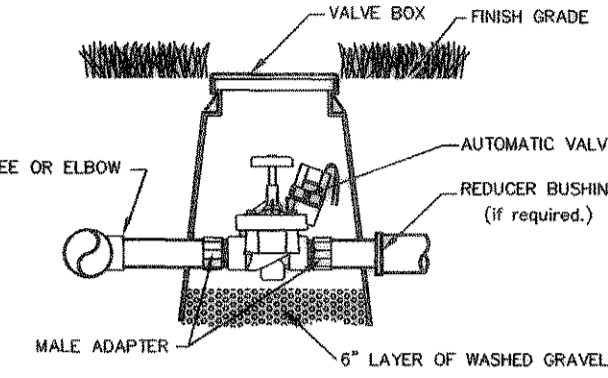
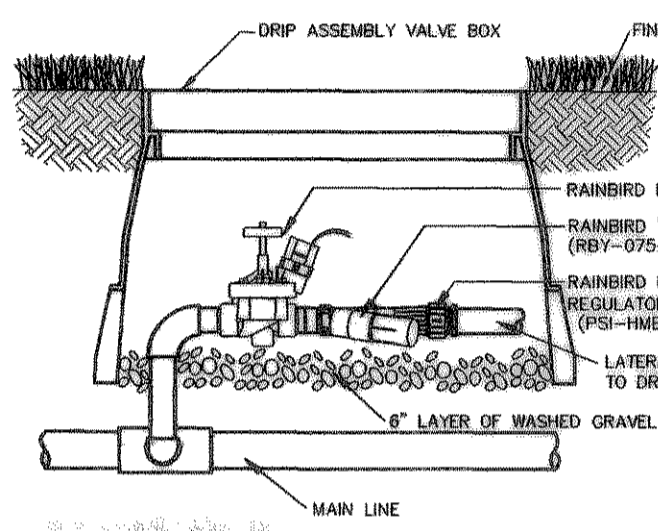




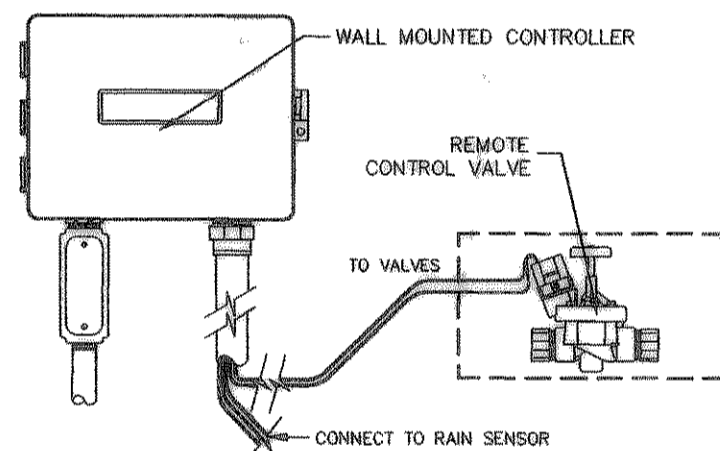
TEXAS EXCAVATION SAFETY SERVICES
1-800-344-8377



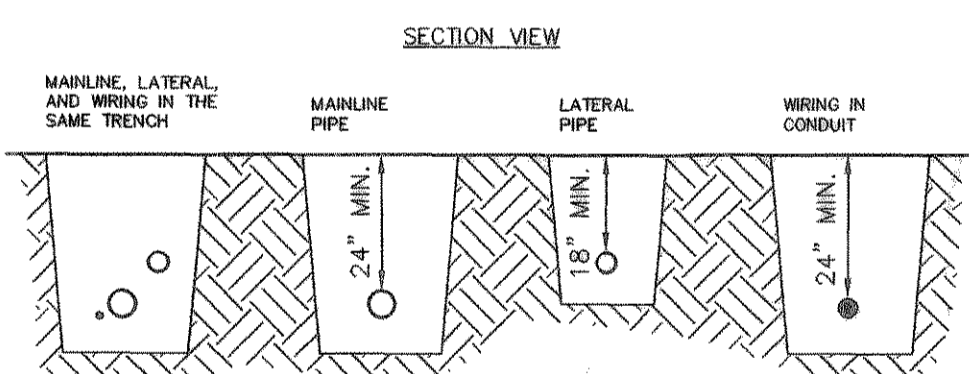
ELECTRIC VALVE & BOX
N.T.S.



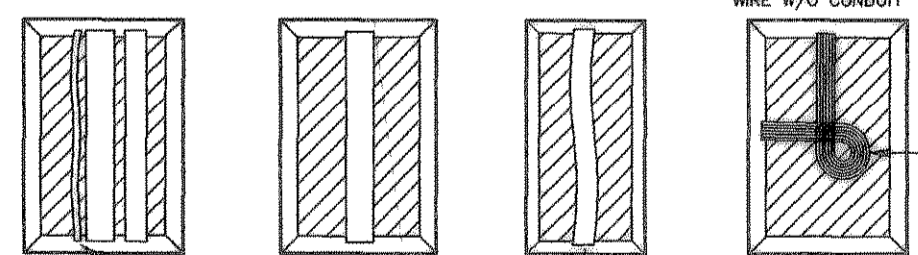
DRIP VALVE ASSEMBLY
N.T.S.



CONTROLLER AND VALVES
N.T.S.



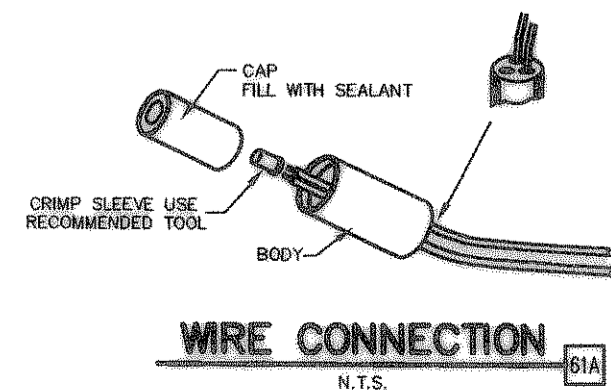
SECTION VIEW



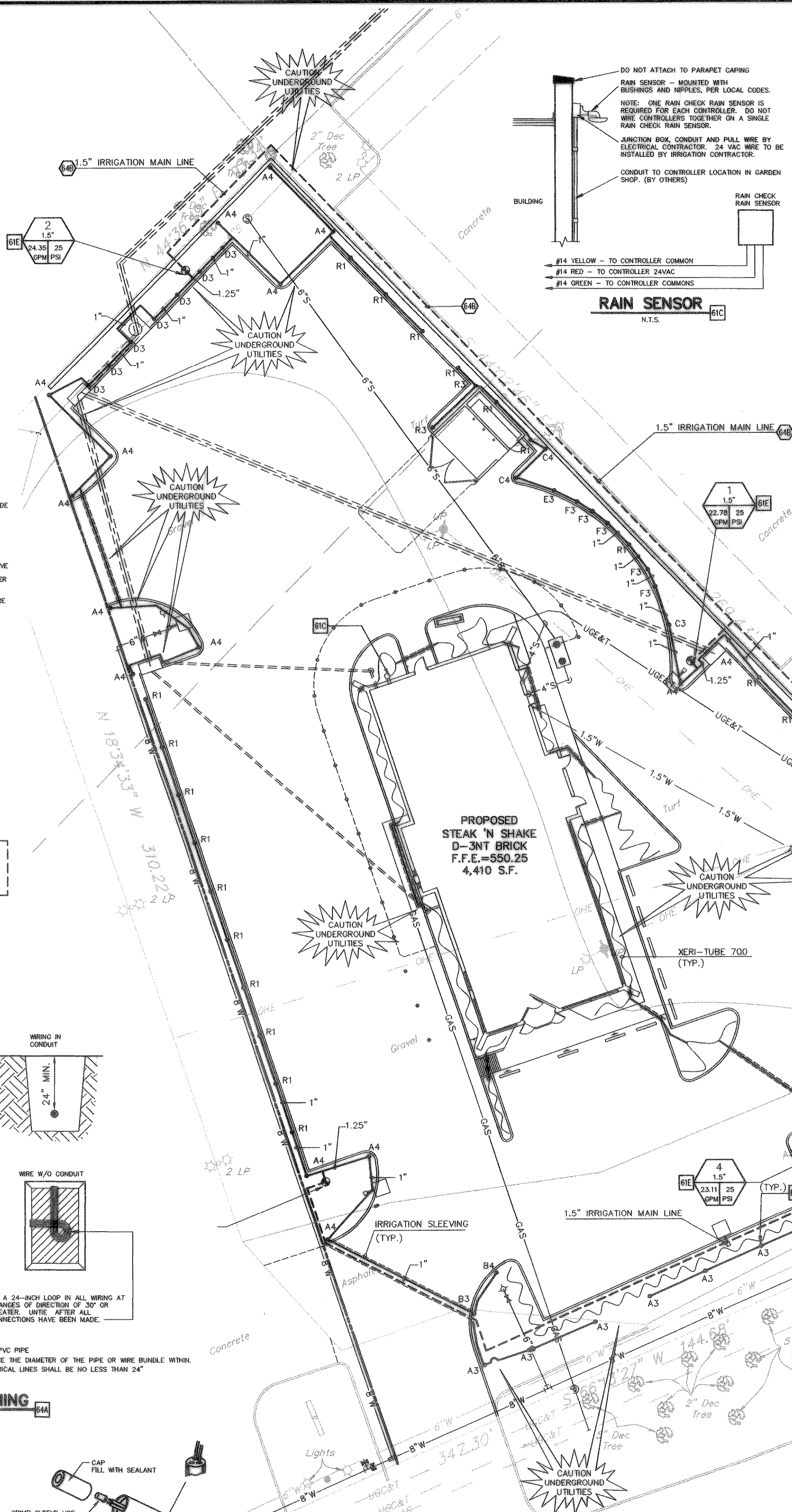
PLAN VIEW

- NOTES:
1. ALL LATERAL LINES SHALL BE SCH 200 PVC PIPE. ALL MAIN LINES SHALL BE SCH 40 PVC PIPE.
 2. SLEEVES BELOW ALL HANDSAPE ELEMENTS SHALL BE SCH 40 PVC AND SHALL BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
 3. ALL LATERAL LINES SHALL BE BURIED NO LESS THAN 18". ALL MAIN LINES AND ELECTRICAL LINES SHALL BE NO LESS THAN 24".

PIPE AND WIRE TRENCHING
N.T.S.



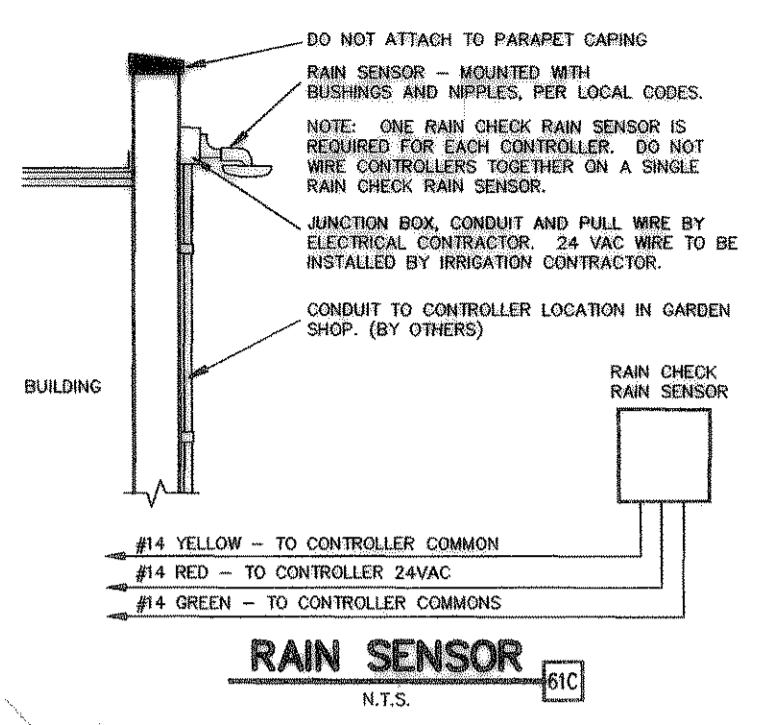
WIRE CONNECTION
N.T.S.



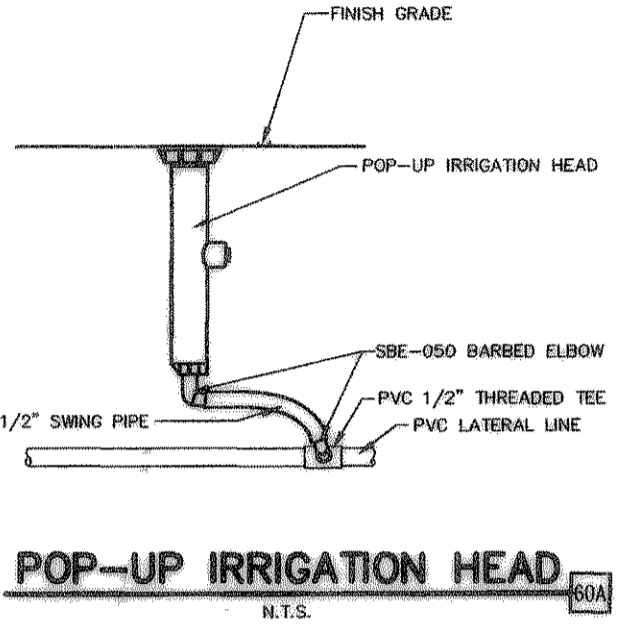
PROPOSED STEAK 'N SHAKE
D-3NT BRICK
F.F.E.=550.25
4,410 S.F.

ZONE 3

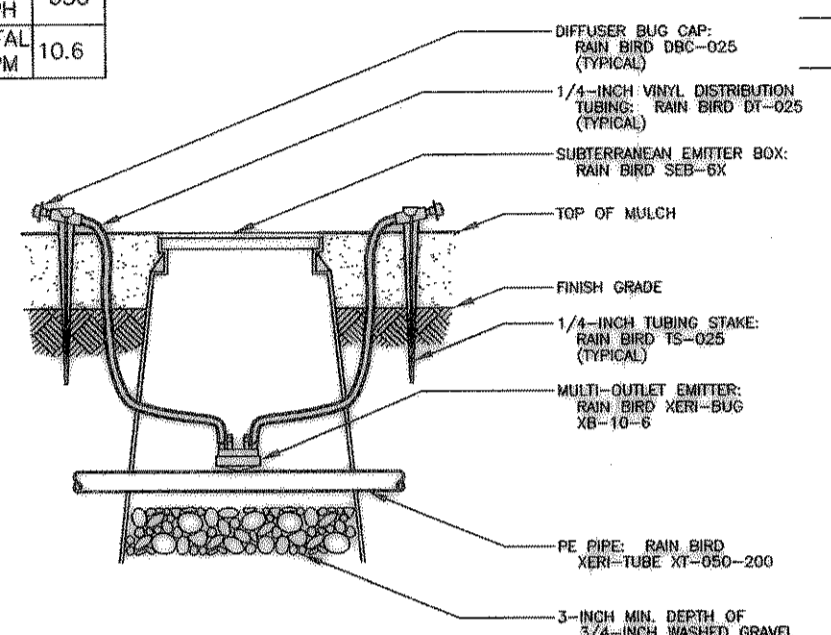
KEY	QTY	COMMON NAME/ BOTANICAL NAME	SIZE	REMARKS	EMISSION DEVICE/ GPH	QTY PER PLANT	TOTAL GPH.
TREES							
DIA. = MATURE DRIP LINE DIAMETER							
WM	2	WAX MYRTLE <i>Myrica caribaea</i>	3" GAL	PLACED AS SHOWN	PC-07/7 GPH	4	28 56
MP	3	MEXICAN PLUM <i>Prunus mexicana</i>	3" GAL	PLACED AS SHOWN	PC-07/7 GPH	4	28 84
SHRUBS/PERENNIALS							
DB	32	DWARF BURFORD HOLLY <i>Ilex cornuta 'Burfordii' Rose</i>	5 GAL	SPACED 36" O.C.	XB-10-6/1 GPH	2	2 64
FP	45	NANDINA <i>Nandina domestica 'Fire power'</i>	5 GAL	SPACED 24" O.C.	XB-10-6/1 GPH	2	2 90
FG	17	PURPLE FOUNTAIN GRASS <i>Hesperaloe parviflora</i>	5 GAL	SPACED 36" O.C.	XB-10-6/1 GPH	2	2 34
GF	40	GOLDFLAME SPIRAEA <i>Spiraea v. bumalda 'Goldflame'</i>	5 GAL	SPACED 36" O.C.	XB-10-6/1 GPH	2	2 80
ND	44	NANDINA <i>Nandina domestica 'Compacta'</i>	5 GAL	SPACED 36" O.C.	XB-10-6/1 GPH	2	2 88
RS	49	RUSSIAN SAGE <i>Perovskia atriplicifolia</i>	1 GAL	SPACED 24" O.C.	XB-10-6/1 GPH	2	2 98
DR	12	DALLAS RED LANTANA <i>Lantana Dallas red</i>	1 GAL	SPACED 18" O.C.	XB-10-6/1 GPH	2	2 24
GROUND COVER							
LR	18	LIRIOPE <i>Liriope muscaris</i>	1 GAL	SPACE 16" O.C.	XER-SPRAYS/1 GPH	1	1 18
						TOTAL GPH	636
						TOTAL GPM	10.6



RAIN SENSOR
N.T.S.

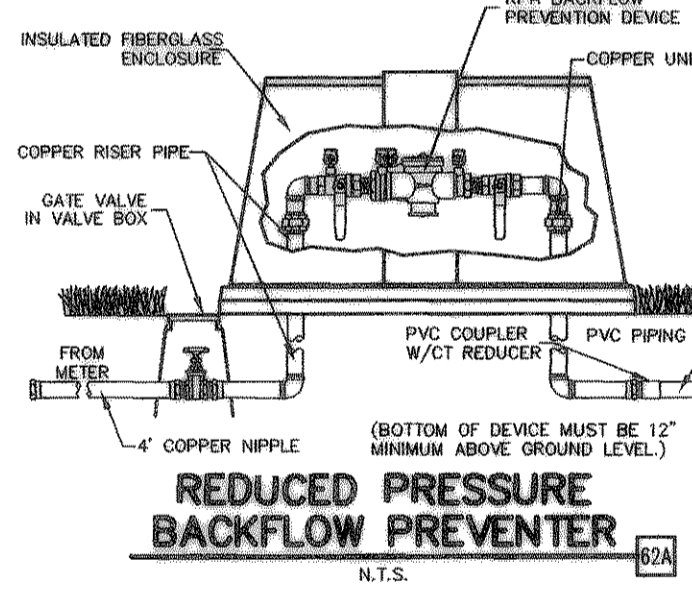


POP-UP IRRIGATION HEAD
N.T.S.

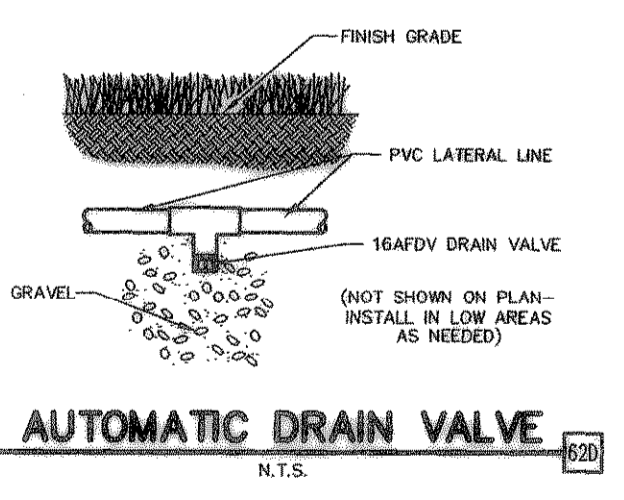


XB-10-6 IN EMITTER BOX
N.T.S.

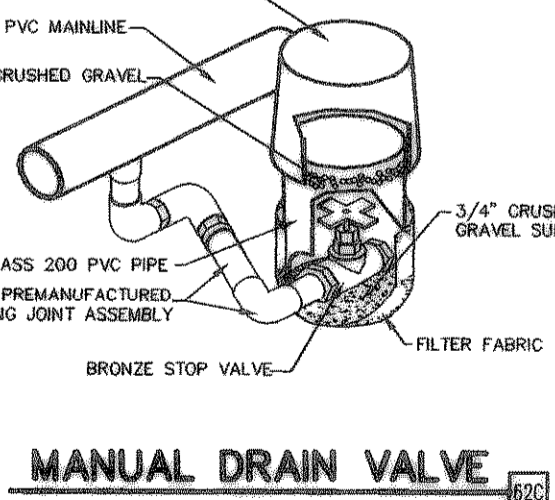
NOTE: THIS PLAN IS CONCEPTUAL AND FOR THE USE OF PERMITTING AND BIDDING ONLY. THIS PLAN IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. A TEXAS LICENCED IRRIGATION DESIGNER SHALL BE RESPONSIBLE FOR CONSTRUCTION.



REDUCED PRESSURE BACKFLOW PREVENTER
N.T.S.



AUTOMATIC DRAIN VALVE
N.T.S.

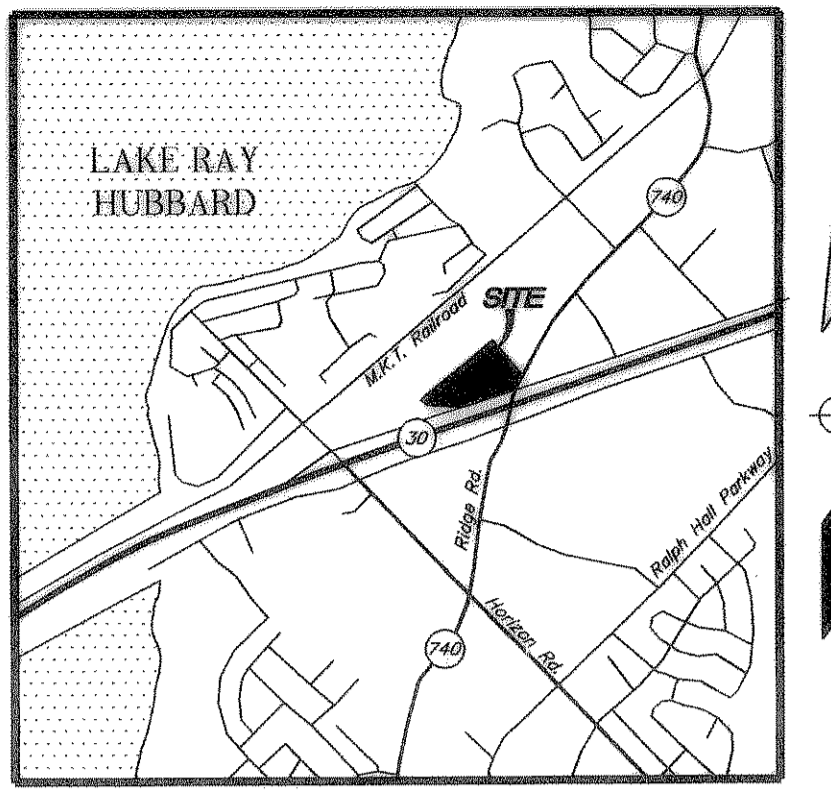


MANUAL DRAIN VALVE
N.T.S.

SPRINKLER NOZZLE LIST

KEY	QTY.	DESCRIPTION	GPM
A4	20	1804-SAM-PRS-19VAN-90"	1.22
A3	10	1804-SAM-PRS-19VAN-180"	2.43
B4	1	1804-SAM-PRS-15VAN-90"	0.82
B3	1	1804-SAM-PRS-15VAN-180"	1.65
C4	2	1804-SAM-PRS-12VAN-90"	0.60
C3	1	1804-SAM-PRS-12VAN-180"	1.20
D3	7	1804-SAM-PRS-10VAN-180"	1.26
E3	1	1804-SAM-PRS-8VAN-180"	1.09
F3	5	1804-SAM-PRS-18SST	0.56
R1	21	1804-SAM-PRS-18SST	1.11
F3	5	1804-SAM-PRS-18SST	.56

- IRRIGATION NOTES
- 61B 1" IRRIGATION METER WITH 1 1/2" TYPE K COPPER SERVICE BY GENERAL CONTRACTOR.
 - 62A MASTER CONTROL VALVE 1 1/2" (150-PEB)
 - 64B MAIN LINE SHOWN HERE FOR DRAWING PURPOSES ONLY; CONTRACTOR SHALL INSTALL MAIN LINE, ETC., WITHIN LANDSCAPE ISLAND.



Vicinity Map
Not to Scale

LEGEND

EXISTING	PROPOSED
CONCRETE	BOUNDARY LINE
EXISTING GROUND	RIGHT OF WAY LINE
ASBESTOS	STORM DRAIN
SEWER ON SEWER	LATERAL LINE WITH SIZE DESIGNATION
TELEPHONE	MAIN LINE WITH SIZE DESIGNATION
UNDERGROUND	SLEEVING
CONTROL INSTRUMENT	ZONE DESIGNATION
STORM DRAIN	VALVE SIZE
GAS	DESIGN PRESSURE - POUNDS PER SQUARE INCH
OVERHEAD ELECTRIC	DESIGN DEMAND - GALLONS PER MINUTE
SEWER	
UNDERGROUND ELECTRIC	
UNDERGROUND ELECTRIC AND TELEPHONE	
UNDERGROUND TV	
WATER	

- GENERAL IRRIGATION NOTES
- A. IRRIGATION CONTRACTOR SHALL TEST EXISTING STATIC PRESSURE ON SITE PRIOR TO CONSTRUCTION. SHOULD EXISTING SITE PRESSURE BE BELOW 80 PSI STATIC, CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - B. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING MANUAL DRAIN VALVES AT LOWEST POSSIBLE ELEVATION ON IRRIGATION MAIN SO AS TO PROVIDE POSITIVE DRAINAGE OF IRRIGATION MAIN DURING WINTER MONTHS, OR PROVIDE BLOWOUT ASSEMBLY. INSTALLATION SHALL BE PER DETAIL 62C.
 - C. ALL LATERAL LINES SHALL BE EQUIPPED WITH AUTOMATIC DRAIN VALVES AT LOW POINTS PER DETAIL 62D.
 - D. CONTRACTOR SHALL COORDINATE CONTROLLER LOCATION WITH GENERAL CONTRACTOR. 110 VOLT ELECTRICAL SERVICE FOR IRRIGATION CONTROLLER IS TO BE INSTALLED IN THE UTILITY ROOM.
 - E. CONTRACTOR SHALL COORDINATE CONSTRUCTION OF IRRIGATION SYSTEM WITH GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - F. LOCATION FOR THIS UTILITY AS SHOWN IS FOR DRAWING PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE EXACT LOCATION IN FIELD PRIOR TO THE CONSTRUCTION OF THE PROPOSED UTILITY LINE TO BE CONNECTED. CONTRACTOR SHALL NOTIFY THE ENGINEER IF THE DESIGN AS SHOWN IS NOT ACHIEVABLE.
 - G. ALL R.C.V. CONTROLLER WIRES ARE TO BE IN CONDUIT WHILE UNDER PAVING. CONDUIT TO BE INSTALLED BY GENERAL CONTRACTOR. ROUTING OF R.C.V. WIRES TO CONTROL VALVES SHALL BE BY THE IRRIGATION CONTRACTOR.
 - H. ALL BELOW GRADE LOW VOLTAGE WIRING CONNECTIONS SHALL BE INSTALLED PER DETAIL 61A.
 - I. ALL LATERAL LINES NOT LABELED SHALL BE 1 1/4" DIAMETER.
 - J. MINIMUM COVER FROM TOP OF PIPING TO FINISHED GRADE SHALL BE AS PER DETAIL 61A.
 - K. CONTRACTOR SHALL ADJUST ALL SPRAY HEADS SO AS NOT TO SPRAY ONTO IMPERVIOUS SURFACES.
 - L. PROPOSED IRRIGATION TO BE MANUFACTURED BY "RAINBIRD".
 - M. PROVIDE 4" DIA. PVC SLEEVES BETWEEN 12" AND 15" BELOW GRADE AT ALL DRIVE ENTRANCES AND SIDEWALKS.
 - N. DO NOT INSTALL IRRIGATION AT MONUMENT SIGN LOCATION UNTIL SIGN HAS BEEN INSTALLED.
- IRRIGATION DETAILS
- 60A POP-UP HEAD (TYP.)
 - 61A WIRE CONNECTION (NOT SHOWN ON PLAN, USE ON BELOW GRADE LOW VOLTAGE WIRING)
 - 61B CONTROLLER AND VALVES ESP-6LXI PLUS. (NOT SHOWN ON PLAN. SEE NOTE D)
 - 61C RAIN SENSOR/ FREEZE SENSOR.
 - 61E ELECTRIC VALVE AND BOX (TYP.) RAINBIRD 150-PEB (1.5")
 - 62A REDUCED PRESSURE BACKFLOW PREVENTER WATTS 909 1 1/2".
 - 62C MANUAL DRAIN VALVE (NOT SHOWN ON PLAN, INSTALL AT LOWEST POINT ON MAIN LINE)
 - 62D AUTOMATIC DRAIN VALVE (NOT SHOWN ON PLAN, INSTALL ON LOW AREAS AS NEEDED)
 - 64A PIPE AND WIRE TRENCHING (NOT SHOWN ON PLAN)
 - 63A DRIP VALVE ASSEMBLY (TYP.) RAINBIRD XCZ-100
 - 63B MULTI-OUTLET (TYP.)
 - 63E XB-10-6 IN EMITTER BOX (TYP.) SEE LOW-VOLUME CHART (NOT SHOWN ON PLAN. USE IN PLANTING BED AREAS)

APPLICANT/ENGINEER:
CEI ENGINEERING ASSOCIATES, INC.
12300 FORD RD. # 110
DALLAS, TX. 75234
(972) 488-3737
(972) 488-6732 FAX
CONTACT: JEFF GREEN

DEVELOPER:
STEAK 'N SHAKE, INC.
500 CENTURY BUILDING
36 S. PENNSYLVANIA ST.
INDIANAPOLIS, IN. 46204
(317) 633-4100
(317) 655-7317 FAX
CONTACT: JAY KAMMEYER

AS BUILT

SHEET NO. C-12

CEI ENGINEERING ASSOCIATES, INC.

12300 FORD ROAD, SUITE 110
DALLAS, TEXAS 75234
JOB NO.: 19434.0
DATE: 08/27/04
PRELIM.

IRrigation PLAN
STEAK 'N SHAKE
PROPOSED LOT 1, BLOCK A
STEAK 'N SHAKE ADDITION
INTERSTATE HIGHWAY 30, ROCKWALL, TEXAS

DATE: 08/27/04

REVISION NO. DATE

NO.	DATE	REVISION	BY	CHK	APP	COMMENTS
1	4-5-05					PER INITIAL CITY COMMENTS
2	5-10-05					PER SECOND CITY COMMENTS