

RAIN HARVESTING.txt

þ YHAH2\E

>> WOULD YOU LIKE TO COLLECT MONEY FALLING FROM THE SKY WHILE HELPING TO CONSERVE A PRECIOUS NATURAL RESOURCE?\E  
IT'S CALLED RAIN HARVESTING, AN ANCIENT PRACTICE OF COLLECTING FREELY AVAILABLE RAINWATER AND STORING IT FOR AN UNRAINY DAY.\E

AND HERE TO TELL US MORE ABOUT RAINWATER HARVESTING IS RODNEY^LOVE, OWNER OF TIERRA DESIGNS.\E

HI, RODNEY.\E

>> HI, JEFF.\E

>> EXPLAIN TO ME A LITTLE BIT ABOUT WHAT YOU DO.\E

>> WE DO WATERWISE LANDSCAPING, AND WE ALSO DO RAINWATER HARVESTING THAT WE USE FOR IRRIGATION.\E

WE'RE TRYING TO ADDRESS HOW LANDSCAPE IRRIGATION OFTEN ACCOUNTS FOR 40% TO 50% OF TOTAL WATER USE.\E

SO THAT'S WHAT WE'RE TRYING TO DEAL WITH, IS ADDRESS THAT.\E

>> WE'RE USING AS MUCH WATER AND SPENDING THE SAME AMOUNT OF MONEY ON OUR LAWNS AND PLANTS AS WE ARE ON OUR PERSONAL USES, LIKE BATHING, WASHING CLOTHES AND COOKING.\E

CAPTURING RAINWATER FOR REUSE FOR LANDSCAPING, LIVESTOCK AND AGRICULTURE IS AS GREEN AND E-FRIENDLY AS IT GETS.\E

IT WORKS, AND IT'S SUSTAINABLE IF YOU'VE GOT THE RIGHT CLIMATE AND SYSTEM.\E

BUT IT REQUIRES BOTH BACKWARD AND FORWARD THINKING.\E

OLD WISDOM MEETS NEW TECHNOLOGY IN TODAY'S SYSTEMS.\E

THEY ARE SO RELIABLE, EFFECTIVE AND EFFICIENT THAT SOME COUNTRIES LIKE GERMANY, ISRAEL, BERMUDA AND THE VIRGIN ISLANDS REQUIRE RAINWATER HARVESTING ON ALL NEW CONSTRUCTION.\E

TODAY WE ARE CHECKING OUT THE NEVADA COURT, AN ALL-GREEN COMMUNITY BEING DEVELOPED BY DENTON AFFORDABLE HOUSING.\E

THESE 14^HOUSES ARE BEING BUILT TO PROVIDE SENSIBLE AND AFFORDABLE HOMES FOR LIMITED INCOME FAMILIES AND INDIVIDUALS.\E

THAT TRANSLATES TO SAVING MONEY THROUGH ENERGY EFFICIENCY AND RESOURCE CONSERVATION.\E

>> WELL, RODNEY, I SEE THE CREW'S GONNA START HERE AT THE ROOF.\E

>> THAT'S RIGHT.\E

WE WANT TO START AT THE ROOF BECAUSE WE WANT TO TRY TO KEEP OUT ALL OF OUR LEAVES AND OUR STICKS AND DEBRIS.\E

AND SO WHAT WE DO IS WE PUT UP GUTTER SCREENS, AND JEREMY'S GONNA TELL US ABOUT THAT.\E

GO AHEAD, JEREMY.\E

>> OKAY.\E

I'M INSTALLING GALVANIZED METAL GUTTER SCREENS HERE THAT ARE AVAILABLE AT ANY HARDWARE STORE.\E

THEY KEEP OUT THE LEAVES AND DEBRIS, LIKE RODNEY SAID.\E  
THEY SNAP RIGHT INTO THE GUTTERS WITH LITTLE METAL CLIPS, AND

ONCE THEY'RE IN, THEY'RE FAIRLY EASY TO CLEAN OUT.\E

YOU JUST LIFT HERE, AND THE LEAVES AND DEBRIS WILL COME OFF.\E

WE DO THIS AROUND THE ENTIRE PERIMETER OF THE GUTTERS, AND

THESE ARE PRETTY GOOD AT DOING THE JOB THAT WE NEED 'EM TO DO.\E

>> THE GUTTERS, THE WATER IS TAKEN BY PVC AIRTIGHT SYSTEM TO THE TANKS.\E

AND IT DOES THIS ALL BY GRAVITY, AND THAT'S WHAT WE'RE PUTTING IN RIGHT HERE.\E

YOUR ROOF IS YOUR CATCHING AREA.\E

THAT'S HOW YOU MUCH YOU CAN COLLECT IS YOUR ROOF SPACE.\E

AND THEN BASICALLY, ALL WE'RE DOING HERE IS CHANGING OUT CONVENTIONAL DOWNSPOUTS WITH AN AIRTIGHT, WATERTIGHT PVC

DOWNSPOUT THAT WILL BE CONNECTED UNDERGROUND TO A NETWORK THAT WILL TAKE IT ALL THE WAY AROUND TO THE TANK.\E

>> SO THE SYSTEM CONTINUES ON AROUND THE CORNER.\E

EACH DOWNSPOUT IS GONNA BE CONNECTED TO A MAIN LINE.\E

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SO IF YOU CAN IMAGINE, LIKE, THE BRANCHES ARE CONNECTED TO THE TRUNK.\E  
AND THAT TRUNK IS GONNA WRAP US ALL THE WAY AROUND THE HOUSE, COLLECTED EACH DOWNSPOUT.\E  
SO THAT EVERY DROP THAT HITS THE ROOF IS GOING TO BE GOING INTO ONE LINE WHERE IT IS EMPTIED OUT INTO THE TANK.\E  
OUR INPUT, WHICH IS THE GUTTERS, IS GONNA BE HIGHER THAN OUR OUTPUT IN OUR TANK, SO BY GRAVITY, IT WILL BE FORCED^-- 'CAUSE WATER'S ALWAYS SEEKING ITS OWN LEVEL, AND IT WILL JUST CARRY IT ALL THE WAY THERE.\E  
AS YOU LOOK DOWN HERE, WE CAN SEE, WE'VE GOT THREE HOMES THAT WE'VE ALREADY INSTALLED 1,600^GALLON TANKS WITH, AND THEY ALL HAVE THE SAME SYSTEMS USING FOR IRRIGATION.\E  
THEY'RE THE ABOVE GROUND TANKS.\E  
WE CAN ALSO PUT TANKS BELOW GROUND, BUT THE MORE AFFORDABLE OPTION WOULD BE TO PUT 'EM ABOVE GROUND.\E  
THEY'RE NOT THE PRETTIEST THINGS TO LOOK AT, OBVIOUSLY, BUT THERE'S LOTS OF WAYS WE CAN PUT FENCES OR LATTICES AROUND 'EM, AS WELL.\E  
>> NOW, AS THE RAINWATER MAKES ITS WAY TO THE TANK, I GUESS IT'S ABOUT HALFWAY THROUGH ITS JOURNEY, RIGHT?\E  
>> THAT'S RIGHT.\E  
FROM THE GUTTERS THROUGH THE CONVEYANCE SYSTEM.\E  
THE CONVEYANCE SYSTEM THEN COMES UP THIS PIPE HERE, WHERE WE GO DIRECTLY INTO THE 1,600^GALLON TANK.\E  
SO THIS IS OUR SECOND SCREEN TO FILTER OUT ANY DEBRIS THAT MAY HAVE GOTTEN INTO THE SYSTEM.\E  
DUMPS INTO THE TANK.\E  
AND THEN FROM THAT POINT, WE HAVE AN OVERFLOW.\E  
WE HAVE TO HAVE AN APPROPRIATE PLACE TO PUT THE DRAINAGE AND THE OVERFLOW FROM ALL THE WATER THAT'S COMING OFF THE HOUSE.\E  
>> CAN ONE OF THESE SYSTEMS BE USED FOR POTABLE WATER, AS WELL?\E  
>> ABSOLUTELY.\E  
IT DEPENDS ON YOUR LOCAL HEALTH DEPARTMENT AND RULES.\E  
BUT WITH UV FILTRATION NOW BEING SO AVAILABLE AND AFFORDABLE, ALL YOU NEED TO DO IS JUST ADD A CARBON FILTER, SEDIMENT FILTER, UV FILTRATION.\E  
THIS'LL BE THE BEST WATER YOU COULD DRINK.\E  
>> RAINWATER IS ESPECIALLY VALUED BY HOMEOWNERS FOR ITS LOW SODIUM CONTENT, SOFTNESS AND CLEANING PROPERTIES, AND IT IS THE BEST WATER FOR PLANTS AND LAWNS.\E  
NOW, HERE'S THE POWER SOURCE FOR IRRIGATION, CORRECT?\E  
>> THAT'S RIGHT.\E  
FROM THE TANK, WE WOULD BRING THE OUTLET LINE INSIDE, AND THEN WE RUN IT THROUGH ONE MORE FILTRATION.\E  
IT'S A SEDIMENT FILTER.\E  
THAT'S WHAT JEREMY'S INSTALLING RIGHT NOW, BEFORE IT GOES TO THE PUMP, JUST TO PROTECT THE PUMP, AND TO GET ANY ADDITIONAL SEDIMENT THAT MAY BE IN THERE.\E  
FROM THE PUMP^-- AND BY THE WAY, THIS IS A SELF-PRIMING PUMP.\E  
IT'S AN ON DEMAND PUMP.\E  
BASICALLY WHAT THAT MEANS IS THAT IF A VALVE OPENS UP, THAT THING'S GONNA KICK ON.\E  
AND IF IT'S CLOSED, IT'S NOT GONNA TURN ON, SO YOU DON'T NEED A PRESSURE TANK.\E  
AND THEN FROM THE PUMP, IT'S GOING TO GO BACK OUTSIDE AND TAP INTO YOUR IRRIGATION MAIN.\E  
AND THEN WE HAVE JUST BASICALLY A CONVENTIONAL IRRIGATION SYSTEM THAT ANY HOME HAS, EXCEPT WE'VE ADDED A FEW WATER CONSERVATION FEATURES SUCH AS DRIP IRRIGATION ZONES FOR THE FLOWER BEDS.\E  
WE'RE ALSO USING FOR THE TURF AREAS, WE'RE USING SPECIAL BRAY

RAIN HARVESTING.txt

HEADS.\E  
THEY'RE ABOUT 20% MORE EFFICIENT THAN CONVENTIONAL SPRAY  
HEADS.\E  
>> HOW ARE THEY MORE EFFICIENT?\E  
>> THEY'RE CALLED M.P. ROTATORS.\E  
THEY'RE ACTUALLY LARGER DROPLETS, AND THEY DISPERSE WATER  
OVER AN AREA AT A SLOWER RATE, SO YOU'RE REDUCING RUNOFF.\E  
SO WITH THESE DIFFERENT FEATURES, WITH THE DRIP IRRIGATION, THE  
M.P. ROTATORS.\E  
AND THAT'S REALLY A BIG PART OF RAINWATER HARVESTING IS THAT  
MY SYSTEMS ARE ONLY AS EFFECTIVE AS MY IRRIGATION SYSTEM IS  
EFFICIENT.\E  
SO THERE'S A COMPLETE PACKAGE WHEN WE'RE LOOKING AT TRYING TO  
SAVE WATER HERE.\E  
>> ON THE COLLECTION AND THE USE, THERE'S CONSERVATION?\E  
>> THAT'S CORRECT.\E  
>> TURF AND WATER-THIRSTY PLANTS DOMINATE RESIDENTIAL  
LANDSCAPING IN MOST PARTS OF THE COUNTRY, BUT WE MAY NOT HAVE  
THAT CHOICE IN THE FUTURE AS LAKE LEVELS DROP AND UNDERGROUND  
WATER IS DEPLETED.\E  
EACH PERSON IN THE HOUSEHOLD USES AN AVERAGE OF 40^GALLONS OF  
POTABLE WATER EACH DAY, OR AROUND 12,000^GALLONS ANNUALLY,  
AND WE ARE PAYING THE UTILITY COMPANIES TO IMPORT EVERY  
GALLON THROUGH THE WATER METERS AND EXPORT IT THROUGH THE  
SEWAGE LINES.\E  
IF YOU CAN MAKE THE INVESTMENT, WITH ADDITIONAL FILTRATION AND  
TREATMENT, RAINWATER CAN BE USED FOR MOST OF THOSE POTABLE  
HOUSEHOLD PURPOSES.\E  
FOR MORE INFORMATION ON RAIN HARVESTING, VISIT OUR WEBSITE AT  
YOURHOUSEANDHOME.TV.\E  
>> COMING UP NEXT ON "YOUR HOUSE AND HOME." \E  
>> THERE'S BEEN HOT WATER WITHIN JUST A FEW SECONDS AFTER THE  
PUMP TURNS OFF.\E  
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