Plan #
Case # 3-DR-2024
Q-S #
[x] Accepted
[ ] Corrections
N.Baronas 9/10/2024
Reviewed By Date

APPROVAL DRAINAGE STIPULATION:
Subject case Civil Improvement plans and Drainage Report shall be revised to reflect Federal Emergency Management Agency (FEMA) Flood Zone X with the final construction document submittal. Current design reflects FEMA Special Flood Hazard Zone AO regulatory development criteria.

WOOD PATEL

PRELIMINARY DRAINAGE REPORT
FOR
ASM SCOTTSDALE

August 30, 2024
WP# 235526

Prepared by
Robert G. Saunders, EIT

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
Date Signed 08/30/24
ARIZONA, U.S.A.

EXPIRES 06-30-25

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1.0 INTRODUCTION

1.1 General Background

The ASM Scottsdale (Site) is a proposed industrial and office development. This Site is on a parcel with an approximate area of 24.9 acres in the City of Scottsdale (APN#125-07-209K). The project will include multiple buildings with hardscape, landscape, parking, and utility improvements to support the development. The Site is located directly south of the Loop 101 freeway and approximately 1,300-feet to the east of Scottsdale Road along Mayo Boulevard. The Site is split between Sections 26 and 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 PCD, is mostly undeveloped desert with a portion that is asphalt pavement.

This preliminary 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. 1) and the *Drainage Design Manuals for Maricopa County Hydrology and Hydraulics (2018),* 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 the understanding of WOODPATEL, based on past experience and interpretations of the City of Scottsdale floodplain ordinance that development of land within FEMA Zone "AO" is acceptable as long as, in general, the lowest finish floor elevation is above or properly protected from the anticipated 100-year water surface elevations. This Site will be designed in accordance with the City floodplain ordinance to meet Federal and State regulations.

2.0 HYDROLOGY ANALYSIS

2.1 Offsite Hydrology

The proposed Site does not receive offsite flows. The existing topography slopes from north to south. Drainage improvements have been proposed by Kimley Horn & Associates, Inc. (Kimley Horn) in their *Master Drainage Report Crossroads East Planning Unit VI and Portion of Planning Unit III* (Ref. 2) to divert overland sheet flow from north of the Site and north of the Loop 101 Freeway to underground storm drain pipes along the north and east side of the Site. These storm drain pipes will intercept and convey offsite stormwater flows around the Site where they will discharge into a detention basin at the

southeast corner of Mayo Boulevard and Miller Road. With these proposed improvements by Kimley Horn, it is anticipated that offsite flows will not affect the Site.

2.2 Onsite Hydrology

Existing surface drainage for the Site flows overland to the south into several proposed temporary surface retention basins proposed by Kimley Horn (Ref. 2). These retention basins will be removed with the proposed grading and drainage.

Runoff from the proposed buildings is designed to direct stormwater away from the proposed buildings overland to proposed retention basins or catch basins connected to a StormPrism 14-foot underground storage system. Refer to Appendix D – *StormPrism 14-foot General Information* for general details. Each StormPrism retention system will be connected to a Contech CDS system to treat stormwater prior to entering drywells, which will evacuate the system within 36-hours. (Refer to Appendix F – *Contech CDS 3020-6-C*) Refer to Appendix C - *Hydrologic and Hydraulic Calculations* for proposed drainage calculations.

Areas A15, A18, and A19 are proposed to sheet flow into proposed retention basins. Retention Basin F will contain the flows from areas A15 and A18. Retention Basin H will contain the flows from area A19. The retention basins will percolate at a rate to drain them within the 36-hours.

Onsite peak flow estimates for the proposed development were generated using the Rational Method, as outlined in the *Drainage Design Manual for Maricopa County, Arizona: Volume I – Hydrology (*Ref 3). NOAA Atlas 14 precipitation data was obtained and utilized to develop Intensity-Duration-Frequency (I-D-F) curves for the Site. Rational Method peak 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 10-year and 100-year events. (Refer to Appendix C – *Hydrologic and Hydraulic Calculations*)

2.3 Establishing Lowest Finish 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 floodproof 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. Scottsdale currently requires the lowest finished floor elevation of 1-foot above the flood depth, which results in a finished floor elevation of 2-feet above the Highest Adjacent natural Grade (HAG) for the proposed building which would be the regulatory flood elevation. Due to the Site being disturbed after the Zone “AO” Special Flood Hazard was established, the current condition of the Site cannot determine the HAG. Due to this change the HAG must be established using topographical information showing the pre-disturbed condition of the Site.

According to Curry's Corner 7.5-minute Topographic Survey Map by USGS from 1964 with a contour interval of 10-feet, the approximate highest natural grade of this Site prior to development must be changed from the NAVD29 datum to the NAVD88 datum. This change consists of an elevation increase of 1.749-feet determined using surveyed elevations of a nearby monument on both vertical datums.

Using AutoCAD Civil 3D, the quad map was aligned to the Site using common monument lines (section lines) contained within the quad map and previously surveyed by WOODPATEL. The 10-foot interval contours were digitized, adjusted to NAVD88 and applied to a TIN surface model. The surface model was supplemented with break lines at estimated ridge and flowline locations. The surface was used to display interpolated 1-foot contours for the pre-disturbed condition, the proposed building limits were overlaid on the contour map and the HAG was determined for the proposed building. The proposed building lowest finished floor elevation is a minimum of 2-feet above the HAG. (Refer to Appendix A - *Regional Contour Map / Highest Natural Grade Elevation Calculation* and Appendix B - *Curry's Corner Quadrangle Map*) Overlaying the building over the adjusted digitized Curry's Corner Map the lowest finish floor elevation can be determined. Refer to the table below for the relive HAG, Lowest Adjacent Grade (LAG), Regulatory Flood Elevation, and LFF.

NAME	HAG	LAG	REGULATORY FLOOD ELEVATION	LOWEST FINISHED FLOOR ELEVATION
OFFICE	1602.07	1592.26	1604.07	1604.50
LAB	1599.53	1592.92	1601.53	1602.50
CUP	1601.58	1598.93	1603.58	1603.58
PARKING STRUCTURE	1599.76	1592.16	1601.76	1599.00
CHEMICAL	1601.54	1598.76	1604.54	1604.75
APS YARD	1602.19	1598.33	1604.19	1604.50

The regulatory flood elevation for each structure was determined by adding 2-feet to each HAG, and an additional foot for the chemical storage building.

3.0 HYDRAULIC ANALYSIS

The proposed Site is designed to convey stormwater to proposed roof drains and catch basins at low points throughout the Site. The catch basins and roof drains will connect to underground storage sized to retain the 100-year, 2-hour storm event. Refer to Appendix D - *StormPrism 14-Foot General Information* for details of the underground storage system. Stormwater within the underground storage will be treated by a Contech CDS3020-6-C system before flowing to the proposed drywells. (Refer to Appendix F – *Contech CDS 3020-6-C*) The underground storage will be drained within 36 -hours by drywells designed at a percolation rate of 0.1 cfs. The Site will require fifteen (15) drywells to fully evacuate the underground system. (Refer to Appendix C- *Hydrologic and Hydraulic Calculations*)

Retention basins will retain the runoff from defined areas and will percolate at a rate of 1.75 inches per hour (in/hr). This value was taken from a recent percolation test in the area. A new percolation test will be done to verify the percolation rate.

4.0 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 project plans and specifications.

5.0 CONCLUSIONS

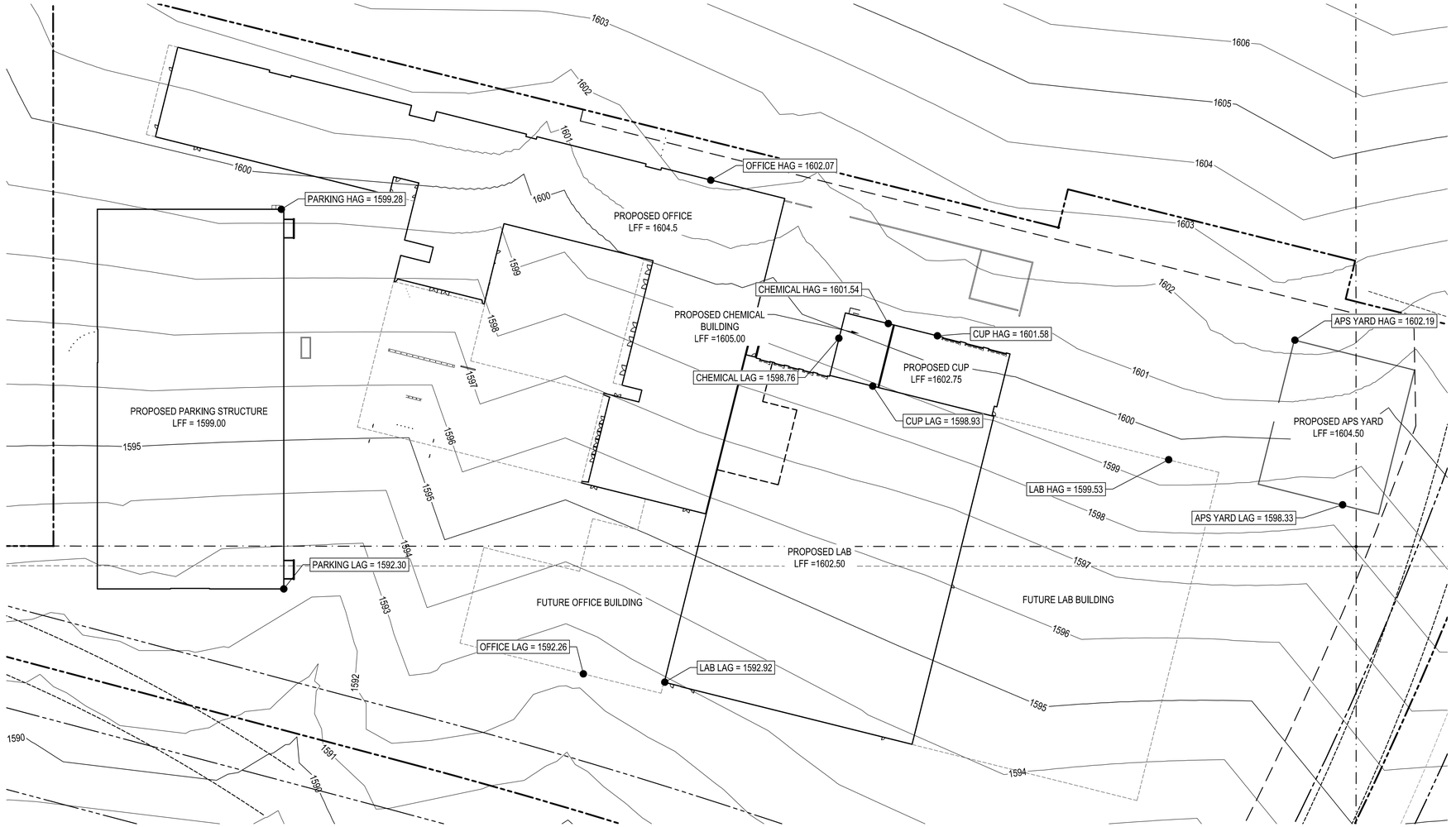
Based on our analysis of the Site, the following conclusions can be made:

1. This preliminary 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 100-year floodplain (Zone "AO-Depth 1 foot") in both pre- and post-development conditions.
3. The Lowest Finish Floor elevation of all the proposed buildings will be a minimum of 2-feet above (1 foot for AO and 1 foot of freeboard) the highest natural grade in accordance with FEMA and City of Scottsdale regulations. An additional foot has been added to the Chemical Building.
4. The Site will be protected from offsite flows from the north and east by improvements currently designed for construction by Kimley Horn (Ref. 2) specifically to protect this property.
5. Underground storage has been provided for the Site for the 100-year, 2-hour storm event.
6. Drywells will be utilized to drain the underground storage within 36 hours after a storm event.
7. Retention basins will drain within 36 hours after a storm event.
8. Ongoing maintenance is required for the existing drainage systems to maintain design performance. Maintenance is the responsibility of the private parties involved.

6.0 REFERENCES

1. *Design Standards & Policies Manual*, City of Scottsdale, 2018.
2. *Master Drainage Report Crossroads East Planning Unit VI and Portion of Planning Unit III,* Case 37-SA-2023, Scottsdale Arizona, by Kimley-Horn & Associates, Inc., dated August 2023.
3. *Drainage Design Manual for Maricopa County, Arizona: Volume I – Hydrology.*
4. *Curry's Corner Quadrangle,* 7.5 Minute Series Topographic Map, USGS, 1964.

APPENDIX A – REGIONAL CONTOUR MAP / HIGHEST NATURAL GRADE ELEVATION CALCULATION



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	STRUCTURE CATEGORY	ADDRESS	LOWEST FINISHED FLOOR ELEVATION (LF88)	HIGHEST ADJACENT NATURAL GRADE	LOWEST ADJACENT NATURAL GRADE	REGULATORY FLOOD ELEVATION	FEMA REQUIREMENTS		
BUILDINGS							FLOOD VENTING	WET FLOODPROOFING	OTHER
FUTURE AND PROPOSED OFFICE	IV		1604.50	1602.07	1592.26	1604.07	NO VENT	NOT REQUIRED	N/A
FUTURE AND PROPOSED LAB	IV		1602.50	1599.53	1592.92	1601.53	NO VENT	NOT REQUIRED	N/A
CUP	IV		1603.58	1601.58	1598.93	1603.58	NO VENT	NOT REQUIRED	N/A
PARKING STRUCTURE	IV		1599.00	1599.76	1592.16	1601.76	NO VENT	NOT REQUIRED	N/A
CHEMICAL	IV		1604.75	1601.54	1598.76	1604.54	NO VENT	REQUIRED	N/A
APS YARD	IV		1604.50	1602.19	1598.33	1604.19	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.

N

0 60 120

Horz. 1 in. = 60 ft.

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

LOWEST FINISHED FLOOR ELEVATIONS
HIGHEST ADJACENT GRADE

DATE	08/30/2024	SCALE	1" = 60'	SHEET	01 OF 02
JOB NO	235526	DESIGN	AJS	DRAWN	AJS

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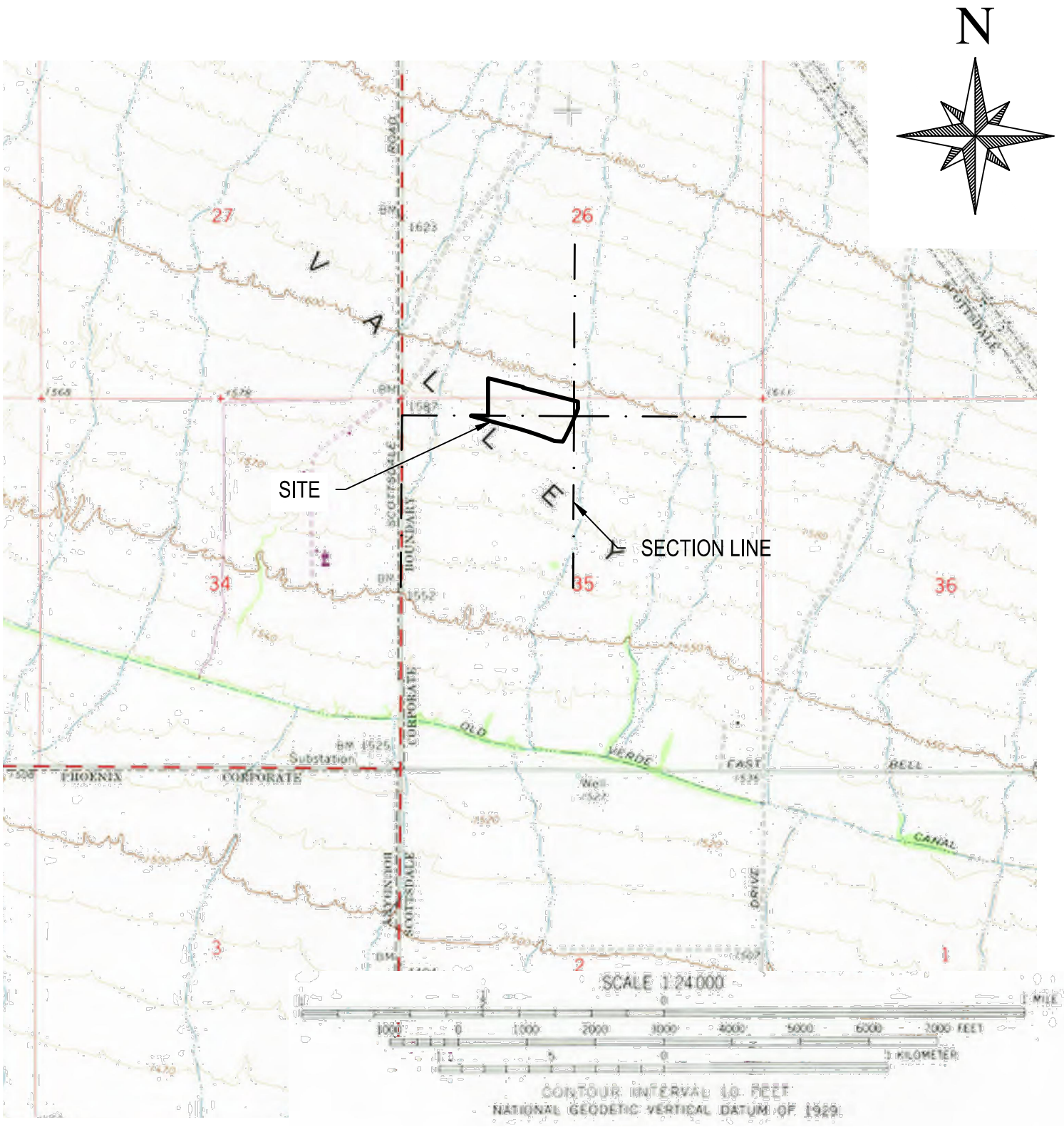


NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

REGIONAL CONTOUR MAP/OPINION OF EXISTING HIGHEST NATURAL GRADE ELEVATION

DATE	08/30/2024	SCALE	1" = 1'	SHEET	2 OF 2
JOB NO.	235526	DESIGN	RS	CHECK	RS
		DRAWN	AJS	RFI #	N/A

Z:\2023\235526\Project Support\Reports\Drainage\Exhibits\5526 Exhibit - Regional Contour Map 2.dwg

APPENDIX B – 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 C – HYDROLOGIC AND HYDRAULIC CALCULATIONS

IDF DATA FROM FCDMC NOAA – ATLAS 14 PRECIPITATION DATA

WOOD PATEL

SITE I-D-F CURVE

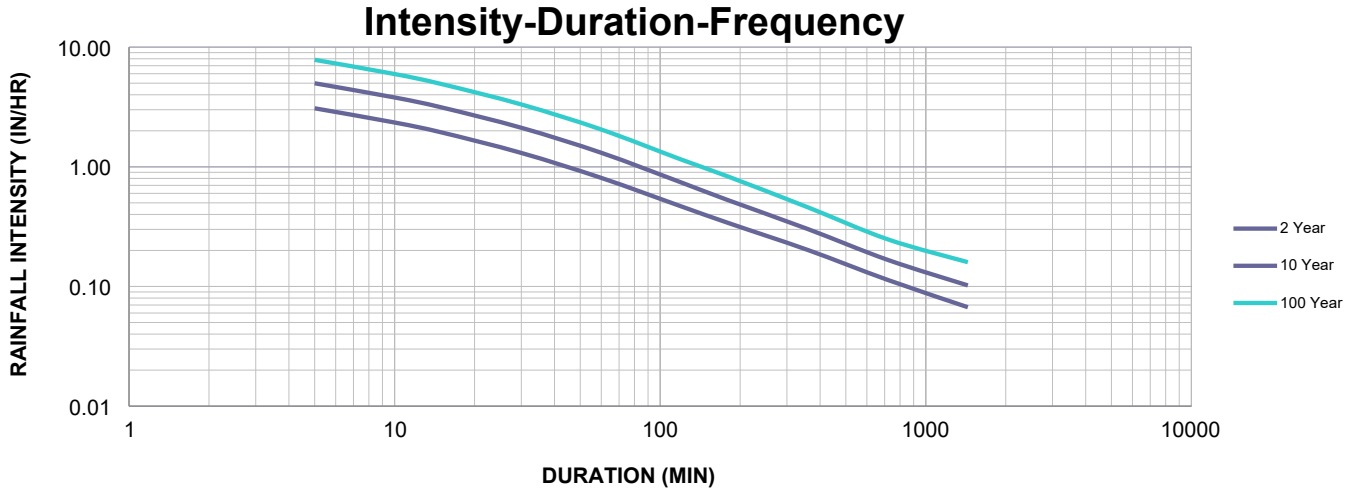
Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

RAINFALL DEPTHS, INCHES

Duration	Average Reccurence Interval (years)					
	2	5	10	25	50	100
5-min	0.257	0.347	0.416	0.509	0.580	0.653
10-min	0.391	0.528	0.633	0.774	0.883	0.994
15-min	0.485	0.654	0.785	0.960	1.090	1.230
30-min	0.653	0.881	1.060	1.290	1.470	1.660
60-min	0.808	0.109	1.310	1.600	1.820	2.050
2-hr	0.934	1.240	1.480	1.800	2.050	2.300
3-hr	1.020	1.330	1.580	1.930	2.200	2.490
6-hr	1.210	1.540	1.810	2.170	2.460	2.750
12-hr	1.360	1.720	2.000	2.380	2.670	2.970
24-hr	1.610	2.080	2.450	2.980	3.390	3.830

RAINFALL INTENSITY, INCHES/HOUR

Duration minutes	Frequency, years					
	2	5	10	25	50	100
5	3.08	4.16	4.99	6.11	6.96	7.84
10	2.35	3.17	3.80	4.64	5.30	5.96
15	1.94	2.62	3.14	3.84	4.36	4.92
30	1.31	1.76	2.12	2.58	2.94	3.32
60	0.81	0.11	1.31	1.60	1.82	2.05
120	0.47	0.62	0.74	0.90	1.03	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



PROPOSED WEIGHTED C VALUES 2- & 10-YEAR

WOOD PATEL

PROPOSED COMPOSITE WEIGHTED "C" FACTOR CALCULATIONS

2-YEAR & 10-YEAR

Project	ASM Scottsdale
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, E.I.T.

Drainage Subbasin ID	Area	Commercial & Industrial Areas		2-YR & 10-YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	"C"
A1	0.81	100	0.80	**0.80**
A2	0.26	100	0.80	**0.80**
A3	0.41	100	0.80	**0.80**
A4	0.11	100	0.80	**0.80**
A5	0.74	100	0.80	**0.80**
A6	1.47	100	0.80	**0.80**
A7	0.83	100	0.80	**0.80**
A8	2.48	100	0.80	**0.80**
A9	0.66	100	0.80	**0.80**
A10	0.68	100	0.80	**0.80**
A11	0.49	100	0.80	**0.80**
A12	0.89	100	0.80	**0.80**
A13	1.58	100	0.80	**0.80**
A14	0.76	100	0.80	**0.80**
A15	0.01	100	0.80	**0.80**
A16	0.94	100	0.80	**0.80**
A17	0.66	100	0.80	**0.80**
A18	0.50	100	0.80	**0.80**
A19	0.33	100	0.80	**0.80**
R1A	0.55	100	0.80	**0.80**
R1B	0.30	100	0.80	**0.80**
R1C	0.55	100	0.80	**0.80**
R1D	0.46	100	0.80	**0.80**
R2	2.05	100	0.80	**0.80**
R3	1.67	100	0.80	**0.80**

PROPOSED WEIGHTED C VALUES 100-YEAR

WOOD PATEL

PROPOSED COMPOSITE WEIGHTED "C" FACTOR CALCULATIONS

100-YEAR

Project	ASM Scottsdale
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, E.I.T.

Drainage Subbasin ID	Area	Commercial & Industrial Areas		100 YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	"C"
A1	0.81	100	0.86	**0.86**
A2	0.26	100	0.86	**0.86**
A3	0.41	100	0.86	**0.86**
A4	0.11	100	0.86	**0.86**
A5	0.74	100	0.86	**0.86**
A6	1.47	100	0.86	**0.86**
A7	0.83	100	0.86	**0.86**
A8	2.48	100	0.86	**0.86**
A9	0.66	100	0.86	**0.86**
A10	0.68	100	0.86	**0.86**
A11	0.49	100	0.86	**0.86**
A12	0.89	100	0.86	**0.86**
A13	1.58	100	0.86	**0.86**
A14	0.76	100	0.86	**0.86**
A15	0.01	100	0.86	**0.86**
A16	0.94	100	0.86	**0.86**
A17	0.66	100	0.86	**0.86**
A18	0.50	100	0.86	**0.86**
A19	0.33	100	0.86	**0.86**
R1A	0.55	100	0.86	**0.86**
R1B	0.30	100	0.86	**0.86**
R1C	0.55	100	0.86	**0.86**
R1D	0.46	100	0.86	**0.86**
R2	2.05	100	0.86	**0.86**
R3	1.67	100	0.86	**0.86**

PROPOSED RATIONAL METHOD

WOOD PATEL

PROPOSED RATIONAL METHOD SUMMARY
10-YEAR & 100-YEAR

Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

PROPOSED 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)
A1	401	0.076	35,239	0.81	A	0.0406	1604.4	1599.5	64.3	5.0	7.84	0.86	**5.5**	5.3	4.92	0.80	**3.2**
A2	161	0.030	11,298	0.26	A	0.0437	1601.5	1599.5	65.6	5.0	7.84	0.86	**1.7**	5.0	4.99	0.80	**1.0**
A3	174	0.033	17,877	0.41	A	0.0424	1604.5	1599.3	158.0	5.0	7.84	0.86	**2.8**	5.0	4.99	0.80	**1.6**
A4	117	0.022	4,722	0.11	A	0.0460	1604.5	1598.2	284.2	5.0	7.84	0.86	**0.7**	5.0	4.99	0.80	**0.4**
A5	164	0.031	32,445	0.74	A	0.0408	1602.5	1599.0	114.5	5.0	7.84	0.86	**5.0**	5.0	4.99	0.80	**3.0**
A6	313	0.059	64,156	1.47	A	0.0389	1603.6	1600.0	61.5	5.0	7.84	0.86	**9.9**	5.0	4.99	0.80	**5.9**
A7	242	0.046	35,978	0.83	A	0.0405	1605.0	1596.7	180.8	5.0	7.84	0.86	**5.6**	5.0	4.99	0.80	**3.3**
A8	424	0.080	108,071	2.48	A	0.0375	1603.6	1595.0	107.1	5.0	7.84	0.86	**16.7**	5.0	4.99	0.80	**9.9**
A9	343	0.065	28,582	0.66	A	0.0411	1602.0	1591.0	169.1	5.0	7.84	0.86	**4.4**	5.0	4.99	0.80	**2.6**
A10	198	0.038	29,447	0.68	A	0.0411	1601.5	1590.0	305.2	5.0	7.84	0.86	**4.6**	5.0	4.99	0.80	**2.7**
A11	185	0.035	21,163	0.49	A	0.0420	1604.5	1590.5	399.4	5.0	7.84	0.86	**3.3**	5.0	4.99	0.80	**1.9**
A12	259	0.049	38,863	0.89	A	0.0403	1604.5	1594.2	210.3	5.0	7.84	0.86	**6.0**	5.0	4.99	0.80	**3.6**
A13	349	0.066	68,696	1.58	A	0.0388	1604.5	1591.1	203.2	5.0	7.84	0.86	**10.6**	5.0	4.99	0.80	**6.3**
A14	372	0.070	33,150	0.76	A	0.0407	1602.3	1595.0	103.7	5.0	7.84	0.86	**5.1**	5.0	4.99	0.80	**3.0**
A15	21	0.004	628	0.01	A	0.0515	1604.5	1604.2	88.0	5.0	7.84	0.86	**0.1**	5.0	4.99	0.80	**0.1**
A16	294	0.056	41,157	0.94	A	0.0402	1603.3	1593.2	180.6	5.0	7.84	0.86	**6.4**	5.0	4.99	0.80	**3.8**
A17	129	0.024	28,577	0.66	A	0.0411	1604.5	1601.5	122.5	5.0	7.84	0.86	**4.4**	5.0	4.99	0.80	**2.6**
A18	159	0.030	21,865	0.50	A	0.0419	1604.3	1603.0	43.2	5.0	7.84	0.86	**3.4**	5.0	4.99	0.80	**2.0**
A19	27	0.005	14,305	0.33	A	0.0430	1604.5	1604.3	41.0	5.0	7.84	0.86	**2.2**	5.0	4.99	0.80	**1.3**
R1A		0.000	24,106	0.55	A	0.0416	0.0	0.0	0.5	5.0	7.84	0.86	**3.7**	5.0	4.99	0.80	**2.2**
R1B		0.000	13,083	0.30	A	0.0433	0.0	0.0	0.5	5.0	7.84	0.86	**2.0**	5.0	4.99	0.80	**1.2**
R1C		0.000	23,791	0.55	A	0.0416	0.0	0.0	0.5	5.0	7.84	0.86	**3.7**	5.0	4.99	0.80	**2.2**
R1D		0.000	20,105	0.46	A	0.0421	0.0	0.0	0.5	5.0	7.84	0.86	**3.1**	5.0	4.99	0.80	**1.8**
R2		0.000	89,147	2.05	A	0.0381	0.0	0.0	0.5	5.0	7.84	0.86	**13.8**	5.0	4.99	0.80	**8.2**
R3		0.000	72,745	1.67	A	0.0386	0.0	0.0	0.5	5.0	7.84	0.86	**11.3**	5.0	4.99	0.80	**6.7**
Total			879,196	20.18									136.1				80.5

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.

RETENTION REQUIRED

WOOD PATEL

RETENTION REQUIRED
100-YEAR, 2-HOUR VOLUME

Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

Rainfall Depth "P" = 2.30 inches

Retention Basin ID	Drainage Subbasin ID	Drainage Area "A" (Acres)	100 YR Runoff Coefficient "C"	A*C	Retention Required (CF)	Retention Required (AF)
A	A1	0.81	0.86	30,306	5,809	0.13
A	A2	0.26	0.86	9,716	1,862	0.04
B	A3	0.41	0.86	15,375	2,947	0.07
B	A4	0.11	0.86	4,061	778	0.02
B	A5	0.74	0.86	27,903	5,348	0.12
B	A6	1.47	0.86	55,174	10,575	0.24
C	A7	0.83	0.86	30,941	5,930	0.14
C	A8	2.48	0.86	92,941	17,814	0.41
C	A9	0.66	0.86	24,580	4,711	0.11
C	A10	0.68	0.86	25,325	4,854	0.11
D	A11	0.49	0.86	18,200	3,488	0.08
D	A12	0.89	0.86	33,422	6,406	0.15
D	A13	1.58	0.86	59,079	11,323	0.26
E	A14	0.76	0.86	28,509	5,464	0.13
F	A15	0.01	0.86	540	104	0.00
G	A16	0.94	0.86	35,395	6,784	0.16
G	A17	0.66	0.86	24,576	4,710	0.11
F	A18	0.50	0.86	18,804	3,604	0.08
H	A19	0.33	0.86	12,302	2,358	0.05
A	R1A	0.55	0.86	20,731	3,974	0.09
A	R1B	0.30	0.86	11,251	2,156	0.05
B	R1C	0.55	0.86	20,460	3,922	0.09
G	R1D	0.46	0.86	17,290	3,314	0.08
D	R2	2.05	0.86	76,666	14,694	0.34
E	R3	1.67	0.86	62,561	11,991	0.28
TOTAL		**20.18**			**144,921**	**3.33**

Calculated Values

RETENTION PROVIDED

WOOD PATEL

RETENTION PROVIDED
100-YEAR, 2-HOUR VOLUME

Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

Retention Basin ID	Drainage Subbasin ID	Bottom Basin Area	Median Basin Area	Top Basin Area	Basin Depth	Underground Retention Stuctures	Volume for Each Structure	Total Volume Provided	Volume Required 100-yr, 2-hr Retention	Volume Required 100-yr, 2-hr Retention
		(sq. ft)	(sq. ft)	(sq. ft)	(ft)		(CF)	(CF)	(CF)	(AF)
A	A1, A2, R1A, R1B	--	--	--	--	8	1,736	13,889	13,801	0.32
B	A3, A4, A5, A6, R1C	--	--	--	--	14	1,736	24,305	23,570	0.54
C	A7, A8, A9, A10	--	--	--	--	20	1,736	34,722	33,309	0.76
D	A11, A12, A13, R2	--	--	--	--	21	1,736	36,458	35,912	0.82
E	A14, R3	--	--	--	--	11	1,736	19,097	17,455	0.40
F	A15, A18	4,517	5,321	6,180	1.5	--	--	8,046	3,708	0.09
G	A16, A17, R1D	--	--	--	--	9	1,736	15,625	14,809	0.34
H	A19	3,127	3,661	4,240	1.5	--	--	5,590	2,358	0.05
Total						**83**		**157,733**	**144,921**	**3.33**

DRYWELL BASIN DRAIN TIME

WOOD PATEL

DRYWELL BASIN DRAIN TIME

Project	ASM Scottsdale
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, E.I.T.

Retention Basin ID	Volume Required (AF)	Volume Required (CF)	Drywell Percolation Rate (CFS)	Number of Drywells	Drain Time (Minutes)	Drain Time (Hours)
A	0.32	13,801	0.10	2	1,150	19.17
B	0.54	23,570	0.10	2	1,964	32.74
C	0.76	33,309	0.10	4	1,388	23.13
D	0.82	35,912	0.10	3	1,995	33.25
E	0.40	17,455	0.10	2	1,455	24.24
G	0.34	14,809	0.10	2	1,234	20.57
Total				**15**		

SURFACE BASIN DRAIN TIME

WOOD PATEL

SURFACE BASIN DRAIN TIME

Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

Retention Basin ID	Volume Required (V) (AF)	Volume Required (cf)	Surface Percolation Rate* (Pd) (in/hr)	Bottom of Basin (Ap) (ac)	Drain Time** (Td) (Minutes)	(Hours)
F	0.09	3,708	1.75	0.104	338	5.63
H	0.05	2,358	1.75	0.072	313	5.21

Notes:
*Percolation rate used from a recent test performed in the local area. A new test will be performed onsite to verify these findings, however, based on the results shown the retention basins will drain within 36-hours.
**Basin Drain Time equation from Maricopa County Drainage Policies and Standards equation 6.7

$$T_d = \frac{V}{A_p \frac{P_d}{12}}$$

M.A.G. 535 TYPE ‘F’ CATCH BASIN INFLOW CAPACITY

WOOD PATEL

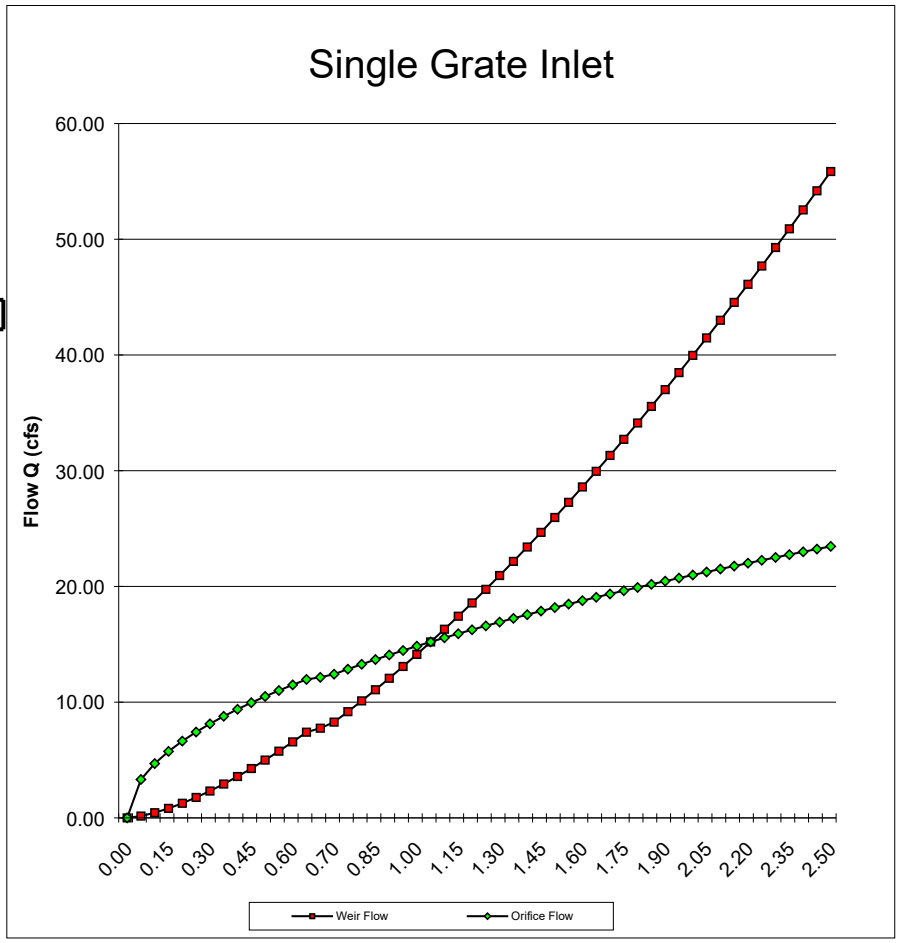
INLET CAPACITY AT SUMP LOCATIONS
MAG 535 TYPE 'F' SINGLE CATCH BASIN

Project	ASM Scottsdale
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, E.I.T.

Weir Equation $Q_i = C_w P d^{1.5} (C_f)$
Orifice Equation $Q_i = C_o A (2gd)^{0.5} (C_f)$
Where Cw = 3, Co = 0.67, and Cf = Clogging Factor = 0.5

P =	9.42	**ft**	P = Perimeter of catch basin minus area of longitudinal & lateral bars
A =	5.52	**sf**	A = Total area of grate minus area of longitudinal & lateral bars

Depth (ft)	Weir Qi (cfs)	Orifice Qi (cfs)
0.00	0.00	0.00
0.05	0.16	3.32
0.10	0.45	4.69
0.15	0.82	5.75
0.20	1.26	6.64
0.25	1.77	7.42
0.30	2.32	8.13
0.35	2.93	8.78
0.40	3.57	9.39
0.45	4.27	9.95
0.50	5.00	10.49
0.55	5.76	11.01
0.60	6.57	11.49
0.65	7.40	11.96
0.67	7.75	12.15
0.70	8.28	12.42
0.75	9.18	12.85
0.80	10.11	13.27
0.85	11.07	13.68
0.90	12.06	14.08
0.95	13.08	14.46
1.00	14.13	14.84
1.05	15.20	15.21
1.10	16.30	15.56
1.15	17.43	15.91
1.20	18.57	16.26
1.25	19.75	16.59
1.30	20.94	16.92
1.35	22.16	17.24
1.40	23.41	17.56
1.45	24.67	17.87
1.50	25.96	18.17



DOUBLE M.A.G. 535 CATCH BASIN INFLOW CAPACITY

WOOD PATEL

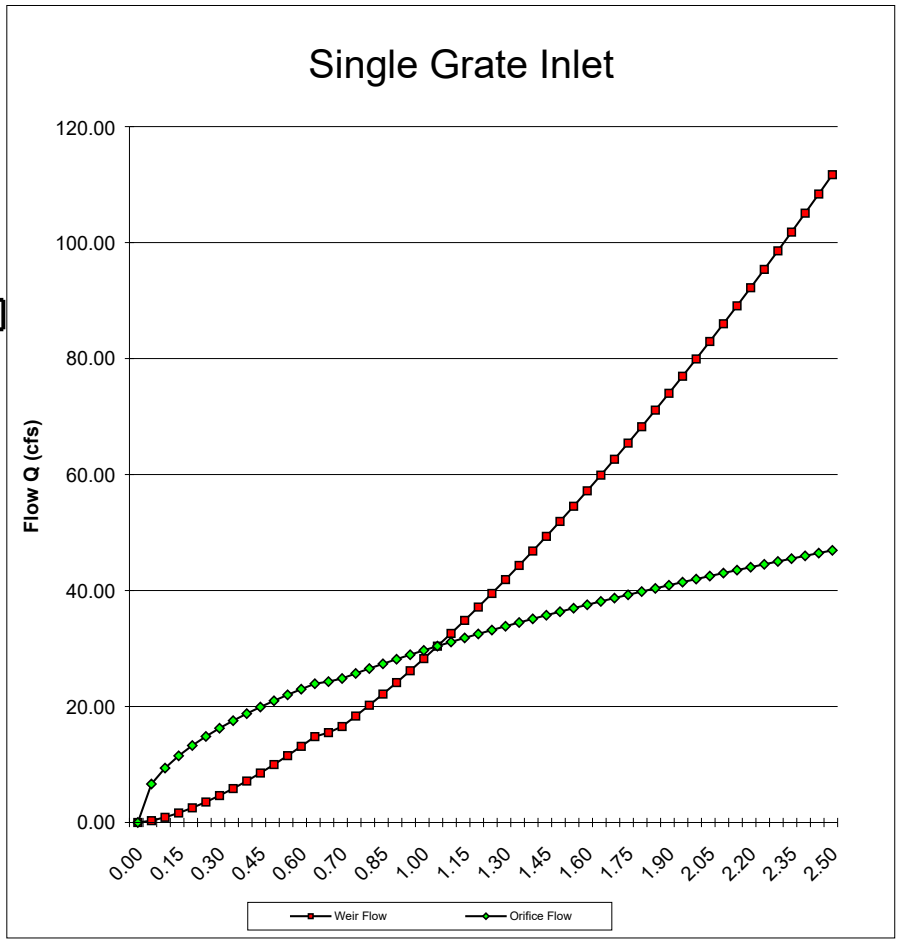
INLET CAPACITY AT SUMP LOCATIONS
MAG 535 TYPE 'F' DOUBLE CATCH BASIN

Project	ASM Scottsdale
Location	Scottsdale AZ
Project Number	235526
Project Engineer	Andrew Sanchez, E.I.T.

Weir Equation $Q_i = C_w P d^{1.5} (C_f)$
Orifice Equation $Q_i = C_o A (2gd)^{0.5} (C_f)$
Where Cw = 3, Co = 0.67, and Cf = Clogging Factor = 0.5

P =	18.84	**ft**	P = Perimeter of catch basin minus area of longitudinal & lateral bars
A =	11.04	**sf**	A = Total area of grate minus area of longitudinal & lateral bars

Depth (ft)	Weir Qi (cfs)	Orifice Qi (cfs)
0.00	0.00	0.00
0.05	0.32	6.64
0.10	0.89	9.39
0.15	1.64	11.49
0.20	2.53	13.27
0.25	3.53	14.84
0.30	4.64	16.26
0.35	5.85	17.56
0.40	7.15	18.77
0.45	8.53	19.91
0.50	9.99	20.99
0.55	11.53	22.01
0.60	13.13	22.99
0.65	14.81	23.93
0.67	15.50	24.29
0.70	16.55	24.83
0.75	18.36	25.70
0.80	20.22	26.55
0.85	22.15	27.36
0.90	24.13	28.16
0.95	26.17	28.93
1.00	28.26	29.68
1.05	30.41	30.41
1.10	32.60	31.13
1.15	34.85	31.83
1.20	37.15	32.51
1.25	39.49	33.18
1.30	41.89	33.84
1.35	44.33	34.48
1.40	46.81	35.12
1.45	49.34	35.74
1.50	51.92	36.35



CATCH BASIN INLET SUMMARY

WOOD PATEL

CATCH BASIN INLET SUMMARY

CATCH BASIN INTERCEPTION CAPACITY AND BY-PASS FLOWS

Project ASM Scottsdale
Location Scottsdale AZ
Project Number 235526
Project Engineer Andrew Sanchez, E.I.T.

Catch Basin ID	Catch Basin Type	On-Grade or Sump	Post Q10 Flow (cfs)	Post Q100 Flow (cfs)	Intercept Capacity (cfs)
CB-A1	MAG 535	Sump	3.2	5.5	10.5
CB-A2	MAG 535	Sump	1.0	1.7	10.5
CB-A3	MAG 535	Sump	1.6	2.8	10.5
CB-A4	Trench Drain	Sump	0.4	0.7	10.5
CB-A5	MAG 535	Sump	3.0	5.0	10.5
CB-A6	MAG 535	Sump	5.9	9.9	10.5
CB-A7	MAG 535	Sump	3.3	5.6	10.5
CB-A8	(2x)MAG 535	Sump	9.9	16.7	21.0
CB-A9	MAG 535	Sump	2.6	4.4	10.5
CB-A10	MAG 535	Sump	2.7	4.6	10.5
CB-A11	MAG 535	Sump	1.9	3.3	10.5
CB-A12	MAG 535	Sump	3.6	6.0	10.5
CB-A13	MAG 535	Sump	6.3	10.6	10.5
CB-A14	MAG 535	Sump	3.0	5.1	10.5
CB-A16	MAG 535	Sump	3.8	6.4	10.5
CB-A17	MAG 535	Sump	2.6	4.4	10.5

APPENDIX D – STORMPRISM 14-FOOT GENERAL INFORMATION

DESIGN NOTES:

MATERIALS
Materials used in this work shall conform to ACI (American Concrete Institute)

CONCRETE
For SPEQ units and walls:
28 Day Compressive 6,000 psi (Minimum)
Lifting Strength 2000 psi (Minimum)

REINFORCING STEEL
Reinforcing Bars shall conform to: ASTM A615, Grade 60
Reinforcing Mesh shall conform to: ASTM A1064, Grade 70
Reinforcing Cover: 1.5" minimum

DESIGN PARAMETERS
1. Design per ACI 350, ASTM C857 and C857 HS-20 live load.
2. Bar cover = 1 1/2" u.n.o.
3. Earth cover = 2'-10' max
4. Equivalent fluid pressure = 60 pcf
5. Unit weight of soil = 120 pcf
6. f'c @ 28 days = 6,000 psi
7. Reinforcement = bar per ASTM A615, Grade 60
8. Provide replacement-reinforcing equal to half amount of interrupted bars at each side of opening.
9. Equivalent mesh can be used in lieu of grade 60 rebar.
10. Assumed water table below structure. No surcharge from adjacent buildings or structures. min soil bearing pressure 2000 psf

FABRICATION
Fabrication shall meet the requirements of the following:
Fabrication Tolerances
1. Width: +1/4", -1/4"
2. Length: +1/4", -1/4"
3. Height: +1/4", -1/4"
4. Deviation from square: 1/4"
5. Member Thickness: +1/4", -1/4"

SHIPPING AND HANDLING
The Precast Supplier and Contractor shall verify that the method of lifting does not overstress the precast concrete pieces in any way.

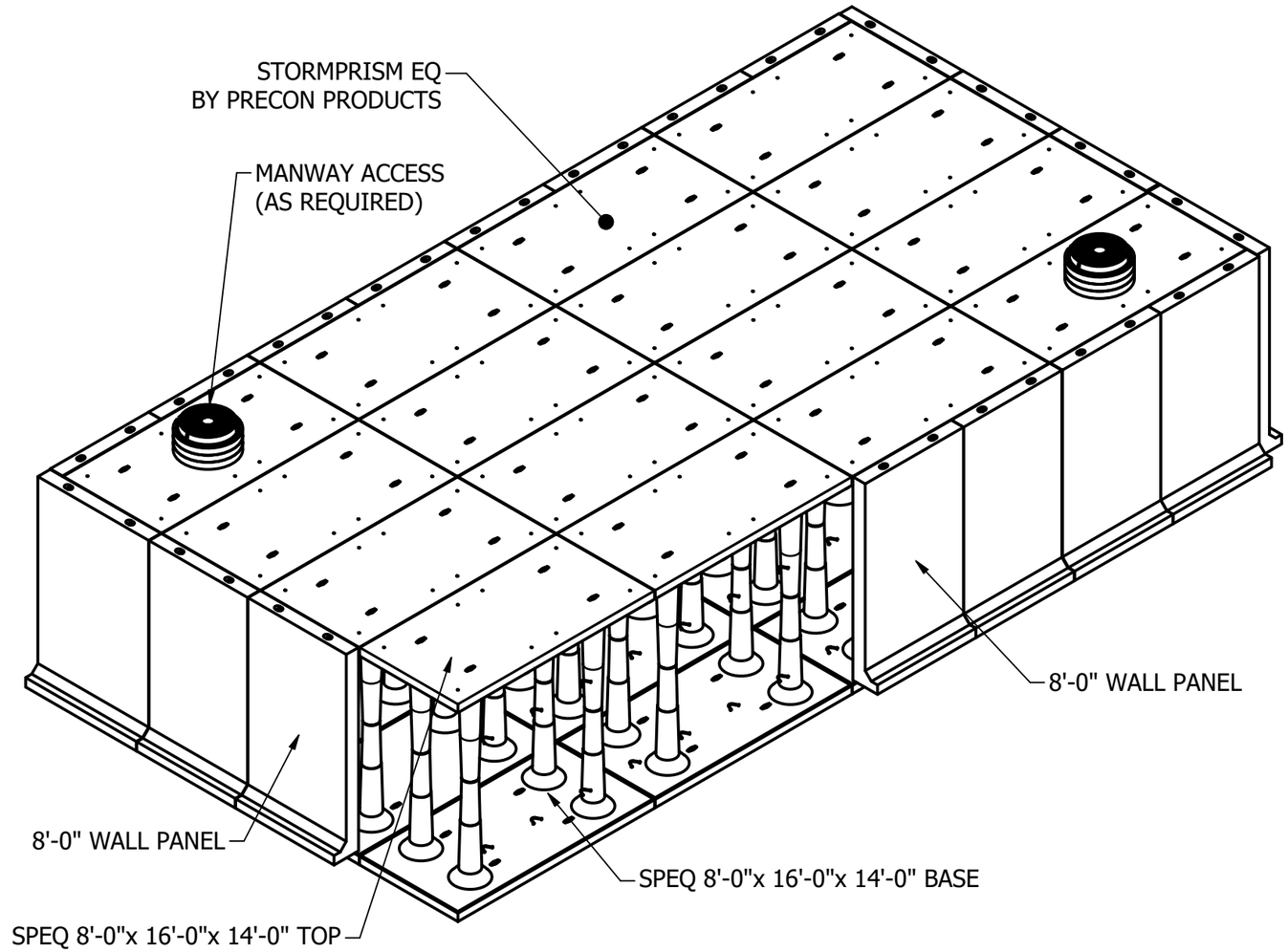
INSTALLATION SPECIFICATIONS
Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ¼" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877, C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL
Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts, per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

STORMPRISM SPEQ

DETENTION

SHEET INFORMATION	
SHEET No.	DESCRIPTION
1	COVER SHEET / GENERAL NOTES
2	STORMPRISM 14'-0" DETENTION UNIT DETAIL
3	STORMPRISM 14'-0" DETENTION BASE
4	STORMPRISM 14'-0" DETENTION TOP
5	STORMPRISM 15'-4" WALL DETAIL
6	UNIT MANWAY OPENING AND LADDER INFORMATION
7	DETENTION JOINT SEALING INFORMATION
8	ELEVATION INFORMATION



NOTE:
THIS VIEW IS FOR ILLUSTRATION PURPOSES ONLY. CONTACT US FOR SITE SPECIFIC DRAWINGS.

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

TITLE: STORMPRISM 14'-0" DETENTION SYSTEM GENERAL INFORMATION

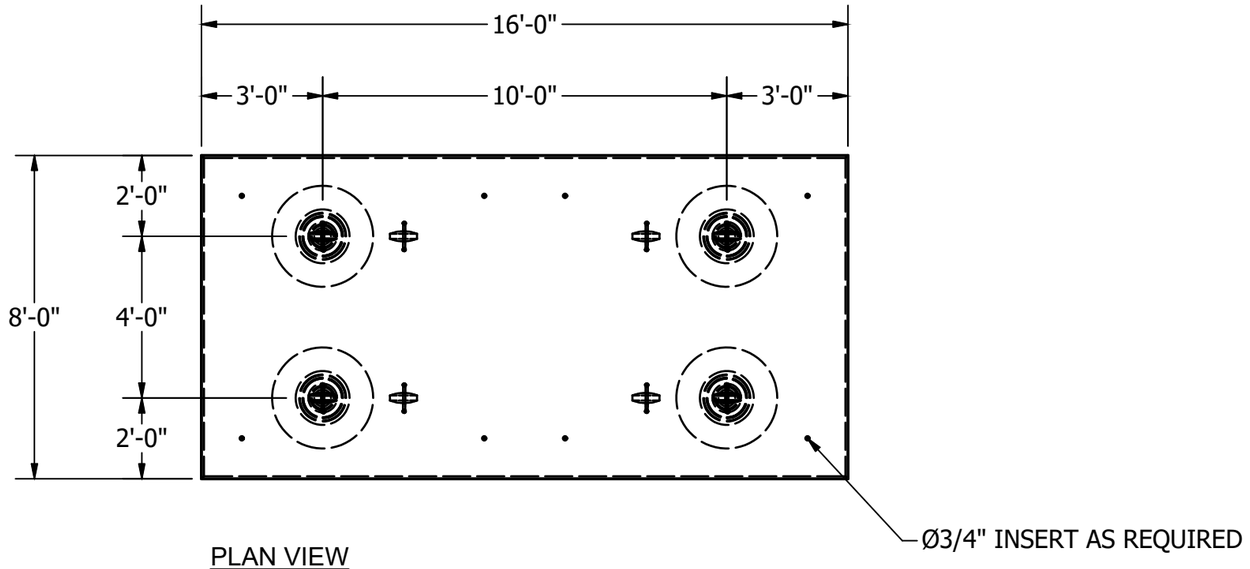
DRAWN BY: K.STRADER

DATE: 8/25/2021

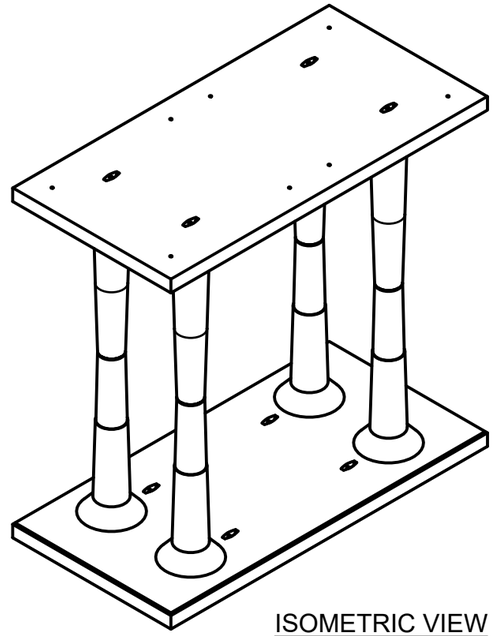
SHEET: 1 OF 8

LOCATION:T:\Drawings\Vault\DESIGNS\Storm Prism\General Samples\14ft Detention\14ft Detention System General Information Sheets.dwg

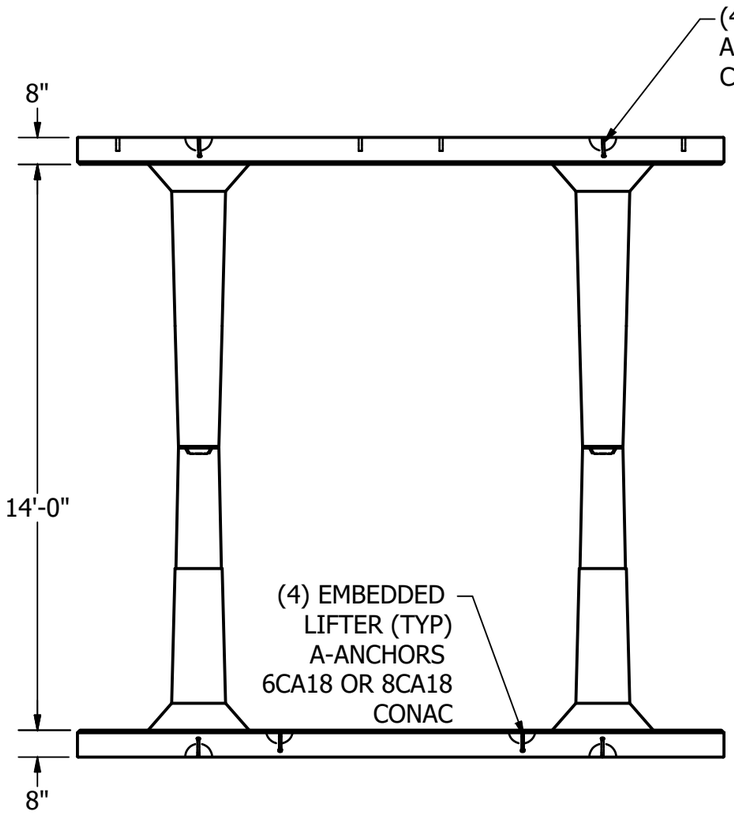
12'-0" UNIT DETAIL



PLAN VIEW



ISOMETRIC VIEW



PROFILE VIEW

END VIEW

REVISIONS:
No. DATE DESCRIPTION

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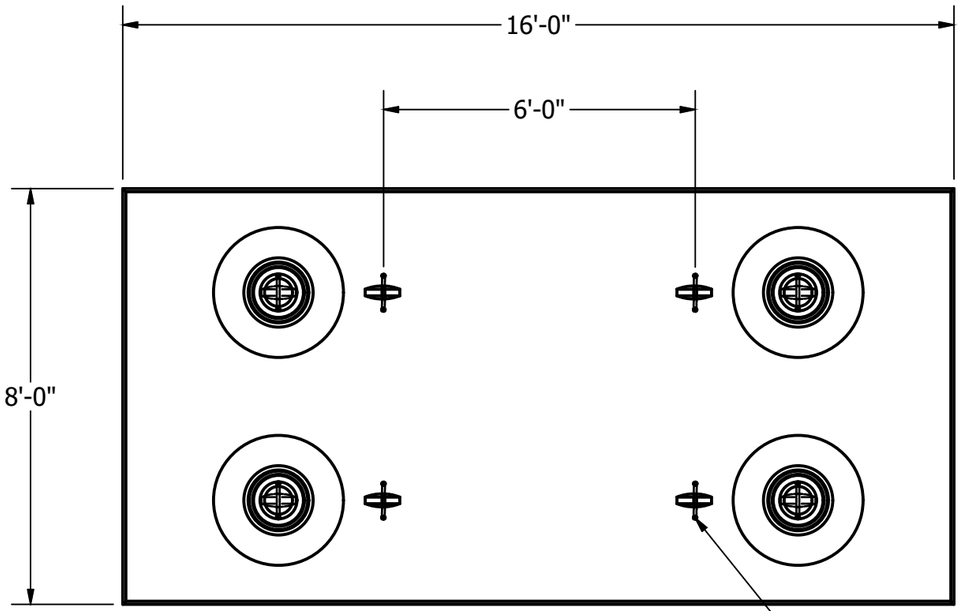
TITLE: STORMPRISM 14'-0" DETENTION UNIT

DRAWN BY: K.STRADER

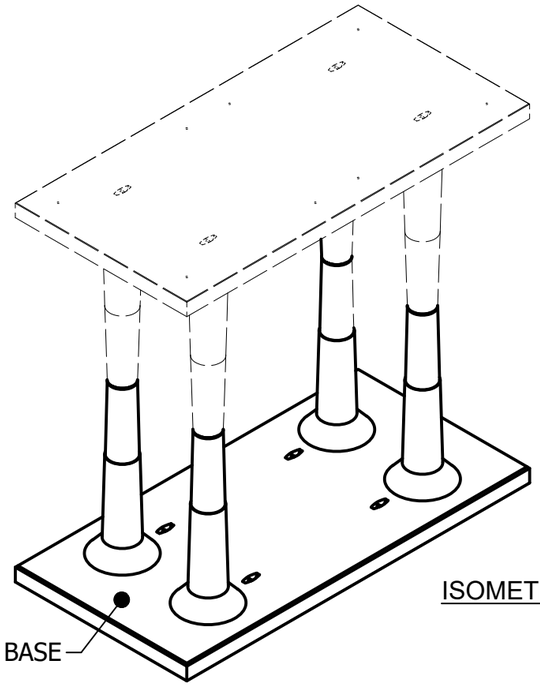
DATE: 8/25/2021

SHEET: 2 OF 8

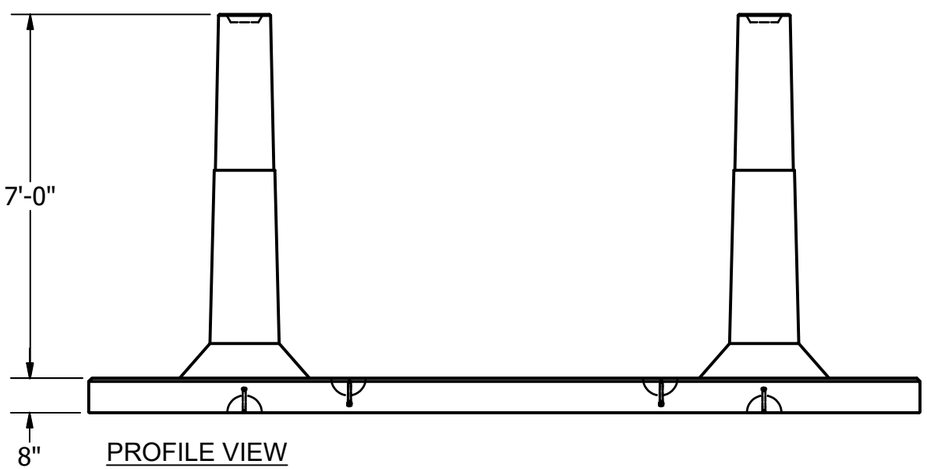
STANDARD 14'-0" DETENTION BASE



PLAN VIEW

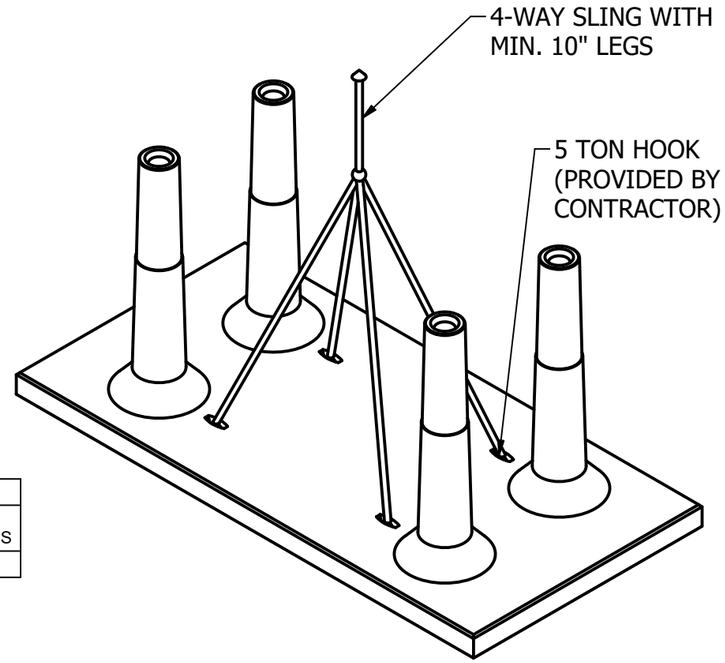


ISOMETRIC VIEW



PROFILE VIEW

PART INFORMATION	
DESCRIPTION	APPROX. WEIGHT IN LBS
EQ 14'-0" BASE	18,000 LBS



LIFTING DETAIL

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

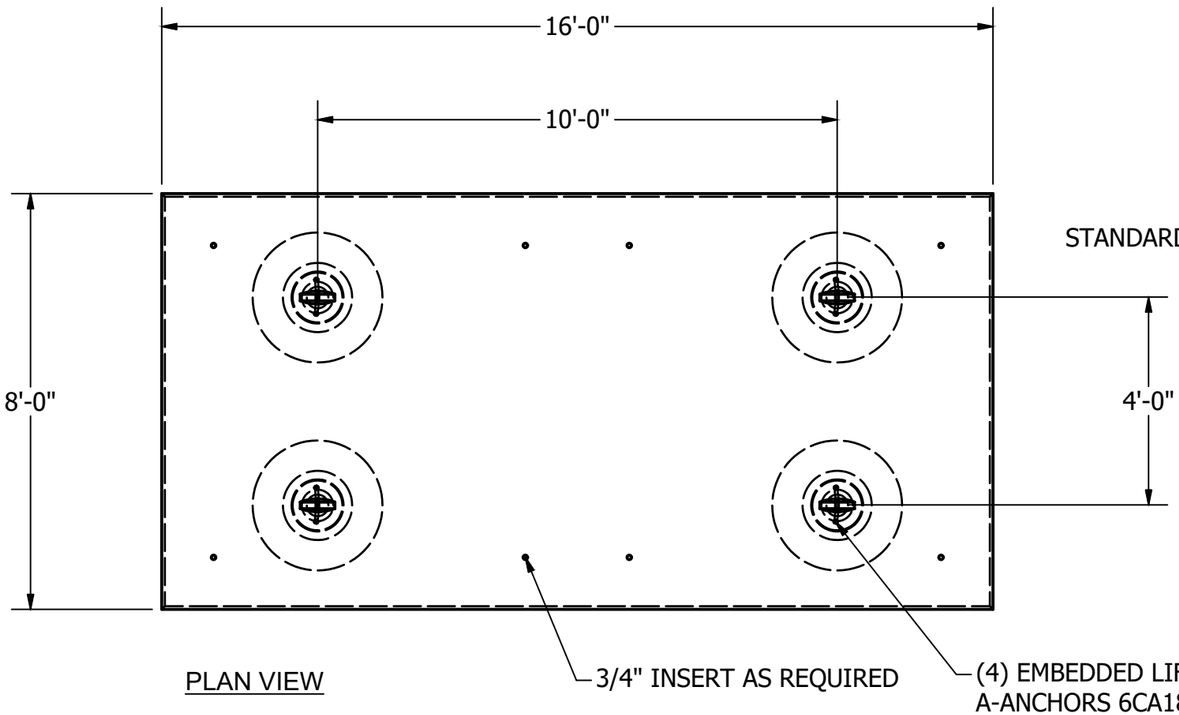
TITLE: STORMPRISM 14'-0" DETENTION BASE

DRAWN BY: K.STRADER

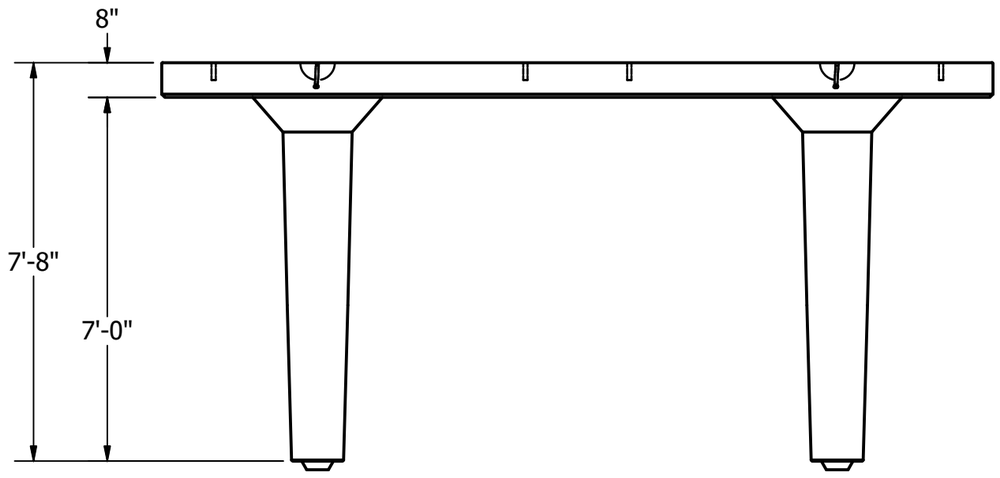
DATE: 8/25/2021

SHEET: 3 OF 8

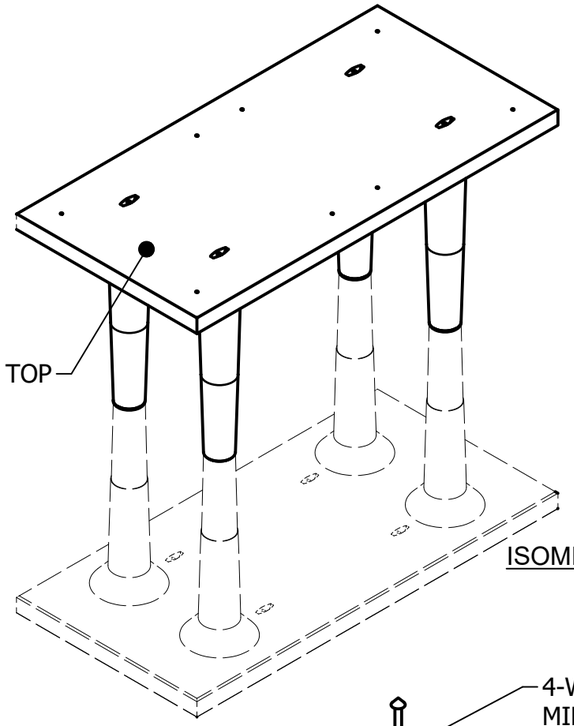
STANDARD 14'-0" DETENTION TOP



PLAN VIEW

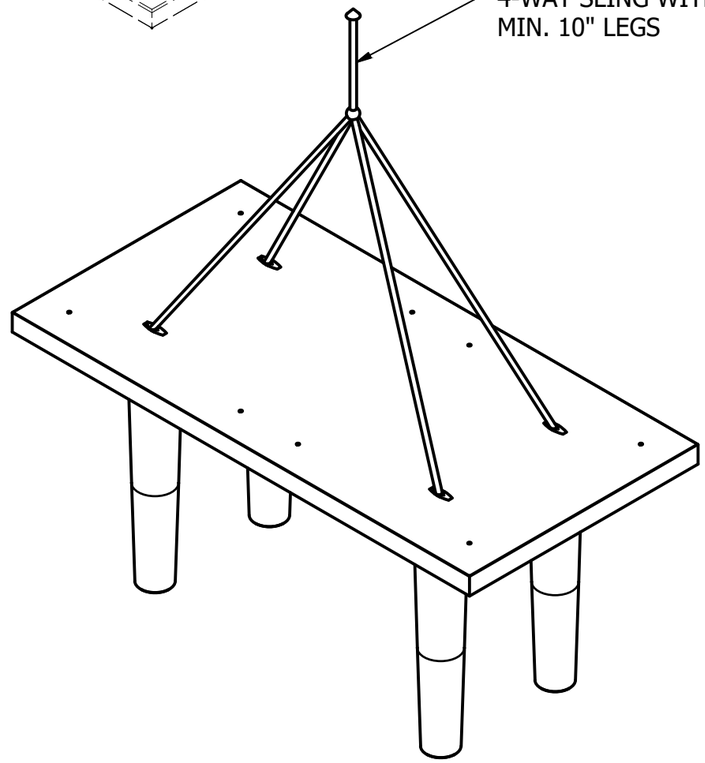


PROFILE VIEW



ISOMETRIC VIEW

PART INFORMATION	
DESCRIPTION	APPROX. WEIGHT IN LBS
EQ 14'-0" TOP	18,100 LBS



LIFTING DETAIL

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

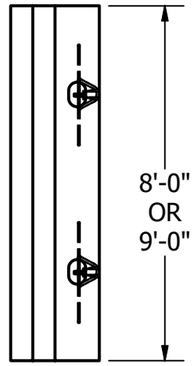
TITLE: STORMPRISM 14'-0" DETENTION TOP

DRAWN BY: K.STRADER

DATE: 8/25/2021

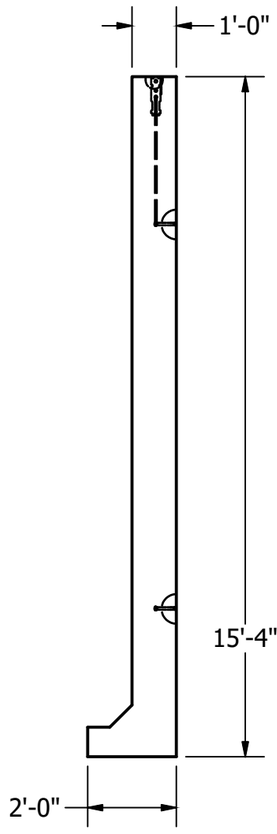
SHEET: 4 OF 8

STANDARD 15'-4" WALL

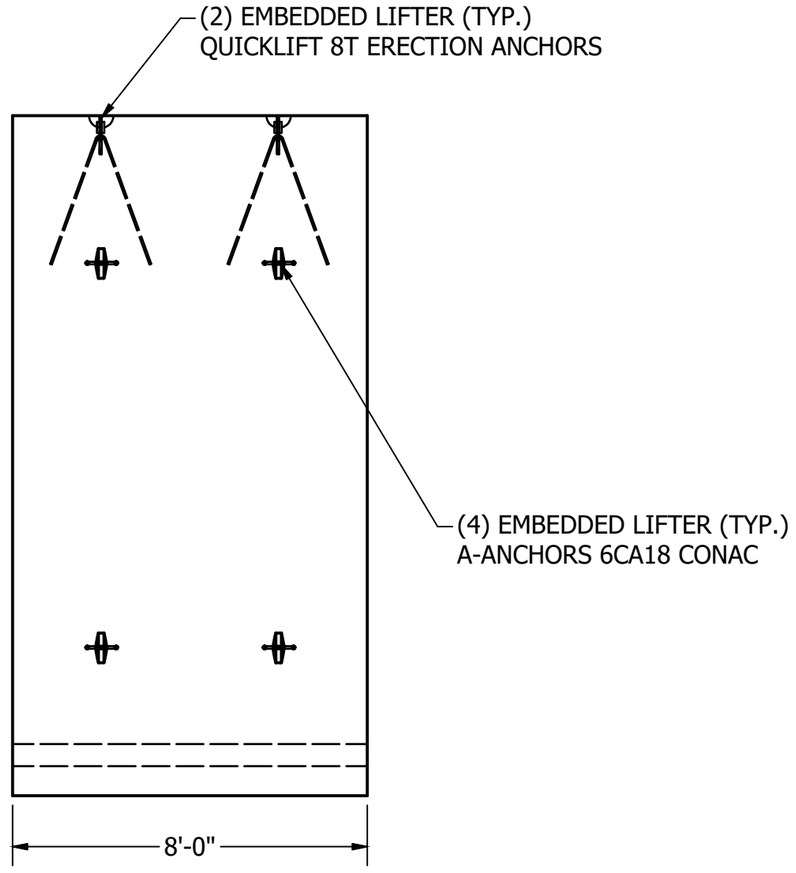


PART INFORMATION	
DESCRIPTION	APPROX. WEIGHT IN LBS
EXTERNAL WALLS 8'Wx 15'-4" T	19,300 LBS
EXTERNAL WALLS 9'Wx 15'-4" T	21,700 LBS

PLAN VIEW



PROFILE VIEW



SIDE VIEW

REVISIONS:

No.	DATE	DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

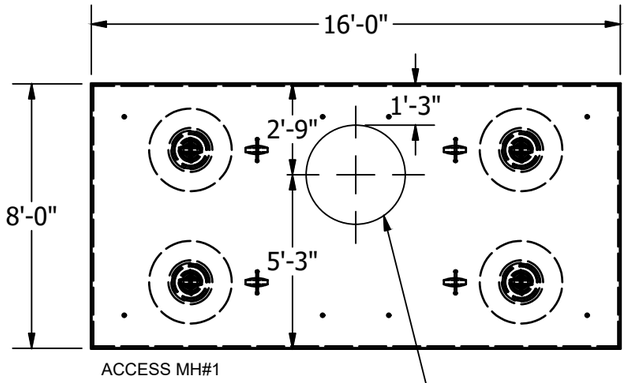
TITLE: STORMPRISM DETENTION SYSTEM STANDARD 15'-4" WALL DETAIL

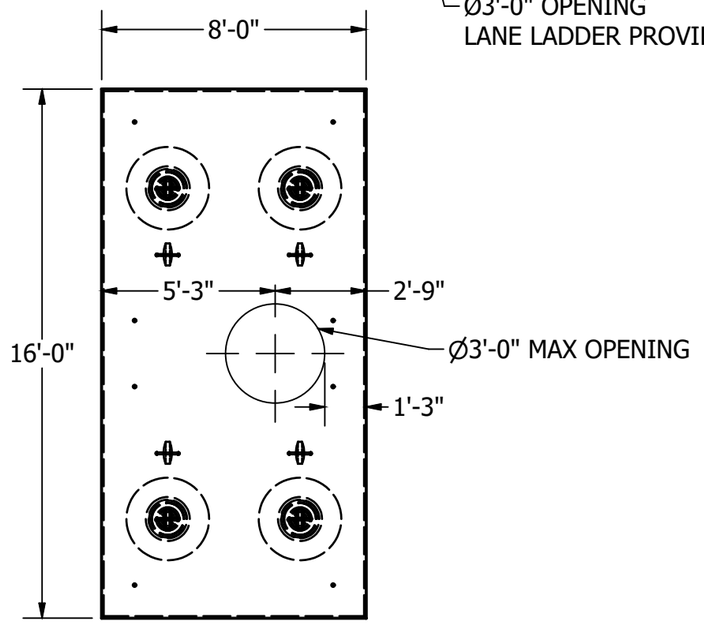
DRAWN BY: K.STRADER

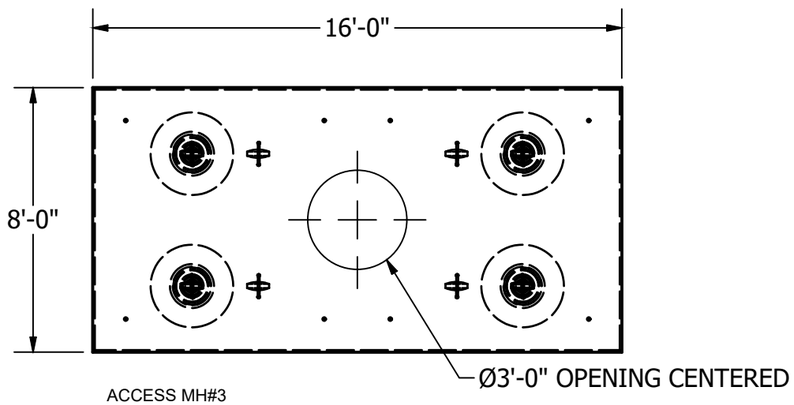
DATE: 8/25/2021

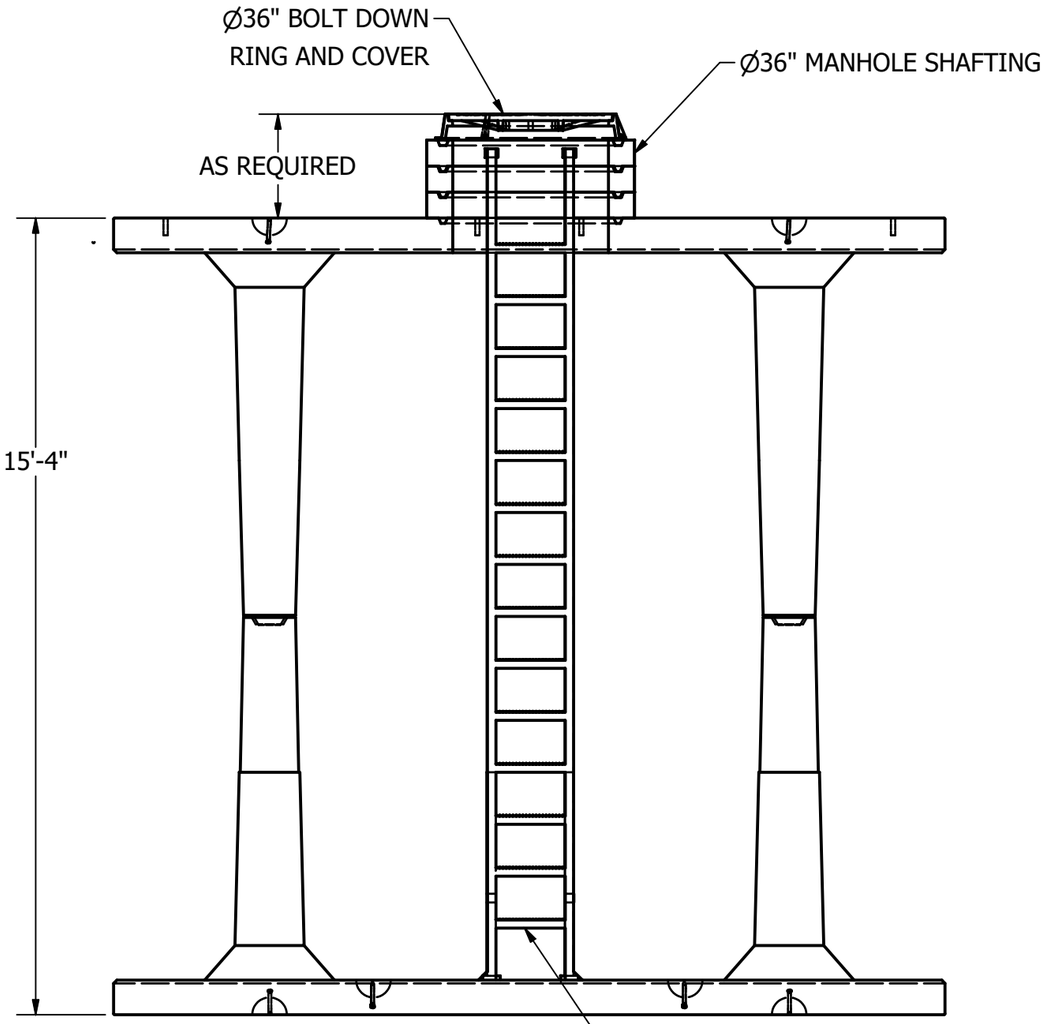
SHEET: 5 OF 8

OPTIONAL MANWAY ACCESS LOCATIONS









LADDER DETAIL

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

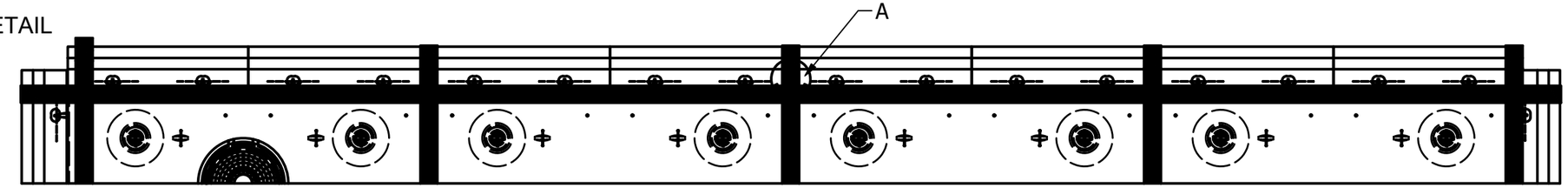
TITLE: STORMPRISM DETENTION SYSTEM MANWAY ACCESS LOCATIONS AND LADDER INFORMATION

DRAWN BY: K.STRADER

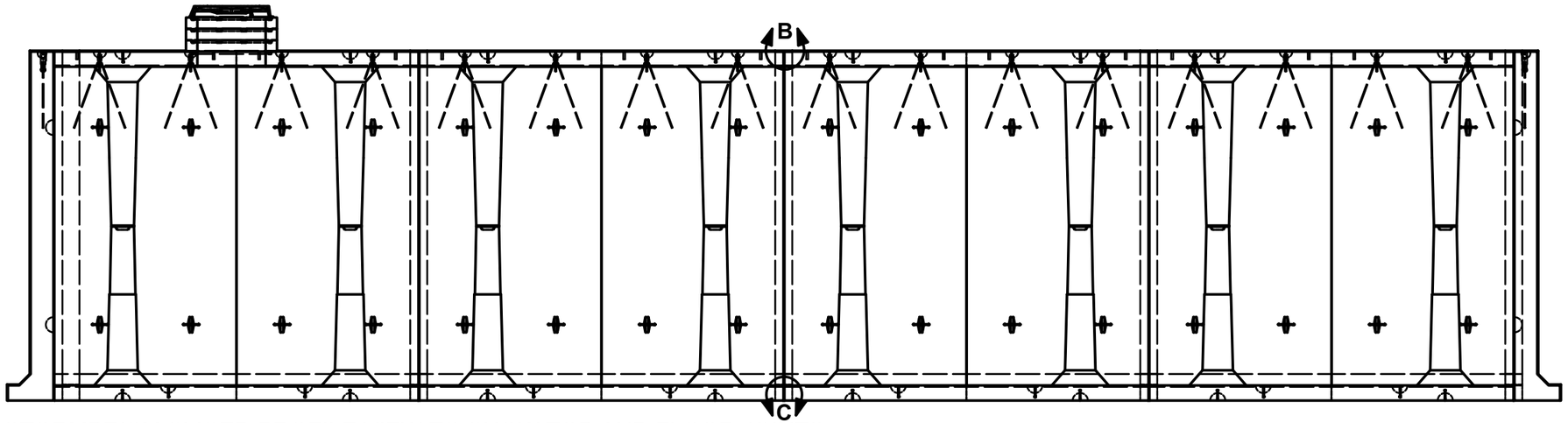
DATE: 8/25/2021

SHEET: 6 OF 8

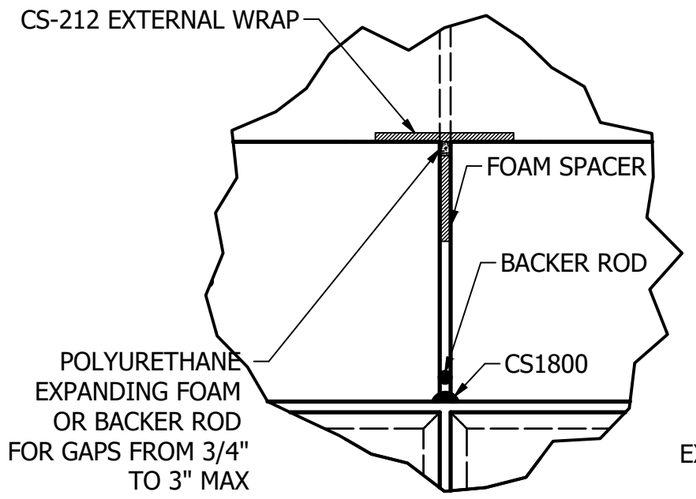
JOINT SEALANT DETAIL



STORMPRISM SLICED PLAN VIEW TO SHOW WALL JOINT

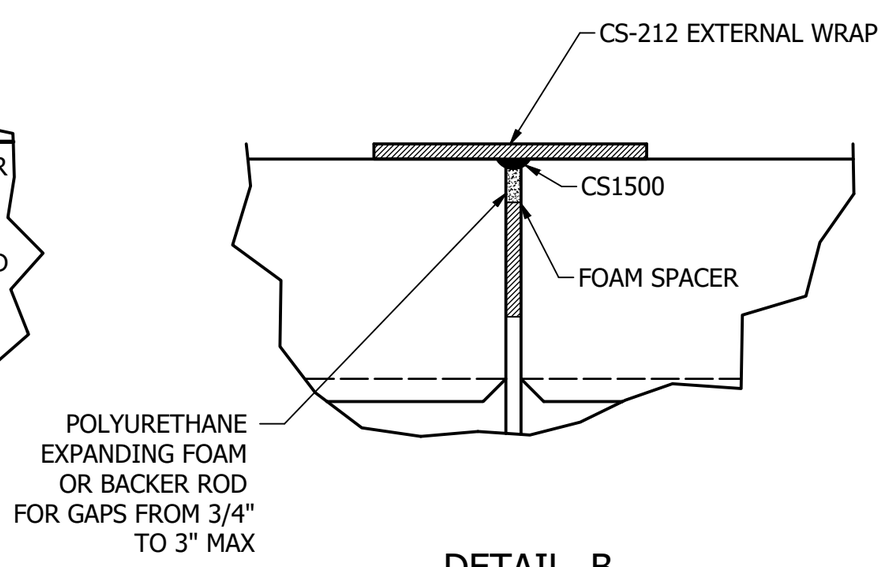


STORMPRISM SLICED PROFILE VIEW TO SHOW TOP AND FLOOR JOINTS



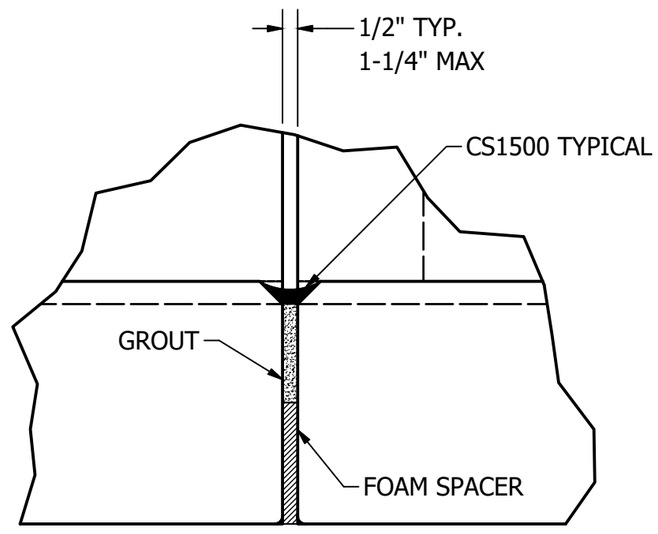
DETAIL A
WALL JOINT

ONLY VERTICAL PART OF WALL IS DETAILED FOR CLARITY



DETAIL B
TOP JOINT

WALL JOINT SEALANT NOT SHOWN FOR CLARITY



DETAIL C
BOTTOM JOINT

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

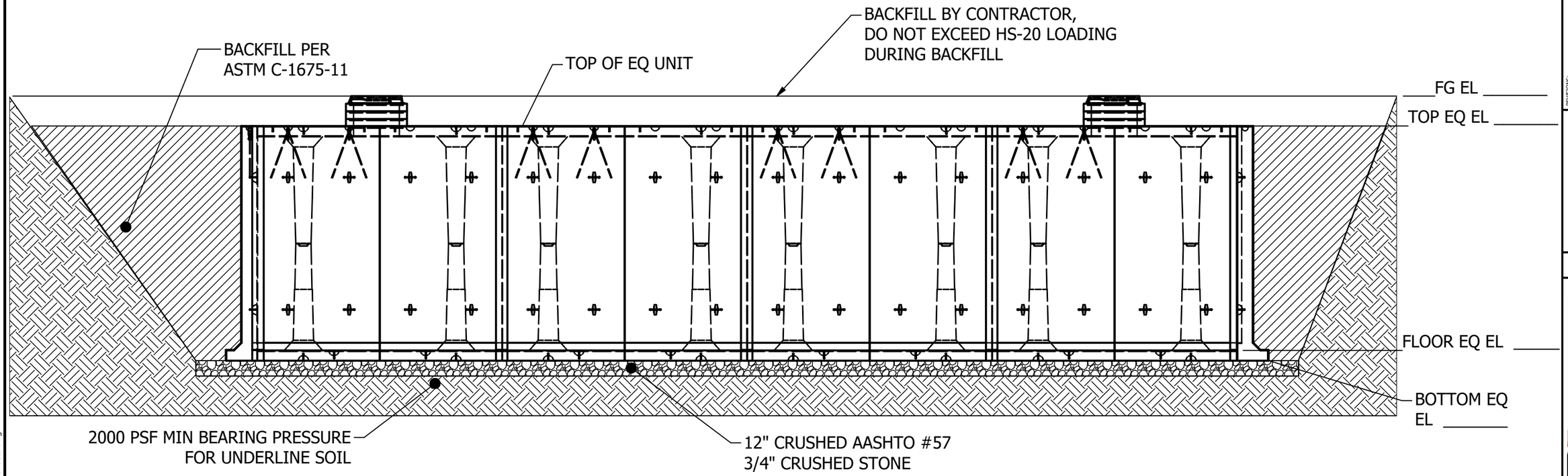
240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM JOINT DETAIL

DRAWN BY: K.STRADER

DATE: 8/25/2021

SHEET: 7 OF 8



INSTALLATION SPECIFICATIONS

Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ¼" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877,
C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL

Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts,
per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not
to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

REVISIONS:
No. DATE DESCRIPTION

DO NOT SCALE

240 W. LOS ANGELESE AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0769,
WWW.PRE-CONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM BACKFILL AND ELEVATION INFORMATION
DRAWN BY: K.STRADER
DATE: 8/25/2021
SHEET: 8 OF 8

APPENDIX E – ASM SCOTTSDALE IMPROVEMENT PLAN
BY WOOD, PATEL & ASSOCIATES, INC., DATED AUGUST 30, 2024

ASM SCOTTSDALE

PRELIMINARY 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:	CY
RAW FILL:	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.

UTILITY NOTES

1. THESE PLANS HAVE BEEN SUBMITTED TO THE FOLLOWING UTILITY COMPANIES FOR APPROVAL WITHIN THEIR AREA OF INTEREST. THE SIZE AND LOCATIONS, AS SHOWN, OF THE GAS, TELEPHONE AND POWER LINES, AND CONNECTIONS AGREE WITH THE FURNISHED INFORMATION CONTAINED IN THE UTILITY COMPANY'S RECORDS. WHERE THE WORK TO BE DONE CONFLICTS WITH ANY OF THESE UTILITIES, THE CONFLICTS SHALL BE RESOLVED AS SPECIFIED IN THE SPECIAL PROVISIONS AND/OR AS OTHERWISE NOTED ON THESE PLANS. CONFLICTS ARISING DURING THE COURSE OF CONSTRUCTION FROM UNFORESEEN CIRCUMSTANCES SHALL BE REPORTED TO THE INTERESTED UTILITY COMPANY AND BE RESOLVED BY THEM AND THE DESIGN ENGINEER.
2. THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR UTILITY RELOCATION.

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	FIRM ZONE	BASE FLOOD ELEVATION (IN AO ZONE, USE DEPTH)
04013C	1320	L	07/20/2021	AO	1

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.

DARIN L. MOORE — 08/30/2024

ENGINEER SIGNATURE — DATE

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/ LAND SURVEYOR — DATE

SEAL

FINISH FLOOR ELEVATION CALCULATION

HAG - LAB - 1599.14
- OFFICE - 1602.07
- PARKING STRUCTURE - 1599.76
- CUP - 1600.56
- CHEMICAL STORAGE - 1601.88

LAG - LAB - 1592.92
- OFFICE - 1598.01
- PARKING STRUCTURE - 1592.16
- CUP - 1599.06
- CHEMICAL STORAGE - 1599.10

LFF - LAB - 1602.50
- OFFICE - 1604.50
- PARKING STRUCTURE - 1599.00
- CUP - 1602.75
- CHEMICAL STORAGE - 1605.00

RFD - LAB - 1601.14
- OFFICE - 1604.07
- PARKING STRUCTURE - 1601.76
- CUP - 1603.58
- CHEMICAL STORAGE - 1604.75

ALL ELECTROMECHANICAL EQUIPMENT SHALL BE ELEVATED TO RFD ELEVATION

NO CONFLICT SIGNATURE BLOCK

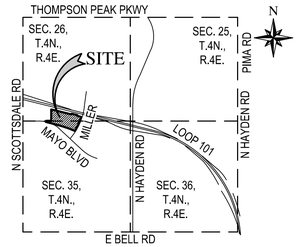
UTILITY	UTILITY COMPANY	NAME OF COMPANY REPRESENTATIVE	TELEPHONE NUMBER	DATE CONTACTED	DATE SIGNED
ELECTRIC	ARIZONA PUBLIC SERVICE	HAILEY PARKS	602-493-4401	-	
TELEPHONE	LUMEN	JEANETTE DEBOARD	480-221-7810	-	
NATURAL GAS	SOUTHWEST GAS	ANDY SAKS	480-730-3857	-	
CABLE TV	COX COMMUNICATIONS	JACOB HORSMAN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

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.

N/A — SIGNATURE

N/A — DATE



VICINITY MAP
N.T.S.

SHEET INDEX

PARCEL DESCRIPTION

PLEASE REFER TO SHEET C2 FOR PARCEL DESCRIPTION.

BASIS OF BEARING

THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST G.&S.R.B.&M. SAID LINE BEARS S89°58'25"E.

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	LUMEN
NATURAL GAS	SOUTHWEST GAS
CABLE TV	COX COMMUNICATIONS

SOILS REPORT NOTE

A SOILS GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS PROJECT TITLED, GEOTECHNICAL EVALUATION MAYO BOULEVARD AND MILLER ROAD DEVELOPMENT BY NINYO & MOORE DATED NOVEMBER 30, 2023. PROJECT NO. 607802001.

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."

N/A — ENGINEER SIGNATURE

N/A — DATE

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

OWNER / DEVELOPER

ASM AMERICA INC.
3440 EAST UNIVERSITY DRIVE
PHOENIX, ARIZONA 85034
CONTACT: PAUL CROTHERS
PHONE: (602) 470-2600

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

GENSLER
2575 EAST CAMELBACK ROAD, SUITE 175
PHOENIX, ARIZONA 85016
CONTACT: DAVID HEALY
PHONE: (602) 523-4902

PROJECT SITE DATA

ASSESSOR PARCEL NUMBER(S):
215-07-209K
PROJECT SITE ADDRESS:
UNKNOWN
SCOTTSDALE, ARIZONA 85255
PROJECT SITE AREA(S):
NET AREA = 23.9 AC
DISTURBED AREA = 20.3± AC
ZONING:
C2

WOOD PATEL

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Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

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

ASM SCOTTSDALE
PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
COVER SHEET

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil) — Certificate No. 36382 — DARIN L. MOORE — Date Signed 08/30/24 — ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C1 OF 43

Z:\2023\235526\Dwg\Conceptual\Imp\5526-CV-CON.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.

PARCEL DESCRIPTION

LOCATED IN THE SOUTH HALF OF SECTION 26 AND THE NORTH HALF OF SECTION 35, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 35, MARKED BY A FOUND 3 INCH MARICOPA COUNTY BRASS CAP FLUSH;

THENCE ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 35, NORTH 89 DEGREES 58 MINUTES 25 SECONDS WEST, A DISTANCE OF 2640.93 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 35, MARKED WITH A BUREAU OF LAND MANAGEMENT BRASS CAP STAMPED "T.4N., R.4E., 1/4, S26, S 35, 1995";
THENCE NORTH 89 DEGREES 58 MINUTES 33 SECONDS WEST, ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 35, A DISTANCE OF 1320.42 FEET TO THE POINT OF BEGINNING;
THENCE NORTH 00 DEGREES 01 MINUTE 48 SECONDS WEST, A DISTANCE OF 573.93 FEET TO THE SOUTH RIGHT-OF-WAY OF LOOP 101;
THENCE ALONG SAID RIGHT-OF-WAY SOUTH 79 DEGREES 07 MINUTES 59 SECONDS EAST, A DISTANCE OF 42.49 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 1,007.00 FEET;
THENCE NORTH 13 DEGREES 57 MINUTES 56 SECONDS EAST, A DISTANCE OF 40.00 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 300.00 FEET;
THENCE SOUTH 13 DEGREES 57 MINUTES 56 SECONDS WEST, A DISTANCE OF 40.00 FEET;
THENCE SOUTH 76 DEGREES 02 MINUTES 04 SECONDS EAST, A DISTANCE OF 209.66 FEET TO THE TO THE POINT OF A NON-TANGENT CURVE TO THE RIGHT, OF WHICH THE RADIUS POINT LIES NORTH 72 DEGREES 01 MINUTE 31 SECONDS WEST, A RADIAL DISTANCE OF 3,730.00 FEET;
THENCE DEPARTING SAID RIGHT-OF-WAY, SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 11 DEGREES 58 MINUTES 10 SECONDS, A DISTANCE OF 779.23 FEET TO THE POINT OF A NON-TANGENT CURVE TO THE LEFT, OF WHICH THE RADIUS POINT LIES SOUTH 23 DEGREES 22 MINUTES 39 SECONDS WEST, A RADIAL DISTANCE OF 6,000.00 FEET;
THENCE WESTERLY ALONG THE ARC OF SAID CURVE, THOUGH A CENTRAL ANGLE OF 08 DEGREES 32 MINUTES 27 SECONDS, A DISTANCE OF 894.39 FEET ALONG THE CENTERLINE OF POSSIBLE PROPOSED MAYO BOULEVARD;
THENCE ALONG SAID NON-TANGENT LINE, NORTH 75 DEGREES 09 MINUTES 57 SECONDS WEST, A DISTANCE OF 645.72 FEET;
THENCE DEPARTING SAID CENTERLINE NORTH 14 DEGREES 50 MINUTES 12 SECONDS EAST, A DISTANCE OF 55.03 FEET TO THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 35;
THENCE SOUTH 89 DEGREES 58 MINUTES 33 SECONDS EAST, A DISTANCE OF 257.05 FEET TO THE POINT OF BEGINNING.

EXPECTING AND PURSUANT TO THE PROVISIONS OF ARIZONA REVISED STATUTES § 37-231, OF THE FOLLOWING SUBSTANCES NOT HERETOFORE RETAINED AND RESERVED BY A PREDECESSOR IN TITLE TO THE STATE OF ARIZONA, ALL OIL, GAS, OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF GASEOUS NATURE, GEOTHERMAL RESOURCES, COAL, METALS, MINERALS, FOSSILS, FERTILIZERS OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNTIED STATES, OR OF THIS STATE OR DECISIONS OF COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIALS, WHETHER OR NOT OF COMMERCIAL VALUE, AS SET FORTH IN PATENT RECORDED AUGUST 10, 2022 IN RECORDINGS NO. 202206326 39, RECORDS OF MARICOPA COUNTY, ARIZONA.

PAVING

4" A.C. OVER 6" A.B.C.	SY
6" VERTICAL CURB & GUTTER	LF
6" SINGLE CURB	LF
CONCRETE SIDEWALK	SF
CONCRETE APRON	SF
SAWCUT, REMOVE & REPLACE EXISTING PAVEMENT	SY

SEWER

5' DIAMETER SEWER MANHOLE	EA
SEWER CLEANOUT	EA
8" PVC SDR35 SEWER LINE	LF
6" PVC SDR35 SEWER LINE	LF
4" PVC SDR35 SEWER LINE	LF
DROP SEWER CONNECTION	LF

WATER

GATE VALVE	EA
FIRE HYDRANT COMPLETE	LF
8" DOUBLE CHECK VALVE BACKFLOW	LF
2" WATER SERVICE AND METER BOX	EA
12" POLYWRAPPED DIP CLASS 350	LF
6" POLYWRAPPED DIP CLASS 350	LF
8" POLYWRAPPED DIP CLASS 350	EA
2" PVC SCH 40	EA
10" DOUBLE CHECK VALVE BACKFLOW	EA
1.5" WATER SERVICE AND METER BOX	EA
4" POLYWRAPPED DIP CLASS 350	LF
2" REDUCED PRESSURE PRINCIPLE BACKFLOW	LF

ESTIMATED QUANTITIES NOTE

QUANTITIES ARE ESTIMATES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANITIES FOR BIDDING PURPOSES.

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
- ADA PARKING SYMBOL

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

BB	BOTTOM OF BANK
C	CONCRETE ELEVATION
COS	CITY OF SCOTTSDALE
E.S.V.A.E.	EMERGENCY VEHICLE ACCESS EASEMENT
EX	EXISTING
FG	FINISHED GROUND
FL	FLOW LINE ELEVATION
G	GUTTER ELEVATION
GB	GRADE BREAK
INV	INVERT ELEVATION
IRR	IRRIGATION
LF	LINEAR FEET
LFF	LOWEST FINISHED FLOOR ELEVATION
MIN	MINIMUM
NG	NATURAL GROUND ELEVATION
N.T.S.	NOT TO SCALE
P	PAVEMENT ELEVATION
PL	PROPERTY LINE
RIM	RIM ELEVATION
S	SLOPE
SD	STORM DRAIN
SE	SEWER EASEMENT
SS	SEWER SERVICE
STD	STANDARD
TB	TOP OF BANK
TC	TOP OF CURB
TF	TOP OF FOOTING ELEVATION
TW	TOP OF WALL ELEVATION
U.E.	UTILITY EASEMENT
UG	UNDERGROUND
W.I.	WROUGHT IRON

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS, NOTES & QUANTITIES

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
State of Arizona
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C2 OF 43

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

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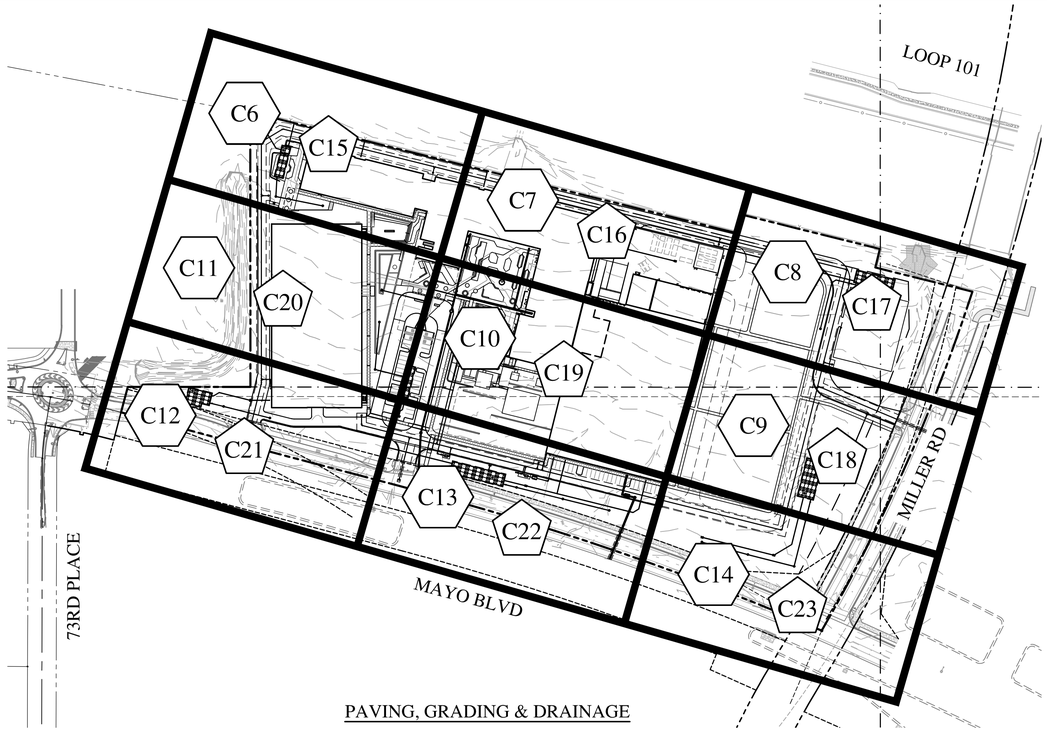
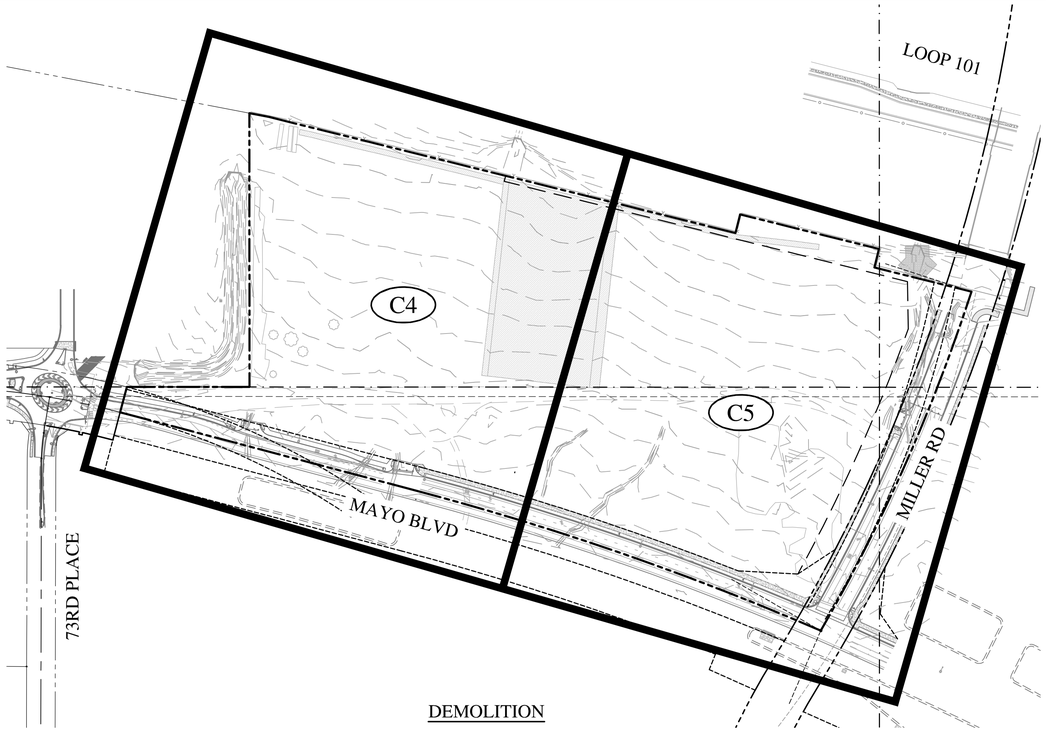
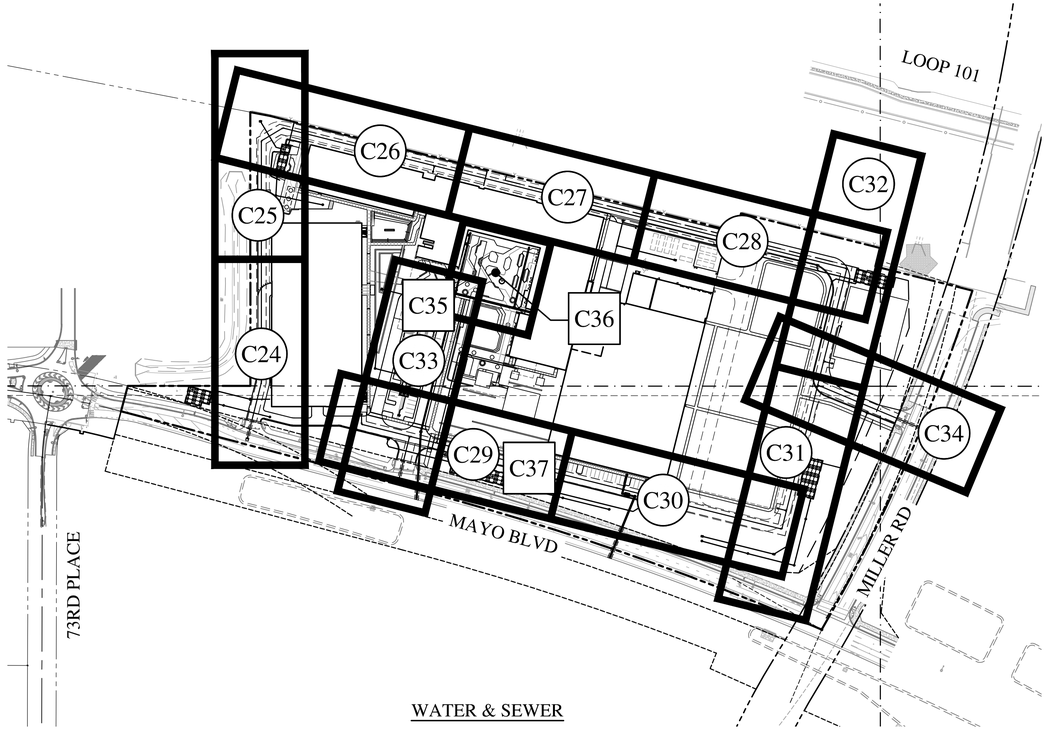


PAVING, GRADING & DRAINAGE



DEMOLITION



WATER & SEWER

N

0 150 300

Horz. 1 in. = 150 ft.

INDEX MAP LEGEND

- CX — DEMOLITION
- CX — PAVING, GRADING & DRAINAGE
- CX — WATER
- CX — SEWER

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

INDEX MAP

REV	DESCRIPTION	DATE

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

SCALE (HORIZ.)	1" = 150'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C3 OF 43

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

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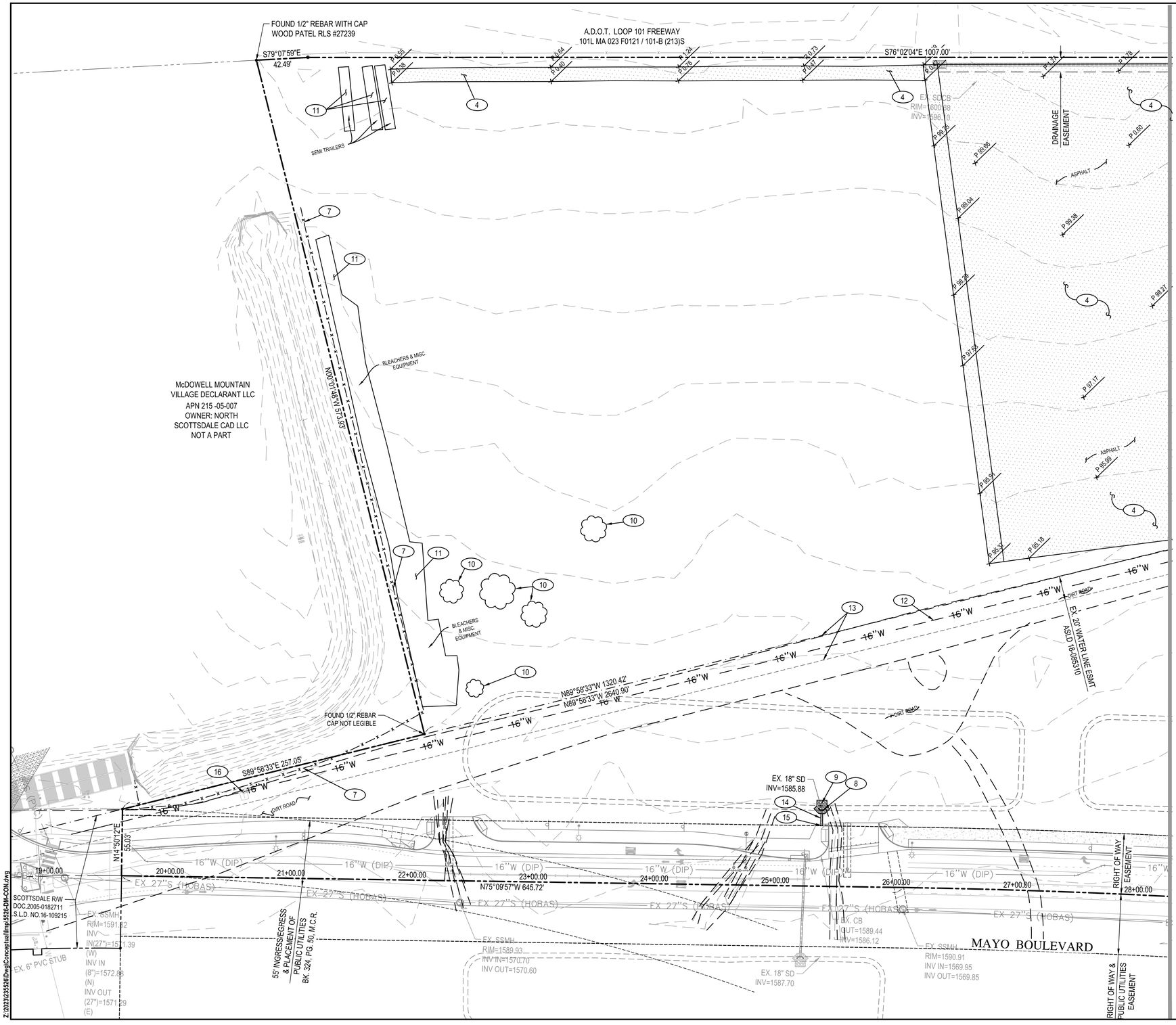

MATCH SHEET C5

N

0 40 80

Horz. 1 in. = 40 ft.

DEMOLITION NOTES

#	
1	REMOVE CONCRETE SINGLE CURB OR CURB AND GUTTER.
2	REMOVE CONCRETE SIDEWALK.
4	REMOVE ASPHALT PAVEMENT.
5	SAWCUT ASPHALT PAVEMENT TO LIMITS SHOWN, 2' MINIMUM FROM EXISTING OR PROPOSED LIP OF GUTTER AS APPLICABLE.
7	REMOVE BARBED WIRE FENCE.
8	REMOVE CONCRETE HEADWALL.
9	REMOVE RIPRAP.
10	REMOVE EXISTING VEGETITATION.
11	REMOVE EXISTING EQUIPMENT.
12	EXISTING 16" WATER MAIN TO BE REMOVED BY OTHERS.
13	EXISTING WATER LINE EASEMENT TO BE ABANDONED BY OTHERS.
14	REMOVE STORM DRAIN LINE TO THE LIMITS SHOWN.
15	INSTALL CAP.
16	EXISTING EQUIPMENT TO REMAIN AND PROTECTED IN PLACE.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DEMOLITION PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/2024
ARIZONA U.S.A.
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 40'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C4 OF 43

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

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MATCH SHEET C4

S76°02'04"E 300.00'
A.D.O.T. LOOP 101 FREEWAY
101L MA 023 F0121 / 101-B (213)S
FOUND ADOT ACF
N13°57'56"E 40.00'
S13°57'56"W 40.00'
RB=N72°01'31"W
S76°02'04"E 209.66'
EX. 4-48" HDPE SD
INV=1596.03
EX. SDMH
RIM=1602.03
INV=1596.22 (N)
INV=1593.05 (W)
INV=1591.55 (S)
EX. CB
GUT=1591.52
INV=1586.05
EX SDMH
RIM=1591.60
INV=1585.86 (E/W)
INV=1585.38 (N)
INV=1585.26 (S)
107+79.23
107+00.00
106+00.00
105+00.00
104+00.00
103+00.00
102+00.00
101+00.00
24"W (DIP)
16"W
DRAINAGE EASEMENT
S.1/4, SEC. 26, T4N, R4E,
N.1/4, SEC. 35, T4N, R4E
FOUND BLM BCF
STAMPED "T4N R4E 1/4
S26 S35 1995"
45' INGRESS/EGRESS &
PLACEMENT OF
PUBLIC UTILITIES
BK. 324, PG. 50
DIRT ROAD
EX. 20' WATER LINE ESMT
ASLD 16-085310
HAYDEN LOOP 101
INVESTORS LLC
EX. DRAINAGE
EASEMENT
GROUND ASPHALT PILES
EX SDMH
RIM=1597.32
INV=1583.43 (NE)
INV=1583.33 (SW)
45' R/W
BK 324, PG. 50 &
BK 394, PG. 42
110' R/W
MILLER RD
ASLD 16-119941
L=778.23' R=5730.00' Δ=7°46'50"
RIGHT OF WAY
EASEMENT
RIGHT OF WAY &
PUBLIC UTILITIES
EASEMENT
29+00.00
30+00.00
31+00.00
32+00.00
33+00.00
34+00.00
35+00.00
36+00.00
Δ=8°32'27"
L=894.39' R=6000.00'
RB=N60°03'21"W
EX. SSMH
RIM=1591.07
INV IN=1569.08
INV OUT=1568.98
EX. SDMH
RIM=1593.17
INV=1581.57 (NE)
EX. 4-48" HDPE SD
EX 27"S (HOBAS)
16"W (DIP)
P 1.01
P 1.98
P 2.22
P 1.16
P 1.77
P 1.62
P 2.63
P 2.59
P 2.49
P 99.91
P 98.34
P 97.10
P 96.13
P 95.17
P 95.08

N

0 40 80

Horz. 1 in. = 40 ft.

DEMOLITION NOTES

#	
4	REMOVE ASPHALT PAVEMENT.
9	REMOVE RIPRAP.
12	EXISTING 16" WATER MAIN TO BE REMOVED BY OTHERS.
13	EXISTING WATER LINE EASEMENT TO BE ABANDONED BY OTHERS.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

DEMOLITION PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO.
36382
DAWN L.
MOORE
08/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 40'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C5 OF 43

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

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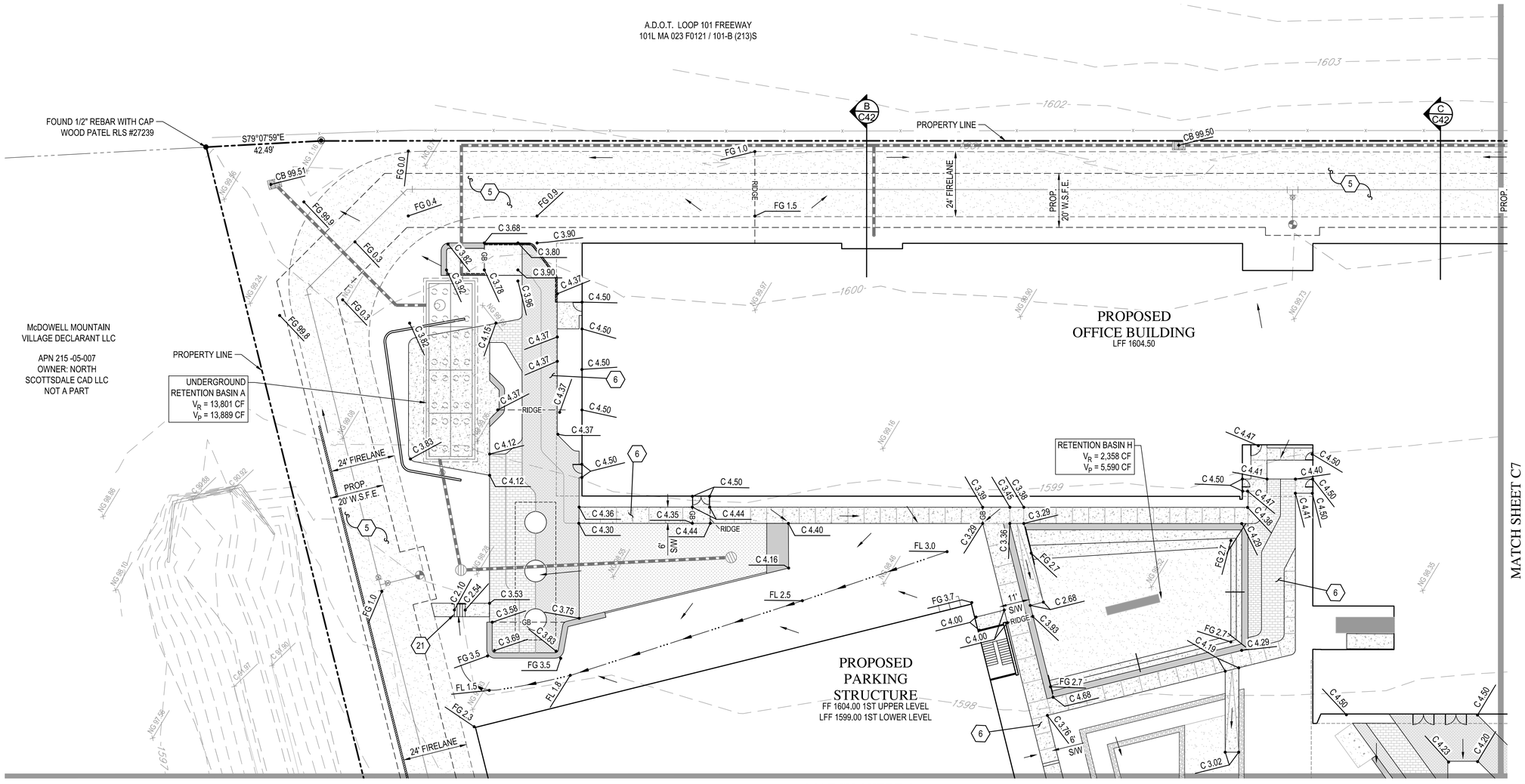

PAVING NOTES

#	
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
21	CONSTRUCT STAIRS. SEE STRUCTURAL PLANS FOR DETAILS.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
DATE SIGNED 08/30/2024
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C6 OF 43

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

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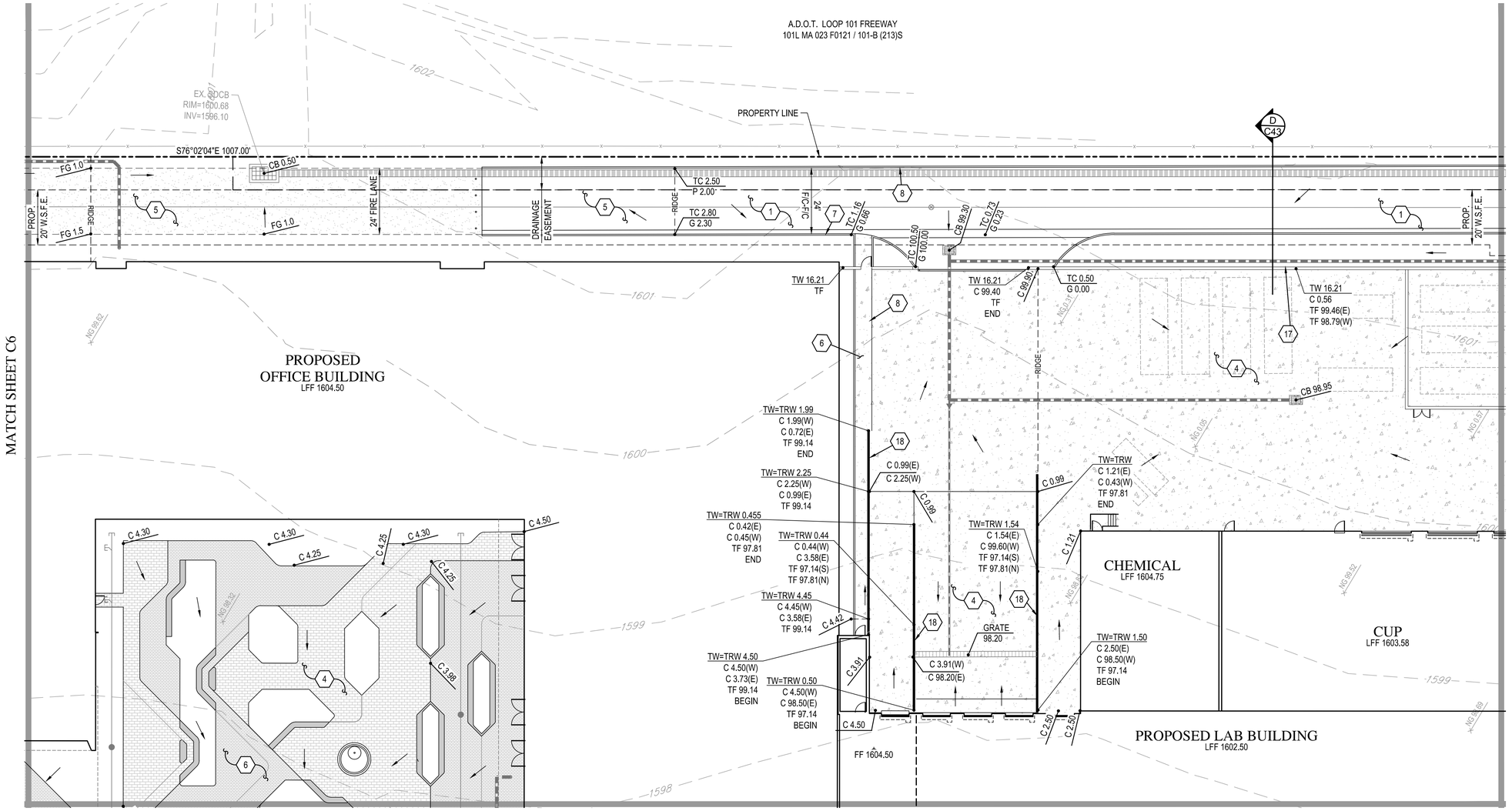

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
4	CONSTRUCT CONCRETE PAVEMENT, 7" PCC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
17	CONSTRUCT SCREEN WALL PER HARDSCAPE AND STRUCTURAL PLANS.
18	CONSTRUCT RETAINING WALL PER HARDSCAPE AND STRUCTURAL PLANS. WALL ELEVATIONS PER GRADING PLAN.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
State of Arizona
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C7 OF 43

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

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A.D.O.T. LOOP 101 FREEWAY
101L MA 023 F0121 / 101-B (213)S

PROPERTY LINE

S76°02'04"E 300.00'

N13°57'56"E 40.00'

FOUND ADOT ACF

S15°57'56"W 40.00'

S76°02'04"E 209.66'

EX. 6x6 CHAMBER INV=1600.71'

EX. 6x6 CHAMBER INV=1600.61'

EX. 4-48" HDPE SD INV=1596.79

EX. SDMH RIM=1602.03 INV=1596.22 (N) INV=1593.05 (W) INV=1591.55 (S)

TC 1.55 P 1.05

TC 1.18 G 0.68

TC 0.97 G 0.47

PROP. 20' W.S.F.E.

CB 0.83

DRAINAGE EASEMENT

TW 16.21 C 1.21 TF 0.13(S) TF 99.46(W)

TC 1.17 FG=P 0.67

TC 1.41 FG=P 0.91

TW 16.21 C 1.21 TF 0.13 BEGIN

FG 1.0

24' FIRELANE

24' FIRELANE

C=FG 1.21

FG 1.8

CUP LFF 1603.58

24' FIRELANE

FG 3.6

FG 2.8

RIDGE

FUTURE MEP EQUIPMENT & MATERIALS YARD

TC 3.55 P 3.05

TC 3.71 G 3.21

PROP. 20' W.S.F.E.

TC 4.86 P 4.36

RIDGE

TC 4.71 G 4.21

TC 5.00 P 4.50

TC 4.59 G 4.09

TC 4.82 P 4.32

RIDGE

TC 5.00 P 4.50

TC 2.19 P 1.69

UNDERGROUND RETENTION BASIN B
V_R = 23,570 CF
V_D = 14,305 CF

SECTION LINE

PROPOSED APS YARD
LFF 1604.50

INV=1590.66

INV=1592.79

EX. CB GUT=1891.52 INV=1586.03

TC 91.40 G 90.90

P 91.59

TC 92.50 G 92.00

TC 92.50 G 92.00

TC 93.50 G 93.00

P 93.00

110' R/W MILLER RD ASLD 96-119941

MILLER ROAD

24" W (DIP)

45' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50

TC 95.11 G 94.61

TC 95.50 G 95.00

P 94.77

TC 94.61 G 94.11

EX. DRAINAGE EASEMENT

PROPERTY LINE

45' R/W BK 324, PG. 50 & BK 394, PG. 42

MATCH SHEET C7

MATCH SHEET C9

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
17	CONSTRUCT SCREEN WALL PER HARDSCAPE AND STRUCTURAL PLANS.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C8 OF 43

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

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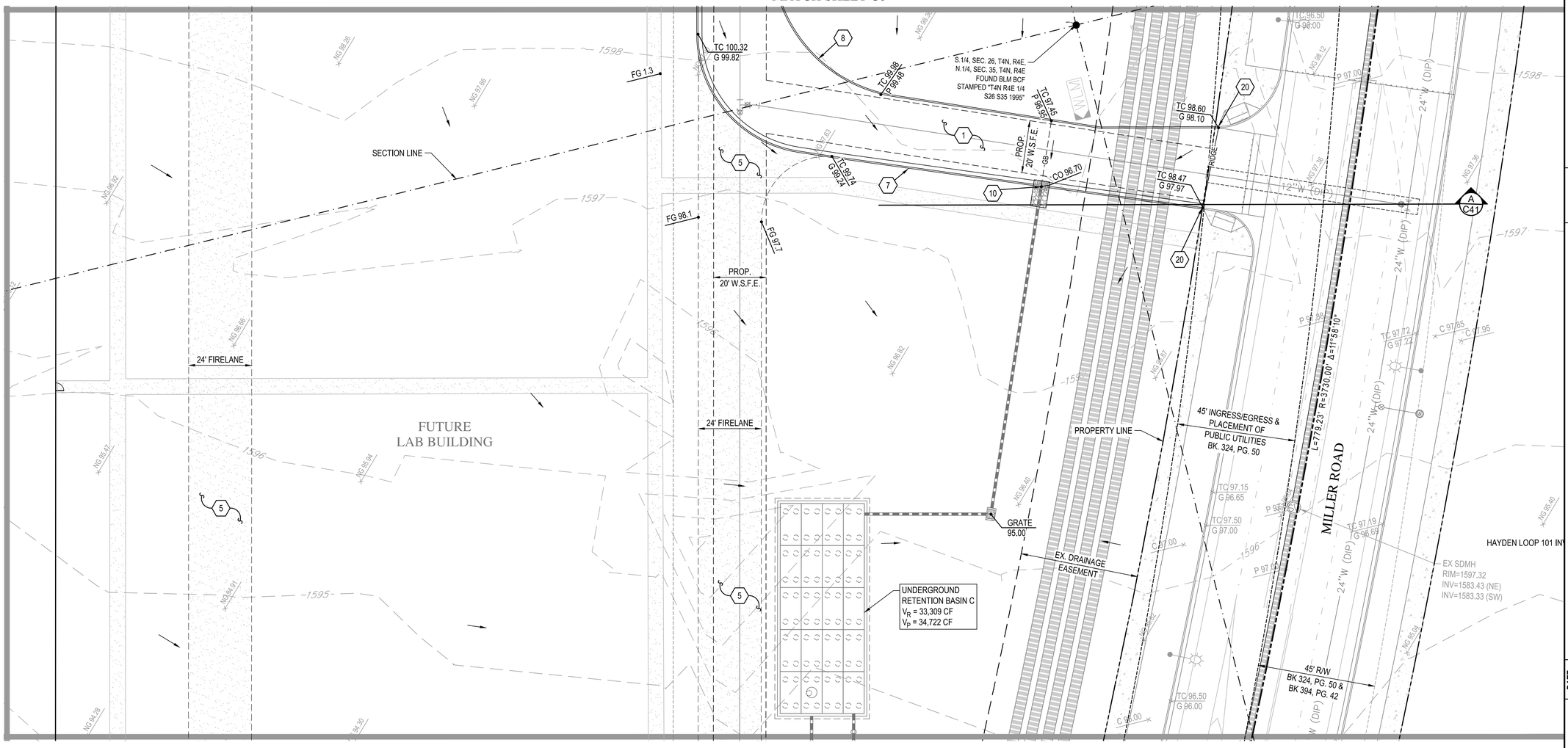
MATCH SHEET C8

MATCH SHEET C10

MATCH SHEET C14



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
10	CONSTRUCT CURB OPENING PER DETAIL ON DETAIL SHEET.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C9 OF 43

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

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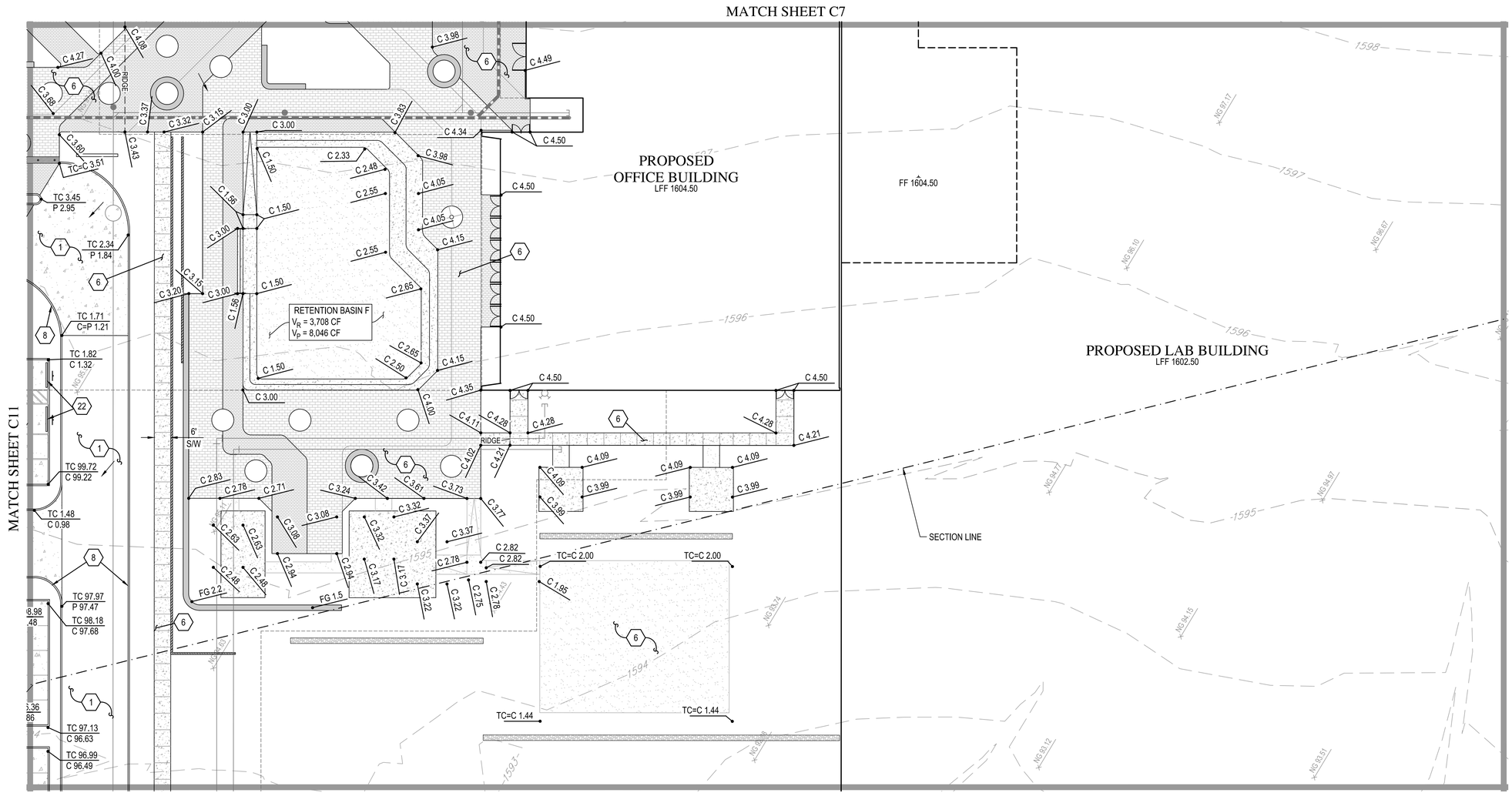

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
22	INSTALL SAFETY CURB PER MAG STD DETAIL 150.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
09/30/2024
REGISTERED
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C10 OF 43

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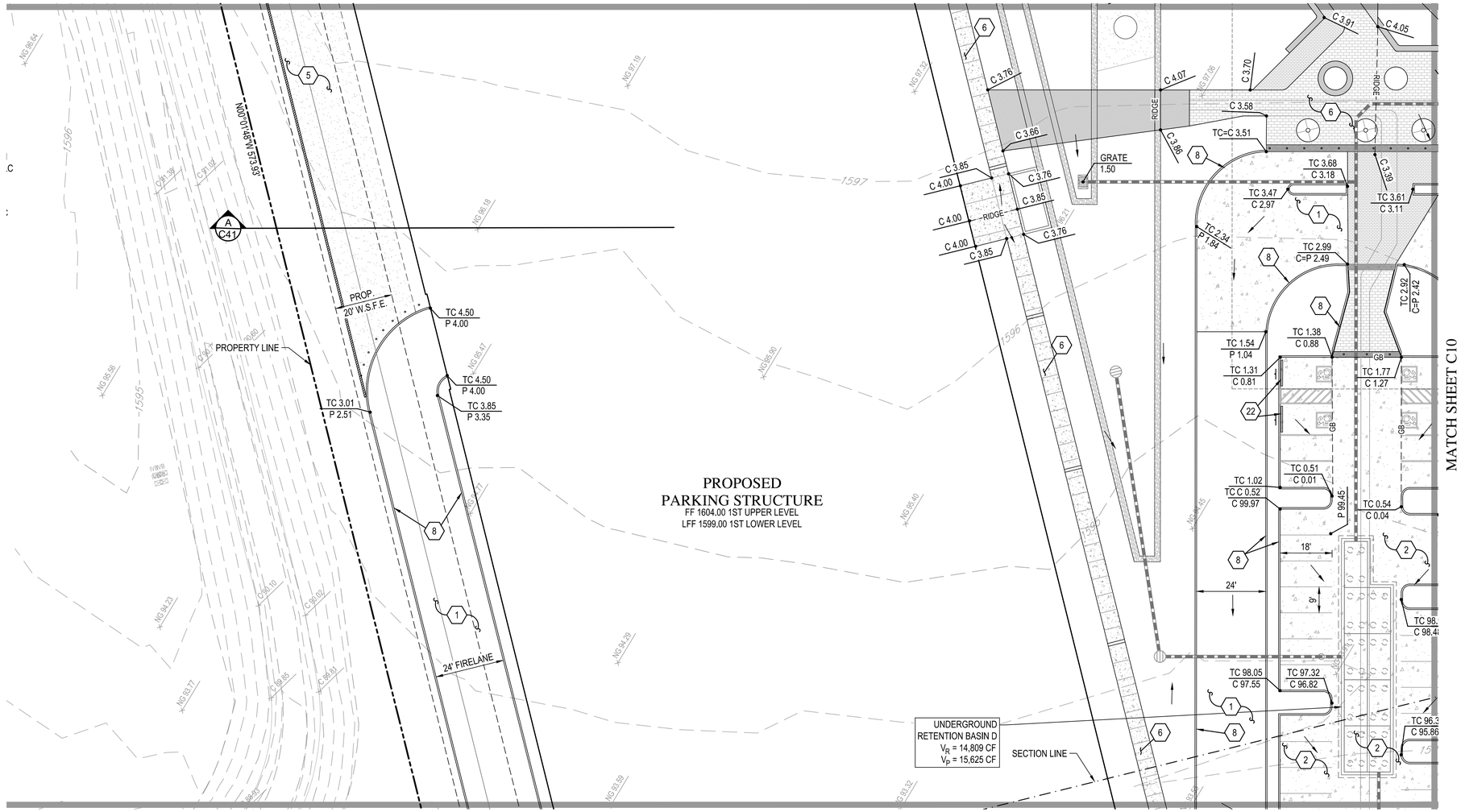
MATCH SHEET C6



MATCH SHEET C12

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
22	INSTALL SAFETY GUARD PER MAG STD DETAIL 150.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer, Civil
CERTIFICATE NO.
36382
DARIN L.
MOORE
08/30/24
STATE OF
ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C11 OF 43

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

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MATCH SHEET C11

MATCH SHEET C13

PROPERTY LINE

FOUND 1/2" REBAR CAP NOT LEGIBLE

SECTION LINE

N89°58'33"W 1320.42'
N89°58'33"W 2640.90'

24' FIRELANE

TC 96.10
P 95.60

TC 96.46
P 95.96

UNDERGROUND RETENTION BASIN E
V_R = 17,455 CF
V_P = 19,097 CF

McDOWELL MOUNTAIN VILLAGE DECLARANT LLC
APN 215 -05-007
OWNER: NORTH SCOTTSDALE CAD LLC
NOT A PART

S89°58'33"E 257.05'

PROPERTY LINE

PROPOSED
PARKING STRUCTURE
FF 1604.00 1ST UPPER LEVEL
LFF 1599.00 1ST LOWER LEVEL

PROP.
20' W.S.F.E.

TC 93.44
P 92.94

TC 91.62
P 91.12

TC 92.21
G 91.71

TC 98.83
P 98.33

TC 98.50
P 98.00

P 98.61

TC 99.11
G 98.61

TC 95.66
C 95.16
P 95.09

TC 95.26
C 94.76

CB 93.44

C 96.74

C 96.81

C 96.96

C 96.96

C 95.52

TC 95.86
P 95.46

P 94.57

P 93.85

TC 94.98
C 94.48

TC 94.52
C 94.02

C 95.45

C 94.97

C 94.97

TC 94.72
P 94.22

C 94.65
P 94.15

C 94.63

C 94.11

C 93.97

C 93.90

TC 95.99
P 95.49

TC 93.78
P 93.28

TC 91.68
G 91.18

TC 91.94
G 91.44

TC 92.07
G 91.57

PROPERTY LINE

55.03

RIGHT OF WAY EASEMENT

55' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50, M.C.R.

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

16"W (DIP)

EX 27"S (HOBAS)

N75°09'57"W 645.72'

MAYO BOULEVARD

EX. SSMH
RIM=1589.93
INV IN=1570.70
INV OUT=1570.60

EX. 18" SD
INV=1587.70

DRAINAGE EASEMENT

ARIZONA STATE LAND DEPT
APN 215 -07-004F
OWNER: ARIZONA LAND DEPT
NOT A PART

PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

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Civil Engineering
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Construction Management

602.335.8500

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
DECEMBER 31, 2025
ARIZONA
Darin L. Moore

EXPIRES 06-30-25

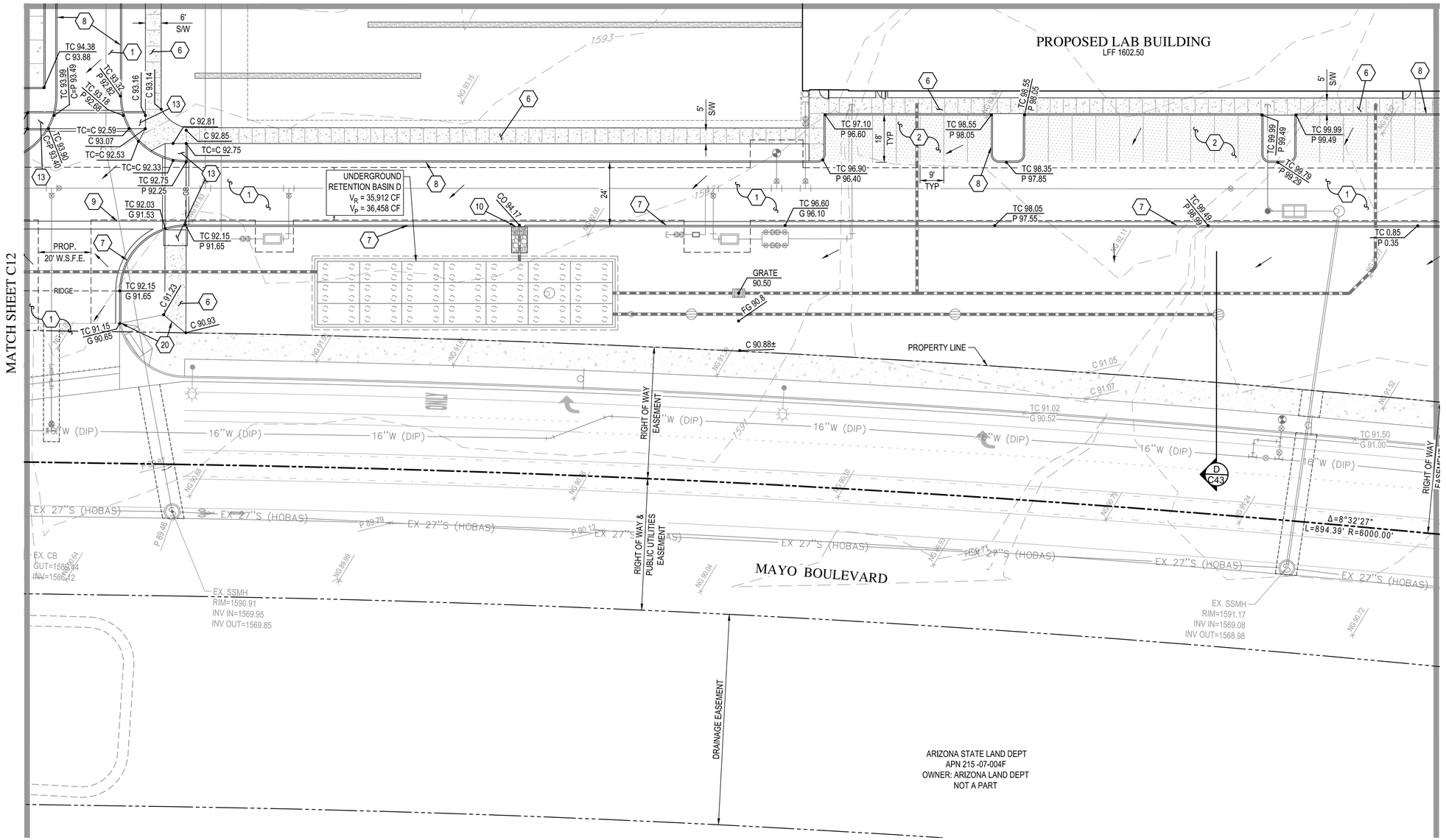
SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C12 OF 43

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

MATCH SHEET C10

MATCH SHEET C12

MATCH SHEET C14



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.
9	CONSTRUCT VALLEY GUTTER PER MAG STD DETAIL 240, MODIFIED TO 3' WIDTH.
10	CONSTRUCT CURB OPENING PER DETAIL ON DETAIL SHEET.
13	CONSTRUCT CURB RAMP PER DETAIL ON DETAIL SHEET. ALL RAMPS MUST MEET ADA ACCESSIBILITY GUIDELINES (ADAAG). 2% MAX CROSS SLOPE AND 12:1 MAX LONGITUDINAL SLOPE.
20	MATCH EXISTING LOCATION AND ELEVATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

N

0 20 40

Horz. 1 in. = 20 ft.

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Civil Engineering
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Construction Management
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www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2025
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C13 OF 43

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

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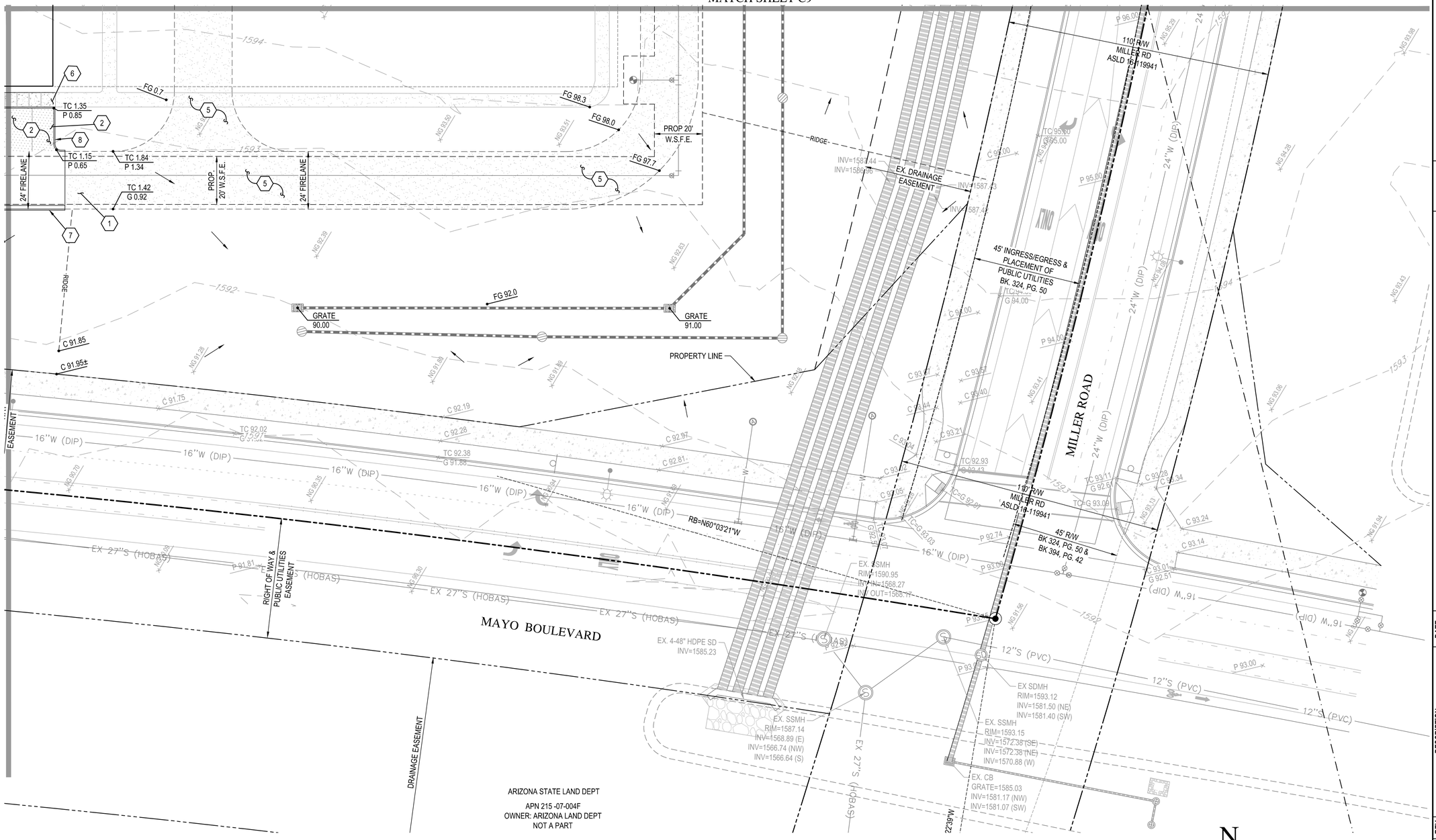
MATCH SHEET C9

MATCH SHEET C13



PAVING NOTES

#	
1	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT, 4" AC OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
2	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT, 3.5" AC OVER 5" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
5	CONSTRUCT STABILIZED DG FIRELANE, 4" FG OVER 6" ABC OVER COMPACTED SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.
6	CONSTRUCT SIDEWALK. REFER TO HARDSCAPE PLAN FOR TYPE, FEATURES, COLOR, AND FINISH.
7	CONSTRUCT 6" VERTICAL CURB AND GUTTER PER MAG STD DETAIL 220-1 TYPE A.
8	CONSTRUCT SINGLE CURB PER MAG STD DETAIL 222 TYPE A.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
GRADING & DRAINAGE PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
State of Arizona
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C14 OF 43

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

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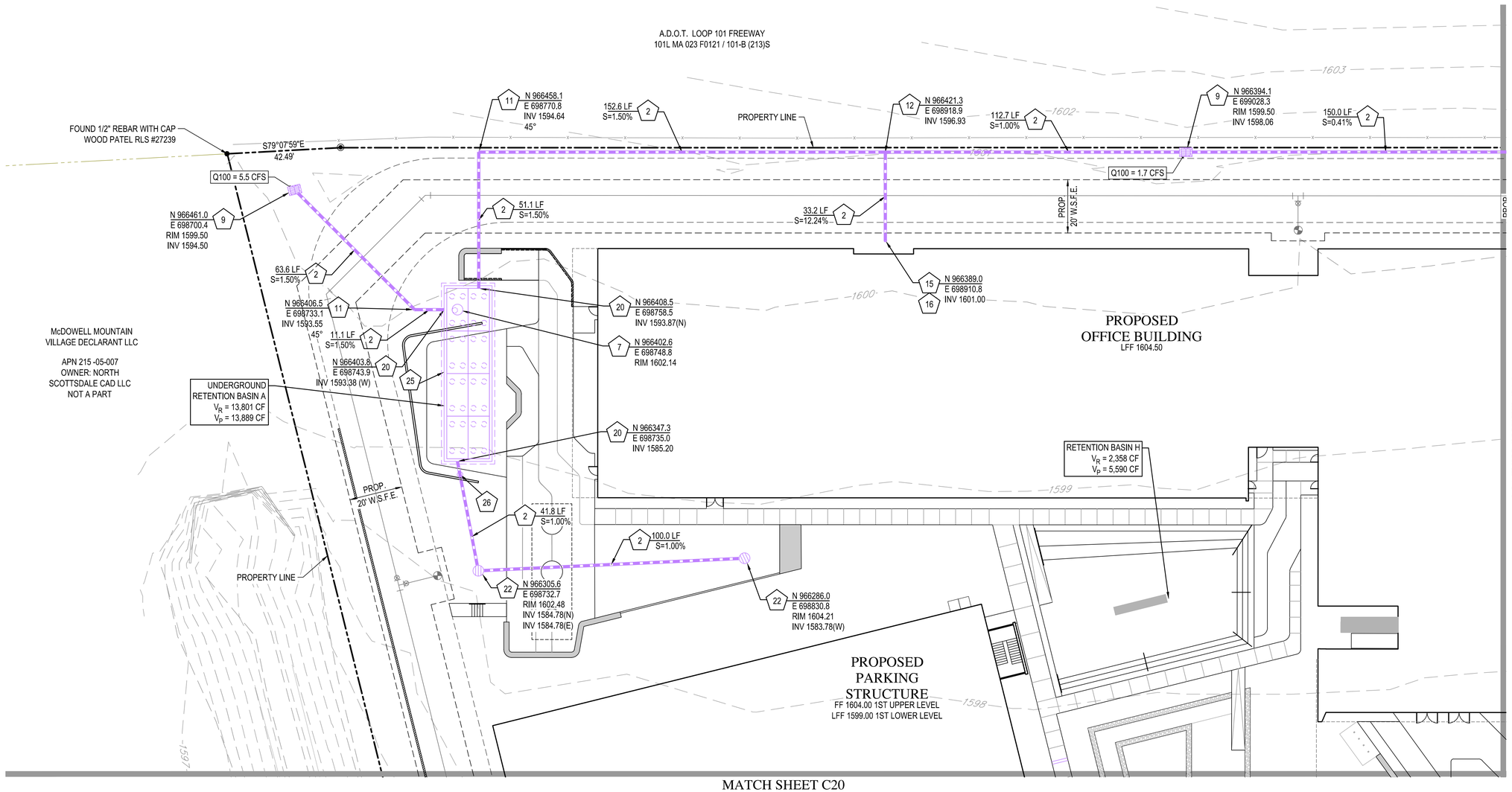

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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Civil Engineering
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602.335.8500

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

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

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C15 OF 43

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

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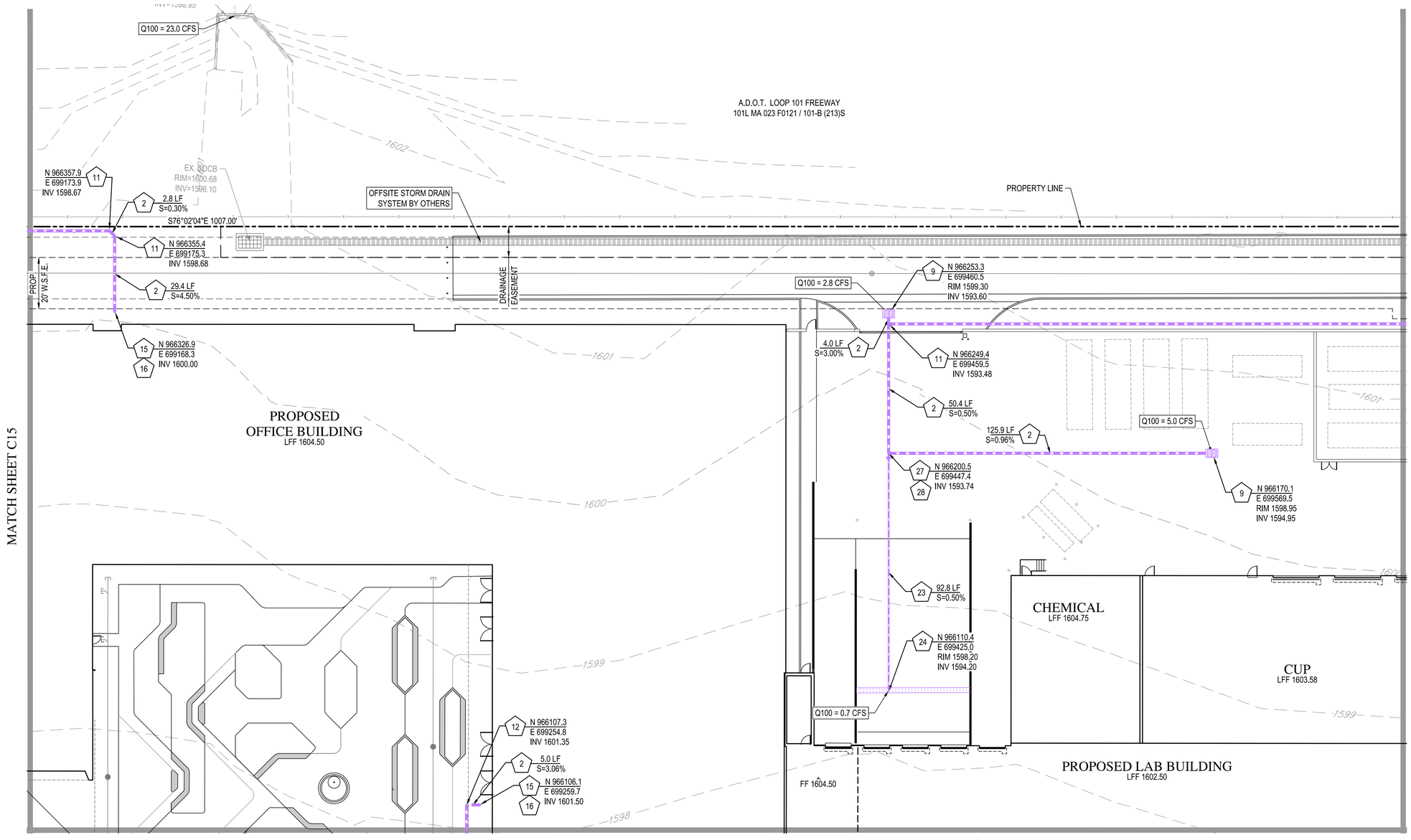

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
23	INSTALL 8" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
24	INSTALL JAY R. SMITH 9879 TRENCH DRAIN SYSTEM WITH MATCHING POWERLOK SLOTTED DUCTILE IRON GRATE.
27	INSTALL REDUCER, SIZE PER ADJOINING PIPE DIAMETER.
28	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.

N

0 20 40

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C16 OF 43

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

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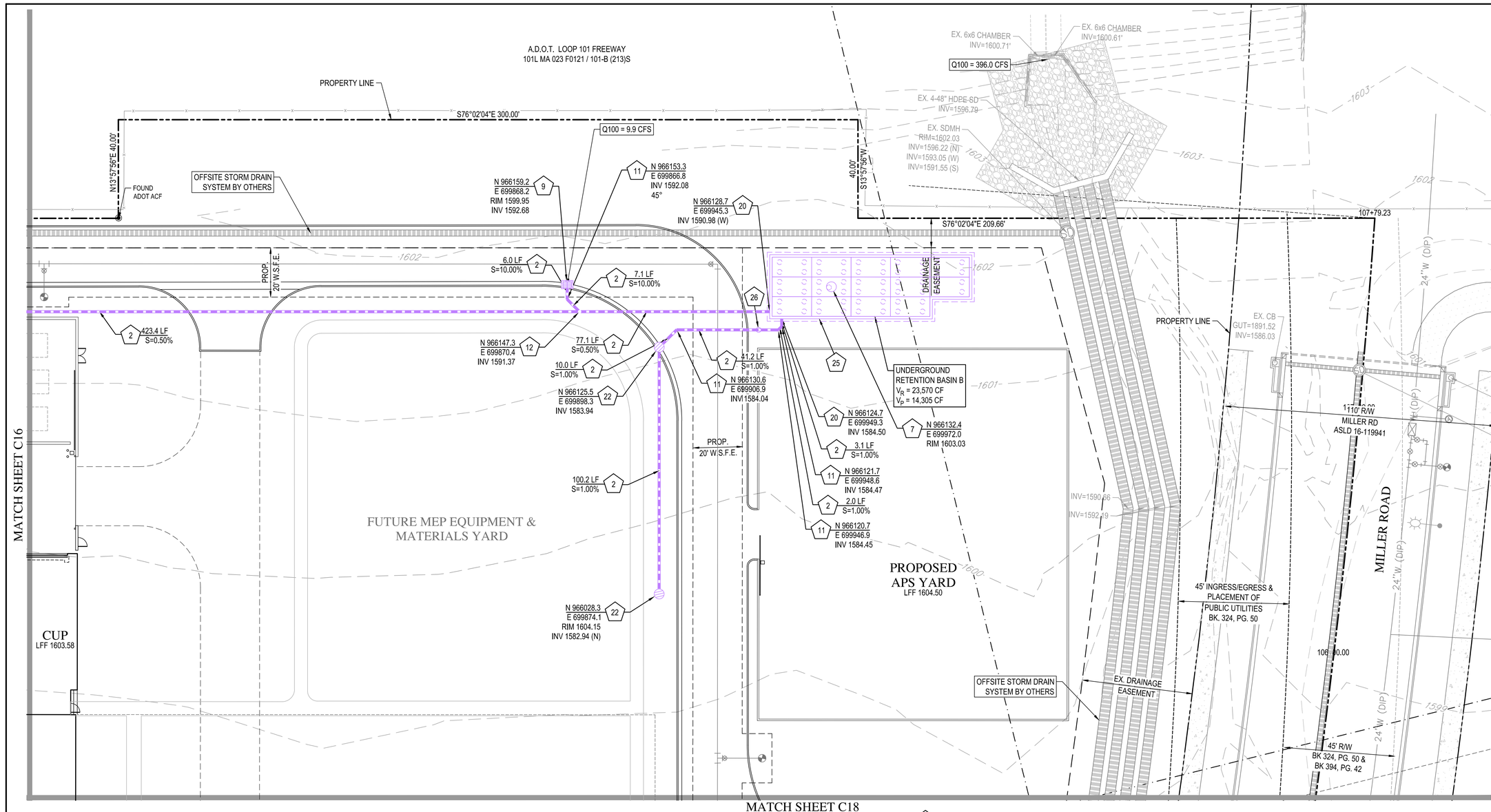

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C17 OF 43

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

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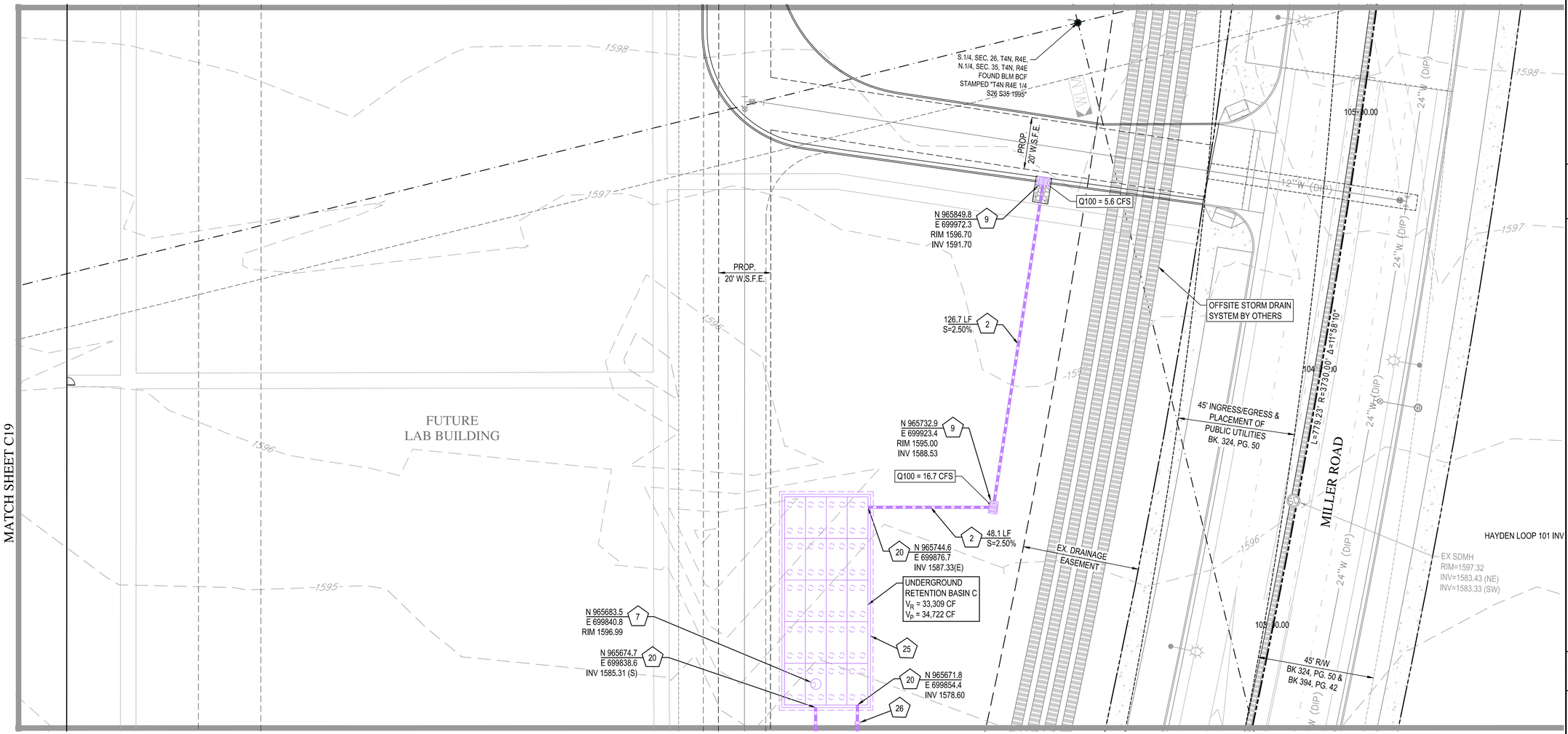
MATCH SHEET C17



MATCH SHEET C19

MATCH SHEET C23

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C18 OF 43

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

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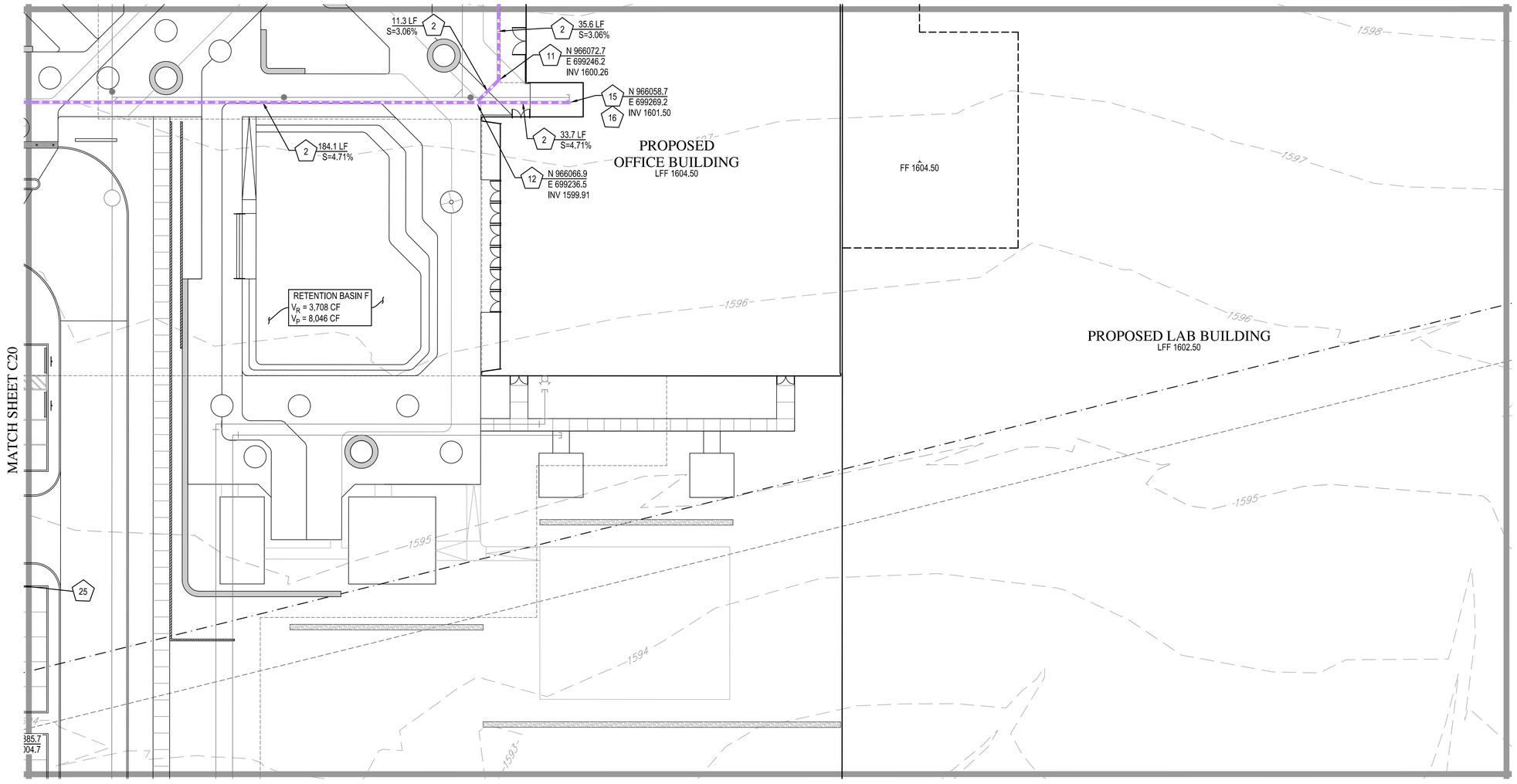

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C19 OF 43

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

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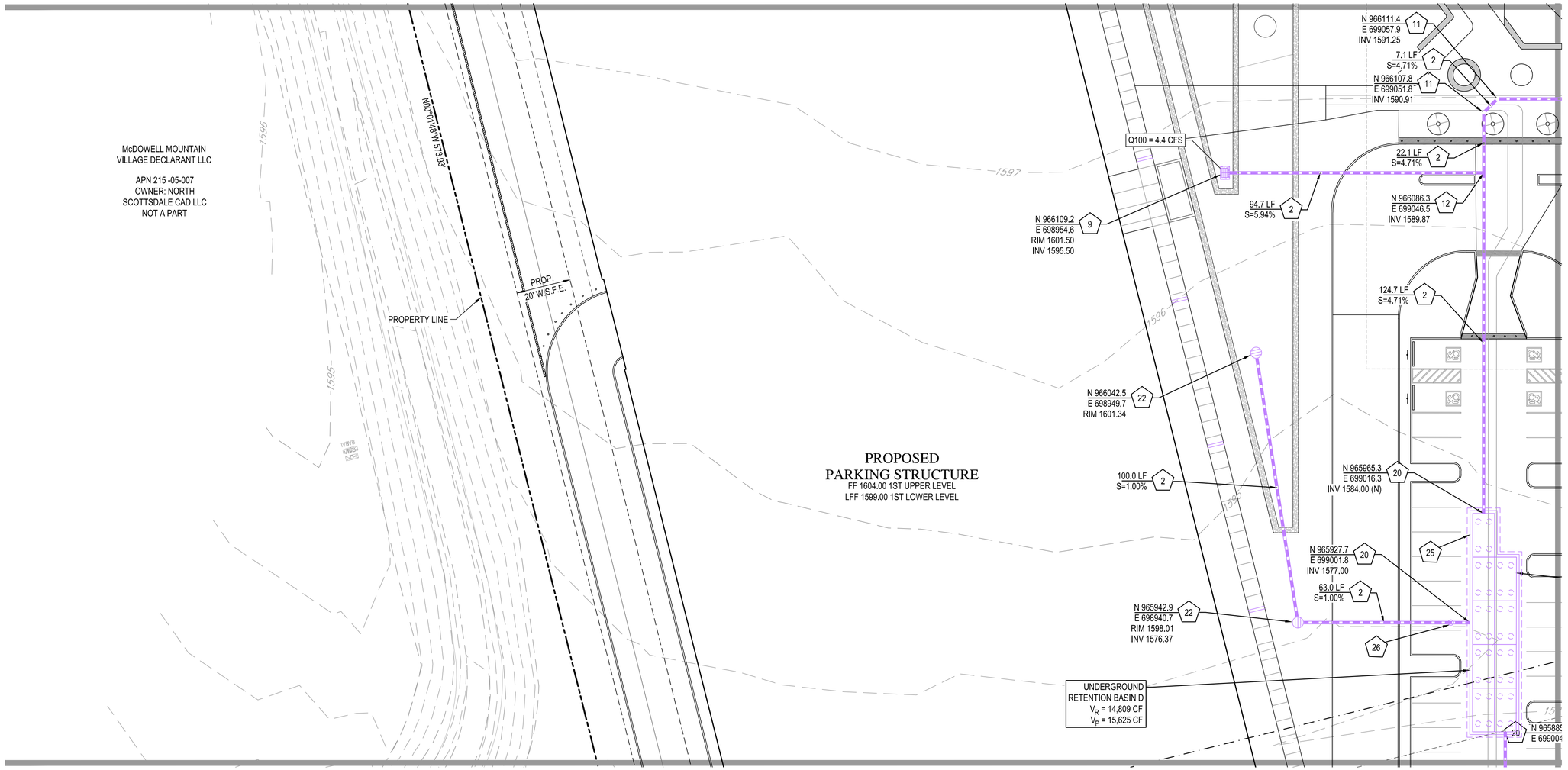
MATCH SHEET C15



MATCH SHEET C21

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L. MOORE
PRINCIPAL
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C20 OF 43

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

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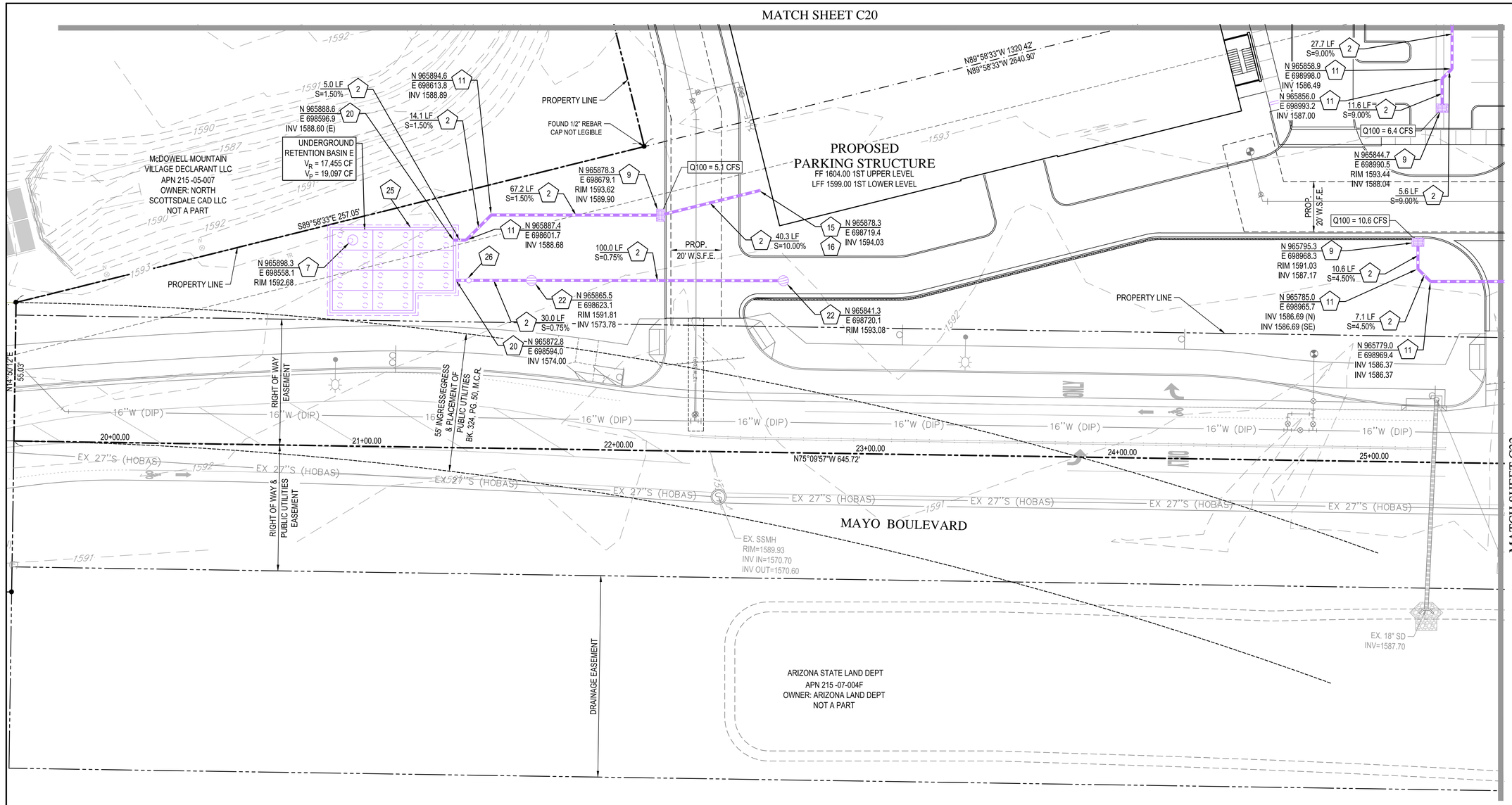

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L.
MOORE
ARIZONA
Date Signed

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C21 OF 43

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

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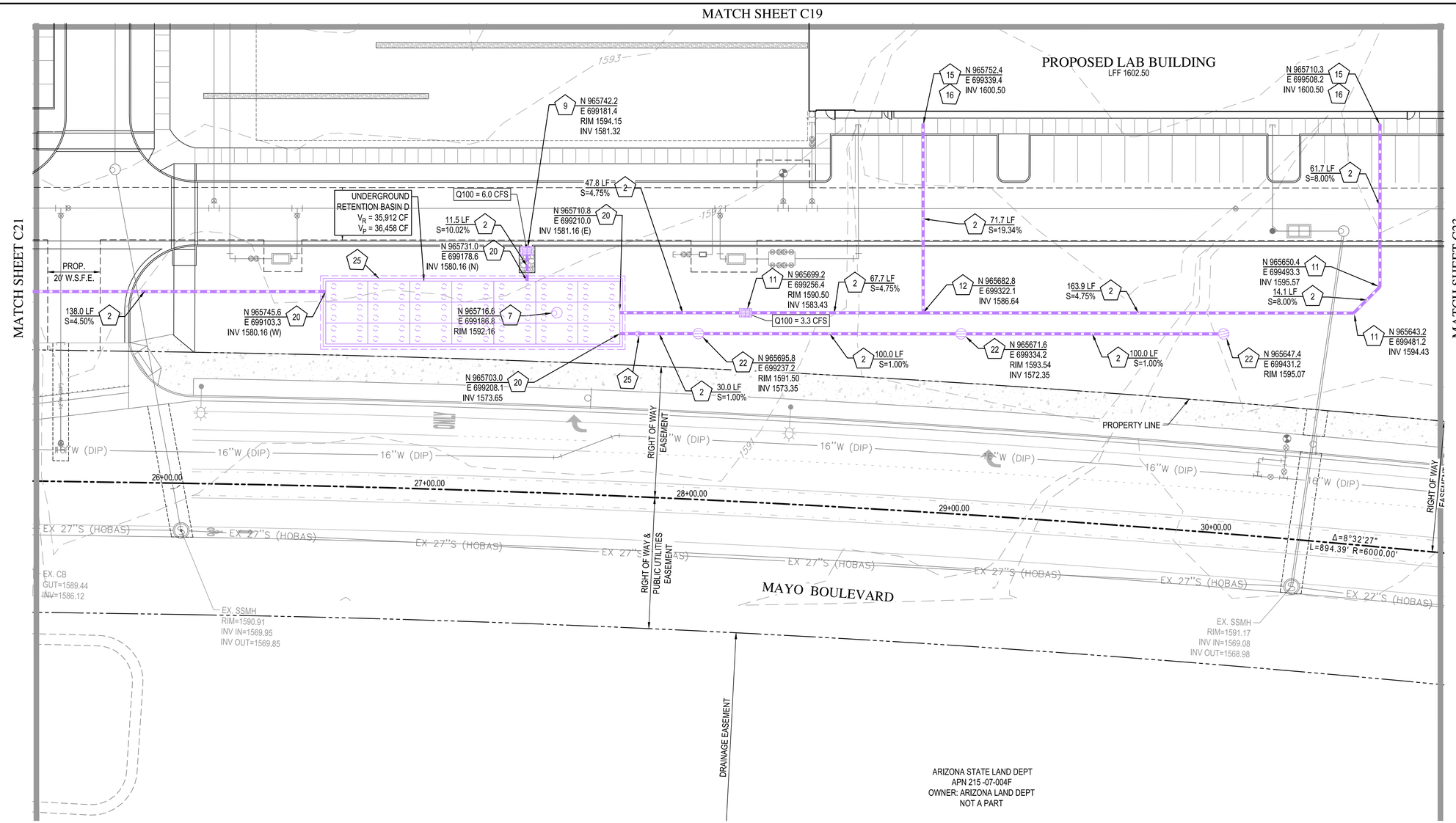

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
7	CONSTRUCT 4' DIAMETER STORM DRAIN MANHOLE PER MAG STD DETAIL 520 AND 522. INSTALL FRAME AND COVER PER MAG DETAIL 423-2.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
12	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
15	CONNECT TO BUILDING ROOF DRAIN. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
16	INSTALL AIRBREAK PER DETAIL ON SHEET C37.
20	CONNECT STORM DRAIN TO UNDERGROUND RETENTION AT WATERTIGHT MANUFACTURED JOINT PER MANUFACTURER'S SPECIFICATIONS AND DETAIL ON DETAIL SHEET.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.
25	INSTALL STORMPRISM 14' DETENTION SYSTEM PER THE DETAILS ON SHEET C39 & C40.
26	INSTALL CONTECH CDS3020-6-C - 742047-20 WATER TREATMENT SYSTEM PER THE DETAIL ON SHEET C38.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L.
MOORE
Date Signed 06/30/24
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C22 OF 43

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

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MATCH SHEET C18

MATCH SHEET C22

PROP. 20' W.S.F.E.

101.7 LF S=1.25%

2 46.0 LF S=1.00%

22 N 965627.2 E 699843.2 RIM 1595.90 INV 1578.14

2 100.0 LF S=1.00%

N 965576.1 E 699813.9 INV 1586.58 11

43.7 LF S=1.25%

9 N 965591.1 E 699626.2 RIM 1590.66 INV 1589.06

154.8 LF S=1.25%

N 965553.6 E 699776.4 RIM 1591.00 INV 1587.12 9

Q100 = 4.6 CFS

Q100 = 4.4 CFS

22 N 965530.2 E 699818.9 RIM 1592.08 INV 1577.14

22 N 965581.1 E 699625.6 RIM 1590.60 INV 1575.14 (E)

100.0 LF S=1.00%

22 N 965554.9 E 699722.0 RIM 1592.04 INV 1576.14

100.0 LF S=1.00%

PROPERTY LINE

EASEMENT

16"W (DIP)

31+00.00

32+00.00

33+00.00

34+00.00

RIGHT OF WAY & PUBLIC UTILITIES EASEMENT

EX 27"S (HOBAS)

MAYO BOULEVARD

DRAINAGE EASEMENT

ARIZONA STATE LAND DEPT

APN 215 -07-004F
OWNER: ARIZONA LAND DEPT
NOT A PART

RB=N60°03'21"W

EX. 4-48" HDPE SD INV=1585.23

Q100 = 419.0 CFS

EX. SSMH RIM=1587.14 INV=1568.89 (E) INV=1566.74 (NW) INV=1566.64 (S)

EX. SSMH RIM=1590.95 INV IN=1568.27 INV OUT=1568.17

EX. SSMH RIM=1593.15 INV=1572.38 (SE) INV=1572.38 (NE) INV=1570.88 (W)

EX. CB GRATE=1585.03 INV=1581.17 (NW) INV=1581.07 (SW)

EX SDMH RIM=1593.12 INV=1581.50 (NE) INV=1581.40 (SW)

12"S (PVC)

S23°22'39"W

EX. DRAINAGE EASEMENT

OFFSITE STORM DRAIN SYSTEM BY OTHERS

INV=1587.44

INV=1586.98

110' R/W MILLER RD ASLD 16-119941

45' INGRESS/EGRESS & PLACEMENT OF PUBLIC UTILITIES BK. 324, PG. 50

MILLER ROAD

24"W (DIP)

45' R/W BK 324, PG. 50 & BK 394, PG. 42

102+00.00

101+00.00

36+00.00

1591

1592

1593

1594

STORM DRAIN NOTES

#	
2	INSTALL 12" HDPE STORM DRAIN PIPE WITH WATERTIGHT JOINTS PER MAG STD SPEC 618 AND 738. USE ADS N-12 OR APPROVED EQUAL. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
9	CONSTRUCT CATCH BASIN PER MAG STD DETAIL 535.
11	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
22	CONSTRUCT DRYWELL PER DETAIL ON DETAIL SHEET.

N

0 20 40

Horz. 1 in. = 20 ft.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

STORM DRAIN PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
09/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C23 OF 43

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

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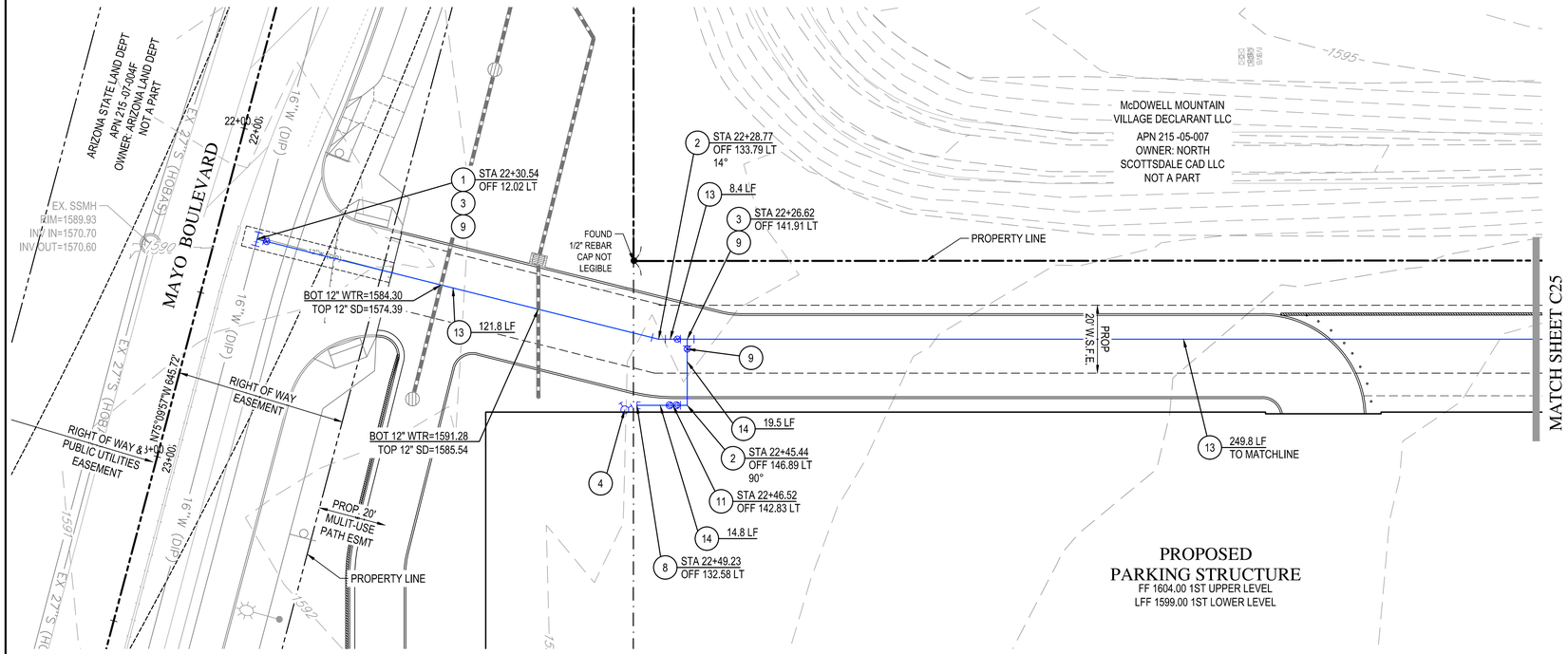

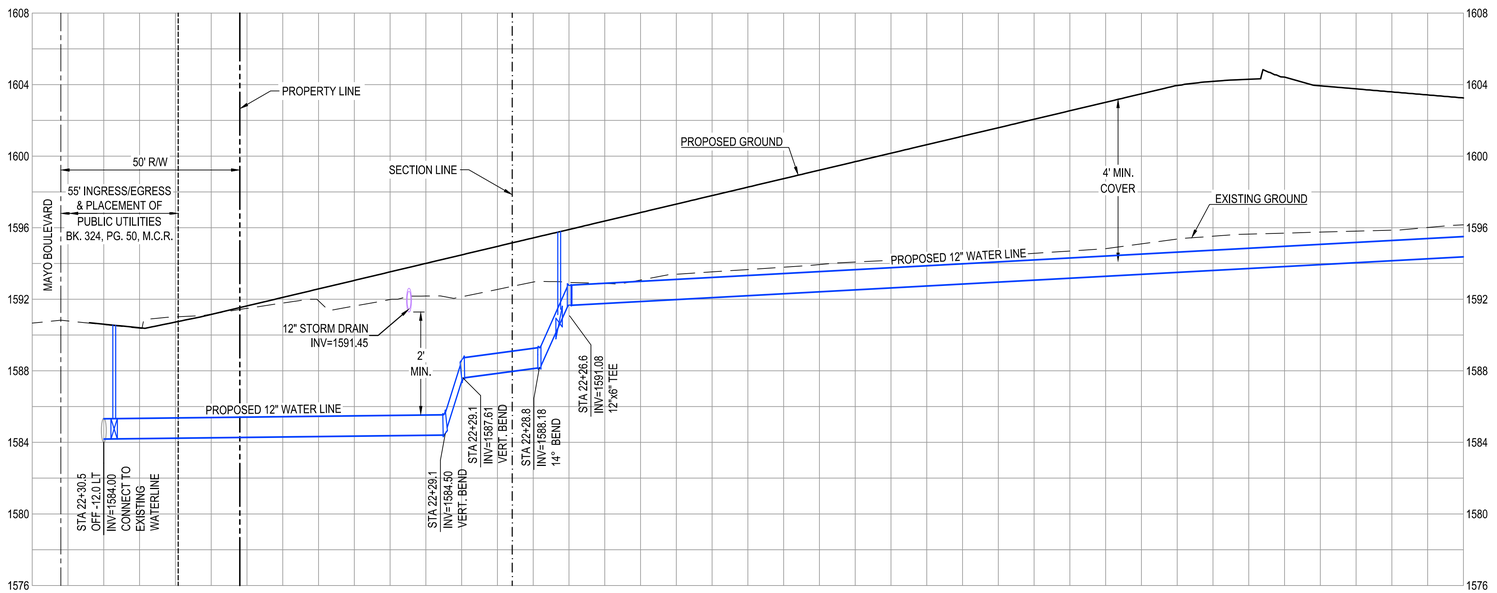

WATER NOTES

#	
1	CUT AND CONNECT TO EXISTING WATER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE, SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
11	INSTALL 6" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2351.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 08/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C24 OF 43

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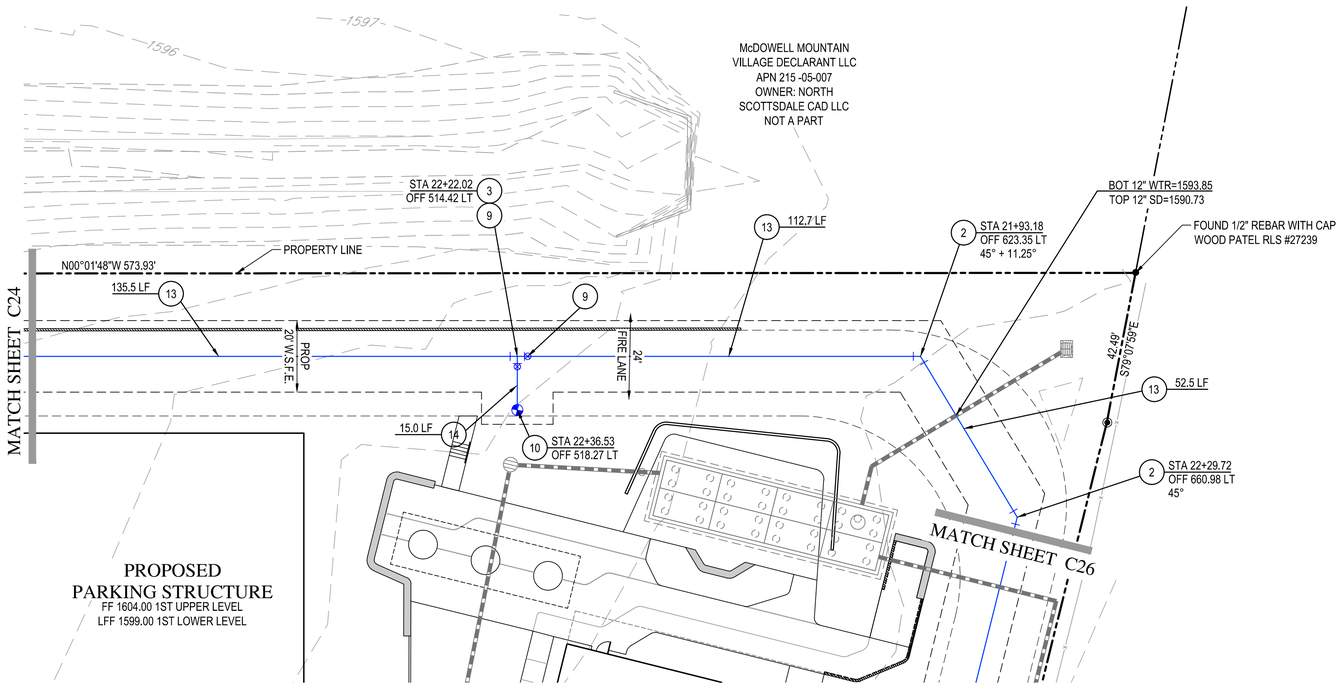

A.D.O.T. LOOP 101 FREEWAY
101L MA 023 F0121 / 101-B (213)S

#	WATER NOTES
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
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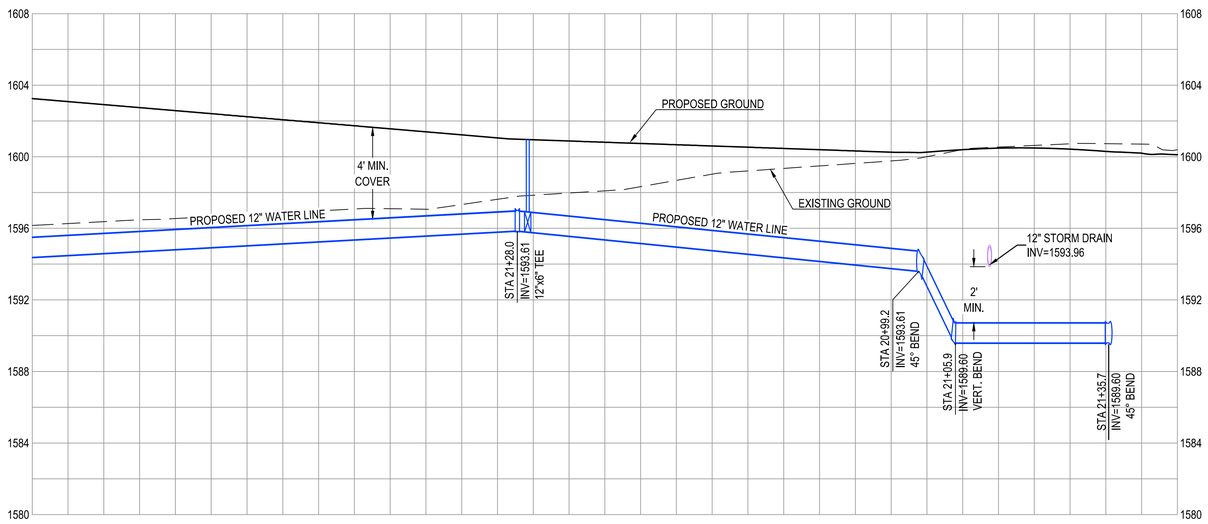

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PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

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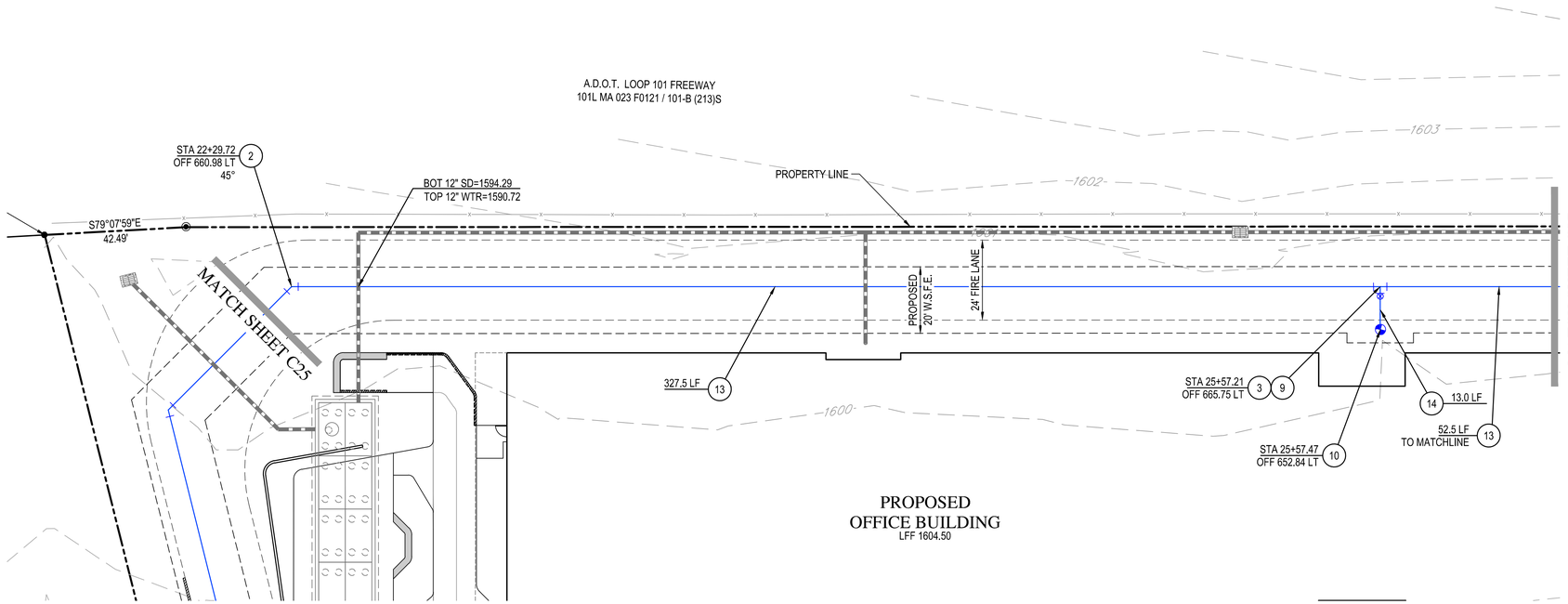

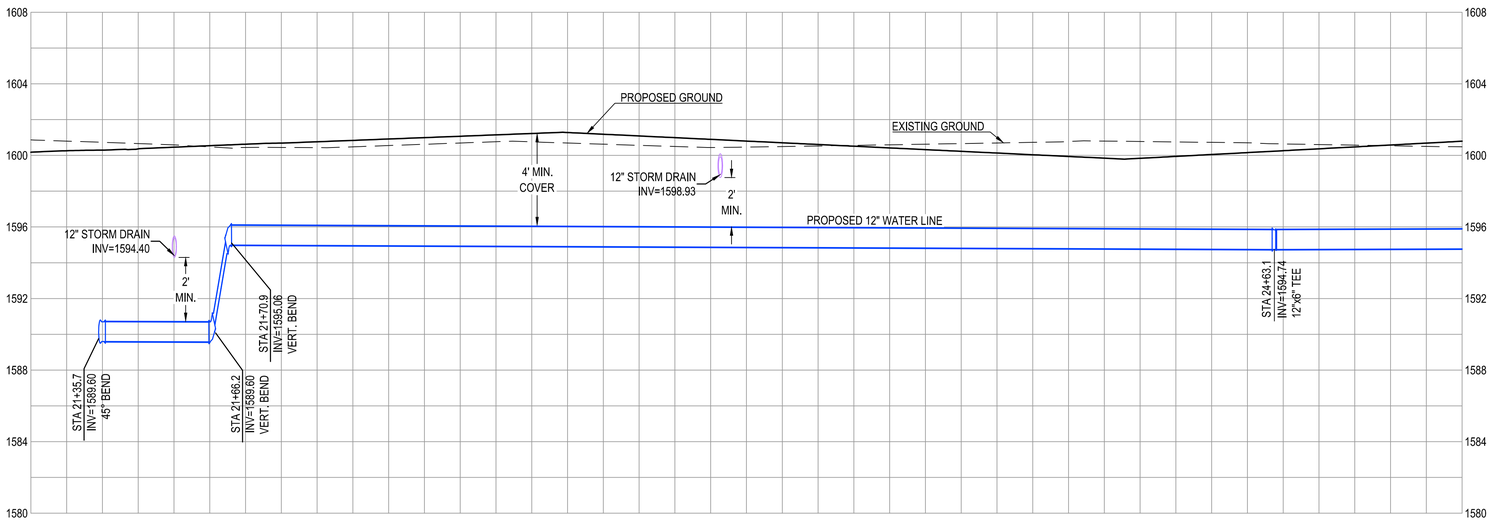

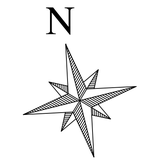

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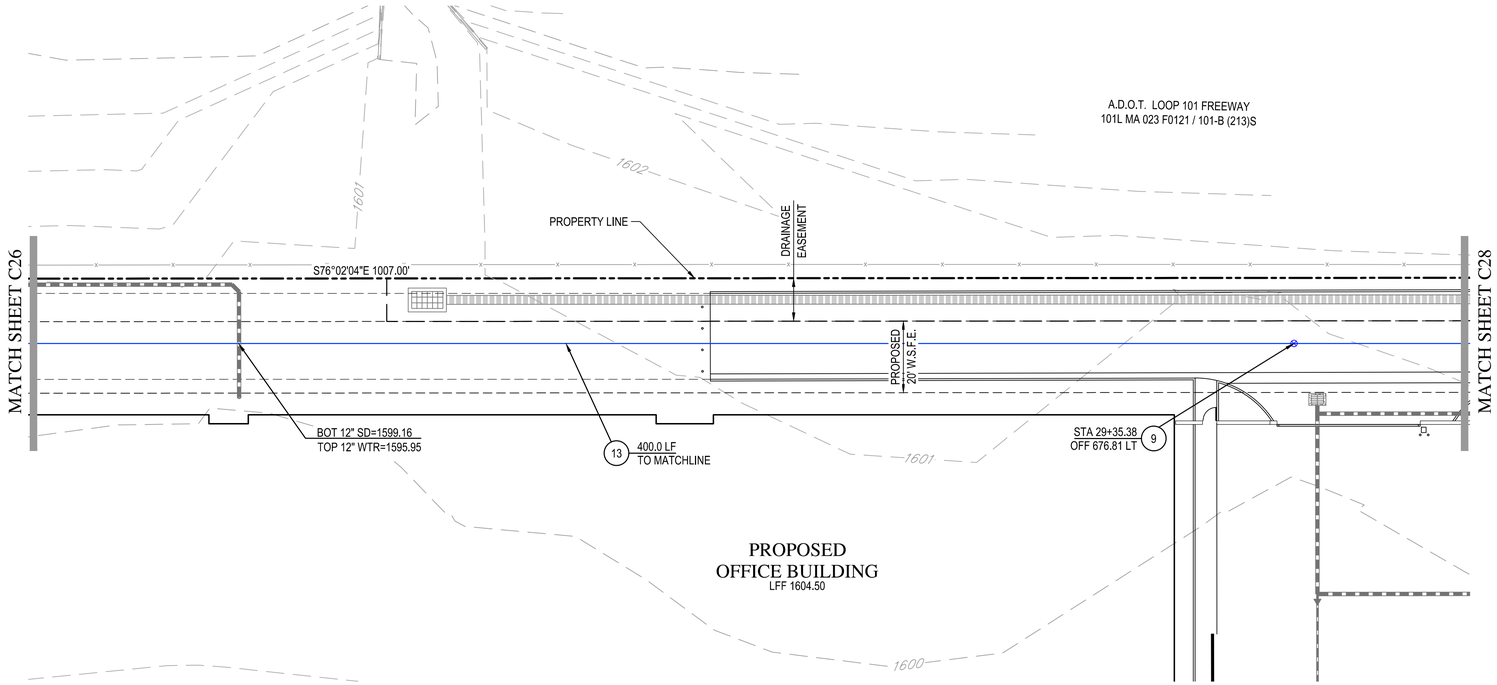

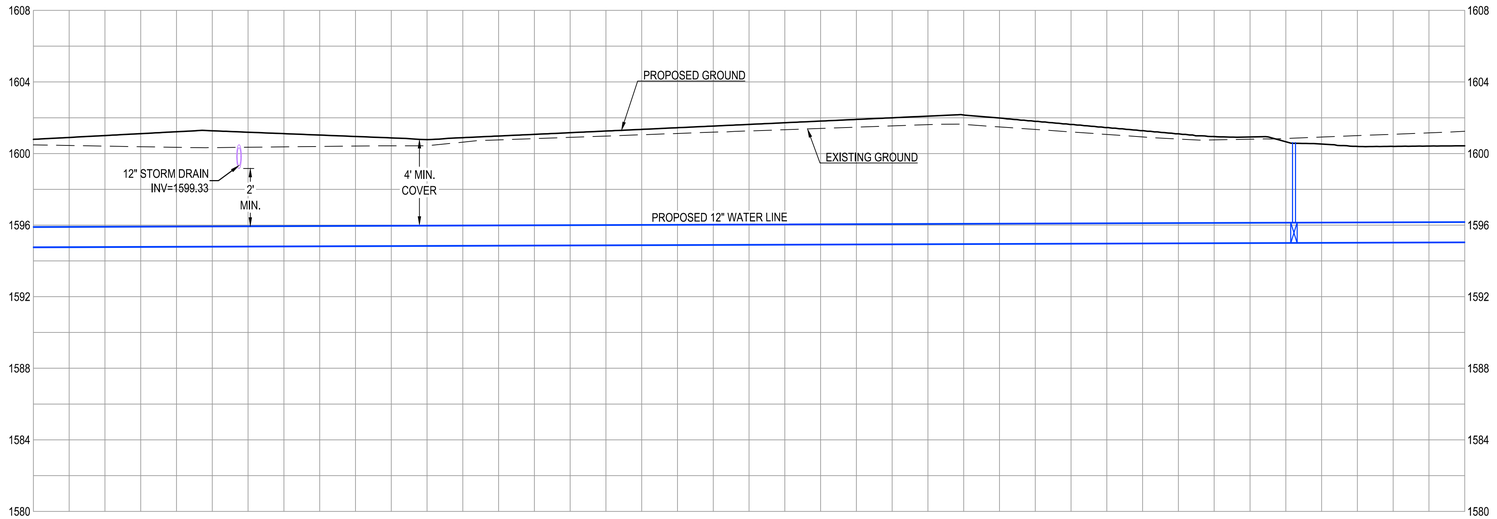

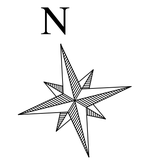

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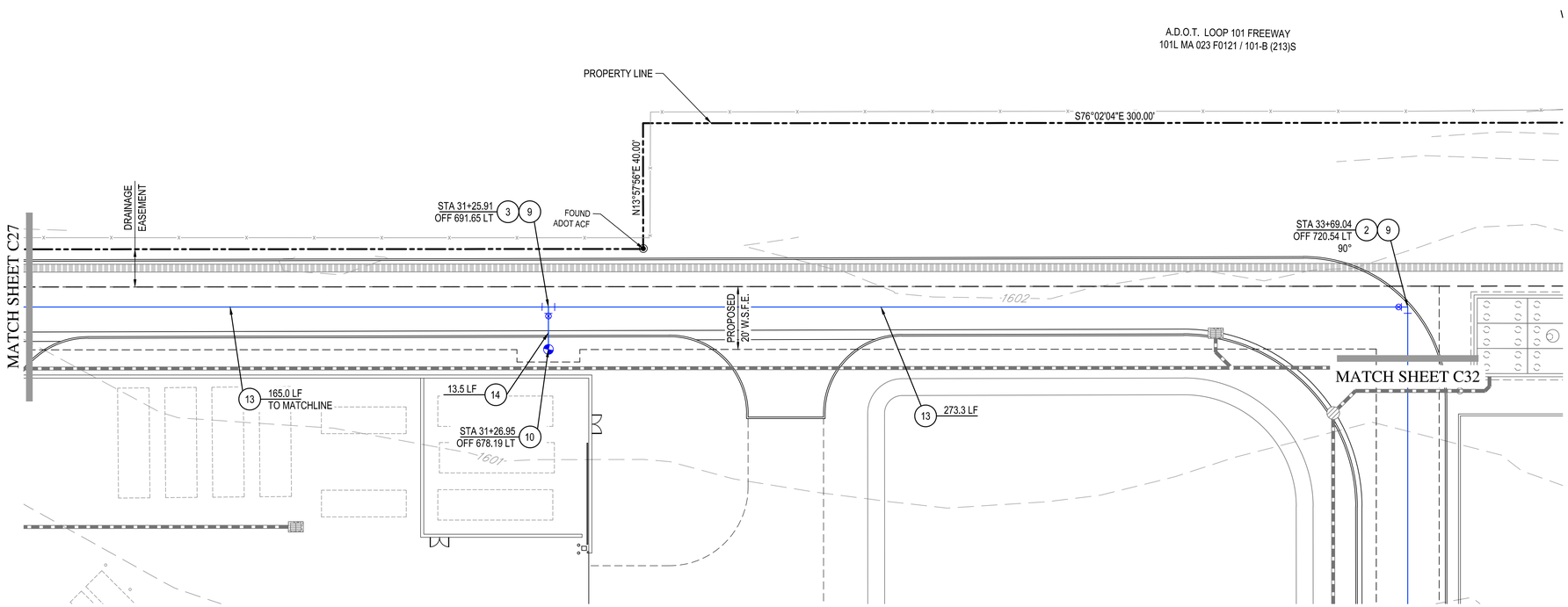

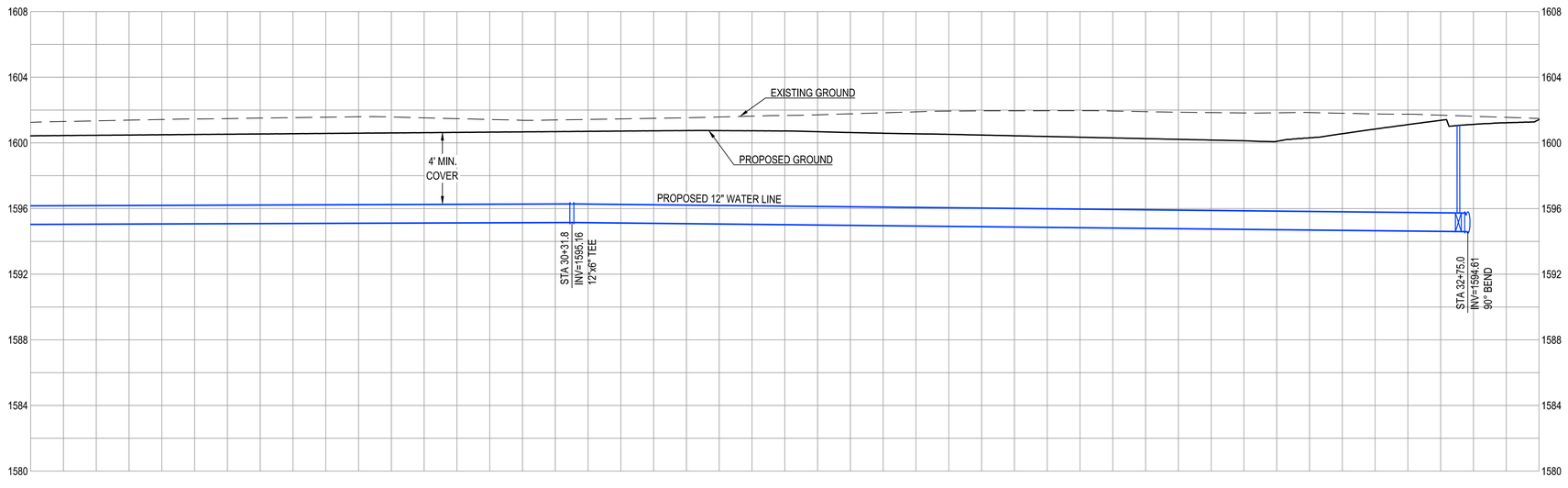

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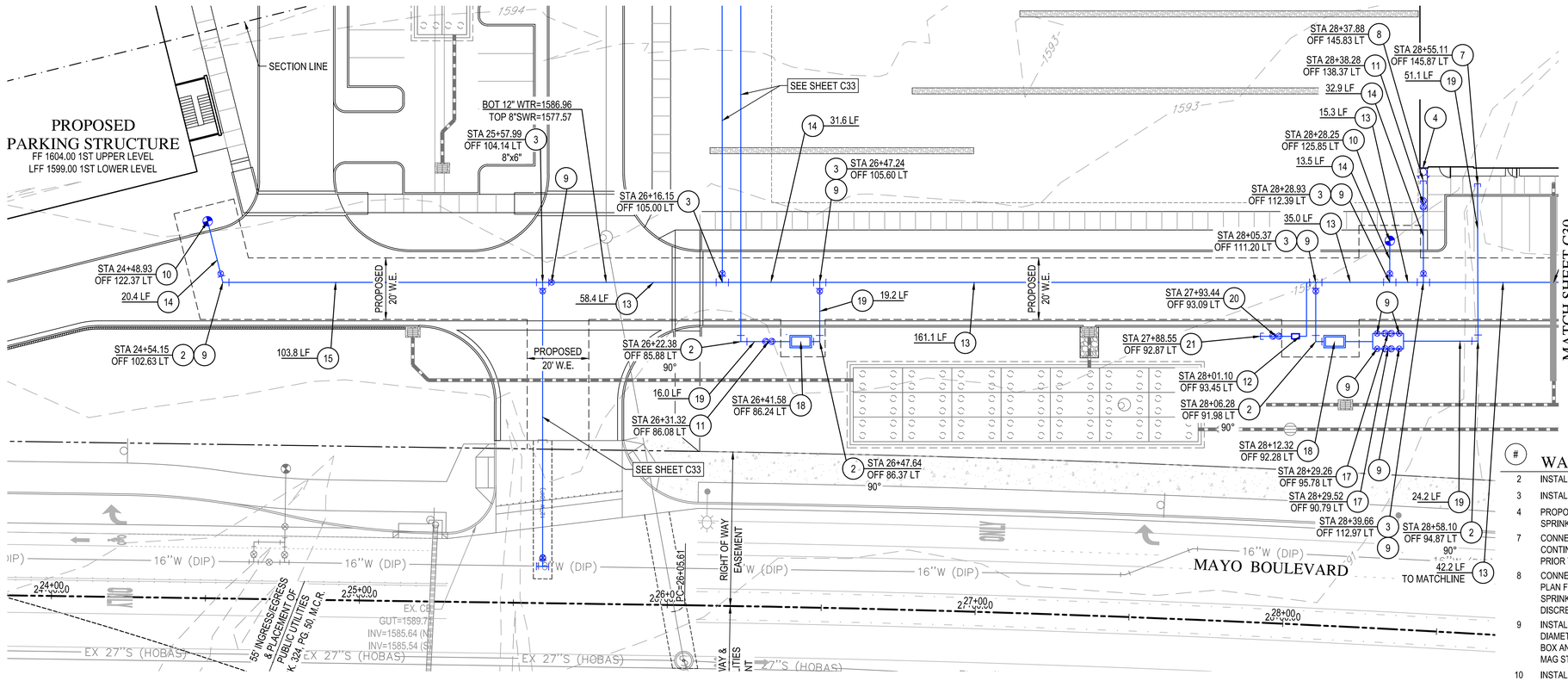

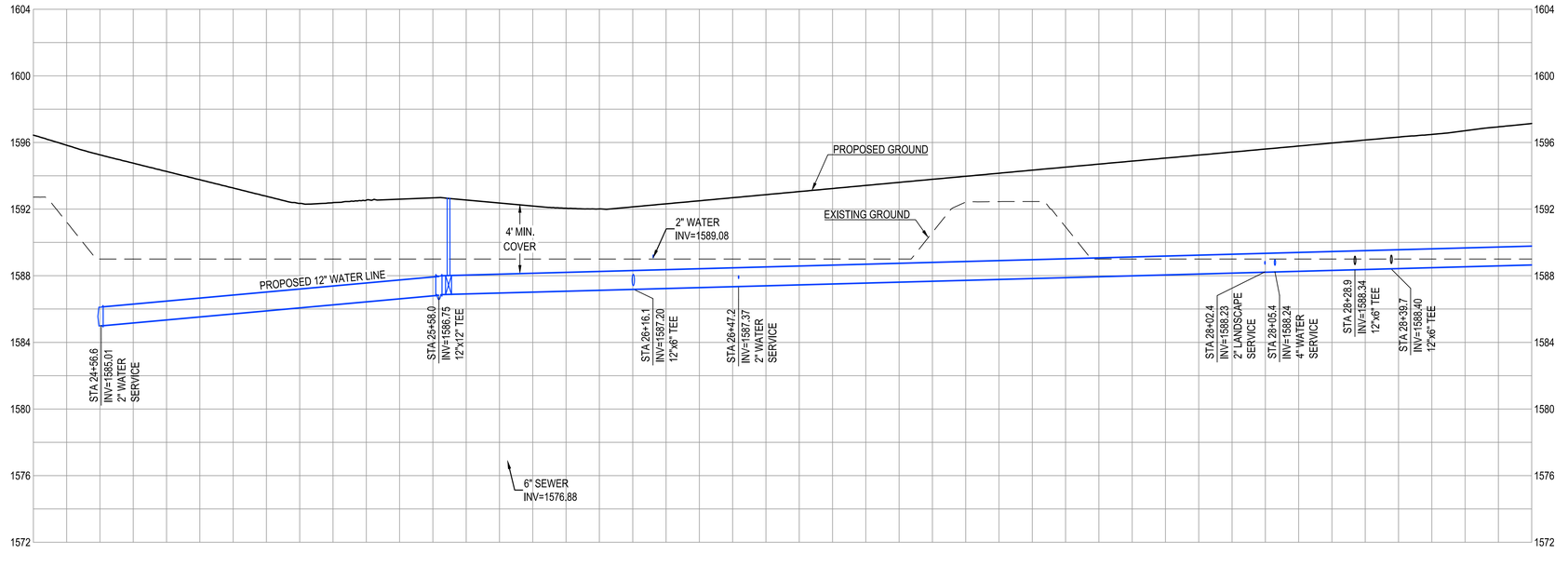

WATER NOTES

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2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
7	CONNECT TO BUILDING WATER SERVICE. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE. SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
10	INSTALL FIRE HYDRANT ASSEMBLY COMPLETE PER MAG STD DETAIL 360-1 AND 391-1 TYPE C. INSTALL FIRE HYDRANT MARKER PER MAG STD DETAIL 122.
11	INSTALL 6" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2351.
12	INSTALL 2" WATER SERVICE AND METER BOX PER COS STD DETAIL 2345. METER TO BE INSTALLED BY COS AFTER PAYMENT OF APPLICABLE FEES.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
15	INSTALL 8" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
17	INSTALL 4" DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2353.
18	INSTALL 4" WATER SERVICE, VAULT, AND METER BOX PER COS STD DETAIL 2345. METER TO BE INSTALLED BY COS AFTER PAYMENT OF APPLICABLE FEES.
19	INSTALL 4" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
20	INSTALL 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY PER COS STD DETAIL 2354.
21	INSTALL CAP, SIZE PER ADJOINING PIPE DIAMETER.

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PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

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Registered Professional Engineer (Civil)
CERTIFICATE NO. 36382
DARIN L. MOORE
09/30/2025
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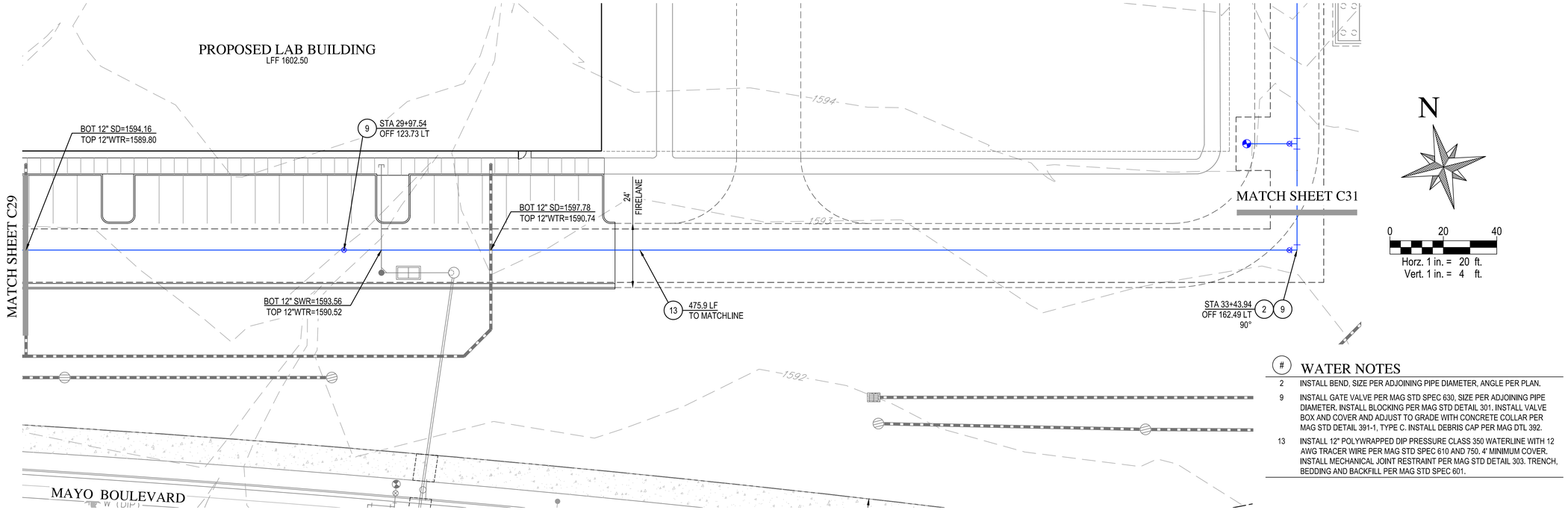

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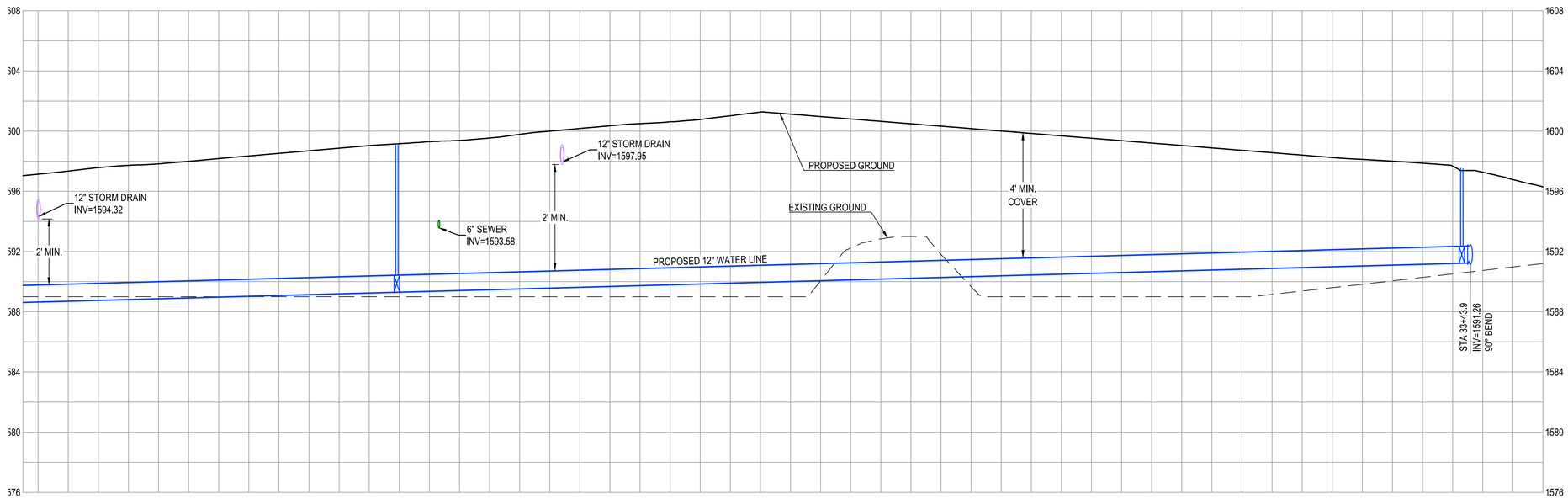

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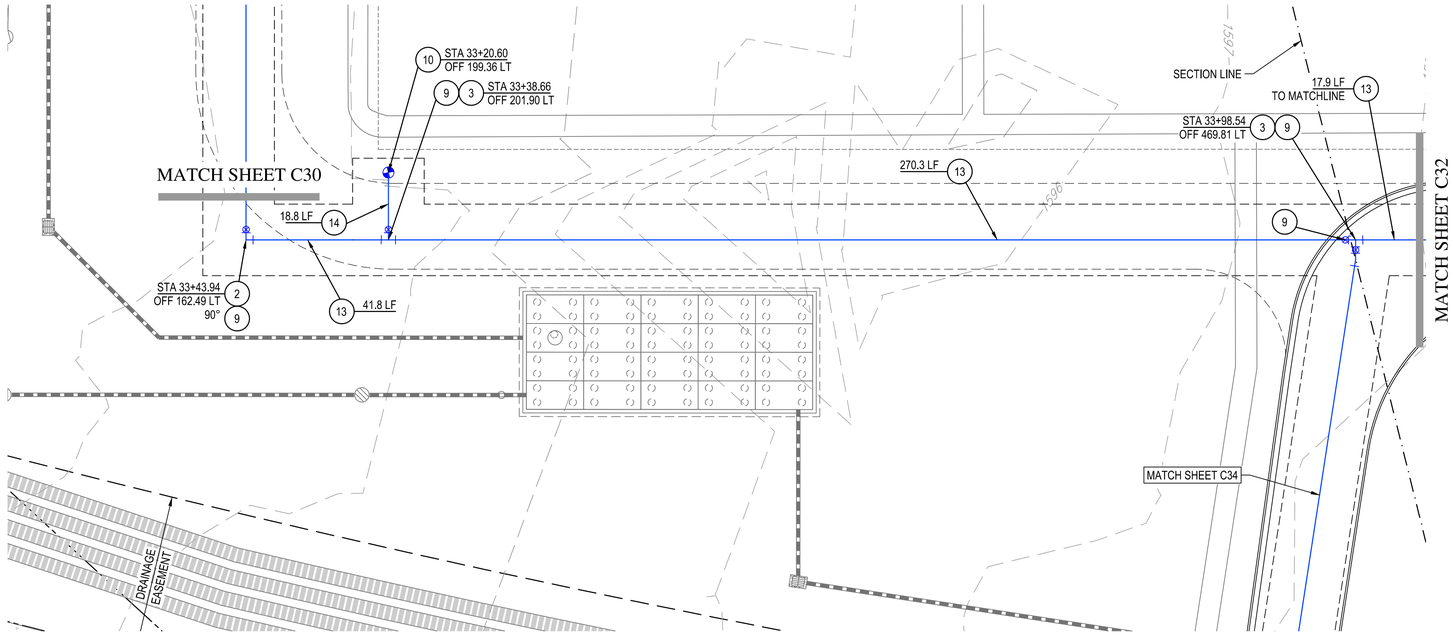

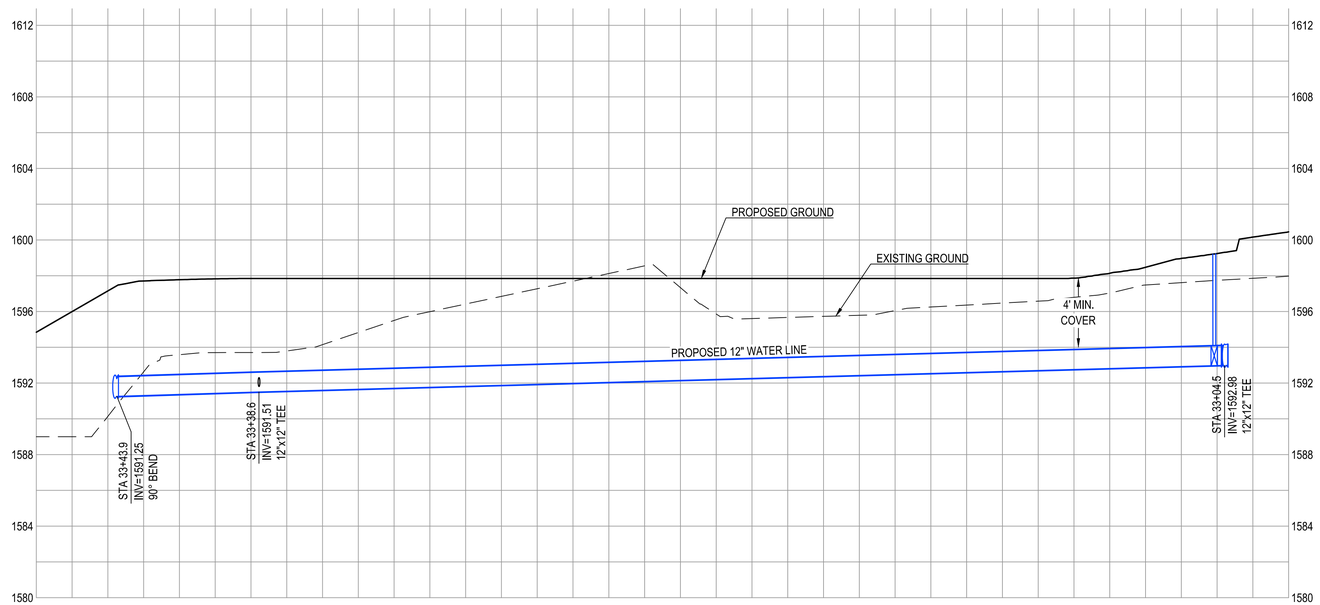

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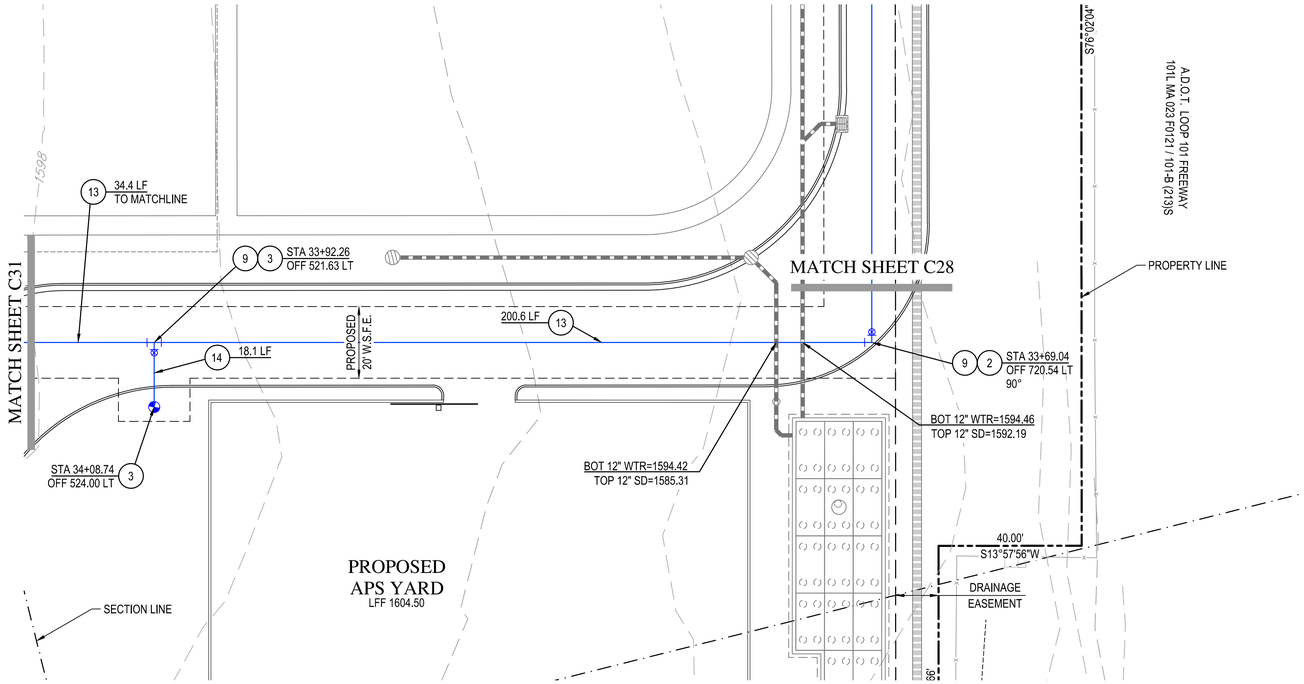

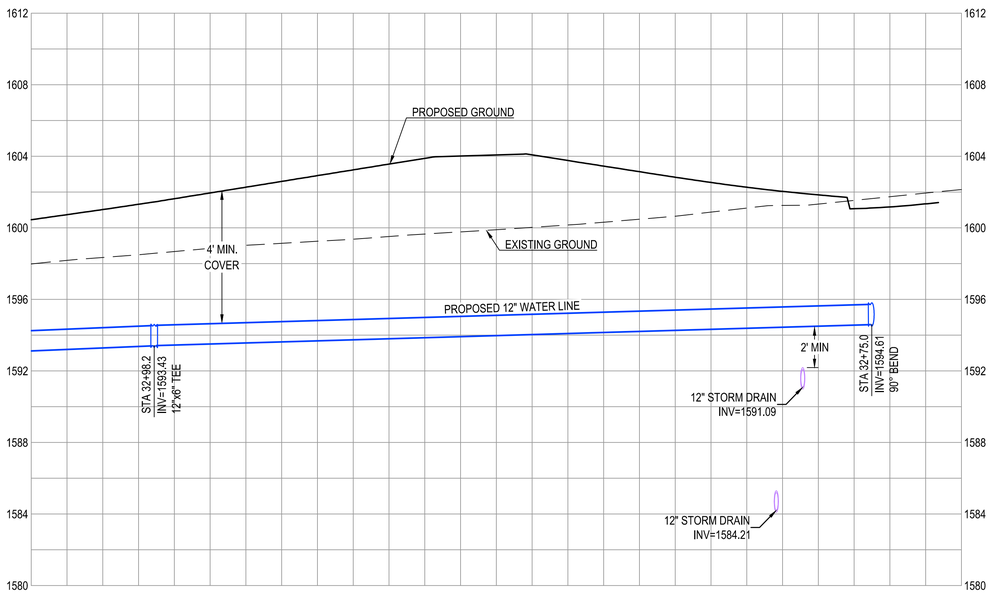

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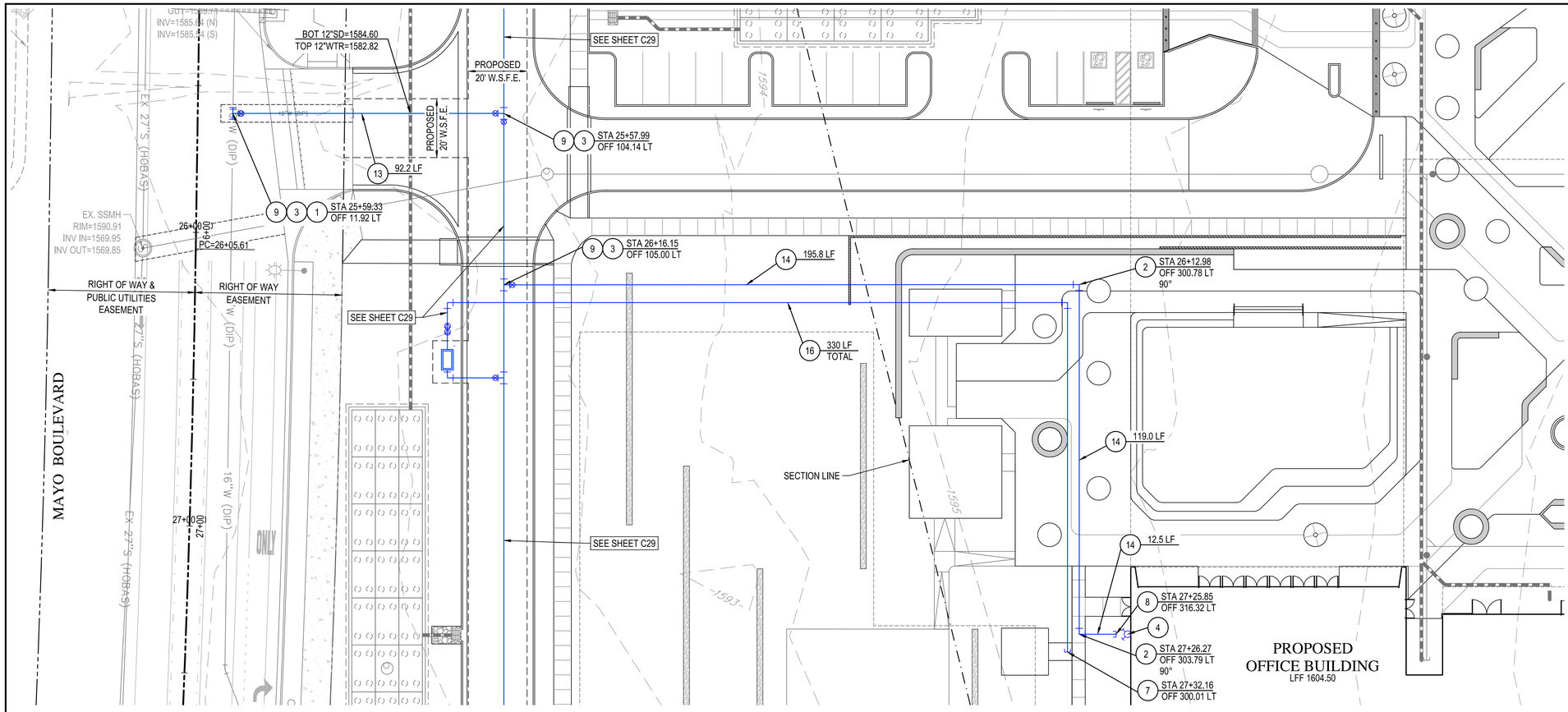

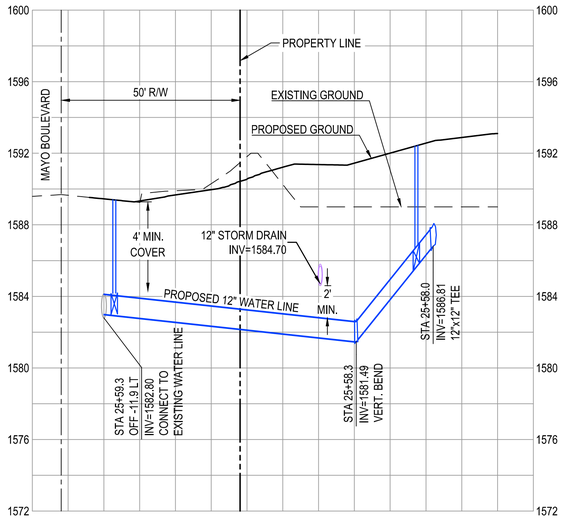

WATER NOTES

#	
1	CUT AND CONNECT TO EXISTING WATER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	INSTALL BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.
3	INSTALL TEE, SIZE PER ADJOINING PIPE DIAMETER.
4	PROPOSED FIRE DEPARTMENT CONNECTION. FINAL LOCATION PER FIRE SPRINKLER PLAN.
7	CONNECT TO BUILDING WATER SERVICE. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
8	CONNECT TO BUILDING FIRE SPRINKLER SERVICE. SEE FIRE SPRINKLER PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH FIRE SPRINKLER PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
9	INSTALL GATE VALVE PER MAG STD SPEC 630, SIZE PER ADJOINING PIPE DIAMETER. INSTALL BLOCKING PER MAG STD DETAIL 301. INSTALL VALVE BOX AND COVER AND ADJUST TO GRADE WITH CONCRETE COLLAR PER MAG STD DETAIL 391-1, TYPE C. INSTALL DEBRIS CAP PER MAG DTL 392.
13	INSTALL 12" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 4' MINIMUM COVER. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
14	INSTALL 6" POLYWRAPPED DIP PRESSURE CLASS 350 WATERLINE WITH 12 AWG TRACER WIRE PER MAG STD SPEC 610 AND 750. 3' MINIMUM COVER, 4' MINIMUM COVER WITHIN RIGHT-OF-WAY. INSTALL MECHANICAL JOINT RESTRAINT PER MAG STD DETAIL 303. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
16	INSTALL 2" PVC SCH 80 WATERLINE WITH 12 AWG TRACER WIRE. 3' MINIMUM COVER.

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
WATER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DAWN L.
MOORE
08/30/2024
ARIZONA, U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	1" = 20'
SCALE (VERT.)	1" = 4'
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C33 OF 43

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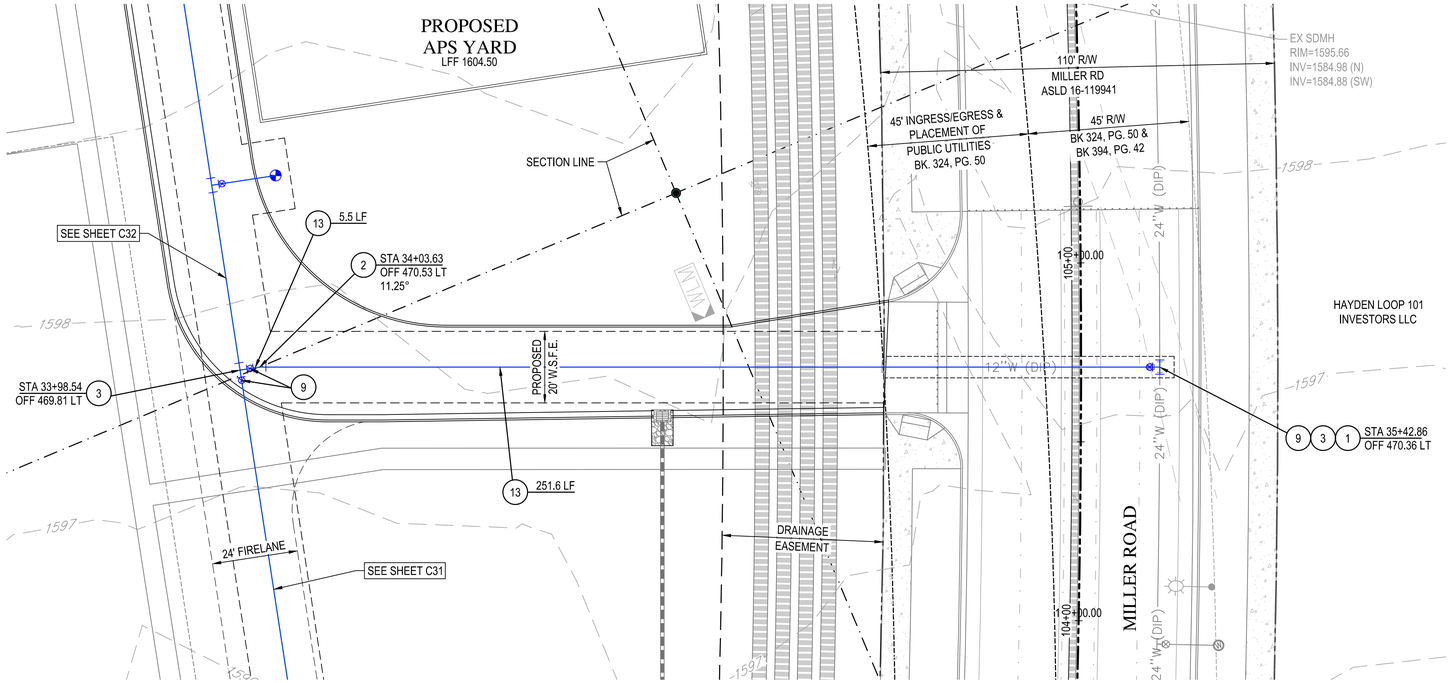

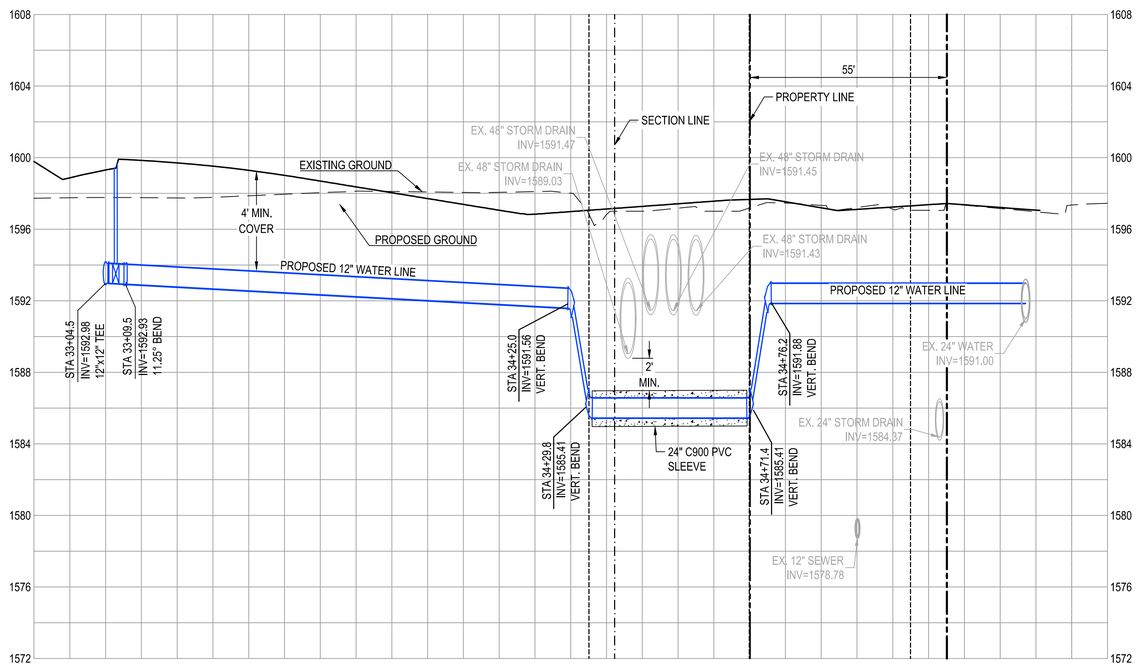

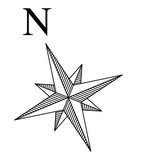

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PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

WATER PLAN & PROFILE

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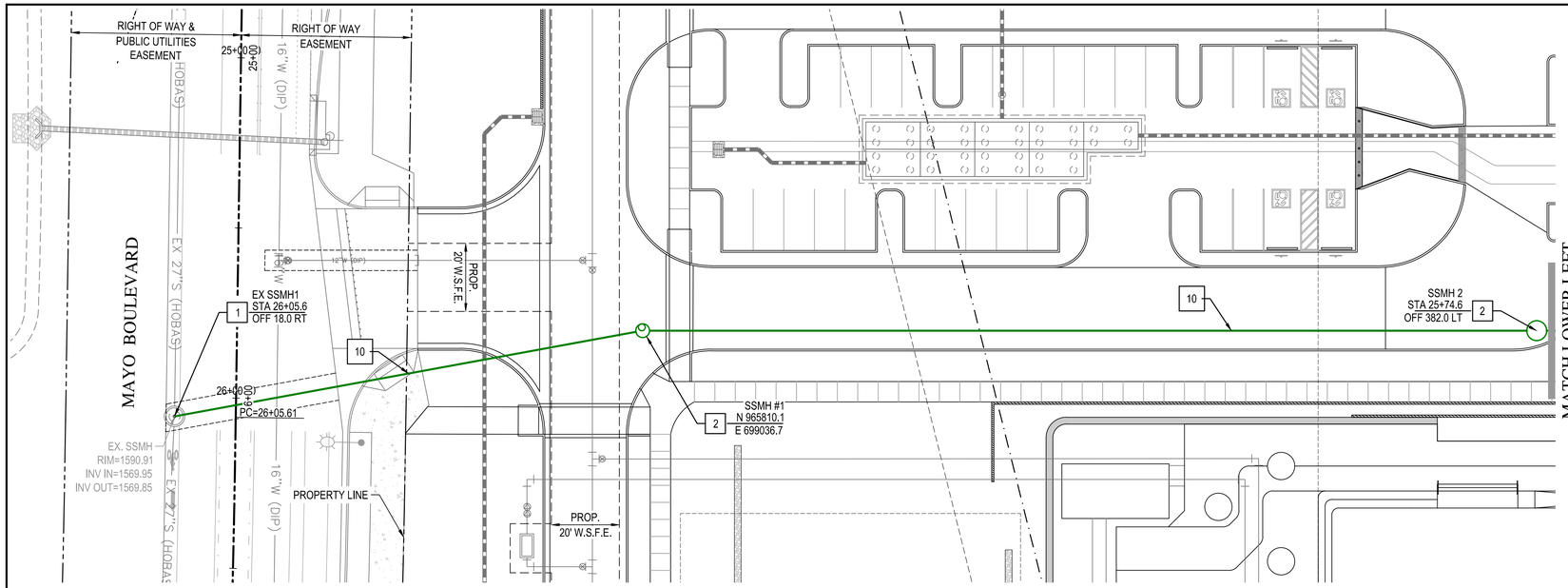

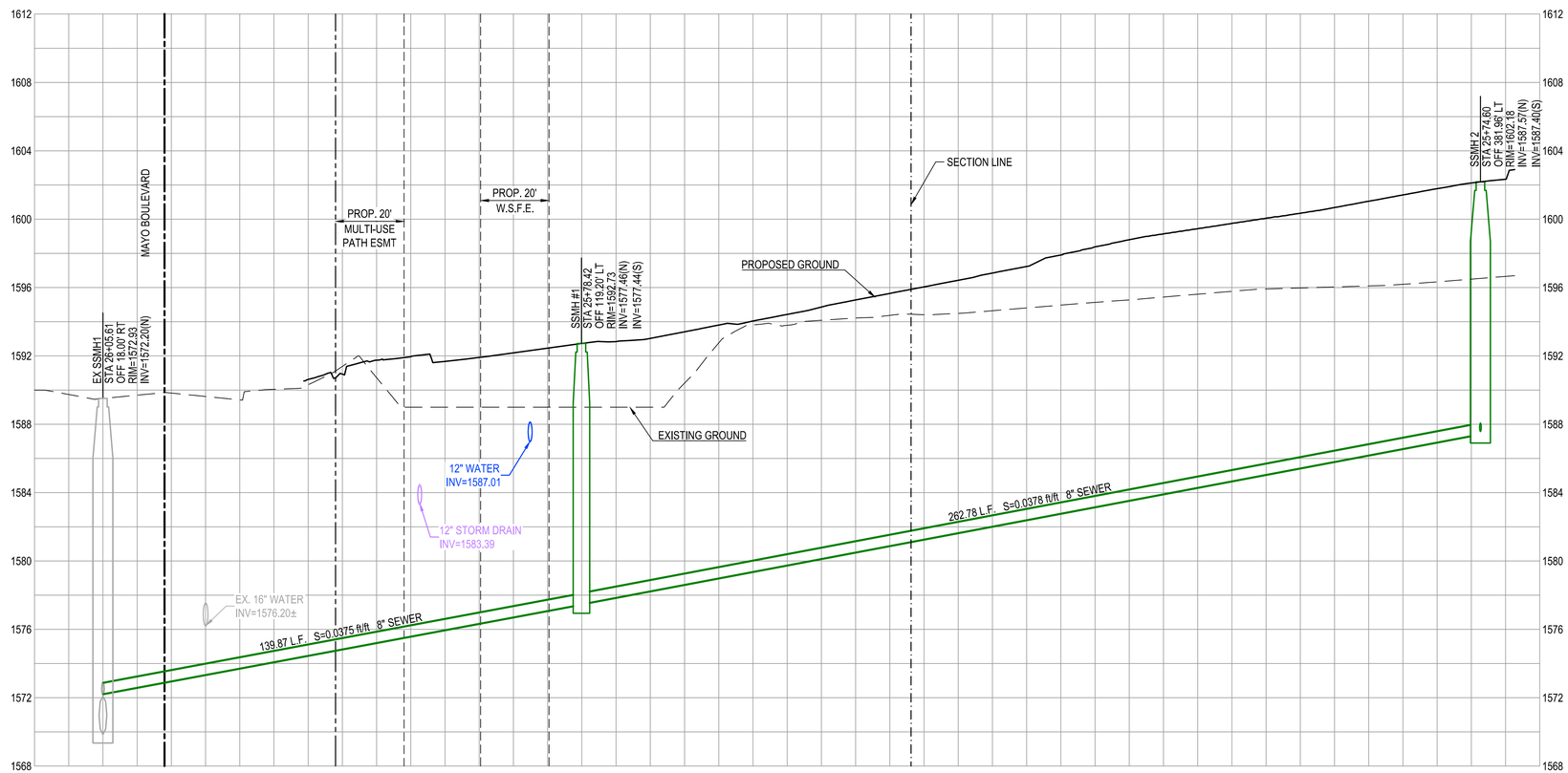

SEWER NOTES

#	
1	CUT AND CONNECT TO EXISTING SEWER LINE. VERIFY ELEVATION AND LOCATION PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2	CONSTRUCT 5' DIAMETER SEWER MANHOLE PER MAG STD DETAIL 420. INSTALL 30" WATERTIGHT MANHOLE FRAME AND COVER PER MAG STD DETAIL 424-2. ADJUST FRAME AND COVER TO GRADE AND CONSTRUCT CONCRETE COLLAR AROUND FRAME PER MAG STD DETAIL 422-1. APPLY AGENCY APPROVED MANHOLE COATING.
10	INSTALL 8" VCP SEWER LINE PER MAG STD SPEC 615 AND 625. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.

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PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SEWER PLAN & PROFILE

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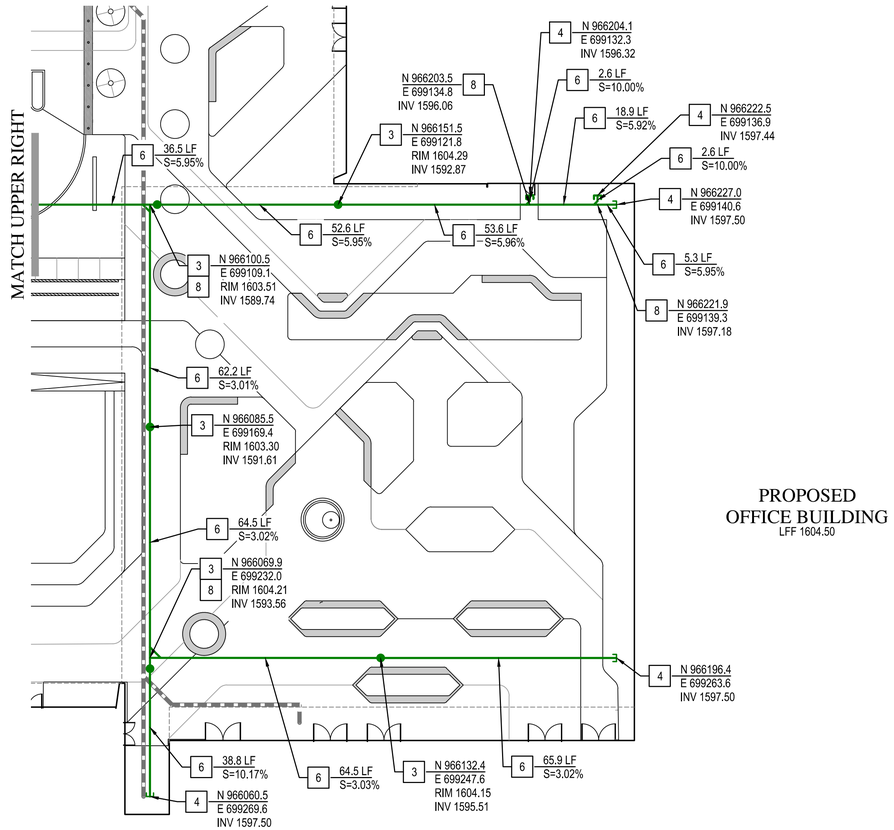

#	SEWER NOTES
3	INSTALL SEWER CLEANOUT PER MAG STD DETAIL 441, SIZE PER ADJOINING PIPE DIAMETER.
4	CONNECT TO BUILDING SEWER. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
6	INSTALL 6" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
8	INSTALL WYE OR COMBINATION WYE AND BEND, SIZE PER ADJOINING PIPE DIAMETER, ANGLE PER PLAN.

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PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SEWER PLAN

REV	DESCRIPTION	DATE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
STATE OF ARIZONA

EXPIRES 06-30-25

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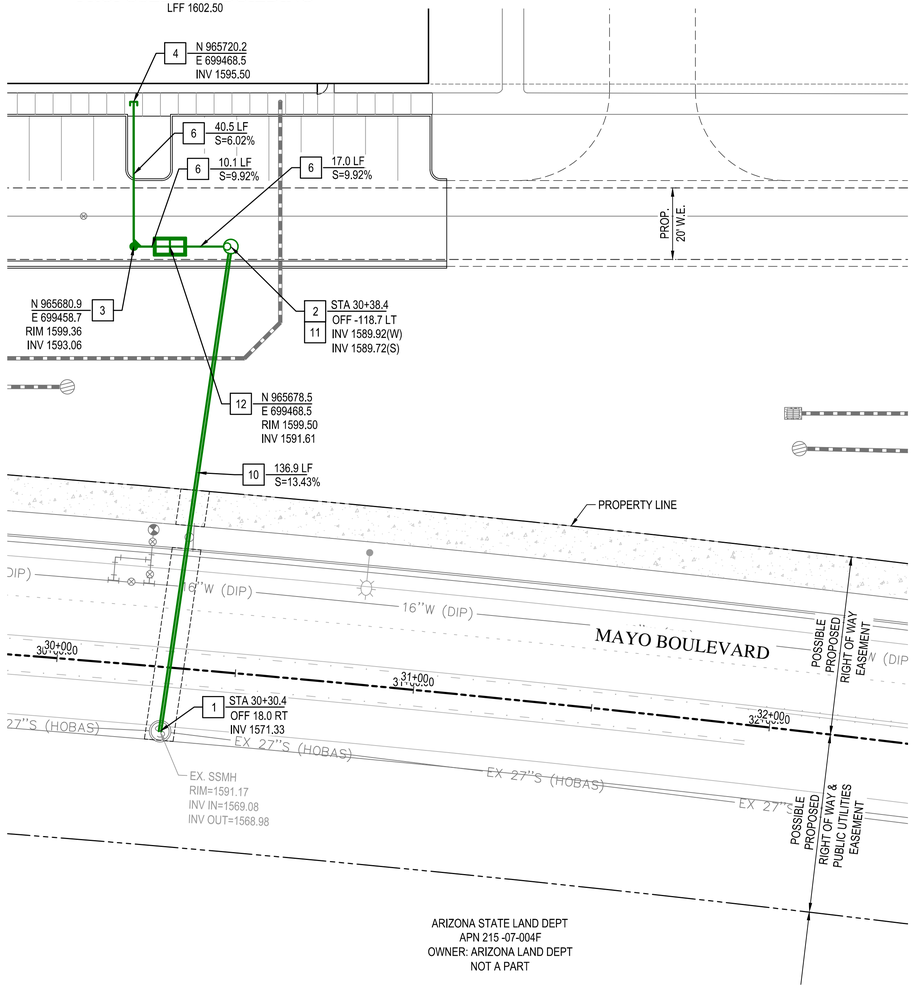

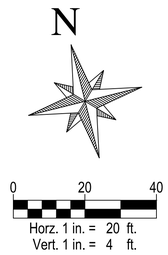

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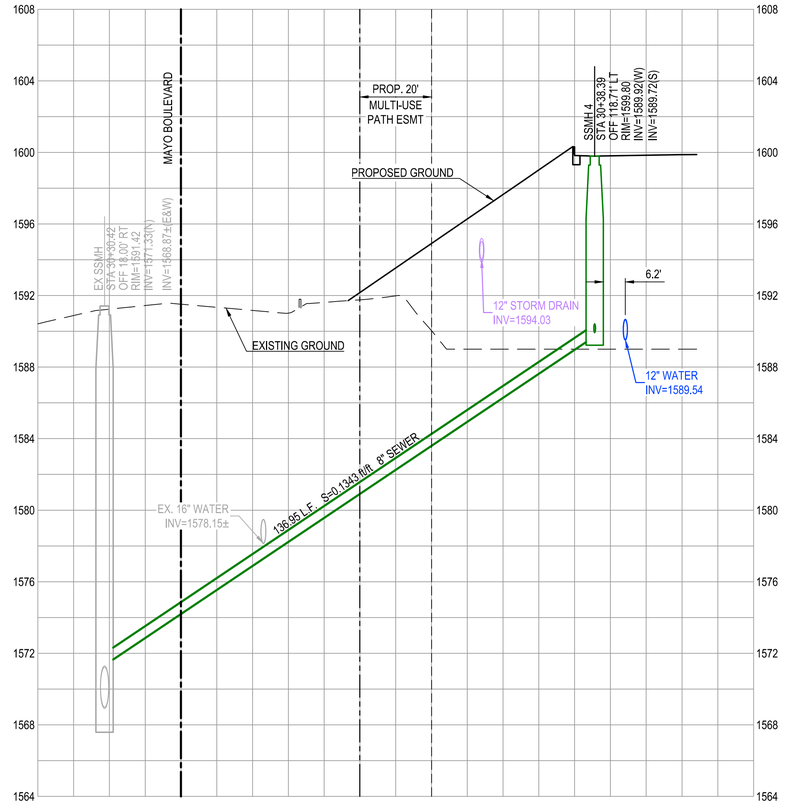
4	CONNECT TO BUILDING SEWER. SEE PLUMBING PLAN FOR CONTINUATION. VERIFY ELEVATION AND LOCATION WITH PLUMBING PLAN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5	INSTALL 8" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
6	INSTALL 6" PVC SDR35 SEWER LINE PER MAG STD SPEC 615 AND 745. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
10	INSTALL 8" VCP SEWER LINE PER MAG STD SPEC 615 AND 625. TRENCH, BEDDING AND BACKFILL PER MAG STD SPEC 601.
11	CONSTRUCT DROP SEWER CONNECTION PER MAG STD DETAIL 426, TYPE 'B' OR APPROVED EQUAL.
12	INSTALL SAMPLING VAULT PER COS STD. DETAIL 2460.



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PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
SEWER PLAN & PROFILE

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

EXPIRES 06-30-25

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SHEET	C37 OF 43

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

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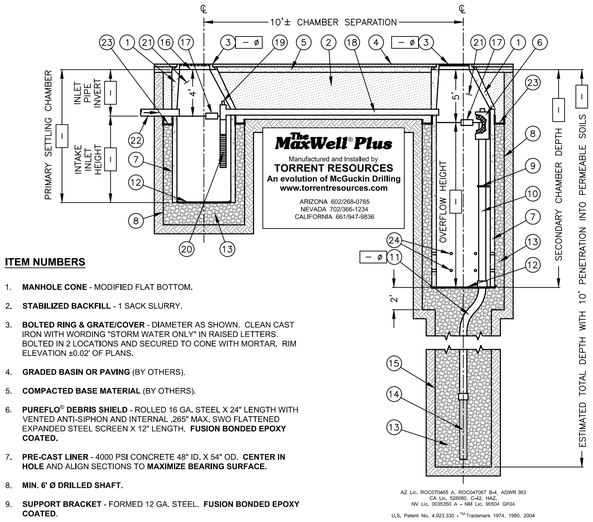
The MaxWell® Plus Drainage System Detail And Specifications

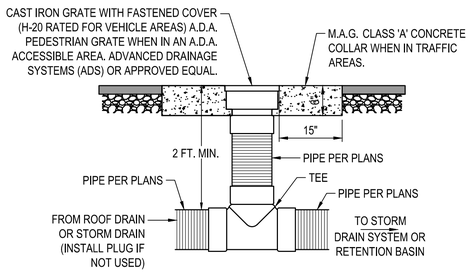


AZ Lic. ROC070465 A, ROC047067 B-4, ADWR 383
CA Lic. 526080, C-42, HAZ
NV Lic. 0035350 A + NM Lic. 90504 GF04

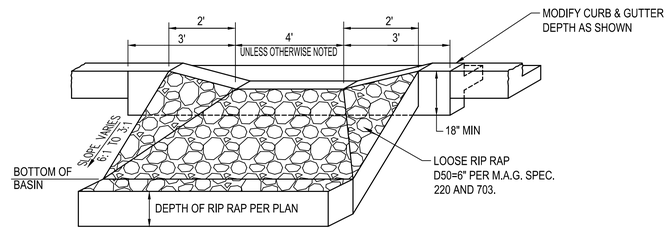
U.S. Patent No. 4,923,330 - ™ Trademark 1974, 1990, 2004

ITEM NUMBERS

1. **MANHOLE CONE** - MODIFIED FLAT BOTTOM.
2. **STABILIZED BACKFILL** - 1 SACK SLURRY.
3. **BOLTED RING & GRATE/COVER** - DIAMETER AS SHOWN. CLEAN CAST IRON WITH WORDING "STORM WATER ONLY" IN RAISED LETTERS. BOLTED IN 2 LOCATIONS AND SECURED TO CONE WITH MORTAR. RIM ELEVATION ±0.02' OF PLANS.
4. **GRADED BASIN OR PAVING** (BY OTHERS).
5. **COMPACTED BASE MATERIAL** (BY OTHERS).
6. **PUREFLO® DEBRIS SHIELD** - ROLLED 16 GA. STEEL X 24" LENGTH WITH VENTED ANTI-SIPHON AND INTERNAL .265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN X 12" LENGTH. **FUSION BONDED EPOXY COATED.**
7. **PRE-CAST LINER** - 4000 PSI CONCRETE 48" ID, X 54" OD. **CENTER IN HOLE** AND ALIGN SECTIONS TO **MAXIMIZE BEARING SURFACE.**
8. **MIN. 6' Ø DRILLED SHAFT.**
9. **SUPPORT BRACKET** - FORMED 12 GA. STEEL. **FUSION BONDED EPOXY COATED.**
10. **OVERFLOW PIPE** - SCH, 40 PVC MATED TO DRAINAGE PIPE AT BASE SEAL.
11. **DRAINAGE PIPE** - ADS HIGHWAY GRADE WITH TRI-A COUPLER. **SUSPEND PIPE** DURING BACKFILL OPERATIONS TO PREVENT BUCKLING OR BREAKAGE. DIAMETER AS NOTED.
12. **BASE SEAL** - GEOTEXTILE OR CONCRETE SLURRY.
13. **ROCK** - WASHED, SIZED BETWEEN 3/8" AND 1-1/2" TO **BEST COMPLEMENT SOIL CONDITIONS.**
14. **FLOFAST® DRAINAGE SCREEN** - SCH, 40 PVC 0,120" SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. DIAMETER VARIES 120" OVERALL LENGTH WITH TRI-B COUPLER.
15. **MIN. 4' Ø SHAFT** - DRILLED TO **MAINTAIN PERMEABILITY** OF DRAINAGE SOILS.
16. **FABRIC SEAL** - U.V. RESISTANT GEOTEXTILE - **TO BE REMOVED BY CUSTOMER** AT PROJECT COMPLETION.
17. **ABSORBENT** - HYDROPHOBIC PETROCHEMICAL SPONGE. MIN. 128 OZ. CAPACITY.
18. **CONNECTOR PIPE** - 4" Ø SCH, 40 PVC .
19. **ANTI-SIPHON VENT** WITH FLOW REGULATOR.
20. **INTAKE SCREEN** - SCH. 40 PVC 0.120" MODIFIED SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. 48" OVERALL LENGTH WITH TRI-C END CAP.
21. **FREEBOARD DEPTH VARIES** WITH INLET PIPE ELEVATION. INCREASE PRIMARY/SECONDARY SETTLING CHAMBER DEPTHS AS NEEDED TO MAINTAIN ALL INLET PIPE ELEVATIONS ABOVE CONNECTOR PIPE OVERFLOW.
22. **OPTIONAL INLET PIPE** (BY OTHERS).
23. **MOISTURE MEMBRANE** - 6 MIL. PLASTIC. PLACE SECURELY AGAINST ECCENTRIC CONE AND HOLE SIDEWALL. USED IN LIEU OF SLURRY IN LANDSCAPED AREAS.
24. **EIGHT (8) PERFORATIONS PER FOOT**, 2 ROWS MIN.



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



CURB OPENING AND SPILLWAY DETAIL AT EXTRUDED CURB
N.T.S.

PLAN VIEW
INTERNALS NOT SHOWN

PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

ELEVATION VIEW

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	3020-6 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	3020, 2400 micron, 3.1' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	24"Ø X 4" FRAME AND COVER, EJ #41600389, OR EQUIV.	CONTRACTOR
2	12"Ø X 4" FRAME AND COVER, EJ #41610201, OR EQUIV.	CONTRACTOR

SITE DESIGN DATA

		MAX
WATER QUALITY FLOW RATE	0.52 CFS	2 CFS
PEAK FLOW RATE	22.39 CFS	25 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS	

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE, www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 13500 LBS.
STRUCTURE IS DELIVERED IN 4 PIECES

MAX FOOTPRINT = 7.17'Ø

CONTECH
PROPOSAL
DRAWING

PRECS
LAYOUT 4A

MARK	DATE	REVISION/DESCRIPTION
2.	06/02/23	QTREAT AND PEAK FLOW REV
1.	04/28/23	LAYOUT REVISED TO ORIGINAL

CDS3020-6-C - 742047-20
FAIRMONT SCOTTSDALE PRINCESS – SUNSET VILLAS & BUNGALOWS
SCOTTSDALE, AZ
SITE DESIGNATION: OPTION 4

CONTECH ENGINEERED SOLUTIONS LLC
1411 W. 190th Street, Suite 700, Gardena, CA 90248
800.338.1122 / 310.884.7600 / www.ContechES.com
CDS
CONTECH'S WATER QUALITY TREATMENT SYSTEM

DATE: 04/27/23
DESIGNED: DAH | DRAWN: DAH
CHECKED: DAH | APPROVED: DAH
PROJECT No.: 742047 | SEQUENCE No.: 20
SHEET: 1 OF 1

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

SCALE (HORIZ.) N/A
SCALE (VERT.) N/A
DATE 08/30/2024
JOB NUMBER 235526
SHEET C38 OF 43

ASM SCOTTSDALE
PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS

WOOD PATEL

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

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

DESCRIPTION | DATE | REV

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

DESIGN NOTES:

MATERIALS
Materials used in this work shall conform to ACI (American Concrete Institute)

CONCRETE
For SPEQ units and walls:
28 Day Compressive 6,000 psi (Minimum)
Lifting Strength 2000 psi (Minimum)

REINFORCING STEEL
Reinforcing Bars shall conform to: ASTM A615, Grade 60
Reinforcing Mesh shall conform to: ASTM A1064, Grade 70
Reinforcing Cover: 1.5" minimum

DESIGN PARAMETERS
1. Design per ACI 350, ASTM C857 and C857 HS-20 live load.
2. Bar cover = 1 1/2" u.n.o.
3. Earth cover = 2'-10' max.
4. Equivalent fluid pressure = 60 pcf
5. Unit weight of soil = 120 pcf
6. f'c @ 28 days = 6,000 psi
7. Reinforcement = bar per ASTM A615, Grade 60
8. Provide replacement-reinforcing equal to half amount of interrupted bars at each side of opening.
9. Equivalent mesh can be used in lieu of grade 60 rebar.
10. Assumed water table below structure. No surcharge from adjacent buildings or structures. min soil bearing pressure 2000 psf

FABRICATION
Fabrication shall meet the requirements of the following:
Fabrication Tolerances
1. Width: +1/4", -1/4"
2. Length: +1/4", -1/4"
3. Height: +1/4", -1/4"
4. Deviation from square: 1/4"
5. Member Thickness: +1/4", -1/4"

SHIPPING AND HANDLING
The Precast Supplier and Contractor shall verify that the method of lifting does not overstress the precast concrete pieces in any way.

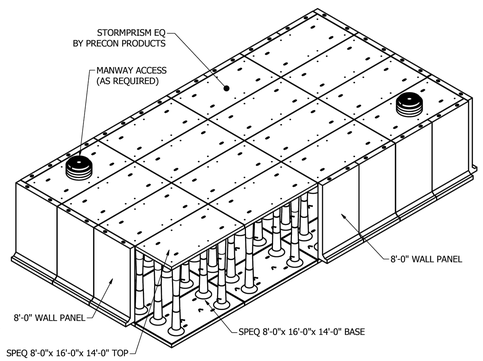
INSTALLATION SPECIFICATIONS
Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ½" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877, C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL
Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts, per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

STORMPRISM SPEQ

DETENTION

SHEET INFORMATION	
SHEET No.	DESCRIPTION
1	COVER SHEET / GENERAL NOTES
2	STORMPRISM 14'-0" DETENTION UNIT DETAIL
3	STORMPRISM 14'-0" DETENTION BASE
4	STORMPRISM 14'-0" DETENTION TOP
5	STORMPRISM 15'-4" WALL DETAIL
6	UNIT MANWAY OPENING AND LADDER INFORMATION
7	DETENTION JOINT SEALING INFORMATION
8	ELEVATION INFORMATION



NOTE:
THIS VIEW IS FOR ILLUSTRATION PURPOSES ONLY. CONTACT US FOR SITE SPECIFIC DRAWINGS.

DO NOT SCALE

PRECON
3434 S. LOS ANGELES AVE.
VISALIA, CA 93277-9455
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

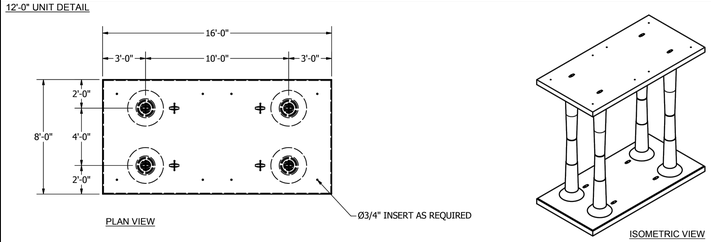
TITLE: STORMPRISM 14'-0" DETENTION SYSTEM GENERAL INFORMATION

DRAWN BY: K.STRADER

DATE: 8/25/2021

SHEET: 1 OF 8

12'-0" UNIT DETAIL



DO NOT SCALE

PRECON
3434 S. LOS ANGELES AVE.
VISALIA, CA 93277-9455
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

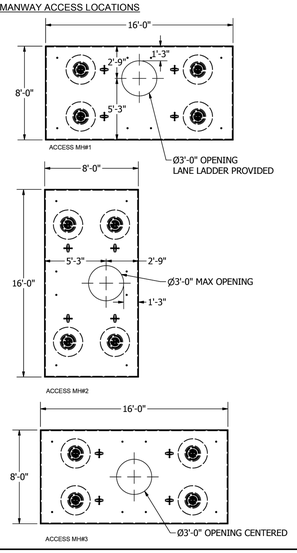
TITLE: STORMPRISM 14'-0" DETENTION UNIT

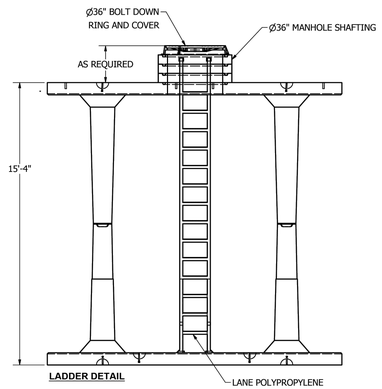
DRAWN BY: K.STRADER

DATE: 8/25/2021

SHEET: 2 OF 8

OPTIONAL MANWAY ACCESS LOCATIONS





DO NOT SCALE

PRECON
3434 S. LOS ANGELES AVE.
VISALIA, CA 93277-9455
P: (800) 532-0841 F: (800) 584-9769
WWW.PRECONPRODUCTS.COM

TITLE: STORMPRISM DETENTION SYSTEM MANWAY ACCESS LOCATIONS AND LADDER INFORMATION

DRAWN BY: K.STRADER

DATE: 8/25/2021

SHEET: 6 OF 8

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

DETAILS

REV	DESCRIPTION	DATE

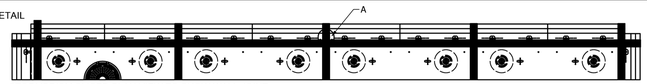
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C38 OF 43

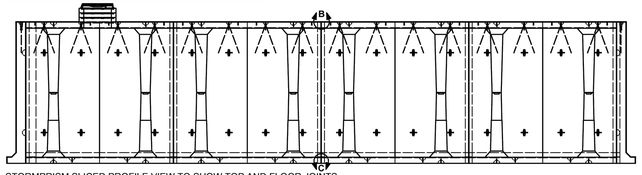
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

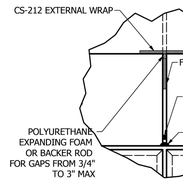
JOINT SEALANT DETAIL



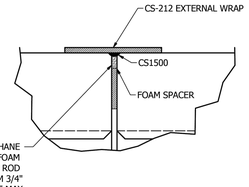
STORMPRISM SLICED PLAN VIEW TO SHOW WALL JOINT



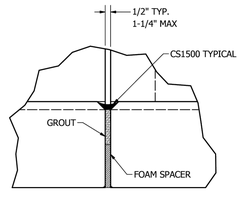
STORMPRISM SLICED PROFILE VIEW TO SHOW TOP AND FLOOR JOINTS



DETAIL A
WALL JOINT
ONLY VERTICAL PART OF WALL IS DETAILED FOR CLARITY



DETAIL B
TOP JOINT
WALL JOINT SEALANT NOT SHOWN FOR CLARITY

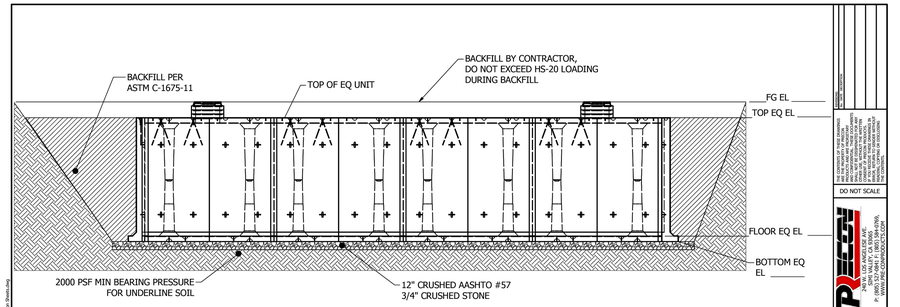


DETAIL C
BOTTOM JOINT

DO NOT SCALE

PEER
LOS ANGELES AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0290
WWW.PEERCONNECTS.COM

TITLE: STORMPRISM DETENTION SYSTEM JOINT DETAIL
DRAWN: K.STRADER
DATE: 8/25/2021
SHEET: 7 OF 8



INSTALLATION SPECIFICATIONS

Storm Prism shall be installed in accordance with ASTM C-891-11 Standard Practice for Installation of Underground Precast Concrete Utility Structures.
The bearing pressure of the underlying soil must be verified by the geotechnical engineer prior to placing aggregate sub base.
The leveling bed material shall comply with APWA 216-2.4.
The leveling bed shall be graded to a tolerance of ¼" of the plan elevation.
The leveling bed shall extend beyond the Storm Prism perimeter by at least 24".
The Storm Prism modules shall be placed on line and grade per the site plans. Space between modules shall be 1/2" plus / minus 1/2"
Storm Prism modules are designed to be soil tight. All exterior joints between adjacent modules shall be sealed using a preformed, cold applied, self-adhering, polymer wrap conforming to: ASTM E-1745, C-877,
C-990 Specifications, and AASHTO M198 Type B.
Wrap shall be applied per manufacture's recommendations.

BACKFILL

Fill placed around the Storm Prism Modules shall be placed evenly around the entire system in 8" lifts,
per APWA 300-3.5.2.
Backfill shall be mechanically compacted (no jetting).
Special care should be taken when compacting adjacent to or near the tape seal not to disrupt the seal.
Fill placement over top of Storm Prism shall be done in accordance with ASTM C1675. Fill material not
to exceed 120 PCF. At no time shall machinery or vehicles exceeding HS-20 travel over the Storm Prism.

DO NOT SCALE

PEER
LOS ANGELES AVE.
SIMI VALLEY, CA 93065
P: (805) 527-0841 F: (805) 584-0290
WWW.PEERCONNECTS.COM

TITLE: STORMPRISM DETENTION SYSTEM BACKFILL AND ELEVATION INFORMATION
DRAWN: K.STRADER
DATE: 8/25/2021
SHEET: 8 OF 8

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Construction Management

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
DETAILS

REV	DESCRIPTION	DATE

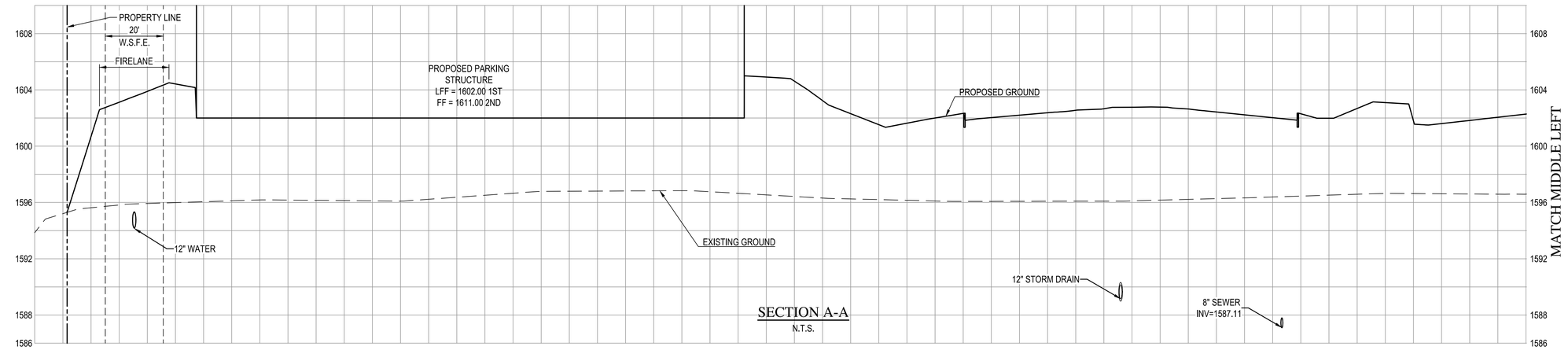
Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
Date Signed 08/30/2024
ARIZONA U.S.A.

EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C38 OF 43

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

Z:\2023\235526\Dwg\Conceptual\Impl\5526-DT-CON.dwg



SECTION A-A
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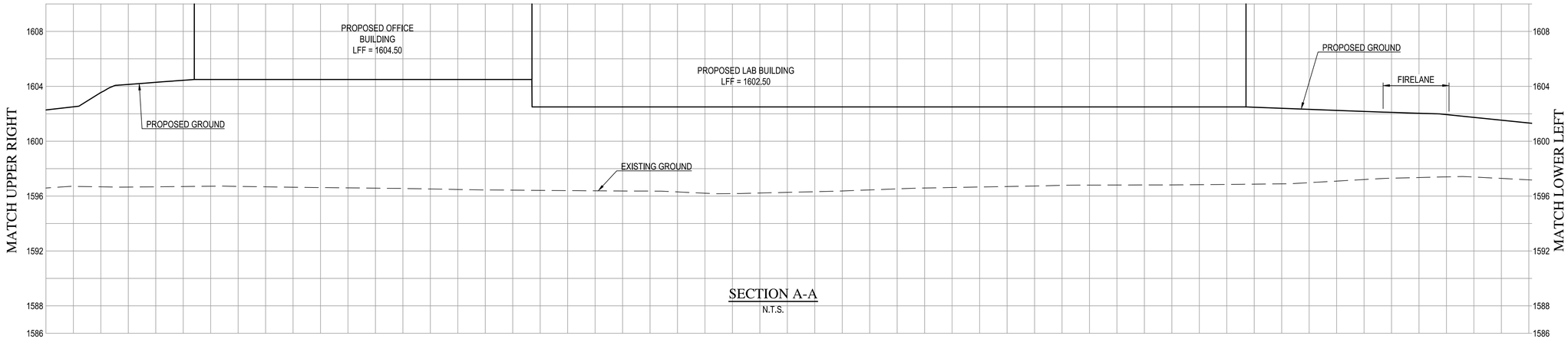

SECTION A-A
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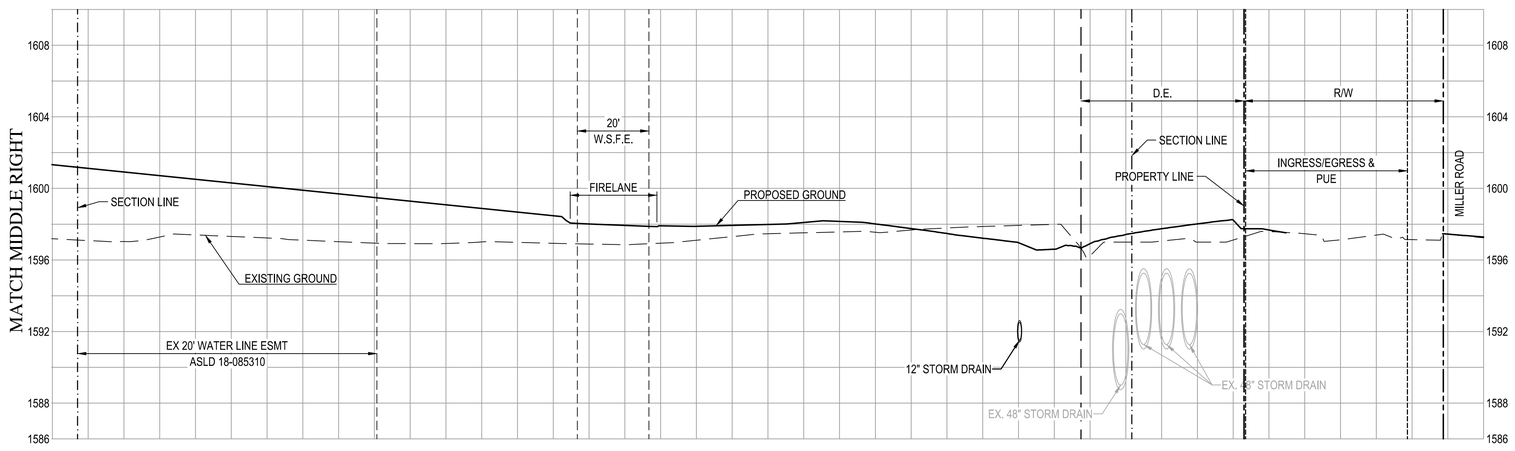

SECTION A-A
N.T.S.

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Construction Management

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
SECTIONS

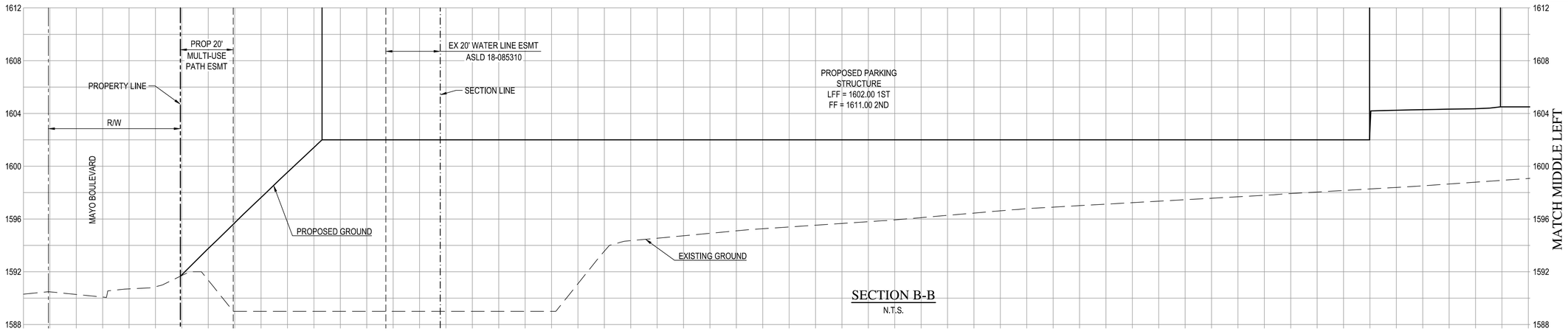
REV	DESCRIPTION	DATE

EXPIRES 06-30-25

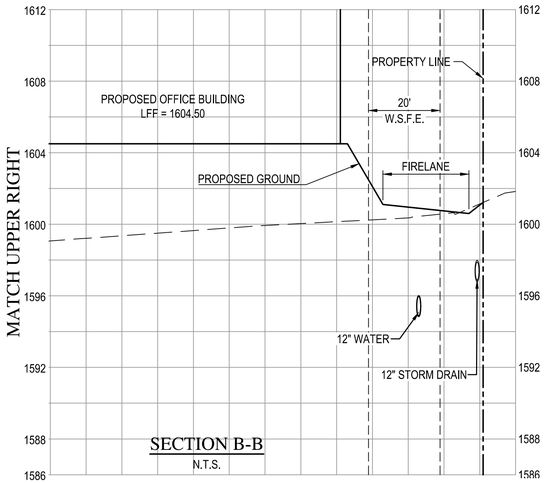
SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C41 OF 43

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

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg



SECTION B-B
N.T.S.



SECTION B-B
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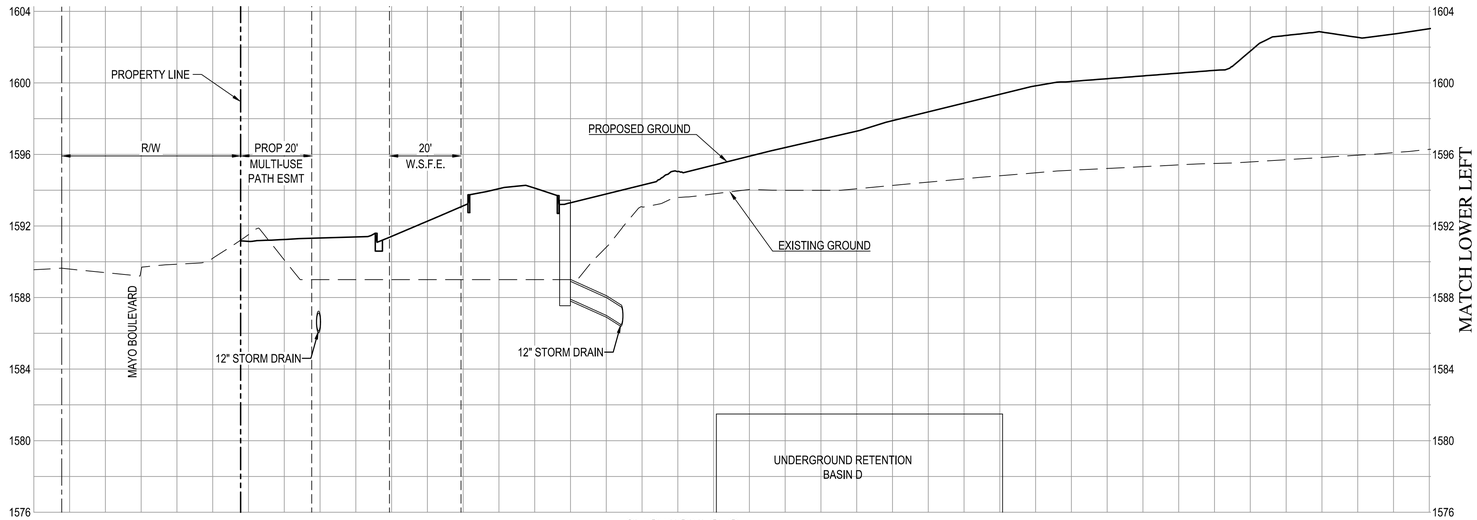

SECTION C-C
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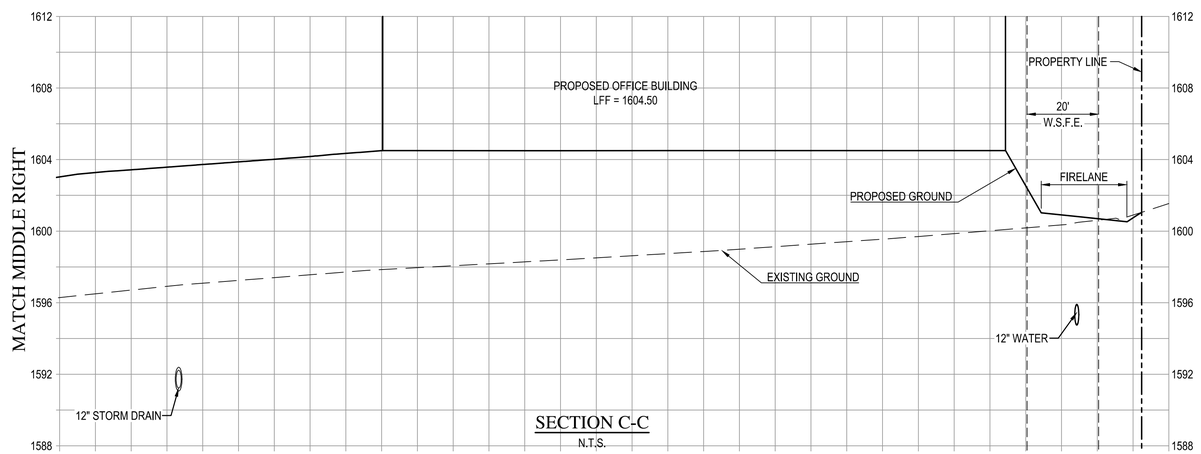

SECTION C-C
N.T.S.

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Construction Management

602.335.8500

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ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS

SCOTTSDALE, ARIZONA

SECTIONS

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
DATE SIGNED
ARIZONA
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C42 OF 43

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

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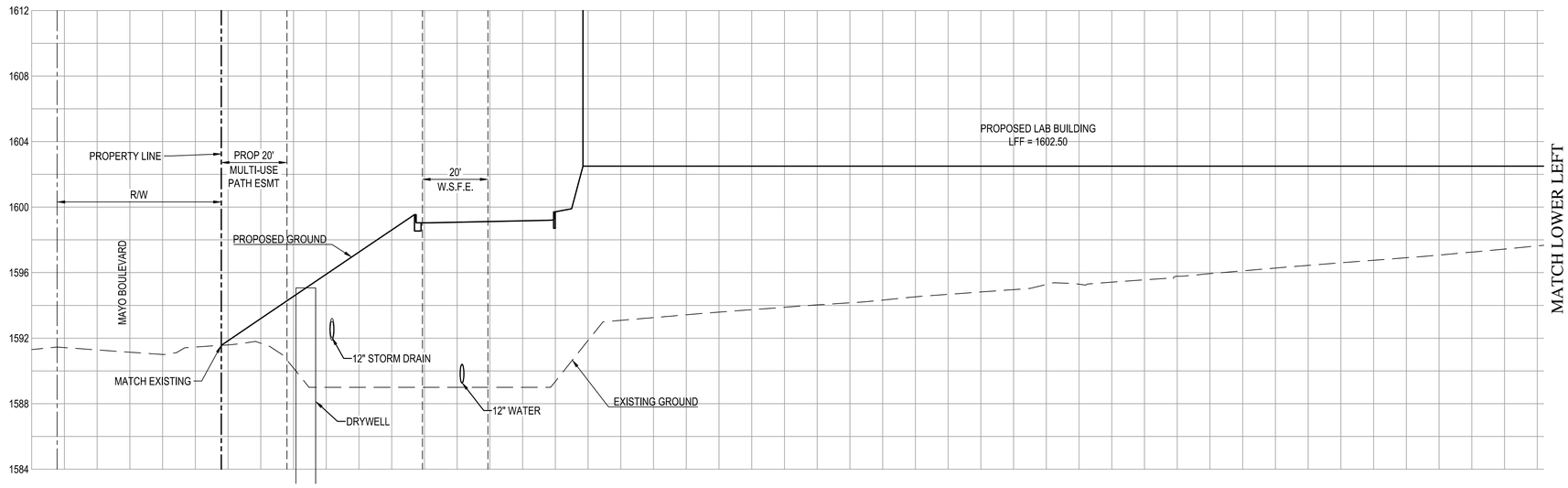
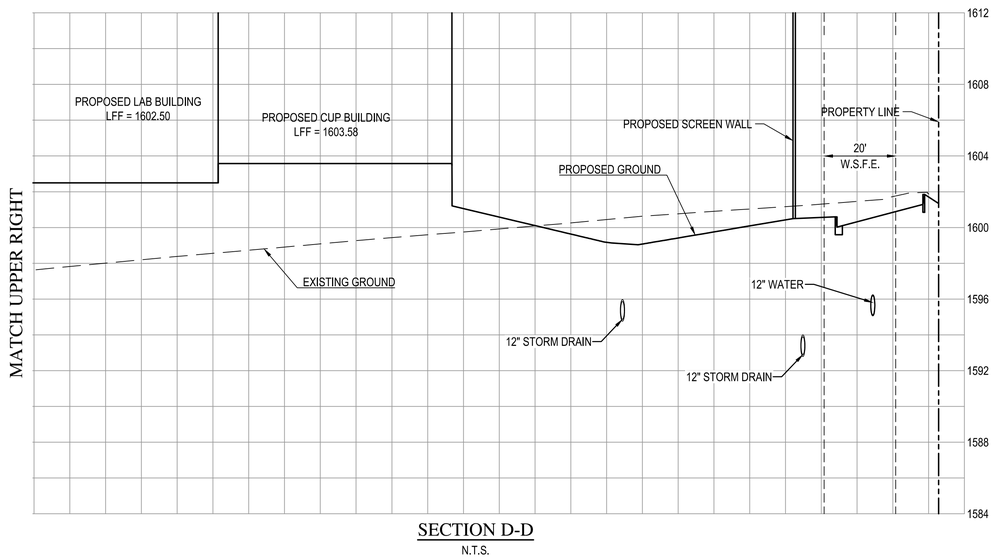


SECTION D-D

N.T.S.



SECTION D-D

N.T.S.

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Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ASM SCOTTSDALE

PRELIMINARY IMPROVEMENT PLANS
SCOTTSDALE, ARIZONA
SECTIONS

REV	DESCRIPTION	DATE

Registered Professional Engineer
CERTIFICATE NO.
36382
DARIN L. MOORE
08/30/2024
Date Signed
ARIZONA, U.S.A.

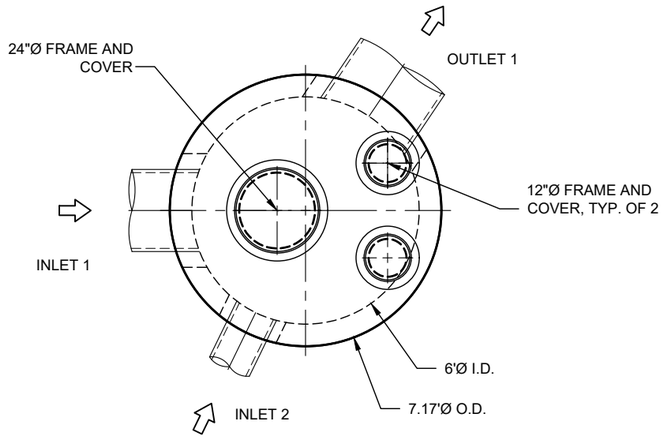
EXPIRES 06-30-25

SCALE (HORIZ.)	N/A
SCALE (VERT.)	N/A
DATE	08/30/2024
JOB NUMBER	235526
SHEET	C43 OF 43

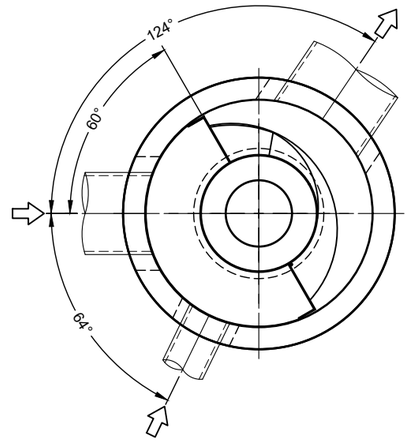
CHECKED BY: DM DESIGNED BY: RS DRAFTED BY: JRS

Z:\2023\235526\Dwg\Conceptual\Imp\5526-DT-CON.dwg

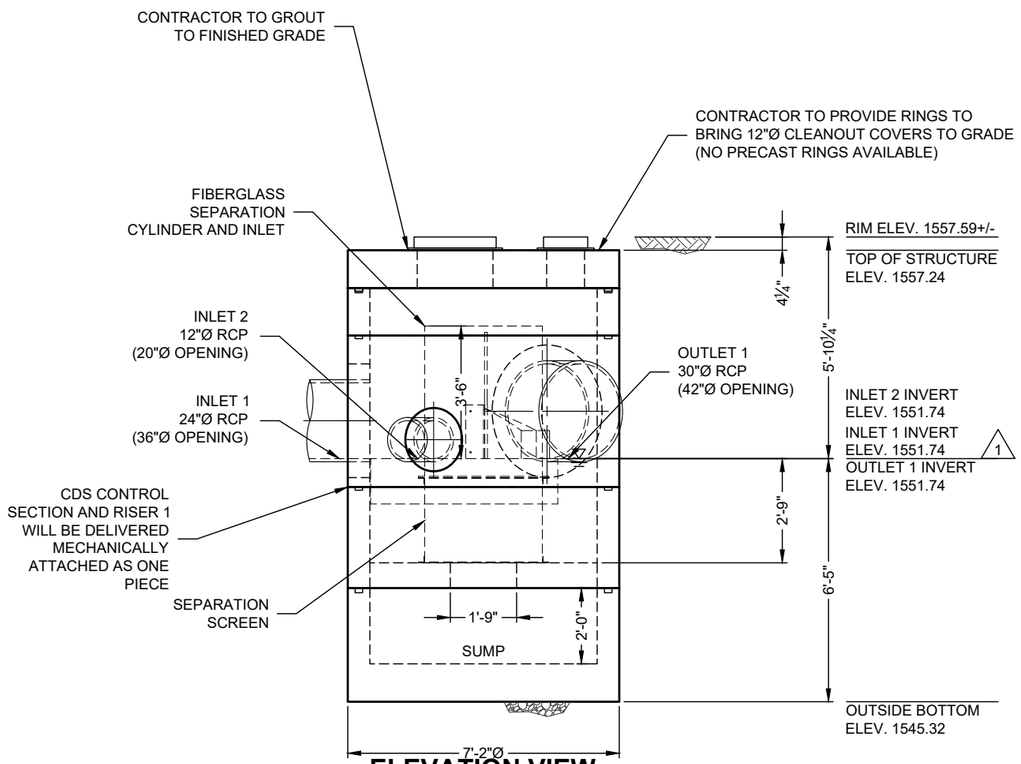
APPENDIX F – CONTECH CDS 3020-6-C



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN



ELEVATION VIEW

1 **MATERIAL LIST** (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	3020-6 CONCENTRIC FIBERGLASS INSERT	CONTECH
1	3020, 2400 micron, 3.1' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	24"Ø X 4" FRAME AND COVER, EJ #41600389, OR EQUIV.	CONTRACTOR
2	12"Ø X 4" FRAME AND COVER, EJ #41610201, OR EQUIV.	CONTRACTOR

SITE DESIGN DATA

		MAX
WATER QUALITY FLOW RATE	0.29 CFS	2.8 CFS
PEAK FLOW RATE	15 CFS	20 CFS
RETURN PERIOD OF PEAK FLOW	10 YRS	

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 13500 LBS.
STRUCTURE IS DELIVERED IN 4 PIECES

MAX FOOTPRINT = 7.17'Ø

CONTECH
PROPOSAL
DRAWING

PRECS
LAYOUT 4A

MARK	DATE	REVISION DESCRIPTION	BY
1	04/28/23	LAYOUT REVISED TO ORIGINAL	DAH

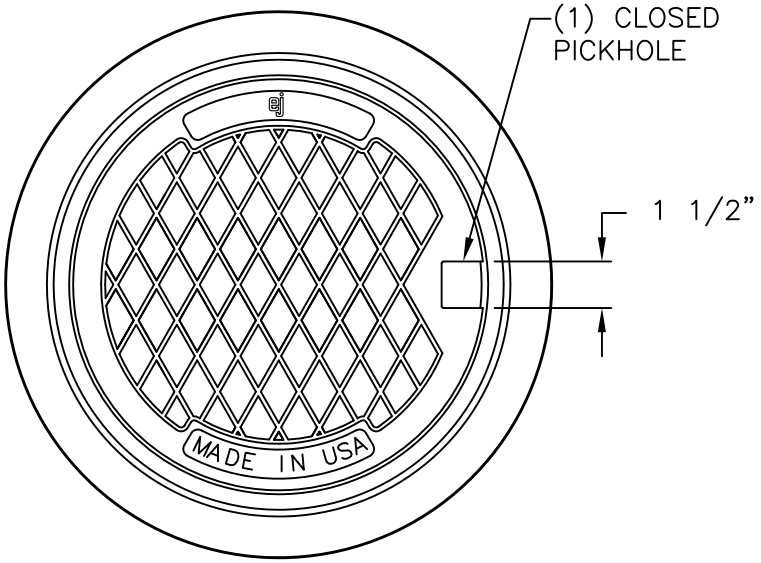
CDS3020-6-C - 742047-20

SCOTTSDALE, AZ
SITE DESIGNATION: OPTION 4

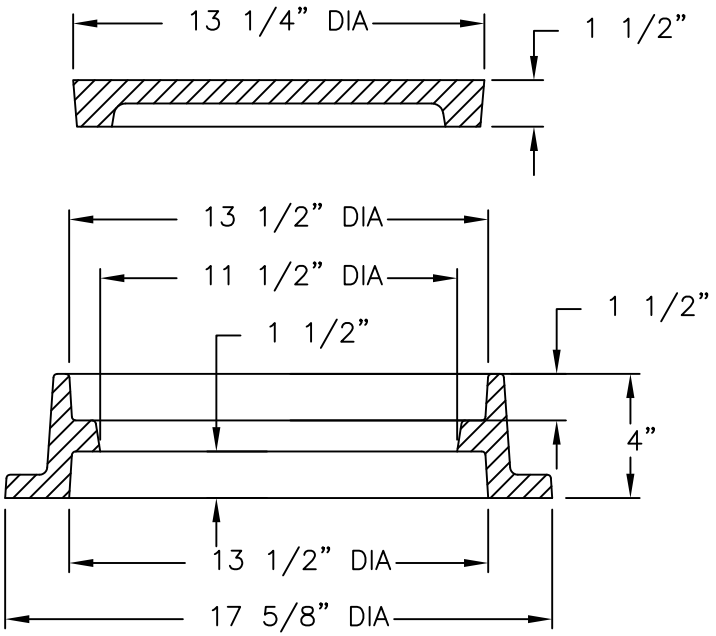
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
11815 NE Glenn Widing Drive, Portland, OR 97220
800-548-4667 503-240-3393 800-561-1271 FAX
FOR PATENT INFORMATION, GO TO www.ContechES.com/IP

DATE:	04/27/23
DESIGNED: DAH	DRAWN: DAH
CHECKED: DAH	APPROVED: DAH
PROJECT No.: 742047	SEQUENCE No.: 20
SHEET:	1 OF 1

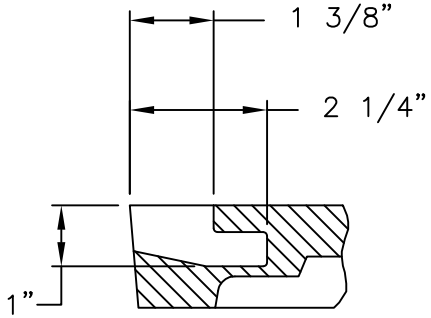
V1610-2BF RG V1610-2CV Assembly



BOTTOM FLANGE VIEW



SECTION VIEW



PICKHOLE DETAIL

NOTE:
RING IS REVERSIBLE AND CAN BE INSTALLED AS A TOP FLANGE UNIT

Product Number
41610201

Design Features
-Materials
Cleanout/Monument Box Frame
Gray Iron (CL35B)
Cleanout/Monument Box Cover
Gray Iron (CL35B)

-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√Designates Machined Surface

Certification
- ASTM A48
-
-
-Country of Origin: USA

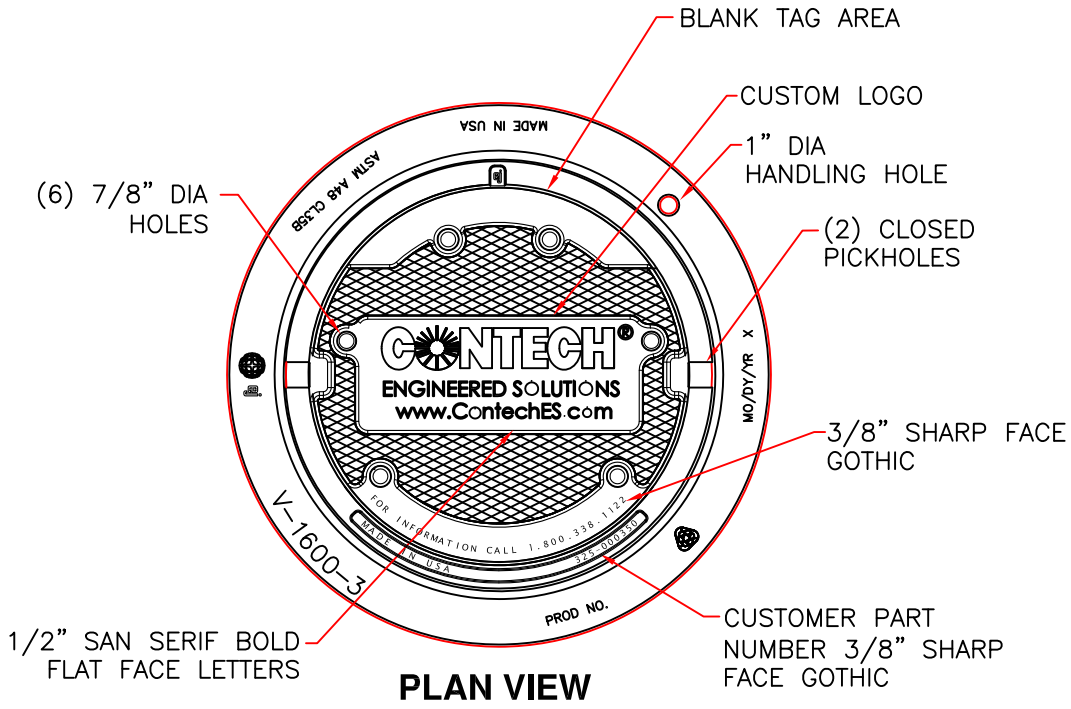
Major Components
41610210
41610220

Drawing Revision
06/12/2003 Designer: DAL
09/09/2015 Revised By: DVD

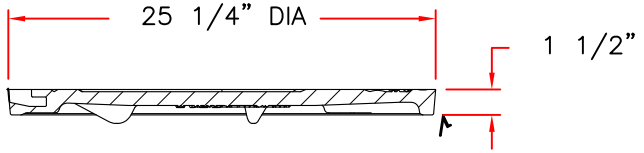
Disclaimer
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact
800 626 4653
ejco.com

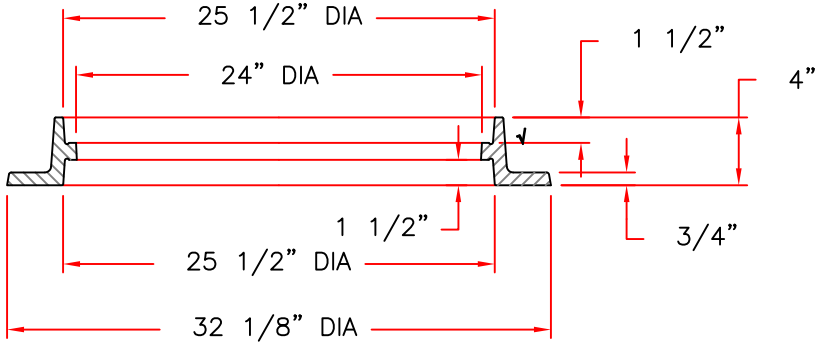
V1600-3 V1610-3 Assembly



PLAN VIEW



COVER SECTION



RING SECTION

Product Number

41600389

Design Features

-Materials
  Frame
    Gray Iron (CL35B)
  Cover
    Gray Iron (CL35B)

-Design Load
  Heavy Duty
-Open Area
  n/a
-Coating
  Undipped
-√ Designates Machined Surface

Certification

-
-ASTM A48
-
-Country of Origin: USA

Major Components

41600310
41600374

Drawing Revision

05/02/2008 Designer: DEW
6/20/2017 Revised By: DAE

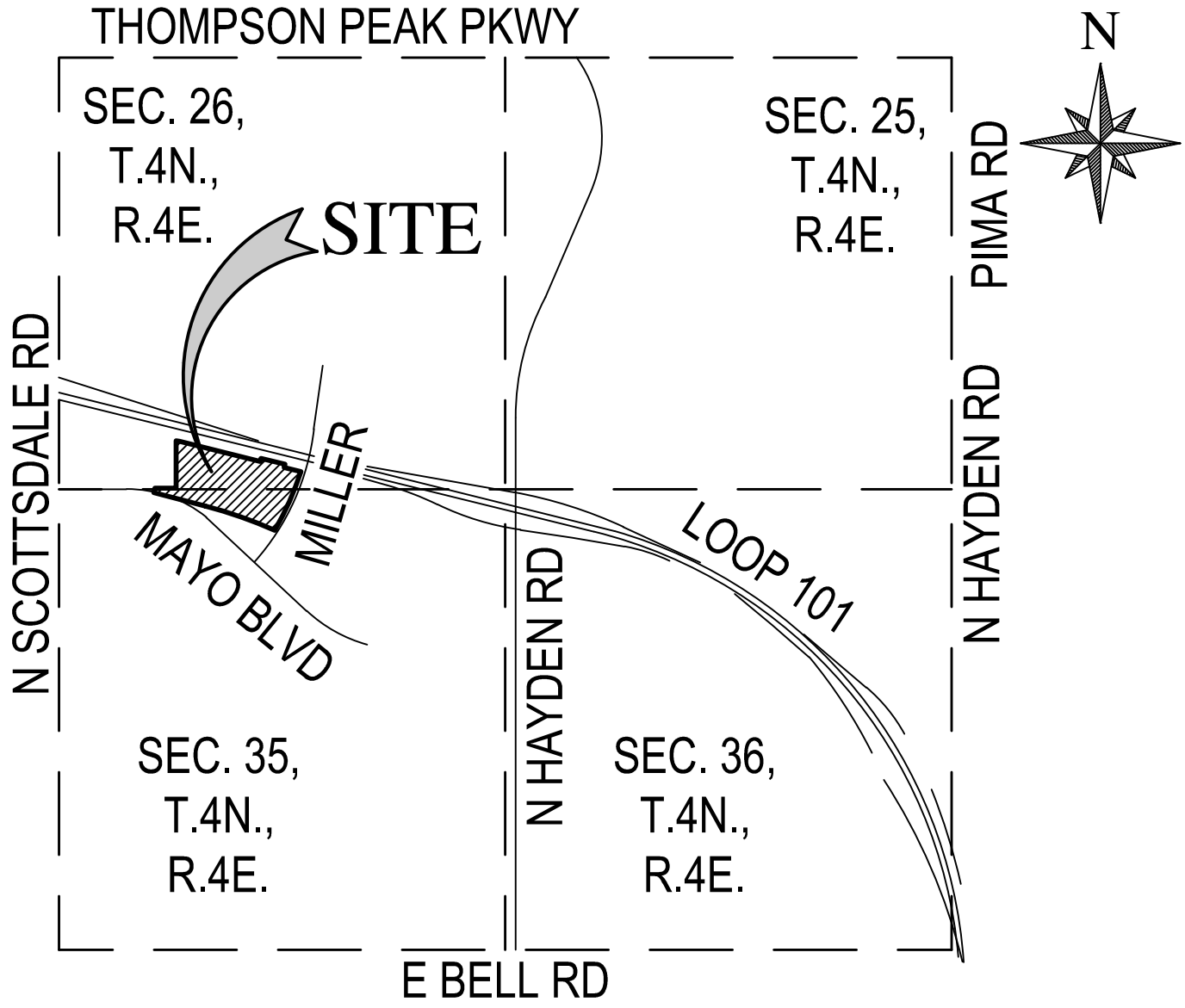
Disclaimer

Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact

800 626 4653
ejco.com

EXHIBIT 1 – VICINITY MAP



VICINITY MAP

N.T.S.

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

EXHIBIT 1 - VICINITY MAP

DATE	08/30/2024	SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	CHECK	RGS
		DRAWN	BCT	RFI #	-

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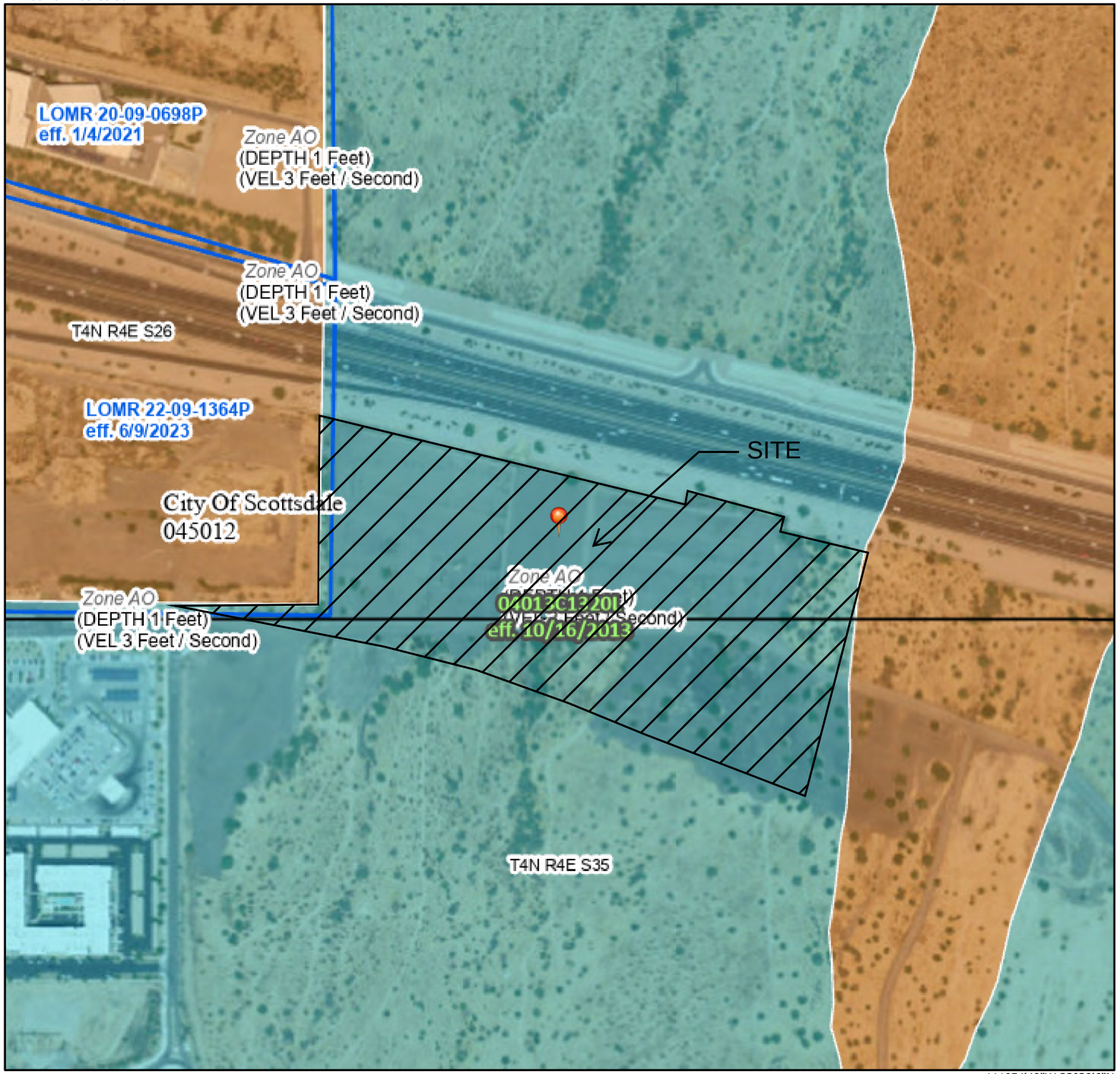
EXHIBIT 2 – FEMA FIRM

National Flood Hazard Layer FIRMette

FEMA

111°55'26"W 33°39'36"N



111°54'49"W 33°39'6"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

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
- 513 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

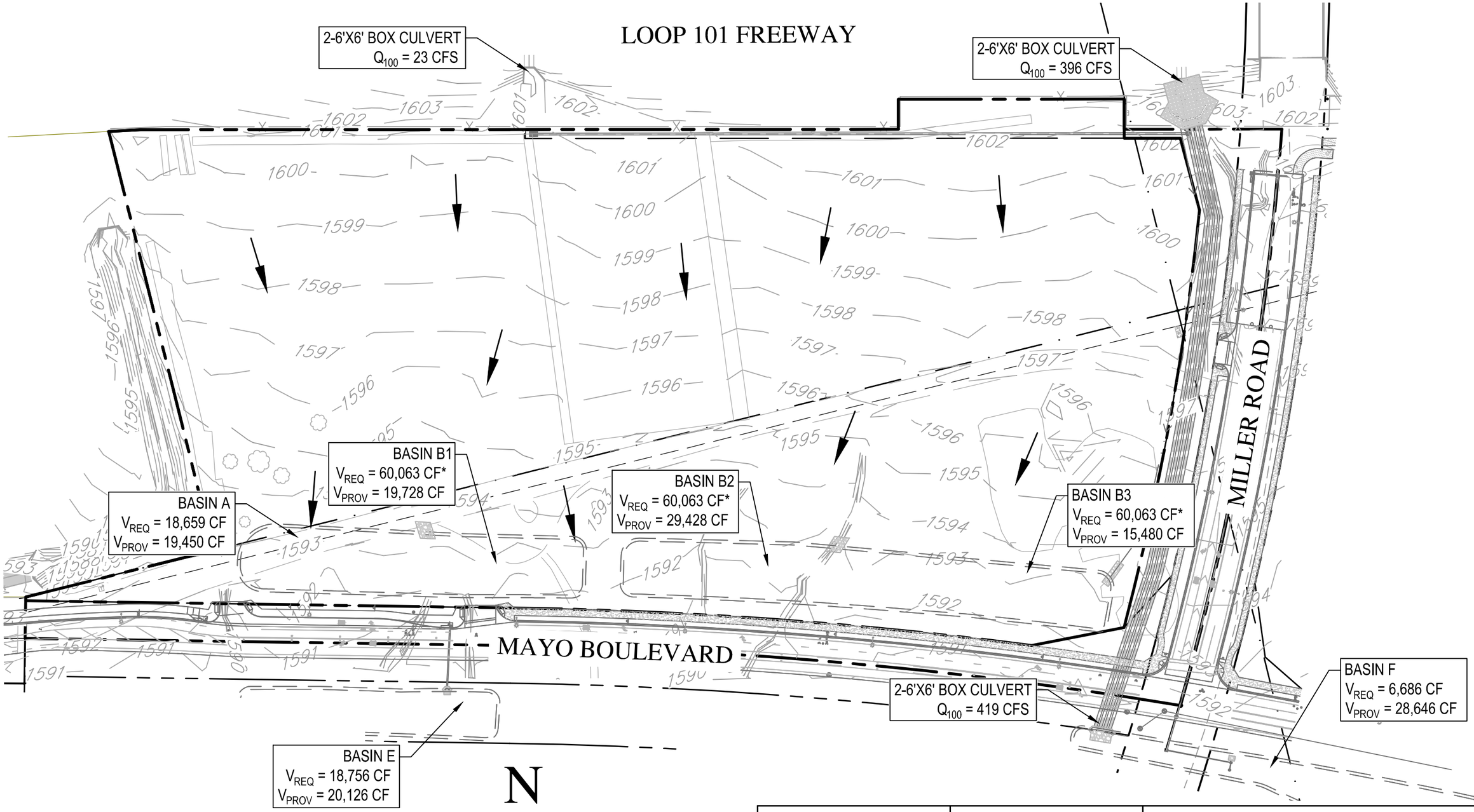
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 2/2/2024 at 10:22 AM 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 AREA EXHIBIT



LEGEND

- DRAINAGE ARROW
- 1598 — EXISTING CONTOUR LINE
- PROPERTY BOUNDARY

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

EXISTING DRAINAGE AREA MAP

DATE	08/30/2024	SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	DRAWN	KMK

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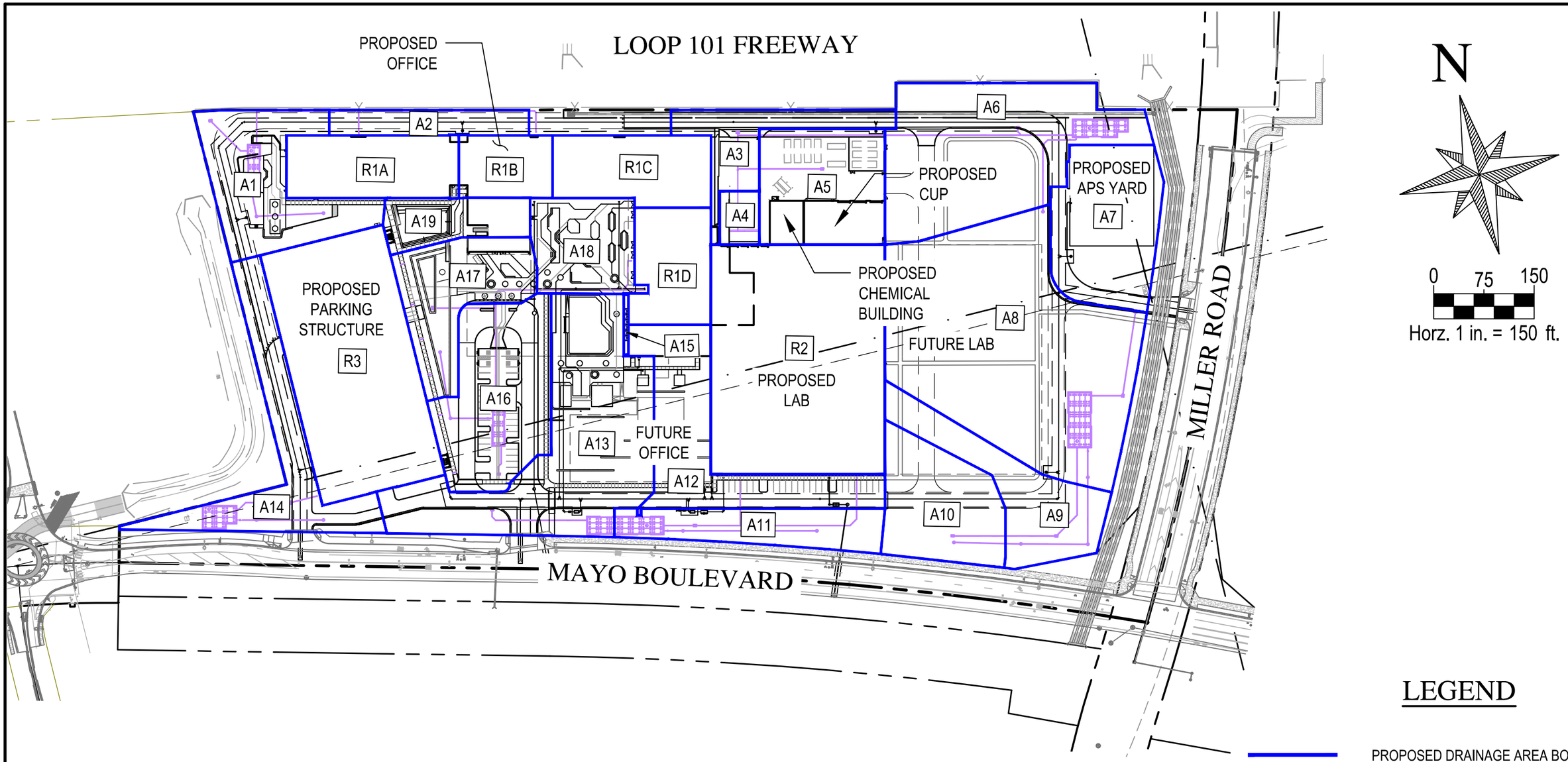
EXHIBIT 4 – PROPOSED DRAINAGE AREA MAP



LEGEND

PROPOSED DRAINAGE AREA BOUNDARY

1 PROPOSED DRAINAGE AREA LABEL

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

PROPOSED DRAINAGE AREA MAP

DATE	06/30/2024	SCALE	1" = 150'	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	DRAWN	BCT

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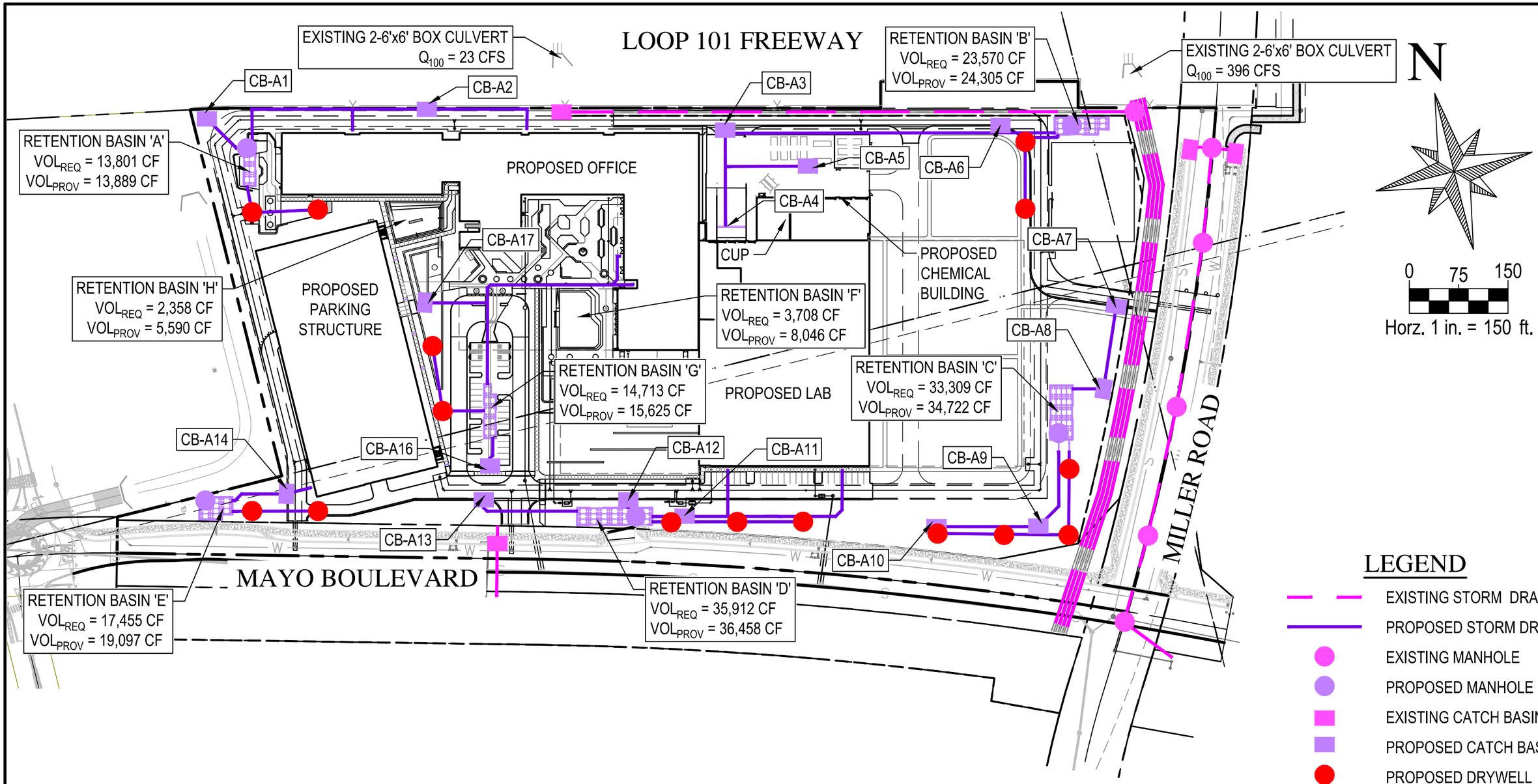
EXHIBIT 5 – PROPOSED STORM DRAIN LAYOUT



LEGEND

- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- PROPOSED DRYWELL

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

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PROPOSED STORM DRAIN LAYOUT EXHIBIT 5

DATE	08/30/2024	SCALE	1" = 150'	SHEET	1 OF 1
JOB NO.	235526	DESIGN	AJS	DRAWN	BCT

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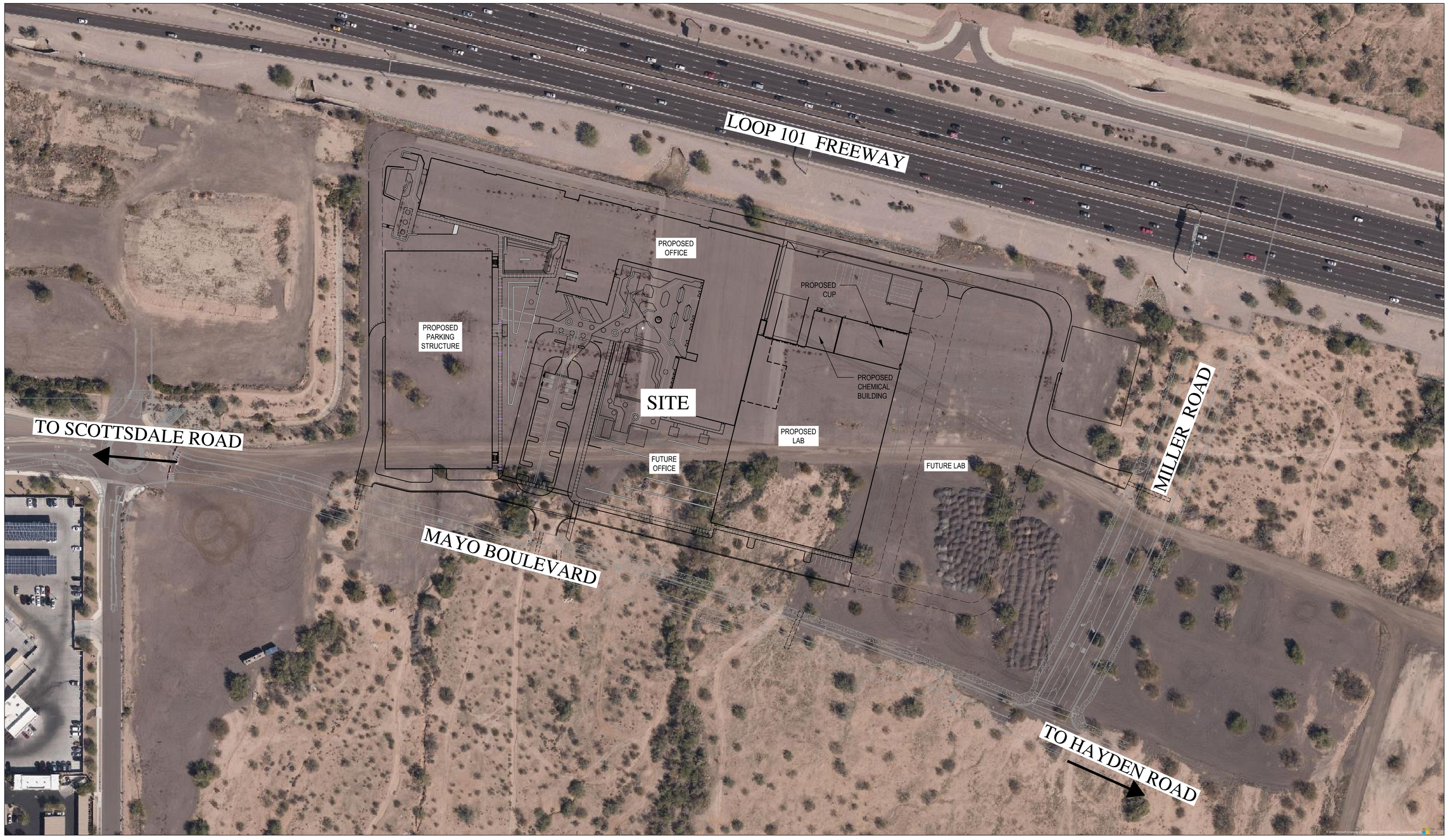
EXHIBIT 6 – AERIAL MAP



N

0 80 160

Horz. 1 in. = 80 ft.

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

ASM SCOTTSDALE

AERIAL MAP
EXHIBIT 6

DATE	08/30/2024	SCALE	1" = 80'	SHEET	01 OF 01
JOB NO	235526	DESIGN	AJS	DRAWN	AJS

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