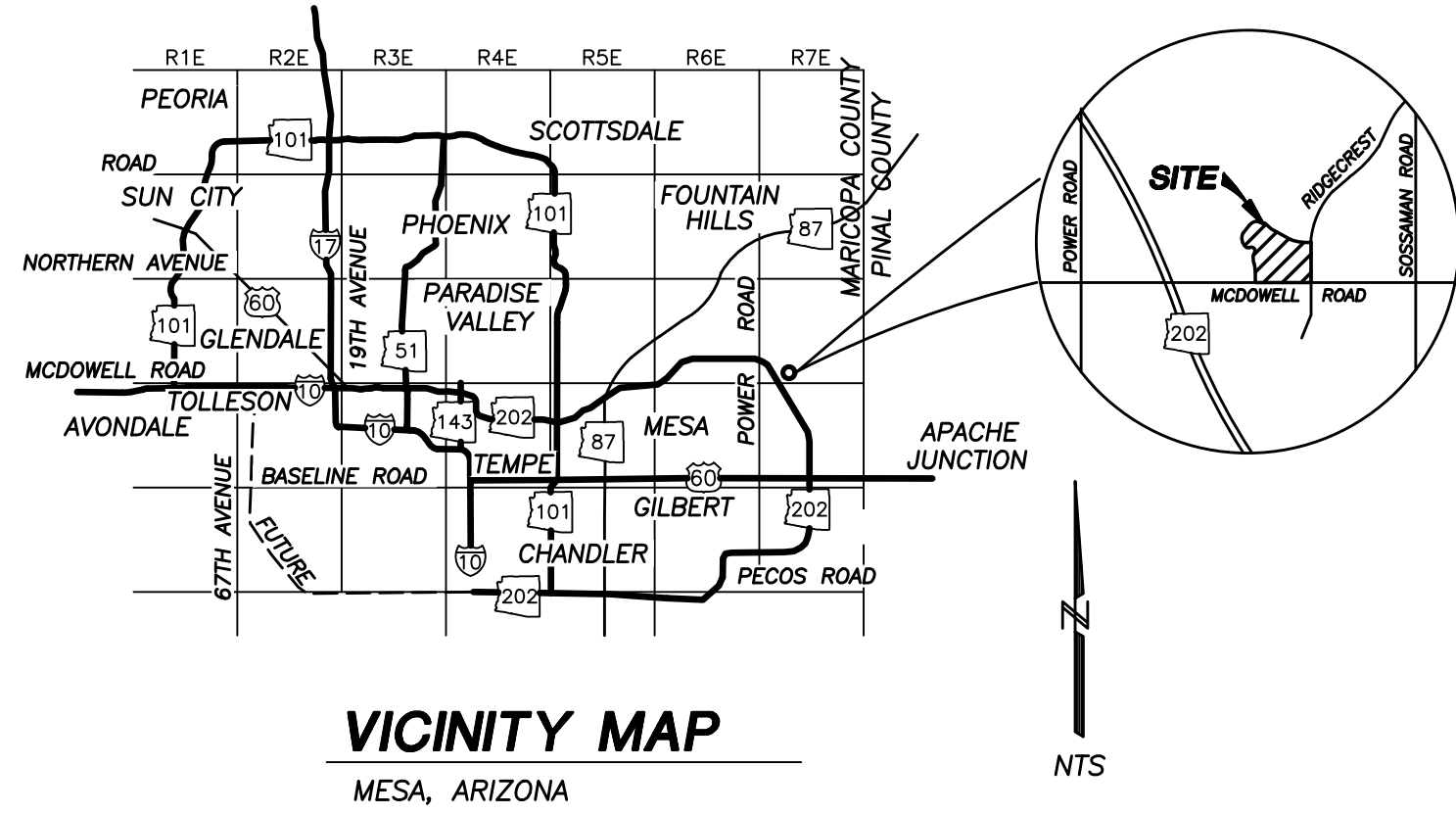


PRELIMINARY GRADING, DRAINAGE  
AND UTILITY PLAN  
CANYON WINDS SENIOR LIVING  
NWC MCDOWELL RD AND N RIDGECREST  
RD, MESA ARIZONA



**OWNER**  
JCA HOLDINGS LLC

**ARCHITECT**  
ATHENA STUDIO LLC  
444 W. CAMELBACK 303  
PHOENIX, ARIZONA 85013  
PHONE: (602) 274-5000  
CONTACT: YUMIKO A ISHIDA

**ENGINEER**  
JMA ENGINEERING CORPORATION  
531 E BETHANY HOME ROAD, GARDEN SUITE  
PHOENIX, ARIZONA 85012  
PHONE: (602) 248-0286  
FAX: (602) 248-0976  
CONTACT: JAY MIHALEK, PE

- KEY NOTES**
- 1 NEW EXTRUDED CURB.
  - 2 NEW AC PAVEMENT
  - 3 NEW HEADWALL
  - 4 NEW RETAINING WALL
  - 5 NEW SIDEWALK TUBE SCUPPER
  - 6 NEW DRYWELL
  - 7 NEW TRASH ENCLOSURE
  - 8 NEW CURB OPENING WITH EROSION PROTECTION
  - 9 NEW CONCRETE VALLEY GUTTER
  - 10 NEW CURB TERMINATION
  - 11 NEW CATCH BASIN
  - 12 NEW HDPE STORM DRAIN PIPE
  - 13 NEW YARD DRAIN INLET
  - 14 NEW PUBLIC WATER MAIN WITHIN 20' WATER EASEMENT
  - 15 POINT OF CONNECTION TO WATER MAIN
  - 16 NEW DOMESTIC WATER SERVICE WITH METER
  - 17 NEW LANDSCAPE WATER SERVICE WITH METER
  - 18 NEW FIRE HYDRANT
  - 19 NEW FIRE LINE
  - 20 POINT OF CONNECTION SEWER MAIN
  - 21 NEW SEWER LINE
  - 22 NEW SEWER MANHOLE
  - 23 NEW SEWER CLEANOUT

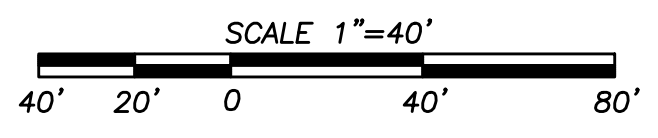
**STORM WATER  
RETENTION**

|                     |          |
|---------------------|----------|
| V=                  | PCA      |
| P=                  | 2.2      |
| C=                  | 0.85     |
| A=                  | varies   |
| Area Name           | Area, sf |
| A                   | 87,237   |
| B                   | 23,293   |
| C                   | 182,772  |
| D                   | 211,746  |
|                     | 505,048  |
| Required volume, cf | 13,594   |
|                     | 3,630    |
|                     | 28,482   |
|                     | 32,997   |
|                     | 78,703   |



**TRIBUTARY MAP**  
NO SCALE

**NOT FOR CONSTRUCTION**



**JMA ENGINEERING CORPORATION**

**JMA**

331 E. Bethany Home Road, Garden Suite  
Phoenix, Arizona 85012  
Voice 602.248.0286  
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**PRELIMINARY GRADING, DRAINAGE AND UTILITY PLAN**

**CANYON WINDS SENIOR LIVING**

**NWC MC DOWELL RD AND N RIDGECREST RD, MESA, ARIZONA**

Manager AS  
Checked JM  
Job No. 1518

Professional Engineer  
12471 JAY EDWARD MIHALEK  
Arizona, U.S.A.  
Expires 9/30/16

1988 - 2015  
Celebrating 27 Years

SHEET  
**1**  
OF 1