IN THE BEGINNING…..




YOU HAVE DECIDED TO PUT IN A DRIP SYSTEM. NOW WHAT?

FIRST A WATTS 8a VACUUM BREAKER IS ADDED TO HOSE BIB

-DECIDE WHICH SYSTEM YOU ARE GOING TO USE

-WE CHOSE A ½” BLACK HOSE

-AND A ¼” DRIP LINE

-WITH A TWO OUTLET HOSE BIB BATTERY OPERATED TIMER.

WE CHOSE A TWO OUTLET TIMER BECAUSE WE WANTED THREE BEDS ON EACH TIMED SESSION. THIS WOULD MAKE SURE WE HAD GOOD WATER PRESSURE. NOTE: KEEP THE MANUAL IN A DESIGNATED PLACE FOR FUTURE REFERENCE. MOST BATTERY OPERATED TIMERS NEED TO BE PROTECTED FROM THE ELEMENTS IN SOME WAY AND/OR REMOVED AND STORED FOR THE WINTER MONTHS.

-WE THEN ADDED A HOSE BIB PRESSURE REDUCING VALVE

-THEN A HOSE BIB FILTER

THIS IS AN ESSENTIAL ELEMENT FOR THOSE WITH A WELL. FOR THOSE WITH CITY WATER THIS IS NOT A 'MUST'

-FOR THE ½" HOSE WE USED UNIVERSAL FITTINGS AND BARBED FITTINGS. BOTH WORK BUT THE BARBED FITTINGS MUST BE MADE FOR THE ½" HOSE AND ONCE IN PLACE ARE <u>VERY</u> HARD TO REMOVE. TO REMOVE THE UNIVERSAL FITTINGS YOU JUST UNTIGHTEN THE FITTING AND SLIP IT OFF THE HOSE.

BARBED ELBOW

UNIVERSAL ELBOW

BARBED "T"

UNIVERSAL "T"

-FOR THE ¼” DRIP LINE WE USED BARBED FITTINGS

BARBED STRAIGHT CONNECTOR

1 GPH (GALLON PER HOUR) DRIPPER ATTACH IN-LINE

MISC. ITEMS NEEDED

½” HOSE HOLE PUNCH

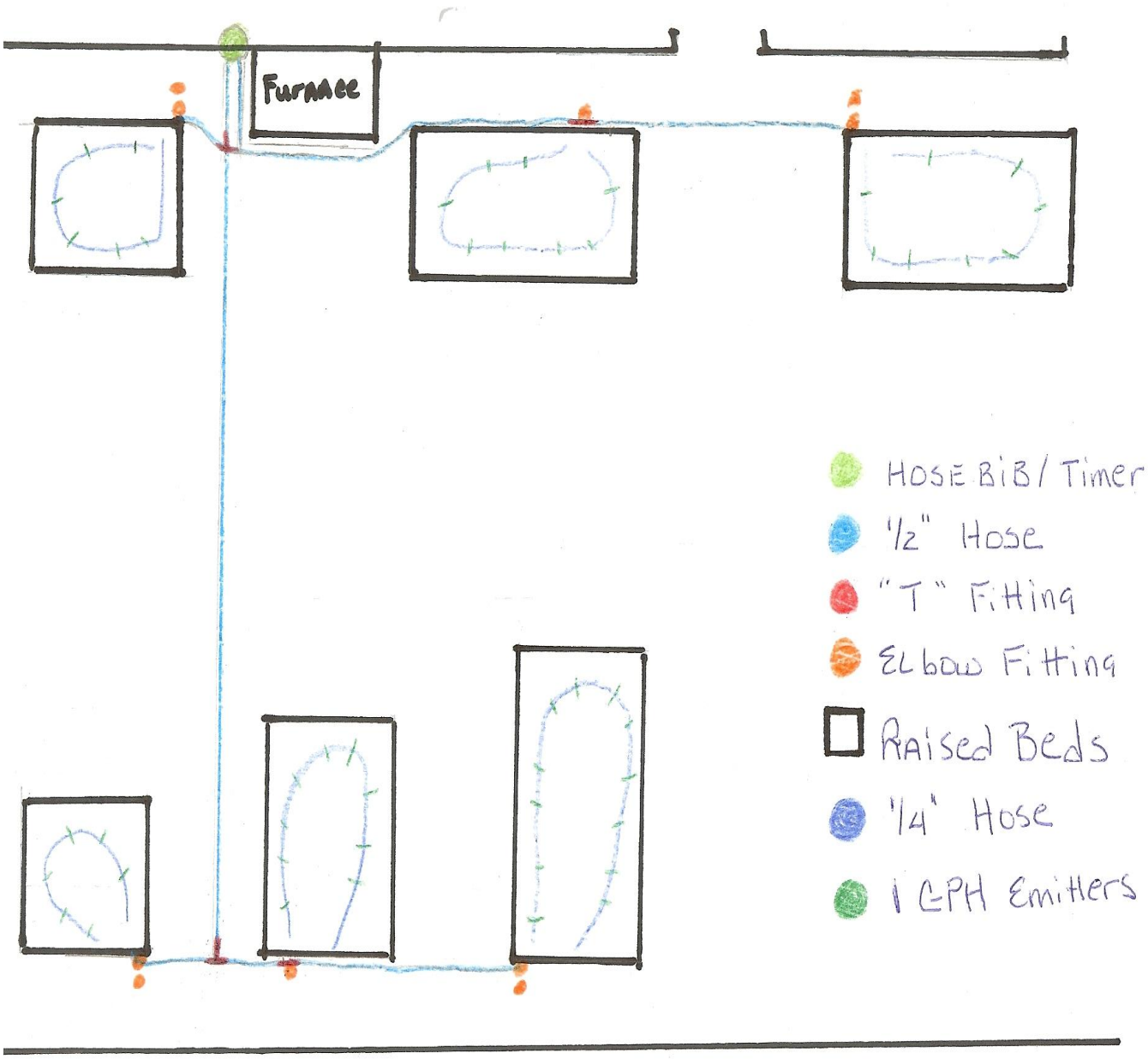
½” HOSE END

½” & ¼” STABILIZING STAPLES

SUPPORT BRACKET

TEFLON PLUMBER'S TAPE

-DRAW A SCHEMATIC OF PROPOSED DESIGN
-MARK LOCATION OF ALL CONNECTIONS



<u>YOU WILL NEED:</u>

MEASURE TAPE

PENCIL/PAPER

CALCULATOR (OPTIONAL)

-LOOK AT BATTERY OPERATED HOSE BIB TIMERS AND WHAT OPTIONS YOU WOULD LIKE TO HAVE. PURCHASE THE ONE BEST SUITED TO YOUR NEEDS. WE CHOSE A TWO OUTLET MODEL.
-AS WE PURCHASED A TWO OUTLET TIMER WE NEEDED TWO HOSE BIB ADAPTERS
-TO DETERMINE LENGTH OF ½" IRRIGATION HOSE NEEDED PACE OUT APPROX. LENGTH. ADD EXTRA FOR MISCALCULATIONS
-LOOK AT LOCATIONS OF BRANCHINGS IN HOSE AND DECIDE ON CONNECTION NEEDED BASED ON HOW MANY DIVISIONS NEEDED (EITHER AN ELBOW OR A "T" CONNECTOR) & FOR WHAT PURPOSE. MARK TOTALS ON YOUR SCHEMATIC
-PLAN ON PURCHASING PKGS OF STABILIZING STAPLES BASED ON EACH LENGTH OF ½" AND ¼" HOSE USED. APPROX. 2FT APART ON ½" HOSE AND BY EACH DRIPPER ON ¼" HOSE
-COUNT THE HOSE ENDS AND PURCHASE THE END PIECES NEEDED.
-ESTIMATE ¼" DRIP LINE NEEDED (THE ROLLS ARE LARGE SO ONE ROLL WAS ALL WE NEEDED) BASED ON AREA NEEDED TO COVER.
-COUNT ALL PLACES WHERE ¼" HOSE IS TO BE CONNECTED TO ½" HOSE AND PURCHASE A BARBED STRAIGHT CONNECTOR FOR EACH.
-DECIDE WHERE YOU WANT DRIPPERS AND COUNT HOW MANY NEEDED AND PURCHASE ACCORDINGLY.
-1 ROLL TEFLON PLUMBER'S TAPE NEEDED
-WE NEEDED STABILIZING BRACKETS FOR ½" HOSE AS WE WERE GOING FROM THE GROUND TO JUST BELOW LIP ON THE OUTSIDE OF THE RAISED BEDS WITH THE ½" HOSE. WE FIGURED TWO PER EACH OF THE SIX BEDS.

ITEMS TO BE PURCHASED:

(WE HAD SOME THINGS ON HAND. THOSE ITEMS ARE NOT ON THE LIST)

-HOSE BIB TYPE BATTERY OPERATED TIMER WITH TWO OUTLETS	$ 45.00
-¾"TO½" HOSE BIB ADAPTER (2)	$ 6.00
-½" BLACK HOSE 100ft	$ 11.00
-ENDS FOR ½" HOSE (BAG 8)	$ 3.00
-¼" BLACK HOSE 25ft	$ 16.00
-½" "T" ATTACHMENTS (4)	$ 8.00
-½" ELBOW ATTACHMENTS (10)	$ 22.00
-SUPPORT BRACKETS FOR ½" HOSE (12)	$ 4.00
-IN-LINE 1 gph DRIPPERS (BAG 25)	$ 18.00
-¼" STRAIGHT CONNECTORS (BAG 25)	$ 5.00
-STABILIZER STAPLES FOR ½" HOSE (4-bg12)	$ 12.00
-STAPLES FOR ¼" HOSE (2 BAGS 18)	$ 14.00
-TEFLON TAPE 1 ROLL	$ 2.00
TOTAL (ALL COSTS APPROXIMATE)	$166.00

PREPARING SITE:

FOR MOST APPLICATIONS THE ½" HOSE DOES NOT NEED TO BE BURIED. IN FACT REPAIRS ARE MUCH EASIER WITH THE HOSE AT GROUND LEVEL. OUR PROJECT WAS TO RUN THROUGH AREAS THAT HAD FOOT TRAFFIC SO WE DUG A 6 INCH TRENCH TO LAY THE ½" HOSE AND CONNECTORS INTO.

LAY OUT THE ½" HOSE

DECIDE WHERE TO CUT

CUT ½” HOSE & ADD CONNECTORS

AT THE HOSE BIB

BEFORE YOU CUT MAKE SURE TO GIVE YOURSELF A LITTLE EXTRA HOSE AT THE HOSE BIB ATTACHMENT. A SPACE WILL BE NEEDED FOR THE TIMER TO SIT. WE USED A SPACER TO ACCOMPLISH THIS BUT HOOKING UP THE TIMER TO MEASURE WOULD WORK JUST AS WELL.

ATTACH TO RAISED BEDS

WE DECIDED NOT TO GO UNDERGROUND INTO THE RAISED BEDS BECAUSE WE DID NOT WANT TO CUT INTO THE GOPHER WIRE LINING THE BEDS. SO WE BROUGHT THE ½" DRIP LINE UP THE FAR SIDE OF THE BEDS (FOR AESTHETICS) AND DRILLED A 1" HOLE 1" DOWN FROM TOP OF THE SIDE OF THE BED TO SLIDE AN ELBOW ATTACHMENT THROUGH.

WE THEN PLACED THE METAL BRACKETS OVER THE ½" HOSE TO HOLD IT AGAINST THE SIDE OF BED FOR STABILITY.

FINISHING UP ½” HOSE

THE SYSTEM IS SET UP AND THE ENDS HAVE BEEN STUBBED OFF (USE THE HOSE END CONNECTORS). HOOK ½” HOSE UP TO THE HOSE BIB AND TURN ON THE WATER TO CHECK FOR LEAKS. WE FOUND ONE CONNECTION THAT HAD TO BE REDONE. SO WE TURNED OFF THE WATER AND REMOVED THAT CONNECTION AND REPOSITIONED IT. WHEN WE TURNED THE WATER BACK ON THE SYSTEM HELD. HURRAH!

NOW, USING THE STAPLES FOR THE ½” HOSE, SECURE THE SYSTEM TO THE GROUND. PLACING THE STAPLES APPROX. 2 FEET APART. PLACE ONE STAPLE AT EACH CONNECTION FOR STABILITY.

SETTING UP THE ¼” HOSE WITH IN-LINE 1 GPH DRIPPERS

THE ½” HOSE SYSTEM IS NOW COMPLETE. WE PLACED A SMALL LENGTH OF THE ½” HOSE INSIDE THE BEDS (ATTACHED TO THE ½” ELBOW PUSHED THROUGH THE DRILLED HOLE) TO ATTACH THE ¼” DRIP LINE TO. USING THE HOLE PUNCH MAKE A HOLE WHERE YOU WOULD LIKE THE ¼” LINE TO BEGIN. REMEMBER TO POSITION THE HOLE PUNCH SO THAT THE RESULTING HOLE ENDS UP FACING THE INTERIOR OF THE BED RATHER THAN AT THE TOP OR BOTTOM OF THE HOSE. PUSH INTO THE HOLE A STRAIGHT BARBED CONNECTOR FOR THE ¼” HOSE AND PUSH ON THE END OF THAT THE ¼” HOSE.

THE BEAUTY OF USING THE ¼” HOSE WITH 1 GPH (GALLON PER HOUR) IN-LINE DRIPPERS IS THAT YOU CAN TAILOR THE SYSTEM TO YOUR NEEDS. RUN A LENGTH OF ¼” HOSE UNTIL YOU REACH THE BASE OF THE PLANT TO BE WATERED. CUT THE HOSE PLACE AN IN-LINE DRIPPER ON THE HOSE END AND CONNECT ANOTHER RUN OF THE ¼” HOSE ON THE OTHER SIDE OF THE DRIPPER AND CONTINUE UNTIL ALL PLANTS HAVE A DRIPPER AT THEIR BASE. AT THIS POINT YOU CAN EITHER STUB OFF THE END OF THE HOSE OR (AS WE DID) REATTACH TO THE ½” HOSE. IN OTHER WORDS MAKE A CIRCLE WITH THE ¼” DRIP HOSE. WE FELT THIS WAS A MORE EFFICIENT USE OF THE SYSTEM USING A CIRCULAR FLOW INSTEAD OF A DEAD END. USING THE STAPLES FOR ¼” HOSE PLACE ONE AT EACH DRIPPER.

FINISH

USING THE FOLLOWING ORDER CONNECT TO THE HOSE BIB:
THE WATTS 8a VACUUM BREAKER+TIMER USING THE TEFLON PLUMBER'S TAPE (AFTER READING THE INSTRUCTIONS AND SETTING UP TIMING SCHEDULE)+THE PRESSURE REDUCING VALVE+THE FILTER (IF NEEDED)+THE HOSE. TURN THE WATER ON (YOUR TIMER SHOULD HAVE A "MANUAL" SETTING) AND CHECK THE SYSTEM OUT. CORRECT ANY LEAKS & FILL THE TRENCHES CONTAINING THE ½" HOSE WITH SOIL.

NOTE:

HAVING A TIMED WATER SYSTEM IS GREAT BUT AS WITH ALL THINGS AUTOMATIC YOU MUST CHECK IT REGULARLY TO MAKE SURE THAT IT OPERATES CORRECTLY AND IN A TIMELY MANNER.