NAS JRB NOLA – Domestic Demand Calculations

The following shows a list of all the buildings on Base that require potable water. The table provides:

- Building Numbers
- Building Description
- Square footage of building at a usage demand

The information was used to determine the total domestic demand required at each facility for modeling purposes.

NAS New Orleans
Water System Flow Allocation

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
1	ACFT OPS BLDG *EXC 141-70*	13801	A	1,633.8
1	CONTROL TWR ATTD/FREE STD	1157	NW	0.0
1	AIR PASSENGER TERMINAL	1877	CO	614.2
2	COMBINED FIRE/RESCUE STA	12104	A	1,432.9
3	MAINT HANGAR-O/H SPACE	37540	M	5,985.8
3	MAINT HANGAR-02 SPACE	13932	M	2,221.5
3	MAINT HANGAR-01 SPACE	18848	M	3,005.3
3	GENERAL PURP WAREHOUSE	1692	NW	0.0
3	ADMINISTRATIVE OFFICE	1859	A	220.1
3	CENTRAL TOOL SHOP	1500	M	239.2
3	APPLIED INSTRUCTION BLDG	14294	NW	0.0
3	ADMINISTRATIVE OFFICE	502	NW	0.0
3	MAINT HANGAR-01 SPACE	5189	NW	0.0
3	PARACHUTE & SURVL EQUIPT	11660	NW	0.0
3	MAINT AC SPARE / STOR	3596	NW	0.0
3	AVIATION ARMAMENT SHOP	4871	M	776.7
4	MAINT HANGAR-O/H SPACE	46982	M	7,491.3
4	MAINT HANGAR-02 SPACE	9793	M	1,561.5
4	MAINT HANGAR-01 SPACE	12587	M	2,007.0
4	MAINT HANGAR-01 SPACE	1380	NW	0.0
4	OPCON CTR FOR FLEET OPS	5205	M	829.9
4	SEC BUILDING	720	GH	23.6
5	MAINT HANGAR-02 SPACE	25836	M	4,119.6
5	MAINT HANGAR-01 SPACE	23122	M	3,686.8
5	MAINT HANGAR-O/H SPACE	25331	M	4,039.0
8	PW MAINTENANCE STORAGE	792	NW	0.0
9	TRANSMITTER BUILDING	2681	NW	0.0
9	ELECNX/COMMS MAINT SHOP	303	M	48.3
10	STANDBY GENERATOR BLDG	384	NW	0.0
11	RECEIVER BUILDING	432	NW	0.0
12	STANDBY GENERATOR BLDG	176	NW	0.0
16	ELECTRIC DISTRBN BLDG	1008	NW	0.0
16	STANDBY GENERATOR BLDG	96	NW	0.0
19	GENERAL PURP WAREHOUSE	3038	NW	0.0
20	JOINT RESERVE INTEL CENTER	14763	A	1,747.6
20	ADMINISTRATIVE OFFICE	14109	A	1,670.2
22	ADMINISTRATIVE OFFICE	23529	A	2,785.4
24	ADMINISTRATIVE OFFICE	19505	A	2,309.0
25	WATER DISTRIBTN BLDG, PTBL	216	NW	0.0
26	ELEVTD POTABLE WATER TANK	0	NW	0.0
30	TELEPHONE EXCHANGE BLDG	3514	NW	0.0
30	COMPUTER PROGRAM OPS CTR	1714	A	202.9
31	GENERAL PURP WAREHOUSE	3329	W	148.8
31	ADMINISTRATIVE OFFICE	2457	A	290.9
31	GENERAL STORAGE SHED	3217	NW	0.0
31	GENERAL PURP WAREHOUSE	55733	W	2,491.8
31	GENERAL PURP WAREHOUSE	40374	W	1,805.1

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
31	GENERAL STORAGE SHED	5110	NW	0.0
32	MWR OUTDOOR REC CTR	1200	CO	392.7
33	AVIONICS SHOP (NON-DEPOT)	18137	M	2,891.9
33	AC INTERM MAINT MGMT	8408	NW	0.0
33	BATTERY SHOP	725	M	115.6
33	MTIS BUILDING	1002	M	159.8
34	COMPUTER PROGRAM OPS CTR	1700	A	201.2
35	GENERAL PURP WAREHOUSE	5740	W	256.6
38	RECREATION PAVILION	1891	NW	0.0
39	PUBLIC TOILET	260	CO	85.1
40	BACH ENL QTRS-TRANS E1/E4	24474	DO	4,775.9
40	VIS QTR (NGIS SUITES)	14381	DO	2,806.3
40	CONFERENCE CENTER BQ	3000	A	355.1
40	ALL HANDS CLUB	6781	D	2,683.4
41	ADMINISTRATIVE OFFICE	3304	A	391.1
41	PRIM CARE CLINIC	27412	H	18,371.5
41	DENTAL CLINIC	3691	H	2,473.7
41	PRIM CARE CLINIC	6256	H	4,192.8
42	MWR AUTO SKILLS CTR	8041	M	1,282.1
42	HOBBY SHOP - CRAFTECH	528	M	84.2
43	ADMINISTRATIVE OFFICE	1994	A	236.0
45	VIS QTR (NGIS SINGLE RMS)	33670	GH	1,103.7
46	ADMINISTRATIVE OFFICE	10914	A	1,292.0
55	GENERAL PURP WAREHOUSE	1020	W	45.6
55	RECYCLING CTR	2934	NW	0.0
57	LIBRARY	2753	CO	900.9
57	FAMILY SERVICES CNTR	2664	GH	87.3
58	GENERAL PURP WAREHOUSE	2475	NW	0.0
60	POWER CK PAD W/O SOUND SUP	0	NW	0.0
62	STANDBY GENERATOR BLDG	192	NW	0.0
70	ADMINISTRATIVE OFFICE	600	A	71.0
70	SEC BUILDING	1378	A	163.1
71	GATE / SENTRY HOUSE	72	NW	0.0
78	OPERATIONAL STORAGE	940	NW	0.0
80	SMALL ARMS/PYROTECHNIC MAG	1092	NW	0.0
81	FUSE & DETONATOR MAGAZINE	140	NW	0.0
82	OPERATIONAL STORAGE	660	NW	0.0
83	SMALL ARMS/PYROTECHNIC MAG	1092	NW	0.0
84	INERT STOREHOUSE	1092	NW	0.0
87	HIGH EXPLOSIVE MAGAZINE	1092	NW	0.0
90	INERT STOREHOUSE	2602	NW	0.0
90	ORDNANCE OPERATIONS BLDG	2468	A	292.2
90	INERT STOREHOUSE	886	NW	0.0
90	ORDNANCE OPERATIONS BLDG	2220	A	262.8
91	MISSILE MAGAZINE	6944	W	310.5
93	ORDNANCE OPERATIONS BLDG	4690	A	555.2
94	PUBLIC TOILET	1012	CO	331.2
97	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
98	VEHICULAR BRIDGES	133	NW	0.0
100	PEDESTRIAN BRIDGES	45	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
101	PEDESTRIAN BRIDGES	21	NW	0.0
104	VEHICULAR BRIDGES	293	NW	0.0
105	VEHICULAR BRIDGES	112	NW	0.0
107	VEHICULAR BRIDGES	27	NW	0.0
108	VEHICULAR BRIDGES	464	NW	0.0
109	VEHICULAR BRIDGES	376	NW	0.0
110	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
111	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
116	AIRCRAFT WASHRACK PAVEMENT	1888	NW	0.0
117	ADMIN STORAGE (MISC)	3975	W	177.7
119	SEC BUILDING	13179	GH	432.0
121	ANTENNA - COMMUNICATIONS	0	NW	0.0
123	EDUCATIONAL SRVCS OFFICE	7044	A	833.9
124	LIQUID OXY/NIT FAC(NONIND)	330	NW	0.0
126	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
127	OPERATIONAL TRAINER FAC	660	NW	0.0
127	APPLIED INSTRUCTION BLDG	5380	NW	0.0
128	FUELING PIER	277	NW	0.0
128	ACCESS TRESTLE PIERS WHRVS	39	NW	0.0
133	LIQUID OXY/NIT FAC(NONIND)	2297	W	102.7
134	OPERATIONAL STORAGE	260	NW	0.0
135	GATE / SENTRY HOUSE	60	NW	0.0
137	STANDBY GENERATOR BLDG	288	NW	0.0
139	CPO CLUB	2130	D	842.9
141	GENERAL PURP WAREHOUSE	8813	NW	0.0
142	POL OPN/SAMPLING/TEST BLDG	1200	GH	39.3
143	MWR OUTDOOR REC CTR	2838	CO	928.7
144	SEC BUILDING	5540	A	655.8
146	GRND SUPPRT EQUIP SHP	5296	M	844.4
149	COMMUNICATIONS CENTER	8565	A	1,013.9
150	GENERAL PURP WAREHOUSE	5248	W	234.6
152	AIRCRAFT WASHRACK PAVEMENT	803	W	35.9
153	POWER CK PAD W/O SOUND SUP	0	NW	0.0
154	PARKING AREA	1329	NW	0.0
161	POWER CK PAD W/O SOUND SUP	0	NW	0.0
164	GRND SUPPRT EQUIP HOLDING	2280	NW	0.0
169	AIRCRAFT ARRESTING GEAR	0	NW	0.0
170	AIRCRAFT ARRESTING GEAR	0	NW	0.0
171	AIRCRAFT ARRESTING GEAR	0	NW	0.0
172	AIRCRAFT ARRESTING GEAR	0	NW	0.0
175	FILLING STATION	0	SS	0.0
183	HARDENED AIRCRAFT SHELTER	6072	M	968.2
184	HARDENED AIRCRAFT SHELTER	6072	M	968.2
185	ACFT OPS BLDG *EXC 141-70*	3328	A	394.0
186	GATE / SENTRY HOUSE	324	GH	10.6
188	OPERATIONAL STORAGE	4000	NW	0.0
189	A/C ACOUSTICAL ENCLOSURE	9809	NW	0.0
190	OPEN STORAGE AREA	1349	NW	0.0
190	PARKING AREA	3460	NW	0.0
191	RED CROSS/NAVY RELIEF	1000	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
192	ADMINISTRATIVE OFFICE	800	A	94.7
192	ADMINISTRATIVE OFFICE	14063	A	1,664.8
193	ELECNX/COMMS MAINT SHOP	2904	NW	0.0
194	COMMUNICATIONS CENTER	1875	NW	0.0
195	ENGINE MAINTENANCE SHOP	20460	M	3,262.3
197	MAINT HANGAR-02 SPACE	1580	A	187.0
197	MAINT HANGAR-01 SPACE	4025	M	641.8
197	MAINT HANGAR-O/H SPACE	1646	NW	0.0
201	OP HAZARD/FLAMMABLE STRGE	768	NW	0.0
202	ADMINISTRATIVE OFFICE	8416	A	996.3
202	GENERAL PURP WAREHOUSE	1863	W	83.3
204	ADMINISTRATIVE OFFICE	5710	A	675.9
225	WATER DISTRIBTN BLDG, PTBL	160	NW	0.0
225	STANDBY GENERATOR BLDG	48	NW	0.0
228	GRND LVL POTABL WATER TANK	0	NW	0.0
260	MWR READY STOR	5154	NW	0.0
260	ADMINISTRATIVE OFFICE	198	A	23.4
260	ADMIN STORAGE (MISC)	264	NW	0.0
261	ADMINISTRATIVE OFFICE	16740	A	1,981.7
263	MAINT HANGAR-02 SPACE	16450	A	1,947.4
263	MAINT HANGAR-01 SPACE	22001	NW	0.0
263	MAINT HANGAR-O/H SPACE	30111	NW	0.0
263	AIRFRAMES SHOP (NON-DEPOT)	11401	NW	0.0
263	MAINT HANGAR-02 SPACE	833	A	98.6
263	MAINT HANGAR-O/H SPACE	10056	NW	0.0
264	ACFT LINE OPERATIONS BLDG	656	NW	0.0
265	ACADEMIC INSTRUCTION BLDG	14700	A	1,740.2
266	GENERAL PURP WAREHOUSE	11414	NW	0.0
267	GRND SUPPRT EQUIP SHP	4500	M	717.5
268	PW MAINTENANCE STORAGE	4000	NW	0.0
269	EXCHGE AUTO REPAIR STA	257	NW	0.0
269	THRIFT SHOP	1903	NW	0.0
271	POWER CK PAD W/O SOUND SUP	0	NW	0.0
276	AIRCRAFT ACCESS APRON	1956	NW	0.0
279	AIRFRAMES SHOP (NON-DEPOT)	776	NW	0.0
283	MISC OPEN STRG/LAYDOWN	3000	NW	0.0
284	ENGINE MAINTENANCE SHOP	13864	M	2,210.6
285	ACFT OPS BLDG *EXC 141-70*	13109	A	1,551.8
285	APPLIED INSTRUCTION BLDG	3210	NW	0.0
285	PARACHUTE & SURVL EQUIPT	4660	NW	0.0
296	OP HAZARD/FLAMMABLE STRGE	768	NW	0.0
300	EXCHANGE RETAIL STORE	10340	E	2,508.0
300	THRIFT SHOP	4115	E	998.1
301	BOWLING CENTER	7675	BO	604.6
305	ADMINISTRATIVE OFFICE	2444	A	289.3
308	ADMINISTRATIVE OFFICE	1080	NW	0.0
352	POWER CK PAD W/O SOUND SUP	0	NW	0.0
354	PEDESTRIAN BRIDGES	8	NW	0.0
355	PEDESTRIAN BRIDGES	5	NW	0.0
360	PEDESTRIAN BRIDGES	21	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
362	PEDESTRIAN BRIDGES	6	NW	0.0
365	PEDESTRIAN BRIDGES	34	NW	0.0
366	PEDESTRIAN BRIDGES	6	NW	0.0
367	PEDESTRIAN BRIDGES	7	NW	0.0
368	VEHICULAR BRIDGES	299	NW	0.0
370	ADMINISTRATIVE OFFICE	1175	A	139.1
372	PUBLIC TOILET	297	CO	97.2
376	GENERAL STORAGE SHED	2250	NW	0.0
377	GENERAL PURP WAREHOUSE	2520	NW	0.0
380	GENERAL STORAGE SHED	3600	NW	0.0
384	MAINT AC SPARE / STOR	2400	NW	0.0
385	ENGINE MAINTENANCE SHOP	32649	M	5,205.9
386	AVIONICS SHOP (NON-DEPOT)	11200	M	1,785.8
387	LIQUID OXY/NIT FAC(NONIND)	879	NW	0.0
390	MISSILE EQUIP MAINT SHOP	2706	M	431.5
390	OPERATIONAL STORAGE	7026	NW	0.0
391	HIGH EXPLOSIVE MAGAZINE	1215	NW	0.0
392	HIGH EXPLOSIVE MAGAZINE	1215	NW	0.0
394	SMALL ARMS/PYROTECHNIC MAG	621	NW	0.0
394	FUSE & DETONATOR MAGAZINE	594	NW	0.0
395	MISSILE EQUIP MAINT SHOP	1600	NW	0.0
401	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
402	PLAYING FIELDS	0	NW	0.0
403	RELIGIOUS MINISTRY FAC	4873	CO	1,594.6
404	RECREATION PAVILION	750	NW	0.0
405	SKEET AND/OR TRAP RANGE	0	NW	0.0
408	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
409	OUTDOOR SWIM POOL	21031	CO	6,882.2
410	MWR MIL REC CENTER	7491	BO	590.1
414	ACFT LINE OPERATIONS BLDG	1802	A	213.3
414	MAINT HANGAR-02 SPACE	14661	NW	0.0
414	MAINT HANGAR-01 SPACE	3532	NW	0.0
415	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
420	AIRCRAFT WASHRACK PAVEMENT	2656	NW	0.0
425	AVIONICS SHOP (NON-DEPOT)	19487	M	3,107.2
430	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
432	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
433	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
434	PLAYING FIELDS	0	NW	0.0
439	MAINT HANGAR-01 SPACE	9544	M	1,521.8
439	MAINT HANGAR-O/H SPACE	38675	M	6,166.7
439	MAINT HANGAR-02 SPACE	9513	M	1,516.8
440	OPERATIONAL STORAGE	800	NW	0.0
442	A/C ACOUSTICAL ENCLOSURE	11770	W	526.2
444	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
447	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
450	MISSILE MAGAZINE	1120	NW	0.0
451	HIGH EXPLOSIVE MAGAZINE	3459	NW	0.0
454	VEHICLE WASH PLATFORM	2860	M	456.0
455	HAZARD WSTE STOR & TRANSFR	1600	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
456	INDOOR PHYSICAL FIT CTR	28674	G	1,871.3
460	VIS QTR (NGIS SINGLE RMS)	14508	GH	475.6
461	LAUNDRY/DRY CLEANING PLT	2371	L	399.6
462	BEQ E1/E4	14508	DO	2,831.1
463	VIS QTR (NGIS SUITES)	21948	GH	719.5
465	ADMINISTRATIVE OFFICE	2250	A	266.4
466	VIS QTR (NGIS SINGLE RMS)	14508	GH	475.6
467	VIS QTR (NGIS SUITES)	14508	GH	475.6
468	NGIS-OPERATED CONF CTR	1381	CO	451.9
469	VIS QTR (NGIS SUITES)	7017	GH	230.0
470	BEQ E1/E4	12090	DO	2,359.2
471	BEQ E1/E4	21762	DO	4,246.6
472	BEQ E1/E4	14508	DO	2,831.1
473	ADMINISTRATIVE OFFICE	10098	A	1,195.4
473	ACADEMIC INSTRUCTION BLDG	1798	A	212.8
473	PUBLIC WORKS SHOP	7460	NW	0.0
474	PW MAINTENANCE STORAGE	7333	NW	0.0
474	PERSONNEL SUPPT STRG(MISC)	1011	NW	0.0
474	PAVMT/GRNDS EQUIP SHED	422	NW	0.0
475	OP HAZARD/FLAMMABLE STRGE	260	NW	0.0
476	OPERATIONS SUPPORT SHED	480	NW	0.0
477	OP HAZARD/FLAMMABLE STRGE	2500	NW	0.0
478	MAINT HANGAR-01 SPACE	7144	NW	0.0
479	MAINT HANGAR-01 SPACE	6080	M	969.5
480	ADMINISTRATIVE OFFICE	3974	A	470.4
481	LIQUID OXY/NIT FAC(NONIND)	1600	NW	0.0
482	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
485	AUTO VEHICLE MAINT NONCOMB	7362	NW	0.0
487	MISSILE EQUIP MAINT SHOP	2744	NW	0.0
488	VEHICLE HOLDG SHED	4000	NW	0.0
489	GRND SUPPRT EQUIP SHP	6679	NW	0.0
490	GRND SUPPRT EQUIP HOLDING	6000	NW	0.0
~~491~~	~~DEPENDT SCOL,GRADE SCOL~~	~~92100~~	~~NW~~	0.0
492	RESERVE TRAINING BUILDING	48189	A	5,704.6
492	ADMINISTRATIVE OFFICE	9459	NW	0.0
492	ARMORY	1094	NW	0.0
492	GENERAL PURP WAREHOUSE	2569	NW	0.0
492	RESERVE TRAINING BUILDING	23703	A	2,806.0
492	ADMINISTRATIVE OFFICE	812	A	96.1
492	RESERVE TRAINING BUILDING	31910	A	3,777.5
493	CORROSION CONTROL HANGAR	7225	NW	0.0
494	MAINT AC SPARE / STOR	1316	NW	0.0
495	PUBLIC WORKS SHOP	3731	NW	0.0
496	REFUELING VEHICLE SHOP	1925	NW	0.0
497	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
498	POL PIPELINE	0	NW	0.0
499	JOGGING TRACK	0	NW	0.0
500	GRND SUPPRT EQUIP HOLDING	6436	NW	0.0
500	GRND SUPPRT EQUIP SHP	12444	NW	0.0
501	HAZARDOUS/FLAMMABL STRHSE	13058	W	583.8

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
501	ADMINISTRATIVE OFFICE	3296	A	390.2
502	EXCHANGE RETAIL STORE	56600	E	13,728.3
502	COMMISSRY INC BACKUP STRG	46600	C	3,909.7
503	POL OPN/SAMPLING/TEST BLDG	3935	A	465.8
506	PEDESTRIAN BRIDGES	17	NW	0.0
507	COVERED TRAINING AREA	1152	NW	0.0
508	ANTENNA - COMMUNICATIONS	0	NW	0.0
509	CREDIT UNION	8075	GH	264.7
510	RESERVE TRAINING BUILDING	3239	A	383.4
510	COMBAT VEHICLE MAINT SHOP	3441	NW	0.0
511	SEC BUILDING	902	A	106.8
512	SEC BUILDING	4530	A	536.3
513	ENLISTED DINING FACILITY	13783	D	5,454.2
514	GATE / SENTRY HOUSE	60	NW	0.0
515	OVERHEAD COVER, MISC	4000	NW	0.0
516	AUTO VEHICLE MAINT NONCOMB	6111	NW	0.0
517	ACFT READY FUELS STORAGE	0	NW	0.0
518	ACFT READY FUELS STORAGE	0	NW	0.0
519	ACFT READY FUELS STORAGE	0	NW	0.0
520	SHLTR FOR PUMP STA	2067	NW	0.0
521	TANK TRUCK/CAR LOAD FAC	0	NW	0.0
522	TANK TRUCK/CAR UNLOAD FAC	0	NW	0.0
523	LIQUID OXY/NIT FAC(NONIND)	256	NW	0.0
524	OVERHEAD COVER, MISC	4001	NW	0.0
525	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
526	SMALL ARMS RANGE - INDOORS	8571	NW	0.0
527	LOAD / UNLOAD RAMP	54	NW	0.0
528	CHILD DEVELOPMT CENTER	20375	CO	6,667.5
529	OVERHEAD COVER, MISC	1296	NW	0.0
531	ADMINISTRATIVE OFFICE	400	NW	0.0
532	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
533	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
534	MWR RV SUPPORT BLDG	1152	L	194.2
535	REC CAMPGROUND - RV	11.4	GH	0.4
536	AIRCRAFT ACCESS APRON	917	NW	0.0
537	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
538	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
540	PARKING AREA	744	NW	0.0
541	PARKING AREA	5210	NW	0.0
542	PARKING AREA	5286	NW	0.0
543	PARKING AREA	2717	NW	0.0
544	PARKING AREA	4758	NW	0.0
545	SIDEWALK	194	NW	0.0
546	SIDEWALK	95	NW	0.0
547	SIDEWALK	118	NW	0.0
548	SIDEWALK	122	NW	0.0
549	INTERIOR FENCE*EXC 87210*	0	NW	0.0
550	MECH SEC BARRICADE	0	NW	0.0
552	ADMINISTRATIVE OFFICE	10908	A	1,291.3
552	PUBLIC WORKS SHOP	9812	M	1,564.5

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
552	ACADEMIC INSTRUCTION BLDG	400	A	47.4
553	AUTO VEHICLE MAINT NONCOMB	3637	M	579.9
554	PUBLIC WORKS SHOP	1814	M	289.2
555	ADMINISTRATIVE OFFICE	7070	A	836.9
555	ACADEMIC INSTRUCTION BLDG	25114	A	2,973.0
555	FAMILY SERVICES CNTR	13594	CO	4,448.5
555	ADMINISTRATIVE OFFICE	3448	A	408.2
556	RECRUIT PROCESSING BLDG	26377	A	3,122.5
557	ADMINISTRATIVE OFFICE	2760	A	326.7
557	ADMINISTRATIVE OFFICE	15450	A	1,829.0
557	ADMINISTRATIVE OFFICE	1736	A	205.5
558	APPLIED INSTRUCTION BLDG	12739	A	1,508.0
559	METROLOGY & CALIBRATON LAB	23735	A	2,809.7
560	FIRE STATION	5864	GH	192.2
561	YOUTH & SAC (6-18 YRS)	9528	CO	3,117.9
562	BACH ENL QTRS-MARINE E1/E4	88739	DO	17,316.5
565	POWER CK PAD W/O SOUND SUP	0	NW	0.0
569	MWR REC GRNDS	0	NW	0.0
571	PLAYING FIELDS	0	NW	0.0
572	OUTDOOR PLAYING COURTS	0	NW	0.0
573	PLAYING FIELDS	0	NW	0.0
574	SERVMART	2169	C	182.0
575	ANTENNA - COMMUNICATIONS	0	NW	0.0
576	COMMUNICATIONS CENTER	120	NW	0.0
577	RECREATION PAVILION	2645	NW	0.0
578	PUBLIC TOILET	650	CO	212.7
579	MWR RV SUPPORT BLDG	1100	GH	36.1
580	BLDG/TRLR PAD W/ UTIL CNCT	4089	NW	0.0
902	GRND SUPPRT EQUIP HOLDING	4500	NW	0.0
904	TRNG MATRL STRG	2800	NW	0.0
905	LINE VEHICLE PARKING	1422	NW	0.0
906	CONTROLLED HUMIDITY WRHSE	4784	W	213.9
1007	GENERAL STORAGE SHED	2250	NW	0.0
201001	RUNWAY / FW	133333	NW	0.0
201002	TAXIWAY	178388	NW	0.0
201003	AIRCRAFT PARKING APRON	87424	NW	0.0
201003	AIRCRAFT PARKING APRON	198143	NW	0.0
201003	AIRCRAFT PARKING APRON	65107	NW	0.0
201003	AIRCRAFT PARKING APRON	56713	NW	0.0
201021	RUNWAY EDGE LIGHTING	0	NW	0.0
201051	ROADS	283067.42	NW	0.0
201051	ROADS	4450	NW	0.0
201058	PARKING AREA	224577	NW	0.0
201059	SIDEWALK	24818	NW	0.0
201059	SIDEWALK	1028	NW	0.0
201064	SECURTY/PERIMTR FENCE/WALL	0	NW	0.0
201068	TAXIWAY LIGHTING	0	NW	0.0
201123	INTERIOR FENCE*EXC 87210*	0	NW	0.0
201133	OTHER PAVED AREA	233333	NW	0.0
201134	OTHER PAVED AREA	60650	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
201135	ROADS	5840	NW	0.0
201139	OTHER PAVED AREA	31	NW	0.0
201155	WIND DIRECTION INDICATOR	0	NW	0.0
201156	RUNWAY DISTANCE MARKERS	0	NW	0.0
201166	PREC APPR RADAR PAD	221	NW	0.0
201172	AIRCRAFT ACCESS APRON	917	NW	0.0
201183	RUNWAY / FW	222222	NW	0.0
201184	OPEN STORAGE AREA	2277	NW	0.0
201191	BLAST PROTECTIVE PAVEMENT	16944	NW	0.0
201387	LINE VEHICLE PARKING	1683	NW	0.0
201404	POWER CK PAD W/O SOUND SUP	0	NW	0.0
201433	APPROACH LIGHTING	0	NW	0.0
201551	ARMING & DE-ARMING PAD	11053	NW	0.0
201557	AIRCRAFT ACCESS APRON	2852	NW	0.0
201812	PARKING AREA	2255	NW	0.0
201965	DYKE / DAM	0	NW	0.0
201966	ROADS, UNSURFACED	2000	NW	0.0
116A	AIRCRAFT RINSE FACILITY	533.33	NW	0.0
116B	AIRCRAFT RINSE FACILITY	533.33	NW	0.0
119A	GARBAGE STAND	22	NW	0.0
128A	MOORING DOLPHIN	0	NW	0.0
128B	OTHER PAVED AREA	76	NW	0.0
128C	GENERAL PURP WAREHOUSE	1080	NW	0.0
128D	TANK TRUCK/CAR UNLOAD FAC	0	NW	0.0
133A	LIQUID OXY/NIT FAC(NONIND)	320	NW	0.0
135A	GATE / SENTRY HOUSE	60	NW	0.0
143A	MWR VEH/ RV/ BOAT STO CPD	5113	NW	0.0
144A	DYKE / DAM	0	NW	0.0
154A	DYKE / DAM	0	NW	0.0
175A	VEH & EQUIP RDY FUEL STOR	0	NW	0.0
175B	VEH & EQUIP RDY FUEL STOR	0	NW	0.0
175C	TANK TRUCK/CAR UNLOAD FAC	0	NW	0.0
185A	OPERATIONAL STORAGE	120	NW	0.0
185B	OPERATIONS SUPPORT SHED	361	NW	0.0
185C	GATE / SENTRY HOUSE	48	NW	0.0
186A	OTHER PAVED AREA	11	NW	0.0
186C	OTHER PAVED AREA	178	NW	0.0
189A	PARKING AREA	27	NW	0.0
190A	SECURTY/PERIMTR FENCE/WALL	0	NW	0.0
191A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
1A	GATE / SENTRY HOUSE	35	NW	0.0
24A	ADMINISTRATIVE OFFICE	1440	A	170.5
261B	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
263B	RECREATION PAVILION	450	NW	0.0
263C	ACFT LINE OPERATIONS BLDG	1456	NW	0.0
267A	GRND SUPPRT EQUIP HOLDING	5000	NW	0.0
285A	GATE / SENTRY HOUSE	24	NW	0.0
285A1	DYKE / DAM	0	NW	0.0
2AS	GENERAL STORAGE SHED	340	NW	0.0
2CA	AIR CRASH / ALERT	0	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
2IS	IRRIGATION FACILITY	0	NW	0.0
2PK	PARKING AREA	600	NW	0.0
300A	EXCHANGE RETAIL STORE	3596	NW	0.0
300B	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
301A	INSTALLATION REST (MWR)	1205	NW	0.0
301B	RECREATION PAVILION	510	NW	0.0
305A	INFO, TKT TRAVEL OFFICE	1344	NW	0.0
31A	OPEN STORAGE AREA	620	NW	0.0
33A	PEDESTRIAN BRIDGES	22	NW	0.0
370A	ADMINISTRATIVE OFFICE	1290	A	152.7
370B	ADMINISTRATIVE OFFICE	1440	A	170.5
370C	OVERHEAD COVER, MISC	5084	NW	0.0
370D	OUTDOOR PLAYING COURTS	0	NW	0.0
377A	DYKE / DAM	0	NW	0.0
385A	OVERHEAD COVER, MISC	5084	NW	0.0
38A	MWR REC GRNDS	0	NW	0.0
390A	P/A SYSTEM OUTDOOR	0	NW	0.0
395A	MISSILE/SPARE STRG(MISC)	120	NW	0.0
395B	MISSILE/SPARE STRG(MISC)	160	NW	0.0
3A	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3B	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3C	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3D	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3E	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3F	OVERHEAD COVER, AIRFIELD	4896	NW	0.0
3G	ACFT LINE OPERATIONS BLDG	1456	NW	0.0
405A	GUN/SKEET/TRAP BLDG	64	NW	0.0
405B	GUN/SKEET/TRAP BLDG	64	NW	0.0
405C	GUN/SKEET/TRAP BLDG	64	NW	0.0
409A	OUTDOOR SWIM POOL	120	NW	0.0
409C	DETACHED POOL FACILITY	0	NW	0.0
410A	OTHER PAVED AREA	133	NW	0.0
410B	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
425A	DYKE / DAM	0	NW	0.0
42A	PARKING AREA	960	NW	0.0
42B	GARBAGE STAND	11	NW	0.0
42C	MWR AUTO SKILLS CTR	100	NW	0.0
42D	MWR AUTO SKILLS CTR	36	NW	0.0
42E	MWR AUTO SKILLS CTR	128	NW	0.0
439A	SMOKING GAZEBO	300	NW	0.0
43A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
442A	FIRE PROTECTION BLDG	528	NW	0.0
444A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
455A	HAZARD WASTE STORAGE AREA	235	NW	0.0
456A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
461A	GARBAGE STAND	22	NW	0.0
461A	INTERIOR FENCE*EXC 87210*	0	NW	0.0
463A	GARBAGE STAND	22	NW	0.0
463A	INTERIOR FENCE*EXC 87210*	0	NW	0.0
470A	POST OFFICE	48	NW	0.0

Facility	Discription	Area (SF)	Water Key	Usage (gpd)
491A	P/A SYSTEM OUTDOOR	0	NW	0.0
492A	TRNG MATRL STRG	2320	NW	0.0
492B	SMOKING GAZEBO	600	NW	0.0
496A	ADMINISTRATIVE OFFICE	522	NW	0.0
502B	COMMISSRY INC BACKUP STRG	46600	NW	0.0
502C	PARKING AREA	18212	NW	0.0
503A	SMOKING GAZEBO	144	NW	0.0
50A	COMMUNICATIONS CENTER	159	NW	0.0
513A	GARBAGE STAND	17	NW	0.0
513A	INTERIOR FENCE*EXC 87210*	0	NW	0.0
513B	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
521A	OVERHEAD COVER, MISC	2394	NW	0.0
522A	OVERHEAD COVER, MISC	2611	NW	0.0
526A	PEDESTRIAN BRIDGES	20	NW	0.0
526B	GARBAGE STAND	21.33	NW	0.0
526B	INTERIOR FENCE*EXC 87210*	0	NW	0.0
555A	PARKING AREA	90833	NW	0.0
555B	DYKE / DAM	0	NW	0.0
555C	GARBAGE STAND	400	NW	0.0
555D	SMOKING GAZEBO	600	NW	0.0
558A	GARBAGE STAND	400	NW	0.0
559A	PARKING AREA	3600	NW	0.0
559B	GARBAGE STAND	56.88	NW	0.0
55A	WEIGHTING FACILITY	0	NW	0.0
55B	DYKE / DAM	0	NW	0.0
560A	GENERAL STORAGE SHED	90	NW	0.0
560B	PARKING AREA	400	NW	0.0
560C	RETAINING WALL	0	NW	0.0
560E	AIR CRASH / ALERT	0	NW	0.0
560IS	IRRIGATION FACILITY	0	NW	0.0
561A	GARBAGE STAND	38	NW	0.0
561B	OUTDOOR PLAYING COURTS	0	NW	0.0
561C	PLAYING FIELDS	0	NW	0.0
562A	PARKING AREA	6620	NW	0.0
562B	GARBAGE STAND	36	NW	0.0
562C	RECREATION PAVILION	144	NW	0.0
571A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
571B	PLAYING FIELDS	0	NW	0.0
572A	PARKING AREA	2377	NW	0.0
57A	FAMILY SERVICES CNTR	756	NW	0.0
580A	VEH. PARK, UNSURFACED	800	NW	0.0
580B	PARKING AREA	63	NW	0.0
580C	RECREATION PAVILION	887.76	NW	0.0
5A	SMOKING GAZEBO	144	NW	0.0
5B	OVERHEAD COVER, AIRFIELD	40320	NW	0.0
5C	OVERHEAD COVER, AIRFIELD	35840	NW	0.0
68A	DYKE / DAM	0	NW	0.0
70A	GATE / SENTRY HOUSE	60	NW	0.0
78A	DYKE / DAM	0	NW	0.0
7A	DYKE / DAM	0	NW	0.0

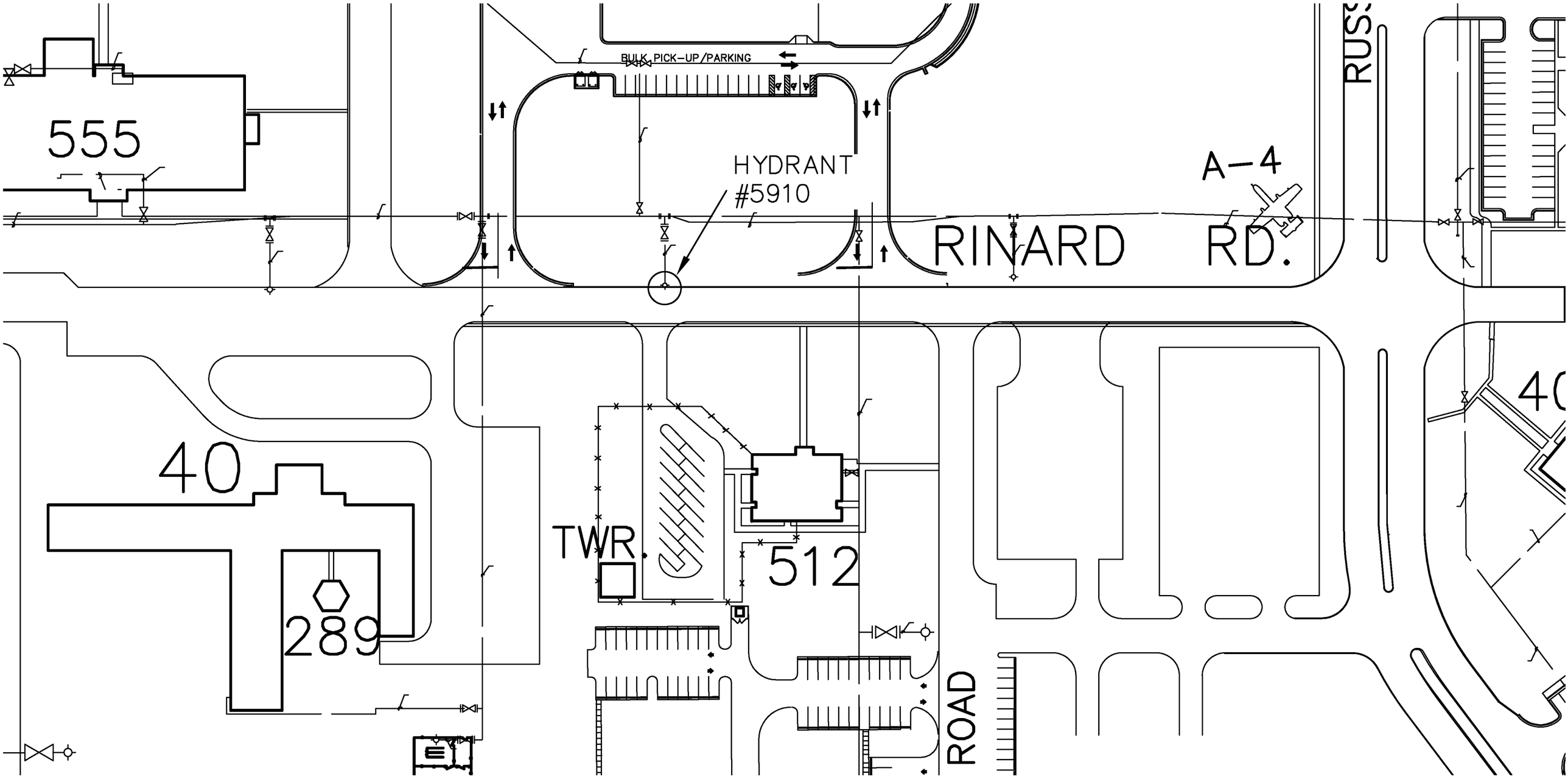
Facility	Discription	Area (SF)	Water Key	Usage (gpd)
80A	FLAGPOLE/BILLBD/MARKER	0	NW	0.0
906A	PEDESTRIAN BRIDGES	21	NW	0.0
90A	SMOKING GAZEBO	144	NW	0.0
90B	OP HAZARD/FLAMMABLE STRGE	100	NW	0.0
94A	MWR REC GRNDS	0	NW	0.0
DDMB	DRAIN DITCH,EXC ROAD DITCH	0	NW	0.0
SDMB	STORM SEWER	0	NW	0.0
T14	ENLISTED CLUB	1176	D	465.4
			TOTAL	**271,575.60**

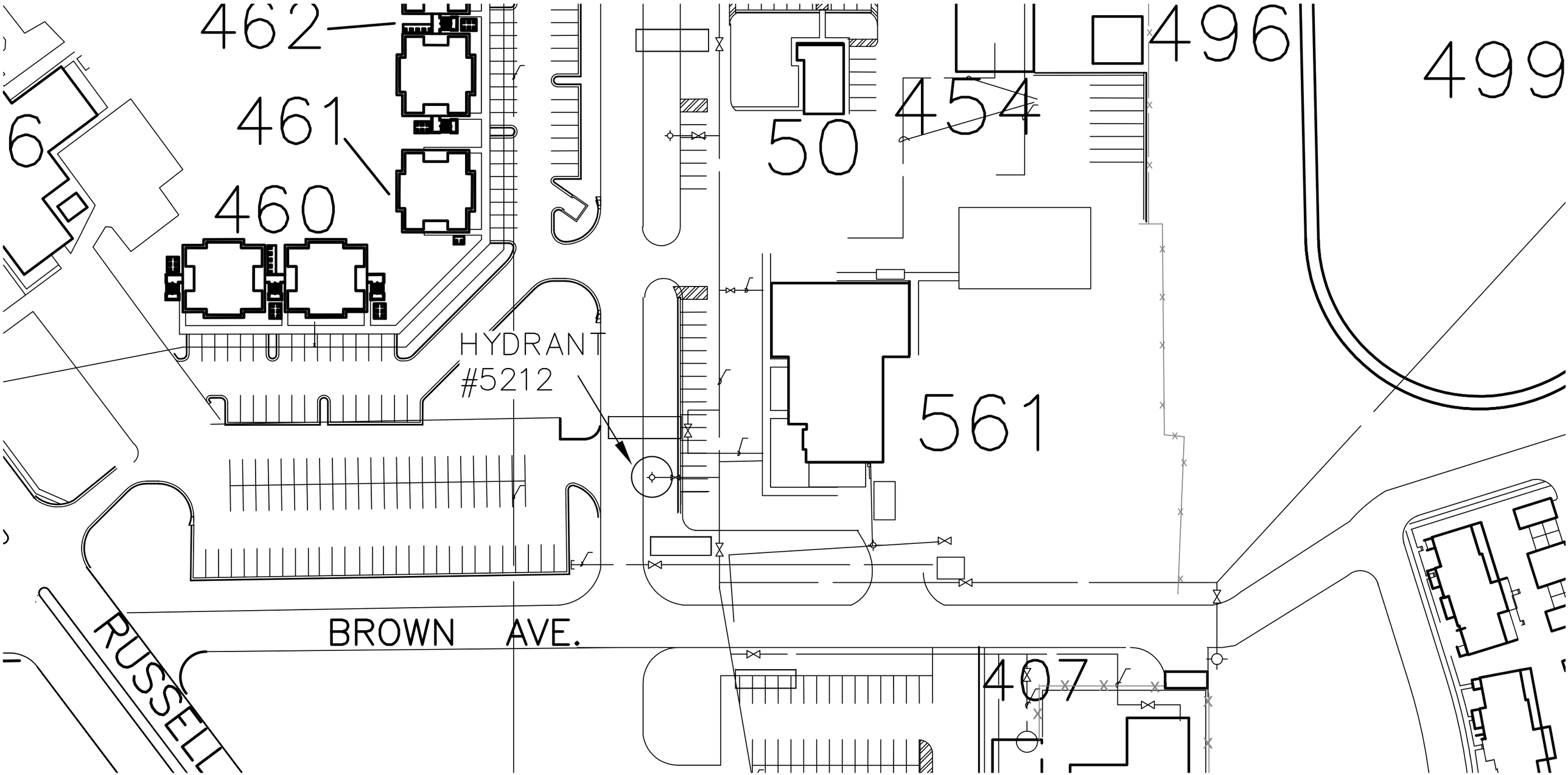
NAS JRB NOLA – Total Chlorine Data

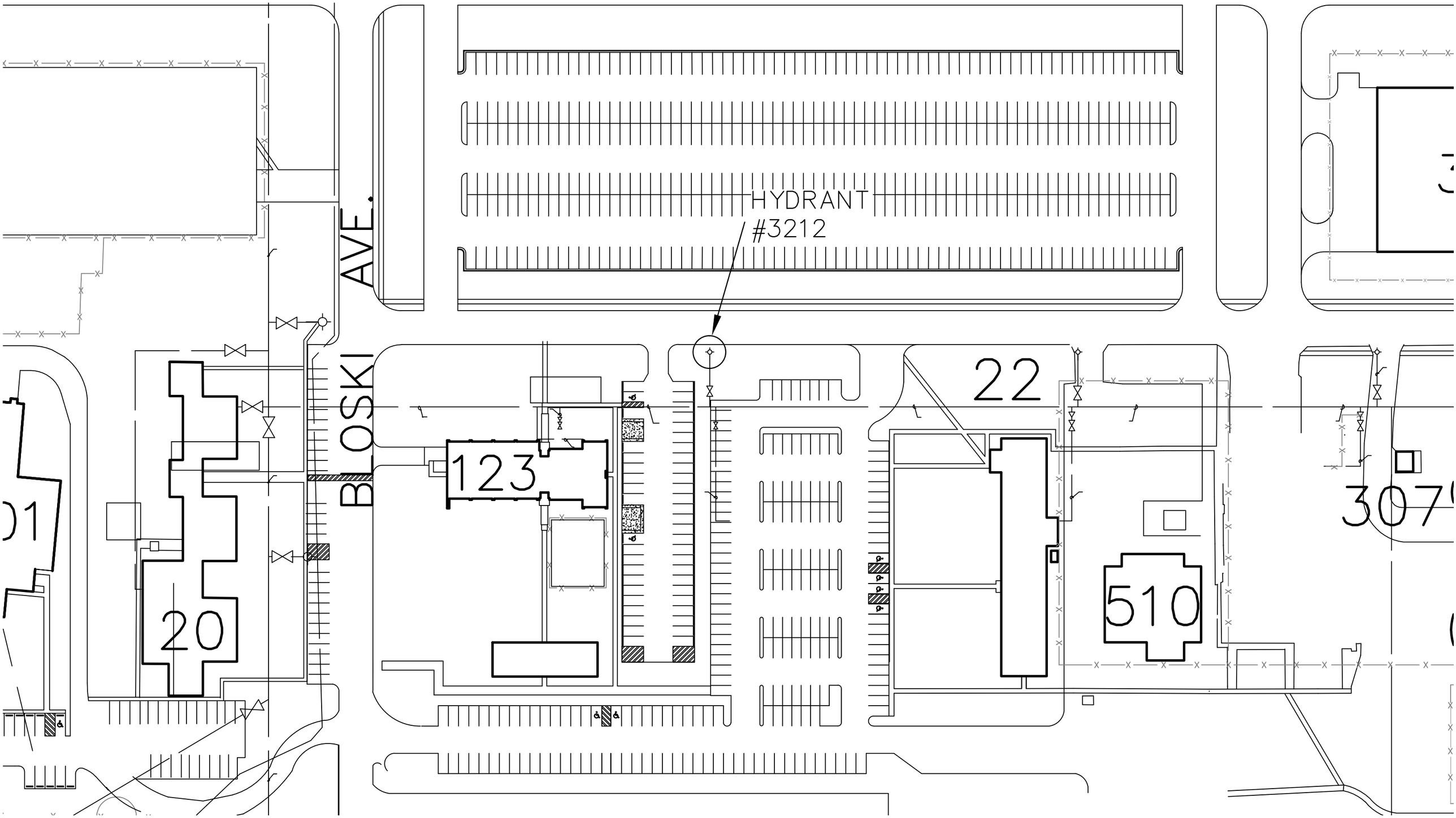
The following shows sampling data from Severn Trent on the chlorine concentrations at various points in the water distribution network on the Base.

Total Chlorine					
Date	Hydrant 5212	Hydrant 3212	Hydrant 6710	Hydrant 5910	Inlet
08/21/12	0.53	0.43	0.23	0.26	3.19
08/15/12	1.81	0.26	0.29	0.25	1.38
*8/8/2012	-	-	-	-	-
07/31/12	0.93	1.34	0.44	0.26	1.59
07/26/12	2.31	2.24	0.83	0.43	3.85
07/19/12	2.04	1.16	0.85	0.53	2.21
07/11/12	0.81	2.89	0.62	0.32	1.25
07/05/12	2.03	1.20	0.53	0.42	2.70
06/27/12	1.64	1.37	0.67	0.48	0.70
06/13/12	0.74	0.67	0.41	0.48	1.28
05/15/12	0.29	0.31	0.17	-	0.49
05/08/12	0.19	0.42	0.12	0.18	0.99
04/24/12	0.65	1.26	0.40	0.48	2.48
04/10/12	0.48	0.70	0.75	0.49	1.70
04/03/12	0.62	0.64	0.35	0.44	2.50
03/27/12	1.12	1.74	0.64	0.41	2.12
03/20/12	1.44	3.95	0.43	0.51	2.77
03/14/12	0.30	0.89	0.25	0.66	1.90
01/18/12	1.63	1.78	1.00	0.81	2.40
01/05/12	1.61	1.84	0.84	0.71	2.19
AVG	**1.11**	**1.32**	**0.52**	**0.45**	**1.98**

* Did not flush to conserve water (high chlorides in river)


555
BULK PICK-UP/PARKING
HYDRANT
#5910
A-4
RINARD RD.
40
289
TWR.
512
ROAD


462
461
460
6
HYDRANT
#5212
50
454
496
499
561
407
BROWN AVE.
RUSSELL


HYDRANT
#3212
BLOSKI AVE.
123
22
20
510
01
307

RUSSELL AVE.
530
HYDRANT
#6710
261
551
48
30
308
509
CHAMBERS
300
269
305
402
301
404

NAS JRB NOLA – Transfer Pump Data

The following shows the transfer pump data for the pumps located adjacent to the underground storage tank that pump water to the aboveground storage tank.

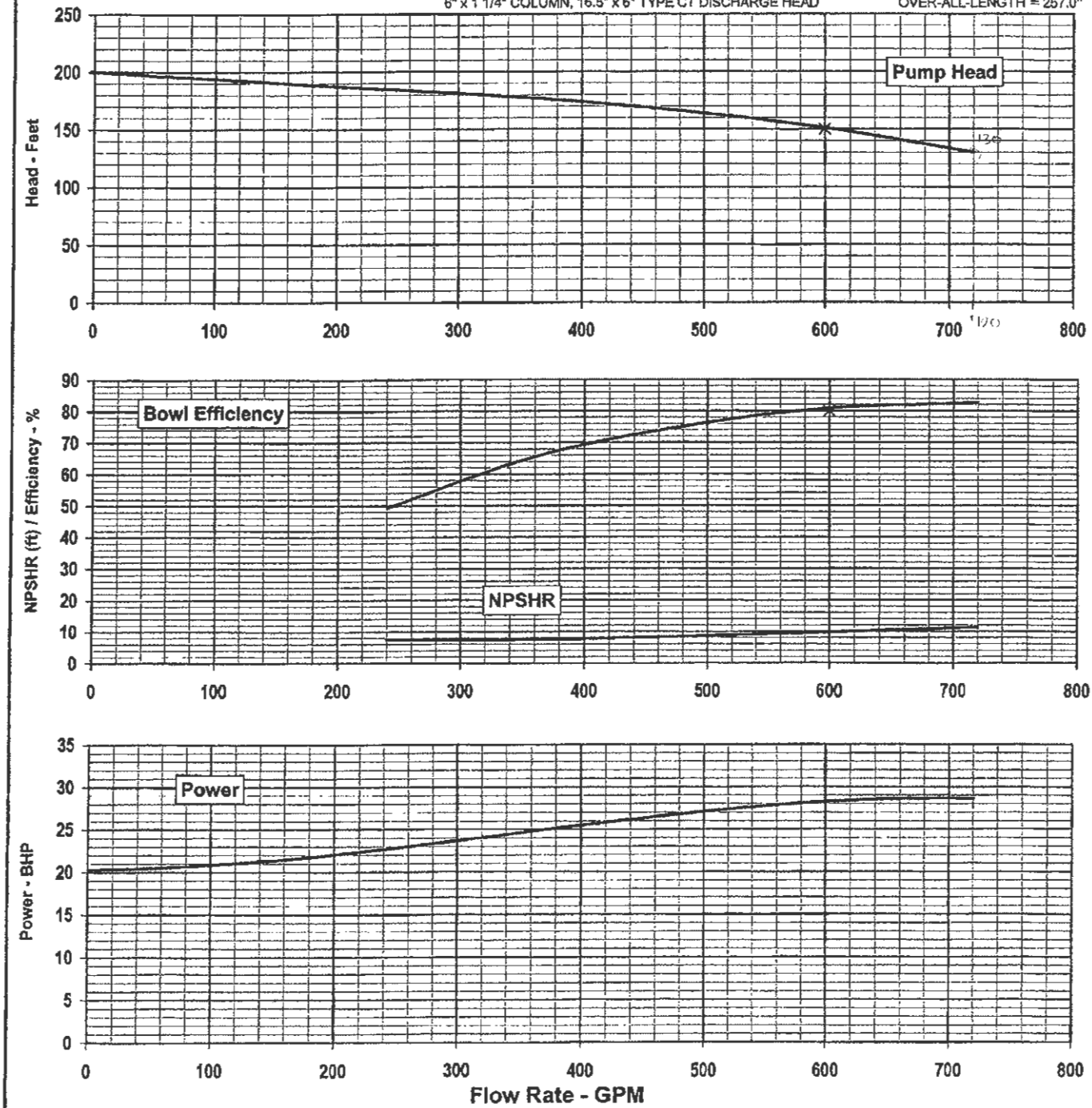
Fairbanks Morse
Pentair Water

10 G 7100 AW SUBMITTAL CURVE

SPEED	IMPELLER	DIAMETER	SPHERE	GUARANTEED VALUES			
1775	STD	1@7.98 & 3@7.36	.625"	FLOW	HEAD	BOWL EFF	BHP
BY	DRIVER	DATE		600	150.0	80.00	—
DAR	40 HP	7/8/2008		—	—	—	—
THIS CURVE IS BASED ON THE ACTUAL TEST PERFORMANCE OF A SIMILAR PUMP. ONLY THE INDICATED POINT(S) IS GUARANTEED.				—	—	—	—
				—	—	—	—

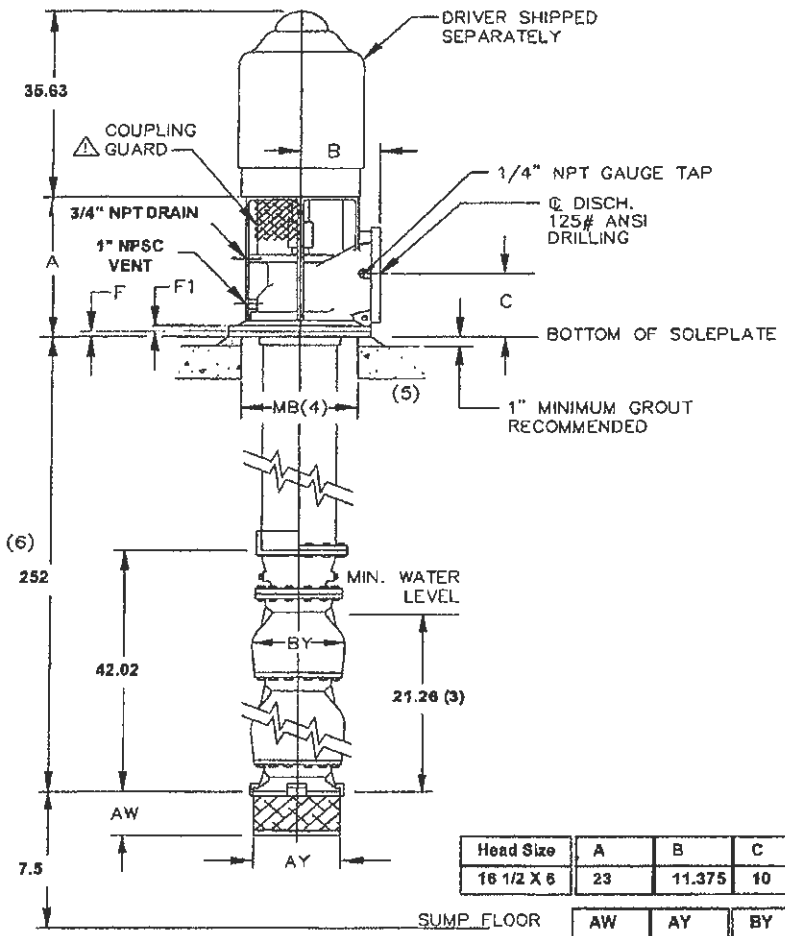
CURVE NO.:		092005C
REV.	0	4 STAGES
PROJECT NO.:		092005

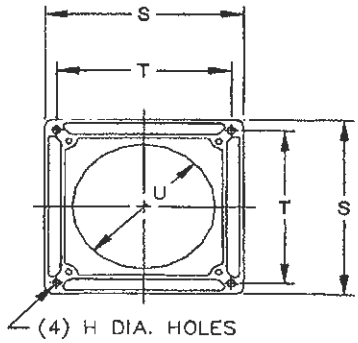
6" x 1 1/4" COLUMN, 16.5" x 6" TYPE CT DISCHARGE HEAD — OVER-ALL-LENGTH = 257.0"



⚠ WARNING

DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.





BOTTOM VIEW OF CAST SOLEPLATE (2)

1	Top Column	74.99

Head Size	A	B	C	F	H	U	T	S	F1
16 1/2 X 6	23	11.375	10	1	0.875	17.125	21	24	1.375

AW	AY	BY	MB
5	10	9.75	11

NOTES:

1. NOT FOR CONSTRUCTION OR INSTALLATION UNLESS CERTIFIED, DIMENSIONS SHOWN ARE TYPICAL AND MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.
2. SOLEPLATE MUST BE SUPPORTED ON ALL SIDES, GROUTED IN PLACE, AND LEVELED TO 0.005"/FT IN ALL DIRECTIONS.
3. MINIMUM SUBMERGENCE CALCULATED PER ANSI/HI 9.8.
4. MINIMUM DIAMETER REQUIRED FOR REMOVAL OF THE PUMP ASSEMBLY
5. DETAIL SHOWN FOR ILLUSTRATION ONLY AND IS NOT INTENDED TO REPRESENT THE ACTUAL INSTALLATION.
6. CUSTOMER TO VERIFY OVERALL LENGTH PRIOR TO RELEASE FOR MANUFACTURING
7. PER ANSI/HI 2.4; FOUNDATION MUST BE OF SUFFICIENT MASS AND STIFFNESS TO ALLOW RIGID SUPPORT OF PUMP DISCHARGE PIPING MUST BE ANCHORED, SUPPORTED AND RESTRAINED NEAR THE PUMP.

CUSTOMER: PARSON & SANDERSON INC.					P.O. NO.: 08-50068	Fairbanks Morse PENTAIR PUMP GROUP
JOB NAME: US NAVEL AIR STATION, BELL CHASE , LA					TAG NAME: CALLENDER FIELD	SETTING PLAN MODEL 7100 AW CT DISCHARGE HEAD WITH SOLEPLATE
PUMP SIZE AND MODEL: 10G 7100 AW	STAGES: 4	GPM: 600	TDH: 150	RPM: 1800	ROTATION: CCW	
MOTOR: USEM	HP: 40	FRAME: 324TP	PHASE: 3	HERTZ: 60	VOLTS: 230-460	ENCLOSURE: TEFC
CERTIFIED FOR: PROJECT NO. 092205			CERTIFIED BY: JBH		DATE: 12/19/08	DWG NO: 092005SP REV NO: 0

Fairbanks Morse Pur rder Information Sheet

Customer Name:	Parson & Sanderson, Inc.					Rev.	0
End User:	US Naval Air Station						
Work Order No.	1727246	Sales Order Number	2173919	Project Number	092005		
Written By:	J. Apt	8/25/2008		Checked By		Date	

Pump Description		**Construction**		**Operating Conditions**	1	2	3
Bowl Size	10G	Wear Rings	Bowl & Impeller	Capacity (GPM)	600		
Bowl Model	7100AW	Pumpshaft	416 SS	TDH (ft)	150		
Stages	4	Pumpshaft Coupling	416 SS	F/L Speed (RPM)	1780		
Suction	Bell	Lineshaft	416 SS	Guaranteed Bowl Efficiency	80.0%		
Discharge Size	6"	Lineshaft Coupling	416 SS				
Discharge Connection	Threaded	Impeller Fastener	416 Stl Steel Collets	Notes or Comments			
Shaft Projection	17-1/2"	Head Type	CT				
Tube Projection		Head Size	16 1/2 x 6				
Total End Play	0.44	Column Size	6"				
Paint/Coating	**SEE PAINT SHEET**	Shaft Thread	1-1/4"	Impeller Running Position	.25"		
Lubrication	Product Lubricated						

Impeller Data		**Drawing & QC Information**		**Test Reqirements**	
Impeller Diameter (Full)	7.96" (QTY. 1)	Setting Plan	092005SPR0	Type Test	Non-Witness
Impeller Symbol (Full)	LV4455277208 1140 F	Performance Curve	092005CR0	Test Quantity	2
Impeller Diameter (Trim)	7.35 (QTY.3)	Assembly Drawings		Retest	
Impeller Symbol (Trim)	LV4455277208 1140 T	Bowl		Test With	TEST MOTOR
Impeller Pattern (Design)	5T13	Column & Shaft		Max HP at GPM	40 @ANY
Dynamic Balance	Standard	Discharge Head		Multi-Speed Test	No
Special Instructions		Hydro Test	Certified		
Polish Impeller		Bowl Assembly			
Impeller Degree	28.00	Column			
Underfile	1/8"	Discharge Head	109	Curve Approval Req'd	Yes, B4 Shipping
		Suction Can		Test As Complete Unit	Yes
				Notes	None

Serial Number & Quantity		**Driver Supplied By:**	Pentair	**Assembly, Replacement and Miscellaneous Information**			
# Pumps	2	Driver Manufacturer	U S Electric	Bowl Assembly Only	Yes		
Serial Number:	1727246-0	Driver Configuration	VHS-Motor	Complete Pumps	Yes		
thru	thru	Driver Horsepower	40	Ship Assembled	Yes		
Serial Number	1727246-1	Driver Speed-RPM	1800	Overall Length	257"		
		Service Factor	1.15	Shipping Length (Approx.	279"		
Bowl Assembly Wt. (lbs)	419	Enclosure	TEFC	Shaft Down +/- 1/4			
Pump Assembly Wt. (lbs.)		Frame	324TP	Replacement Pump	No		
		CD Dimension	28-1/2"	Hydraulic Duplicate:	No		
		Bore Diameter	1-1/4"				
				Loose Parts on W/O#	Yes	W O #	1727249
				Spare Parts Supplied:	No		

Notes and Comments

USE FOOD GRADE GREASE AT SUCTION BOWL BEARING

Fairbanks Morse ıt Information Sheet

Customer Name:	Parson & Sanderson, Inc.			End User:	US Naval Air Station		
Work Order No.	1727246	Sales Order	2173919	Project Number	092005		
Written By:	J. Apt	Date	1/0/1900	Checked By	0	Date	1/0/1900

Above Ground Coating Information:

Exterior Surfaces

Surface Preparation:	SSPC-SP10; Near White Metal Blast Cleaning
Type Coating (Paint)	Tnemec N140
Part Number	HYD132A091-9906-F
Color:	35GR Black
Number Coats:	
Total DFT (Mils):	7
Surfaces to Coat:	Exterior of Discharge Head Including Exposed Portions of Packing Box and Top Unmachined Surface of Soleplate

Comments, Notes and Special Instructions:

(1) If Supplied

Interior Surfaces (Only if specified)

Surface Preparation:	SSPC-SP10; Near White Metal Blast Cleaning
Type Coating (Paint)	Tnemec N140
Part Number	HYD132A091-9906-F
Color:	35GR Black
Number Coats:	
Total DFT (Mils):	7
Surfaces to Coat	Interior of Discharge Head Including Exposed Portions of Packing Box

Comments, Notes and Special Instructions:

Below Ground Coating Information:

Exterior Surfaces

Surface Preparation:	SSPC-SP10; Near White Metal Blast Cleaning
Type Coating (Paint)	Tnemec N140
Part Number	HYD132A091-9906-F
Color:	35GR Black
Number Coats	
Total DFT (Mils)	7
Surfaces to Coat:	Exterior of Bowl Assembly & Column

Comments, Notes and Special Instructions:

Note (1) If supplied

Interior Surfaces (Only if Specified)

Surface Preparation:	SSPC-SP10; Near White Metal Blast Cleaning
Type Coating (Paint)	Tnemec N140
Part Number	HYD132A091-9906-F
Color:	35GR Black
Number Coats	
Total DFT (Mils)	7
Surfaces to Coat:	Interior of column

Comments, Notes and Special Instructions:

NAS JRB NOLA – Severn Trent Weekly Chlorine Monitoring Reports

The following is several weeks of chlorine monitoring results and potable sub-standard water flushings through fire hydrants.

1 of 4 Project Code 238

LOUISIANA D.H.H. OFFICE OF PUBLIC HEALTH
DIVISION OF LABORATORIES - WATER MICROBIOLOGY
LABORATORY REQUEST AND REPORT FORM

002314

LAB USE ONLY
Lab Sample & Lab Nos
Lab Date and Time Received 2012 AUG 15 PM 2:56
RECEIVED BY:
Rec Temp: °C on ice RT

Name of Supply: Belle Chasse Water

Address: 126 Sewer Plant Rd

City: Belle Chasse State: LA Zip: 70037 Parish: Plaquemines Collected by: CC

Public Water Supply ID (PWS ID): 1075001 (1-7)

Date Collected: 08 15 12 (8-13) Mo Day Yr

Time Collected: 1029 (14-17) 24 Hrs

Point of Collection (POC) or POC ID (PLEASE PRINT OF TYPE): SWIMMING POOL

* Note: All repeat drinking & ground water samples should have the lab sample no. of the related positive sample in parenthesis at the end of the POC - eg. (003409) (18-47)

TYPE OF SAMPLE

Drinking Water Program

1. Routine
2. Replacement
3. *Repeat - Original Tap
4. *Repeat - Upstream Tap
5. *Repeat - Downstream Tap
6. *Repeat - Additional Tap
7. Investigative
8. Other (Describe in POC)
9. Triggered Ground Water

[7] (48)

Other Potable

1. New Facility (Line, Well, etc.)
2. Well
3. Private Supply
4. Other (Describe in Comments)

[ ]

Non Potable

1. Raw
2. Surface
3. Recreational/Bathing
4. Sewage
5. Other (Describe in Comments)
6. LT2 Source (Specify Type in Comments)
7. Additional Ground Water

[ ]

Comments \ Special Tests: From Hydrant 5212

Source Water Turbidity (NTU):

Disinfectant Residual: Free ppm 1.14 Total ppm 1.81

LABORATORY USE ONLY

MMO-MUG Total Coliform P\A

0. Not Found
1. Present

[0] (49)

MMO-MUG E. Coli P\A

0. Not Found
1. Present

[ ] (50)

MMO-MUG Total Coliform MPN MPN / 100 ml

MMO-MUG E. coli MPN MPN / 100 ml

Multiple Tube Fermentation Total Coliform MPN MPN / 100 ml

Multiple Tube Fermentation Fecal Coliform MPN MPN / 100ml

Standard Plate Count / 1ml

Other Tests

Remarks

Date Analyzed: 8-15-12
Time Analyzed: 3:00 PM
Analyst:

Reviewed By: 8-16-12

LABORATORY COPY

Sample No: S 886002

2 of 4 Project Code 238

LOUISIANA D.H.H. OFFICE OF PUBLIC HEALTH
DIVISION OF LABORATORIES - WATER MICROBIOLOGY
LABORATORY REQUEST AND REPORT FORM

002315

LAB USE ONLY
Lab Sample & Lab Nos
Lab Date and Time Received 2012 AUG 15 PM 2:56
RECEIVED BY:
Rec Temp: ____ °C ____ on ice ____ RT

Name of Supply: Belle Chasse Water

Address: 126 Sewer Plant Rd

City: Belle Chasse State: LA Zip: 70037 Parish: Plaquemines Collected by: CC

Public Water Supply ID (PWS ID): 1075001 (1-7)

Date Collected: 08 15 12 (8-13) Mo Day Yr

Time Collected: 1044 (14-17) 24 Hrs

Point of Collection (POC) or POC ID: BLDG 23 (18-47) PLEASE PRINT OF TYPE

* Note: All repeat drinking & ground water samples should have the lab sample no. of the related positive sample in parenthesis at the end of the POC - eg. (003409)

TYPE OF SAMPLE

Drinking Water Program

1. Routine
2. Replacement
3. *Repeat - Original Tap
4. *Repeat - Upstream Tap
5. *Repeat - Downstream Tap
6. *Repeat - Additional Tap
7. Investigative
8. Other (Describe in POC)
9. Triggered Ground Water

7 (48)

Other Potable

1. New Facility (Line,Well,etc.)
2. Well
3. Private Supply
4. Other (Describe in Comments)

Non Potable

1. Raw
2. Surface
3. Recreational/Bathing
4. Sewage
5. Other (Describe in Comments)
6. LT2 Source (Specify Type in Comments)
7. Additional Ground Water

Comments \ Special Tests: From Hydrant 3212

Source Water Turbidity (NTU):

Disinfectant Residual: Free ppm .03 Total ppm .26

LABORATORY USE ONLY

MMO-MUG Total Coliform P\A
0. Not Found
1. Present

0 (49)

MMO-MUG E. Coli P\A
0. Not Found
1. Present

(50)

MMO-MUG Total Coliform MPN MPN / 100 ml

MMO-MUG E. coli MPN MPN / 100 ml

Multiple Tube Fermentation Total Coliform MPN MPN / 100 ml

Multiple Tube Fermentation Fecal Coliform MPN MPN / 100ml

Standard Plate Count / 1ml

Other Tests

Remarks

Date Analyzed: 8-15-12
Time Analyzed: 3:00PM
Analyst: [illegible]

Reviewed By: 8-16-12 [illegible]

LABORATORY COPY

Sample No. S 886003

3 of 4 Project Code 238

002316

LAB USE ONLY
Lab Sample & Lab Nos
Lab Date and Time Received 2012 AUG 15 PM 2:56
RECEIVED BY:
Rec Temp: °C on ice RT

LOUISIANA D.H.H. OFFICE OF PUBLIC HEALTH
DIVISION OF LABORATORIES - WATER MICROBIOLOGY
LABORATORY REQUEST AND REPORT FORM

Name of Supply: Belle Chasse Water

Address: 126 Sewer Plant Rd.

City: Belle Chasse State: LA Zip: 70037 Parish: Plaquemines Collected by: CC

Public Water Supply ID (PWS ID): 1075001 (1-7)

Date Collected: 08 15 12 (8-13) Mo Day Yr

Time Collected: 1058 (14-17) 24 Hrs

Point of Collection (POC) or POC ID: BOWLING ALLEY (18-47)

PLEASE PRINT OF TYPE

* Note: All repeat drinking & ground water samples should have the lab sample no. of the related positive sample in parenthesis at the end of the POC - eg. (003409)

TYPE OF SAMPLE

Drinking Water Program

1. Routine
2. Replacement
3. *Repeat - Original Tap
4. *Repeat - Upstream Tap
5. *Repeat - Downstream Tap
6. *Repeat - Additional Tap
7. Investigative
8. Other (Describe in POC)
9. Triggered Ground Water

[7] (48)

Other Potable

1. New Facility (Line,Well,etc.)
2. Well
3. Private Supply
4. Other (Describe in Comments)

[ ]

Non Potable

1. Raw
2. Surface
3. Recreational/Bathing
4. Sewage
5. Other (Describe in Comments)
6. LT2 Source (Specify Type in Comments)
7. Additional Ground Water

[ ]

Comments \ Special Tests: From Hydrant 6710

Source Water Turbidity (NTU):

Disinfectant Residual: Free ppm .02 Total ppm .29

LABORATORY USE ONLY

MMO-MUG Total Coliform P\A
0. Not Found
1. Present

[0] (49)

MMO-MUG E. Coli P\A
0. Not Found
1. Present

[ ] (50)

MMO-MUG Total Coliform MPN MPN / 100 ml

MMO-MUG E. coli MPN MPN / 100 ml

Multiple Tube Fermentation Total Coliform MPN MPN / 100 ml

Multiple Tube Fermentation Fecal Coliform MPN MPN / 100ml

Standard Plate Count / 1ml

Other Tests

Remarks

Date Analyzed: 8-15-12

Time Analyzed:

Reviewed By: 8-16-12

4 of 4 Project Code 238

002317

LAB USE ONLY: Lab Sample & Lab Nos ▶ Lab Date and Time Received ▶ 2012 AUG 15 PM 2:56

RECEIVED BY: [signature]
Rec Temp: ____ °C ____ on ice ____ RT

LOUISIANA D.H.H. OFFICE OF PUBLIC HEALTH
DIVISION OF LABORATORIES - WATER MICROBIOLOGY
LABORATORY REQUEST AND REPORT FORM

Name of Supply: Belle Chasse Water

Address: 126 Sewer Plant Rd

City: Belle Chasse State: LA Zip: 70037 Parish: Plaquemines Collected by: CC

Public Water Supply ID (PWS ID): 1075001 (1-7)

Date Collected: 08 15 12 (8-13) Mo Day Yr

Time Collected: 1108 (14-17) 24 Hrs

Point of Collection (POC) or POC ID (PLEASE PRINT OF TYPE): BLDG 40

* Note: All repeat drinking & ground water samples should have the lab sample no. of the related positive sample in parenthesis at the end of the POC - eg. (003409) (18-47)

TYPE OF SAMPLE

Drinking Water Program

1. Routine
2. Replacement
3. *Repeat - Original Tap
4. *Repeat - Upstream Tap
5. *Repeat - Downstream Tap
6. *Repeat - Additional Tap
7. Investigative
8. Other (Describe in POC)
9. Triggered Ground Water

[7] (48)

Other Potable

1. New Facility (Line,Well,etc.)
2. Well
3. Private Supply
4. Other (Describe in Comments)

[ ]

Non Potable

1. Raw
2. Surface
3. Recreational/Bathing
4. Sewage
5. Other (Describe in Comments)
6. LT2 Source (Specify Type in Comments)
7. Additional Ground Water

[ ]

Comments \ Special Tests: From Hydrant 5910

Source Water Turbidity (NTU):

Disinfectant Residual: Free ppm .03 Total ppm .25

LABORATORY USE ONLY

MMO-MUG Total Coliform P\A

0. Not Found
1. Present

[0] (49)

MMO-MUG E. Coli P\A

0. Not Found
1. Present

[ ] (50)

MMO-MUG Total Coliform MPN MPN / 100 ml

MMO-MUG E. coli MPN MPN / 100 ml

Multiple Tube Fermentation Total Coliform MPN MPN / 100 ml

Multiple Tube Fermentation Fecal Coliform MPN MPN / 100ml

Standard Plate Count / 1ml

Other Tests

Remarks

Date Analyzed: 8-15-12

Time Analyzed: [illegible]

Reviewed By: 8-16-12 [illegible]

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 8-15-12

Ground Storage	Total	Free
Inlet	1.38	.80
Depolox		
LaMotte	1.66	—

WM

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	1.81	.29	.25	.26
Free	1.14	.02	.03	.03
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212	0805	1030	145	1.81
3212	0830	1045	135	.26
6710	0835	1100	145	.29
5910	0840	1110	150	.25

Hydrant #	Time Open	Time Close	Minutes	Total CL2

Comments

Delivered 55 Gals of Hypo. Took Bac-T Samples

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 8-8-12

Ground Storage	Total	Free
Inlet		
Depolox		
~~LaMotte~~ CL17	2.10	—

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total				
Free				
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212				
3212				
6710				
5910				

Hydrant #	Time Open	Time Close	Minutes	Total CL2

- Did not flush to conserve water (high chlorides in river)

Comments

Delivered 165 GALS of Hypochlorite

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 7-31-12

Ground Storage	Total	Free
Inlet	1.59	1.51
Depolox		
~~LaMotte~~ CL17	2.16	—

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	.93	.44	.26	1.34
Free	.63	.25	.04	.99
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212	0805	1450	345	.93
3212	0815	1505	350	1.34
6710	0820	1510	350	.44
5910	0825	1515	350	.26

Hydrant #	Time Open	Time Close	Minutes	Total CL2

Comments

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 7-26-12

Ground Storage	Total	Free
Inlet	3.85	3.05
Depolox	—	
LaMotte	3.62	—

CL17

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	2.31	.83	.43	2.24
Free	1.55	.50	.07	1.54
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

	Time			
Hydrant #	Open	Close	Minutes	Total CL2
5212	0850	1420	330	2.31
3212	1000	1435	275	2.24
6710	1005	1445	280	.83
5910	1010	1450	280	.43

	Time			
Hydrant #	Open	Close	Minutes	Total CL2

Comments

Delivered 110 Gals of Hypo

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 7-19-12

Ground Storage	Total	Free
Inlet	2.21	~~1.35~~
Depolox	—	
LaMotte	1.30	—

CLT

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	2.04	.85	.53	1.16
Free	1.05	.40	.15	.55
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212	0835	1325	290	2.04
3212	0845	1345	300	1.16
6710	0850	1350	300	.85
5910	0855	1355	300	.53

Hydrant #	Time Open	Time Close	Minutes	Total CL2

Comments

Delivered 110 Gals of Hypo. on 7-18-12.

middle school

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 7-11-12

Ground Storage	Total	Free
Inlet	1.25	1.12
Depolox	—	
LaMotte	3.12	—

CL17

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	.81	.62	.32	2.89
Free	.41	.38	.13	2.41
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212	0830	1340	310	.81
3212	0900	1355	295	2.89
6710	0905	1400	295	.62
5910	0910	1405	295	.32

Hydrant #	Time Open	Time Close	Minutes	Total CL2

Comments

Delivered 110 Gals of Hypo.

Naval Air Station
Joint Reserve Base
Weekly Field Data

Date 7-5-12

Ground Storage	Total	Free
Inlet	2.70	2.26
Depolox	—	
~~LaMotte~~ CL17	3.26	—

Sample Sites

	Building 407 Sample Station #1	Building 301 Sample Station #2	Building 40 Sample Station #3	Building 23 Sample Station #4
Total	2.03	.53	.42	1.20
Free	1.52	.26	.09	.86
	swimming pool	bowling alley	mag-t	training center

Hydrant Flushing

Hydrant #	Time Open	Time Close	Minutes	Total CL2
5212	0815	1100	165	2.03
3212	0845	1120	155	1.20
6710	0850	1125	155	.53
5910	0855	1130	155	.42

Hydrant #	Time Open	Time Close	Minutes	Total CL2

Comments

Delivered 55 Gals of Hypo on 7-3-12. Delivered 55 Gals of Hypo on 7-5-12

NAS JRB NOLA – Estimated Sub-Standard Fire Hydrant Flushings

The following is several weeks of estimated fire hydrant flushing quantities due to sub-standard water quality.

575 minutes @ 110 gallons per minute = 63,250 gallons / week

0 minutes @ 110 gallons per minute = 0 gallons / week – due to river conditions

1395 minutes @ 110 gallons per minute = 153,450 gallons / week

1165 minutes @ 110 gallons per minute = 128,150 gallons / week

1490 minutes @ 110 gallons per minute = 163,900 gallons / week

1195 minutes @ 110 gallons per minute = 131,450 gallons / week

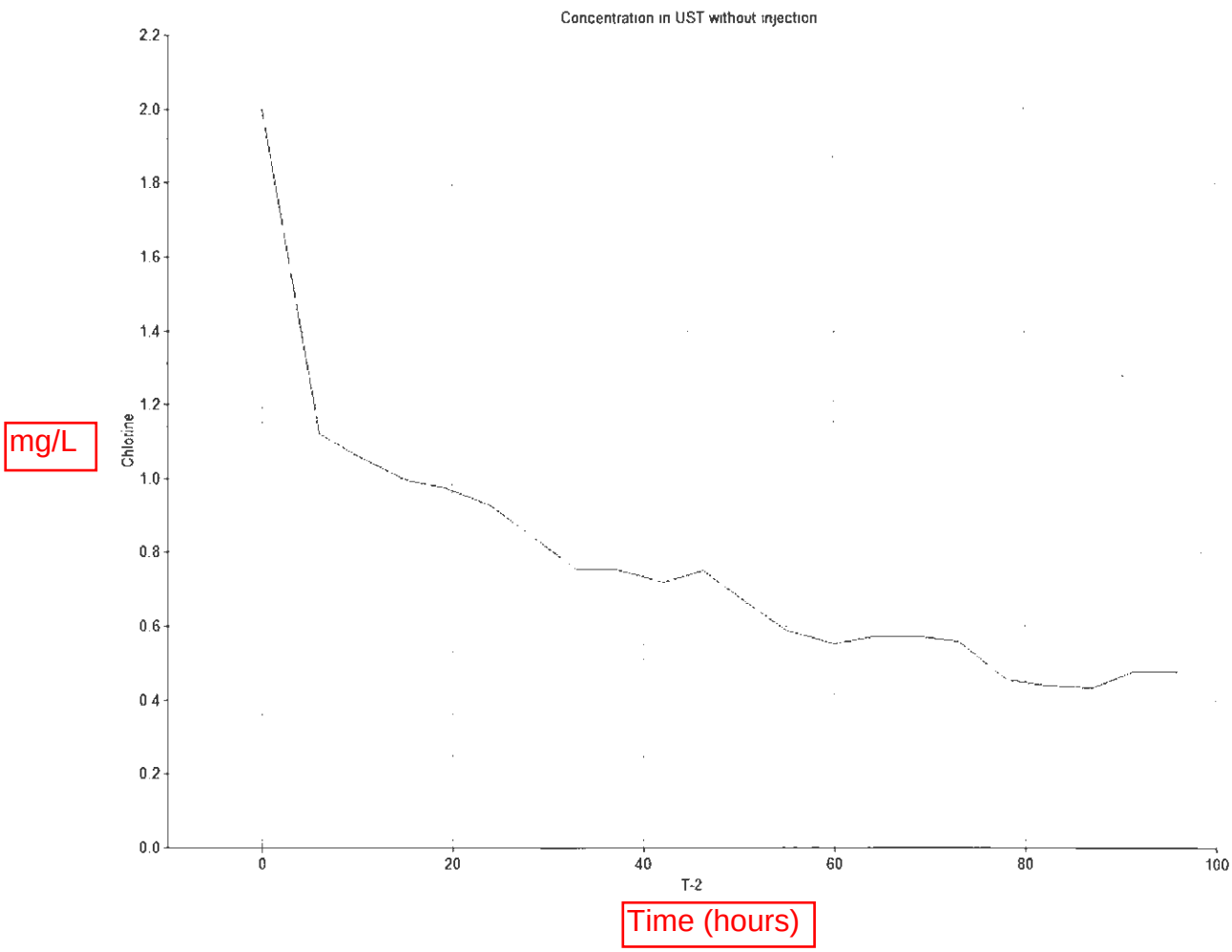
630 minutes @ 110 gallons per minute = 69,300 gallons / week

Note: 110 gallons per minute of flushing time is an estimate based on visual inspection of the typical fire hydrant flushing flow.

NAS JRB NOLA – Water Distribution System Water Quality Degradation Chart

The following chart indicate the following information:

- Depicts the rate over time at which the residual chlorine is reduced in the system.


Concentration in UST without injection
mg/L
Chlorine
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
20
40
60
80
100
T-2
Time (hours)

NAS JRB NOLA – Option 3C: Proposed Map and Chlorine Concentration Map

A1 PROPOSED RICIRCULATION LINE & WATER MAIN

SCALE: 1"=150'

0 75' 150' 300'

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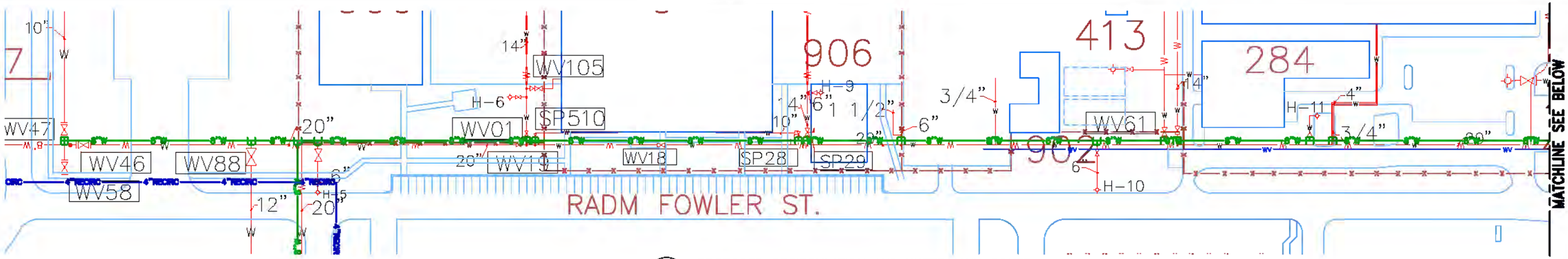
Innovative Infrastructure Solutions

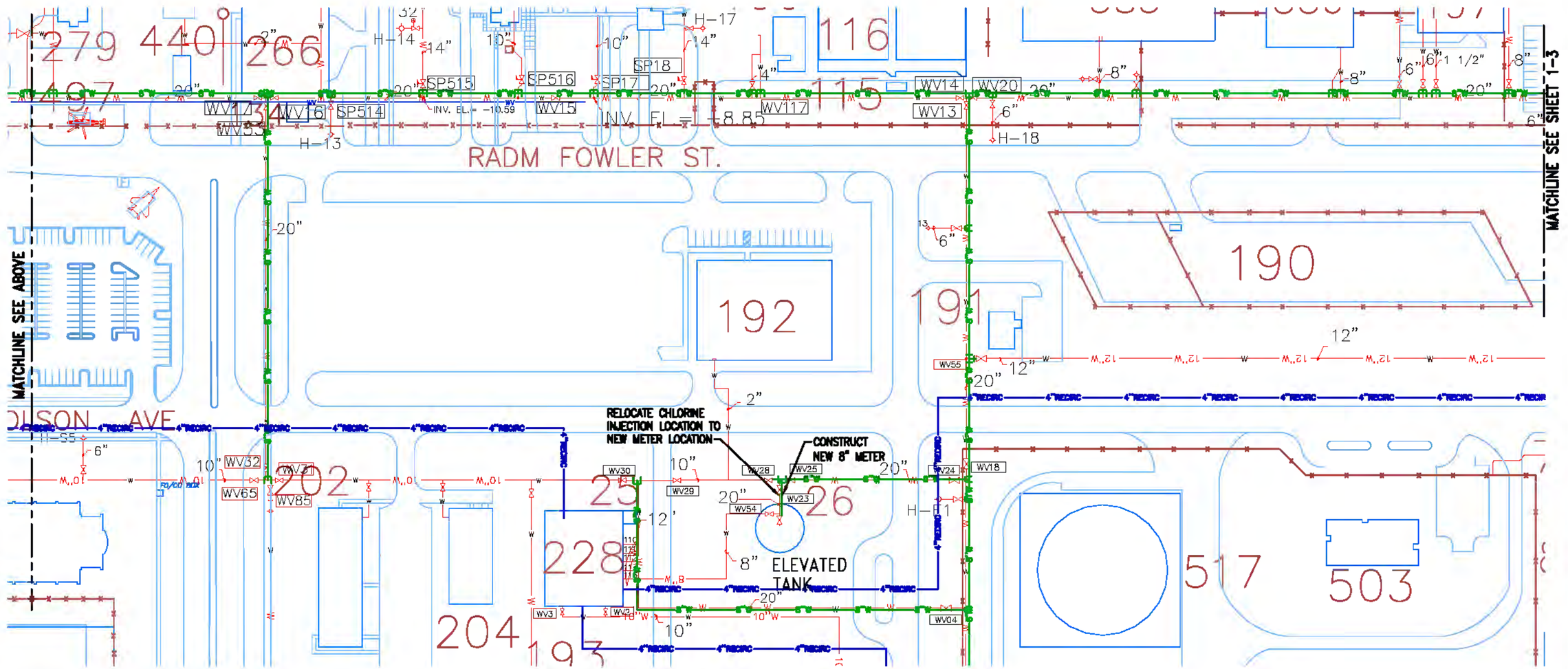
PREPARED FOR:
NAS JRB
NEW ORLEANS

FIGURE TITLE:
OPTION 3C RECIRCULATION LINE
AND WATER MAIN

FIGURE NO.:
1-1



C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'



A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'

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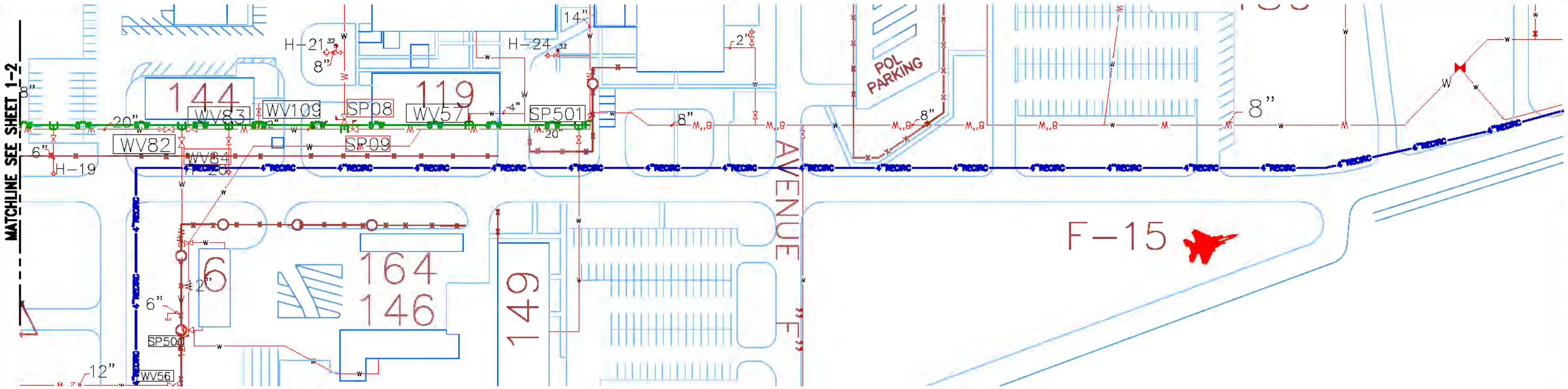
Innovative Infrastructure Solutions
4474 MAIN ST., PENSACOLA, FL 32505-5001
Pensacola • Panama City Beach • Tallahassee • Mobile • Bristol County • Texas

PREPARED FOR:
NAS JRB
NEW ORLEANS

FIGURE TITLE:
OPTION 3C RECIRCULATION LINE AND WATER MAIN

FIGURE NO.:
1-2



C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE

SCALE: 1"=30'

0 15' 30' 60'

N

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449 MAIN ST., PENSACOLA, FL 32502-5996

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PREPARED FOR:

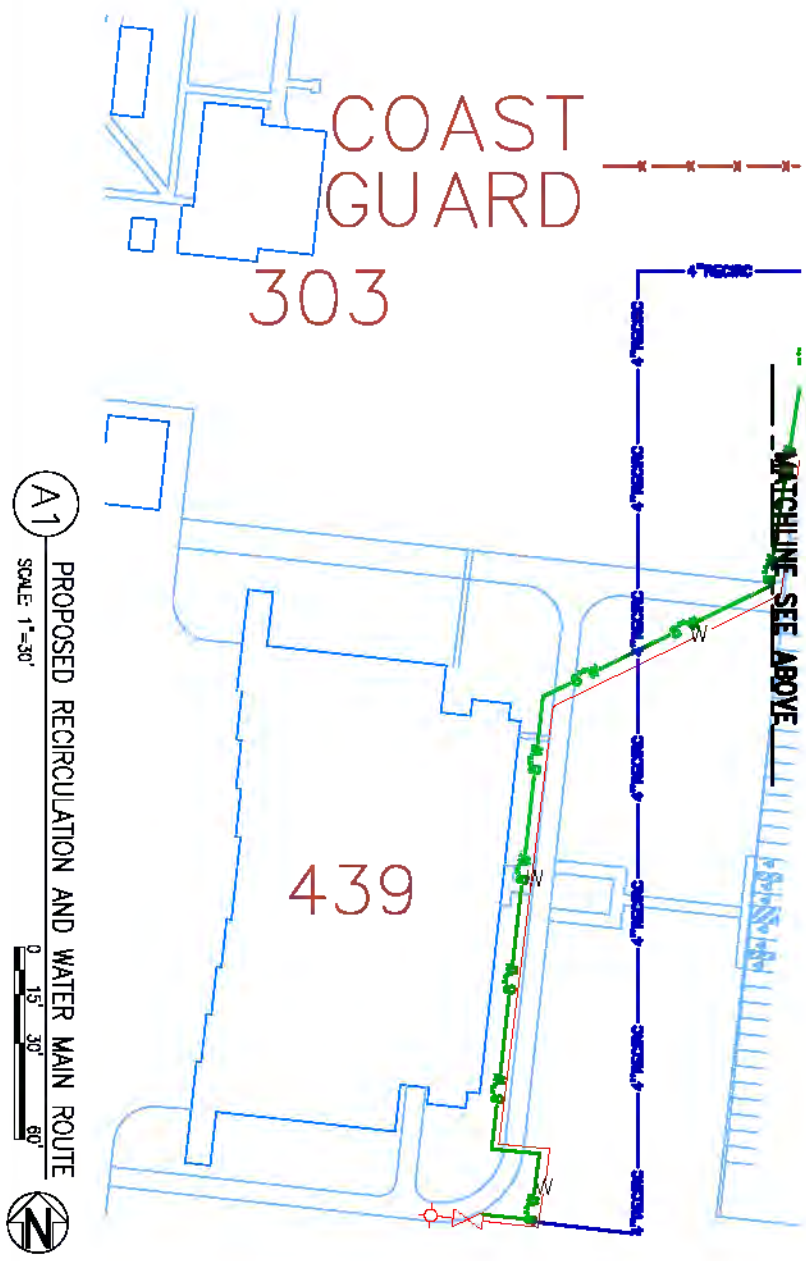
NAS JRB
NEW ORLEANS

FIGURE TITLE:

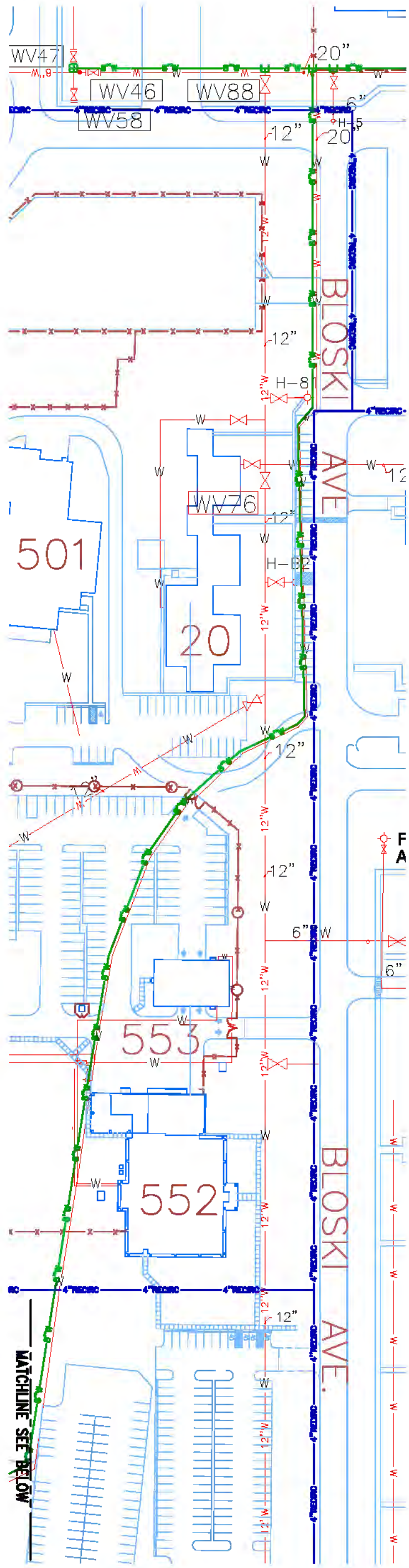
OPTION 3C RECIRCULATION LINE
AND WATER MAIN

FIGURE NO.:

1-3

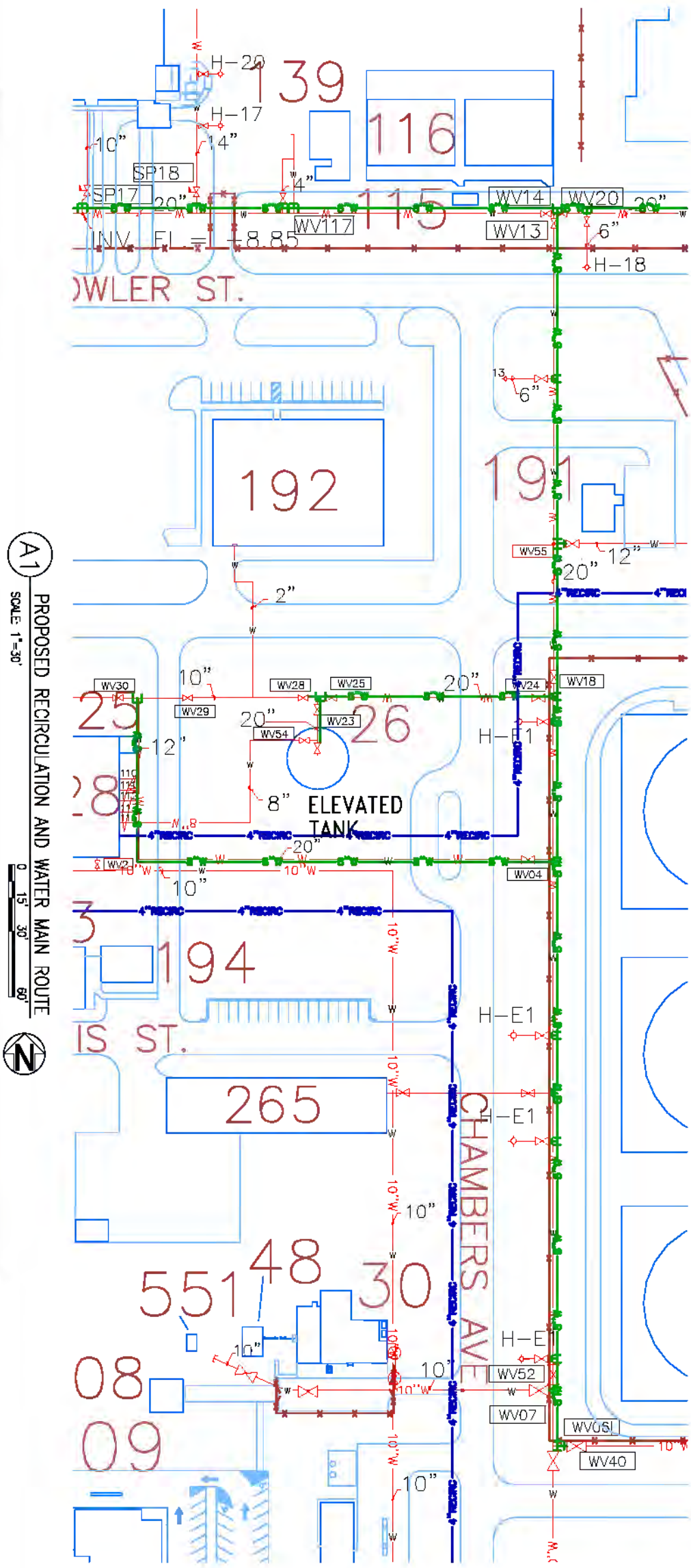


A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'



C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'

FIGURE NO.:	FIGURE TITLE:	PREPARED FOR:	
1-4	OPTION 3C RECIRCULATION LINE AND WATER MAIN	NAS JRB NEW ORLEANS	BASKERVILLE-DONOVAN, INC. Innovative Infrastructure Solutions 449 W. MAIN ST., PENSACOLA, FL 32502 (850)469-0401 ENGINEERING BUSINESS: EB-0000040 Pensacola - Panama City Beach - Tallahassee - Mobile - Brevard County - Tampa This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request. POND Architects ▪ Engineers ▪ Planners



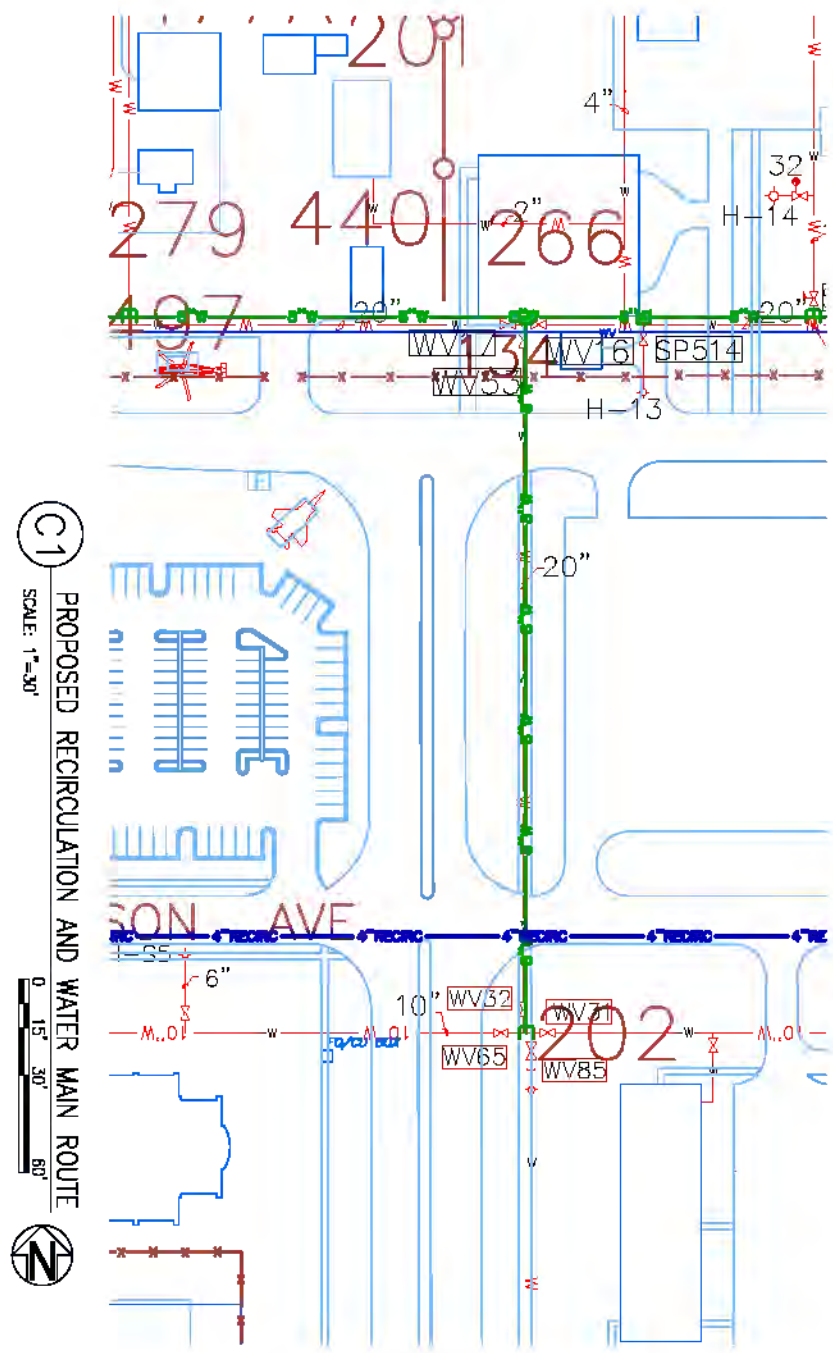


FIGURE NO.:	FIGURE TITLE:	PREPARED FOR:	
1-5	OPTION 3C RECIRCULATION LINE AND WATER MAIN	NAS JRB NEW ORLEANS	BASKERVILLE-DONOVAN, INC. Innovative Infrastructure Solutions Pensacola - Panama City Beach - Tallahassee - Mobile - Brevard County - Tampa The drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

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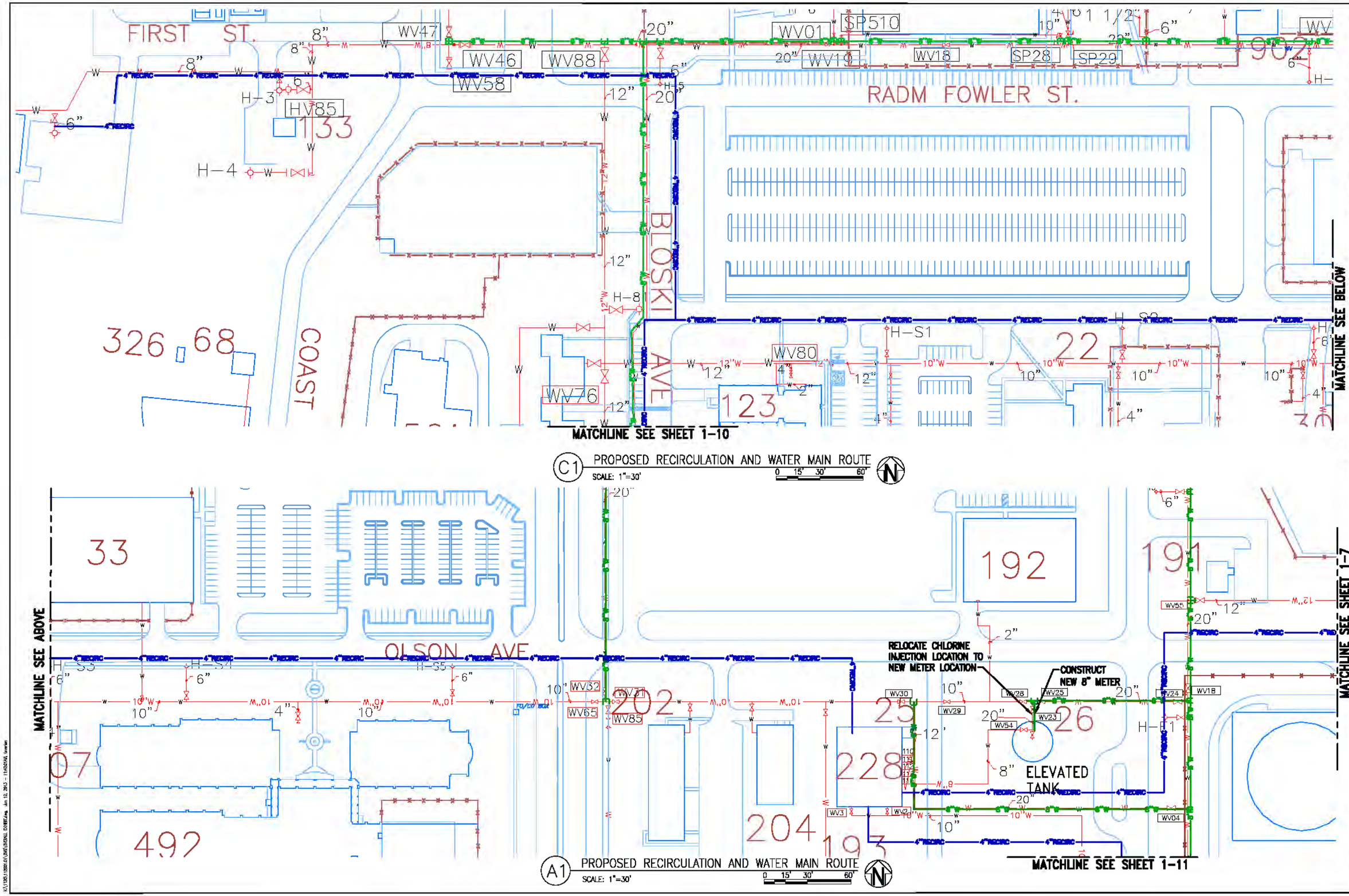
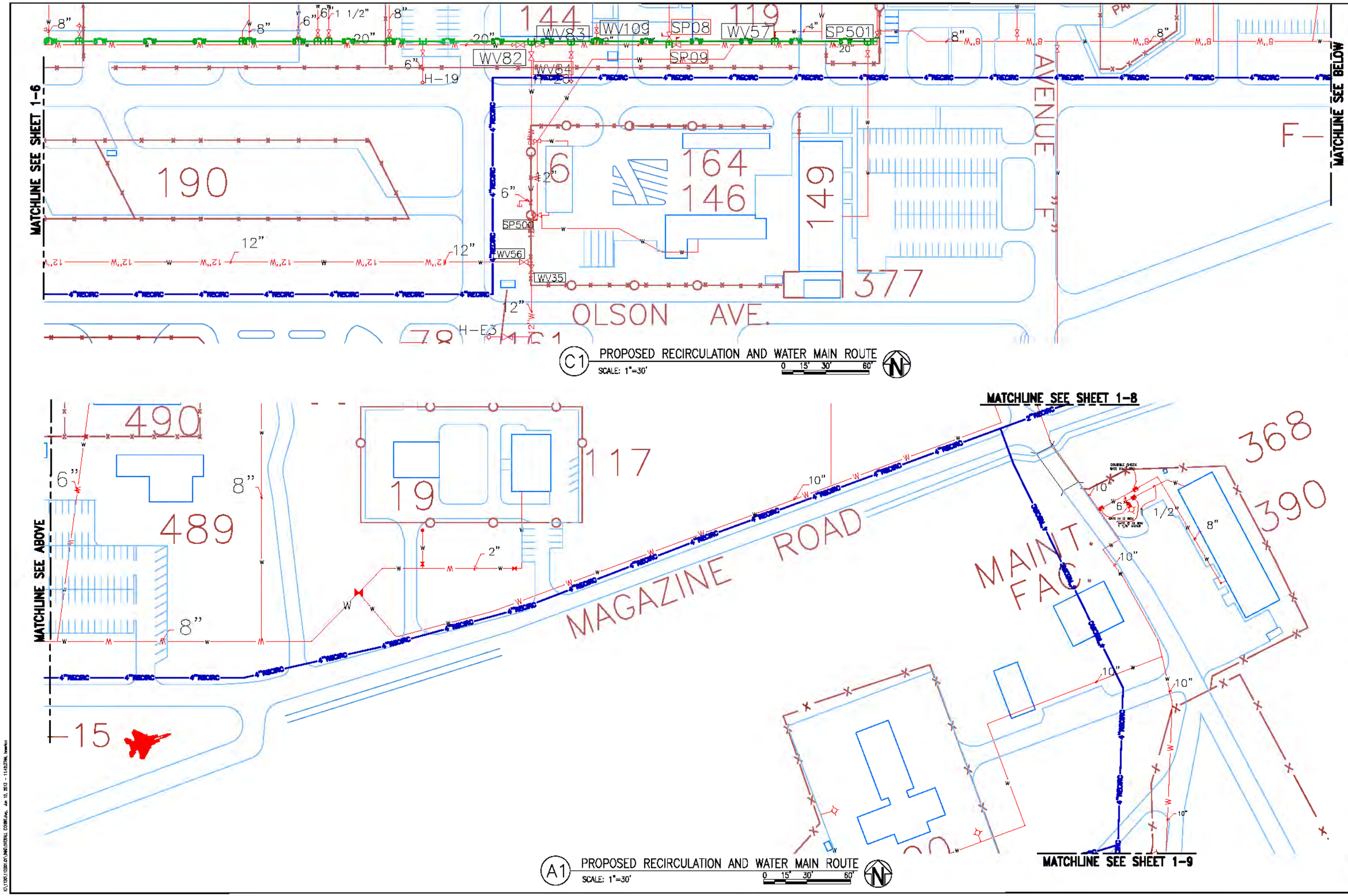

FIRST ST.
RADM FOWLER ST.
BLOSKI AVE
COAST
OLSON AVE
MATCHLINE SEE BELOW
MATCHLINE SEE SHEET 1-10
MATCHLINE SEE ABOVE
MATCHLINE SEE SHEET 1-7
MATCHLINE SEE SHEET 1-11
RELOCATE CHLORINE INJECTION LOCATION TO NEW METER LOCATION
CONSTRUCT NEW 8" METER
ELEVATED TANK
C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
POND
Architects • Engineers • Planners
BASKERVILLE-DONOVAN, INC.
Innovative Infrastructure Solutions
PREPARED FOR:
NAS JRB
NEW ORLEANS
FIGURE TITLE:
OPTION 3C RECIRCULATION LINE AND WATER MAIN
FIGURE NO.:
1-6



POND
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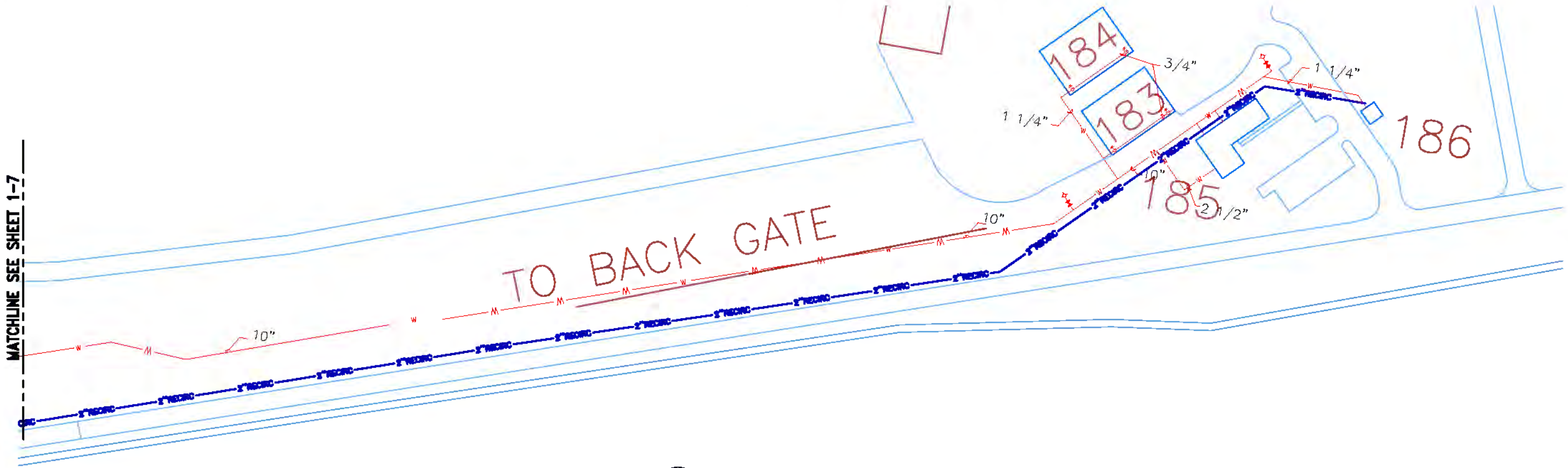
BASKERVILLE-DONOVAN, INC.
Innovative Infrastructure Solutions

PREPARED FOR:
NAS JRB
NEW ORLEANS

FIGURE TITLE:
OPTION 3C RECIRCULATION LINE
AND WATER MAIN

FIGURE NO.:
1-7



C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'

368

POND
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BASKERVILLE-DONOVAN, INC.
Innovative Infrastructure Solutions
4475 MAIN ST., PENSACOLA, FL 32505-5001
PH: 850-477-1313 FAX: 850-476-0241

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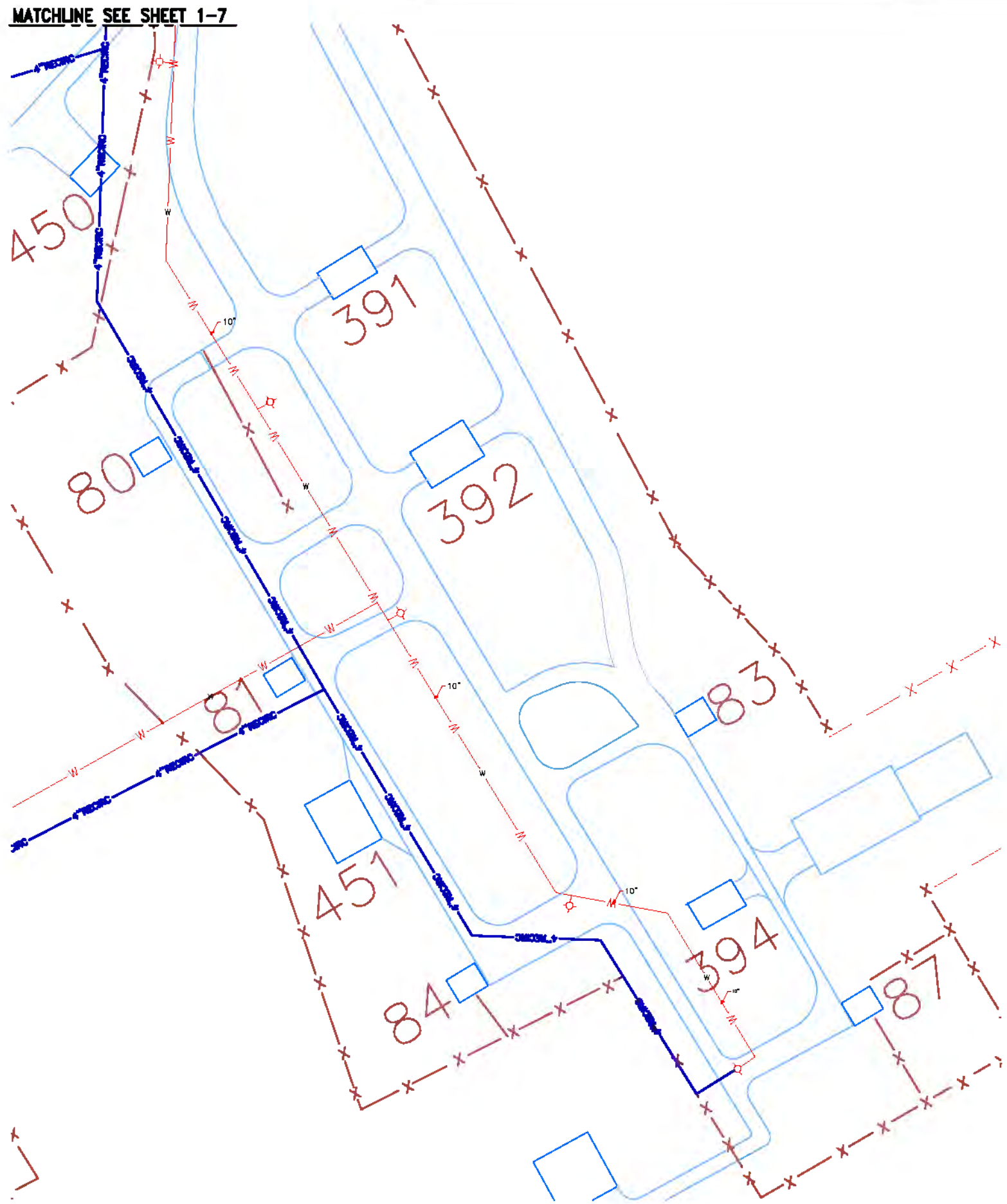
NAS JRB
NEW ORLEANS

FIGURE TITLE:
OPTION 3C RECIRCULATION LINE
AND WATER MAIN

FIGURE NO.:
1-8



A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'

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BASKERVILLE-DONOVAN, INC.
Innovative Infrastructure Solutions
4475 MAIN ST., PENSACOLA, FL 32502-5001
PHONE: (850) 477-1117 FAX: (850) 477-1555
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FIGURE TITLE:
OPTION 3C RECIRCULATION LINE
AND WATER MAIN

FIGURE NO.:
1-9

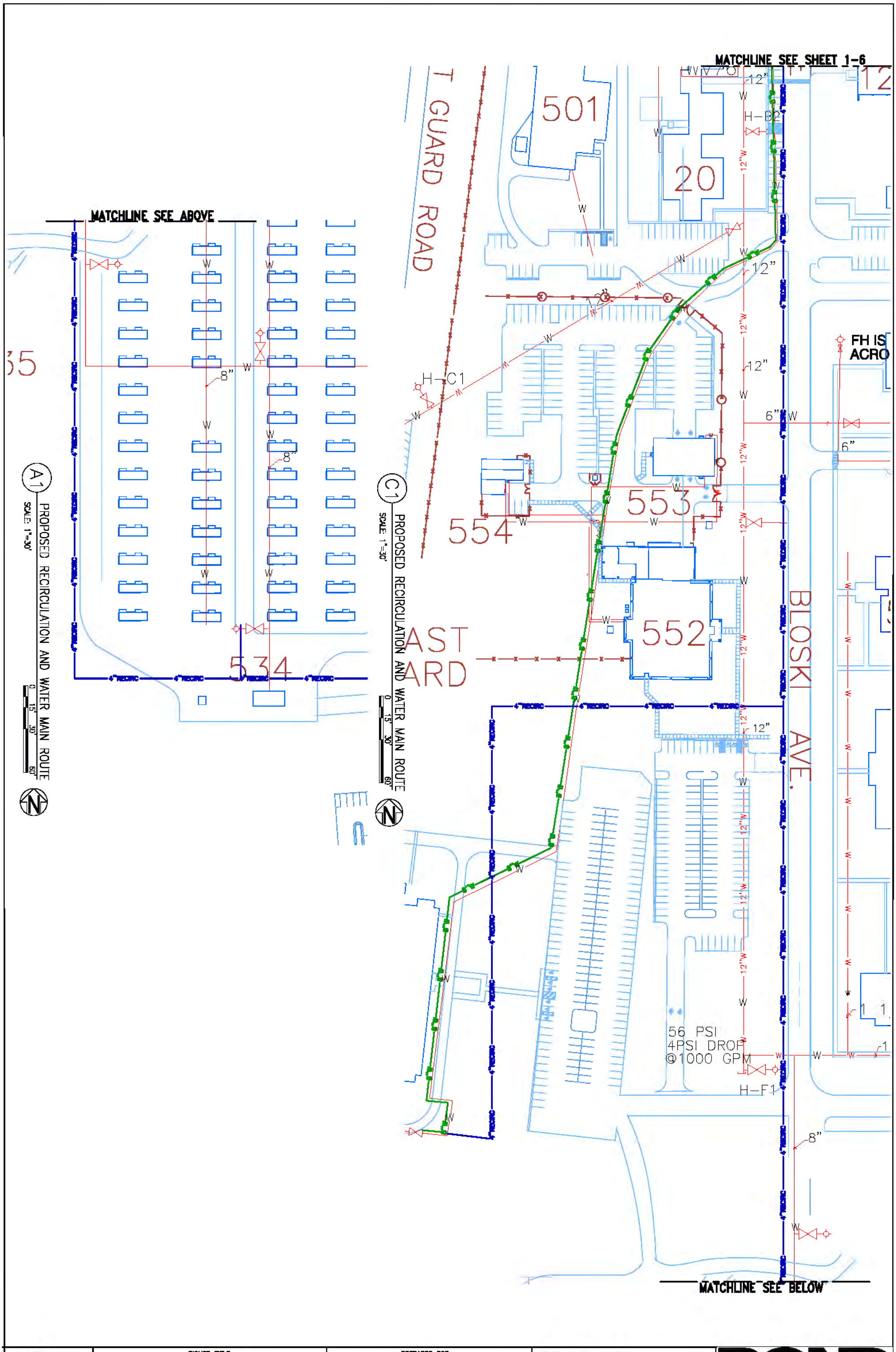


FIGURE NO.:	FIGURE TITLE:	PREPARED FOR:	
1-10	OPTION 3C RECIRCULATION LINE AND WATER MAIN	NAS JRB NEW ORLEANS	BASKERVILLE-DONOVAN, INC. Innovative Infrastructure Solutions 448 W. MAIN ST., PENSACOLA, FL 32502 (850)434-8891 ENGINEERING BUSINESS: EB-0000240 Pensacola • Panama City Beach • Tallahassee • Mobile • Brevard County • Tampa This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request. POND Architects ▪ Engineers ▪ Planners

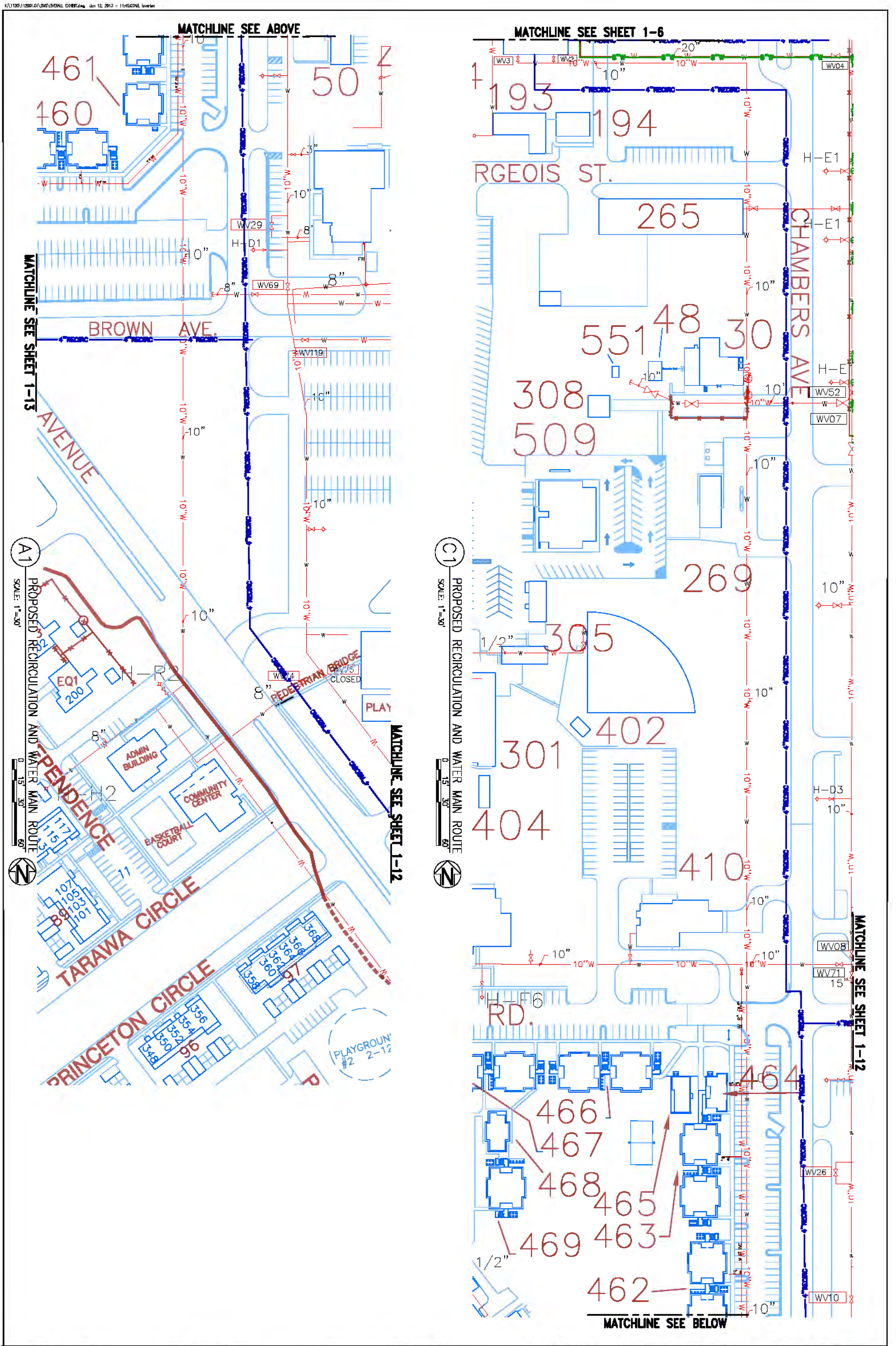
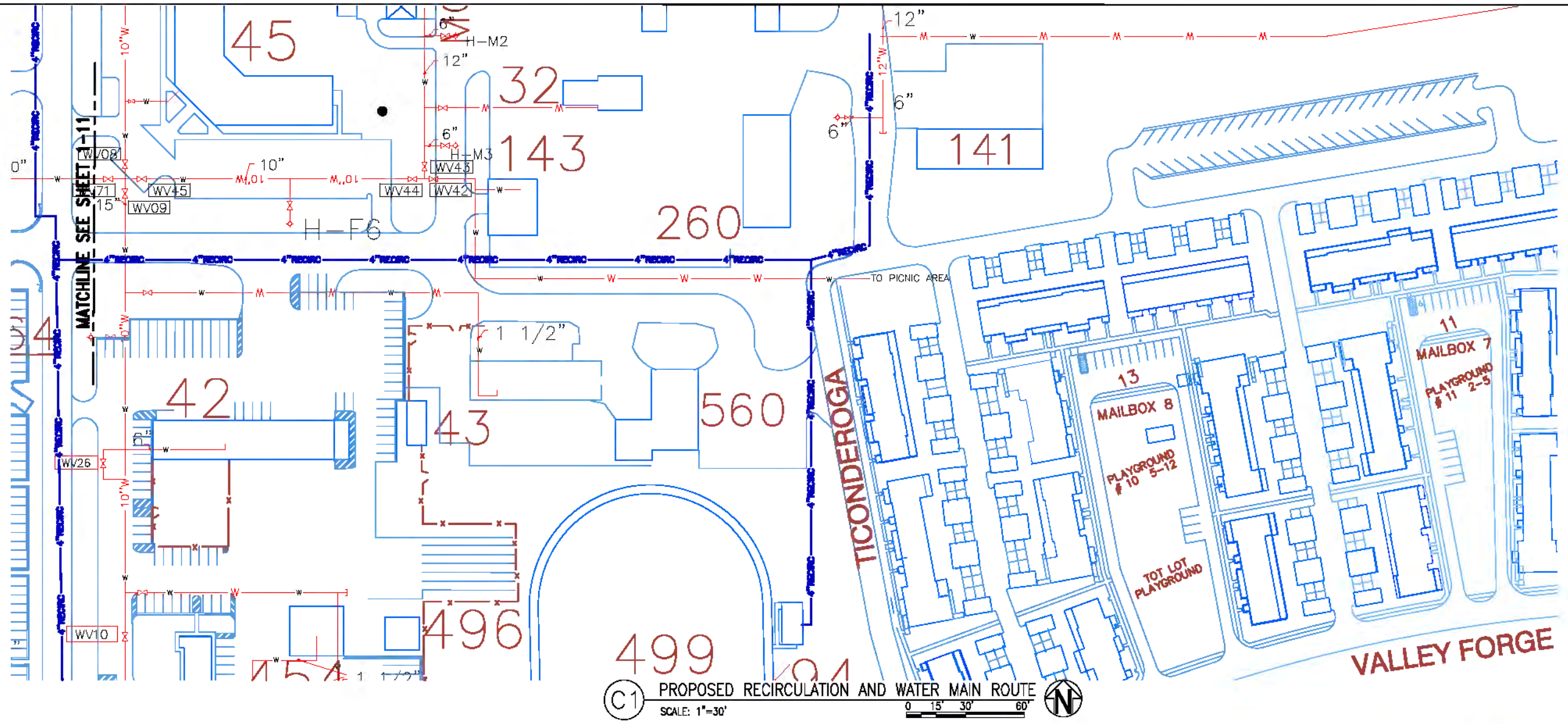
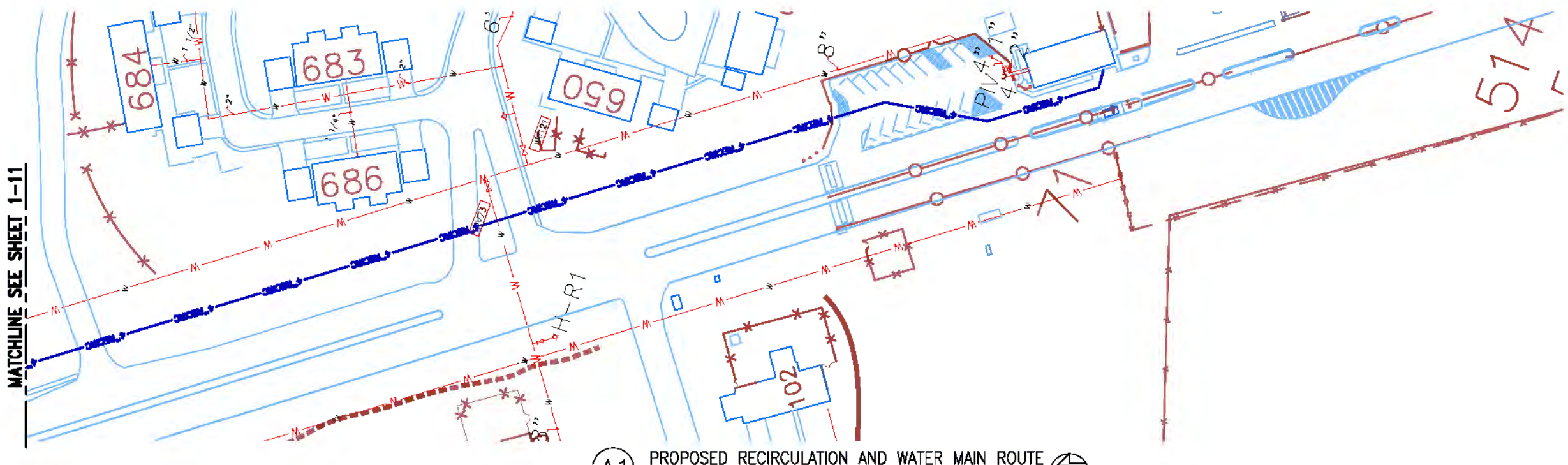


FIGURE NO.:	FIGURE TITLE:	PREPARED FOR:	
1-11	OPTION 3C RECIRCULATION LINE AND WATER MAIN	NAS JRB NEW ORLEANS	BASKERVILLE-DONOVAN, INC. Innovative Infrastructure Solutions — POND Architects ▪ Engineers ▪ Planners



C1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'



A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE
SCALE: 1"=30'
0 15' 30' 60'

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Innovative Infrastructure Solutions
149 W. MAIN ST., PENSACOLA, FL 32502 (850)433-5001

Designed: - Drawn: CW Reviewed: - Approved: - Matrix - Escambia County - Florida

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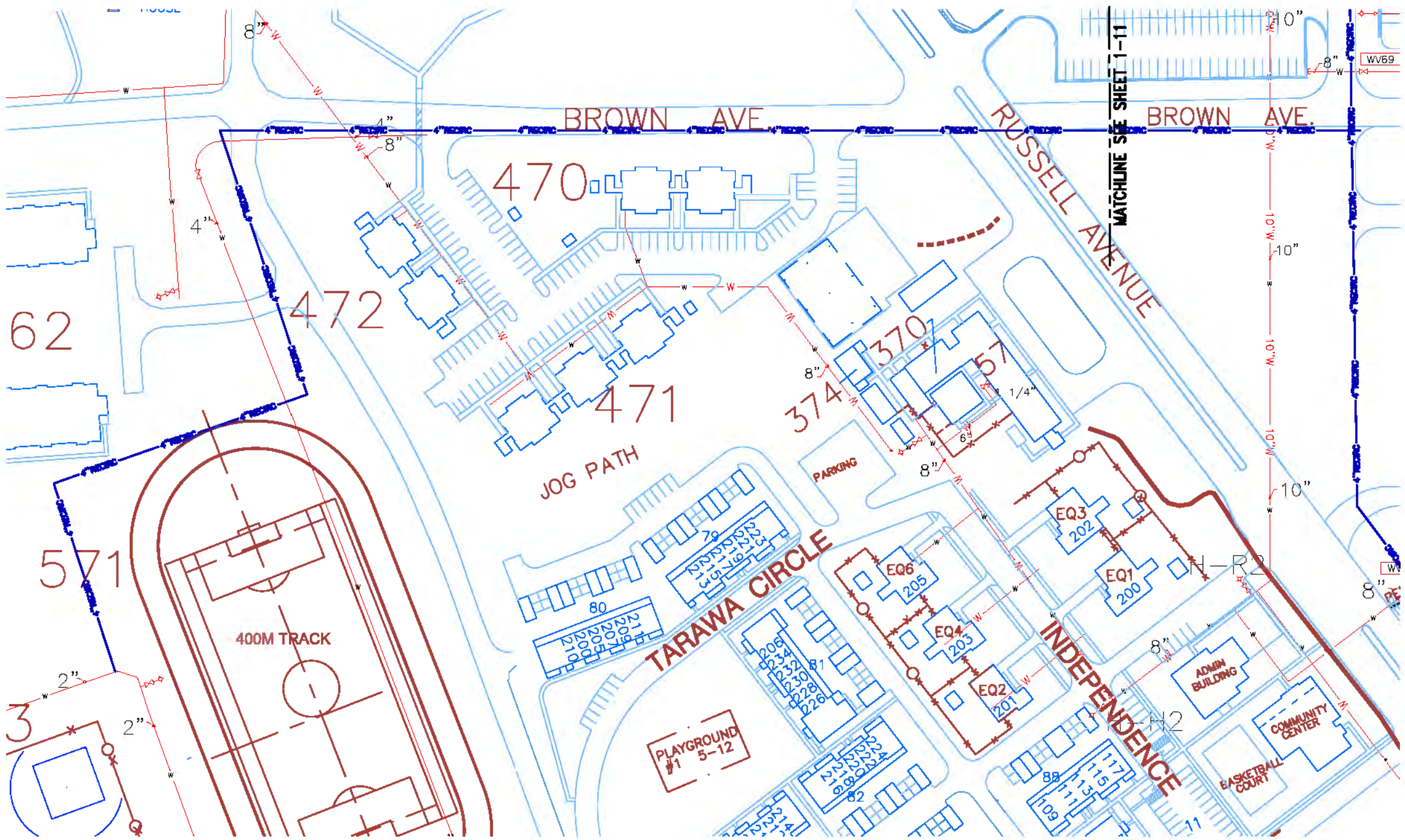
FIGURE TITLE:
OPTION 3C RECIRCULATION LINE AND WATER MAIN

FIGURE NO.:
1-12



A1 PROPOSED RECIRCULATION AND WATER MAIN ROUTE

SCALE: 1"=30'

0 15' 30' 60'

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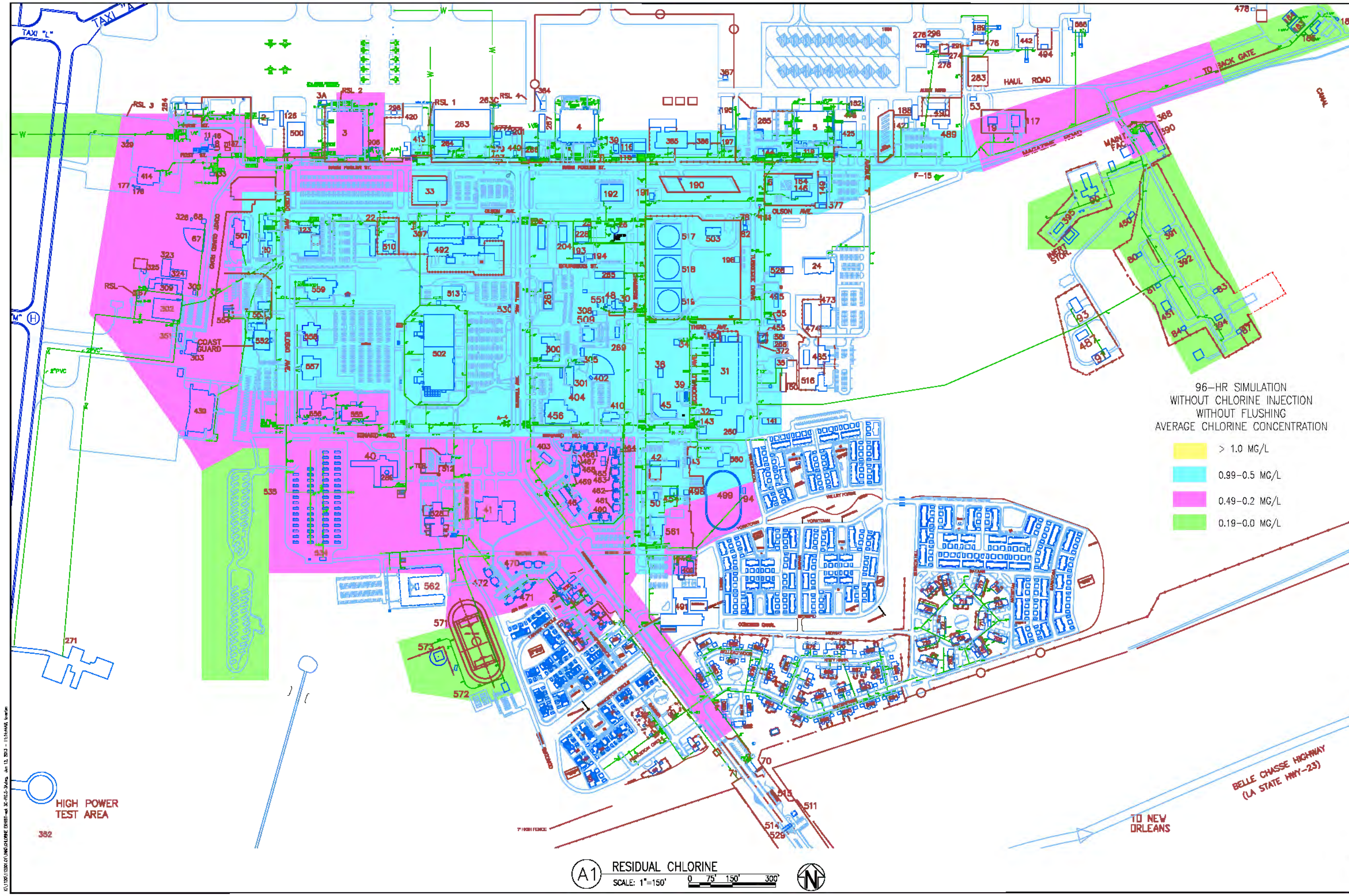
FIGURE TITLE:
OPTION 3C RECIRCULATION LINE AND WATER MAIN

FIGURE NO.:
1-13



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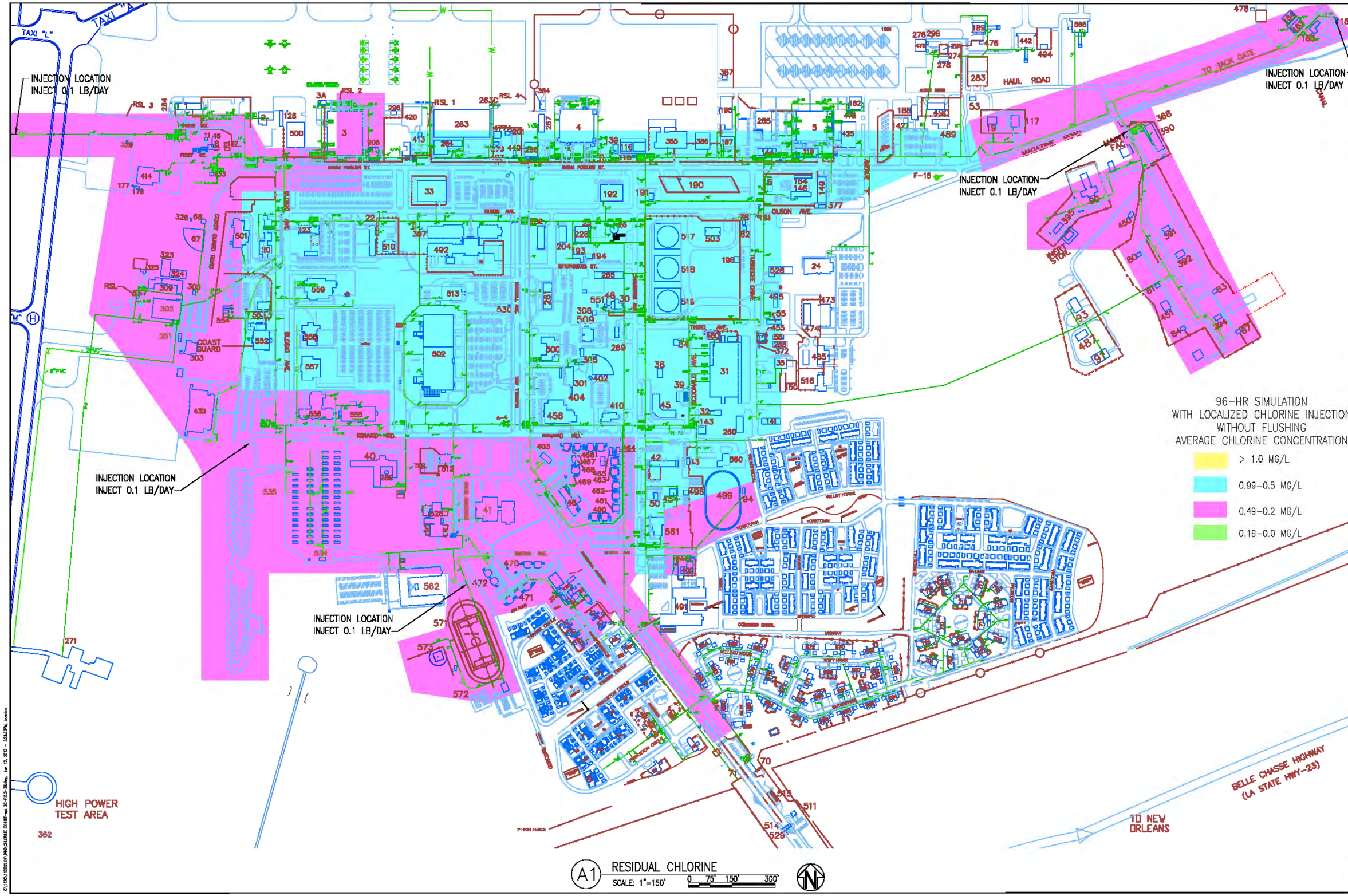
OPTION 3C
425,000 GALLONS OF STORAGE
2.5 MG/L FROM PARRISH

FIGURE NO.:
5-3A



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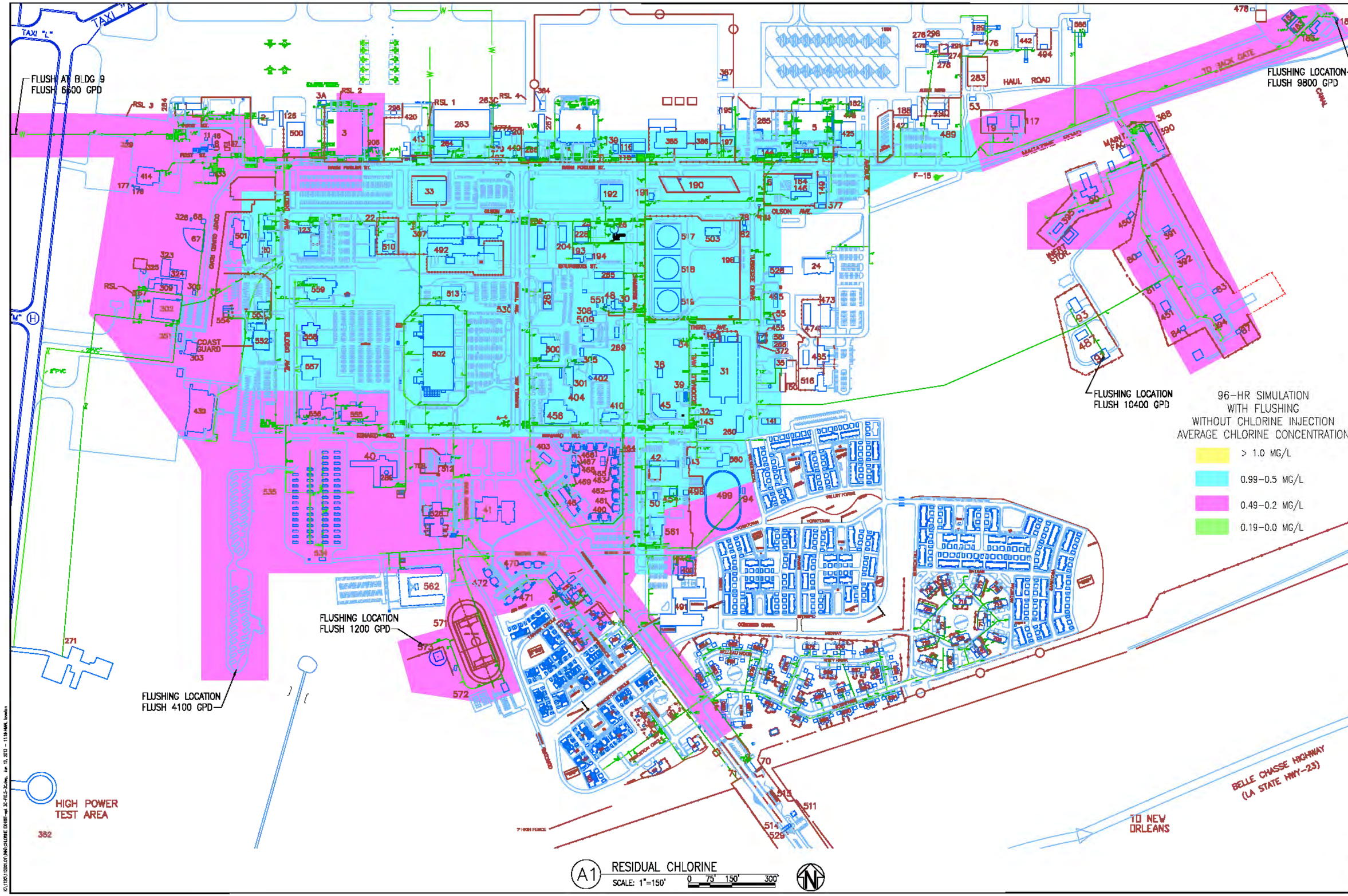
NEW ORLEANS

OPTION 3C
425,000 GALLONS OF STORAGE
2.5 MG/L FROM PARRISH

FIGURE NO.:
5-3B



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NEW ORLEANS

OPTION 3C
425,000 GALLONS OF STORAGE
2.5 MG/L FROM PARRISH

FIGURE NO.:
5-3C

NAS New Orleans
Water System Chlorine Analysis
Average Chlorine Concentrations by Building Number

Chlorine Concentrations During 96-Hour Simulation (mg/L)

Facility Number	Description	Area (SF)	Nodes				Existing Conditions	Proposed Conditions
1	ACFT OPS BLDG *EXC 141-70*	13801	J-388				0.00	0.00
1	AIR PASSENGER TERMINAL	1877			J-388		0.00	0.00
2	COMBINED FIRE/RESCUE STA	12104	J-370				0.00	0.01
3	MAINT HANGAR-O/H SPACE	37540	J-354				1.20	0.36
3	MAINT HANGAR-02 SPACE	13932		J-354			1.20	0.36
3	MAINT HANGAR-01 SPACE	18848			J-354		1.20	0.36
3	CENTRAL TOOL SHOP	1500	J-343				0.60	0.01
3	AVIATION ARMAMENT SHOP	4871			J-346		0.80	0.16
4	MAINT HANGAR-O/H SPACE	46982	J-262				1.70	0.74
4	MAINT HANGAR-02 SPACE	9793	J-263				1.60	0.70
4	MAINT HANGAR-01 SPACE	12587		J-263			1.60	0.70
4	OPCON CTR FOR FLEET OPS	5205	J-252				1.40	0.52
4	SEC BUILDING	720	J-254				1.60	0.52
5	MAINT HANGAR-02 SPACE	25836	J-75				1.40	0.66
5	MAINT HANGAR-01 SPACE	23122		J-75			1.40	0.66
5	MAINT HANGAR-O/H SPACE	25331			J-75		1.40	0.66
9	ELECNX/COMMS MAINT SHOP	303		J-391			0.00	0.00
20	JOINT RESERVE INTEL CENTER	14763	J-408				0.80	0.55
20	ADMINISTRATIVE OFFICE	14109		J-408			0.80	0.59
22	ADMINISTRATIVE OFFICE	23529	J-784				1.60	0.72
24	ADMINISTRATIVE OFFICE	19505	J-824				1.20	0.01
25	WATER DISTRIBTN BLDG, PTBL	216	J-815c				1.80	0.99
30	COMPUTER PROGRAM OPS CTR	1714		J-717			0.06	0.00
31	GENERAL PURP WAREHOUSE	3329	J-141				0.90	0.36
31	ADMINISTRATIVE OFFICE	2457		J-141			0.90	0.36
31	GENERAL PURP WAREHOUSE	55733	J-143				1.00	0.63
31	GENERAL PURP WAREHOUSE	40374		J-143			1.00	0.63
32	MWR OUTDOOR REC CTR	1200	J-711				1.00	0.59
33	AVIONICS SHOP (NON-DEPOT)	18137	J-769				1.60	0.73
33	BATTERY SHOP	725			J-769		1.60	0.73
33	MTIS BUILDING	1002				J-769	1.60	0.73
34	COMPUTER PROGRAM OPS CTR	1700	J-844				1.10	0.67
39	PUBLIC TOILET	260	J-147				1.00	0.65
40	BACH ENL QTRS-TRANS E1/E4	24474	J-628				0.50	0.41
40	VIS QTR (NGIS SUITES)	14381		J-628			0.50	0.41
40	CONFERENCE CENTER BQ	3000	J-630				0.50	0.41
40	ALL HANDS CLUB	6781		J-630			0.50	0.41
41	ADMINISTRATIVE OFFICE	3304	J-657				0.65	0.49
41	PRIM CARE CLINIC	27412		J-657			0.65	0.49
41	DENTAL CLINIC	3691			J-657		0.65	0.49
41	PRIM CARE CLINIC	6256				J-657	0.65	0.49
42	MWR AUTO SKILLS CTR	8041	J-160				1.00	0.47
42	HOBBY SHOP - CRAFTECH	528		J-160			1.00	0.47
43	ADMINISTRATIVE OFFICE	1994	J-847				1.00	0.49
45	VIS QTR (NGIS SINGLE RMS)	33670	J-155				1.60	0.79
46	ADMINISTRATIVE OFFICE	10914	J-187				1.40	0.43
55	GENERAL PURP WAREHOUSE	1020	J-121				0.00	0.00
57	LIBRARY	2753	J-682m				0.50	0.22
57	FAMILY SERVICES CNTR	2664		J-682m			0.50	0.22
70	ADMINISTRATIVE OFFICE	600	J-192				0.00	0.04
70	SEC BUILDING	1378		J-192			0.00	0.04
90	ORDNANCE OPERATIONS BLDG	2468		J-815b			0.00	0.20
90	ORDNANCE OPERATIONS BLDG	2220				J-815b	0.00	0.20
91	MISSILE MAGAZINE	6944	J-79				0.00	0.00
93	ORDNANCE OPERATIONS BLDG	4690	J-27				0.00	0.00
94	PUBLIC TOILET	1012	J-694				0.00	0.22
117	ADMIN STORAGE (MISC)	3975	J-43				0.00	0.00
119	SEC BUILDING	13179	J-296				1.40	0.66
123	EDUCATIONAL SRVCS OFFICE	7044	J-786				1.50	0.70
139	CPO CLUB	2130	J-266				1.80	0.85
142	POL OPN/SAMPLING/TEST BLDG	1200	J-55				0.00	0.00
143	MWR OUTDOOR REC CTR	2838	J-152				1.00	0.57
144	SEC BUILDING	5540	J-96				1.40	0.64
146	GRND SUPPRT EQUIP SHP	5296	J-295				1.40	0.56

149	COMMUNICATIONS CENTER	8565	J-74				1.40	0.65
152	AIRCRAFT WASHRACK PAVEMENT	803	J-71				0.00	0.00
183	HARDENED AIRCRAFT SHELTER	6072	J-4k				0.00	0.00
184	HARDENED AIRCRAFT SHELTER	6072	J-4h				0.00	0.00
185	ACFT OPS BLDG *EXC 141-70*	3328	J-4f				0.00	0.00
186	GATE / SENTRY HOUSE	324	J-1				0.00	0.00
192	ADMINISTRATIVE OFFICE	800	J-848				1.80	1.00
192	ADMINISTRATIVE OFFICE	14063		J-848			1.80	1.00
195	ENGINE MAINTENANCE SHOP	20460	J-289				1.50	0.63
197	MAINT HANGAR-02 SPACE	1580	J-281				1.60	0.69
197	MAINT HANGAR-01 SPACE	4025		J-281			1.60	0.69
202	ADMINISTRATIVE OFFICE	8416	J-755				1.80	0.94
202	GENERAL PURP WAREHOUSE	1863		J-755			1.80	0.94
204	ADMINISTRATIVE OFFICE	5710	J-759				1.80	0.94
260	ADMINISTRATIVE OFFICE	198		J-706			0.00	0.00
260	ADMIN STORAGE (MISC)	264			J-706		0.00	0.00
261	ADMINISTRATIVE OFFICE	16740	J-750				1.80	0.86
263	MAINT HANGAR-02 SPACE	16450	J-317				1.40	0.51
263	MAINT HANGAR-02 SPACE	833				J-317	1.40	0.51
265	ACADEMIC INSTRUCTION BLDG	14700	J-213				1.60	0.79
267	GRND SUPPRT EQUIP SHP	4500	J-300				1.40	0.45
284	ENGINE MAINTENANCE SHOP	13864	J-320				1.20	0.30
285	ACFT OPS BLDG *EXC 141-70*	13109	J-293				0.90	0.15
300	EXCHANGE RETAIL STORE	10340	J-194				1.70	0.79
300	THRIFT SHOP	4115		J-194			1.70	0.79
301	BOWLING CENTER	7675	J-747				1.60	0.72
305	ADMINISTRATIVE OFFICE	2444	J-749				1.60	0.64
370	ADMINISTRATIVE OFFICE	1175			J-682m		0.50	0.22
372	PUBLIC TOILET	297	J-849				0.80	0.63
385	ENGINE MAINTENANCE SHOP	32649	J-275				1.70	0.53
386	AVIONICS SHOP (NON-DEPOT)	11200	J-103				1.60	0.57
390	MISSILE EQUIP MAINT SHOP	2706	J-83				0.00	0.15
403	RELIGIOUS MINISTRY FAC	4873	J-185				1.50	0.50
409	OUTDOOR SWIM POOL	21031	J-693				0.16	0.44
410	MWR MIL REC CENTER	7491	J-850				1.60	0.63
414	ACFT LINE OPERATIONS BLDG	1802	J-398				0.00	0.00
425	AVIONICS SHOP (NON-DEPOT)	19487	J-57				1.30	0.54
439	MAINT HANGAR-01 SPACE	9544	J-462				0.00	0.07
439	MAINT HANGAR-O/H SPACE	38675	J-459				0.00	0.04
439	MAINT HANGAR-02 SPACE	9513		J-462			0.00	0.07
442	A/C ACOUSTICAL ENCLOSURE	11770	J-49				0.00	0.00
454	VEHICLE WASH PLATFORM	2860	J-163				1.00	0.50
456	INDOOR PHYSICAL FIT CTR	28674	J-743				1.40	0.39
460	VIS QTR (NGIS SINGLE RMS)	14508	J-687				1.40	0.32
461	LAUNDRY/DRY CLEANING PLT	2371	J-725				1.20	0.27
462	BEQ E1/E4	14508	J-721				1.20	0.23
463	VIS QTR (NGIS SUITES)	21948	J-729				0.90	0.15
465	ADMINISTRATIVE OFFICE	2250	J-742				0.60	0.02
466	VIS QTR (NGIS SINGLE RMS)	14508	J-741				0.50	0.00
467	VIS QTR (NGIS SUITES)	14508	J-736				0.01	0.00
468	NGIS-OPERATED CONF CTR	1381	J-851				0.01	0.00
469	VIS QTR (NGIS SUITES)	7017		J-851			0.01	0.00
470	BEQ E1/E4	12090	J-684				0.50	0.18
471	BEQ E1/E4	21762	J-682b				0.50	0.18
472	BEQ E1/E4	14508	J-675				0.60	0.17
473	ADMINISTRATIVE OFFICE	10098	J-823				1.20	0.30
473	ACADEMIC INSTRUCTION BLDG	1798		J-823			1.20	0.30
479	MAINT HANGAR-01 SPACE	6080	J-51				0.90	0.00
480	ADMINISTRATIVE OFFICE	3974	J-843				1.10	0.66
492	RESERVE TRAINING BUILDING	48189	J-788				1.60	0.76
492	RESERVE TRAINING BUILDING	23703		J-788			1.60	0.76
492	RESERVE TRAINING BUILDING	31910				J-788	1.60	0.76
501	HAZARDOUS/FLAMMABL STRHSE	13058	J-419				0.00	0.00
501	ADMINISTRATIVE OFFICE	3296		J-419			0.00	0.00
502	EXCHANGE RETAIL STORE	56600	J-811				0.40	0.43
502	COMMISSRY INC BACKUP STRG	46600	J-813				0.30	0.18
503	POL OPN/SAMPLING/TEST BLDG	3935	J-227				1.60	0.82
509	CREDIT UNION	8075	J-719				0.00	0.00
510	RESERVE TRAINING BUILDING	3239	J-782				1.10	0.20

511	SEC BUILDING	902				J-192	0.00	0.04
512	SEC BUILDING	4530	J-636				0.70	0.56
513	ENLISTED DINING FACILITY	13783	J-795				1.60	0.49
528	CHILD DEVELOPMT CENTER	20375	J-642				0.60	0.51
534	MWR RV SUPPORT BLDG	1152	J-496				0.00	0.22
535	REC CAMPGROUND - RV	11.4	J-497				0.00	0.00
552	ADMINISTRATIVE OFFICE	10908	J-448				0.60	0.41
552	PUBLIC WORKS SHOP	9812		J-448			0.60	0.41
552	ACADEMIC INSTRUCTION BLDG	400			J-448		0.60	0.41
553	AUTO VEHICLE MAINT NONCOMB	3637	J-452				0.80	0.52
554	PUBLIC WORKS SHOP	1814	J-450				0.60	0.35
555	ADMINISTRATIVE OFFICE	7070	J-620				0.65	0.46
555	ACADEMIC INSTRUCTION BLDG	25114		J-620			0.65	0.46
555	FAMILY SERVICES CNTR	13594	J-622				0.65	0.46
555	ADMINISTRATIVE OFFICE	3448			J-620		0.65	0.46
556	RECRUIT PROCESSING BLDG	26377	J-607				0.70	0.38
557	ADMINISTRATIVE OFFICE	2760	J-480				0.75	0.44
557	ADMINISTRATIVE OFFICE	15450		J-480			0.75	0.44
557	ADMINISTRATIVE OFFICE	1736			J-480		0.75	0.44
558	APPLIED INSTRUCTION BLDG	12739	J-481				0.75	0.44
559	METROLOGY & CALIBRATON LAB	23735	J-468				0.80	0.53
560	FIRE STATION	5864	J-704				0.80	0.35
561	YOUTH & SAC (6-18 YRS)	9528	J-701				1.00	0.55
562	BACH ENL QTRS-MARINE E1/E4	88739	J-668				0.55	0.20
574	SERVMART	2169			J-154		1.20	0.66
578	PUBLIC TOILET	650		J-682a			0.00	0.00
579	MWR RV SUPPORT BLDG	1100	J-489				0.00	0.30
906	CONTROLLED HUMIDITY WRHSE	4784	J-337				1.00	0.26
24A	ADMINISTRATIVE OFFICE	1440		J-824			1.20	0.00
370A	ADMINISTRATIVE OFFICE	1290	J-682n				0.50	0.24
370B	ADMINISTRATIVE OFFICE	1440		J-682n			0.50	0.24
T14	ENLISTED CLUB	1176		J-266			1.80	0.85

NAS JRB NOLA – Tank Mixing

Data/Cut Sheet for non-potable fire protection water in UST

EnviroMix
Sustainable Solutions for a Cleaner Environment

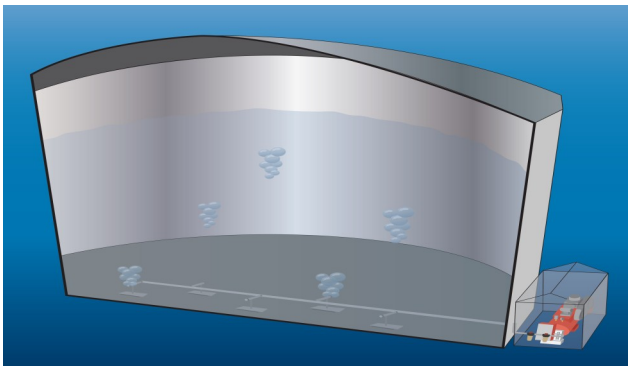
AquaBlend™ – Water Storage Tank Mixing

Key Benefits

- Homogenization of tank contents
- Filtered compressed air-fired large bubble mixing
- Zero in-tank maintenance
- Greater power efficiency than mechanical mixers
- Increase of supply quality/volume
- Disinfection depletion slowdown
- Reduction of tank flushing and batch chlorination dosing
- Reduction of DBP formation, nitrification, and taste/odor issues
- Elimination of thermal stratification
- Freezing/ice damage prevention

Why Mix a Water Storage Tank?

Potable water storage tanks are kept mostly full (greater than 70%) in order to provide a sufficient quantity of water for maintaining desired pressures, peak demand, fighting fires, and for other supply emergencies. Daily volume levels often do not fluctuate more than 5-10%, creating stagnant water and thermally-stratified layers within these tanks. Aged water can completely lose its disinfectant residual, resulting in bacterial regrowth and waterborne illness.



AquaBlend™ Mixing in Ground Storage Tank

By simply mixing a water storage tank, high quality water may be reliably provided to the end-user. For all climates, mixing is an effective tool for meeting regulatory requirements for control of microbial contaminants and reduction of disinfection byproducts (DBPs). In warm climates, mixing colder, recently-produced water with the solar-heated, top layer of tank volume homogenizes the contents and slows disinfection depletion. In cold climates, tank mixing greatly reduces ice formation and its ensuing damage. Also, for seasonally-populated locales, mixing will provide consistent water quality during low-demand, off-season periods.

Elevated Storage Tanks

All AquaBlend™ installations share the following characteristics:

- Bottom-up mixing in tanks of any size
- No submerged electrical components
- Non-clogging in-tank elements
- No maintenance of in-tank components
- Easy-access, external routine maintenance
- Low power usage

AquaBlend™ — Water Storage Tank Mixing (cont.)

Demonstrated Mixing

AquaBlend™ provides mixing in water storage tanks by firing programmed short bursts of filtered compressed air through patented engineered nozzles. The AquaBlend™ controller air injection valve intermittently fires to blend from the tank bottom to the water surface. The large bubbles formed create a distinctive mixing pattern, or "tank roll." The blending parameters of the AquaBlend™ controller may be varied for optimum mixing and power utilization, or the AquaBlend™ Automated Temperature Differential (ATD) system may be used.

Mixing Chloraminated System Tankage

Recent EPA rule changes requiring more stringent pathogen removal and maximum levels for DBPs have compelled water utilities to shift to chloramine-based systems. While its residuals are more stable and form fewer DBPs, chloramine disinfection break-down forms ammonia. In un-mixed storage tanks, naturally-occurring nitrifying bacteria prosper by consuming this ammonia as a food source. Thus, the total chlorine residual rapidly diminishes. Batch chlorination may be required to restore the chlorine residual and disinfect the biological population, but will also potentially increase DBP formation.

*Poor mixing (including stratification) can exacerbate water quality problems by creating zones within the storage facility where water age significantly exceeds the average water age throughout the facility.**

Stand Pipe

AquaBlend™ minimizes bacteria growth by ensuring disinfectant throughout the storage tank. Expensive tank cleaning, extensive water quality monitoring, and regular hypochlorite dosing may all be avoided using the AquaBlend™ mixing system.

Contact Your Local Representative

Water Quality Problems Associated with Un-Mixed Potable Water Storage Tanks*

Chemical Issues	Biological Issues	Physical Issues
Disinfectant Decay	Microbial Regrowth	Corrosion
Chemical Contaminants	Nitrification	Temperature/Stratification
DBP Formation	Pathogen Contamination	Sediment
Tastes and Odors	Tastes and Odors	

**Adapted from US EPA Office of Ground Water and Drinking Water, Finished Water Storage Facilities, August 15, 2002*

NAS JRB NOLA – Filter for THM Reduction

Data/Cut Sheet for a filter that reduces THM formation

AltaFilter™ / AltaPac™

Ultrafiltration Membrane Systems

ISO 9001 CERTIFIED WesTech QUALITY SYSTEM

WESTECH

Ultrafiltration Membrane Systems

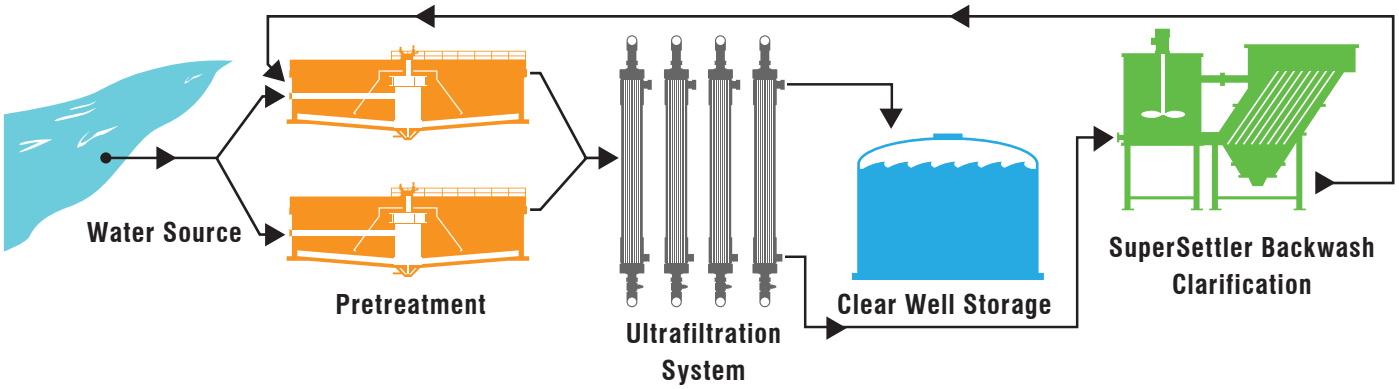
WesTech Ultrafiltration

Ultrafiltration is an advanced filtration process used by municipalities and industry for production of high quality potable and process water. With over 40 years of water treatment experience, WesTech provides state-of-the-art ultrafiltration systems. AltaPac™ and AltaFilter™ systems are engineered and designed for integration with existing process steps, within site constraints, and to meet plant objectives, including water pretreatment, filter backwash treatment, and retrofit of existing equipment.

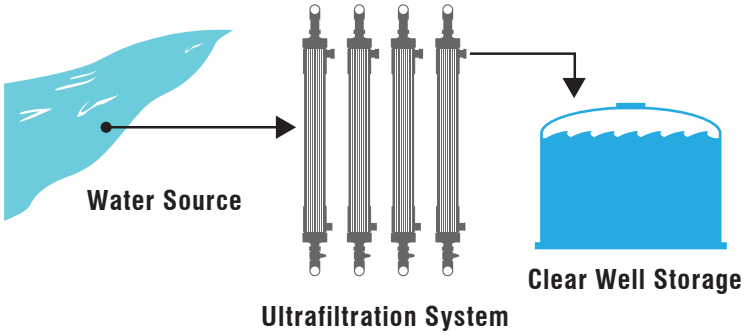
Why Ultrafiltration

WesTech ultrafiltration offers a unique solution to exceed increasingly stringent water quality standards. Membranes with a small nominal pore size (0.01-0.02 μm) provide an absolute barrier to consistently produce high-quality water by removing microbial and viral pathogens, suspended solids, turbidity, precipitated iron and manganese, and coagulated organic matter.

Pretreatment and Post-treatment



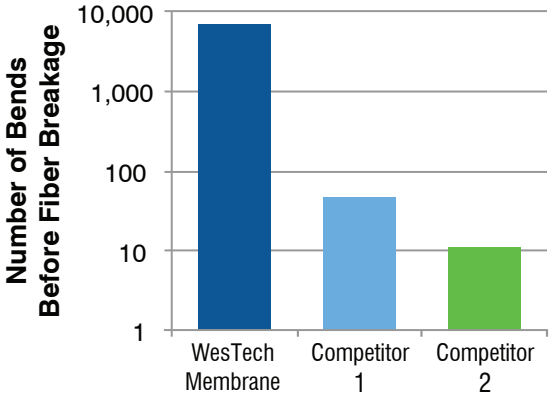
Direct Filtration

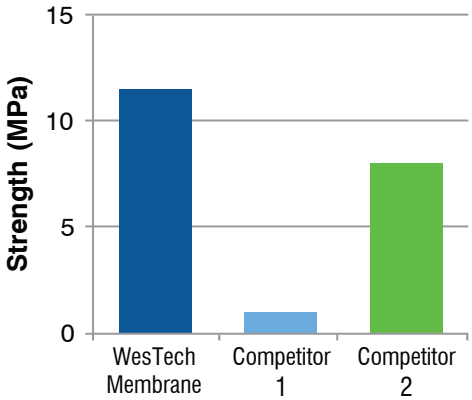


Applications
Drinking Water
Pretreatment to Reverse Osmosis
Tertiary Treatment of Wastewater
Process Water

Membrane Fiber Strength

High-strength PVDF and a unique spinning method are used to produce durable ultrafiltration hollow-fiber membranes with superior integrity and resistance to breakage. No fiber breakage means lower costs, longer lasting modules, less maintenance, and higher permeate quality.



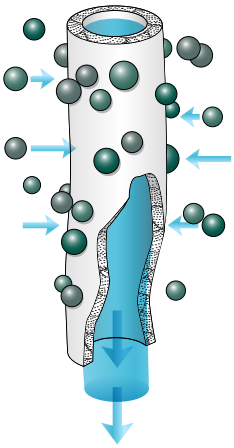


Unique Backwashing

A unique backwash process is used to keep membranes clean and minimize waste. When solids accumulate on the fiber surface, flow direction is temporarily reversed to remove foulants. Modules are also able to drain which allows for disposal of built-up solids. Efficient backwash design with air scouring allows for treatment of higher turbidity waters with less waste.

Typical Treated Water Quality	
Turbidity	<0.1 NTU
Bacteria	> 5.5-log removal
Giardia	> 5.5-log removal
Cryptosporidium	> 5.5-log removal
Virus	> 1.5-log removal
SDI	< 3
TSS	< 1 mg/L
TOC	50-75% removal

Membrane Module Properties	
Surface Area	72 m^2 (775 ft^2)
Diameter	216 mm (8.5 in)
Length	2.16 m (7.087 ft)
Weight Drained	110 kg (242.5 lb)
Weight Full	67 kg (147.8 lb)
Material	Composite PVDF
Pore Size	0.01 or 0.02 μm
Typical Flux Range	20-65 gfd
Max Inlet Pressure	300 kPa (44 psi)
Operating Temperature	0-40 ˚C (32-104 ˚F)
pH Range	1-10 Filtration 0-12 Chemical Cleaning



AltaFilter™ Ultrafiltration

High Flow Rates

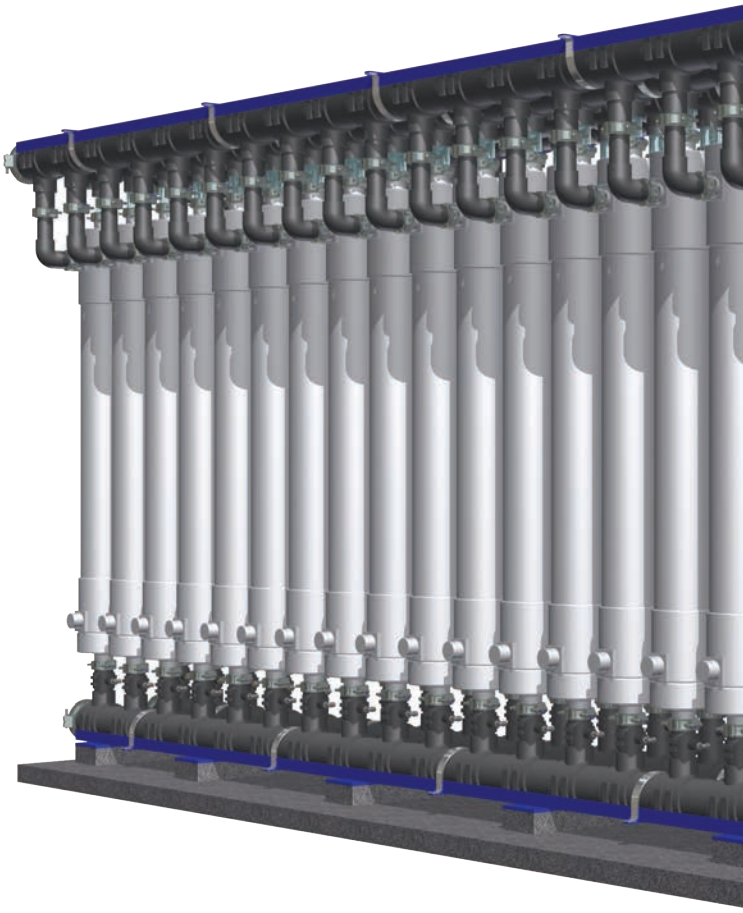
WesTech's modular AltaFilter is designed for medium and large-scale treatment applications. Ultrafiltration systems are regularly used for systems several MGD in capacity. Multiple trains are readily installed side-by-side to achieve these higher flow rates. Our advanced control systems allow seamless operation of multiple trains and spare I/O simplifies the integration with the existing facility.

Standardized or Customized Systems

AltaFilter standard designs allow for large systems to be shipped and assembled in shortened timeframes. A number of sizes and configurations are predesigned to efficiently meet the majority of applications. Customizable options ensure that project specifications are met.

Retrofit Projects

WesTech engineers are experienced in determining efficient and cost-effective solutions for upgrading your existing granular media or membrane filtration equipment to new AltaFilter systems.

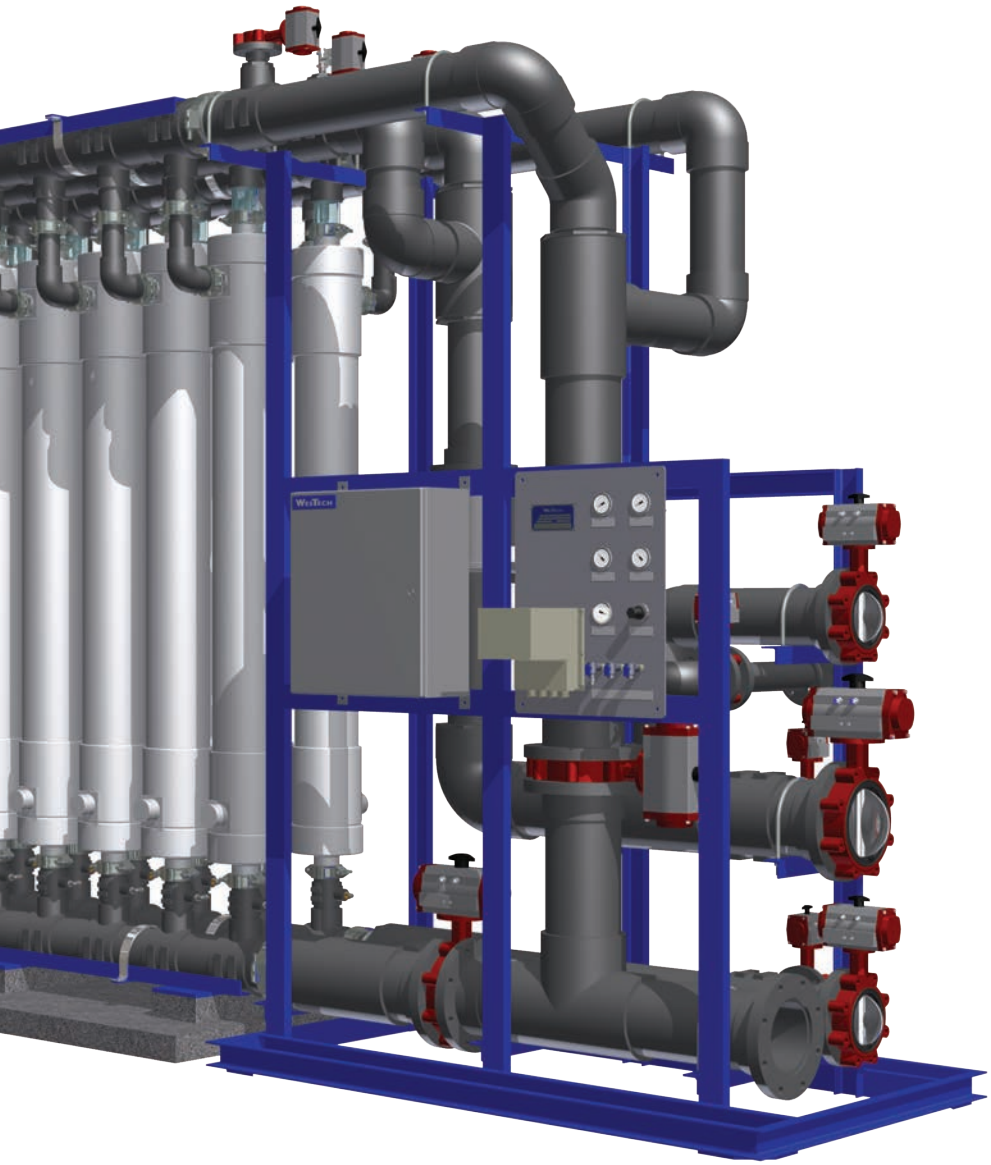


Membrane Certification
NSF/ANSI 61
CDPH

Typical Production Capacity (gallons per minute) With Varied Water Quality*

Class	Model	Ground Water (Low TOC/Turbidity)	Surface Water (Low TOC/Turbidity)	Surface Water (High TOC/Turbidity)	Secondary Effluent
AltaFilter	AF20	500	350	200	200
	AF30	750	515	300	300
	AF40	1000	700	400	400
	AF50	1250	875	500	500
	AF60	1500	1050	600	600

**Design capacity is dependent on a variety of parameters including TOC, turbidity, iron, manganese, and temperature*



Standard Equipment Components

- Low Fouling and Durable PVDF Ultrafiltration Membranes
- Automated Clean-in-place System
- Automated Daily Integrity Testing System
- NEMA 4/4x Electrical Enclosures
- Allen Bradley® PLC Controls
- Touchscreen HMI or Desktop Computer with SCADA Package
- UL 508A Listing on Control Panel
- Ethernet Switch for Plant Integration
- Welded and Powder Coated Steel Skid Frame
- Schedule 80 PVC Piping
- Feed and Backwash Pumps
- 200 μm Pre-strainer
- Bi-directional Magnetic Flow Meter
- Valves with Pneumatic Actuators
- Pressure Gauges and Transmitters
- Compressed Air Package
- Chemical Metering Pumps

Optional Features

- Inline UF Feed and Permeate Turbidimeters
- Corrosion-resistant HDPE Tanks
- CIP/CEBW Neutralization System
- Coagulant Feed System
- Modem for Remote Monitoring
- Service and Maintenance Plans
- Extended Warranty
- Motor Control Center
- Variable Frequency Drives

WesTech Standard AltaFilter Skid Sizes

Model	Max # Modules	Approximate Footprint L x W x H - ft
AF20	20	16.7 x 4 x 10.6
AF30	30	21.7 x 4 x 10.8
AF40	40	26.7 x 4.1 x 10.8
AF60	60	40 x 4.5 x 11.5

AltaPac™ Series

Off-the-Shelf Standardized Systems for Low Flow Rates

Membrane Certification
NSF/ANSI 61
CDPH

Typical Production Capacity (gallons per minute) With Varied Water Quality*					
Class	Model	Ground Water (Low TOC/Turbidity)	Surface Water (Low TOC/Turbidity)	Surface Water (High TOC/Turbidity)	Secondary Effluent
AltaPac	APIII	75	50	30	30
	APVI	150	100	60	60
	APXII	300	200	120	120

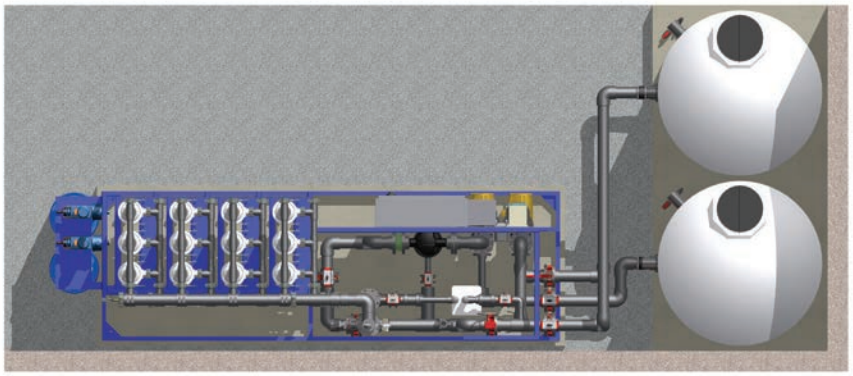
**Design capacity is dependent on a variety of parameters including TOC, turbidity, iron, manganese, and temperature*

- **Preassembled and tested skids for ease of installation**
- **Reduced footprint by using high flux PVDF membranes and compact system design with three-sided maintenance access**

WesTech Standard AltaPac Skids Sizes		
Model	Max # Modules	Approximate Footprint L x W x H - ft
APIII	3	9.8 x 4.8 x 9.5
APVI	6	11.5 x 4.8 x 11
APXII	12	14.8 x 4.8 x 11

Footprint Dimensions AP XII

20' - 4"



8' - 6"

Standard Equipment Components

- Low Fouling and Durable PVDF Ultrafiltration Membranes
- Automated Clean-in-place System
- Automated Daily Integrity Testing System
- NEMA 4/4x Electrical Enclosures
- Allen Bradley® PLC Controls
- Panel-mounted Touchscreen HMI with SCADA Package
- UL 508A Listing on Control Panel
- Ethernet Switch for Plant Integration
- Welded and Powder Coated Steel Skid Frame
- Schedule 80 PVC Piping
- Feed and Backwash Pumps
- 200 μm Pre-strainer
- Bi-directional Magnetic Flow Meter
- Valves with Pneumatic Actuators
- Pressure Gauges and Transmitters
- Compressed Air Package
- Chemical Metering Pumps
- Corrosion-resistant HDPE Tanks
- Variable Frequency Drives

Optional Features

- Inline UF Feed and Permeate Turbidimeters
- CIP/CEBW Neutralization System
- Coagulant Feed System
- Modem for Remote Monitoring
- Service and Maintenance Plans
- Extended Warranty

Skid Interfacing Requirements

- Common Utility Connections:
  - 220 V, 1 phase power
  - 480 V, 3 phase power
  - 575 V, 3 phase power
- APIII: 2” Inlet, Outlet, and Drain Connections
- APVI: 3” Inlet, Outlet, and Drain Connections
- APXII: 4” Inlet, Outlet, and Drain Connections

WesTech Services

Lab and Pilot Testing

WesTech ultrafiltration pilots are available for onsite test work and can be used in a variety of treatment applications. Pilot testing may follow bench scale testing as the final step in determining full scale design and projected performance.

WesTech's fully equipped sedimentation/filtration lab performs testing of site-sourced water samples to help you determine the appropriate treatment for any given water.

Parts and Field Service

WesTech aftermarket sales and field service personnel understand the importance of maximizing the life of your equipment and stand ready to support you in your preventative maintenance efforts.

Experienced and ready to serve, our service professionals will come to your site to install parts and equipment, assist with equipment startup, or diagnose and resolve equipment problems.

Available Pilot Plant
2 - 60 gpm capacity
Full instrumentation packages
Remote monitoring and data acquisition
Pretreatment packages available

See more WesTech process equipment at westech-inc.com

Aerators
Anaerobic Digestion
Biological Treatment
Clarification
Combined Sewer Overflow
Dewatering
Dissolved Gas Flotation
Drive Units
Filtration
Flocculation
Headworks
Membranes
Oil / Water Separators
Package Plants
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Thickeners
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Systems and Turnkey
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WESTECH
Process Equipment. Process Driven.

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NAS JRB NOLA – Onsite Disinfection Generator

Data/Cut Sheet for onsite disinfection generator

MIOX On-Demand Chemistry

RIO Zuni

Compact On-Site Mixed Oxidant Solution Generator

Chlorine + Hydrogen Peroxide

Disinfectant Applications

» Wastewater treatment and reuse
» Cooling tower water treatment
» Food and beverage disinfection
» Drinking water treatment
» Aquatics treatment
» Surface disinfection

About MIOX

MIOX designs and manufactures a full range of on-site disinfectant generators to cost-effectively produce on-demand chemistry for a variety of applications. MIOX's patented on-site generation technology reduces carbon emissions by up to 80% and replaces the need to transport dangerous chemicals while typically realizing returns on capital equipment in 1 to 2 years.

With more than 2,000 MIOX installations in sites ranging from industrial cooling towers and municipal water utilities to resorts and clean-in-place providers, MIOX systems safely provide on-demand chemistry to millions of people worldwide.

MIOX

On-Demand Chemistry

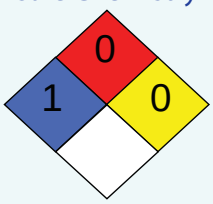
Your High Performance Solution

LEADER IN ON-DEMAND CHEMISTRY

MIOX's unique intellectual property was serendipitously discovered at Los Alamos labs and then developed for U.S. Military in 1994. Now with more than 2,000 MIOX installations in hundreds of U.S. communities and over 30 countries, MIOX systems are treating more than 7 billion gallons of water per day, serving millions of people worldwide.

Reduce Carbon Footprint by 80%

Safe Chemistry



US NFPA Rating
0.4% - 0.8% Concentration

ON-DEMAND CHEMISTRIES

1) Hypochlorite
2) Mixed Oxidant Solution

In development:

- Non-Oxidizing Biocides
- Advanced Oxidation Process

WIDE RANGE PRODUCT LINE

MIXED OXIDANT SOLUTION: SUPERIOR DISINFECTION

- Unique biofilm removal
- Replace proprietary biocides
- Superior disinfection power
- Disinfection by-product reduction
- Eliminate hazardous chemicals
- Improve efficiency
- Reduce operating costs
- Save money

AWARD-WINNING TECHNOLOGY

MIOX has 18 filed and 25 pending patents. MIOX received the prestigious President's "E" Award for Excellence in Exporting, the Popular Science Best of What's New Grand Award for Innovation, is a GoingGreen Top 100 company, and consistently selected by The Artemis Project as a Top 50 Water Company.

MIOX Electrolytic Cells

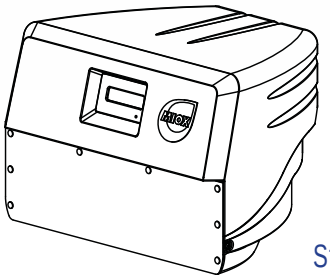
HYPOCHLORITE GENERATORS: RELIABLE & MAINTENANCE FREE

MIOX offers best-in-class self-cleaning, maintenance free and safe on-site hypochlorite generators with superior salt and energy efficiencies.

MIOX On-Demand Chemistry
5601 Balloon Fiesta Parkway, Albuquerque, New Mexico 87113 USA | 505-343-0090 | 888-646-9420 | Fax 505-343-0093
info@miox.com | www.miox.com

RIO Zuni Overview

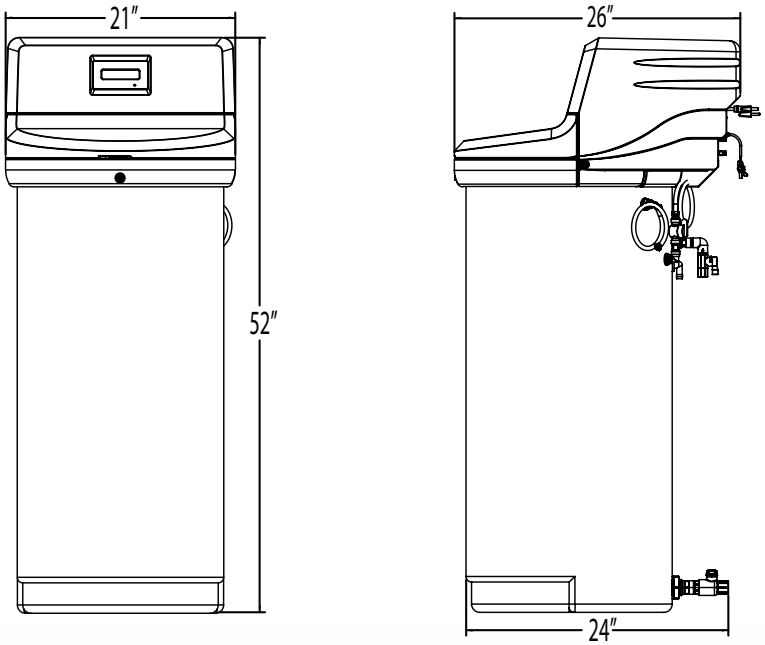
The innovative RIO Zuni on-site generator delivers 1.0 - 2.0 pounds per day of chlorine equivalent. Compact and easy to install, the robust RIO Zuni is a plug-and-play system designed for minimal maintenance and ultimate simplicity.



Standard Tabletop Unit

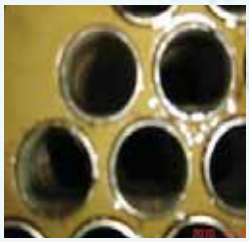
RIO Zuni Benefits

» Less than 3 maintenance hours in 6 months
» Produces biocidal mixed oxidant solution
» Requires minimal water conditioning
» Compact size with small footprint
» Optional integrated brine tank
» Remote monitoring capable



Unit with Optional Integrated Brine Tank

Using algaecide, bromide and hypochlorite



Using MIOX Mixed Oxidant Solution Chemistry

Benefits of MIOX Mixed Oxidants

Combining chemistries means greater efficacy and safer operation with less operator intervention and minimal operating costs. MIOX generators prevent handling and storing hazardous materials by converting salt into oxidant on-location and on-demand. Plus, MIOX mixed oxidant solutions are designed with short half-lives so they won't harm the environment even if used improperly.

MIOX On-Demand Chemistry

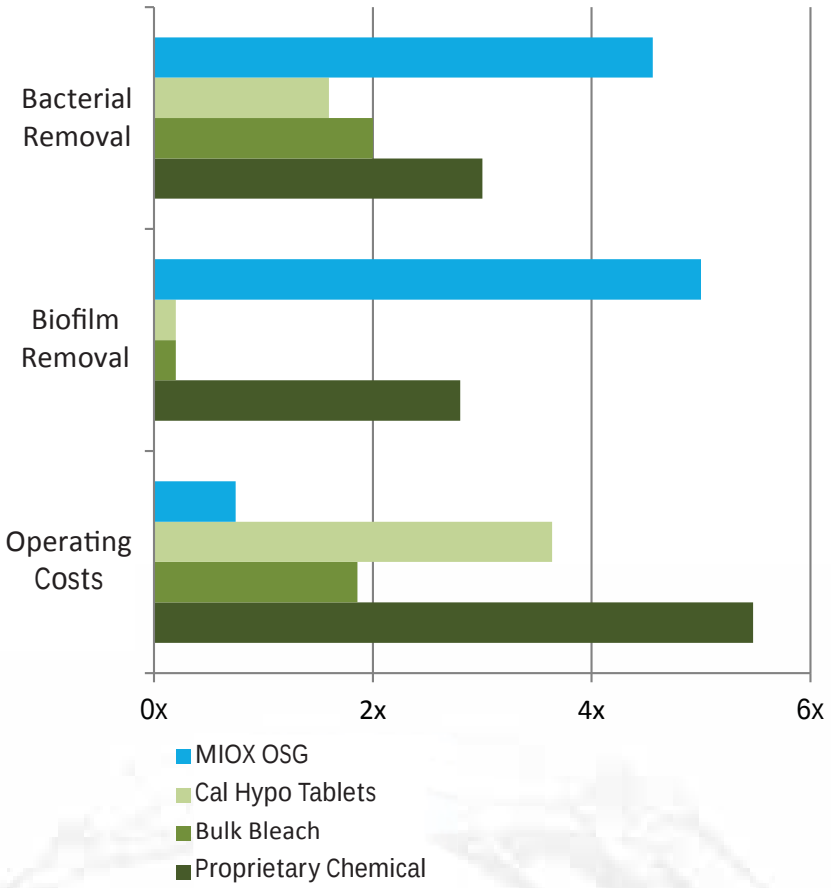
MIOX On-Site Generators

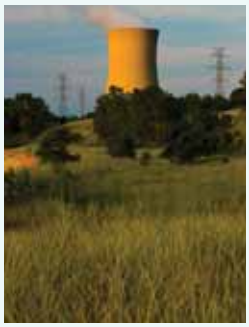
MIOX OSG systems minimize operating costs and maintenance times by creating advanced disinfectants out of salt, water, and electricity. By varying operating parameters and salt blends in the generator, MIOX OSGs can create a chemistry specific to almost any disinfection application.

Financial Overview

With typical payback periods of less than 24 months and ROIs over 150%, small scale MIOX OSGs are cost-effective solutions for most environments. Their user friendly design simplifies operation and maintenance over their 20-year lifetime.

Disinfectant Comparison Chart





MIOX Replaces Cocktail of Chemicals in NIPSCO Cooling Tower

The Northern Indiana Public Service Company (NIPSCO) was using a tri-cocktail of sodium hypochlorite, sodium bromide, and an algaecide to treat water supplying four power plant cooling towers. Two quarters after upgrading to a MIOX mixed oxidant system, NIPSCO's senior Chemist said "the U15 condenser was cleaner than we'd ever seen it before, and there isn't any other change in the system to explain these results, other than the conversion to this new biocide system."

Hyatt Regency Tamaya Gets Safer Water with MIOX

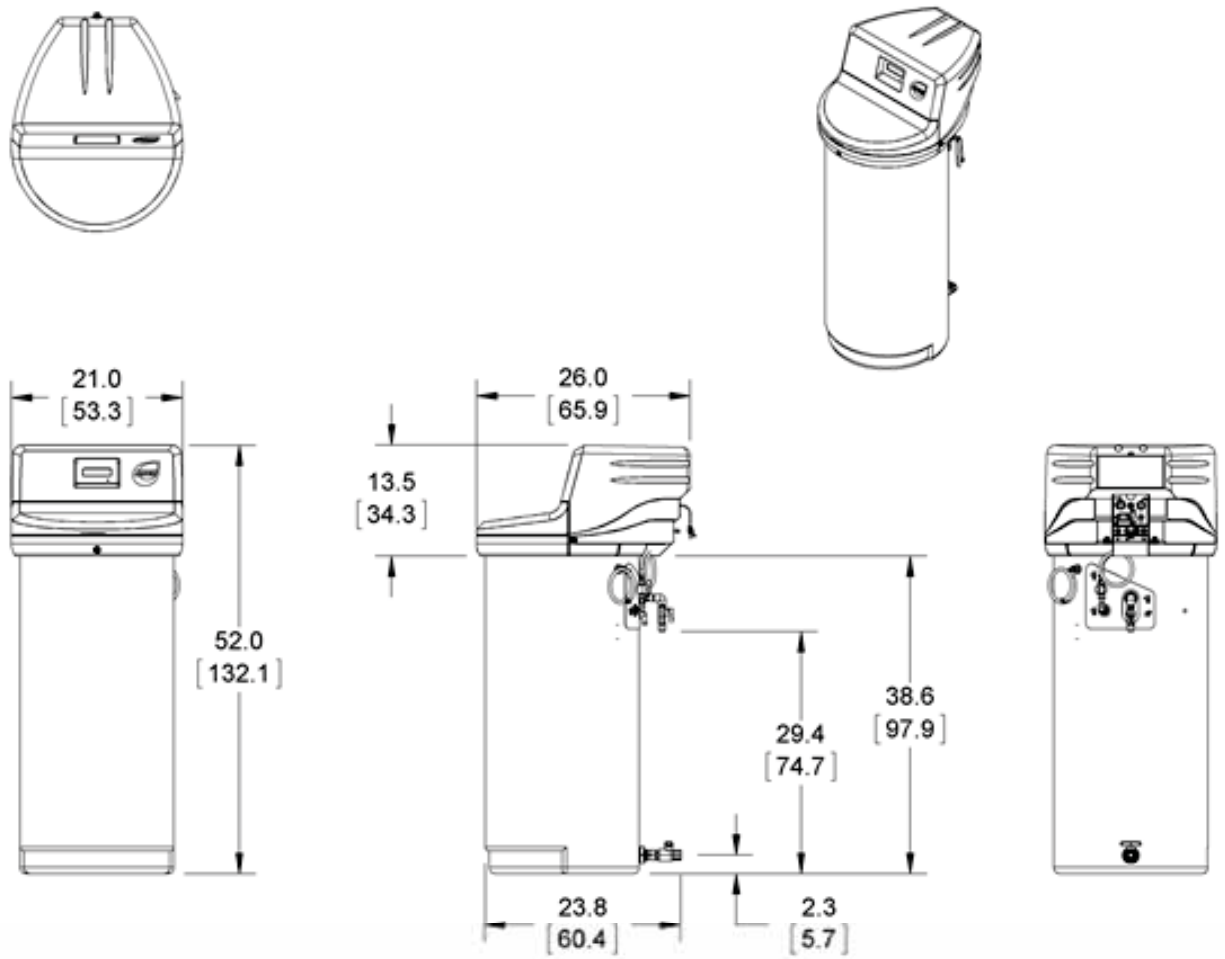
The Tamaya Resort's Director of Engineering explained "Safety issues were our biggest motivator. We eliminated the need to manually transfer 55-gal barrels of chemicals (liquid bleach) each day, which creates a safer environment all around – it's a win-win-win. We've heard from our guests that the pool water is crystal clear and better than ever. As a matter of fact, our pool technicians now have more to worry about... if a speck of dirt blows into the pool, you can see it. The clarity was an unexpected benefit, but one that is very pleasing to our guests."

MIOX On-Demand Chemistry

MIOX RIO Zuni™ Specifications

MIOX Corporation's RIO Zuni™ is the latest addition to the MIOX product line and delivers 1.0 to 2.0 lb/day 100% Free-available Chlorine equivalent Mixed Oxidant Solution (MOS). This compact, easy to install and operate on-site chemical generator is designed for minimal maintenance and ultimate simplicity. The RIO Zuni™ features less than 3 maintenance hours in 6 months, a small footprint, can handle 170 mg/L water hardness with minimal water conditioning requirements, and has an optional integrated brine tank and remote monitoring capabilities. Similar to the larger MIOX installations currently in operation, the RIO Zuni can be retrofitted into existing infrastructure allowing MOS to be fed directly into existing equipment.

RIO Zuni Technical Specs	1 ppd	2 ppd
Rated FAC Capacity	1.0 lb/ day 0.45 kg/ day	2.0 lb/ day 0.9 kg/ day
Water Treatment Capacity (at 1 ppm FAC)	120,000 gal/ day 454 m^3/ day	240,000 gal/ day 908 m^3/ day
Flow Rate (± 15%)	1.3 gph 4.9 lph	2.7 gph 10.2 lph
Self-Cleaning	YES	
FAC Concentration*	4,000 ± 1,000 mg/L	
Water Hardness	0 – 170 mg/L	
Electrical Service Requirement (OSG Only)	110 VAC to 240 VAC 1 ph 50/60Hz	
Number of Dedicated Circuits Required	One (1)	
Approximate Salt Ratio*	3.0 - 3.5 lb/kg salt per lb/kg FAC	
Air Temp. Required	42° F to 120° F 6° C to 49° C	
Feed Water Temp. Required	50° F to 80° F 10° C to 27° C	
Feed Water Pressure	1-75 psi 6.8 – 517 kPa	
Dimensions (WxDxH)	32" x 28" x 60" 81.3 cm x 71.1 cm x 152.4 cm	
Shipping Weight (Approx. with pallet)	110 lbs 50 kg	



MIOX RIO Zuni™ Drawing

with optional brine tank

MIOX RIO Zuni™

Operations and Maintenance Cost Guide 2012

MIOX equipment owners may use this guide to calculate estimated costs of operations and maintenance of their MIOX equipment. The guide is designed to familiarize the user with the components and parameters used to determine cost of operation. The user must factor in the actual local costs of salt, power, labor, and consumables for their specific installation and application. This guide assumes equipment is properly operated and maintained.

Salt is one of the feedstocks required to make electrolytically generated disinfectant. MIOX recommends granulated food grade salt which is sold in 50 or 100lb sacks as well as bulk delivery.

Electrical energy is the other feedstock required to make electrolytically generated disinfectant and is sold by kW-Hr.

Water is another feedstock required to deliver the disinfectant.

Labor is required for loading salt and for periodic preventive maintenance.

Replacement parts may include a new water pump, brine pump and electrolytic cell. The water and brine pumps are expected to last 5 years. Properly operated and maintained cells should last 5 years.

Operational Cost

The amount of salt and power consumed in generating a quantity of Free Available Chlorine (FAC) is determined by FAC production and by the conversion efficiencies of the system. Consumption and cost estimates are provided below. Please note that in most cases, the water used for generation will be fed to the process water stream, resulting in no loss of water or additional water usage cost.

Sample Salt Cost	Sample Electricity Cost
$0.10/lb	$0.07/kW-Hr

X

Salt Conversion Efficiency	Electrical Conversion Efficiency
3.5	3.5

=

Salt Cost/lb FAC	Electrical Cost/lb FAC	Total Operational Cost/lb 100% FAC
$0.35	$0.25	$0.60

Operational Cost to Make 1lbs of 100% Active FAC

When compared to bulk Hypochlorite at 12.5% concentration, the equivalent concentration needs to be compared. Hypothetically, the price per 12.5% concentration Hypo would be:

$0.60 x 0.10 = **$0.06/lb** as bulk solution

or

$0.60 x 1.0 = **$0.60/gal** of bulk solution

Labor

Labor is needed to load salt into the optional brine tank and to provide periodic preventive maintenance. The table below gives a listing of the recommended preventive maintenance activities, the interval on which they should be performed, and the number of minutes required to

Preventive Maintenance RIO Zuni Series	Weekly	Monthly	Annual
Check for Leaks (Hoses, Tank, Cell, etc.)	1 min		
Check for Loose Connections and Corrosion	1 min		
Check Salt Level (Fill to top of tank)	5 min		
Check Chlorine Production	7 min		
Check Cell Connections		6 min	
Toggle Day Tank Level Switch (Both floats up – goes to standby)		1 min	
Clean Brine Tank and Solution Tank			60 min
Labor Requirements by Interval (min)	14 min/wk	7 min/mo	60 min/yr
Annual Labor Requirements by Interval (hours)	12 hr/yr	2 hr/yr	1 hr/yr
Total Annual Labor Requirement (hours)	15 hr/yr		

(1) Assumes salt quality, water conditioning, and operation of equipment per MIOX recommendations.

Consumables and Parts

Parts may include a new electrolytic cell every 5 years. Additional cells should not be necessary if properly operated and maintained.

Consumable/Part (2)	Zuni 1 PPD	Zuni 2 PPD
Valves and Fittings ($/yr)	25	25
Water Pump (5 years)	150	150
Brine Pump (5 years)	140	140
System power supply(s) (5 years)	220	440
New cell(s) (5 years)	900	1800

(2) Based on 2012 MIOX prices and subject to change. Please call MIOX for current quote.

MIOX On-Demand Chemistry

Mixed Oxidant Solution Chemistry
Vital Disinfectant
for Cooling Towers

Guaranteed Biofilm Removal

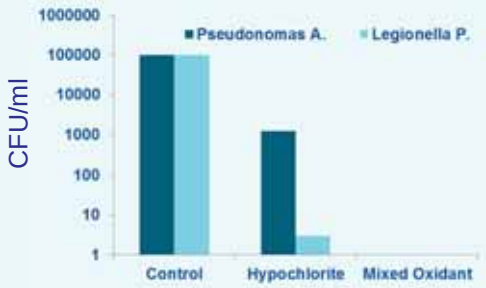
OR YOUR MONEY BACK!

Superior Disinfection

Mixed Oxidant Solution

- Hypochlorite with Hydrogen Peroxide
- More powerful disinfectant than Hypochlorite
- Replaces proprietary biocides even at higher pH

After 10 Minutes Contact Time:
No Legionella detected at
2.0 mg/L Mixed Oxidant Solution at 8.0 pH



Larry Barton, PhD, University of New Mexico
"Disinfection of Simulated Cooling Tower Water" - 3/4/96

Biofilm Removal Guarantee

MIOX's Mixed Oxidant Solution has a remarkable track record of eliminating biofilm and we are standing behind that performance with a money-back guarantee. If you don't see an improvement in the biofilm contamination of your application within 90 days, contact us to review your installation. If we cannot help you meet your expectations, we will take our unit back and fully refund your purchase.

Inactivates Bacillus globigii (B.g.)

Hypo

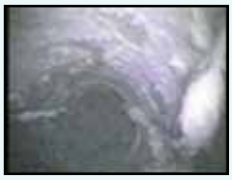
Mixed Oxidant Solution

15 min 30 min 45 min 60 min

Bajszar, 2009; Validated in 3rd party studies at the Centers for Disease Control and Prevention

Exceptional Biofilm Removal

Before MIOX



- Extensive biofilm
- Legionella CFU >5
- Dose: 1.5 mg/L Hypo
- Residual: 0.2 mg/L

After MIOX

- Biofilm eliminated
- No bacterial hits
- Dose: 0.6 mg/L Hypo
- Residual: 0.4 mg/L

Spa in Japan

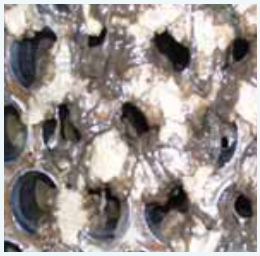
A Japanese spa experienced positive Legionella counts using Bulk Hypochlorite. After switching to treatment using Mixed Oxidant Solution, Legionella counts are eliminated

...at a comparable price to bulk Hypochlorite

MIOX Replaces Cocktail of Chemicals in NIPSCO Cooling Tower

The Northern Indiana Public Service Company (NIPSCO) was using a tri-cocktail of sodium hypochlorite, sodium bromide, and a proprietary algaecide to treat water supplied to four power plant cooling towers. After upgrading to a MIOX mixed oxidant system, NIPSCO's Senior Chemist said "the U15 condenser was cleaner than we'd ever seen it before, and there isn't any other change in the system to explain these results, other than the conversion to this new biocide system."

Before MIOX



After MIOX

Condenser Tube Sheet

Before MIOX

After MIOX

Bio-control Boosts Power Plant Production by 7%

In 2010, a cooling crisis at a Puerto Rico Electric Power Authority (PREPA) facility prompted operators to seek a greener solution to cooling tower biofouling via MIOX's Mixed Oxidant Solution. Two years later, the MIOX on-site disinfectant generators have helped significantly improve water and energy efficiency. The efficiencies gained at the Palo Seco Power Plant alone resulted in roughly $34 million a year.

MIOX Replaces Bulk Hypochlorite Chemicals in Hospital to Eliminate Legionella

The discovery of positive Legionella counts in the hospital's 7,000 ton cooling tower system required immediate intervention. MIOX replaced bulk bleach with Mixed Oxidant Solution generated on-site, on-demand. No positive Legionella counts since the installation of a MIOX system in July 2011.

Before MIOX

After MIOX

Cooling Tower Hot Deck

About MIOX

MIOX designs and manufactures a full range of on-site disinfectant generators to cost-effectively produce on-demand chemistry for a variety of applications. MIOX's patented on-site generation technology reduces carbon emissions by up to 80% and replaces the need to transport dangerous chemicals while typically realizing returns on capital equipment in 1 to 2 years.

With more than 2,000 MIOX installations in sites ranging from industrial cooling towers and municipal water utilities to resorts and clean-in-place providers, MIOX systems safely provide on-demand chemistry to millions of people worldwide.

Call us today

MIOX On-Demand Chemistry

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info@miox.com | www.miox.com

NAS JRB NOLA – Onsite Disinfection Generator

Data/Cut Sheet for onsite disinfection generator

The SAFEST WATER In The World

AE Specifications

The MIOX AE system is a simplified automatic unit configured for permanent installations requiring between 4 and 8 lbs/day (1.8 – 3.6 kg/day) of mixed oxidants measured as Free Available Chlorine (FAC). Available as a skid-mounted or stand-alone system, the AE is ideal for industrial applications and small rural and remote communities. The system activates based upon a level sensor measuring the volume of oxidant in a storage tank. After connection to water and a power source, the only routine operator service requirements are to load salt into the brine generator.

AE-4 skid-mounted unit shown

	AE-4	AE-6	AE-8
Rated FAC Capacity*	4 lb/day (1.8 kg/day)	6 lb/day (2.7 kg/day)	8 lb/day (3.6 kg/day)
Water Treatment Capacity (at 1 ppm FAC)	480,000 gal/day (1,817 m^3/day)	720,000 gal/day (2,726 m^3/day)	960,000 gal/day (3,634 m^3/day)
Salt Conversion (SCE)	3.0 lb salt/lb FAC (3.0 kg salt/kg FAC)	3.0 lb salt/lb FAC (3.0 kg salt/kg FAC)	3.0 lb salt/lb FAC (3.0 kg salt/kg FAC)
Energy Conversion (ECE)	3.5 kW-hr/lb FAC (7.7 kW-hr/kg FAC)	3.5 kW-hr/lb FAC (7.7 kW-hr/kg FAC)	3.5 kW-hr/lb FAC (7.7 kW-hr/kg FAC)
FAC Concentration*	3,800	4,200	5,000
Flow Rate	6	9	9
Softener Flow During Regeneration	CC208s: 84 GPH (14 gal max) (318 LPH(53 L max)) CP208s: 120 GPH (35 gal max) (454 LPH(132 L max))		
Electrical Service	110 or 220 VAC 1 ph 20A 50/60 Hz	110 or 220 VAC 1 ph 20A 50/60 Hz	220 VAC 1 ph 20A 50/60 Hz
Nominal Energy to Unit	110 VAC: 12A, 1.3 KVA 220 VAC: 6A, 1.3 KVA	110 VAC: 15A, 1.7 KVA 220 VAC: 7.5A, 1.7 KVA	220 VAC: 9A, 2.0 KVA
Air Temp. Required	42° to 110° F 6° to 43°C		
Cell Voltage	12 VDC		
Feed Water Temp. Required	50° to 85° F 10° to 24°C		
Feed Water Pressure	> 25 < 75 psi > 172 < 517 kPA		
Shipping Size (W x D x H)	45 x 44 x 19 inches 94 x 86.4 x 68.6 cm		
Shipping Weight (Appx.)	110 lb 45 kg		

** Production may vary depending on salt and water quality. Rated production capacities may be lower than actual data due to system production margins.*

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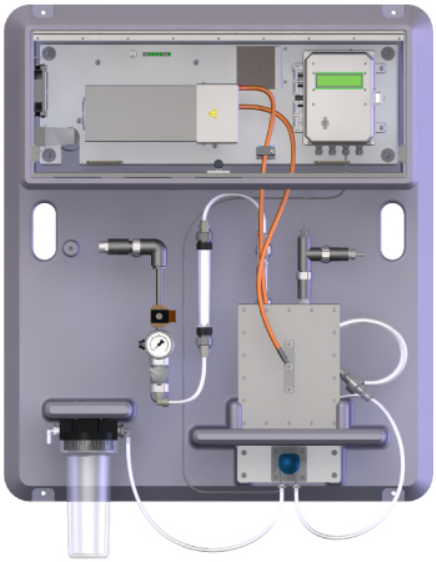

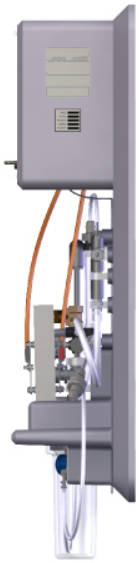

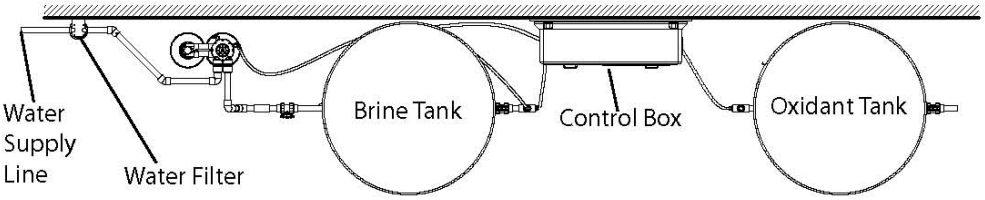

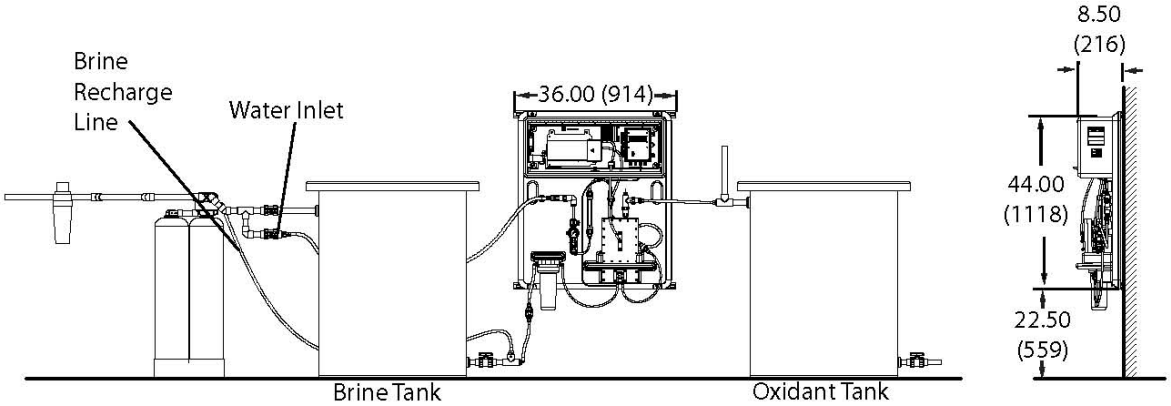

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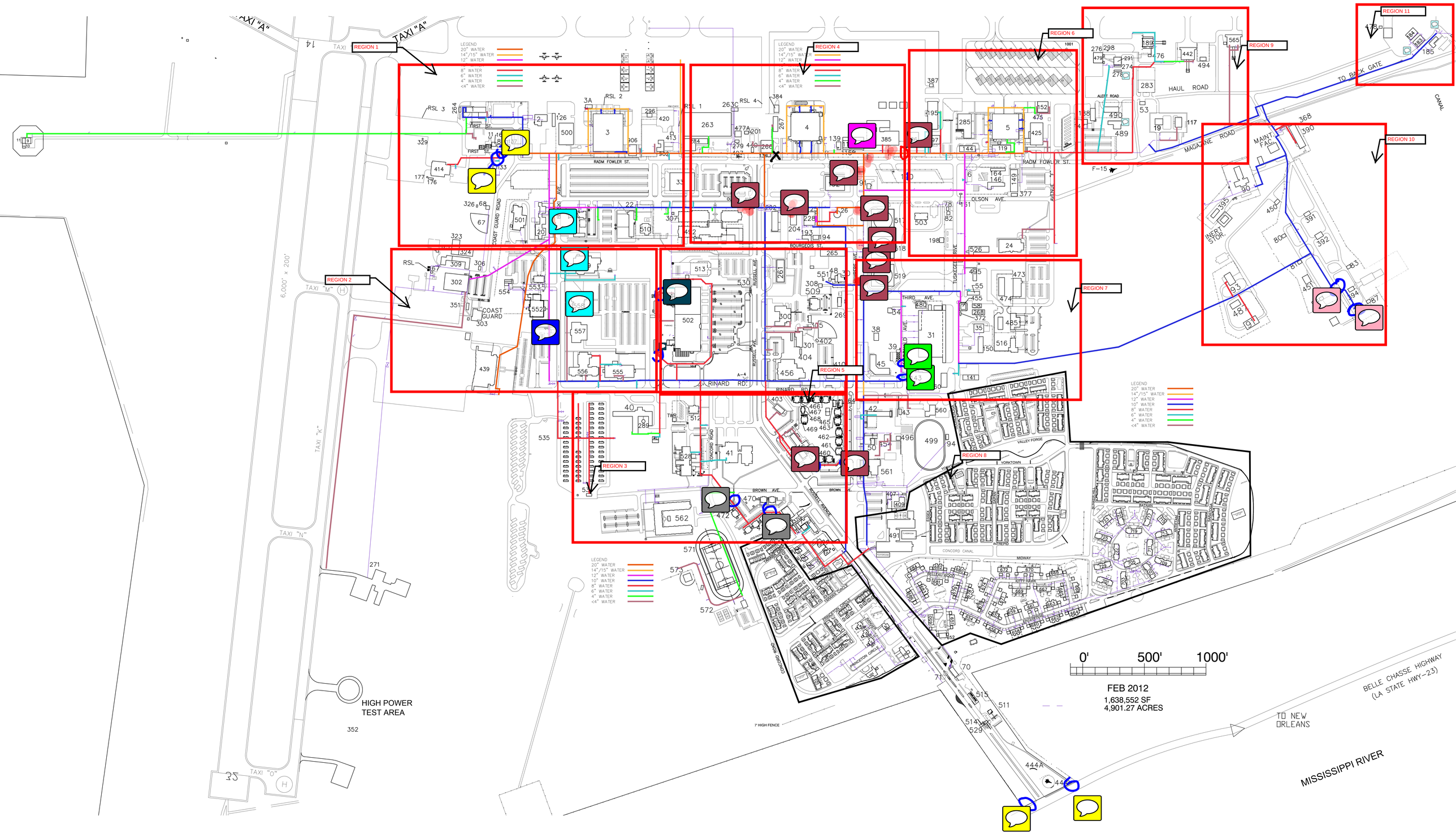
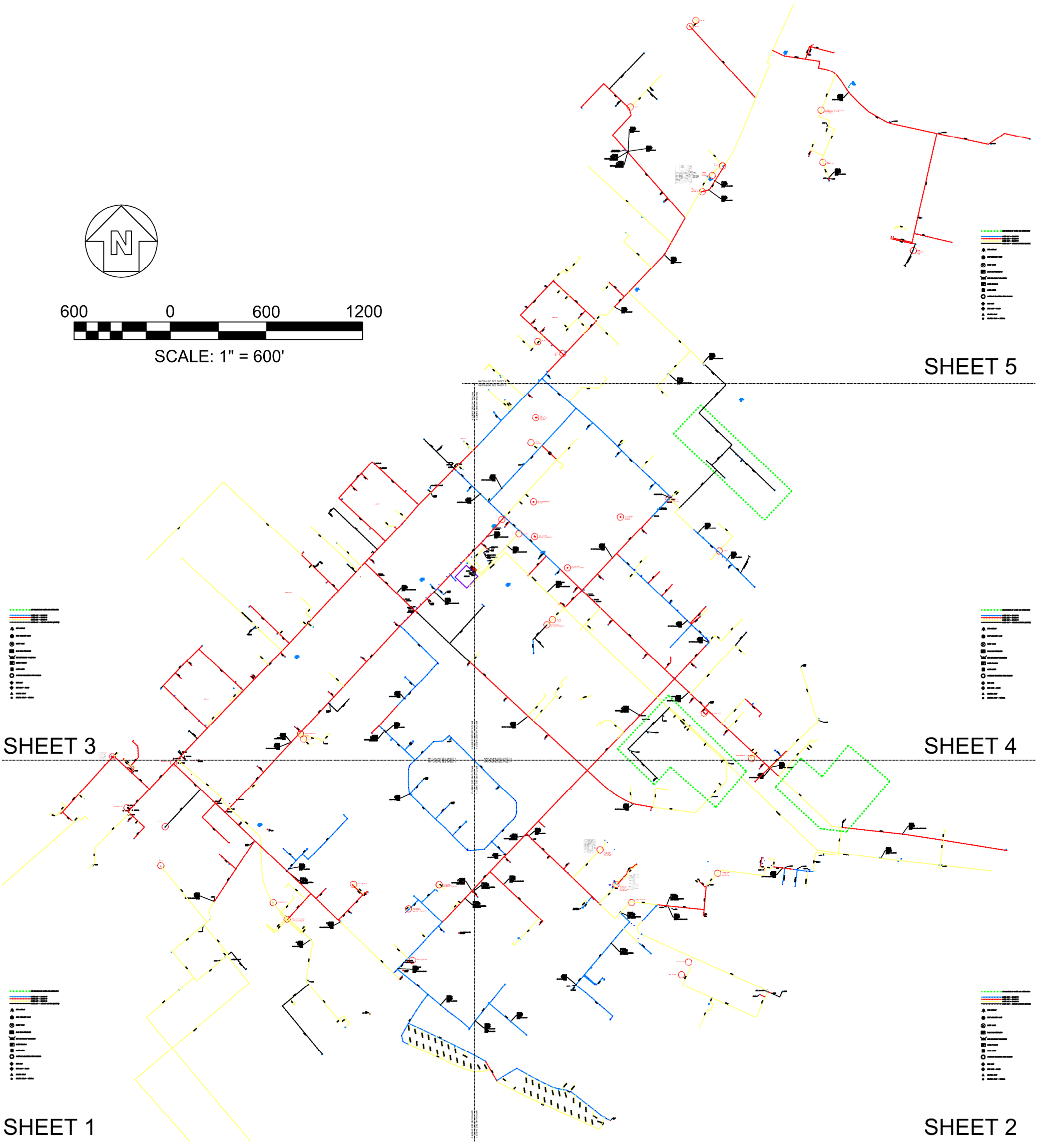
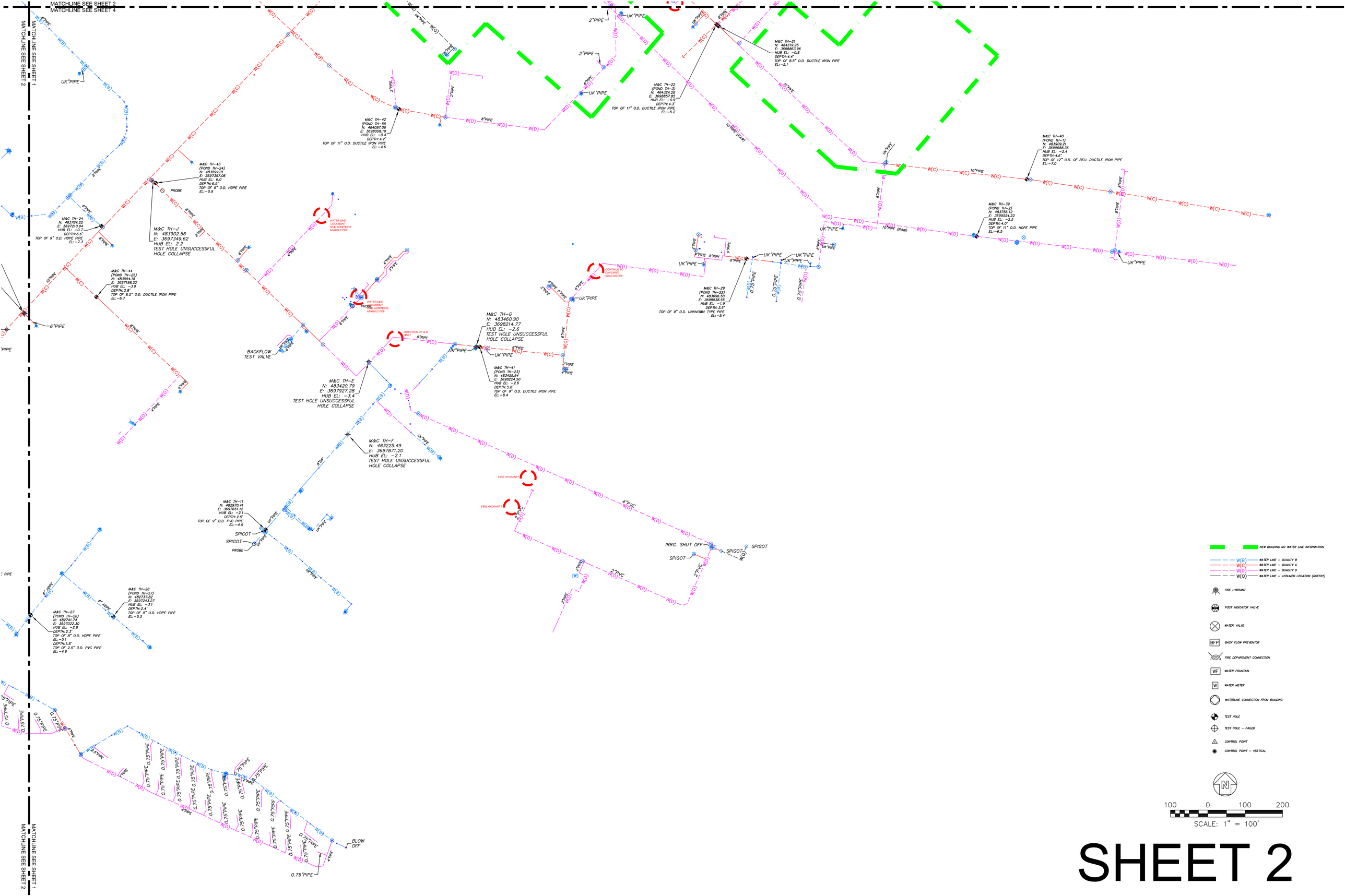

REGION 1
REGION 2
REGION 3
REGION 4
REGION 5
REGION 6
REGION 7
REGION 8
REGION 9
REGION 10
REGION 11
LEGEND
20" WATER
14"/15" WATER
12" WATER
10" WATER
8" WATER
6" WATER
4" WATER
<4" WATER
TAXI "A"
TAXI "M"
TAXI "K"
TAXI "N"
TAXI "O"
6,000' x 200'
RADM FOWLER ST.
FIRST ST.
COAST GUARD ROAD
COAST GUARD
OLSON AVE.
BOURGEOIS ST.
RUSSELL AVE.
RINARD RD.
THIRD AVE.
TUSKEGEE DRIVE
CONCORD ROAD
BROWN AVE.
VALLEY FORGE
YORKTOWN
CONCORD CANAL
MIDWAY
PATAUX
INTREPID
ENTERPRISE
HAUL ROAD
ALERT ROAD
MAGAZINE ROAD
MAINT. FAC.
INERT STOR.
TO BACK GATE
CANAL
F-15
HIGH POWER
TEST AREA
7' HIGH FENCE
0'
500'
1000'
FEB 2012
1,638,552 SF
4,901.27 ACRES
BELLE CHASSE HIGHWAY
(LA STATE HWY-23)
TO NEW
ORLEANS
MISSISSIPPI RIVER

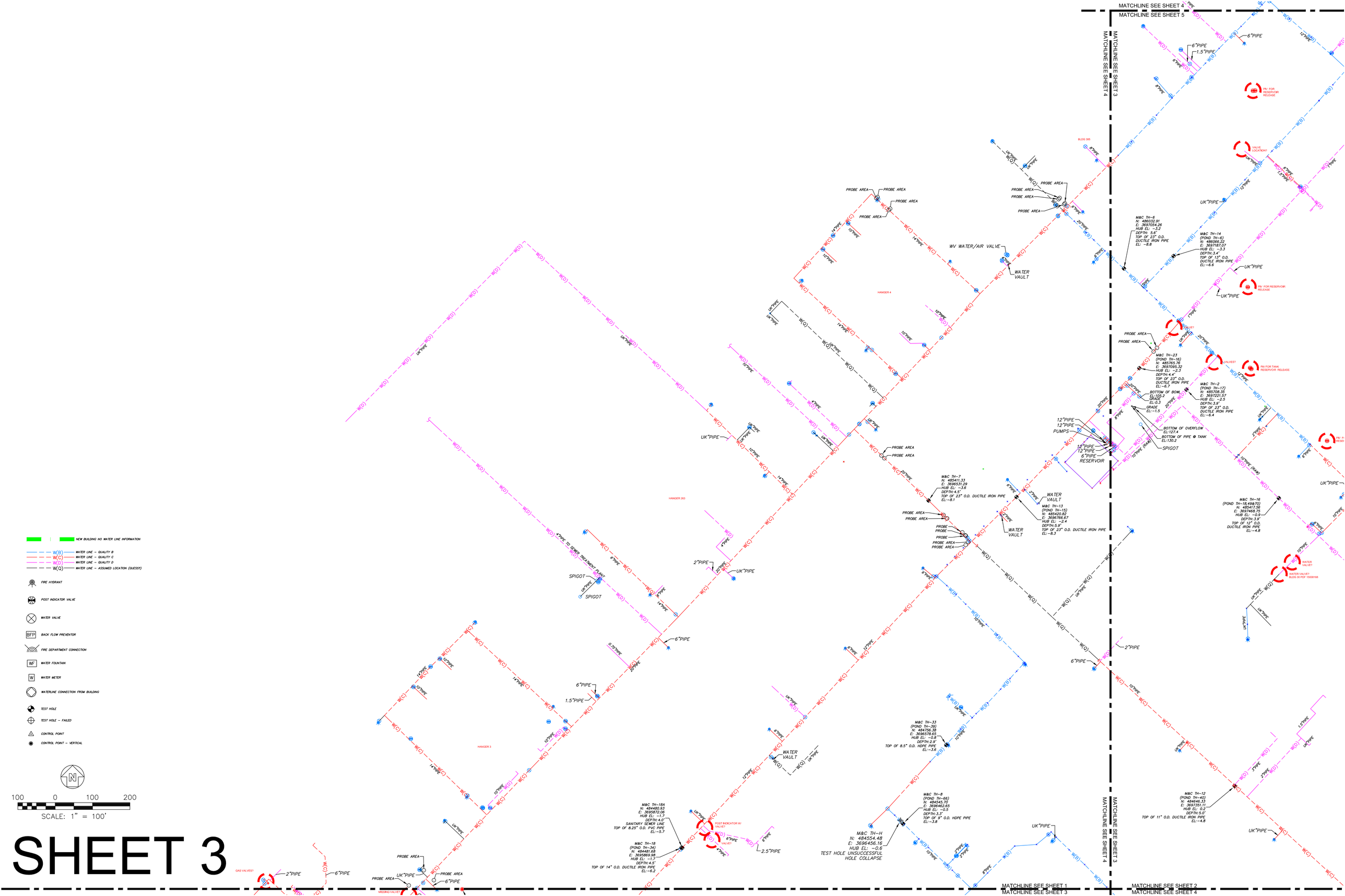


WATER DISTRIBUTION SYSTEM SURVEY

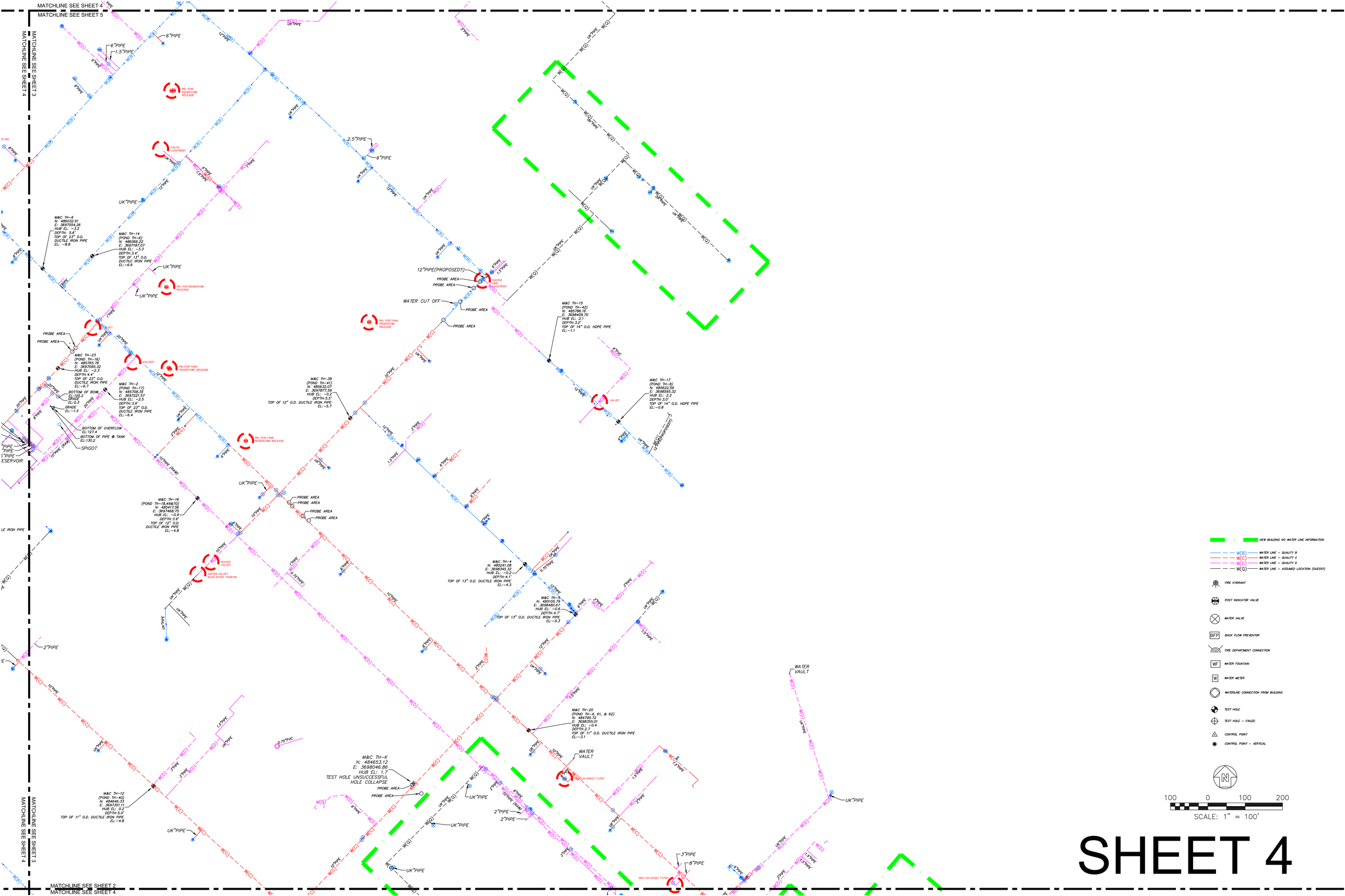
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 4
MISSING VALVE?
PROBE AREA
IRF
EL: -3.25
FH CONNECTION?
UK"PIPE
UK TIE?
IRF
EL: -1.09
WATER VAULT
M&C TH-3
N: 484158.40
E: 3696612.66
HUB EL: 2.8
DEPTH: 4.9'
TOP OF 9" O.D. HDPE PIPE
EL: -2.0
M&C TH-43
(POND TH-24)
N: 483899.01
E: 3697357.06
HUB EL: 6.0
DEPTH: 6.9'
TOP OF 9" O.D. HDPE PIPE
EL: -0.9
PROBE
M&C TH-24
N: 483784.22
E: 3697210.94
HUB EL: -0.7
DEPTH: 6.6'
TOP OF 9" O.D. HDPE PIPE
EL: -7.3
M&C TH-J
N: 483902.56
E: 3697349.62
HUB EL: 2.2
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-C
N: 483550.80
E: 3697002.95
HUB EL: 1.1
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-D
N: 483548.97
E: 3697006.10
HUB EL: 2.0
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-45
(POND TH-54)
N: 483692.47
E: 3695859.80
HUB EL: -4.1
DEPTH: 2.0'
TOP OF 7" O.D. HDPE PIPE
EL: -6.1
M&C TH-A
N: 483677.30
E: 3695844.53
HUB EL: -1.8
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
WATER METER?
M&C TH-44
(POND TH-25)
N: 483594.18
E: 3697198.22
HUB EL: -3.9
DEPTH: 2.8'
TOP OF 8.5" O.D. DUCTILE IRON PIPE
EL: -6.7
M&C TH-B
N: 483506.74
E: 3696958.32
HUB EL: 0.3
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
WATER LINE CONNECTION?
M&C TH-30
(POND TH-30)
N: 483487.38
E: 3695393.18
HUB EL: -1.1
DEPTH: 3.8'
TOP OF 13" O.D. UNKNOWN TYPE PIPE
EL: -4.9
VALVE LOCATION?
BACKFLOW PREVENTOR LOCATION AND WATER LINE CONFIGURATION?
M&C TH-25
(POND TH-26&53)
N: 483358.39
E: 3696180.92
HUB EL: -0.2
DEPTH: 3.9'
TOP OF 14" O.D. DUCTILE IRON PIPE
EL: -4.0
X IN HEADWALL TBM
EL: -0.27
M&C TH-34
(POND TH-29&32)
N: 483247.92
E: 3695994.52
HUB EL: -1.5
DEPTH: 3.0'
TOP OF 21" O.D. HDPE PIPE
EL: -4.6
WATER/AIR VALVE
M&C TH-1
(POND TH-56 & 21)
N: 483068.32
E: 3696539.96
HUB EL: -0.6
DEPTH: 5.3'
TOP OF 11" O.D. DUCTILE IRON PIPE
EL: -5.9
IRF
EL: -0.64
X MARK
EL: 1.61
M&C TH-11
N: 482970.41
E: 3697651.12
HUB EL: -2.1
DEPTH: 2.5'
TOP OF 9" O.D. PVC PIPE
EL: -4.5
SPIGOT
PROBE
M&C TH-26
(POND TH-27)
N: 482841.55
E: 3696805.60
HUB EL: -3.9
DEPTH: 1.8'
TOP OF 9" O.D. HDPE PIPE
EL: -5.7
PKF
EL: -0.93
M&C TH-28
(POND TH-57)
N: 482737.82
E: 3697243.27
HUB EL: -3.1
DEPTH: 2.4'
TOP OF 9" O.D. HDPE PIPE
EL: -5.5
M&C TH-27
(POND TH-28)
N: 482741.74
E: 3697022.30
HUB EL: -2.8
DEPTH: 2.3'
TOP OF 8" O.D. HDPE PIPE
EL: -5.1
DEPTH: 1.8'
TOP OF 2.5" O.D. PVC PIPE
EL: -4.6
NEW BUILDING NO WATER LINE INFORMATION
WATER LINE - QUALITY B
WATER LINE - QUALITY C
WATER LINE - QUALITY D
WATER LINE - ASSUMED LOCATION (GUESS)
FIRE HYDRANT
POST INDICATOR VALVE
WATER VALVE
BACK FLOW PREVENTOR
FIRE DEPARTMENT CONNECTION
WATER FOUNTAIN
WATER METER
WATERLINE CONNECTION FROM BUILDING
TEST HOLE
TEST HOLE - FAILED
CONTROL POINT
CONTROL POINT - VERTICAL
100 0 100 200
SCALE: 1" = 100'
SHEET 1


MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 2
M&C TH-21
N: 484319.25
E: 3698863.96
HUB EL: -0.8
DEPTH:4.4'
TOP OF 8.5" O.D. DUCTILE IRON PIPE
EL:-5.1
M&C TH-22
(POND TH-3)
N: 484324.28
E: 3698857.85
HUB EL: -0.9'
DEPTH:4.3'
TOP OF 11" O.D. DUCTILE IRON PIPE
EL:-5.2
M&C TH-42
(POND TH-55
N: 484097.06
E: 3698008.19
HUB EL: -0.4'
DEPTH:4.2'
TOP OF 11" O.D. DUCTILE IRON PIPE
EL:-4.6
M&C TH-43
(POND TH-24)
N: 483899.01
E: 3697357.06
HUB EL: 6.0
DEPTH:6.9'
TOP OF 9" O.D. HDPE PIPE
EL:-0.9
M&C TH-24
N: 483784.22
E: 3697210.94
HUB EL: -0.7
DEPTH:6.6'
TOP OF 9" O.D. HDPE PIPE
EL:-7.3
M&C TH-J
N: 483902.56
E: 3697349.62
HUB EL: 2.2
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-44
(POND TH-25)
N: 483594.18
E: 3697198.22
HUB EL: -3.9
DEPTH:2.8'
TOP OF 8.5" O.D. DUCTILE IRON PIPE
EL:-6.7
M&C TH-40
(POND TH-1)
N: 483909.21
E: 3699688.36
HUB EL: -2.4
DEPTH:4.6'
TOP OF 12" O.D. OF BELL DUCTILE IRON PIPE
EL:-7.0
M&C TH-39
(POND TH-2)
N: 483756.12
E: 3699554.22
HUB EL: -2.5
DEPTH:4.0'
TOP OF 11" O.D. HDPE PIPE
EL:-6.5
M&C TH-29
(POND TH-22)
N: 483696.50
E: 3698938.55
HUB EL: -1.9
DEPTH:3.5'
TOP OF 9" O.D. UNKNOWN TYPE PIPE
EL:-5.4
M&C TH-G
N: 483460.90
E: 3698214.77
HUB EL: -2.6
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-41
(POND TH-23)
N: 483459.94
E: 3698224.50
HUB EL: -2.6
DEPTH:5.8'
TOP OF 9" O.D. DUCTILE IRON PIPE
EL:-8.4
M&C TH-E
N: 483420.79
E: 3697927.28
HUB EL: -3.4
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-F
N: 483225.49
E: 3697871.20
HUB EL: -2.1
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-11
N: 482970.41
E: 3697651.12
HUB EL: -2.1
DEPTH:2.5'
TOP OF 9" O.D. PVC PIPE
EL:-4.5
M&C TH-28
(POND TH-57)
N: 482737.82
E: 3697243.27
HUB EL: -3.1
DEPTH:2.4'
TOP OF 9" O.D. HDPE PIPE
EL:-5.5
M&C TH-27
(POND TH-26)
N: 482741.74
E: 3697022.30
HUB EL: -2.8
DEPTH:2.3'
TOP OF 8" O.D. HDPE PIPE
EL:-5.1
DEPTH:1.8'
TOP OF 2.5" O.D. PVC PIPE
EL:-4.6
WATER LINE LOCATION? CIVIL ADDITIONS ASBUILT.PDF
CONTINUE TO DAYCARE? CIVIL ADDITIONS ASBUILT.PDF
DIRECTION OF Q-D LINE?
FIRE HYDRANT?
BACKFLOW TEST VALVE
PROBE
SPIGOT
IRRG. SHUT OFF
BLOW OFF
UK"PIPE
2"PIPE
6"PIPE
8"PIPE
10"PIPE
10"PIPE (RAW)
4"PVC
2"PVC
6" HDPE
8" HDPE
0.75"PIPE
NEW BUILDING NO WATER LINE INFORMATION
W(B) WATER LINE - QUALITY B
W(C) WATER LINE - QUALITY C
W(D) WATER LINE - QUALITY D
W(Q) WATER LINE - ASSUMED LOCATION (GUESS?)
FIRE HYDRANT
POST INDICATOR VALVE
WATER VALVE
BFP BACK FLOW PREVENTOR
FIRE DEPARTMENT CONNECTION
WF WATER FOUNTAIN
W WATER METER
WATERLINE CONNECTION FROM BUILDING
TEST HOLE
TEST HOLE - FAILED
CONTROL POINT
CONTROL POINT - VERTICAL
N
100 0 100 200
SCALE: 1" = 100'

SHEET 2

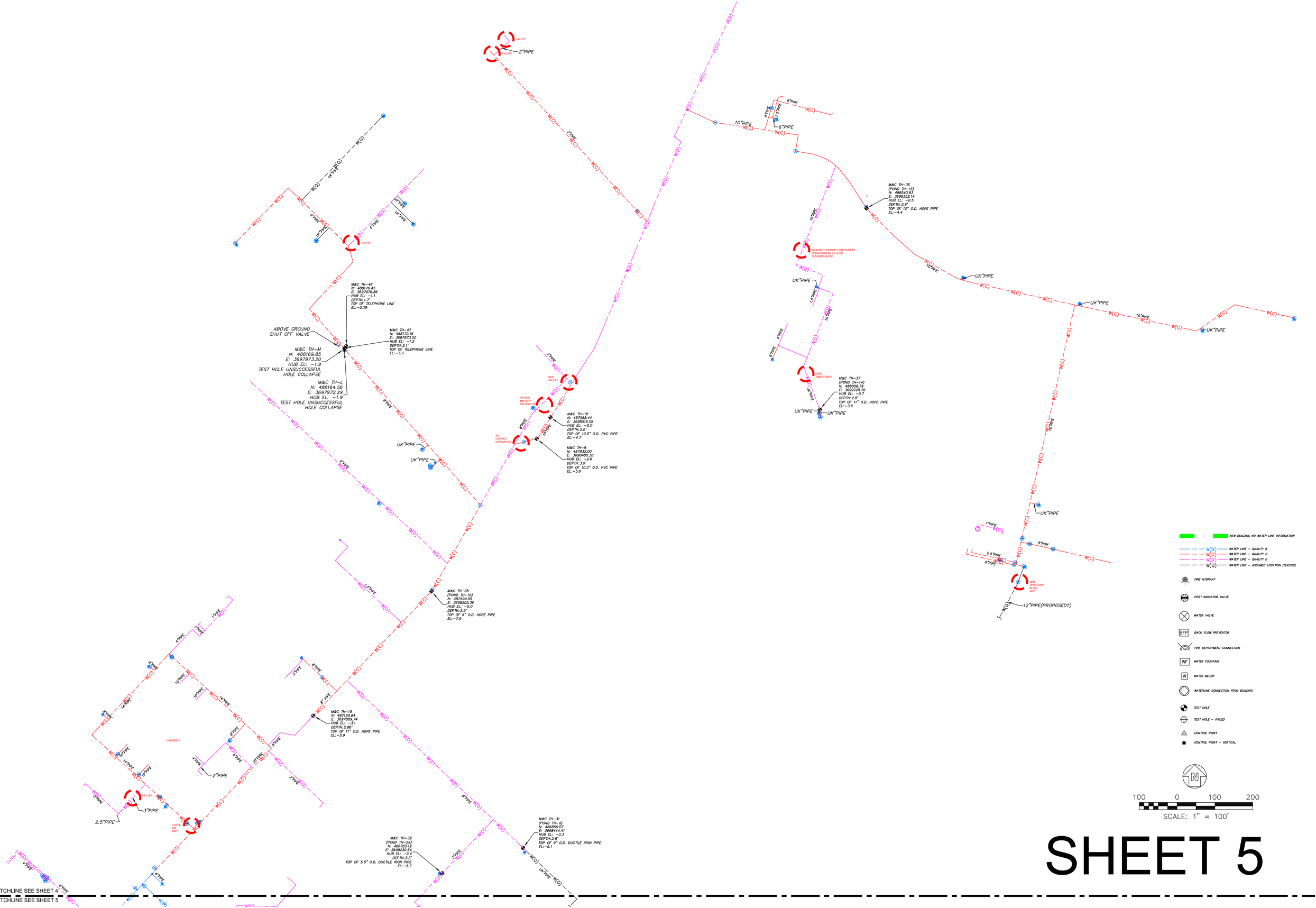

MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 4
NEW BUILDING NO WATER LINE INFORMATION
W(B) WATER LINE – QUALITY B
W(C) WATER LINE – QUALITY C
W(D) WATER LINE – QUALITY D
W(Q) WATER LINE – ASSUMED LOCATION (GUESS?)
FIRE HYDRANT
POST INDICATOR VALVE
WATER VALVE
BFP BACK FLOW PREVENTOR
FIRE DEPARTMENT CONNECTION
WF WATER FOUNTAIN
W WATER METER
WATERLINE CONNECTION FROM BUILDING
TEST HOLE
TEST HOLE – FAILED
CONTROL POINT
CONTROL POINT – VERTICAL
N
100 0 100 200
SCALE: 1" = 100'
SHEET 3
PRV FOR RESERVOIR RELEASE
VALVE LOCATION?
PRV FOR TANK RESERVOIR RELEASE
WATER VALVE
WATER VALVE? BLDG 30 PDF 15008168
BLDG 385
HANGER 4
HANGER 263
HANGER 3
WV WATER/AIR VALVE
WATER VAULT
PROBE AREA
UK"PIPE
6"PIPE
1.5"PIPE
2"PIPE
2.5"PIPE
12"PIPE
PUMPS
6"PIPE RESERVOIR
SPIGOT
4"PIPE TO SEWER TREATMENT PLANT
M&C TH-6
N: 486032.91
E: 3697054.26
HUB EL: -3.2
DEPTH: 5.6'
TOP OF 23" O.D. DUCTILE IRON PIPE
EL: -8.8
M&C TH-14
(POND TH-6)
N: 486066.22
E: 3697187.07
HUB EL: -3.3
DEPTH: 3.4'
TOP OF 13" O.D. DUCTILE IRON PIPE
EL: -6.6
M&C TH-23
(POND TH-16)
N: 485765.76
E: 3697095.32
HUB EL: -2.1
DEPTH: 4.4'
TOP OF 23" O.D. DUCTILE IRON PIPE
EL: -6.7
BOTTOM OF BOWL
EL: 105.2
GRADE
EL: 0.3
GRADE
EL: -1.5
BOTTOM OF OVERFLOW
EL: 127.4
BOTTOM OF PIPE @ TANK
EL: 130.2
M&C TH-2
(POND TH-17)
N: 485708.35
E: 3697221.57
HUB EL: -2.5
DEPTH: 3.9'
TOP OF 23" O.D. DUCTILE IRON PIPE
EL: -6.4
M&C TH-7
N: 485411.33
E: 3696531.29
HUB EL: -3.6
DEPTH: 4.5'
TOP OF 23" O.D. DUCTILE IRON PIPE
EL: -8.1
M&C TH-13
(POND TH-15)
N: 485420.82
E: 3696766.67
HUB EL: -2.4
DEPTH: 5.6'
TOP OF 23" O.D. DUCTILE IRON PIPE
EL: -8.3
M&C TH-16
(POND TH-18,498/70)
N: 485417.56
E: 3697468.76
HUB EL: -0.9
DEPTH: 3.9'
TOP OF 12" O.D. DUCTILE IRON PIPE
EL: -4.8
M&C TH-33
(POND TH-39)
N: 484756.38
E: 3696578.65
HUB EL: -0.8
DEPTH: 2.9'
TOP OF 8.5" O.D. HDPE PIPE
EL: -3.6
M&C TH-8
(POND TH-66)
N: 484545.70
E: 3696462.65
HUB EL: -0.5
DEPTH: 3.3'
TOP OF 9" O.D. HDPE PIPE
EL: -3.8
M&C TH-H
N: 484554.48
E: 3696456.16
HUB EL: -0.6
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-12
(POND TH-40)
N: 484646.33
E: 3697351.11
HUB EL: 0.2
DEPTH: 5.0'
TOP OF 11" O.D. DUCTILE IRON PIPE
EL: -4.8
M&C TH-18A
N: 484480.93
E: 3695872.06
HUB EL: -1.7
DEPTH: 4.0'
SANITARY SEWER LINE
TOP OF 8.25" O.D. PVC PIPE
EL: -5.7
M&C TH-18
(POND TH-34)
N: 484481.68
E: 3695869.98
HUB EL: -1.7
DEPTH: 4.5'
TOP OF 14" O.D. DUCTILE IRON PIPE
EL: -6.2
POST INDICATOR W/ VALVE?
GAS VALVES?
MISSING VALVE?
VALVES?
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 4



SHEET 4

MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 4


M&C TH-46
N: 488176.45
E: 3697976.86
HUB EL: -1.1
DEPTH:1.7'
TOP OF TELEPHONE LINE
EL:-2.79
M&C TH-47
N: 488172.16
E: 3697973.50
HUB EL: -1.2
DEPTH:2.1'
TOP OF TELEPHONE LINE
EL:-3.3
ABOVE GROUND
SHUT OFF VALVE
M&C TH-M
N: 488169.85
E: 3697973.20
HUB EL: -1.9
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-L
N: 488164.56
E: 3697972.29
HUB EL: -1.9
TEST HOLE UNSUCCESSFUL
HOLE COLLAPSE
M&C TH-10
N: 487988.44
E: 3698516.59
HUB EL: -2.0
DEPTH:2.6'
TOP OF 10.5" O.D. PVC PIPE
EL:-4.7
M&C TH-9
N: 487932.00
E: 3698480.38
HUB EL: -2.6
DEPTH:3.0'
TOP OF 10.5" O.D. PVC PIPE
EL:-5.6
M&C TH-35
(POND TH-10)
N: 487528.55
E: 3698202.36
HUB EL: -5.0
DEPTH:2.9'
TOP OF 9" O.D. HDPE PIPE
EL:-7.9
M&C TH-36
(POND TH-13)
N: 488540.83
E: 3699352.14
HUB EL: -0.5
DEPTH:3.9'
TOP OF 12" O.D. HDPE PIPE
EL:-4.4
M&C TH-37
(POND TH-14)
N: 488008.79
E: 3699228.76
HUB EL: -0.7
DEPTH:2.8'
TOP OF 11" O.D. HDPE PIPE
EL:-3.5
M&C TH-19
N: 487199.84
E: 3697889.74
HUB EL: -3.1
DEPTH:2.86'
TOP OF 11" O.D. HDPE PIPE
EL:-5.9
M&C TH-32
(POND TH-59)
N: 486783.12
E: 3698230.54
HUB EL: -2.4
DEPTH:3.3'
TOP OF 5.5" O.D. DUCTILE IRON PIPE
EL:-5.7
M&C TH-31
(POND TH-9)
N: 486850.07
E: 3698444.41
HUB EL: -3.3
DEPTH:2.8'
TOP OF 9" O.D. DUCTILE IRON PIPE
EL:-6.1
AS-BUILT CONFLICT SEE SHEETS
FOR BLDGS 90, 91, & 93?
037-0080159.PDF
WATER
METER?
037-0080159
WL
CONFIG?
037-0080159
GAS
VALVE?
LINE
DIRECTION?
LINE
DIRECTION
BLDG
90?
4377
VALVE?
VALVE
OR
PIN?
HANGER 5
2"PIPE
3"PIPE
2.5"PIPE
12"PIPE(PROPOSED?)
UK"PIPE
NEW BUILDING NO WATER LINE INFORMATION
W(B) WATER LINE - QUALITY B
W(C) WATER LINE - QUALITY C
W(D) WATER LINE - QUALITY D
W(Q) WATER LINE - ASSUMED LOCATION (GUESS?)
FIRE HYDRANT
POST INDICATOR VALVE
WATER VALVE
BFP BACK FLOW PREVENTOR
FIRE DEPARTMENT CONNECTION
WF WATER FOUNTAIN
W WATER METER
WATERLINE CONNECTION FROM BUILDING
TEST HOLE
TEST HOLE - FAILED
CONTROL POINT
CONTROL POINT - VERTICAL
N
100 0 100 200
SCALE: 1" = 100'
MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 5

SHEET 5

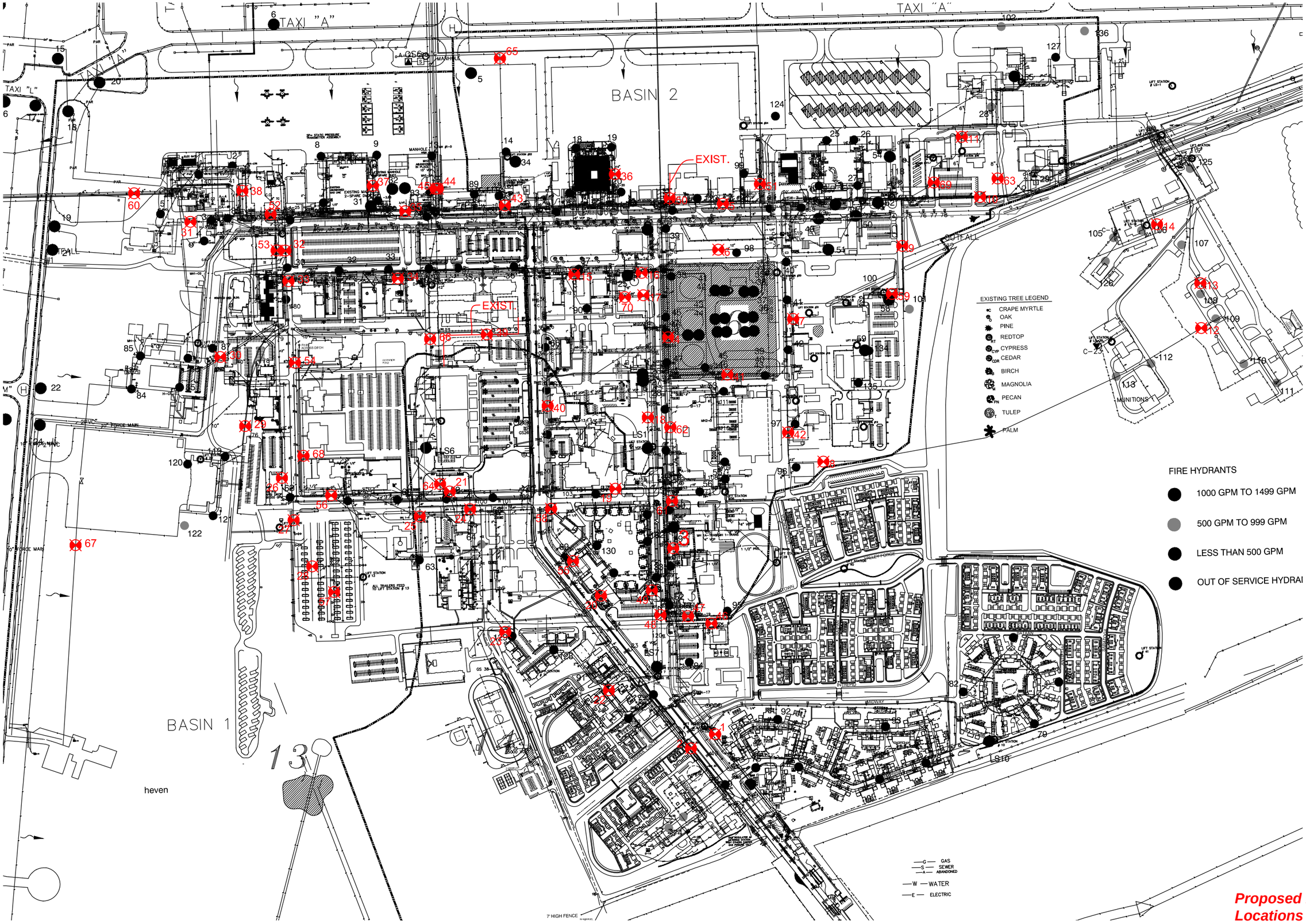
NAS JRB NOLA – SUE Quality Level “A” Test Hole Analysis

The following spreadsheet indicates the following information:

- Test Hole Locations
- Pipe Size per Base provided GIS Map
- Outside diameter of exposed water distribution pipe
- Pipe Material
- Depth of Pipe
- Additional Comments

The information obtained during the Test Hole Analysis has been incorporated into the final survey for this project. The hydraulic pipe model was created based on the final survey for the project. Refer to Final Survey (See this Appendix) for Test Hole Location Map.

Pond Test Hole Number	McKim & Creed Test Hole Number	Pipe Size per GIS Print	Outside Diamater	Material Type	Depth of Utility	Comments
1	40	10"	12"	Ductile Iron	4.56'	Dug on the bell of the pipe
2	39	10"	11"	Blue HDPE	3.98'	
3	22	10"	11"	Ductile Iron	4.27'	
4	20	10"	11"	Ductile Iron	2.70'	
5						Depth
6	14	12"	13"	Ductile Iron	3.36'	
7						Too Deep to dig, Deeper than 6+'
8	17	10"	14"	Blue HDPE	3.0'	
9	31	8"	9"	Ductile Iron	2.77'	
10	35	8"	9"	Blue HDPE	2.88'	
11						Unlocatable, even by probing
12						Water Leak
13	36	10"	12"	Unknown-White Pipe	3.91'	
14	37	10"	11"	Blue HDPE	2.79'	
15	13	20"	23"	Ductile Iron	5.94'	
16	23	20"	23"	Ductile Iron	4.35'	
17	2	20"	23"	Ductile Iron	3.90'	
18	16	10"	12"	Ductile Iron	3.88'	
19	1	10"	11"	Ductile Iron	5.33'	
20						Too Deep to dig, Deeper than 6+'
21	1	10"	11"	Ductile Iron	5.33'	
22	29	8"	9"	Unknown-White Pipe	3.50'	
23	41	8"	9"	Ductile Iron	5.82'	
24	43	8"	9"	Blue HDPE	6.88'	
25	44	8"	8.5"	Ductile Iron	2.81'	
26	25	12"	14"	Ductile Iron	3.88'	
27	26	8"	9"	Blue HDPE	1.80'	
28	27	8"	9"	Blue HDPE	2.34'	
29	34	20"	21"	Blue HDPE	3.04'	
30	30	12"	13"	Unknown-White Pipe	3.79'	
31						Unlocatable, even by probing
32	34	20"	21"	Blue HDPE	3.04'	
33						Too Deep to dig, Deeper than 6+'
34	18	10"	14"	Ductile Iron	4.45'	
35						Too Deep to dig, Deeper than 6+'
36						Too Deep to dig, Deeper than 6+'
37						Concrete
38						Too Deep to dig, Deeper than 6+'
39	33	Unknown	8.5"	Blue HDPE	2.88'	
40	12	10"	11"	Ductile Iron	4.95'	
41	38	10"	12"	Ductile Iron	5.49'	
42	15	12"	14"	Blue HDPE	3.22'	
43						Too Deep to dig, Deeper than 6+'
44						Unlocatable, even by probing
45						No Access- Cargo Boxes
46						Too Deep to dig, Deeper than 6+'
47						Too Deep to dig, Deeper than 6+'
48						Too Deep to dig, Deeper than 6+'
49	16	10"	12"	Ductile Iron	3.88'	
50						Too Deep to dig, Deeper than 6+'
51						No Access
52						Too Deep to dig, Deeper than 6+'
53	25	12"	14"	Ductile Iron	3.88'	
54	45	6"	7"	Blue HDPE	2.04'	
55	42	10"	11"	Ductile Iron	4.19'	
56	1	10"	11"	Ductile Iron	5.33'	
57	28	8"	9"	Blue HDPE	2.38'	
58						Too Deep to dig, Deeper than 6+'
59	32	3"	5.5"	Ductile Iron	3.33'	
60						No Access
61	20	10"	11"	Ductile Iron	2.70'	
62	20	10"	11"	Ductile Iron	2.70'	
63						Unlocatable, even by probing
64	24	8"	9"	Blue HDPE	6.60'	
65						No Access
66	8	8"	9"	Blue HDPE	3.29'	
67						No Access
68						Unlocatable, even by probing
69						Unlocatable, even by probing
70	16	10"	12"	Ductile Iron	3.88'	



Proposed Boring Locations