

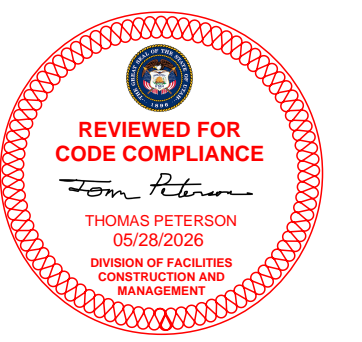
DFCM

4315 S. 2700 W., 3rd Floor
 Taylorsville, Utah 84129
 Phone: (801) 538 - 3018



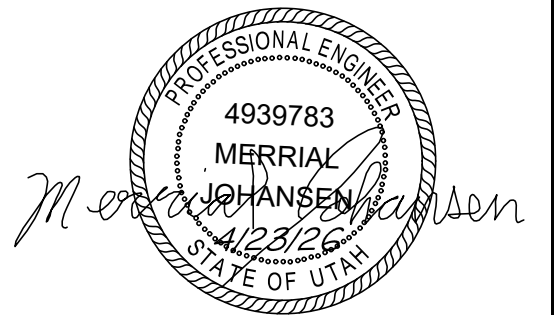
P. O. Box 487, Castle Dale, UT 84513
 (435) 381-2523 Fax (435) 381-2522
 e-mail jt@etv.net, jandteengineering.com

CODE OFFICIAL STAMP



LOGAN FISH HATCHERY FENCE

PROFESSIONAL STAMP



FILE : O\ PROJ 2026\ DFCM - LOGAN FISH HATCHERY

REVISIONS	
NO.	REMARKS

DESIGNED BY :	MDJ	4 - 2026
SURVEYED BY :	TLT	4 - 2026
DRAWN BY :	KAA	4 - 2026
CHECKED BY :	BHT	4 - 2026

SHEET TITLE

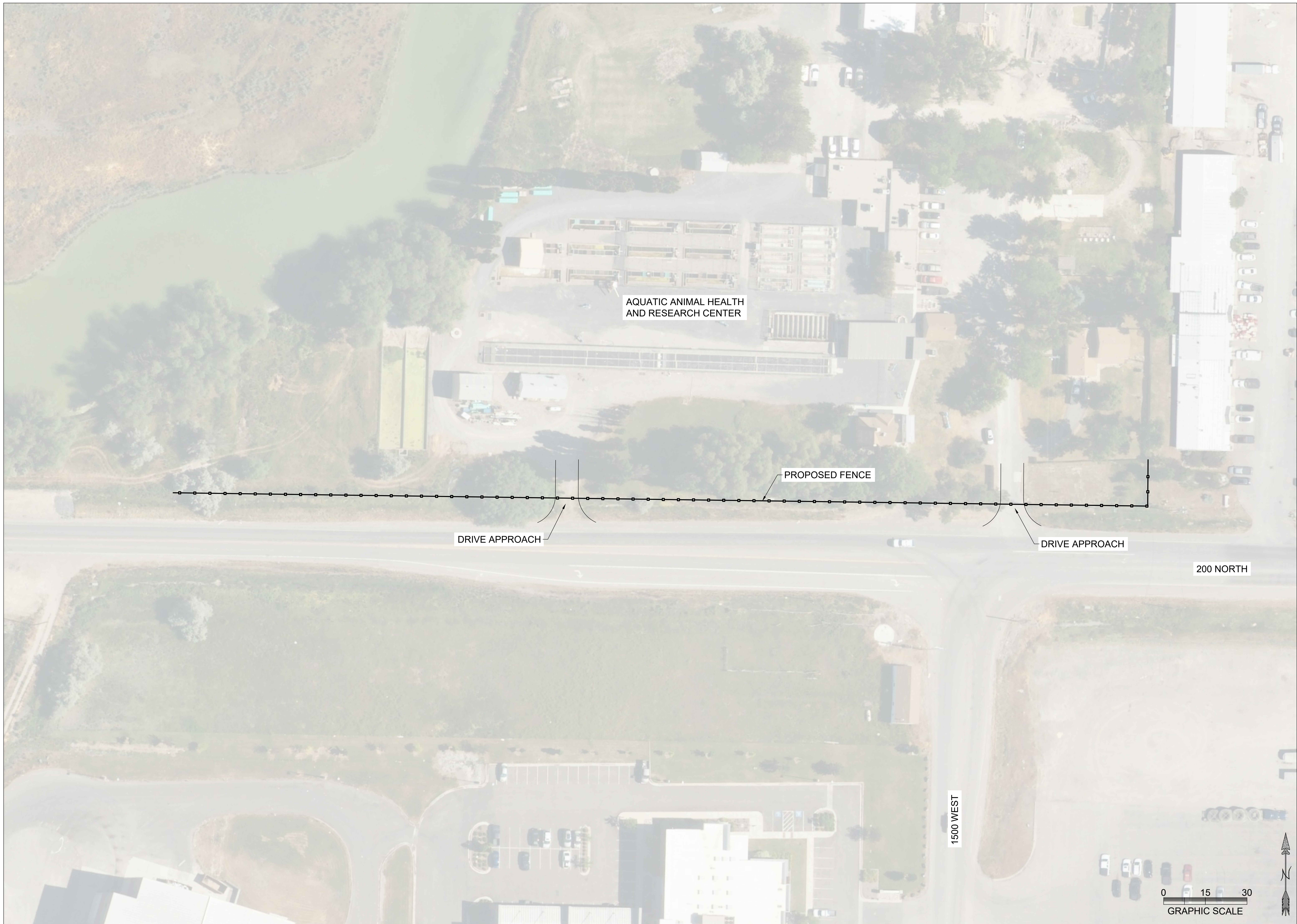
LOCATION MAP

DFCM PROJECT No.

-

SHEET No.

GI001



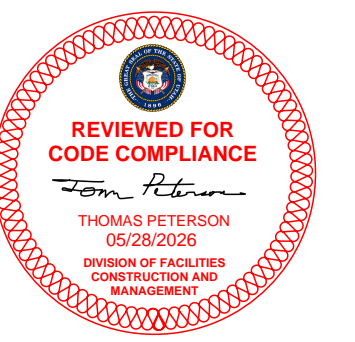
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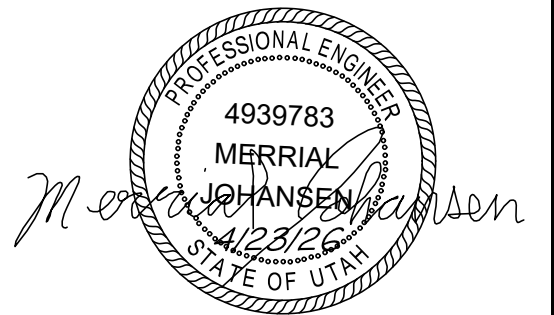
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SHEET TITLE

GENERAL INFORMATION

DFCM PROJECT No.

-

SHEET No.

G1002

Logan Fish Hatchery Fence Demolition & Construction Narrative

Chain link fence and t-posts shall be demolished and disposed of.

Wood fence south of caretaker's home shall be demolished and disposed of.

Wood fence on east of caretaker's home shall be left intact.

Concrete fence must be constructed north of the UDOT right-of-way stakes.

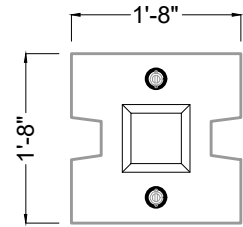
West end of concrete fence shall extend 1 panel beyond settling basin.

Leave opening for west entrance with half height panel extended into property on both west and east sides of entrance. Install 8 foot chain link gate at entrance.

Leave opening for east entrance with half height panel extended into property on both west and east sides of entrance. Bid on installation of an 8 foot chain link gate at entrance as an additive alternate.

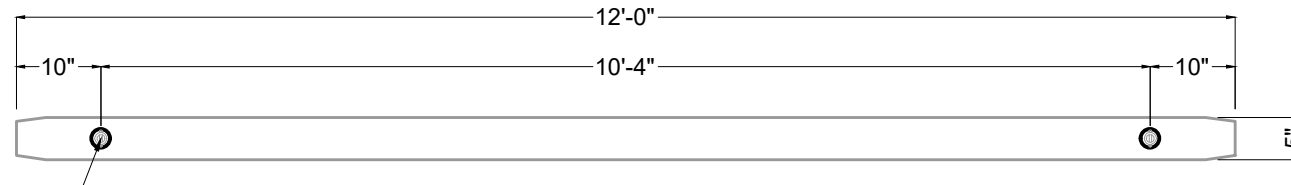
Install fence in front of old caretaker's residence entrance. Entrance shall be blocked by fence.

Tie concrete fence into wood fence at current caretaker's home on east end of property.

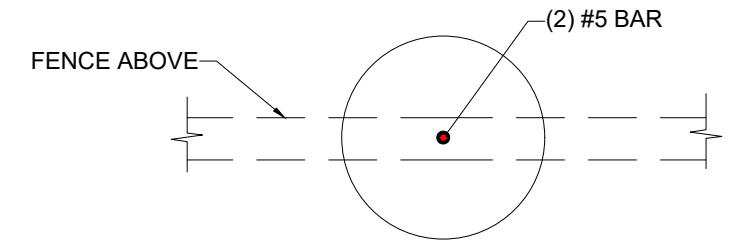


COLUMN TOP VIEW

(2) 3/4"Øx6" B-16 COIL LOOP INSERTS W/ 1/2" RECESS



WALL TOP VIEW



SECTION A

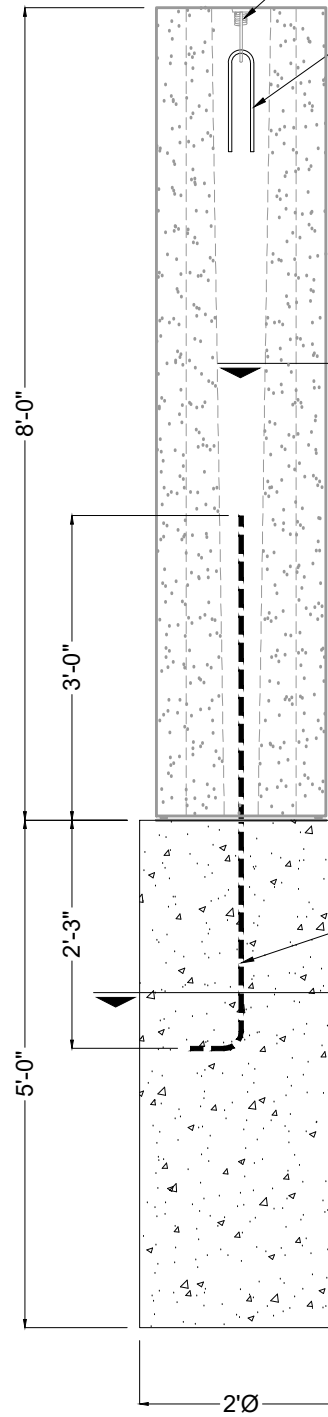


(2) 3/4"Øx6" B-16 COIL LOOP INSERTS W/ 1/2" RECESS

#3 HAIR PIN THRU INSERT

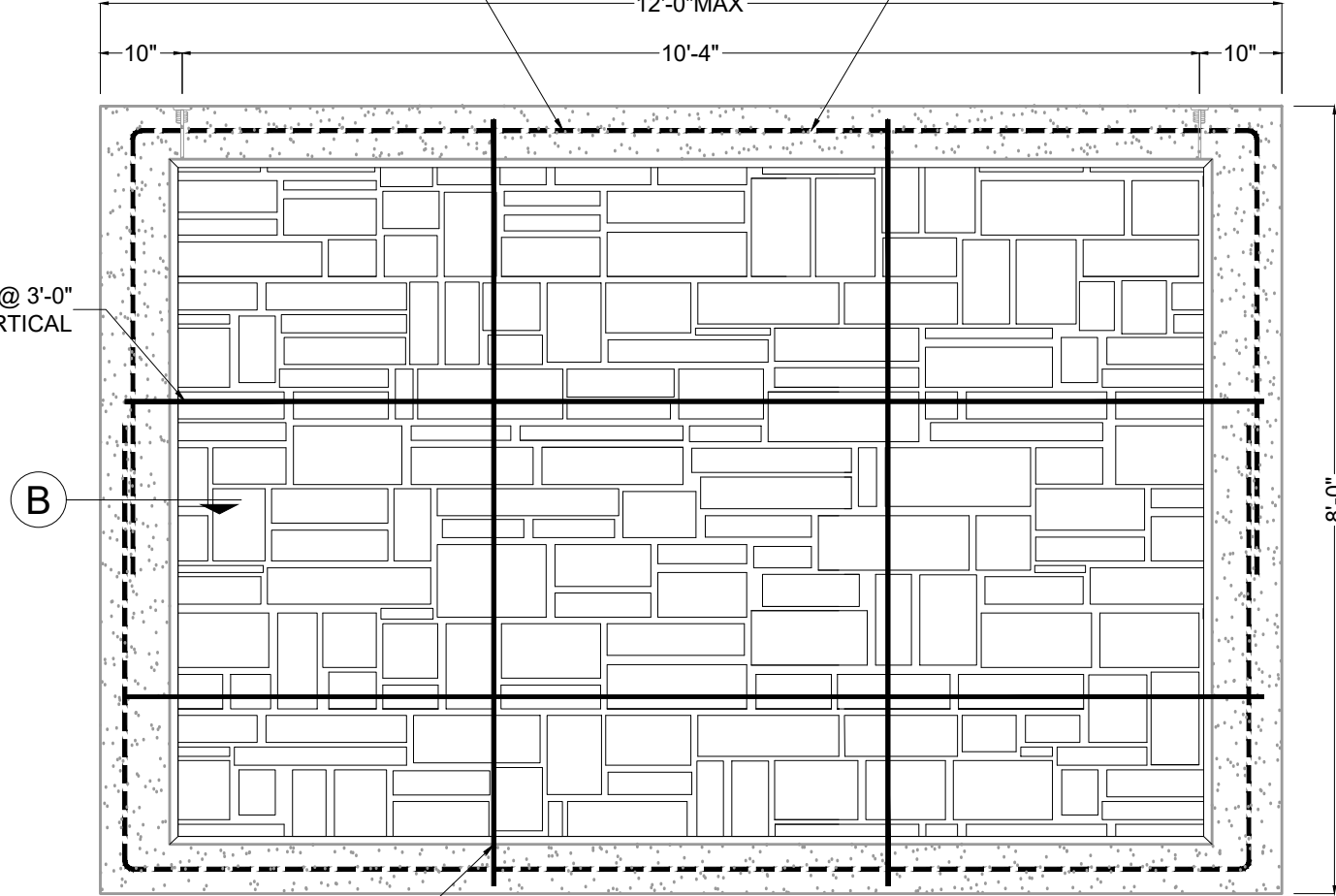
#4 REBAR @ PERIMETER CENTER OF PANEL THICKNESS 1 1/2" MIN. CLEAR ALL AROUND

#4 PERIMETER THRU LOOP INSERTS (TYP.)



FRONT VIEW

#3 REBAR @ 3'-0" O.C. VERTICAL

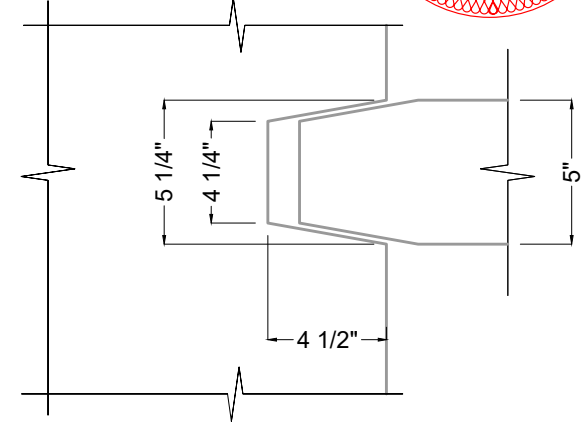


WALL FRONT VIEW

#3 REBAR @ 4'-0" O.C. VERTICAL

UNDISTURBED NATIVE SOIL

(2) #5 REBAR DOWEL W/ STD. HOOK TO POST



SECTION B

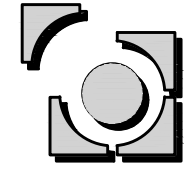
NOTES:

1. POST AND PANEL CONCRETE TO BE 5000 PSI.
2. FOOTING CONCRETE TO BE 3000 PSI.
3. MINIMUM SOIL LATERAL BEARING ALLOWABLE: 150 PSF/FT. OF DEPTH BELOW GRADE
4. MINIMUM ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.
5. DIMENSIONS MAY BE REDUCED TO FIT PROJECT REQUIREMENTS.
6. GROUT BETWEEN POST AND FOOTING TO BE 2500 PSI.

TYP. 8' PANEL, PIER & POST

CONCRETE

$f_c = 5,000$ PSI	$f_{ci} = 2,500$ PSI
SLUMP: 4"-9"	FPU: N/A
FINISH: PATTERN	MIX: TBD
WEIGHT: 150 LBS. PCF.	AIR: 5%
VOLUME: TBD	SHIPPING WT: TBD



P.O. Box 2347
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SHEET TITLE:	CHECKED BY:
SOUND WALL	OP
DRAWN BY:	SHEET #
AR	F-4.2
DATE:	
12/2/25	

Logan Hatchery Sound Wall Calculations

Wind Load Calculations:	$qz=0.00256 \cdot Kz \cdot Kzt \cdot Kd \cdot V^2$	
qz =	12	psf
Vult =	103	mph (Ultimate Wind Load) (ASCE Hazard Map)
Vasd =	80	mph (Allowable Stress Design) $V_{asd} = V \cdot \sqrt{0.6}$ IBC 1609.3.1
Kz =	0.85	(Exposure C at heights < 15 ft)
Kd =	0.85	(Solid Freestanding Wall)
Kzt =	1	(flat Ground)
Force=	Force=qz*G*Cf*A	
Cf =	2.25	(for exposed end/highest force)
Cf =	1.3	(for middle post)
G=	0.85	(Gush Effect Factor for rigid structures)
p(end) =	26	psf (for exposed post)
p(middle) =	15	psf (for middle post)
Middle Fence Area =	89.6	ft ²
End Fence Area =	44.8	ft ²
Height =	8	ft
Width =	11.2	ft
End Post Force =	1009	lbs
Middle Post Force =	1166	lbs
Wind Moment =	Fxd	
Centroid (d) =	4	ft
Moment =	4663	lb-ft
Footer Resistant Force	2356	lb-ft ³
Volume =	15.71	ft ³
Diameter =	2	ft
Depth =	5	ft
Weight =	150	lb-ft ³
Resistant Moment =	5890	lb-ft
Centroid =	2.5	ft
Soil:	Mostly Sandy with a little Clay	
Allowable lateral passive pressure =	150	psf
Allowable lateral passive pressure =	200	psf (1/3 Stress Increase) IBC 1605 2 in conjunction with 1806.1
Allowable vertical bearing capacity =	1500	psf
Sds=	0.88	(ASCE Hazard Map)

Pole Footing Embedded in Soil

Project File: loganhatcheryfencepost.ec6

LIC# : KW-06020754, Build:20.24.06.04

JOHANSEN & TUTTLE ENGINEERING

(c) ENERCALC INC 1983-2023

DESCRIPTION: Logan Hatchery Fence Post

Code References

Calculations per IBC 2018 1807.3, CBC 2019, ASCE 7-16
 Load Combinations Used : IBC 2021

General Information

Pole Footing Shape Circular
 Pole Footing Diameter 24.0 in
 Calculate Min. Depth for Allowable Pressures
 No Lateral Restraint at Ground Surface
 Allow Passive 200.0 pcf
 Max Passive 2,000.0 psf

Controlling Values

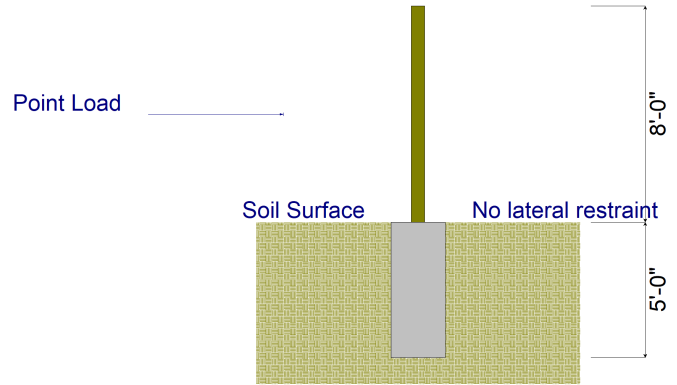
Governing Load Combination 0.60W
 Lateral Load 0.720 k
 Moment 2.880 k-ft

NO Ground Surface Restraint

Pressures at 1/3 Depth
 Actual **325.340** psf
 Allowable **326.360** psf

Minimum Required Depth 5.0 ft

Footing Base Area 3.142 ft²
 Maximum Soil Pressure 0.0 ksf



Applied Loads

Lateral Concentrated Load (k)	Lateral Distributed Loads (k)	Vertical Load (k)
D : Dead Load k	k/ft	k
Lr : Roof Live k	k/ft	k
L : Live k	k/ft	k
S : Snow k	k/ft	k
W : Wind 1.20 k	k/ft	k
E : Earthquake k	k/ft	k
H : Lateral Earth k	k/ft	k
Load distance above ground surface 4.0 ft	TOP of Load above ground surface 8.0 ft	
	BOTTOM of Load above ground surface ft	

Load Combination Results

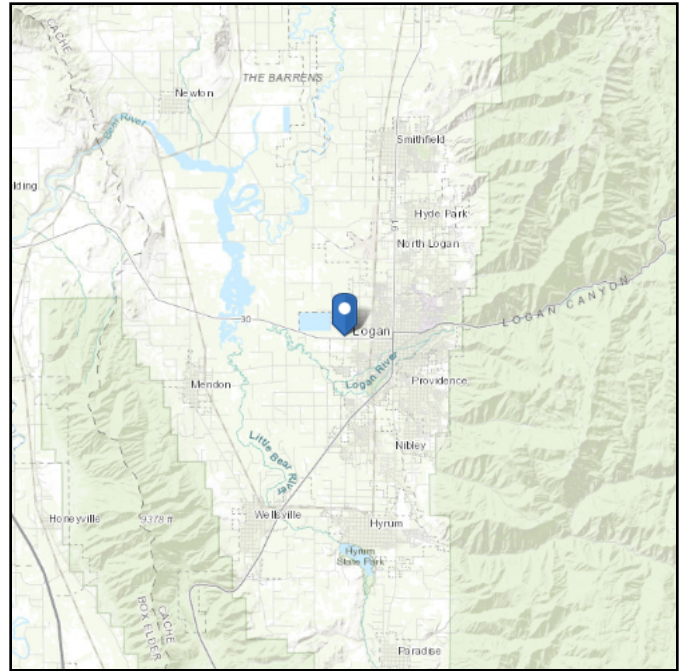
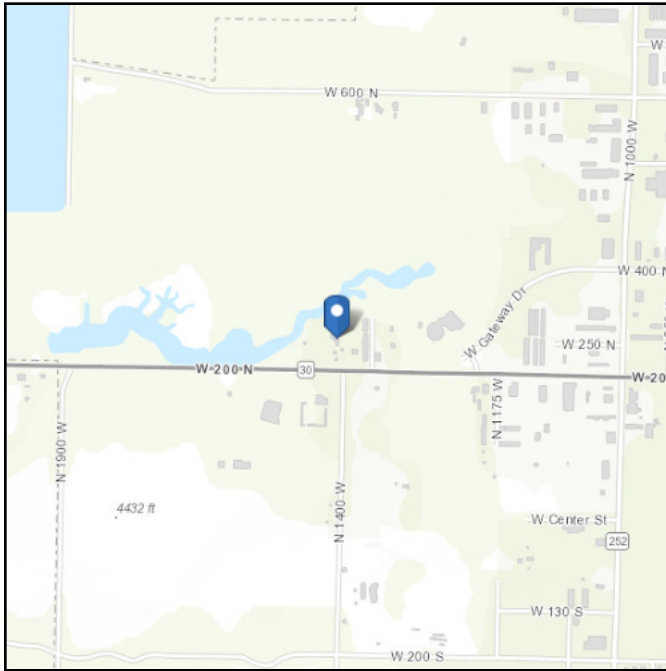
Load Combination	Forces @ Ground Surface		Required Depth - (ft)	Pressure at 1/3 Depth		Soil Increase Factor
	Loads - (k)	Moments - (ft-k)		Actual - (psf)	Allow - (psf)	
	0.000	0.000	0.13	0.0	0.0	1.000
+0.60W	0.720	2.880	5.00	325.3	326.4	1.000
-0.60W	0.720	2.880	5.00	325.3	326.4	1.000
+0.450W	0.540	2.160	4.38	289.7	290.7	1.000
-0.450W	0.540	2.160	4.38	289.7	290.7	1.000

ASCE Hazards Report

Address:
1465 W 200 N
Logan, Utah
84321

Standard: ASCE/SEI 7-22
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 41.736653
Longitude: -111.869825
Elevation: 4443.039923643808 ft
(NAVD 88)



Wind

Results:

Wind Speed	103 Vmph
10-year MRI	74 Vmph
25-year MRI	80 Vmph
50-year MRI	85 Vmph
100-year MRI	89 Vmph
300-year MRI	97 Vmph
700-year MRI	103 Vmph
1,700-year MRI	110 Vmph
3,000-year MRI	114 Vmph
10,000-year MRI	123 Vmph
100,000-year MRI	140 Vmph
1,000,000-year MRI	158 Vmph

Data Source:

ASCE/SEI 7-22, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4,
and Section 26.5.2

Date Accessed:

Thu Apr 16 2026



Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2.

Site Soil Class:

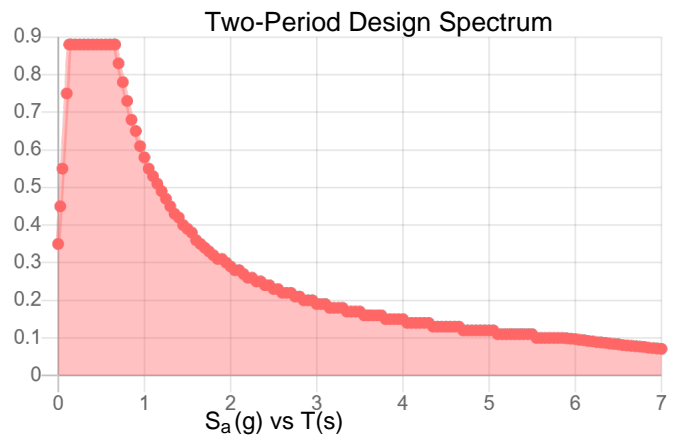
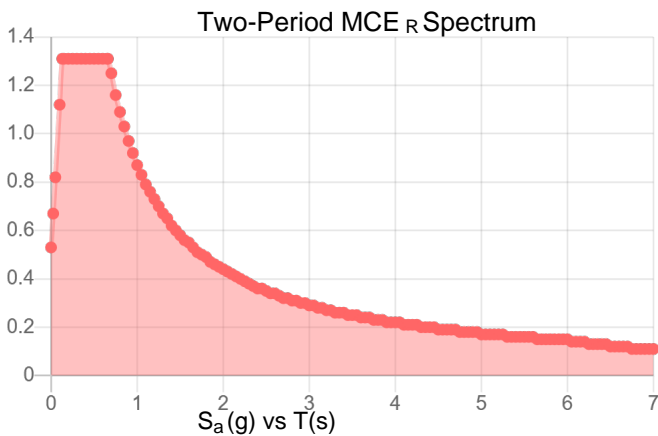
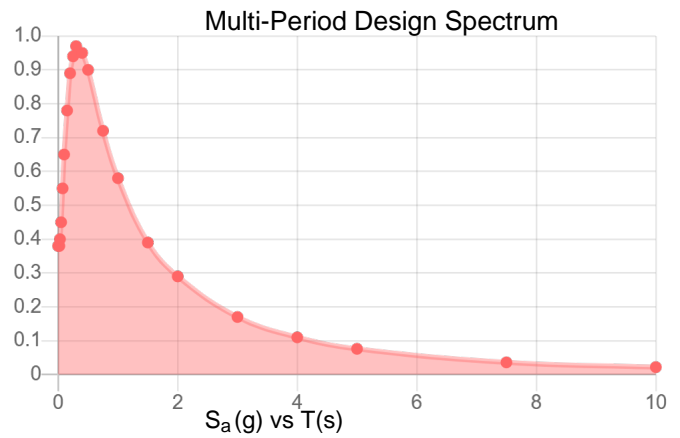
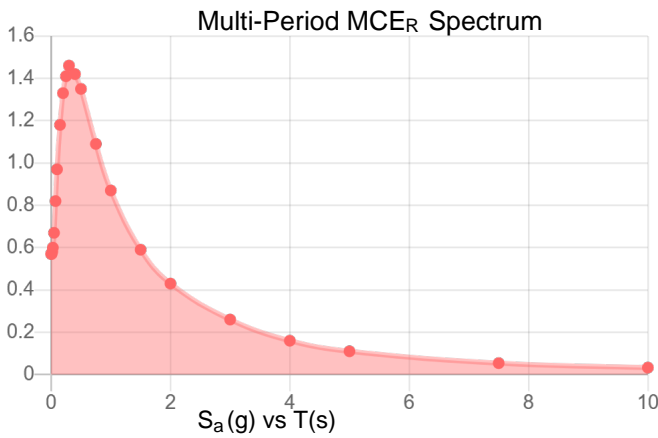
D - Stiff Soil

Results:

PGA_M : 0.53
 S_{MS} : 1.31
 S_{M1} : 0.87
 S_{DS} : 0.88
 S_{D1} : 0.58

T_L : 6
 S_s : 1.22
 S₁ : 0.36
 V_{S30} : 260

Seismic Design Category: D



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.



Data Accessed:

Thu Apr 16 2026

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

Snow

Results:

Ground Snow Load, p_g :	58 lb/ft ²
20-year MRI Value:	19.84 lb/ft ²
Winter Wind Parameter:	0.25
Mapped Elevation:	4462.8 ft
Data Source:	ASCE/SEI 7-22, Figures 7.6-1 and 7.6-2 A-D
Date Accessed:	Thu Apr 16 2026

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported 'elevation' and 'mapped elevation' differ significantly from each other.

Ground Snow Loads for IRC only, $p_{g(asd)}$:	40.6 lb/ft ²
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