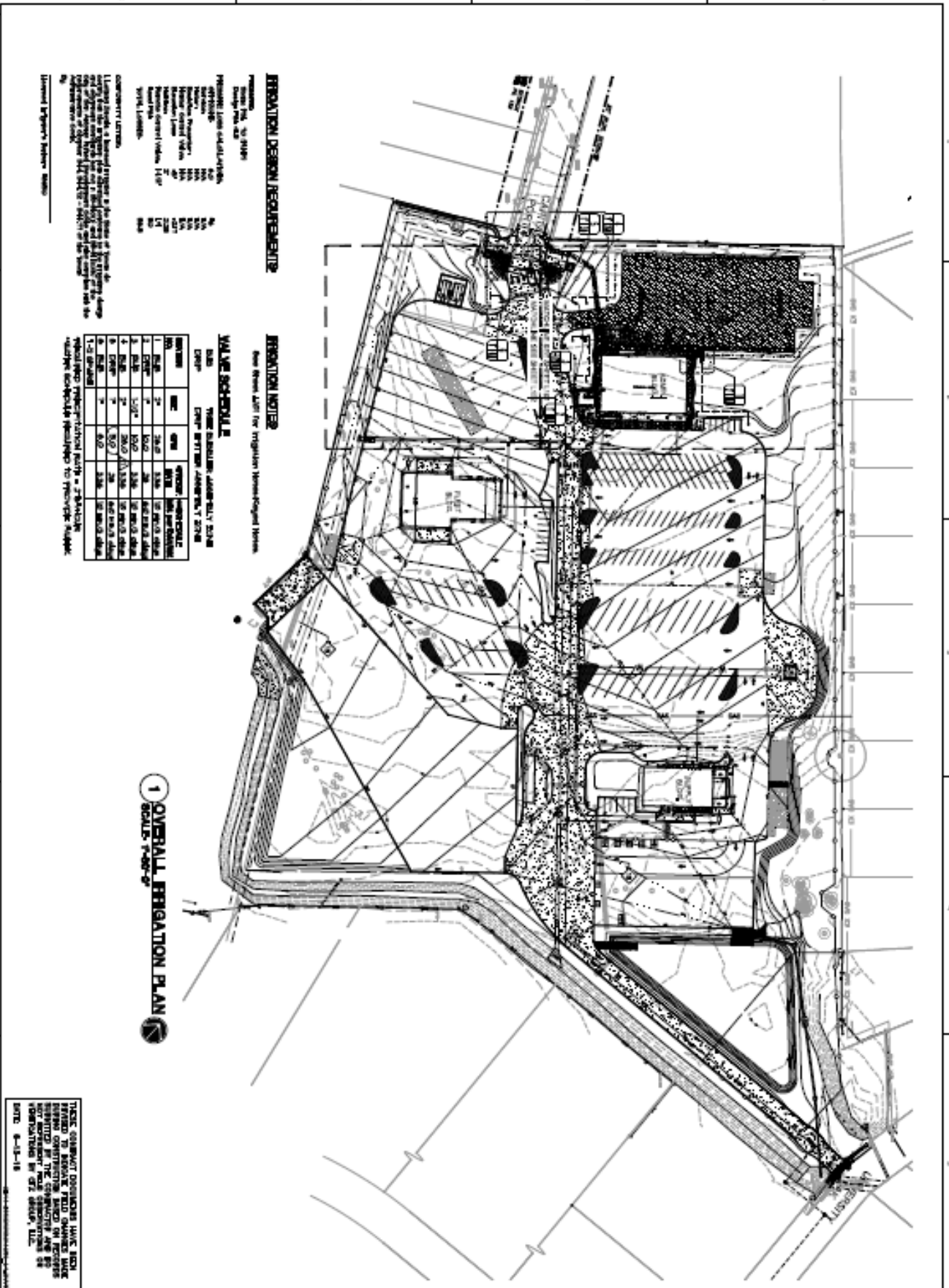


# IRRIGATION PLAN

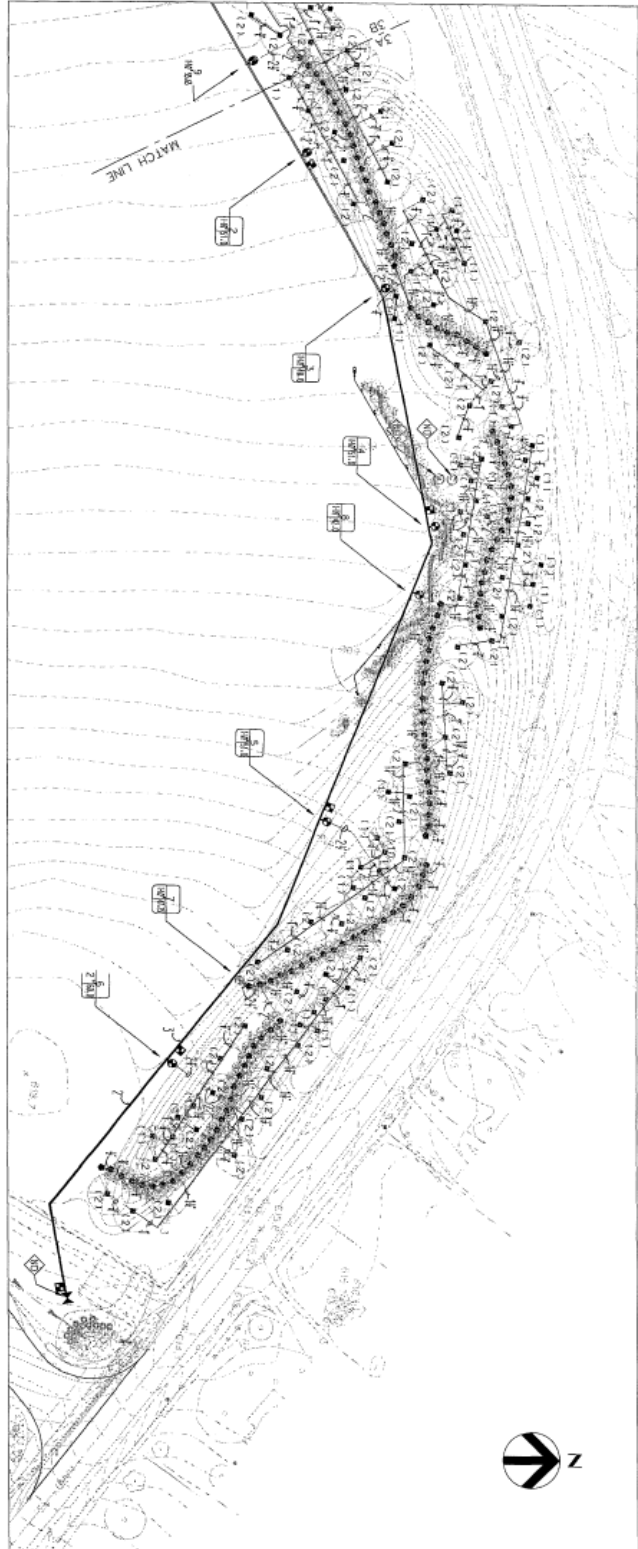


HQ Irrigation Zones



Northside Operations Center



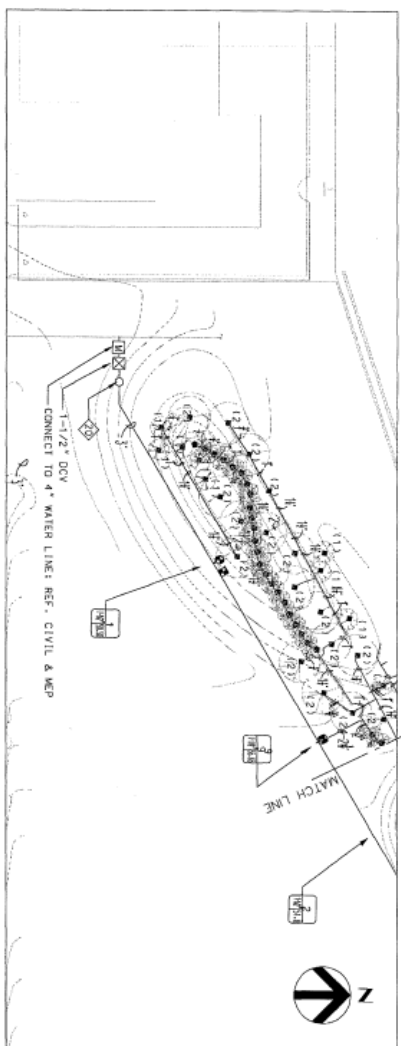


IRRIGATION PLAN AREA - 3A

NOTE: REFER TO SHEET 101L FOR IRRIGATION LEGEND AND NOTES

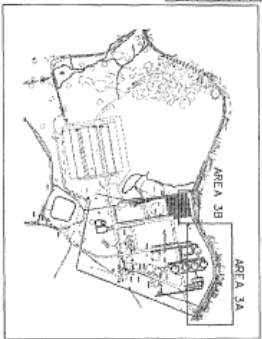
VALVE SCHEDULE

STATION	SIZE	SPW
1	1-1/2"	55.80
2	1-1/2"	46.0
3	1-1/2"	51.0
4	1-1/2"	50.0
5	1-1/2"	47.25
6	1-1/2"	51.50
7	1-1/2"	51.50
8	1-1/2"	51.50
9	1-1/2"	51.50
10	1-1/2"	51.50
11	1-1/2"	51.50
12	1-1/2"	51.50
13	1-1/2"	51.50
14	1-1/2"	51.50
15	1-1/2"	51.50
16	1-1/2"	51.50
17	1-1/2"	51.50
18	1-1/2"	51.50
19	1-1/2"	51.50
20	1-1/2"	51.50
21	1-1/2"	51.50
22	1-1/2"	51.50
23	1-1/2"	51.50
24	1-1/2"	51.50
25	1-1/2"	51.50
26	1-1/2"	51.50
27	1-1/2"	51.50
28	1-1/2"	51.50
29	1-1/2"	51.50
30	1-1/2"	51.50
31	1-1/2"	51.50
32	1-1/2"	51.50
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66	1-1/2"	51.50
67	1-1/2"	51.50
68	1-1/2"	51.50
69	1-1/2"	51.50
70	1-1/2"	51.50
71	1-1/2"	51.50
72	1-1/2"	51.50
73	1-1/2"	51.50
74	1-1/2"	51.50
75	1-1/2"	51.50
76	1-1/2"	51.50
77	1-1/2"	51.50
78	1-1/2"	51.50
79	1-1/2"	51.50
80	1-1/2"	51.50
81	1-1/2"	51.50
82	1-1/2"	51.50
83	1-1/2"	51.50
84	1-1/2"	51.50
85	1-1/2"	51.50
86	1-1/2"	51.50
87	1-1/2"	51.50
88	1-1/2"	51.50
89	1-1/2"	51.50
90	1-1/2"	51.50
91	1-1/2"	51.50
92	1-1/2"	51.50
93	1-1/2"	51.50
94	1-1/2"	51.50
95	1-1/2"	51.50
96	1-1/2"	51.50
97	1-1/2"	51.50
98	1-1/2"	51.50
99	1-1/2"	51.50
100	1-1/2"	51.50



IRRIGATION PLAN AREA - 3B

NOTE: REFER TO SHEET 101L FOR IRRIGATION LEGEND AND NOTES

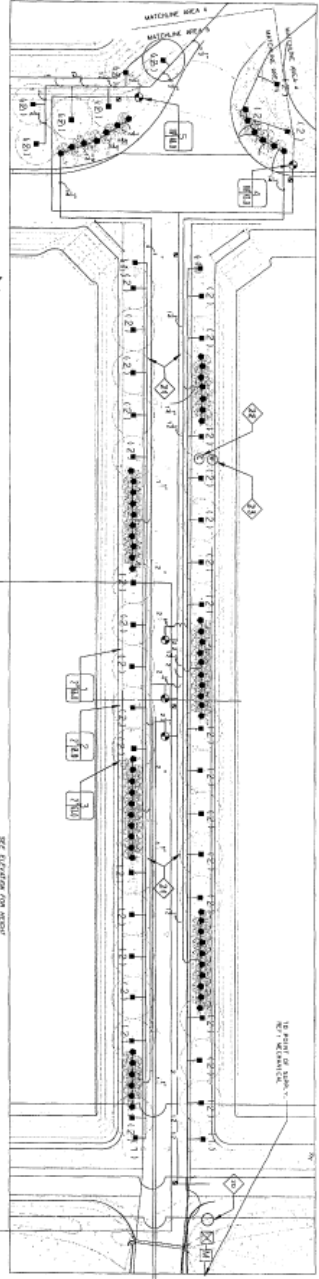


KEY MAP

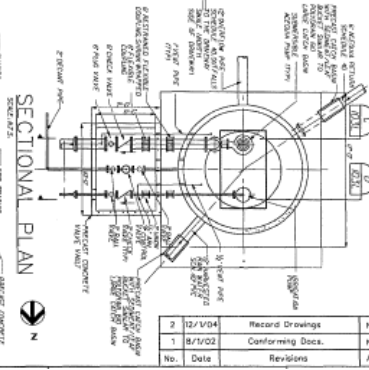


No.	Date	Revisions	App.
2	12/1/04	Record Drawings	NAC
1	8/1/02	Confirming Docs.	NAC

ASR

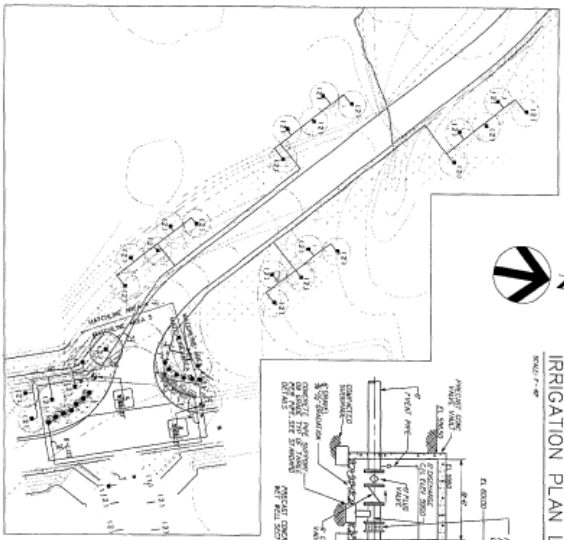


IRRIGATION PLAN LAGOON  
SCALE: 1" = 100'

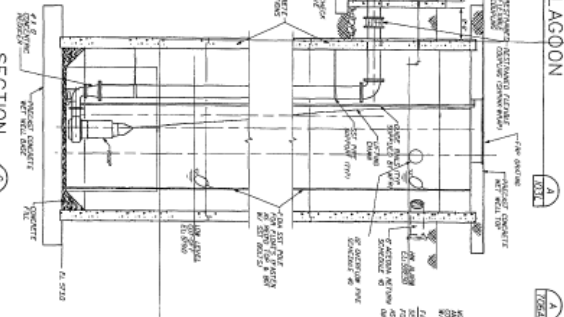


SECTIONAL PLAN  
SCALE: 1/4" = 1'-0"

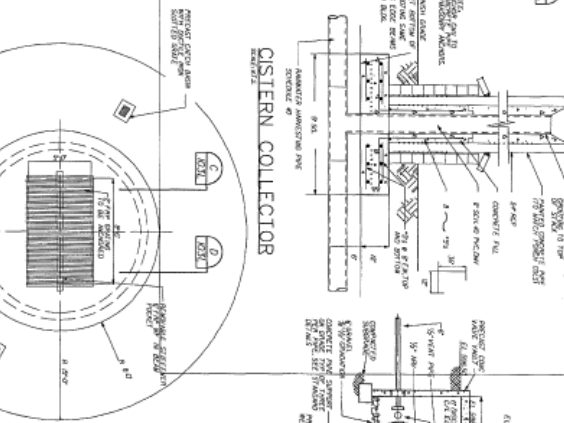
No.	Date	Revisions	App.
2	12/1/04	Record Drawings	NAG
1	8/1/02	Conforming Docs.	NAG
			App.



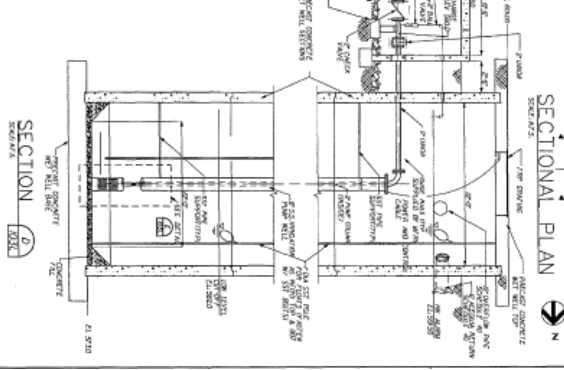
IRRIGATION PLAN AREA-4  
SCALE: 1/4" = 1'-0"



SECTION  
SCALE: 1/4" = 1'-0"



CISTERN COLLECTOR  
SCALE: 1/4" = 1'-0"

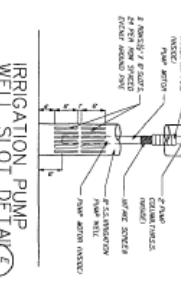


SECTION  
SCALE: 1/4" = 1'-0"

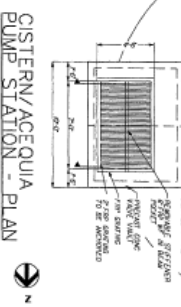
VALVE SCHEDULE

DNMP: PUMP ASSOCIATED ZONE  
DNM: MAINLINE ZONE  
DNM: MAINLINE ZONE  
DNM: TREE ROWS

STATION NO.	SIZE	DNM
1	2"	66.0
2	2"	66.3
3	2"	66.3
4	1 1/2"	43.0
5	1 1/2"	48.0
6		



IRRIGATION PUMP WELL SLOT DETAIL  
SCALE: 1/4" = 1'-0"



CISTERN/PUMP STATION - PLAN  
SCALE: 1/4" = 1'-0"

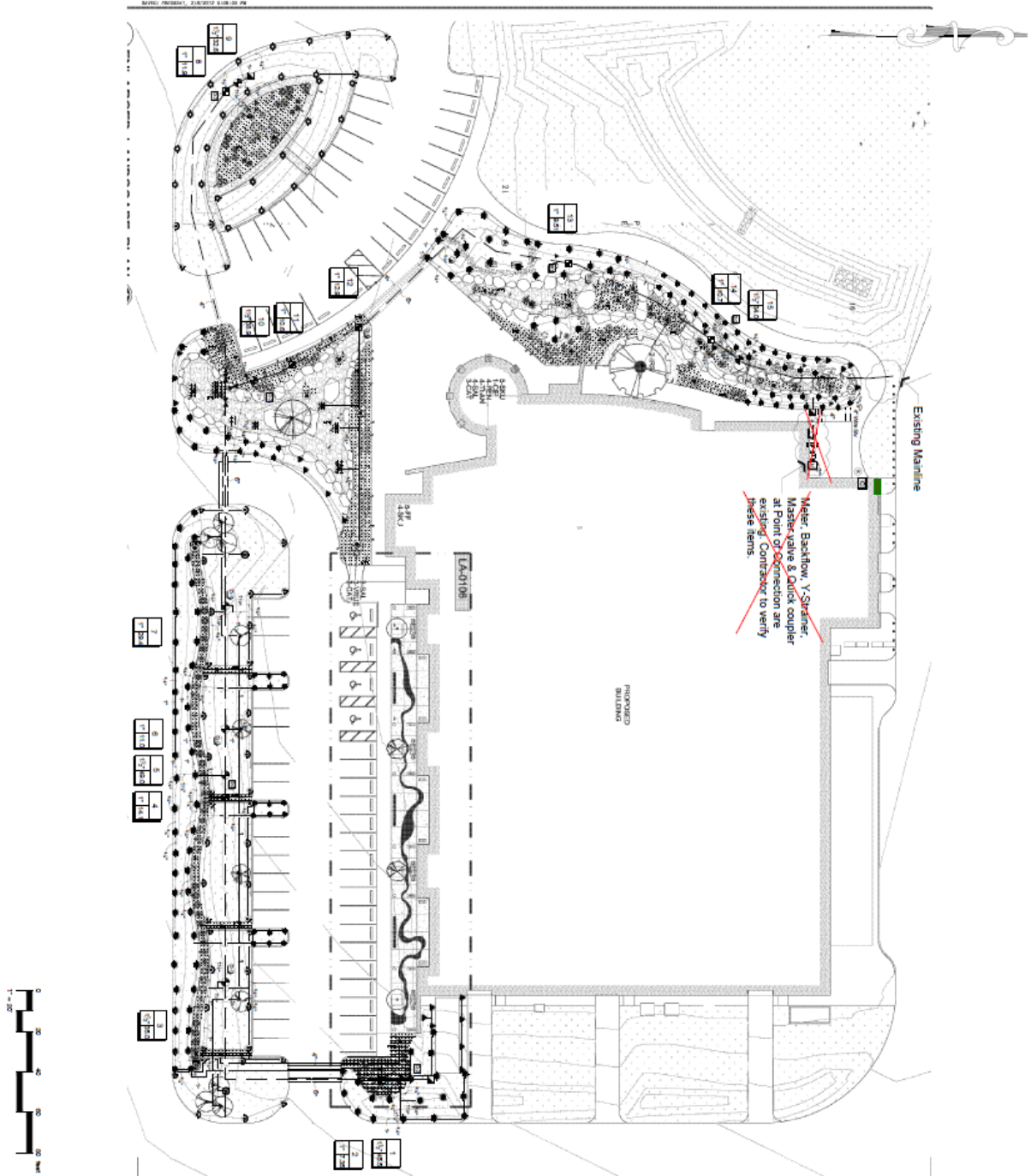


SCALE: 1/4" = 1'-0"

ASR





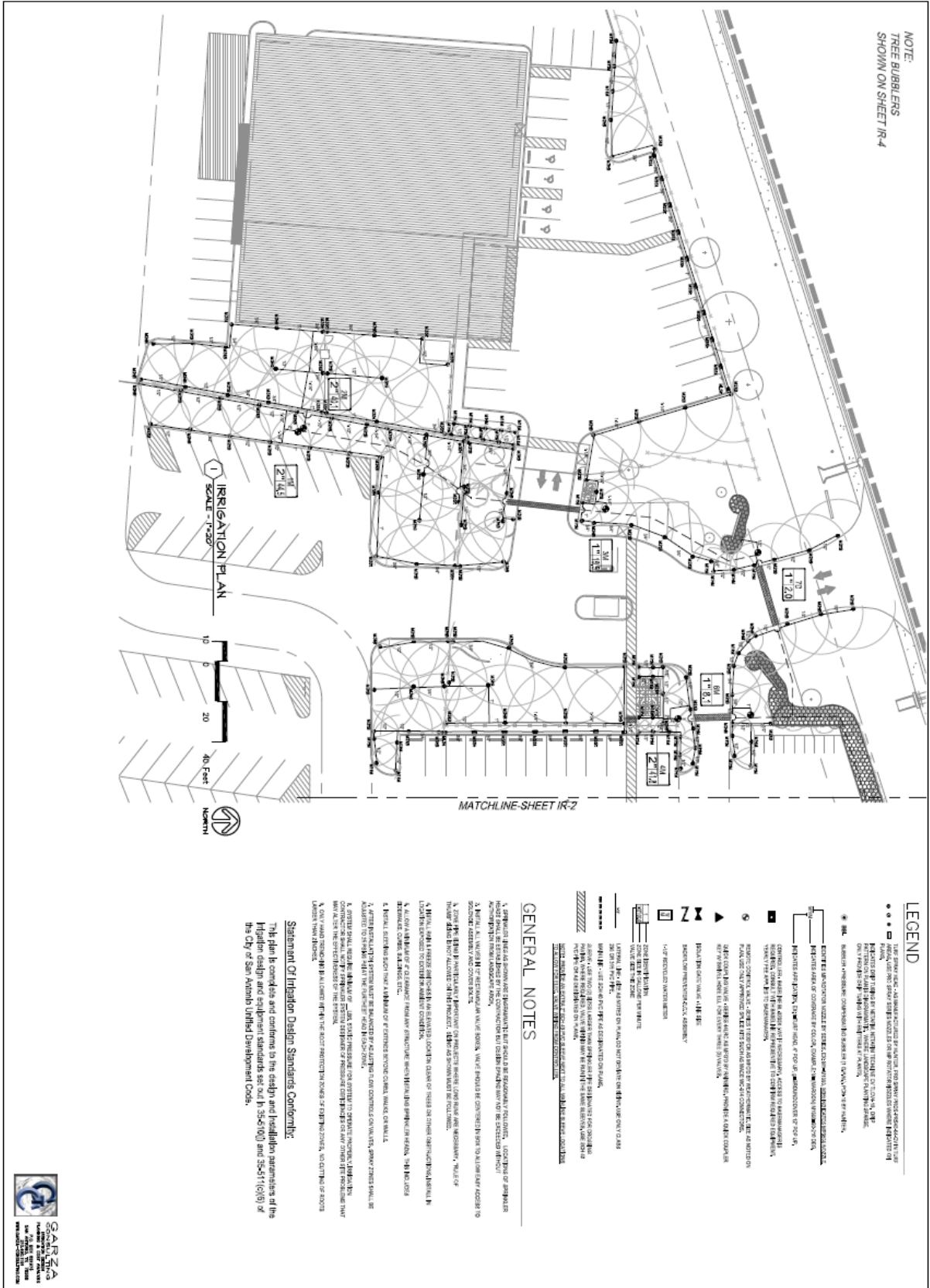


**IRRIGATION NOTES**

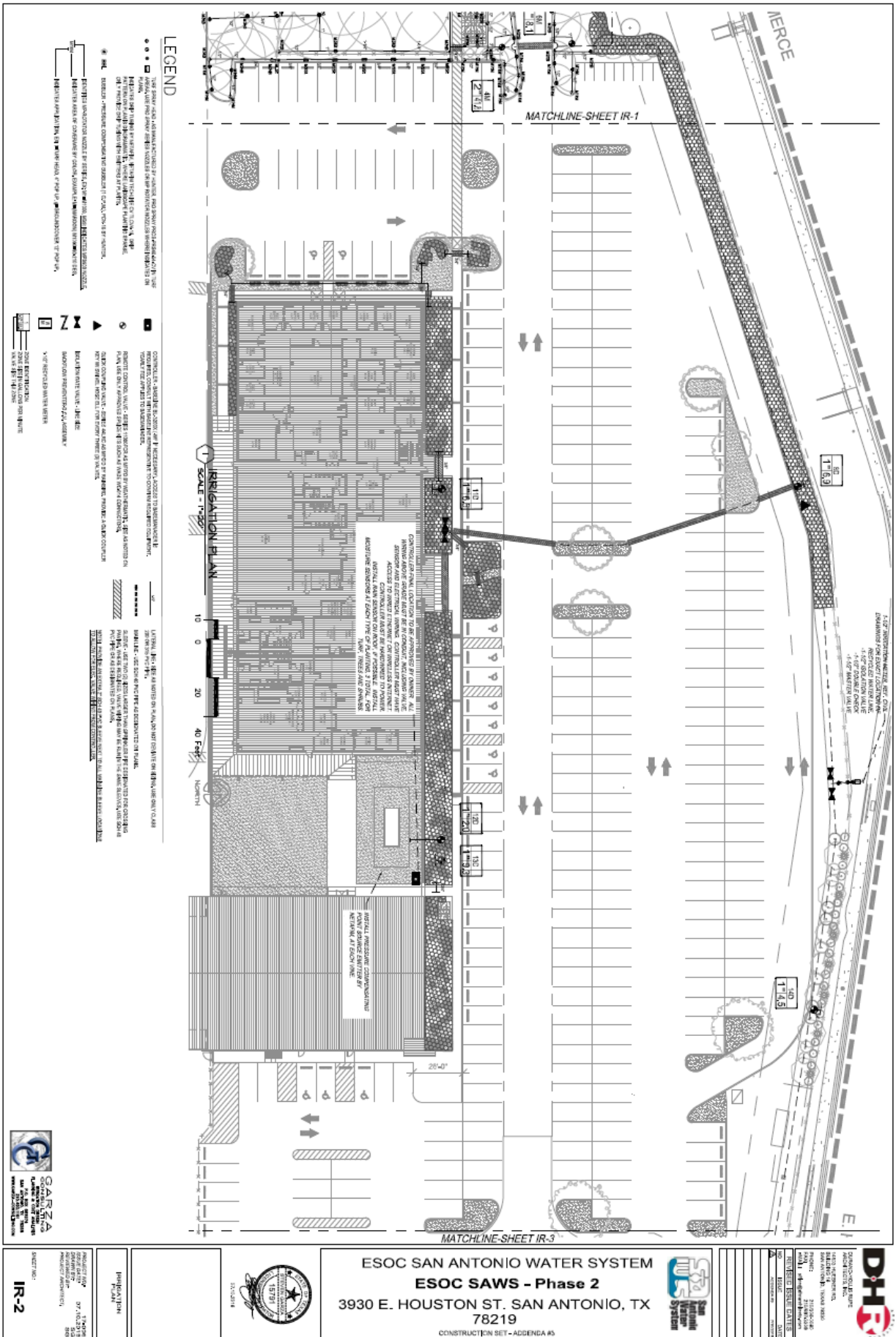
1. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE IRRIGATION CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO CONSTRUCTION.
3. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE IRRIGATION CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO CONSTRUCTION.
5. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE IRRIGATION CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO CONSTRUCTION.
7. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE IRRIGATION CONTRACT DOCUMENTS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO CONSTRUCTION.
9. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH THE IRRIGATION CONTRACT DOCUMENTS.
10. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND EQUIPMENT PRIOR TO CONSTRUCTION.

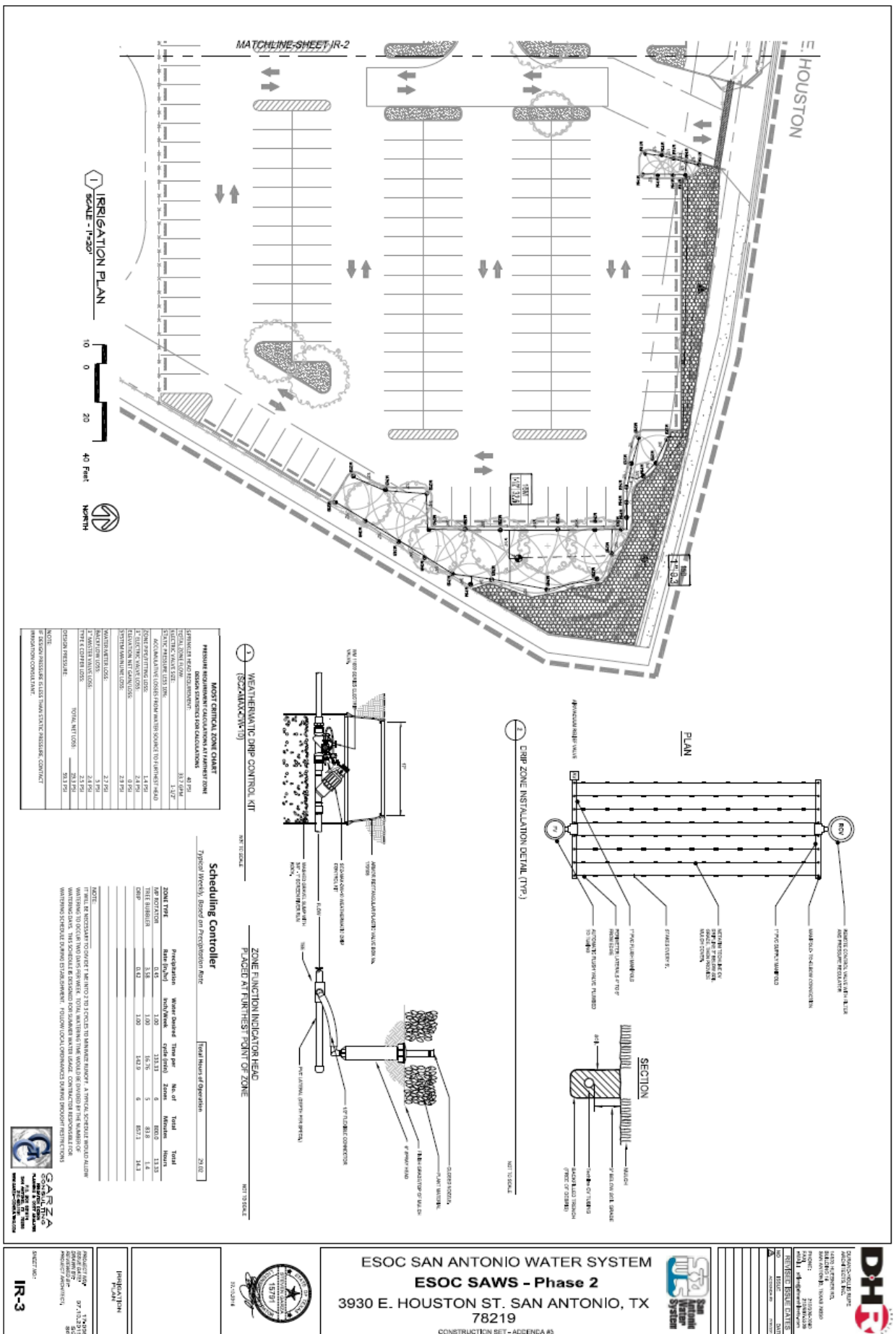


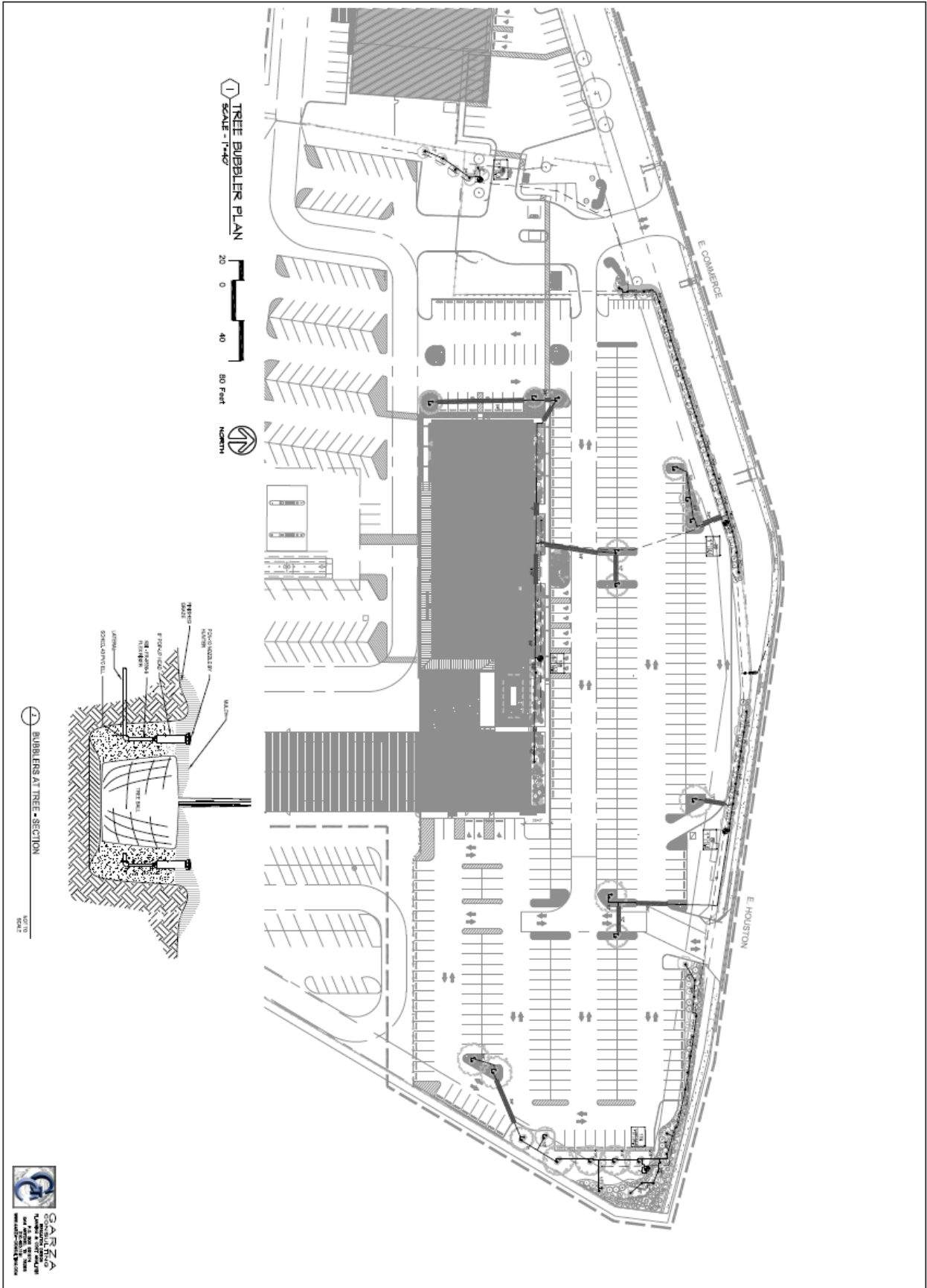
SYMBOL	DESCRIPTION
1	VALVE
2	PUMP
3	BACKFLOW PREVENTER
4	V-Separator
5	MASTER VALVE
6	QUICK COUPLER
7	EXISTING UTILITY
8	EXISTING EQUIPMENT
9	EXISTING PIPING
10	EXISTING CONDUIT
11	EXISTING MANHOLE
12	EXISTING STRUCTURE
13	EXISTING FENCE
14	EXISTING DRIVEWAY
15	EXISTING SIDEWALK
16	EXISTING CURB
17	EXISTING LANDSCAPE
18	EXISTING TREES
19	EXISTING SHRUBS
20	EXISTING GRASS
21	EXISTING PAVEMENT
22	EXISTING CONCRETE
23	EXISTING BRICK
24	EXISTING STONE
25	EXISTING SAND
26	EXISTING GRAVEL
27	EXISTING SOIL
28	EXISTING ROCK
29	EXISTING BUSHES
30	EXISTING TREES











1 TREE BUBBLER PLAN  
SCALE - 1"=40'

2 RUBBLERS AT TREE - SECTION  
SCALE - 1"=16"



PROJECT NO.	IR-4
DATE	07-11-12
DESIGNED BY	...
CHECKED BY	...
APPROVED BY	...
PROJECT MANAGER	...

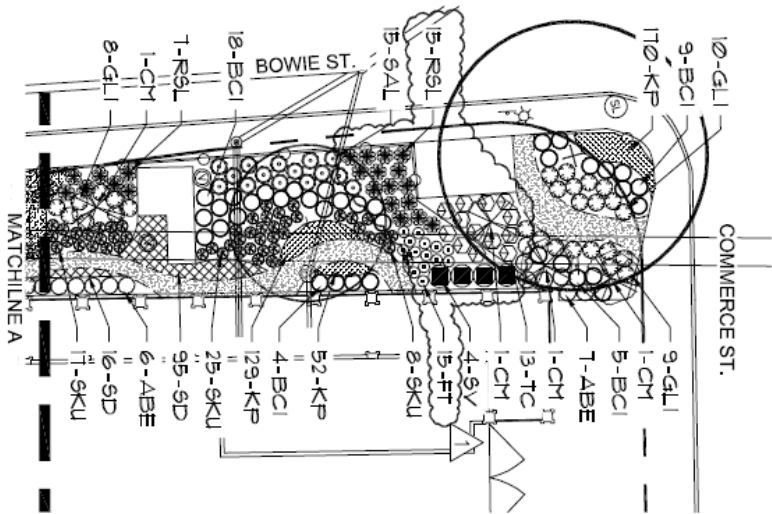
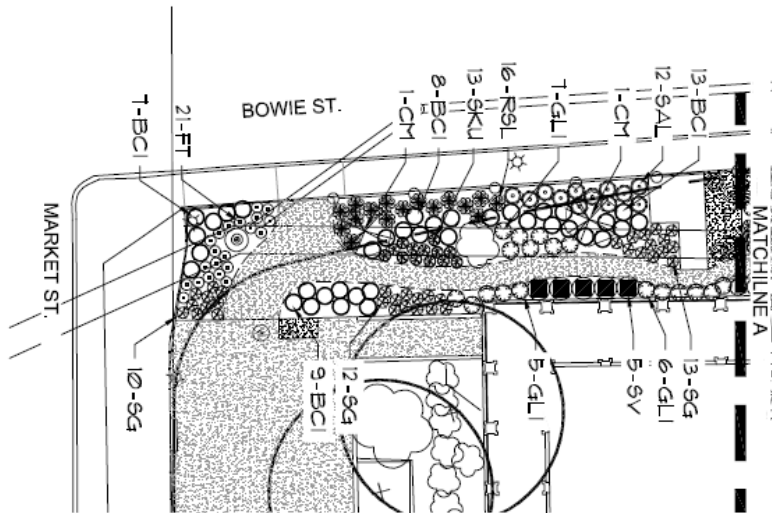


ESOC SAN ANTONIO WATER SYSTEM  
**ESOC SAWS - Phase 2**  
 3930 E. HOUSTON ST. SAN ANTONIO, TX  
 78219  
 CONSTRUCTION SET - ADDENDA #5

NO.	DATE	DESCRIPTION



**SAWS CHILLED WATER PLANT IMPROVEMENTS  
BOWIE ST. PLANTING - PAGE 01**

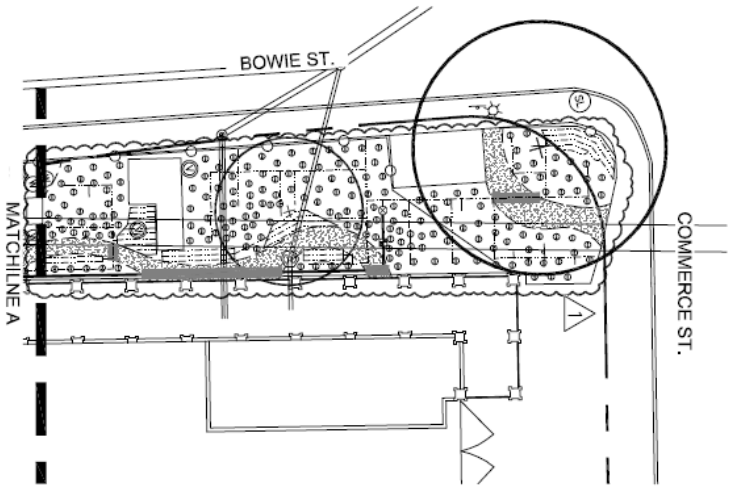
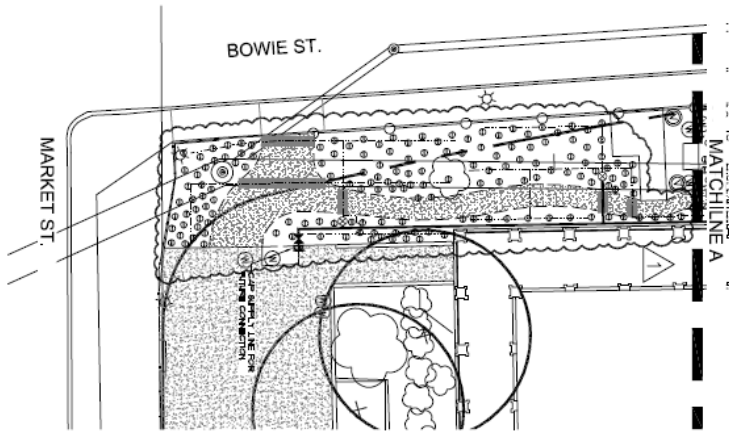


- LEGEND**
- ⊙ EXISTING TREE TO REMAIN
  - ⊕ EXISTING SHRUB TO REMAIN
  - ⊗ TUSCARORA GRAPE MYRTLE
  - AMERICAN BEAUTYBERRY (ABE)
  - BICOLOR IRIS (BIC)
  - CHERRY PINK SALVIA (SAL)
  - FOXTRAIL FERN (FT)
  - GIANT LIRIOPE (GLI)
  - PINK KATIE PETUNIA (KP)
  - PINK SKULLCAP (SKU)
  - RED SPIDER LILY (RSL)
  - SANDANKWA VIBURNUM (SV)
  - SILVER DALEA (SD)
  - SOCIETY GARLIC (SG)
  - TURKIS CAP (TC)
  - ▲ DECOMPOSER GRANITE
  - - - 1/4" STEEL EDGING

**NOTE:**  
CONTRACTOR SHALL INSTALL ALL IRRIGATION COMPONENTS SHOWN ON PAGE 03 (INCLUDING 1-1/2" SUPPLY LINE, 1/2" DRIP TUBING, 1" VALVES, MANUAL VALVES, AND QUICK COUPLERS) AND ALL OTHER COMPONENTS NECESSARY FOR DRIP IRRIGATION IN THIS AREA. CAP PIPES FOR FUTURE CONNECTION.

▲ ADDENDUM 1 01/28/2016  
**CFZ GROUP, LLC**  
JANUARY 14, 2015

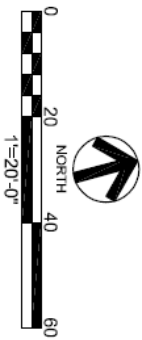
**SAWS CHILLED WATER PLANT IMPROVEMENTS**  
**BOWIE ST. IRRIGATION - PAGE 03**



**NOTE:**  
 CONTRACTOR SHALL INSTALL ALL IRRIGATION COMPONENTS SHOWN ON THIS SHEET (INCLUDING 1-1/2" SUPPLY LINE, 1/2" DRIP TUBING, 1" VALVES, MANUAL VALVES, AND QUICK COUPLERS) AND ALL OTHER COMPONENTS NECESSARY FOR DRIP IRRIGATION IN THIS AREA. CAP PIPES FOR FUTURE CONNECTION.

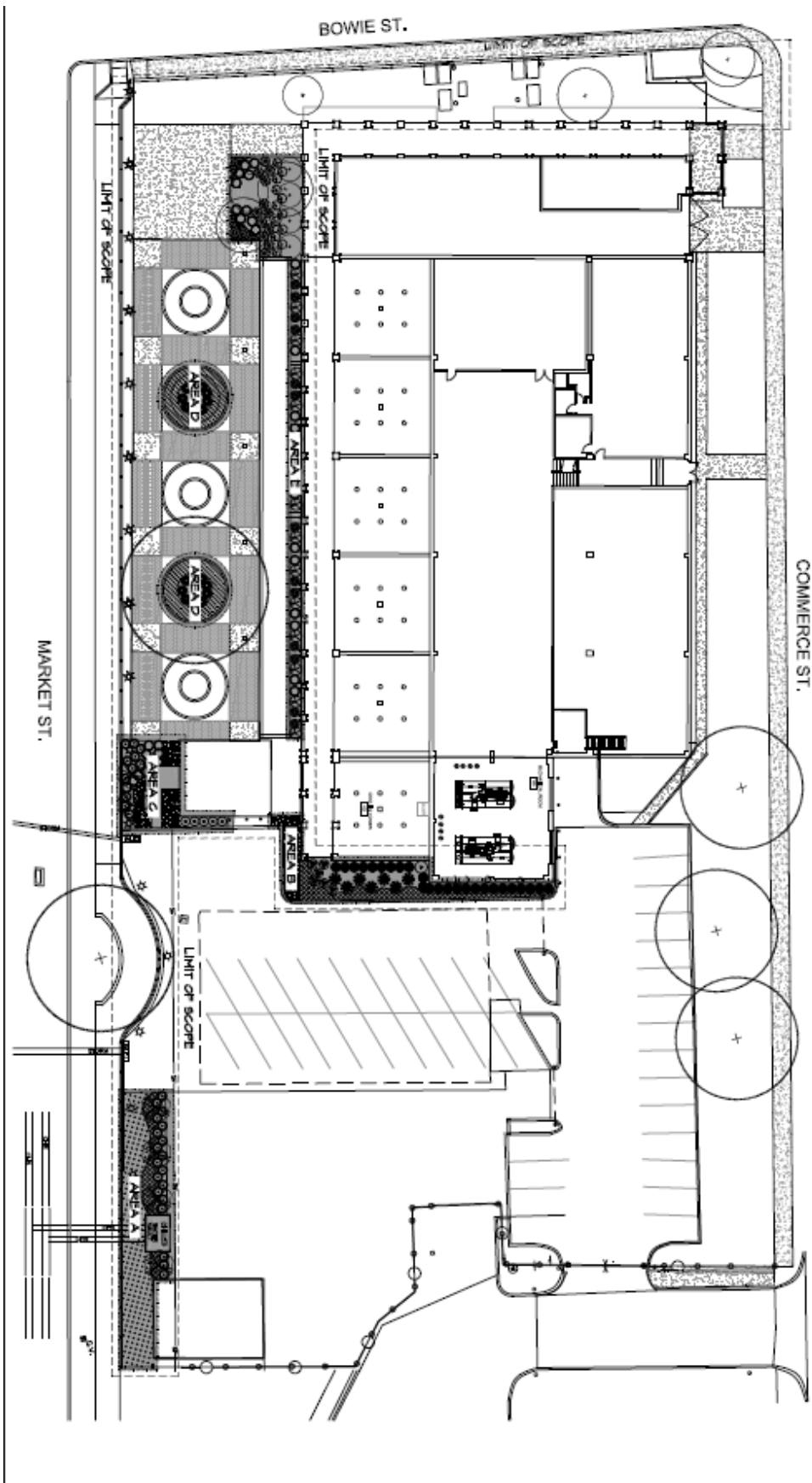
**LEGEND**

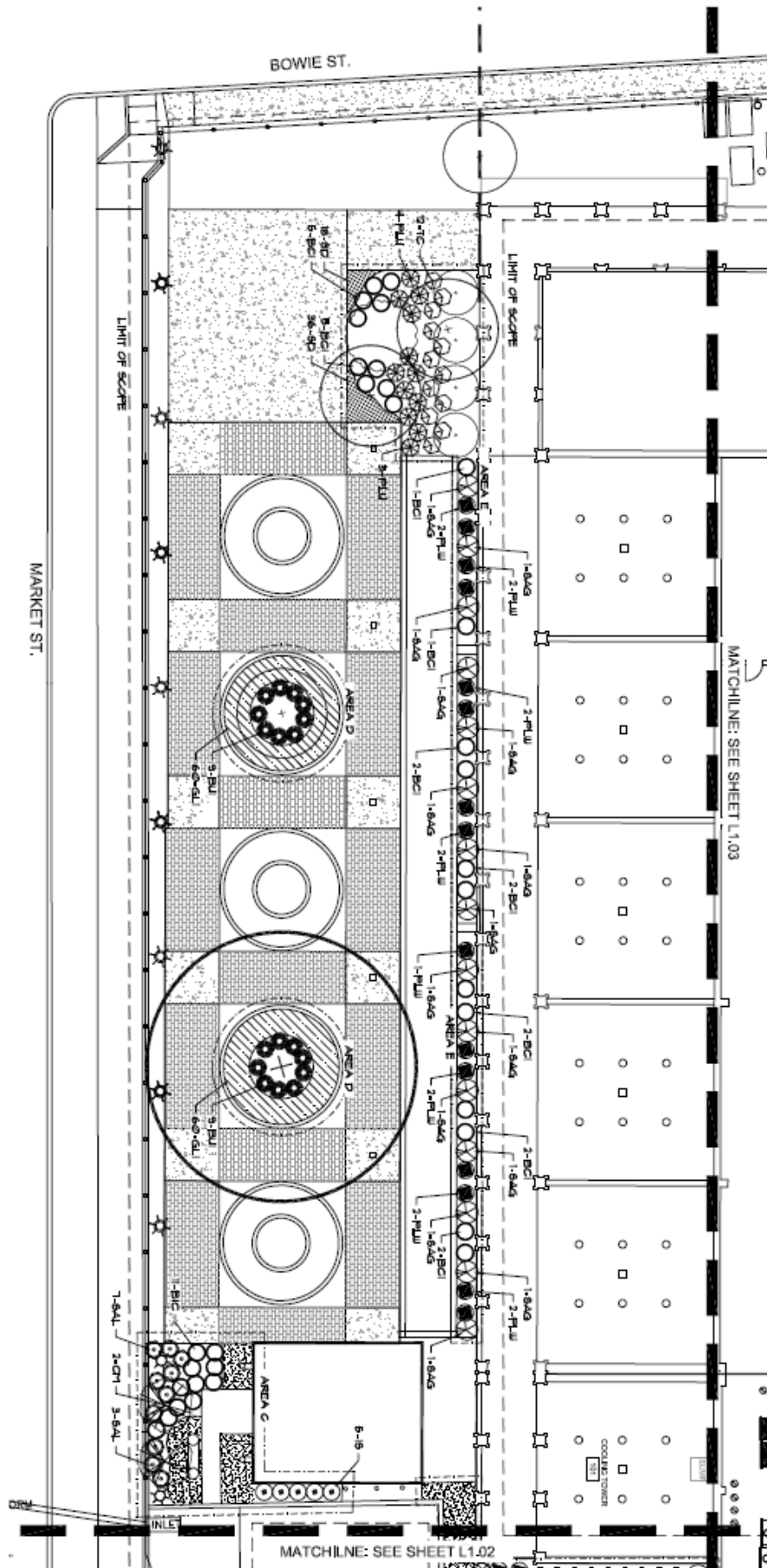
- ⊗ DRIP REMOTE CONTROL VALVE
- ⊙ DRIP EMITTER
- ⊕ TREE DRIP BUBBLER ASSEMBLY
- ⊠ MANUAL VALVE
- ⊞ QUICK COUPLER
- LATERAL PIPING
- DRIP LINE
- SUPPLY LINE
- EXISTING SUPPLY LINE
- IRRIGATION SLEEVE
- ▒ DECOMPOSED GRANITE
- - - BED EDGER

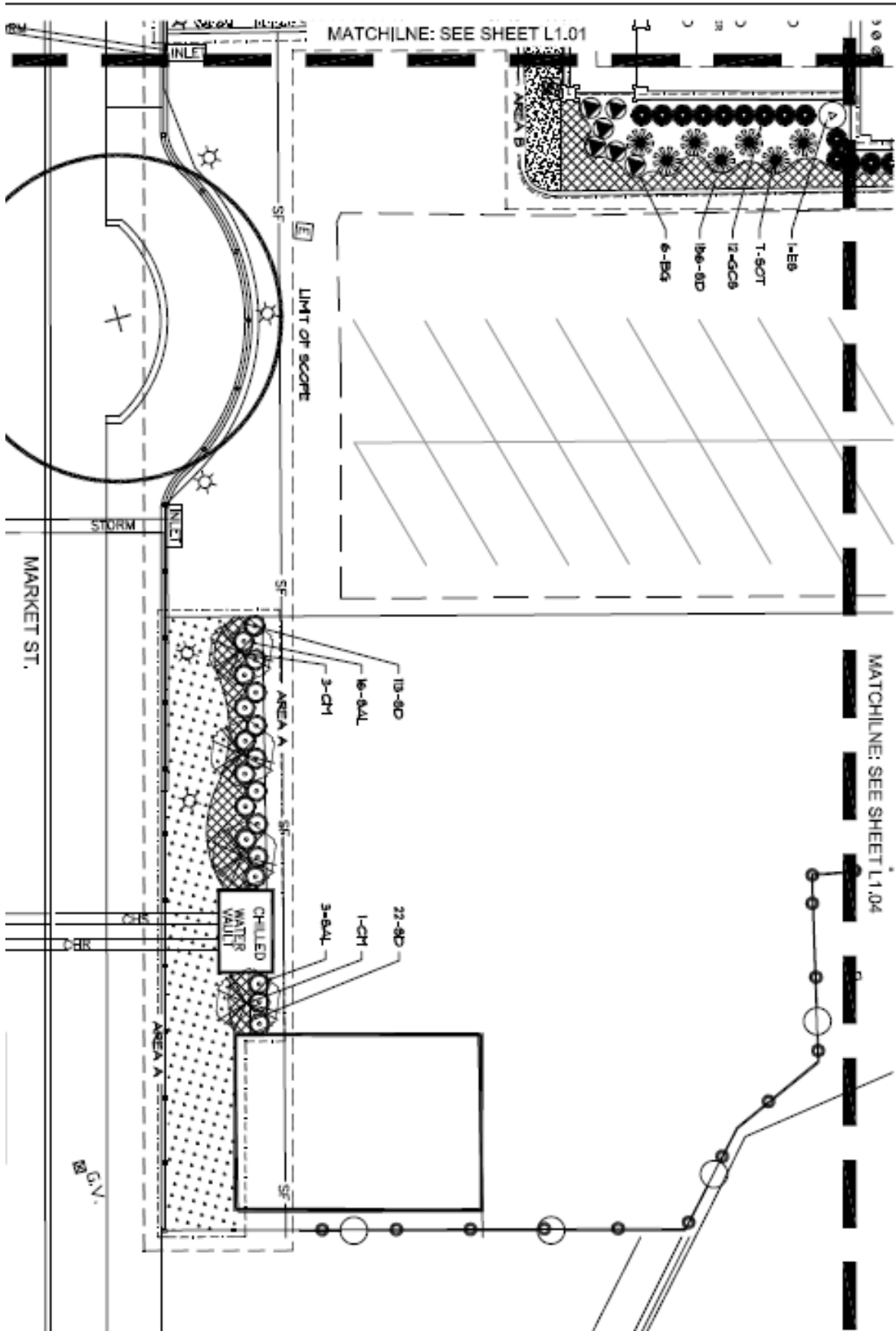


▲ ADDENDUM 1 01/28/2016  
 CFZ GROUP, LLC  
 JANUARY 14, 2015



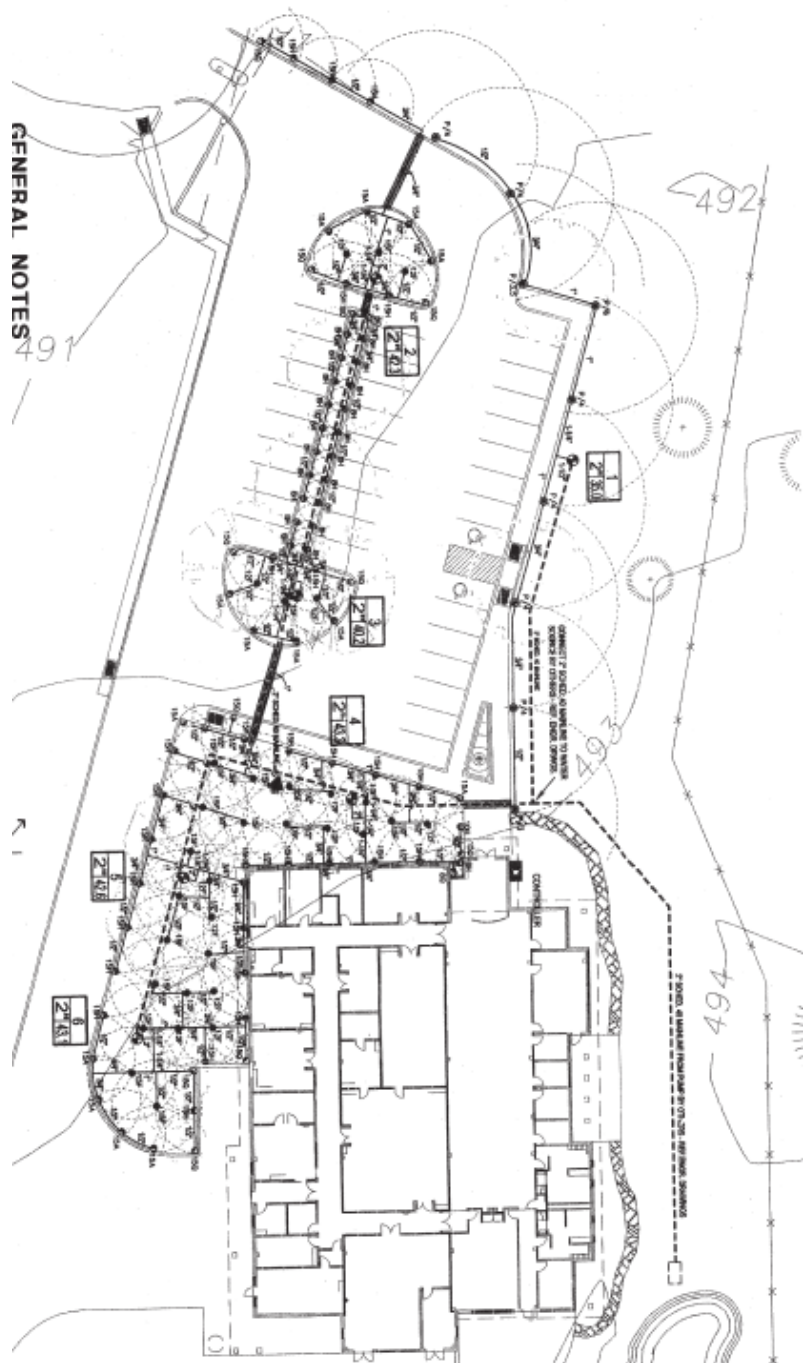


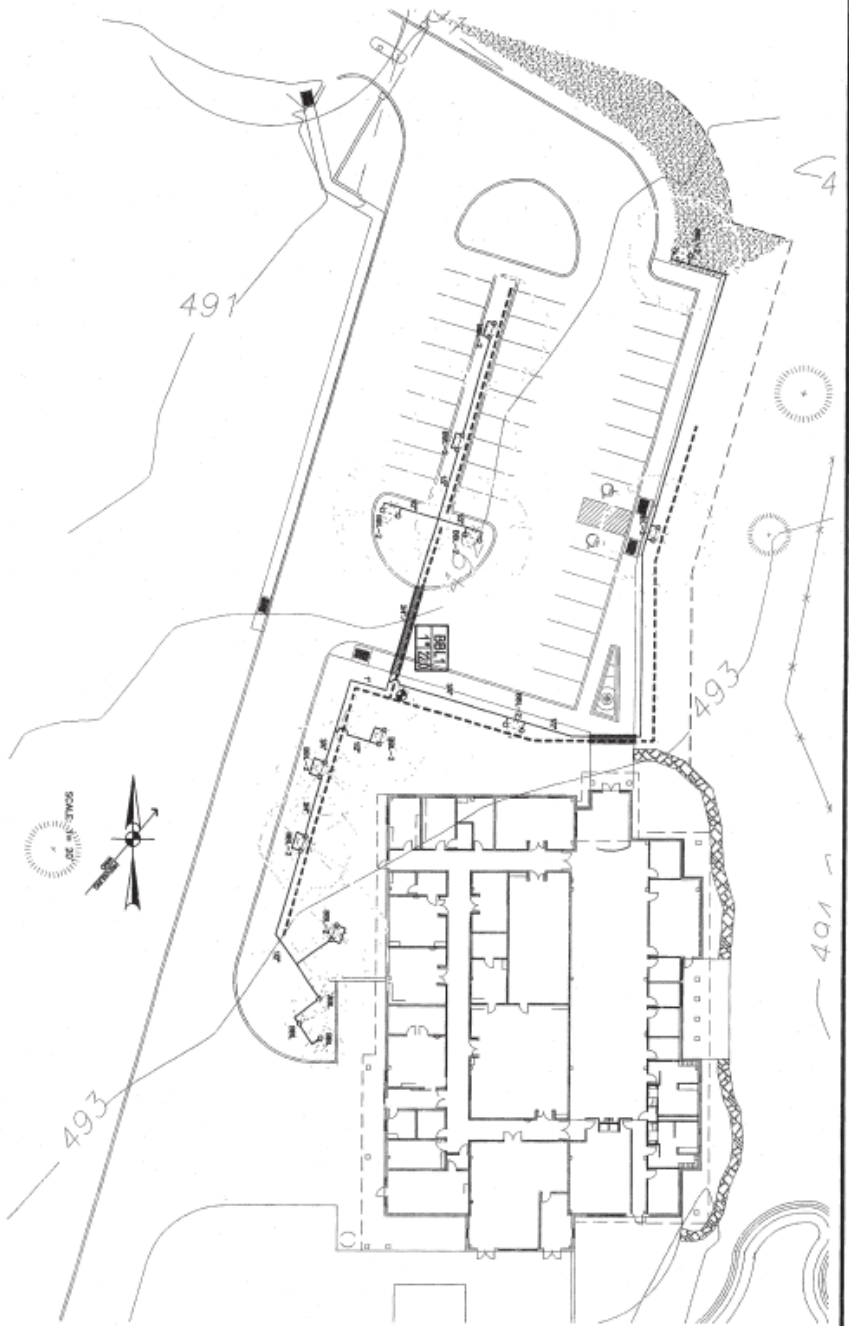




1. PLAN

PIPELINE EQUIPMENT CALCULATIONS @ ZONE NO.	5
Spotter level measurement:	29.0 F.H.T.
Total Zone Flow:	451.0 G.P.M.
Static Water Table:	33.0 F.H.T.
Static Pressure Loss 150'	5.8 F.H.T.
RESISTANCE LOSSES FROM GWT MAIN TO OUTPOST HEAD	2.0 F.H.T.
PIPE FRICTION LOSS	3.2 F.H.T.
2' Static Water Loss	0 F.H.T.
Expansion Not Over/Under	4.0 F.H.T.
Friction Losses Water 450'	4.8 F.H.T.
Friction Losses Water 450'	4.8 F.H.T.
Friction Losses Water 450'	4.8 F.H.T.
2' Static Water Loss	2.0 F.H.T.
Design Pressure:	100.0 F.H.T.
Total Net Loss:	48.0 F.H.T.





"PLAN OF RECORD"  
COMPLETED 2-29-08



REV	DATE	DESCRIPTION	BY	CHK	APPVD
A	10/18/04	ISSUE FOR REVIEW	JK		
B	12/18/04	ISSUE FOR CONSTRUCTION	JK		

PROJECT NUMBER: 034516  
FILE NAME: ENVIRONMENTAL WATER LAB  
SHEET TITLE: Tree Inventory  
PLOT DATE: 02/29/08



**THE AUSTIN COMPANY**  
ARCHITECTS  
ENGINEERS  
CONSTRUCTORS

55 WALSH DRIVE, SUITE 200 HOUSTON, TEXAS 713-660-0122

DRAWING NO. ISSUE  
**L-201 B**