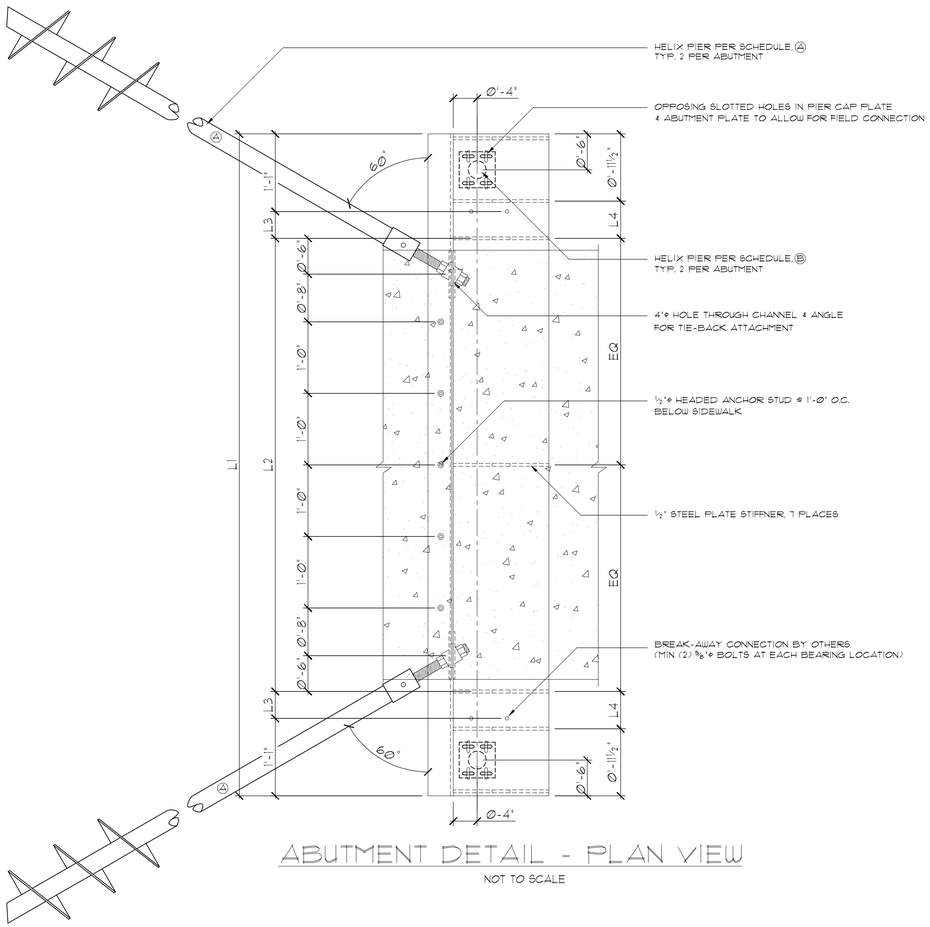
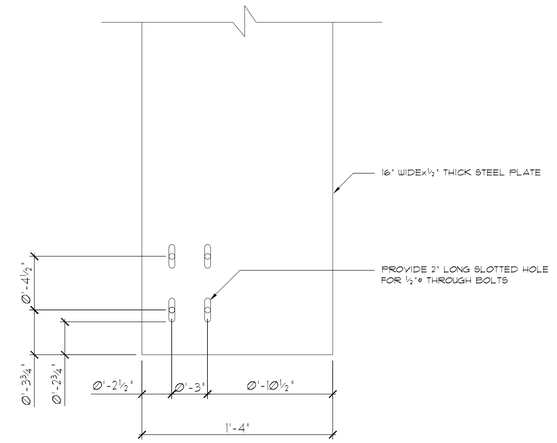


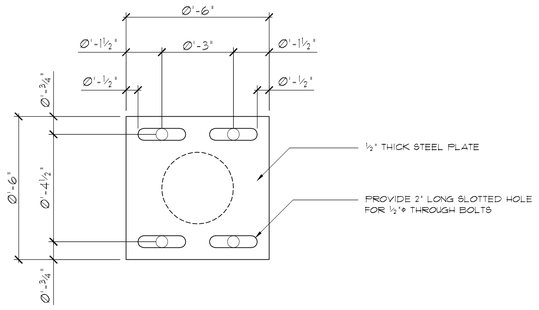
ABUTMENT DETAIL - PLAN VIEW

NOT TO SCALE



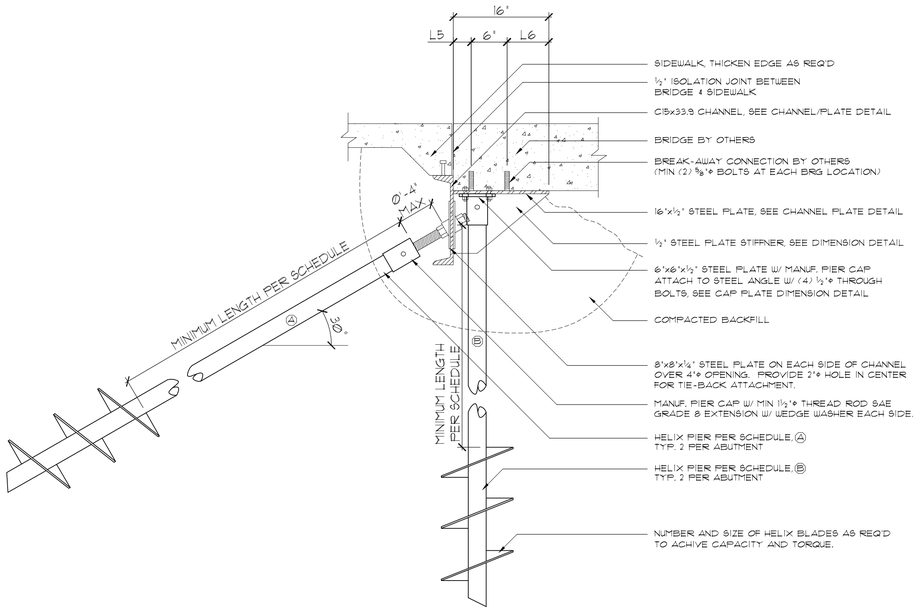
ABUTMENT PLATE DIMENSION DETAIL

NOT TO SCALE



CAP PLATE DIMENSION DETAIL

NOT TO SCALE

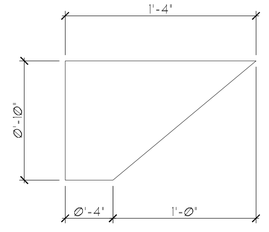


ABUTMENT DETAIL - PROFILE VIEW

NOT TO SCALE

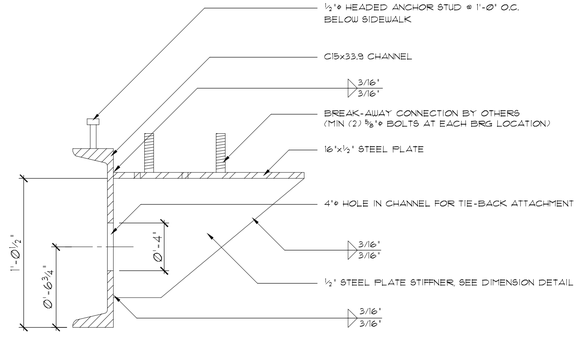
BRIDGE ABUTMENT DIMENSION SCHEDULE			
LAPORTE (EAST & WEST)		WEST MULBERRY	
DIMENSION	LENGTH	DIMENSION	LENGTH
L1	9'-3"	L1	11'-5"
L2	6'-4"	L2	8'-5"
L3	Ø'-4½"	L3	Ø'-5"
L4	Ø'-6"	L4	Ø'-6½"
L5	Ø'-3"	L5	Ø'-4"
L6	Ø'-7"	L6	Ø'-6"

HELIX PIER SCHEDULE			
PIER TYPE	ALLOWABLE LOAD	MINIMUM LENGTH	OTHER NOTES
Ⓐ	6 KIPS	8'-Ø"	HAND SNUG HEX NUT TO POST TENSION ANCHOR
Ⓑ	11 KIPS	12'-Ø"	
THE LOADS SHOWN ARE DESIGN ALLOWABLE LOADS. A MINIMUM FACTOR OF SAFETY OF 2.0 SHOULD BE USED TO DETERMINE THE REQUIRED ULTIMATE CAPACITY OF THE HELIX PIERS WITH REGARD TO THEIR INTERACTION WITH SOIL AND BEDROCK.			



STIFFNER PLATE DIMENSION DETAIL

NOT TO SCALE



CHANNEL/PLATE DETAIL

NOT TO SCALE

THESE DRAWINGS AND DETAILS ARE PROVIDED FOR GENERAL ENGINEERING PURPOSES AND SHALL NOT BE USED FOR OR BY ANY MAGNUM COMPETITION IN ANY WAY OR PUBLISHED OR REVERSE ENGINEERED.

General Notes:

1. Codes:

This plan was prepared based on the 1997 Uniform Building Code with local amendments and portions of the most recent versions of ACI 318, ACI 332R, AISC Allowable Stress Design ninth edition.

2. Loads:

This plan is based upon the following load parameters:

Bridge Reactions: Loads provided by Continental Bridge for Half-Through Pony System Bridges

Soils report by: GTL THOMPSON #C-3009, DATED Ø2-25-Ø4 & #C-3Ø11, DATED Ø2-25-Ø4

Recommended allowable bearing pressures:

Max. 1500 psf

Min (none specified) psf

3. Materials:

This plan is based upon the following material properties:

Steel: All steel (helix piers, beams, channels, plates, connectorsetc.) shall be protected from corrosion by hot-dip galvanizing per ASTM A153. Structural Steel shall conform to ASTM A992 (f_y=50 ksi).

Bolts: All bolts shall conform to ASTM A307 or SAE Grade 1.

Welds: All welding shall be in accordance with the "Structural Welding Code - Steel" of the American Welding Society. Welding of galvanized steel can produce toxic gases and should be done in adequate ventilation and with adequate gas detection, breathing gear, and other safety equipment. All welds shown are to be E7Ø, minimum.

4. Helix Piers:

All helix piers and pier caps shall be as manufactured by Magnum Piering, Inc. or equivalent. Helix pier installation should be observed by a representative from Secure Foundations and Structures, Inc. (97Ø) 472-6255 or other geotechnical engineer to verify installations torque's and minimum depths. Provide a minimum of 24 hours notice prior to installation work. The loads shown on the plan are design allowable loads. A minimum Factor of Safety of 2.Ø should be used to determine the required ultimate capacity of the helix piers with regard to their interaction with soil and bedrock. The manufacturer's recommendations should be followed regarding the torque and bearing capacity relationship for the particular helix pier selected. The ratio of required ultimate helix pier capacity to the total area of the helix blades shall not exceed the ultimate subsurface material bearing capacity provided by the geotechnical engineer.

5. Tolerances:

The construction tolerances for the abutment piers are as follows:

Angle of helix pier tie-back - ± 5°
Location of helix piers - ± 1"
Top of piers - ± 1"
Movement of abutment during post-tensioning - ½"

6. Soils:

SECURE recommends an open-hole inspection be performed by a qualified geotechnical engineer. Open-hole inspections are to verify that the soil conditions are consistent with those described in the above referenced soils report. Soils conditions inconsistent with the soils report may require additional evaluation or a foundation redesign, and should be brought to the attention of SECURE. All footings, pads, or piers shall be a minimum of 30" (in) below grade, or per local code, and should bear upon undisturbed native soils or structural fill acceptable to the geotechnical engineer. All other recommendations contained in the soils report pertaining to backfill, drainage, etc. should be incorporated into the design of this project.

7. Backfill:

Backfill should be adequately compacted and graded to provide adequate drainage away from the foundation. Backfill adjacent to the foundation may settle over time. The backfill must be monitored and maintained to provide adequate drainage away from the foundation.

8. Drainage:

Adequate drainage shall be provided around the structure. This drainage should be monitored and maintained throughout the life of the structure.

9. Limitations:

This plan is only a foundation design. However, it may include member sizes as requested. It is the contractors/owners responsibility to verify and coordinate all dimensions prior to construction. This foundation plan is based on the contractor/owner furnished plans and the above referenced specifications. Any discrepancies or changes should be brought to the attention of SECURE.

10. Construction Sequence:

1. Install helix piers.
2. Set steel bridge abutment.
3. Connect tie-back piers and steel bridge abutment, hand snug nuts.
4. Connect vertical piers and steel bridge abutment.
5. Attach bridge.

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PLAN NOT VALID WITHOUT ORIGINAL WET STAMP

PROJECT NAME:

PROJECT NAME

PROJECT DESCRIPTION
STREET ADDRESS
CITY, STATE

CLIENT:
YOUR COMPANY NAME
STREET ADDRESS
CITY, STATE
Contact: Your Name
Your Number

HELICAL PILE LAYOUT FOR PEDESTRIAN BRIDGE

NO.	DATE	REVISION/ISSUE

DESIGNED BY: MMB
DRAWN BY: MMB
CHECKED BY: RAP
PROJECT No: GNBH18

DATE: 5/26/09
SCALE: AS SHOWN

SHEET: S1