

PAGE 1 - OVERALL FLOOR PLAN

SCALE: 1/4" = 1'-0"

- KEY NOTES - OFF-GRID FAMILY MODULE
- 20 x 24 fixed cabin body, 480 SF interior, plus 20 x 6 covered entry porch.
 - Family of 4: parent bedroom, dedicated kids bunk room, open living/dining/kitchen, bath and utility core.
 - Central utility core stacks electrical, water filtration, pump, dry-toilet venting and service access.
 - No conventional well or septic tank is required by the design concept; final property approvals remain site-specific.
 - Solar/battery power is primary; embedded generator and optional shore input provide backup.
 - Single-slope roof supports rain capture and a large solar array.

ROOM SCHEDULE

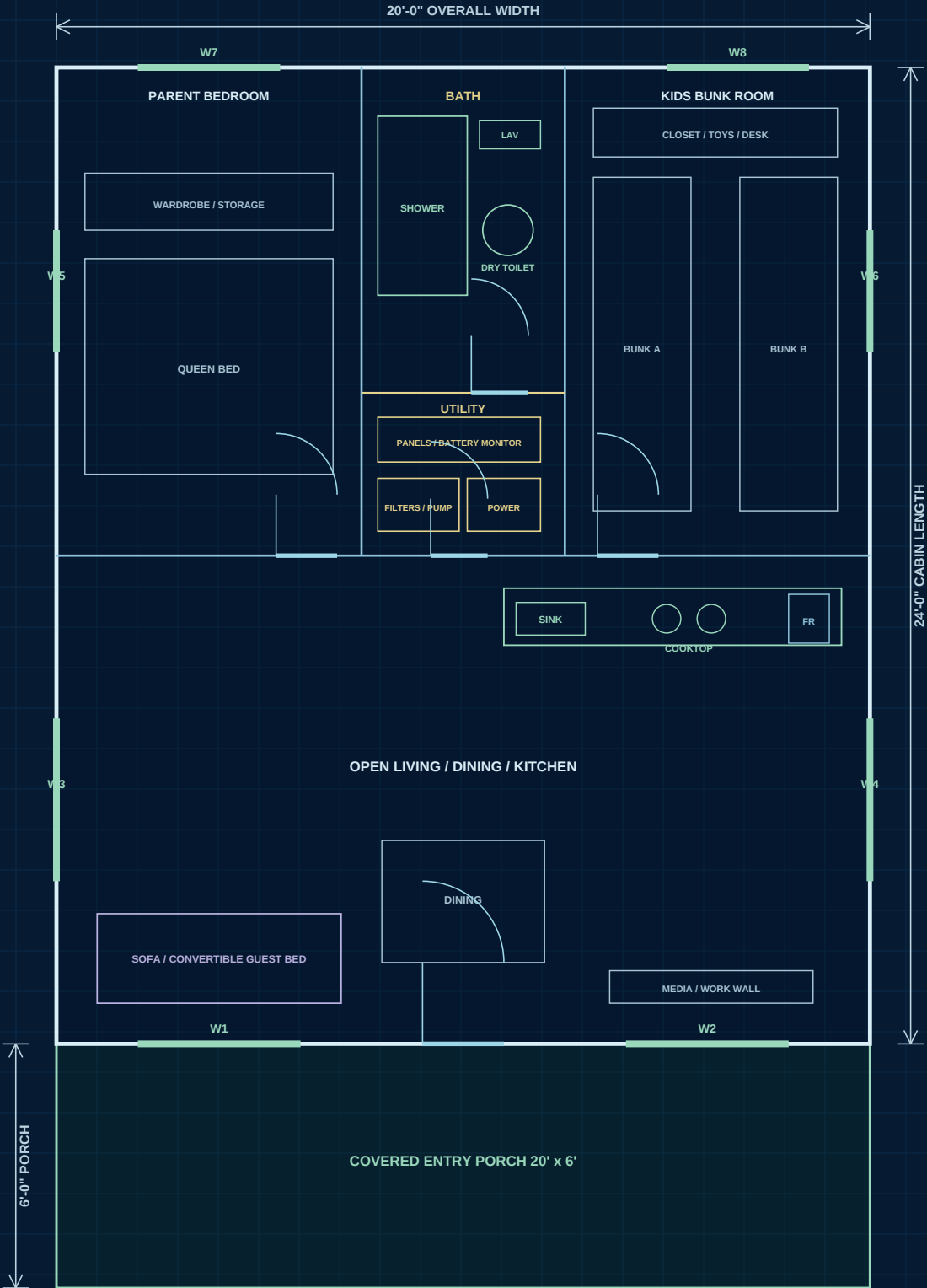
OPEN LIVING / KITCHEN	20 x 12
PARENT BEDROOM	7.5 x 12
BATH / DRY TOILET	5 x 8
UTILITY / POWER	5 x 4
KIDS BUNK ROOM	7.5 x 12
COVERED PORCH	20 x 6

WINDOW / DOOR SCHEDULE

W1-W2	FRONT LOW-E WINDOWS
W3-W4	LIVING SIDE WINDOWS
W5-W6	BEDROOM SIDE WINDOWS
W7-W8	REAR BEDROOM WINDOWS
D1	36 IN INSULATED ENTRY
D2	SERVICE / UTILITY ACCESS

DESIGN BASIS

Comfortable, repairable, long-duration family cabin. Systems are intentionally simple and serviceable rather than dependent on buried utilities or RV-specific equipment.



PROJECT:
20 x 24 OFF-GRID FAMILY CABIN MODULE

DRAWING TITLE:
OVERALL FLOOR PLAN

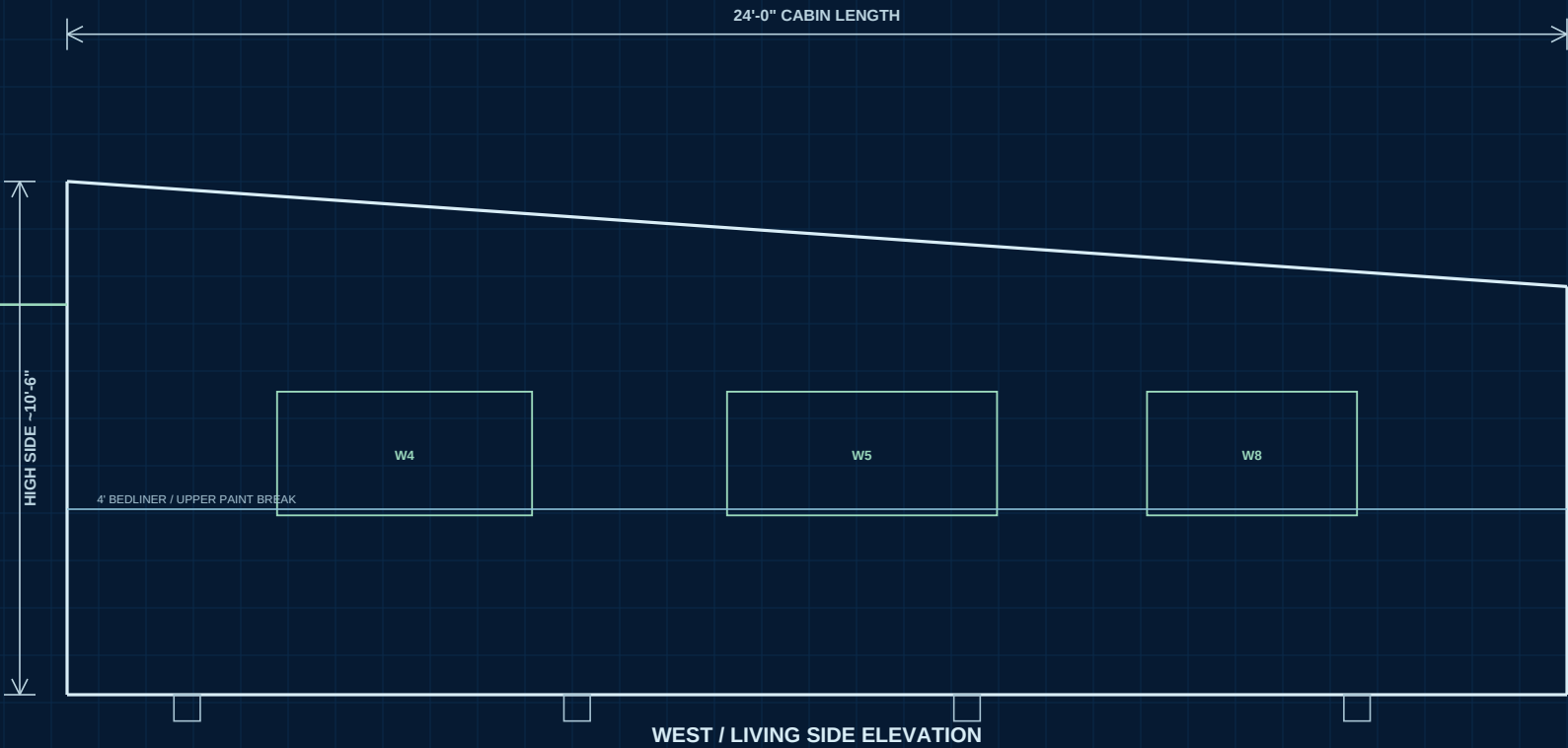
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NOTE:
CONCEPT BLUEPRINT FOR BUILD PLANNING. ALL STRUCTURAL, ELECTRICAL, WATER, WASTE, FOUNDATION, SNOW AND WIND DETAILS MUST BE VERIFIED FOR THE ACTUAL PROPERTY AND LOCAL REQUIREMENTS BEFORE CONSTRUCTION.

REV A - REBUILT TO REFERENCE BLUEPRINT STYLE

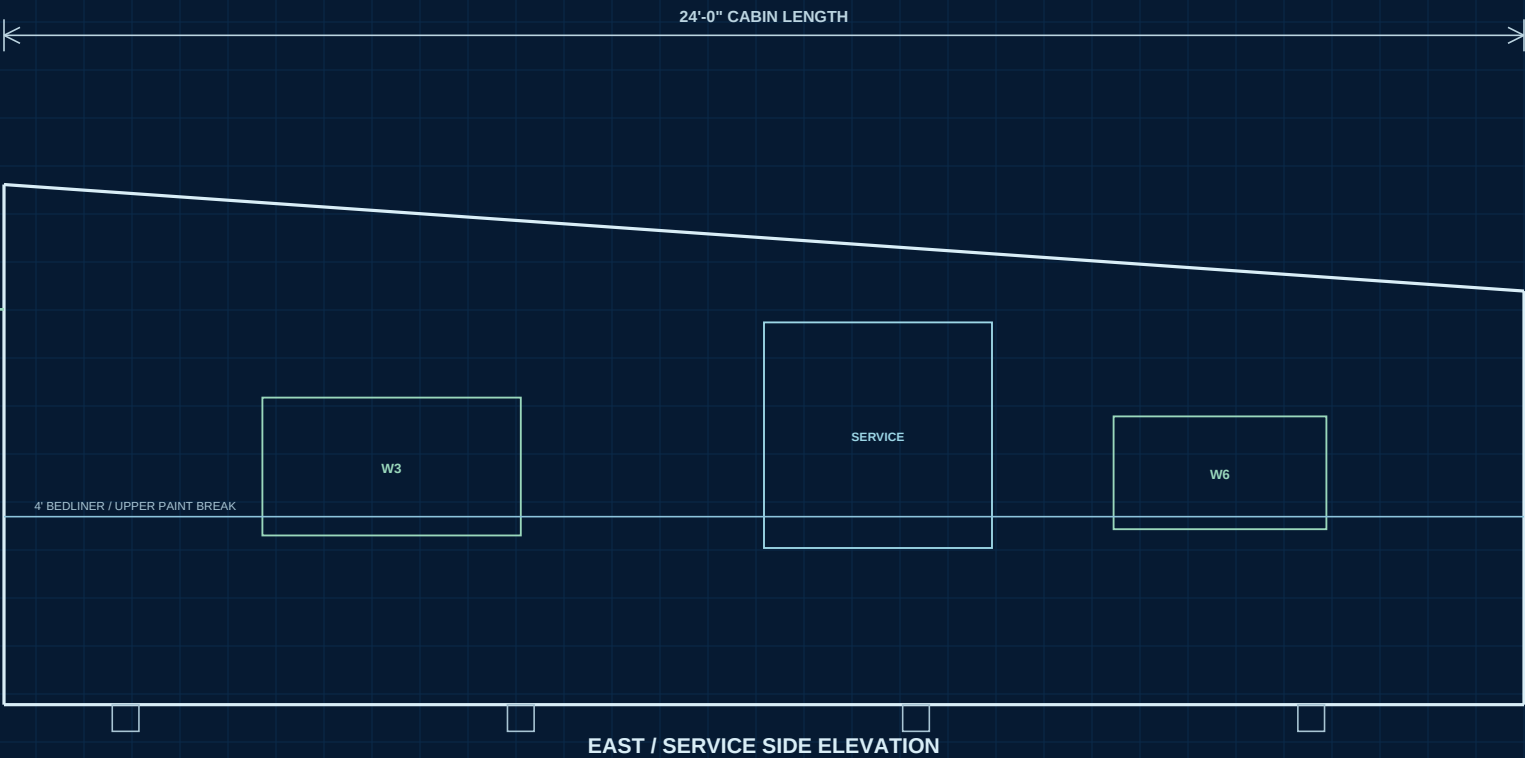
PAGE 2 - EXTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"



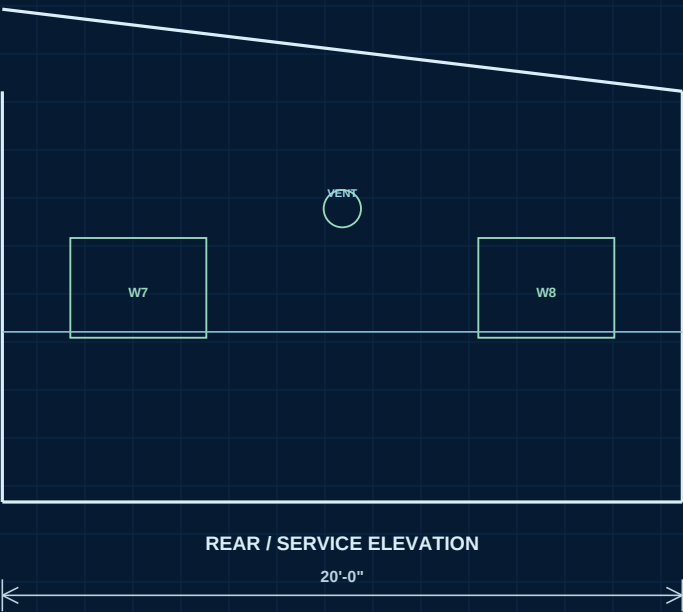
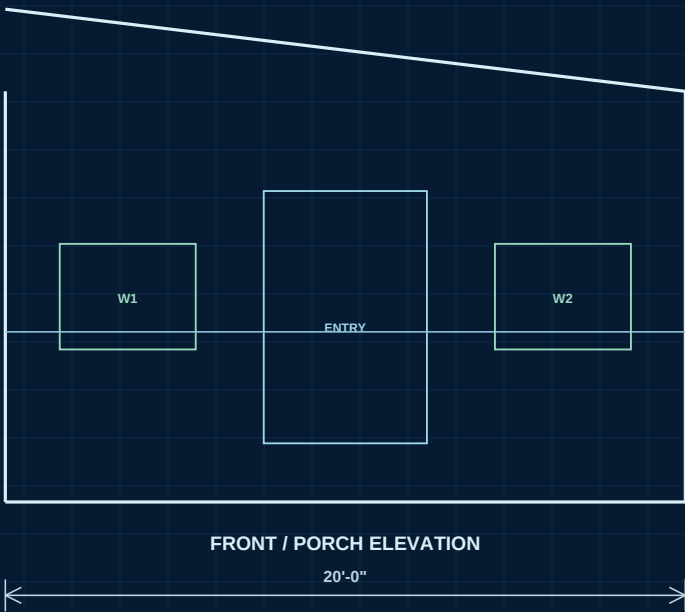
EXTERIOR NOTES

- Upper wall finish: smooth sealed exterior plywood/MDO, painted.
- Lower 4 ft: roll-on bedliner weather/impact protection.
- Stained cedar beltline and selected window/door/corner trim.
- Standing-seam or equivalent metal roof; low-slope system matched to manufacturer limits.
- Continuous gutters on low service side feed rainwater treatment train.
- All openings flashed; all plywood edges and penetrations sealed before finish.



HEIGHT / ROOF

- High wall concept: approx. 10 ft 6 in.
- Low wall concept: approx. 8 ft 0 in.
- Roof slope concept: approx. 1.5:12 toward service side.
- Porch roof is integrated, not a temporary awning.
- Final snow, wind, uplift and roof pitch are property-specific.



FINISH STRATEGY

- Use simple panel breaks and cedar battens instead of trying to body-fill every seam.
- Keep service penetrations concentrated on one wall.
- Protect low wall from splashback with gravel drip strip and roof overhang.
- Exterior colors can match the trailer design language: light upper field, dark lower armor, warm cedar.

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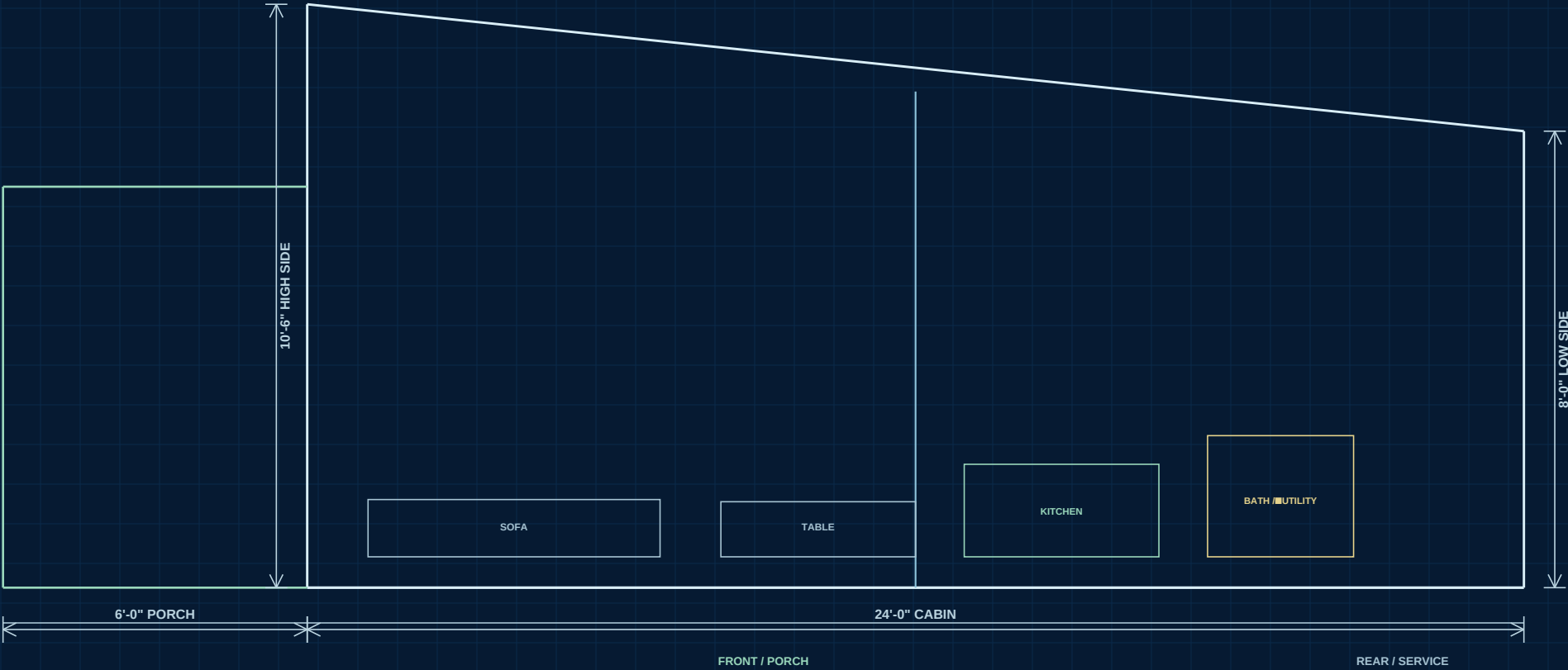
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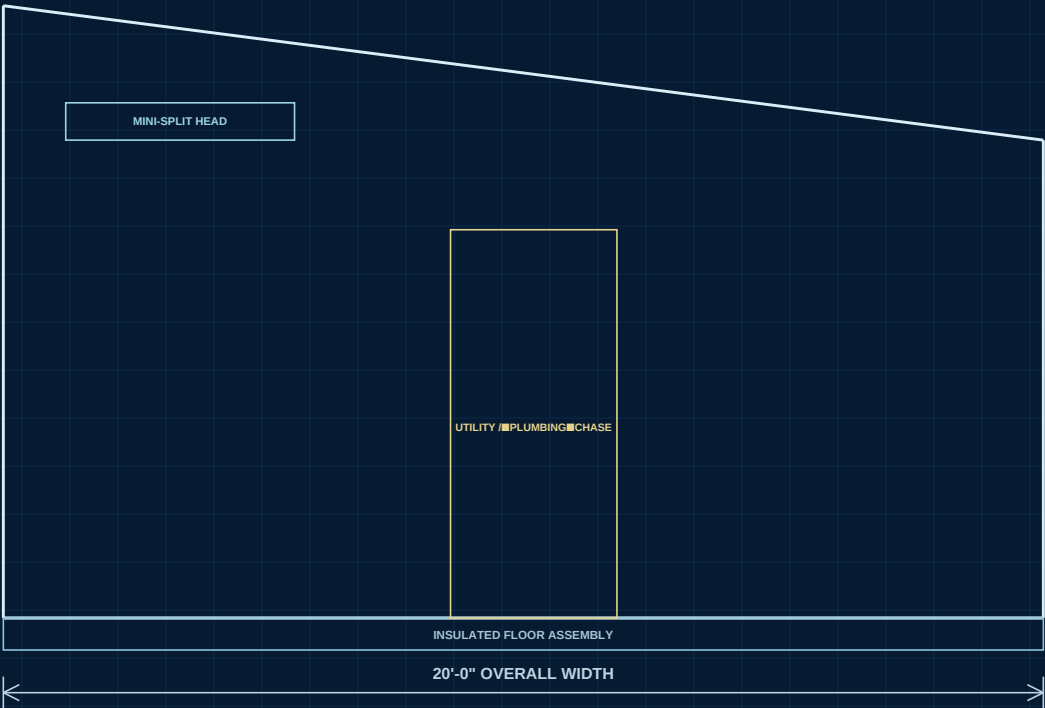
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1 LONGITUDINAL SECTION A-A



2 CROSS SECTION B-B THROUGH SERVICE CORE



WALL / FLOOR / ROOF ASSEMBLIES

- WALL: painted interior plywood; 2x4 framing; rigid foam cavity insulation; sealed exterior plywood/MDO skin; lower bedliner / upper paint; cedar trim accents.
- FLOOR: finish floor over plywood subfloor; framed joists with rigid foam; sealed underside / rodent screen; beams on verified piers or skids.
- ROOF: interior panel; framed rafters/joists; rigid foam; roof deck; membrane/underlayment; low-slope metal roof; vented/conditioned assembly as detailed by final roof design.
- Seal transitions around wet room, utility penetrations, windows, doors and roof edges.

SECTION KEY NOTES

- Mini-split head mounted high and clear of bunks/doors.
- Wet room exhausts directly outdoors.
- Utility service wall remains accessible without demolishing finishes.
- Target interior height provides full standing room across cabin.

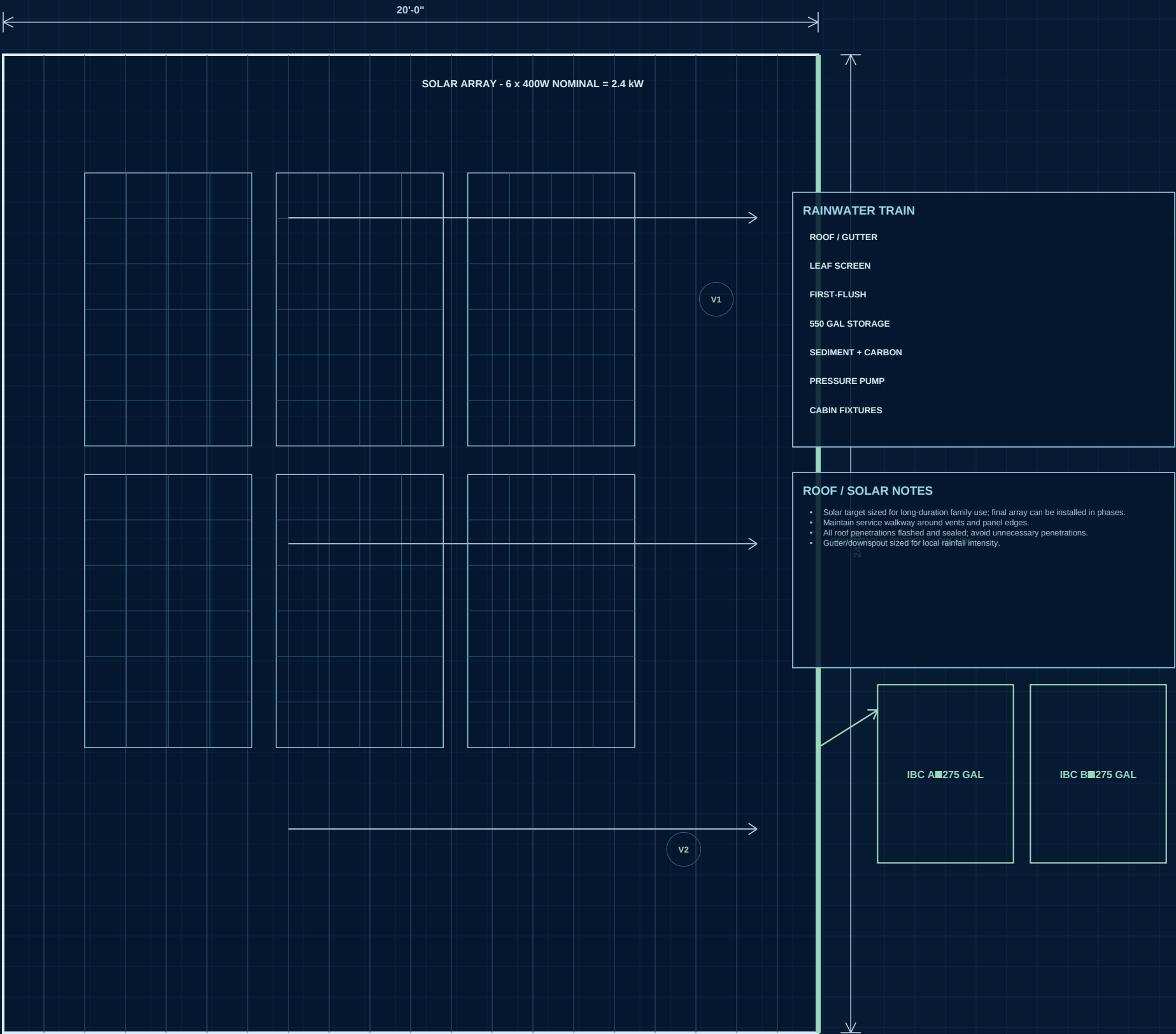
PROJECT:
20 x 24 OFF-GRID FAMILY CABIN MODULE

DRAWING TITLE:
BUILDING SECTIONS & INTERIOR HEIGHTS

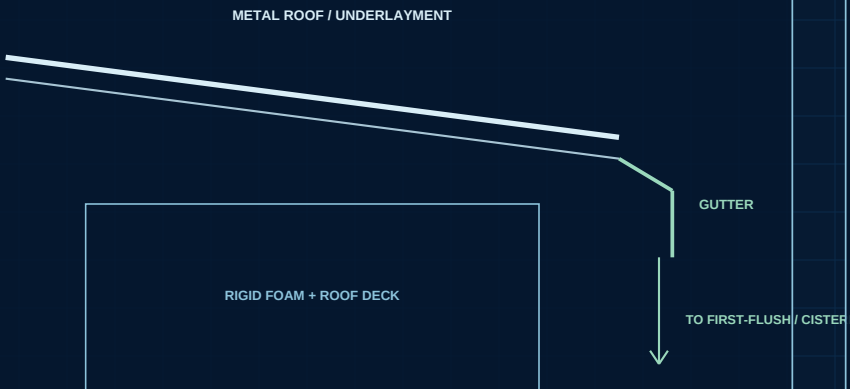
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ROOF EDGE / GUTTER DETAIL



CISTERN / SERVICE PAD NOTES

- Keep tanks above grade on a level, compacted and protected pad; support full water weight.
- 550 gallons weighs roughly 4,600 lb of water; tank foundation is independent of cabin framing.
- Protect tanks from UV/freezing as climate requires; provide isolation valves and unions for replacement.
- Provide hauled-water fill connection so rain catchment is not the only source.
- Potable treatment is site- and water-quality-dependent; design provides treatment space but does not claim universal potability.

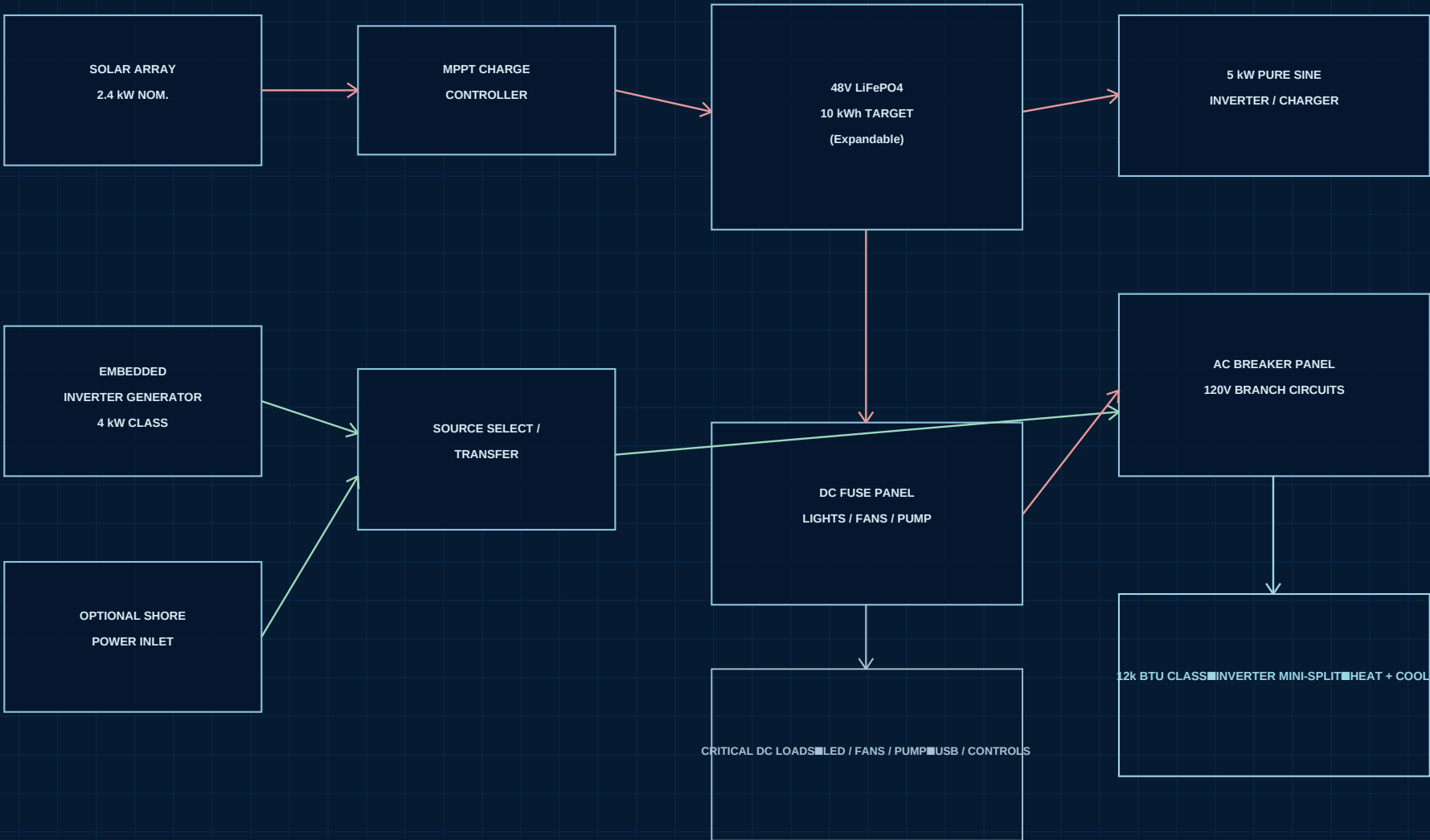
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20 x 24 OFF-GRID FAMILY CABIN MODULE

DRAWING TITLE:
ROOF PLAN, SOLAR & RAINWATER HARVESTING

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GENERATOR MODULE - PERMANENTLY ASSIGNED / EXTERIOR BAY

- Generator weight is included in permanent build planning; mount low on vibration isolation with service access.
- Generator compartment is exterior to occupied envelope; do not treat a fuel generator as an indoor appliance.
- Exhaust, cooling airflow, fuel storage and clearances require the selected generator manufacturer's installation details.
- Generator output feeds transfer/source control and inverter/charger; no backfeed cords.

AC / DC LOAD SCHEDULE

AC-1	MINI-SPLIT	DEDICATED
AC-2	KITCHEN / GENERAL OUTLETS	20A GFCI/AFCI AS REQUIRED
AC-3	BEDROOM / LIVING OUTLETS	15/20A
AC-4	WATER HEATER / FUTURE	LOAD MANAGED
DC-1	LIGHTING	LOW DRAW LED
DC-2	ROOF / BATH FANS	12/24V
DC-3	PRESSURE PUMP / CONTROLS	FUSED
DC-4	USB / ROUTER / MONITOR	FUSED

SYSTEM NOTES - SIMPLE, LONG-LIFE HYBRID POWER

- Primary daily power is solar + LiFePO4 battery. Generator provides hard-weather, HVAC and charging backup. Shore power is optional when available.
- Use a single inverter/charger architecture so generator and shore input can charge batteries and support loads without a maze of separate chargers.
- Keep high-current battery cables short, protected and serviceable. Main battery disconnect and Class-T/appropriate main fuse are mounted close to battery bank.
- Separate AC and DC distribution. GFCI protection at wet/exterior locations. Final conductor sizing, breaker ratings, neutral/ground bonding and transfer method must be designed for the exact equipment.
- The mini-split is the sole primary heating/cooling appliance; passive ventilation and fans reduce HVAC runtime.

WATER SUPPLY - RAIN + HAULED WATER



HOT WATER / FIXTURE PLAN

- Compact 120V storage water heater (approx. 6-12 gal) located in utility core; run primarily during solar surplus, generator or shore operation.
- Hot/cold manifold feeds kitchen sink, bathroom lavatory and shower.
- Low-flow fixtures reduce water draw without complicated RV plumbing.
- All valves and unions remain accessible from utility/service side.

WASTE SYSTEM - NO CONVENTIONAL BLACK TANK / SEPTIC TANK IN DESIGN



WATER / WASTE SERVICE NOTES

- No buried well is required by this design: use roof catchment plus hauled-water fill into above-ground storage.
- No conventional flush toilet or black tank is required by this design: use a dry/composting toilet system sized for a family of 4 and serviced from outside.
- Greywater remains separate from toilet waste. Kitchen line receives grease/food screening before the shared greywater treatment path.
- Do not assume greywater or dry-toilet systems automatically eliminate local wastewater permitting. Final disposal/reuse method is property-specific.
- Freeze protection, tank insulation, heat tracing or seasonal drain-down must match climate. Keep every filter, valve, pump and bin replaceable without opening finished walls.

PAGE 7 - FOUNDATION, FRAMING & STRUCTURAL DETAILS

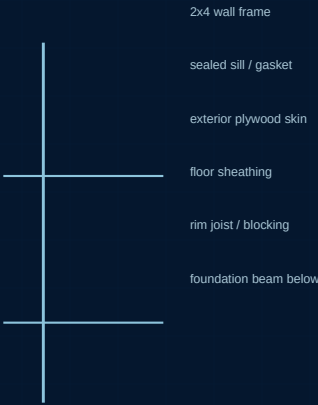
SCALE: AS NOTED

FLOOR FRAMING / FOUNDATION PLAN

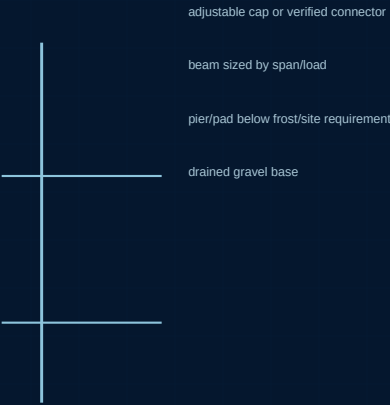
FRAMING / FOUNDATION STRATEGY

- Foundation concept: verified piers/pads or treated skid/beam system above compacted, drained base.
- Floor framing: conventional dimensional lumber sized to actual span/load; insulated with rigid foam and protected underside.
- Walls: 2x4 concept at 16 in O.C. with headers/reinforcement at openings and service penetrations.
- Roof framing: simple shed roof; rafter/joist size and spacing must be selected for local snow/wind span.
- Porch posts/beam tie to independent verified footings or piers.
- Cistern pad is structurally independent: full-water load is substantial.
- Use corrosion-resistant fasteners and proper structural connectors at uplift/shear points.
- This sheet intentionally does not pretend one footing/beam schedule fits every property.

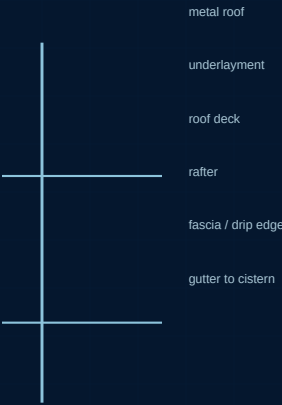
1. WALL BASE / FLOOR EDGE



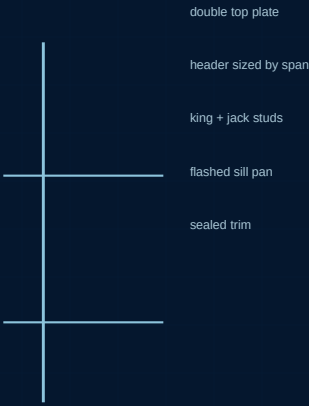
2. PIER / BEAM



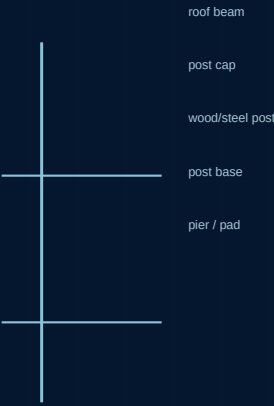
3. ROOF EDGE / GUTTER



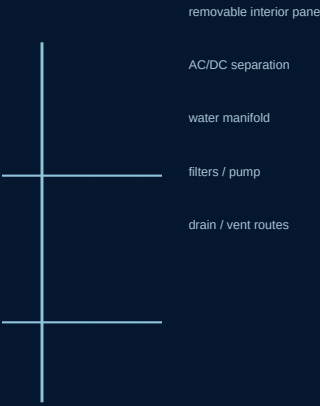
4. WINDOW OPENING



5. PORCH POST



6. UTILITY CHASE



MATERIAL / LONGEVITY NOTES

- Prioritize dry assemblies, accessible utilities, sealed wood edges, replaceable trim, removable service panels and simple mechanical systems.
- Use rigid foam insulation, controlled ventilation, mini-split dehumidification/cooling, bathroom exhaust and roof overhangs to protect wood over decades.
- Plan for maintenance: roof inspection, exterior recoat, cedar reseal, gutter cleaning, filter replacement, battery/generator service and wet-area seal inspection.

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