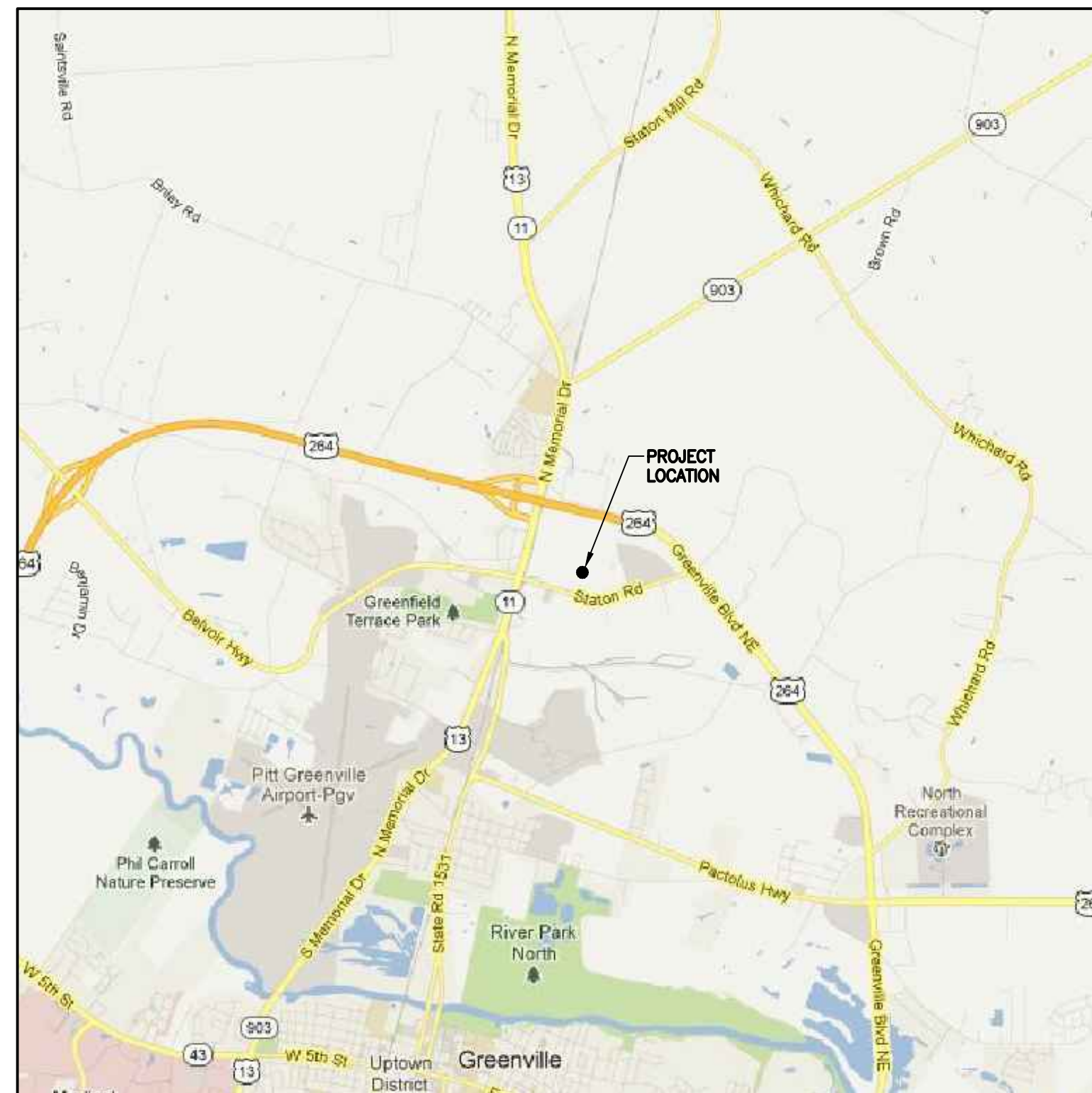


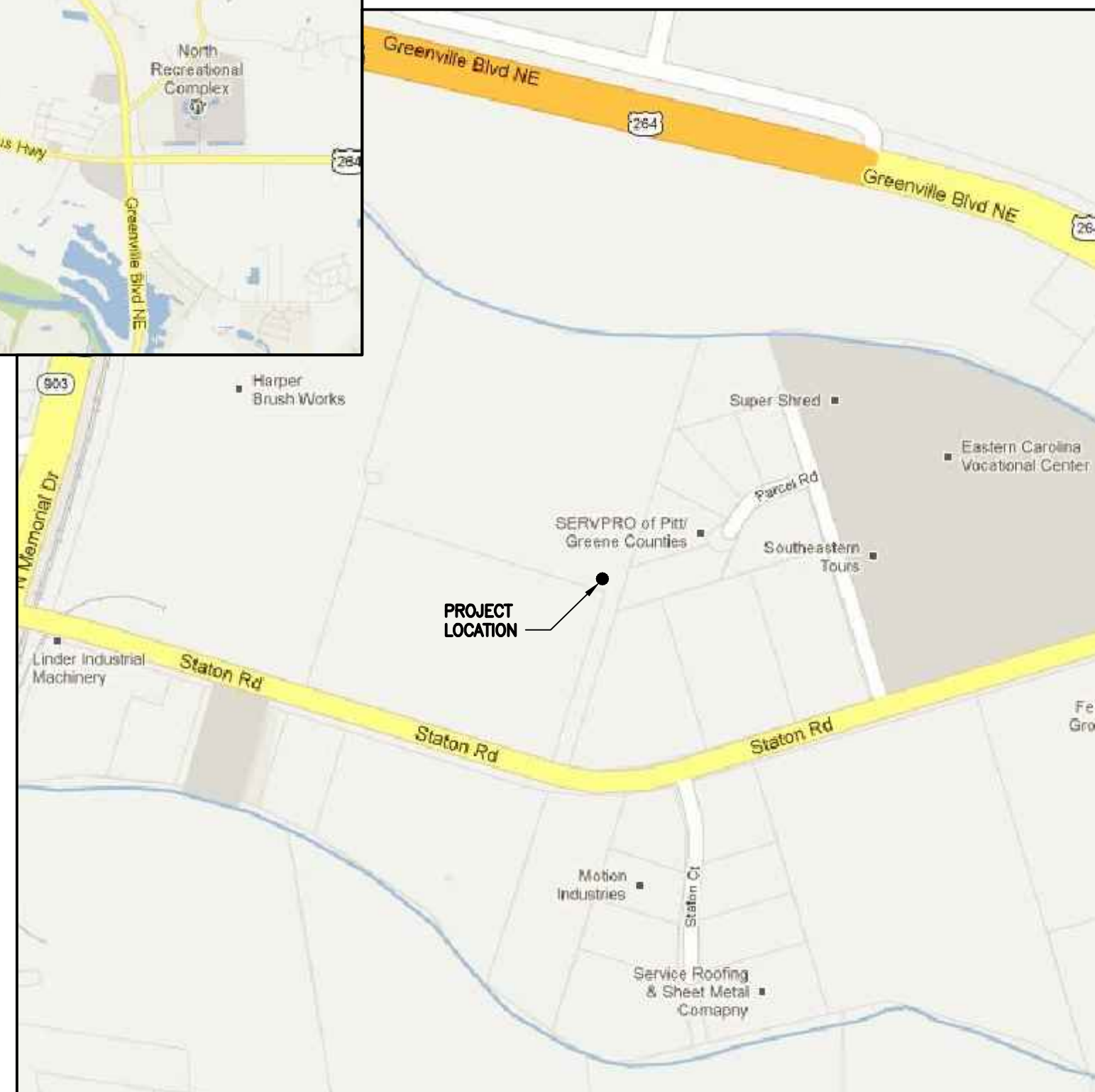
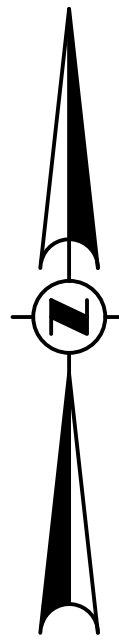
Greenville Utilities

S.T. Wooten Corporation Asphalt Plant Industrial Gas Meter Sets Replacement - Phase II City Of Greenville, North Carolina

Issued for Bid
May 2013



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

SHEET INDEX

<u>SHEET DESCRIPTION</u>	<u>SHEET NUMBER</u>
COVER SHEET	-
BILL OF MATERIALS AND GENERAL NOTES	STW-1
OVERALL SITE PLAN	STW-2
PROPOSED SITE PLAN	STW-3
PROPOSED PIPING PLAN	STW-4
METER RUN SECTION A-A	STW-5
REGULATOR RUN SECTION B-B	STW-6



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

PIPING BILL OF MATERIALS

ITEM NO.	QUANTITY	SIZE	DESCRIPTION
1	32	5/8"x3 3/4"	STUD BOLT, GRADE B-7, (ASTM-A193), W/2 GRADE 2-H HEX NUTS (ASTM-A194)
2	32	3/4"x4 1/2"	STUD BOLT, GRADE B-7, (ASTM-A193), W/2 GRADE 2-H HEX NUTS (ASTM-A194)
3	64	3/4"x4 3/4"	STUD BOLT, GRADE B-7, (ASTM-A193), W/2 GRADE 2-H HEX NUTS (ASTM-A194)
4	8	3"	GASKET, ANSI 150, SPIRAL WOUND, FLEXITALLIC
5	2	6"	GASKET, ANSI 150, SPIRAL WOUND, FLEXITALLIC
6	7	8"	GASKET, ANSI 150, SPIRAL WOUND, FLEXITALLIC
7	2	6"	FLANGE INSULATION KIT, ANSI 150, TYPE E, PSI LINEBACKER, DOUBLE WASHER SET, W/ FULL LENGTH PHENOLIC SLEEVES
8	2	8"	FLANGE INSULATION KIT, ANSI 150, TYPE E, PSI LINEBACKER, DOUBLE WASHER SET, W/ FULL LENGTH PHENOLIC SLEEVES
9	1	1/2"	THREDOLET, FOR 6" THRU 10" PIPE, 3000#
10	3	3/4"	THREDOLET, FOR 2" THRU 3 1/2" PIPE, 3000#
11	5	3/4"	THREDOLET, FOR 6" THRU 10" PIPE, 3000#
12	9	1"	THREDOLET, FOR 6" THRU 10" PIPE, 3000#
13	2	2"	THREDOLET, FOR 6" THRU 10" PIPE, 3000#
14	-	-	OMITTED
15	-	-	OMITTED
16	2	1/2"x3"	NIPPLE, PIPE, STEEL, GRADE B, SMLS, CS, TBE
17	6	3/4"x3"	NIPPLE, PIPE, STEEL, GRADE B, SMLS, CS, TBE
18	10	1"x3"	NIPPLE, PIPE, STEEL, GRADE B, SMLS, CS, TBE
19	2	2"x6"	NIPPLE, PIPE, STEEL, GRADE B, SMLS, CS, TBE
20	2	1/2"	PLUG, FORGED STEEL, HEX HEAD, SCREWED, 3000#
21	8	3/4"	PLUG, FORGED STEEL, HEX HEAD, SCREWED, 3000#
22	8	1"	PLUG, FORGED STEEL, HEX HEAD, SCREWED, 3000#
23	2	2"	CAP, FORGED STEEL, SCREWED, 3000#
24	8	3"	FLANGE, WELDING NECK, RF, ANSI 150, FORGED ST, WT = 0.216", BORE = 3.068"
25	6	6"	FLANGE, WELDING NECK, RF, ANSI 150, FORGED ST, WT = 0.280", BORE = 6.065"
26	10	8"	FLANGE, WELDING NECK, RF, ANSI 150, FORGED ST, WT = 0.322", BORE = 7.981"
27	6	6"	ELL, 90 DEG., L.R., GRADE B, 0.280" WALL
28	4	8"	ELL, 90 DEG., L.R., GRADE B, 0.322" WALL
29	2	6"x3"	TEE, WELDING, REDUCING, GRADE B, 0.280"x0.216" WALL
30	2	8"x6"	TEE, WELDING, REDUCING, GRADE B, 0.322"x0.280" WALL
31	4	6"x3"	REDUCER, WELD END, CONCENTRIC, GRADE B, BTM, 0.280"x0.216" WALL
32	2	8"x6"	REDUCER, WELD END, ECENTRIC, GRADE B, BTM, 0.322"x0.280" WALL
33	1	8"	STRAIGHTENING VANES, FLANGED TYPE, AMERICAN METER, PART NO. 74081P501
34	2	1/2"	BALL VALVE, SWAGelok SERIES 60, THREADED FEMALE ENDS, CLASS 3000
35	6	3/4"	BALL VALVE, SWAGelok SERIES 60, THREADED FEMALE ENDS, CLASS 3000
36	9	1"	BALL VALVE, SWAGelok SERIES 60, THREADED FEMALE ENDS, CLASS 3000
37	2	3"	BALL VALVE, FLANGE&WELD END, ANSI 150, WT=0.216", KEROTEST WELDBALL
38	2	6"	BALL VALVE, FLANGE&WELD END, ANSI 150, WT=0.280", KEROTEST WELDBALL
39	1	6"	BALL VALVE, WELD END, ANSI 150, WT=0.280", KEROTEST WELDBALL
40	2	8"	BALL VALVE, FLANGE&WELD END, ANSI 150, WT=0.322", KEROTEST WELDBALL
41	1	1"x1"	RELIEF VALVE, THREADED FEMALE ENDS, ANDERSON-GREENWOOD, SERIES 80, VALVE BODY 83, STAINLESS STEEL
42	1	8"	STRAINER, TEE STYLE, R.F. FLANGED ENDS, ANSI 150, APOLLO ENGINEERING, MODEL TSF
43	1	8"	TURBINE GAS METER, R.F. FLANGED ENDS, ANSI 150, ELSTER-AMERICAN METER, MODEL GTS
44A	1	3"	REGULATOR, PRESSURE REDUCING, R.F. FLANGED ENDS, ANSI 150, PIETRO FIORENTINI, NORVAL SERIES, W/ 375 HEAD CI, AND LIGHT BLUE SPRING (WORKER)
44B	1	3"	REGULATOR, PRESSURE REDUCING, R.F. FLANGED ENDS, ANSI 150, PIETRO FIORENTINI, NORVAL SERIES, W/ 375 HEAD CI, IN-LINE MONITOR ER DN80 CE, AND BROWN SPRING (MONITOR)
44C	1	3"	REGULATOR, PRESSURE REDUCING, R.F. FLANGED ENDS, ANSI 150, PIETRO FIORENTINI, NORVAL SERIES, W/ 375 HEAD CI, AND LIGHT BLUE SPRING
45	20 LF	3"	PIPE, 0.216" WALL, GRADE B, BARE, CS, ERW, BE, SPEC API-SL
46	100 LF	6"	PIPE, 0.280" WALL, GRADE B, BARE, CS, ERW, BE, SPEC API-SL
47	20 LF	8"	PIPE, 0.322" WALL, GRADE B, BARE, CS, ERW, BE, SPEC API-SL
48	AS REQ'D	N/A	ROCK SHIELD
-	-	-	-
-	-	-	-
-	-	-	-

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION.
2. ALL PIPING TO BE FABRICATED & TESTED IN ACCORDANCE WITH 49 CFR 192.
3. ALL PIPE WELDING TO BE PERFORMED PER GUC WELD STANDARDS.
4. ALL PIPING SHALL BE THOROUGHLY CLEANED OF MILL SCALE, WELD SLAG, & RUST PRIOR TO ASSEMBLY.
5. ALL PIPING SHALL BE VISUALLY INSPECTED BY GUC PERSONNEL PRIOR TO FABRICATION OF ASSEMBLY.

DRAWING LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	EASEMENT
	CENTERLINE
	PROPOSED FENCE
	PROPOSED GAS PIPE ABOVE GRADE (DOUBLE LINE)
	PROPOSED GAS PIPE BELOW GRADE (DOUBLE LINE)
	INSULATING FLANGE LOCATION

SUMMARY OF MATERIALS

NOTES

APPROVAL

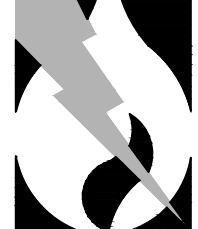
PROJECT

QUANTITY	DESCRIPTION

REVISIONS				DATE
REV.	DESIGN	DRAFT	CHECK	

SURVEY	PERMITS		BID		CONSTRUCTION	
	INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
C.P.						
DRAFTING & DESIGN - RK&K			AAL	5/13		
ENGINEERING - RK&K			CJV	5/13		

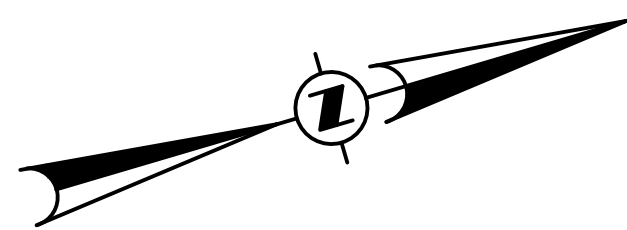
ALIGNMENT SHEET		SCALE



Greenville Utilities

City of Greenville, NC

SHEET DESCRIPTION INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II BILL OF MATERIALS AND GENERAL NOTES	SHEET NO: STW-1 REVISION:
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STATION ROAD

FORMERLY MOHAWK INDUSTRIES' "KARASTAN WORSTED PLANT"

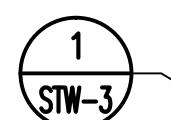
GRADING OF S.T. WOOTEN ASPHALT PLANT SITE BY OTHERS. VERIFY ELEVATIONS PRIOR TO CONSTRUCTION OF METER & REGULATOR STATION.

LOCATION OF PROPOSED METER & REGULATOR STATION

PROPOSED 10' ELECTRICAL EASEMENT

PROPOSED ELECTRIC CONDUIT (BY OTHERS)

PROPOSED 10' GAS PIPELINE EASEMENT



LIMITS OF DISTURBANCE

DIVERSION DITCH

ROCK PIPE INLET PROTECTION (TYP.) SEE DETAIL

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EXISTING ASPHALT ENTRANCE

WASTE INDUSTRIES

PROPOSED STOCKPILE AREA

TREE PROTECTION FENCING

PROPOSED CONCRETE RAMP FOR SEDIMENT COLLECTION (SEE TYP. DETAIL SHEET 10)

PROPOSED CONCRETE RAMP FOR SEDIMENT COLLECTION (SEE TYP. DETAIL SHEET 10)

PROPOSED S.T. WOOTEN ASPHALT PLANT

DIVERSION DITCH

68 LF OF 24" RCP

INSTALL 4"x4"x2" RIP-RAP PAD UNDERNEATH SKIMMER

BOTTOM OF RAMP: 24.50
PIPE INVERT: 23.00
TOP OF RAMP: 23.00

92 LF OF 24" RCP

TEMP. BAFFLES FOR SEDIMENT BASIN #1

PLANT ELEVATION 32.00

57 LF OF 18" RCP

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

X 30.25

X 29.50

67 LF OF 18" RCP

X 27.80

X 28.0

X 27.80

X 28.0

X 27.80

X 28.0

X 27.80

X 28.0

X 27.80

X 28.0

X 27.80

X 28.0

X 27.80

X 28.0

76 LF OF 24" RCP

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

X 27.75

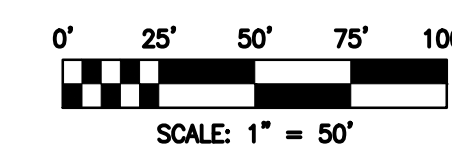
X 27.75

300' (2 - 150' GRASSED SWALES)
5:1 SIDE SLOPES - < 1 FT/SEC VELOCITY

6" FORBIDDEN DRAIN

GRASSED SWALE
DA: 9.34 AC
SLOPE: 0.5%
5:1 SIDE SLOPES
5' BOTTOM

SERVPRO



SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION


NOTES			

REVISIONS					
REV.	DESIGN	DRAFT	CHECK	DESCRIPTION	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE

TEST DATA	
TESTED FROM STATION: _____	TO STATION: _____
MEDIUM: _____	RECORD TEST PRESSURE: _____ psi
DATE TEST COMPLETED: _____	

PROJECT	
S.T. WOOTEN CORPORATION ASPHALT PLANT	
INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II	
ALIGNMENT SHEET	
RK&K COMM. NO. 811-013-02.1	SCALE: 1" = 50'
PLANNING, ENGINEERING & CONSTRUCTION MANAGERS PLANNERS SCIENTISTS	PROFILE: _____
	HOR. _____
	VERT. _____



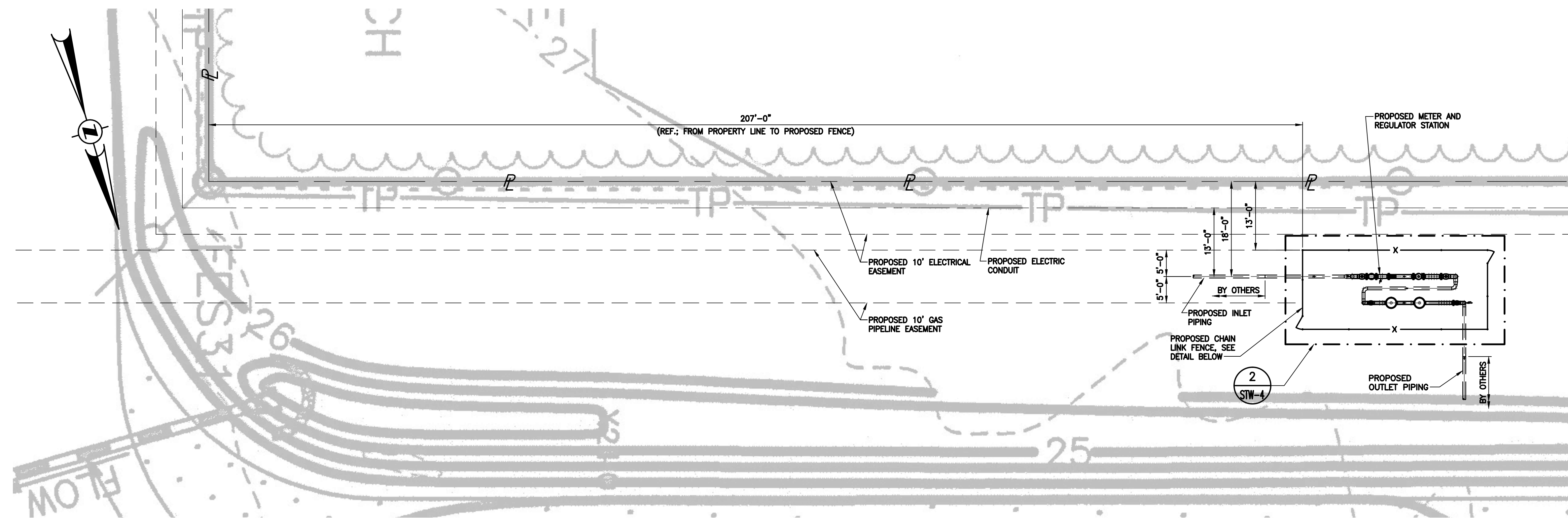
Greenville Utilities
City of Greenville, NC

SHEET DESCRIPTION

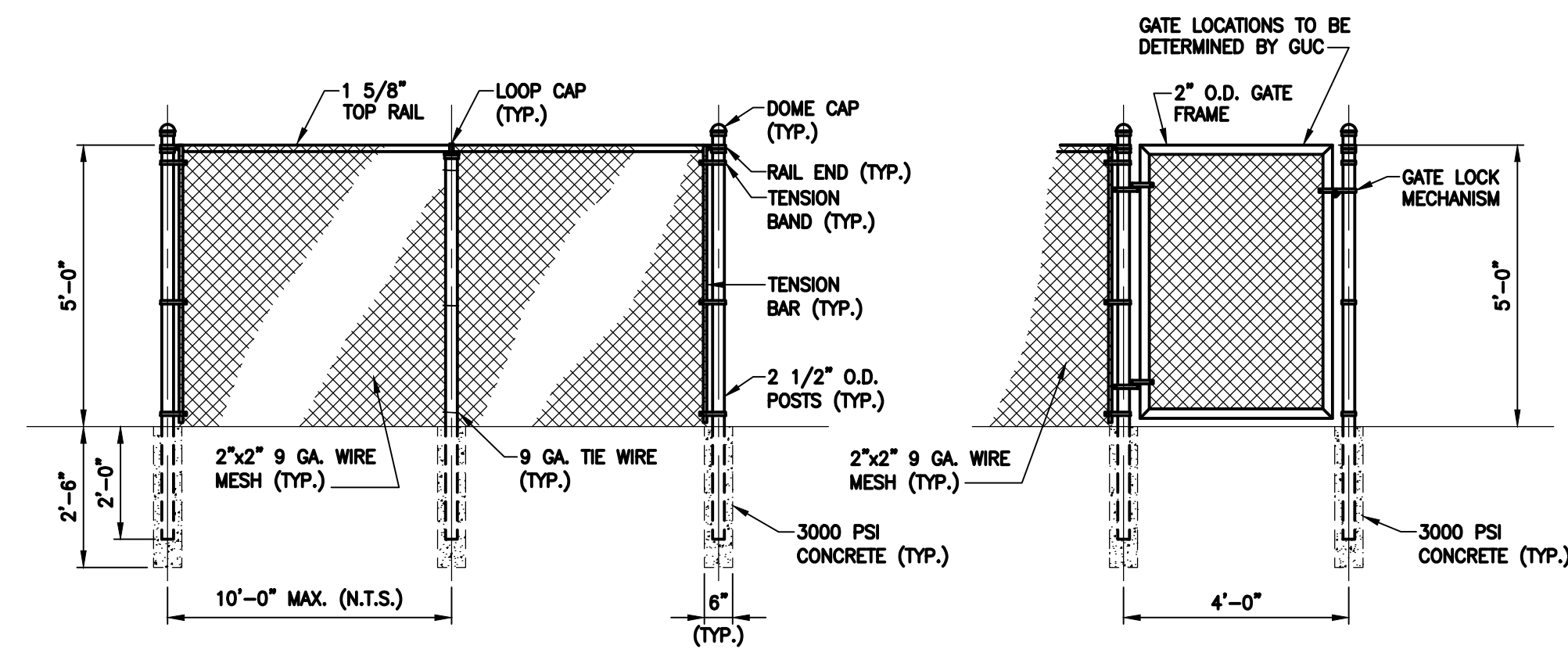
OVERALL SITE PLAN

SHEET NO: STW-2

REVISION: _____



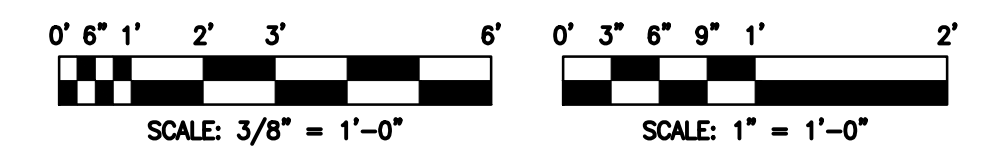
PIPING SITE PLAN
DETAIL 1
 SCALE: 1" = 12'
 REF. SHEET STW-2



PROPOSED FENCE DETAILS
 SCALE: 3/8" = 1'-0"

NOTES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION.
2. GRADING OF S.T. WOOTEN ASPHALT PLANT SITE BY OTHERS. VERIFY ELEVATIONS PRIOR TO CONSTRUCTION OF METER & REGULATOR STATION.



SUMMARY OF MATERIALS		NOTES			
QUANTITY	DESCRIPTION				

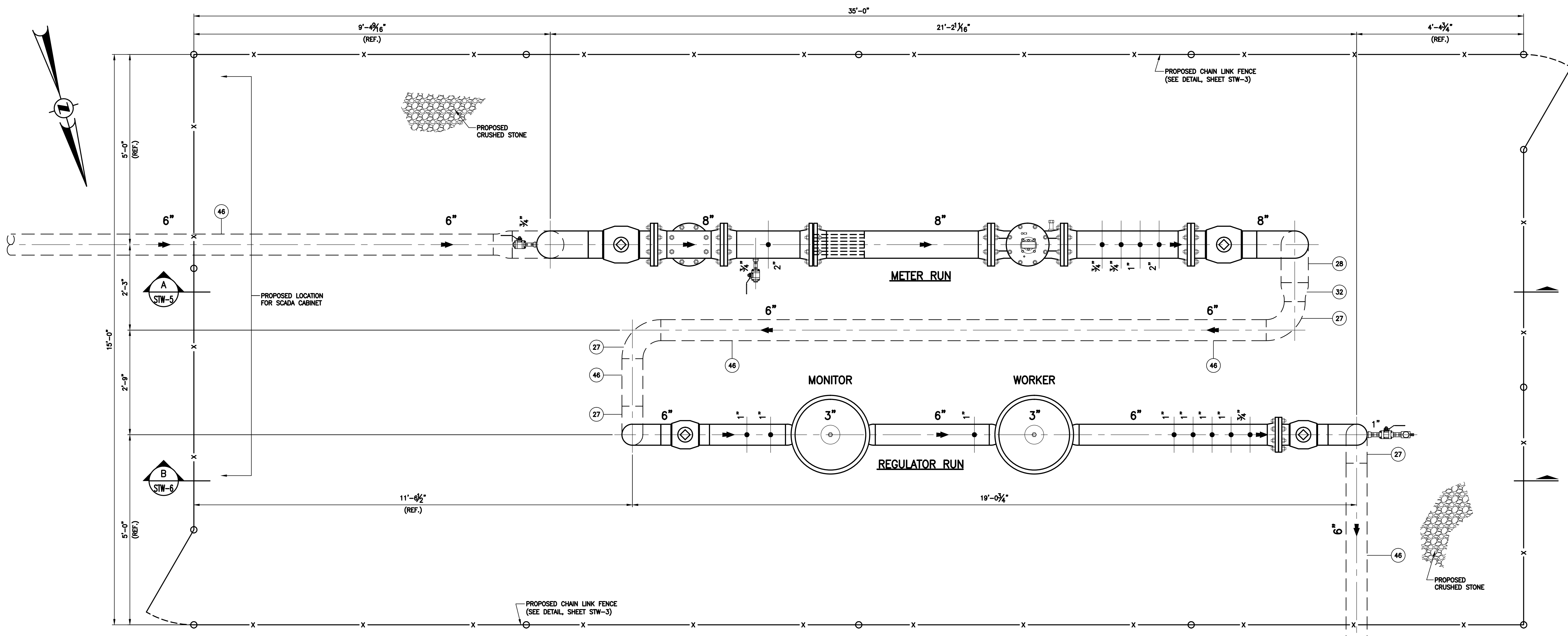
REVISIONS				
REV.	DESIGN	DRAFT	CHECK	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE

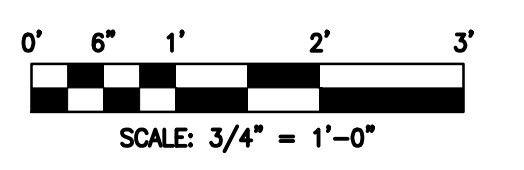
PROJECT	
S.T. WOOTEN CORPORATION ASPHALT PLANT	
INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II	
ALIGNMENT SHEET	
TESTED FROM STATION: _____	TO STATION: _____
MEDIUM: _____	RECORD TEST PRESSURE: _____ psi/g
DATE TEST COMPLETED: _____	

Greenville Utilities
City of Greenville, NC

SHEET DESCRIPTION	
PROPOSED SITE PLAN	
SHEET NO: STW-3	REVISION: _____



**PROPOSED PIPING PLAN
DETAIL 2**
SCALE: 3/4" = 1'-0"
REF. SHEET STW-3



- NOTES**
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
 - THE CONTRACTOR SHALL INSTALL A PROTECTIVE WRAP ON ALL INSTALLED BELOW GRADE PIPING WITH MATERIAL PROVIDED BY THE GUC.
- (X) REFER TO SHEET STW-1 FOR BILL OF MATERIALS

SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION

NOTES				
REVISIONS				
REV.	DESIGN	DRAFT	CHECK	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
DRAFTING & DESIGN - RK&K		AAL		5/13	
ENGINEERING - RK&K		CJV		5/13	

TEST DATA	
TESTED FROM STATION:	TO STATION:
MEDIUM:	RECORD TEST PRESSURE: _____ psig
DATE TEST COMPLETED:	

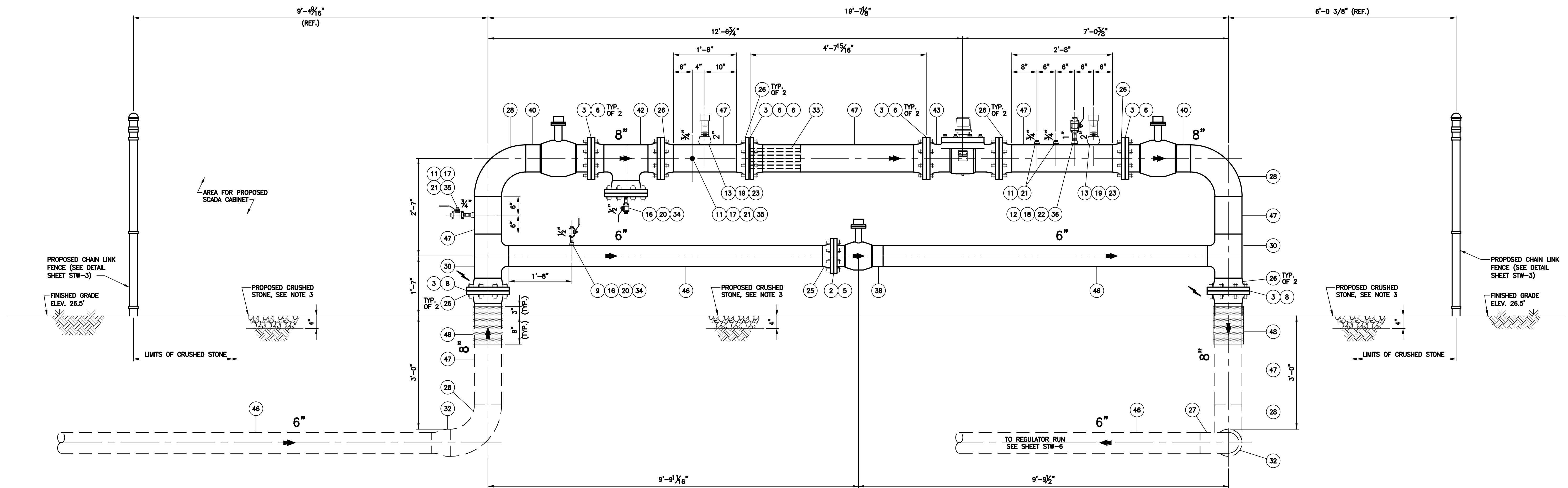
PROJECT	
S.T. WOOTEN CORPORATION ASPHALT PLANT	
INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II	
ALIGNMENT SHEET	
SCALE	AS SHOWN
PLAN	PROFILE
HOR.	
VERT.	

Greenville Utilities
City of Greenville, NC

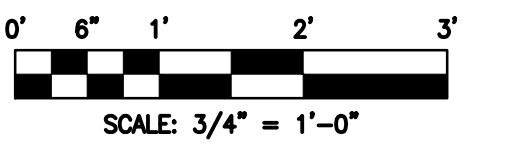
SHEET DESCRIPTION

PROPOSED PIPING PLAN

SHEET NO: STW-4 REVISION:



**METER RUN
SECTION A-A**
SCALE: 3/4" = 1'-0"
REF. SHEET STW-4



- NOTES**
1. THE CONTRACTOR SHALL INSTALL A PROTECTIVE WRAP ON ALL INSTALLED BELOW GRADE PIPING WITH MATERIAL PROVIDED BY THE GUC.
 2. ALL TAPS FOR WELDOLETS AND THREDOLETS SHALL BE FULL BORE.
 3. SITE SHALL BE GRADED AS TO ALLOW FOR PROPER DRAINAGE AWAY FROM METER & REGULATOR STATION.

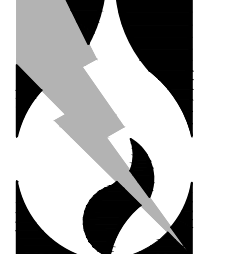
(X) REFER TO SHEET STW-1 FOR BILL OF MATERIALS

SUMMARY OF MATERIALS	
QUANTITY	DESCRIPTION

NOTES				
REVISIONS				
REV.	DESIGN	DRAFT	CHECK	DATE

APPROVAL					
PERMITS		BID		CONSTRUCTION	
INITIALS	DATE	INITIALS	DATE	INITIALS	DATE
SURVEY					
C.P.					
DRAFTING & DESIGN - RK&K		AAL		5/13	
ENGINEERING - RK&K		CJV		5/13	
TEST DATA					
TESTED FROM STATION: _____			TO STATION: _____		
MEDIUM: _____			RECORD TEST PRESSURE: _____ psig		
DATE TEST COMPLETED: _____					

PROJECT	
S.T. WOOTEN CORPORATION ASPHALT PLANT	
INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II	
ALIGNMENT SHEET	
SCALE	
PLAN AS SHOWN	PROFILE
HOR. -	
VERT. -	
RK&K COMM. NO. 811-013-02.1	

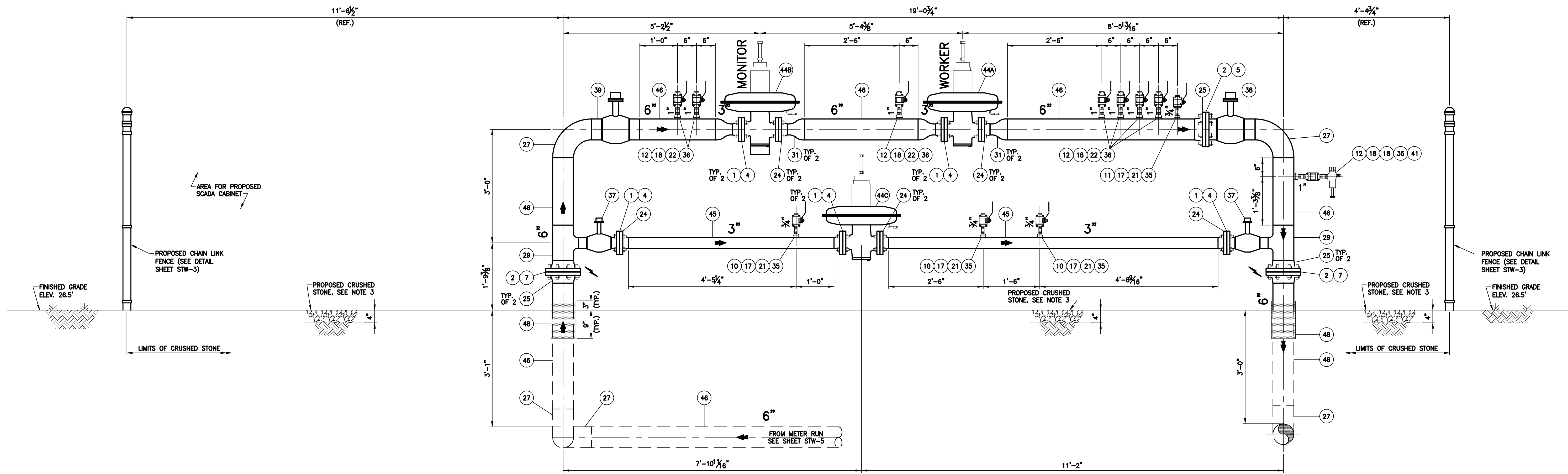


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City of Greenville, NC

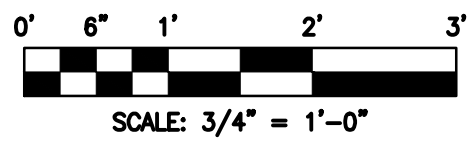
SHEET DESCRIPTION
METER RUN SECTION A-A

SHEET NO: STW-5

REVISION: _____



REGULATOR RUN
SECTION B-B
SCALE: 3/4" = 1'-0"
REF. SHEET STW-4



- NOTES**
1. THE CONTRACTOR SHALL INSTALL A PROTECTIVE WRAP ON ALL INSTALLED BELOW GRADE PIPING WITH MATERIAL PROVIDED BY THE GUC.
 2. ALL TAPS FOR WELDOLETS AND THREDOLETS SHALL BE FULL BORE.
 3. SITE SHALL BE GRADED AS TO ALLOW FOR PROPER DRAINAGE AWAY FROM METER & REGULATOR STATION.

(X) REFER TO SHEET STW-1 FOR BILL OF MATERIALS

SUMMARY OF MATERIALS		NOTES		APPROVAL			PROJECT		
QUANTITY	DESCRIPTION			PERMITS	BID	CONSTRUCTION	S.T. WOOTEN CORPORATION ASPHALT PLANT INDUSTRIAL GAS METER SETS REPLACEMENT - PHASE II ALIGNMENT SHEET RK&K <small>FRANKE, KLEPPER & KHL, LLP</small> <small>801 E. MAIN STREET, SUITE 1000 RICHMOND, VIRGINIA 23219 T-804-782-1903 F-804-782-2142</small> ENGINEERS CONSTRUCTION MANAGERS PLANNERS SCIENTISTS RK&K COMM. NO. 811-013-02.1		
				INITIALS	DATE	INITIALS			DATE
				INITIALS	DATE	INITIALS			DATE
		REVISIONS		TEST DATA			SCALE		
		REV.	DESIGN	DRAFT	CHECK	DESCRIPTION	DATE	PLAN AS SHOWN	
								PROFILE	
								HOR. -	
								VERT. -	
				TESTED FROM STATION: _____ TO STATION: _____			SHEET NO: STW-6 REVISION:		
				MEDIUM: _____ RECORD TEST PRESSURE: _____ psig					
				DATE TEST COMPLETED: _____					