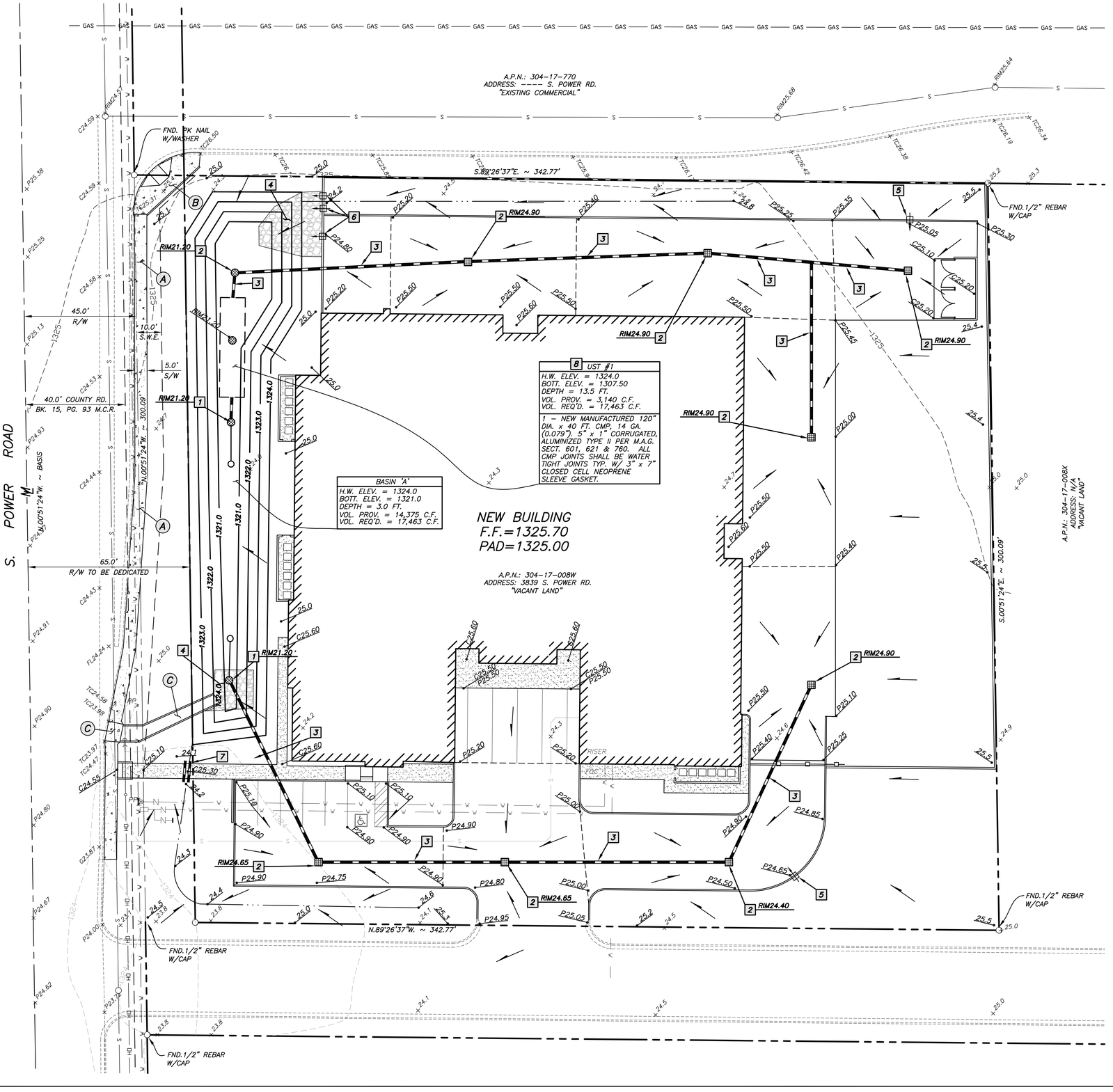
PRELIMINARY GRADING AND DRAINAGE PLAN



ON-SITE GRADING & DRAINAGE NOTES

1. INSTALL A DUAL CHAMBER DRYWELL SYSTEM PER DET. 35/C3 AND MANUFACTURER'S SPECS.
2. INSTALL 30" DIA. NYLOPLAST DRAIN BASIN WITH M.A.G. GRATE PER DET. 30/C3. SEE PLAN FOR RIM AND INVERT ELEVATIONS.
3. INSTALL 12" H.D.P.E. STORM DRAIN PIPE (CLASS N-12 OR APPROVED EQUAL). SEE PLAN FOR LENGTH AND SLOPE.
4. INSTALL D50 - GROUTED RIP-RAP 6" TO 8" DIA., ANGULAR GRANITE, HAND PLACED AND INTERLOCKING, OVER NON-WOVEN FILTER FABRIC, OVER 4" OF SAND.
5. CONSTRUCT 3-FT WIDE CURB OPENING.
6. INSTALL 8"X16" CMU DRAIN BLOCK WITH INVERT AT FINISHED GRADE. SEE PLAN FOR FINISHED GRADE.
7. INSTALL 6" DIA. PVC STORM DRAIN EQUALIZER/SCUPPER PIPE UNDER SIDEWALK. SEE PLAN FOR INVERT ELEVATIONS.
8. INSTALL NEW SINGLE BARREL UNDERGROUND STORAGE TANK PER DET. 25/C3 & 34/C3.

ITEM:		QUANTITY:
A	CONSTRUCT 5-FT. WIDE, 4" THK. CONCRETE SIDEWALK PER M.A.G. STD. DET. 230.	1,544 S.F.
B	CONSTRUCT A.D.A CURB RAMP PER M.A.G. STD. DET. 235-2.	1 EA.
C	CONSTRUCT NEW CONCRETE SCUPPER PER M.A.G. STD. DET. 206-1 & 206-2 WITH SAFETY RAIL. CURB OPENING WIDTH = 8-FT., SCUPPER WIDTH = 4-FT.	1 EA.

RETENTION REQUIREMENTS - AREA OF DISTURBANCE

PER DRAINAGE DESIGN MANUAL FOR MARICOPA COUNTY, ARIZONA
(SECT. 3, RAINFALL METHOD, VOLUME I HYDROLOGY)

V = A(D/12)C
V = Volume of retention required (cubic feet or acre-feet)
C = Runoff factor for tributary areas
P = 100-year, 2-hour rainfall (in inches)
A = Drainage area (square feet or acres)

BASIN AREA 'A' RETENTION REQUIRED CALCULATIONS

AREA TYPE	AREA (SQ.F.T)	C	C*A
ASPHALT	27,588	0.90	24,829
ROOF	29,964	0.90	26,968
CONCRETE	2,131	0.95	2,024
DESERT LANDSCAPE	22,383	0.65	14,549
RECYCLED ASPHALT	11,558	0.75	8,669
RETENTION BASIN	9,207	0.50	4,604
			81,642

A = 102,831 S.F.
D = 2.16 INCHES
C = 0.79 WEIGHTED
V = 14,696 CUBIC FEET

C = 81,642 / 102,831 = 0.79

POWER ROAD HALF-STREET RETETION REQUIRED CALCULATIONS

AREA TYPE	AREA (SQ.F.T)	C	C*A
ASPHALT	15,551	0.90	13,966
			13,966

A = 15,551 S.F.
D = 2.16 INCHES
C = 0.90 WEIGHTED
V = 2,519 CUBIC FEET

C = 13,966 / 15,551 = 0.90

RETENTION BASIN 'A' VOLUME CALCULATIONS

Volume = ((1/3)h)*(A1+A2+Sqrt(A1*A2))

Retention Basin #A

Elevation (ft.)	Area (sq.ft.)	Depth (feet)	Volume (cu.ft.)
1324.0	7,743		
		1.0	6,711
1323.0	5,729		
		1.0	4,753
1322.0	3,839		
		1.0	2,912
1321.0	2,074		
Sub-Total =		3.0	14,375

UNDERGROUND STORAGE TANK RETENTION VOLUME CALCULATIONS

UST #1
Volume = ((D^2)*(PI/4 * L))
D = 10 FT.
L = 40 FT.
Vp = 3,140 CU.FT.

VOLUME PROVIDED =	17,515 CUBIC FEET
VOLUME REQUIRED =	17,215 CUBIC FEET
EXCESS VOLUME =	261 CUBIC FEET

CALL BEFORE YOU DIG
Avoid cutting underground utility lines. It's Clarity.
CALL 811
OR
1-800-263-1100
OR
1-800-STAKE IT
(OUTSIDE MARICOPA COUNTY)

g-mar
18223 west orchid lane
waddell, arizona 85355
e.geoff@g-marengr.com ph: 602.524.7877

Registered Professional Engineer (Civil)
GEOFFREY A. MARKOWSKI
46858
CERTIFICATE NO.
Date Signed
EXP. 09/30/21

PROJECT: POWER ROAD SELF STORAGE
3839 S. POWER ROAD, MESA, ARIZONA
OWNER: ROCKALL POWER, LLC
14207 E. COYOTE ROAD, SCOTTSDALE, ARIZONA 85259

PR	4/26/21	PRELIM SUBMITTAL

MESA PERMIT NO.

DATE ISSUED: 17 FEB 2020
DRAWN BY: GM
CHECKED BY: GM

SHEET DESCRIPTION:
GRADING AND DRAINAGE PLAN

SHEET C1 OF

COUNTY PERMIT #

JOB NO. 20-02-010-00