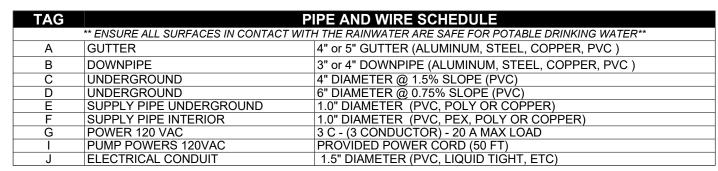
RAINWATER HARVESTING SYSTEM

YOUR - RAINWATER SYSTEM

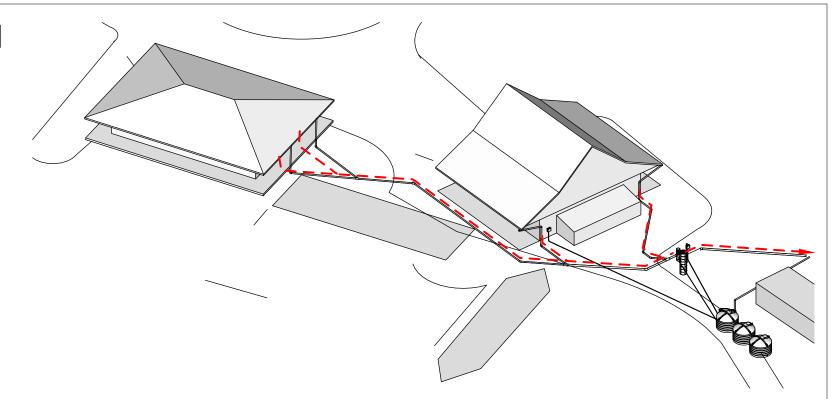




CLEAN FLO WATER TECHNOLOGIES DESIGNED THE SYSTEM TO MEET THE CSA B805 STANDARDS TO PROVIDE A POTABLE RAINWATER HARVESTING WATER SYSTEM.

IF THE INSTALLTION IS IN ACCORDENCE WITH CLEANFLO WRITTEN INSTRUCTION THIS SYSTEM WILL PROVIDE POTABLE WATER. IT IS THE OWNER / OPERATORS RESPONSIBLITY TO ENSURE THE RAINWATER HARVESTING SYSTEM IS INSTALLED AND OPERATING PROPERLY. INITIAL AND ONGOING MAINTENANCE AND MONITORING IS REQUIRED AND MUST BE PERFORMED BY THE OWNER OR UNDER THE OWNER'S DIRECTION.

IF INSTRUCTIONS ARE NOT FOLLWED OR MAINTIANCE IS NOT PERFORMED OR UNKOWN SUBSTANCES ARE INTRUDCED INTO THE RAINWATER SYSTEM THE SYSTEM MAY NOT BE SAFE AND THERFORE REGULAR WATER TESTING IS REQUIRED. CLEANFLO IS NOT RESPONSIBLE FOR THE WATER QUALITY THIS SYSTEM PRODUCES. USE WATER AT YOUR OWN RISK.



TIERS	WATER USES	
R1	NON-POTABLE, TRAP PRIMERS, FIRE SUPPRESSION, IRRIGATION	
R2	NON-POTABLE, TOILETS/URINALS, LAUNDRY MACHINE	
R3	NON-POTABLE, HOSE BIBS, PRESSURE WASHING, VEHICLE WASHING	
POTABLE, HUMAN CONSUMPTION, ORAL CARE, FOOD PREPARATION, DISHWASHING, BATHING/SHOWERING, POOL/HOT TUBS		

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DESCRIPTION

THIS SYSTEM IS DESIGN TO MEET CANADIAN PLUMBING CODES AND CSA STANDARDS FOR RAINWATER HARVESTING CSA B805.

THE OVERALL SYSTEM DESIGN EMPLOYS A MULTI BARRIER APPROACH TO WATER QUALITY. THE FIRST STEP IS THE PRE-FILTER. THE SECOND STEP IS THE RAINWATER TANK DESIGN. THE THIRD STEP IS THE WATER FILTER SYSTEM.

CLEAN FLO SYSTEMS ARE DESIGNED FROM "ROOF TO TAP"! WITH ATTENTION TO EVERY DETAIL OF YOUR RAINWATER HARVESTING SYSTEM. WHEN YOU PURCHASE THE COMPLETE SYSTEM FROM CLEAN FLO, IT IS PART OF A COMPLETE PACKAGE THAT WE WILL PROVIDE SUPPORT AND SERVICE FOR THE LIFE OF THE SYSTEM

THIS RAINWATER HARVESTING SYSTEM IS DESIGNED AS A SECONDARY SOURCE OF WATER FOR IRRIGATION PURPOSES, SUCH WATERING GARDEN, IRRIGATION, ETC. WITH BACK-UP WATER SOURCE FROM WELL WATER IF THE RAINWATER TANK IS EMPTY.

THE SYSTEM WILL PROVIDE WATER FOR WATER USES TIER: R1 - NON POTABLE IRRIGATION ONLY

<u>ROOF</u>

THE SYSTEM WILL BE HARVESTING RAIN FROM ONE BUILDING THE ROOF. THE ROOF IS PROVIDED BY OTHERS AND SHOULD BE SUITABLE FOR INTENDED USE.

GUTTER, DOWNPIPES AND CONVEYANCE PIPING

THE GUTTERS, DOWNPIPES, AND CONVEYANCE PIPING IS SIZED BASED ON SPECIFICATIONS FROM THE DESIGNS. THE GUTTERS, DOWNPIPE AND CONVEYANCE PIPING IS PROVIDED BY OTHERS AND SHOULD BE SUITABLE FOR INTENDED USE.

PREFILTER

THE SYSTEM WILL REQUIRE ONE (1) PRE-FILTER. THIS PRE-FILTERS OPERATE AS BOTH A FIRST FLUSH DIVERTER AND PREFILTER, WITH A FILTER MESH SIZE OF 320 MICRONS. THE FULL CROSS-SECTION (PIPE DIAMETER) OF THE RAINWATER DRAINAGE SYSTEM REMAINS CONTINUOUSLY OPEN, AND THERE ARE NO REDUCTION IN THE CROSS-SECTION OF THIS APPLIANCE IN WHICH DIRT OR WATER CAN COLLECT.

RAINWATER TANK / CISTERN

THIS SYSTEM WILL PROVIDE A TOTAL OF 3600 USG OF RAINWATER STORAGE. WITH A TOTAL OF THREE (3) ABOVE GROUND TANK(S), MADE OF POLYETHYLENE. EACH TANK IS 1200 USG.

THE RAINWATER TANK IS DESIGNED TO PROVIDE SAFE STORAGE OR RAINWATER, WHICH IMPROVES WATER QUALITY BECAUSE OF IT'S DESIGN AND FUNCTION. THE CALMING INLET PREVENTS AGITATION OF SETTLED FINE DUST, THE SKIMMING OVERFLOW REMOVES FLOATING PARTICLES AND THE FLOATING FILTER ENSURES WATER IS DRAWN INTO THE PUMP FROM APPROXIMELY 150 mm (6.0") BELOW THE SURFACE OF THE WATER.

WATER PUMPING AND TREATMENT SYSTEM

CLEAN FLO DETERMINED THE WATER DEMAND TO BE 8 GPM @ 60 PSI. THIS WILL BE PUMPED BY MULTI STAGE BOOSTER PUMP. THE FILTERATION WILL BE ONE STAGE TO ENSURE WATER IS SAFE TO USE. STAGE ONE IS A SEDIMENT FILTER OF 25.

WATER QUALITY AND TREATMENT

CLEAN FLO DESIGNED THIS SYSTEM TO PRODUCE WATER THAT IS SAFE FOR CSA B805 R1 USES; NAMELY NON POTABLE IRRIGATION ONLY.

WATER TESTING

DANGER!!

IF THERE ARE ANY NOTICEABLE CHANGES IN WATER QUALITY (IE. COLOUR, SMELL, TASTE, ETC.) STOP USING WATER AND PERFORM BOTH BACTERIOLOGICAL AND CHEMICAL TESTS IMMEDIATELY.

BACTERIOLOGICAL TEST

THIS TEST SHOULD BE PERFORMED AT A FREQUENCY OF SIX MONTHS AT A LOCAL ACCREDITED WATER TESTING LAB. BACTERIOLOGICAL SAMPLES WILL RAPIDLY BECOME UNREPRESENTATIVE OF THE WATER SUPPLY IF THE TEST IS NOT PERFORMED SOON AFTER TAKING THE SAMPLE

THESE TESTS INCLUDE BUT ARE NOT LIMITED TO: E.COLI, AND TOTAL COLIFORMS

CHEMICAL TEST

THIS TEST SHOULD BE PERFORMED AT A FREQUENCY OF ONE YEAR AT AN ACCREDITED WATER TESTING LAB. WHILE CHEMICAL TESTS ARE LESS TIME SENSITIVE, IT IS ADVISED TO DELIVER YOUR SAMPLE TO THE LAB WITHIN 24 HOURS OF TAKING THE SAMPLE

THESE TEST INCLUDE BUT ARE NOT LIMITED TO: HEAVY METALS, TOTAL ORGANIC CARBON, PH, TURBIDITY, TOTAL DISSOLVED SOLIDS, NITRATES, HARDNESS, AND CONDUCTIVITY.

POTENTIAL LOCAL TEST FACILITY

WHEN USING THE SERVICES OF A LOCAL TESTING FACILITY THEY WILL ENSURE THE TEST RESULTS AND TOLERANCES CONFORM TO LOCAL REGULATIONS ON WATER QUALITY.

WATER TEST RESULTS

PLEASE KEEP A LOG OF TEST RESULTS IN THE TABLE AT THE BACK OF THIS DOCUMENT. PLEASE FILE THE ORIGINAL WATER TEST RESULT DOCUMENTATION IN THE FOLDER AT THE BACK OF THESE DOCUMENTS.

WATER TESTING LOG

PERFORM A BACTERIOLOGICAL TEST ON THE WATER EVERY 6 MONTHS PERFORM A CHEMICAL TEST ON THE WATER EVERY YEAR

STORE THE ORIGINAL WATER QUALITY TEST RESULTS IN FOLDER AT BACK

THE FIRST WATER TEST SHOULD BE RECORED BELOW AS THE BASELINE WATER TEST.

BASELINE TEST DATE (DD/MM/YYYY)	TEST COMPLETE DATE (DD/MM/YYYY)	TEST RESULT



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SYSTEM NAME: YOUR - RAINWATER SYSTEM

R1-NON POTABLE IRRIGATION ONLY **SYSTEM TYPE:**

YOU OWNERS:

123 ABC st. LOCATION:

EMERGENCY CONTACT

FIRST POINT - INSTALLERS OWNERS

CLEANFLO WATER TECHNLOGIES, CANADA **SECOND POINT - DESIGNER**

1-877-306-2146

MAINTENANCE PERSONS OWNER

SCOPE OF SYSTEM SUPPLY

WATER USES TEIR: R1 - NON POTABLE IRRIGATION

WELL WATER PRIMARY WATER SOURCE: **SECONDARY WATER SOURCE:** RAINWATER

NUMBER OF PEOPLE SERVED: N/A IRRIGATION ONLY

NUMBER OF FIXTURES

HOSE BIBS: YARD HYDRANT: **FAUCETS:** LAUNDRY: **TOILETS: DISHWASHER: BATH/SHOWER:**

SECONDARY WATER SOURCE

MECH. EQUIPMENT:

FIRE SUPRESSION:

WELL WATER

AUTOMATIC BY-PASS SYSTEM N/A

SYSTEM DESIGN AND SPECS.

DESIGNER: CLEANFLO WATER TECHNLOGIES, 1-877-306-2146

DATE COMPLETED: MARCH 2022 SYSTEM SPECIFICATIONS

ROOF COLLECTION AREA: ~ 3768 SQFT PAINTED STEEL **ROOF MATERIAL:**

PAINTED STEEL **GUTTER MATERIAL:**

DOWNSPOUT MATERIAL:

CONVEYANCE PIPING MATERIAL: ALUMINUM, PVC SDR 35, PVC DRAIN PIPE

ALUMINUM, PVC SDR 35, PVC DRAIN PIPE

STORAGE TANK SPECIFICATIONS

TOTAL VOLUME: 3600 USG

NUMBER OF TANKS: 3

VOLUME OF EACH TANK: 1200 USG

TANK TYPE: ABOVE GROUND **POLYETHYLENE TANK MATERIAL:**

TANK DIMENSIONS

LENGTH: N/A WIDTH: N/A HIEGHT: 60" 83" DIAMETER:

PRE-FILTER SPECIFICATIONS

TYPE OF PREFILTER: WISY VORTEX

NUMNER OF PRE-FILTERS:

PRE-FILTRATION MESH SIZE: 320 MICRONS

MAXIMUIM INLET FLOW RATE: 4 LITERS PER SECOND

PUMP SPECIFICATIONS

BRAND: **CLEANFLO PRESSURE SYSTEM**

DABS DTRON 2 MODEL: **DESIGN FLOW RATE:** 8 USGPM MAXIMUN PSI @ 10 GPM: 74 PSI

POWER SPECIFICATIONS

1.1 HP **HORSE POWER: VOLTAGE:** 115 VAC AMPS: ~ 7.5 A WATTS: 1500 W

WATER TREATMENT SPECIFICATIONS

CLEANFLO TYPE:

SEDIMENT FILTER BRAND:

MODEL: 25 MICRON

AGE OF EQUIPMENT: NEW **7 MIN PEAK WATER DEMAND**

FLOW RATE

QUANTITY (LPM) RUN TIME 7 MIN PEAK **FIXTURES** 8.3 SHOWER OR BATH 0 L 5.3 0.5 MIN **LAVATORY** 0 L 2.7 1 FLUSH PER TOILET 6.0L/FLUSH 0 L 1.6 O.5 MIN KITCHEN SINK 0 19 0 100L/CYCLE WASHING MACHINE 0 7.6 DISHWASHER 0 30L/CYCLE 0L HOSE BIB 7 MIN 58.1 L

TOTAL 7 MIN PEAK 58.1 L

LPM 8.3 **US GPM 2.2**

BASED ON THIS PEAK DEMAND CLEANFLO SPECIFIES A MAX FLOW RATE OF 8 US GPM.

TOTAL DYNAMIC HEAD

DESIGN FLOW RATE: 8 GPM

1.25 PSI / 2.9 FT HEAD 1.0" @ 50FT (2.5 PSI LOSS/100FT) (NPSH MUST BE MET FOR BOOSTER PUMP)

TREATMENT SKID

PSI LOSS VARIES AS WATER FILTERS BECOME CLOGGED

10 PSI / 23 FT HEAD

DISTRIBUTION PIPE

8 GPM - 1.0" @ 20FT (2.5 PSI LOSS/100FT) 8 GPM - 0.75" @ 50FT (8.7 PSI LOSS/100FT) 4 GPM - 0.5" @ 50FT (10.5 PSI LOSS/100FT)

10.2 PSI / 24 FT HEAD

TOTAL 0.5 + 4.4 + 5.3 = 10.2

MINOR LOSSES: VALVES, FITTINGS

2.1 PSI / 4.9 FT HEAD

ELEAVATION HEAD

8.6 PSI / 20 FT HEAD

STATIC PSI

30 PSI / 70 FT HEAD

TOTAL 62 PSI / 144 FT HEAD

CLEAN FLO WATER TECHNOLOGIES

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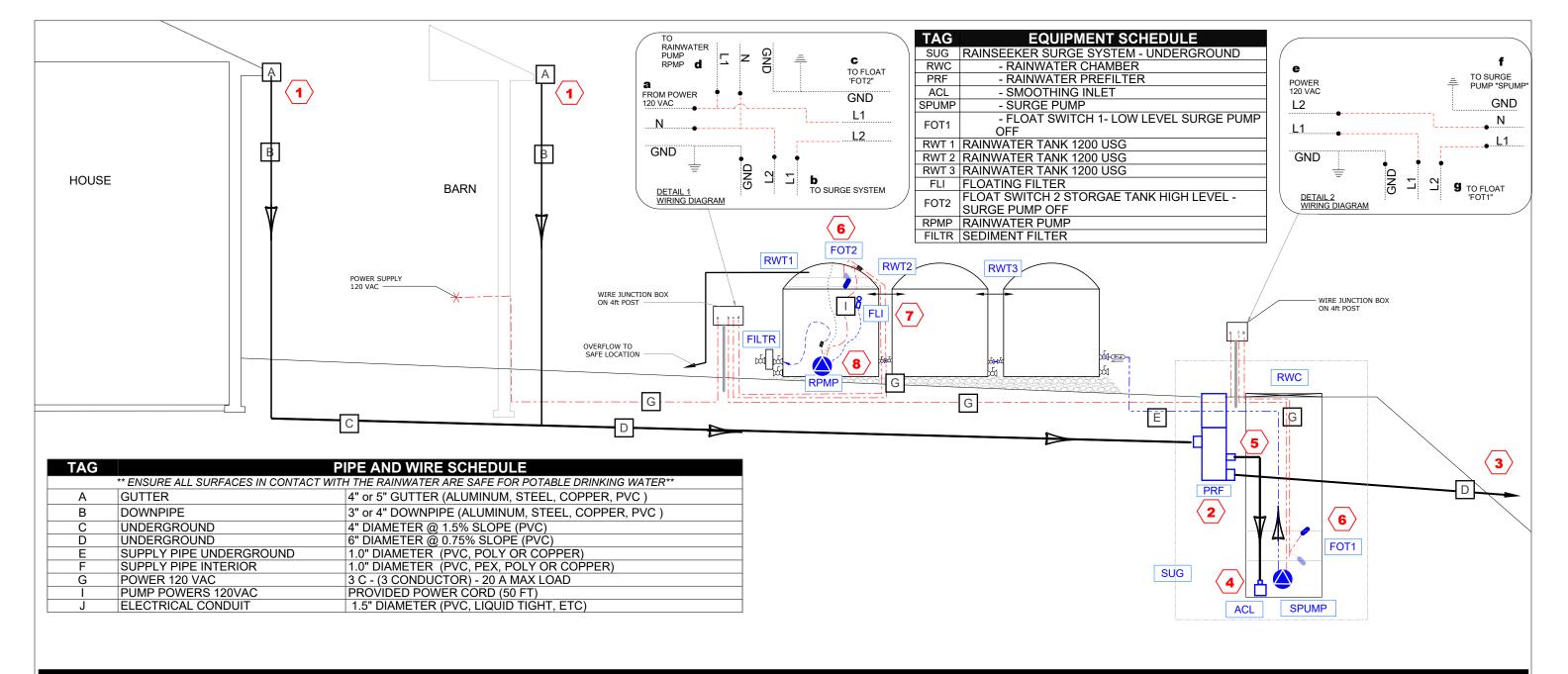
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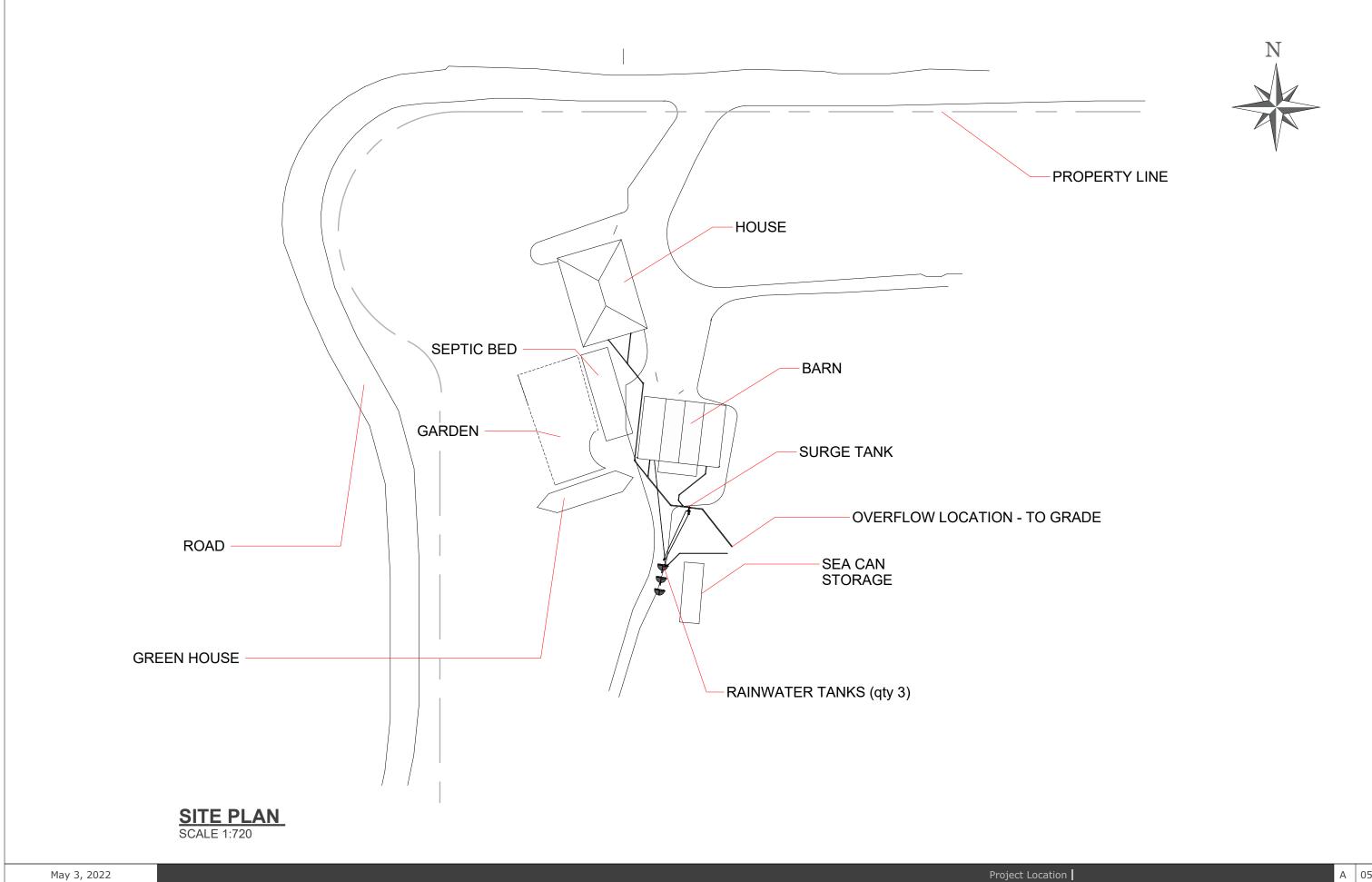
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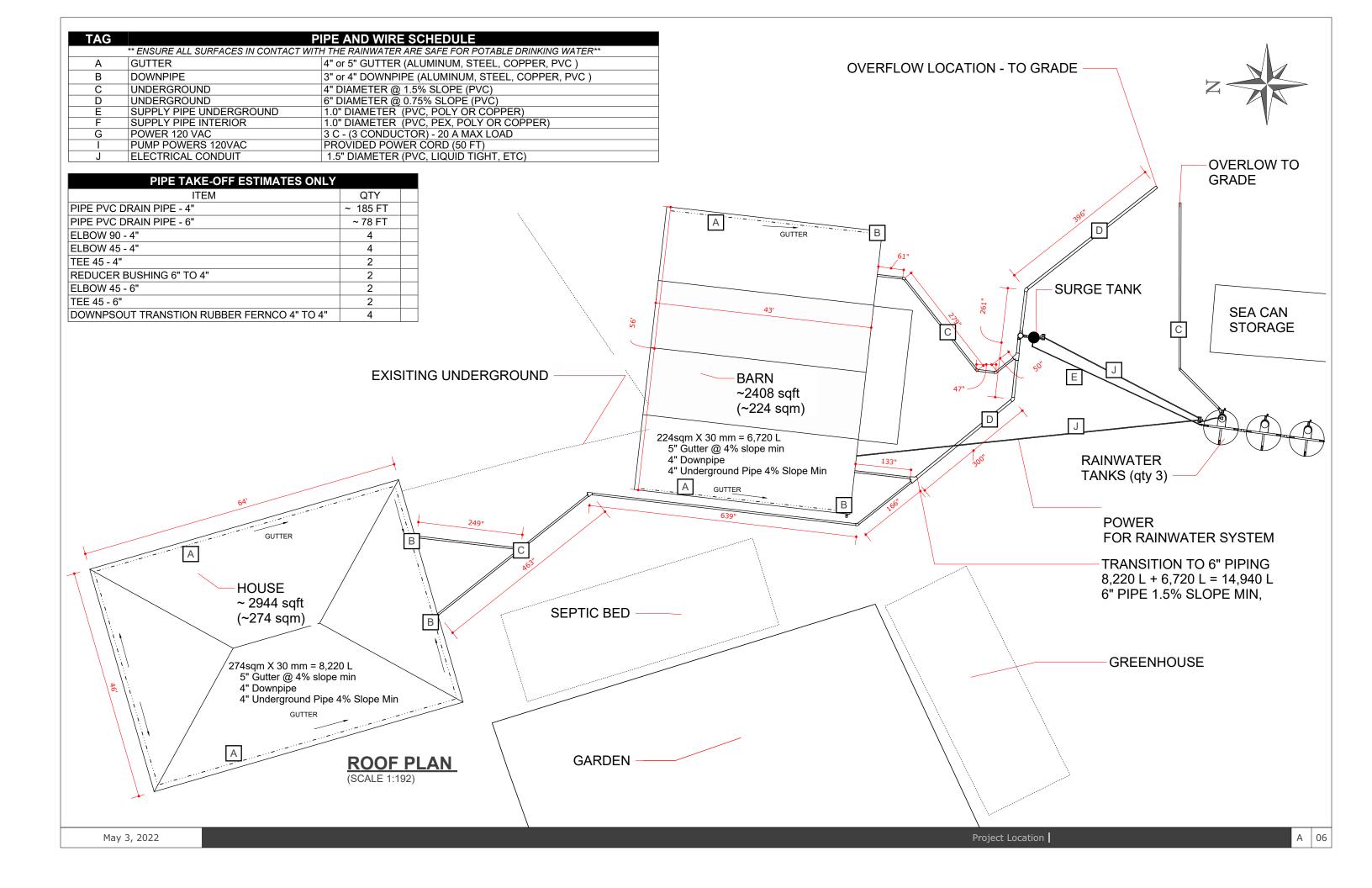
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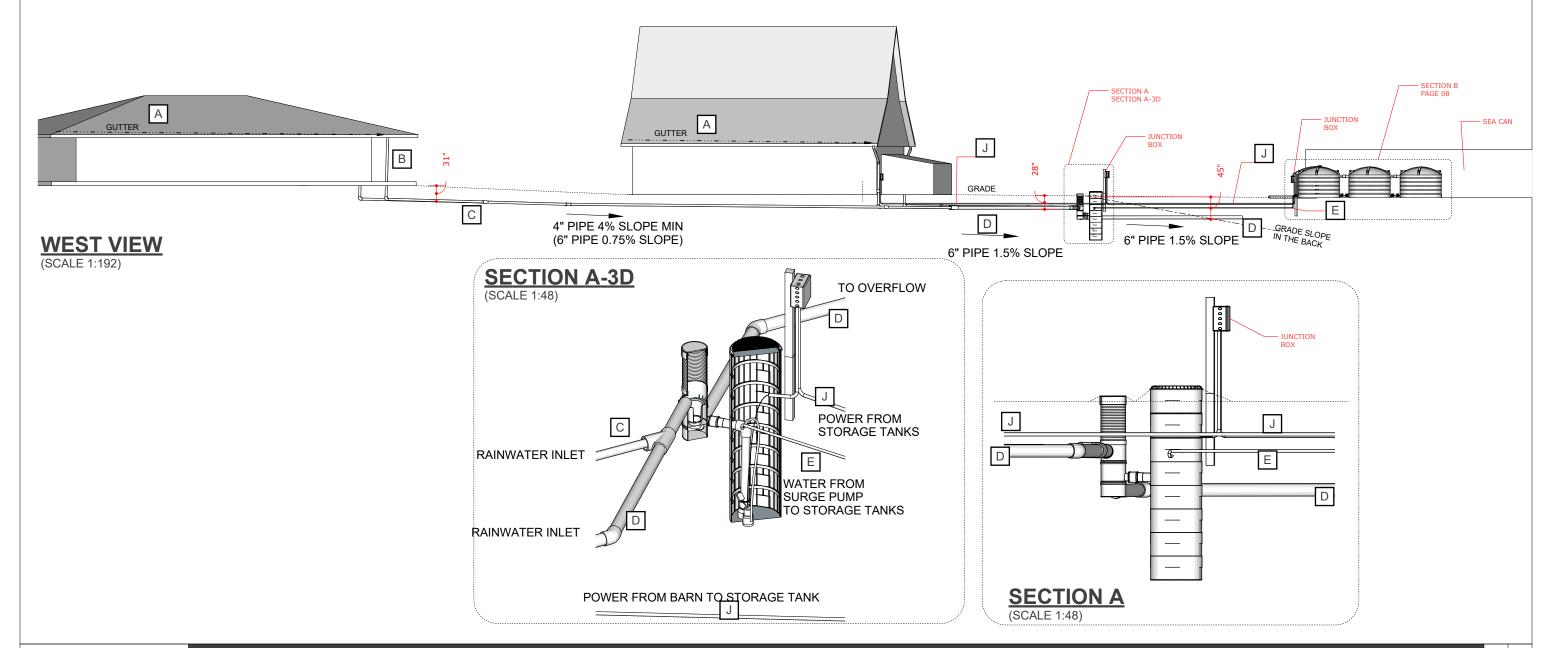


SEQUENCE OF OPERATION				
1	RAINWATER IS CAPTURED FROM THE ROOF. USING GUTTERS, ROOF DRAINS, AND PIPING RAINWATER IS CONVEYED TO THE PREFILTER. IF USING RAINWATER FOR POTABLE USE - REFER TO POTABLE ROOF AND GUTTER SPECIFICATION SHEETS.			
2	RAINWATER ENTERS PREFILTER SELF CLEANING 3 IN1. PROVEN BASKETLESS TECHNOLOGY PROVIDES: 1) FIRST FLUSH ACTION 2) CONTINUOUS FILTRATION 320 MICRONS 3) AERATOR.			
3	RAINWATER OVERFLOWS FROM PREFILTER AND RAINWATER SURGE TANK TO A SAFE LOCATION SUCH AS: GROUND, STORM SEWER, SWALE, INFILTRATION GALLERY OR SUMP PIT/ LIFT STATION.			
4	FILTERED RAINWATER LEAVES THE PREFILTER AND ENTERS THE TANK VIA STAINLESS STEEL AERATOR AND CALMING INLET DEVICE. WHICH ADDS OXYGEN TO THE RAINWATER AND REDUCES VELOCITY OF INCOMING RAINWATER TO PREVENT AGITATION OF SEDIMENT ON RAINWATER TANK FLOOR.			
5	WHEN THE RAINWATER SURGE TANK IS FULL OVERFLOWED RAINWATER IS DIRECTED THROUGH THE PREFILTER AND OUT THE PREFILTER OVERFLOW PIPE.			
6	WHEN FOT 1 IS UP AND FOT 2 IS DOWN THE SURGE PUMP WILL BE TRIGGERED ON. THE SURGE PUMP WILL STAY ON UNITL EITHER FOT 1 IS DOWN OR FOT 2 IS UP, THEN THE SURGE PUMP TRIGGERS OFF.			
7	WHEN REUSING RAIN IT FIRST PASSESS THROUGH A STAINLESS STEEL FLOATING INTAKE DEVICE. WHICH DRAWS IN RAINWATER TO THE PUMP FROM 150MM(6.0") BELOW WATER SURFACE WHICH IS THE CLEANEST LENS (LAYER) OF WATER IN TANK.			
8	WHEN THERE IS A DROP IN PRESSURE IN THE PLUMBING SYSTEM THE RAINWATER PUMP IS ACTIVATED ON. THE PUMP WILL AUTOMTICALLY START AND STOP WHEN WATER IS REQUIRED.			



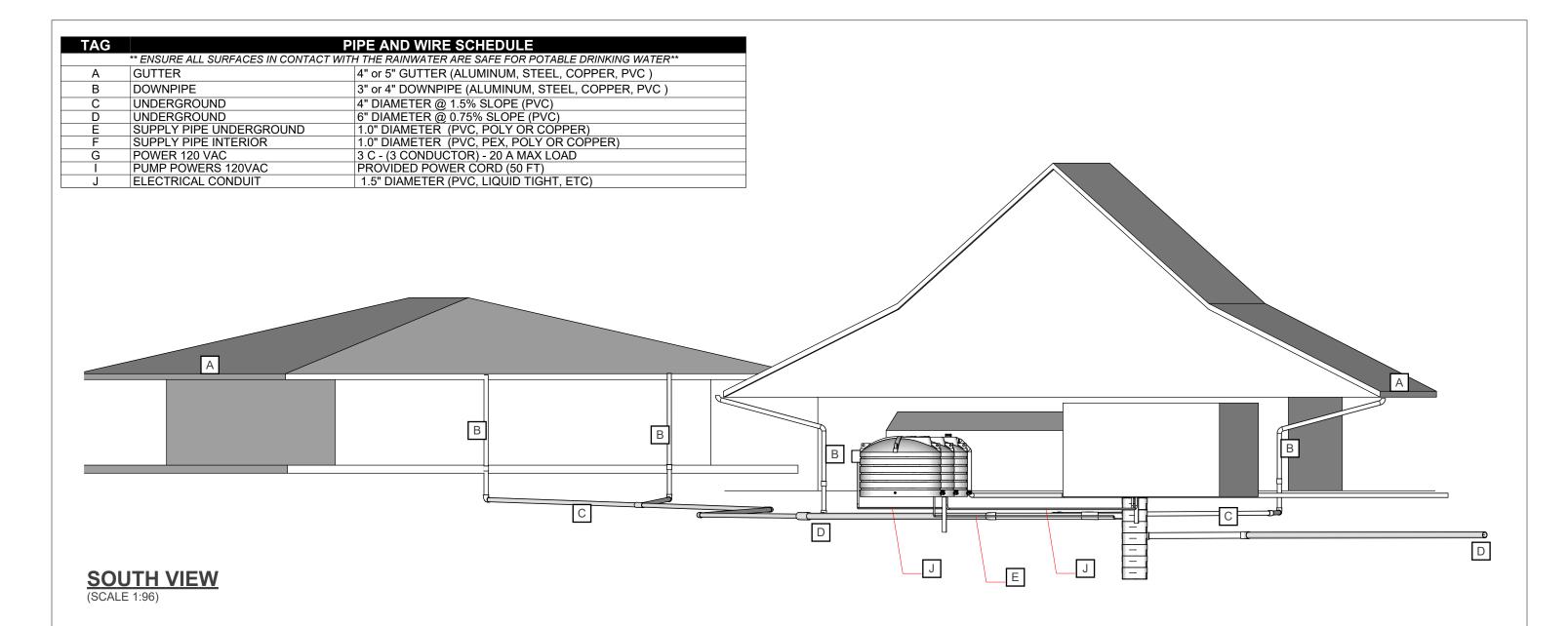


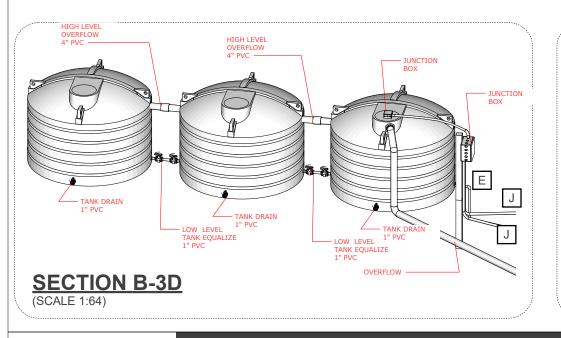
TAG	PIPE AND WIRE SCHEDULE		
	** ENSURE ALL SURFACES IN CONTACT WITH THE RAINWATER ARE SAFE FOR POTABLE DRINKING WATER**		
Α	GUTTER	4" or 5" GUTTER (ALUMINUM, STEEL, COPPER, PVC)	
В	DOWNPIPE	3" or 4" DOWNPIPE (ALUMINUM, STEEL, COPPER, PVC)	
С	UNDERGROUND	4" DIAMETER @ 1.5% SLOPE (PVC)	
D	UNDERGROUND	6" DIAMETER @ 0.75% SLOPE (PVC)	
E	SUPPLY PIPE UNDERGROUND	1.0" DIAMETER (PVC, POLY OR COPPER)	
F	SUPPLY PIPE INTERIOR	1.0" DIAMETER (PVC, PEX, POLY OR COPPER)	
G	POWER 120 VAC	3 C - (3 CONDUCTOR) - 20 A MAX LOAD	
I	PUMP POWERS 120VAC	PROVIDED POWER CORD (50 FT)	
J	ELECTRICAL CONDUIT	1.5" DIAMETER (PVC, LIQUID TIGHT, ETC)	

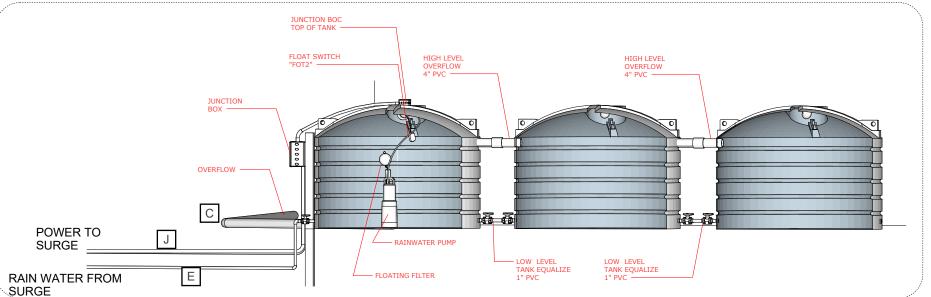


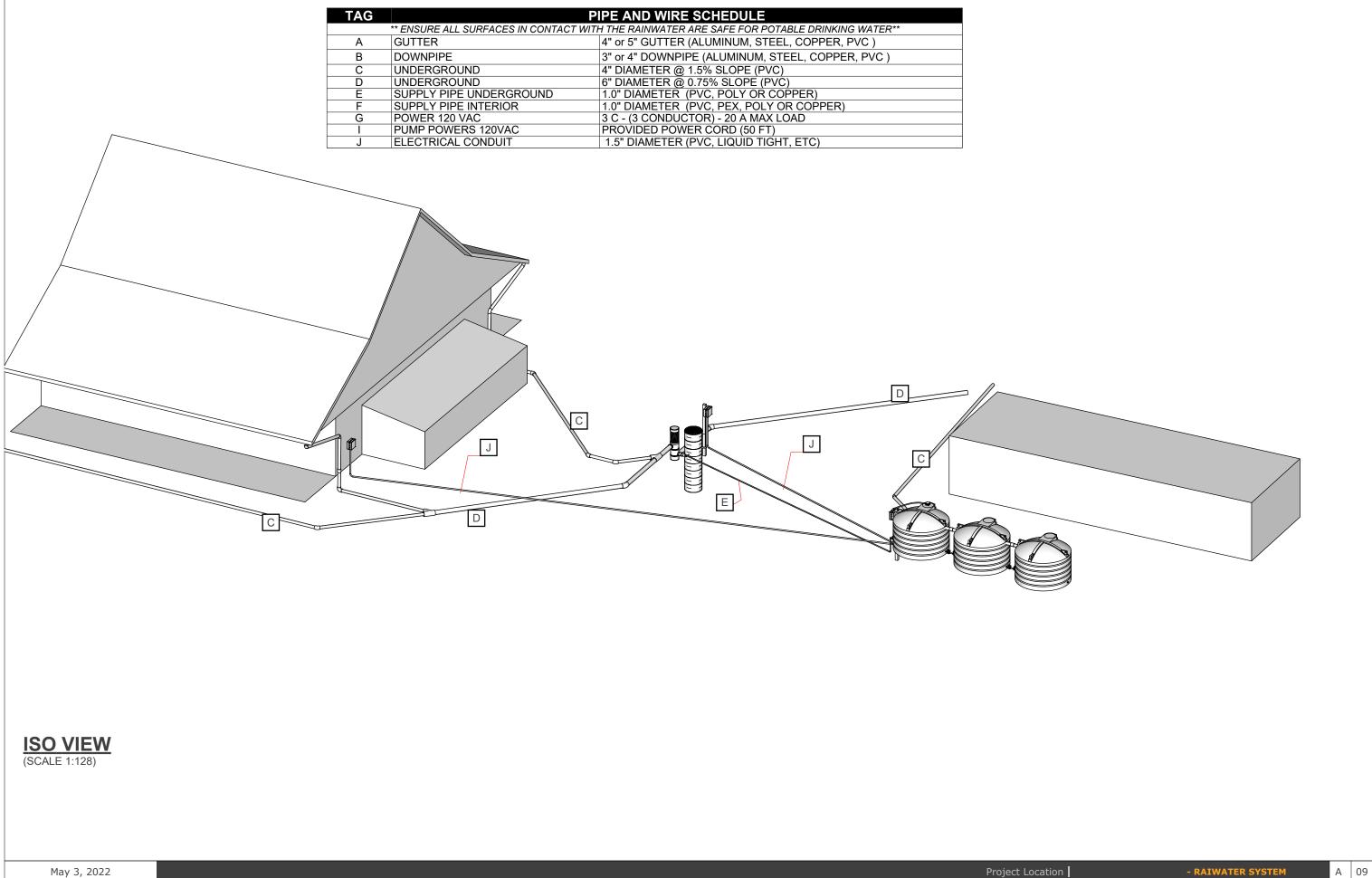
May 3, 2022

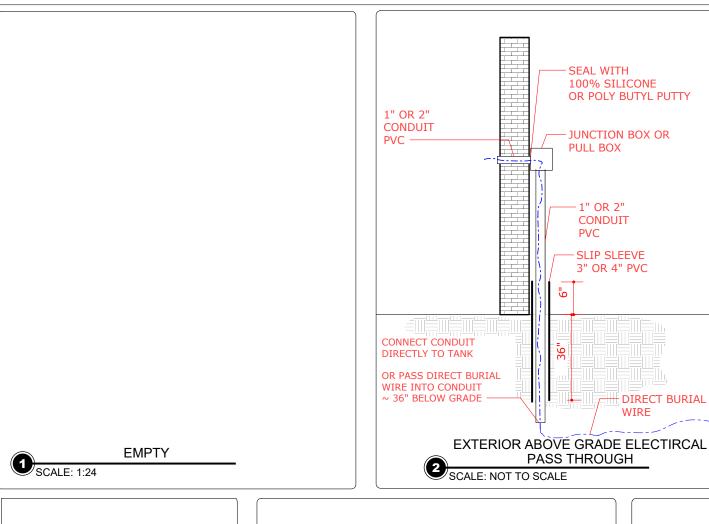
Project Location

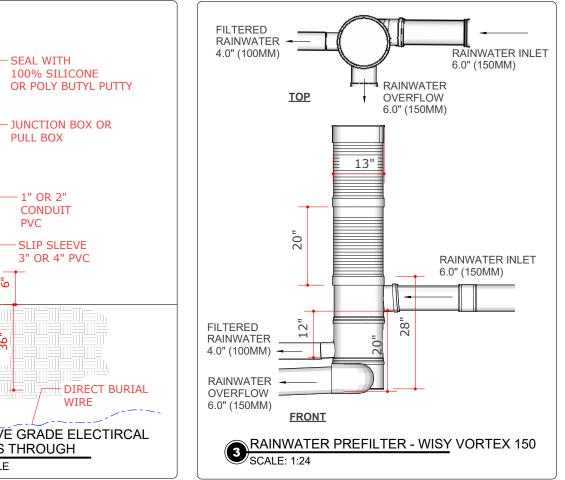


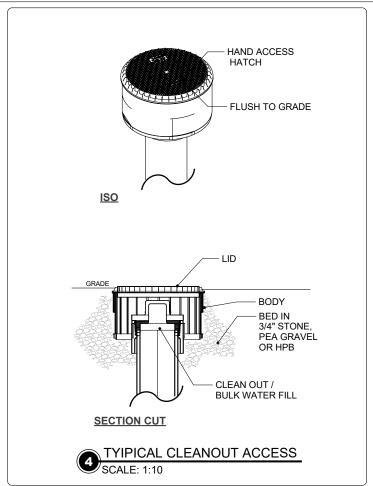


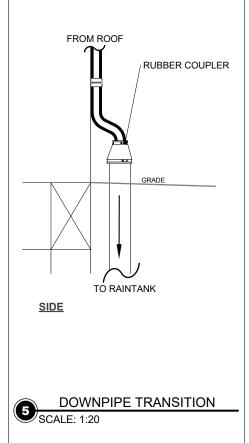


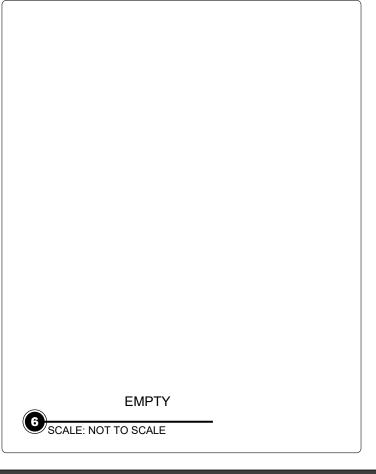


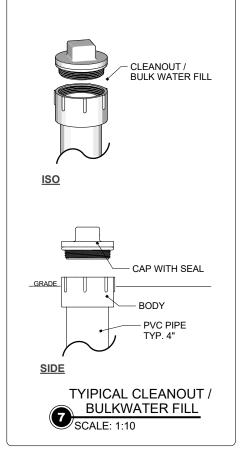












SEAL WITH

PULL BOX

-1" OR 2" CONDUIT PVC

- SLIP SLEEVE

