

KGE project #  
2015-045.00



### Utah Army National Guard - Camp W.G. Williams

17800 South Camp Williams Road  
Bluffdale, Utah 84065  
PH#: (801)-878-5472

ELECTRICAL  
ENGINEER

### KEN GARNER ENGINEERING, INC.

420 E. South Temple, Suite 370  
Salt Lake City, UT 84111  
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# CAMP WILLIAMS 3-PHASE UNDERGROUND POWER WEST OF TICKVILLE

17800 SOUTH CAMP WILLIAMS ROAD  
BLUFFDALE, UTAH 84065

DFCM PROJECT #  
**15081480**

issue date  
**AUGUST 24, 2015**  
30% ISSUE FOR DESIGN-BUILD

### DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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DFCM STAMP

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Project #: 2015-045.00

PROFESSIONAL  
ENGINEER STAMP

DRAWINGS ARE IN COMPLIANCE  
WITH DFCM STANDARDS.

### CAMP WILLIAMS



UTAH ARMY NATIONAL GUARD  
3-PHASE UNDERGROUND POWER  
17800 SOUTH CAMP WILLIAMS ROAD  
BLUFFDALE, UTAH 84065

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08/24/2015	8.24.2015
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BK	KDG

SHEET TITLE:  
**COVER SHEET**

SHEET NUMBER:  
**EG001**

### SPECIAL INSPECTION AND TESTING UNDER THE PROVISIONS OF IBC 1704 AND FOR MISCELLANEOUS AREAS

\* INDICATE REQUIRED SPECIAL INSPECTIONS FOR PROJECT BY CHECKING THE APPROPRIATE BOXES AND PROVIDE SPECIFIC INSTRUCTIONS AS TO THE INSPECTION REQUIREMENTS AND THE EXPECTATIONS OF THE ARCHITECT, ENGINEER AND OWNER. \*

#### CONCRETE CONSTRUCTION (IBC 1704.4)

MATERIALS (1704.4.1)	CONTINUOUS	PERIODIC	DETAILED INSTRUCTIONS AND FREQUENCIES
STEEL PLACEMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
STEEL WELDING	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
BOLTS PRIOR & DURING PLACEMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ANCHOR BOLTS AFTER PLACEMENT
USE OF REQUIRED DESIGN MIX	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CONCRETE SAMPLING FOR STRENGTH TEST, SLUMP, AIR CONTENT, AND TEMPERATURE OF CONCRETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ONLY ON FOUNDATION CONCRETE, NOT ON DUCTBANKS
CONCRETE & SHOTCRETE PLACEMENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CURING TEMPERATURE AND TECHNIQUES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PRE-CAST CONCRETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AFTER PLACEMENT
FORM WORK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

#### SOILS CONSTRUCTION (IBC 1704.7)

	CONTINUOUS	PERIODIC	DETAILED INSTRUCTIONS AND FREQUENCIES
SITE PREPARATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	TRENCH EXCAVATION OBSERVATION
BACKFILL SOIL MATERIALS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SEE NOTES
BACKFILL SOIL DENSITIES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SEE NOTES

#### SPECIAL INSPECTORS SHALL:

- BE APPROVED BY THE BUILDING OFFICIAL TO PERFORMING ANY DUTIES;
- PROVIDE PROOF OF LICENSURE AS A SPECIAL INSPECTOR BY THE STATE OF UTAH FOR EACH TYPE OF INSPECTION;
- INSPECTION REPORTS ARE TO MEET THE REQUIREMENTS OF IBC 1704.1.2 AND DFCM STANDARDS;
- INSPECTION REPORTS ARE TO BE SUBMITTED TO THE CODE CONSULTANT, ARCHITECT, DFCM PROJECT MANAGER, AND THE OF UTAH BUILDING OFFICIAL WITHIN 48 HOURS OF INSPECTION;
- A FINAL INSPECTION REPORT SHALL BE SUBMITTED FOLLOWING COMPLETION OF THE PROJECT DOCUMENTING THE TYPES OF SPECIAL INSPECTIONS PERFORMED AND A STATEMENT INDICATING THAT THE STRUCTURE IS IN COMPLIANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE CODES. IBC 1704.1.2

UPDATED OCTOBER 8, 2009

#### SPECIAL INSPECTION FOR SEISMIC RESISTANCE (1707)

	CONTINUOUS	PERIODIC	DETAILED INSTRUCTIONS AND FREQUENCIES
STRUCTURAL STEEL (1707.2)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
STRUCTURAL WOOD (1707.3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COLD-FORMED STEEL FRAMING (1707.4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PIER FOUNDATIONS (1707.5)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
STORAGE RACKS & ACCESS FLOORS (1707.6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ARCHITECTURAL COMPONENTS (1707.7)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MECHANICAL & ELECTRICAL ITEMS (1707.8)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	TRANSFORMERS AND SWITCH GEAR ANCHORAGE
DESIGNATED SYSTEMS VERIFICATION (1707.9)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SEISMIC ISOLATION SYSTEMS (1707.10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

#### MISCELLANEOUS AREAS

THESE INSPECTIONS ARE RECOMMENDED BY THE ARCHITECT/ENGINEER AND APPROVED BY DFCM	CONTINUOUS	PERIODIC	DETAILED INSTRUCTIONS AND FREQUENCIES
SUSPENDED CEILING GRID CLIPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SUSPENDED CEILING WIRE SPACING (SEISMIC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SOILS BACKFILL (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AT TRENCHES ONE LOCATION PER 250 FEET
SOILS FOR CURB AND GUTTER(SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SOILS FOR PARKING LOTS (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SOILS FOR UTILITY TRENCH BACKFILL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	AT TRENCHES ONE LOCATION PER 250 FEET
REINFORCEMENT FOR SLAB ON GRADE SIDEWALKS AND DRIVE APPROACHES (SPECIFY LOCATION S AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
REINFORCEMENT FOR INTERIOR SLAB ON GRADE (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CONCRETE TESTING FOR SLAB ON GRADE SIDEWALKS AND DRIVE APPROACHES (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CONCRETE TESTING FOR INTERIOR SLAB ON GRADE (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
MASONRY VENEER (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ASPHALT INSPECTION (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ASPHALT TESTING (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
INSPECTION OF SEISMIC RESISTANCE (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
STEAM AND WATER LINE WELDING (SPECIFY LOCATIONS AND FREQUENCY)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SEISMIC SUPPORTS FOR DUCT WORK AND SEALING OF JOINTS FOR DUCT WORK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SEISMIC SUPPORTS FOR ELECTRICAL RACEWAYS, CABLE TRAYS AND LIGHTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SEISMIC SUPPORTS FOR PLUMBING LINES INCLUDING GAS, WATER, STEAM AND CONDENSATION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
SEISMIC BRACING FOR MECHANICAL UNIT ON SLAB AND SUSPENDED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

#### NOTES:

SOIL CONSTRUCTION (IBC 1704.7)

1. BACKFILL SOILS MATERIALS- PERIODIC- FILL MATERIAL REQUIREMENTS. NON-STRUCTURAL SITE GRADING FILL / BACKFILL IS DEFINED AS ALL FILL MATERIAL NOT DESIGNATED AS STRUCTURAL FILL, AND MAY CONSIST OF ANY COHESIVE OR GRANULAR SOILS NOT CONTAINING EXCESSIVE AMOUNTS OF DEGRADABLE MATERIAL.
2. BACKFILL SOIL DENSITIES- PERIODIC- NON-STRUCTURAL FILL MAY BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS AND COMPACTED BY PASSING CONSTRUCTION, SPREADING, OR HAULING EQUIPMENT OVER THE SURFACE AT LEAST TWICE.

## CODE ANALYSIS

### APPLICABLE CODES

	Year		Year
International Building Code	2012	National Electrical Code	2014
International Mechanical Code	2012	Uniform Code for Building Conservation	N/A
International Fuel Gas Code	2012	ADA Accessibility Guidelines	N/A
International Plumbing Code	2012		
International Fire Code	2012		
International Energy Conservation Code	2012		

#### NOTES:

1. Deferred submittals for seismic restraint of nonstructural components must be submitted to the DFCM Building Official a minimum of two weeks prior to the planned installation in order to allow for plan review and forwarding to inspectors. In the event that the submittal is deficient additional time may become necessary.
2. When seismic restraint of non-structural components is installed prior to receiving DFCM approval it shall not be covered or concealed until receiving both plan review and inspection approval. Further, installers are proceeding at their own risk until plan review and inspection approval occurs.
3. The requirements for seismic restraint of nonstructural components cannot be satisfied by a general reference to Design Manuals. The design professional may utilize these manuals as a basis of their design, but must provide all supporting documentation to ensure that the design conforms to the requirements of ASCD 7-05, Chapter 13.
4. Submittals must include details of the proposed seismic restraint of nonstructural components. These details must show specific information relating to the materials, type, size, and locations of anchorages; materials used for bracing; attachment requirements of bracing to structure and component; and locations of transverse and longitudinal sway bracing and rod stiffeners. Submittals may also require structural calculations, engineering reports, test data, and/or specifications to ensure code compliance.

#### DEFERRED SUBMITTAL NONSTRUCTURAL COMPONENT CHECKLIST

ITEM DESCRIPTION	NOT REQUIRED	ON CONST. DOCUMENTS	DEFERRED SUBMITTAL	COMMENTS
Architectural Components:	X			
Interior Nonstructural Walls & Partitions	X			
Cantilever Elements (i.e. parapets, etc.)	X			
Exterior Nonstructural Wall Elements	X			
Veneer	X			
Penthouses	X			
Ceilings (i.e. suspended grid or hard-lid)	X			
Cabinets (i.e. storage cabinets, equip, etc.)	X			
Access Floors	X			
Storage Racks	X			
Appendages & Ornamentations	X			
Signs & Billboards	X			
Other:				
Other:				
MEP Components:				
Fire Sprinklers	X			
Mechanical Equipment (i.e. HVAC, fans, air handlers, boilers, furnaces, tanks, chillers, water heaters, heat exchangers, evaporators, engines, turbines, pumps, compressors, MFR equipment, etc.)	X			
Electrical Equipment (i.e. generators, batteries, inverters, transformers, MCC, panel boards, switch gear, cabinets, etc.)			X	
Elevator & Escalator Components	X			
Communication Equipment, Computers, Instrumentation and Controls	X			
Roof-mounted Chimneys, Stacks, Cooling & Electrical Towers	X			
Lighting Fixtures	X			
Vibration Isolated Components				
Piping & Conduit Systems	X			
Ductwork (including in-line components)	X			
Conveyors	X			
Cable Trays	X			
Other:				
Other:				

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DRAWINGS ARE IN COMPLIANCE WITH DFCM STANDARDS.

### CAMP WILLIAMS



UTAH ARMY NATIONAL GUARD  
3-PHASE UNDERGROUND POWER  
17800 SOUTH CAMP WILLIAMS ROAD  
BLUFFDALE, UTAH 84065

#### REVISIONS:

NO.	DATE	

ISSUED DATE: 08/24/2015

PLOTTED DATE: 8.24.2015

DRAWN BY: BK

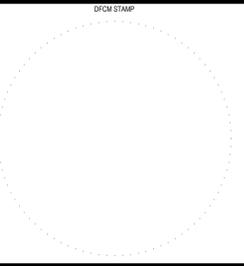
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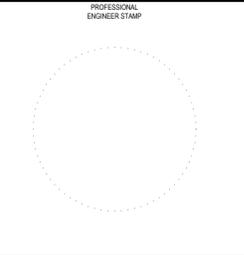
CODES, SPECIAL INSPECTIONS, & DEFERRED SUBMITTALS

#### SHEET NUMBER:

EG002



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BK	KDG

SHEET TITLE:  
**SYMBOLS,  
 ABBREVIATIONS,  
 & AREA MAP**

SHEET NUMBER:  
**EG100**

**SYMBOL LIST**

- DRAWING NOTE DESIGNATION
- CENTERLINE OVER HEAD POWER
- GUY WIRE
- UNDERGROUND CONDUIT
- GROUND WIRE
- STUB UP
- STUB DOWN
- STUB OUT
- POWER POLE WITH NEW WIRE
- DEMO OVERHEAD POWER
- METER
- TRANSFORMER (SITE PLAN)
- TRANSFORMER (ONE-LINE)
- BREAKER
- MANHOLE
- 600A DEADBREAK MOLDED PRODUCT TERMINATION (15KV)
- 600A DEADBREAK MOLDED PRODUCT SPLICE (15KV)
- G&W UNIVERSAL CE TERMINATION (15KV)
- G&W UNIVERSAL CE SPLICE (15KV)
- 200A LOADBREAK MOLDED PRODUCT TERMINATION (15KV)
- MEDIUM VOLTAGE SPLICE (15KV HEATSHRINK OR LOADSHRINK)
- AIR BREAK SWITCH

**ABBREVIATIONS**

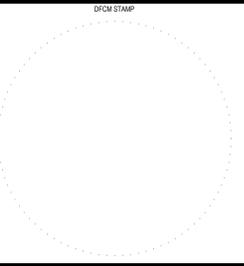
- AFF ABOVE FINISHED FLOOR
- AIC AMP INTERRUPTING CURRENT (SYMMETRICAL)
- AL ALUMINUM
- BG BELOW GRADE
- C CONDUIT
- CFCI CONTRACTOR FURNISHED CONTRACTOR INSTALLED
- CLG CEILING
- CTR ABOVE COUNTER
- CKT CIRCUIT
- CO CONDUIT ONLY
- CU COPPER
- EM EMERGENCY
- (E) EXISTING
- EWC ELECTRIC WATER COOLER
- EWB ELECTRIC WATER HEATER
- (F) FUTURE
- FA FIRE ALARM
- FACP FIRE ALARM CONTROL PANEL
- FLA FULL LOAD AMPS
- GFI GROUND FAULT INTERRUPTER
- GFP GROUND FAULT PROTECTOR
- GND GROUND
- GRC GALVANIZED RIGID CONDUIT
- IG ISOLATED GROUND
- LTG LIGHTING
- MCB MAIN CIRCUIT BREAKER
- MDP MAIN DISTRIBUTION PANEL
- MCC MOTOR CONTROL CENTER
- MLO MAIN LUGS ONLY
- (N) NEW
- NAC NOTIFICATION APPLIANCE CIRCUIT
- NIC NOT IN CONTRACT
- NL NIGHT LIGHT
- NTS NOT TO SCALE
- OFCI OWNER FURNISHED CONTRACTOR INSTALLED
- OFOI OWNER FURNISHED OWNER INSTALLED
- PNL PANEL
- (R) RELOCATED
- SPD SURGE PROTECTIVE DEVICE
- ST SHUNT TRIP
- TYP TYPICAL
- UNO UNLESS NOTED OTHERWISE
- VR VANDAL RESISTANT
- WG WIRE GUARD
- WP WEATHER PROOF
- (X) DEMOLISH/DELETE
- XFMR TRANSFORMER



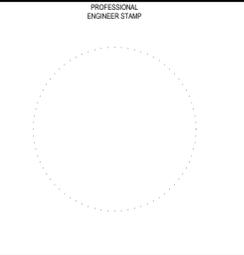


1 SITE KEYPLAN  
EG101 SCALE: 1" = 300'-0"

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**CAMP WILLIAMS**



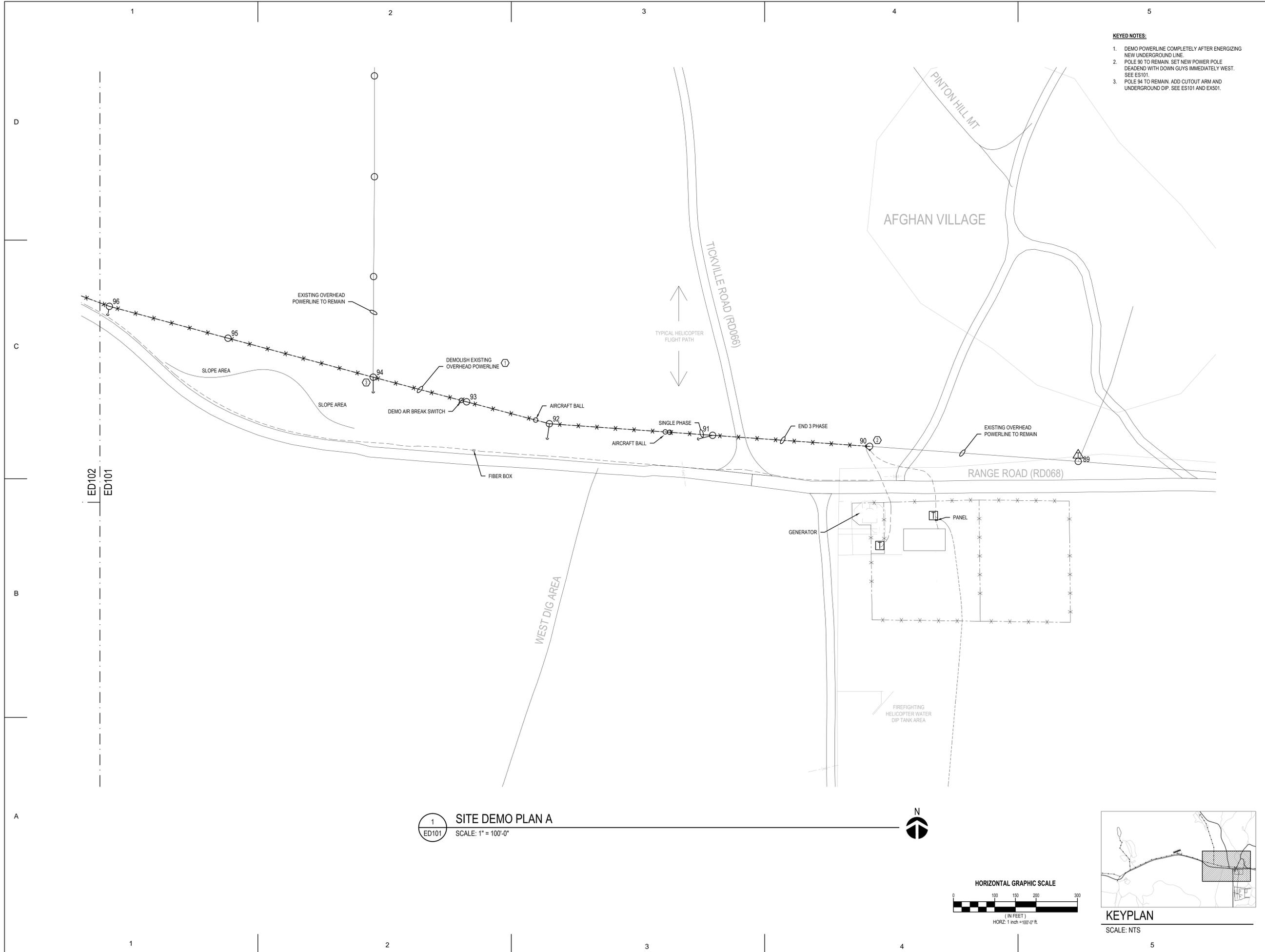
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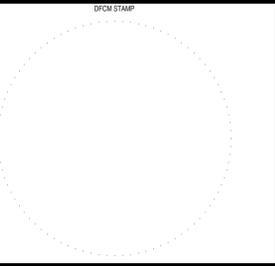
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**SITE KEYPLAN**

SHEET NUMBER:  
**EG101**

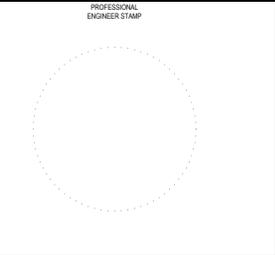


- KEYED NOTES:**
1. DEMO POWERLINE COMPLETELY AFTER ENERGIZING NEW UNDERGROUND LINE.
  2. POLE 90 TO REMAIN. SET NEW POWER POLE DEADEND WITH DOWN GUYS IMMEDIATELY WEST. SEE ES101.
  3. POLE 94 TO REMAIN. ADD CUTOUT ARM AND UNDERGROUND DIP. SEE ES101 AND EX501.

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REVISIONS:

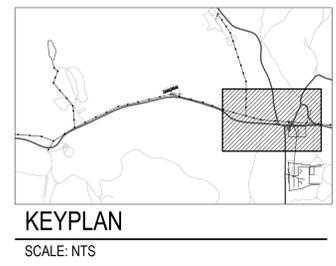
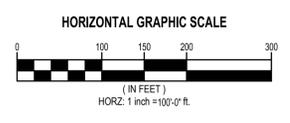
NO.	DATE

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SHEET TITLE:  
**SITE DEMO PLAN A**

SHEET NUMBER:  
**ED101**

**1 SITE DEMO PLAN A**  
 ED101 SCALE: 1" = 100'-0"



1

2

3

4

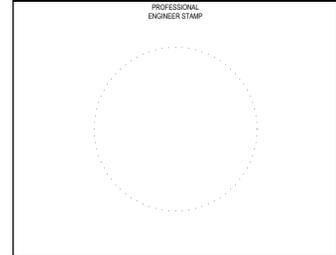
5

- KEYED NOTES:**
1. BASE BID: DEMO POWERLINE COMPLETELY AFTER ENERGIZING NEW UNDERGROUND LINE.
  2. EXISTING XFMR TO BE RE-FED FROM NEW ENCLOSURE.
  3. BASEBID: UPGRADE OVERHEAD 3 PHASE LINE 101 THROUGH 109 DEMOLITION OF EXISTING SINGLE PHASE AS REQUIRED.  
ALTERNATE NO. 3: DEMO 101 THROUGH 109 COMPLETELY AFTER ENERGIZING NEW UNDERGROUND LINE.

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**SITE DEMO PLAN B**

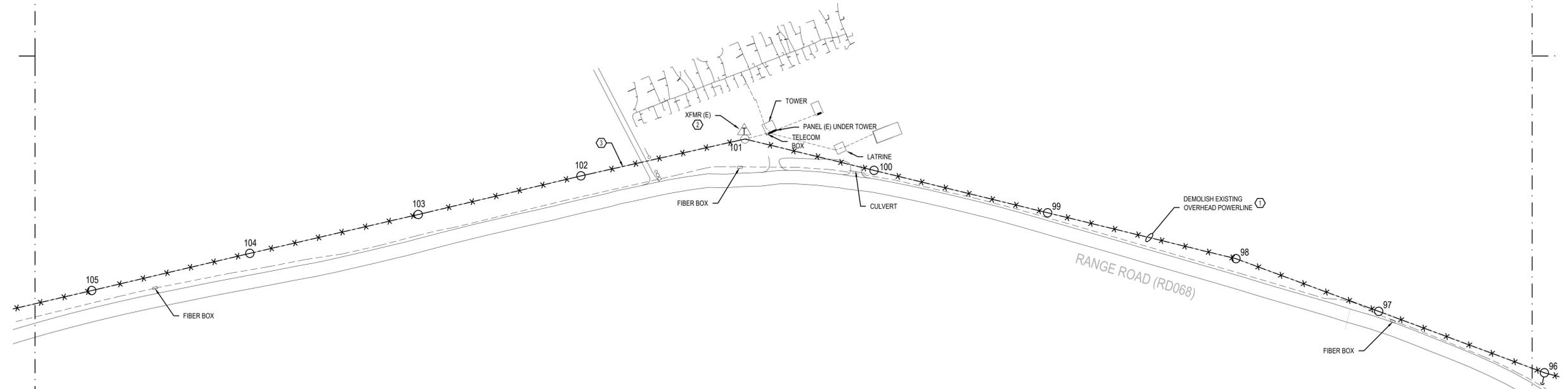
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ED104  
ED102

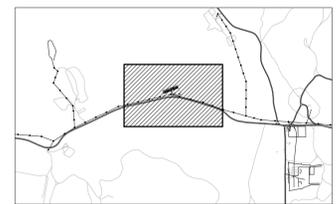
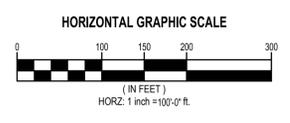
ED103  
ED102

ED102  
ED101

COMBAT PISTOL



**1**  
 ED102  
**SITE DEMO PLAN B**  
 SCALE: 1" = 100'-0"



1

2

3

4

5

ED104  
ED103

ED104  
ED103

**KEYED NOTES:**

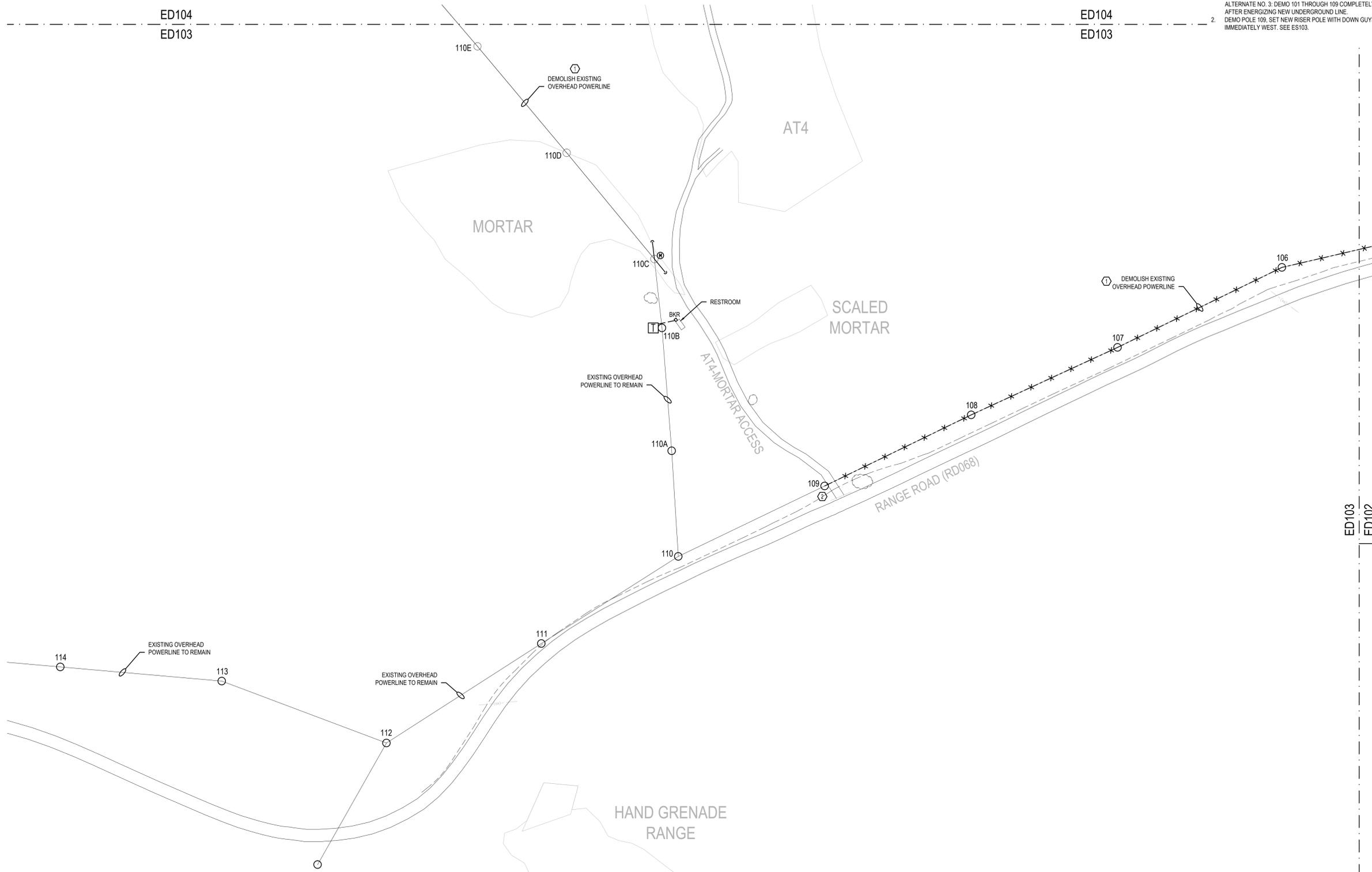
1. BASE BID: UPGRADE OVERHEAD 3 PHASE LINE 101 THROUGH 109. DEMOLISH EXISTING SINGLE PHASE AS REQUIRED.
2. ALTERNATE NO. 3: DEMO 101 THROUGH 109 COMPLETELY AFTER ENERGIZING NEW UNDERGROUND LINE. DEMO POLE 109. SET NEW RISER POLE WITH DOWN GUYS IMMEDIATELY WEST. SEE ES103.

D

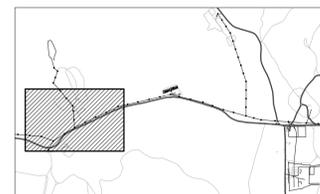
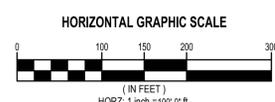
C

B

A



1 SITE DEMO PLAN C  
ED103 SCALE: 1" = 100'-0"



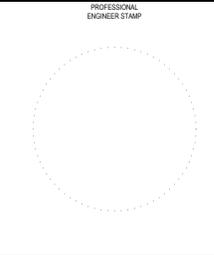
ED103  
ED102

**DFCM**

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SALT LAKE CITY, UTAH 84114  
PHONE: 801.538.3018



**Ken Garner Engineering, Inc.**  
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Telephone: 801.328.8800  
Fax: 801.328.8802  
Contact: Ken Garner  
Project #: 2015-045.00



DRAWINGS ARE IN COMPLIANCE WITH DFCM STANDARDS.

**CAMP WILLIAMS**



UTAH ARMY NATIONAL GUARD  
3-PHASE UNDERGROUND POWER  
17800 SOUTH CAMP WILLIAMS ROAD  
BLUFFDALE, UTAH 84065

REVISIONS:

NO.	DATE

REVISED DATE	PLOTTED DATE
08/24/2015	8.24.2015
DRAWN BY: BK	CHECKED BY: KDG

SHEET TITLE:  
**SITE DEMO PLAN C**

SHEET NUMBER:  
**ED103**

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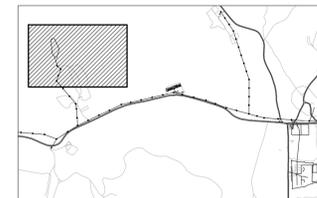
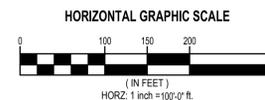
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ED104  
ED103

ED104  
ED103

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ED104  
SITE DEMO PLAN D  
SCALE: 1" = 100'-0"



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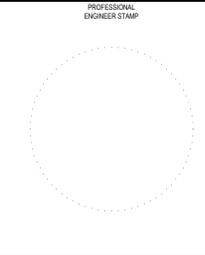
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ED104  
ED102

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3-PHASE UNDERGROUND POWER  
17800 SOUTH CAMP WILLIAMS ROAD  
BLUFFDALE, UTAH 84065

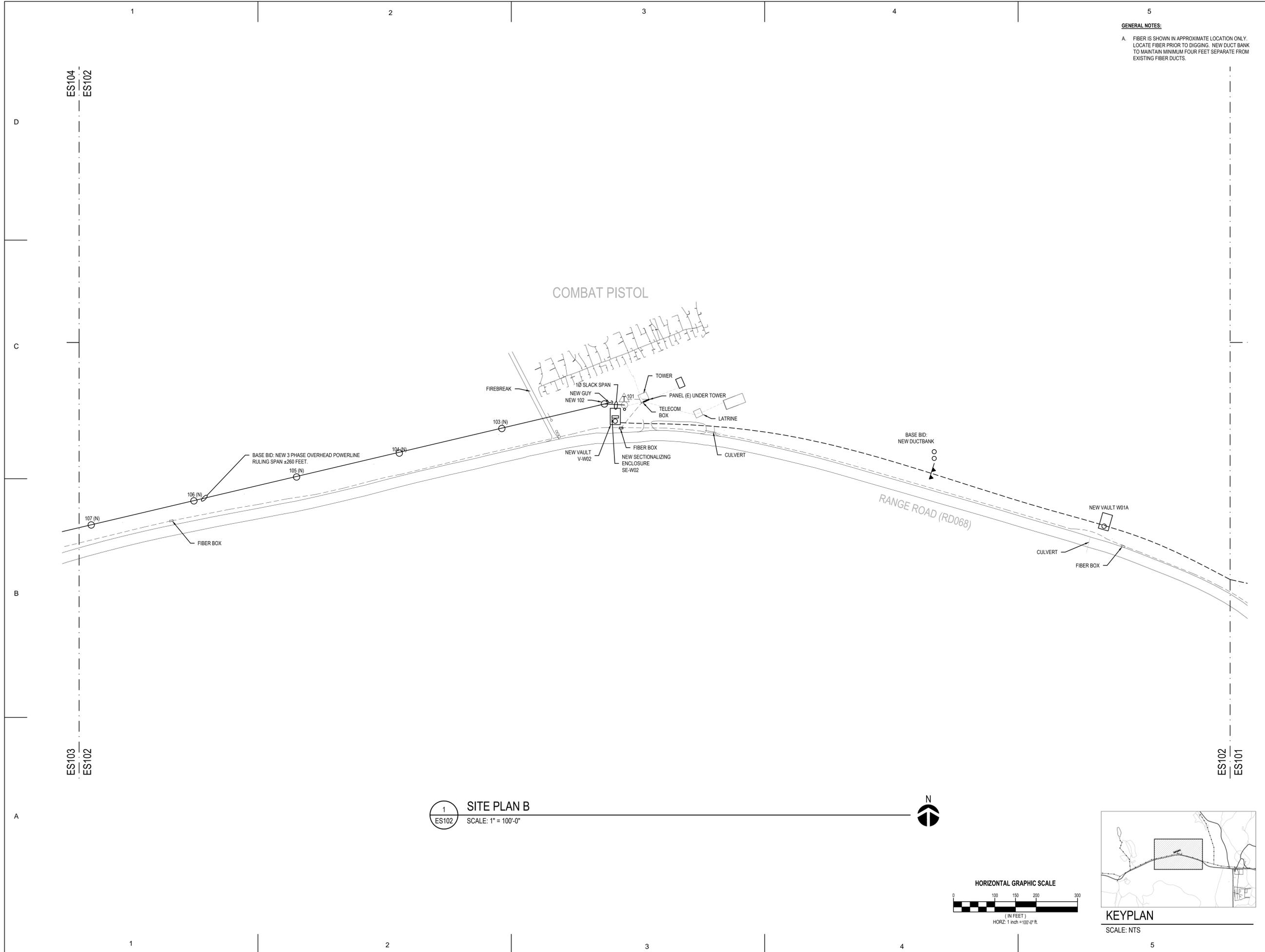
REVISIONS:	
NO.	DATE

ISSUED DATE	PLOTTED DATE
08/24/2015	8.24.2015
DRAWN BY: BK	CHECKED BY: KDG

SHEET TITLE:  
**SITE DEMO PLAN D**

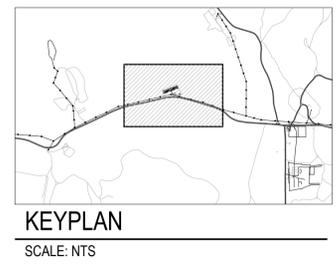
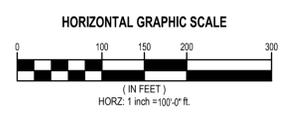
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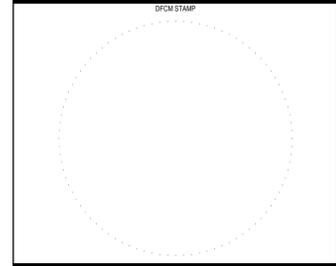


**GENERAL NOTES:**  
 A. FIBER IS SHOWN IN APPROXIMATE LOCATION ONLY. LOCATE FIBER PRIOR TO DIGGING. NEW DUCT BANK TO MAINTAIN MINIMUM FOUR FEET SEPARATE FROM EXISTING FIBER DUCTS.

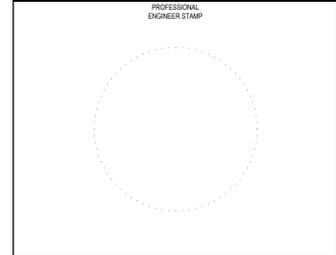
**1**  
**ES102**  
**SITE PLAN B**  
 SCALE: 1" = 100'-0"



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 17800 SOUTH CAMP WILLIAMS ROAD  
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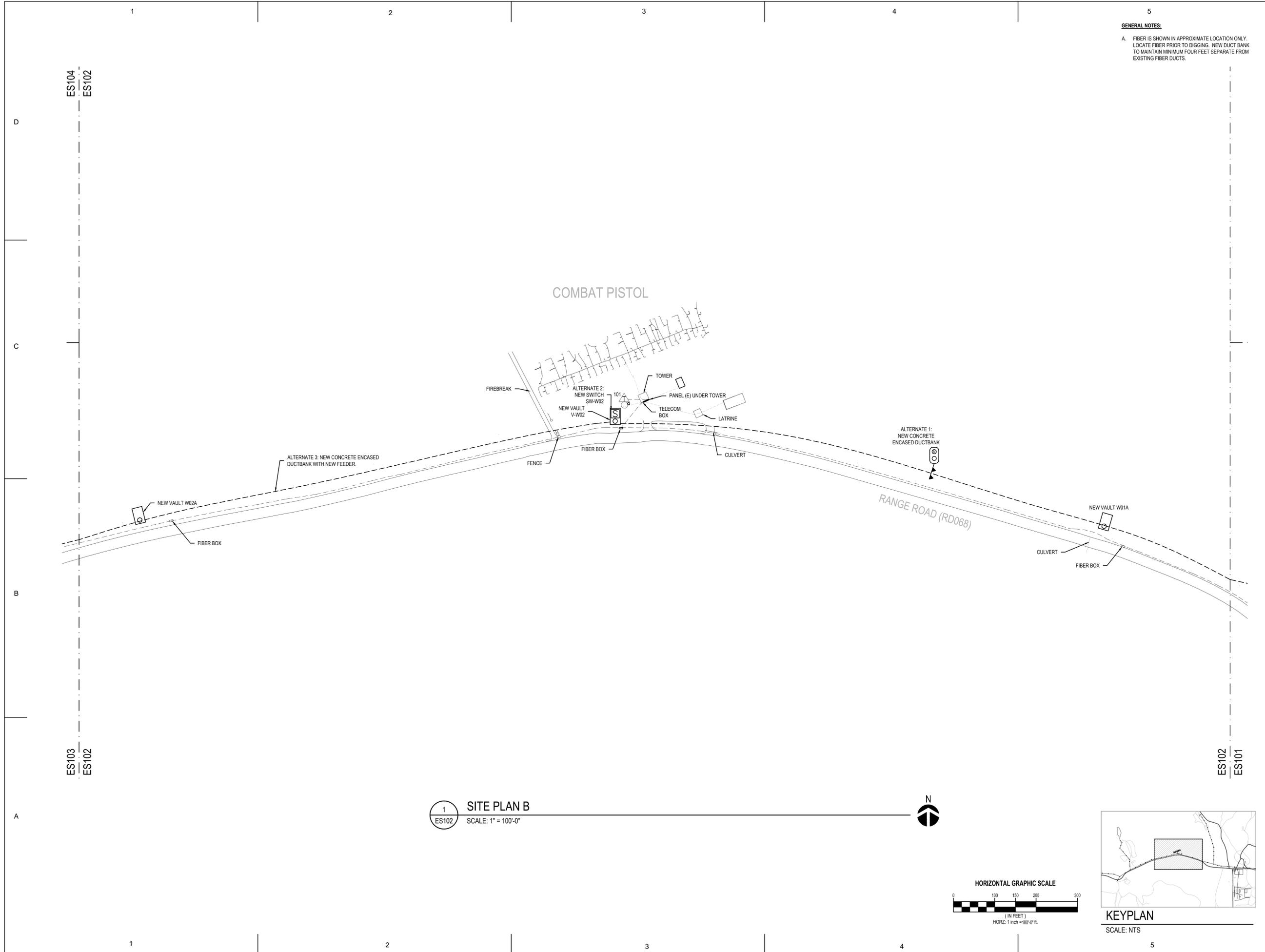
REVISIONS:

NO.	DATE	

ISSUED DATE: 08/24/2015	PLOTTED DATE: 8.24.2015
DRAWN BY: BK	CHECKED BY: KDG

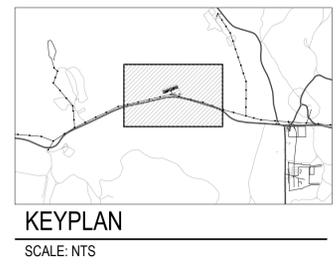
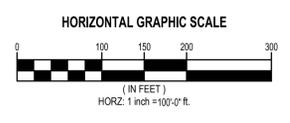
SHEET TITLE:  
**SITE PLAN B**

SHEET NUMBER:  
**ES102**



**GENERAL NOTES:**  
 A. FIBER IS SHOWN IN APPROXIMATE LOCATION ONLY. LOCATE FIBER PRIOR TO DIGGING. NEW DUCT BANK TO MAINTAIN MINIMUM FOUR FEET SEPARATE FROM EXISTING FIBER DUCTS.

1  
 ES102  
**SITE PLAN B**  
 SCALE: 1" = 100'-0"



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**CAMP WILLIAMS**

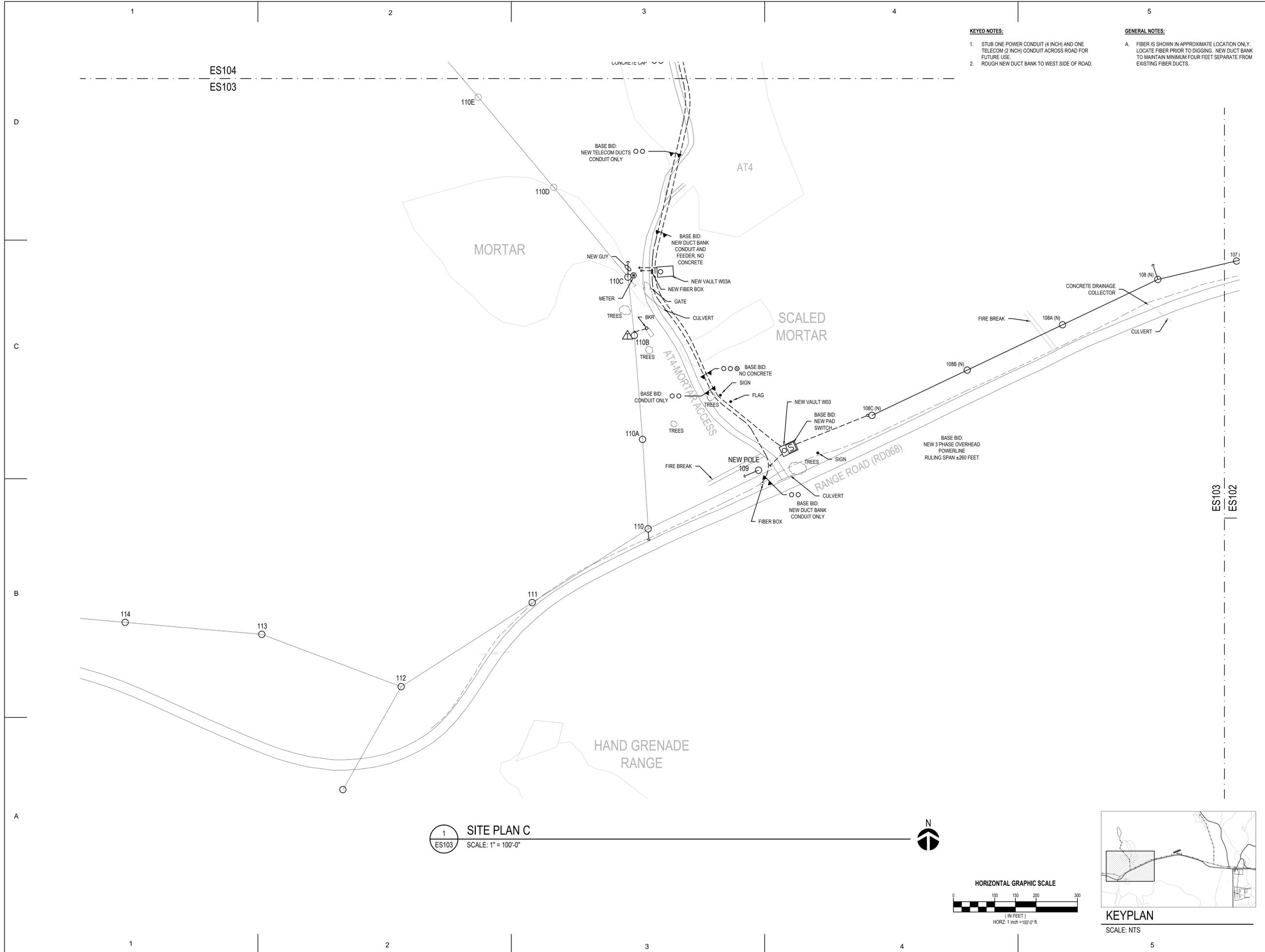
UTAH ARMY NATIONAL GUARD  
 3-PHASE UNDERGROUND POWER  
 17800 SOUTH CAMP WILLIAMS ROAD  
 BLUFFDALE, UTAH 84065

REVISIONS:	
NO.	DATE

REVISED DATE: 08/24/2015	PLOTTED DATE: 8.24.2015
DRAWN BY: BK	CHECKED BY: KDG

SHEET TITLE:  
**SITE PLAN B**

SHEET NUMBER:  
**ES102-ALT**



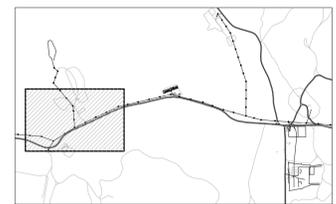
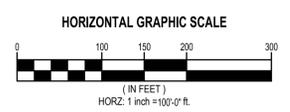
**KEYED NOTES:**

1. STUB ONE POWER CONDUIT (4 INCH) AND ONE TELECOM (2 INCH) CONDUIT ACROSS ROAD FOR FUTURE USE.
2. ROUGH NEW DUCT BANK TO WEST SIDE OF ROAD.

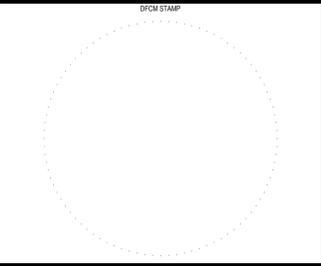
**GENERAL NOTES:**

- A. FIBER IS SHOWN IN APPROXIMATE LOCATION ONLY. LOCATE FIBER PRIOR TO DIGGING. NEW DUCT BANK TO MAINTAIN MINIMUM FOUR FEET SEPARATE FROM EXISTING FIBER DUCTS.

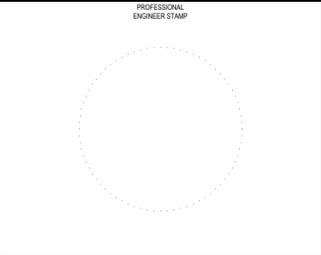
**1**  
ES103  
**SITE PLAN C**  
SCALE: 1" = 100'-0"



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**CAMP WILLIAMS**



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17800 SOUTH CAMP WILLIAMS ROAD  
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REVISIONS:

NO.	DATE

ISSUED DATE	PLOTTED DATE
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DRAWN BY	CHECKED BY
BK	KDG

SHEET TITLE:  
**SITE PLAN C**

SHEET NUMBER:  
**ES103**



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**KEYED NOTES:**

- 1. SINGLE PHASE ELECTRICAL TO REMAIN.
- 2. CROSS DRAINAGE CULVERT AT ROADWAY.

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NO.	DATE

REVISED DATE

08/24/2015

PLOTTED DATE

8.24.2015

DRAWN BY

BK

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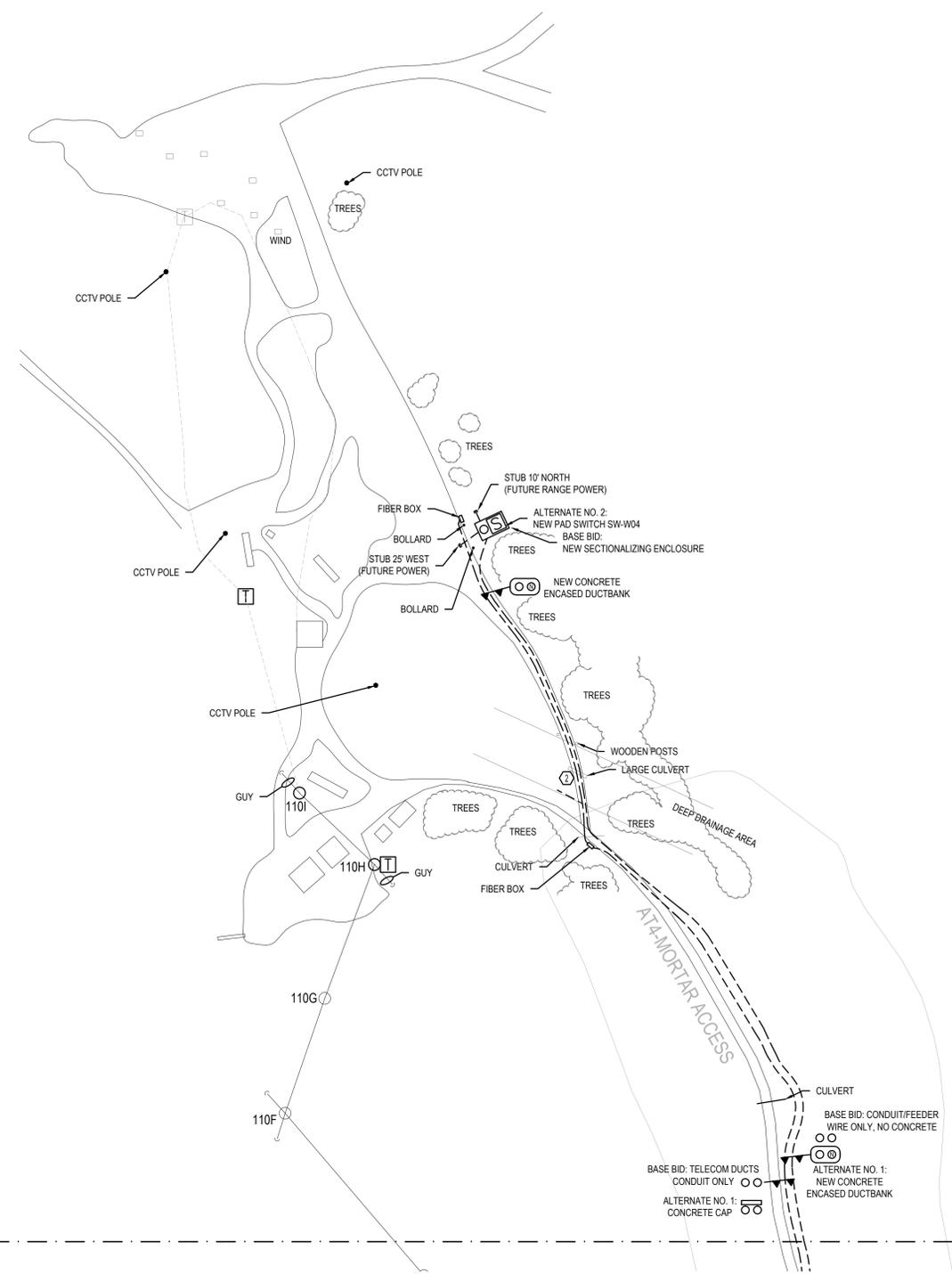
KDG

SHEET TITLE:

**SITE PLAN D**

SHEET NUMBER:

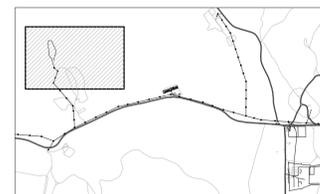
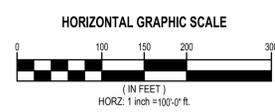
**ES104**



ES104  
ES103

ES104  
ES103

**1 SITE PLAN D**  
ES104 SCALE: 1" = 100'-0"



**KEYPLAN**  
SCALE: NTS

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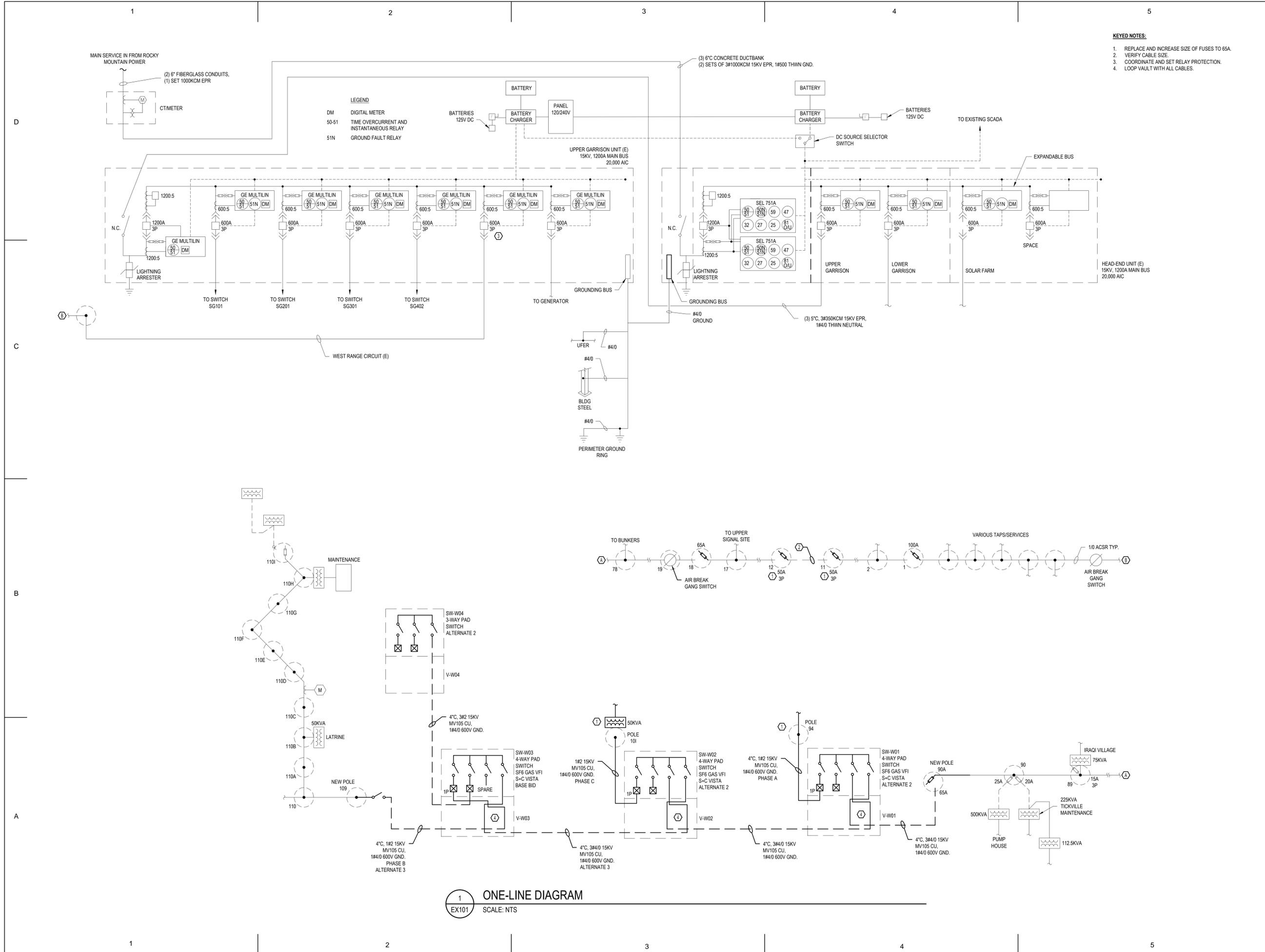
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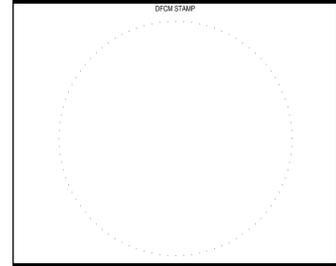
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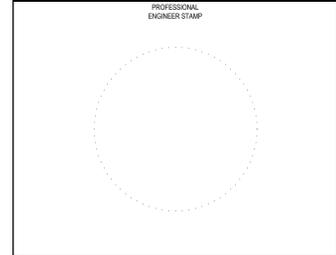




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**CAMP WILLIAMS**



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 3-PHASE UNDERGROUND POWER  
 17800 SOUTH CAMP WILLIAMS ROAD  
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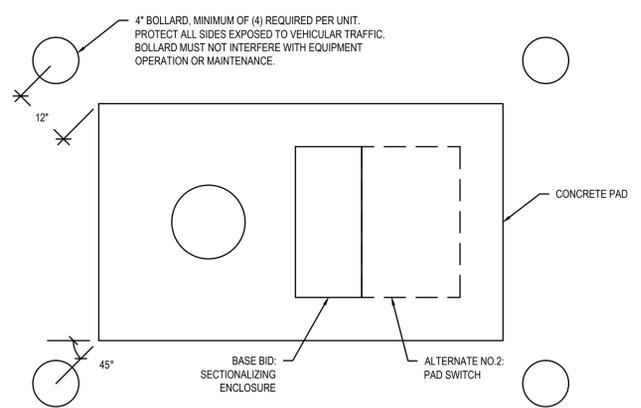
REVISIONS:	
NO.	DATE

DATE: 08/24/2015  
 DRAWN BY: BK  
 CHECKED BY: KDG

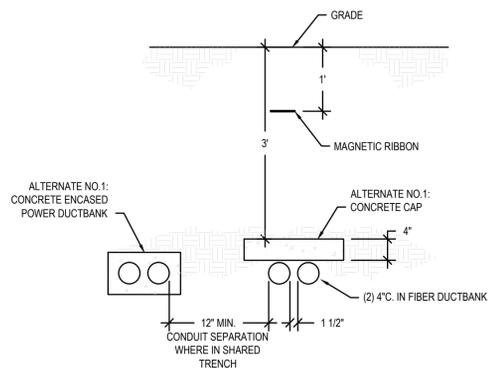
PLOTTED DATE: 8.24.2015

SHEET TITLE:  
**ONE-LINE DIAGRAM**

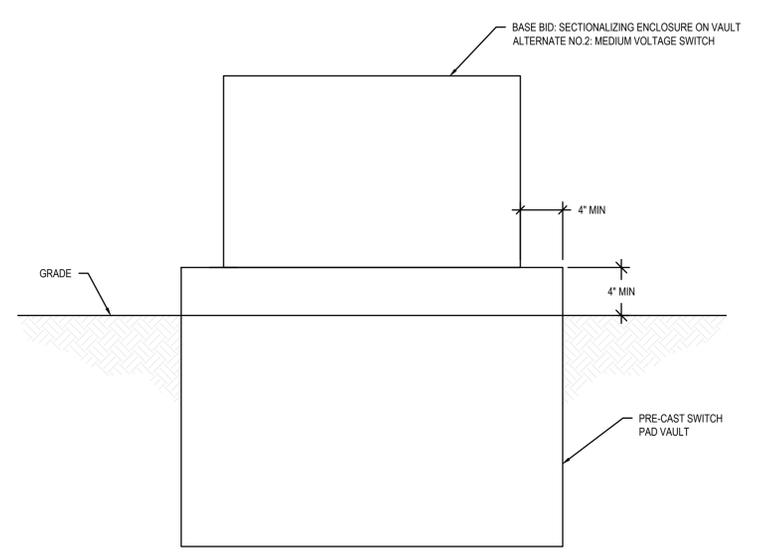
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**EX101-ALT**



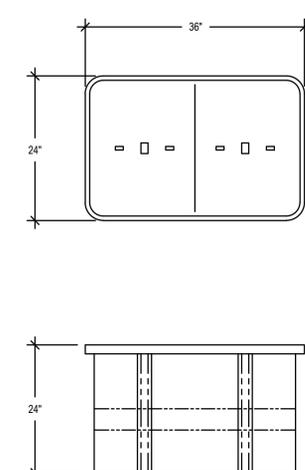
**1 EQUIPMENT PROTECTION DETAIL**  
EX501 SCALE: NTS



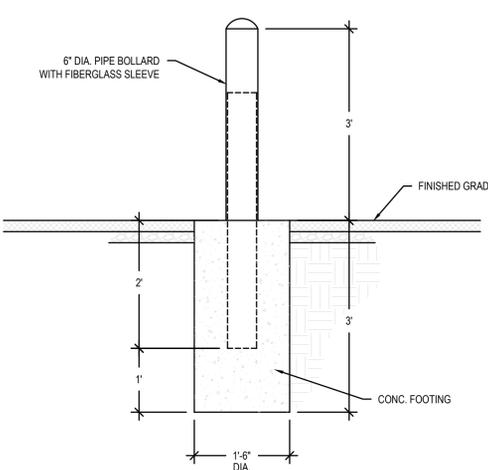
**2 TELECOM DUCTBANK DETAIL**  
EX501 SCALE: NTS



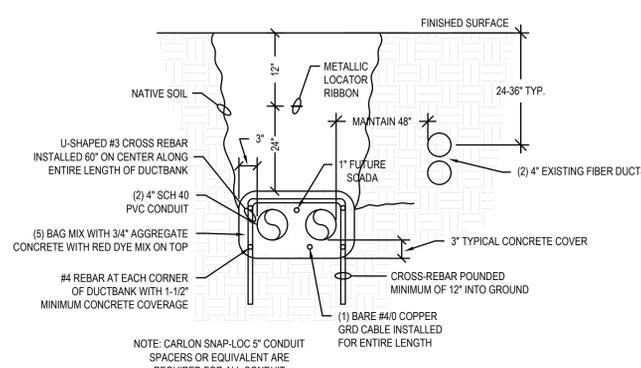
**3 MEDIUM VOLTAGE PAD MOUNT SWITCH PAD VAULT**  
EX501 SCALE: NTS



**4 UNDERGROUND FIBER ENCLOSURE**  
EX501 SCALE: NTS

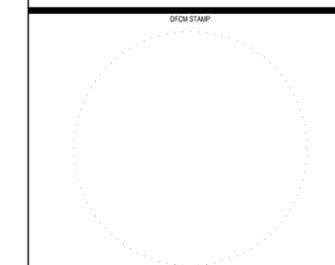


**5 PIPE BOLLARD DETAIL**  
EX501 SCALE: 3/4" = 1'-0"

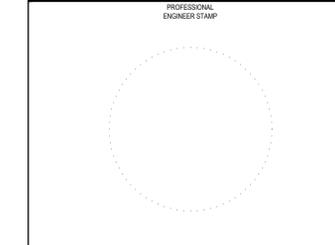


**6 2-WAY POWER DUCT BANK DETAIL - ALTERNATE 1,3**  
EX501 SCALE: NTS

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**CAMP WILLIAMS**

UTAH ARMY NATIONAL GUARD  
3-PHASE UNDERGROUND POWER  
17800 SOUTH CAMP WILLIAMS ROAD  
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NO.	DATE

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BK	KDG

SHEET TITLE:  
**ELECTRICAL DETAILS**

SHEET NUMBER:  
**EX501**

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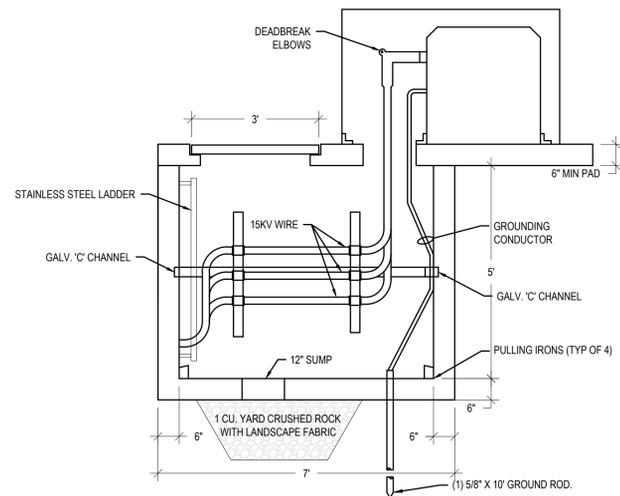
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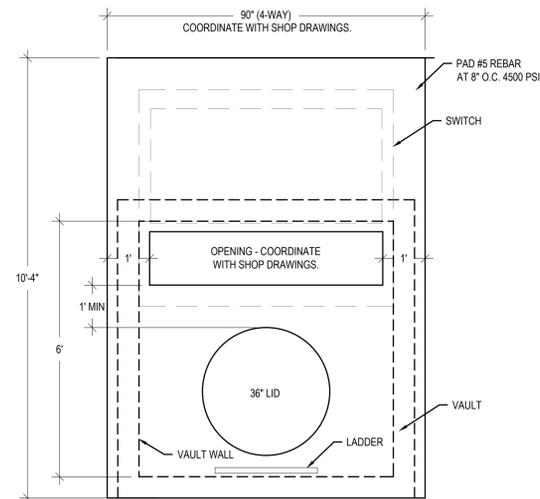
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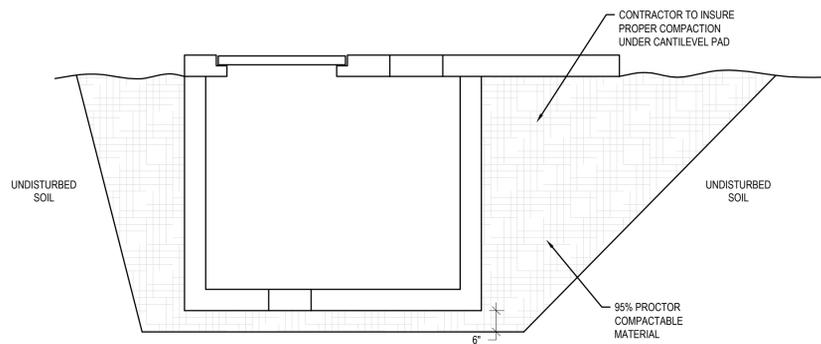
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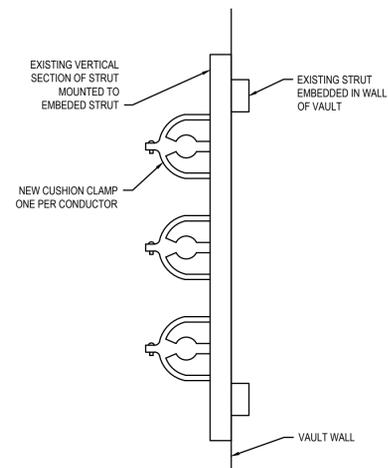
1 SWITCH VAULT SIDE VIEW  
EX502 SCALE: 1/2" = 1'-0"



2 SWITCH VAULT TOP VIEW  
EX502 SCALE: 1/2" = 1'-0"



3 PAD/VAULT EXCAVATION AND BACKFILL  
EX502 SCALE: NTS



4 CONDUCTOR SUPPORT DETAIL  
EX502 SCALE: NTS

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SHEET TITLE:  
**ELECTRICAL  
DETAILS**

SHEET NUMBER:  
**EX502**

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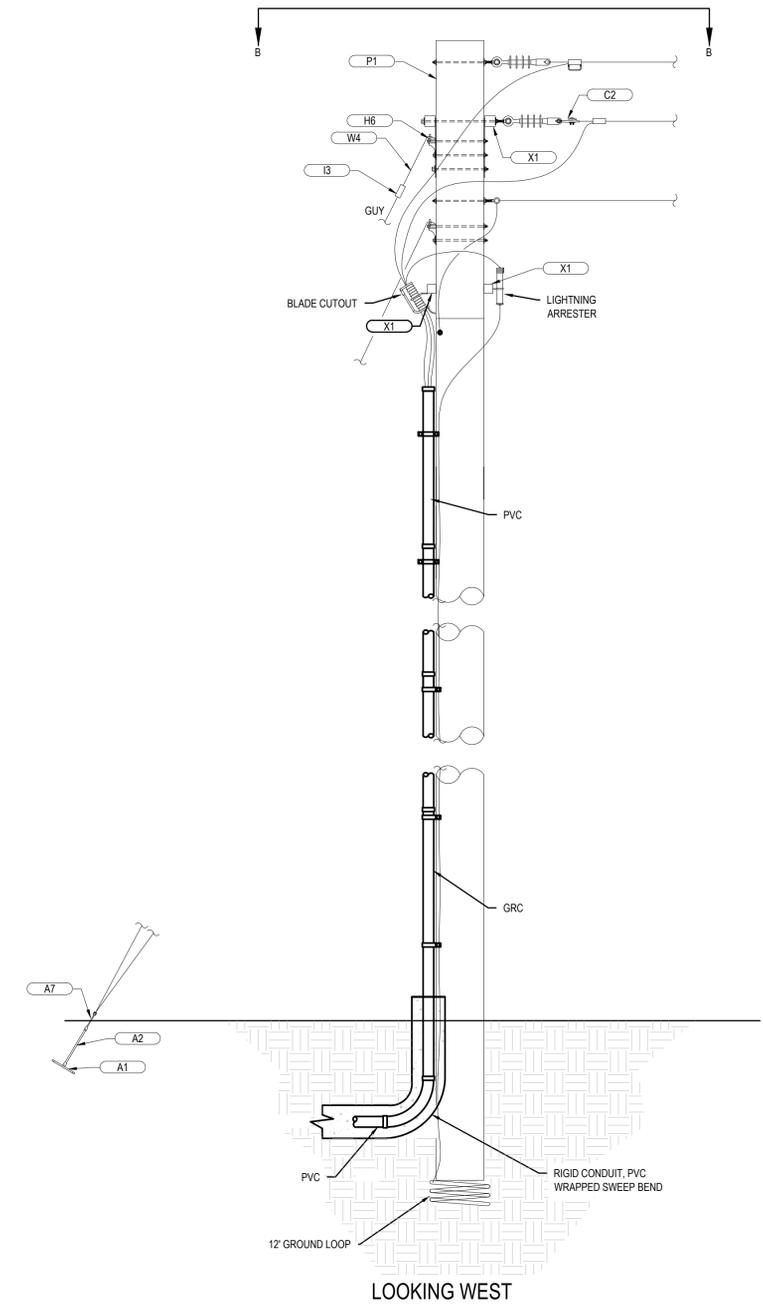
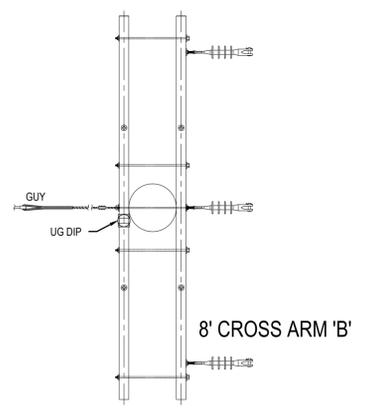
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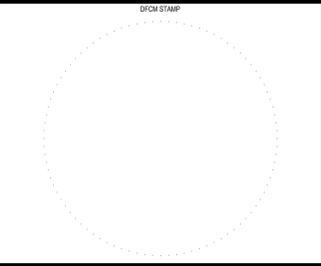
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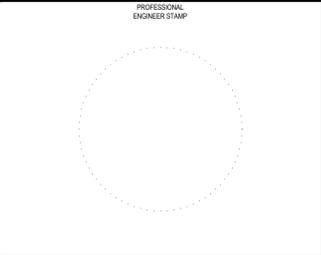
NEW PARTS LIST				
TYPE	QTY.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
P1	1	POLE, 40' CLASS 2	SEE SCHEDULE	
X1	2	3 5/8 X 4 5/8 X 8 X-ARMS	BROOKS	3-5/8X4-5/8
X2	4	X-ARM BRACES	AB CHANCE	7128
X3	2	6 FOOT X-ARM	BROOKS	
H2	4	SPRING WASHERS	HUBBELL	C250-0816
H3	7	5/8" X LAR M BOLTS	AB CHANCE	XX-LAR
H4	6	3" CURVED WASHERS	AB CHANCE	682312
H6	2	RAMS HEAD	AB CHANCE	GH5
H9	4	3/8 X 5 CARRIAGE BOLTS	AB CHANCE	8635
H10	3	5/8" EYE NUTS		6502
H14	2	GRID GAIN	AB CHANCE	P64
H16	2	LAG SCREWS		500508
C2	4	DE SHOE CLAMPS	ANDERSON	ADE288N
W4	2	GUY GRIP DEAD ENDS	PREFORMED	GDE-1107
A1	1	ANCHORS, PLATE	AB CHANCE	X-24
A2	1	3/4" X 8 ANCHOR ROD	AB CHANCE	5338
A7	1	AUTOMATIC DEAD ENDS	FARGO	5202-L
I3	2	GUY STRAIN INSULATORS	PPC INSULATORS	506

1 CONDUIT RISER POLE 90A  
EX503 SCALE: NTS

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CAMP WILLIAMS



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NO.	DATE

ISSUED DATE:	PLOTTED DATE:
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BK	KDG

SHEET TITLE:  
**POLE DETAILS**

SHEET NUMBER:  
**EX503**

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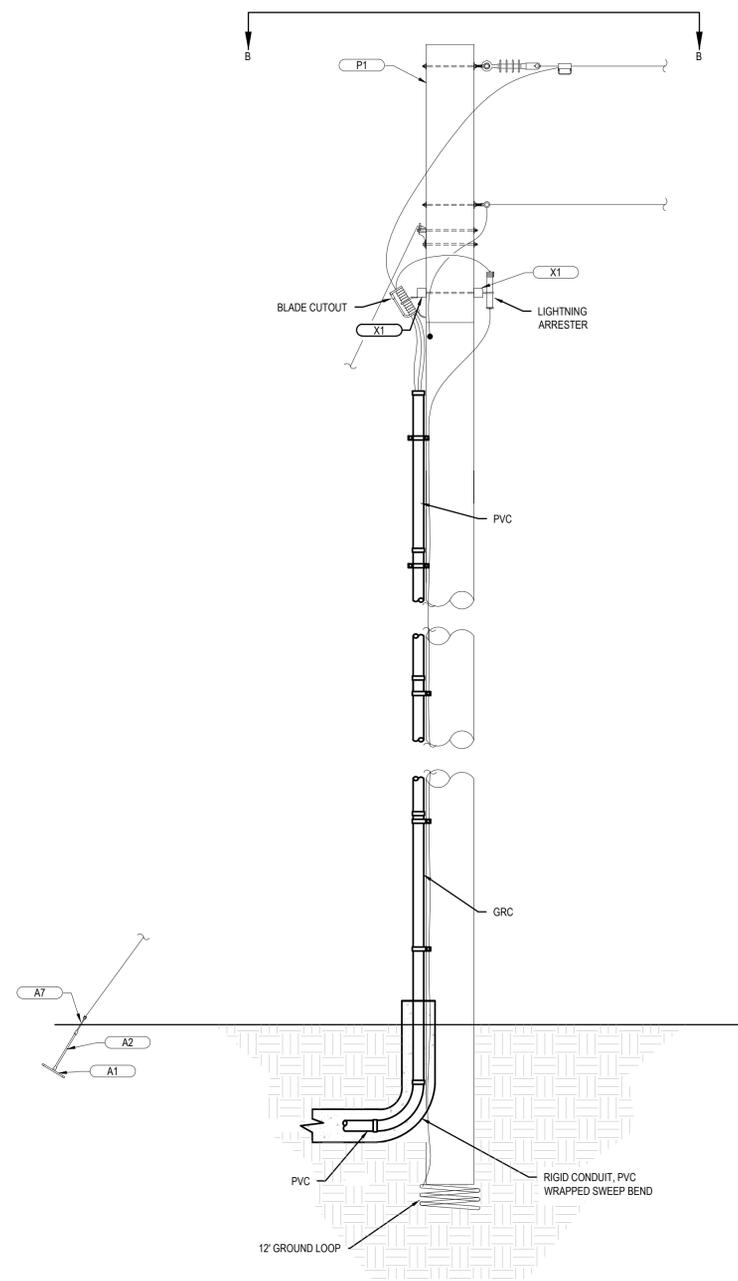
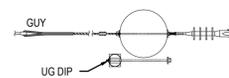
ISSUED DATE	PLOTTED DATE
08/24/2015	8.24.2015
DRAWN BY BK	CHECKED BY KDG

SHEET TITLE:

**POLE DETAILS**

SHEET NUMBER:

**EX504**



NEW PARTS LIST				
TYPE	QTY.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
P1	1	POLE, 40' CLASS 3	SEE SCHEDULE	
X3	1	BUCK ARM	BROOKS	
H2	4	SPRING WASHERS	HUBBELL	C250-0816
H3	7	5/8" X LAR M BOLTS	AB CHANCE	XX-LAR
H4	6	3" CURVED WASHERS	AB CHANCE	682312
H6	1	RAMS HEAD	AB CHANCE	GH5
H10	1	5/8" EYE NUTS		6502
H16	2	LAG SCREWS		500508
C2	2	DE SHOE CLAMPS	ANDERSON	ADE288N
W4	1	GUY GRIP DEAD ENDS	PREFORMED	GDE-1107
A1	1	ANCHORS, PLATE	AB CHANCE	X-24
A2	1	3/4" X 8 ANCHOR ROD	AB CHANCE	5338
A7	1	AUTOMATIC DEAD ENDS	FARGO	5202-L
I3	1	GUY STRAIN INSULATORS	PPC INSULATORS	506

**1** CONDUIT RISER POLE 94 SINGLE PHASE  
 EX504 SCALE: NTS