Approval # *BP-042500003-BAP (Replaces DIS-032513493 & 20199004)*

Division of Industry Services
4822 Madison Yards Way
Madison, WI 53705

Wisconsin
Building Product Evaluation

Material	Handi Pier™
Manufacturer	Natural Concrete Products 3607 E Highway 24 Norfolk, NE 68701

SCOPE OF EVALUATION

The Handi Pier™ is a precast concrete pier foundation assembly manufactured by Natural Concrete Products has been evaluated against the structural provisions of the current **Wisconsin Uniform Dwelling Code (UDC).** The Handi Pier™ precast concrete pier foundation assembly has been evaluated for use as a foundation for the support of gravity loads for residential only uses. These uses include for decks, covered walkways, gazebos, platforms, elevated walkways, columns and post supports regulated by the current **Wisconsin Uniform Dwelling Code (UDC)** and some site accessory detached structures not directly covered by the UDC rules. This approval is not for support of occupied enclosed dwelling areas.

DESCRIPTION AND USE

The Handi Pier™ precast concrete pier foundation assembly manufactured by Natural Concrete Products consists of a factory-fabricated, cone-shaped high-strength concrete pier which has a steel anchor bolt precast into the center of the top of the pier and precast holes for the installation of steel bearing pins. Steel bearing pins are jobsite-inserted through precast holes and driven into the soil at 50° from vertical. Pins are 1" diameter steel of 50" minimum length. Post cap (not included) may then be attached to ½" diameter galvanized anchor bolt on top to support a 4x4 or 6x6 post for structure above.

Handi Pier™ website at http://www.naturalconcreteproducts.com/handi-pier/ contains the current Installation Manual and Quick Install Guide, as well as an Installation Video.

TESTS AND RESULTS

Data in accordance with the ICC-ES Acceptance Criteria for Inclined Steel Foundations and Their Connecting Heads (AC336), dated June 2016 (Editorially revised December 2024) was used for evaluation by ICC-ES and Evaluation Report ESR-4404 for this product was issued.

WISCONSIN UNIFORM DWELLING CODE (UDC)

For compliance with the current **Wisconsin Uniform Dwelling Code (UDC)**, HP-R(50) Handi Pier™ assembly as used under International Residential Code (IRC) provisions is similar in scope and application to requirements under the **Wisconsin Uniform Dwelling Code (UDC)** provisions, but some terminology differences are noted. Handi Pier™ was issued an ICC-ES Evaluation Report ESR-4404 for this product, it can be viewed via on-line link at the following: https://icc-es.org/report-listing/esr-4404/.

Model HP-R(50) uses 50" steel pins. Model HP-R(50) foundations show a bearing capacity in accordance with a safety factor of 2.0 for results noted and summarized as shown in the Table below. The AC336 standard by which this product was tested does not address lateral & uplift values, so this product's use is subject to limitations, as shown in the Table & language below.

Handi Pier™ conditions for use of this product in Wisconsin include the following:

- All Handi Pier™ models installed in Wisconsin must have a minimum pin length of 50 inches.
- Handi Pier™ models installed in Wisconsin must be installed in accordance with the current Natural Concrete Products published installation manual and by the Handi Pier™ Load Chart below.
- Where soil conditions are not appropriate for supporting the Handi Pier™ foundation, use of the system is not allowed. Examples include soils that are: weaker than 1500 PSF, that are highly expansive, poorly drained, shifting or sliding soils and on slopes greater than 27 degrees.

TABLE: Cross Pin Group Allowable Load Carrying Capacity Recommendations in 1500 PSF properly drained soil

Embedded Pin Group	Equivalent Bearing Area (square feet)	Compression (pounds)	Uplift* (pounds)	Lateral* (pounds)
(4) 1" x 50" Pins	**2.2** **(compared to 20" dia. concrete footing)**	**3400**	**1200**	**500**

1500 PSF properly drained soils generally include clay, sandy clay, silt and sandy silt. Properly drained soils of sand, silty sand, clayey sand, and silty gravel with a minimum 2000 PSF soil bearing capacity may have the bearing value above increased to 4400 pounds (as detailed in the full Installation Manual).
* Uplift and lateral load limits are manufacturer's suggested limits, as no testing to verify these values was submitted for this evaluation.

Handi Pier™ precast concrete piers must be identified when shipped, including:

- The product name and model number
- The manufacture date and lot number and
- The phrase: "For Use with One- and Two-Family Dwelling Construction Only."

LIMITATIONS OF APPROVAL

The limitations below are in accordance with the current **Wisconsin Uniform Dwelling Code (UDC),** for 1 & 2 family dwellings**:**

- Where soil conditions are not appropriate for supporting the Handi Pier™ foundation, use of the system is not allowed. Some examples include soils that are weaker than 1500 PSF, soils that are highly expansive, poorly drained, shifting or sliding soils and on slopes greater than 27 degrees.
- Structural bearing capacity and frost heave resistance are comparable to a 20" diameter concrete pier footing.
- **NOTE:** The HP-R(50) Handi Pier™ assembly was **not** evaluated for compliance with the support requirements of occupied structure provisions.
- **Using prescriptive UDC Appendix B design requires concrete deck footings.**

Identification: Each assembly used shall bear a label specifying the name and address of the manufacturer (Natural Concrete Products, 3607 East Hwy 24, Norfolk, NE 68701). Additionally, product plans shall indicate the Wisconsin Building Product Evaluation Number, and the product shall state the name & logo of the quality control agency used in manufacturing.

In order to be in compliance with the frost protection requirements of **SPS 321.16** of the current **Wisconsin Uniform Dwelling Code (UDC),** the Handi Pier™ HP-R(50) Precast Concrete Pier Foundation assembly shall utilize steel bearing pins provided with the concrete head and which are at least 50" long for frost protection as required. Minimum 50" long steel bearing pins provided are also required when these foundations must resist uplift or horizontal loading. The Wisconsin Building Product Evaluation Number must be provided when plans that include this product are submitted for review to the local building inspector.

DISCLAIMER

This approval will be valid through 12/31/2030 unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Building Product Evaluation Number must be provided when plans that include this product are submitted for review. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Reviewed by: *Jack A. Miller*

Approval Date: 04/02/2025 By: Jack A. Miller
Commercial building plan examiner and product reviewer