

# TYPICAL SPECIFICATION

## ECP Plate Earth Anchors

### Section 1- General

#### 1.01 Typical Installation Scope

Furnish labor, equipment, tools and material to install ECP Plate Earth Anchors as described in this specification in a workmanlike manner and to design criteria. All work shall be performed in accordance with all applicable safety codes in effect at the time of installation. Only skilled, experienced workers, who are familiar with the requirements and procedures necessary to properly and safely accomplish the work outlined in this specification, shall be employed.

1. Prepare site for safe working conditions.
2. Thoroughly investigate the site for any and all underground utilities before excavating.
3. Locate and install holes through basement or retaining wall
4. Carefully remove sod or paving and excavate holes for the plate earth anchors
5. Install anchor rod through the wall and into the plate earth anchor excavation
6. Placement of plate earth anchor into the excavation and attachment to the anchor rod
7. Installation the basement wall plate, washer and nut and tensioning the system
8. Remove equipment from work area and clean work areas

#### 1.02 Installation Plan

The plate earth anchors shall be installed as shown on the written repair plan that was prepared by an engineer or the installer and submitted to the owner or their representative. The plan shall include, but not be limited to:

1. Number of placements
2. Spacing between plate earth anchors
3. Minimum depth of embedment
4. Tensioning force

#### 1.03 Delivery, Storage and Handling

All foundation repair products, tools and equipment shall be handled and transported with care to prevent any damage or deformation.

### Section 2 - Product Material

#### 2.01 Plate Earth Anchor

The plate earth anchor shall be constructed from two 12" by 18", 10 gauge steel plates. The plates shall each have two stiffening ribs that run parallel with the long dimension. Each end of the narrow dimension shall have an earth cleat formed by a 1/2" right angle bend. The plate earth anchor when attached to the anchor rod has the configuration of a cross with the earth cleats facing toward the wall. The bearing area of the plate earth anchor system is 1.83 ft<sup>2</sup>. Plates shall be hot dip galvanized.

#### 2.02 Anchor Rod & Hardware

The anchor rod shall consist of two or three 3/4" diameter all thread rods by 4'-6" long and coupling(s). Two 3/4" square nuts shall be supplied to attach the plate earth anchor and the wall plate to the anchor rod. Material shall conform to ASTM A36 and shall have a yield of 36 ksi and an ultimate tensile of 60 ksi. A 4" square by 10 gauge thick plate washer mounts between the wall plate and nut. Product shall be galvanized

#### 2.03 Wall Plate

The wall plate shall be constructed from 12" by 18", 10 gauge steel. The plate shall each have two stiffening ribs that run parallel with the long dimension. Wall Plate shall be hot dip galvanized

### Section 3 – Plate Earth Anchor Installation

The following specification contains the major steps to be undertaken to install plate earth anchors. Variations may occur depending upon the application and the type of structural support required.

#### Warnings:



Thoroughly investigate the job site for the possible existence and location of all underground utilities before proceeding. Avoid all contact with ALL underground utilities!



Collapsing soil can be dangerous. Follow OSHA requirements at all times. Do not enter any excavation if there are any questions about the stability of the soil.



Failure To Heed These Warnings, Or To Follow Safe Work Habits, Or Improper Use Of The Equipment And Materials May Result In Life Threatening Situations, Bodily Injury And/Or Property Damage!

#### 4.01 Soil load on the wall.

The largest soil loads occur when water is present behind the wall. The following maximum load estimates may be used:

Estimated Basement Wall Load – Water Pressure Present			
Soil Height ft	Wall Load Estimate lb/lf	Wall Load – FS 1.5 lb/lf	Wall Load – FS 2 lb/lf
6ft	1,620	2,430	3,240
7ft	2,205	3,307	4,410
8ft	2,880	4,320	5,760

#### 4.02 Capacity of the Plate Earth Anchor in Soil

The following ECP Plate Earth Anchor capacities can be expected under the following soil conditions:

Estimated Bearing Capacity of Earth Plate Anchors			
Clay Soil – 5' Deep (min)		Sandy Soil – 5' Deep (min)	
SPT Blow Count "N"	Earth Plate Anchor Capacity	SPT Blow Count "N"	Earth Plate Anchor Capacity
2 blows/ft	4,000 lb	2 blows/ft	9,500 lb
4 blows/ft	8,000 lb	4 blows/ft	11,700 lb

#### 4.03 Wall Penetration

Based upon the load, soil capacity and maximum anchor rod tensioning force of 8,250 lb; determine the plate earth anchor spacing. Position the wall penetrations at the point of maximum bow in the wall. Bore 2" diameter holes through the wall at the designated locations.

#### 4.04 Excavate

Excavate the target location for the installing the plate earth anchors. The excavations are recommended to be 13-1/2 feet from the wall but shall never be closer than 9 feet to the wall. Excavations shall be deep enough to install the plate earth anchor at a depth of at least one foot lower than the elevation of the wall penetration or below the frost depth, whichever is greater. The excavation shall be of suitable size and depth to accommodate the plate earth anchor. Barricade or cover the excavations for safety.

#### 4.05 Installation of Components

Drive the anchor rod assemblies through the holes in the wall into the soil to terminate in the excavations to accept the plate earth anchors. Anchor rod must emerge no higher than the depth prescribed in 4.04. Attach the plate earth anchor to the anchor rod with a nut. The earth cleats shall point toward the wall. Install the wall plate and square plate washer over the anchor rod and secure with a nut against the wall.

#### 4.06 Plate Anchor Tensioning

Tension the system by tightening the nut attaching the wall plate. The maximum dry torque that can be applied to the nut is 87 ft-lbs. This torque will provide an estimated clamping force of 8,250 lb, which is below the recommended 70% of the anchor rod tensile strength.

#### 4.07 Documentation

At the conclusion of the installation, the raw field data shall be converted into an installation report that includes the location of each placement and the amount of load placed on each anchor. This may be filed in the job folder or provided to the client or engineer.

#### 4.08 Cleanup

Remove all scrap and other construction debris from the site. Remove all tools and equipment, clean them and store them.

The excavations shall now be backfilled using the soil that was removed and stored nearby. The backfill shall be placed into the holes in small lifts of 6" to 8" and then properly tamped to achieve maximum density. After the backfilling operation is complete, the sod, paving, etc. shall be replaced and restored to as close to preconstruction condition as possible.

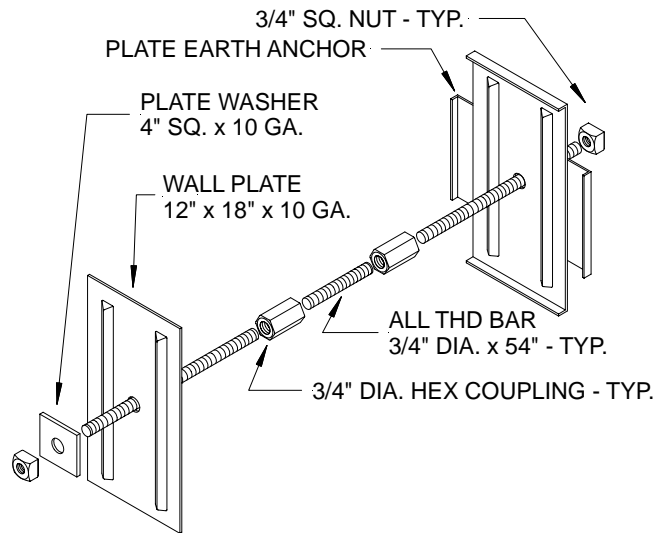
Dispose of all construction in a safe and legal manner.

### END OF SPECIFICATION

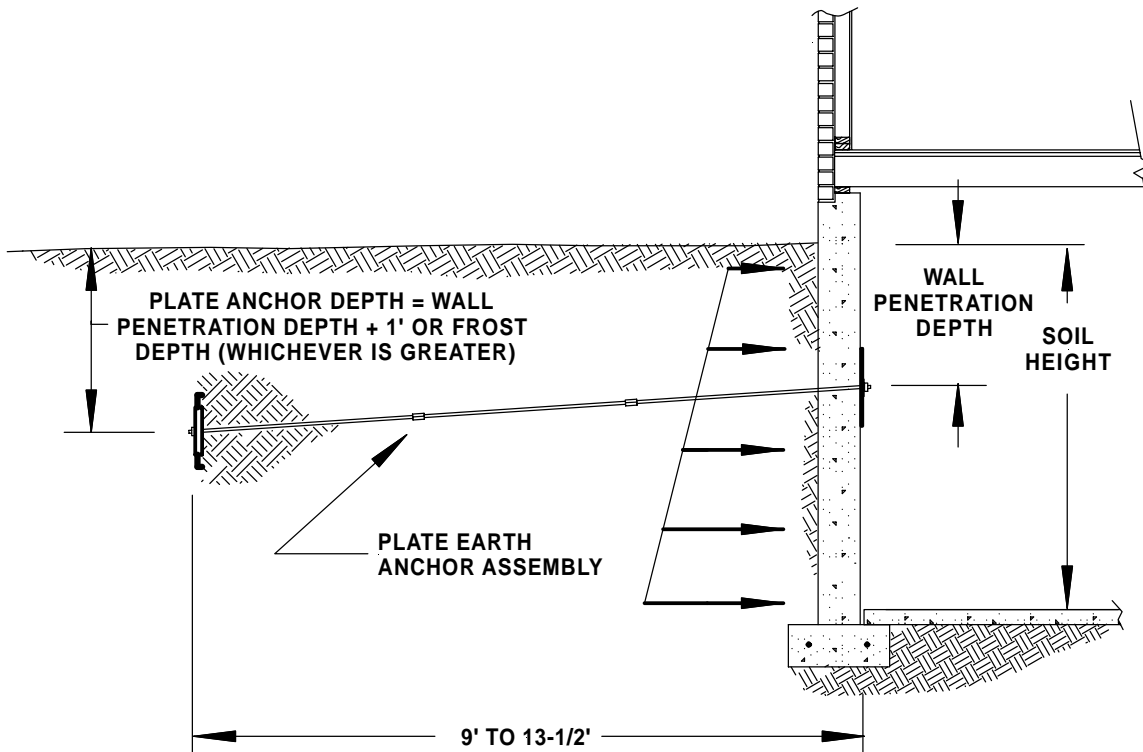
## ECP Plate Earth Anchor

- 8,250 Pounds Clamping Capacity
- 216 Square Inches Wall Bearing Surface
- 260 Square Inches Soil Bearing Surface
- Distance to Plate Earth Anchor Adjustable 9' to 13-1/2'
- Installs With Portable Equipment
- Installs With Little Disturbance to Landscape
- Installs With Little or No Vibration

### ECP Plate Earth Anchor Component Details



### Application Drawing



*Earth Contact Products, LLC reserves the right to change design features, specifications and products without notice, consistent with our efforts toward continuous product improvement. Please check with Earth Contact Products at 972 480-0007 or 913 393-0007 to verify that you are using the most recent specifications.*