

# LESSONS LEARNED

# RAINWATER HARVESTING

## OPERATIONS

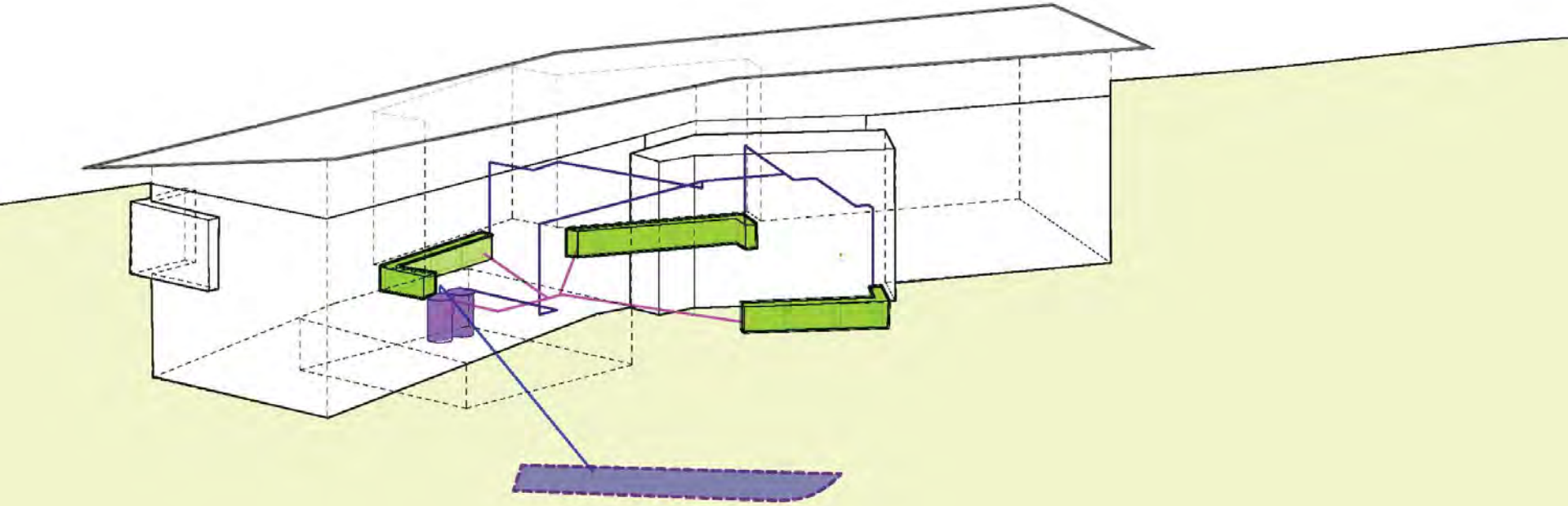
- DEEP OWNER COMMITMENT
- LICENSED OPERATOR (24-HOUR AVAILABILITY)
- MUNICIPAL-LEVEL MONITORING FOR SINGLE BUILDING
- AUTOMATED DAILY MEASUREMENTS

## CONTROLS & METERING

- INTEGRATING UNUSUAL SYSTEMS INTO BMS
- METERING ACCURACY/LANGUAGE
  - WATER CANNOT BE MEASURED LIKE ELECTRICITY!
- “SURPRISE” PURCHASES
  - COMM CENTER, STANDBY SENSORS, PH METER, ETC..., ETC.

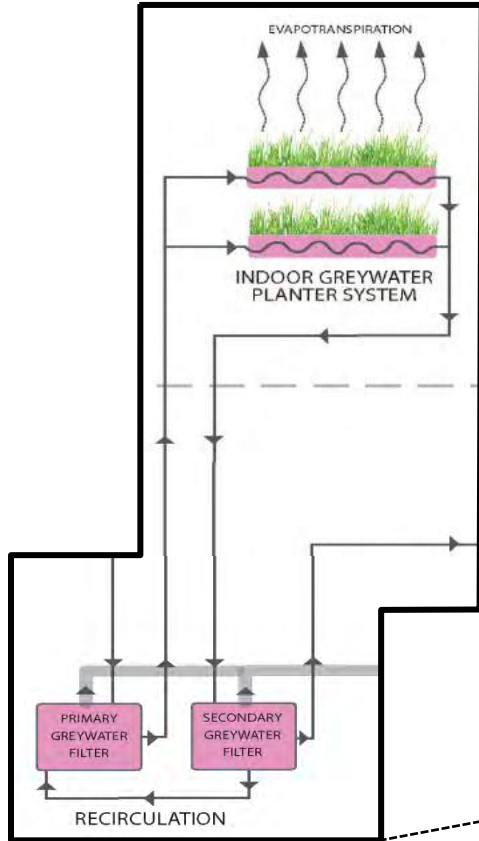


# GREYWATER TREATMENT (INTERIOR & E

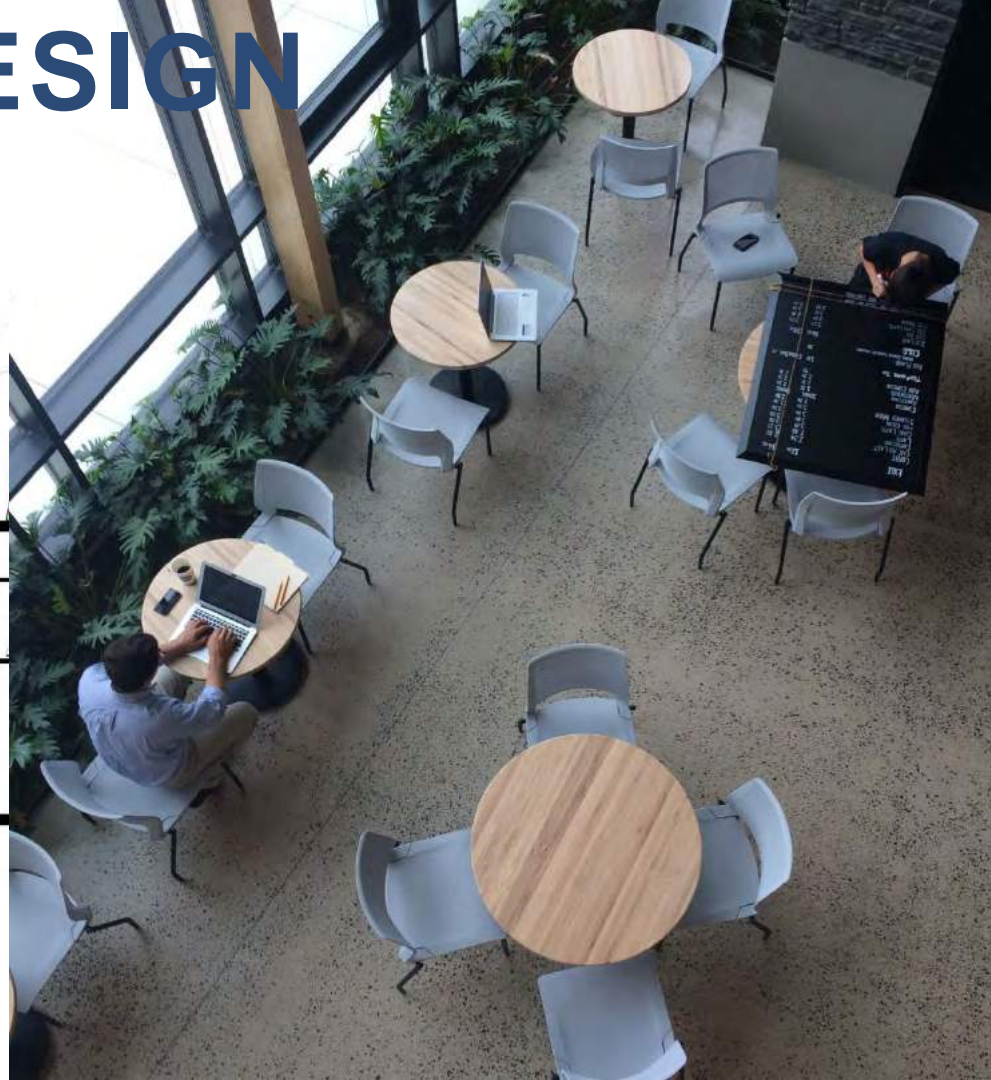
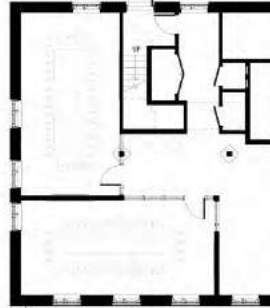
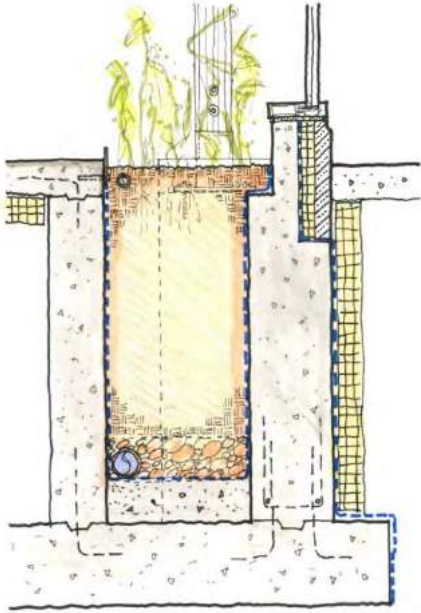




# GREYWATER COLLECTION



# GREYWATER DESIGN



# LESSONS LEARNED

## GREYWATER

### UNDERSTAND THE INPUT

- IMPACT OF COFFEE WASTEWATER
  - ODOR
  - CLOGS
  - LEVEL OF MAINTENANCE



### TROUBLESHOOTING

- INCORPORATE INTO DESIGN
  - CONTINGENCY PLANNING
- ITERATIVE PROCESS
  - IDENTIFY, IMPLEMENT, RE-EVALUATE
- START AT THE SOURCE
  - DIVERSION OF DAIRY WASTE
- CREATIVE SOLUTIONS
  - “FLEXIBLE FINE PARTICLE SCREEN” – A.K.A. PANT



# LESSONS LEARNED

## GREYWATER

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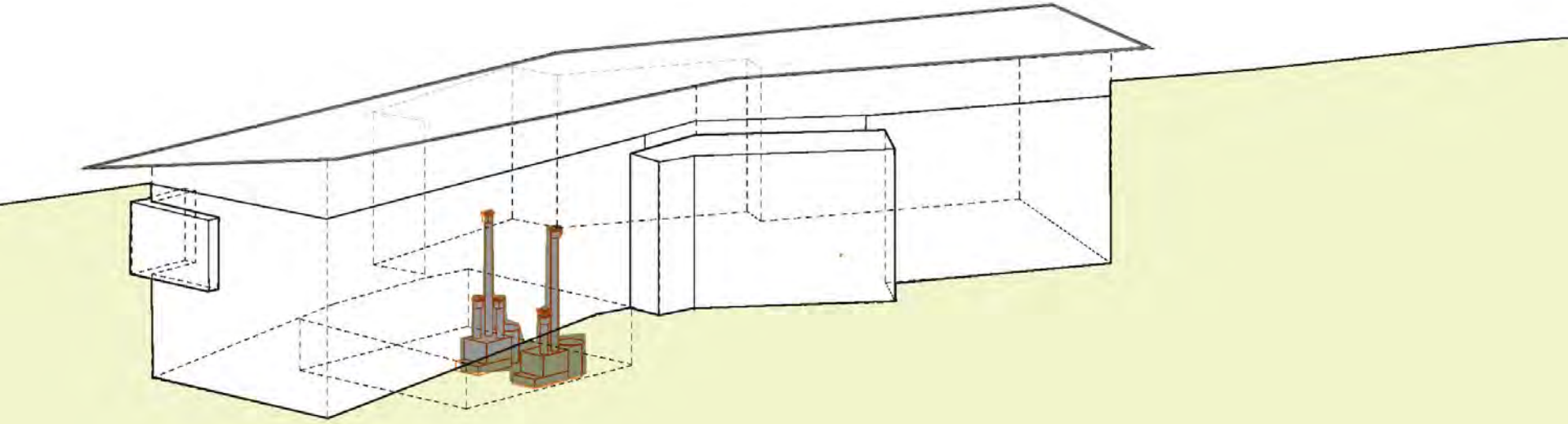
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# COMPOSTING TOILETS





# COMPOSTING TOILETS

- COMMERCIAL COMPOSTING TOILET SYSTEM
- NEAR-ZERO WATER DEMAND
- WATERLESS (KERN CENTER) & FOAM FLUSH (HCE)
- “HANDS-ON” MAINTENANCE
  - STIRRING OF COMPOST BIN
  - REMOVAL OF COMPOST SOILDS
  - AND LIQUID WASTE “TEA”



# LESSONS LEARNED

## COMPOST

### TROUBLESHOOTING

- COPPER FITTING CORRODING



### USER EXPERIENCE

- FOAM VS STRAIGHT DRO

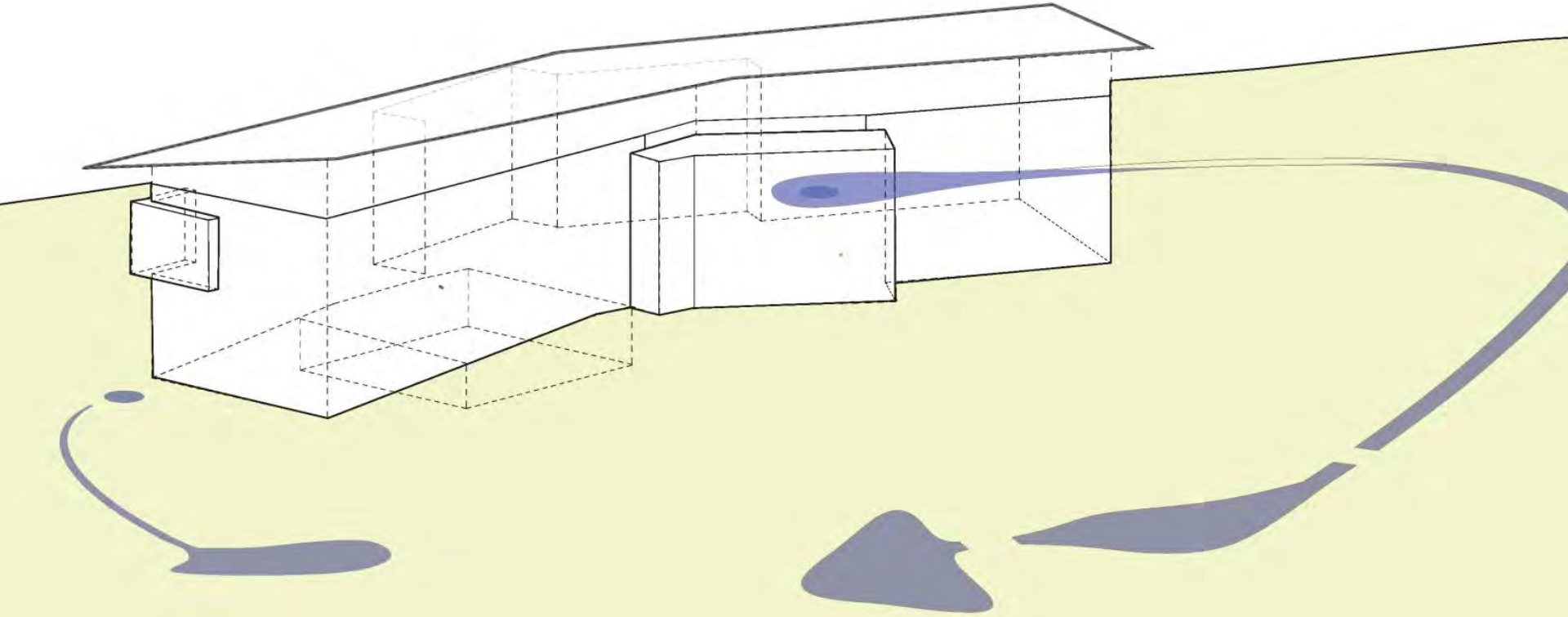


### MAINTENANCE

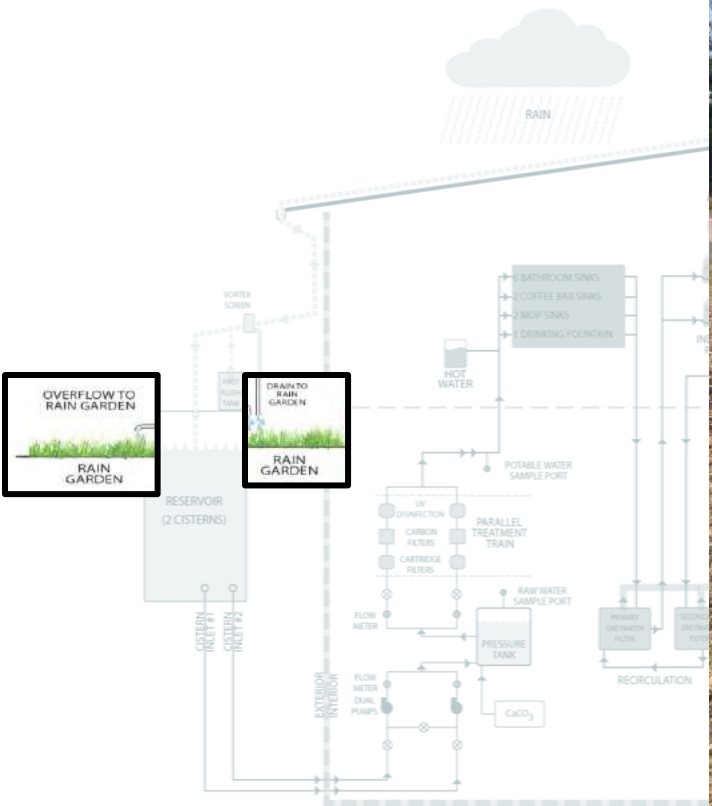
- TANKS FILLED QUICKLY
- COLLEGE - PROCESSING LIQUID INTO FERTILIZER – PILOT PROJECT
- VERMONT HAS PILOT CAN'T CROSS STATE BORDER



# STORMWATER RECHARGE



# STORMWATER MANAGEMENT



# SITE & WATER

Bruner/Cott  
architects and planners



ROBERT CROWN  
CENTER

BUS  
STOP

RAIN  
GARDEN

RAIN  
GARDEN

DROP OFF  
AREA

CAMPUS  
ROAD

RAIN  
GARDEN

CONSTRUCTED  
WETLAND

ORCHARD

SUCCESSION  
MEADOW

WET MEADOW

CISTERN

SWALE

AMPHITHEATER

CISTERN

N

# SITE & WATER



ROBERT CROWN  
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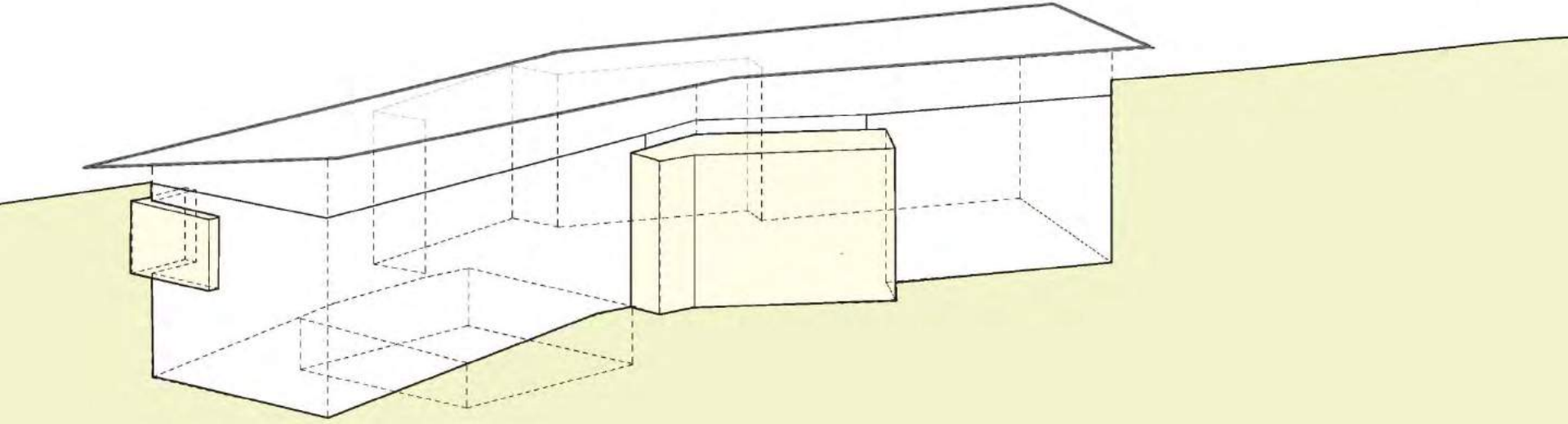
CISTERN

SWALE

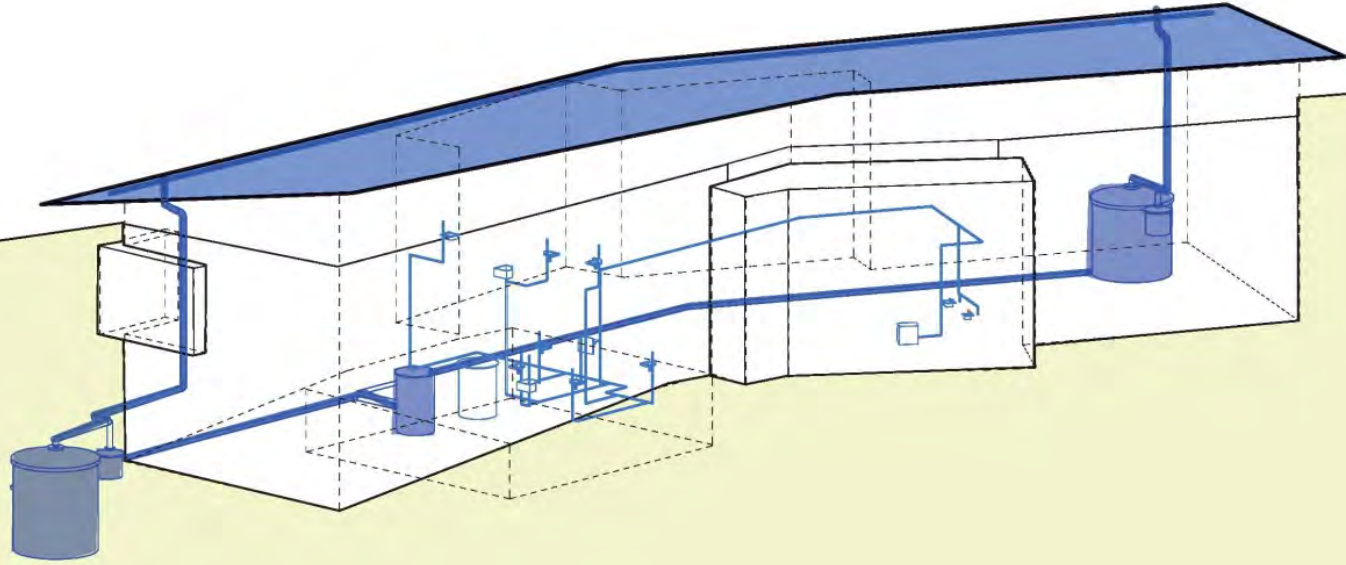
CISTERN

AMPHITHEATER

# WATER SYSTEMS

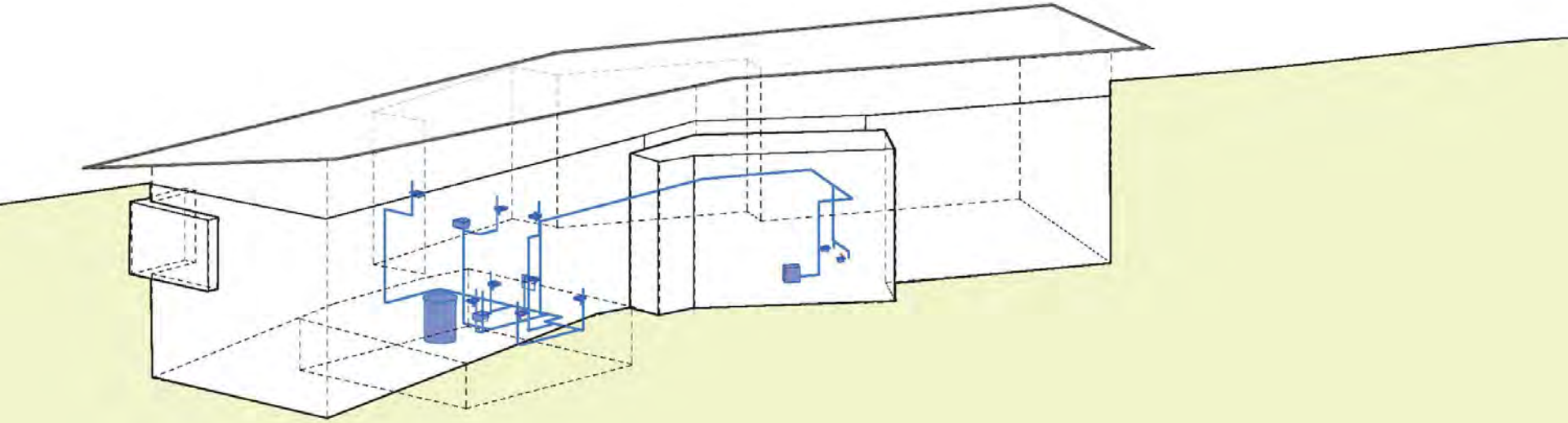


# RAINWATER HARVEST

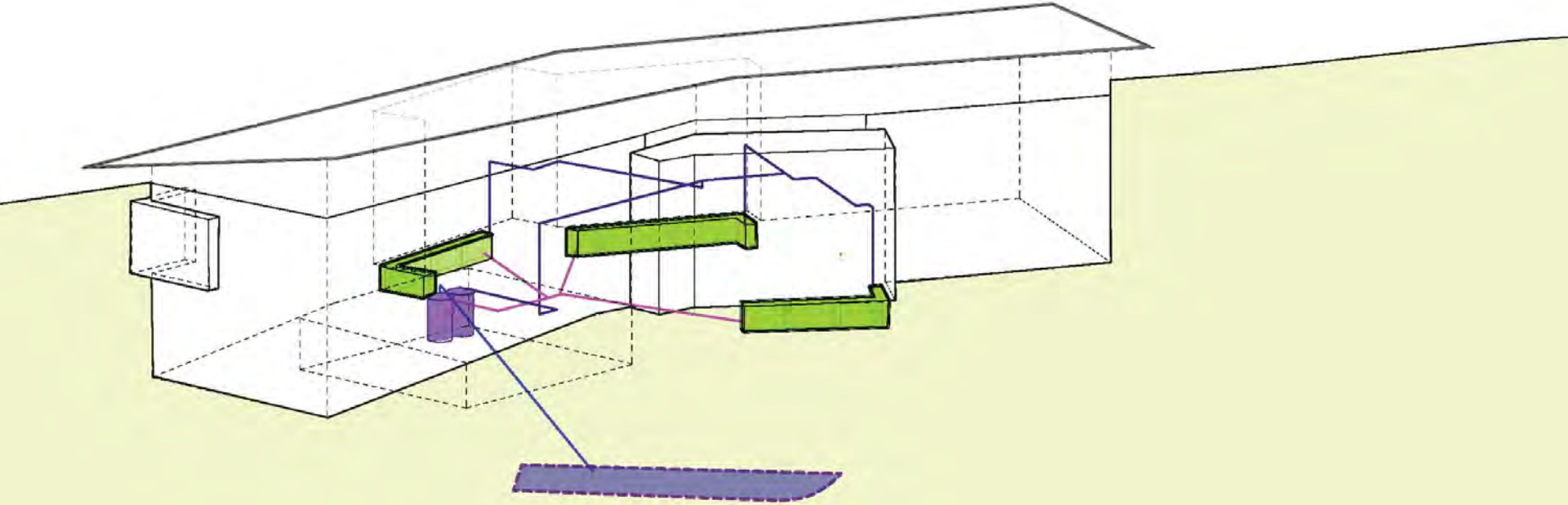




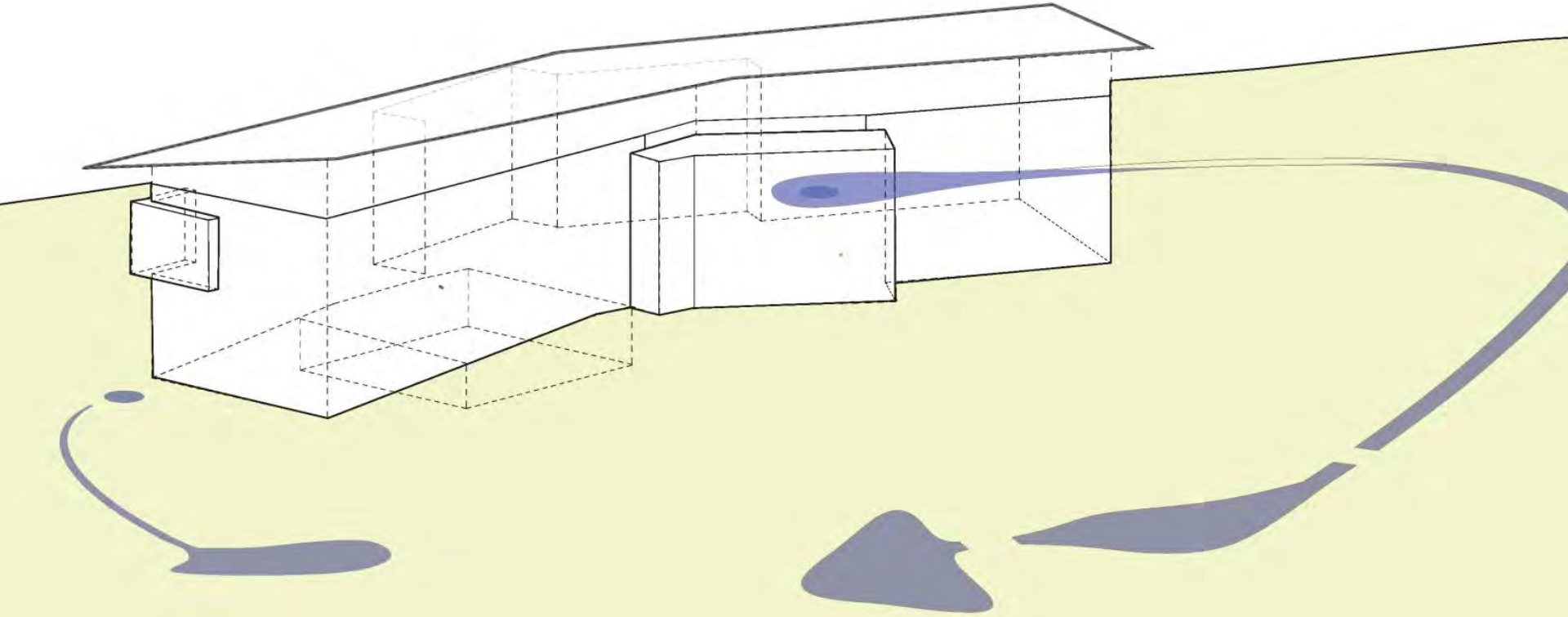
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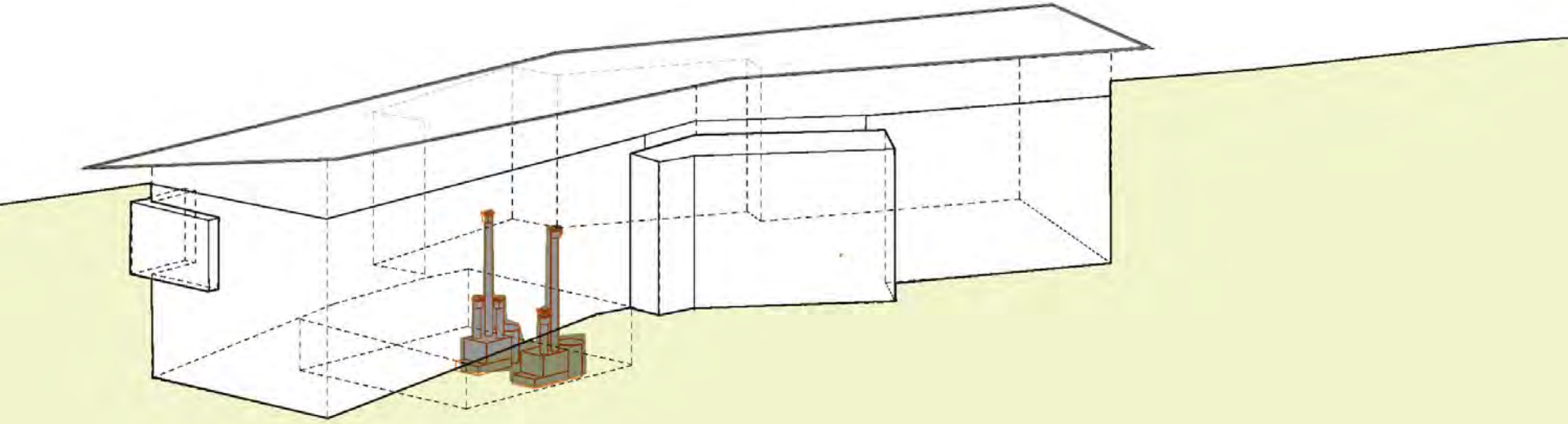
# GREYWATER TREATMENT



# STORMWATER RECHARGE



# COMPOSTING TOILETS



# REGULATORY PATH

## RAINWATER HARVEST



**GREYWATER**

# MEASUREMENT AND MONITORING

MONITOR 2 MONTHS OF OCCURANC

- INTERACTIVE DASHBOARD
- ACADEMIC STUDY
- PERMIT COMPLIANCE

