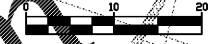




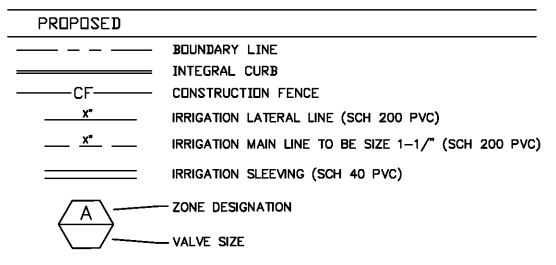
4355 Golf Acres Drive
Charlotte, North Carolina 28208
Phone: 1-800-932-8676



Keck & Wood
COLLABORATION BY DESIGN
Irrigation Plan
Murphy Express
4404 Augusta Road
Keck & Wood Project No. 180167

Keck & Wood
COLLABORATION BY DESIGN
4325 Parker Place Drive, Suite 210
North Charleston, SC 29405
(843) 278-8660
keckwood.com

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730
MURPHY USA



GENERAL IRRIGATION NOTES

- IRRIGATION CONTRACTOR SHALL TEST EXISTING STATIC PRESSURE ON SITE PRIOR TO CONSTRUCTION. SHOULD EXISTING SITE PRESSURE BE BELOW 55# STATIC, CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 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 (THIS SHEET).
- ALL LATERAL LINES SHALL BE EQUIPPED WITH AUTOMATIC DRAIN VALVES AT LOW POINTS PER DETAIL 62D (THIS SHEET).
- CONTRACTOR SHALL COORDINATE CONTROLLER LOCATION WITH GENERAL CONTRACTOR. 110 VOLT ELECTRICAL SERVICE FOR IRRIGATION CONTROLLER IS TO BE INSTALLED IN THE STORAGE ROOM BY GENERAL CONTRACTOR.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION OF IRRIGATION SYSTEM WITH GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 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.
- 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.
- ALL BELOW GRADE LOW VOLTAGE WIRING CONNECTIONS SHALL BE INSTALLED PER DETAIL 61A (THIS SHEET).
- DO NOT INSTALL IRRIGATION AT PYLON SIGN LOCATION UNTIL SIGN HAS BEEN INSTALLED.
- ALL LATERAL LINES ZERO TO FIFTEEN GPM ACCUMULATED FLOW USE 1" PR200 PVC PIPE
ALL LATERAL LINES GREATER THAN FIFTEEN UP TO THIRTY-FIVE GPM USE 1-1/2" PR200 PVC PIPE
- MINIMUM COVER FROM TOP OF PIPING TO FINISHED GRADE SHALL BE AS DESCRIBED IN DETAIL 64A.
- IRRIGATION TO BE AS MANUFACTURED BY "_____" ZONED TYPE SYSTEM. INSTALL CONTROLS INSIDE UTILITY ROOM. PROVIDE 4" DIA. SWEEP PVC SLEEVE THROUGH CONCRETE FLOOR AREA FOR ACCESS FROM EXTERIOR TO INTERIOR OF UTILITY ROOM.
- PROVIDE 4" DIA. PVC SLEEVES BETWEEN 12" AND 15" BELOW GRADE AT ALL DRIVE ENTRANCES AND SIDEWALKS.
- CONTRACTOR TO REFER TO MASTER DEVELOPMENT SPECIFICATIONS FOR LANDSCAPE/IRRIGATION WORK OUTSIDE MURPHY OIL PARCEL.
- CONTRACTOR IS TO PROTECT EXISTING LANDSCAPE AND IRRIGATION MATERIALS.
- CONTRACTOR IS TO VERIFY LOCATION OF MASTER DEVELOPMENT IRRIGATION SYSTEM, VALVE BOXES, CONTROL BOXES, BACKFLOW PREVENTION DEVICES AND OTHER ITEMS WHICH ARE PART OF THE SYSTEM. IF DAMAGED THEY MUST BE REPAIRED AT THE CONTRACTOR'S COST.

IRRIGATION DETAILS

- 60A POP-UP IRRIGATION HEAD (TYP.) (SEE NOZZLE LIST THIS SHEET)
- 61B CONTROLLER (RAINBIRD ESP4ME3)
- 61C RAIN SENSOR
- 61E ELECTRIC VALVE AND BOX (TYP.) (RAINBIRD PEB 100)
- 61F ELECTRIC DRIP VALVE KIT AND BOX (TYP.) (RAINBIRD XCZ100PRF)
- 62A 1" REDUCED PRESSURE BACKFLOW PREVENTER (WATTS 909) SIZED PER LOCAL CODE
- 62C MANUAL DRAIN VALVE (NOT SHOWN ON PLANS)
- 62D AUTOMATIC DRAIN VALVE (NOT SHOWN ON PLANS)
- 64A PIPE AND WIRE TRENCHING (TYP.)

SPRINKLER NOZZLE LIST

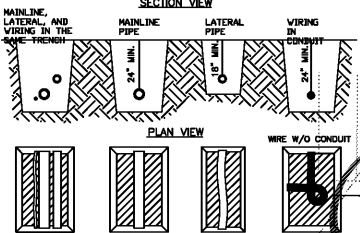
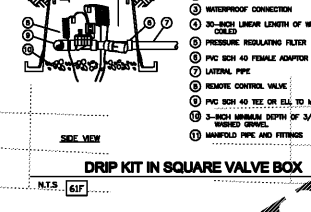
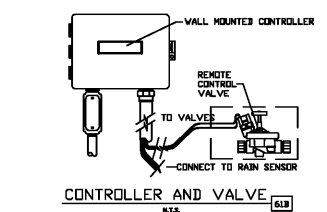
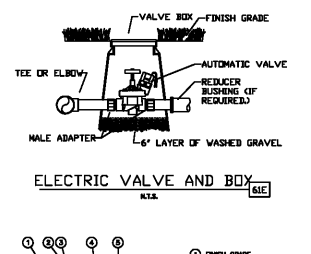
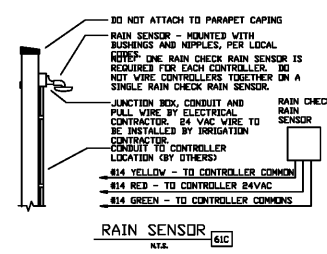
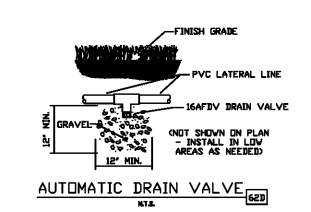
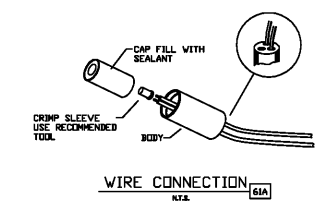
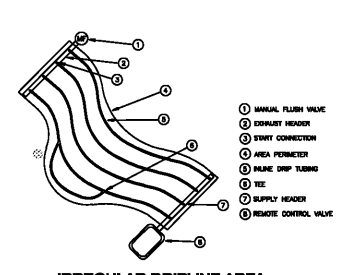
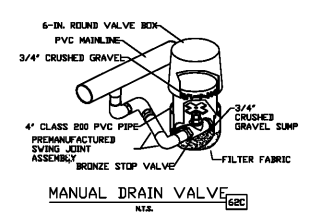
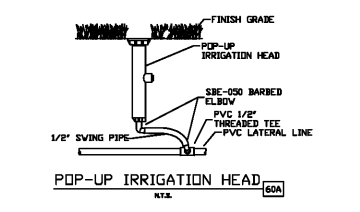
KEY	DESCRIPTION
◇	-RAINBIRD 1806-SAM-PRO SERIES SPRINKLER 6" POP-UP, 15' RAD. NOZZLE
◇	-RAINBIRD 1806-SAM-PRO SERIES SPRINKLER 6" POP-UP, 12' RAD. NOZZLE
◇	-RAINBIRD 1806-SAM-PRO SERIES SPRINKLER 6" POP-UP, 10' RAD. NOZZLE
△	-RAINBIRD 1806-SAM-PRO SERIES SPRINKLER 6" POP-UP, 4'x 15' END-STRIP NOZZLE
△	-RAINBIRD 1806-SAM-PRO SERIES SPRINKLER 6" POP-UP, 4'x 30' SIDE-STRIP NOZZLE
○	-RAINBIRD 5004-SAM-R SERIES SPRINKLER 4" POP-UP, 24' (1.5) RAD. LA NOZZLE
○	-RAINBIRD 5004-SAM-R SERIES SPRINKLER 4" POP-UP, 30' (2.5) RAD. NOZZLE
□	-NETAFIM DRIP AREA

NOTE: CONTRACTOR SHALL LOCATE ALL PROPERTY AND RIGHT OF WAY LINES BEFORE CONSTRUCTION BEGINS. THESE IRRIGATION PLANS ARE EXEMPT AND MAY BE EXAGGERATED. CONTRACTOR SHALL KEEP WITHIN ALL PROPERTY AND RIGHT OF WAY LINES DURING CONSTRUCTION. CONTRACTOR SHALL ADJUST ALL SPRAY HEADS SO AS NOT TO SPRAY ONTO IMPERVIOUS SURFACES.

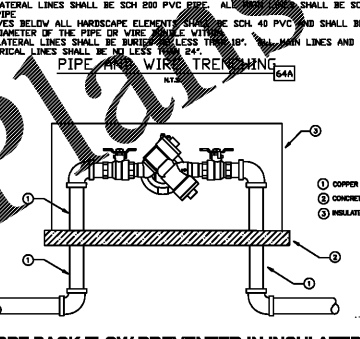
NOTE: CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITIES DEPTHS AND COORDINATE IRRIGATION CONSTRUCTION WITH ALL EXISTING AND PROPOSED UTILITIES.

NOTE: ALL UNDERGROUND SLEEVES SHALL BE SCHEDULE 40 PVC AND SHALL BE TWICE THE DIAMETER OF ANY LINE IT HOUSES.

NOTE: CONTRACTOR TO PROTECT ALL EXISTING LANDSCAPING AND IRRIGATION.



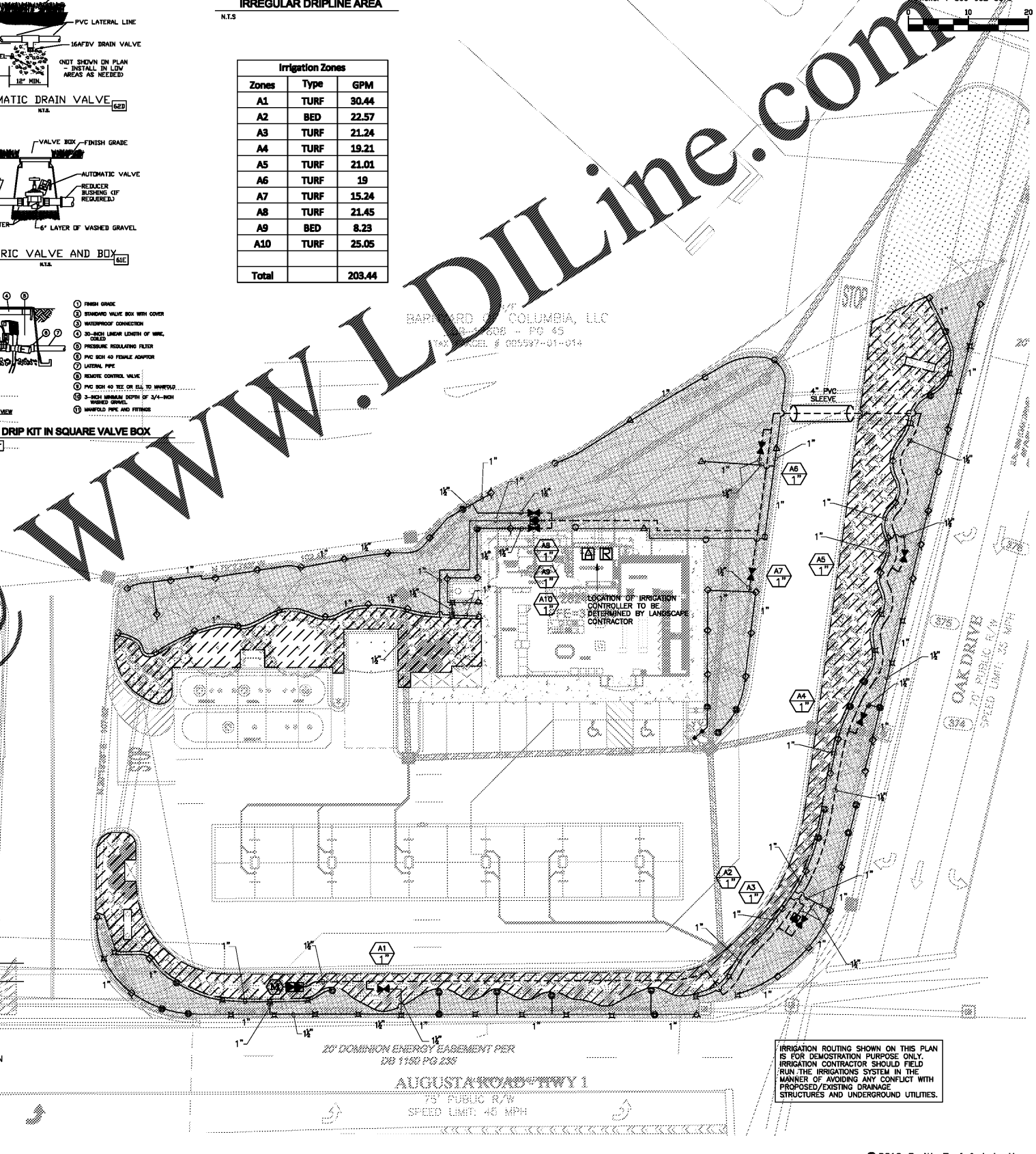
NOTES:
1. ALL LATERAL LINES SHALL BE SCH 200 PVC PIPE. ALL MAIN LINES SHALL BE SCH 40 PVC PIPE.
2. SLEEVES BELOW ALL LANDSCAPE ELEMENTS SHALL BE SCH 40 PVC AND SHALL BE TWICE THE DIAMETER OF THE PIPE OR WIRE IT HOUSES.
3. ALL LATERAL LINES SHALL BE BURIED AT LEAST 18" BELOW FINISHED GRADE. MAIN LINES AND ELECTRICAL LINES SHALL BE BURIED AT LEAST 24" BELOW FINISHED GRADE.



- 61A CONDUIT FOR R.C.V. WIRES BY GENERAL CONTRACTOR. ROUTING TO CONTROL VALVES BY IRRIGATION CONTRACTOR (NOT SHOWN ON PLANS)
- 61B 1" IRRIGATION METER (PER LOCAL CODES)
- 62A MASTER CONTROL VALVE ()
- 64C (1) 4" PVC SLEEVE FOR IRRIGATION LINE. SEE UTILITY PLAN FOR SIZE AND INSTALLATION SPECIFICATIONS.
- 64D (2) 4" PVC SLEEVE FOR. SEE UTILITY PLAN FOR SIZE AND INSTALLATION SPECIFICATIONS.

Irrigation Zones

Zones	Type	GPM
A1	TURF	30.44
A2	BED	22.57
A3	TURF	21.24
A4	TURF	19.21
A5	TURF	21.01
A6	TURF	19
A7	TURF	15.24
A8	TURF	21.45
A9	BED	8.23
A10	TURF	25.05
Total		203.44



IRRIGATION ROUTING SHOWN ON THIS PLAN IS FOR DEMONSTRATION PURPOSE ONLY. IRRIGATION CONTRACTOR SHOULD FIELD RUN THE IRRIGATIONS SYSTEM IN THE MANNER OF AVOIDING ANY CONFLICT WITH PROPOSED/EXISTING DRAINAGE STRUCTURES AND UNDERGROUND UTILITIES.