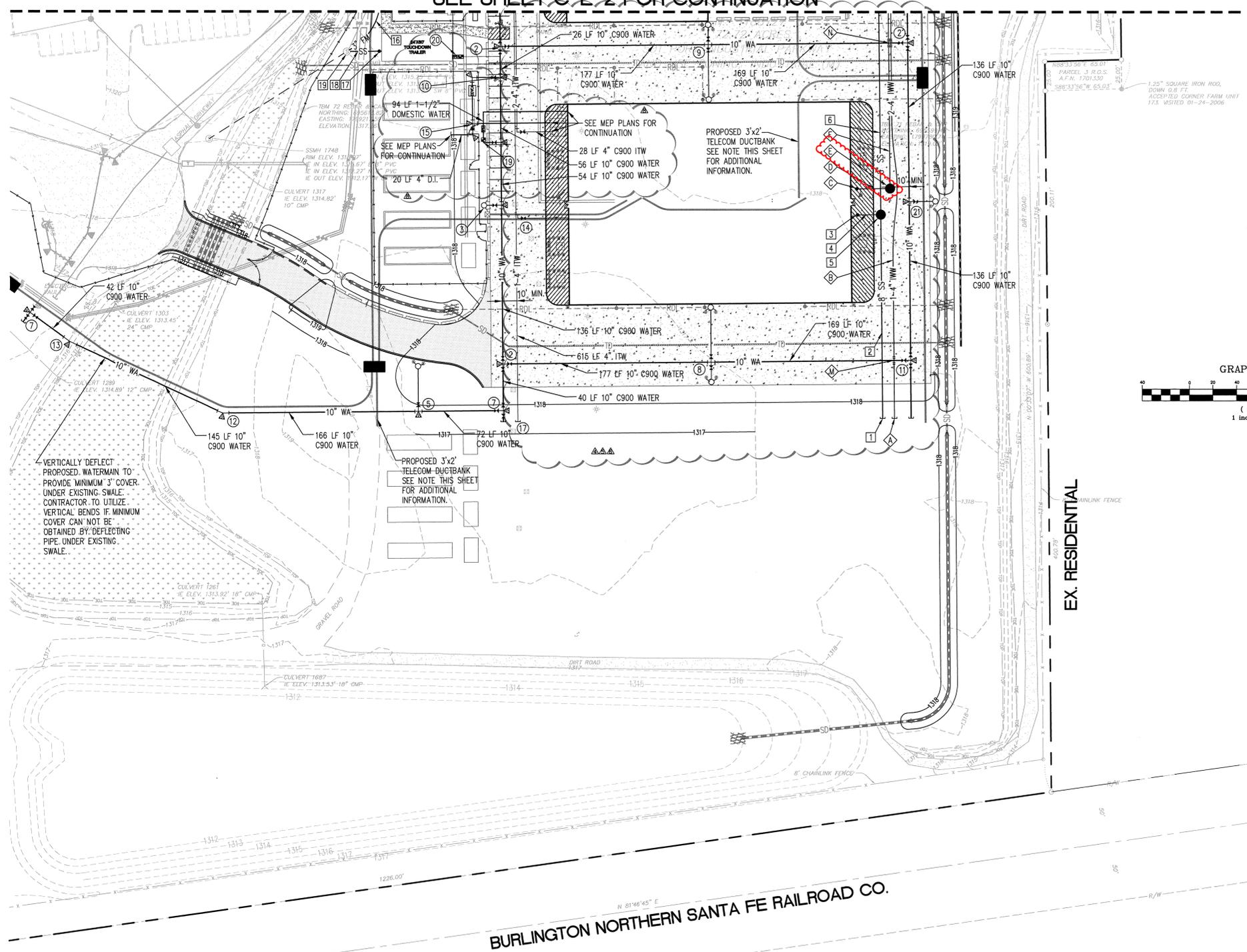


SEE SHEET C-E-2 FOR CONTINUATION



**LEGEND**

10" WA	WATERMAIN	(4) (C-F-9)
8" ITW	INDUSTRIAL TREATED WATER	(4) (C-F-8)
4" ITW	INDUSTRIAL TREATED WATER	(4) (C-F-8)
○	FIRE HYDRANT	(2) (C-F-8)
▽	THRUST BLOCK	(1) (C-F-8)
⊕	GATE VALVE	(2) (C-F-8)
⊕	5/8" DOMESTIC WATER METER	(1) (C-F-8)
SS	SANITARY SEWER MAIN	(1) (C-F-7)
○	SS CLEANOUT TO GRADE	(2) (C-F-7)
○	SANITARY SEWER MANHOLE	(3) (C-F-7)

**SANITARY SEWER KEY NOTES:**

1 8" SANITARY SEWER STUB CAP AND MARK WITH 2"x4" POST MIN 3' ABOVE GRADE. IE = 1307.4	10 142 LF 8" SS PVC @ 0.5%
2 175 LF 8" SS PVC @ 0.5%	11 SANITARY SEWER MANHOLE RIM = 1318.50 IE = 1304.90 (8" S) IE = 1304.80 (8" W)
3 SANITARY SEWER CLEANOUT RIM = 1319.0	12 391 LF 8" SS PVC @ 0.5%
4 20 LF 6" SS PVC @ 29.2%	13 SANITARY SEWER MANHOLE RIM = 1319.0± IE = 1302.85 (8" E) IE = 1302.75 (8" N)
5 SANITARY SEWER MANHOLE RIM = 1318.85	14 80 LF 8" SS PVC @ 0.5%
6 242 LF 8" SS PVC @ 0.5%	15 SANITARY SEWER PUMP STATION RIM = 1319.0± IE = 1302.35 (8" S) IE = 1315.5± (3" W) SEE MEP PLANS FOR DETAILS AND SPECIFICATIONS.
7 SANITARY SEWER CLEANOUT RIM = 1319.0	16 350 LF 3" SS FORCEMAIN
8 20 LF 6" SS PVC @ 35.7%	17 6" SANITARY SEWER CLEANOUT RIM = 1317.5± IE = 1314.0± (6" S)
9 SANITARY SEWER MANHOLE RIM = 1318.85	18 30 LF 6" PVC SS @ 2.0%
10 IE = 1305.87 (6" W) IE = 1305.70 (8" S) IE = 1305.60 (8" N)	19 SANITARY SEWER MANHOLE CONNECT TO EXISTING SANITARY SEWER MANHOLE. NEW 6" IE = 1313.4± NEW 3" FM IE = 1313.6±

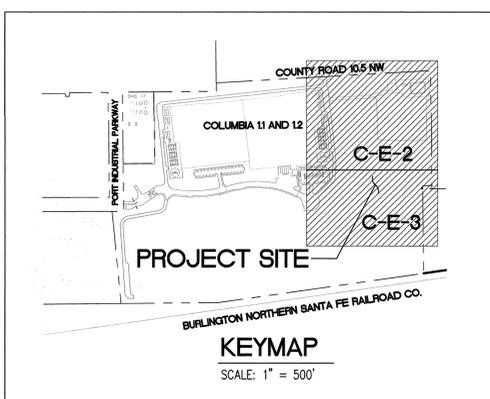
**INDUSTRIAL WASTE WATER KEY NOTES:**

4" C900 IWW CAP AND MARK WITH 2"x4" POST MIN 3' ABOVE GRADE. IE = 1312.2	3-4" 90° BEND (RJ) PROVIDE RESTRAINT JOINT PIPE A MINIMUM 2 FULL PIPE LENGTHS IN EACH DIRECTION.
570 LF 4" C900 IWW FORCEMAIN	303 LF 4" C900 IWW FORCEMAIN
6" SANITARY SEWER CLEANOUT RIM = 1319.0	50 LF 4" C900 IWW FORCEMAIN
SEE MEP PLANS FOR EXACT CONNECTION LOCATION.	48 LF 4" C900 IWW FORCEMAIN
28 LF 6" C900 IWW @ 10.0%	46 LF 4" C900 IWW FORCEMAIN
SANITARY SEWER PUMP STATION RIM = 1318.67 IE = 1311.20 (6" W) IE = 1314.00 (4" N) (SEE MEP PLANS FOR DETAILS)	4-4" 45° VERTICAL BEND WITH VERTICAL THRUST BLOCKING PER DETAIL 3, SHEET C-F-9.
370 LF 4" C900 IWW FORCEMAIN	8-4" 45° VERTICAL BEND WITH VERTICAL THRUST BLOCKING PER DETAIL 3, SHEET C-F-9.
216 LF 4" C900 IWW FORCEMAIN	12-4" 45° VERTICAL BEND WITH VERTICAL THRUST BLOCKING PER DETAIL 3, SHEET C-F-9.

**WATER KEY NOTES:**

1 - 12" X 10" STAINLESS STEEL TAPPING TEE	1 - 10" TEE (FL)	1 - 10" TEE (FL)	1 - 6" PLUG (MJ)	1 - 10" X 6" TEE (MJxFL)
1 - 10" GATE VALVE	3 - 10" GATE VALVES (FLxMJ)	3 - 10" GATE VALVES (FLxMJ)	1 - DEADMAN BLOCKING W/SHACKLES	1 - FIRE HYDRANT ASSY.
THRUST BLOCK	10 LF 10" C900 PVC W/M	50 LF 10" C900 PVC W/M	1 - 4" PLUG (MJ)	WITH BOLLARD PROTECTION
1 - 10" TEE (FL)	THRUST BLOCKING	THRUST BLOCKING	1 - DEADMAN BLOCKING W/SHACKLES	15 LF 6" D.I. W/M
3 - 10" GATE VALVES (FLxMJ)	1 - 10" PLUG (MJ)	1 - 10" PLUG (MJ)	1 - 10" X 6" CROSS (MJxFL)	1 - 10" X 6" TEE (MJxFL)
THRUST BLOCKING	1 - DEADMAN BLOCKING W/SHACKLES	1 - DEADMAN BLOCKING W/SHACKLES	2 - FIRE HYDRANT ASSY.	1 - FIRE HYDRANT ASSY.
1 - 10" X 6" TEE (MJxFL)	1 - 10" X 6" CROSS (MJxFL)	1 - 10" X 6" CROSS (MJxFL)	47 LF 6" D.I. W/M (NORTH)	WITH BOLLARD PROTECTION
1 - FIRE HYDRANT ASSY.	2 - FIRE HYDRANT ASSY.	2 - FIRE HYDRANT ASSY.	17 LF 6" D.I. W/M (SOUTH)	45 LF 6" D.I. W/M
WITH BOLLARD PROTECTION	17 LF 6" D.I. W/M (SOUTH)	17 LF 6" D.I. W/M (SOUTH)	1 - 4" 90° BEND (RJ)	1 - 10" X 6" TEE (MJxFL)
15 LF 6" D.I. W/M	1 - 10" X 6" CROSS (MJxFL)	1 - 10" X 6" CROSS (MJxFL)	1 - 4" GATE VALVE	1 - FIRE HYDRANT ASSY.
1 - 10" X 6" TEE (MJxFL)	2 - FIRE HYDRANT ASSY.	2 - FIRE HYDRANT ASSY.	CONTRACTOR TO UTILIZE RESTRAINT	WITH BOLLARD PROTECTION
1 - FIRE HYDRANT ASSY.	17 LF 6" D.I. W/M (NORTH)	17 LF 6" D.I. W/M (NORTH)	JOINT PIPE A MINIMUM 2 PIPE	39 LF 6" D.I. W/M
WITH BOLLARD PROTECTION	47 LF 6" D.I. W/M (SOUTH)	47 LF 6" D.I. W/M (SOUTH)	LENGTHS IN ALL DIRECTIONS	1 - 10" X 6" TEE (MJxFL)
45 LF 6" D.I. W/M	1 - 10" X 6" TEE (MJ X FL)	1 - 10" X 6" TEE (MJ X FL)	1 - 8" X 8" TEE (MJ)	1 - FIRE HYDRANT ASSY.
1 - 10" X 6" TEE (MJxFL)	1 - 8" GATE VALVE (FL X MJ)	1 - 8" GATE VALVE (FL X MJ)	1 - 8" ADAPTER (MJ X FL)	WITH BOLLARD PROTECTION
1 - FIRE HYDRANT ASSY.	1 - 8" 90° BEND (MJ)	1 - 8" 90° BEND (MJ)	1 - 8" X 4" REDUCER (FL)	39 LF 6" D.I. W/M
WITH BOLLARD PROTECTION	1 - 8" 90° BEND (MJ)	1 - 8" 90° BEND (MJ)	1 - 4" 90° BEND (FL X MJ)	1 - 10" X 6" TEE (MJ)
39 LF 6" D.I. W/M	1 - 8" 90° BEND (MJ)	1 - 8" 90° BEND (MJ)	THRUST BLOCKING	1 - FIRE HYDRANT ASSY.
1 - 10" X 6" TEE (MJ)	1 - 8" 90° BEND (MJ)	1 - 8" 90° BEND (MJ)	3/4" DOMESTIC WATER METER (PER DETAIL 1, SHEET C-F-9)	WITH BOLLARD PROTECTION
THRUST BLOCKING	THRUST BLOCKING	THRUST BLOCKING	3/4" RPBA & HOTBOX (PER DETAIL 5, SHEET C-F-9)	1 - 10" X 6" TEE (MJxFL)
				1 - FIRE HYDRANT ASSY.
				WITH BOLLARD PROTECTION
				22 LF 6" D.I. W/M
				1 - 8" X 8" TEE (MJ)
				1 - 8" ADAPTER (MJ X FL)
				1 - 8" X 4" REDUCER (FL X MJ)
				1 - 4" 90° BEND (MJ)
				1 - 4" 90° BEND (MJ)
				1 - 4" 90° BEND (MJ)
				1 - 6" 90° TEE (MJ)
				2 - 6" GATE VALVE (FL X MJ)
				1 - 6" DDCVA (PER DETAIL 4, SHEET C-F-9)
				2 - 6" X 6" TEE (MJ)
				3 - 6" GATE VALVE (FL X MJ)
				2 - DEADMAN BLOCKING W/SHACKLES

**NOTE:**  
SEE MEP AND TELECOMMUNICATION PLANS FOR CONDUIT SIZE, SEPARATION, AND DUCTBANK SECTIONS.



**Microsoft COLUMBIA DATA CENTER PHASE III (CO3)**

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W/C Project No.

Approvals

Customer	Date
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Microsoft Cable Engineer	
Microsoft Electrical Engineer	
Engineering Manager	
Security Manager	
Project Management:	
Project Planner	
Project Manager	
Senior Project Manager	
Development Manager	
Project Manager	
Quality Control Reviewer	

Revisions

No.	Date	Description
05.20.2010		ISSUED FOR CONSTRUCTION
04.27.2010		CONSTRUCTION DOCUMENTS REVISION #1
04.15.2010		CONSTRUCTION DOCUMENTS REVISION #2
03.17.2010		DESIGN DEVELOPMENT/PERMIT
03.10.2010		SITE INFRASTRUCTURE BID DOCS

CITY OF QUINCY  
APPROVED BY: *Carl Worley* DATE: 5/21/10



**UTILITY PLAN**

C-E-3