

STATION DESIGN DATA

STRUCTURE, APPARATUS AND LIGHTNING ARRESTERS ARE ALL GROUNDED TO THE SAME GROUNDING SYSTEM. STATION DESIGNED FOR THE FOLLOWING ELECTRICAL CLEARANCES/SPACINGS:

RATED KV	BIL KV	RIGID BUS CONDUCTORS (IEEE, NEMA, NESC)				GROUP-OPERATED SWITCHES (NEMA)		
		SPACING <sup>(2)</sup>		CLEARANCE <sup>(1)</sup>		ø TO ø SPACING <sup>(2)</sup>		
		PHASE TO PHASE ø TO ø <sup>(3)</sup>	METAL TO METAL <sup>(4)</sup>	PHASE TO GROUND <sup>(5)</sup>	CLEARANCE ABOVE GRADE <sup>(6)</sup>	HORN GAP VERT./HOR. BREAK	DISCONNECT VERTICAL BREAK	DISCONNECT HORIZONTAL BREAK
115	550	7'-0"	53"	45"	12'-0"	10'-0"	7'-0"	9'-0"
15	110	2'-0"	12"	10"	9'-0"	3'-0"	2'-0"	2'-6"

- NOTES:
- "CLEARANCE" IS DEFINED AS A SURFACE-TO-SURFACE MEASUREMENT.
  - "SPACING" IS DEFINED AS A ø TO ø MEASUREMENT.
  - INTENDED FOR PHASES ORIENTED IN PARALLEL RUNS.
  - INTENDED FOR NON-PARALLEL POINTS OF CROSSING.
  - EXCEEDS MINIMUM CLEARANCES TO MATCH NEMA STANDARD POST INSULATOR DIMENSIONS.
  - ROUNDED UP TO THE NEAREST EVEN FOOT, PER NESC (1990). MEASURED FROM TOP OF EQUIPMENT FOUNDATIONS, IF SUITABLE FOR PEDESTRIAN ACCESS.

DEADEND STRUCTURE(S) SHALL WITHSTAND 0° TO 15° LINE TAKE-OFF IN ANY DIRECTION WITH A DESIGN LINE TENSION OF 2500 POUNDS PER CONDUCTOR. A MINIMUM VERTICAL CLEARANCE OF 8'-6" SHALL BE MAINTAINED FOR ANY SURFACE OF INDETERMINATE POTENTIAL SUCH AS LIGHTNING ARRESTERS, UNGROUNDED SURFACES, BUSHINGS, AS PER NESC RULE 124.A.3.

BOLT TORQUING TABLE

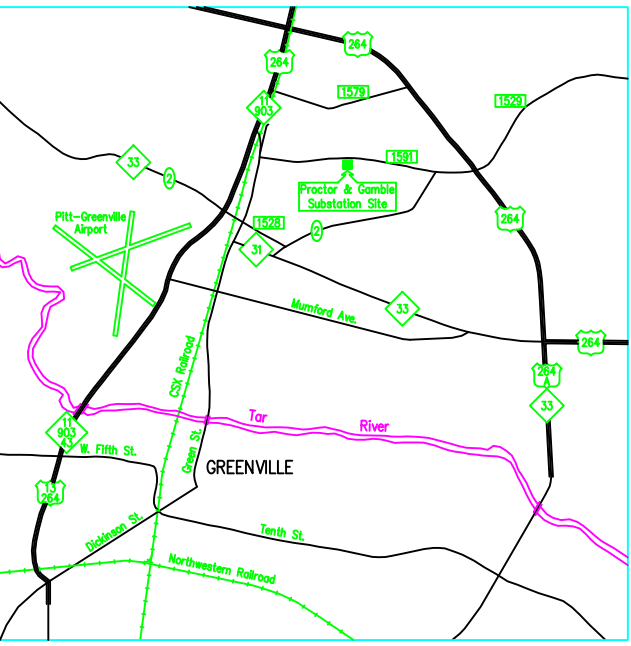
DIAMETER BOLT (INCHES)	RECOMMENDED TORQUE	
	NON-LUBRICATED STEEL & SILICON BRONZE HARDWARE (FOOT*LB)	LUBRICATED HARDWARE & ALUMINUM HARDWARE (FOOT*LB)
1/2"	40	25
5/8"	55	40
3/4"	70	60

CONDUCTOR /BUS AMPACITIES

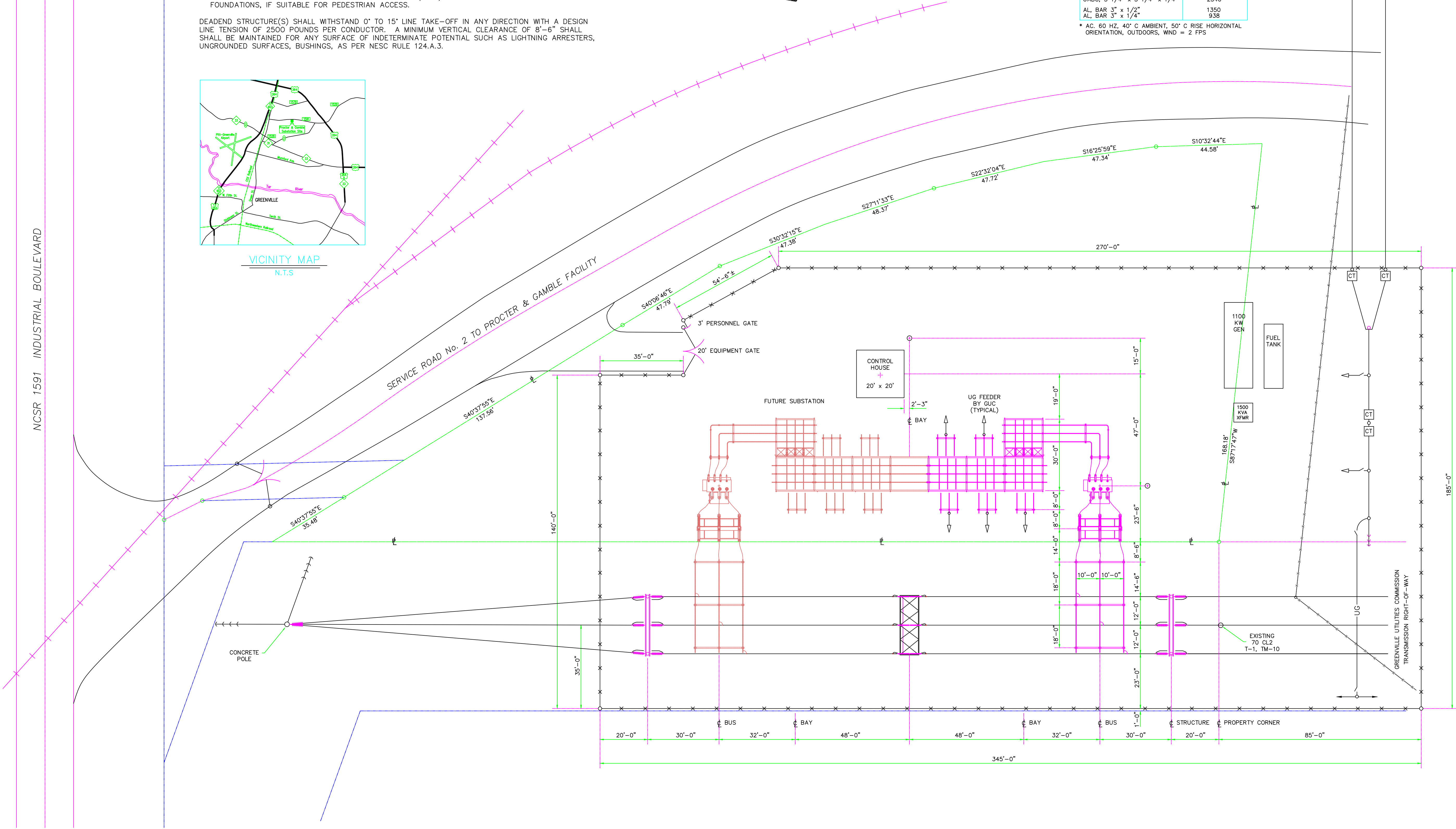
CONDUCTOR	APPROX. CURRENT CARRYING CAPACITY*
TUBING, 4" NPS SCH. 80 AL.	3720 AMPS.
TUBING, 3" NPS SCH. 80 AL.	2760
TUBING, 2" NPS SCH. 80 AL.	1700
TUBING, 4" NPS SCH. 40 AL.	3165
TUBING, 3" NPS SCH. 40 AL.	2425
TUBING, 2" NPS SCH. 40 AL.	1465
ACSR, 1272 MCM, 26/7	1200
ACSR, 954 MCM, 26/7	1010
ACSR, 795 MCM, 26/7	900
ACSR, 336.4 MCM, 18/1	530
ACSR, 2/0 AWG, 6/1	340
ACSR, 1/0 AWG, 6/1	230
COPPER, 1000 MCM, 61 STD.	1285
COPPER, 750 MCM, 61 STD.	1075
COPPER, 500 MCM, 37 STD.	830
COPPER, 4/0 AWG, 7 STD.	480
COPPER, 2/0 AWG, 7 STD.	355
COPPER, #2 AWG, SOLID	231
UABC, 4" x 4" x 3/8"	3125
UABC, 4" x 4" x 1/4"	2625
UABC, 3 1/4" x 3 1/4" x 1/4"	2340
AL BAR 3" x 1/2"	1350
AL BAR 3" x 1/4"	938

\* AC, 60 HZ, 40° C AMBIENT, 50° C RISE HORIZONTAL ORIENTATION, OUTDOORS, WIND = 2 FPS

NCSR 1591 INDUSTRIAL BOULEVARD




VICINITY MAP  
N.T.S.



#	1	2
REVISIONS	DRAWING AUDIT JLP 9-29-05 NEW TITLE BLOCK	NEW TITLE BLOCK, STATION NUMBER RENUMBER AFTER NCEM/PA GEN INSTALL AND SEC/ SENSOR UPGRADE EVS 5-22-2019 CADD/ED AS BUILT HRJ 5-22-2019

AS-BUILT



GREENVILLE UTILITIES  
Greenville, North Carolina

P&G SUBSTATION  
115 TO 15 kV  
SITE DRAWING  
SITE PLAN

DWN.	DATE	DWG. NO.
CKD.	APPD.	140-4065
SCALE: NONE		S1 OF 7

PCAM00\_SITE\_SP\_R2