

MEDIA KIT



Pacific Housing Systems™, Inc. is a leading provider of next generation foundation solutions for residential builders developing projects in areas of “marginal” soil: i.e.; hillsides, areas of high water tables, expansive, hydro-collapsible and rocky soils. As a Nevada corporation, it has been successfully installing systems in California since 1993. Currently, its **Wafflemat**, **Raised Wood Floor** and **Elevated Slab Systems** (featuring the **Winslow Geo Anchor** and **Lateral Resistance Device** components), make **PHS** the only company today to offer a solution for every soil condition.



www.PacificHousingSystems.com 925.820.2080

NEWS

start **SMART**
build **SMART**
stay **SMART**



ABOUT US

What We Do...

Pacific Housing Systems, Inc. is a leading provider of next generation foundation solutions for residential production home-builders developing projects where “marginal soil” (hillsides, areas with high water tables, firm clays and organics, low, moderate, high and critically expansive/hydro-collapsible and rocky soil) conditions are prevalent. The company’s **Wafflemat**, **Elevated Slab** and **Raised Wood Floor** Systems are specially designed and engineered for these areas, and include the **Winslow Geo Anchor** and **Lateral Resistance Device** components. PHS products and systems enable developers to increase the speed, quality and quantity of construction, providing savings in material costs, building cycle-time and future warranty issues.

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How It All Started...

Since 1993, **Pacific Housing Systems** has concentrated on the design, production, and installation of custom-built, deep foundation systems in areas of “marginal” soil for single and multi-unit residential projects in California. The systems were composed of engineered helical anchor foundations (**Winslow Geo Anchor**), and designed especially for high to highly-critical soil conditions. In addition to the **Winslow Geo Anchor**, **PHS** designed and developed the “**Smart Floor**” (manufactured off site to accompanying specifications, attaching quickly and seamlessly to the anchor foundation) as well as a “**Smart Core**” product (a module built off site, and containing 85% of all electrical panel, HVAC, water heater, kitchen cabinets, and bathroom elements).

In 2004, PHS began marketing its systems/solutions in areas outside California, concentrating, because of the high propensity of residential projects being developed in “marginal” soil, in the Western U.S.

In early 2005, PHS transitioned from a product company focused solely on selling/installing the **Winslow Geo Anchor**, to a “Systems” company providing “best of breed” solutions for projects being developed in any – low, moderate, high or critical – soil condition.



ABOUT US



How It All Started...

The company's first effort was, along with Wright Engineers of Las Vegas, the design of a raised post-tension slab foundation system especially for use in high and highly-critical expansive and hydro collapsible soils, as well as areas with high water tables. The **Elevated Slab System** is a 5" one cable post tension slab monolithically poured over a void form, allowing for expansive soil to rise and fall under the suspended post tension slab that is anchored to the helical piers.

The second system developed was the **Raised Wood Floor**. Built by a local timber provider, this system offers builders developing on critical and highly-critical expansive and hydro collapsible soils, hillsides and areas with high water tables, a cost effective solution. It is designed with 18 – 24 inch crawl spaces that provide venting, and mitigates issues related to mold.

A key component of both the **Elevated Slab** and **Raised Wood Floor** systems is the **Lateral Resistance Device**, or "LRD." Responding to increasing engineering requirements pertaining to lateral specifications, **PHS** created and patented this revolutionary device which allows for expansive soil movement while acting as a lateral resistance for the **Winslow Geo Anchor** and other market anchors. Providing support to loads of over 20 kips, the **LRD** is a "collar" that easily installs over the anchor, vibrates into position in seconds, and will consolidate surrounding soil and reduce all trenching. Its hollow center allows for the expansive soil swells.

Advantages of Pacific Housing Systems

Decreases building cycle-time and overall building costs

Dramatically reduces soil preparation

Corrosion and seismic resistant

Lateral Resistance Device included

Mitigates warranty and future liability issues

Finally, and in December 2005, **PHS** obtained the exclusive license for **Conco, Inc.'s Wafflemat** product (either 8 1/2" or 12" high, 19" x 19" thermal-grade heat resistant waffle boxes holding a 5" monolithically-poured post-tension or rebar re-enforced concrete slab that sits on the ground like a raft, the waffle boxes allowing for expansive soil movement), providing a competitive solution in low, moderate and highly-expansive soil conditions.

Today, **PHS** is the only company to offer systems for the entire range (low, moderate, high and critical) of soil conditions.



PACIFIC HOUSING SYSTEMS' FOUNDER BIOS

BIOS



Jim Winslow, *Co-founder and CTO*

Jim Winslow, Co-founder and Chief Technical Officer of **Pacific Housing Systems, Inc.** has been actively involved in the construction and land development industry as a general contractor, manufacturing/production manager, designer, engineer and inventor for over 20 years. Jim has served as a factory representative for both Valgaardson Housing Systems and West Coast Housing Systems, manufacturers of factory-built/modular housing. In addition, he was co-founder for Tri-Concepts, a state approved manufacturer of factory built housing.

Since 1995, Jim has concentrated on the design, production and installation of helical anchor foundations in single and multi-unit projects in and around the Northern California area. During this time, he has developed a new galvanization and coating process for the anchors, as well as coupling device for ease of production, transportation, and installation. He has also perfected the installation monitoring process, utilizing an in-line software unit for test/measurement, ensuring that each anchor is precisely installed.

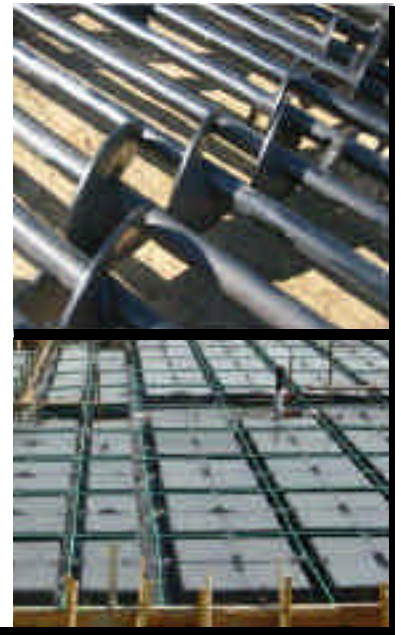
In addition to the foundation anchors, Jim has designed and developed the **Smart Floor** (manufactured off site to accompanying specifications, attaching quickly and seamlessly to the anchor foundation) as well as a **Smart Core** (a module built off site, and containing 85% of all electrical panel, HVAC, water heater, kitchen cabinets, and bathroom elements) products.



Tom Richards,
President & Co-Founder

Tom Richards, Co-Founder and President, most recently worked as the head of business applications delivery for Simpson Strong Tie (NYSE: SSD), one of the largest suppliers of connectors and anchor tie down home-construction products in the nation. Prior to Simpson, Tom worked for Business Objects (NASDAQ: BOBJ), a large software company specializing in business intelligence applications, as VP of Business Development, and Texas Instruments (NYSE: TXN), where he held a variety of positions at both the division and corporate levels, including Corporate Director over all partnerships and alliances worldwide. He started his business career as a sales person for Wang in the San Francisco Bay Area in 1988.

Tom holds a Bachelor of Science in Interdisciplinary Studies from the University of Alabama, and an advanced certificate in Integrated Marketing Management from the University of Southern California Marshall School of Business/TI Virtual University. In addition to authoring two books, he has written extensively and published numerous articles in the area of business relationship management.



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PHS WAFFLEMAT



PRODUCTS

Wafflemat

PHS Wafflemat™ Foundation Slab

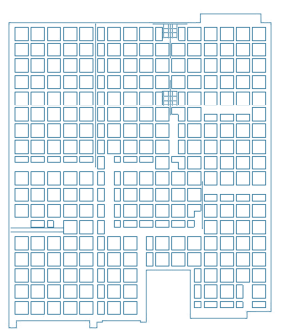
"The **Wafflemat System** is easily implemented in both rebar and post tension applications. It presents the best of both worlds to developers faced with the need to deliver maximum productivity with the highest possible reliability at the lowest cost."

- **Matt Gonsalves**,
Chairman, Conco Companies



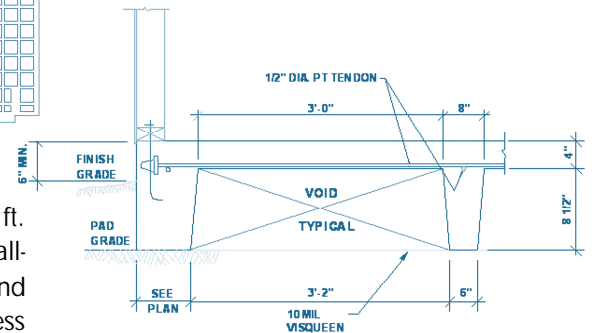
Where System Fits

Low, Moderate, and Highly-Critical Expansive and or Rocky Soil



Background

The **Wafflemat** is the most innovative – and, with over 6.5 million sq. ft. of residential living space poured since 1995 without one structural call-back, the most proven – foundation forming system for low, moderate and highly-critical expansive soil conditions. It possesses the greatest floor stiffness of any system, and is easily the most economical system in its class, with sufficient strength to resist differential swelling resulting from landscaping practices, surface drainage or flooding from any source. The **Wafflemat** does not require presoaking underlying soil pads, and there is no need for footings – meaning no earth spoils. And, since the **Wafflemat** slab is typically 12" above grade, it requires no gravel, sand or moisture barrier.



The **Wafflemat** comes in 8 1/2" or 12" high, 19" x 19" thermal-grade heat resistant waffle boxes. It holds a 5" monolithically-poured post tension or rebar re-enforced concrete slab (again, no footings are not required). The **Wafflemat** sits on the ground like a raft, the waffle boxes allowing for expansive soil movement.

The **Wafflemat** is created by connecting the boxes, and evenly spacing them throughout the footprint area. The monolithic pour creates concrete beams running through the footprint and perimeter. The system can be installed easily by a local concrete provider, and offers extensive set-up time savings (typical installation: one day). In addition, the plumbing is brought up through the waffle boxes, and can be re-enforced with rebar.

The system reduces building cycle-time, and provides an overall cost savings while greatly mitigating future warranty and litigation issues.



ELEVATED SLAB SYSTEM PRODUCTS

Elevated

SLAB

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Elevated Slab System

"The Elevated Slab System is a strategic alternative for developing on expansive soil sites, and there is a real potential for overall project cost savings using it."

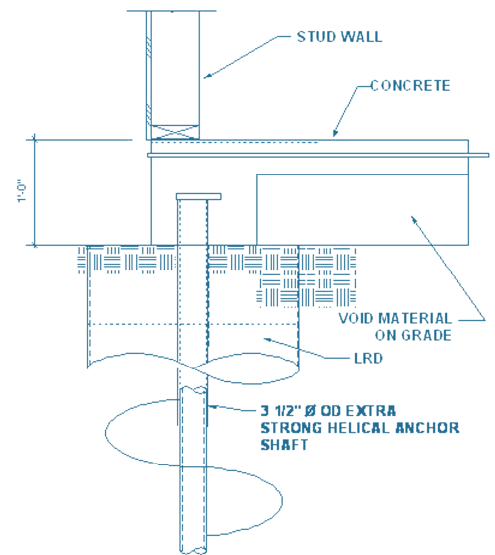
- **Daniel Bartlett,**
PE, Principle, Wright Engineers

Where System Fits

High and Highly-Critical Expansive and or Hydro-Collapsible Soils; Areas with High Water Tables

Background

In early 2005, **PHS** teamed up with Wright Engineers of Las Vegas, Nevada to design a raised post-tension slab foundation system especially for use in high and highly-critical expansive and hydro-collapsible soils, as well as areas with high water tables. Components of the **Elevated Slab System** include the **Winslow Geo Anchor** (a rotary installed steel anchor with single or multiple helix coils welded to an internal steel column that provides exceptionally high compression and tension capacity in unstable soil), and the **Lateral Resistance Device** (tested to over 20 kips, a "collar" that easily installs over the anchor, vibrates into position in seconds, and will consolidate surrounding soil and reduce all trenching) products together with a 5" one cable post tension slab monolithically poured over a void form allowing for expansive soil to rise and fall under the suspended post tension slab.



The **Elevated Slab System** is easily implemented by a local concrete provider, and reduces the need for soil preparation (import/export/re-compact) and accompanying spoils – thus reducing building cycle-time. The **Elevated Slab System** also mitigates future warranty and litigation issues, providing overall cost savings.

**PACIFIC
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RAISED WOOD FLOOR PRODUCTS

Raised FLOOR

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Raised Wood Floor

"One of the major concerns any developer has today is mold, and the venting provided in the **Raised Wood Floor System** not only eliminates that issue, but does it while delivering a superior-engineered solution in a truly cost effective manner."

- **Dan Rhoades,**
G.E. and Principle Geotechnical Engineer,
Purcell, Rhoades & Associates



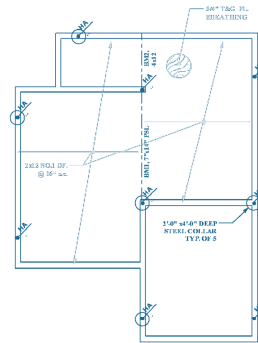
Where System Fits

High and Highly-Critical Expansive and or Hydro-Collapsible Soils; Areas with High Water Tables

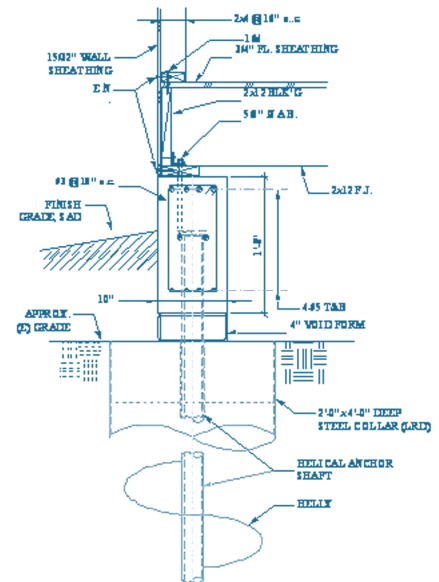
Background

Built by a local timber provider, this system offers builders developing on critical and highly-critical expansive and hydro-collapsible soils, hillsides and areas with high water tables, a cost effective solution. It is designed with 18 – 24 inch crawl spaces that provide venting, and mitigate issues related to mold. Components of the **Raised Wood Floor System** include the **Winslow Geo Anchor** (a rotary installed steel anchor with single or multiple helix coils welded to an internal steel column that provides exceptionally high compression and tension capacity in unstable soil), and the **Lateral Resistance Device** (tested to over 20 kips, a "collar" that easily installs over the anchor, vibrates into position in seconds, and will consolidate surrounding soil and reduce all trenching) products. The **Raised Wood Floor System** has been successfully utilized and integrated into foundation designs by **PHS** since 1992.

The necessary components of the **Raised Wood Floor System** are easily installed by local concrete and timber providers, and reduce the need for soil preparation (import/export/re-compact) and accompanying spoils – thus reducing building cycle- time. The System also mitigates future warranty and litigation issues, providing overall cost savings.



RAISED FLOOR & FOUNDATION PLAN



**PACIFIC
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WINSLOW GEO ANCHOR PRODUCTS

Winslow

ANCHOR

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Winslow Geo Anchor

Where Product Fits

Residential production and or individual homebuilder markets. Can also be utilized in commercial projects. Key component in both **Elevated Slab** and or **Raised Wood Floor Systems**.

Background

Designed and developed in 1993. A rotary installed steel anchor with single or multiple helix coils welded to an internal steel column that provides exceptionally high compression and tension capacity in unstable soil. Implemented in hundreds of homes, representing thousands of anchor installations.



Key features include

Speed of installation

State of the art interconnected steel components adapt to any site/weather conditions; install up to one every ten minutes.

Long lasting

Galvanization coatings provide durability against corrosion.

Exceptionally strong

High strength steel provides elastic foundation frame response to seismically induced energy, translating into uniform dampening of structure.

Prevents damage to adjacent structures

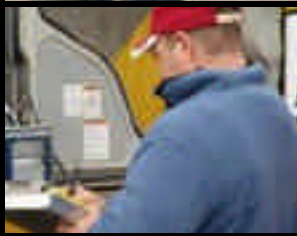
Non impact installation diminishes costly litigation often caused by other piling systems.

Quality manufacturing and testing process

ASTM procedures assure quality and product reliability. In field testing provides load and torque performance on each Anchor installed – unlike any other foundation system.

Significant cost savings

Reductions in concrete/steel reinforcement, spoils, and, especially, time of installation when compared to traditional approaches.



Expansive Soil Solutions' Advantages

Jim Winslow, CTO and co-founder of Pacific Housing Systems, said, "In expansive soil environments, builders spend a lot of time preparing and recompacting the ground before they pour deep cement footings with extremely thick post-tension slabs. Our offerings are designed to provide a solution recognized by structural and soil engineers alike that contain a variety of construction advantages -- and dramatically cut building-cycle time as a result."

**PACIFIC
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LATERAL RESISTANCE

DEVICE

Lateral

RESISTANCE

DEVICE

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PRODUCTS

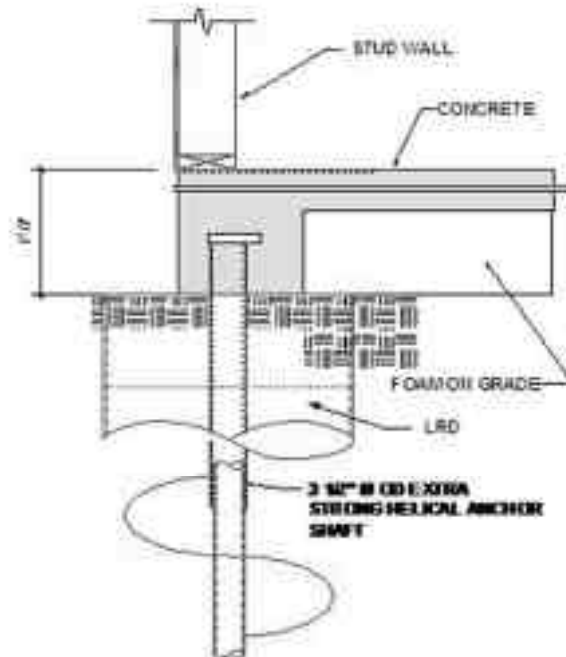
Lateral Resistance Device

Where Product Fits

Provides lateral support to Winslow Geo Anchor and or other market anchors.

Background

Designed and developed in 2005 in response to increased engineering, architectural and municipality requirements to provide greater lateral support. Easily installed over any anchor, the LRD vibrates into position in seconds, and will consolidate surrounding soil and reduce trenching requirements. Has been tested to over 20 kips against lateral movement, and is a key component - in conjunction with the Winslow Geo Anchor - in the Elevated Slab and or Raised Wood Floor Systems.



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SMART FLOOR

Smart

FLOOR

PRODUCTS

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Smart Floor

Where System Fits

Remodel Community, Custom-Built Homes

Background

Designed and developed in 1992. The Smart Floor is a raised floor – superior to any current offering of “floor on slab design” -- that is manufactured off site (the factory environment removing all potential weather problems) to specifications, and attaches quickly to the anchor foundation. Successfully installed in dozens of new and remodeled homes.



Key Features Include

Quality construction

Light gauge steel with 1-1/8 inch plywood decking.

Greater load support and distribution

Steel rim acts as a structural grade beam, allowing floor to span greater distances while drastically reducing the amount of potential piers used.

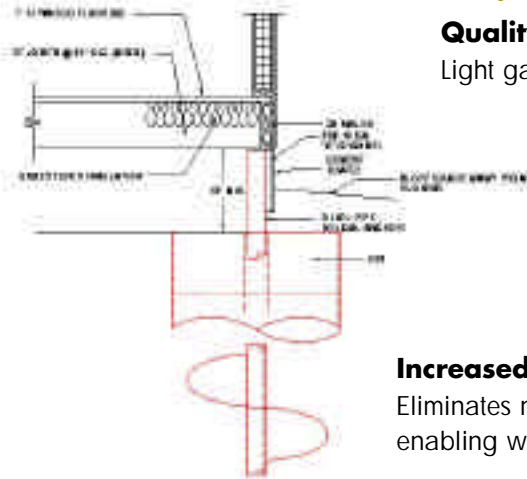
Spans/carries a wider area of ensuing load.

Increased space for windows and doors

Eliminates need for header packages on the first floor, enabling window and door openings to cover an area from floor to ceiling.

Significant cost savings

While the site work (grubbing, grading, spoils, foundation, etc.) is being performed, the floor is being built in a controlled factory environment installation.



PACIFIC HOUSING SYSTEMS, INC

SMART CORE

Smart

CORE

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PRODUCTS

Smart Core

Where Product Fits

With Winslow Geo Anchor and Smart Floor.

Used by individual home builders for new and or custom projects.



Background

Designed and developed in 1995. A module built efficiently off site in a climate-controlled factory containing 85% of all electrical panel, HVAC, water heater, kitchen cabinets, and bathroom elements needed in most projects. Installed in dozens of locations.

Key features include

Strength of construction

Built with 20 – 30% more materials than typical stick-built home; provides an inherently rigid system that performs significantly better than conventional residential framing.

Mobile

Modular construction provides for easy transportation and installation.

Builder friendly

Most sub contractor work (i.e.; sub panels, HVAC unit, cabinetry, bathroom elements/fixtures) already completed and or ready to be stubbed, installed, and set on site.

Customizable

Upgrades available to fit every price range and selection criteria.

Significant cost savings

Eliminates typical construction delays caused by weather, sub contractor no-shows, coordination confusion, and missing materials.

Expansive Soil Solutions' Advantages

Jim Winslow, CTO and co-founder of **Pacific Housing Systems**, said, "In expansive soil environments, builders spend a lot of time preparing and recompacting the ground before they pour deep cement footings with extremely thick post-tension slabs. Our offerings are designed to provide a solution recognized by structural and soil engineers alike that contain a variety of construction advantages -- and dramatically cut building-cycle time as a result."

**PACIFIC
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SYSTEMS, INC**

CASE STUDY

Pinto

PACIFIC
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Need For A Solid Foundation On a Creek-side Estate Lot

The soil conditions above the creek included an extremely high water table with unstable soil going to the bottom of the mountain due to the continued soil erosion off of the hillside. The loose, non-compacted soil definitely manifested geologic issues which normally would have been addressed by concrete piers, creating a floating system which would stay in place by friction instead of the preferred load transfer technique offered by the **Pacific Housing Systems** solution. The weight now rests on solid rock which was a perfect solution for this custom estate, and has mitigated any cracking and settling. The initial structural engineering recommendations were for over 45 concrete piers which made the project cost prohibitive. The **Winslow Geo Anchors™** were tested to each carry 50-60 tons and were a dramatically more economical solution.

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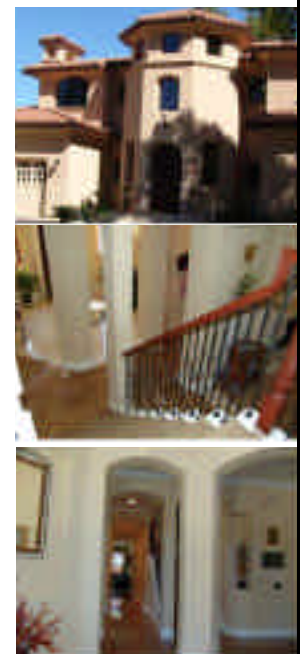
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Winslow Geo Anchors and Smart Floors Solution

The multiple rotary installed high-strength steel anchors included single or multiple helix coils welded to an internal steel column providing exceptionally high compression and tension capacity in unstable soil, and provides elastic foundation frame response to seismically-induced energy. This translates into uniform dampening of the structure. State of the art anchors each install in less than ten minutes, and include a **Lateral Resistance Device** (each tested to 20 kips). Corrosion protection includes galvanization, or patented protective coatings. ASTM procedures assure quality and product reliability. In-field testing provides load and torque performance on each installed anchor. The **PHS Smart Floor™** is created in a factory controlled environment to the exact specifications, from light gauge steel with 1-1/8 inch plywood decking. Its steel rim acts as a structural grade beam, allowing the floor to span greater distances, while drastically reducing the amount of potential piers used. It also carries a wider area of ensuing load while reducing the need for header packages on the first floor, enabling window and door openings to cover from floor to ceiling.

Pacific Housing Systems' Advantages

Winslow Geo Anchors and **PHS Smart Floors** were quickly installed in a few days enhancing the foundation building cycle-time while speeding up the overall building process. In just two days, the foundation and platform floor were ready to go. **PHS Smart Floors** were also used for the second story flooring, decreasing the construction framing process. The metal flooring joists offer many structural benefits, including no warping or squeaking, while providing a very solid feel. Additionally, travertine was installed directly over the first floor. The raised foundation system allows for easy after market construction additions. Stephen Pinto, homeowner, said, "The **PHS System** is a proven solution. I'm very pleased that we have not experienced any cracks or settling, which is an awesome proof of concept."



PHS PRODUCT TESTIMONIALS

Expansive Soil PHS Product Testimonials



FEMA Analyst Recommends Anchors - 10 Years After Installation

"The **Winslow Geo Anchor** was a critical and cost-effective component of this housing project, and now, ten years later, I can recommend the use of your anchors in areas where soil conditions such as expansive, hydro-collapsible, firm clays and organics and high water tables are prevalent," said **Randolph Langenbach, retired FEMA analyst and current industry consultant**. "The City of Oakland, CA Building Department not only approved this system, but were enthusiastic about it," continued Langenbach.

13 Years with Winslow Geo Anchors Solution – No Cracking

Dave Booth, California home owner, stated, "In 1993, my house was built with 23 **Winslow Geo Anchors** and has resulted in a superior house with no structural flaws. The brick porch floor has had no cracking or settling, and is hanging exclusively on the anchors. Both house and porch have had no settlement problems for the past 13 years, and there have been several earthquakes since the house was built. The anchors allow the house and foundation system to shift and move together versus jarring shifting that a traditional concrete foundation would have encountered."

10 Years Proven History with Winslow Geo Anchors

"Since 1995, we have used the **Winslow Geo Anchors** on six major residential projects. Each of these projects has performed as intended since it was completed. We have had no problems with the longevity of the anchors or complaints from any clients regarding movement or further distress," stated **Jeffrey Beam, P. E., Engineering West Consulting Engineers, Inc.**

1,200 Homes

-Successfully Built on Wafflemat System

Richland Development has constructed 1200 homes over the last ten years in Northern California with the presence of expansive soil conditions. "We piloted the **Wafflemat System** back in August 1995 and have used it exclusively on our homes since late 1995. We believe the performance has exceeded our expectations, and wholeheartedly recommend the use of the **Wafflemat System** for any area with expansive soils," said **Steven Johnson, president Richland Development Corporation**.

6.5 Million Sq. Ft. Living Space

- Successfully Poured on Wafflemat System

The **Wafflemat System** is one of the most innovative and proven foundation forming systems for residential construction in expansive soils. It possesses the greatest stiffness of any system, and has been proven over the past ten years without one structural callback. "We have implemented the system in both rebar and post tension applications, and now have over 6.5 million square feet of **Wafflemat** slabs poured in numerous cities and counties in California for residential production homebuilders like Shea Homes, Delco Builders and Mission Peak Company," stated, **Matt Gonsalves, Chairman and founder, the CONCO Companies**.

