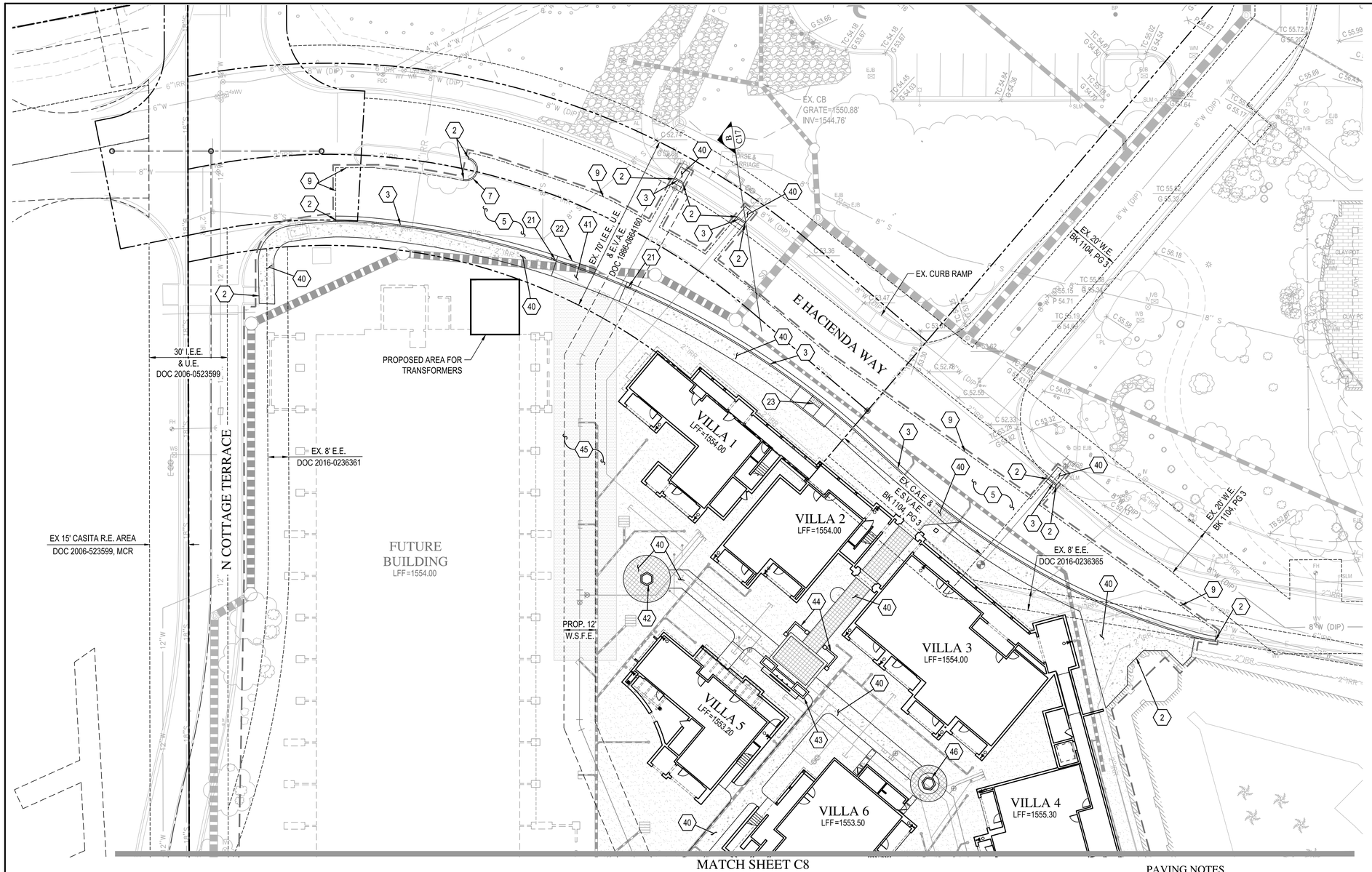

N

0 20 40

Horz. 1 in. = 20 ft.

PAVING NOTES

2. MATCH EXISTING ELEVATIONS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. CONSTRUCT 6" CURB & GUTTER PER M.A.G. STD. DET. 220, TYPE A.
5. INSTALL HEAVY DUTY PAVEMENT, 3" A.C. PAVEMENT OVER 11" A.B.C. PER GEOTECHNICAL REPORT.
7. CONSTRUCT 6" SINGLE CURB PER MAG STD. DET. 222, TYPE A.
9. MATCH NEW PAVEMENT TO EXISTING PAVEMENT AT SAWCUT LINE
21. CONSTRUCT CURB TRANSITION TYPE 'E' TO TYPE 'A' PER M.A.G. STD. DETAIL 220-2.
22. CONSTRUCT MOUNTABLE CURB, TYPE 'E', PER M.A.G. STD. DETAIL 220-2
23. CONSTRUCT SIDEWALK RAMP PER M.A.G. STD. DET. 238-2, WITH DETECTABLE WARNING STRIP PER C.O.S. STD. DETAIL 2231.
40. CONSTRUCT SIDEWALK PER M.A.G. STD. DET. 230. SEE L-201 AND L-202 OF THE LANDSCAPE PLAN FOR COLOR, FINISH, AND TYPE.
41. CONSTRUCT HEAVY DUTY RIGID PAVEMENT, 8" PCC OVER 4" ABC PER THE GEOTECHNICAL REPORT.
42. CONSTRUCT FIRE PIT PER DETAIL 1A & 1B ON SHEET L-106 OF THE LANDSCAPE PLANS.
43. CONSTRUCT WATER FEATURE PER DETAILS 1A THROUGH 1E ON SHEET L-105 OF THE LANDSCAPE PLANS.
44. CONSTRUCT WALL PER DETAILS 3A & 3B ON SHEET L-105 OF THE LANDSCAPE PLANS.
45. CONSTRUCT FIRE LANE PER DETAIL 8 ON SHEET L-103 OF THE LANDSCAPE PLANS.
46. CONSTRUCT WATER POT FEATURE PER DETAILS 2A THROUGH 2C ON SHEET L-105 OF THE LANDSCAPE PLANS.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
PAVING PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36362
DAWN L.
MOORE
06/30/25
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	########
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C7 OF 18

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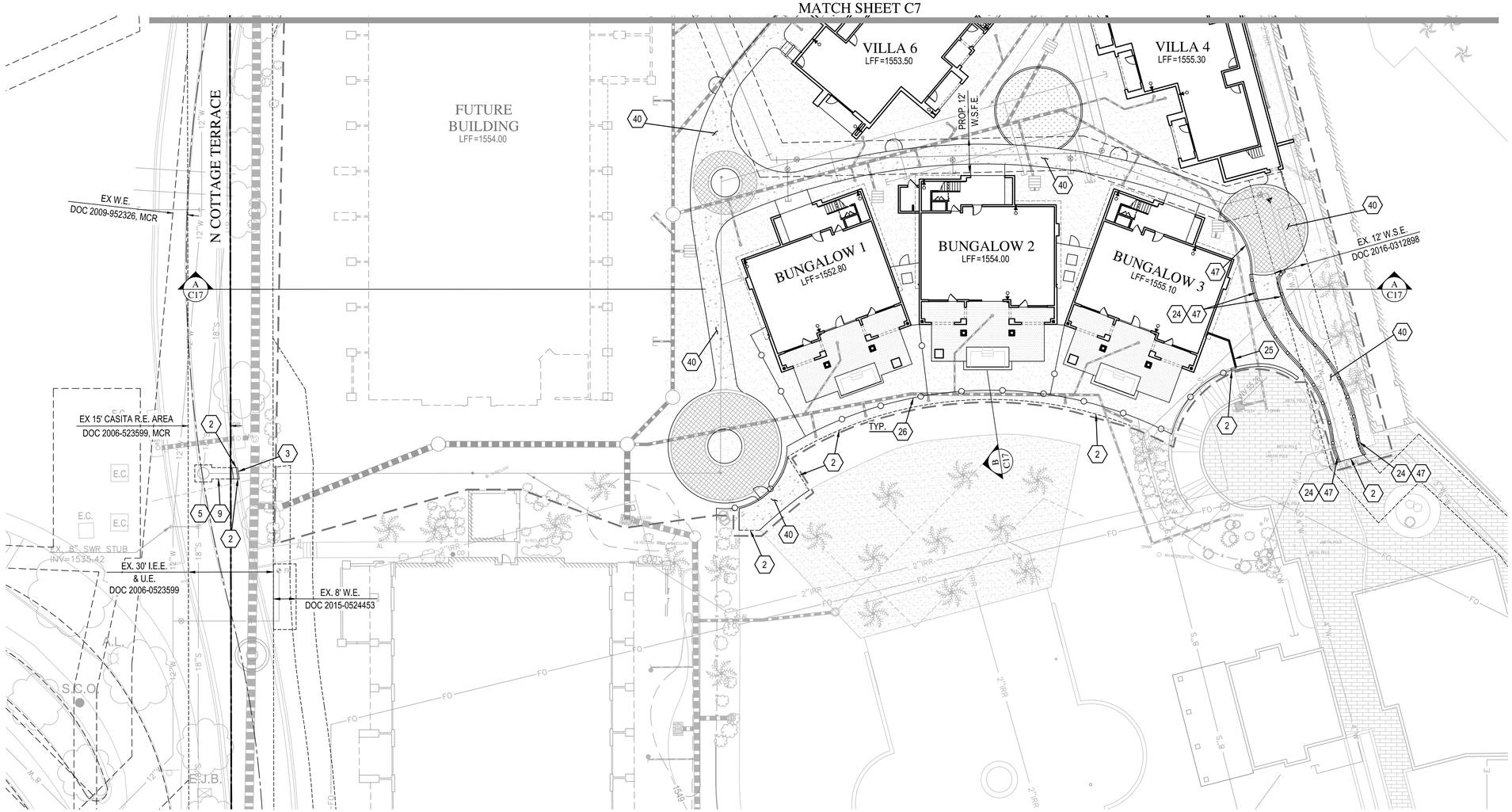

PAVING NOTES

2. MATCH EXISTING ELEVATIONS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. CONSTRUCT 6" CURB & GUTTER PER M.A.G. STD. DET. 220, TYPE A.
5. INSTALL HEAVY DUTY PAVEMENT, 3" A.C. PAVEMENT OVER 11" A.B.C. PER GEOTECHNICAL REPORT.
9. MATCH NEW PAVEMENT TO EXISTING PAVEMENT AT SAWCUT LINE
24. INSTALL HANDRAILS PER DETAILS 1 THROUGH 2 ON SHEET L-104 OF THE LANDSCAPE PLANS.
25. CONSTRUCT WALL PER THE DETAILS ON SHEET S602 OF THE STRUCTURAL PLANS AND THE ELEVATIONS PER THE GRADING AND DRAINAGE PLANS IN THIS SET.
26. INSTALL VIEW FENCE. SEE ARCHITECTURAL PLAN FOR DETAILS.
40. CONSTRUCT SIDEWALK PER M.A.G. STD. DET. 230. SEE L-201 AND L-202 OF THE LANDSCAPE PLAN FOR COLOR, FINISH, AND TYPE.
47. CONSTRUCT 6" SINGLE CURB PER MAG STD. DET. 222, TYPE A. MODIFIED TO A TOP WIDTH OF 12".

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FAIRMONT SCOTTSDALE PRINCESS SUNSET VILLAS AND BUNGALOWS

IMPROVEMENT PLAN

PAVING PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
06/13/23
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C8 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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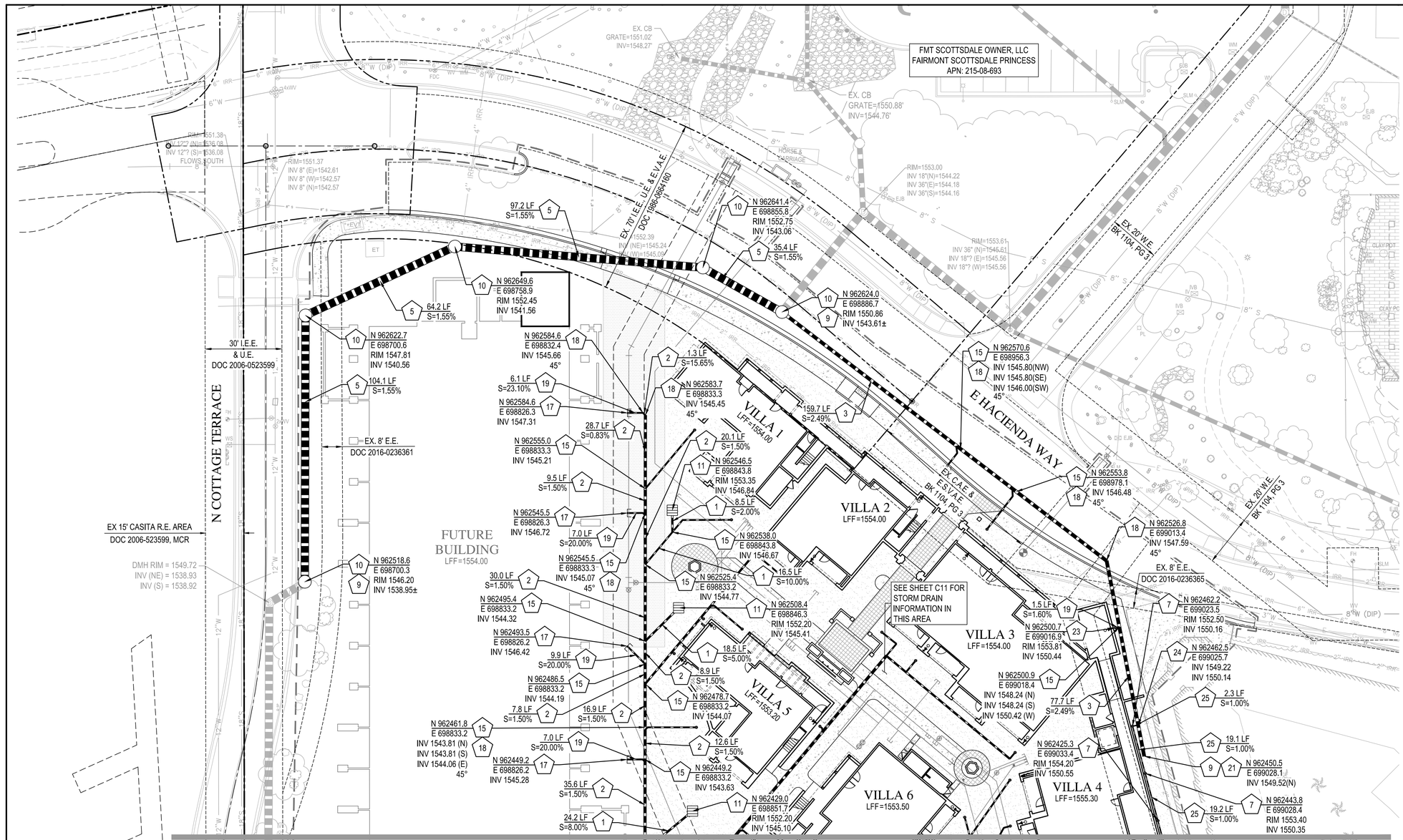

MATCH SHEET C10

STORM DRAIN NOTES

1. INSTALL 8" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
2. INSTALL 12" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
3. INSTALL 15" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
5. INSTALL 36" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
7. INSTALL 8" INLINE DRAIN WITH PEDESTRIAN RATED GRATE (ADS OR APPROVED EQUAL) PER DETAIL ON SHEET C17.
9. CONNECT TO EXISTING STORM DRAIN PIPE. CONTRACTOR TO VERIFY HORIZONTAL LOCATION AND VERTICAL ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCY.
10. CONSTRUCT STORM DRAIN MANHOLE PER M.A.G. STD. DETAIL 520 & 522 WHERE NECESSARY, CONTRACTOR TO ROTATE COVER TO PREVENT CONFLICT WITH ADJACENT SIDEWALK.
11. INSTALL 12" INLINE DRAIN WITH LOCKING GRATE (ADS OR APPROVED EQUAL) PER DETAIL ON SHEET C17.
15. INSTALL WYE, SIZE PER ADJOINING PIPE DIAMETER.
17. INSTALL H.D.P.E. CAP, SIZE PER ADJOINING PIPE DIAMETER.
18. INSTALL BEND. SIZE PER ADJOINING PIPE DIAMETER. ANGLE PER PLAN.
19. INSTALL 6" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
21. INSTALL 18" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
23. INSTALL AIRBRAKE PER DETAIL ON SHEET C17.
24. INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
25. INSTALL 4" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO. 36382
DARIN L. MOORE
Date Signed 06/13/2023
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C9 OF 18

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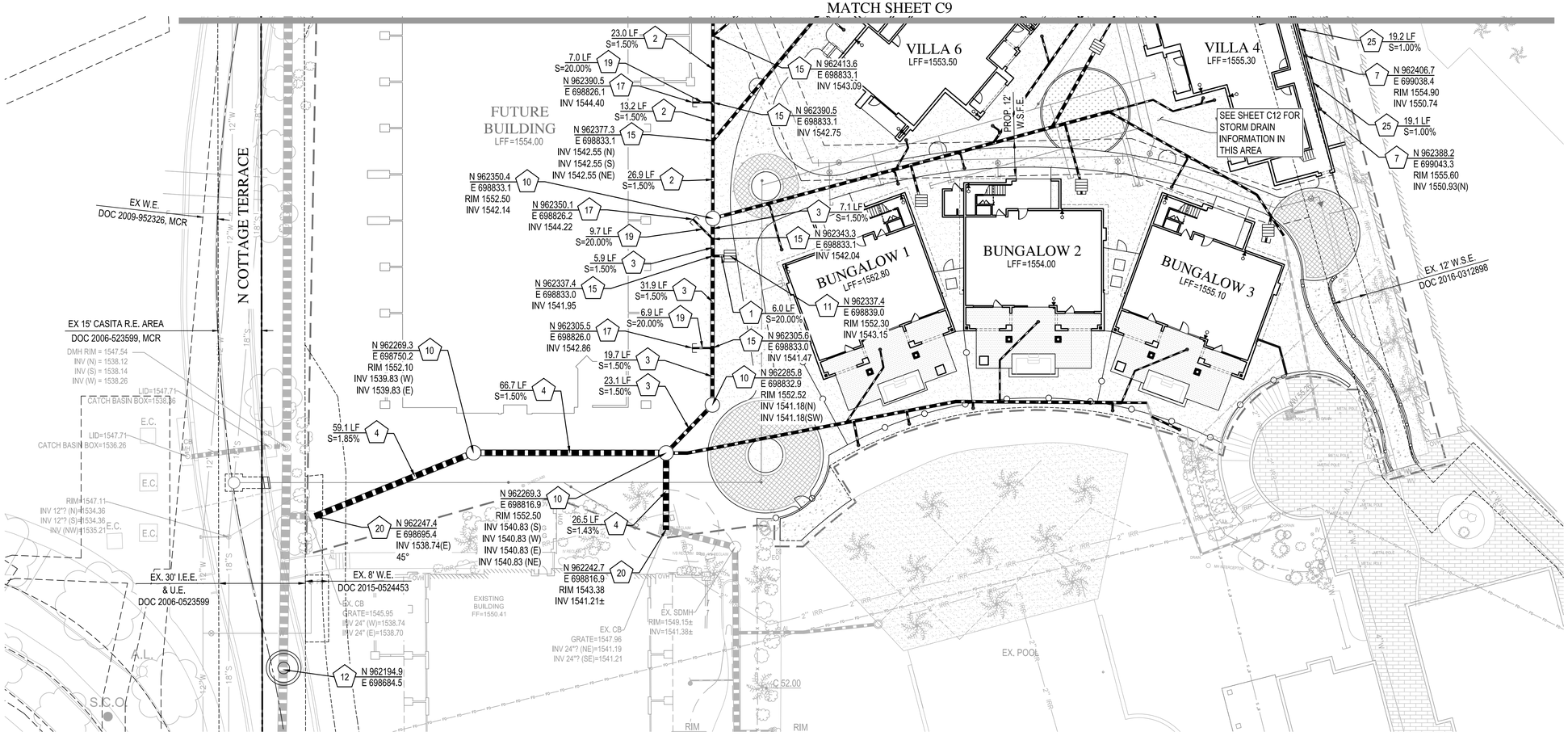

STORM DRAIN NOTES

2. INSTALL 12" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
3. INSTALL 15" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
4. INSTALL 24" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
7. INSTALL 8" INLINE DRAIN WITH PEDESTRIAN RATED GRATE (ADS OR APPROVED EQUAL) PER DETAIL ON SHEET C17.
10. CONSTRUCT STORM DRAIN MANHOLE PER M.A.G. STD. DETAIL 520 & 522 WHERE NECESSARY, CONTRACTOR TO ROTATE COVER TO PREVENT CONFLICT WITH ADJACENT SIDEWALK.
11. INSTALL 12" INLINE DRAIN WITH LOCKING GRATE (ADS OR APPROVED EQUAL) PER DETAIL ON SHEET C17.
12. INSTALL COMTECH MODEL DSBB-10-108 PER THE DETAIL ON SHEET C17 AND THE MANUFACTURER SPECIFICATIONS.
15. INSTALL WYE, SIZE PER ADJOINING PIPE DIAMETER.
17. INSTALL H.D.P.E. CAP, SIZE PER ADJOINING PIPE DIAMETER.
19. INSTALL 6" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
20. CONNECT TO EXISTING CATCH BASIN. CONTRACTOR TO VERIFY HORIZONTAL LOCATION AND VERTICAL ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCY.
25. INSTALL 4" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
12-31-25
REGISTERED ENGINEER
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C10 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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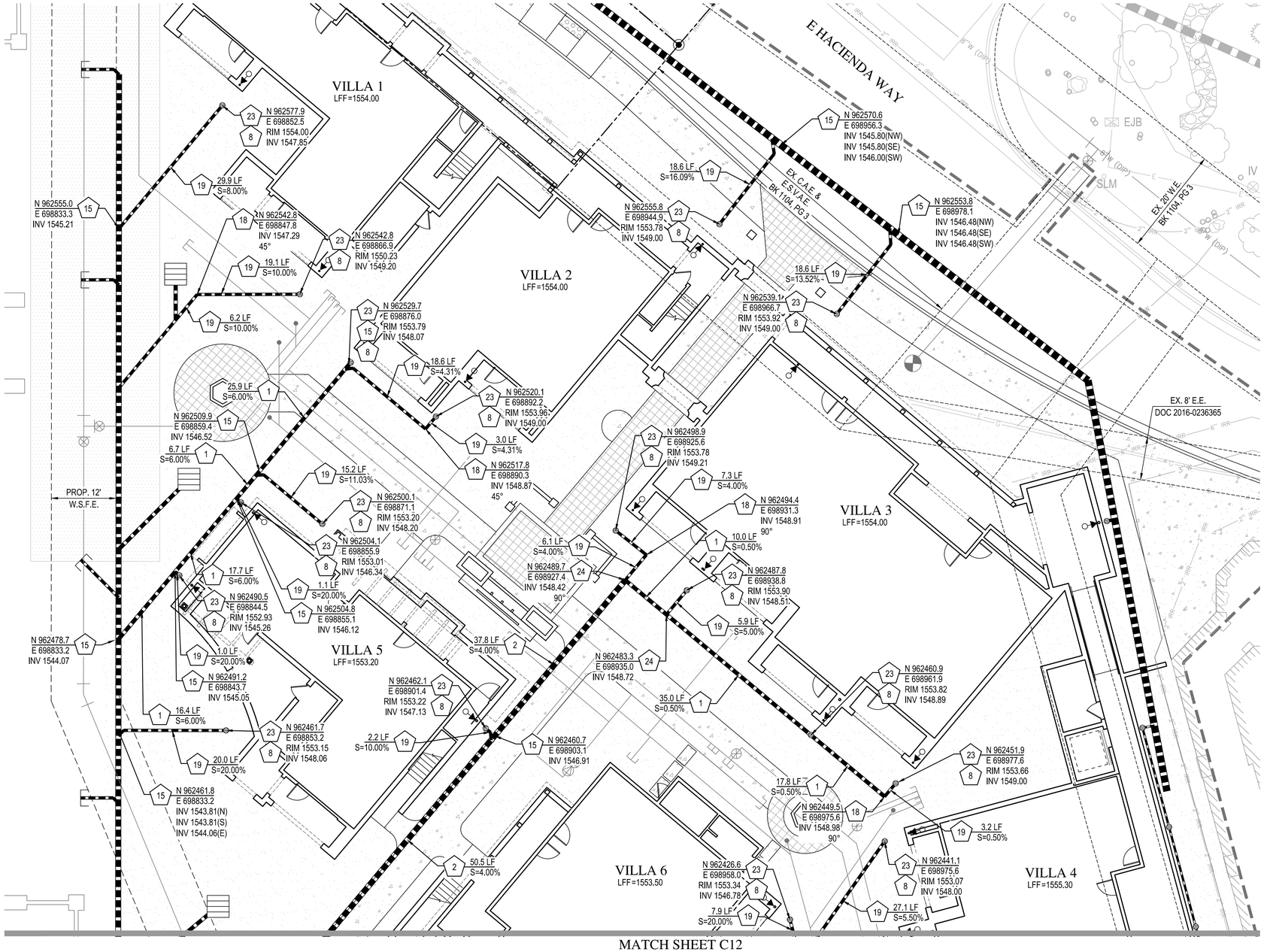

MATCH SHEET C12

N

0 10 20

Horz. 1 in. = 10 ft.

STORM DRAIN NOTES

1. INSTALL 8" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
2. INSTALL 12" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
8. SEE PLUMBING PLANS FOR CONTINUATION. SIZE PER ADJOINING PIPE DIAMETER. CONTRACTOR TO FIELD VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION WITH PLUMBING PLANS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
15. INSTALL WYE, SIZE PER ADJOINING PIPE DIAMETER.
18. INSTALL BEND. SIZE PER ADJOINING PIPE DIAMETER. ANGLE PER PLAN.
19. INSTALL 6" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
23. INSTALL AIRBRAKE PER DETAIL ON SHEET C17.
24. INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN

STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO. 36382
DARIN L. MOORE
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	########
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C11 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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MATCH SHEET C11

VILLA 6
LFF=1553.50

VILLA 4
LFF=1555.30

BUNGALOW 1
LFF=1552.80

BUNGALOW 2
LFF=1554.00

BUNGALOW 3
LFF=1555.10

N962422.1
E 698870.7
INV 1544.89

10.1 LF
S=10.00%

N 962380.4
E 698932.9
INV 1543.91 (NE)
INV 1543.91 (SW)
INV 1543.91 (NW)

18.2 LF
S=5.50%

N 962419.0
E 698960.0
INV 1546.51

N 962423.2
E 698975.7
RIM 1554.32
INV 1547.89

2.6 LF
S=8.00%

N 962422.5
E 698973.3
INV 1547.68

EX. 12" W.S.E.
DOC 2016-0312898

N 962413.4
E 698947.0
RIM 1553.47
INV 1546.60

9.7 LF
S=20.00%

14.6 LF
S=8.00%

N 962415.6
E 698878.4
RIM 1553.35
INV 1545.90

N 962404.1
E 698949.5
INV 1545.50

N 962409.8
E 698966.1
RIM 1552.53
INV 1546.52

58.4 LF
S=4.00%

PROP. 12" W.S.F.E.

17.6 LF
S=1.50%

3.6 LF
S=20.00%

29.0 LF
S=5.50%

31.8 LF
S=8.00%

15.8 LF
S=1.50%

N 962391.4
E 698985.5
INV 1544.86

45°

7.9 LF
S=1.50%

N 962392.0
E 699002.8
RIM 1555.07
INV 1545.53

2.0 LF
S=20.00%

N 962377.5
E 698900.0
RIM 1553.46
INV 1544.25

N 962368.8
E 698901.6
INV 1543.20

N 962382.4
E 698929.9
RIM 1553.63
INV 1544.62

N 962387.3
E 698970.2
INV 1544.27

N 962391.3
E 699006.7
RIM 1555.03
INV 1545.20

4.7 LF
S=1.50%

N 962374.8
E 698900.7
INV 1543.97

45°

4.7 LF
S=5.50%

N 962390.1
E 699002.2
INV 1545.13

10.2 LF
S=1.50%

N 962377.3
E 698833.1
INV 1542.55

11.3 LF
S=10.00%

N 962376.5
E 698930.1
INV 1543.65

15.8 LF
S=1.50%

N 962387.5
E 698992.4
INV 1544.98

45°

N 962367.4
E 698896.4
INV 1543.12 (E)
INV 1543.12 (W)
INV 1543.12 (NE)

21.2 LF
S=1.50%

N 962383.2
E 698955.0
INV 1544.03

31.7 LF
S=10.85%

27.0 LF
S=10.85%

N 962358.6
E 699021.4
INV 1550.72

22.5°

0.6 LF
S=1.50%

11.9 LF
S=1.50%

22.1 LF
S=4.00%

N 962355.6
E 698852.6
INV 1542.44

N 962373.4
E 698918.6
INV 1543.47(E)
INV 1543.47(W)
INV 1543.47(S)

N 962371.8
E 698997.8
INV 1547.79

9.0 LF
S=12.03%

N 962350.4
E 698833.1
RIM 1552.50
INV 1542.14 (N)
INV 1542.14 (S)
INV 1542.14 (E)

N 962367.3
E 698895.9
INV 1543.12 (E)
INV 1543.12 (W)
INV 1543.12 (S)

12.9 LF
S=20.00%

N 962361.9
E 698960.7
RIM 1553.50
INV 1544.99
INV 1545.00

N 962351.1
E 699026.4
INV 1551.80

7.9 LF
S=12.03%

5.8 LF
S=10.00%

N 962356.4
E 698905.0
RIM 1552.30
INV 1545.78

12.1 LF
S=9.00%

4.9 LF
S=20.00%

20.2 LF
S=1.50%

16.6 LF
S=20.00%

N 962367.8
E 698920.2
RIM 1553.54
INV 1544.05

4.5 LF
S=1.50%

N 962346.3
E 699025.3
RIM 1554.60
INV 1551.11
INV 1551.11

5.1 LF
S=10.00%

5.4 LF
S=1.50%

N 962382.0
E 698950.6
INV 1543.97

N 962339.6
E 698856.9
RIM 1552.67
INV 1545.76

44.9 LF
S=1.50%

N 962362.4
E 698897.2
RIM 1553.01
INV 1543.63

N 962361.3
E 698991.9
RIM 1554.89
INV 1549.00

N 962344.5
E 699030.7
INV 1552.75±

N 962314.6
E 698945.7
RIM 1554.00
INV 1549.00

N 962305.1
E 698891.0
RIM 1552.80
INV 1547.80

18.8 LF
S=8.89%

N 962301.4
E 698932.4
INV 1547.33

45°

N 962297.7
E 698979.2
INV 1548.73

45°

N 962305.1
E 698997.2
RIM 1555.10
INV 1550.03

6.3 LF
S=14.15%

N 962287.0
E 698923.2
INV 1545.64 (E)
INV 1545.64 (W)
INV 1546.97 (S)

N 962298.9
E 698892.2
INV 1546.91

45°

5.9 LF
S=4.48%

14.4 LF
S=8.89%

12.8 LF
S=4.61%

11.9 LF
S=6.69%

N 962287.0
E 698917.2
INV 1545.38

11.25°

N 962286.9
E 698945.2
RIM 1552.25
INV 1546.64

3.1 LF
S=4.39%

19.5 LF
S=6.69%

23.1 LF
S=14.12%

18.7 LF
S=4.54%

8.7 LF
S=4.46%

N 962286.6
E 698983.3
INV 1548.32(W)±
45° & 22.5°

INV 55.26

7.2 LF
S=4.46%

4.6 LF
S=5.01%

N 962287.0
E 698932.4
INV 1546.05

17.3 LF
S=4.39%

9.3 LF
S=4.44%

26.2 LF
S=4.39%

N 962277.3
E 698994.6
RIM 1551.90
INV 1548.58

56.1 LF
S=4.46%

N 962283.8
E 698900.2
INV 1544.62(E)
INV 1544.62(W)
INV 1545.94(S)

2.3 LF
S=5.28%

N 962286.7
E 698971.5
INV 1547.79 (E)
INV 1547.79 (W)
INV 1547.79 (S)

N 962269.3
E 698816.9
RIM 1552.50
INV 1540.83(S)
INV 1540.83(W)
INV 1540.83(E)
INV 1540.83(NE)

N 962269.2
E 698824.2
INV 1541.15
11.25°

N 962280.3
E 698881.9
INV 1543.77(E)
INV 1543.77(W)
INV 1545.11(S)

N 962284.7
E 698923.2
RIM 1552.25
INV 1547.09

10.5 LF
S=2.00%

2.8 LF
S=5.77%

N 962286.7
E 698974.6
INV 1547.93(W)
INV 1547.93(E)
INV 1547.93(NE)
22.5°

2.7 LF
S=4.54%

8.5 LF
S=4.96%

N 962279.3
E 698901.1
RIM 1552.25
INV 1546.17

N 962281.8
E 698985.0
INV 1548.37±

N 962279.8
E 698879.2
INV 1543.65(W)
INV 1543.65(E)
INV 1543.65(NE)

N 962272.0
E 698883.5
RIM 1552.25
INV 1545.53

N 962283.9
E 698971.5
RIM 1552.25
INV 1547.95

EX. CB
GRATE=1547.96
INV 24"? (NE)=1541.19
INV 24"? (SE)=1541.21

MBTAL POLE

DR MH

MET

DRAIN

IV

AC

IRR

2" IRR

N

0 10 20

Horz. 1 in. = 10 ft.

STORM DRAIN NOTES

1. INSTALL 8" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
2. INSTALL 12" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
6. CONNECT TO EXISTING 8" STORM DRAIN PIPE. CONTRACTOR TO VERIFY HORIZONTAL LOCATION AND VERTICAL ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCY.
10. CONSTRUCT STORM DRAIN MANHOLE PER M.A.G. STD. DETAIL 520 & 522 WHERE NECESSARY, CONTRACTOR TO ROTATE COVER TO PREVENT CONFLICT WITH ADJACENT SIDEWALK.
11. INSTALL 12" INLINE DRAIN WITH LOCKING GRATE (ADS OR APPROVED EQUAL) PER DETAIL ON SHEET C17.
15. INSTALL WYE, SIZE PER ADJOINING PIPE DIAMETER.
17. INSTALL H.D.P.E. CAP, SIZE PER ADJOINING PIPE DIAMETER.
18. INSTALL BEND. SIZE PER ADJOINING PIPE DIAMETER. ANGLE PER PLAN.
19. INSTALL 6" ADS N-12 H.D.P.E. PIPE WITH WATER TIGHT JOINTS PER C.O.S. SPEC. 738 OR APPROVED EQUAL.
23. INSTALL AIRBRAKE PER DETAIL ON SHEET C17.
24. INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.

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FAIRMONT SCOTTSDALE PRINCESS SUNSET VILLAS AND BUNGALOWS

IMPROVEMENT PLAN

STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Professional Engineer Seal
CERTIFICATE NO. 36382 DARIN L. MOORE 06/13/2023 Date Signed
ARIZONA U.S.A.
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 10'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C12 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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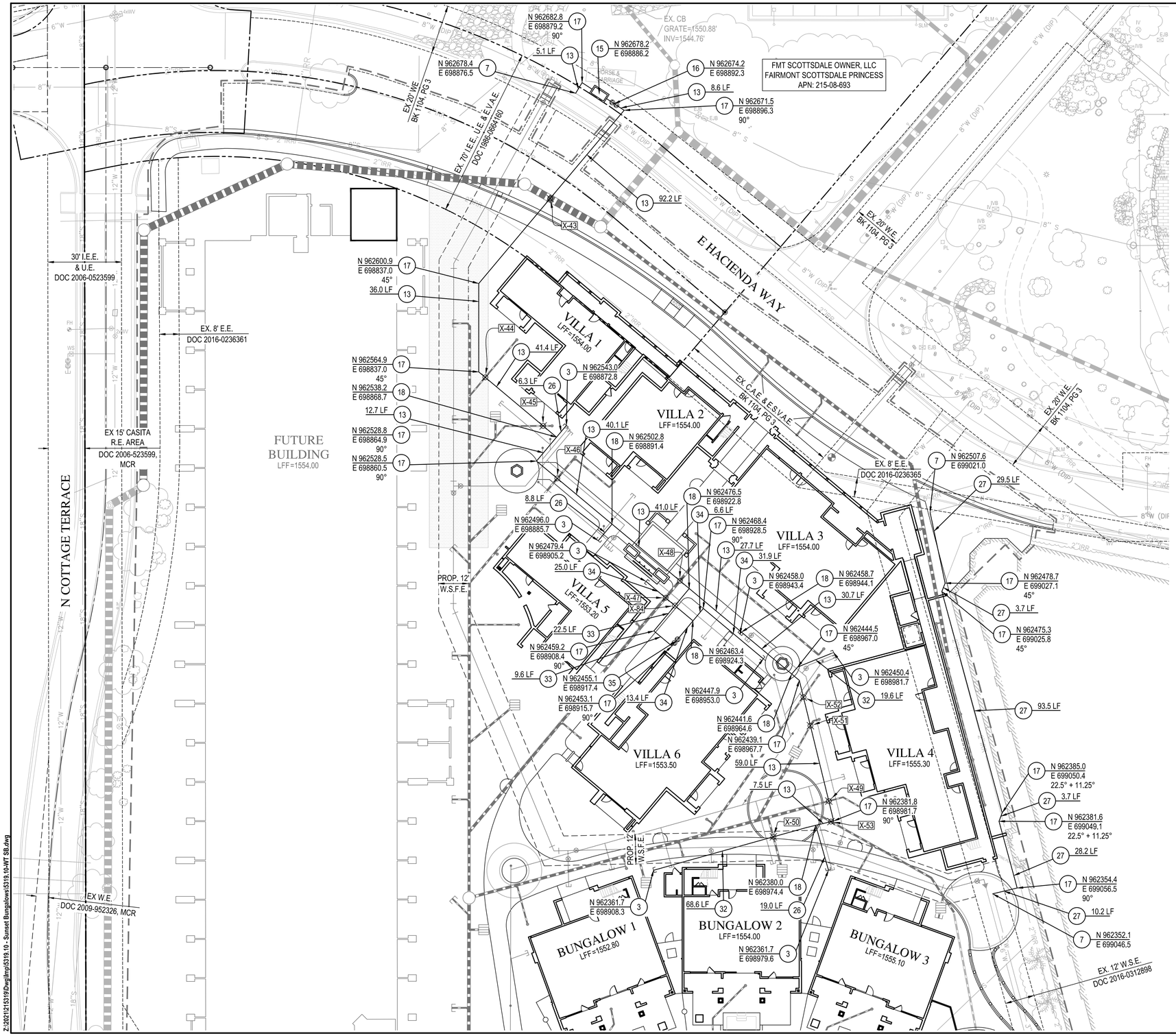

N

0 20 40

Horz. 1 in. = 20 ft.

WATER NOTES

(3) SEE PLUMBING PLANS FOR CONTINUATION. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

(7) CONNECT TO EXISTING WATER LINE. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

(13) INSTALL 4" POLYWRAPPED D.I.P. PRESSURE CLASS 350 WATERLINE PER M.A.G. SPEC. SECTION 610. 3' MINIMUM COVER UNLESS NOTED ON PLAN.

(15) INSTALL 4" WATER METER PER C.O.S. STD. DTL. 2345.

(16) INSTALL 4" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER C.O.S. STD. DTL. 2351.

(17) INSTALL BEND WITH JOINT RESTRAINT PER M.A.G. STD. DETAILS 302 AND 303 OR APPROVED EQUAL. SIZE PER ADJOINING PIPE DIAMETERS. ANGLE(S) PER PLAN.

(18) INSTALL TEE WITH JOINT RESTRAINT PER M.A.G. STD. DETAILS 302 AND 303 OR APPROVED EQUAL. SIZE PER ADJOINING PIPE DIAMETERS.

(26) INSTALL 2" TYPE K, HARD COPPER WATER LINE.

(27) INSTALL 3" WATER LINE. PIPE MATERIAL TO MATCH EXISTING.

(32) INSTALL 2.5" TYPE K, HARD COPPER WATER LINE.

(33) INSTALL 3/4" SCH 40, SOFT COPPER WATER LINE.

(34) INSTALL 3/4" PVC WATER LINE.

(35) INSTALL 3/4" DOUBLE CHECK VALVE PER C.O.S. STD. DETAIL 2354.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN

WATER PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARRYL L.
MOORE
Date Signed 06/13/2023
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C13 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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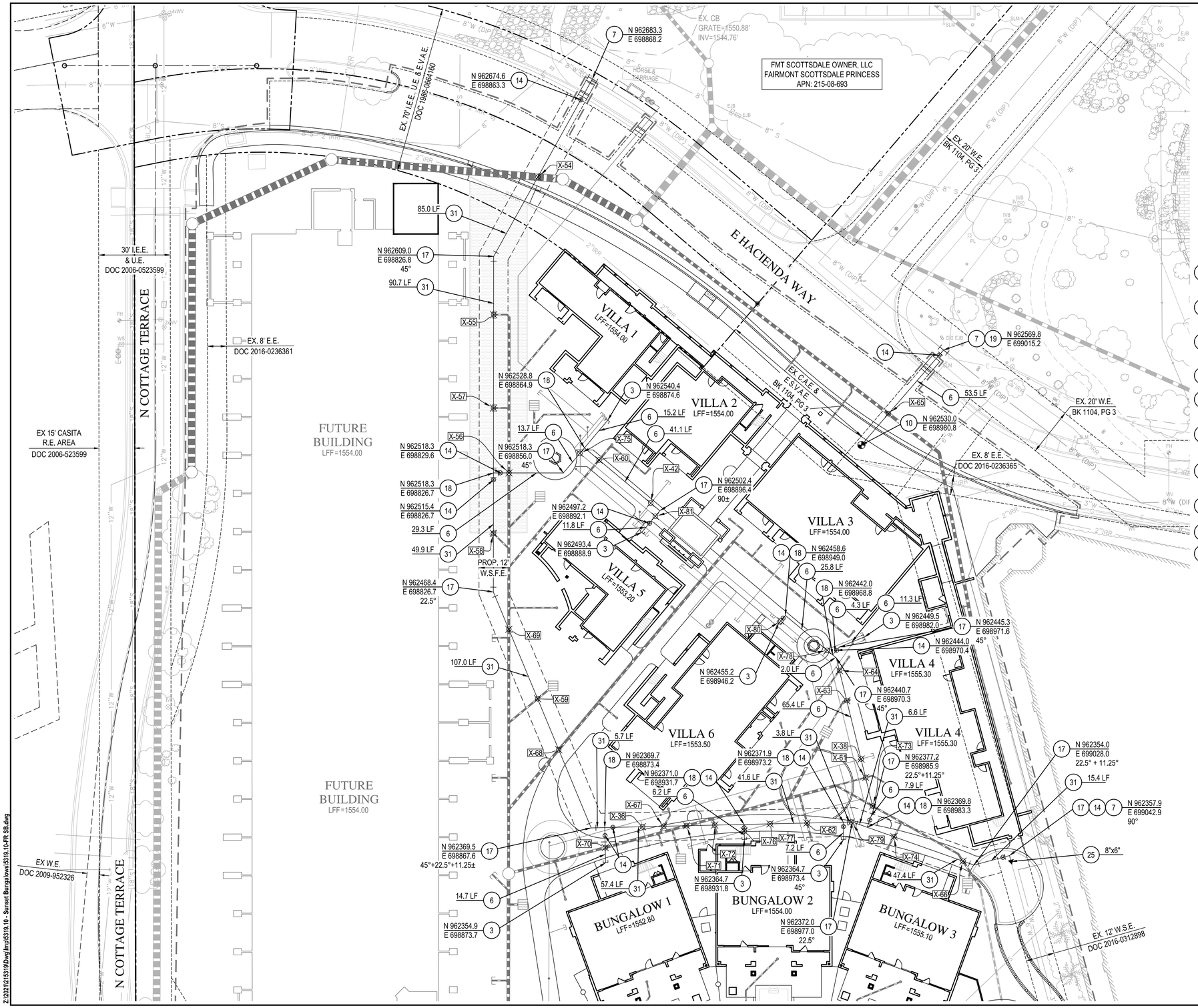

N

0 20 40

Horz. 1 in. = 20 ft.

WATER NOTES

3. SEE PLUMBING PLANS FOR CONTINUATION. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. INSTALL 6" POLYWRAPPED D.I.P. PRESSURE CLASS 350 WATERLINE PER M.A.G. SPEC. SECTION 610. 3' MINIMUM COVER UNLESS NOTED ON PLAN.
7. CONNECT TO EXISTING WATER LINE. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. INSTALL FIRE HYDRANT COMPLETE PER M.A.G. STD. DETAIL 360.1.
14. INSTALL GATE VALVE WITH FLANGES, VALVE BOX, AND COVER PER M.A.G. STD. DETAIL 391-1 (VALVE TO MATCH WATERLINE SIZE).
17. INSTALL BEND WITH JOINT RESTRAINT PER M.A.G. STD. DETAILS 302 AND 303 OR APPROVED EQUAL. SIZE PER ADJOINING PIPE DIAMETERS. ANGLE(S) PER PLAN.
18. INSTALL TEE WITH JOINT RESTRAINT PER M.A.G. STD. DETAILS 302 AND 303 OR APPROVED EQUAL. SIZE PER ADJOINING PIPE DIAMETERS.
19. INSTALL TEE WITH THRUST BLOCKS PER M.A.G. STD. DETAILS 380 OR APPROVED EQUAL. SIZE PER ADJOINING PIPE DIAMETERS.
25. INSTALL REDUCER. SIZE PER PLAN.
31. INSTALL 8" POLYWRAPPED D.I.P. PRESSURE CLASS 350 WATERLINE PER M.A.G. SPEC. SECTION 610. 3' MINIMUM COVER UNLESS NOTED ON PLAN.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN

FIRE LINE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
06/13/23
Date Signed
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C14 OF 18

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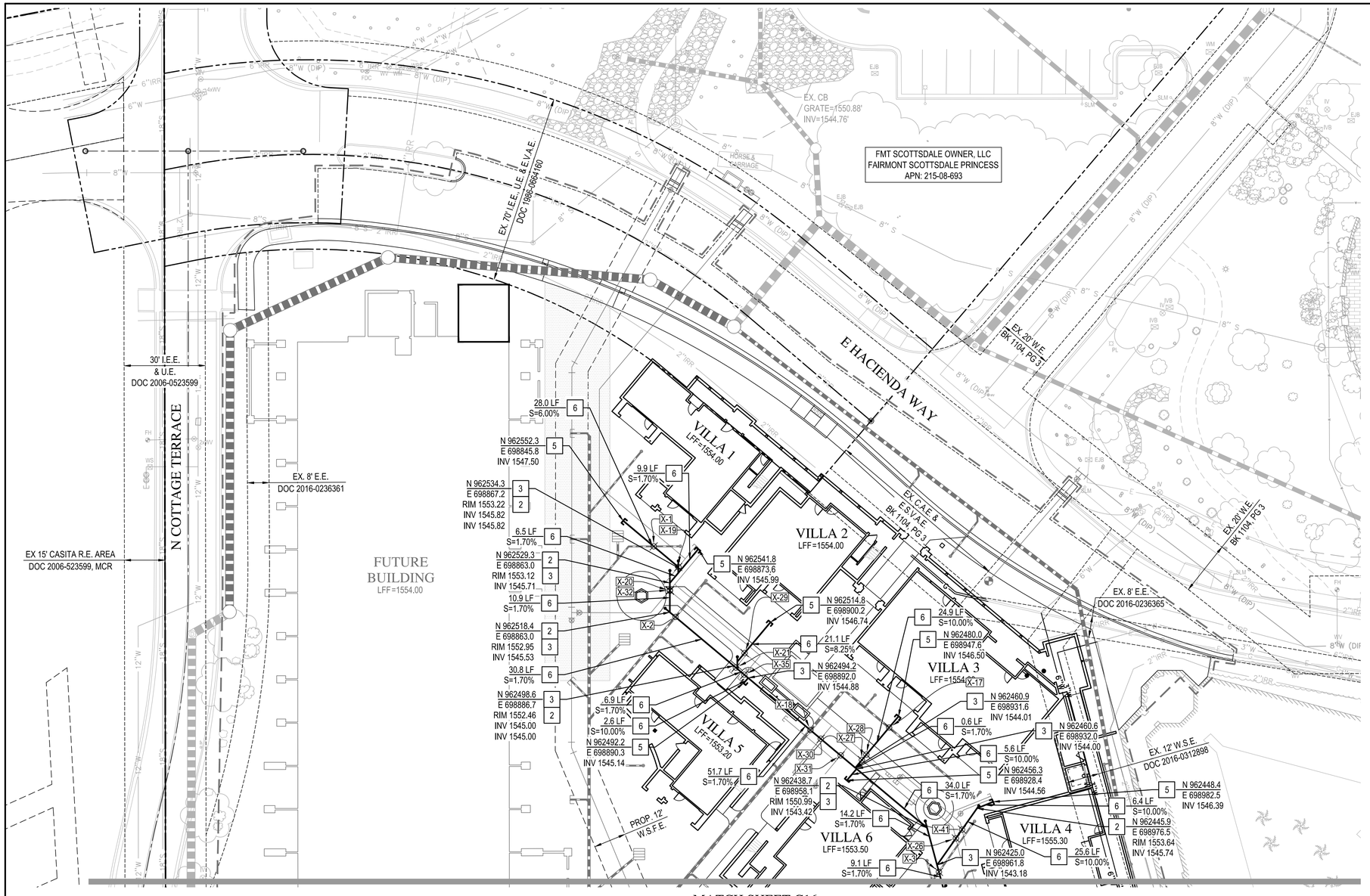

0 20 40

Horz. 1 in. = 20 ft.

MATCH SHEET C16

SEWER NOTES

2 INSTALL SANITARY SEWER CLEANOUT PER M.A.G. STD. DTL. 441.

3 INSTALL WYE OR WYE WITH 45° BEND AS APPLICABLE, SIZE PER ADJOINING PIPE DIAMETER.

5 SEE PLUMBING PLAN FOR CONTINUATION. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

6 INSTALL 6" SDR 35 PVC SANITARY SEWER PIPE.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
SANITARY SEWER PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
06/13/23
State Standard
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C15 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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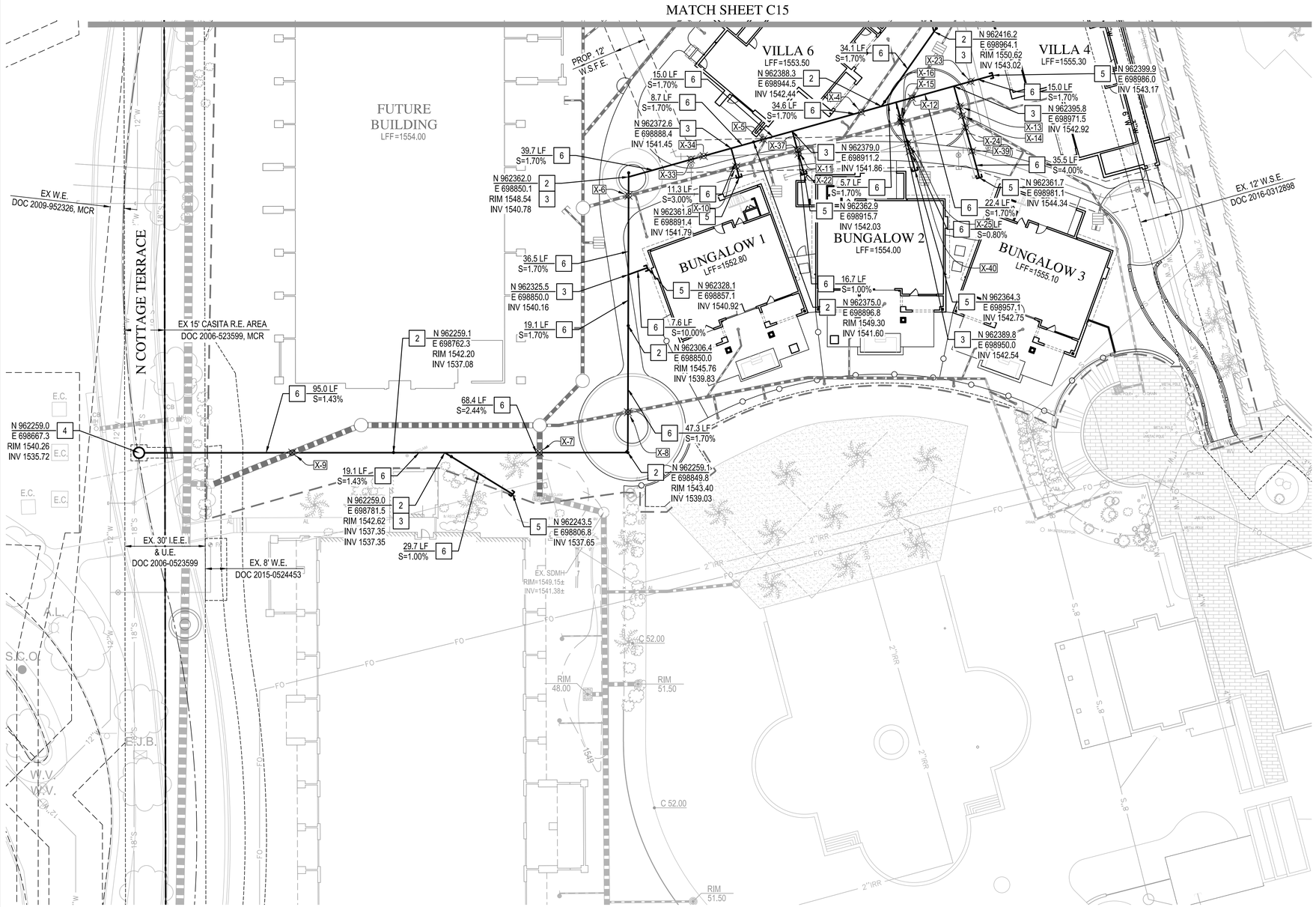

SEWER NOTES

2. INSTALL SANITARY SEWER CLEANOUT PER M.A.G. STD. DTL. 441.
3. INSTALL WYE OR WYE WITH 45° BEND AS APPLICABLE, SIZE PER ADJOINING PIPE DIAMETER.
4. INSTALL 48" SANITARY SEWER MANHOLE PER M.A.G. STD. DTL. 420-1. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. SEE PLUMBING PLAN FOR CONTINUATION. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
6. INSTALL 6" SDR 35 PVC SANITARY SEWER PIPE.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
SANITARY SEWER PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
06/30/2023
ARIZONA U.S.A.
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C16 OF 18

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SITE SPECIFIC DATA*

PROJECT NUMBER	742047
PROJECT NAME	FAIRMONT SCOTTSDALE PRINCESS
PROJECT LOCATION	SCOTTSDALE, AZ
STRUCTURE ID	025
WATER QUALITY FLOW RATE (CFS)	1.70
PROVIDED TREATMENT FLOW RATE (CFS)	25.79
PEAK FLOW RATE (CFS)	66.80
PEAK STORM DURATION (YEARS)	10.00

PIPE DATA	I.E.	MATERIAL	DIAMETER
INFLOW PIPE 1	1546.5	HDPE	36
OUTFLOW PIPE 1	1546.5	HDPE	36
RIM ELEVATION	1537.9		

SURFACE LOADING REQUIREMENT	HS20
FRAME AND COVER	(2) 36"x72" (1) 36"ø
CORROSIVE SOIL CONDITIONS	NA
KNOWN GROUNDWATER ELEVATION	NA

NOTES:

*PER ENGINEER OF RECORD

DSBB PERFORMANCE DATA

TREATMENT FLOW RATE (CFS)	1.70
FULL CAPTURE TRASH FLOW RATE (CFS)	0.00
SETTLING AREA (SF)	200.00
LOADING RATE (GPM/SF)	3.81
SCREEN SYSTEM STORAGE CAPACITY (CF)	163.88
SEDIMENT STORAGE CAPACITY (CF)	580.00
80% TSS REMOVAL @ 231 MICRON	

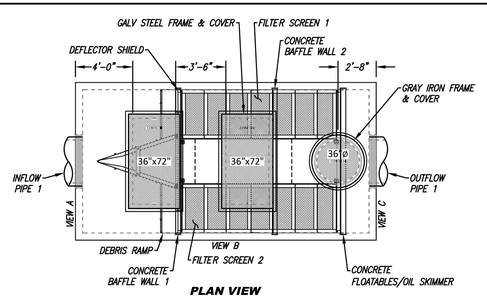
DSBB STORAGE CAPACITIES

CAGE SCREEN CAPACITY

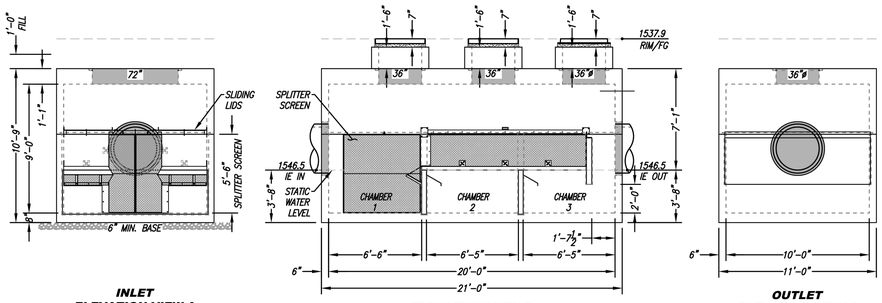
	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	TOTAL (CF)
SCREEN 1	11.50	3.17	2.25	81.94
SCREEN 2	11.50	3.17	2.25	81.94

SEDIMENT CHAMBER CAPACITY

CHAMBER 1	6.50	10.00	3.00	195.00
CHAMBER 2	6.42	10.00	3.00	192.50
CHAMBER 3	6.42	10.00	3.00	192.50



PLAN VIEW



INLET ELEVATION VIEW A | **ELEVATION VIEW B** | **OUTLET ELEVATION VIEW C**

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS, AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS, AND ACCESSORIES PLEASE CONTACT CONTECH.

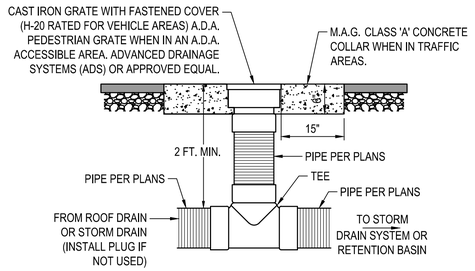
INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE DEBRIS SEPARATING BAFFLE BOX AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. MANUFACTURER RECOMMENDS A 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH).
4. ALL GAPS AROUND PIPES SHALL BE SEALED WATERTIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS AND COVERS. ALL COVERS SHALL BE SHIPPED LOOSE. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.

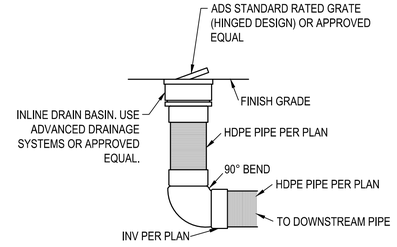
1:60 SCALE

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com

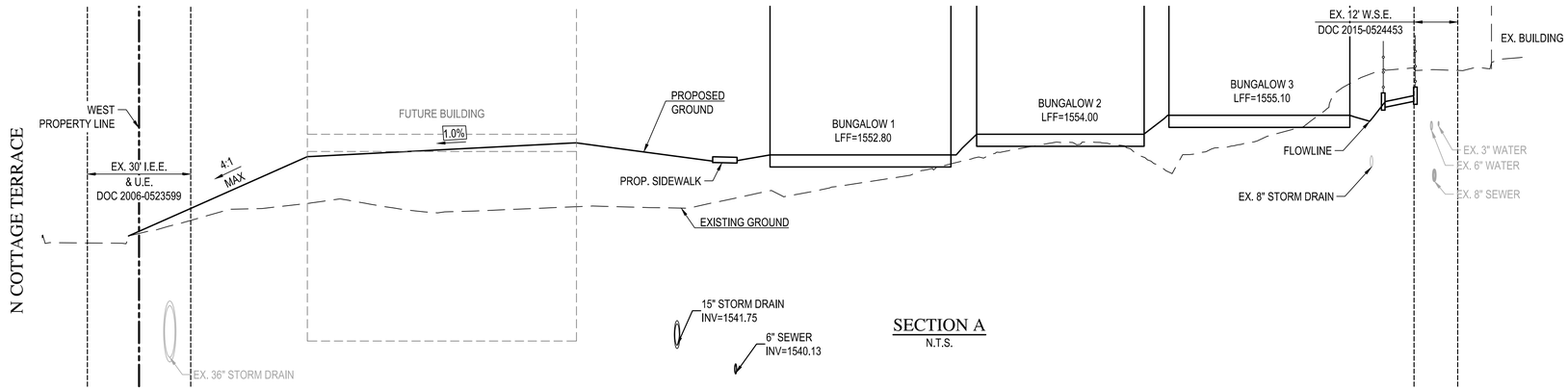
DSBB-10-20-108
DUAL STAGE HYDRODYNAMIC SEPARATOR
STANDARD DETAIL



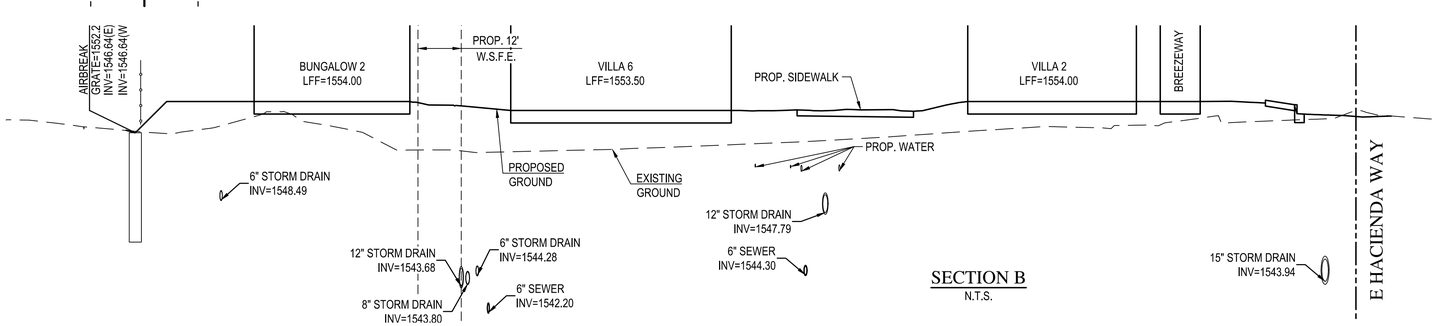
STORM DRAIN AIR BREAK
(N.T.S.)



INLINE DRAIN DETAIL
N.T.S.



SECTION A
N.T.S.



SECTION B
N.T.S.

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FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
DETAIL

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
Signature Date
ARIZONA U.S.A.
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C17 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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UTILITY CROSSINGS

X - #	BOT OF PIPE	PIPE TYPE	TOP OF PIPE	PIPE TYPE	SEPARATION
1	1548.17	STORM DRAIN	1547.16	SEWER	1.02
2	1547.00	STORM DRAIN	1546.02	SEWER	0.98
3	1546.70	STORM DRAIN	1543.67	SEWER	3.03
4	1544.25	STORM DRAIN	1542.85	SEWER	1.40
5	1544.05	STORM DRAIN	1542.21	SEWER	1.85
6	1542.30	STORM DRAIN	1541.20	SEWER	1.10
7	1540.81	STORM DRAIN	1538.76	SEWER	2.05
8	1542.22	STORM DRAIN	1539.83	SEWER	2.39
9	1539.16	STORM DRAIN	1537.08	SEWER	2.08
10	1542.92	STORM DRAIN	1542.20	SEWER	0.72
11	1543.28	STORM DRAIN	1542.47	SEWER	0.81
12	1544.73	STORM DRAIN	1543.18	SEWER	1.55
13	1544.64	STORM DRAIN	1543.78	SEWER	0.86
14	1544.86	STORM DRAIN	1543.92	SEWER	0.94
15	1543.88	STORM DRAIN	1543.14	SEWER	0.74
16	1544.04	STORM DRAIN	1543.13	SEWER	0.90
17	1548.73	STORM DRAIN	1546.49	SEWER	2.24
18	1547.54	STORM DRAIN	1544.92	SEWER	2.62
19	1550.32	DOMESTIC	1546.45	SEWER	3.87
20	1550.06	DOMESTIC	1546.20	SEWER	3.85
21	1549.75	DOMESTIC	1545.53	SEWER	4.23
22	1549.95	DOMESTIC	1542.56	SEWER	7.39
23	1550.50	DOMESTIC	1543.57	SEWER	6.94
24	1550.75	DOMESTIC	1544.11	SEWER	6.65
25	1550.48	DOMESTIC	1543.21	SEWER	7.27
26	1549.78	DOMESTIC	1544.93	SEWER	4.85
27	1549.99	DOMESTIC	1544.93	SEWER	5.06
28	1550.00	DOMESTIC	1545.19	SEWER	4.81
29	1549.78	DOMESTIC	1546.05	SEWER	3.73
30	1550.06	DOMESTIC	1544.83	SEWER	5.23
31	1550.06	DOMESTIC	1544.67	SEWER	5.40
32	1549.04	FIRE LINE	1546.21	SEWER	2.83
33	1548.39	FIRE LINE	1541.73	SEWER	6.66
34	1548.46	FIRE LINE	1541.81	SEWER	6.64
35	1548.63	FIRE LINE	1545.46	SEWER	3.17
36	1548.60	FIRE LINE	1542.07	SEWER	6.53
37	1548.93	FIRE LINE	1542.49	SEWER	6.44
38	1549.46	FIRE LINE	1543.62	SEWER	5.84
39	1549.74	FIRE LINE	1544.47	SEWER	5.27
40	1549.45	FIRE LINE	1543.23	SEWER	6.22
41	1548.58	FIRE LINE	1545.33	SEWER	3.25

UTILITY CROSSINGS

X - #	BOT OF PIPE	PIPE TYPE	TOP OF PIPE	PIPE TYPE	SEPARATION
42	1548.74	FIRE LINE	1546.30	SEWER	2.44
43	1550.12	DOMESTIC	1546.50	STORM DRAIN	3.63
44	1550.59	DOMESTIC	1546.79	STORM DRAIN	3.80
45	1550.55	DOMESTIC	1549.37	STORM DRAIN	1.18
46	1550.00	DOMESTIC	1548.13	STORM DRAIN	1.87
47	1550.04	DOMESTIC	1548.64	STORM DRAIN	1.40
48	1550.06	DOMESTIC	1549.00	STORM DRAIN	1.06
49	1550.66	DOMESTIC	1545.31	STORM DRAIN	5.35
50	1550.52	DOMESTIC	1545.15	STORM DRAIN	5.37
51	1550.05	DOMESTIC	1548.04	STORM DRAIN	2.01
52	1549.83	DOMESTIC	1547.93	STORM DRAIN	1.89
53	1550.80	DOMESTIC	1546.35	STORM DRAIN	4.45
54	1548.77	FIRE LINE	1546.15	STORM DRAIN	2.62
55	1548.85	FIRE LINE	1547.73	STORM DRAIN	1.12
56	1548.60	FIRE LINE	1545.77	STORM DRAIN	2.83
57	1548.67	FIRE LINE	1547.16	STORM DRAIN	1.52
58	1548.55	FIRE LINE	1546.81	STORM DRAIN	1.74
59	1548.48	FIRE LINE	1545.14	STORM DRAIN	3.34
60	1549.02	FIRE LINE	1548.31	STORM DRAIN	0.71
61	1549.63	FIRE LINE	1545.35	STORM DRAIN	4.28
62	1549.49	FIRE LINE	1545.30	STORM DRAIN	4.19
63	1548.92	FIRE LINE	1548.34	STORM DRAIN	0.58
64	1548.63	FIRE LINE	1548.15	STORM DRAIN	0.48
65	1548.75	FIRE LINE	1548.34	STORM DRAIN	0.42
66	1551.10	STORM DRAIN	1551.06	FIRE LINE	0.04
67	1548.72	FIRE LINE	1543.98	STORM DRAIN	4.74
68	1548.44	FIRE LINE	1544.96	STORM DRAIN	3.48
69	1548.53	FIRE LINE	1544.78	STORM DRAIN	3.75
70	1548.28	FIRE LINE	1543.87	STORM DRAIN	4.41
71	1548.85	FIRE LINE	1544.40	STORM DRAIN	4.45
72	1549.01	FIRE LINE	1544.29	STORM DRAIN	4.72
73	1549.90	FIRE LINE	1546.97	STORM DRAIN	2.93
74	1550.02	FIRE LINE	1549.06	STORM DRAIN	0.95
75	1550.06	DOMESTIC	1549.61	FIRE LINE	0.45
76	1550.17	DOMESTIC	1549.80	FIRE LINE	0.37
77	1550.32	DOMESTIC	1549.87	FIRE LINE	0.45
78	1549.79	DOMESTIC	1549.14	FIRE LINE	0.65
79	1550.93	DOMESTIC	1550.28	FIRE LINE	0.65
80	1549.91	DOMESTIC	1549.29	FIRE LINE	0.62
81	1549.80	DOMESTIC	1549.25	FIRE LINE	0.55
82	1550.05	DOMESTIC	1550.45	DOMESTIC	-0.40

WOOD PATEL

Wood, Patel & Associates, Inc.

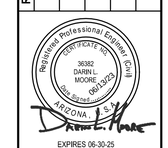
Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS
IMPROVEMENT PLAN
DETAIL

REV	DESCRIPTION	DATE



EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	06/13/2023
JOB NUMBER	215319.10
SHEET	C18 OF 18

CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

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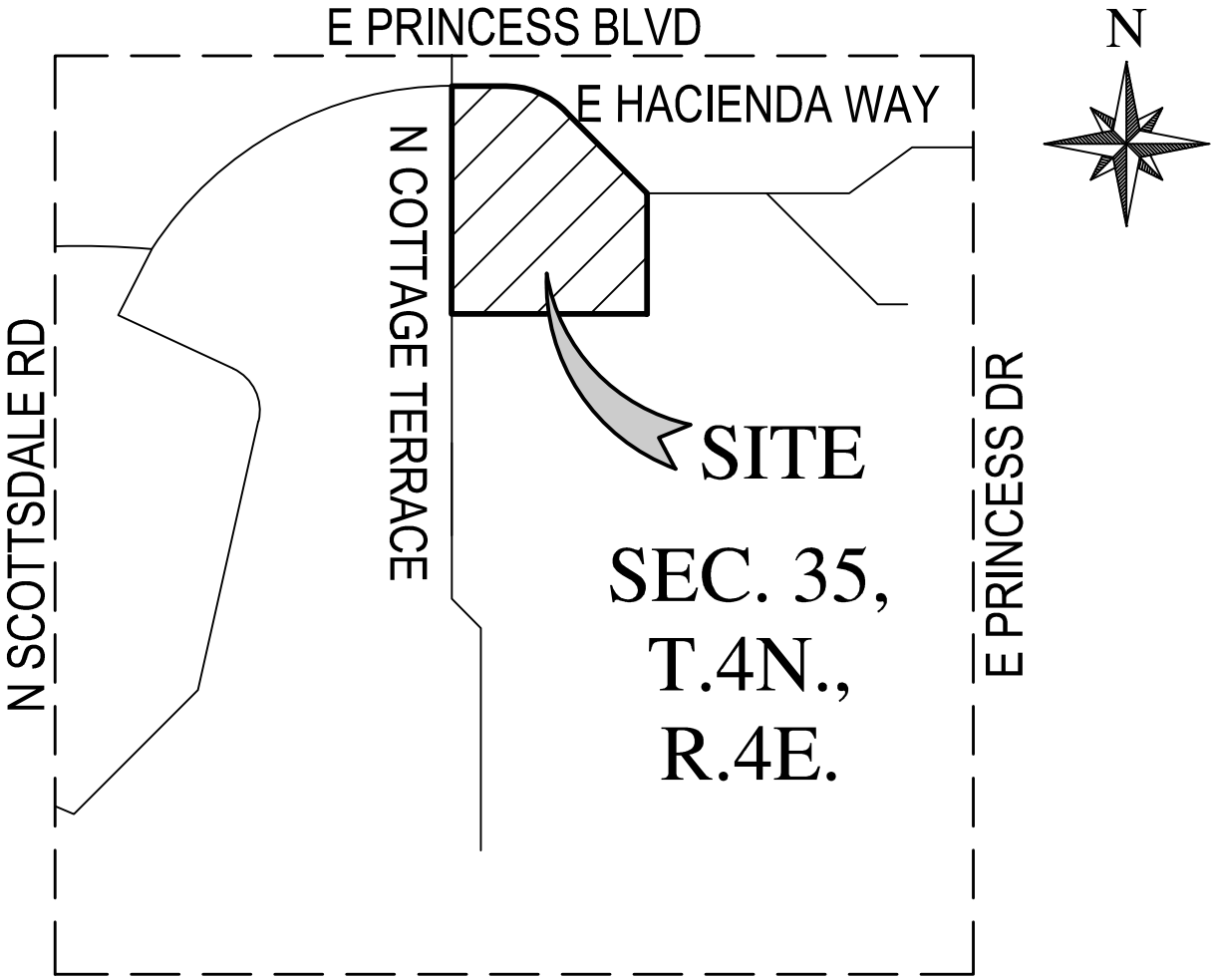
EXHIBIT 1 – VICINITY MAP



VICINITY MAP

N.T.S.

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS - SUNSET BUNGALOWS

VICINITY MAP EXHIBIT

DATE	06/13/2023	SCALE	N.T.S	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	CHECK	RS
		DRAWN	AJS	RFI #	

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EXHIBIT 2 – FEMA FIRM

National Flood Hazard Layer FIRMette

FEMA

111°55'40"W 33°39'4"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

111°55'2"W 33°38'34"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

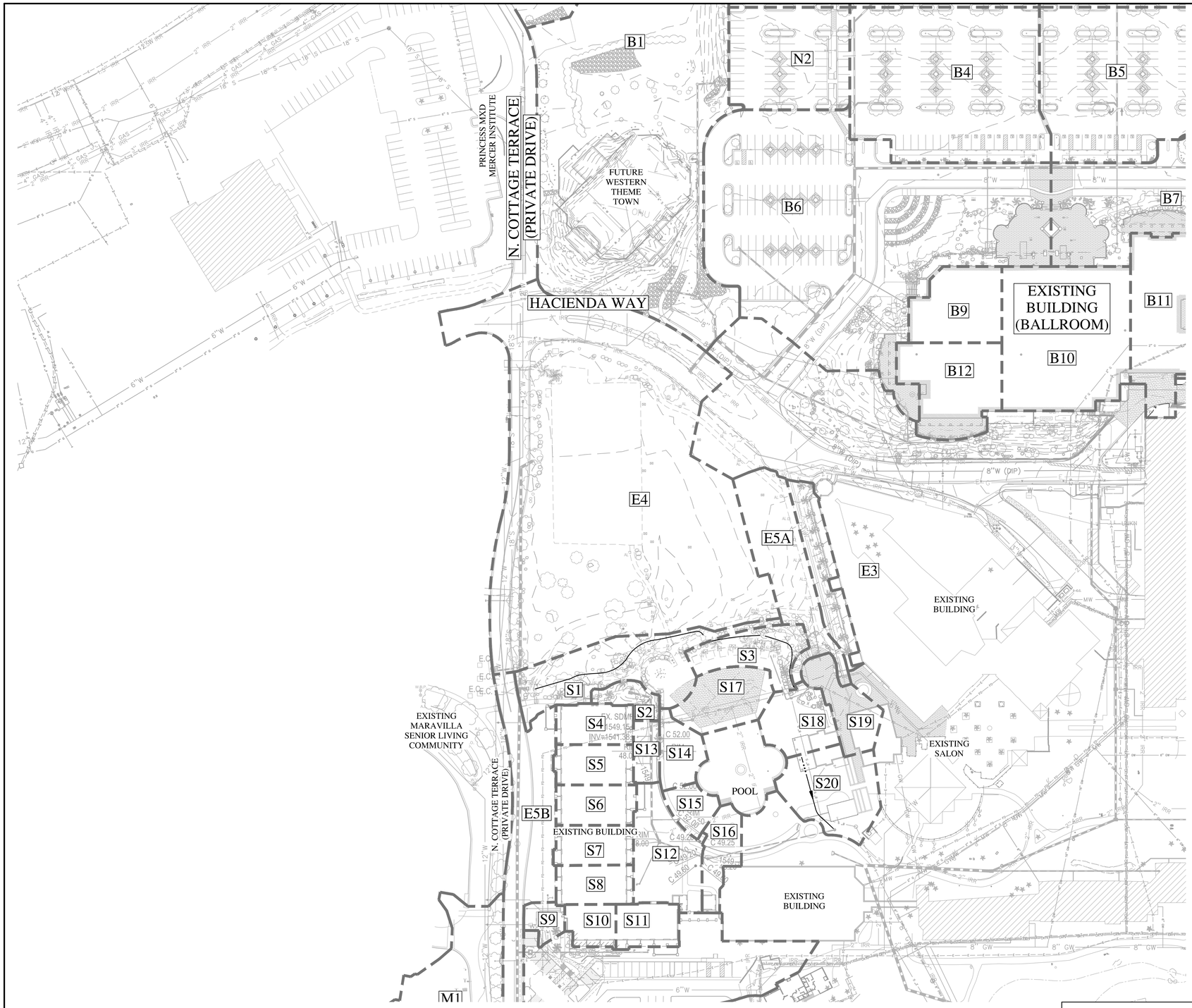
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/31/2021 at 1:10 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT 3 – EXISTING DRAINAGE MAP



LEGEND

- EXISTING DRAINAGE AREA
- 1 EXISTING DRAINAGE AREA

N

0 60 120

Horz. 1 in. = 60 ft.

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WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS & BUNGALOWS
EXISTING DRAINAGE MAP

DATE	06/13/2023	SCALE	1" = 60'	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	DRAWN	AJS

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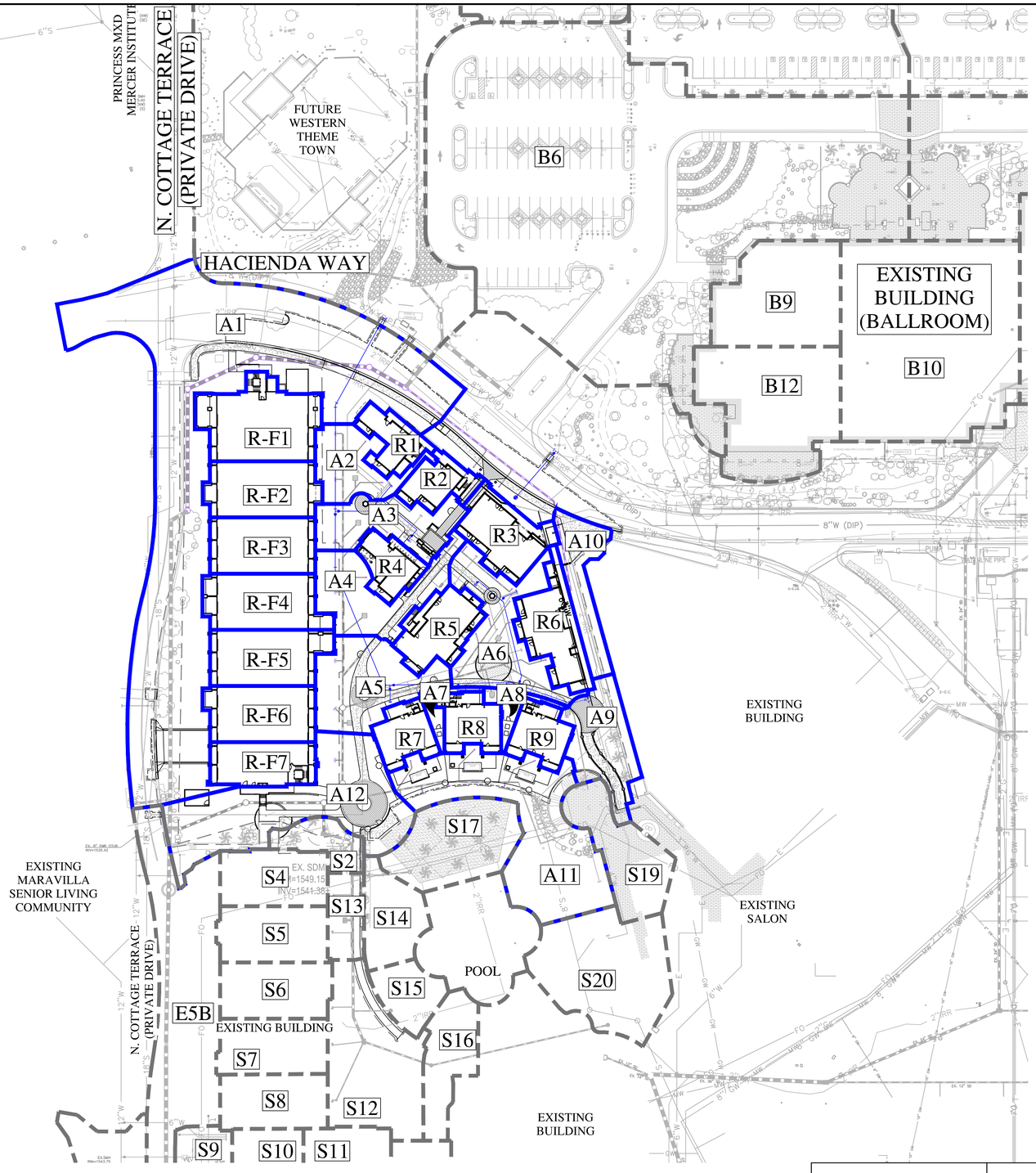
EXHIBIT 4 – PROPOSED DRAINAGE MAP



LEGEND

- EXISTING DRAINAGE AREA BOUNDARY
- 1 — EXISTING DRAINAGE AREA LABEL
- PROPOSED DRAINAGE AREA BOUNDARY
- 1 — PROPOSED DRAINAGE AREA LABEL

N

0 50 100

Horz. 1 in. = 50 ft.

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OR RECORDING

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FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS & BUNGALOWS
PROPOSED DRAINAGE MAP - EXHIBIT 4

DATE	06/13/2023	SCALE	1" = 50'	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	DRAWN	AJS

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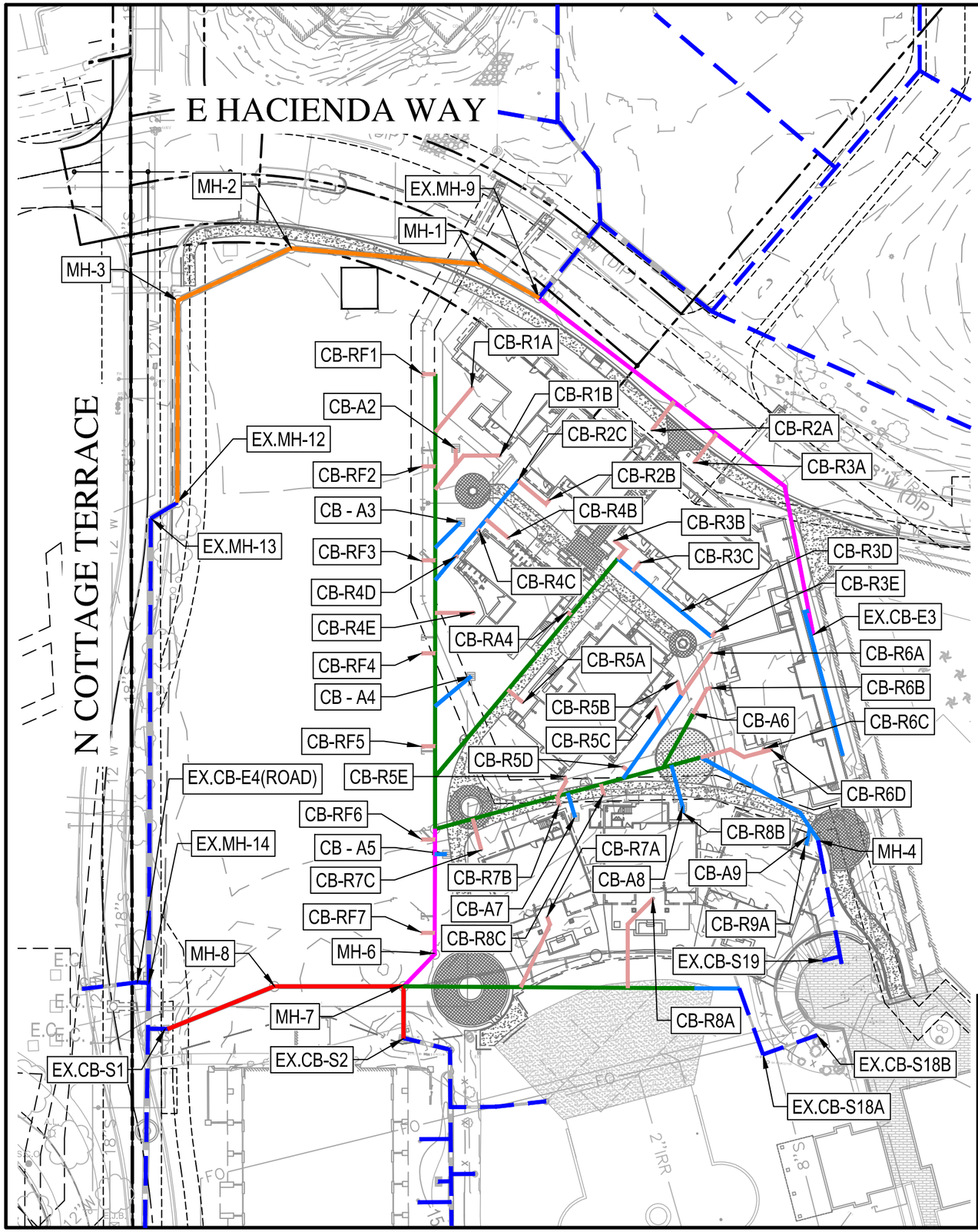
EXHIBIT 5 – STORM DRAIN LAYOUT



N

0 30 60

Horz. 1 in. = 60 ft.

LEGEND

- EXISTING STORM DRAIN LINE
- PROPOSED 6" STORM DRAIN LINE
- PROPOSED 8" STORM DRAIN LINE
- PROPOSED 12" STORM DRAIN LINE
- PROPOSED 15" STORM DRAIN LINE
- PROPOSED 18" STORM DRAIN LINE
- PROPOSED 24" STORM DRAIN LINE
- PROPOSED 36" STORM DRAIN LINE

MH-10 MANHOLE NODE LABEL

CB-10 CATCH BASIN NODE LABEL

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WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS & BUNGALOWS
STORM DRAIN LAYOUT - EXHIBIT 5

DATE	06/13/2023	SCALE	1" = 60'	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	DRAWN	AJS

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