

EROSION AND SEDIMENT CONTROL PLAN DURING CONSTRUCTION

SCALE: 1"=60'

EROSION CONTROL NOTES:

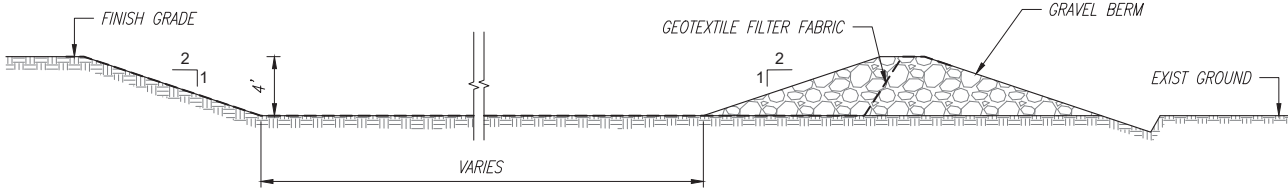
- ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, VELOCITY DISSIPATOR, AND BANK STABILIZATION.
- TEMP. SILT FENCE AROUND ALL AREAS WHERE SEDIMENT FROM DISTURBED AREA MAY LEAVE SITE.
- PROVIDE INLET PROTECTION AT ALL DISCOVERED CATCH BASIN AND STORM DRAIN INLETS (TYP) PER DETAILS ON SHEET C-13.
- CONSTRUCTION PHASING SHALL BE DETERMINED BASED ON SITE-SPECIFIC CRITERIA.
- ESCP PLAN SHALL BE DESIGNED BY CERTIFIED ESCP PLANNER AND STAMPED BY CERTIFIED ENGINEER.
- HONOLULU AND MAUI COUNTIES WILL BE SUBJECT TO MS4 REQUIREMENTS.
- OTHER EROSION CONTROL AND SEDIMENT CONTROL MEASURES WILL NEED TO BE DESIGNED TO MEET SITE-SPECIFIC CONDITIONS.
- EROSION CONTROL PLAN SHALL BE RE-EVALUATED AND ADJUSTED ACCORDINGLY AS THE SITE CHANGES AND AFTER RAIN EVENTS.

GOOD HOUSEKEEPING BMPs:
SEE GENERAL NOTES SHEET FOR GOOD HOUSEKEEPING BMP NOTES.

NOTE:
SEE SHEET C-13 FOR EROSION CONTROL DETAILS.

LEGEND

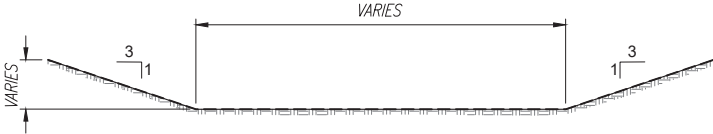
- PROPERTY LINE
- SILT FENCE AND FILTER SOCK
- DUST FENCE
- GRAVEL



SECTION VIEW - TEMPORARY SEDIMENT BASIN

NOT TO SCALE

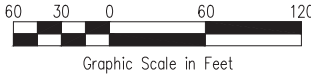
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C-1



SECTION VIEW - TEMPORARY SEDIMENT BASIN

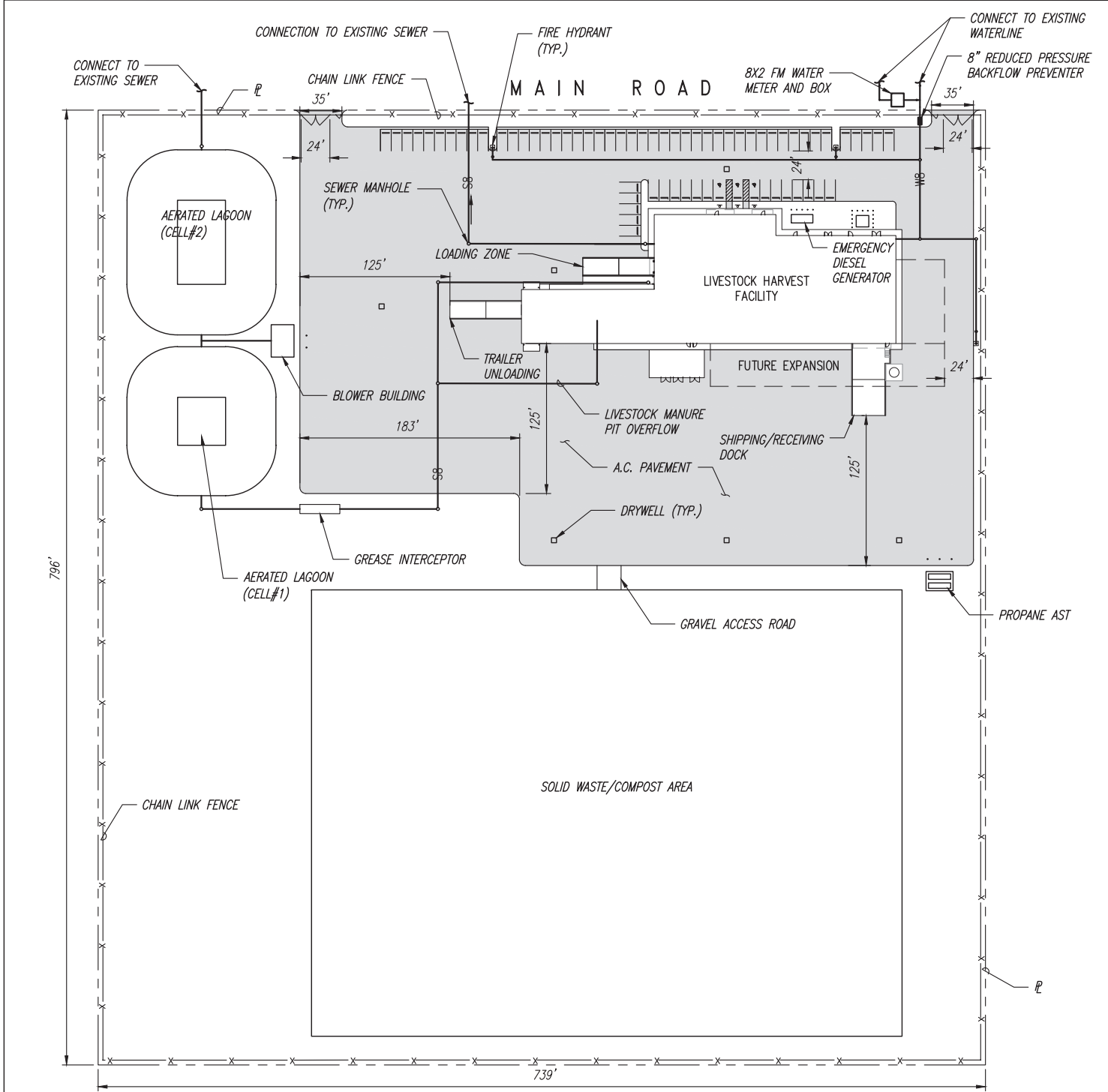
NOT TO SCALE

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C-1



60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

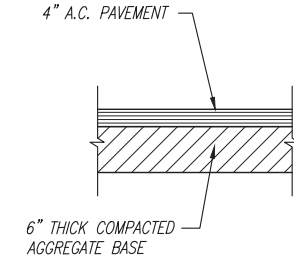
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
FOR PLANNING PURPOSES ONLY					
SHEET TITLE CONCEPTUAL CONSTRUCTION EROSION AND SEDIMENT CONTROL PLAN					
DESIGNED BY: VA, DR					
SUBMITTED: 1/10/22					
DRAWN BY: VA					
DATE: 1/10/22					
CHECKED BY: BI					
SCALE: VARIES					
APPROVED:					
DRAWING NO.					
C-1					
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					
CHIEF ENGINEER DATE					



SITE PLAN- MUNICIPAL DISPOSAL

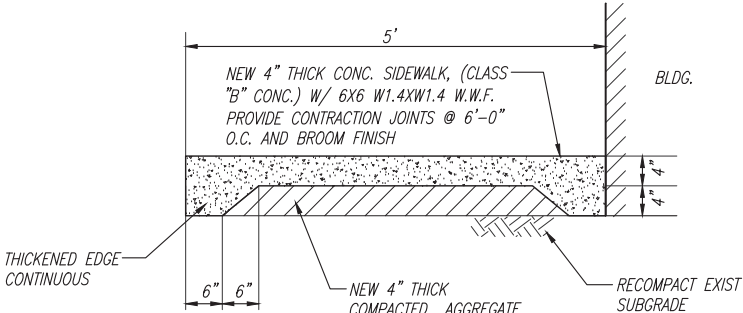
SCALE: 1"=60'

FOR HANDICAP ACCESSIBLE SIDEWALKS: MAX. RUNNING SLOPE IN THE DIRECTION OF TRAVEL=4% FOR ALL WALKWAYS: MAX CROSS-SLOPE=1.5%, MIN. CROSS SLOPE=1.0%



A.C. PAVEMENT DETAIL

SCALE: NTS



CONCRETE SIDEWALK DETAIL

SCALE: NTS

LIVESTOCK HARVESTING FACILITY WASTEWATER NOTES:

- GREASE INTERCEPTORS ARE USED TO REMOVE EXCESS FAT, OIL, AND GREASE (FOG) FROM WASTEWATER PRIOR TO AERATED LAGOONS.
- AERATED LAGOON WITH TWO CELLS ARE DESIGNED TO BREAK DOWN WASTEWATER STRENGTH TO DOMESTIC LEVEL BEFORE DISCHARGING TO MUNICIPAL SEWER.
- CONSULT CONTRACTOR FOR WASTEWATER PUMPING MECHANISM.

ZONING REQUIREMENTS				
	KAUAI	MAUI	OAHU	HAWAII
ZONING IDENTIFICATION	IG (GENERAL INDUSTRIAL)	M-3 (RESTRICTED HEAVY INDUSTRIAL)	I-2 (INTENSIVE INDUSTRIAL)	MG (GENERAL INDUSTRIAL)
MINIMUM LOT AREA	-	10,000 SQFT	7,500 SQFT	20,000 SQFT
MINIMUM LOT WIDTH AND DEPTH	10,000 SQFT	75 FT	60 FT	100 FT (AVERAGE MINIMUM)
MINIMUM SETBACK FROM PROPERTY LINE	FRONT ¹	15 FT MINIMUM DISTANCE OF BUILDING FROM RIGHT-OF WAY OF STREET	0 FT OF YARD	5 FT OF YARD
	SIDE AND REAR ²	FOR SIDES, 0 FT MINIMUM DISTANCE FROM THE BUILDING IF ADJACENT USE DISTRICT IS INDUSTRIAL. 15 FT FOR OTHERS. FOR REAR, 15 FT MINIMUM DISTANCE FROM THE BUILDING.	0 FT OF YARD, OR SAME AS THE ADJOINING ZONING CATEGORY, WHICHEVER IS GREATER	0 FT OF YARD
MAXIMUM HEIGHT	50 FT	90 FT	PER ZONING MAP	50 FT, BUT AN INDUSTRIAL STRUCTURE MAY BE BUILT TO A HEIGHT OF 100 FT, PROVIDED THE EXTRA HEIGHT IS DETERMINED BY THE DIRECTOR TO BE FUNCTIONALLY NECESSARY.

¹ FOR OAHU: EXCEPT FOR NECESSARY ACCESS DRIVES AND WALKWAYS, ALL FRONT YARDS SHALL BE LANDSCAPED. WHERE A ZONING LOT ADJOINS A RESIDENTIAL, APARTMENT, APARTMENT MIXED USE OR RESORT DISTRICT AND FORMS A CONTINUOUS FRONT YARD, A LOT OR THE FIRST 100 FEET OF THE LOT (WHICHEVER IS LESS) SHALL CONFORM TO THE FRONT YARD REQUIREMENTS FOR THE DWELLING USE OF THE ADJOINING DISTRICT.

² FOR OAHU: WHERE THE SIDE OR REAR PROPERTY LINE OF A ZONING LOT ADJOINS THE SIDE OR REAR YARD OF A ZONING LOT IN A RESIDENTIAL, APARTMENT, APARTMENT MIXED USE OR RESORT DISTRICT, THERE SHALL BE A SIDE OR REAR YARD WHICH CONFORMS TO THE SIDE OR REAR YARD REQUIREMENTS FOR DWELLING USE OF THE ADJOINING DISTRICT. IN THE I-3 DISTRICT ONLY, THIS YARD SHALL BE NOT LESS THAN 15 FEET. SCREENING WALL OR BUFFERING:

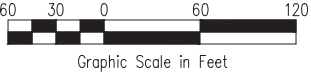
- A) ANY USE LOCATED IN THE I-1, I-2 OR I-3 DISTRICT SHALL BE SCREENED FROM ANY ADJACENT ZONING LOT IN A RESIDENTIAL, APARTMENT, APARTMENT MIXED USE, OR RESORT DISTRICT, BY A SOLID WALL SIX FEET IN HEIGHT ERRECTED AND MAINTAINED ALONG SIDE AND REAR PROPERTY LINES. SUCH WALLS SHALL NOT PROJECT BEYOND THE REAR LINE OF AN ADJACENT FRONT YARD IN THE RESIDENTIAL, APARTMENT, APARTMENT MIXED USE, OR RESORT DISTRICT. IN ADDITION, A FIVE-FOOT-WIDE LANDSCAPING STRIP SHALL BE PROVIDED ALONG THE OUTSIDE OF THE SOLID WALL.
- B) ANY MEETING FACILITY, DAY CARE FACILITY, GROUP LIVING FACILITY, PARKING FACILITY, COMMERCIAL, INDUSTRIAL OR SIMILAR USE SHALL BE SCREENED FROM ANY ADJACENT ZONING LOT IN A COUNTRY, RESIDENTIAL, APARTMENT, APARTMENT MIXED USE, OR RESORT DISTRICT BY:
- A SOLID WALL OR FENCE, EXCEPTING CHAIN LINK, SIX FEET IN HEIGHT; OR
 - AN EQUIVALENT LANDSCAPE BUFFER SUCH AS A SIX-FOOT-HIGH SCREENING HEDGE.
- SUCH SOLID WALL OR FENCE, OR EQUIVALENT LANDSCAPE BUFFER, SHALL BE ERRECTED AND MAINTAINED ALONG THE COMMON PROPERTY LINE. THE DIRECTOR MAY MODIFY THE REQUIREMENTS OF THIS SUBSECTION IF WARRANTED BY TOPOGRAPHY.
- C) THIS SECTION SHALL NOT PRECLUDE A PUBLIC UTILITY FROM CONSTRUCTING A WALL OR FENCE EXCEEDING SIX FEET IN HEIGHT.

NOTES:

- FOR FIRE FLOW REQUIREMENTS AND PARKING LOT REQUIREMENTS, SEE SHEET C-3, SITE PLAN FOR ON-SITE WASTEWATER DISPOSAL.
- TOTAL PROPERTY AREA IS 13.50 ACRES.

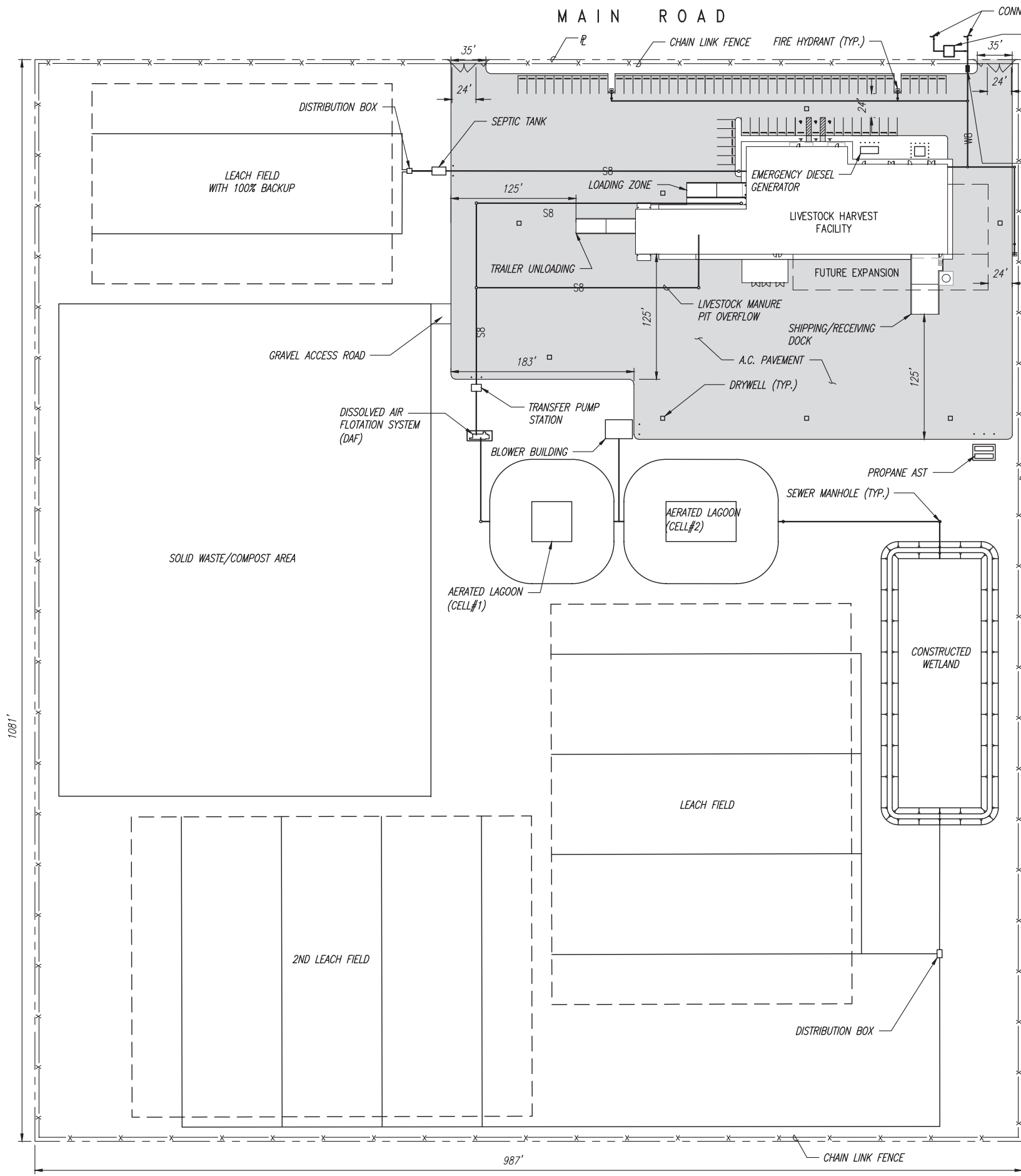
LID NOTES:

- THE FOLLOWING ARE POSSIBLE LID MEASURES. CONSULT WITH SPECIFIC COUNTY STANDARDS FOR REQUIREMENTS AND FEASIBILITY. FURTHER INVESTIGATION ON SITE SUCH AS, BUT NOT LIMITED TO, SOILS INVESTIGATION IS REQUIRED.
- SOURCE CONTROL BMPs:
 - MAXIMIZE LANDSCAPED AREA
 - AUTOMATIC IRRIGATION SYSTEMS WITH RAIN-TRIGGERED SHUTOFF DEVICES, WATER SENSOR, PROGRAMMABLE IRRIGATION TIMES, PROVISION OF DRIP IRRIGATIONS, ETC.
 - POSTING MARKERS OR STENCIL OVER STORM DRAIN INLET PROHIBITING DUMPING
 - COVER LOADING DOCKS AND PRECLUDE RUN-ON AND RUN-OFF TO STORM DRAINS.
 - OUTDOOR TRASH STORAGE OVER PAVED/IMPERVIOUS AREA. BERM TRASH STORAGE AREAS TO PREVENT RUN-ON OR GRADE AREAS TOWARD LANDSCAPED/VEGETATED AREAS. REDUCE/PREVENT LEAKING BY HAVING EITHER LINED DUMPSTER, LOW CONTAINMENT BERM AROUND THE DUMPSTER AREA, OR DRIP PANS UNDERNEATH THE DUMPSTERS. PREVENT RAINFALL FROM ENTERING CONTAINERS WITH ROOFS, AWNINGS, OR ATTACHED LIDS.
 - FOR MATERIALS LEFT OUTDOORS WITH POTENTIAL TO CONTAMINATE STORM WATER, PLACE IN AN ENCLOSURE THAT PREVENTS CONTACT WITH RUNOFF OR SPILLAGE TO THE STORM WATER CONVEYANCE SYSTEM, OR PROTECTED BY SECONDARY CONTAINMENT STRUCTURES SUCH AS BERMS, DIKES, OR CURBS. DIRECT RUNOFF FROM DOWNSPOUTS/ROOFS AWAY FROM STORAGE AREAS. COVER THE STORAGE AREA WITH AN AWNING THAT EXTENDS BEYOND THE STORAGE AREA TO MINIMIZE COLLECTION OF STORM WATER WITHIN THE SECONDARY CONTAINMENT AREA. A MANUFACTURED STORAGE SHED MAY BE USED FOR SMALL CONTAINERS.
 - DIRECT RUNOFF FROM PARKING AREAS TOWARDS VEGETATED/LANDSCAPED AREAS IF POSSIBLE. CLEAN LEAVES, TRASH, SAND, AND OTHER DEBRIS. ROUTINELY SWEEP, SHOVEL, AND DISPOSE OF LITTER IN THE TRASH.
- TREATMENT CONTROL BMPs:
 - INFILTRATION BASIN
 - INFILTRATION TRENCH
 - SUBSURFACE INFILTRATION
 - DRY WELL
 - BIORETENTION BASIN
 - PERMEABLE PAVEMENT
 - GREEN ROOF
 - VEGETATED BIO-FILTER
 - ENHANCED SWALE
 - VEGETATED SWALE
 - VEGETATED BUFFER STRIP
 - HARVEST/REUSE RAINWATER
 - DETENTION BASIN
 - MANUFACTURED TREATMENT DEVICE
 - SAND FILTER



60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
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SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
FOR PLANNING PURPOSES ONLY					
SHEET TITLE SITE PLAN FOR MUNICIPAL SEWER DISPOSAL					
DESIGNED BY: BH, CO, TJKD SUBMITTED: 1/20/22					
DRAWN BY: CO DATE: 1/19/22					
CHECKED BY: SCALE: 1: 60					
APPROVED: DRAWING NO.					
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					
CHIEF ENGINEER DATE					



SITE PLAN - ON-SITE WASTEWATER DISPOSAL

SCALE: 1"=60'

LIVESTOCK HARVESTING FACILITY WASTEWATER NOTES:

1. DAF SYSTEM IS USED FOR PRIMARY TREATMENT TO REMOVE MAJORITY OF SOLIDS AND FOG FROM WASTEWATER.
2. AERATED LAGOON WITH TWO CELLS ARE DESIGNED TO BREAK DOWN WASTEWATER STRENGTH TO DOMESTIC LEVEL.
3. SUBSURFACE FLOW WETLAND PROVIDES FURTHER TREATMENT AND THE EFFLUENT IS QUALIFIED FOR DISCHARGE.
4. THIS COMBINATION OF TREATMENT PROCESSES ARE LOW IN COST; HOWEVER, THESE PROCESSES REQUIRE A LARGE FOOTPRINT. FOR A SITE WITH LIMITED SPACE OR WITHIN THE FLOODING ZONE AREA, PACKAGED MECHANICAL TREATMENT PROCESSES CAN BE CONSIDERED.
5. LEACH FIELD AREA IS HIGHLY RELATED TO SITE SOIL TYPES. SEE TABLE BELOW.
6. LEACH FIELD CAN ONLY BE APPLIED IN AREA OUTSIDE OF "NO PASS ZONE". FOR AREAS MAUKA OF UIC LINES, LIMITED TYPES OF INJECTION WELLS ARE ALLOWED, PERMIT LIMITATIONS ARE IMPOSED, AND REQUIREMENTS ARE MORE STRINGENT THAN AREAS MAKAI OF UIC LINES.
7. THE EVAPOTRANSPIRATION SYSTEM IS HIGHLY RELATED TO SITE PRECIPITATION AND NET EVAPORATION CONDITIONS.
8. SEE THE FOLLOWING TABLE FROM HAR 11-62 FOR THE MINIMUM HORIZONTAL DISTANCE OF INDIVIDUAL WASTEWATER TREATMENT AND DISPOSAL UNITS FROM OTHER UNITS.
9. CONSULT CONTRACTOR FOR REQUIRED WASTEWATER PUMPING MECHANISM.

LEACH FIELD SIZING FOR LIVESTOCK HARVESTING WASTEWATER	
SOIL TYPE	REQUIRED LEACH FIELD AREA (SQFT)
GRAVEL, COARSE SAND	N/A
COARSE TO MEDIUM SAND	8,400 TO 15,000
FINE TO LOAMY SAND	15,960 TO 22,800
SANDY LOAM TO LOAM	23,280 TO 30,000
LOAM TO POROUS SILT	30,360 TO 39,600
SILTY CLAY LOAM, CLAY LOAM**	UP TO 120,000
CLAY, COLLOIDAL CLAY	N/A

* FOR SOIL PERCOLATION RATE OUTSIDE OF THE RANGE 1-120 MIN/INCH, LEACH FIELD AND SEEPAGE PIT IS NOT RECOMMENDED FOR LIQUID DISPOSAL

** OOKALA MEDIAL SILTY CLAY LOAM WITH PERCOLATION RATE OF 90 MIN/INCH IS ASSUMED IN THIS PLAN

LEACH FIELD SIZING FOR DOMESTIC WASTEWATER	
SOIL TYPE	REQUIRED LEACH FIELD AREA (SQFT)
GRAVEL, COARSE SAND	N/A
COARSE TO MEDIUM SAND	1,873 TO 3,344
FINE TO LOAMY SAND	3,558 TO 5,083
SANDY LOAM TO LOAM	5,190 TO 6,688
LOAM TO POROUS SILT	6,768 TO 8,828
SILTY CLAY LOAM, CLAY LOAM**	UP TO 26,750
CLAY, COLLOIDAL CLAY	N/A

* FOR SOIL PERCOLATION RATE OUTSIDE OF THE RANGE 1-120 MIN/INCH, LEACH FIELD AND SEEPAGE PIT IS NOT RECOMMENDED FOR LIQUID DISPOSAL

** OOKALA MEDIAL SILTY CLAY LOAM WITH PERCOLATION RATE OF 90 MIN/INCH IS ASSUMED IN THIS PLAN

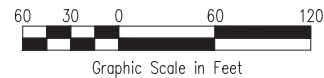
HAR 11-62 MINIMUM HORIZONTAL DISTANCE OF INDIVIDUAL WASTEWATER TREATMENT AND DISPOSAL UNITS				
MINIMUM HORIZONTAL DISTANCE FROM	CESSPOOL (FT)	TREATMENT UNIT (FT)	SEEPAGE PIT (FT)	SOIL ABSORPTION SYSTEM (FT)
WALL LINE OF ANY STRUCTURE OR BUILDING	5	5	5	5
PROPERTY LINE	9	5	9	5
STREAM, THE OCEAN AT THE SHORELINE CERTIFICATION, POND, LAKE, OR OTHER SURFACE WATER BODY	50	50	50	50
LARGE TREES	10	5	10	10
TREATMENT UNIT	5	5	5	5
SEEPAGE PIT	18	5	12	5
CESSPOOL	18	5	18	5
SOIL ABSORPTION SYSTEM	5	5	5	5
POTABLE WATER SOURCES SERVING PUBLIC WATER SYSTEMS	1000	500	1000	1000

FIRE FLOW REQUIREMENTS FOR HEAVY INDUSTRY		
COUNTY	FLOW (GPM)/DURATION (HRS)/FIRE HYDRANT SPACING (FT)	
KAUAI	3,000/3/350	
MAUI	2,500/2/250	
OAHU	SUBJECT TO SPECIAL REVIEW AND CONTROL BY MANAGER	
HAWAII	2,000/2/300	

PARKING LOT REQUIREMENTS		
COUNTY	CODE	NUMBER OF PARKING SPACES
KAUAI	FOR INDUSTRIAL DEVELOPMENTS, ONE PARKING STALL FOR EACH 3 EMPLOYEES, OR 1 PARKING STALL FOR EVERY 500 SQFT OF GROSS FLOOR AREA OF THE BUILDINGS WHERE THE NUMBER OF EMPLOYEES IS UNKNOWN. PARKING SPACES FOR TRUCKS, EQUIPMENT, OR OTHER VEHICLES USED IN THE CONDUCT OF THE BUSINESS. ONE PARKING STALL DESIGNATED FOR VISITORS FOR EACH TWO HUNDRED SQUARE FEET OF OFFICE SPACE.	52
MAUI	FOR INDUSTRIAL OR STORAGE USES, 1 STALL PER 1,500 SQFT PROVIDED THAT MINIMUM STALLS SHALL BE 3.	17
OAHU	FOR INDUSTRIAL, 1 STALL PER 1,500 SQFT.	17
HAWAII	FOR INDUSTRIAL USES, 1 STALL FOR EACH 400 SQFT OF GROSS FLOOR AREA.	63

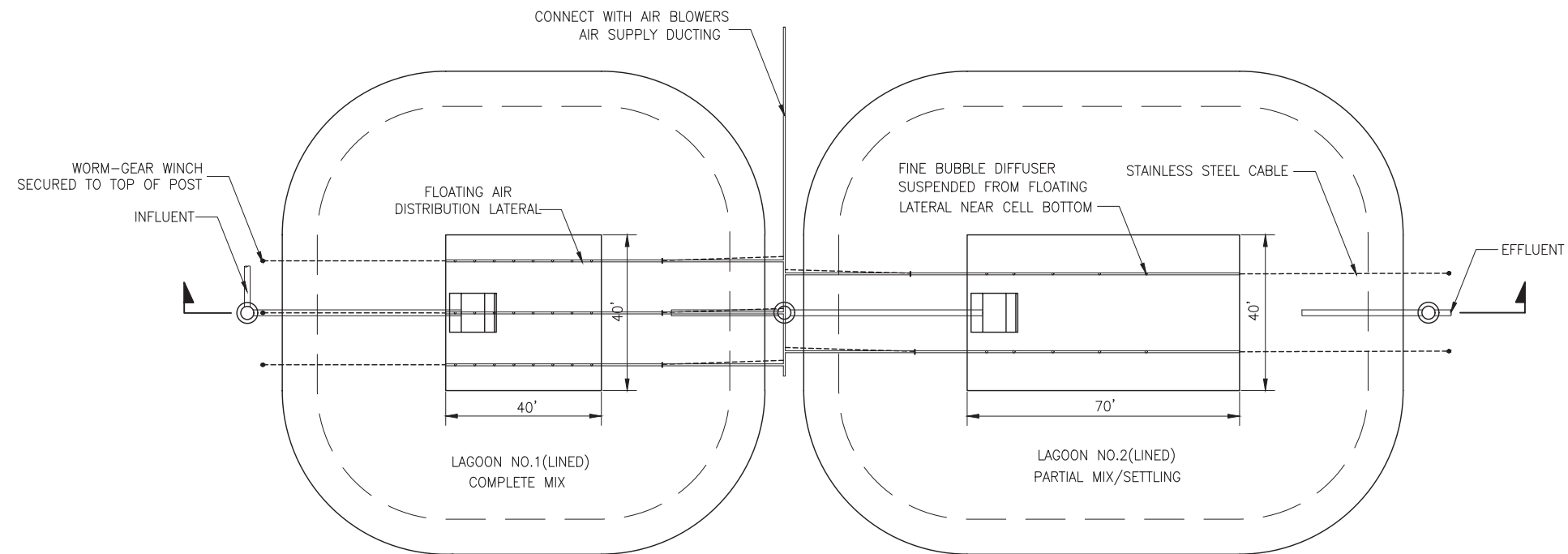
NOTES:

1. FOR ZONING REQUIREMENTS, SEE SHEET C-2 SITE PLAN FOR MUNICIPAL SEWER DISPOSAL.
2. FOR A.C. PAVEMENT DETAILS AND SIDEWALK DETAILS, SEE SHEET C-2 SITE PLAN FOR MUNICIPAL SEWER DISPOSAL.
3. TOTAL PROPERTY AREA IS 24.49 ACRES.
4. FOR POSSIBLE LID MEASURES, SEE SHEET C-2 SITE PLAN FOR MUNICIPAL SEWER DISPOSAL.

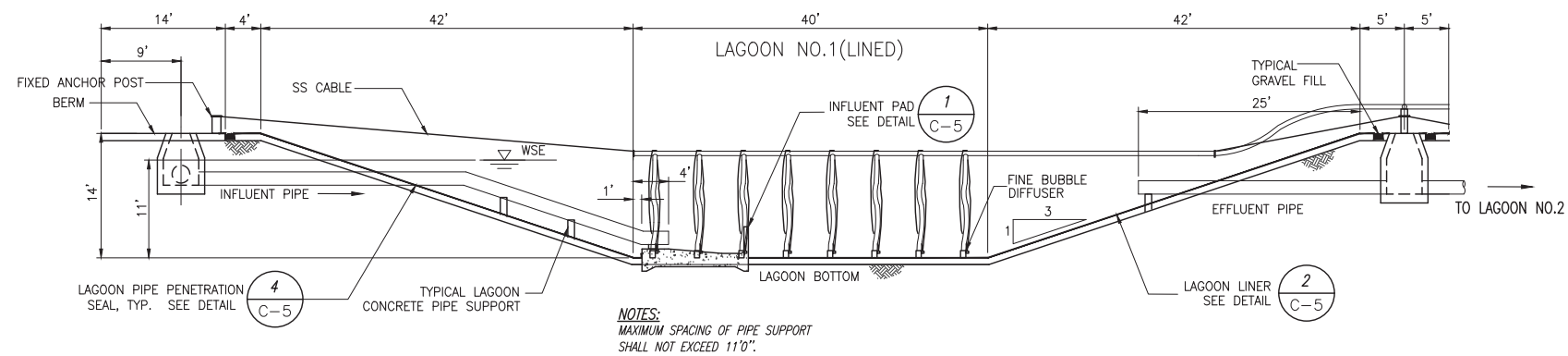


60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
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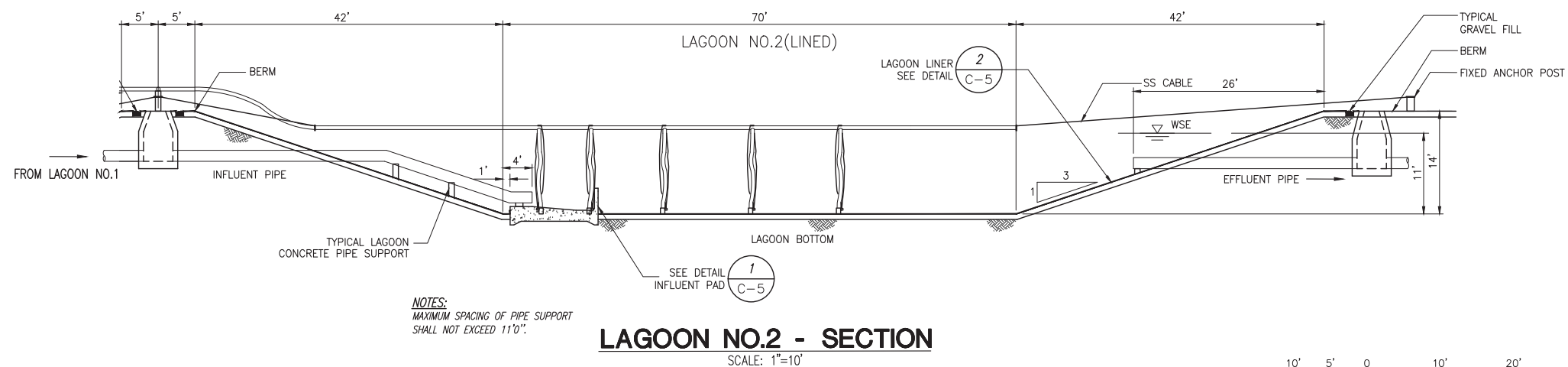
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FOR PLANNING PURPOSES ONLY		STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION			
		SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07			
		SHEET TITLE SITE PLAN FOR ON-SITE WASTEWATER DISPOSAL			
		DESIGNED BY: BH, CO, TJKD SUBMITTED: 1/20/22			
		DRAWN BY: CO DATE: 1/19/22			
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		CHECKED BY:	SCALE: 1: 60		APPROVED:
EXPIRATION DATE OF THE LICENSE XXXX/XXXX		CHIEF ENGINEER		DATE	DRAWING NO. C-3



AERATED LAGOONS - PLAN



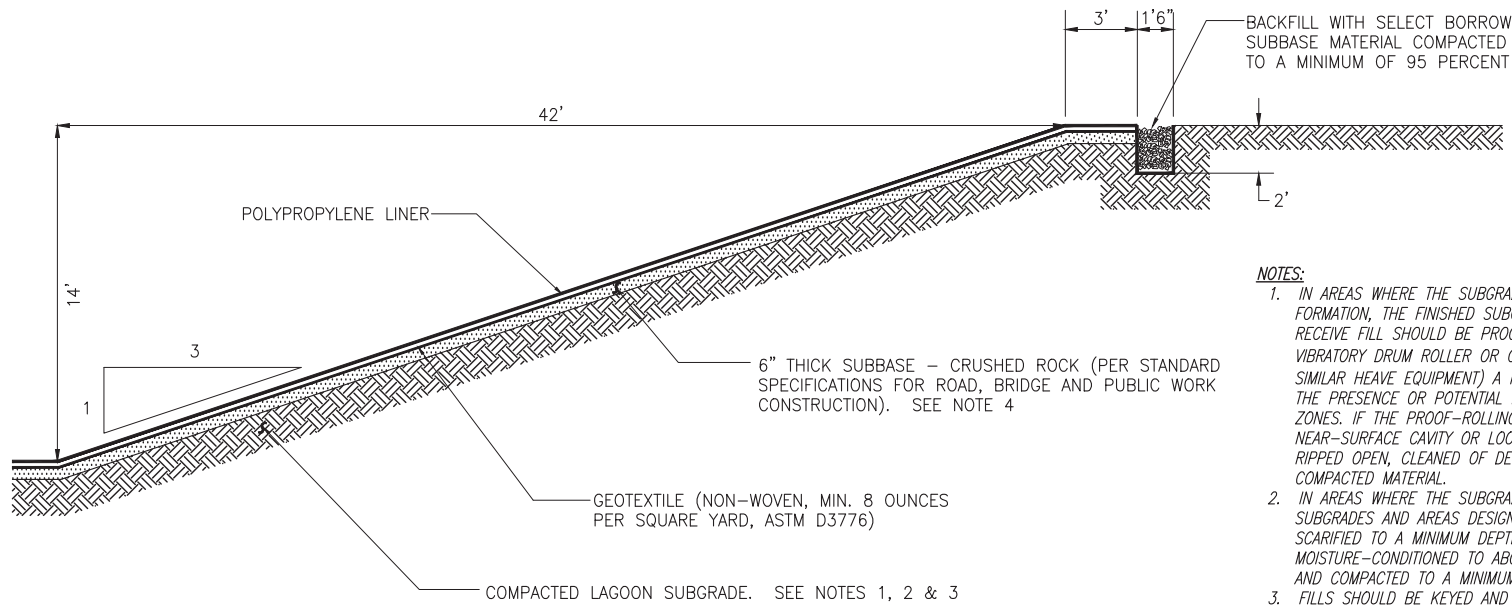
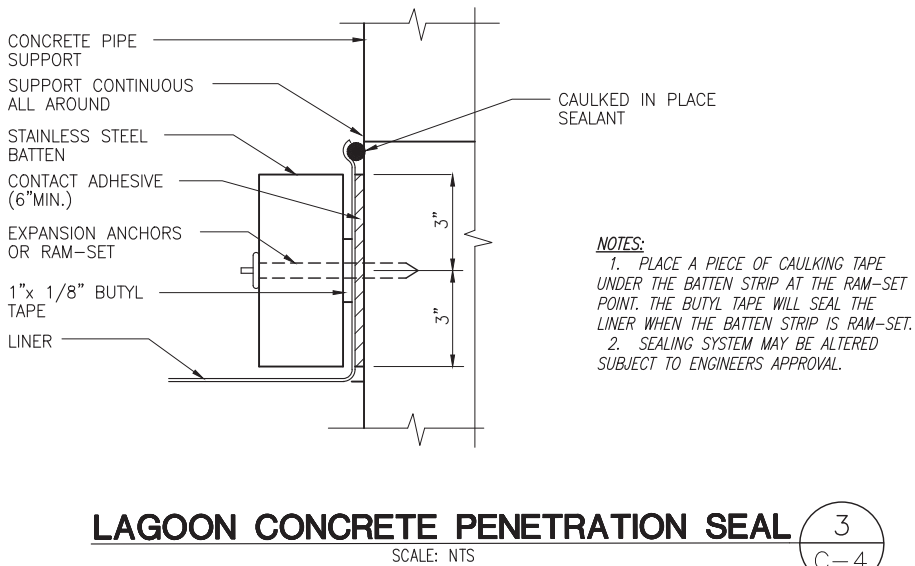
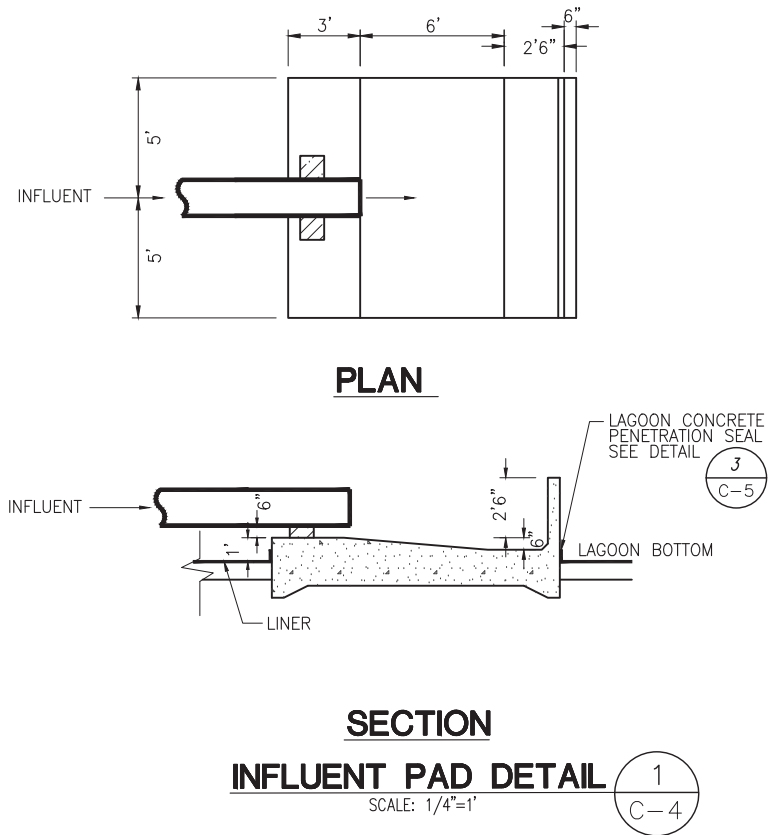
LAGOON NO.1 - SECTION
SCALE: 1"=10'



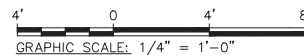
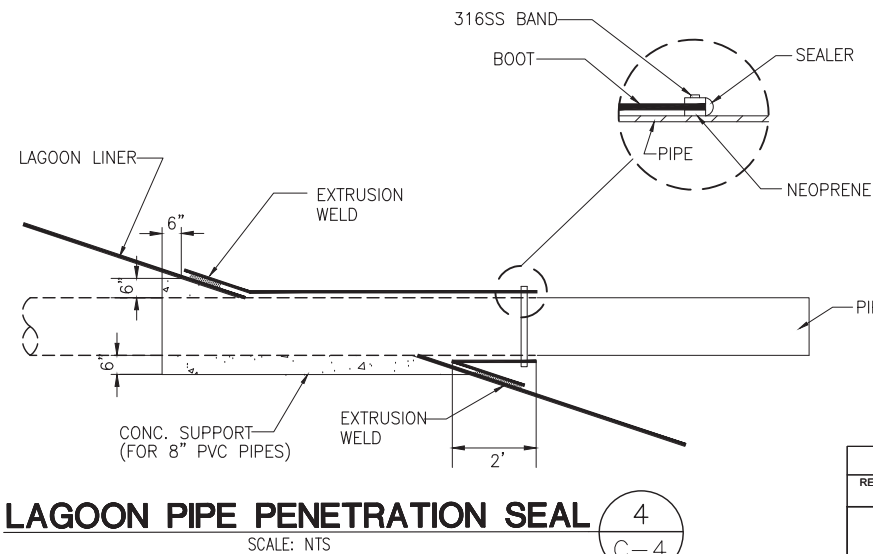
LAGOON NO.2 - SECTION
SCALE: 1"=10'

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		SHEET TITLE AERATED LAGOON DETAIL – 1			
		DESIGNED BY:		SUBMITTED: 1/20/22	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		DRAWN BY: BH		DATE: 1/19/22	
		CHECKED BY:		SCALE: AS NOTED	
		APPROVED:		DRAWING NO.	
EXPIRATION DATE OF THE LICENSE XXXXXX/XXXXX		CHIEF ENGINEER _____		DATE _____ C-4	

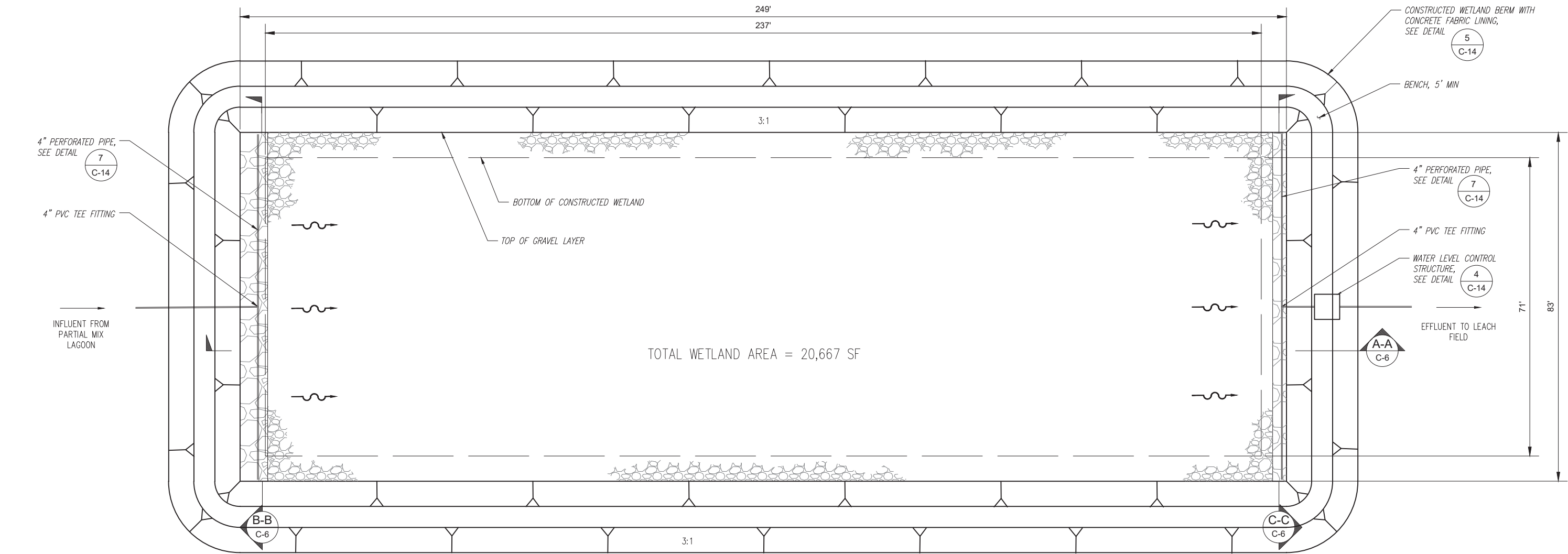


- NOTES:**
1. IN AREAS WHERE THE SUBGRADE IS BASALT OR BINDER ROCK FORMATION, THE FINISHED SUBGRADES AND AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROOF-ROLLED WITH A MINIMUM 10-TON VIBRATORY DRUM ROLLER OR CATERPILLAR D-8 BULLDOZER (OR SIMILAR HEAVE EQUIPMENT) A MINIMUM OF 6 PASSES TO DETECT THE PRESENCE OR POTENTIAL NEAR-SURFACE CAVITIES OR LOOSE ZONES. IF THE PROOF-ROLLING OPERATIONS DETECT A NEAR-SURFACE CAVITY OR LOOSE ZONE, THE AREA SHOULD BE RIPPED OPEN, CLEANED OF DEBRIS, AND THEN BACKFILLED WITH COMPACTED MATERIAL.
 2. IN AREAS WHERE THE SUBGRADE IS SOIL MATERIAL, FINISHED SUBGRADES AND AREAS DESIGNATED TO RECEIVE FILLS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 8-INCHES, MOISTURE-CONDITIONED TO ABOVE THE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO A MINIMUM OF 90 PERCENT.
 3. FILLS SHOULD BE KEYED AND BENCHED INTO THE EXISTING SLOPE TO PROVIDE STABILITY OF THE NEW FILL AGAINST SLIDING. THE FILLING OPERATIONS SHOULD START AT THE LOWEST POINT AND CONTINUE UP IN LEVEL HORIZONTAL COMPACTED LAYERS. FILL SLOPES SHOULD BE CONSTRUCTED BY OVERFILLING AND CUTTING BACK TO THE DESIGN SLOPE RATIO TO OBTAIN A WELL-COMPACTED SLOPE FACE.
 4. ON-SITE MATERIAL MAY BE USED IN LIEU OF CRUSHED ROCK PROVIDED THAT THE MATERIAL IS OF THE LOW-EXPANSION TYPE WITH A CBR SWELL LESS THAN 1 PERCENT, AND THE MAXIMUM PARTICLE SIZE IS LESS THAN 1 INCH. ANY MATERIAL GREATER THAN 1 INCH IN MAXIMUM DIMENSION SHALL BE REMOVED OR CRUSHED.



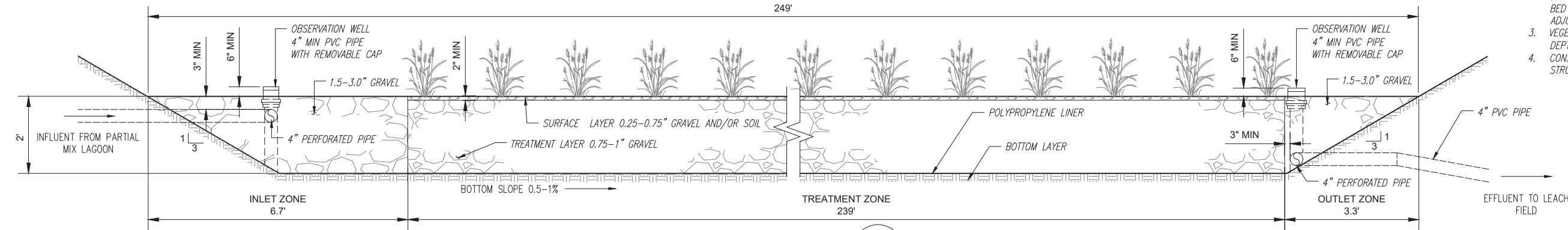
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SHEET TITLE AERATED LAGOON DETAIL-2					
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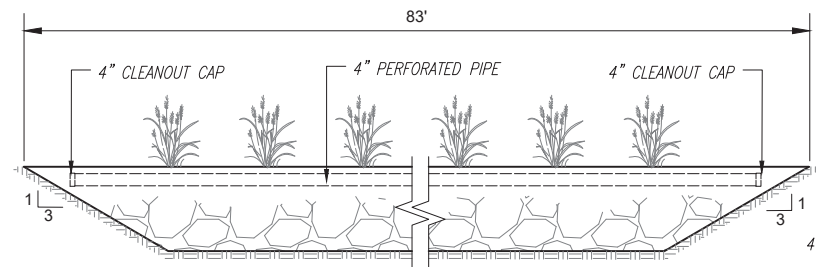


PLAN VIEW - SUBSURFACE FLOW CONSTRUCTED WETLAND

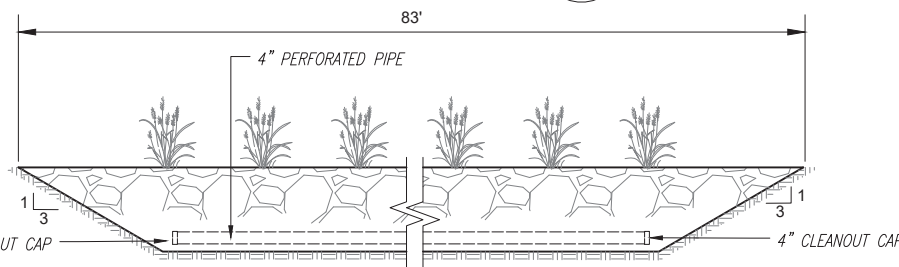
SCALE: 1" = 10'



SECTION VIEW A-A
NOT TO SCALE



SECTION VIEW - INLET ZONE B-B
NOT TO SCALE



SECTION VIEW - OUTLET ZONE C-C
NOT TO SCALE

- NOTES:
1. SITE-SPECIFIC WEATHER CONDITIONS AND EVAPOTRANSPIRATION SHOULD BE CONSIDERED IN FINAL CONSTRUCTED WETLAND DESIGN.
 2. WETLAND ASPECT RATIO (L:W) SHOULD BE WITHIN 0.4:1 TO 3:1 TO ENSURE SUFFICIENT HYDRAULIC GRADIENT THROUGH BED AND PROVIDE FLEXIBILITY FOR FUTURE OPERATIONAL ADJUSTMENTS.
 3. VEGETATION - LOCAL DOMINANT SPECIES WITH MIN. ROOT DEPTH OF 1.0' AND FIBROUS ROOTS.
 4. CONSULT CONTRACTOR FOR REQUIRED WATER CONTROL STRUCTURE SPECIFICATIONS.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE CONSTRUCTED WETLAND PLAN AND SECTIONS					
DESIGNED BY: VA, DR SUBMITTED: 1/10/2022					
DRAWN BY: VA DATE: 1/10/2022					
CHECKED BY: BI SCALE: VARIES					
APPROVED:					
CHIEF ENGINEER					
DATE					
DRAWING NO. C-6					

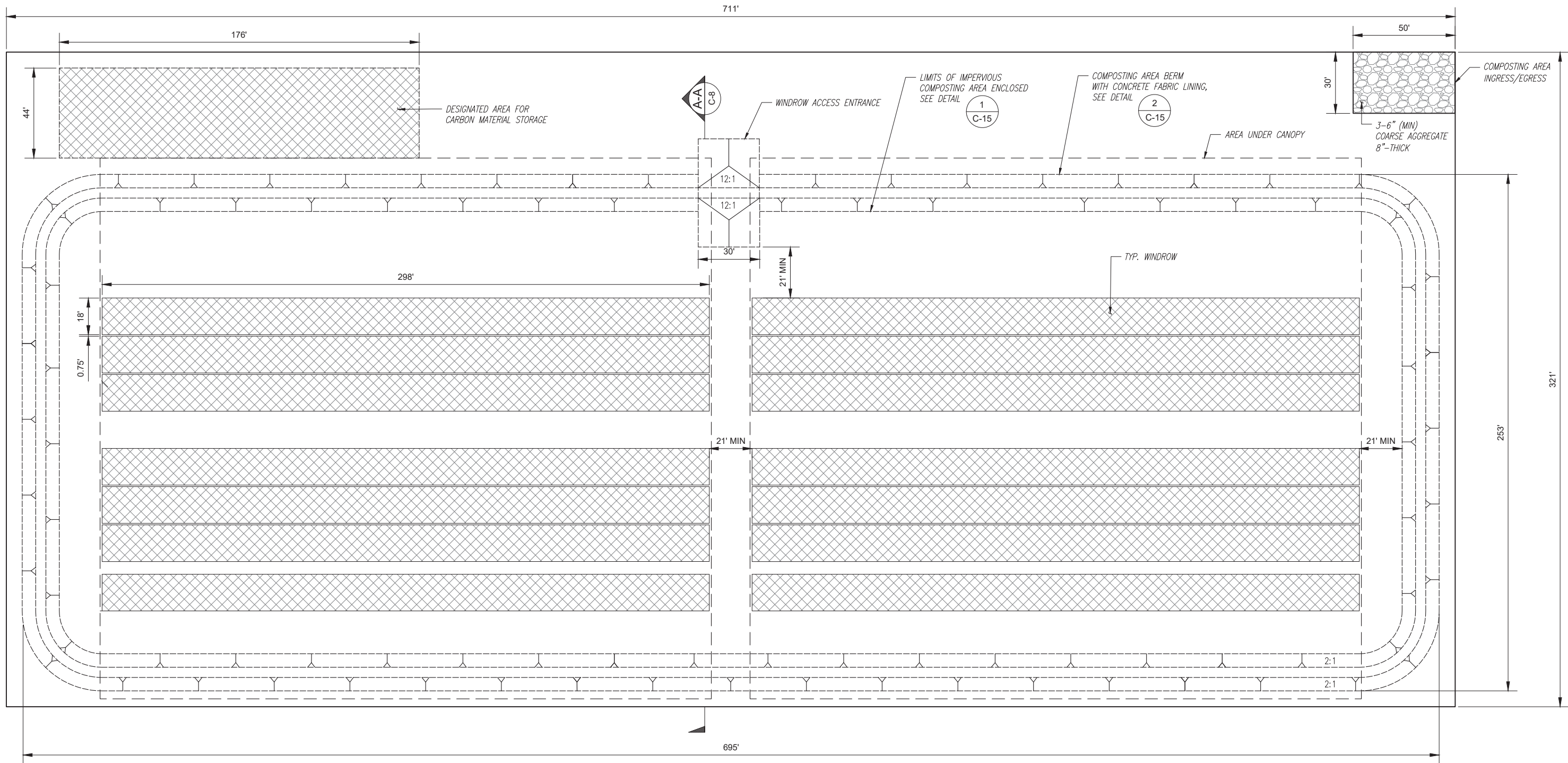
FOR PLANNING
PURPOSES ONLY

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

EXPIRATION DATE OF THE LICENSE
XX/XX/XXXX

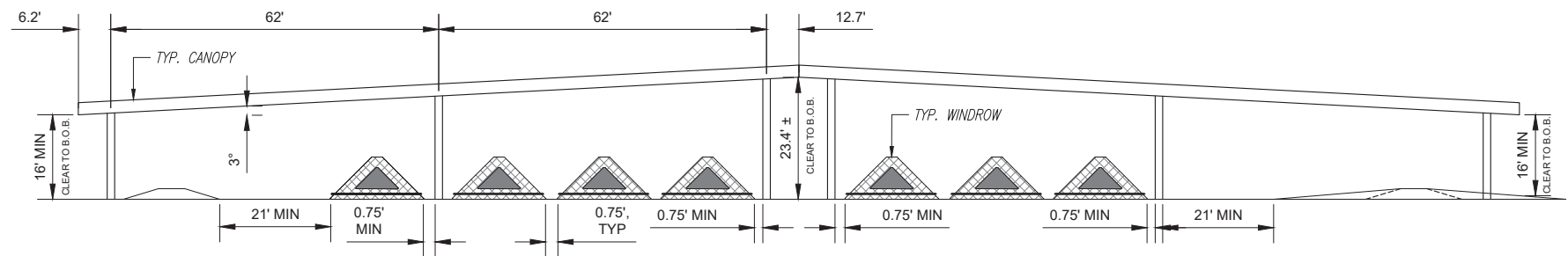
0 12' 24'
SCALE IN FEET

60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN



PLAN VIEW - TYPICAL WINDROW LAYOUT

SCALE: 1"=25'



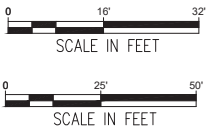
SECTION VIEW - CANOPY AND WINDROW LAYOUT

SCALE: 1"=16'-0"

A-A

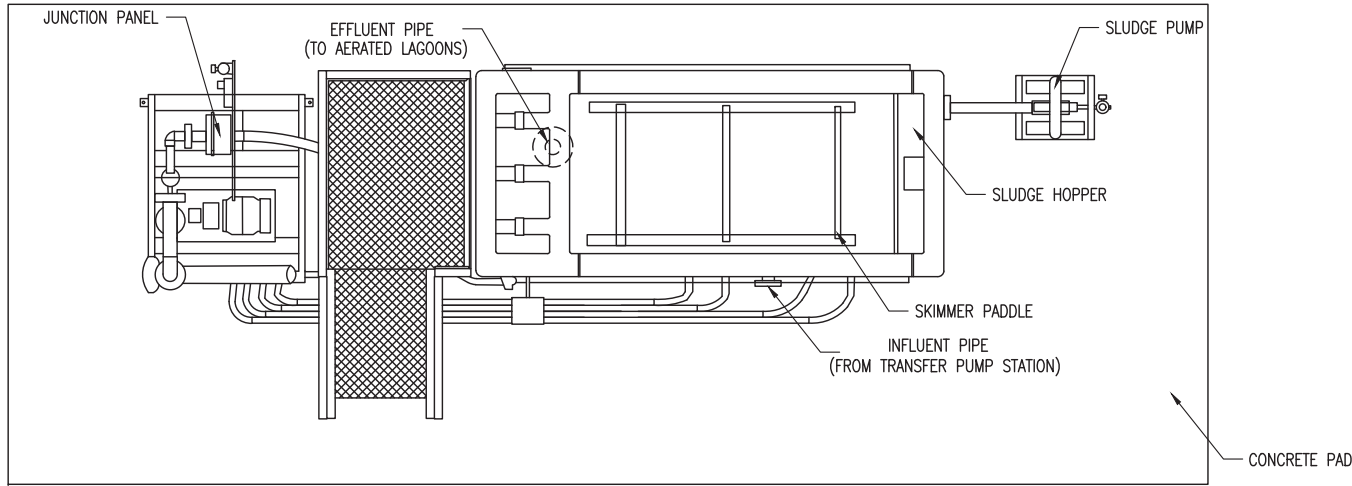
C-8

- NOTES:
1. WINDROWS ARE OVER IMPERVIOUS SURFACE (SEE SHEET C-9, DETAIL 1)
 2. PERFORATED PIPE PLACED EVERY FOOT LONGITUDINAL OF WINDROW
 3. TOTAL COMPOSTING AREA = 228,231 SF (5.2 AC)
 4. MINIMUM ACCESS AISLE WIDTH BASED ON TOPTURN X63 COMPOST WINDROW TURNER OR EQUIVALENT
 5. MINIMUM ROOFING HEIGHT BASED ON TOPTURN X63 COMPOST WINDROW TURNER OR EQUIVALENT
 6. LINERS TO BE CONNECTED PER MANUFACTURE INSTRUCTION

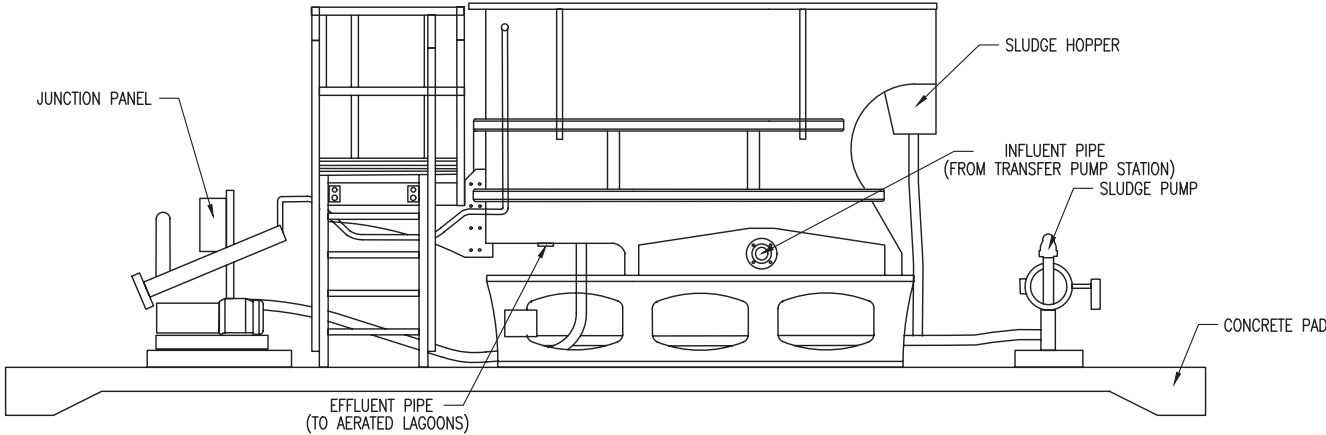


60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

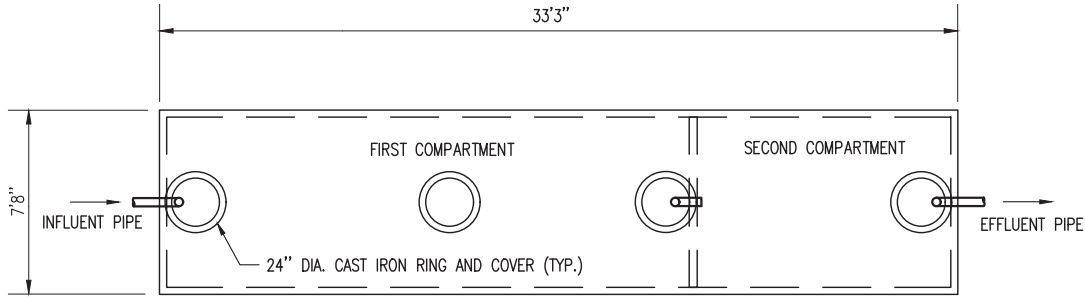
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE CONCEPTUAL COMPOSTING AREA PLAN WITH SOLAR SHADE					
DESIGNED BY: TL, VA			SUBMITTED: 1/10/2022		
DRAWN BY: VA			DATE: 1/10/2022		
CHECKED BY: BI, DR			SCALE: VARIES		
APPROVED:					DRAWING NO.
CHIEF ENGINEER					DATE
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					C-8



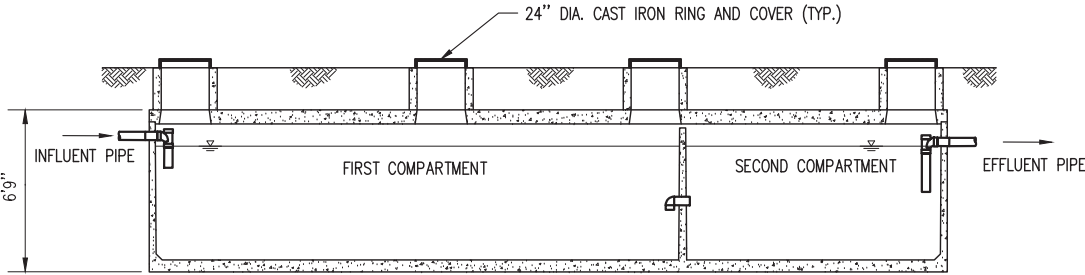
DISSOLVED AIR FLOATATION SYSTEM - PLAN
SCALE: 1/2"=1'



DISSOLVED AIR FLOATATION SYSTEM - SECTION
SCALE: 1/2"=1'

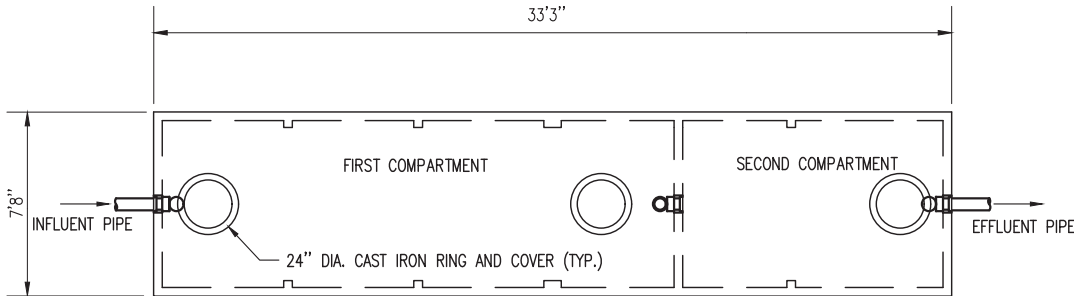


SEPTIC TANK PLAN
SCALE: 1/4"=1'

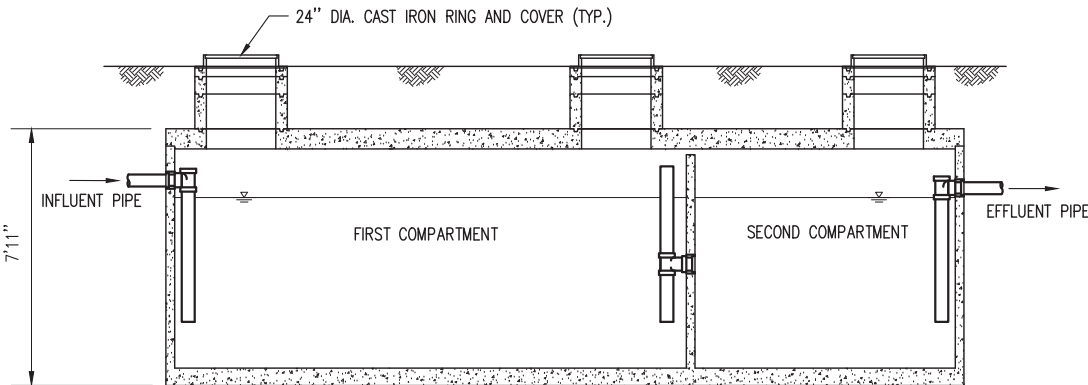


TOTAL OPERATING CAPACITY = 8,000 GALLONS

SEPTIC TANK SECTION
SCALE: 1/4"=1'

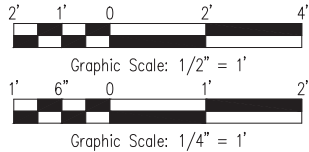


GREASE INTERCEPTOR PLAN
SCALE: 1/4"=1'



TOTAL OPERATING CAPACITY = 10,000 GALLONS

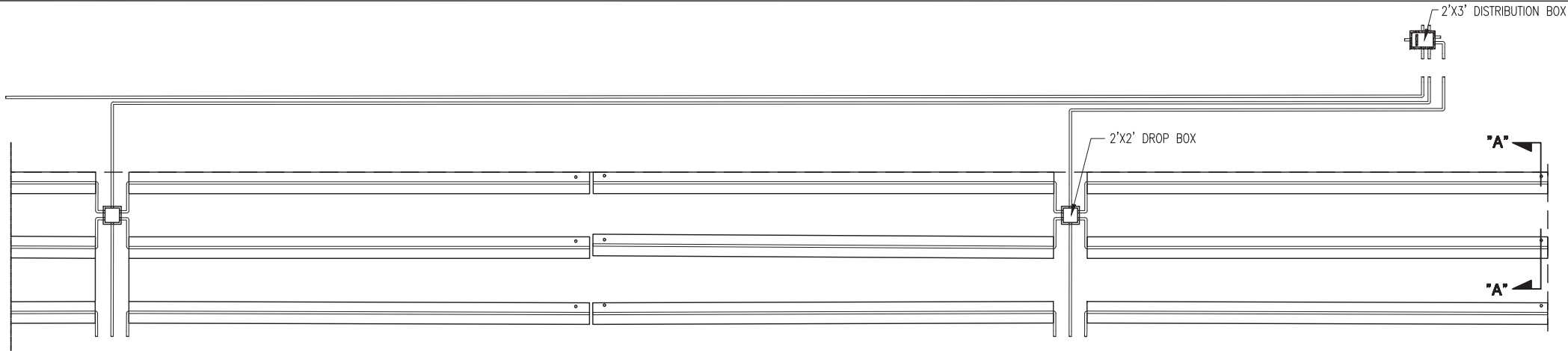
GREASE INTERCEPTOR SECTION
SCALE: 1/4"=1'



60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

- NOTES:
1. SEPTIC TANK REFERS TO JENSEN PRECAST 8,000 GALLON BATTERY SEPTIC TANK, MODEL 2XJZ4000-ST, OR APPROVED EQUAL.
 2. GREASE INTERCEPTOR REFERS TO JENSEN PRECAST 10,000 GALLON BATTERY GREASE INTERCEPTOR, MODEL 2XJZ5000-G, OR APPROVED EQUAL.
 3. DISSOLVED AIR FLOATATION (DAF) SYSTEM REFERS TO WORLD WATER WORKS DAF SYSTEM, MODEL RSP-30MS-R-B DAF, OR APPROVED EQUAL.
 3. CONSULT CONTRACTOR OR MANUFACTURER FOR INFLUENT AND EFFLUENT PIPE SIZE.

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE DISSOLVED AIR FLOTATION SYSTEM, SEPTIC TANK, AND GREASE INTERCEPTOR DETAIL					
DESIGNED BY:			SUBMITTED: 1/20/22		
DRAWN BY: BH			DATE: 1/19/22		
CHECKED BY:			SCALE: AS NOTED		
APPROVED:					DRAWING NO.
CHIEF ENGINEER					C-9
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					
DATE					

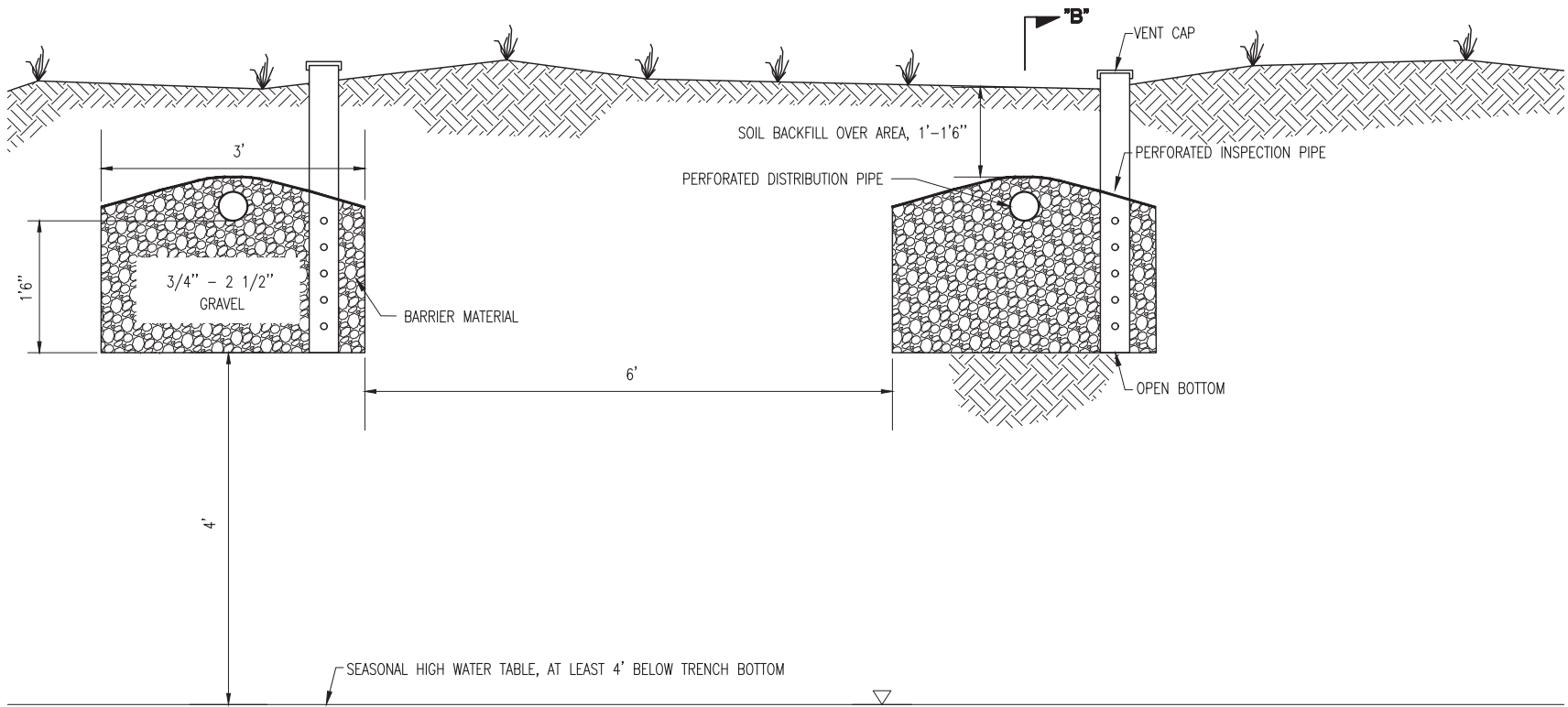


LEACH TRENCH AND DISTRIBUTION BOX PLAN

SCALE: 1"=10'

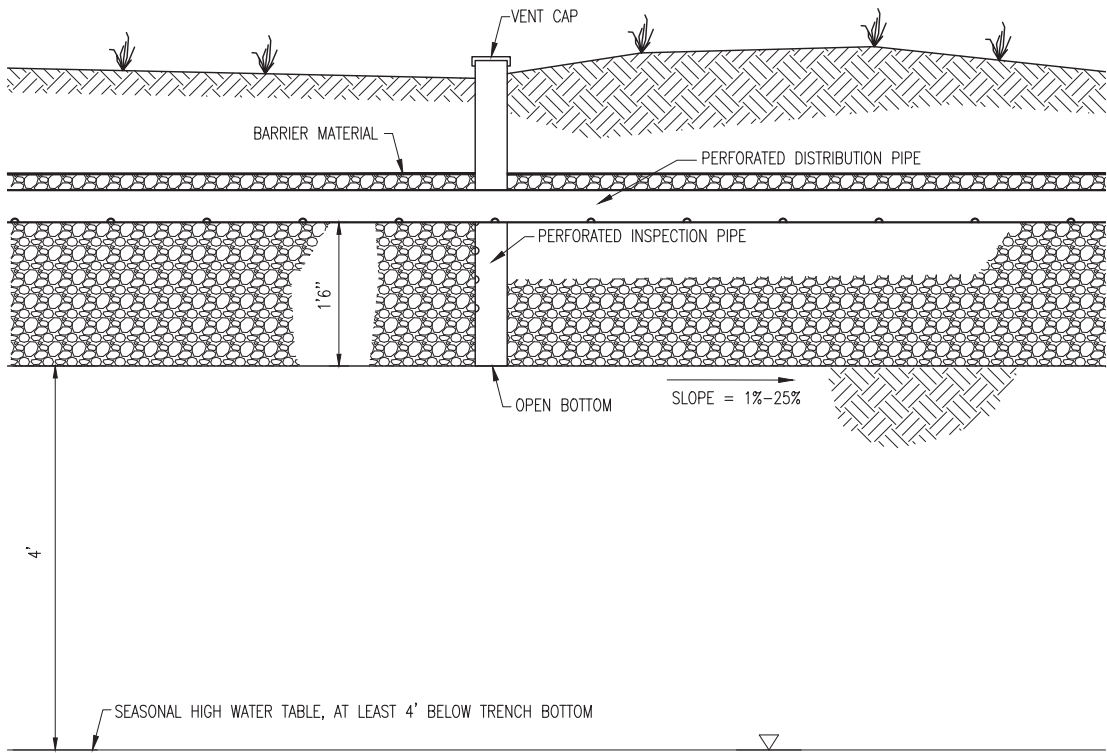
NOTES:

1. SUITABLE SEMIPERMEABLE BARRIER IS TO PREVENT THE BACKFILL FROM PENETRATING THE ROCK. BOTTOMS AND SIDEWALLS OF THE TRENCHES ARE INFILTRATIVE SURFACES.
2. WASTEWATER ENTERING THE TRENCH SHOULD BE NEARLY FREE FROM SETTLEABLE SOILS, GREASES AND FATS.
3. GREAT CARE DURING CONSTRUCTION IS NECESSARY TO RESIST SOIL COMPACTION AND SMEARING DURING EXCAVATION.
4. INSPECTION PIPES PROVIDE LIMITED ACCESS TO OBSERVE THE DEPTH OF PONDING AND MEASURE OF THE PERFORMANCE OF THE SYSTEM.
5. TRENCHES SHOULD BE PLACED OUTSIDE THE DRIP LINES OF TREES TO AVOID ROOT DAMAGE.
6. THE EFFLUENT GRAVITY FLOW FROM DISTRIBUTION BOX TO LEACH TRENCHES. TRENCHES CAN BE ON LEVEL SITE OR ON SLOPING SITE UP TO 25% OF SLOPE, BECAUSE OF THE SOIL IS SLOW PERMEABLE (>60 MIN/IN.).
7. THE PIPE SIZE OF PERFORATED DISTRIBUTION PIPE AND PERFORATED INSPECTION PIPE SHOULD BE DETERMINED BY MANUFACTURE OR CONSTRUCTOR.



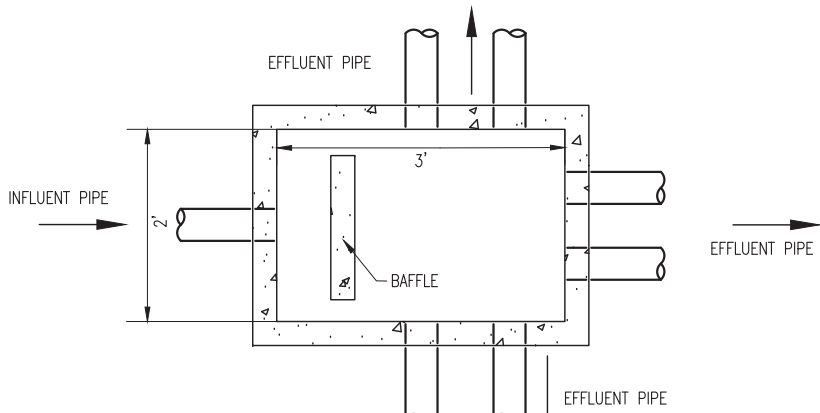
SECTION "A-A"

SCALE: 1"=1'



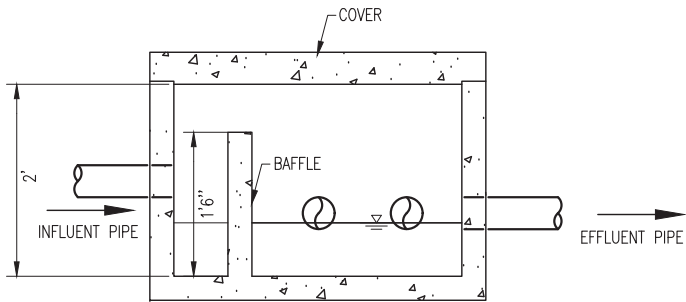
SECTION "B-B"

SCALE: 1"=1'



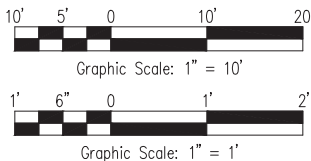
DISTRIBUTION BOX PLAN

SCALE: 1"=1'



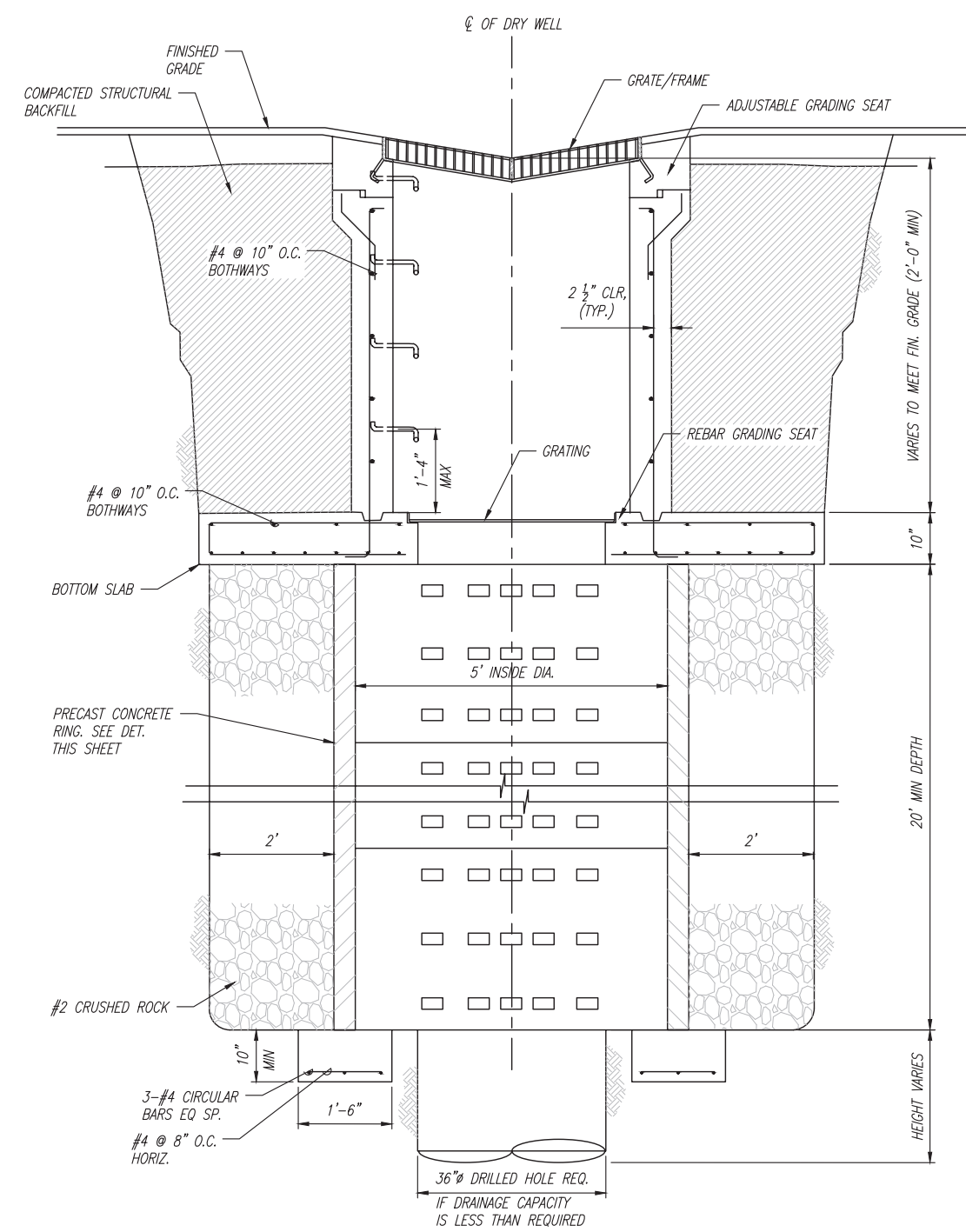
DISTRIBUTION BOX SECTION

SCALE: 1"=1'



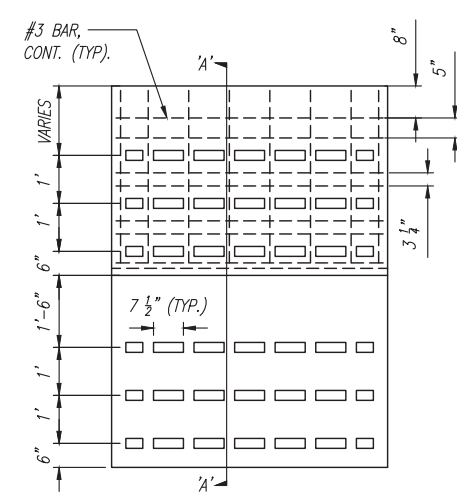
60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE LEACH FIELD DETAIL					
DESIGNED BY:			SUBMITTED: 1/20/22		
DRAWN BY: BH			DATE: 1/19/22		
CHECKED BY:			SCALE: AS NOTED		
APPROVED:					DRAWING NO.
CHIEF ENGINEER					C-10
EXPIRATION DATE OF THE LICENSE XXXX/XXXX					

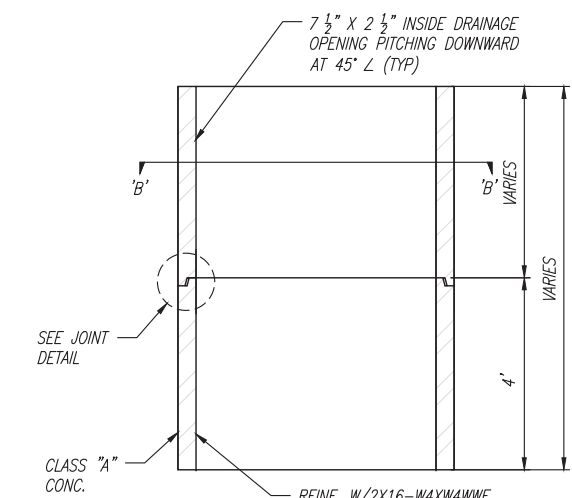


TYPICAL DRY WELL SECTION
SCALE: NTS

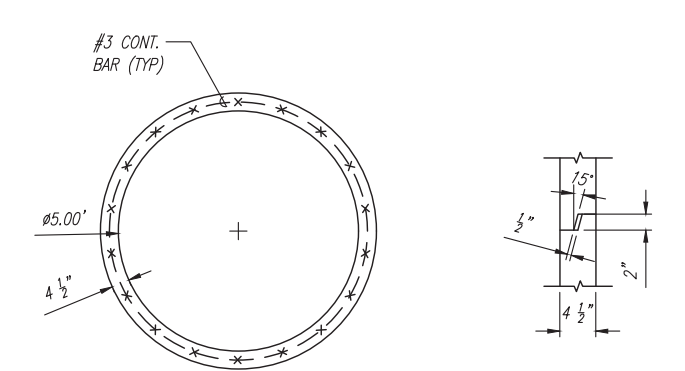
- NOTES:**
1. DRY WELL MAY NOT BE THE IDEAL PERMANENT BMP DEPENDING ON SITE LOCATION, SITE SPECIFIC STANDARDS, AND AVAILABILITY. CONSULT WITH STRUCTURAL, CIVIL, AND GEOTECHNICAL ENGINEERS.
 2. DRY WELL DETAILS SHOWN ARE CONCEPTUAL. CONTACT GEOTECHNICAL AND STRUCTURAL ENGINEERS.
 3. CONTRACTORS SHALL VERIFY THE DRAINAGE CAPACITY FOR EACH DRY WELL. FIELD TEST SHALL BE COMPLETED AFTER CONSTRUCTION BY DISPENSING OF WATER VIA WATER TRUCK AND MEASUREMENT OF INFILTRATION RATE BY THE ENGINEER.



DRY WELL DETAIL
SCALE: 1/2"=1'

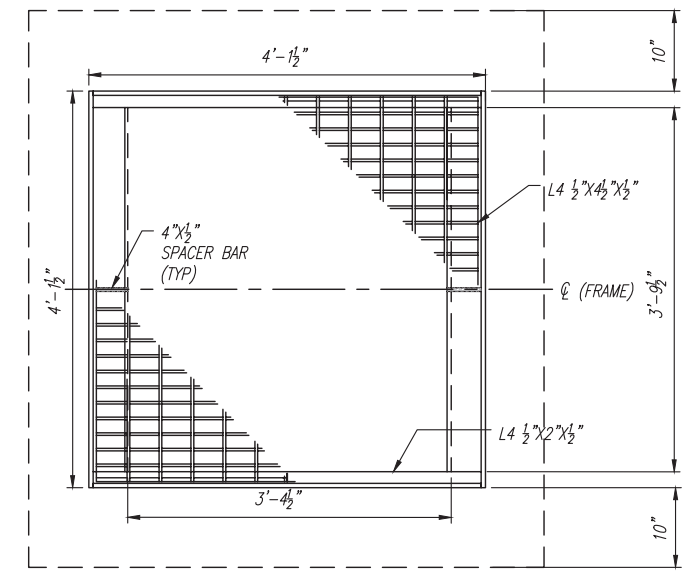


SECTION 'A-A'
SCALE: 1/2"=1'

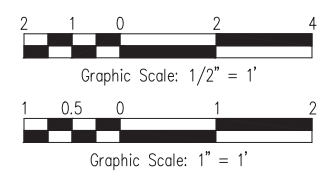


SECTION 'B-B'
SCALE: 1/2"=1'

JOINT DETAIL
SCALE: 1"=1'

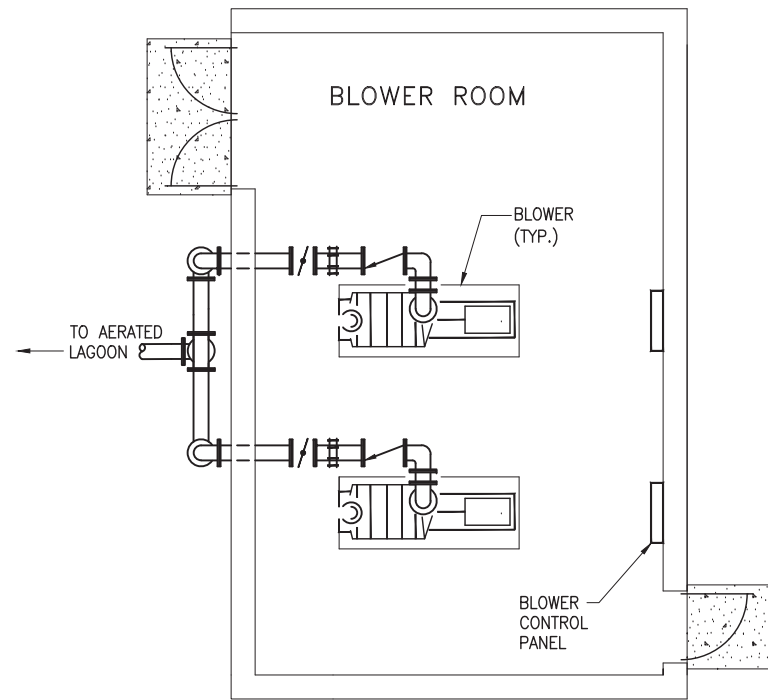


PLAN (TOP SLAB)
SCALE: NTS



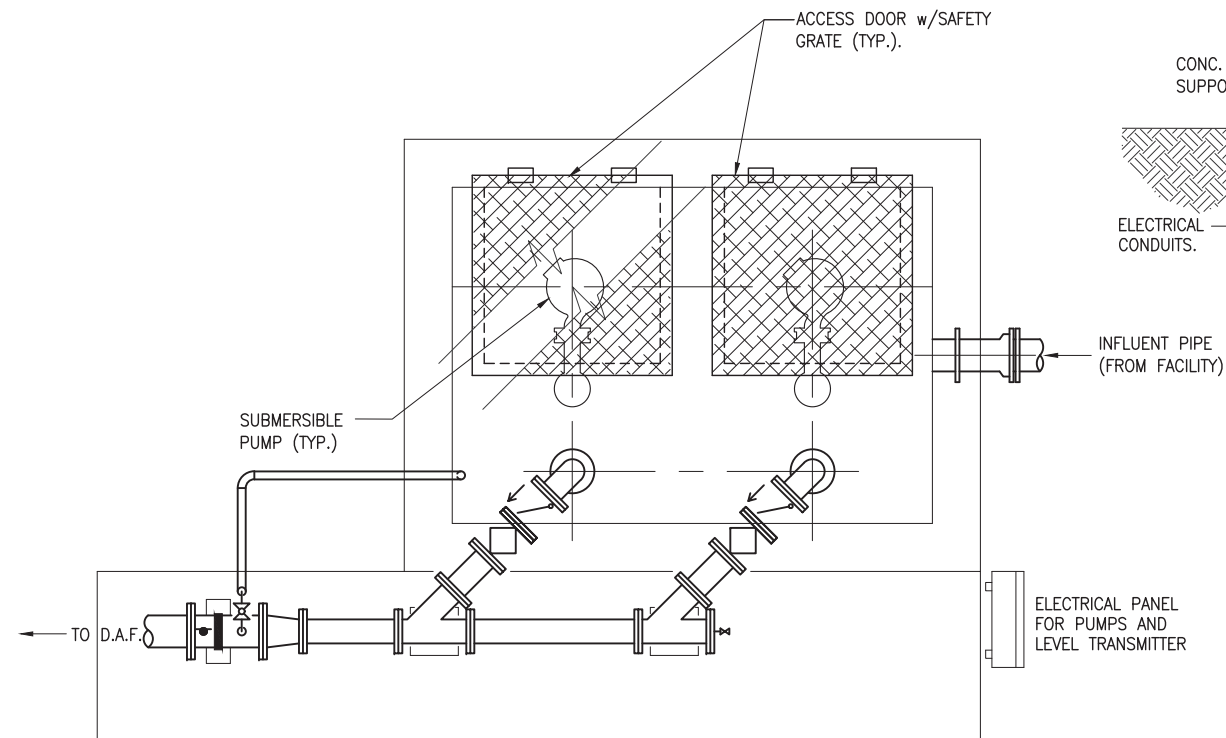
60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

REVISION NO.	SYM.	DESCRIPTION			SHT. OF	DATE	APPROVED
FOR PLANNING PURPOSES ONLY		STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
		SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
		SHEET TITLE DRYWELL DETAIL					
		DESIGNED BY:					SUBMITTED: 1/20/22
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		DRAWN BY: CO			DATE: 1/19/22		
		CHECKED BY:			SCALE: AS NOTED		
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX		APPROVED:				DRAWING NO.	
		CHIEF ENGINEER				DATE	
		C-11					



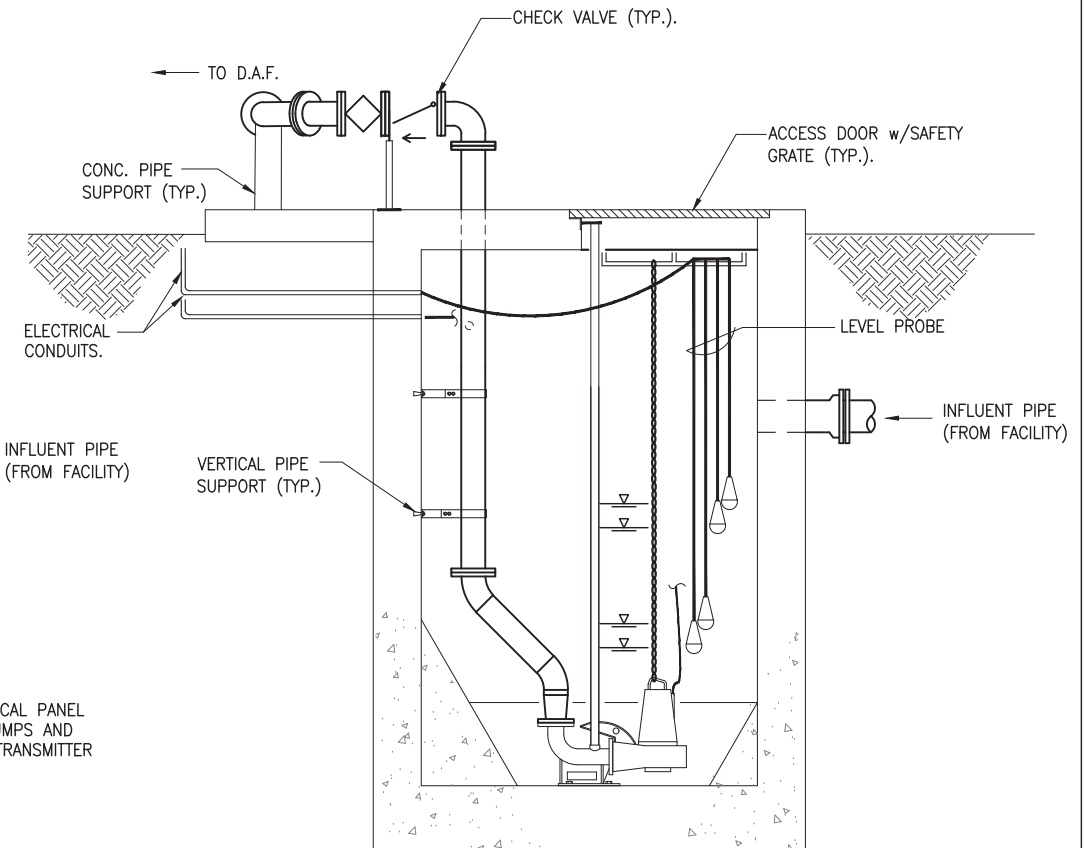
BLOWER BUILDING - PLAN

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



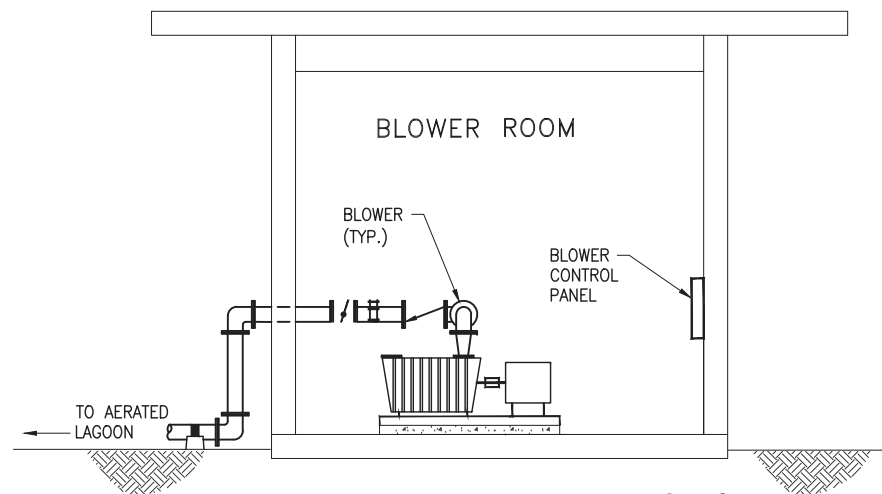
TRANSFER PUMP STATION - PLAN

SCALE: 1/2" = 1'-0"



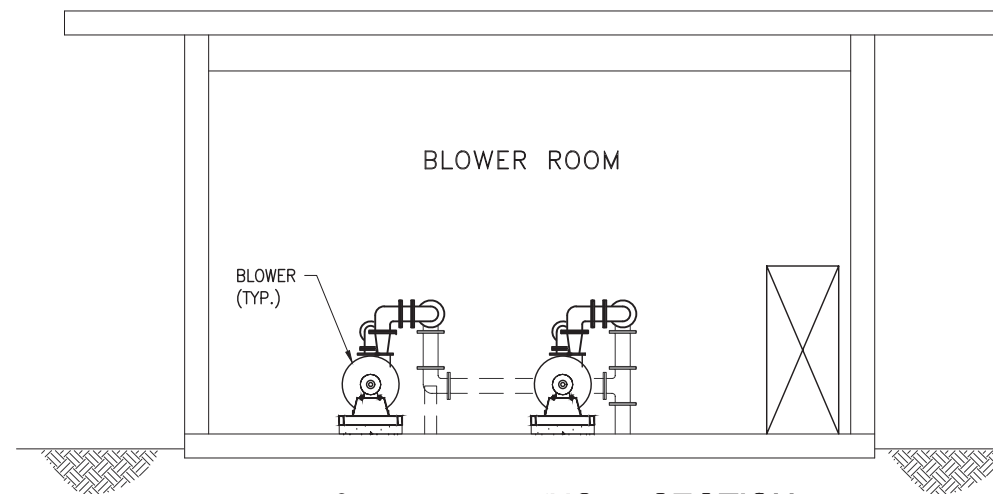
TRANSFER PUMP STATION - SECTION

SCALE: 1/2" = 1'-0"



BLOWER BUILDING - SECTION

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

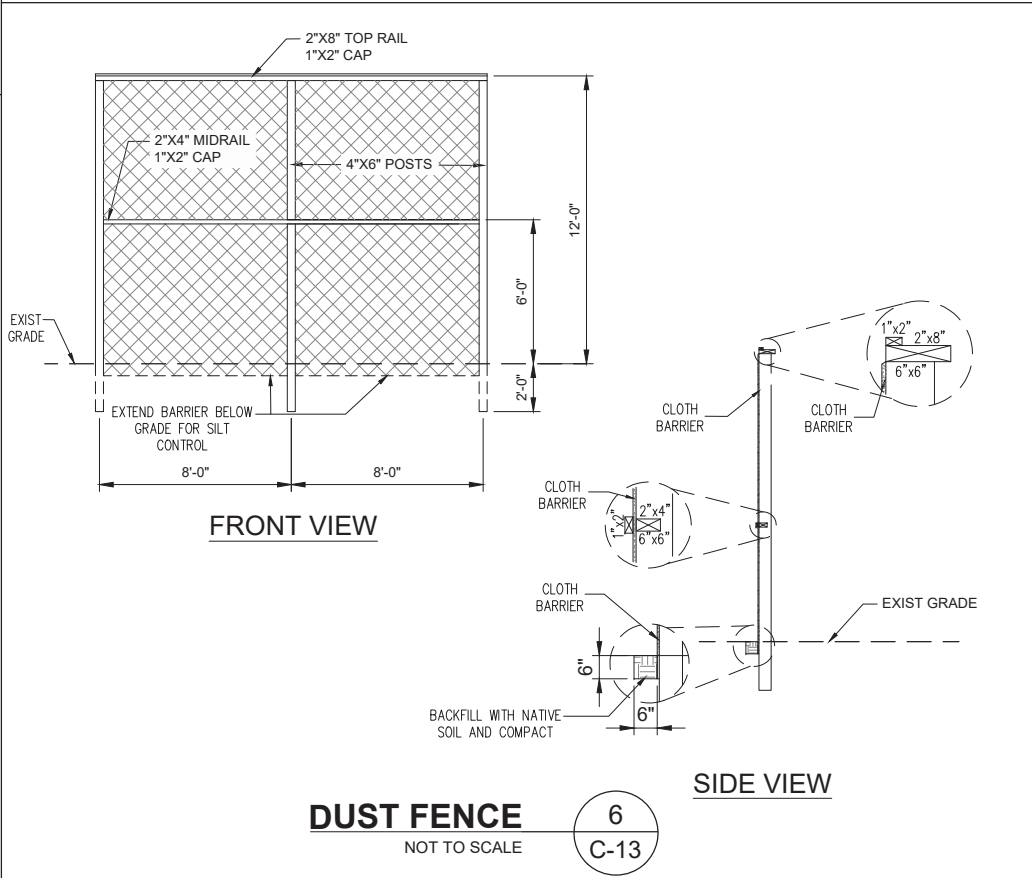
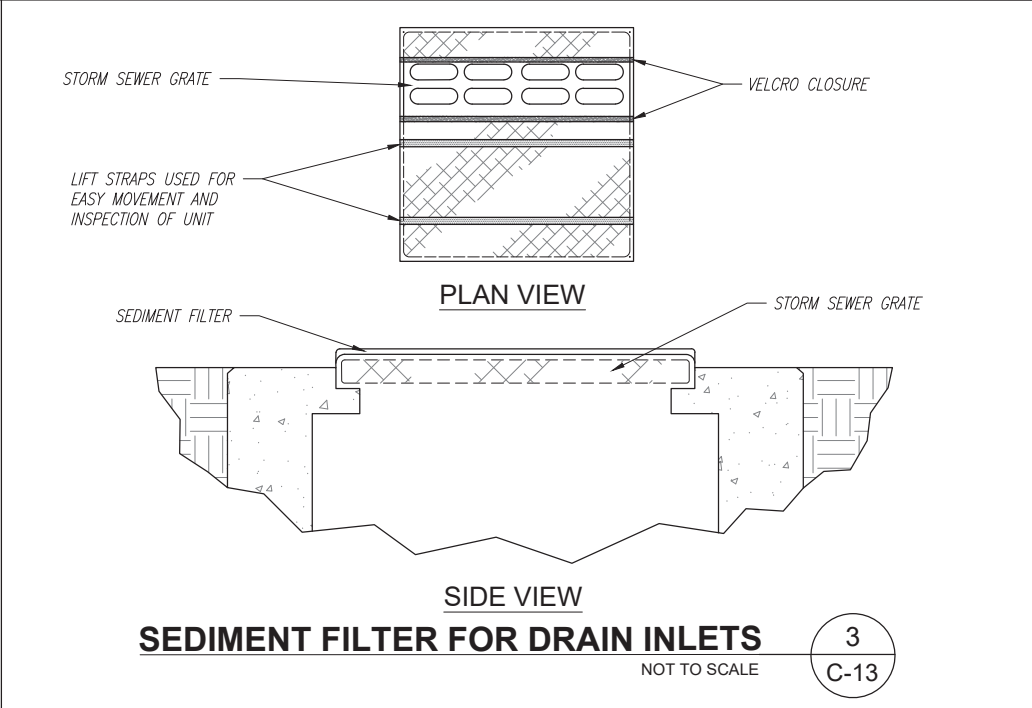
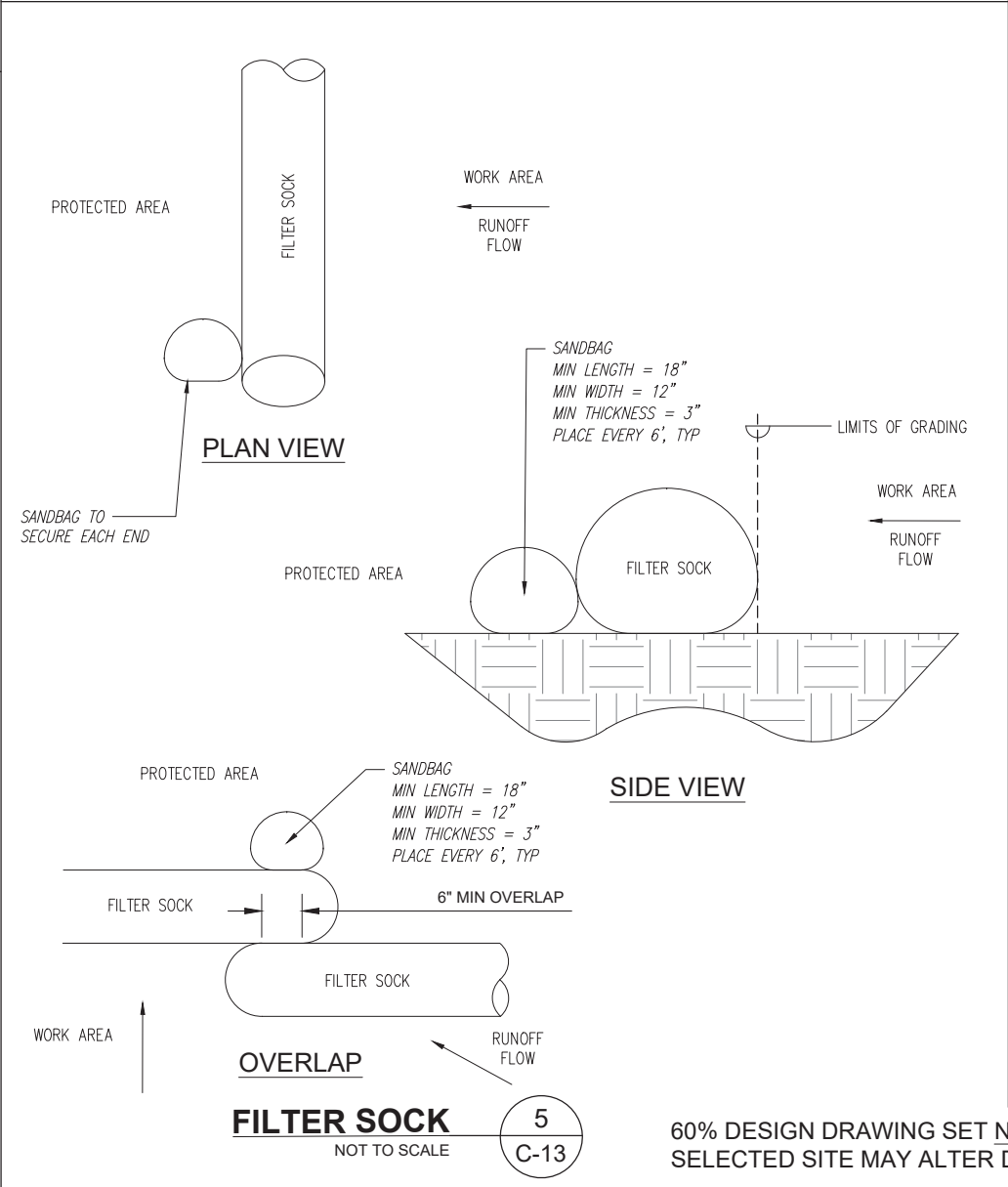
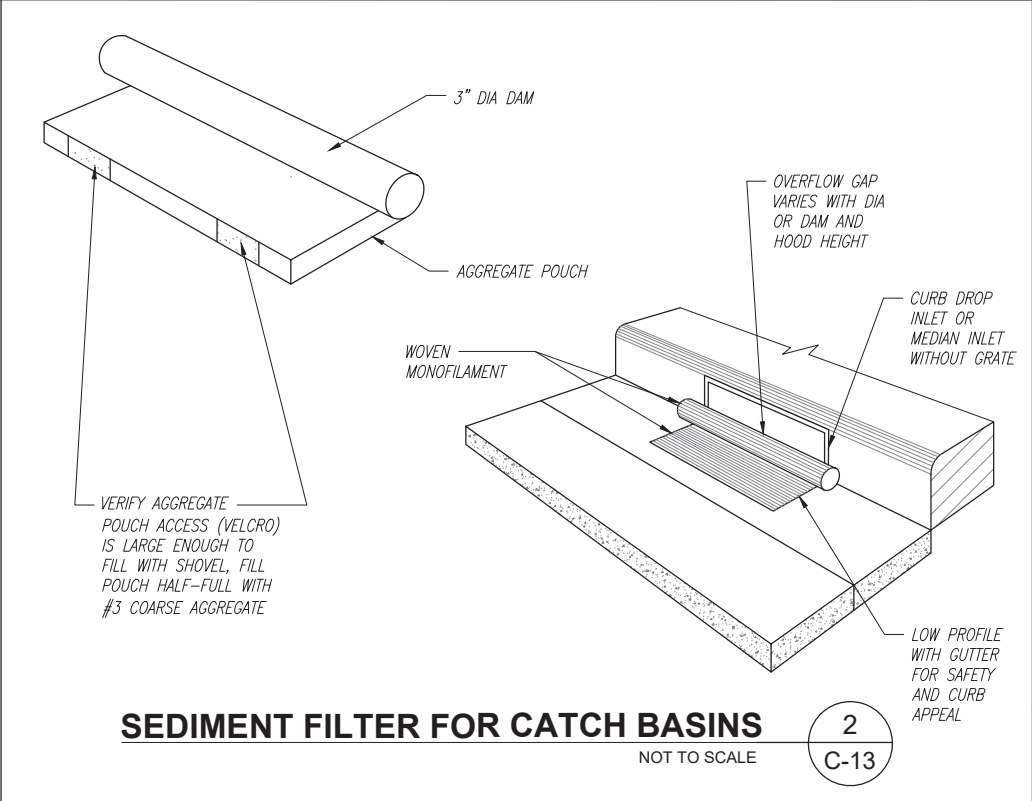
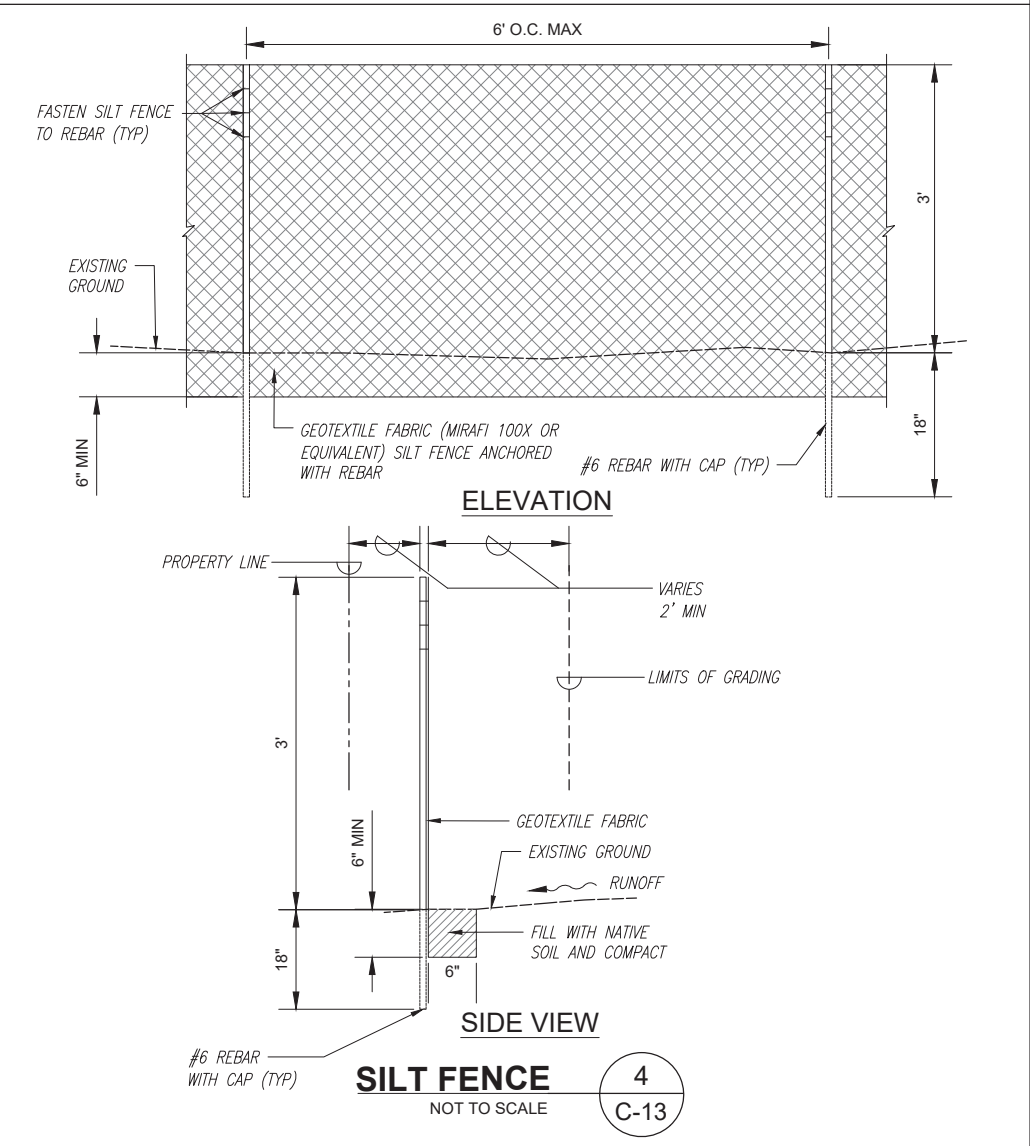
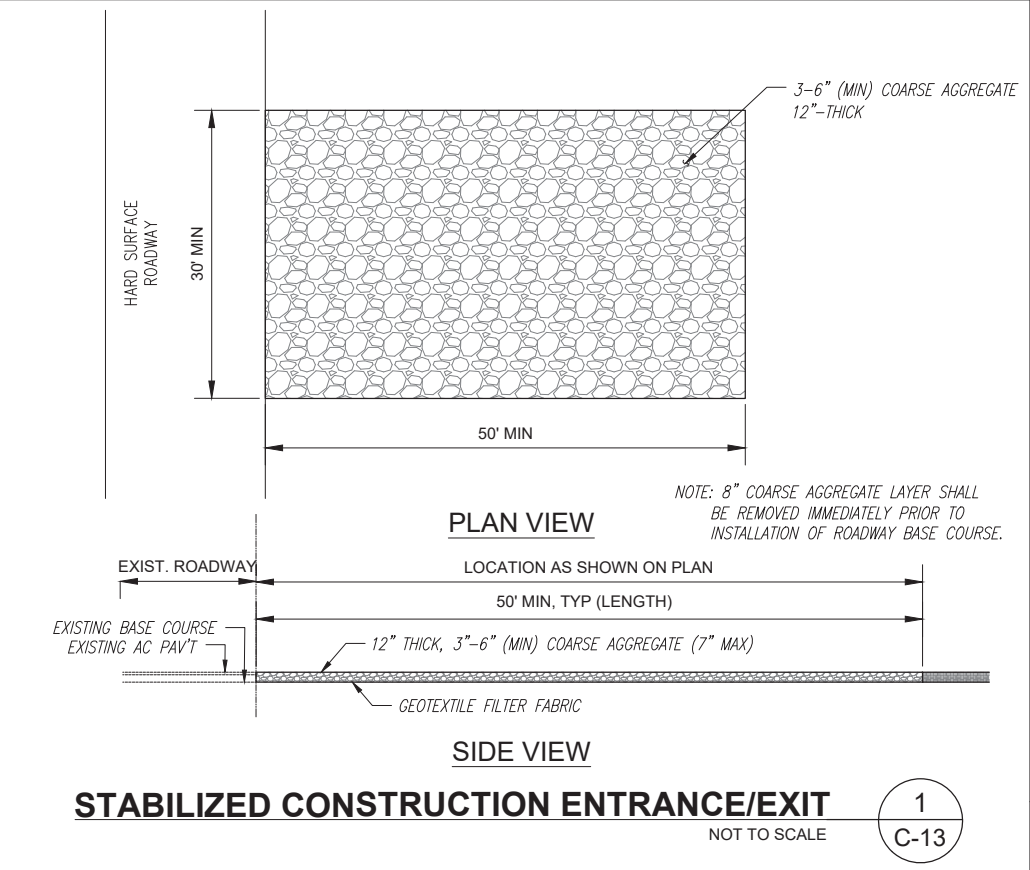


BLOWER BUILDING - SECTION

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

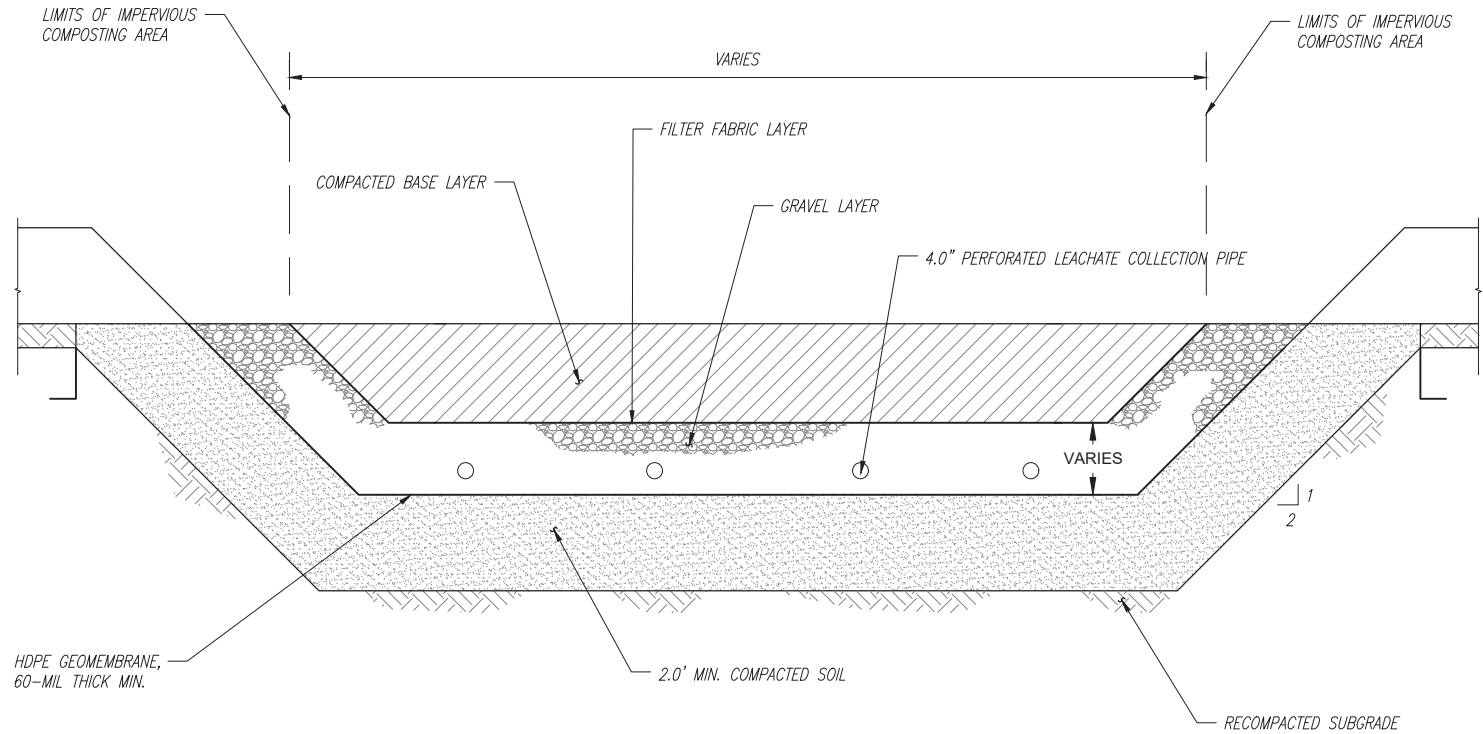
60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
<div> <div>FOR PLANNING PURPOSES ONLY</div> <div> STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07 </div> </div>					
		SHEET TITLE PUMP STATION AND BLOWER BUILDING DETAILS			
		DESIGNED BY:	SUBMITTED: 1/20/22		
		DRAWN BY: TD	DATE: 1/19/22		
		CHECKED BY:	SCALE: AS NOTED		
		APPROVED:	DRAWING NO. C-12		
		EXPIRATION DATE OF THE LICENSE XX/XX/XXXX	CHIEF ENGINEER _____ DATE _____		



REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE MISCELLANEOUS DETAILS - 1					
FOR PLANNING PURPOSES ONLY					
DESIGNED BY: VA, DR			SUBMITTED: 1/10/2022		
DRAWN BY: VA			DATE: 1/10/2022		
CHECKED BY: BI			SCALE: NOT TO SCALE		
APPROVED:					DRAWING NO.
CHIEF ENGINEER					DATE
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					C-13

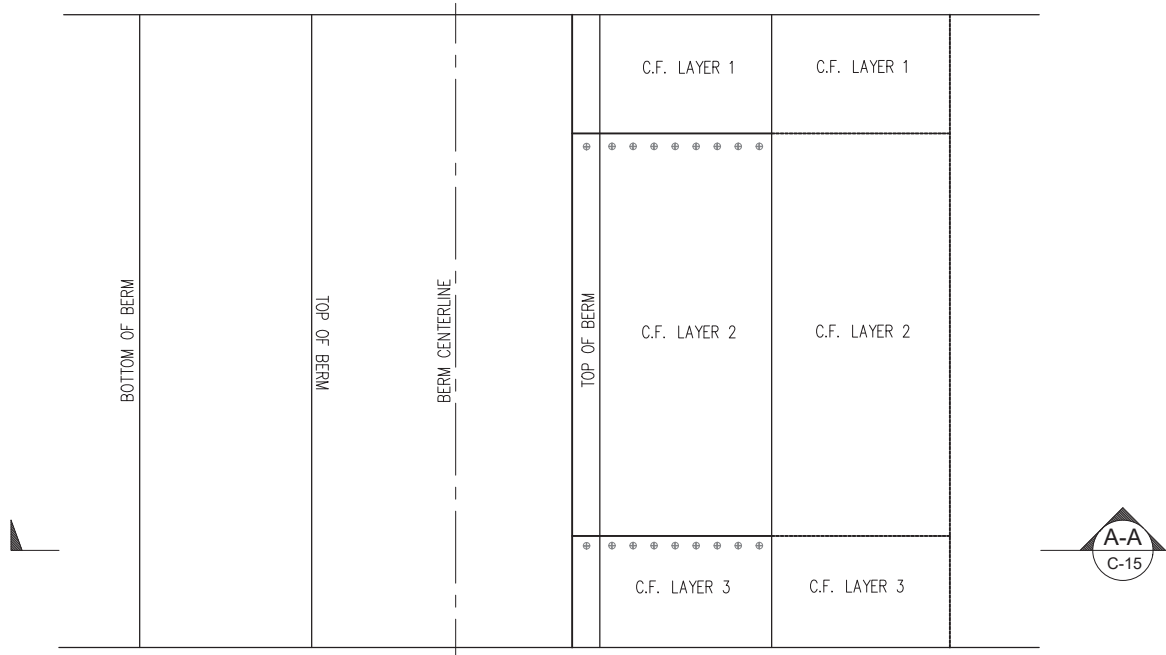
60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN



NOTE:
¹ SITE-SPECIFIC WEATHER CONDITIONS SHOULD BE CONSIDERED FOR RAINFALL CAPACITY OF LEACHATE COLLECTION SYSTEM.
² 2.0' MIN. COMPACTED SOIL SHOULD HAVE HYDRAULIC CONDUCTIVITY NO MORE THAN 1X10⁻⁷ CM/SEC.

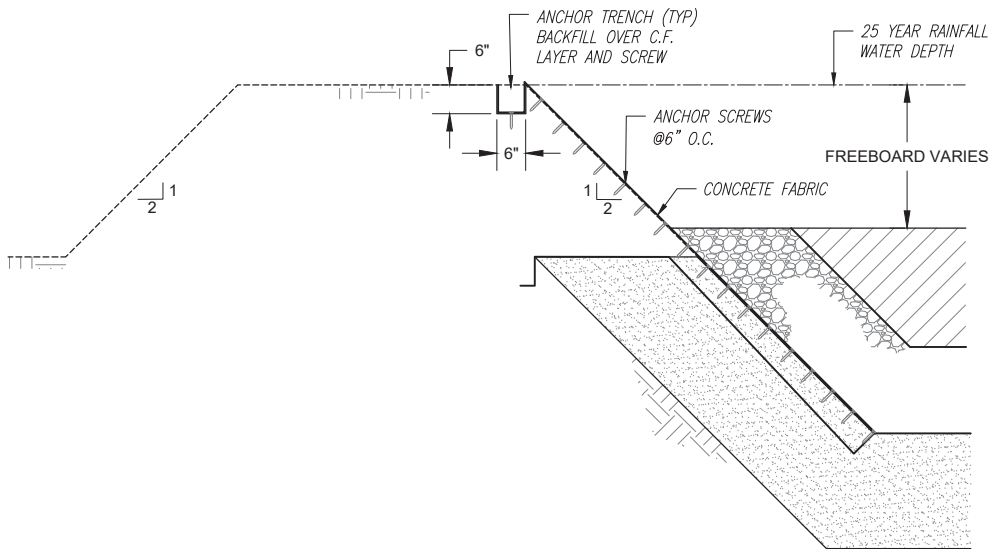
WINDROW LEACHATE COLLECTION SYSTEM
NOT TO SCALE

1
C-15



COMPOSTING AREA CONCRETE FABRIC BERM LINING - PLAN VIEW
NOT TO SCALE

2
C-15



COMPOSTING AREA CONCRETE FABRIC BERM LINING - SECTION VIEW
NOT TO SCALE

A-A
C-15

60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION					
SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07					
SHEET TITLE MISCELLANEOUS DETAILS 3					
DESIGNED BY: DR, VA SUBMITTED: 1/10/2022					
DRAWN BY: DR, VA DATE: 1/10/2022					
CHECKED BY: BI SCALE: NOT TO SCALE					
APPROVED:					
DRAWING NO.					
C-15					
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					
CHIEF ENGINEER DATE					

GENERAL NOTES

I) GENERAL INFORMATION

- 1) CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- 2) THESE GENERAL NOTES ARE SUPPLEMENTAL. REFER TO THE ENTIRE SET OF DRAWINGS AND FULL PROJECT SPECIFICATIONS FOR ADDITIONAL NOTES AND REQUIREMENTS.
- 3) IF THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT RESTRICTIONS AND REQUIREMENTS SHALL GOVERN.
- 4) WALL LAYOUT SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS. ANY DISCREPANCY SHALL BE NOTIFIED TO THE ARCHITECT.
- 5) ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE OWNER'S REPRESENTATIVE OR CONTRACTOR SHALL HIRE AN EXPERIENCED, QUALIFIED INSPECTOR TO PERFORM ALL THE REQUIRED INSPECTION WORK. ALL INSPECTION WORK MUST BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN ENGINEER LICENSED IN THE LOCAL JURISDICTION. AMALGAMATED ENDEAVORS, INC. WILL NOT PERFORM THE REQUIRED INSPECTION AS PART OF THEIR DESIGN SERVICE. AMALGAMATED ENDEAVORS, INC. MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS BUT SUCH VISITS ARE NOT TO BE CONSTRUED AS MEETING INSPECTION REQUIREMENTS.
- 6) STRUCTURAL DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE CONTRACT DOCUMENTS AS A WHOLE, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, CIVIL, AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE STRUCTURAL WORK WITH ALL APPLICABLE TRADES FOR THE MORE SEVERE REQUIREMENTS. CONFLICTS BETWEEN THE STRUCTURAL WORK AND THE DRAWINGS OF OTHER TRADES SHALL NOT BE REASON FOR ANY EXTRA COST OR DELAY IN THE EXECUTION OF WORK.
- 7) THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING, SHORING, UNDERPINNING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER OF RECORD ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES OR SAFETY PROCEDURES.
- 8) LOCATION, SIZES AND QUANTITY OF ALL OPENINGS MAY NOT BE COMPLETELY INDICATED ON THE STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL OPENINGS WITH ALL OTHER DISCIPLINES PRIOR TO SHOP DRAWING PREPARATION, FABRICATION OR CONSTRUCTION.
- 9) THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING AND ENTITIES. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS INDICATED IN THE CONTRACT DOCUMENTS.

II) DESIGN DATA

- 1) BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE W/STRUCTURAL AMENDMENTS PER HAWAII STATE BUILDING CODE
- 2) DESIGN LOAD CRITERIA (SUBJECT TO CHANGE UPON SITE SELECTION):

A) FLOOR LIVE LOADS

a) MANUFACTURING..... 125 PSF

b) STORAGE 125 PSF

c) OFFICES 50 PSF

B) ROOF LIVE LOADS

a) ORDINARY PITCHED ROOF..... 20 PSF

b) CANOPY/AWNING 5 PSF

C) SNOW LOADS

a) GROUND SNOW LOAD P_g 0 PSF

D) WIND LOADS (MAIN BUILDING)

a) DESIGN WIND SPEED V_{ult} 200 MPH

b) BUILDING RISK CATEGORY II

c) WIND EXPOSURE CATEGORY C

d) INTERNAL PRESSURE COEFF. GC_{pi} .. \pm 0.18

e) DESIGN WIND PRESSURES C_{fc} 72 PSF

**DESIGN PRESSURES ARE ULTIMATE (LRFD) PER ASCE 7-16
- E) EARTHQUAKE LOADS

a) BUILDING RISK CATEGORY II

b) SEISMIC IMPORTANCE FACTOR I_e ... 1.25

c) SITE CLASS D

d) MAPPED SPECTRAL RESPONSE S_s ... 1.5

e) MAPPED SPECTRAL RESPONSE S_1 0.6

f) DESIGN SPECTRAL RESPONSE S_{DS} ... 0.141

g) DESIGN SPECTRAL RESPONSE S_{D1} ... 0.096

h) SEISMIC DESIGN CATEGORY TBD

i) BASIC SEISMIC FRS MOMENT RESISTING FRAME SYSTEM

j) RESPONSE COEFFICIENT C_s TBD

m) RESPONSE MODIFICATION R 8

n) DESIGN BASE SHEAR TBD

o) ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE

III) STANDARD DETAILS

- 1) REFER TO SHEET S-10 FOR THE FOLLOWING STANDARD DETAILS:

A) TYPICAL SLAB ON GRADE CONTROL JOINT DETAIL. MAXIMUM DISTANCE BETWEEN JOINTS IN ANY DIRECTIONS SHALL NOT EXCEED 15'-0" U.N.O.

B) TYPICAL SLAB CONSTRUCTION JOINT DETAIL.

C) TYPICAL CORNER BAR DETAILS AT FOUNDATION WALLS.

D) TYPICAL CORNER BAR DETAILS AT CONCRETE SLABS WITH REENTRANT CORNERS.

E) TYPICAL REINFORCEMENT AT FOUNDATION WALL RECESS DETAIL.

F) TYPICAL STEPPED FOOTING DETAIL.

G) TYPICAL FOUNDATION PENETRATION DETAIL.

H) TYPICAL REINFORCEMENT AT FOUNDATION WALL CONSTRUCTION JOINT DETAIL.

I) TYPICAL ISOLATION JOINT DETAIL.

J) TYPICAL FOUNDATION UNDERCUT DETAIL.

K) TYPICAL HOUSEKEEPING PAD DETAIL. PROVIDE HOUSEKEEPING PADS AS REQUIRED AT MECHANICAL. COORDINATE QUANTITY, SIZE AND LOCATIONS WITH M.E.P. DRAWINGS.

L) TYPICAL THICKENED SLAB DETAIL.
- 2) REFER TO SHEET S-13 FOR THE FOLLOWING STANDARD DETAILS:

A) TYPICAL ROOF OPENING DETAIL.

B) TYPICAL LINTEL DETAIL.

C) TYPICAL HORIZONTAL SLIP BEARING DETAIL.

D) TYPICAL INTERIOR NON-LOAD BEARING PARTITION WALL STABILITY DETAIL.

IV) SPECIAL INSPECTIONS AND TESTS

- 1) THE OWNER SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS, INDEPENDENT OF THE CONTRACTORS PERFORMING THE WORK, TO PROVIDE SPECIAL INSPECTIONS AND TESTING IN ACCORDANCE WITH ALL REQUIREMENTS AND STIPULATIONS OF SECTION 1705 OF THE 2018 INTERNATIONAL BUILDING CODE AND IDENTIFY THE SPECIAL INSPECTORS TO THE BUILDING OFFICIAL.

V) SITEWORK/FOUNDATIONS

- 1) REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
- 2) ALL SUBGRADE PREPARATION, FILL, FILL PLACEMENT, # SLAB AND FOUNDATION CONSTRUCTION SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT ---- AS PREPARED BY --- AND DATED ----.
- 3) FOOTING SIZES ARE BASED UPON A SAFE ALLOWABLE SOIL BEARING PRESSURE OF ---- PSF AT DESIGN ELEVATION PER GEOTECHNICAL INVESTIGATION REPORT -----AS PREPARED BY ---- AND DATED ----. FOOTINGS TO BEAR ON UNDISTURBED SOILS OR ENGINEERED FILL CAPABLE OF SUPPORTING THE STATED SAFE ALLOWABLE SOIL BEARING PRESSURE. FOOTING EXCAVATIONS TO BE TESTED BY AN APPROVED SOIL TESTING SERVICE TO VERIFY THE MINIMUM ALLOWABLE SOIL BEARING PRESSURE.
- 4) ALL FOOTINGS AND FOUNDATIONS AT THE EXTERIOR PERIMETER OF THE BUILDING SHALL EXTEND A MINIMUM OF --" BELOW FINISHED GRADE. FOOTINGS EXTERIOR TO THE BUILDING PERIMETER SHALL BEAR A MINIMUM OF --" BELOW FINISHED GRADE. COORDINATE GRADE ELEVATIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS AND STEP FOOTINGS, AS REQUIRED, PER DETAIL ON SHEET S-10.
- 5) THE MINIMUM WALL FOOTING WIDTH SHALL BE THE WALL WIDTH PLUS A 6" PROJECTION ON EACH SIDE OF THE WALL. ANY FOOTING NOT TAGGED SHALL ADHERE TO THIS CRITERIA.
- 6) BACKFILLING AGAINST FOUNDATION WALLS AND GRADE BEAMS SHALL BE DONE EVENLY AND SIMULTANEOUSLY ON BOTH SIDES.
- 7) SOILS EXPOSED AT THE BASE OF ALL FOUNDATION AND SLAB EXCAVATIONS SHALL BE PROTECTED AGAINST ANY DETRIMENTAL CHANGE IN CONDITION SUCH AS FROM FREEZING, RAIN, DISTURBANCE, ETC.
- 8) COORDINATE FOUNDATION WORK WITH UNDERGROUND UTILITIES.

VI) CONCRETE

- 1) ALL CONCRETE WORK SHALL CONFORM TO THE LATEST APPROVED (BY LOCAL GOVERNMENT) EDITIONS OF ACI AND ASTM. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, ACI-301, ACI-302, ACI-318, ACI-214, ACI-306, ACI-315, ACI-347, ACI-305, ACI-211, ACI-304, ASTM C-94, ASTM C-311, ASTM C-143, ASTM C-231, ASTM C-39, ASTM C-172, AND ASTM C-42.
- 2) FORMWORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "FORMWORK FOR CONCRETE", SPECIAL PUBLICATION NO. 4 AND A.C.I.'S "STANDARD RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" (ACI-347, LATEST LOCAL APPROVED EDITION).
- 3) ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE".

VI) CONCRETE cont.

- 4) CONCRETE SHALL MEET THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTH, W/C RATION AND SLUMP:

USE	f'_c @28 DAYS	W/C RATIO
FOOTINGS	3,000 PSI	0.55
FOUNDATION WALLS/PIERS	3,000 PSI	0.55
INTERIOR SLAB-ON-GRADE	4,500 PSI	0.48
EXTERIOR SLAB-ON-GRADE	4,500 PSI	0.44
- 5) ALL EXTERIOR CONCRETE AND INTERIOR CONCRETE AT FREEZERS SHALL BE AIR-ENTRAINED TO PROVIDE AN AIR CONTENT OF 6% \pm 1 1/2%.
- 6) LIMIT PERCENTAGE OF FLY ASH BY WEIGHT TO A MAXIMUM OF 15% OF THE TOTAL CEMENTITIOUS CONTENT OF THE PROPOSED MIX.
- 7) TAKE 4 TEST CYLINDERS OF EACH CONCRETE POUR. TEST 1 CYLINDER AT AGE 7 DAYS, 2 AT 28 DAYS, AND 1 CYLINDER RESERVED FOR TESTING AS REQUIRED. TESTS TO BE PERFORMED BY A RECOGNIZED TESTING LABORATORY HIRED BY THE OWNER AND APPROVED BY THE ENGINEER OF RECORD.
- 8) USE NEW PLASTIC COATED WOOD FORMS FOR ALL EXPOSED CONCRETE, NON-STAINING OIL, AND TIES WHICH WHEN REMOVED DO NOT LEAVE ANY METAL CLOSER THAN 1" FROM THE SURFACE.
- 9) CONTRACTOR TO REMOVE ALL FINS AND PROJECTIONS AND FILL ALL VOIDS AT EXTERIOR FOUNDATION WALL SURFACES FROM TOP OF FOUNDATION WALL TO 1'-0" BELOW FINISHED GRADE IMMEDIATELY UPON REMOVAL OF FORMWORK.
- 10) PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS OF CONCRETE UNLESS OTHERWISE SHOWN OR NOTED. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF ANCHORS, CHAMFERS, AND OTHER DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

- 11) ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
- 12) WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND BE PROVIDED IN FLAT SHEETS.
- 13) MATERIAL FOR ANCHOR RODS SHALL BE ASTM F1554 GRADE 55 U.N.O. AND HOT-DIP GALVANIZED PER ASTM F2329.
- 14) PROVIDE CLASS B TENSION LAPS AT ALL SPLICES BUT NOT LESS THAN 36 INCHES. WHERE BARS OF DIFFERENT SIZES LAP, PROVIDE LAP SPlice LENGTH FOR LARGER BAR SIZE. PROVIDE LAPPED BENT BARS TO CONTINUE REINFORCEMENT AT CORNERS.
- 15) PROVIDE ACI STANDARD MINIMUM HOOK LENGTHS WHERE HOOKS ARE GRAPHICALLY DEPICTED IN THE DRAWINGS UNLESS A LONGER HOOK LENGTH IS NOTED.
- 16) REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM CONCRETE PROTECTION (CLEAR COVER) UNLESS MORE STRICT REQUIREMENTS ARE NOTED:

CONDITION	MINIMUM CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BAR AND LARGER #5 BARS AND SMALLER	2 INCHES 1 1/2 INCHES
CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS, JOISTS BEAMS, GIRDERS, COLUMNS	3/4 INCHES 1 1/2 INCHES

- 17) CONTRACTOR TO ACCOUNT FOR ALL OPENINGS THROUGH CONCRETE SLABS AND FOUNDATION WALLS. COORDINATE REQUIREMENTS WITH A FULL SET OF CONTRACT DRAWINGS, INCLUDING BUT NOT LIMITED, TO ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND ELECTRICAL. PROVIDE (2) ADDITIONAL REBAR ON EACH FACE AT (4) SIDES AROUND ALL OPENINGS 1'-6" OR LARGER. EXTRA REINFORCING DIAMETER TO BE THE LARGER OF #5 BARS OR WALL/SLAB REINFORCEMENT AND SHALL EXTEND A MINIMUM OF 2'-0" BEYOND THE LIMITS OF AN OPENING ON ALL SIDES.
- 18) COORDINATE ALL FLOOR DRAINS AND SLOPES WITH ARCHITECTURAL AND PLUMBING PLANS. VERIFY ALL ELEVATIONS PRIOR TO CONCRETE PLACEMENT.
- 19) EXTEND 15 MIL. VAPOR BARRIER VERTICALLY FULL DEPTH OF SLAB WHEREVER SLAB MEETS FOUNDATION WALL.

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
FOR PLANNING PURPOSES ONLY		STATE OF HAWAII DEPARTMENT OF AGRICULTURE AGRICULTURAL RESOURCE MANAGEMENT DIVISION			
		SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07			
		SHEET TITLE			
		GENERAL NOTES			
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		DESIGNED BY:		SUBMITTED:	
		DRAWN BY:		DATE:	
		CHECKED BY:		SCALE: AS NOTED	
		APPROVED:		DRAWING NO.	
		EXPIRATION DATE OF THE LICENSE XX/XX/XXXX		CHIEF ENGINEER	
S-1					

60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN

GENERAL NOTES cont.

VII) LIGHT GAGE METAL STUD WALLS

- 1) FABRICATOR IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL LIGHT GAGE STEEL FRAMING AND CONNECTIONS FOR ALL CODE DEFINED AND APPLIED LOADS AND SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN HAWAII TO DESIGN ALL COMPONENTS AND PROVIDE SIGNED AND SEALED CALCULATIONS AND SHOP DRAWINGS. INFORMATION AND CONNECTIONS SHOWN ON THE CONTRACT DRAWINGS ARE SCHEMATIC AND ARE INTENDED TO SHOW ONLY THE GENERAL RELATIONSHIP OF THE MEMBERS.
- 2) SUBMIT CALCULATIONS AND SHOP DRAWINGS FOR FABRICATION AND ERECTION OF LIGHT GAGE STEEL FRAMING. DRAWINGS SHALL INCLUDE LAYOUT, SPACING, TYPE, MATERIAL/MEMBER PROPERTIES AND ALL DETAILS OF CONNECTIONS FOR ALL LIGHT GAGE STEEL FRAMING.
- 3) SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMISSION. DRAWINGS SHALL BEAR THE CONTRACTOR'S APPROVAL STAMP ACCEPTING RESPONSIBILITY FOR DIMENSIONS, QUANTITIES AND COORDINATION WITH THE OTHER TRADES.
- 4) ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR AN ANGULAR FIT TIGHT AGAINST ABUTTING MEMBERS.
- 5) WHERE NON-LOAD BEARING WALLS FRAME TO STRUCTURAL FLOOR OR ROOF MEMBERS SUBJECT TO DEFLECTION FROM LIVE LOADING, A DEFLECTION CLIP ASSEMBLY SHALL BE PROVIDED AT THE TOP RUNNER TO ACCOMMODATE VERTICAL STRUCTURAL MOVEMENT (TYP.). PROVIDE A LIGHT-GAGE BRACE BACK TO HIGH DECK WHEN WALL OCCURS DIRECTLY BELOW A STRUCTURAL MEMBER. BRACE DESIGN/SPACING/CONNECTIONS BY LIGHT-GAGE MANUFACTURER FOR INTERNAL PRESSURE. NOTE AT STORM SHELTER: WHERE LIGHT GAGE FRAMING CONNECTS TO THE STORM SHELTER ROOF OR WALLS, CONNECTIONS SHALL BE DETAILED BY LIGHT GAGE FABRICATOR SO THAT THE FAILURE OF THE CONNECTION WILL NOT JEOPARDIZE THE IMPACT RESISTANCE OF THE SHEAR ENVELOPE FOR THE SHELTER.

VIII) STRUCTURAL STEEL

- 1) MATERIAL:
- A) W- AND WT-SHAPES SHALL CONFORM TO ASTM A992 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- B) C-SHAPES, ANGLES AND PLATES SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- C) L-SHAPES SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- D) RECTANGULAR HSS SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 KSI) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- E) STEEL PIPES SHALL CONFORM TO ASTM A53 (TYPES E OR S), GRADE B UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- F) BASE PLATES SHALL CONFORM TO ASTM A572 GRADE 50 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- 2) CONNECTIONS:
- A) THE CONNECTION DETAILS DEPICTED IN THE DRAWINGS ARE CONCEPTUAL ONLY AND MAY NOT REPRESENT THE COMPLEXITY OF THE CONNECTION(S) REQUIRED BY THE FINAL CONNECTION DESIGN FOR THE FORCES THEY MUST RESIST. ALL CONNECTIONS SHALL BE DESIGNED BY THE STEEL SUPPLIER TO ACHIEVE A MINIMUM OF THREE-QUARTERS THE TOTAL UNIFORM LOAD CAPACITY AS TABULATED IN THE "ALLOWABLE LOADS ON BEAMS" TABLES IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL. THE STEEL SUPPLIER IS RESPONSIBLE FOR ENGAGING THE SERVICES OF A CONNECTION SPECIALTY STRUCTURAL ENGINEER LICENSED IN THE STATE OF HAWAII TO PREPARE A FINAL CONNECTION DESIGN FOR SUBMITTAL.
- B) ALL BOLTED CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE MADE USING THE MAXIMUM ROWS, ALLOWED PER BEAM DEPTH, OF 3/4" Ø ASTM A325 BEARING TYPE BOLTS WITH THREADS INCLUDED IN THE SHEAR PLANE AND TIGHTENED IN PROPERLY SIGNED HOLES TO A SNUG TIGHT CONDITION AS DEFINED BY THE ASIC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- C) ALL ECCENTRICITY SHALL BE ACCOUNTED FOR IN THE DESIGN OF THE CONNECTION.
- D) USE DOUBLE ANGLE CONNECTIONS WHEREVER CONDITIONS ALLOW.
- 3) PROVIDE NON-METALLIC, NON-SHRINK GROUT BELOW COLUMN BASE PLATE THAT ATTAINS A COMPRESSIVE STRENGTH OF 5,000 PSI MIN.
- 4) PROVIDE A SHOP COAT OF RUST-INHIBITING PAINT AFTER REMOVING ALL RUST, SCALE AND DIRT FROM THE STRUCTURAL STEEL. DO NOT PAINT BEAMS SCHEDULED TO RECEIVE SPRAY ON FIREPROOFING, AREAS TO BE FIELD WELDED AND TOP FLANGES TO RECEIVE SHEAR STUDS. ALL COATINGS TO BE COMPATIBLE WITH FINAL FINISH. SEE ARCH. DWGS.
- 5) ALL WELDING SHALL BE DONE BY THE SHIELDED ARC PROCESS IN ACCORDANCE WITH THE RULES OF THE AMERIAN WELDING SOCIETY (AWS), "STRUCTURAL WELDING CODES", FINAL ADDITION. ALL WELDERS SHALL BE QUALIFIED ACCORDING TO THE RULES OF THE AMERICAN WELDING SOCIETY.
- 6) CONTRACTOR SHALL FURNISH AND INSTALL ALL MISCELLANEOUS STEEL (CURBS, HANGERS, EXPANSION JOINT ANGLES, STRUTS, ETC.) AS CALLED FOR OR AS NECESSARY PER THE ARCHITECTURAL AND M.E.P. DRAWINGS.

IX) STEEL DECK

- 1) STEEL DECK CONSTRUCTION SHALL CONFORM TO THE STEEL DECK INSTITUTE'S "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS".
- 2) DECK SHALL BE A MINIMUM OF THREE SPANS CONTINUOUS.
- 3) ALL GALVANIZED DECKS TO CONFORM TO ASTM A653 WITH A MINIMUM OF A G60 ZINC COATING.
- 4) DIRECT ATTACHMENTS TO THE ROOF DECK ARE NOT ACCEPTABLE. AT LOCATIONS WHERE BEAMS AND JOISTS ARE NOT PRESENT, THE TRADE CONTRACTOR SHALL SUPPLY ALL SUPPLEMENTAL FRAMING AS REQUIRED TO SPAN TO THE STRUCTURE'S LOAD BEARING ELEMENTS.

X) PRECAST

- 1) THE PRECASTER SHALL SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY THE HAWAII LICENSED STRUCTURAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION, FOR ALL ELEMENTS, MEMBERS AND CONNECTIONS FURNISHED BY THE PRECASTER. DESIGN TO ACCOMMODATE ALL CODE DEFINED LOADING.
- 2) PRECAST AND CONCRETE SHALL BE DESIGNED, FABRICATED, AND ERECTED ACCORDING TO THE SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE PRESTRESSED CONCRETE INSTITUTE (PSI) LATEST ADOPTION.
- 3) PRECAST WALL PANELS SHALL BE DESIGNED TO WITHSTAND ALL CODE DEFINED LOADING INCLUDING, BUT NOT LIMITED TO, WIND LOADS AS INDICATED AND NOTED IN THE GENERAL NOTES.
- 4) THE PRECAST FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN, MANUFACTURE, AND INSTALLATION OF ALL PRECAST CONCRETE, INCLUDING REINFORCING, INSERTS, AND CONNECTIONS TO THE STRUCTURE NOT SPECIFICALLY CALLED OUT ON THE DRAWINGS. PANELS SHALL BE DESIGNED FOR ALL LOADING CONDITIONS REQUIRED BY THE GOVERNING BUILDING CODE. EXPANSION, CONTRACTION, AND CREEP OF THE CONCRETE PANELS SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN AND DETAILING OF ALL CONNECTIONS.

60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
SELECTED SITE MAY ALTER DESIGN


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		SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07			
		SHEET TITLE GENERAL NOTES			
		DESIGNED BY:		SUBMITTED:	
		DRAWN BY:		DATE:	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		CHECKED BY:		SCALE:	AS NOTED
		APPROVED:		DRAWING NO.	
		EXPIRATION DATE OF THE LICENSE XX/XX/XXXX		S-2	
		CHIEF ENGINEER DATE			

FOUNDATION NOTES

I) GENERAL

- 1) SEE SHEET S-1 FOR GENERAL NOTES.

II) SYMBOLS AND ABBREVIATIONS

- 1) SLAB S1 DENOTES 6" CONCRETE SLAB REINFORCED W/ #4 REBAR AT 12" O.C. E.W. (PLACED AT CENTER SLAB) ON 6" COMPACTED GRANULAR FILL OVER 15 MIL. VAPOR BARRIER. T/ SLAB EL. 100'-0" U.N.O.* (SLOPE TO DRAINS). *SEE ARCH. DWGS.
- 2) SLAB S2 DENOTES 8" CONCRETE SLAB REINFORCED W/ #5 REBAR AT 12" O.C. E.W. ON 6" COMPACTED GRANULAR FILL OVER 15 MIL. VAPOR BARRIER. T/ SLAB EL. 100'-0" U.N.O.* (SLOPE TO DRAINS). *SEE ARCH. DWGS.
REFER TO ARCH. DWGS FOR FLOOR TEXTURE REQUIREMENTS (INCLUDING BUT NOT LIMITED TO DEEP GROOVED FLOOR TEXTURE) SLAB DEPTH TO BE A MINIMUM OF 8" AT LOWEST PART OF GROVE, PITCH, OR DEPRESSION.
- 3) SLAB S3 SLAB 8" CONCRETE SLAB REINFORCED W/ #5 REBAR AT 12" O.C. E.W. ON 6" COMPACTED GRANULAR FILL. T/ SLAB EL. 100'-0" U.N.O.* (SLOPE TO DRAINS). *SEE ARCH. DWGS.
REFER TO ARCH. DWGS FOR FLOOR TEXTURE REQUIREMENTS (INCLUDING BUT NOT LIMITED TO DEEP GROOVED FLOOR TEXTURE) SLAB DEPTH TO BE A MINIMUM OF 8" AT LOWEST PART OF GROVE, PITCH, OR DEPRESSION.
- 4) SLAB S4 SLAB 8" CONCRETE SLAB REINFORCED W/ #5 REBAR AT 12" O.C. E.W. ON INSULATION* OVER 15 MIL. VAPOR BARRIER ON 6" COMPACTED GRANULAR FILL W/ UNDERFLOOR COOLING COILS*. T/ SLAB EL. 100'-0" U.N.O.* (SLOPE TO DRAINS). *SEE ARCH. DWGS AND SPECIFIC MANUFACTURER'S WRITTEN REQUIREMENTS.
REFER TO ARCH. DWGS FOR FLOOR TEXTURE REQUIREMENTS (INCLUDING BUT NOT LIMITED TO DEEP GROOVED FLOOR TEXTURE) SLAB DEPTH TO BE A MINIMUM OF 8" AT LOWEST PART OF GROVE, PITCH, OR DEPRESSION.
- 5) F6.0 DENOTES REINFORCED CONCRETE FOOTING. SEE FOOTING SCHEDULE ON THIS SHEET.
- 6) C.J. DENOTES SLAB CONTROL/CONSTRUCTION JOINT. SEE TYPICAL DETAILS 1/5-10. MAXIMUM DISTANCE BETWEEN JOINTS IN ANY DIRECTION 15'-0".
- 7) F.D. DENOTES FLOOR DRAIN OR FLOOR CLEANOUT. COORDINATE LOCATIONS AND REQUIRED SLOPE TO DRAINS WITH ARCH. & M.E.P. DRAWINGS. FLOOR SLAB TO BE PITCHED WITHOUT REDUCING THE THICKNESS OF SLAB.
- 8)  DENOTES BASE PLATE OR PIER DETAIL. SEE DETAILS ON SHEET S-12.
- 9) (98'-6") DENOTES TOP OF FOOTING ELEVATION. TOP OF FOOTING ELEVATION TO BE 98'-6" U.N.O. CONFIRM T/FOOTING ELEVATION AT DROPPED FOOTINGS CONFORMS W/ ARCHITECTURAL PIT REQUIREMENTS AND ALLOWS A MINIMUM OF 8" OF SLAB TO OCCUR OVER FOOTING PRIOR TO SHOP DRAWING PREPARATION (TYP. AT ALL STEPPED FOOTINGS).
- 10) [95'-6"] DENOTES ANTICIPATED BOTTOM OF UNDERCUT ELEVATION TO BE VERIFIED IN THE FIELD. SEE 8/5-10 FOR REQUIREMENTS.
- 11) NOTE A1/5-3: PROVIDE INSULATION BREAK IN SLAB PER 9/G-18 TO SEPARATE ALL NON-COOLER/NON-FREEZER SLABS FROM COOLER AND FREEZER SLABS (TYP.).

III) SCHEDULES

FOOTING SCHEDULE				
MARK	SIZE "LxWxD"	BOTTOM REINFORCING	TOP REINFORCING	NOTES
F3.0	3'-0"x3'-0"x1'-0"	(4) #5 EW		
F3.5	3'-6"x3'-6"x1'-0"	(4) #5 EW		
F4.0	4'-0"x4'-0"x1'-0"	(5) #5 EW		
F4.5	4'-6"x4'-6"x1'-0"	(5) #5 EW		
F5.0	5'-0"x5'-0"x1'-0"	(5) #5 EW	(5) #5 EW	
F5.5	5'-6"x5'-6"x1'-6"	(6) #5 EW	(6) #5 EW	
F6.0	6'-0"x6'-0"x1'-6"	(6) #6 EW	(6) #6 EW	
F6.5	6'-6"x6'-6"x1'-6"	(6) #6 EW	(6) #6 EW	
F7.0	7'-0"x7'-0"x2'-0"	(7) #6 EW	(7) #6 EW	
F8.0	8'-0"x8'-0"x2'-0"	(7) #7 EW	(7) #7 EW	
F8.5	8'-6"x8'-6"x2'-0"	(7) #7 EW	(7) #7 EW	
F9.0	9'-0"x9'-0"x2'-0"	(8) #7 EW	(8) #7 EW	
F9.5	9'-6"x9'-6"x2'-0"	(9) #7 EW	(9) #7 EW	
F11.0	11'-0"x11'-0"x2'-4"	(12) #7 EW	(12) #7 EW	

NOTES:


1. CENTER FOOTING ON COLUMN UNLESS NOTED OTHERWISE ON PLAN.
2. FOOTING SIZES BASED ON ALLOWABLE SOIL BEARING PRESSURE OF 4,000 PSF. CONTRACTOR TO CONFIRM MINIMUM SOIL BEARING PRESSURE IS AVAILABLE AT EACH LOCATION.
3. EW INDICATES EACH WAY, LW INDICATES LONG WAY, SW INDICATES SHORT WAY.
4. ALL COLUMNS REQUIRE A FOOTING. IF A FOOTING SIZE HAS NOT BEEN SPECIFICALLY CALLED OUT ON PLAN, PROVIDE FOOTING F4.0.

ROOF FRAMING NOTES

I) GENERAL

- 1) SEE SHEET S-1 FOR GENERAL NOTES.

II) SYMBOLS AND ABBREVIATIONS

- 1) DECK D1 DENOTES 1 1/2"-20 GA. WIDE RIB (TYPE B) GALVANIZED METAL ROOF DECK. ATTACH TO SUPPORT MEMBERS WITH 5/8"Ø PUDDLE WELDS AT 12" O.C. (6" O.C. AT PERIMETER) AND (4)-#10 HEX HEAD SIDELAP SCREWS EQUALLY SPACED BETWEEN SUPPORTS. PROVIDE 3 SPAN MINIMUM SUPPORT.
- 2) C1 DENOTES COLUMN. SEE SCHEDULE THIS SHEET.
- 3)  DENOTES BOLTED FLANGE PLATE (BFP) MOMENT CONNECTION (TYP.). STEEL FABRICATOR'S LICENSED HAWAII S.E. TO DESIGN FOR 75% OF THE FULL MOMENT CAPACITY OF THE BEAM. PROVIDE CONTINUITY AND DOUBLER PLATES (TYP.).
- 4) C.B. DENOTES 1" DIAMETER ROD CROSS BRACING. STEEL FABRICATOR'S LICENSED ILLINOIS S.E. TO DESIGN CROSS BRACING RODS AND CONNECTIONS TO COLUMN TO DEVELOP FULL TENSILE FORCE OF RODS (TYP.).
- 5) <133'-9"> DENOTES T/BEAM ELEVATION. SEE PLAN AND ARCH. DWGS (TYP.).
- 6) NOTE B1/5-3: PREFABRICATED CANOPY BY CANOPY MANUFACTURER. CANOPY MANUFACTURER TO DESIGN FOR CODE DEFINED LOADING AND SUBMIT CALCULATIONS SIGNED AND SEALED BY THE HAWAII LICENSED STRUCTURAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION FOR ALL COMPONENTS AND CONNECTIONS TO PRECAST PANELS. CONTRACTOR TO COORDINATE ATTACHMENT METHODS WITH PRECAST FABRICATOR AND ARCHITECTURAL DRAWINGS PRIOR TO SHOP DRAWING PREPARATION (TYP.).
- 7) NOTE B2/5-3: PROVIDE SUPPLEMENTAL L6x4x3/8 (LLV) BETWEEN BEAMS INSTALLED PER 1/5-13 5IM. AT EACH PV RACKING SUPPORT BEARING LOCATION (TYP.). COORDINATE LOCATIONS W/ PV LAYOUT DRAWING, ARCH. DWGS, M.E.P. DRAWINGS AND SPECIFIC EQUIPMENT MANUFACTURER.

III) SCHEDULES

COLUMN SCHEDULE		
MARK	MEMBER SIZE	REMARKS
C1	HSS10x10x1/2	
C2	HSS10x10x5/8	
C3	HSS12x12x5/8	

NOTES:

1. CENTER PROVIDE MASONRY VENEER ANCHORS AT 32" O.C. VERTICALLY ON ALL FACES OF COLUMNS ADJACENT TO MASONRY CONSTRUCTION (TYP.).
2. PROVIDE CAP PLATE SIZED AS REQUIRED TO ACHIEVE MOMENT FRAME REQUIREMENTS 5/8" MIN.

60% DESIGN DRAWING SET NOT FOR CONSTRUCTION
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		SCALABLE AND REPLICABLE LIVESTOCK HARVESTING FACILITY PROJECT NO. DOASW07			
		SHEET TITLE PLAN NOTES, SYMBOLS & ABBREVIATIONS, AND SCHEDULES			
		DESIGNED BY:	SUBMITTED:		
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION		DRAWN BY:	DATE:		
		CHECKED BY:	SCALE:	AS NOTED	
		APPROVED:			
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX		CHIEF ENGINEER		DATE	DRAWING NO. S-3

SPECIAL INSPECTIONS AND TESTS

I) GENERAL

1) SEE SHEET S-1 FOR GENERAL NOTES.

II) SPECIAL INSPECTIONS AND TESTS

1) THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS AND TESTS - SOIL		
TYPE	FREQUENCY	
	CONTINUOUS	PERIODIC
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	—	X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL AS DEFINED BY THE PROJECT GEOTECHNICAL REPORT	—	X
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	—	X
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES, AS DEFINED BY THE PROJECT GEOTECHNICAL REPORT, DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	—
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X

SPECIAL INSPECTIONS AND TESTS - CONCRETE				
TYPE	FREQUENCY		REFERENCED STANDARDS	IBC REFERENCE
	CONTINUOUS	PERIODIC		
INSPECT REINFORCING STEEL	—	X	ACI 318: CH. 20,25.2 25.3,26.6.1-26.6.3	1908.4
INSPECT ANCHORS CAST IN CONCRETE	—	X	ACI 318: 17.8.2	—
INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE	—	X	ACI 318: 17.8.2	—
VERIFY USE OF REQUIRED DESIGN MIX	—	X	ACI 318: CH.19, 26.4.3,26.4.4	1904.1,1904.2, 1908.2,1908.3
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE OR MASONRY MEMBERS:				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	—	ACI 318: 17.8.2.4	—
b. MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED PER a.	—	X	ACI 318: 17.8.2	—
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	—	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1908.10
INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	—	ACI 318: 26.5	1908.6,1908.7, 1908.8
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	—	X	ACI 318: 26.5.3-26.5.5	1908.9
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	—	X	ACI 318: 26.11.1,2(b)	—

II) SPECIAL INSPECTIONS AND TESTS CONT.

SPECIAL INSPECTIONS AND TESTS - MASONRY		
TYPE	FREQUENCY	
	CONTINUOUS	PERIODIC
VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE IN ACCORDANCE WITH ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT	X	—
VERIFICATION OF f_m AND f_{rac} PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY CODE	—	X
VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	—	X
AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
PROPORTIONS OF SITE-PREPARED MORTAR	—	X
CONSTRUCTION OF MORTAR JOINTS	—	X
LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES	—	X
PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:		
GROUT SPACE	—	X
GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND ANCHORAGES	—	X
PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES.	—	X
PROPORTIONS OF SITE-PREPARED GROUT	—	X
CONSTRUCTION OF MORTAR JOINTS	—	X
VERIFY DURING CONSTRUCTION :		
SIZE AND LOCATION OF STRUCTURAL ELEMENTS	—	X
TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	—	X
PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	—	X
PLACEMENT OF GROUT	X	—
OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	—	X

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				DRAWING NO. S-4	

II) SPECIAL INSPECTIONS AND TESTS CONT.

SPECIAL INSPECTIONS AND TESTS - STEEL				
TYPE	FREQUENCY		REFERENCED STANDARDS	IBC REFERENCE
	CONTINUOUS	PERIODIC		
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	—	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	—
MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	—	X	—	—
INSPECTION OF HIGH-STRENGTH BOLTING:				
SNUG TIGHT JOINTS	—	X	AISC 360, SECTION M2.5	1704.3.3
PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION	—	X		
PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION	X	—		
MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD FORMED STEEL DECK:				
FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	—	X	AISC 360, SECTION M5.5	—
FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	—	X	APPLICABLE ASTM MATERIAL STANDARDS & SDI QA/QC	
MANUFACTURER'S CERTIFIED TEST REPORTS	—	X		
MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	AISC 360, SECTION A3.5; AND APPLICABLE AWS A5 DOCUMENTS	—
MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	—	X	—	—
INSPECTION OF WELDING: STRUCTURAL STEEL AND COLD FORMED STEEL DECK				
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	X	—	AWS D1.1	1704.3.1
MULTIPASS FILLET WELDS	X	—		
SINGLE-PASS FILLET WELDS > 5/16"	X	—		
PLUG AND SLOT WELDS	X	—		
FLOOR AND ROOF DECK WELDS	—	X	AWS D1.3	
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
DETAILS SUCH AS BRACING AND STIFFENING	—	X	—	1704.3.2
MEMBER LOCATIONS	—	X		
APPLICATION OF JOINT DETAILS AT EACH CONNECTION	—	X		

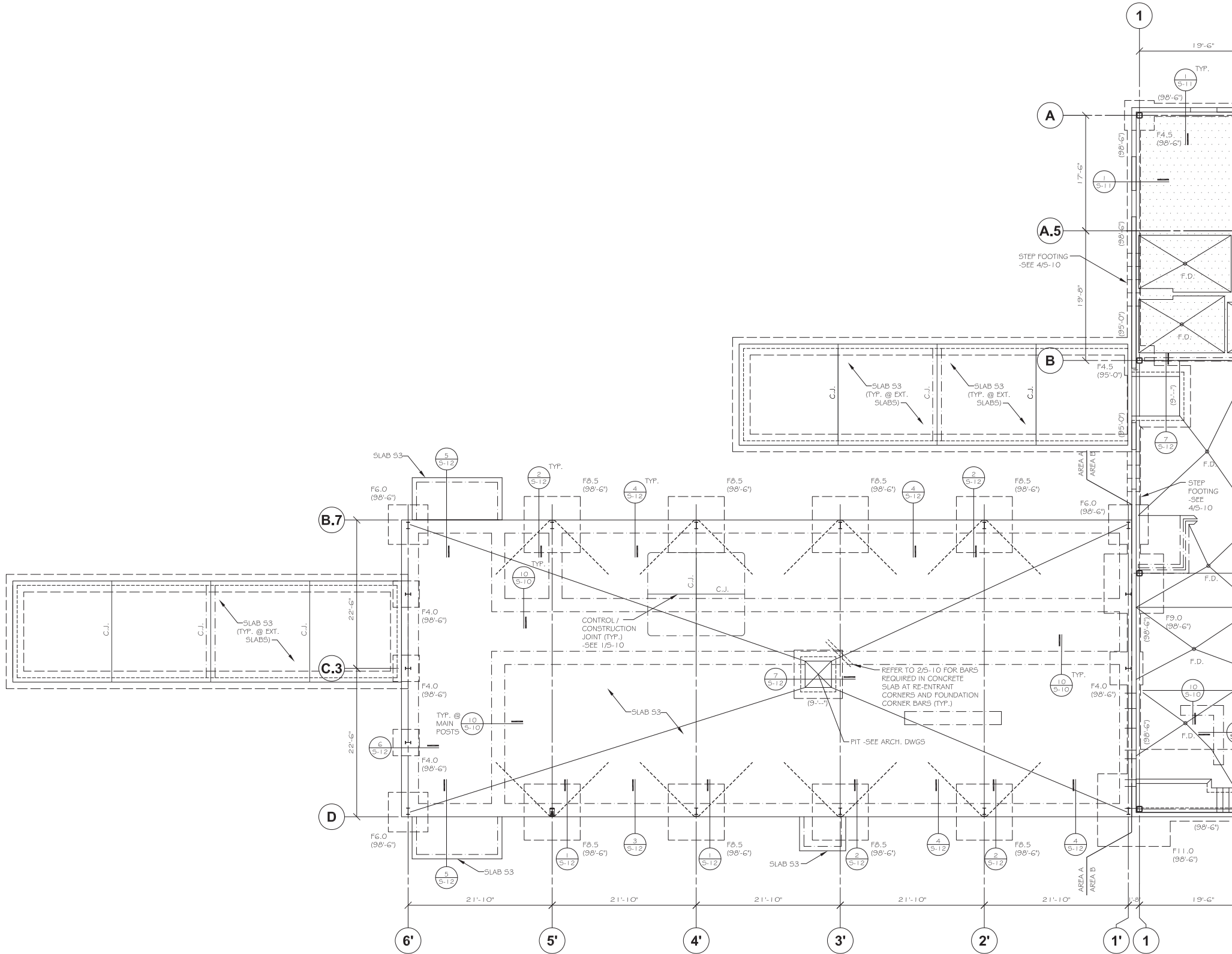
SPECIAL INSPECTIONS & TESTING - POST INSTALLED ANCHORS				
TYPE	FREQUENCY		REFERENCED STANDARDS	IBC REFERENCE
	CONTINUOUS	PERIODIC		
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE OR MASONRY MEMBERS:				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	—	ACI 318: 17.8.2.4	—
b. MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED PER a.	—	X	ACI 318: 17.8.2	—

III) SPECIAL INSPECTION OF FABRICATED ITEMS

1) WHERE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE *FABRICATED ITEMS* SHALL BE PERFORMED DURING FABRICATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1704.2.5 OF THE 2018 INTERNATIONAL BUILDING CODE.

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EXPIRATION DATE OF THE LICENSE XX/XX/XXXX		CHIEF ENGINEER		DATE	DRAWING NO. S-5

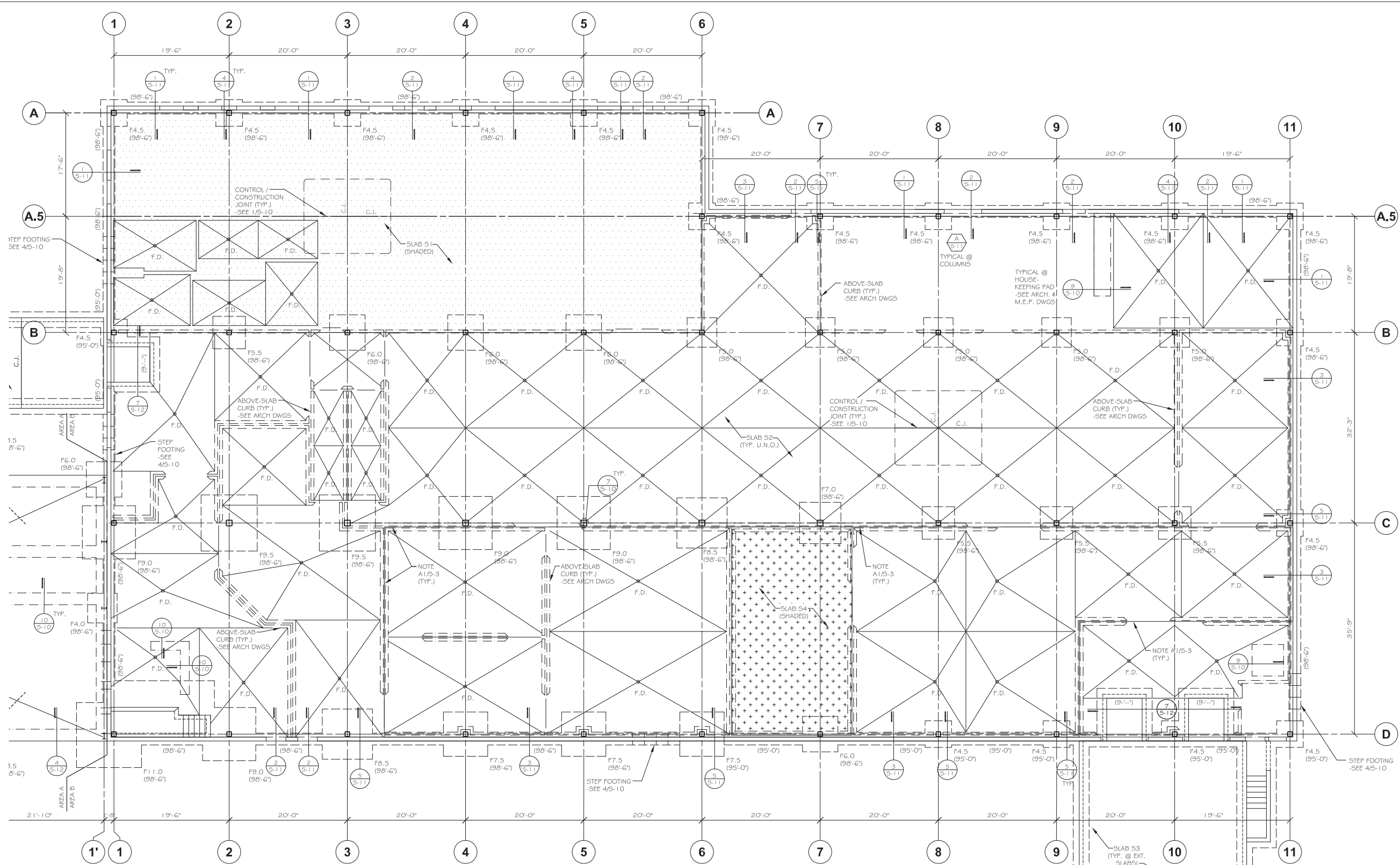


SEE SHEETS S-1, S-2, AND S-3 FOR
GENERAL NOTES, PLAN NOTES, SYMBOLS,
ABBREVIATIONS AND SCHEDULES
SEE SHEETS S-4 AND S-5 FOR SPECIAL
INSPECTIONS AND TESTING REQUIREMENTS

1 FOUNDATION PLAN
AREA A
1/8" = 1'-0"

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SHEET TITLE FOUNDATION PLAN - AREA A					
DESIGNED BY: SUBMITTED:					
DRAWN BY: DATE:					
CHECKED BY: SCALE: AS NOTED					
APPROVED: DRAWING NO.					
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION					
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX					
CHIEF ENGINEER DATE					
S-6					

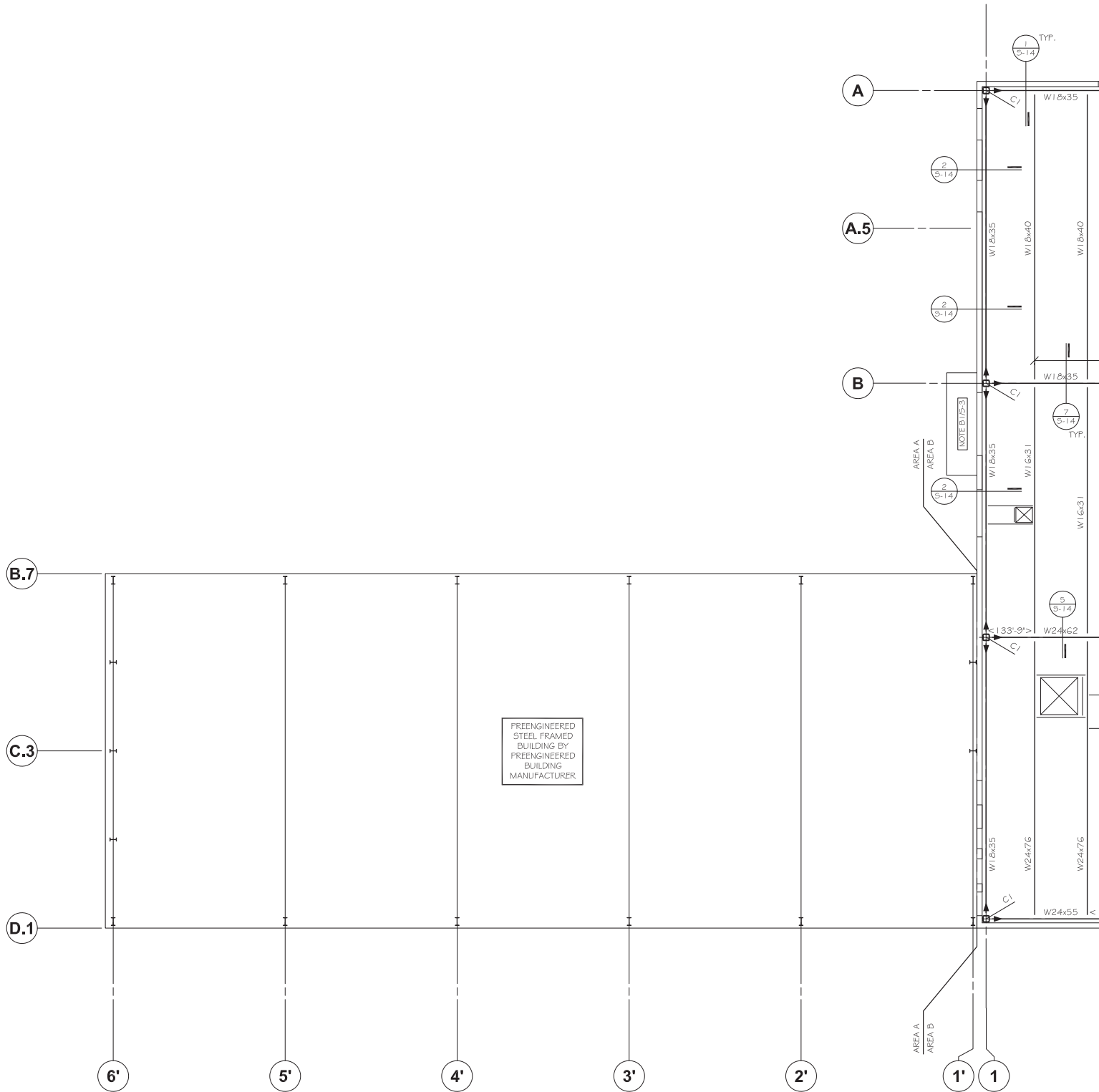


SEE SHEETS S-1, S-2, AND S-3 FOR
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ABBREVIATIONS AND SCHEDULES
SEE SHEETS S-4 AND S-5 FOR SPECIAL
INSPECTIONS AND TESTING REQUIREMENTS

**1 FOUNDATION PLAN
AREA B**
1/8" = 1'-0"

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CHIEF ENGINEER			DATE		
EXPIRATION DATE OF THE LICENSE XX/XX/XXXX			S-7		



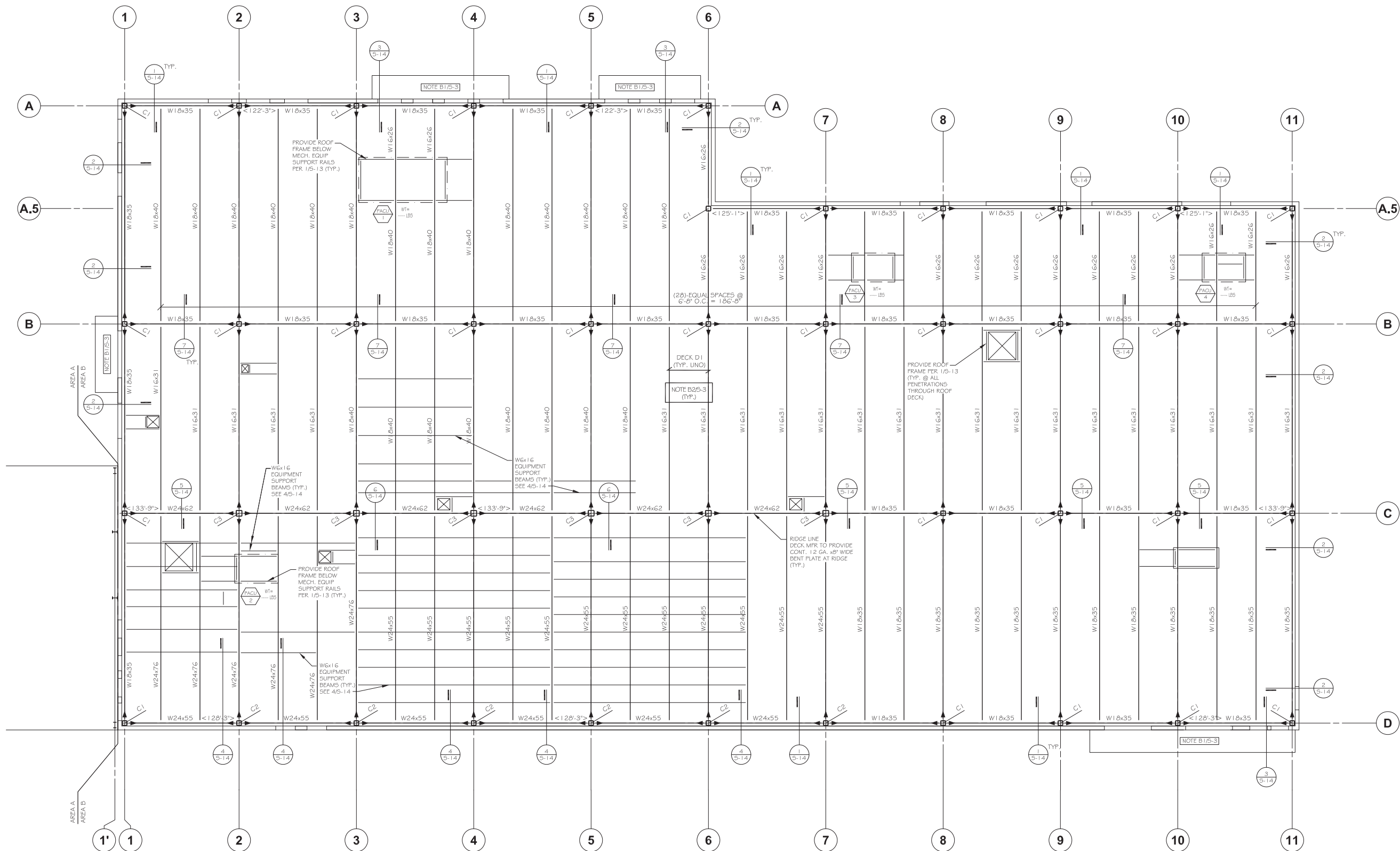
SEE SHEETS S-1, S-2, AND S-3 FOR
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ABBREVIATIONS AND SCHEDULES
SEE SHEETS S-4 AND S-5 FOR SPECIAL
INSPECTIONS AND TESTING REQUIREMENTS

1
**ROOF FRAMING PLAN
AREA A**
1/8" = 1'-0"



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SHEET TITLE ROOF FRAMING PLAN - AREA A					
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S-8					



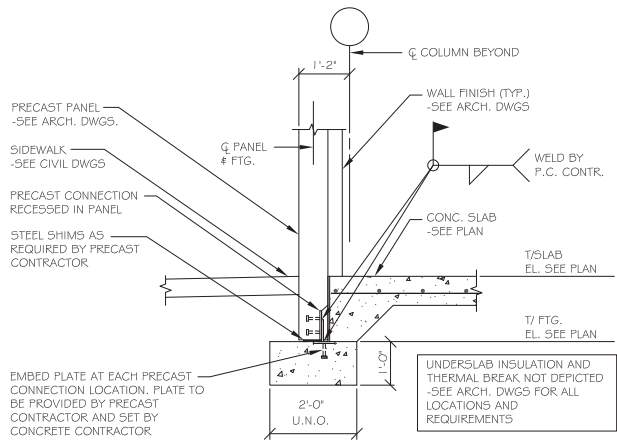
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SEE SHEETS S-4 AND S-5 FOR SPECIAL
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**1 ROOF FRAMING PLAN
AREA B**
1/8" = 1'-0"

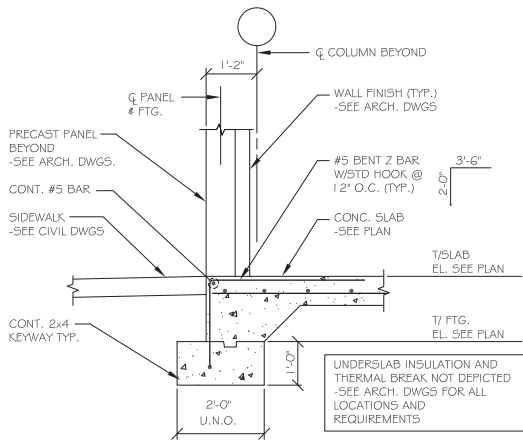


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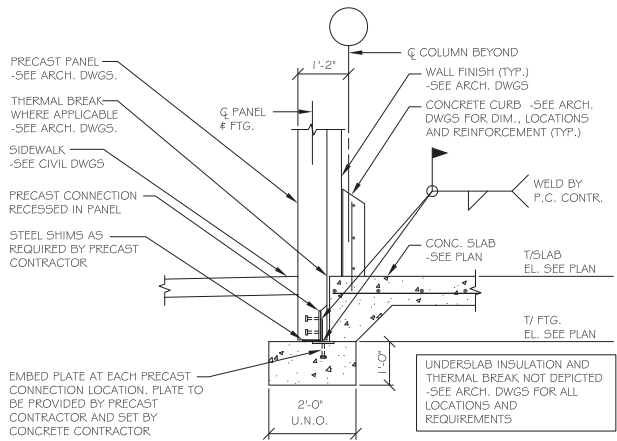
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CHIEF ENGINEER			S-9		



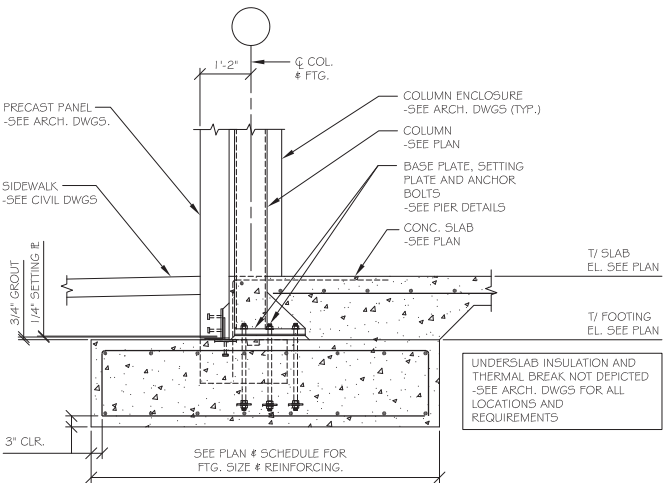
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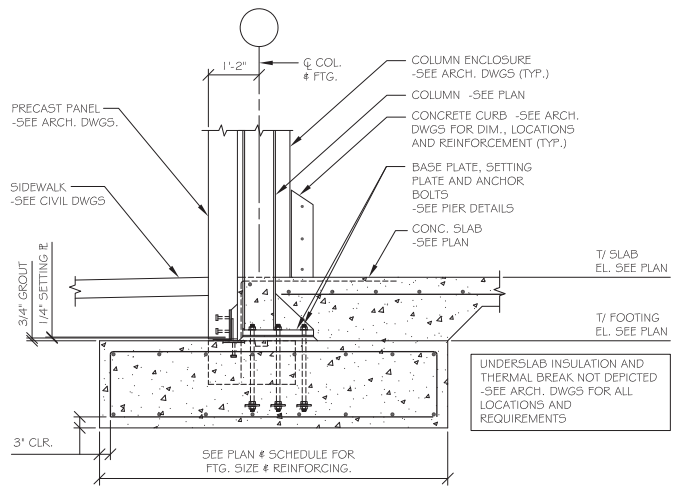
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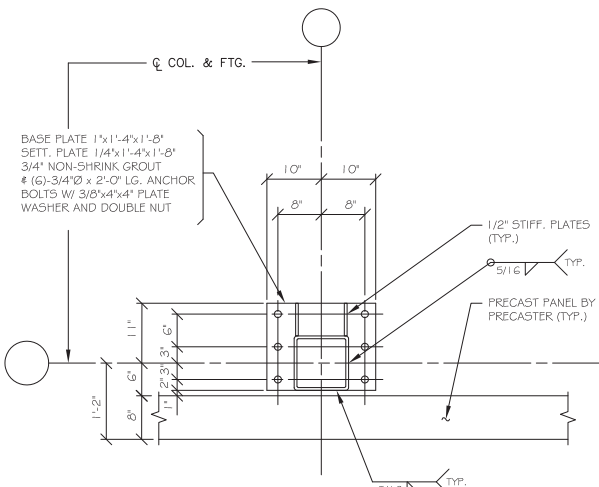
SECTION 3
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SECTION 4
SCALE: 1/2"=1'-0"



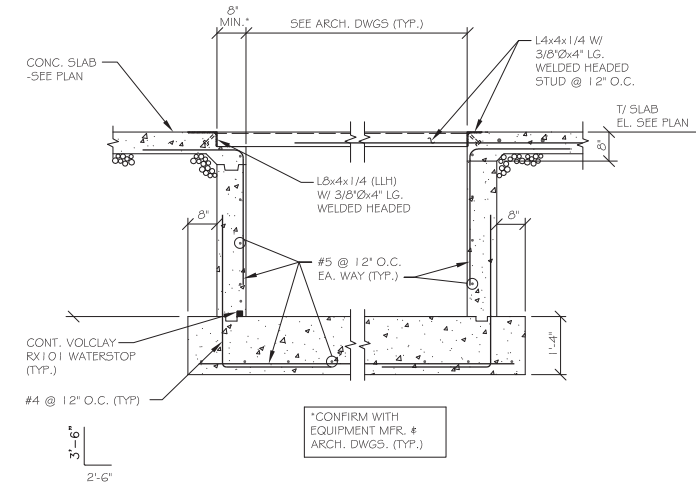
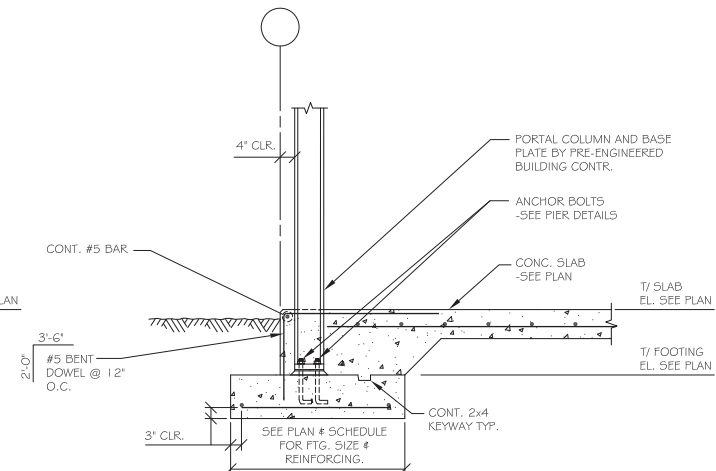
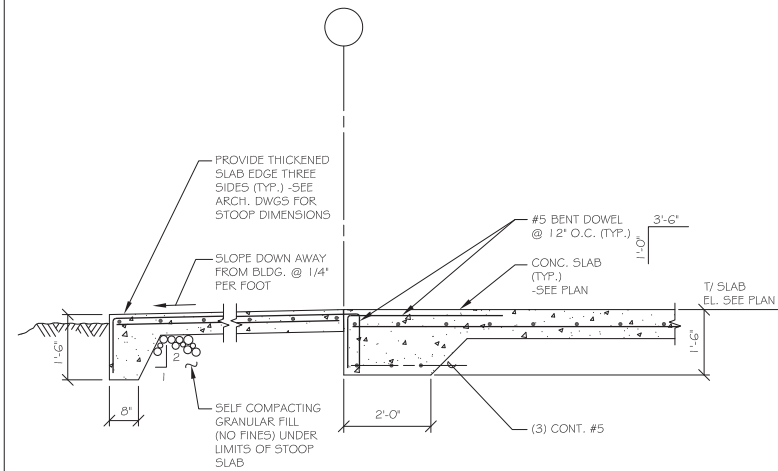
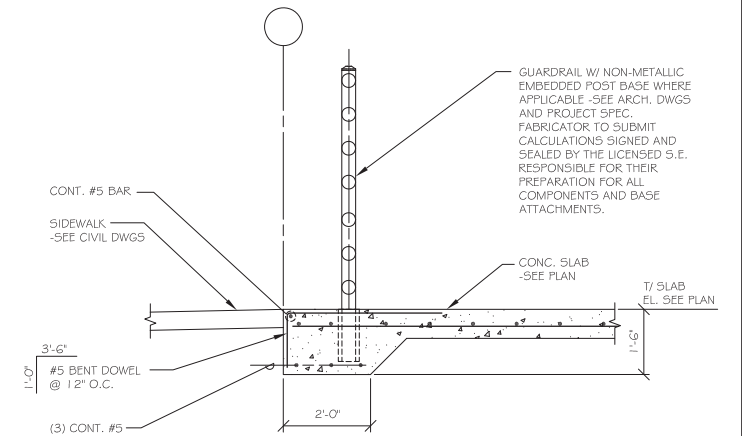
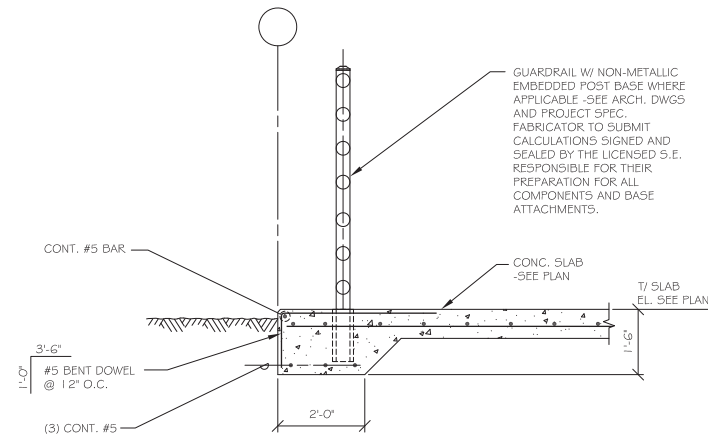
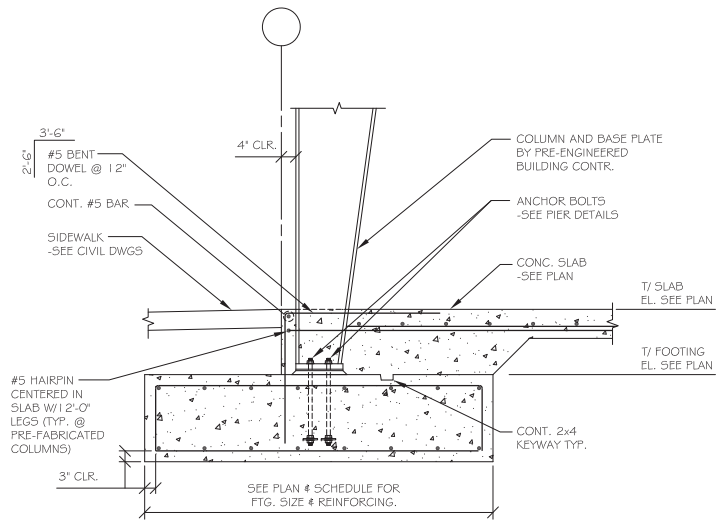
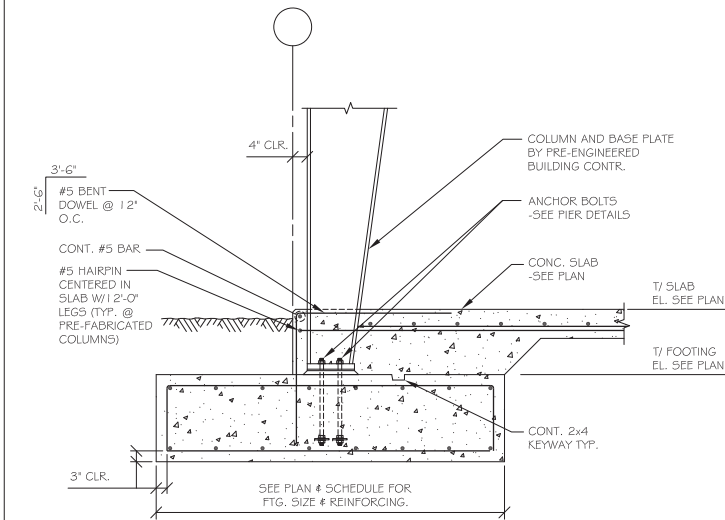
SECTION 5
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BASE PLATE DETAIL A
SCALE: 3/4"=1'-0"

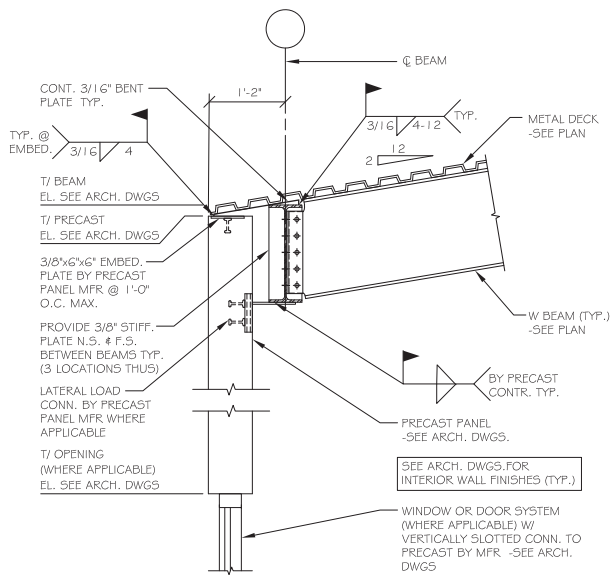
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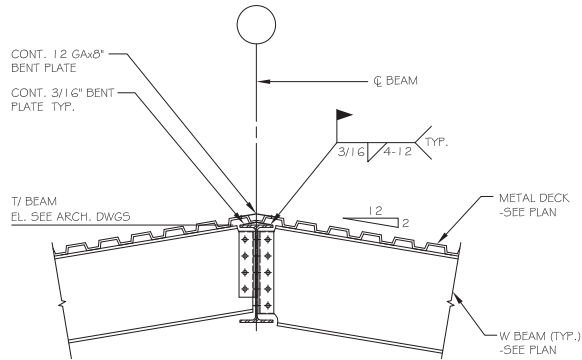


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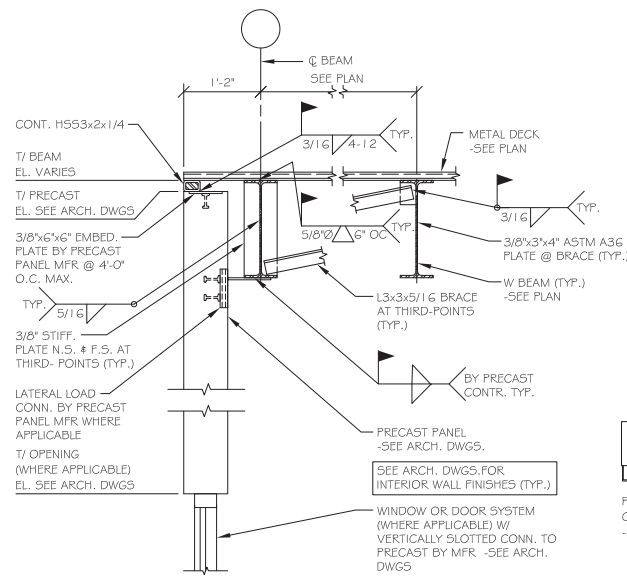
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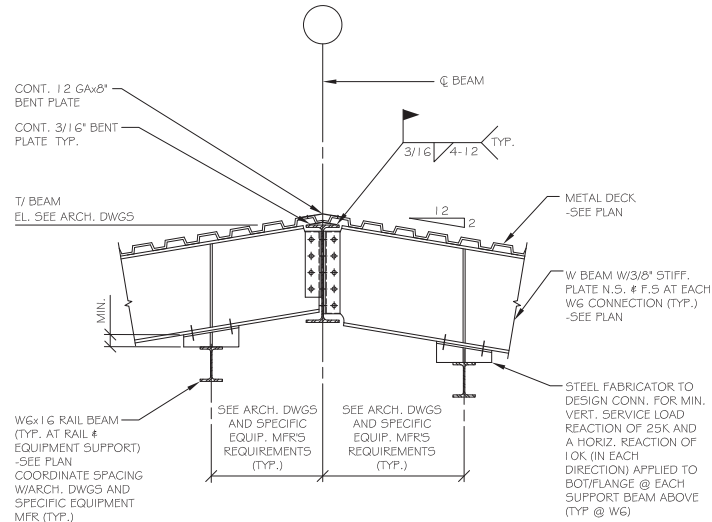
SECTION 1
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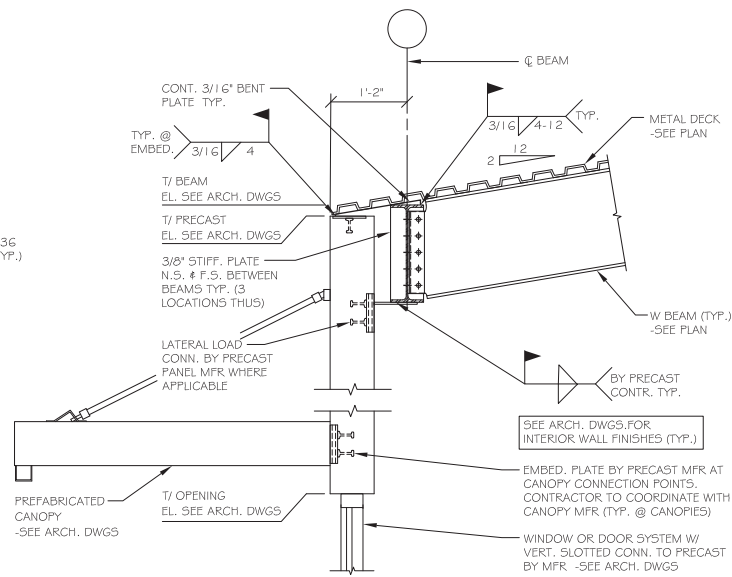
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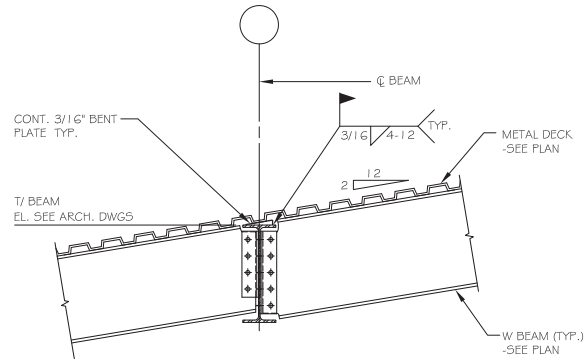
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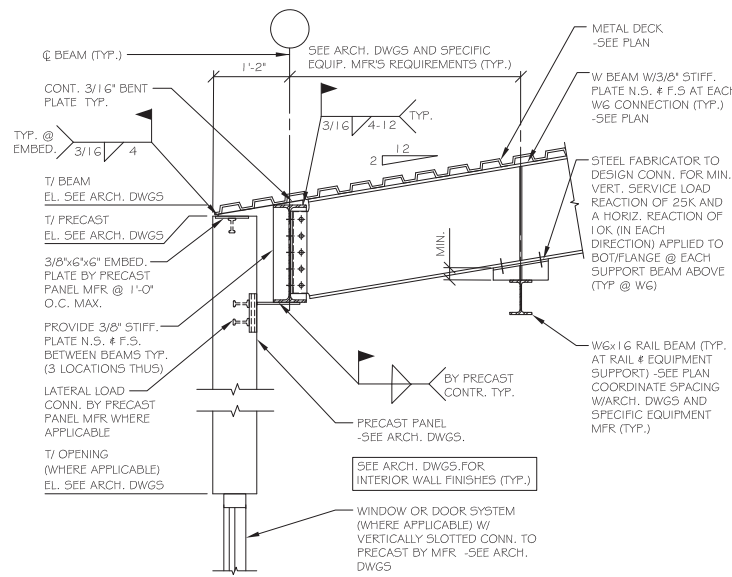
SECTION 6
SCALE: 3/4"=1'-0" S-14



SECTION 3
SCALE: 3/4"=1'-0" S-14



SECTION 7
SCALE: 3/4"=1'-0" S-14



SECTION 4
SCALE: 3/4"=1'-0" S-14

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S-14