

ICC-ES Evaluation Report

ESR-4317

Reissued September 2024


This report also contains:

- CBC Supplement

Subject to renewal September 2025

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<p>DIVISION: 31 00 00 - EARTHWORK</p> <p>Section: 31 63 00— Bored Piles</p>	<p>REPORT HOLDER:</p> <p>MAGNUM PIERING, INC.</p>	<p>EVALUATION SUBJECT:</p> <p>MAGNUM PUSH PIER FOUNDATION SYSTEM</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018, 2015, 2012 and 2009 [International Building Code® \(IBC\)](#)

Property evaluated

- Structural

2.0 USES

The Magnum Piering, Inc. (MAGNUM) push pier foundation system; otherwise known as a hydraulically driven steel pipe piling system, is designed to resist axial compressive loads from the supported structures.

3.0 DESCRIPTION

3.1 General: The MAGNUM push pier foundation system (MP325G) consists of a central steel shaft composed of 3-inch (76.2 mm) outside diameter, ¼-inch (6 mm) wall thickness, hollow structural section (HSS3.00X0.250); and a round, 6-inch-long (152.4 mm), 2½-inch (64 mm) outside diameter, ¼-inch (6.4 mm) wall thickness, hollow structural section (HSS2.500x0.250) inner sleeve. The HSS inner sleeve is snug-fitted into the inside top end of the central steel shaft section. [Figure 1](#) illustrates the typical construction of a Magnum push pier MP325G. The MP325G has three different brackets that can be attached; the MP10001-3, the MP10002-3 and the MP1005-3. The MP brackets are all Type A side load brackets, for attachment to structures. All Magnum push pier and brackets are manufactured with zinc-galvanized steels.

3.2 Brackets:

3.2.1 MP1001-3 Type A Side Load Bracket: The Magnum MP1001-3 bracket consists of a round, 8-inch-long (203 mm), 3⁷/₈-inch (98 mm) nominal outside diameter, 3³/₈-inch (9.5 mm) minimum wall thickness, hollow structural section (HSS3.875×0.375) outer sleeve; a 3³/₈-inch-thick (9.5 mm) by 8-inch (203 mm) by 21-inch (533 mm) steel plate and one to three 3³/₄-inch-diameter (19.0 mm), 1¼-inch-long (32 mm), hex headed bolts and matching hex nuts, for attaching the bracket to a MP325G shaft. The HSS outer sleeve is factory-welded to the steel angle. The upper end of the shaft section must be field drilled to have one to three 11/16-inch (27.0 mm) bolt holes located 2 inches (51 mm) from the end of the pile shaft and 2-inches (51 mm) on-center so as to allow the bracket sleeve and the pile shaft section to be bolted together during the bracket installation. This bracket is intended to be anchor-bolted to existing concrete foundations. This bracket is intended to support axial compressive loads. [Figure 2](#) illustrates the typical construction of a Magnum MP1001-3 side load bracket and its attachment to concrete structures. Refer to footnotes in [Table 1](#) for requirements of anchor bolts.

3.2.2 MP1002-3 Type A Side Load Bracket: The Magnum MP1002-3 bracket consists of a round, 8-inch-long (203 mm), $3\frac{7}{8}$ -inch (98 mm) nominal outside diameter, $\frac{3}{8}$ -inch (9.5 mm) minimum wall thickness, hollow structural section (HSS3.875×0.375) outer sleeve; a $\frac{1}{2}$ -inch-thick (12.7 mm) by 8-inch (203 mm) by 8-inch (203 mm) by 24-inch-long (610 mm) steel angle and one to three $\frac{3}{4}$ -inch-diameter (19.0 mm), $1\frac{1}{4}$ -inch-long (32 mm), hex headed bolts and matching hex nuts, for attaching the bracket to a MP325G. The HSS outer sleeve is factory-welded to the steel angle. The upper end of the shaft section must be field drilled to have one to three 11/16-inch (27.0 mm) bolt holes located 2 inches (51 mm) from the end of the pile shaft and 2-inches (51 mm) on-center so as to allow the bracket sleeve and the pile shaft section to be bolted together during the bracket installation. This bracket is intended to be anchor-bolted to existing concrete foundations. This bracket is intended to support axial compressive loads. [Figure 3](#) illustrates the typical construction of a Magnum MP1002-3 side load bracket and its attachment to concrete structures. Refer to footnotes in [Table 1](#) for requirements of anchor bolts.

3.2.3 MP1005-3 Type A Side Load Bracket: The Magnum MP1005-3 bracket consists of a round, 8-inch-long (203 mm), $3\frac{7}{8}$ -inch (98 mm) nominal outside diameter, $\frac{3}{8}$ -inch (9.5 mm) minimum wall thickness, hollow structural section (HSS3.875×0.375) outer sleeve; a $\frac{1}{2}$ -inch-thick (12.7 mm) by 8-inch (203 mm) by 8-inch (203 mm) by 12-inch-long (305 mm) steel angle and one to three $\frac{3}{4}$ -inch-diameter (19.0 mm), $1\frac{1}{4}$ -inch-long (32 mm), hex headed bolts and matching hex nuts, for attaching the bracket to a MP325G shaft. The HSS outer sleeve is factory-welded to the steel angle with gusset plate. The upper end of the shaft section must be field drilled to have one to three 11/16-inch (27.0 mm) bolt holes located 2 inches (51 mm) from the end of the pile shaft and 2-inches (51 mm) on-center so as to allow the bracket sleeve and the pile shaft section to be bolted together during the bracket installation. This bracket is intended to be anchor-bolted to existing concrete foundations. This bracket is intended to support axial compressive loads. [Figure 4](#) illustrates the typical construction of a Magnum MP1005-3 side load bracket and its attachment to concrete structures. Refer to footnotes in [Table 1](#) for requirements of anchor bolts.

3.3 Material Specifications:

3.3.1 Round HSSs: The round HSSs, which are used for central shafts of MP325G piles, as well as the inner sleeve for the MP325G coupling, comply with ASTM A513, Type 1a, except with minimum yield and tensile strengths of 65 ksi and 80 ksi (448 and 551 MPa), respectively. The round HSSs, which are used for MP1001-3G, MP1002-3G and MP1005-3G side load brackets, comply with ASTM A513, Type 5, DOM, with minimum yield and tensile strengths of 70 ksi and 80 ksi (483 and 551 MPa), respectively. All round HSSs have a coating grade 75, hot-dipped, galvanized coating complying with ASTM A123.

3.3.2 Steel Plates: The steel plates, which are used for cap plates of MP1001-3G, MP1002-3G and MP1005-3G side load brackets, comply with ASTM A 36, with minimum yield and tensile strengths of 36 ksi and 58 ksi (248 and 400 MPa), respectively. All steel plates have a coating grade 75, hot-dipped, galvanized coating complying with ASTM A123.

3.3.3 Threaded Bolts and Nuts:

The threaded bolts, which are used for MP1001-3G, MP1002-3G and MP1005-3G side load brackets, comply with SAE J429, Grade 8, with a yield strength of 130 ksi (896 MPa), and a minimum tensile strength of 150 ksi (1034 MPa), and have a coating that complies with ASTM F1941, coating designation Fe/Zn 5B. The corresponding nuts conform to SAE J995, Grade 8, and have a coating that complies with ASTM F1941, coating designation Fe/Zn 5B.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: Engineering calculations (analysis and design) and drawings, prepared by a registered design professional, must be submitted to and be subjected to the approval of the code official for each project, and must be based on accepted engineering principles, as described in IBC Section 1604.4, and must conform to IBC Section 1810. The design method for the steel components is Allowable Strength Design (ASD), described in IBC Section 1602 and AISC 360 Section B3.4. The engineering analysis must address push pier foundation system performance related to structural and geotechnical requirements.

The structural analysis must consider all applicable internal forces (shears, bending moments and torsional moments, if applicable) due to applied loads, structural eccentricity and maximum span(s) between push pier systems. The minimum embedment depth for various loading conditions must be included based on the most stringent requirements of the following: engineering analysis, allowable capacities noted in this report, site-specific geotechnical investigation report, and site-specific load tests, if applicable. A soil investigation report in accordance with this section (Section 4.1.1) must be submitted for each project, when requested by

the authority having jurisdiction. The soil interaction capacity between the pile and the soil including the required safety factor and the soil effects of the push pier installation must be determined in accordance with the applicable code by a registered design professional. The maximum installation force and working capacity of the push pier system must be determined in accordance with Magnum's installation instructions and as recommended by a registered design professional. The allowable strengths (allowable capacities) of the steel components of the MAGNUM push pier foundation system are described in [Table 1](#) (for brackets, P1) and [Table 2](#) (for shafts, P2).

A written report of the geotechnical investigation, when requested by the authority having jurisdiction, must be submitted to the code official as part of the required submittal documents, prescribed in IBC Section 107, at the time of the permit application. The geotechnical report must include, but not be limited to, all of the following information:

- A plot showing the location of the soil investigation.
- A complete record of the soil boring and penetration test logs and soil samples.
- A record of soil profile.
- Information on ground-water table, frost depth and corrosion related parameters, as described in Section 5.5 of this report.
- Soil properties, including those affecting the design such as support conditions of the piles.
- Soil design parameters, such as shear strength parameters as required by Section 4.1.5; soil deformation parameters; and relative pile support conditions as defined in IBC Section 1810.2.1.
- Confirmation of the suitability of MAGNUM push pier foundation system for the specific project.
- Recommendations for design criteria, including but not be limited to: mitigations of effects of differential settlement and varying soil strength; and effects of adjacent loads.
- Recommended center-to-center spacing of push pier foundations, if different from Section 5.14 of this report; and reduction of allowable loads due to the group action, if necessary.
- Field inspection and reporting procedures (to include procedures for verification of the installed bearing capacity when required).
- Load test requirements.
- Any questionable soil characteristics and special design provisions, as necessary.
- Expected total and differential settlement.
- The axial compression load soil capacities for allowable capacities that cannot be determined from this evaluation report.
- Minimum pile depth, if any, based on local geologic hazards such as frost, expansive soils, or other condition.

4.1.2 Bracket Capacity (P1): [Table 1](#) describes the allowable axial compression capacity of the MP1001-3, MP1002-3 and MP1005-3 Type A Side Load Brackets. The connections of the building structure to the brackets must be designed and included in the construction documents. Only localized limit states of supporting concrete including 2-way punching shear and concrete bearing have been evaluated in this evaluation report. The concrete foundation must be designed and justified to the satisfaction of the code official with due consideration to the eccentricity of applied loads, including reactions provided by the brackets, acting on the concrete foundation. Refer to item 5.3 of this report for bracing requirement.

4.1.3 Shaft Capacity (P2): [Table 2](#) describes the allowable axial compression loads of the shafts (MP325G) and [Table 3](#) describes the mechanical properties of the shafts (MP325G), which are based on a 50-year corrosion effect in accordance with Section 3.6 of AC517. The top of shafts must be braced as prescribed in IBC Section 1810.2.2, and the supported foundation structures such as concrete footings are assumed to be adequately braced such that the supported foundation structures provide lateral stability for the pile systems. In accordance with IBC Section 1810.2.1, any soil other than fluid soil must be deemed to afford sufficient lateral support to prevent buckling of the systems that are braced, and the unbraced length is defined as the length of piles that is standing in air, water or in fluid soils plus additional 5 feet (1524 mm) when embedded into firm soil or additional 10 feet (3048 mm) when embedded into soft soil. Firm soils shall be defined as any soil with a Standard Penetration Test blow count of five or greater. Soft soil shall be defined as any soil with a Standard Penetration Test blow count greater than zero and less than five. Fluid soils shall be defined as any soil with a Standard Penetration Test blow count of zero [weight of hammer (WOH) or weight of rods (WOR)]. Standard Penetration Test blow count shall be determined in accordance with ASTM D1586.

The elastic shortening of the pile shaft will be controlled by the strength and section properties of the shaft sections and coupler(s). For loads up to and including the allowable load limits found in this report, the elastic shortening of shaft can be estimated as:

$$\Delta_{\text{shaft}} = P L / (A E)$$

where:

Δ_{shaft} = Length change of shaft resulting from elastic shortening, in (mm).

P = applied axial load, lbf (N).

L = effective length of the shaft, in. (mm).

A = cross-sectional area of the shaft, see [Table 3](#), in.² (mm²).

E = Young's modulus of the shaft, see [Table 3](#), ksi (MPa).

4.2 Installation:

4.2.1 Push Pier (MP325G): The MAGNUM push pier foundation system must be installed by MAGNUM trained and authorized installers. The MAGNUM push pier foundation system must be installed in accordance with this section (Section 4.2), IBC Section 1810.4.11, the site-specific approved construction documents (engineering plans and specifications), and the manufacturer's written installation instructions. In case of conflict, the most stringent requirement governs. Push piers must be installed according to a pre-approved plan of placement. Installation begins by first mounting the bracket to the existing foundation. The elevation of the structure at each pier location is measured and a building monitoring program is established. Hydraulic rams are then temporarily attached to the brackets on the existing structure and piers are jacked or pushed into the ground individually until the load used for driving the pier equals or exceeds the required proof test capacity and pile movement halts. The proof load must be determined by a registered design professional. The pressure should then be reduced to the desired push pier lock-off pressure, secure to the brackets and the hydraulic rams removed.

4.2.2 Side Load Brackets (MP1030-150BG, MP1001-3G, MP1002-3G and MP1005-3G): The bracket is first attached to the concrete structure using the specified Hilti KB3 carbon steel stud expansion anchors, to be installed in accordance with [ESR-2302](#) and as described in [Table 1](#) of this report. For angle side load brackets, a 1/2-inch (12.7 mm) minimum grout bed of high-strength, fast-setting, non-shrink grout is applied to the lower face of the angle, and the bracket is pushed up into position against the existing foundation prior to anchor installation. Push pier segments are then installed using a hydraulic ram that is temporarily affixed to the bracket. Following completion of the push pier installation, new holes must be drilled into the push pier shaft in the field to match the bracket sleeve for the MP1001-3, MP1002-3 and MP1005-3. The holes must match the diameter and minimum edge distances of the bracket round HSS sleeve. Torch cut holes are not permitted. After hole-drilling, the specified bolts are impacted through the bracket into the pile shaft in single shear. The length of the shaft extending through the top of the bracket can be cut-off a few inches above the bracket.

4.3 Special Inspection:

Special inspections in accordance with 2024, 2021, 2018, 2015 and 2012 IBC Section 1705.7 (2009 IBC Section 1704.10), must be performed continuously during installation of MAGNUM push pier foundation system (piers and brackets), except as indicated in 2024, 2021, 2018, 2015 and 2012 Section 1704.2 or 2009 IBC Section 1704.1. Items to be recorded and confirmed by the special inspector must include, but are not limited to, the following:

1. Verification of the product manufacturer, and the manufacturer's certification of installers.
2. Product identification including lead sections, extension sections, brackets, bolts and nuts, as specified in the construction documents and this evaluation report.
3. Installation equipment used.
4. Written installation procedures.
5. Tip elevations, the installation pressure and final depth of the push pier foundation system.
6. Inclination and position/location of push piers.
7. Tightness of all bolted connections.
8. Compliance of the installation with the approved construction documents and this evaluation report.

5.0 CONDITIONS OF USE:

The MAGNUM push pier foundation system, described in this report, comply with or is a suitable alternative to what is specified in, the code listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** The MAGNUM push pier foundation system is manufactured, identified and installed in accordance with this report, the site-specific approved construction documents (engineering plans and specifications) and the manufacturer's written installation instructions. In case of conflict, the most stringent requirement governs.
- 5.2** The MAGNUM push pier foundation system has been evaluated for support of structures assigned to Seismic Design Categories A, B and C in accordance with IBC Section 1613. Push pier foundation systems that support structures assigned to Seismic Design Category D, E or F, or that are located in Site Class E or F, are outside the scope of this report, and are subject to the approval of the code official based upon submission of a design in accordance with the code by a registered design professional.
- 5.3** All brackets must be used only to support structures that are laterally braced as defined in IBC Section 1810.2.2. Shaft couplings must be located within firm or soft soil as defined in Section 4.1.3.
- 5.4** Installations of push pier foundation systems are limited to regions of concrete members where analysis indicates no cracking at service load levels.
- 5.5** Use of the MAGNUM push pier foundation system or devices in conditions that are indicative of potential pile deterioration or corrosion situations as defined by the following: (1) soil resistivity less than 1,000 ohm-cm; (2) soil pH less than 5.5; (3) soils with high organic content; (4) soil sulfate concentrations greater than 1,000 ppm; (5) soils located in landfill, or (6) soil containing mine waste, is beyond the scope of this evaluation report.
- 5.6** Zinc-coated steel and bare steel components must not be combined in the same system. All push pier foundation components must be galvanically isolated from concrete reinforcing steel, building structural steel, or any other metal building components.
- 5.7** The push pier must be installed vertically into the ground with the maximum allowable angle of inclination of 1 degree.
- 5.8** Engineering calculations and drawings, in accordance with recognized engineering principles, as described in IBC Section 1604.4, and complying with Section 4.1 of this report, prepared by a registered design professional, are provided to, and are approved by, the code official.
- 5.9** The adequacy of the concrete structures that are connected to the MAGNUM brackets must be verified by a registered design professional, in accordance with applicable code provisions, such as Chapter 13 of ACI 318-19 under the 2024 and 2021 IBC (Chapter 13 of ACI 318-14 under the 2018 and 2015 IBC; Chapter 15 of ACI 318-11 under the 2012 IBC; Chapter 15 of ACI 318-08 under the 2009 IBC) and Chapter 18 of IBC, and subject to the approval of the code official.
- 5.10** A geotechnical investigation report for each project site in accordance with Section 4.1.1 of this report must be provided, when requested by the authority having jurisdiction.
- 5.11** Special inspection is provided in accordance with Section 4.3 of this report.
- 5.12** When using the alternative basic load combinations prescribed in 2024 and 2021 IBC Section 1605.2 (2018, 2015, 2012 and 2009 IBC Section 1605.3.2), the allowable stress increases permitted by material chapters of the IBC or the referenced standards are prohibited.
- 5.13** The applied loads must not exceed the allowable capacities described in Section 4.1 of this report.
- 5.14** Evaluation of compliance with IBC Section 1810.3.11.1 for buildings assigned to Seismic Design Category (SDC) C, and with IBC Section 1810.3.6 for all buildings, is outside of the scope of this evaluation report. Such compliance must be addressed by a registered design professional for each site, and is subject to approval by the code official.
- 5.15** Settlement of push piers is beyond the scope of this evaluation report and must be determined by a registered design professional as required in IBC Section 1810.2.3.
- 5.16** The MAGNUM push pier foundation system is manufactured at the Magnum Piering, Inc. facility located at 156 Circle Freeway Drive, Cincinnati, Ohio 45246, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Push Pier Foundation Systems \(AC517\)](#), dated February 2020 (editorially revised May 2024).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4317) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the Magnum Piering, Inc. (MAGNUM) push pier foundation system (including lead shafts, extension shafts, brackets and boxed hardware) is identified by a label bearing the address of the manufacturing facility, the product number, and an order number.
- 7.3 The report holder’s contact information is the following:

MAGNUM PIERING, INC.
156 CIRCLE FREEWAY DRIVE
CINCINNATI, OHIO 45246
(800) 822-7437
www.magnumpiering.com
samburgey@magnumpiering.com

TABLE 1—BRACKET CAPACITY (P1) FOR SIDE LOAD BRACKETS^{1,2,3,4}

BRACKET TYPE	(P1) ALLOWABLE AXIAL COMPRESSIVE CAPACITY (kips) ³
MP1001-3	39.3
MP1002-3	38.0
MP1005-3	35.0

For **SI**: 1 kip = 4.448 kN, 1 psi = 6.895 kPa.

¹Load capacity based on full scale load tests per AC308 with an installed 5’-0” unbraced pile length having a maximum of one coupling per IBC Section 1810.2.1. Repair brackets must be concentrically loaded and bracket plate must be fully engaged with bottom of concrete foundation, where applicable. Only localized limit states such as mechanical strength of steel components and concrete bearing and connection of bracket to concrete have been evaluated. Minimum specified compressive strength of concrete is 2500 psi for the MP1005-3 bracket and 5000 psi for the MP1001-3 and MP1002-3 brackets.

²Allowable capacities include an allowance for corrosion over a 50-year service life and presume the supported structure is braced in accordance with IBC Section 1810.2.2.

³For use with ½-inch-diameter Hilti KB3 carbon steel stud anchors having a minimum embedment of 5.13 inches, installed per ICC-ES evaluation report [ESR-2302](#). The number of anchor bolts used must comply with the following: MP1001-3 use ten bolts (see Figure 9); MP1002-3 use six bolts (See Figure 10); MP1005-3 use four bolts (see Figure 11).

⁴The bolts connecting the top of the shaft to the bracket must comply with the applicable section describing the brackets and comply with the following: three bolts for the MP1001-3 and MP1002-3; two bolts for the MP1005-3.

TABLE 2—SHAFT ALLOWABLE CAPACITY (P2)^{1,2}

SHAFT TYPE	UNBRACED SHAFT LENGTH (FT) ³	(P2) ALLOWABLE AXIAL COMPRESSIVE CAPACITY (KIPS)
MP325G	0	60

For **SI**: 1 inch = 25.4 mm, 1 kip = 4.448 kN.

¹Allowable capacities include an allowance for corrosion over a 50-year service life.

²Allowable capacities are based on fully braced conditions where effective length (KL) of piles equals to zero and pile tops are fully braced, which require the pile head to be fully braced laterally and rotationally and no portion of shaft is in air, water, or fluid soils. Refer to Section 4.1.3 of this report for the determination of unbraced length, L.

³Shaft capacity of push pier foundations with an unbraced length more than zero must be determined by a registered design professional

TABLE 3—SHAFT MECHANICAL PROPERTIES AFTER CORROSION LOSS¹

MECHANICAL PROPERTIES	PUSH PIER SHAFT
	MP325G
Corroded Shaft Outside Diameter (inch)	2.994
Corroded Shaft Inside Diameter (inch)	2.504
Corroded Design Wall Thickness (inch)	0.245
Corroded Gross Cross Section Area (inch ²)	2.11
Corroded Moment of Inertia, I (inch ⁴)	2.01
Corroded Radius of Gyration, r (inch)	0.98
Corroded Section Modulus, S (inch ³)	1.34
Corroded Plastic Modulus, Z (inch ³)	1.85
Minimum Steel Yield Strength, F _y (ksi)	65
Minimum Steel Ultimate Strength, F _u (ksi)	80
Modulus of Elasticity of Steel (ksi)	29,000

For SI: 1 inch = 25.4 mm, 1 kip = 4.448 kN, 1 psi = 6.895 kPa.

¹Geometrical properties of the cross section are based on the design wall thickness of HSSs and have been adjusted for a 50-year corrosion effect in accordance with Section 3.6 of AC517.

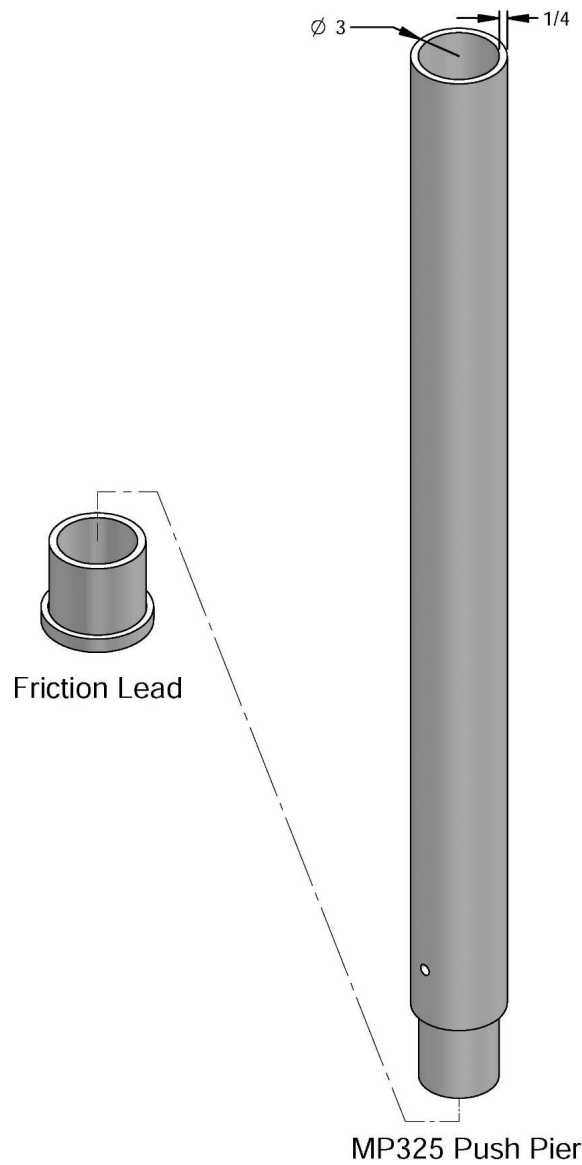


FIGURE 1—PUSH PIER SHAFT

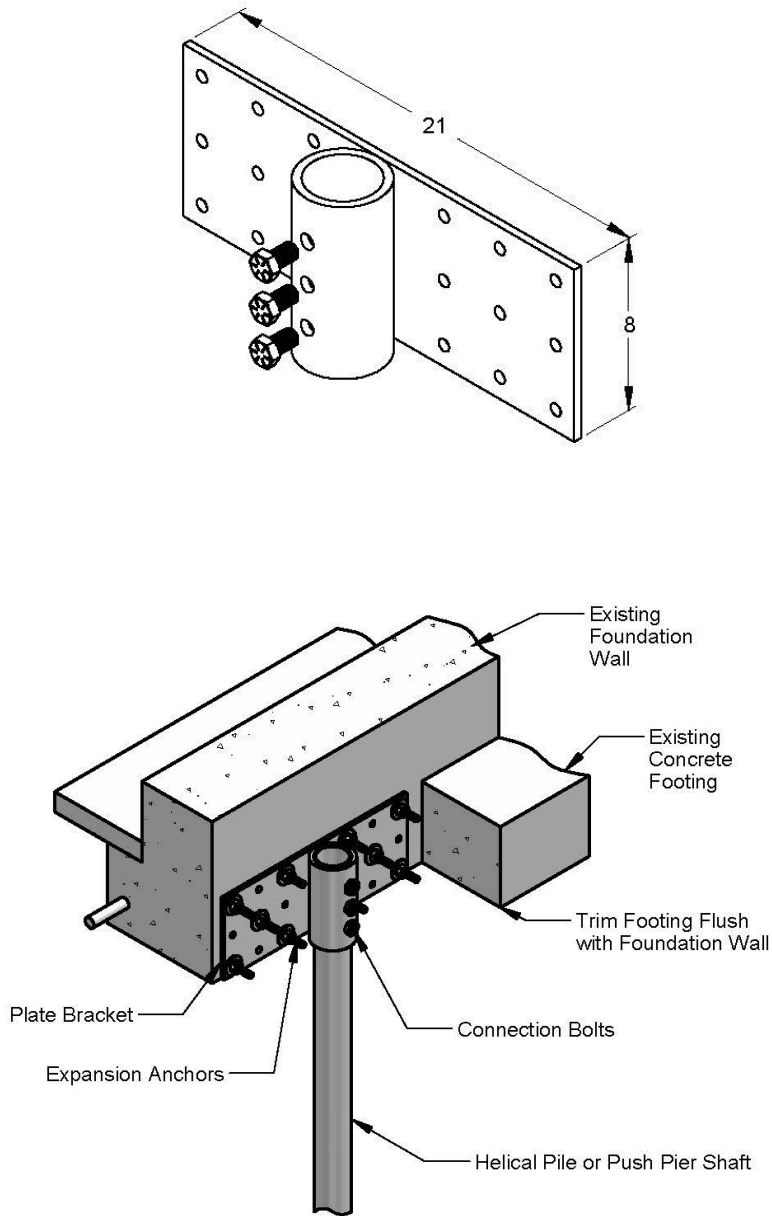


FIGURE 2—MAGNUM MP1001-3G SIDE LOAD BRACKET

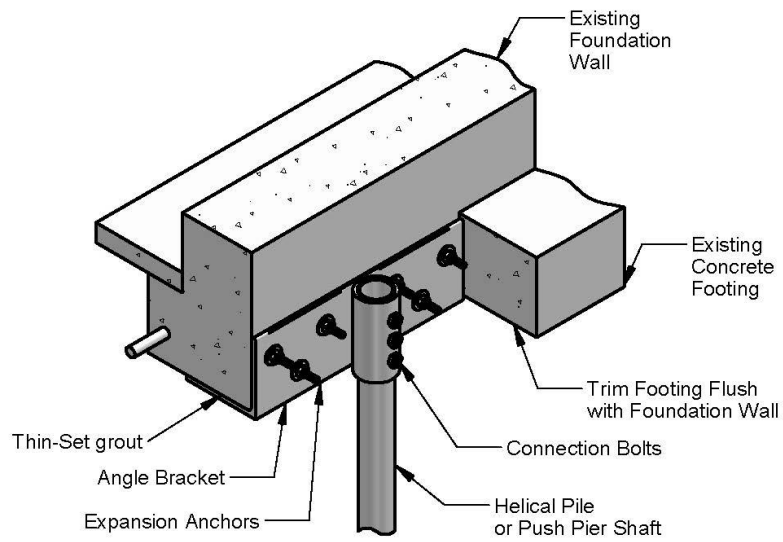
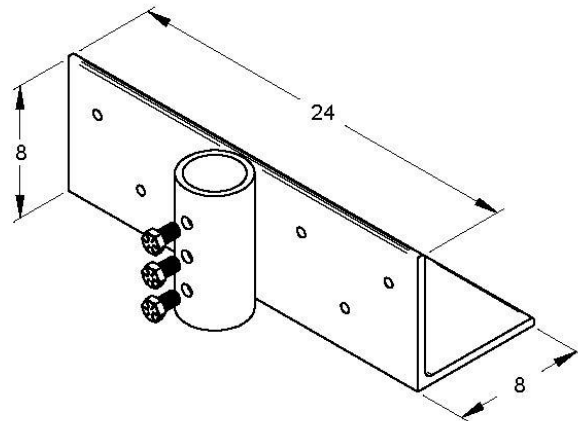


FIGURE 3—MAGNUM MP1002-3G SIDE LOAD BRACKET

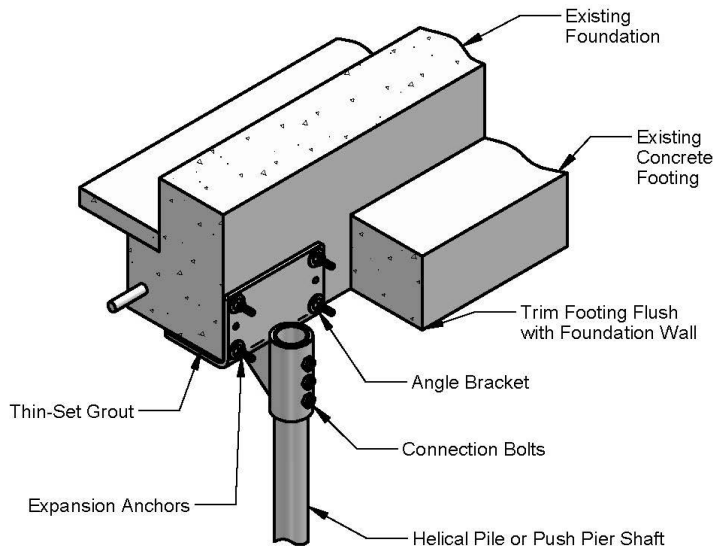
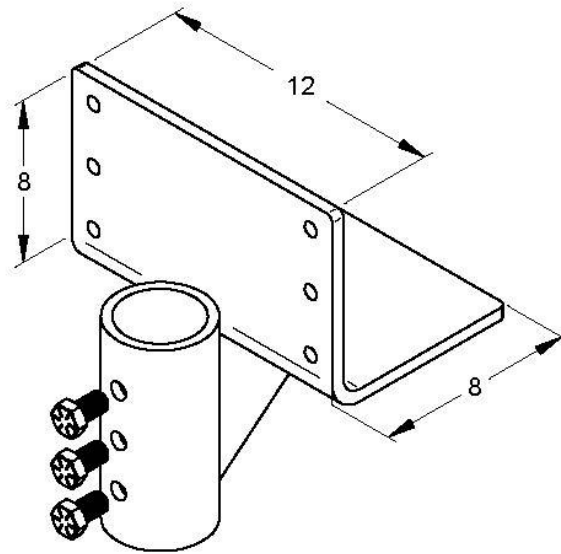


FIGURE 4—MAGNUM MP1005-3G SIDE LOAD BRACKET

DIVISION: 31 00 00—EARTHWORK
Section: 31 63 00—Bored Piles

REPORT HOLDER:

MAGNUM PIERING, INC.

EVALUATION SUBJECT:

MAGNUM PUSH PIER FOUNDATION SYSTEM

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the MAGNUM push pier foundation system, described in ICC-ES evaluation report ESR-4317, has also been evaluated for compliance with the code noted below.

Applicable code edition:

2022 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) aka: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS**2.1 CBC:**

The MAGNUM push pier foundation system, described in Sections 2.0 through 7.0 of the evaluation report ESR-4317, complies with CBC Chapter 18, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17 and 18, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued September 2024.