

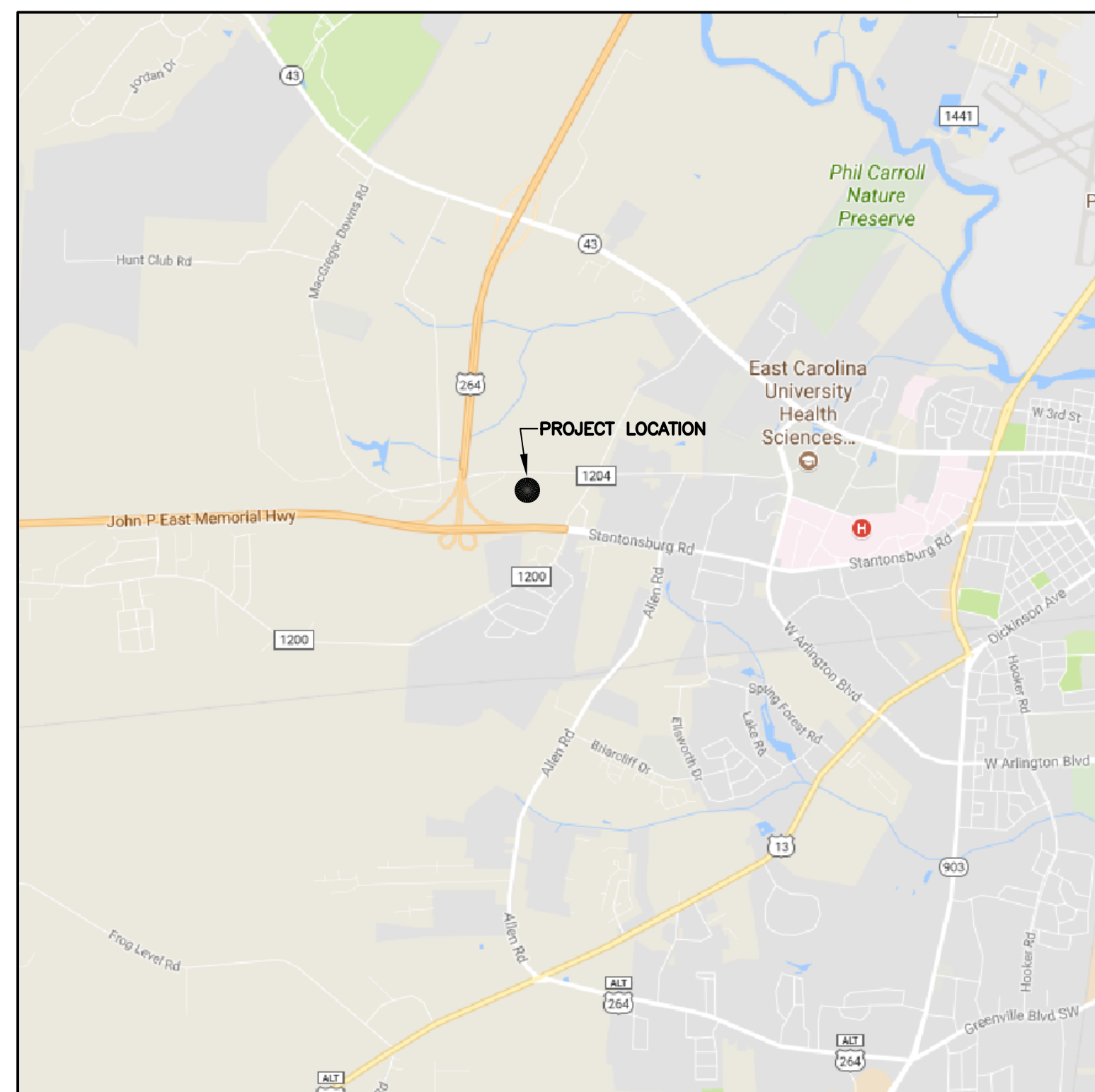
# Greenville Utilities

## PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA

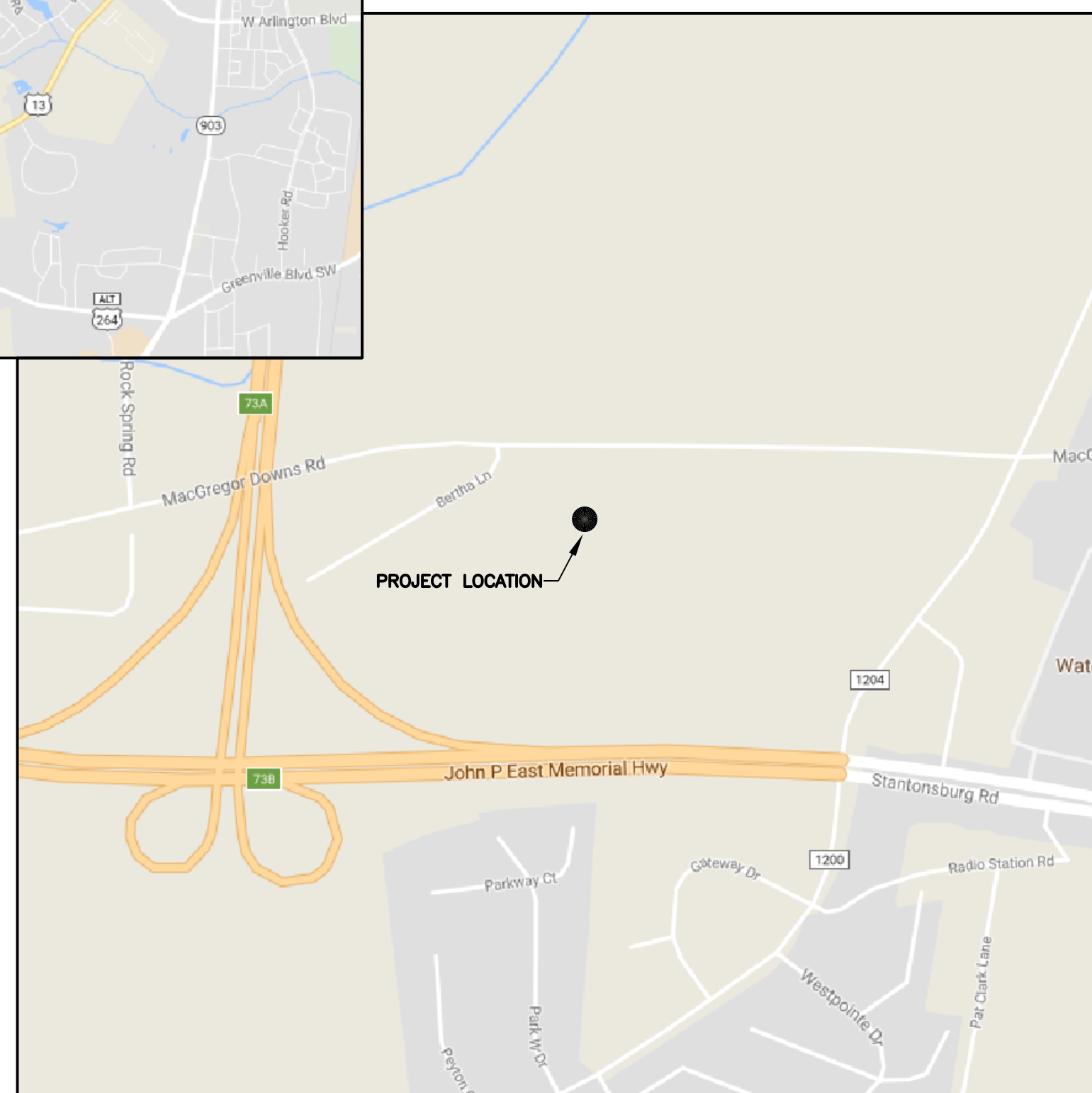
November 2017

### SHEET INDEX

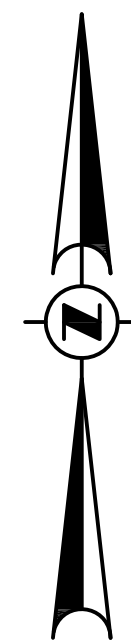
SHEET DESCRIPTION	SHEET NUMBER
COVER SHEET	-
SITE EXISTING CONDITIONS	1 OF 6
SITE EXISTING CONDITIONS AND DEMOLITION PLAN	2 OF 6
PROPOSED HEATER AND VALVE INSTALLATION PLAN	3 OF 6
ELECTRICAL BELOW GRADE CONDUIT PLAN	4 OF 6
HEATER AND VALVE INSTALLATION DETAILS	5 OF 6
PIPE STAND AND HEATER FOUNDATION DETAILS	6 OF 6



VICINITY MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE



### PIPING BILL OF MATERIALS

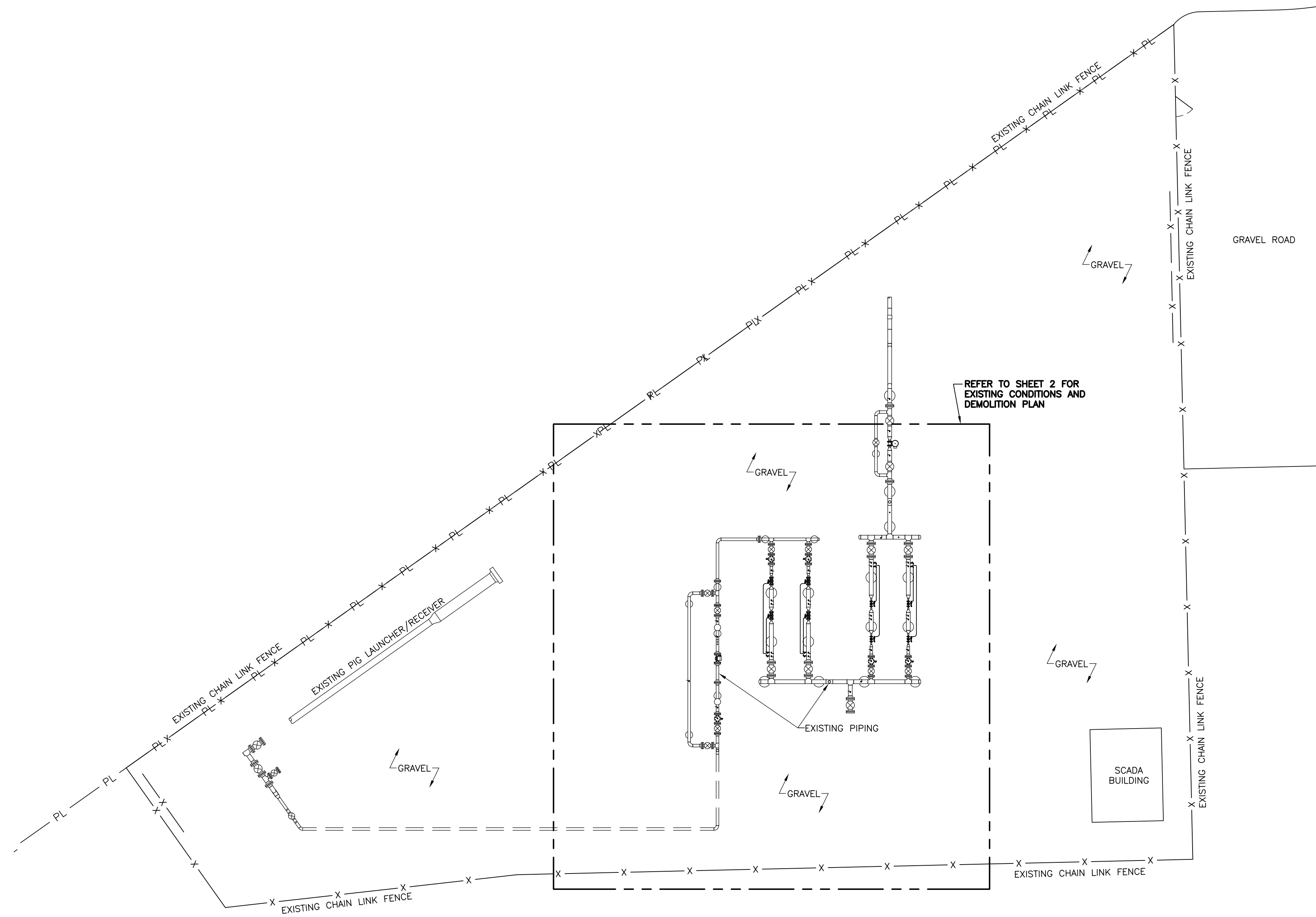
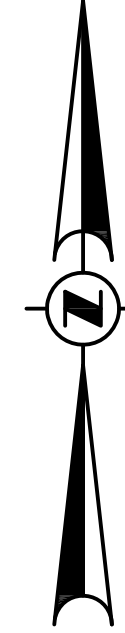
ITEM NO.	QUANTITY	SIZE	DESCRIPTION
1	80	7/8"x5 3/4"	STUD BOLT, GRADE B-7, (ASTM-A193), W/2 GRADE 2-H HEX NUTS (ASTM-A194) (4" ANSI 600, (6) BOLTS PER CONNECTION)
2	10	4"	GASKET, ANSI 600, SPIRAL WOUND, FLEXITALLIC
3	2	4"-5"x1"	THREDOLET, FOR 4" THRU 5" PIPE, 3000#
4	1	6"-10"x1"	THREDOLET, FOR 6" THRU 10" PIPE, 3000#
5	3	1"x3"	NIPPLE, PIPE, STEEL, GRADE B, SMLS, CS, TBE
6	2	1"	PLUG, FORGED STEEL, HEX HEAD, SCREWED, 3000#
7	1	1"	COUPLING, FORGED STEEL, SCREWED, 3000#
7A	1	AS REQ'D	HEX BUSHING - SIZE AS REQUIRED TO ACCOMMODATE THERMOWELL AS PROVIDED BY HEATER MANUFACTURER
8	2	4"	ELL, WELD END, 90 DEG., LONG RADIUS, GRADE B, WT=0.237"
9	2	4"x4"	TEE, WELD END, STRAIGHT, GRADE B, WT=0.237"x0.237"
10	10	4"	FLANGE, WELD NECK, RF, ANSI 600, FORGED ST, WT = 0.237", BORE = 4.02"
11	2	1"	VALVE, BALL, THREADED FEMALE ENDS, SWAGelok SERIES 60, CLASS 3000
12	3	4"	VALVE, BALL, CAMERON, T-31 FULLY WELDED BALL VALVE, R.F. FLANGED ENDS, ANSI 600, LEVER OPERATED
13	1	-	HEATER
14	40 LF	4"	PIPE, WT=0.237", GRADE B, BARE, CS, ERW, BE, SPEC API-5L
15	5	4"	PIPE SUPPORT, EZ-LINE, MODEL NO. 204, FIGURE E, W/ NEOPRENE LINER, PART NO. 204-E, 4" P.S., D=3'-11" (SEE NOTE)
16	20	1/2"x5"	BOLT, HILTI HIT-RE-100 INJECTABLE ADHESIVE WITH CARBON STEEL THREADED ROD
17	4	1"x5"	BOLT, HILTI HIT-RE-100 INJECTABLE ADHESIVE WITH CARBON STEEL THREADED ROD
-	-	-	-
-	-	-	-

NOTE:  
CONTRACTOR TO VERIFY HEIGHT OF EXISTING PIPING PRIOR TO CONSTRUCTION. VERIFICATION OF PIPING HEIGHT SHALL GOVERN THE HEIGHT OF HEATER FOUNDATIONS AND PIPE STANDS

For Review and Comment



RUMMEL • KLEPPER and KAHL, LLP  
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS  
RICHMOND, VIRGINIA



For Review and Comment

NOTE:  
LOCATIONS OF PIPING, FENCING, AND  
BUILDINGS SHOWN ON EXISTING DRAWINGS  
DO NOT MATCH EXISTING SITE CONDITIONS.

SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION

NOTES				
REVISIONS				
REV.	DESIGN	DRAFT	CHECK	DESCRIPTION

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
DRAFTING & DESIGN - RK&k		-	-	AAL	11/21/17
ENGINEERING - RK&k		-	-	CJV	11/21/17
TEST DATA					
TESTED FROM STATION: _____ TO STATION: _____					
MEDIUM: _____ RECORD TEST PRESSURE: _____ psig					
DATE TEST COMPLETED: _____					

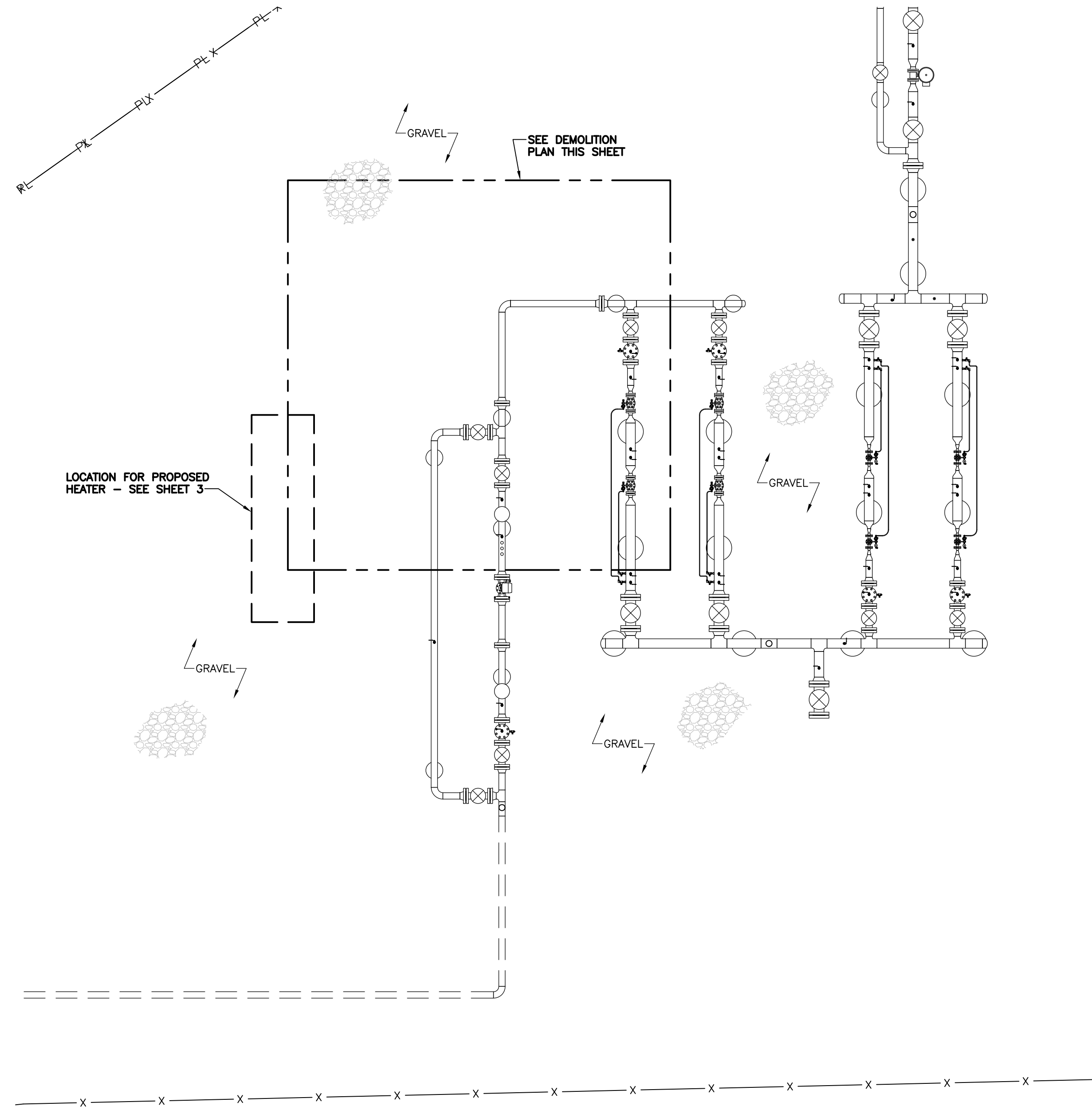
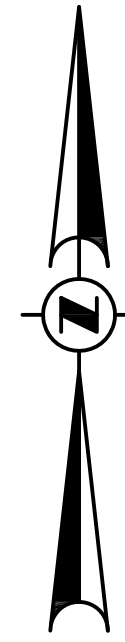
PROJECT		
PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA		
ALIGNMENT SHEET		
<b>RK&amp;k</b>	RAMMEL, KLEPPER & KAHN, LLP 100 E. CHURCH STREET, SUITE 300 RICHMOND, VIRGINIA 23221 T-804-782-1903 F-804-782-2142	SCALE PLAN 1"=10'-0" PROFILE
ENGINEERS   CONSTRUCTION MANAGERS   PLANNERS   SCIENTISTS		
RK&k COMM. NO. 1216-087.003		

## Greenville Utilities

City of Greenville, NC

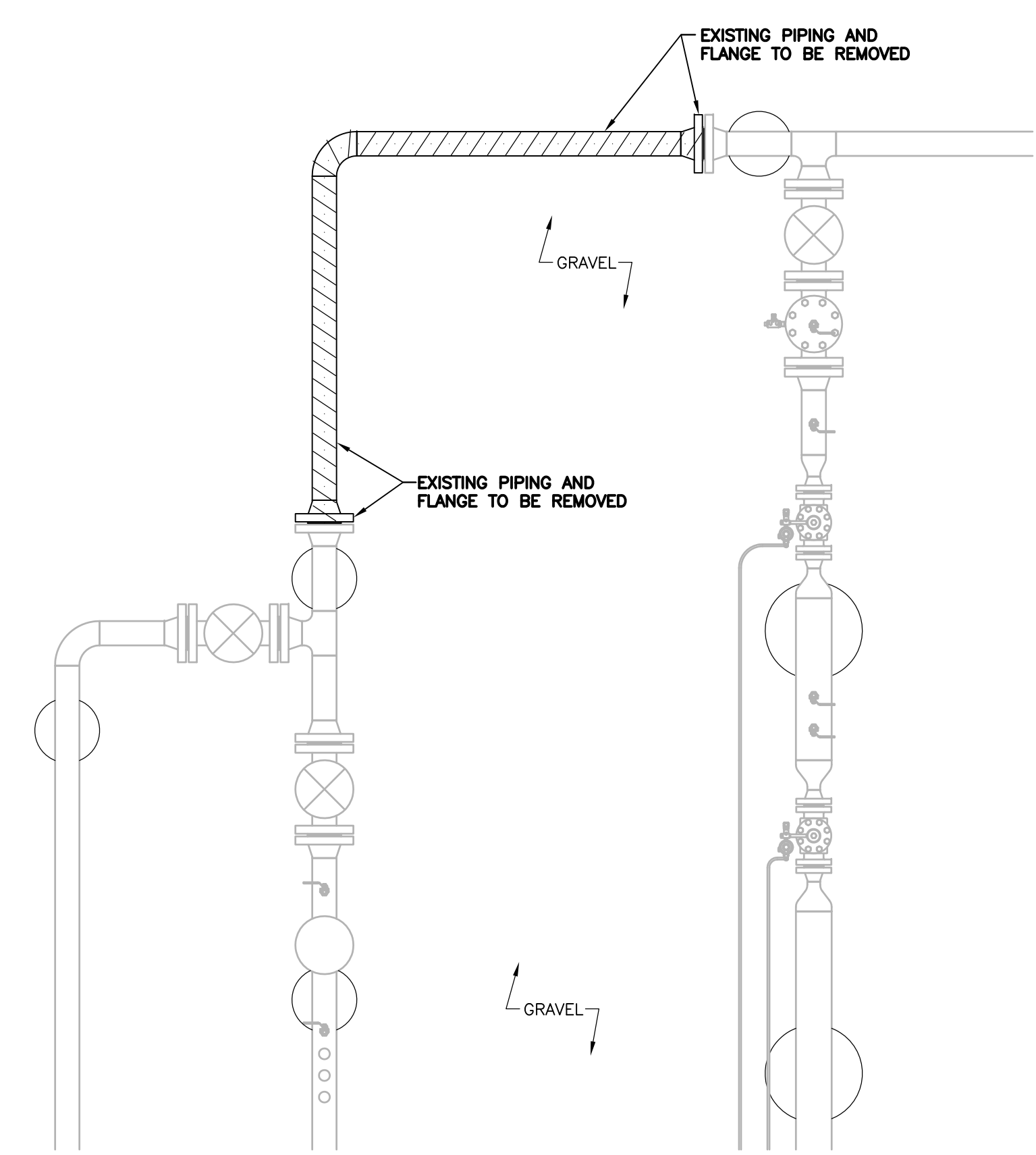
SHEET NO: 1

REVISION:



**SITE EXISTING CONDITIONS**

SCALE: 1" = 5'-0"



**DEMOLITION PLAN**

SCALE: 1/2" = 1'-0"

For Review and Comment

SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION

NOTES					
REVISIONS					
REV.	DESIGN	DRAFT	CHECK	DESCRIPTION	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
DRAFTING & DESIGN - RK&K					
		AAL	11/21/17		
ENGINEERING - RK&K					
		CJV	11/21/17		
TEST DATA					
TESTED FROM STATION: _____ TO STATION: _____					
MEDIUM: _____ RECORD TEST PRESSURE: _____ psig					
DATE TEST COMPLETED: _____					

PROJECT	
PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA	
ALIGNMENT SHEET	
<b>RK&amp;K</b>	<small>RAMMEL, KLEPPER &amp; KAHN, LLP 1101 S. CAMP STREET, SUITE 300 RICHMOND, VIRGINIA 23226 T-804-782-1903 F-804-782-2142</small>
ENGINEERS   CONSTRUCTION MANAGERS   PLANNERS   SCIENTISTS	
SCALE	PLAN AS SHOWN
HOR. -	PROFILE
VERT. -	

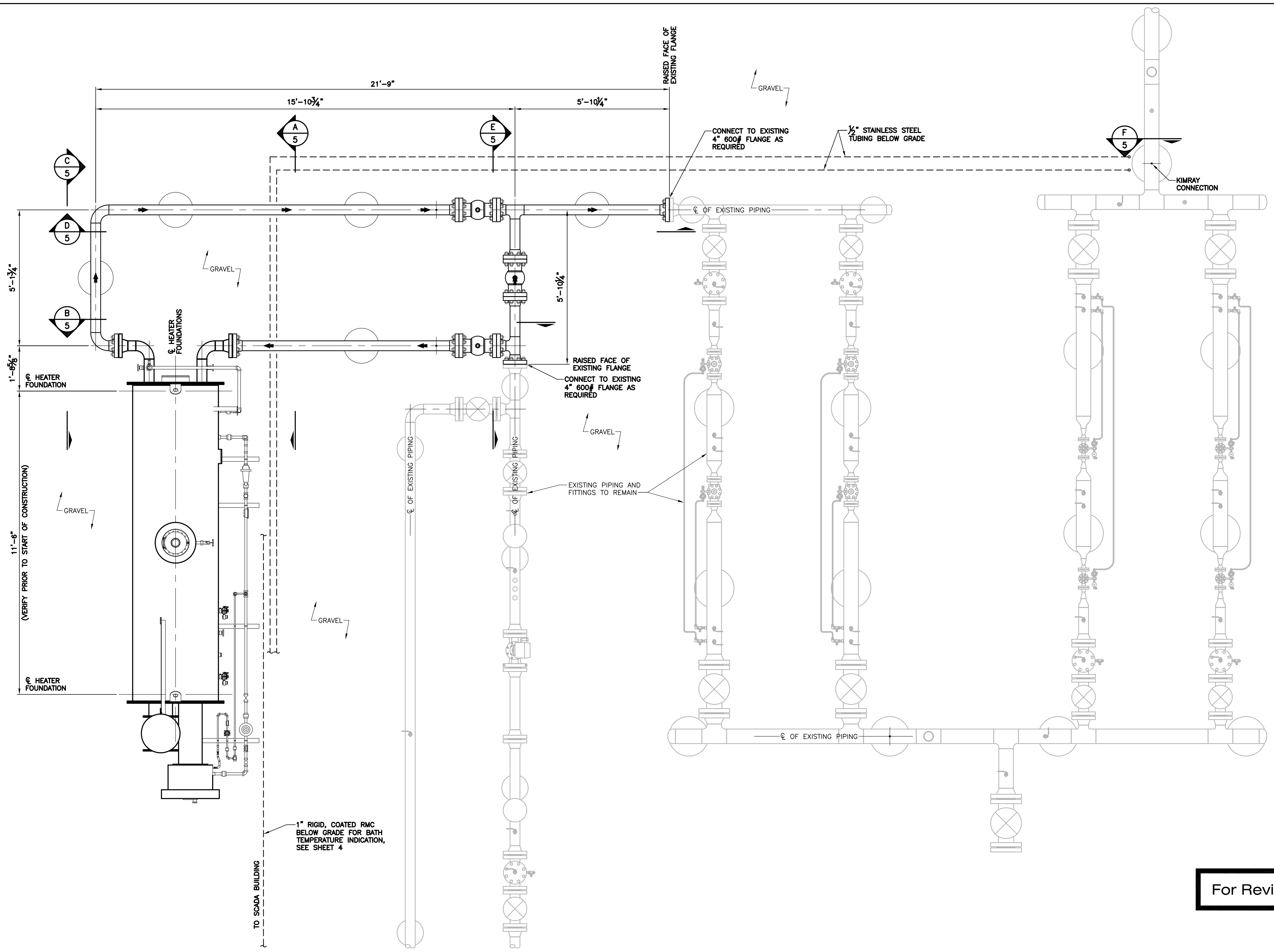
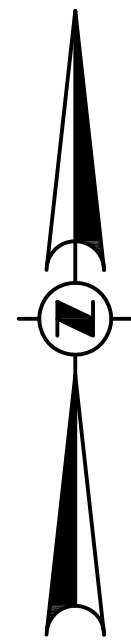
**Greenville Utilities**  
City of Greenville, NC

SHEET DESCRIPTION

**SITE EXISTING CONDITIONS AND DEMOLITION PLAN**

**SHEET NO: 2**

REVISION: \_\_\_\_\_



For Review and Comment

QUANTITY	SUMMARY OF MATERIALS
	DESCRIPTION

NOTES				
REVISIONS				
REV.	DESIGN	DRAFT	CHECK	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
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ENGINEERING - RK&K		-	-	CJV	11/21/17

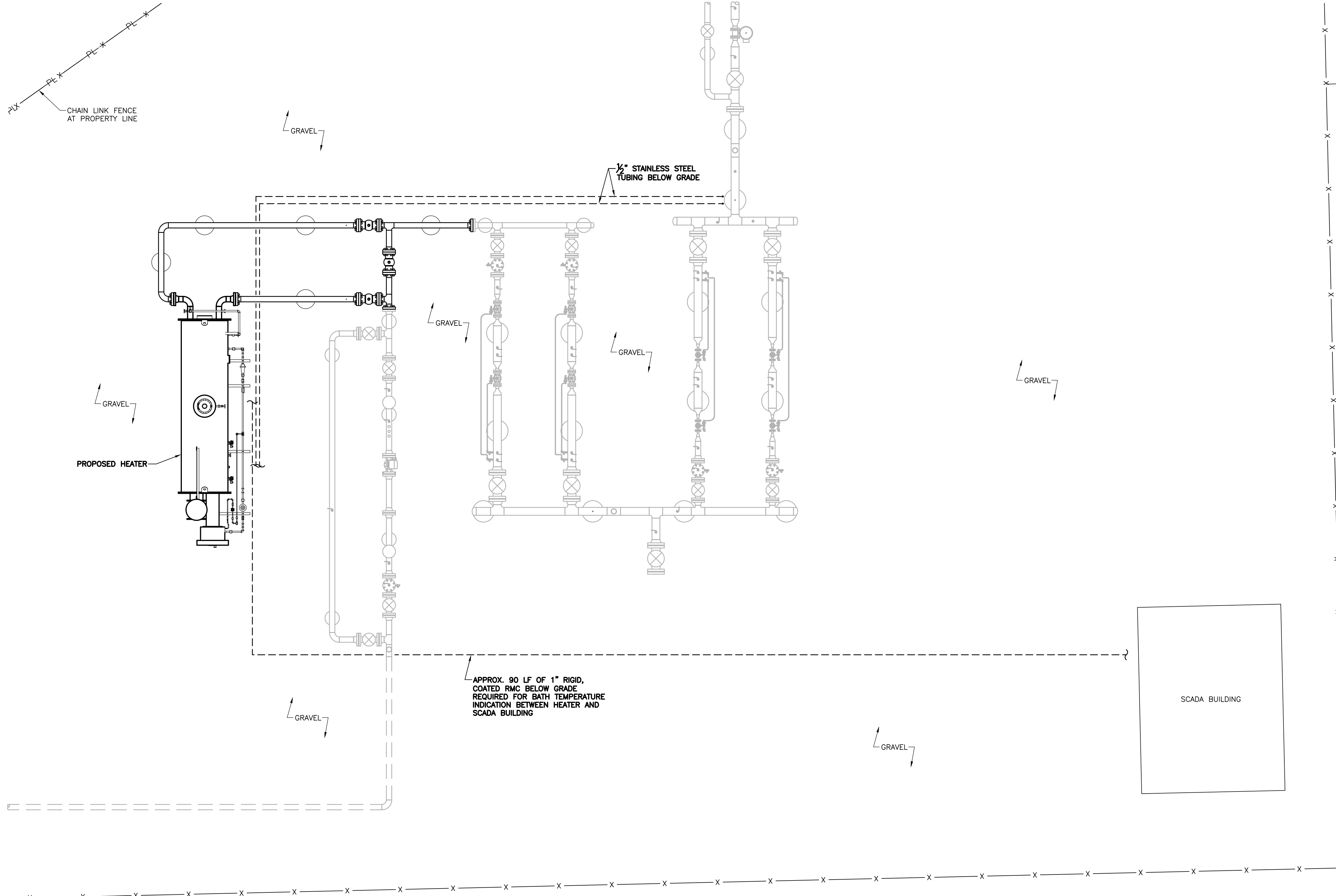
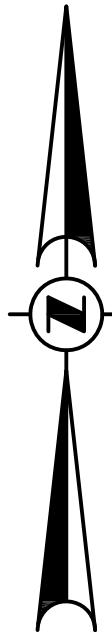
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PROJECT	
<b>PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA</b>	
ALIGNMENT SHEET	
<b>RK&amp;K</b> <small>RAMMEL, KLEPPER &amp; KAHN, LLP 1101 E. CAMP STREET, SUITE 300 RICHMOND, VIRGINIA 23223 T-804-782-1903 F-804-782-2142</small>	
ENGINEERS   CONSTRUCTION MANAGERS   PLANNERS   SCIENTISTS	
RK&K COMM. NO. 1216-087.003	

## Greenville Utilities

City of Greenville, NC

SHEET DESCRIPTION	
PROPOSED HEATER AND VALVE INSTALLATION PLAN	
SHEET NO: 3	REVISION:



For Review and Comment

QUANTITY	DESCRIPTION

REV. DESIGN DRAFT CHECK					DESCRIPTION	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
DRAFTING & DESIGN - RK&K		-	-	AAL	11/21/17
ENGINEERING - RK&K		-	-	CJV	11/21/17

TEST DATA	
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MEDIUM: _____ RECORD TEST PRESSURE: _____ psig	
DATE TEST COMPLETED: _____	

PROJECT		
PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA		
ALIGNMENT SHEET		
 <small>RAMMEL, KLEPPER &amp; KOHL, LLP 100 E. CAMP STREET, SUITE 300 RICHMOND, VIRGINIA 23221 T-804-782-1901 F-804-782-2142</small>		SCALE PLAN 1/4"=1'-0" PROFILE HOR. - VERT. -
<small>ENGINEERS   CONSTRUCTION MANAGERS   PLANNERS   SCIENTISTS</small> <small>RK&amp;K COMM. NO. 1216-087.003</small>		

## Greenville Utilities

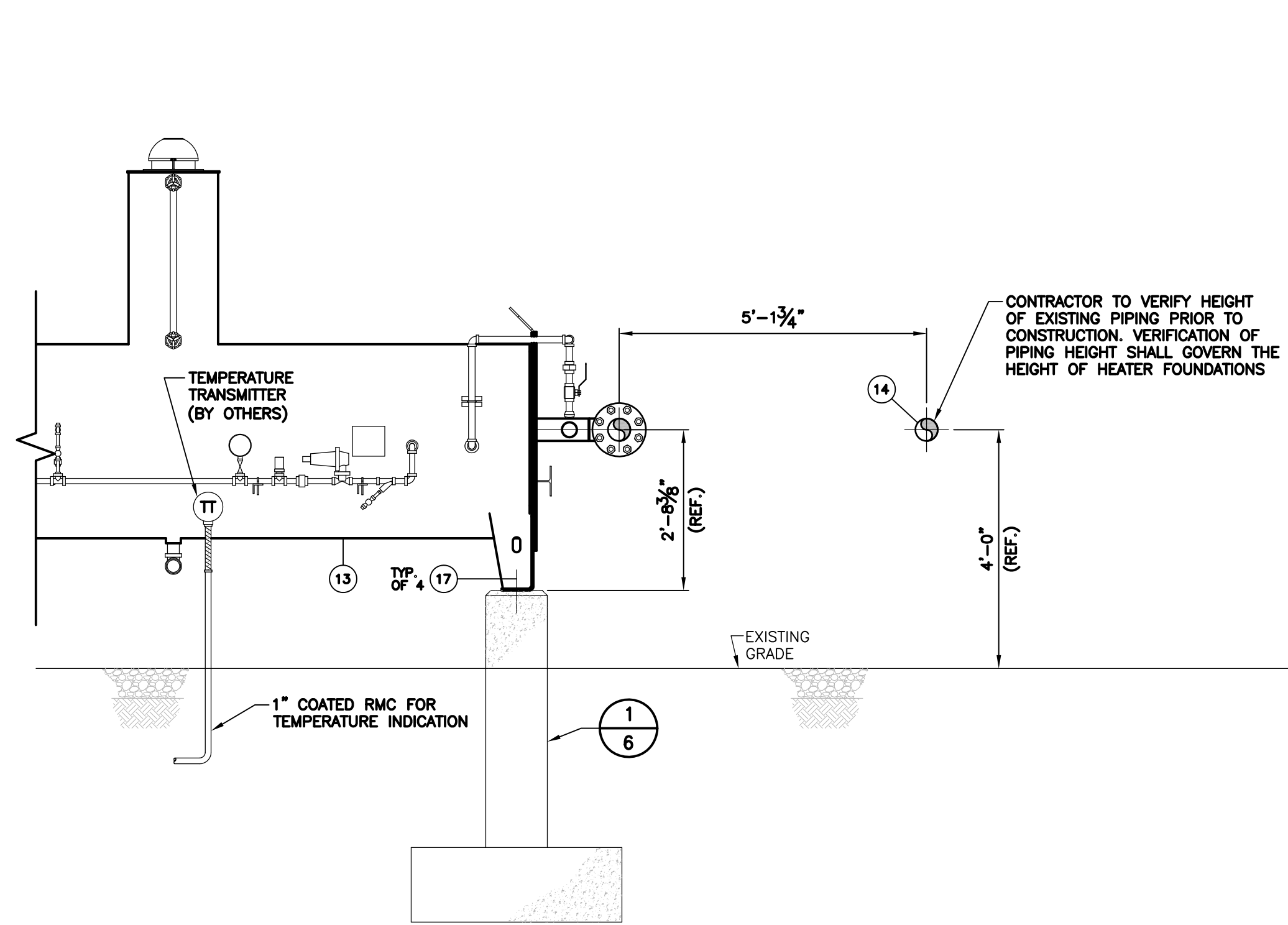
City of Greenville, NC

SHEET DESCRIPTION

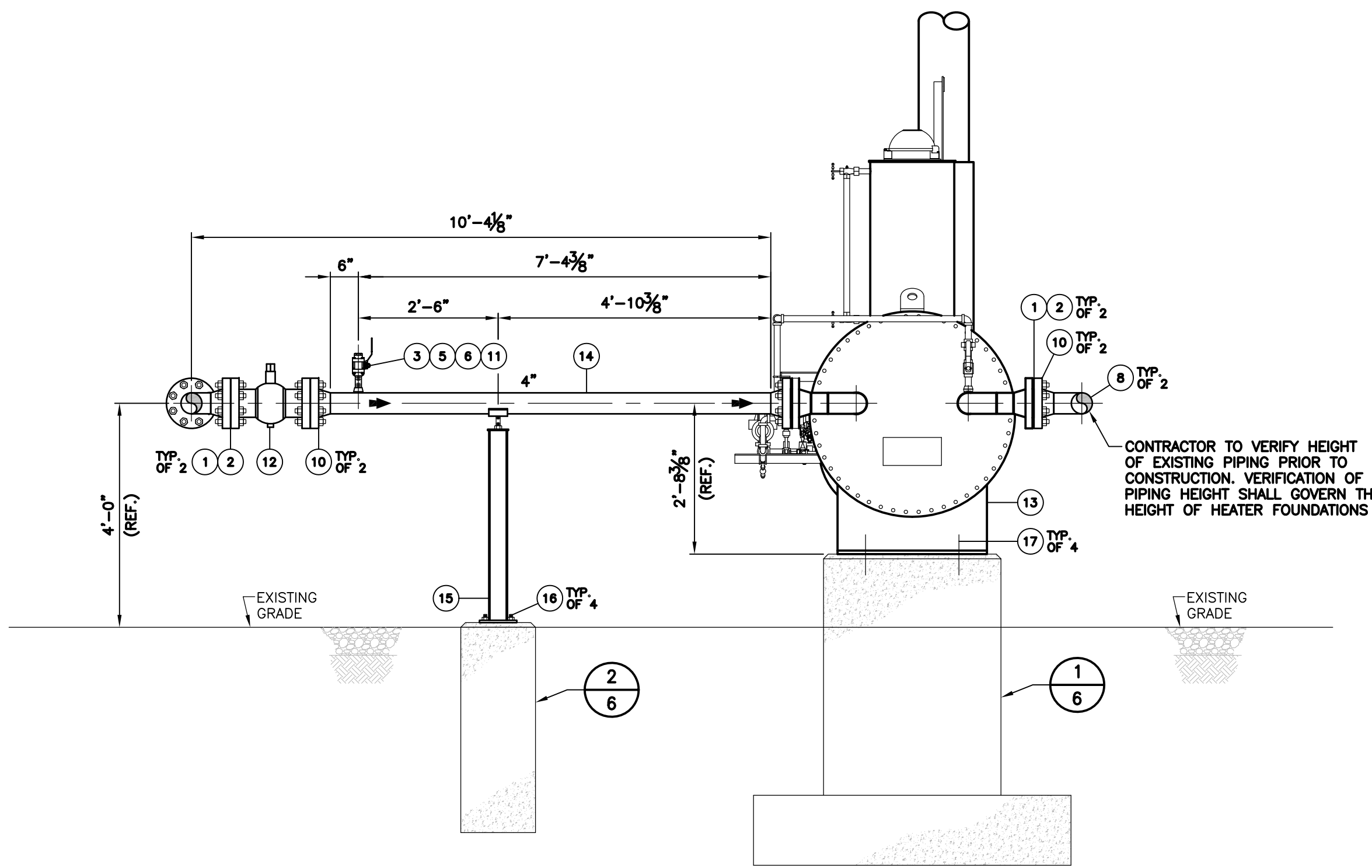
ELECTRICAL BELOW GRADE  
CONDUIT PLAN

**SHEET NO: 4**

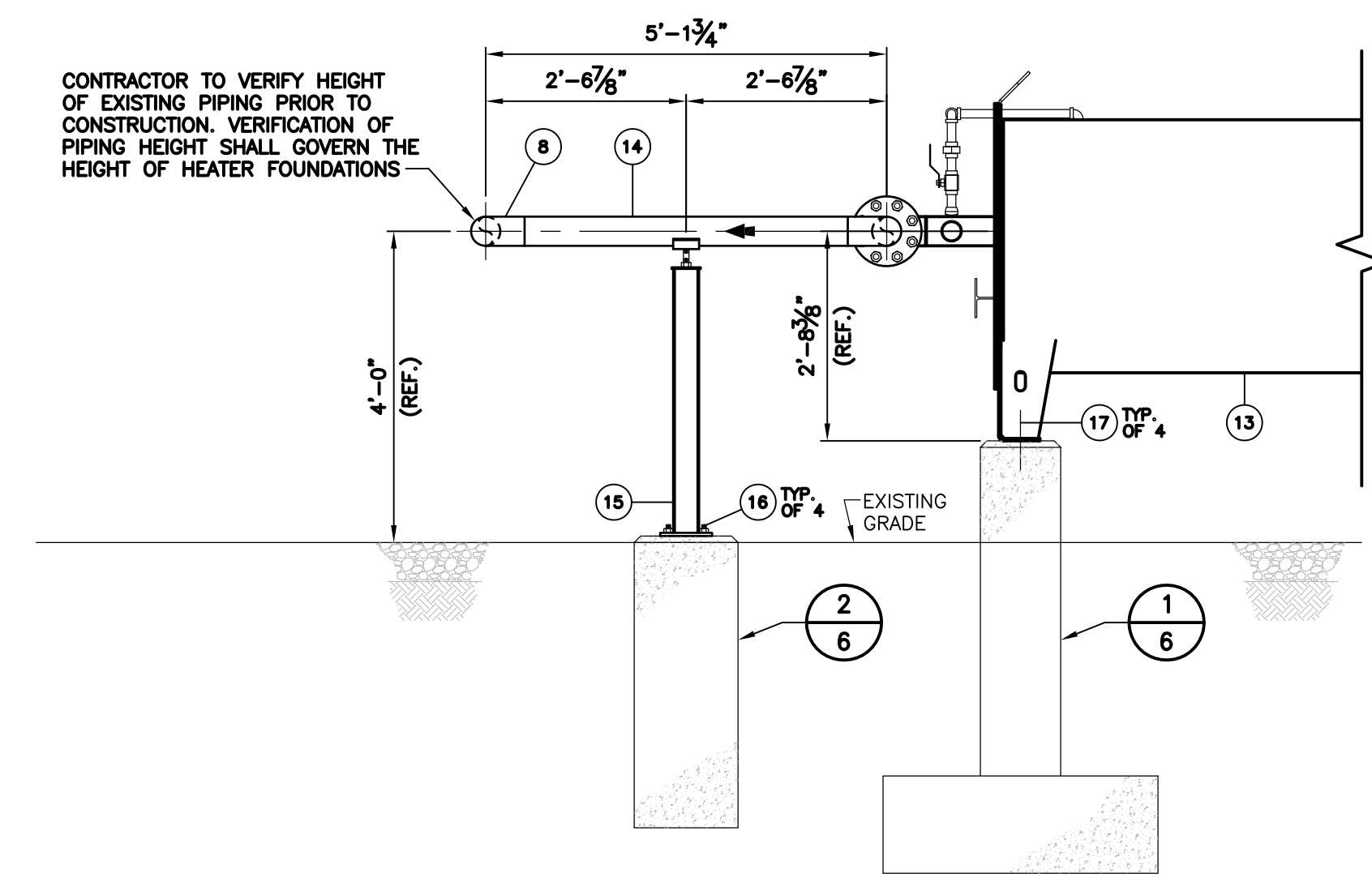
REVISION: \_\_\_\_\_



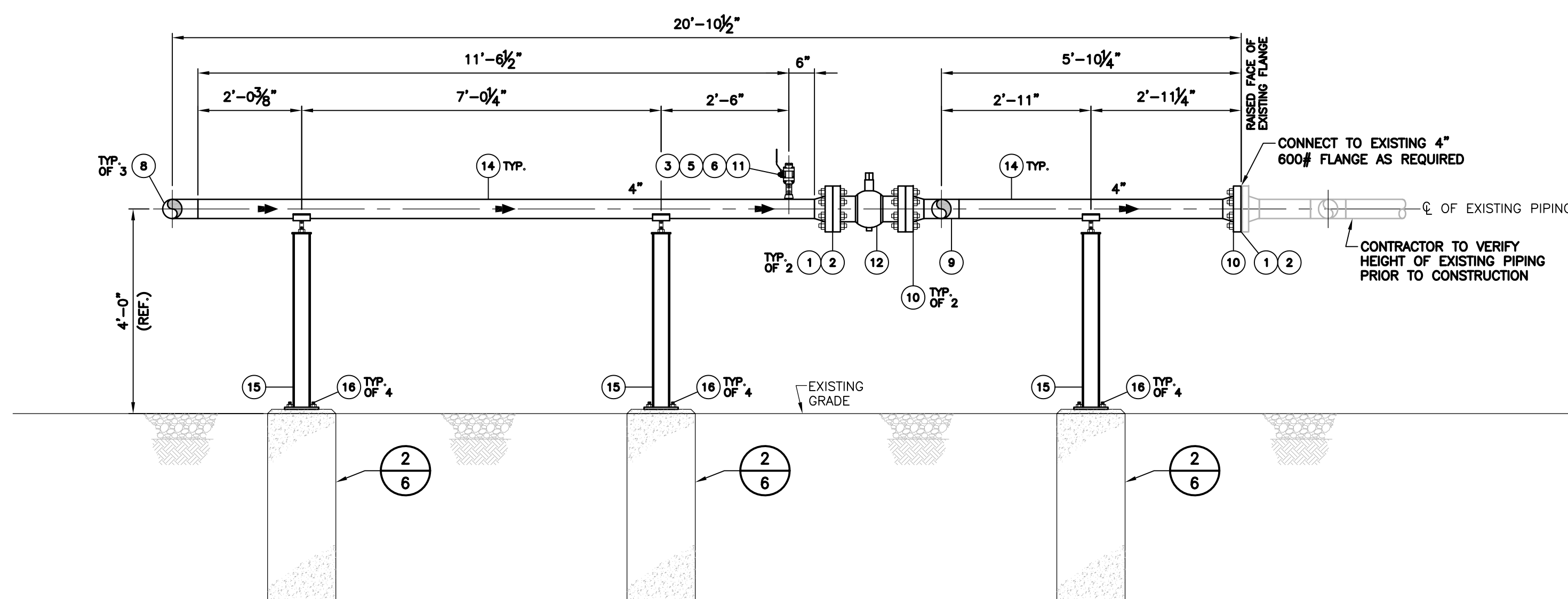
**HEATER INLET  
SECTION A-A**



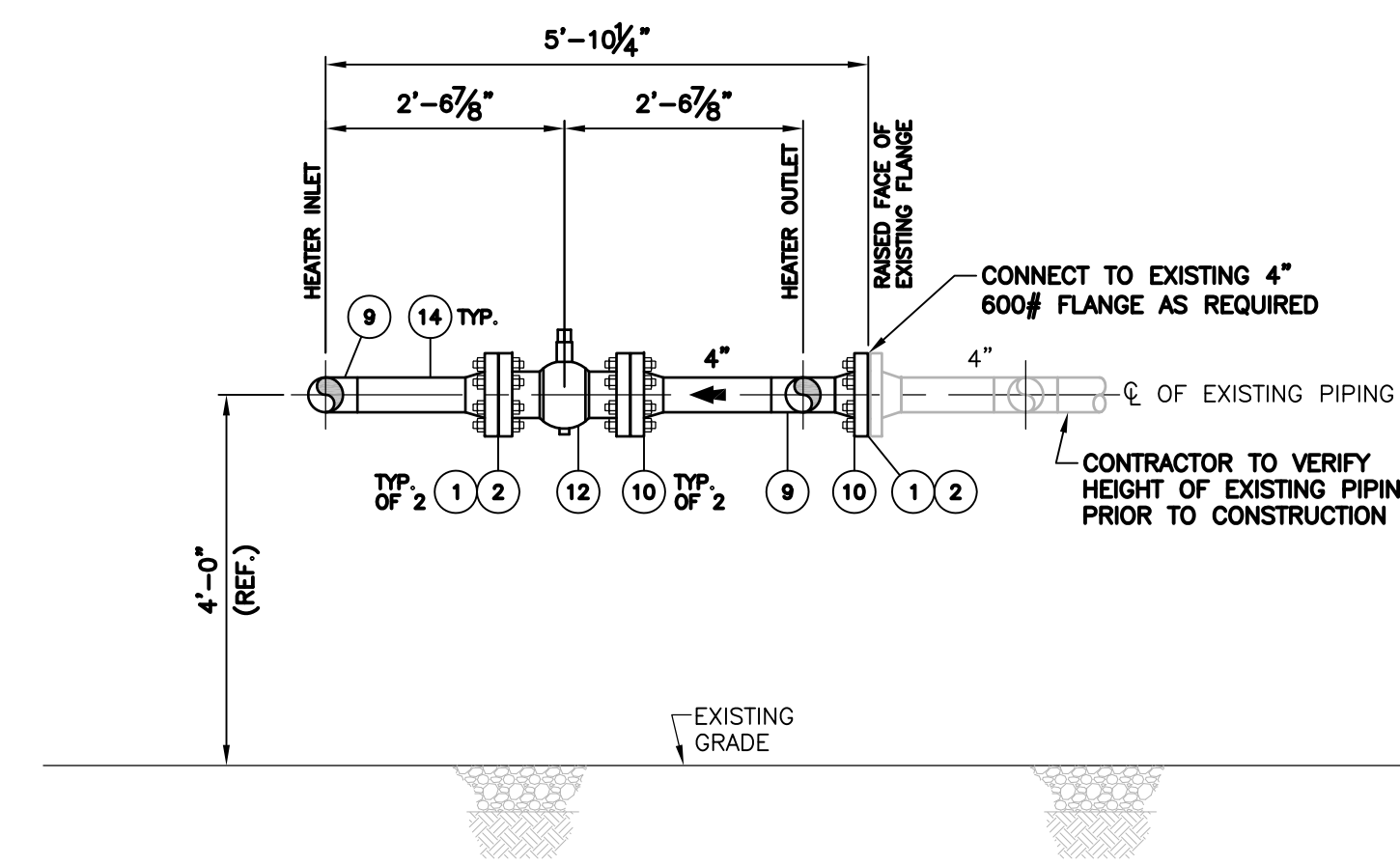
**HEATER INLET AND OUTLET  
SECTION B-B**



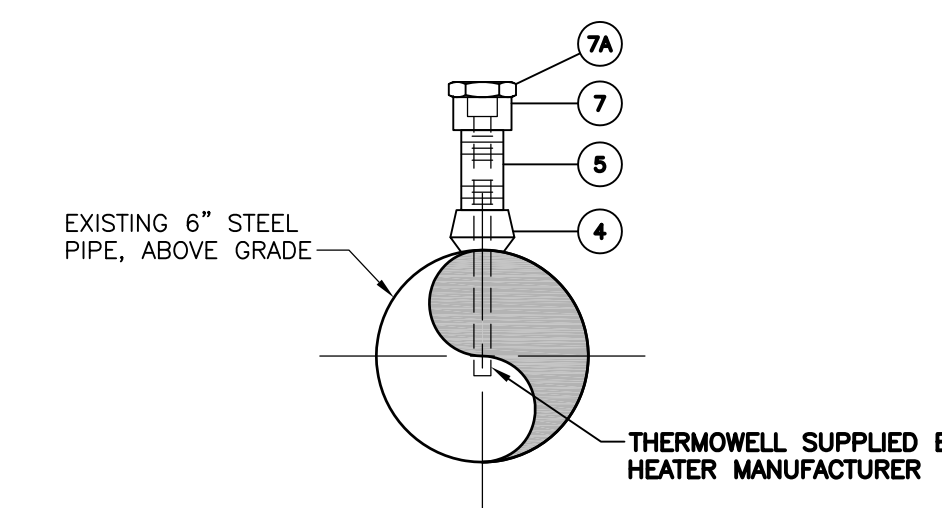
**HEATER OUTLET  
SECTION C-C**



**HEATER OUTLET VALVE  
SECTION D-D**



**HEATER BYPASS VALVE  
SECTION E-E**



**KIMRAY CONNECTION  
SECTION F-F**

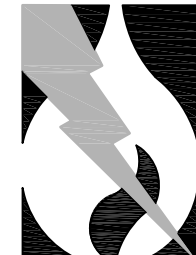
For Review and Comment

SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION

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REVISIONS			
REV.	DESIGN	DRAFT	CHECK

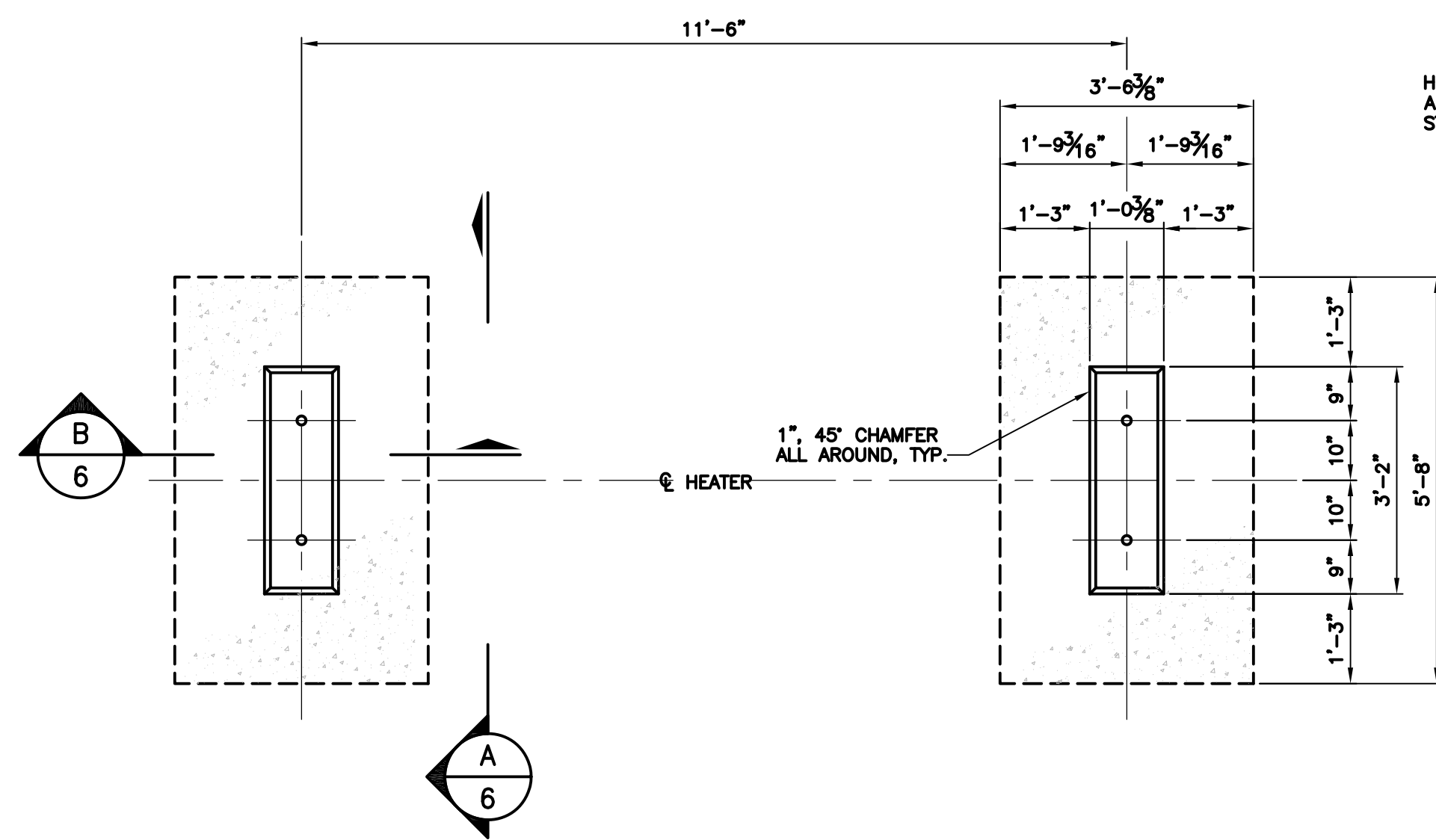
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PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE

PROJECT	
PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA	
ALIGNMENT SHEET	
<b>RK&amp;K</b> <small>RAMMEL, KLEPPER &amp; KAHN, LLP</small> <small>1101 E. CAMP STREET, SUITE 300</small> <small>RICHMOND, VIRGINIA 23223</small> <small>T-804-782-1803 F-804-782-2142</small> <small>ENGINEERS   CONSTRUCTION MANAGERS   PLANNERS   SCIENTISTS</small>	
SCALE	HOR. PROFILE
PLAN 1/2"=1'-0"	HOR. -
	VERT. -

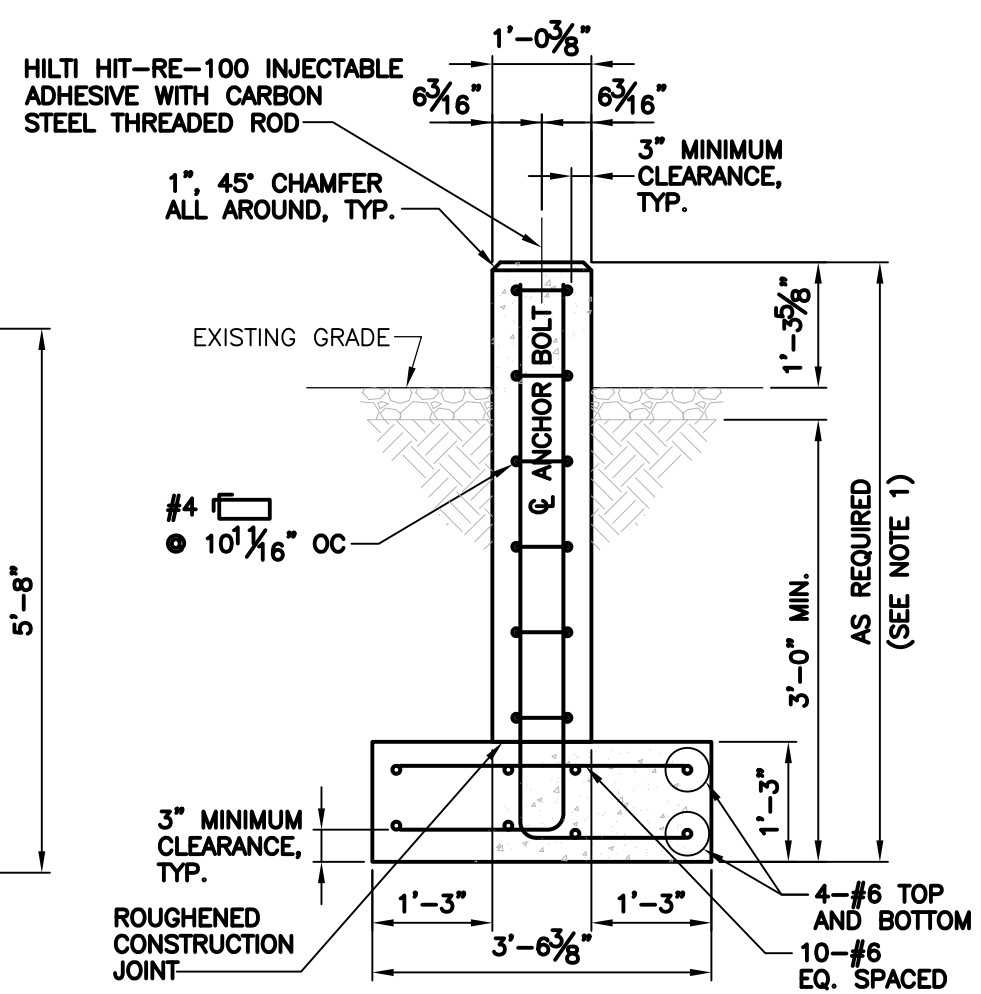
PROJECT	
 <b>Greenville Utilities</b> <small>City of Greenville, NC</small>	
SHEET DESCRIPTION	
HEATER AND VALVE INSTALLATION DETAILS	
<b>SHEET NO: 5</b>	REVISION:

**NOTES**

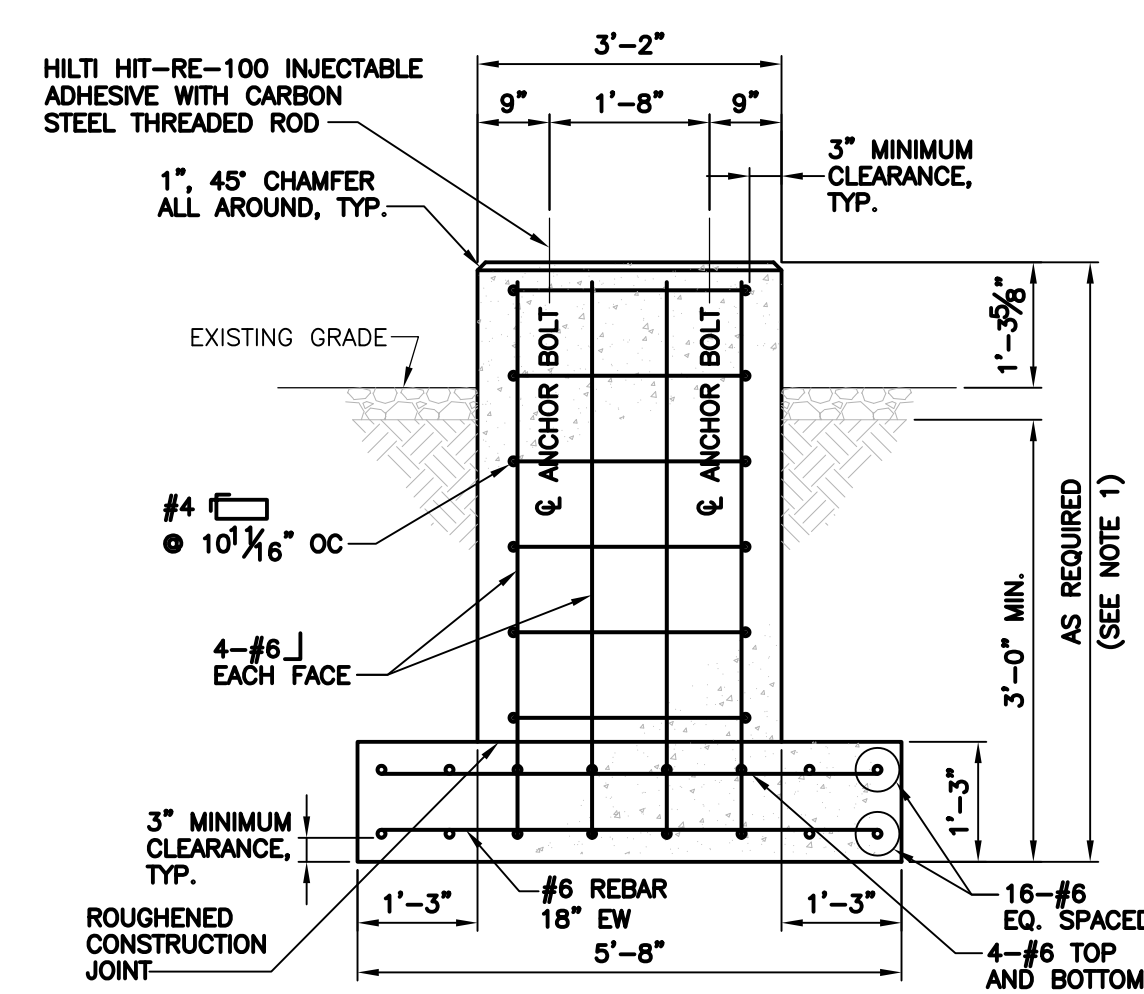
1. CONTRACTOR TO VERIFY HEIGHT OF EXISTING PIPING PRIOR TO CONSTRUCTION. VERIFICATION OF PIPING HEIGHT SHALL GOVERN THE HEIGHT OF HEATER FOUNDATIONS
2. AN 1/8" THICK NEOPRENE PAD SHALL BE INSTALLED BETWEEN THE TOP OF CONCRETE AND THE BOTTOM OF INDIRECT GAS-FIRED HEATER SADDLE BASE PLATES.



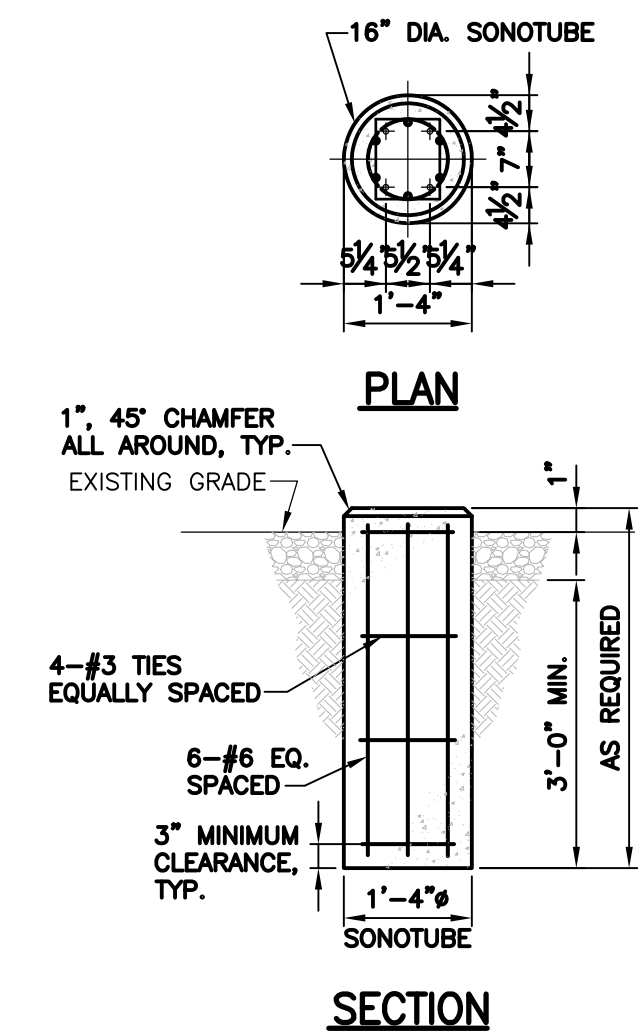
**HEATER FOUNDATIONS - PLAN VIEW  
DETAIL 1**



**HEATER FOUNDATION PIER  
SECTION A-A**



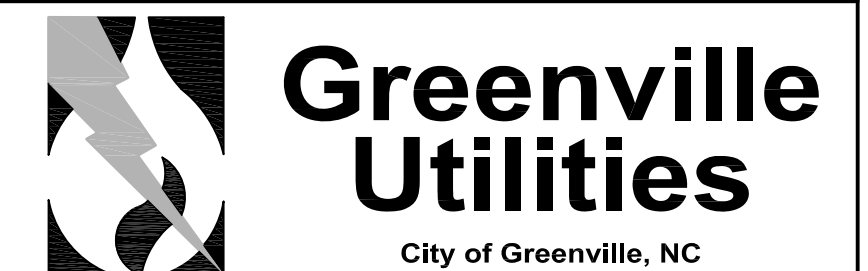
**HEATER FOUNDATION PIER  
SECTION B-B**



**PIPE STAND FOUNDATION  
DETAIL 2**

For Review and Comment

SUMMARY OF MATERIALS		NOTES		APPROVAL						PROJECT	
QUANTITY	DESCRIPTION			PERMITS		BID		CONSTRUCTION		PROPOSED HEATER INSTALLATION CITY GATE #3 GREENVILLE, NORTH CAROLINA	
		REV.	DESIGN DRAFT CHECK	INITIALS	DATE	INITIALS	DATE	INITIALS	DATE		
										ALIGNMENT SHEET	
										SCALE PLAN 1/2"=1'-0" PROFILE HOR. - VERT. -	
										SHEET NO: 6	
										REVISION:	



RK&K COMM. NO. 1216-087.003