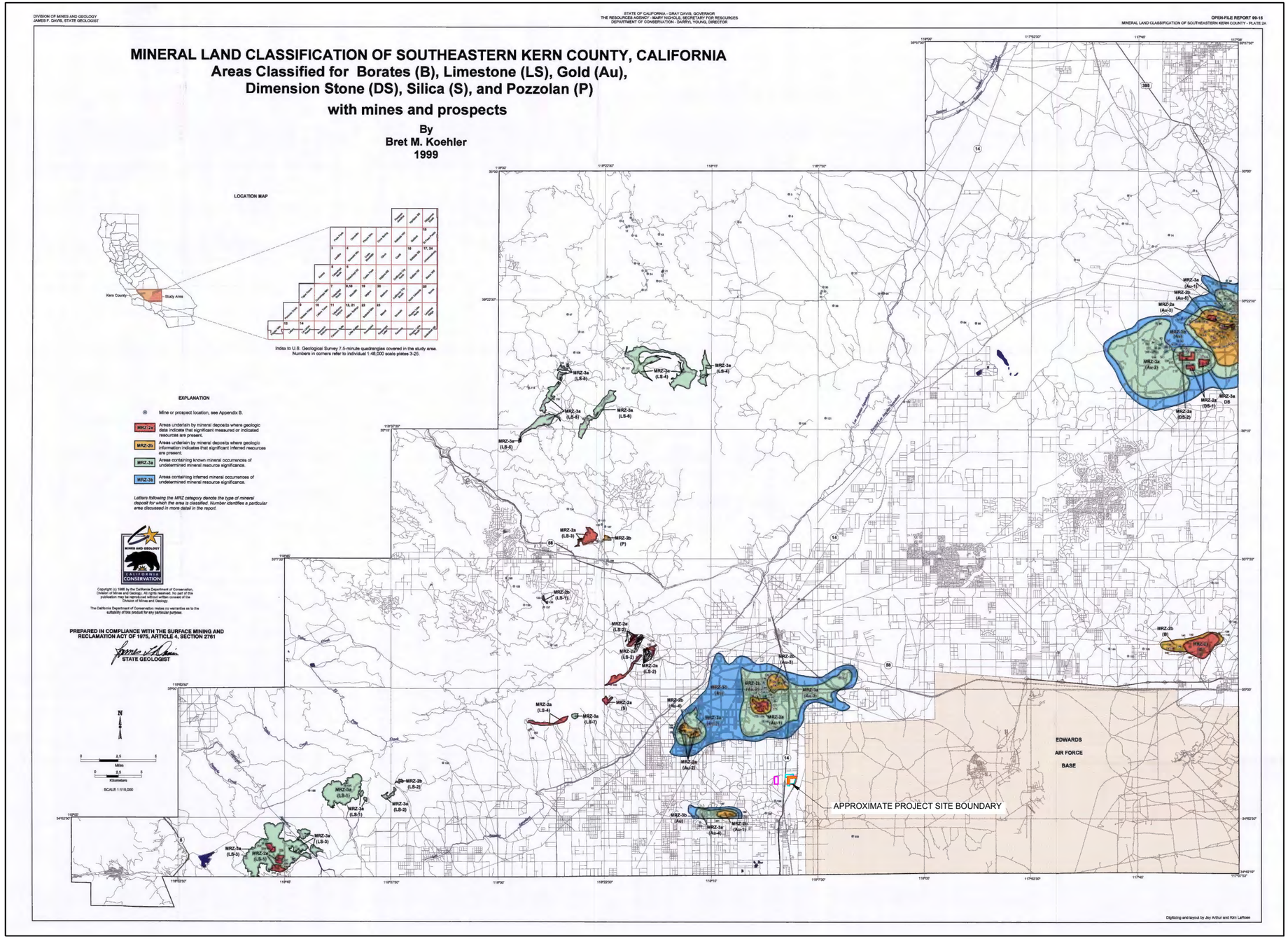
DOCKETED	
Docket Number:	21-AFC-02
Project Title:	Willow Rock Energy Storage Center
TN #:	254814
Document Title:	High Resolution Figures WRESC SAFC 2 of 2
Description:	N/A
Filer:	Sierra Harmening
Organization:	WSP US Inc.
Submitter Role:	Applicant Consultant
Submission Date:	3/2/2024 3:26:28 AM
Docketed Date:	3/4/2024



LEGEND

- PERMANENT IMPACT PARCEL
- ARCHITECTURAL BERM
- WRESC SITE
- TEMPORARY IMPACT PARCEL

CLIENT
GEM A-CAES LLC

CONSULTANT
wsp

YYYY-MM-DD	2024-01-22
DESIGNED	JAT
PREPARED	JAT
REVIEWED	RPCE
APPROVED	RPCE

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER SUPPLEMENTAL AFC

TITLE
MINERAL LAND CLASSIFICATION MAP

PROJECT NO.
31406639.003

FIGURE
5.4-5

Path: \\pcdder.pdb\complexdata\office\Sacramento\Acad\Sites\Hydrostor Willow Rock\CIVIL 3D\Geologic Hazards Chapter Figures\ | File Name: Figure 5.4-5.dwg | Last Edited By: jcthornton Date: 2024-01-22 Time:1:19:52 PM | Printed By: JoThornton Date: 2024-01-22 Time:1:54:04 PM

LEGEND

PROJECT BOUNDARY

BERM

1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

1. SENSITIVE RECEPTORS INCLUDED: SCHOOLS, HOSPITALS, DAY-CARE FACILITIES, EMERGENCY RESPONSE FACILITIES AND LONG-TERM HEALTH FACILITIES.

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

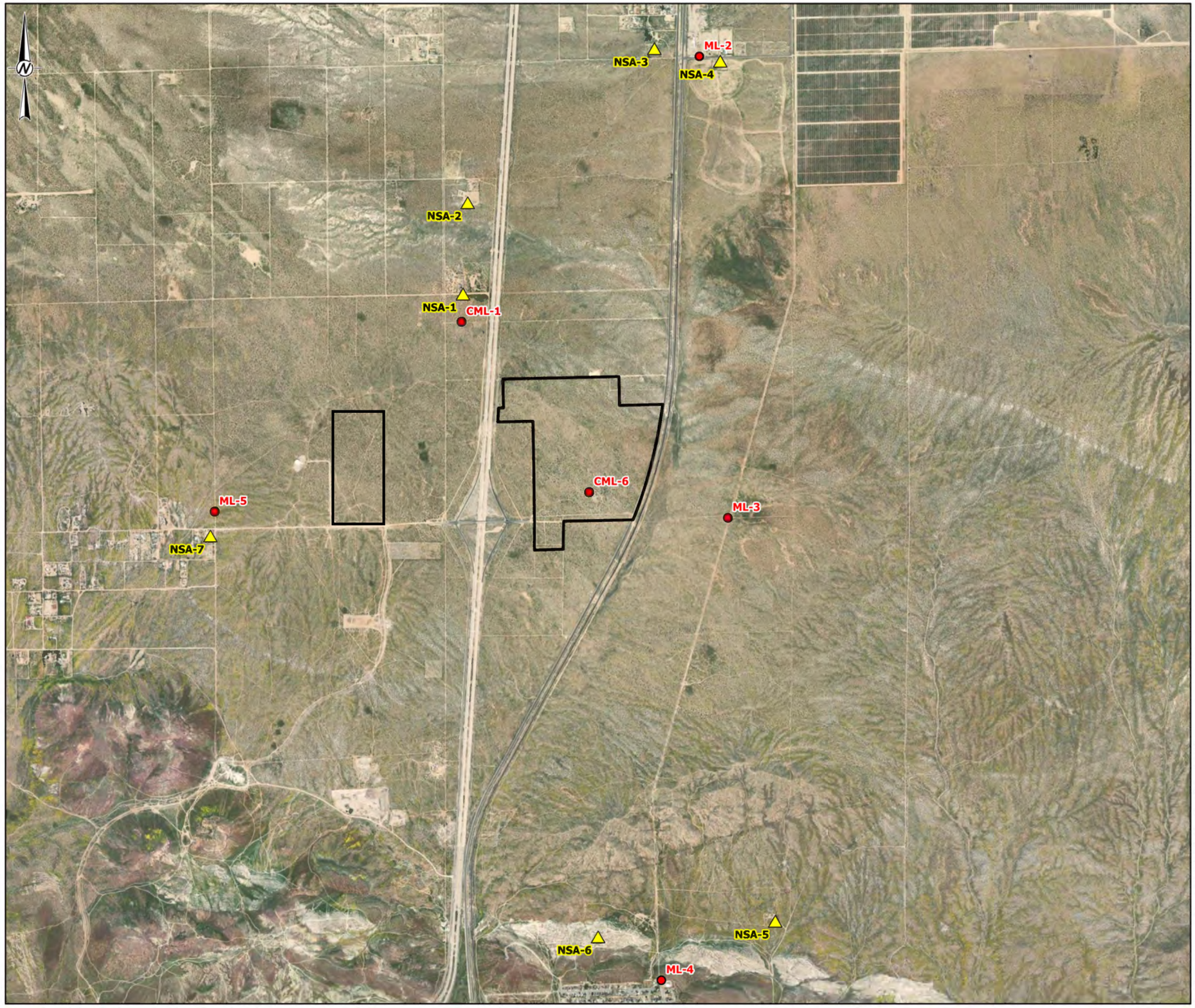
SENSITIVE RECEPTORS MAP

CONSULTANT

YYYY-MM-DD	2024-01-16
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.5-1



LEGEND

- PROJECT BOUNDARY
- NOISE SENSITIVE AREA (NSA)
- MONITORING LOCATIONS

1:27,000

0 1,125 2,250 4,500 Feet

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
NOISE MONITORING AND NOISE SENSITIVE AREA LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-01-19
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.7-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm

PATH: G:\Hydrostor\Arsel\09_PROJECTS\31406639.000_Hydrostor\Arsel\Noise\Figure5.7-1.aprx PRINTED ON: AT 4:07:45 PM

Figure 5.7-2: CML-1 Site, Baseline Sound Pressure Levels, 1-Minute Intervals

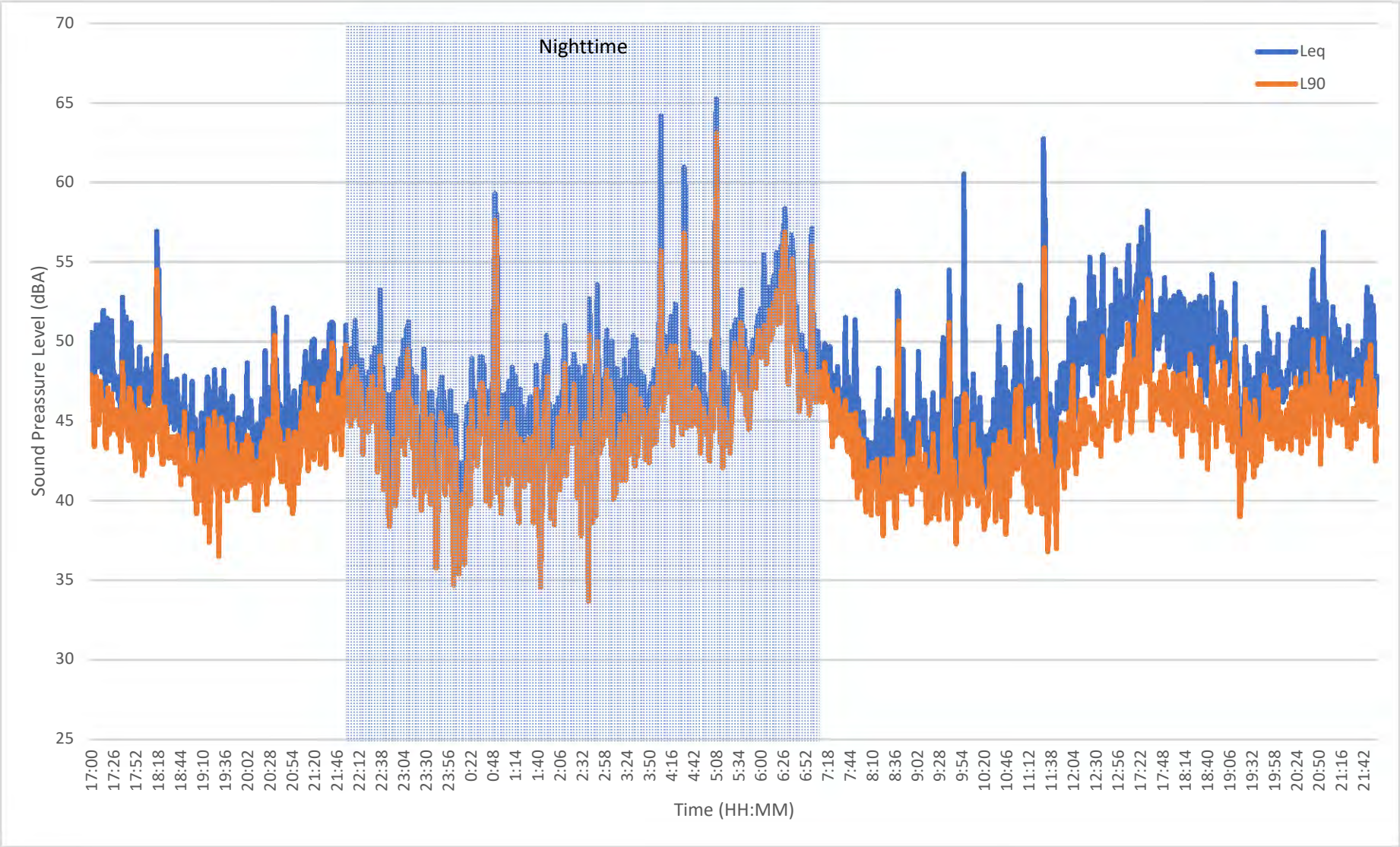
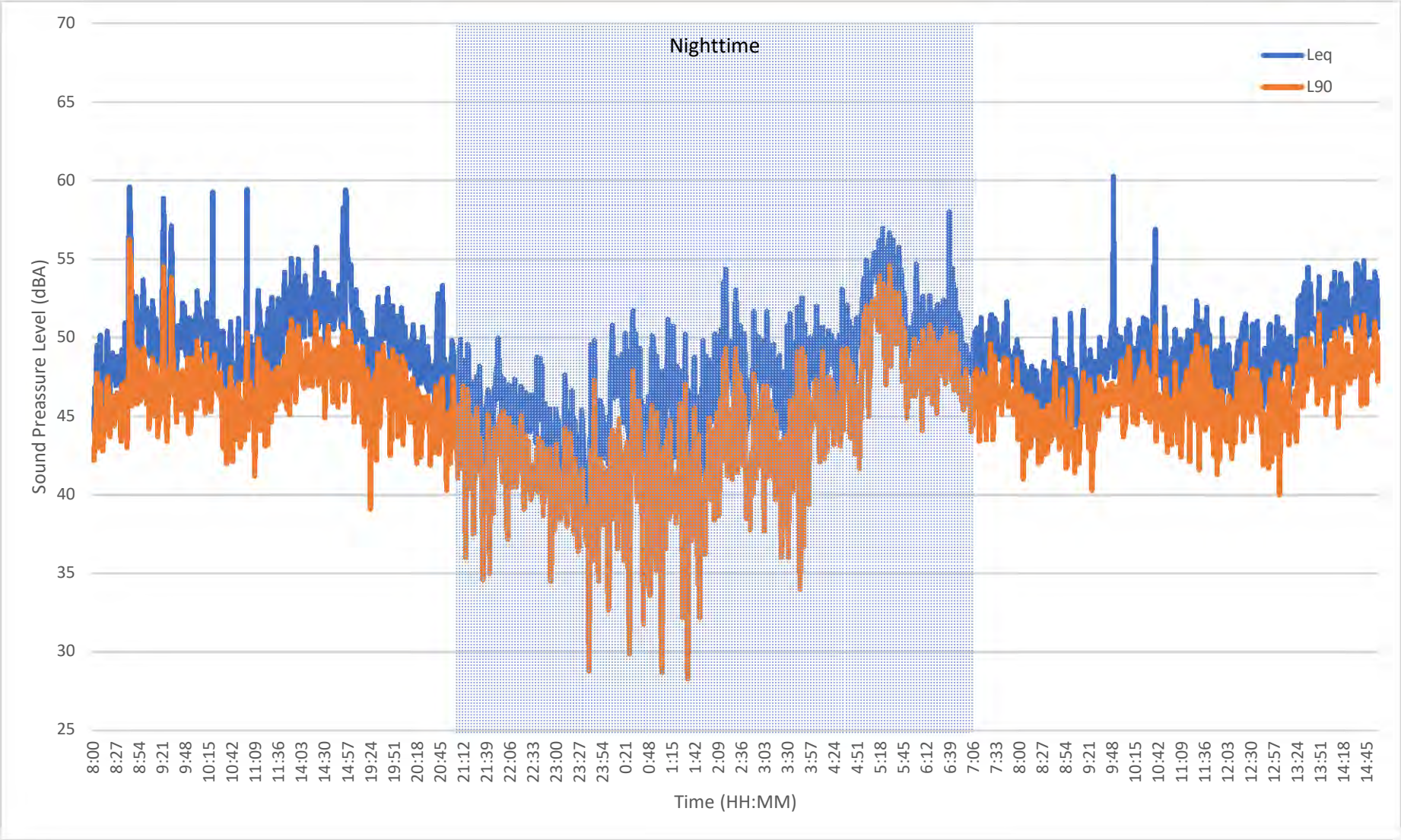
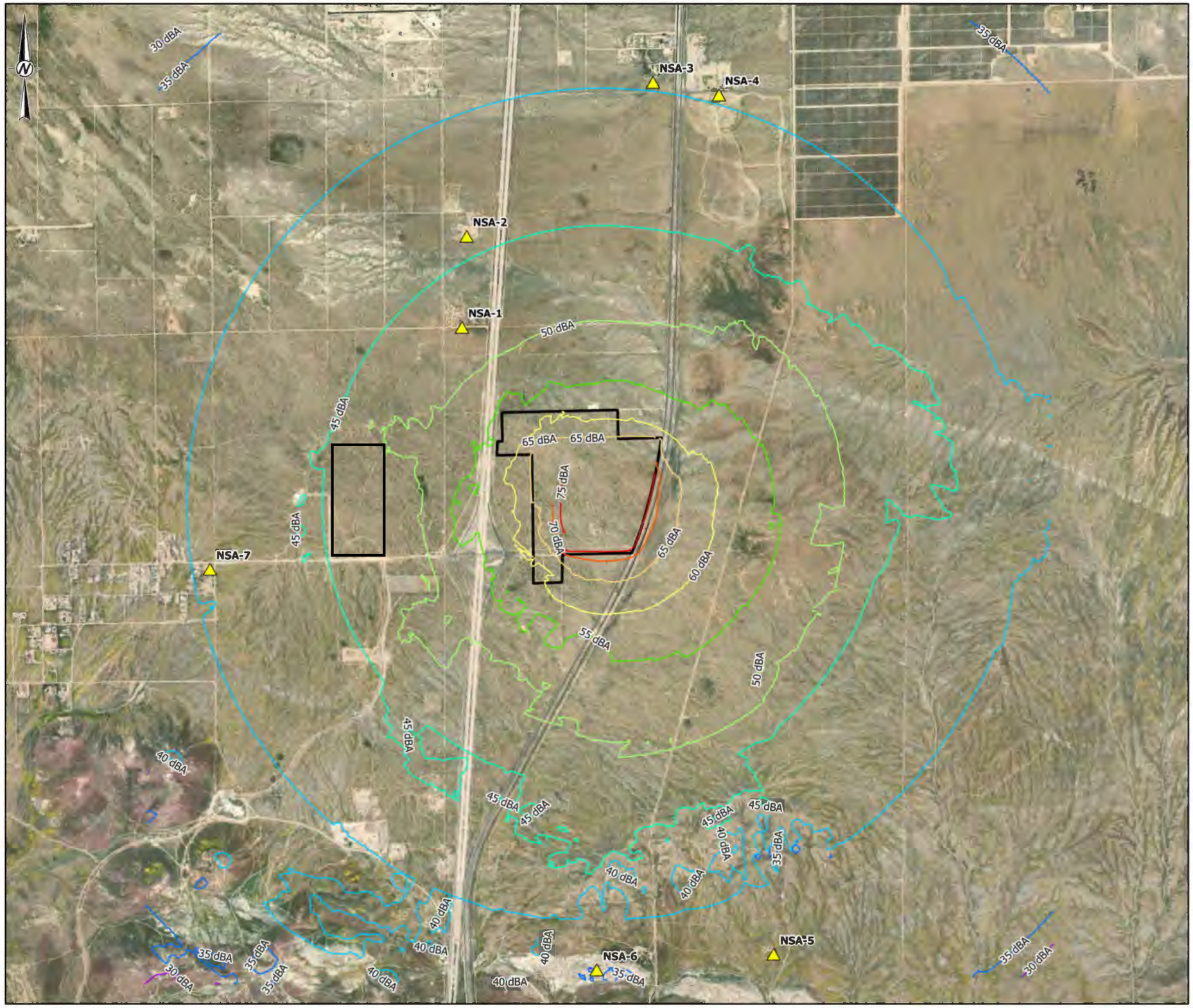


Figure 5.7-3: CML-6 Site, Baseline Sound Pressure Levels, 1-Minute Intervals





LEGEND

- PROJECT BOUNDARY
- NOISE SENSITIVE AREA (NSA)

NOISE CONTOURS (DECIBALS)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75

1:27,000

0 1,125 2,250 4,500 Feet

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

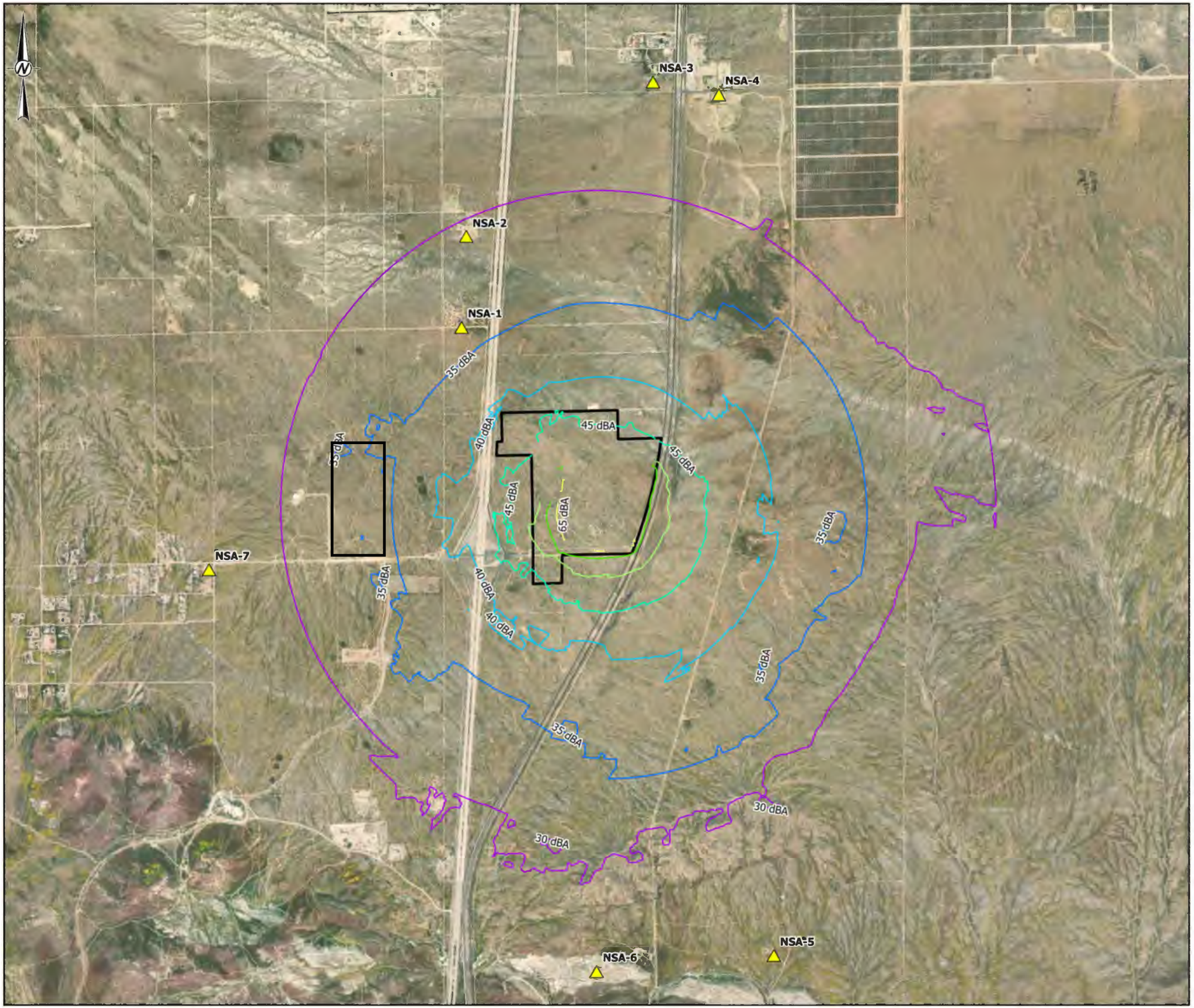
TITLE
DAYTIME CONSTRUCTION NOISE MODELING IMPACTS

CONSULTANT

YYYY-MM-DD	2024-02-08
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.7-4



LEGEND

- PROJECT BOUNDARY
- NOISE_SENSITIVE_AREA

NOISE CONTOURS (DECIBALS)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65

1:27,000

0 1,125 2,250 4,500 Feet

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
NIGHTTIME CONSTRUCTION NOISE MODELING IMPACTS

CONSULTANT

YYYY-MM-DD	2024-02-08
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.7-5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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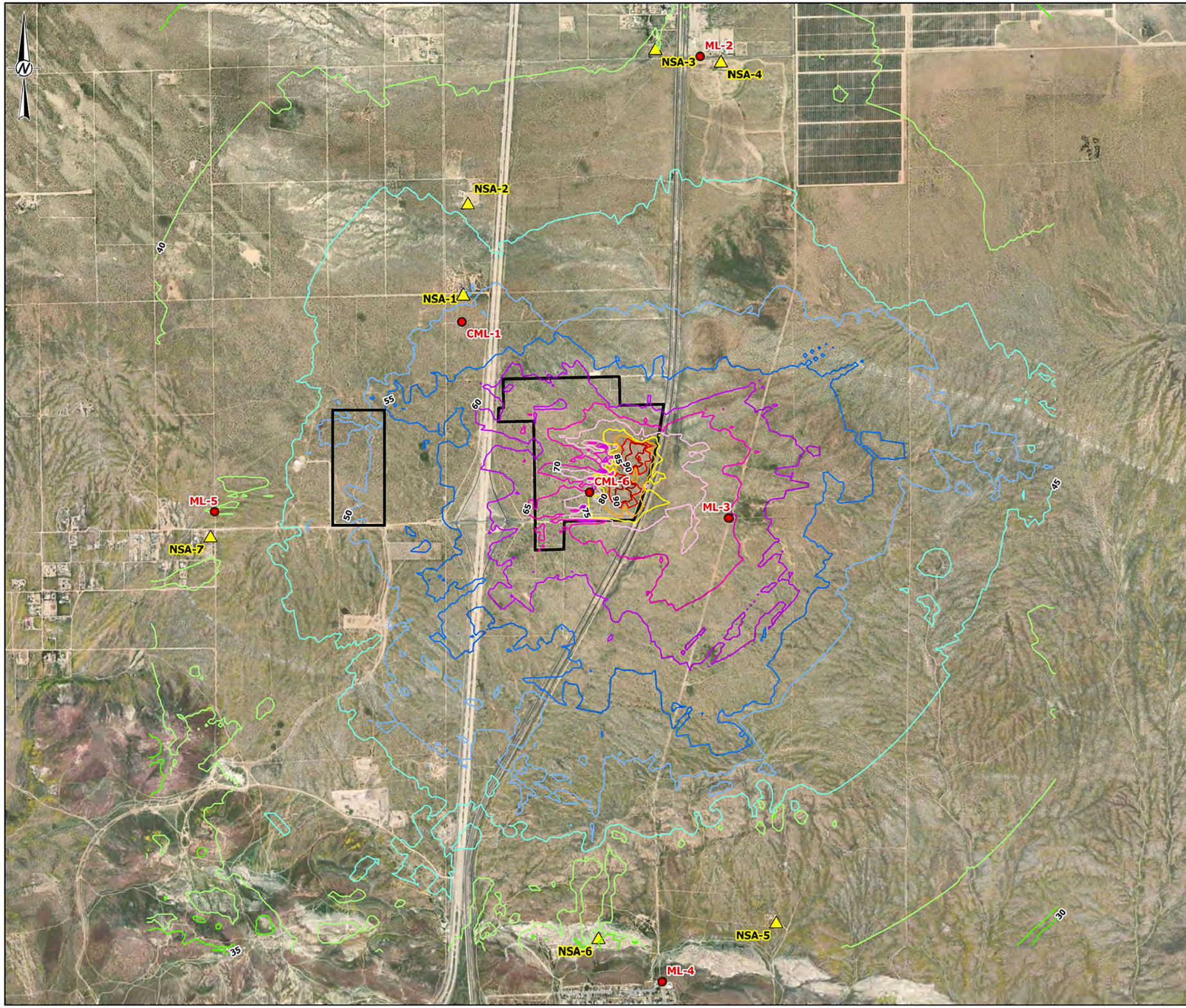


LEGEND

- PROJECT BOUNDARY
- NOISE SENSITIVE AREA (NSA)
- MONITORING LOCATIONS

OPERATION CONTOURS (DECIBALS)

- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85
- 90

1:27,000

0 1,125 2,250 4,500 Feet

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

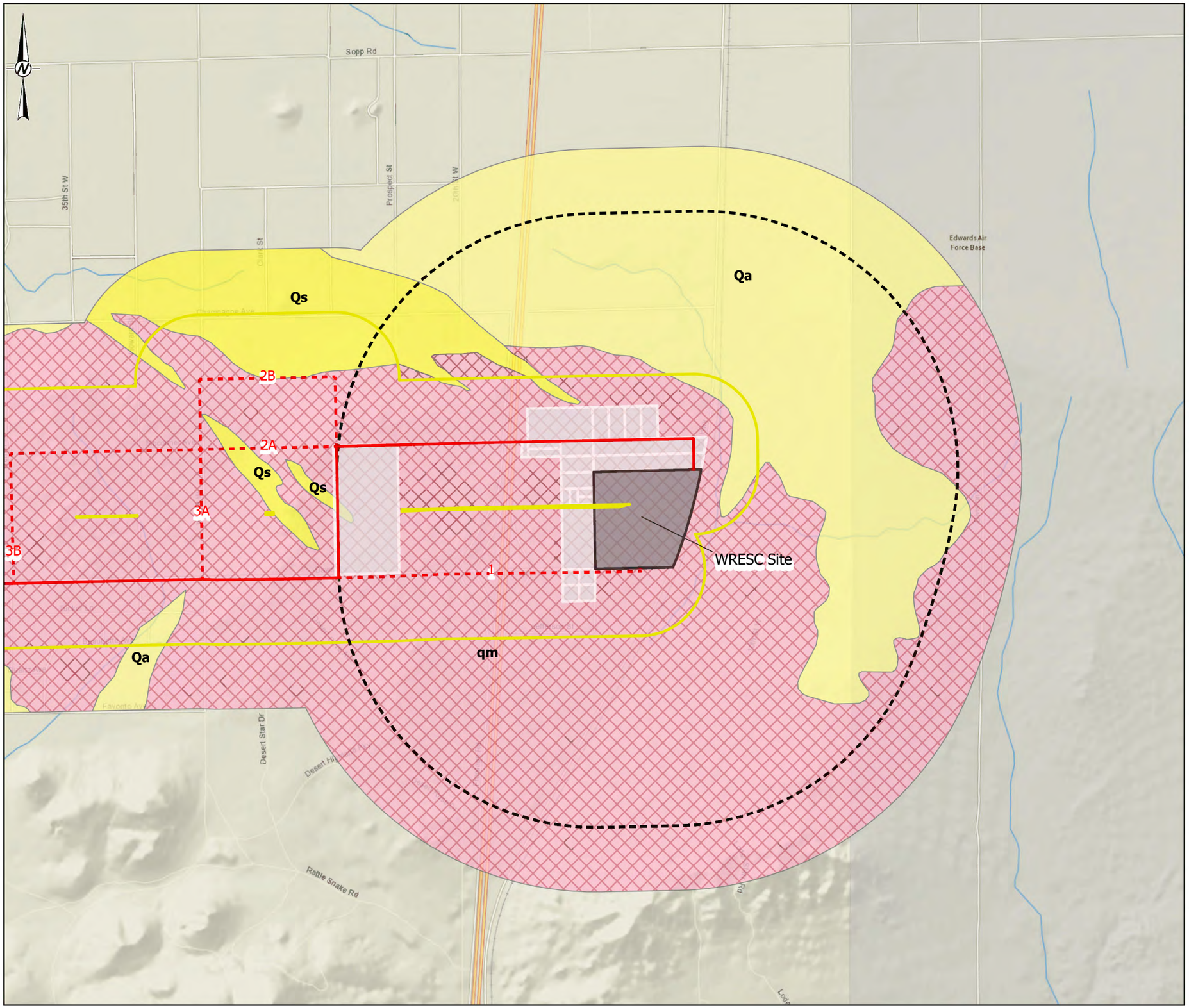
TITLE
OPERATIONAL NOISE MODELING IMPACTS

CONSULTANT

YYYY-MM-DD	2024-02-08
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SC H
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.7-6

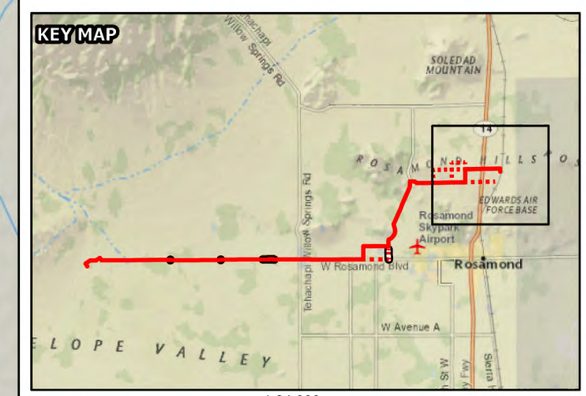


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 1 MILE BUFFER BUFFER AROUND THE WRESC SITE
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 1 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO.
31406639.003

FIGURE
5.8-1

PATH: G:\Hydrostor\Arsier\99_PROJECTS\31406639.000_HydrostorArsierLandUse\LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:01 PM

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25mm
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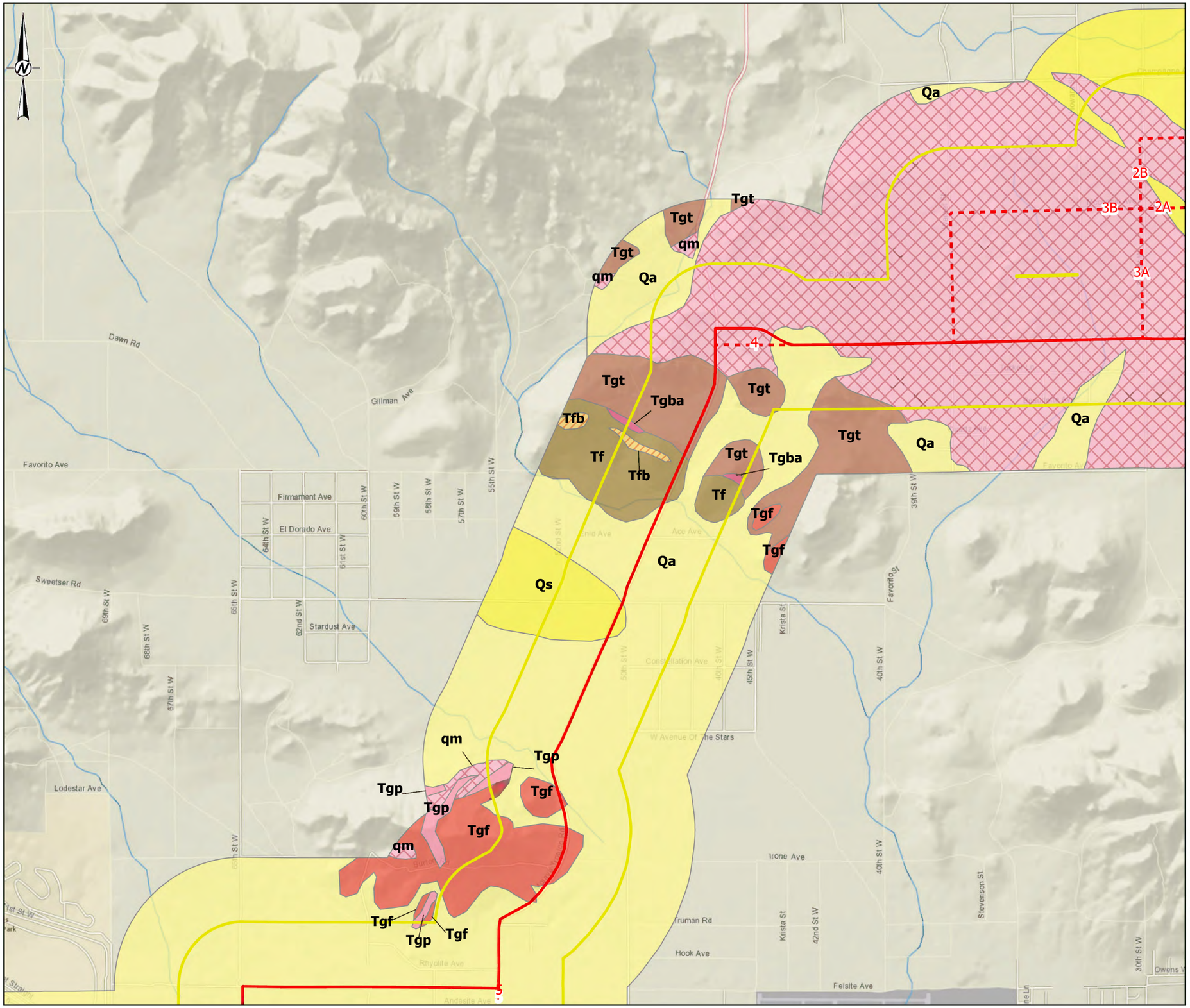
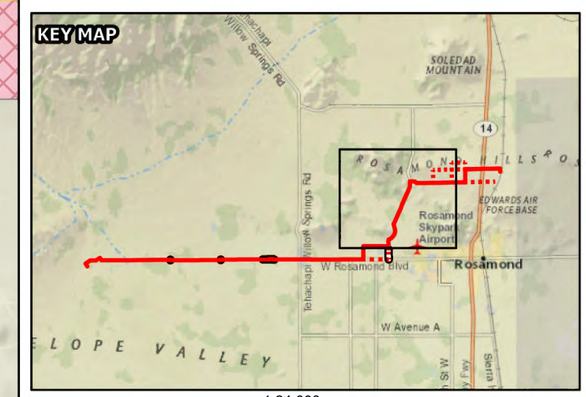


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6 - ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 2 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.8-1

PATH: G:\Hydrostor\Ansell\09_PROJECTS\31406639.000_HydrostorAnsellLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:04 PM

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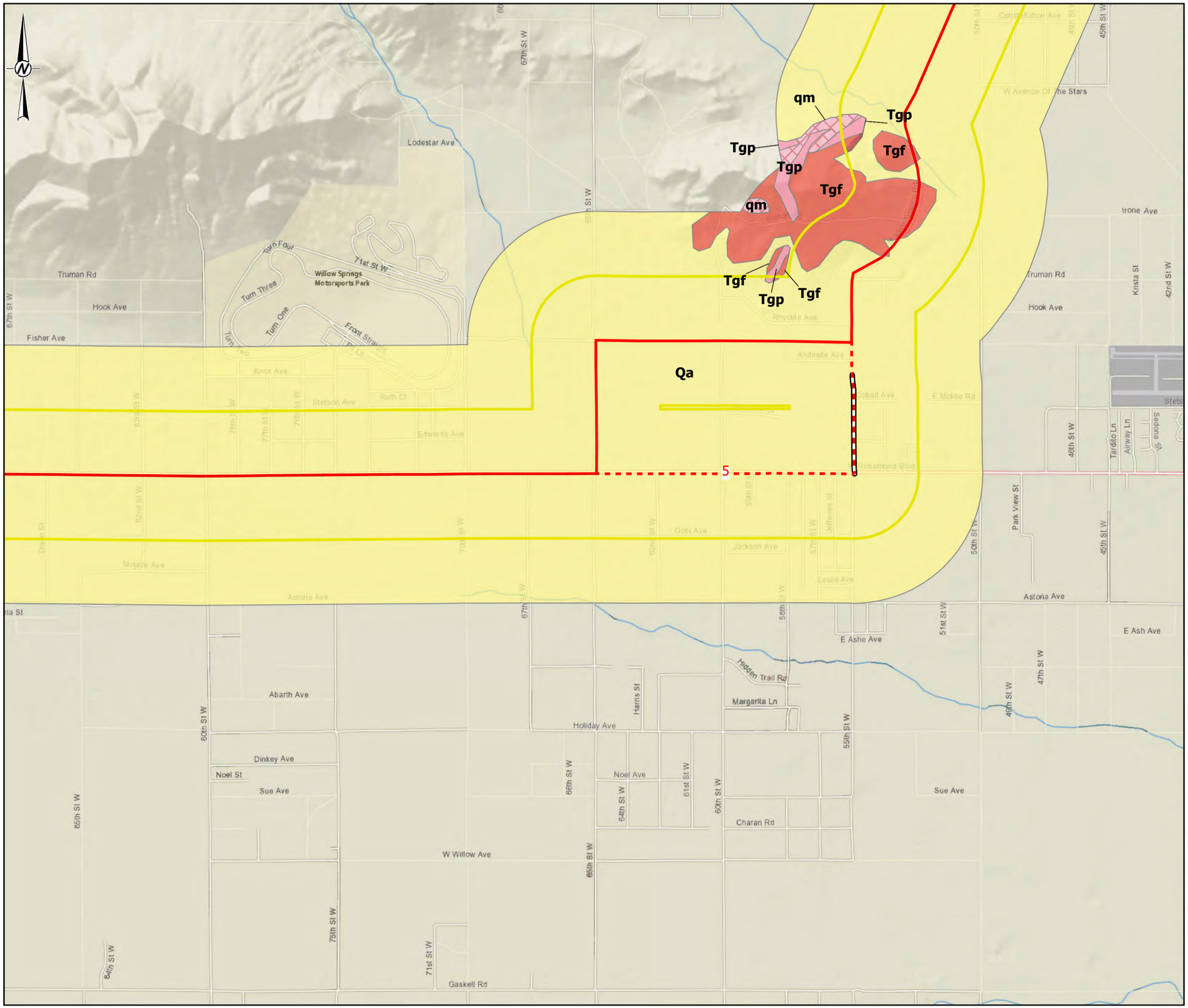
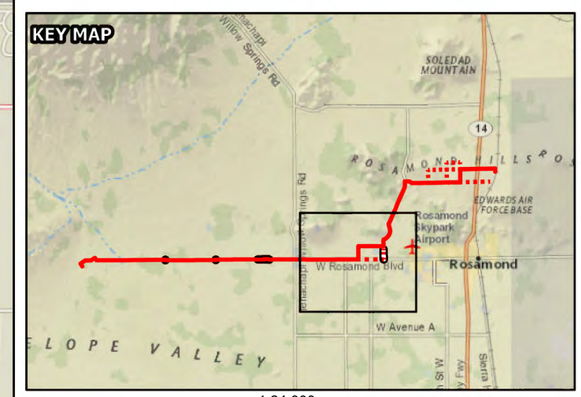


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6- ABOVEGROUND
- ROUTE OPTIONS 1-6- UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



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NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 3 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.8-1

PATH: G:\Hydrostor\Arsenal\09_PROJECTS\31406639.000_Hydrostor\ArsenalLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:07 PM

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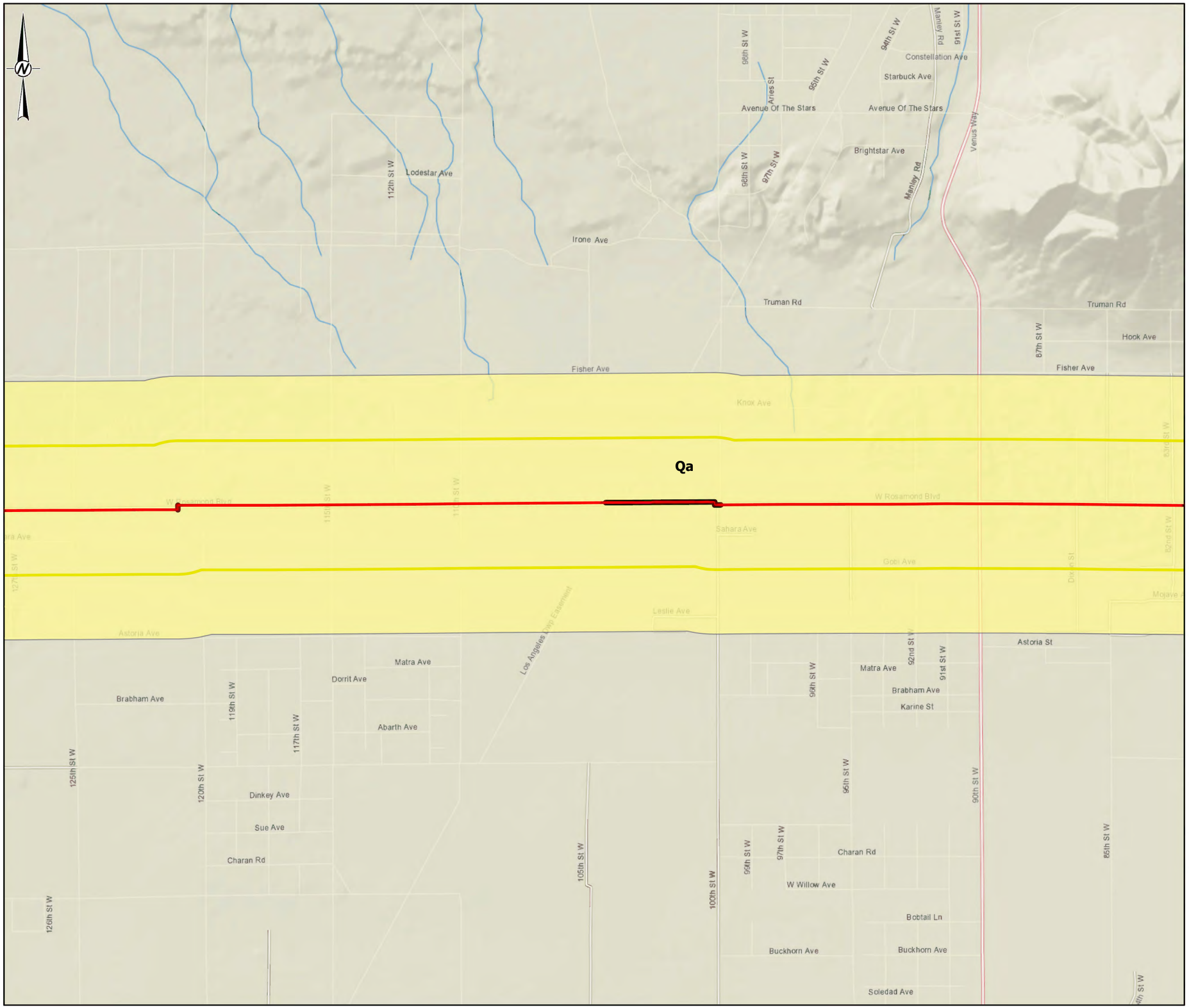
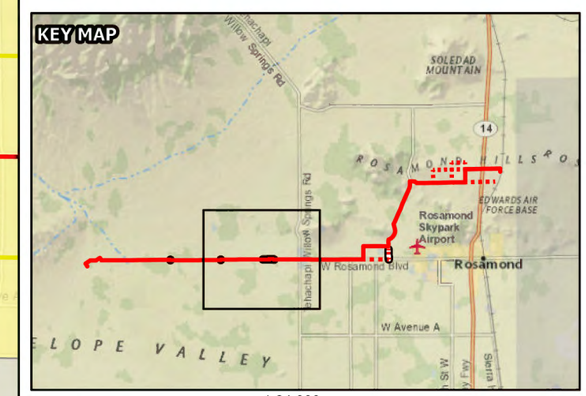


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6- ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



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NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 4 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.8-1

PATH: G:\Hydrostor\Arsenal\09_PROJECTS\31406639.000_Hydrostor\Arsenal\LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:10 PM

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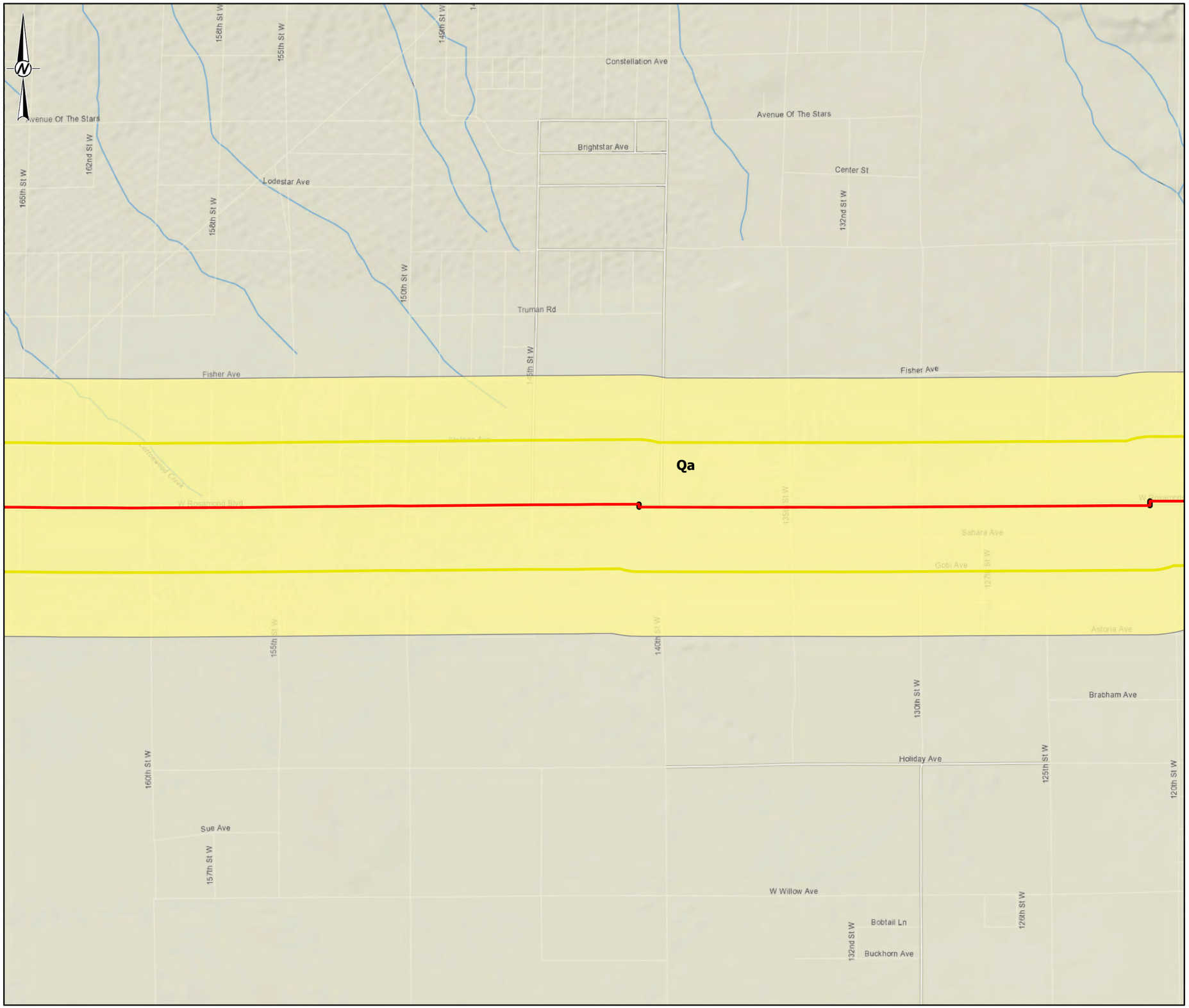
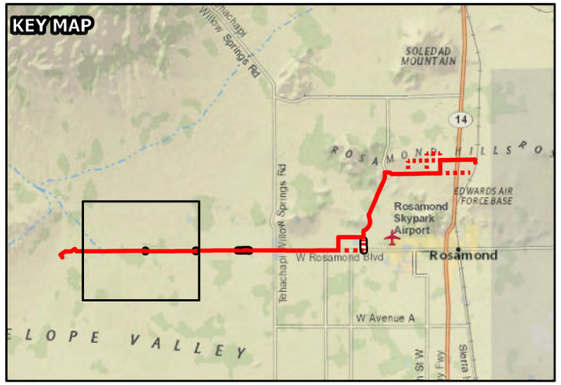


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6- ABOVEGROUND
- ROUTE OPTIONS 1-6- UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



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0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT

GEM A-CAES LLC

PROJECT

WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE

GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 5 OF 6

CONSULTANT

YYYY-MM-DD	2024-02-21
DESIGNED	JAM
PREPARED	RHG
REVIEWED	KD
APPROVED	JP

PROJECT NO. 31406639.003

FIGURE 5.8-1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
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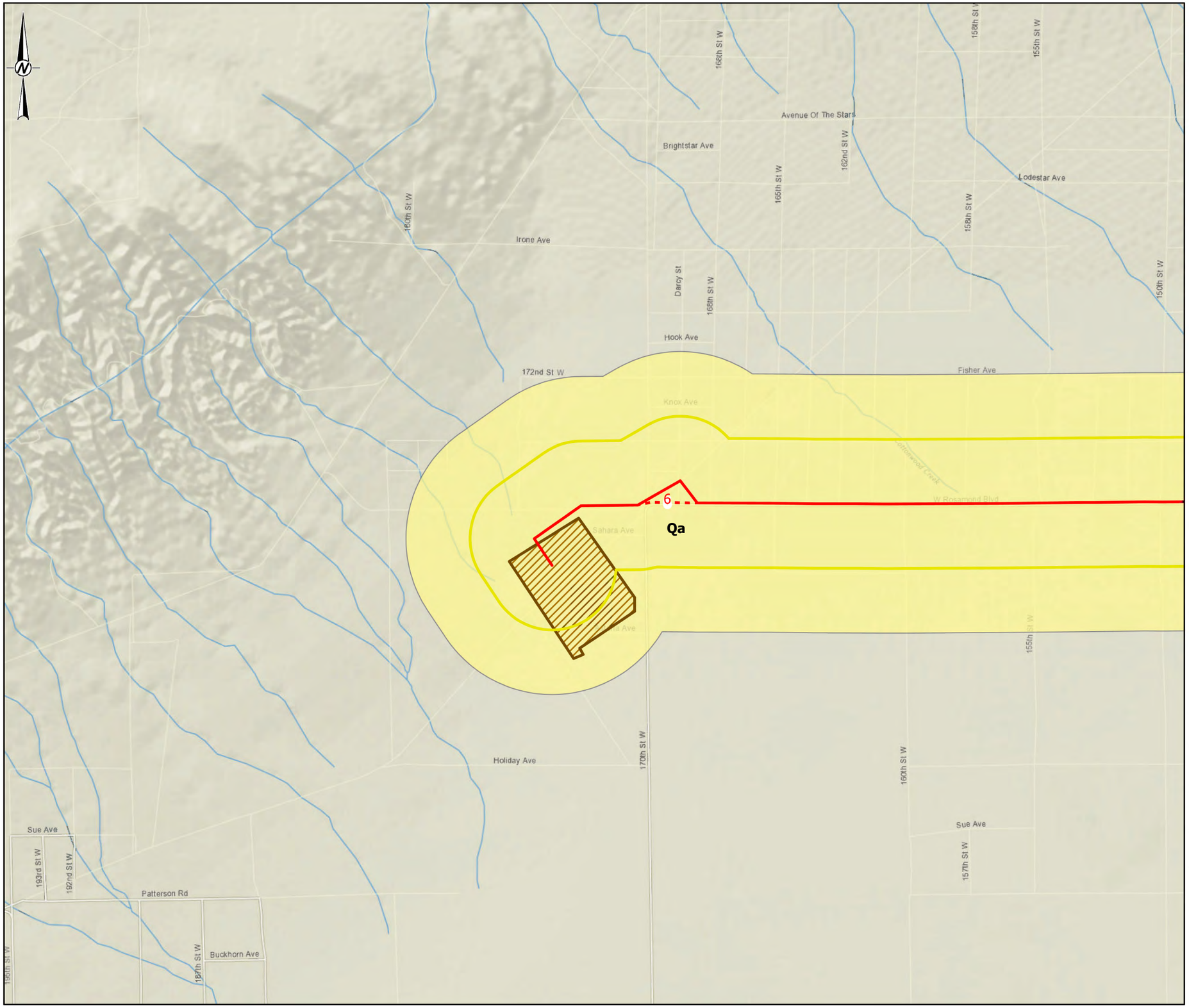
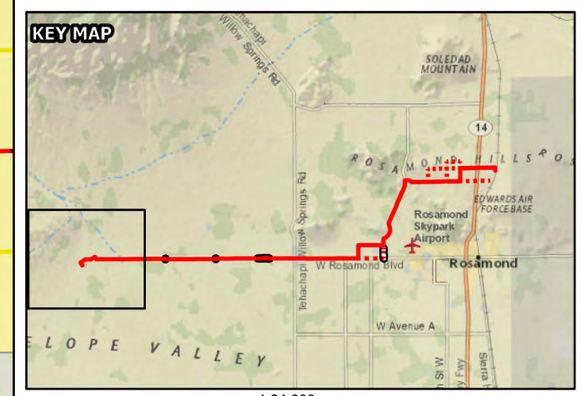


LEGEND

- PREFERRED ROUTE - ABOVEGROUND
- PREFERRED ROUTE - UNDERGROUND
- ROUTE OPTIONS 1-6- ABOVEGROUND
- ROUTE OPTIONS 1-6 - UNDERGROUND
- WRESC SITE
- OTHER PROJECT PARCEL
- SCE WHIRLWIND SUBSTATION
- 0.25 MILE BUFFER AROUND THE TRANSMISSION LINE

GEOLOGIC EXPLANATION

- QA - ALLUVIUM
- QS - WINDBLOWN SAND
- TF - FISS FANGLOMERATE
- TFB - FELSITE BRECCIA
- TGBA - BASALT FLOW
- TGF - FELSITE AND PORPHYRITIC FELSITE
- TGP - PORPHYRY
- TGT - TUFF, TUFF-BRECCIA, AND TUFFACEOUS SANDSTONE
- QM - QUARTZ MONZONITE



1:24,000

0 1,000 2,000 4,000 Feet

NOTE(S)

SEGMENT ALTERNATES ARE DENOTED WITH 1, 2A, 2B, 3A, 3B, 4, 5, & 6 LABELS

REFERENCE(S)

1. SURFICIAL GEOLOGY - UNITED STATES GEOLOGICAL SURVEY. GEOLOGIC INVESTIGATIONS OF SOUTHERN CALIFORNIA DESERTS. BULLETIN 1089-C. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA. DIBBLEE, T.W. PUBLISHED 1963.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GEOLOGY MAP - WITH ROUTE OPTIONS
MAP 6 OF 6

CONSULTANT		
	YYYY-MM-DD	2024-02-21
	DESIGNED	JAM
	PREPARED	RHG
	REVIEWED	KD
	APPROVED	JP

PROJECT NO. 31406639.003

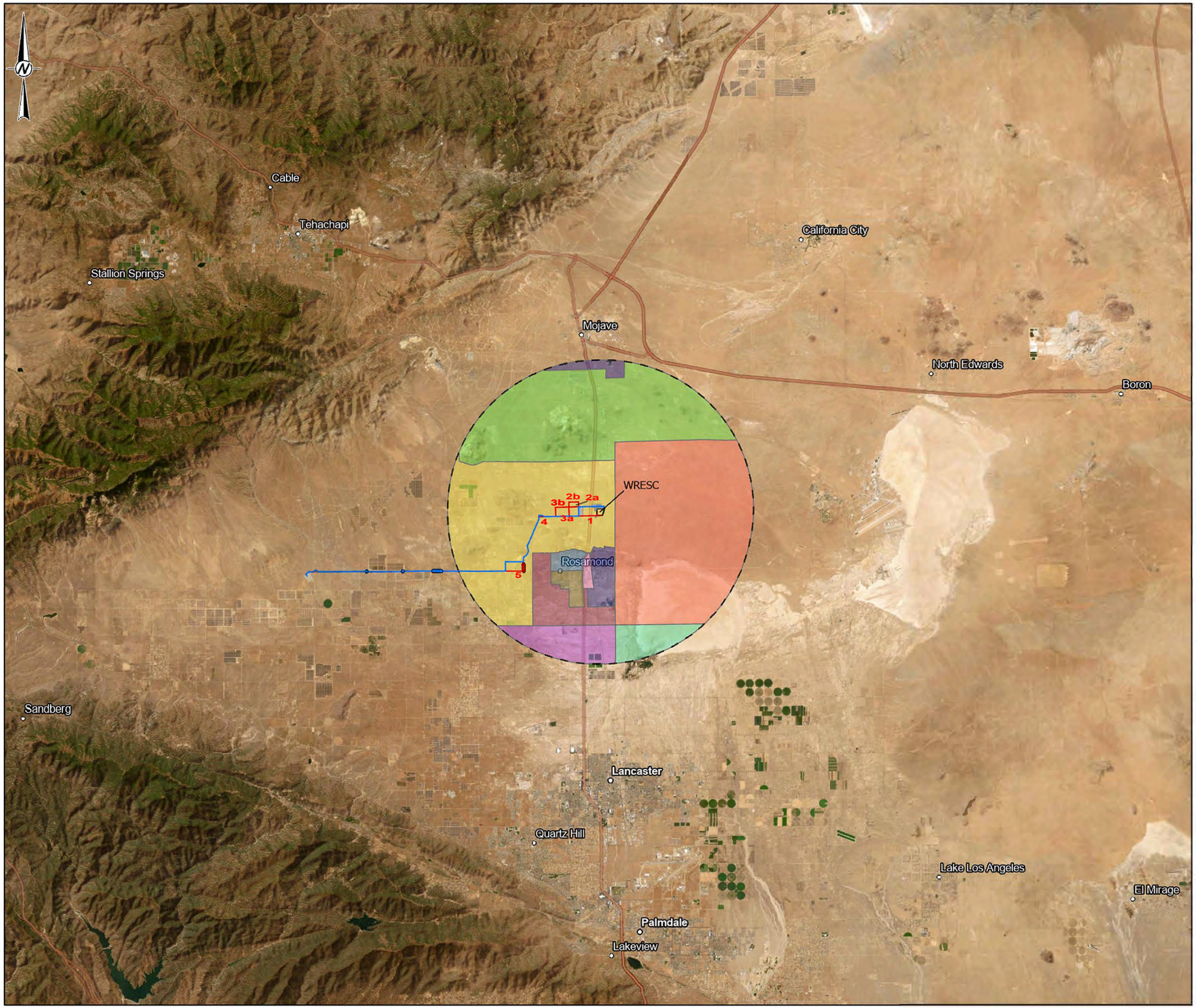
FIGURE 5.8-1

PATH: G:\Hydrostor\Arcwel\99_PROJECTS\31406639.000_Hydrostor\AreaLandUse\HY04.LU.LBR_LandUse\02_PRODUCTION\MXD\FIGURES\Land_Use_Rev0\31406639-003_01_010_F5.6A-11_Rev0_Geology.aprx PRINTED ON: AT 2:40:16 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0



LEGEND

- PROJECT BOUNDARY
- OTHER PROJECT PARCELS
- 10 MILE BUFFER

PERCENT PEOPLE OF COLOR

- 0
- 40
- 43
- 47
- 56
- 61
- 62
- 66
- 69
- 72

PREFERRED ROUTE

- ABOVEGROUND
- UNDERGROUND

ROUTE ALTERNATIVES (OPTIONS 1-6)

- ABOVEGROUND ROUTE OPTIONS 1-6
- UNDERGROUND ROUTE OPTIONS 1-6

1:340,822

0 3.5 7 14 Miles

REFERENCE(S)
AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
UNITED STATES CENSUS 2020

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK AFC

TITLE
PEOPLE OF COLOR COMMUNITY MAP

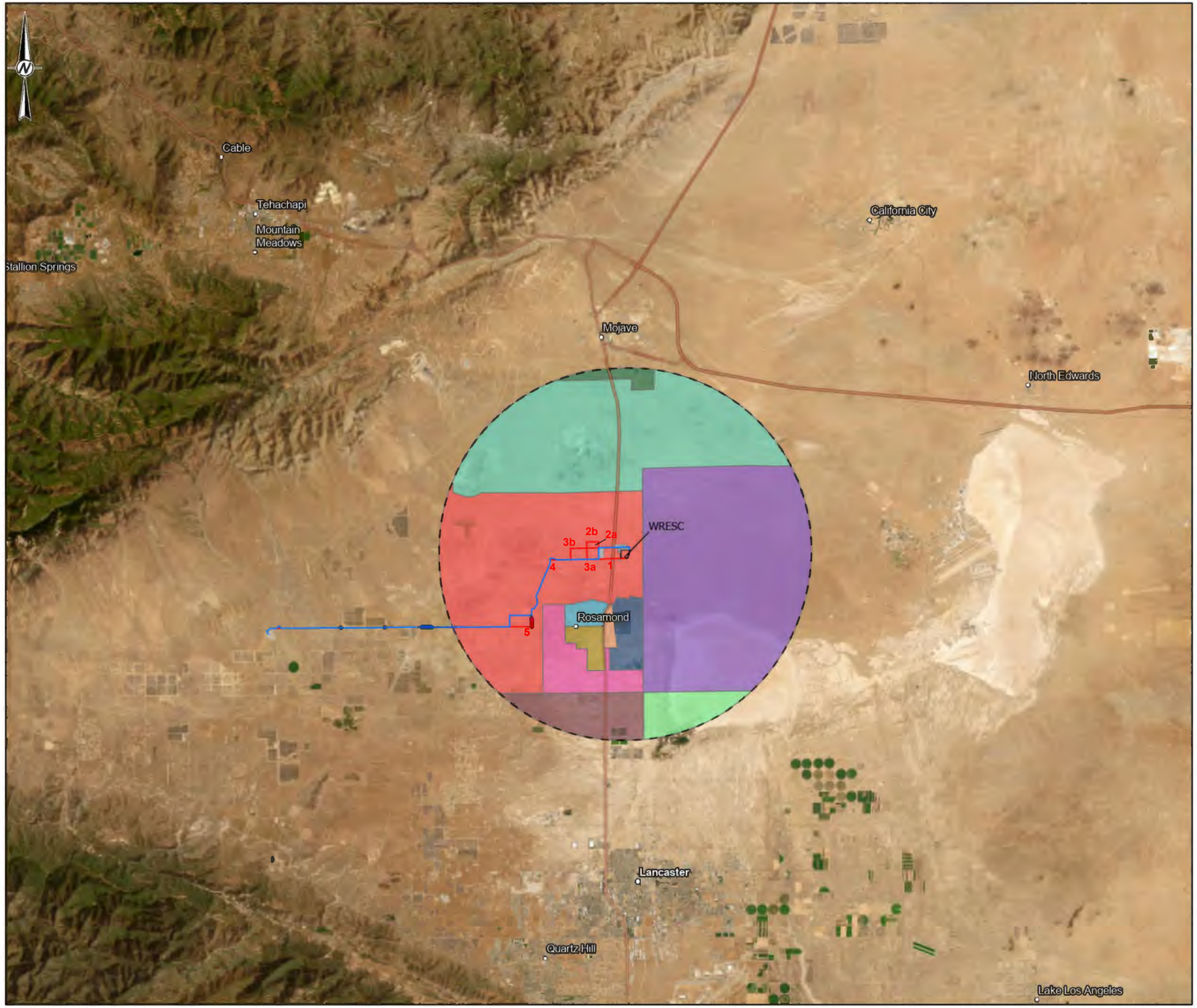
CONSULTANT

YYYY-MM-DD	2024-02-09
DESIGNED	JAM
PREPARED	KD
REVIEWED	SCH
APPROVED	VGLL

PROJECT NO. 31406639.003

FIGURE Figure 5.10-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- PROJECT BOUNDARY
- OTHER PROJECT PARCELS
- 10 MILE BUFFER

PERCENT OF POPULATION WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW POVERTY LEVEL

- 0
- 2.2
- 6.2
- 8.2
- 8.9
- 11.3
- 11.6
- 17.8
- 21
- 23
- 27.6

PREFERRED ROUTE

- ABOVEGROUND
- UNDERGROUND

ROUTE ALTERNATIVES (OPTIONS 1-6)

- ABOVEGROUND ROUTE OPTIONS 1-6
- UNDERGROUND ROUTE OPTIONS 1-6

1:340,822

0 3.5 7 14 Miles

REFERENCE(S)
AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
AMERICAN COMMUNITY SURVEY 2017-2021

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK AFC

TITLE
LOW INCOME COMMUNITY MAP

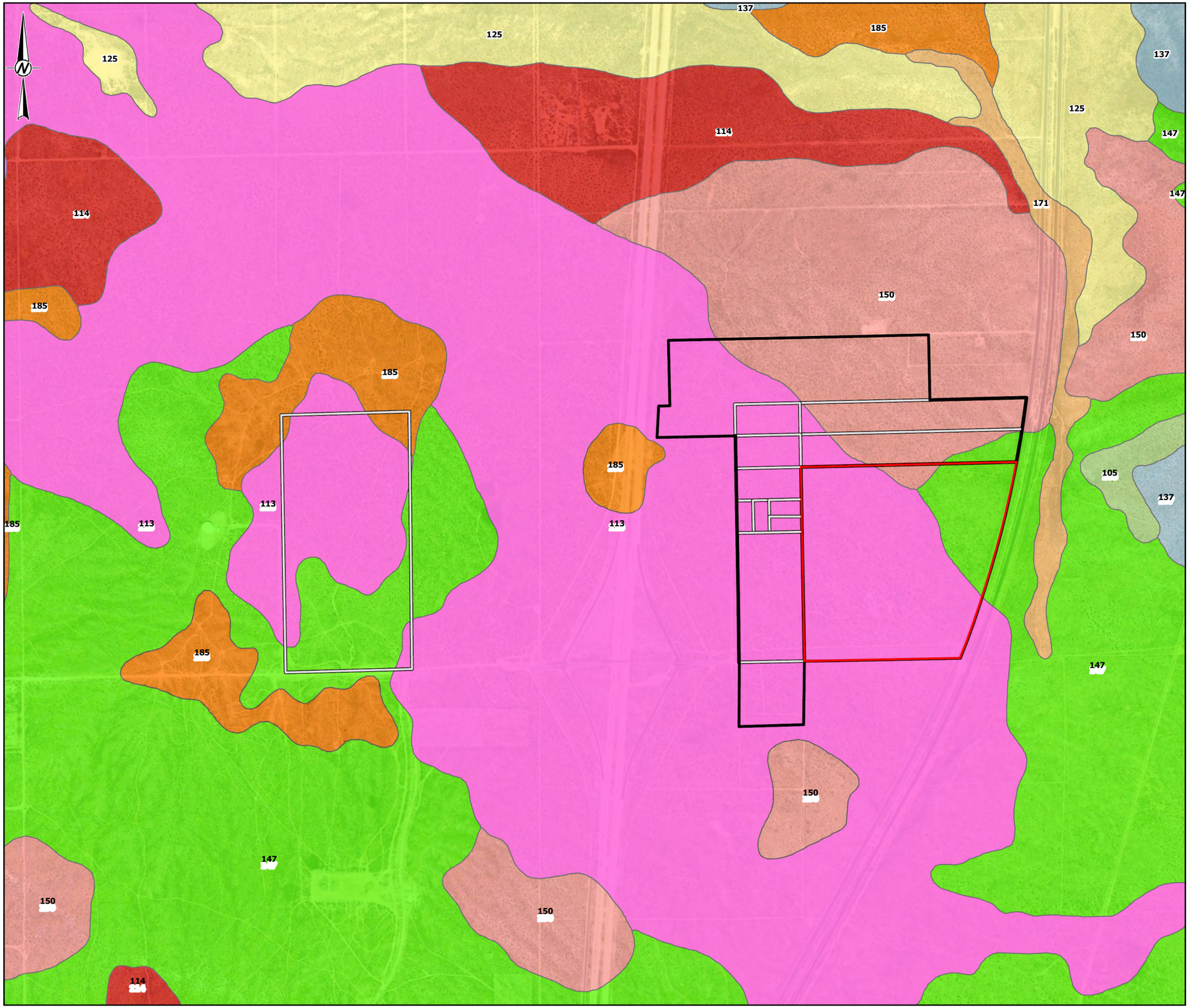
CONSULTANT

YYYY-MM-DD	2024-02-09
DESIGNED	JAM
PREPARED	KD
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
Figure 5.10-1

PRINTED ON: AT 3:47:26 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm



LEGEND

- WRESC SITE
- PROJECT BOUNDARY
- TEMPORARY IMPACT PARCEL

SOILS

- 105 - ARUJO SANDY LOAM, 9 TO 15 PERCENT SLOPES (0%)
- 113- CAJON SAND, 5 TO 15 PERCENT SLOPES
- 114 - CAJON LOAMY SAND, 0 TO 5 PERCENT SLOPES (0%)
- 125 - DESTAZO SANDY LOAM, 0 TO 2 PERCENT SLOPES (0%)
- 137 - GARLOCK LOAMY SAND, 2 TO 9 PERCENT SLOPES (0%)
- 147 - HI VISTA SANDY LOAM, 2 TO 9 PERCENT SLOPES (0%)
- 150 - MUROC SANDY LOAM, 2 TO 9 PERCENT SLOPES (0%)
- 171 - ROSAMOND CLAY LOAM (0%)
- 185 - TORRIORTHENTS-ROCK OUTCROP COMPLEX, VERY STEEP (0%)

1:12,000

0 500 1,000 2,000 Feet

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. SOURCE DATA: TTPS://W EBSOILSURVEY.N RCS.USDA.GOV/APP/W EBSOILSURVEY.ASPX , EDW ARDS AIR FORCE BASE, CALIFORN IA, PARTS OF KERN , LOS AN GELES, AN D SAN BERN ARDIN O COUN TIES (CA669)"
3. SOURCE DATA: TTPS://W EBSOILSURVEY.N RCS.USDA.GOV/APP/W EBSOILSURVEY.ASPX , KERN COUN TY, CALIFORN IA, SOUTHEASTERN PART (CA670

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
NRCS SOILS MAP WITHOUT ARCHITECTURAL BERM

CONSULTANT

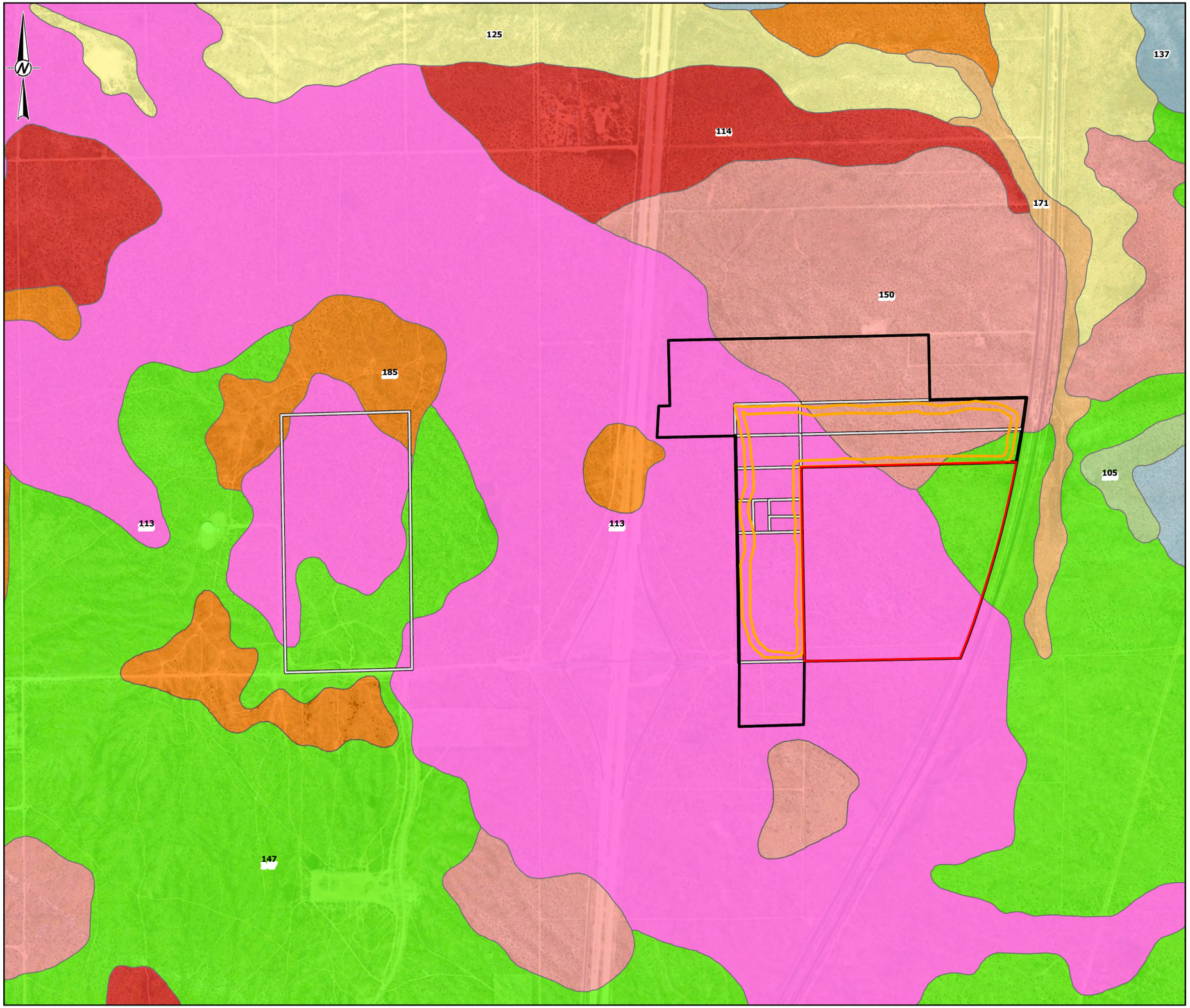
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	JAM
REVIEWED	RPCE
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.11-1a

PATH: G:\Hydrostor\Ansel\09_PROJECTS\31406639.000_Hydrostor\Ansel_Geohazards\02_PRODUCTION\MXD\FIGURES\Rev0\Figure5-11-1a_Soils.aprx PRINTED ON: AT: 3:44:01 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- WRESC SITE
- PROJECT BOUNDARY
- ARCHITECTURAL BERM
- TEMPORARY IMPACT PARCEL

SOILS

- 105 - ARUJO SANDY LOAM, 9 TO 15 PERCENT SLOPES (0%)
- 113- CAJON SAND, 5 TO 15 PERCENT SLOPES
- 114 - CAJON LOAMY SAND, 0 TO 5 PERCENT SLOPES (0%)
- 125 - DESTAZO SANDY LOAM, 0 TO 2 PERCENT SLOPES (0%)
- 137 - GARLOCK LOAMY SAND, 2 TO 9 PERCENT SLOPES (0%)
- 147 - HI VISTA SANDY LOAM, 2 TO 9 PERCENT SLOPES (0%)
- 150 - MUROC SANDY LOAM, 2 TO 9 PERCENT SLOPES (0%)
- 171 - ROSAMOND CLAY LOAM (0%)
- 185 - TORRIORTHENTS-ROCK OUTCROP COMPLEX, VERY STEEP (0%)

1:12,000

0 500 1,000 2,000 Feet

REFERENCE(S)

1. AERIAL IMAGERY - ESRI PROVIDED BASEMAP SERVICE. IMAGERY COLLECTED 10/2/2021.
2. SOURCE DATA: TTPS://W EBSOILSURVEY.N RCS.USDA.GOV/APP/W EBSOILSURVEY.ASPX , EDW ARDS AIR FORCE BASE, CALIFORN IA, PARTS OF KERN , LOS AN GELES, AN D SAN BERN ARDIN O COUN TIES (CA669)"
3. SOURCE DATA: TTPS://W EBSOILSURVEY.N RCS.USDA.GOV/APP/W EBSOILSURVEY.ASPX , KERN COUN TY, CALIFORN IA, SOUTHEASTERN PART (CA670

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
NRCS SOILS MAP WITH ARCHITECTURAL BERM

CONSULTANT

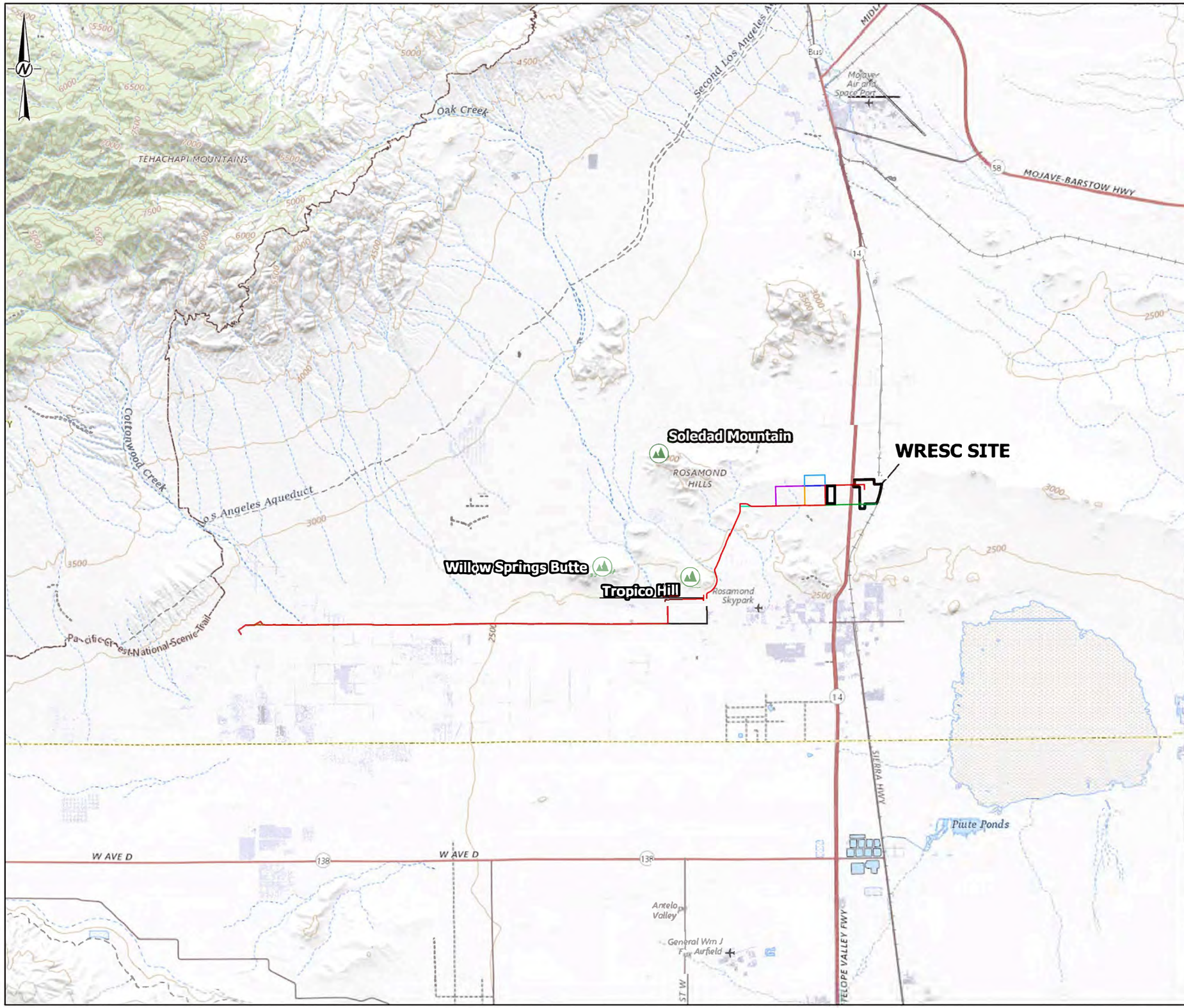
YYYY-MM-DD	2024-02-29
DESIGNED	JAM
PREPARED	JAM
REVIEWED	RPCE
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.11-1b

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\Ansel_Geohazards\02_PRODUCTION\MXD\FIGURES\Rev0\Figure5-11-1b.aprx PRINTED ON: AT 3:47:54 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0



LEGEND

- PROJECT BOUNDARY
- NATURAL FEATURES

TRANSMISSION LINE PREFERRED ROUTE

- PREFERRED ROUTE
- PREFERRED ROUTE ALTERNATIVE,1
- PREFERRED ROUTE ALTERNATIVE,2A
- PREFERRED ROUTE ALTERNATIVE,2B
- PREFERRED ROUTE ALTERNATIVE,3A
- PREFERRED ROUTE ALTERNATIVE,3B
- PREFERRED ROUTE ALTERNATIVE,4
- PREFERRED ROUTE ALTERNATIVE,5
- PREFERRED ROUTE ALTERNATIVE,6

1:158,400

0 1.25 2.5 5 Miles

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PROJECT LOCATION MAP

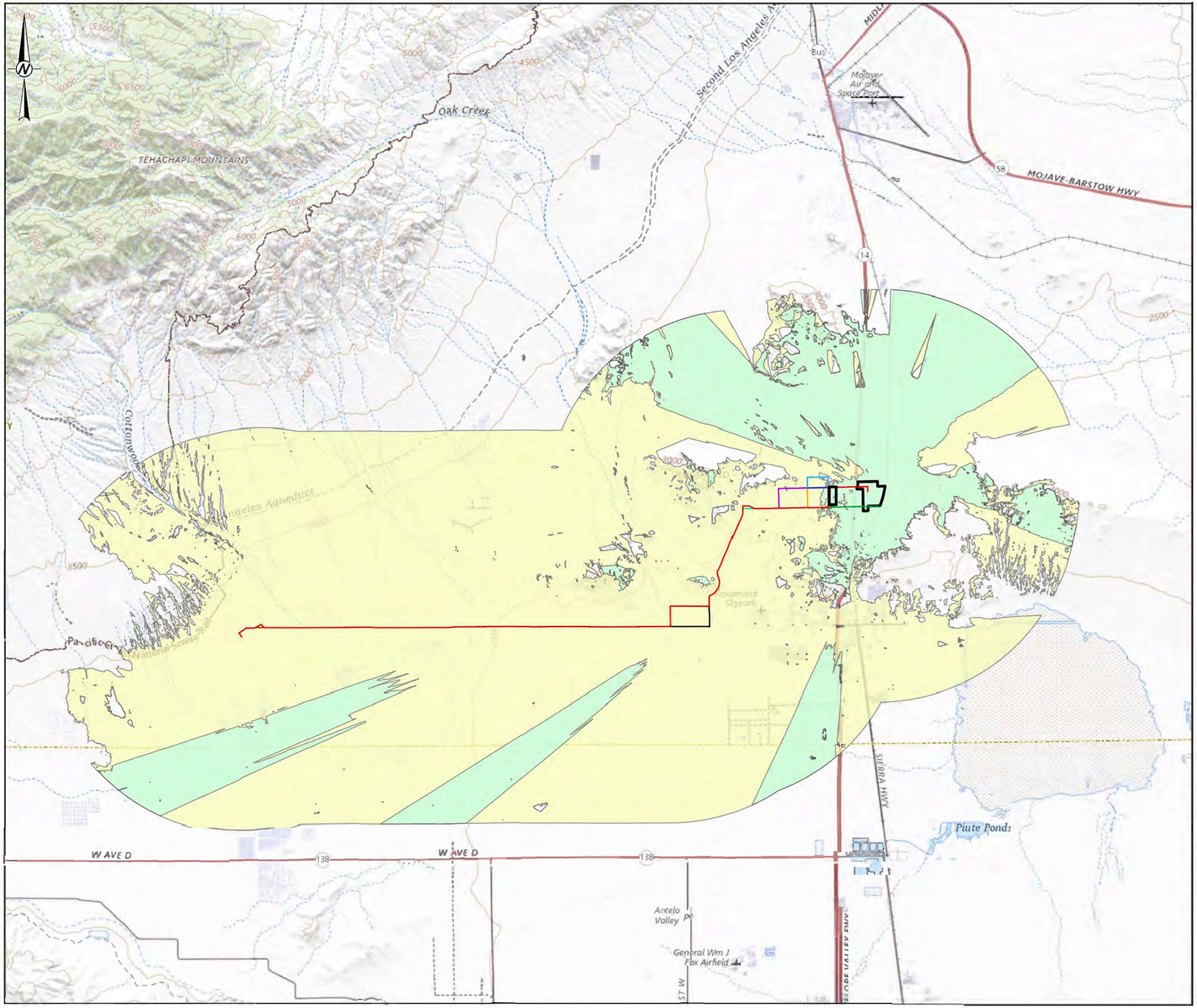
CONSULTANT

YYYY-MM-DD	2024-01-16
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO 31406639.003

FIGURE 5.13-1

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.000_Hydrostor\AnselLandUse\WillowRock\Visual\02_PRODUCTION\MXD\FIGURES\Rev0\Figure1_ProjectSite.aprx PRINTED ON: AT: 6:45:37 PM



LEGEND

- PROJECT BOUNDARY
- TRANSMISSION LINE VISIBILITY
- WRESC VISIBILITY

TRANSMISSION LINE PREFERRED ROUTE

- PREFERRED ROUTE
- PREFERRED ROUTE ALTERNATIVE,1
- PREFERRED ROUTE ALTERNATIVE,2A
- PREFERRED ROUTE ALTERNATIVE,2B
- PREFERRED ROUTE ALTERNATIVE,3A
- PREFERRED ROUTE ALTERNATIVE,3B
- PREFERRED ROUTE ALTERNATIVE,4
- PREFERRED ROUTE ALTERNATIVE,5
- PREFERRED ROUTE ALTERNATIVE,6

1:158,400

0 1.25 2.5 5 Miles

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

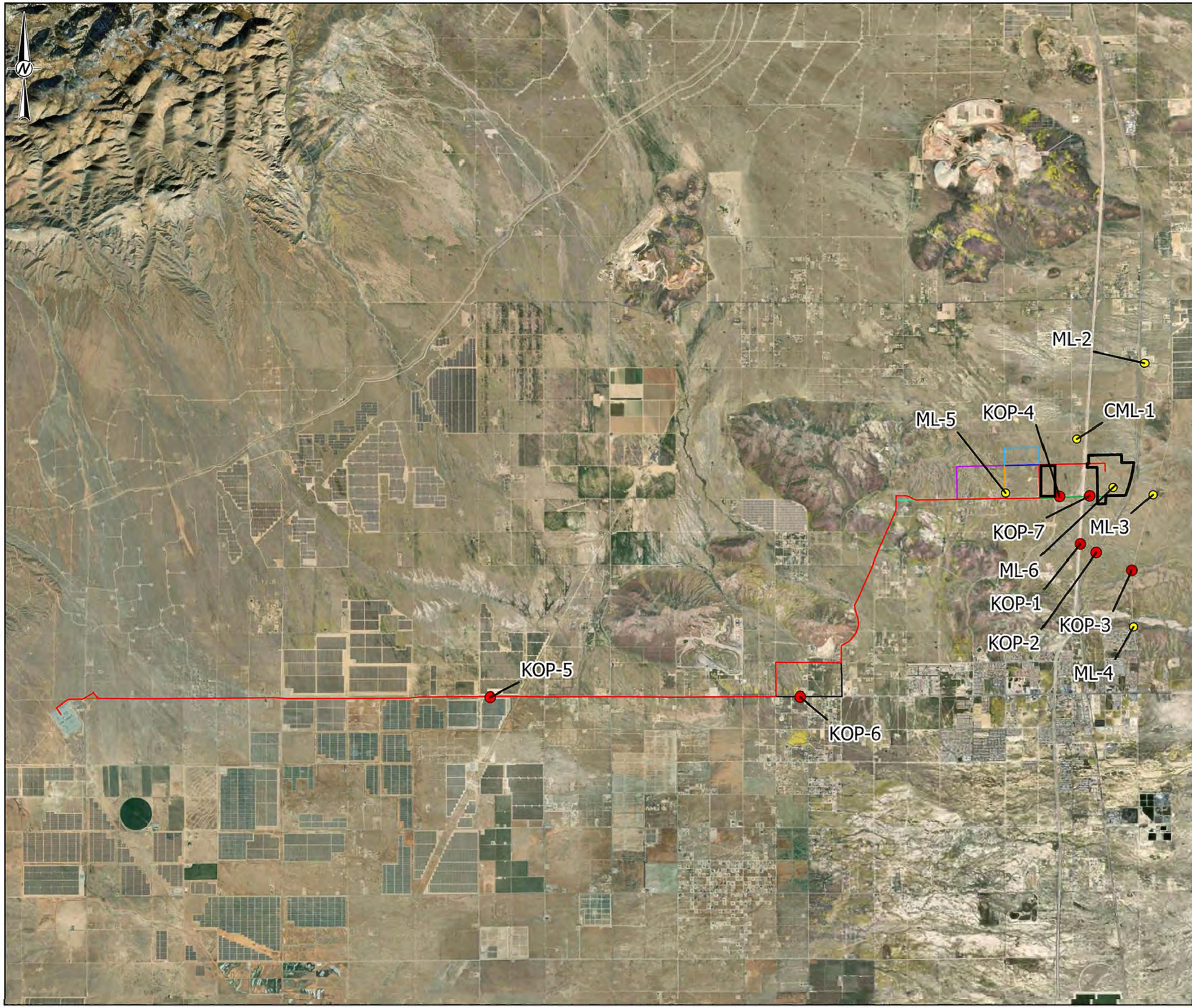
TITLE
VISIBILITY ANALYSIS MAP

CONSULTANT

YYYY-MM-DD	2024-01-16
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO
31406639.003

FIGURE
5.13-2



LEGEND

- PROJECT BOUNDARY
- KOP
- LIGHT RECEPTOR POINT

TRANSMISSION LINE PREFERRED ROUTE

- PREFERRED ROUTE
- PREFERRED ROUTE ALTERNATIVE,1
- PREFERRED ROUTE ALTERNATIVE,2A
- PREFERRED ROUTE ALTERNATIVE,2B
- PREFERRED ROUTE ALTERNATIVE,3A
- PREFERRED ROUTE ALTERNATIVE,3B
- PREFERRED ROUTE ALTERNATIVE,4
- PREFERRED ROUTE ALTERNATIVE,5
- PREFERRED ROUTE ALTERNATIVE,6

1:95,040

0 0.75 1.5 3 Miles

REFERENCE(S)
BASEMAP - ESRI PROVIDED BASEMAP SERVICE.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
KEY OBSERVATION POINT AND LIGHT RECEPTOR LOCATIONS MAP

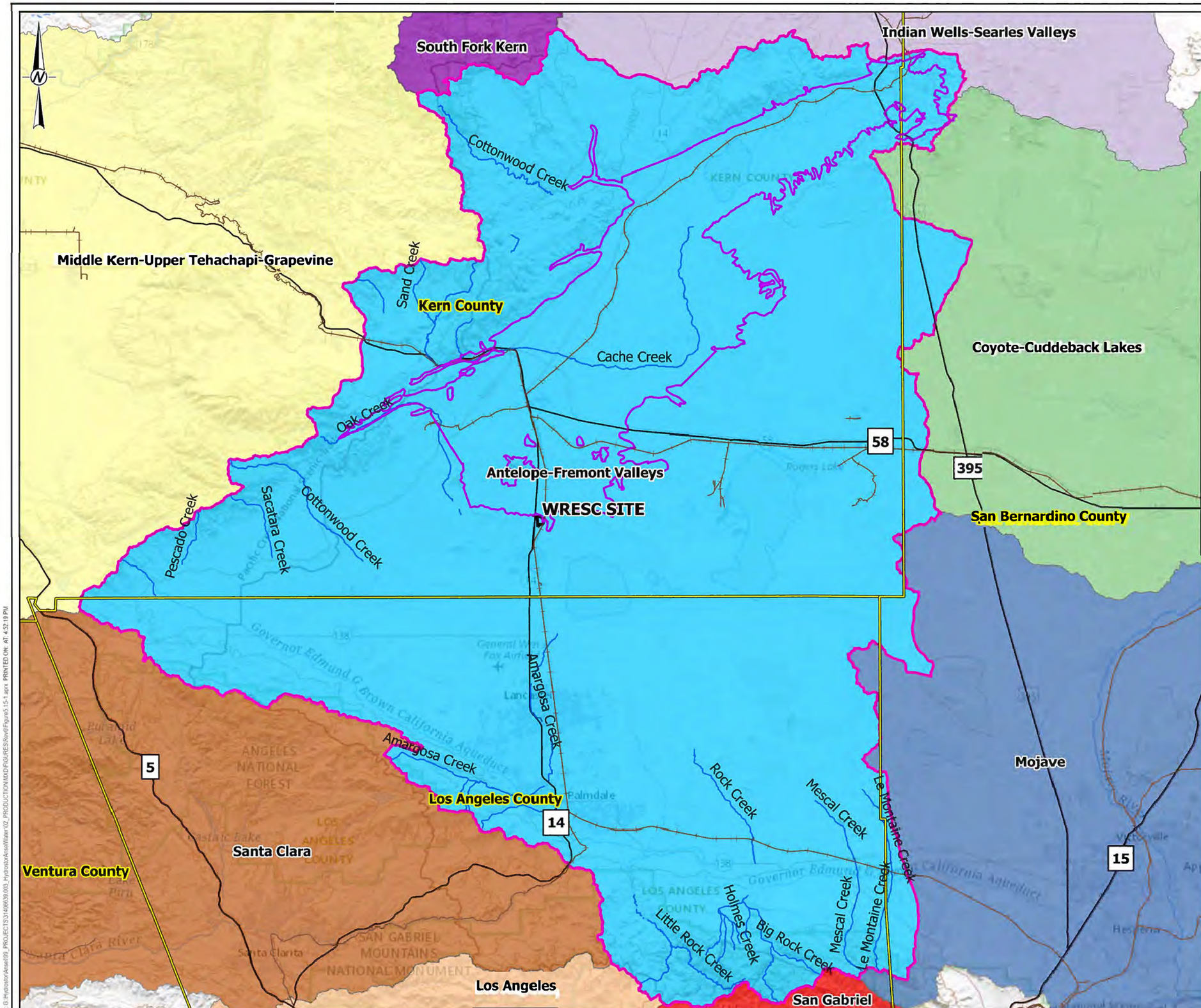
CONSULTANT

YYYY-MM-DD	2024-01-16
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.13-3

PATH: H:\hydrosto\Ansel\09_PROJECTS\31406639.000_Hydrosto\Ansel\LandUse\WillowRock\Visual\02_PRODUCTION\MXD\FIGURES\Rev0\Figure3_KOPLightReceptors.aprx PRINTED ON AT 6:51:20 PM



LEGEND

- PROJECT BOUNDARY
- CREEK
- RAILROAD
- HIGHWAY
- US COUNTIES
- FREEMONT BASIN IRWM REGION
- FREMONT VALLEY GROUNDWATER SUBBASIN

WATERSHEDS

- ANTELOPE-FREMONT VALLEYS
- COYOTE-CUDDEBACK LAKES
- INDIAN WELLS-SEARLES VALLEYS
- LOS ANGELES
- MIDDLE KERN-UPPER TEHACHAPI-GRAPEVINE
- MOJAVE
- SAN GABRIEL
- SANTA CLARA
- SOUTH FORK KERN

1:506,880

0 4 8 16 Miles

REFERENCE(S)

1. BASEMAP - ESRI PROVIDED BASEMAP SERVICE.
2. HIGHWAYS AND RAILROADS - US CENSUS DATA
3. CREEK - NATIONAL HYDROLOGY DATASET. 2024.
4. WATERSHEDS - NATIONAL HYDROLOGY DATASET. 2024.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

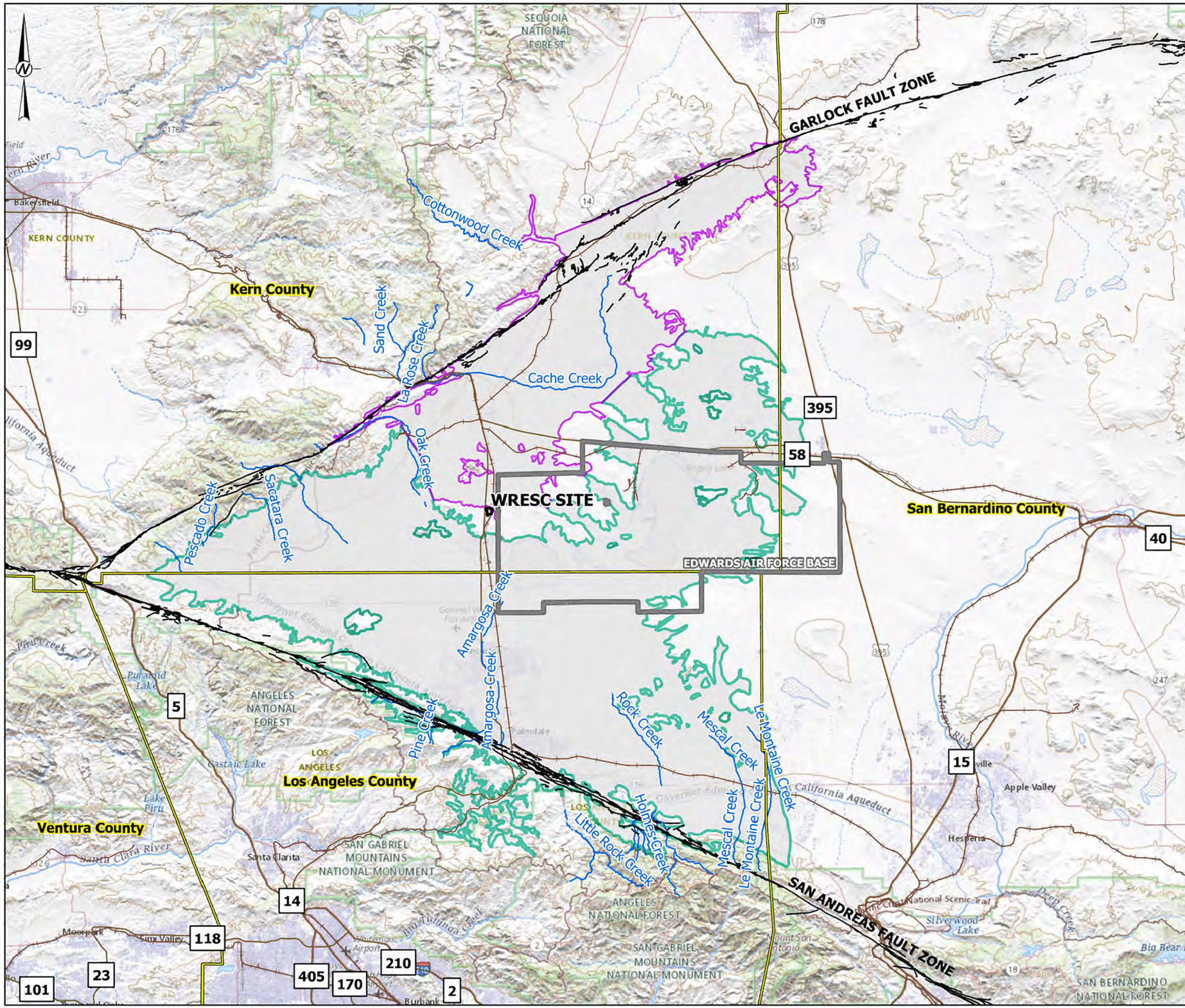
TITLE
WATERSHED LOCATION MAP

CONSULTANT

YYYY-MM-DD	2024-01-25
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.15-1



LEGEND

- PROJECT BOUNDARY
- ANTELOPE VALLEY GROUNDWATER SUBBASIN
- FREMONT VALLEY GROUNDWATER SUBBASIN
- US COUNTIES
- MILITARY INSTALLATION BOUNDARY
- CREEK
- RAILROAD
- HIGHWAY
- FAULT

1:633,600

0 5 10 20 Miles

REFERENCE(S)

1. BASEMAP - ESRI PROVIDED BASEMAP SERVICE.
2. HIGHWAYS AND RAILROADS - US CENSUS DATA
3. CREEK - NATIONAL HYDROLOGY DATASET. 2024.
4. BASINS- NATIONAL HYDROLOGY DATASET, 2024.

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

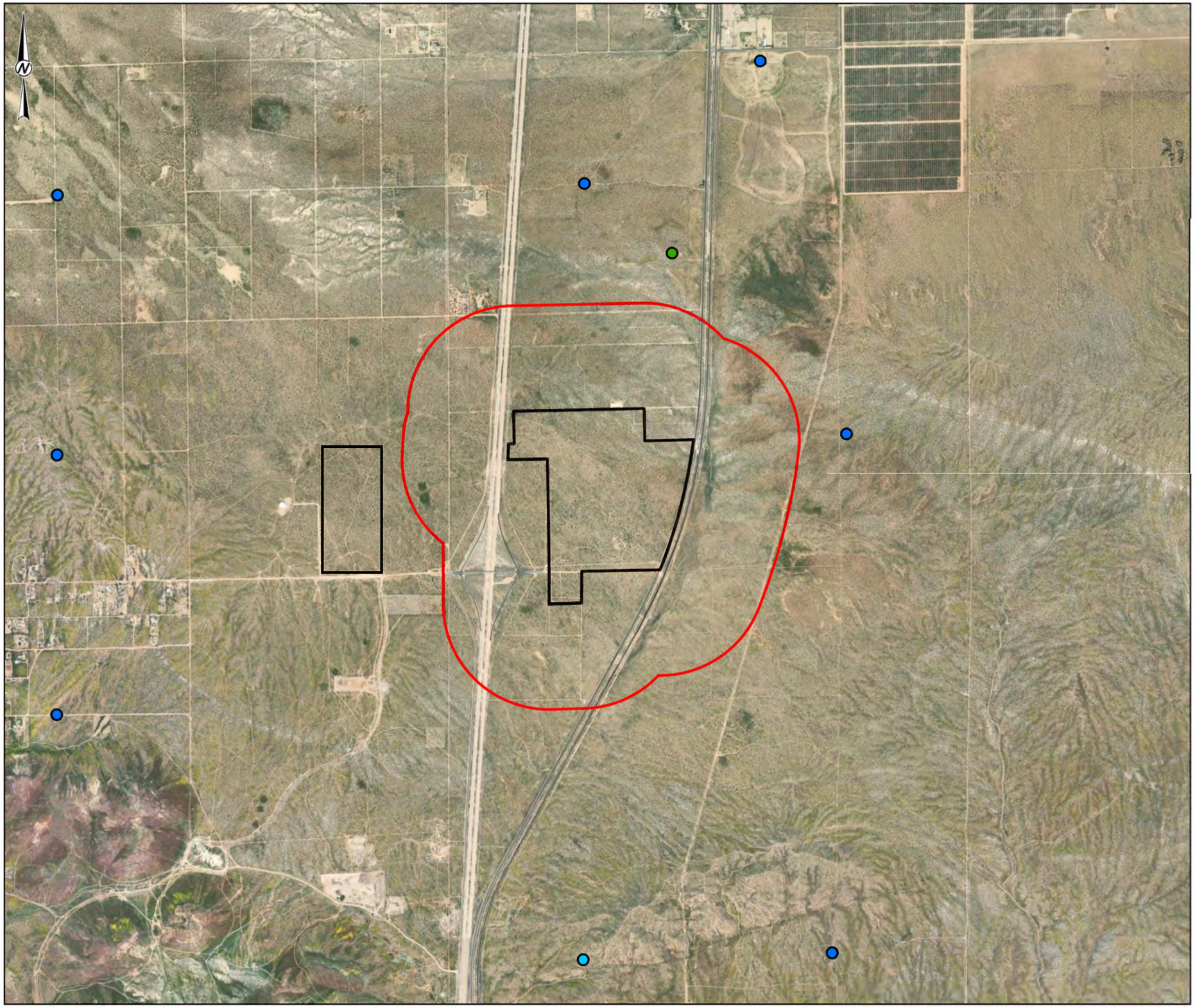
TITLE
GROUNDWATER BASIN MAP

CONSULTANT

YYYY-MM-DD	2024-01-25
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO. 31406639.003

FIGURE 5.15-2



LEGEND

- PROJECT BOUNDARY
- HALF MILE RADIUS

WELLS

- WATER SUPPLY DOMESTIC
- WATER SUPPLY IRRIGATION - LANDSCAPE
- WATER SUPPLY PUBLIC

1:24,000

0 1,000 2,000 4,000 Feet

REFERENCE(S)

1. BASEMAP - ESRI PROVIDED BASEMAP SERVICE.
2. FLOODPLAIN DATASET: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
GROUNDWATER WELLS MAP

CONSULTANT

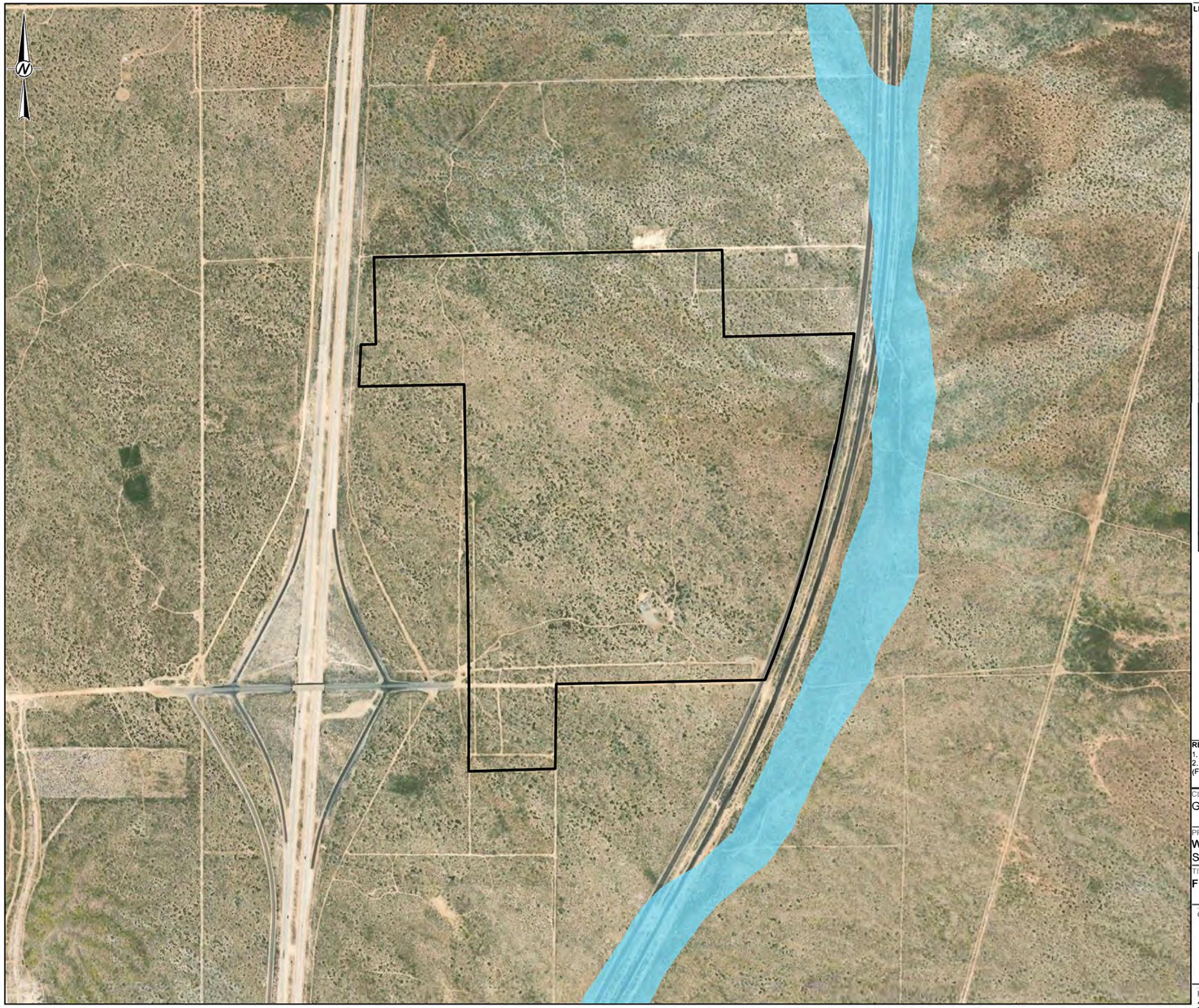
YYYY-MM-DD	2024-01-24
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.15-3

PATH: G:\Hydrostor\Ansel\00_PROJECTS\31406639.003_Hydrostor\Ansel\Water\02_PRODUCTION\MXD\FIGURES\Rev0\Figure5.15-3.aprx PRINTED ON: AT 5:27:15 PM

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

PROJECT BOUNDARY

FEMA 100-YEAR FLOODPLAIN ZONE

1:9,000

0 375 750 1,500 Feet

REFERENCE(S)
1. BASEMAP - ESRI PROVIDED BASEMAP SERVICE.
2. FLOODPLAIN DATASET: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
FLOOD ZONE POTENTIAL MAP

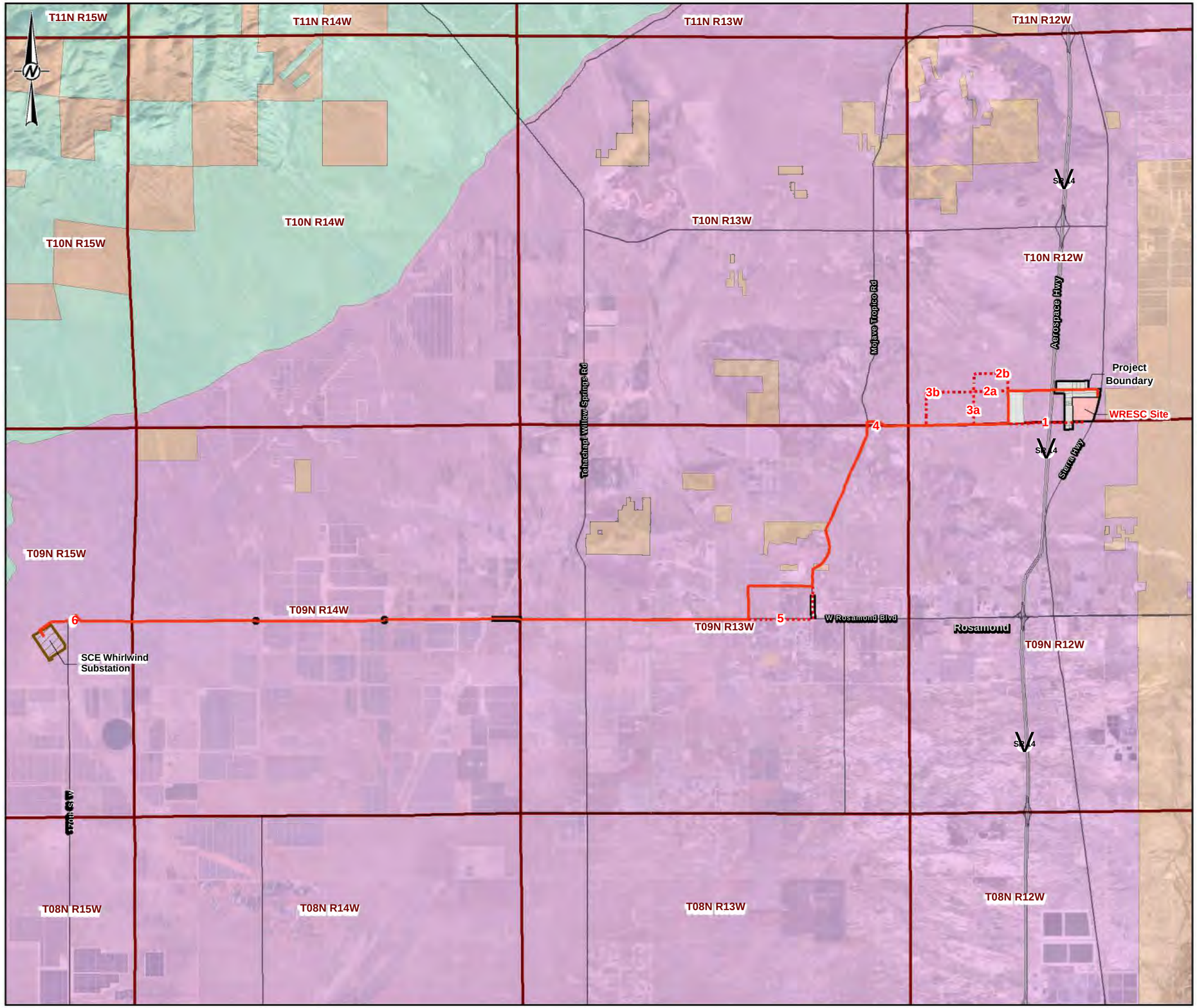
CONSULTANT

YYYY-MM-DD	2024-01-22
DESIGNED	JAM
PREPARED	JAM
REVIEWED	SC H
APPROVED	VG/LL

PROJECT NO.
31406639.003

FIGURE
5.15-4

PATH: G:\Hydrostor\Ansel\99_PROJECTS\31406639.003_Hydrostor\Ansel\Water\02_PRODUCTION\MXD\FIGURES\Rev0\Figure5.15-4.aprx PRINTED ON: AT 3:35:51 PM



LEGEND

Proposed Transmission Line

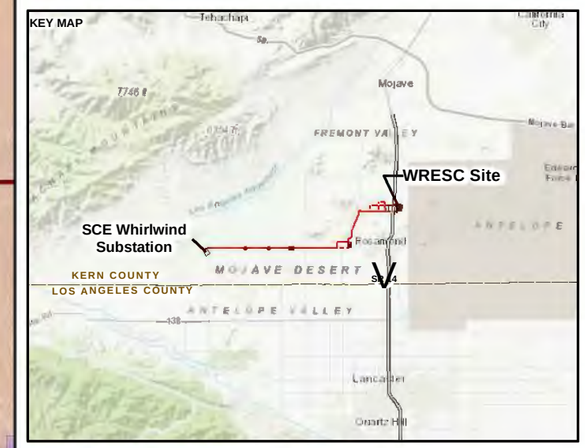
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components

- WRESC Site
- Other Project Parcel
- Project Boundary
- SCE Whirlwind Substation
- Township/Range

State Responsibility Areas

- Federal Responsibility Area (FRA)
- Local Responsibility Area (LRA)
- State Responsibility Area (SRA)



0 8,000 16,000

1 " = 8,000 feet FEET

REFERENCE(S)

1. TRANSMISSION LINES AND PROJECT COMPONENTS - GEM A-CAES LLC, 11/30/2023
2. PARCEL BOUNDARIES - KERN COUNTY GIS DEPT., 12/14/2023
3. CAL FIRE NOVEMBER 21, 2022, DOWNLOADED 11/01/2023
4. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
5. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
STATE RESPONSIBILITY AREAS

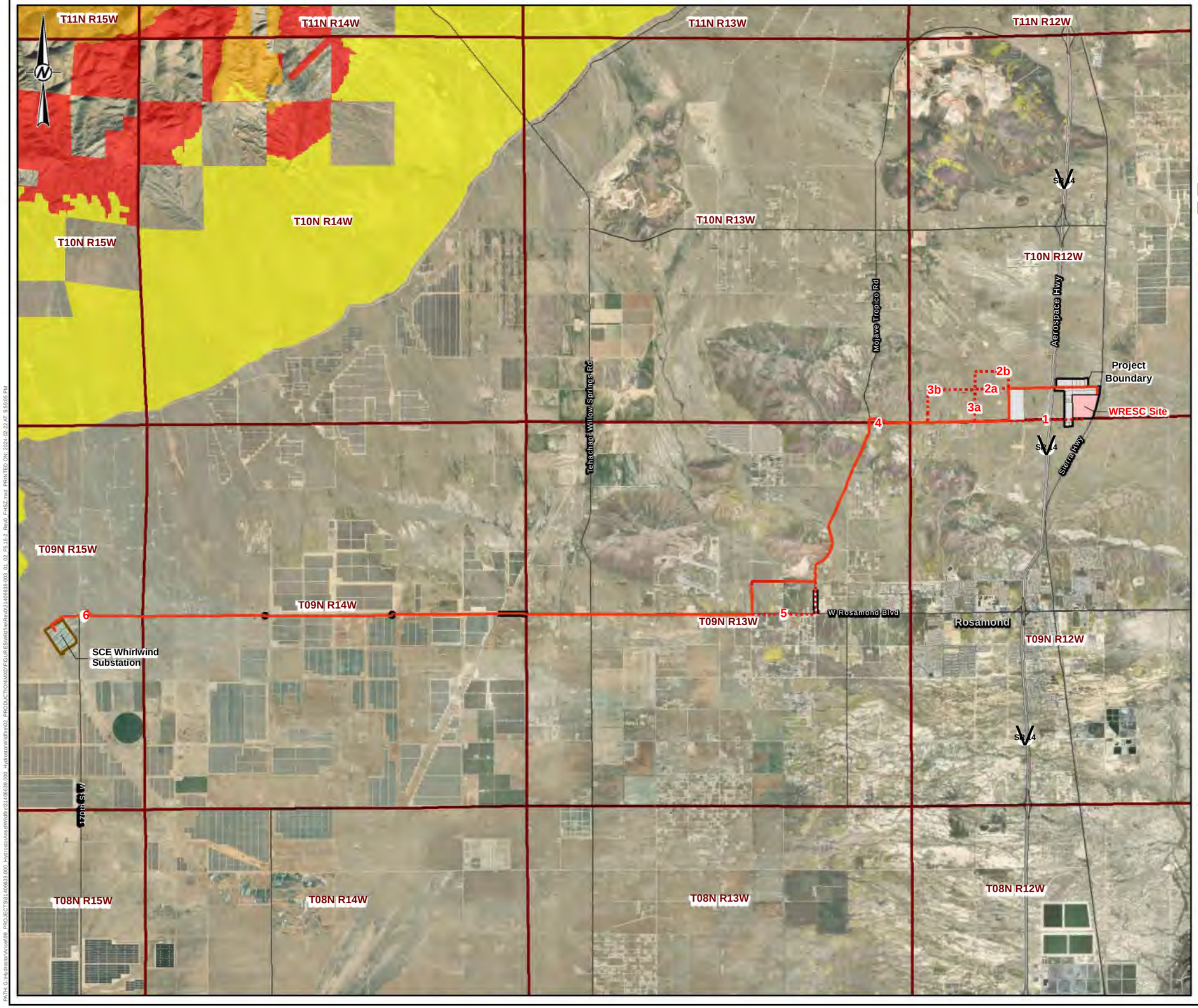
CONSULTANT

YYYY-MM-DD	2024-02-22
DESIGNED	MK
PREPARED	MK
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.	CONTROL	REV.	FIGURE
31406639.003	01	0	5.16-1

PATH: G:\Hydrostor\Ansel\69_PROJECTS\31406639.000_Hydrostor\Ansel\Wildfire\31406639.000_HydrostorWildfire02_PRODUCTION\MXD\FIGURES\Wildfire\Rev0\31406639-003_01_01_F5-16.1_Rev0_SRA.mxd PRINTED ON: 2024-02-22 AT 5:54:26 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

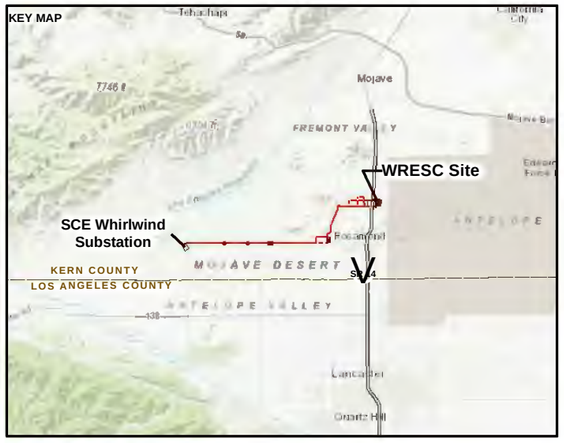
Project Components

- WRESC Site
- Other Project Parcel
- Project Boundary
- SCE Whirlwind Substation
- Township/Range

Fire Hazard Severity Zones in State Responsibility Area

- Very High
- High
- Moderate

KEY MAP



0 8,000 16,000

1 " = 8,000 feet FEET

REFERENCE(S)

1. TRANSMISSION LINES AND PROJECT COMPONENTS - GEM A-CAES LLC, 11/30/2023
2. PARCEL BOUNDARIES - KERN COUNTY GIS DEPT., 12/14/2023
3. CAL FIRE NOVEMBER 21, 2022, DOWNLOADED 11/01/2023
4. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
5. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
FIRE HAZARD SEVERITY ZONES (FHSZ)

CONSULTANT

YYYY-MM-DD	2024-02-22
DESIGNED	MK
PREPARED	MK
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.	CONTROL	REV.	FIGURE
31406639.003	01	0	5.16-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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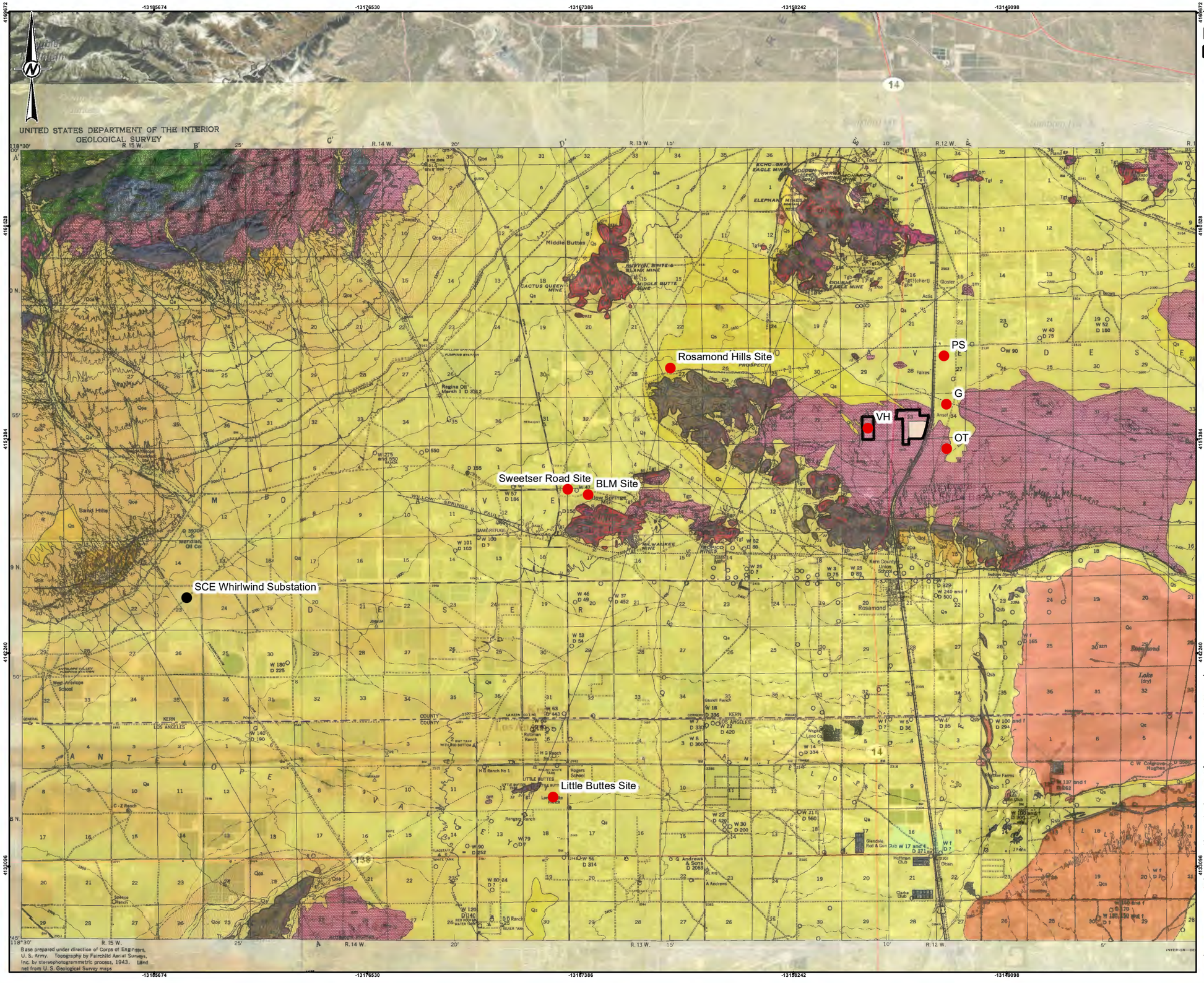


LEGEND

- WRESC Site
- Project Boundary
- Alternative Site
- SCE Whirlwind Substation

0 2.5 5 Miles

1 " = 2.5 miles

NOTE(S)

1. TRANSMISSION LINES PROVIDED BY GEM A-CAES LLC NOVEMBER 30, 2023
2. PROJECT PARCELS PROVIDED BY GEM A-CAES LLC DECEMBER 14, 2023
3. GEOLOGY SOURCE: USGS 1963. GEOLOGY OF THE WILLOW SPRINGS AND ROSAMOND QUADRANGLES, CALIFORNIA BULLETIN 1089-C

CLIENT
GEM A-CAES LLC

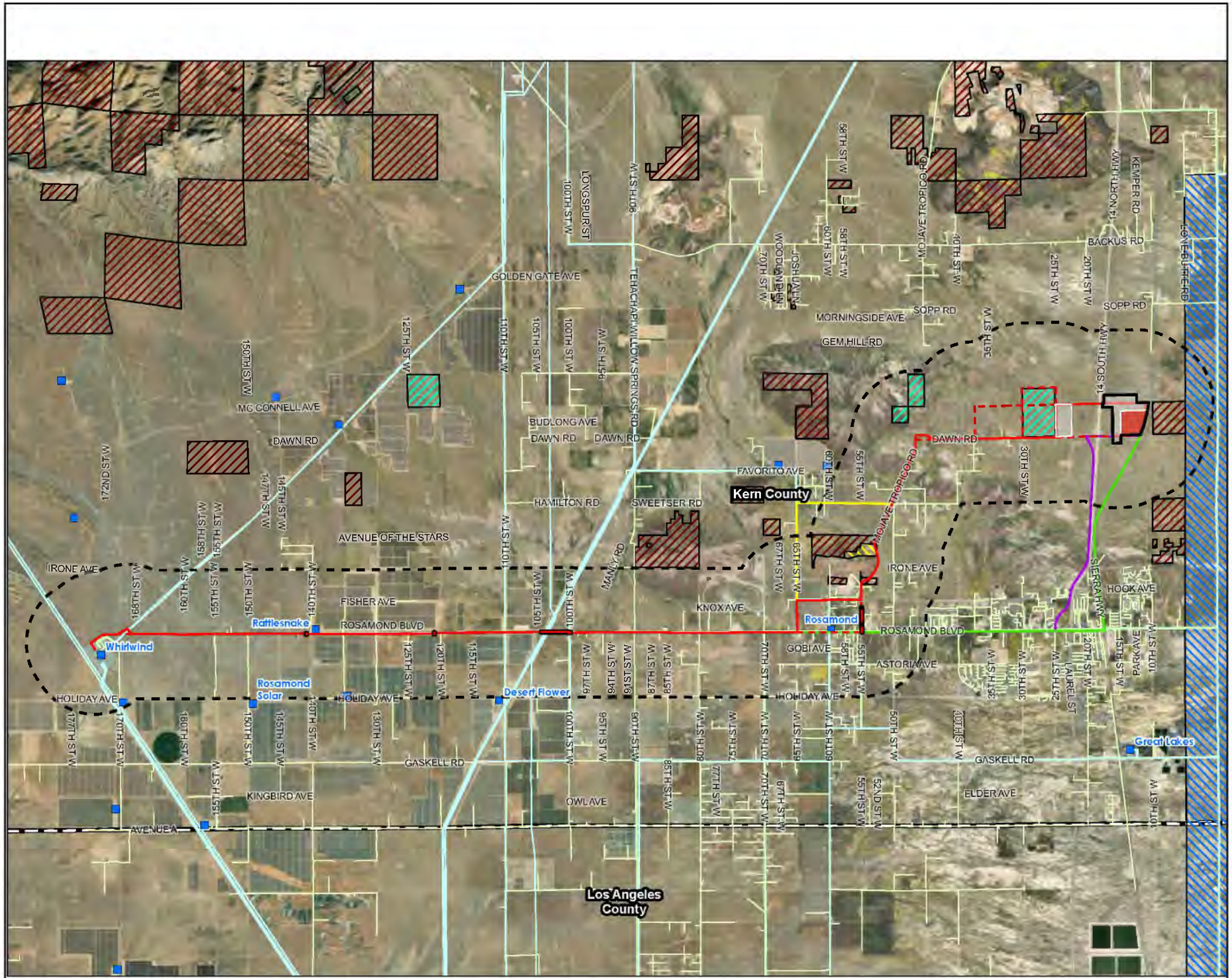
PROJECT
WILLOW ROCK ENERGY STORAGE CENTER SUPPLEMENTAL AFC

TITLE
PROJECT SITE ALTERNATIVES

YYYY-MM-DD	2024-02-13
DESIGNED	SCH
PREPARED	SCH
REVIEWED	DS
APPROVED	VG/LL

PROJECT NO.	CONTROL	REV.	FIGURE
31406639.003	01	0	6-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



Willow Rock Energy Storage Center Transmission Line

Preferred and Alternative Routes

- Project Boundary
- WRESC Site
- Other Project Parcel

Preferred Route Primary
- Aboveground
- Underground

Preferred Route Options
- Aboveground
- Underground
- 1-mile Project Buffer

Alternative Routes
- Alternative A
- Alternative B
- Alternative C

Existing Transmission
- Existing Substations
- Existing Transmission Lines (CEC 2023)
- Existing Subtransmission Lines (SCE 2023)
- Existing Primary Distribution Lines (SCE 2023)

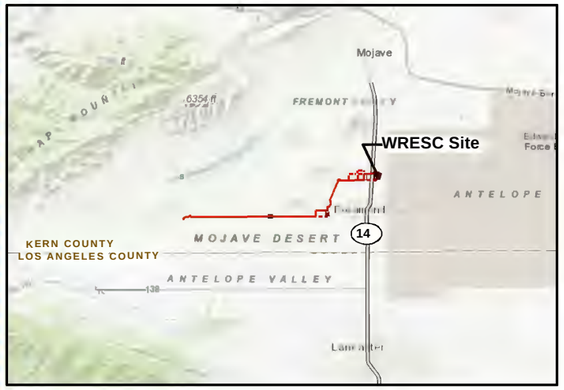
Surface Managment Agency
- DOD
- BLM
- Forest Service
- State
- Local Government
- Private/Unidentified
- County

Scale =1:90,000

0 1 1 Miles

Basemap: 10/2/2021

Date Created: 2/22/2024



REFERENCE(S)

1. PREFERRED AND ALTERNATE ROUTES - PANORAMA, 2023
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
GEM A-CAES LLC

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
SUPPLEMENTAL AFC

TITLE
PREFERRED AND ALTERNATIVE ROUTES

CONSULTANT

wsp

YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SCH
APPROVED	VG/LL

PROJECT NO.	CONTROL	REV.	FIGURE
31406639.003	01	0	6-2

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