

# ARCHISTRUCTURES

**Jerry Palms P.E.**  
Structural Engineer

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## LETTER OF INTENT

**EGRESS STAIR**  
461 HOLLY  
SAINT PAUL MN

**ARCHISTRUCTURES #1202-7**

13 September 2012

Brian Karpen P.E.  
City of Saint Paul Plan Review  
375 Jackson Street #220  
Saint Paul MN 55101

Dear Brian:

I have been authorized by Lou Frillman, the owner of the above referenced building, to provide structural design and certification for a new egress stair. Based upon my review of preliminary architectural drawings for the project, I understand that the proposed egress stair consists of a one-story spiral staircase adjacent to the building, plus an upper story stair over a sloping roof leading up to a third story egress door. For this project, I will provide the following:

- 1.) Initially, I will provide design for the augured pier to support the spiral staircase, plus the necessary structural foundation notes. (See attached file.)
- 2.) Prior to installation of the egress stair, I will visit the site to determine adequacy of the existing structure:
  - To support the gravity load of the upper story stair.
  - To brace the spiral staircase against lateral movement.

While on site, I will also need to determine just how the egress stair will be properly connected to the existing structure. I will then be able to generate the proper connection details. Prior to the site visit, the contractor will need to do some preliminary preparation work so that the existing structure can be viewed.

- 3.) When shopdrawings are ready for the spiral staircase and upper story stair, I will review them for conformance with structural code requirements, including a 100 PSF live load.

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- I will also review and redline the shopdrawings as necessary to insure that the stair structure can be properly connected to the existing structure.

4.) During installation, I will be available if the contractor requires consultation.

5.) Upon completion of installation, I will revisit the site for final observations of the completed work. The contractor will need to assure that all structural connections remain open to view. I will then send a final site report to you.

Brian, I look forward to working with you and other City officials to expedite the proper installation of this egress stair.

Sincerely,

Jerry Palms PE  
Structural Engineer  
ARCHISTRUCTURES

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of Minnesota.

MN Reg #19033

13 September 2012

STRUCTURAL NOTES  
**FOUNDATION**

**EGRESS STAIR**  
461 HOLLY  
SAINT PAUL MN

**ARCHISTRUCTURES #1202-7**

SEE ACCOMPANYING LETTER INTENT.

ASSUMED DESIGN LOADS:

**WIND LOADS:** ENTIRE STRUCTURE TO BE DESIGNED FOR CODE REQUIRED WIND LOAD.

1. **EGRESS STAIRS** LIVE LOAD: 100 PSF  
DEAD LOAD: 25 PSF

BUILDING CODES:

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH STRUCTURAL REQUIREMENTS OF **INTERNATIONAL RESIDENTIAL CODE (IRC)** AS WELL AS APPLICABLE STATE AND LOCAL CODES.

STANDARD OF CARE:

THE STANDARD OF CARE FOR ALL STRUCTURAL ENGINEERING AND RELATED SERVICES PERFORMED OR FURNISHED FOR THIS PROJECT WILL BE THE LEVEL OF CARE AND SKILL ORDINARILY EXERCIZED BY STRUCTURAL ENGINEERS PRACTICING AT THE SAME TIME AND UNDER SIMILAR CIRCUMSTANCES IN THE SAME LOCALITY. NO GUARANTEE OR WARRANTY, EXPRESS OR IMPLIED, IS MADE.

EXISTING CONDITIONS:

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING CONDITIONS TO BE AS SHOWN ON DRAWING. IF OTHERWISE THAN AS SHOWN, CONTRACTOR MAY CONTACT ARCHITECT AND ENGINEER FOR REVISED DESIGN.

SOIL QUALITY:

**STANDARD:** IF OWNER HAS NOT AUTHORIZED A SOIL REPORT, MINIMUM SOIL QUALITY SHALL BE GOVERNED BY THE FOLLOWING:

- **IRC TABLE RA01.4.1: PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATION MATERIALS.**

**SOIL QUALITY:** FOOTINGS HAVE BEEN DESIGNED TO BEAR ON MINIMUM **2000** PSF SOIL PRESSURE, DEFINED AS SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL OR CLAYEY GRAVEL.

- IF FOOTINGS BEAR BELOW WATER TABLE, CONTACT ENGINEER FOR REVISED DESIGN.

**SOIL VERIFICATION:** DURING EXCAVATION, IF CONTRACTOR SHOULD NOTICE EXCESSIVELY CLAYEY OR SILTY SOILS, OR ANY UNUSUAL SOIL CONDITIONS, SUCH AS POOR QUALITY FILL OR ORGANIC SOIL, INFORM THE OWNER.

**OWNER'S ACTION:** IN THE ABSENCE OF A SOIL REPORT, THE OWNER BEARS PRIMARY RESPONSIBILITY FOR ACTUAL SOIL CONDITIONS. IF SOIL QUALITY IS IN DOUBT, IT IS RECOMMENDED THAT OWNER OBTAIN THE SERVICES OF A REGISTERED SOIL ENGINEER. OWNER SHALL BEAR ANY ADDITIONAL COSTS FOR SOIL REPORT, SOIL PREPARATION AND STRUCTURAL REDESIGN.

SOIL EXCAVATION

**INITIAL EXCAVATION:** REMOVE SOILS DOWN TO SUB-GRADE BEARING ELEVATIONS.

**ADDITIONAL EXCAVATION:** IF *UNSUITABLE SOILS* ARE ENCOUNTERED AT THE INITIAL SUB-GRADE ELEVATION, CONTRACTOR SHALL CARRY EXCAVATION DEEPER UNTIL *SATISFACTORY SOILS* ARE FOUND. ALTERNATELY, CONTRACTOR MAY PROCEED AS DIRECTED BY SOIL ENGINEER.

SOIL PREPARATION

**BELOW PIER/FOOTING:** SHALL BE COMPACTED IN 8" TO 12" LIFTS TO MINIMUM 98% OF MAXIMUM DRY DENSITY PER ASTM D698 (STANDARD PROCTOR).

FOOTING BEARING:

**FROST PROTECTION:** FOOTING BEARING ELEVATION SHALL CONFORM TO **MINNESOTA STATE BUILDING CODE** RULE 1303.1600:

- **ZONE 2:** BEAR 3'-6" BELOW FINISH GRADE.

**EXCEPTION:** FOR THIS PROJECT, BECAUSE PIER/FOOTING IS NOT ADJACENT TO A HEATED SPACE, BEAR MINIMUM 5'-0" BELOW FINISH GRADE.

**FROST EXPOSURE:** CONTRACTOR TO PROVIDE ADEQUATE MEANS TO PROTECT FOOTINGS AND ALL OTHER STRUCTURE FROM FROST DAMAGE DURING CONSTRUCTION.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the state of Minnesota.

MN Reg #19033 13 September 2012

**MOST RECENT REVISION: 13 SEPTEMBER 2012**

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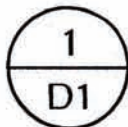
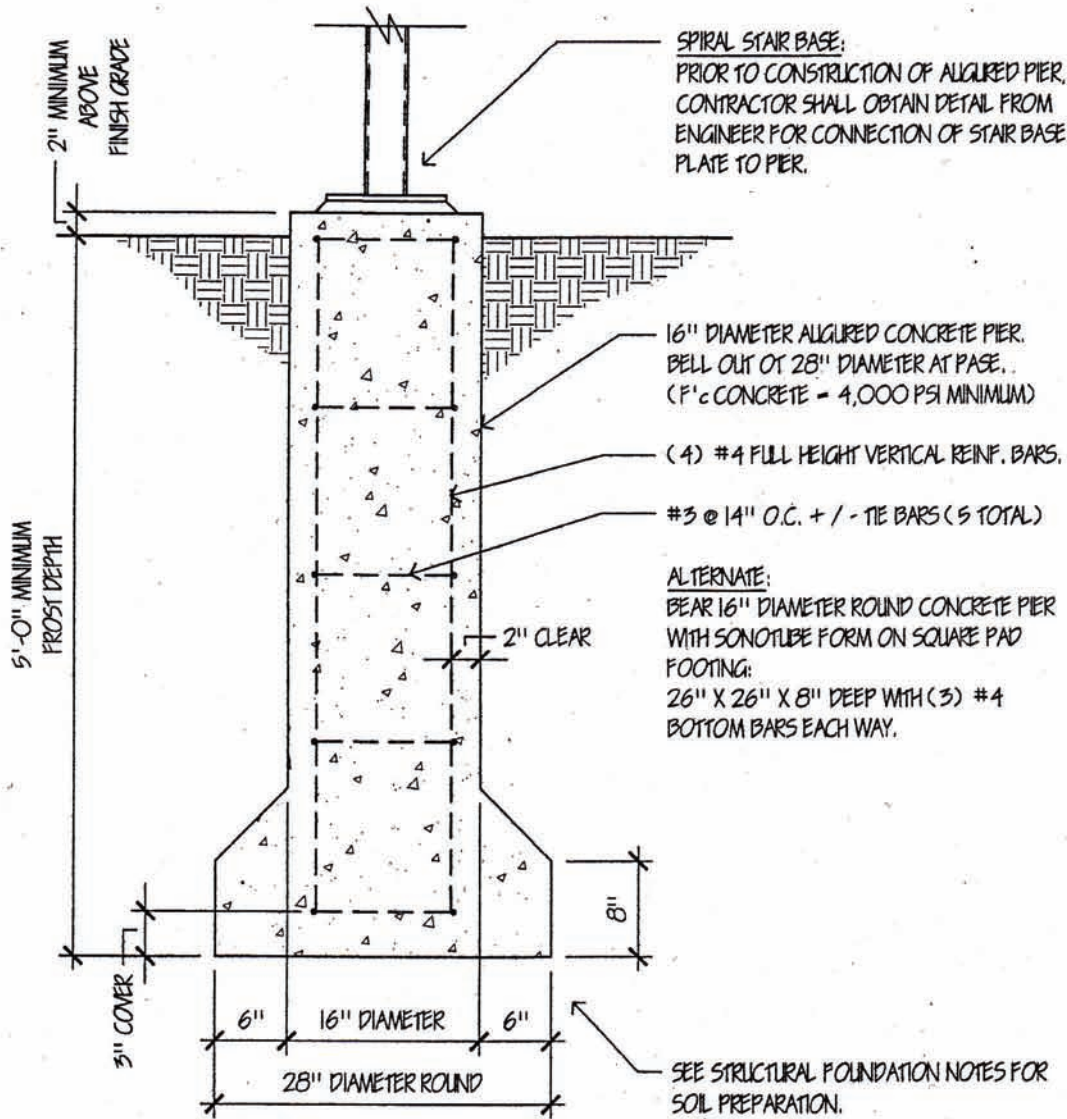
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## DETAIL SHEET D1

EGRESS STAIR  
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SAINT PAUL MN

ARCHISTRUCTURES #1202-7



SECTION AT AUGURED PIER

3/4 INCH = ONE FOOT

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13 September 2012

*Jerry Palms*