

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR WILL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTE: INCLUDE (2) TORO SB-90-PC2 STREAM BUBBLERS TO EACH NEW TREE. ATTACH EACH BUBBLER TO TORO 570-6" POPUP. LOCATE BUBBLERS INSIDE TREE WELL OF EACH TREE ON OPPOSITE SIDES OF THE ROOT BALL. ALL BUBBLERS TO BE ZONED SEPARATELY FROM OTHER HEADS. CONTRACTOR RESPONSIBLE FOR PIPE SIZING, SLEEVING, ETC. AND ALL OTHER REQUIREMENTS TO MAKE CIRCUIT(S) OPERABLE. TOTAL COUNT FOR BUBBLERS AND VALVE(S)

CAUTION!!!
UNDERGROUND UTILITIES ARE LOCATED IN THIS AREA. 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTACT LINE LOCATES FOR FRANCHISE UTILITY INFO. CALL BEFORE YOU DIG.
TEXAS EXCAVATION SAFETY SYSTEM (TESS) 1-800-344-8377
TEXAS ONE CALL SYSTEMS 1-800-245-4545
LONE STAR NOTIFICATION CENTER 1-800-669-8344 EXT. 5



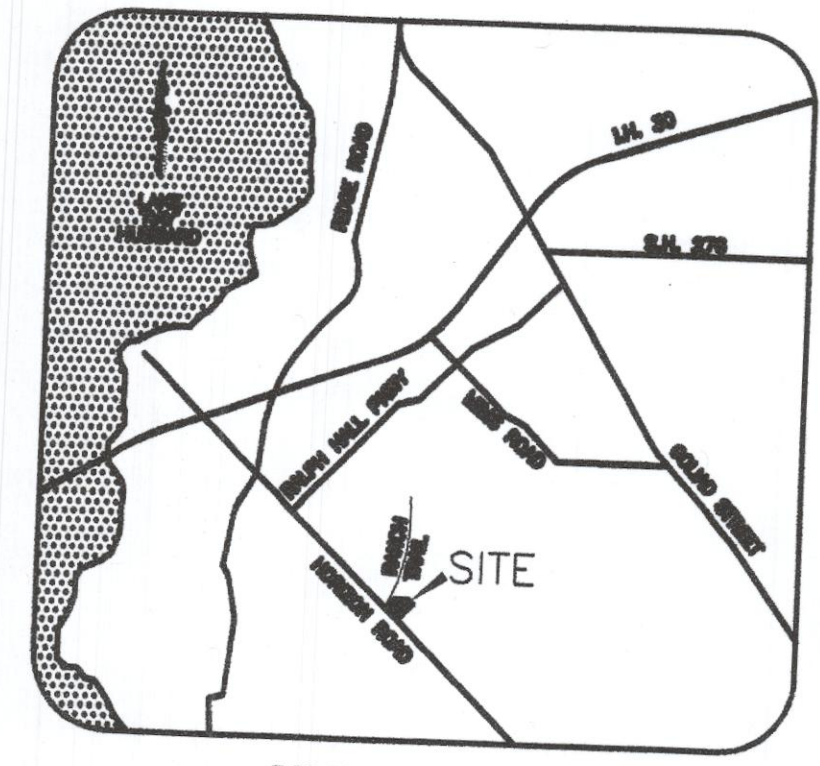
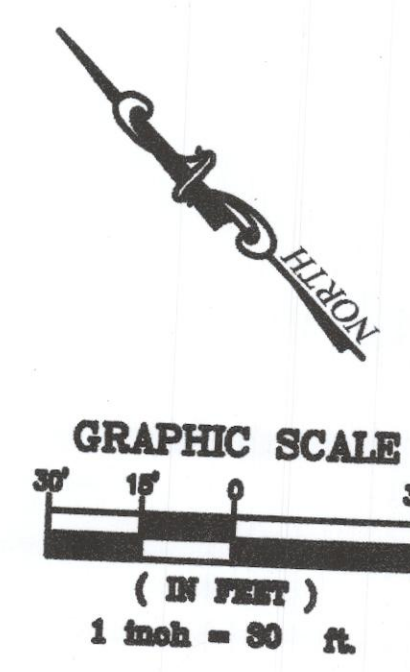
NOTE: THIS AREA INTENTIONALLY LEFT WITHOUT IRRIGATION AT OWNER REQUEST. HAND WATER SOD IN THIS AREA UNTIL ESTABLISHED AND ACCEPTED BY OWNER.

NOTE: STATE R.O.W. INTENTIONALLY LEFT W/O PERMANENT IRRIGATION. DO NOT TRENCH OR LOCATE HEADS IN STATE R.O.W.

NOTE: LOCATE VALVES AT TOP OF BERM

IRRIGATION NOTES:

- IRRIGATION LINES ARE SOMETIMES SHOWN OUTSIDE PLANTING BEDS FOR GRAPHIC CLARITY ONLY. ADJUST INSIDE BEDS ON SITE.
- AVOID TRENCHING WITHIN DRIP LINE OF EXISTING TREES. WHERE NECESSARY, TRENCH RADIALLY, RATHER THAN ACROSS THE ROOT SYSTEM.
- MAIN LINE TO BE 2".
- ALL SLEEVES UNDER PAVING TO EXTEND 12" PAST EDGE OF PAVING. COORDINATE WORK WITH GENERAL AND PAVING SUBCONTRACTOR.
- ALL HEADS TO BE 4" POPS IN LAWNS, 12" POPS IN PLANTING BEDS, AND 24" STATIONARY RISERS AGAINST WALLS AND BUILDINGS. ALL HEADS WITH CHECK VALVES.
- COORDINATE SLEEVE SIZE AND LOCATION FOR FREEZE SENSOR, RAIN GAUGE AND CONTROLLER WITH GENERAL CONTRACTOR. SEAL ALL BUILDING PENETRATIONS WATER TIGHT.
- SEE DETAIL SHEET FOLLOWING FOR IRRIGATION DETAILS.
- PRESSURE ESTIMATED AT 52 PSI; MINIMUM 50 GPM AS PROVIDED BY CITY. VERIFY ON SITE AND REPORT TO LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY WORK.
- CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER, AND SEWER. ANY DAMAGE TO UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. REFER TO SITE/UTILITY PLANS.
- FREEZE SENSOR AND RAIN GAUGE INSTALLATION PER MANUFACTURER'S INSTRUCTIONS (MINI-CLIK F-401 & 502). LOCATION/HEIGHT TO AVOID DIRECT SPRAY OF IRRIGATION HEADS.
- VERIFY 100% COVERAGE OF SYSTEM OVER ALL PLANTING & LAWN AREAS AS SHOWN ON DRAWINGS.
- IF PREDESTAL MOUNTED CONTROLLER IS SPECIFIED, MOUNT ON 4"X3"X3" CONCRETE SLAB WITH (4) #4'S EACH WAY. SLEEVE THROUGH SLAB FOR CONTROLLER AS REQUIRED.
- UNLESS NOTED OTHERWISE, THERE ARE NO EXISTING SLEEVES. IRRIGATION CONTRACTOR TO SIZE AND COORDINATE SLEEVE INSTALLATION AS NEEDED IN ALL LOCATIONS UNDER PAVEMENT. QUANTITIES ARE PROVIDED AS A COURTESY AND ARE NOT INTENDED FOR BID PURPOSES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO BIDDING.
- IF DOUBLE CHECK IS PROHIBITED BY LOCAL CODE/ORDINANCE, SUBSTITUTE WITH APPROVED BACKFLOW PREVENTION DEVICE.
- ALL WORK IN ACCORDANCE WITH LOCAL, STATE, & NATIONAL CODES & ORDINANCES.
- CONTRACTOR TO SIZE CONTROL SIZE WIRE AS NECESSARY. HOWEVER, MINIMUM SIZE TO BE 14 GAUGE PER NATIONAL ELECTRICAL CODE. ALL SPLICES WITH APPROVED MANUFACTURED CONNECTOR IN VALVE BOX.
- DO NOT LOCATE VALVE BOXES IN SWALES, LOW AREAS, OR ANY OTHER LOCATIONS THAT MAY COLLECT WATER.
- CONTROLLER TO BE WIRED ON DEDICATED 110 VOLT CIRCUIT AND GROUNDING W/ "GROUNDING SPIKE" PER MANUFACTURER'S INSTRUCTIONS.
- ADJUST HEADS TO AVOID OVERSPRAY ONTO STREETS AND ROADWAYS.
- INCLUDE ONE SPARE WIRE FROM CONTROLLER TO EACH CONTROL VALVE. EACH WIRE TO BE VARYING COLOR.
- CONTRACTOR IS RESPONSIBLE FOR ADJUSTING FLOW CONTROL AND/OR PRESSURE REGULATOR AT EACH CONTROL VALVE AS NECESSARY TO MAKE SYSTEM OPERATE AS INTENDED.



HYDRAULIC CALCULATIONS
SPRAY ZONE A11
AVAILABLE PRESSURE @ PSI (ESTIMATED)
25.9 GALLONS PER MINUTE
• 1" METER - 4.0 PSI
• 2" DCVA - 5.5 PSI
• MAIN LINE LOSS - 2.9 PSI
• ELECTRIC CONTROL VALVE - 0.6 PSI
• IN-LINE BALL VALVE - 0.5 PSI
• ZONE LOSS - 3.3 PSI
• ELEVATION CHANGE - 0.0 PSI
• FITTING ESTIMATE - 1.7 PSI
OPERATING PRESSURE - 33.4 PSI

HYDRAULIC CALCULATIONS
DRIP ZONE D4
AVAILABLE PRESSURE @ PSI (ESTIMATED)
7.8 GALLONS PER MINUTE
• 1" METER - 0.7 PSI
• 2" DCVA - 5.1 PSI
• MAIN LINE LOSS - 0.3 PSI
• IN-LINE BALL VALVE - 0.5 PSI
• ELEVATION CHANGE - 0.0 PSI
• FITTING ESTIMATE - 0.7 PSI
OPERATING PRESSURE AT VALVE - 44.7 PSI

Irrigation Equipment Table

Quantity	Symbol	Equipment
7	⊕	Quick Couple Valve
6	⊕	1-1/2" In-Line Ball Valve
1	⊕	IRRITROL MC-18 Plug-B
1	⊕	1-1/2" Double Check/Double Gate Valve
1	⊕	1-1/2" Wye Strainer FEBCO 650A
1	⊕	1" Meter
11	⊕	IRRITROL 700 Control Valve (size as indicated)
40	⊕	HUNTER PGP-ADV Nozzle 8 (H), 6 (TH), 5 (Q)
11	⊕	HUNTER PGP-ADV Nozzle 10 Low Angle (F)
1	⊕	TORO 570 Z 8' 090
1	⊕	TORO 570 Z 8' 240
1	⊕	TORO 570 Z 8' 180
1	⊕	TORO 570 Z 10' 240
1	⊕	TORO 570 Z 10' 180
3	⊕	TORO 570 Z 15' 240
4	⊕	TORO 570 Z 15' 180
1	⊕	TORO 570 Z 15' 090
23	⊕	TORO 570 Z 9' SST

NOTE: FOR ALL DRIP CIRCUITS USE
• HUNTER DRIPLINE PLD-04-18 (18" O.C.)
• STAPLES EVERY 5'
• CONTROL ZONE KIT ICZ-101-40
• PLDBV FLUSH VALVE LOCATED IN 6" BOX
• ALL DRIP LINE UNDER PAVING TO BE SOLID PVC; NO EMITTER TUBING UNDER PAVEMENT

These must be turned in to the building dept NOT ENG sheets I-1 to I-4



LANE'S SOUTHWEST SURVEYING INC.

2717 MOTLEY DRIVE
MESQUITE, TEXAS 75150-3812
CONTACT: JIM LANE, RPLS
PHONE: (972)681-4442
FAX: (972)681-4829

ARCHITECT / DEVELOPER

ARCHITECTURE+
16415 ADDISON RD STE 120
DALLAS, TEXAS 75248
CONTACT: PHILIP MORSE
PHONE: 972-248-7660
FAX: 214-550-2725

Walls & Associates

Consulting Civil Engineers - Designers - Planners
830 S. Carrier Pkwy, Ste. 200
Grand Prairie, Texas 75051
Fax: (972) 237-6087
Contact: David W. Walls, P.E.
Phone: 214-724-0883
Email: davidwalls@wellsandassociates.com

IRRIGATION PLAN					
RANCH TRAIL CORNERS					
LOT 5R - RAINBOW ACRES ADDITION					
N.E.C. HORIZON ROAD (F.M. 3097) AND RANCH TRAIL DR.					
CITY OF ROCKWALL, TEXAS					
DESIGN	DRAWN	CHECKED	SCALE	DATE	FILE SHEET
Walls	Lovecchio	Barragan	H: 1" = 40'	05/28/09	9005 [1-1]