FOUNDATION FOR GREENHOUSE STRUCTURE

CONRETE PIERS FOR GREENHOUSE STRUCTURE

LOCATION:

44.4203 N, 118.9672 W
JOHN DAY, OR 97845
GRANT COUNTY

DRAWING INDEX

VECTOR ENGINEERS
651 W. Galena Park Blvd, Ste. 101 (801) 990-1775
Draper, UT 84020 (801) 990-1776 FAX
www.vectorse.com

DATE: 10/26/18	DESIGNED: FCG	DRAFTER: FCG

REVISIONS

DATE	DESCRIPTION

City of John Day, OR

TITLE SHEET

FOUNDATION FOR GREENHOUSE STRUCTURE
CONRETE PIERS FOR GREENHOUSE STRUCTURE
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GRANT COUNTY

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES
11/06/18

EXPIRES: 6/30/2021

U3024-001-181

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REV 0

GENERAL DESIGN NOTES

GENERAL DESIGN NOTES:

STRUCTURAL DESIGN IS BASED ON THE OREGON STRUCTURAL SPECIALTY CODE, 2014 EDITION (2012 IBC) AND THE ASCE 7-10 STANDARD

DESIGN LOADS:

WIND:

ULTIMATE WIND SPEED = 100 MPH (3-SEC GUST)
RISK CATEGORY = I
EXPOSURE = C

GROUND SNOW LOAD = 10 PSF
SNOW EXPOSURE FACTOR = 1.0
THERMAL FACTOR = 0.85
SNOW IMPORTANCE FACTOR = 0.8
FLAT ROOF SNOW LOAD = 4.8 PSF

SEISMIC:

EQUIV. LATERAL FORCE METHOD
SEISMIC DESIGN CATEGORY: C
RISK CATEGORY: I
SEISMIC IMPORTANCE FACTOR: 1.00
S_S = 0.32 S_1 = 0.13
SITE CLASS: "D"
S_{DS} = 0.33 S_{D1} = 0.19
SEISMIC BASE SHEAR = 0.3 KIPS

STEEL MATERIAL NOTES:

1. ALL OTHER STEEL SHAPES & PLATES SHALL CONFORM w/ ASTM A36, U.N.O.
2. ALL BOLTS FOR STEEL-TO-STEEL CONNECTIONS SHALL CONFORM w/ ASTM A325N, U.N.O.
3. ALL WELDING SHALL UTILIZE E70XX ELECTRODES AND SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE w/ THE LATEST VERSION OF THE AMERICAN WELDING SOCIETY AWS D1.1.
4. ALL BOLTED CONNECTIONS SHALL BE TIGHTENED TO "SNUG-TIGHT" CONDITION AS DEFINED BY THE AISC MANUAL.
5. ALL STEEL HARDWARE EXPOSED TO WEATHER SHALL BE GALVANIZED OR STAINLESS STEEL. ALL STEEL SHAPES AND PLATES EXPOSED TO WEATHER SHALL HAVE CORROSION-INHIBITIVE PRIMER/PAINT APPLIED OR SHALL OTHERWISE BE PROTECTED FROM WEATHER.

CONCRETE:

1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318 LATEST APPROVED EDITION) WITH MODIFICATIONS AS NOTED IN THE DRAWINGS AND SPECIFICATIONS.
2. REINFORCED CONCRETE DESIGN IS BY THE "ULTIMATE STRENGTH DESIGN METHOD", ACI 318-(LATEST EDITION).
3. ALL STRUCTURAL CONCRETE SHALL HAVE A MIN. 28-DAY STRENGTH OF 3000 PSI.
4. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WITH THE FOLLOWING REQUIREMENTS:
   - 4.1. COMPRESSIVE STRENGTH AT AGE 28 DAYS AS SPECIFIED ABOVE.
   - 4.2. LARGE AGGREGATE: HARDROCK, ¾" MAXIMUM SIZE CONFORMING TO ASTM C-33.
   - 4.3. CEMENT: ASTM C-150, TYPE II PORTLAND CEMENT.
   - 4.4. MAXIMUM SLUMP: 5" MAX
   - 4.5. WATER CEMENT RATIO: 0.50 MAX
   - 4.6. NO ADMIXTURES, EXCEPT FOR ENTRAINED AIR, AND AS APPROVED BY THE ENGINEER.
5. CONCRETE MIXING OPERATIONS, ETC, SHALL CONFORM TO ASTM C-94.
6. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 614 AND PROJECT SPECIFICATIONS
7. CLEAR COVERAGE OF CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS: CONCRETE POURED DIRECTLY AGAINST EARTH – 3 INCHES CLEAR STRUCTURAL SLABS – 3/4 INCHES CLEAR (TOP AND BOTTOM) FORMED CONCRETE WITH EARTH BACK FILL – 2 INCHES CLEAR
8. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS (AS APPLICABLE) SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
9. MODULUS OF ELASTICITY OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C-460, SHALL BE AT LEAST THE VALUE GIVEN BY THE EQUATIONS IN SECTION 8.5.1. OF ACI 318 FOR THE SPECIFIED 28-DAY STRENGTH.
10. SHRINKAGE OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C-157, SHALL NOT EXCEED 0.00040 INCHES/INCH.

FOUNDATION NOTES:

1. FOOTINGS ARE DESIGNED BASED ON AN ALLOWABLE VERTICAL SOIL BEARING PRESSURE OF 1500 PSF AND LATERAL BEARING CAPACITY OF 150 PSF/FT. A GEOTECHNICAL INVESTIGATION HAS NOT BEEN PERFORMED AT THE SITE. VECTOR STRUCTURAL ENGINEERING AND THE PROFESSIONAL ENGINEER SHALL NOT BE RESPONSIBLE FOR VERIFICATION, TESTING, OR PERFORMANCE OF EXISTING OR PROPOSED SUBSURFACE CONDITIONS IN RELATION TO ANY DESIGN, ENGINEERING, CONSTRUCTION, OR RECOMMENDATIONS FOR THIS PROJECT.
2. CONTRACTOR SHALL PROVIDE FOR PROPER DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER, SEEPAGE, ETC.
3. FOOTINGS SHALL BE PLACED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS.
4. THE TOP OF FOUNDATION SHALL BE LEVEL AND NON-SLOPING, U.N.O.
5. ALL DIMENSIONS SHALL BE VERIFIED BY THE FOUNDATION CONTRACTOR PRIOR TO CONSTRUCTION.

SPECIAL INSPECTIONS / QUALITY ASSURANCE:

1. SPECIAL INSPECTIONS SHALL BE REQUIRED FOR:
   - CONCRETE MIX DESIGN & STRENGTH
   - CONCRETE FTG EXCAVATION
   - PERIODIC SPECIAL INSPECTION OF ALL WELDING UNLESS PERFORMED IN THE SHOP OF AN APPROVED FABRICATOR
   - CONTINUOUS SPECIAL INSPECTION OF DRILLING OPERATIONS FOR PIER FOUNDATIONS
   - CONTINUOUS SPECIAL LOCATION TO VERIFY LOCATION, PLUMBNESS, DIAMETER, AND LENGTH OF DRILLED PIER FOUNDATIONS

   a. THE OWNERS SHALL EMPLOY SPECIAL INSPECTORS WHO SHALL PROVIDE ADDITIONAL INSPECTIONS DURING CONSTRUCTION IN ACCORDANCE WITH IBC SECTION 17.
   b. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT CERTIFIED INSPECTOR FROM AN ESTABLISHED TESTING AGENCY, LICENSED AND APPROVED BY THE BUILDING DEPARTMENT
   c. THE OWNER OR TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO VECTOR STRUCTURAL ENGINEERS AND ALL INTERESTED PARTIES.
2. ALL REPORTS SHALL BE DISTRIBUTED ON A MONTHLY BASIS TO THE ENGINEER OF RECORD, OWNER, CONTRACTOR, AND TO THE BUILDING OFFICIAL.
3. NO STRUCTURAL OBSERVATION IS REQUIRED.

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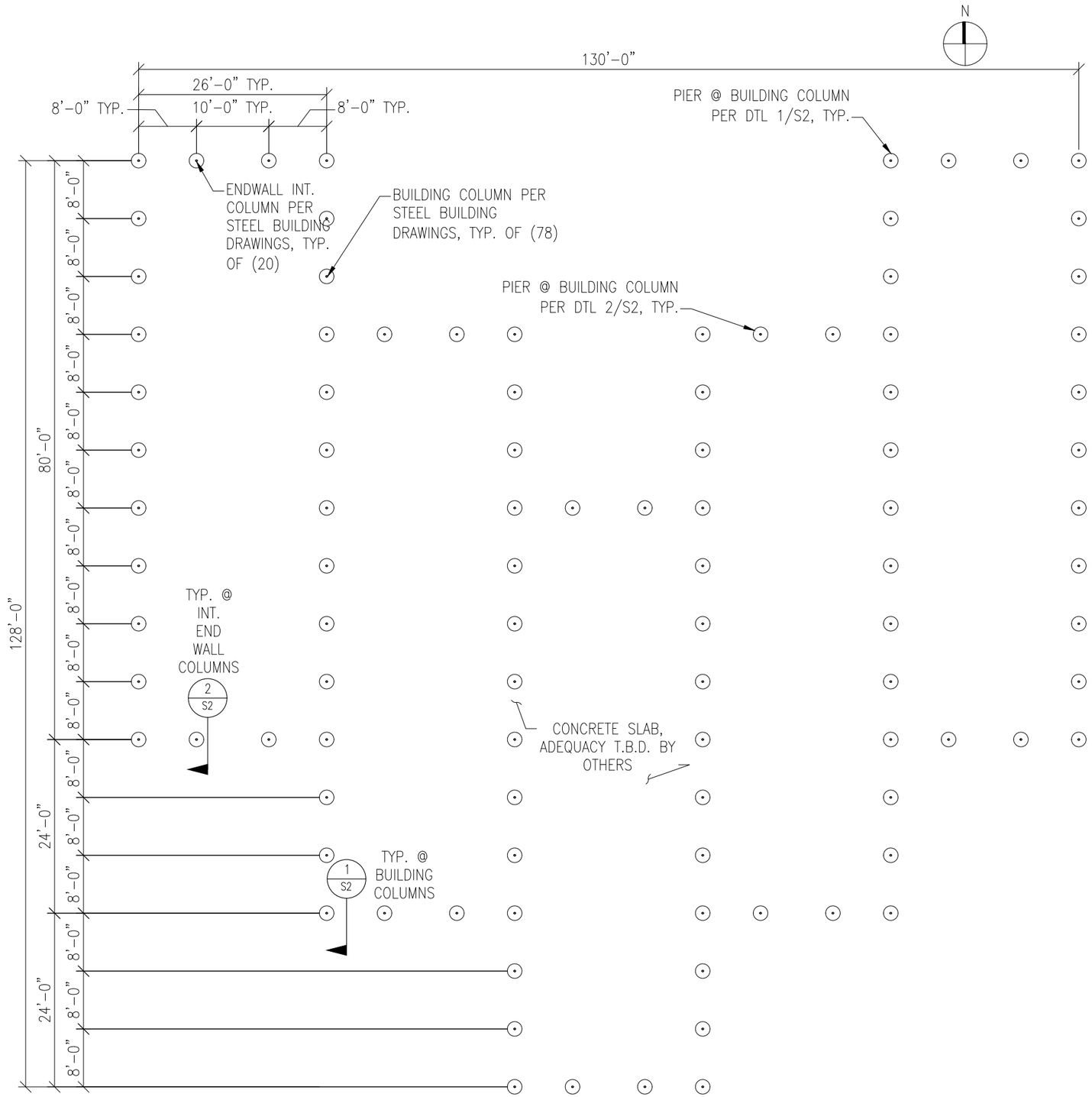
FOUNDATION NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH STEEL BUILDING DRAWINGS PRIOR TO CONSTRUCTION.
2. SEE STEEL BUILDING DRAWINGS FOR ALL INFORMATION PERTAINING TO THE STEEL BUILDING.



FOUNDATION & COLUMN PLAN

N.T.S.

1

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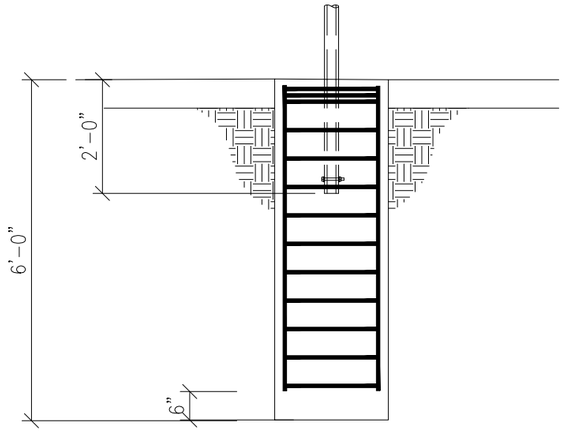
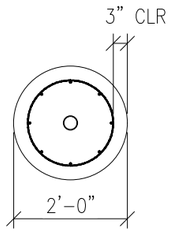


ELEVATION VIEW



SECTION VIEW

NOTE:SEE INFORMATION NOT SHOWN IN DTL 1/-

ENDWALL INT. PIER

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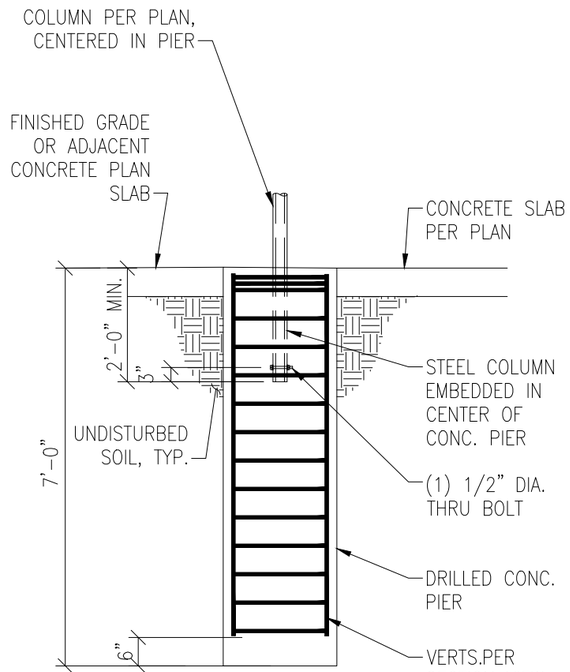
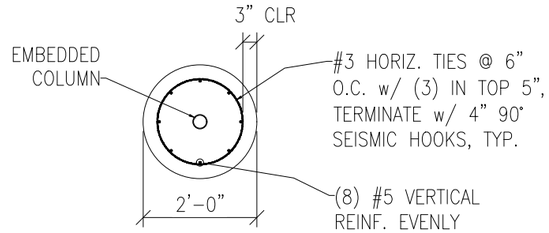


ELEVATION VIEW



SECTION VIEW

NOTE: FOUNDATION DESIGN IS BASED ON PRESUMPTIVE SOIL PARAMETERS PER SHEEN N1. VECTOR STRUCTURAL ENGINEERING STRONGLY RECOMMEND INDEPENDENT SOILS TESTING BE PERFORMED BY A LICENSED GEOTECHNICAL ENGINEER TO VERIFY SOIL BEARING CAPACITIES, CLOPE STABILITY, AND ANY OTHER SOIL PARAMETERS AS REQ'D.

BUILDING PIER

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