Oldcastle Infrastructure™
A CRH COMPANY

ELEMATIC® HOLLOWCORE PLANK

2019 Technical Data Guide for Precast, Prestressed Concrete Hollowcore Plank

CONTENTS

INTRODUCTION

The purpose of this product manual is to provide assistance in selecting and detailing precast concrete hollowcore plank manufactured by Oldcastle Infrastructure.

The load tables presented herein are intended as a guide only. Final design is determined by our engineering department based on information presented in the final plans and specifications. Loading information including SDL, LL, snow drift, and non-uniform concentrated & line loads more than 1.0 kip or 0.100 klf should be stated by the project structural engineer of record (SER). Lateral loading requirements from wind and seismic analysis can be specified in the form of including our standard connection details, or by stating floor diaphragm shear forces in klf on the structural plans. For additional design assistance, please contact us at 518-767-2116 and ask for our engineering dept.

Although care has been taken to provide the most accurate data possible, Oldcastle Infrastructure, Inc. does not assume responsibility for errors and omissions.

MANUFACTURING PROCESS

Elematic® is a machine extruded, precast, prestressed hollowcore plank. The planks are manufactured on 600-foot-long steel beds in standard widths of 48 inches and thickness of: 8, 10, 12 and 16 inches. High strength prestressing strands are cast into the planks at the spacing and location required for the given span, loading and fire cover conditions. Oldcastle Infrastructure plants are capable of extruding up to 14,000 SF of precast plank every day to meet project schedules. The planks are cut to length for each project using a diamond-blade saw. After the planks are cut, they are removed from the casting beds and placed into storage, and ready for shipment.

All Elematic materials equal or exceed the requirements of applicable ASTM specifications. Our concrete mix is designed to have release strengths of 3,000 psi or 3,500 psi, and a 28-day compressive strength of 5,000 psi. For sustainability, our concrete mix has been fine tuned to use less cement to lower our carbon footprint, but fly ash is not added.

The prestressing strands are uncoated, seven wire, low relaxation with a minimum ultimate strength of 270 ksi.

Our manufacturing capabilities also include: longitudinal and skew cuts to fit any building shape, adding top strands for cantilever designs, cast-in bottom embed plates for welded connections to steel structures, cast-in top plates for curtain wall and relieving angle attachments, column notches, side grout pockets for rebar connections to shear walls, and top slots for field grouting of hollowcores needed for rebar connections and additional shear capacity.

Be sure to discuss your project scope with your Oldcastle sales representative in detail as each project should dictate which details are required for design and constructability.

DELIVERY & INSTALLATION

Oldcastle Elematic® Hollowcore Plank plant is located in Selkirk, NY serving the North East region. Our precast hollowcore planks are shipped by truck/trailer to the crane on site (generally less than 500 miles from our plant). Oldcastle's project team will coordinate overall schedule, erection sequence, safety plans, and other project parameters with each customer to ensure on-time delivery.

Our project scope can include installation and grouting by Oldcastle's experienced PCI certified field crews; or FOB delivery only for installation by the general contractor and his/her erector. The erector will install the precast planks in accordance with PCI tolerances which include occasional cutting and trimming of the concrete to adjust for product and field tolerances, and interference with steel connections not shown on contract & shop drawings. Grouting material consists of 1:3 cement-sand grout with a minimum 28-day strength of 2,500 psi placed in all plank joints, and sometimes also at perimeter joints. Higher grout strengths of 4,000 psi is used on CFMF load bearing metal stud and Girder-Slab shallow steel beam structures. Field grout is delivered by ready mix truck and placed by crane, or by grout pump. Pre-packaged non-shrink grout is not used in hollowcore plank grouting.

LOAD TABLE DESIGN CRITERIA

The tables herein list allowable live loads in pounds per square foot (PSF) for uniformly distributed loading. Non-uniform loading conditions resulting from point loads, line loads, openings and cantilevers require special design consideration. The SER should specify the required uniform and special loading on the structural drawings. Oldcastle Infrastructure engineering will perform all engineering analysis and submit PE stamped calculations to the GC/Architect/SER for review and approval prior to fabrication.

Load Table values are calculated in accordance with ACI 318-14 design standard and comply with L/360 deflection limits.

Load tables are based on a plank concrete strength of 5,000 psi. Tables for topped sections are based on a topping strength of 3,500 psi and minimum thickness of 2 inches.

Plank self-weight and 2" concrete composite topping are both included, and do not need to be added to your design loads to compare to these load tables.

See "Notes" section in the load tables for other helpful design tips on using our load tables. It is possible to exceed the values in these load tables by approximately 10% if the area in question is adjacent to side wall or beam support, or shorter spans.

For initial design, the following span to depth ratios (L/D) can be used to determine maximum spans and hollowcore plank thickness:

MAXIMUM SPAN TO DEPTH RATIO	
Residential Loading of 20 SDL + 40 LL	48
Residential Loading with masonry partitions	35
Common/Assembly Loading of 10 SDL + 100 LL	42

PLANK DESIGN CONSIDERATIONS

The following items will affect the selection of appropriate plank sizes and should be carefully reviewed by the Architect/ Engineer (SER = structural engineer of record) while developing the plans and specifications for a project:

LOADING CONDITIONS

- Specify all uniform loading requirements on structural drawings.
- Specify snow drift loads per ASCE-7 on the roof plan.
- The SER should specify plank connection details and/or diaphragm shear forces resulting from wind and seismic lateral analysis; and retained earth if present.
- Identify line and point loads resulting from masonry partition walls, face brick, posts, mansards, RTUs, mechanical equipment, etc.
- In general, the plank floor system can be designed for MEP openings and small skylights less than 4'-0" wide.
- Larger openings such as elevator shafts, stair shafts, and MEP shafts larger than 4'-0" wide will require additional structural support for the precast planks.

TOPPING

- Specify whether or not concrete topping is to be composite. Composite action requires the topping to be bonded to the top surface of the plank. Oldcastle's standard is to provide a longitudinal machine drag rake finish on the top of the precast planks to provide an intentionally roughened finish for improved bonding with the composite topping.
- "Topped" load tables are calculated with a maximum horizontal shear stress of 80 psi between the top of the precast plank and the bottom of the topping.
- Topping separated by a vapor barrier or insulation is non-composite and must be considered a superimposed dead load.
- Large cambers resulting from heavy loads will affect the quantity of topping, assuming a level floor is required. 1-1/2" of composite topping at mid span is minimal, and additional thickness at the ends of the plank may be required to maintain level floor elevations.
- Bonding agent is typically not required on Oldcastle longitudinally raked top finish, unless specified by the SER and/or project specifications.

CAMBER

- Camber is inherent in all prestressed products. It is the result of the eccentric prestress force required to resist design loads, and cannot be designed in, out, or to an exact number. The amount of camber will depend upon the design loads, span and thickness of plank. Planks stored in the yard for more than 4 weeks, usually due to construction schedule changes, will experience more camber growth.
- Adjacent plank of dissimilar length or dissimilar strand pattern will have inherent camber differences.
- Joints at plank span change in direction is a common location with differential camber. Building layouts should minimize plank change in direction occurences.
- Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. For example, if 2-1/2" concrete topping thickness is specified, a minimum topping thickness of 1-1/2" is still achieved with a maximum plank camber of 1" at mid-span.

- The approximate short term camber loss from 30 psf live load is 1/4". This value can be used as a guide for curtain wall connection design to the perimeter edge of the precast plank. The precast plank will revert back to full camber once the live load is gone.
- The approximate long term camber loss from material shrinkage & creep is 1/8" in 5 years and 1/4" in 20 years.

OPENINGS

- Openings can be reviewed by Oldcastle engineering for the architect/engineer of record during design development, if requested.
- After a project is awarded, Oldcastle engineering will review all openings for structural design during the shop drawing submittal process.
- Electrical and plumbing openings are typically located and core drilled on site by the MEP sub trade. Larger HVAC openings are located on site by the mechanical sub and saw cut on site by the GC's precast erector or Oldcastle, depending on the executed project scope.
- Core drilled openings 6" dia. or smaller in isolated situations (ie. not multiple openings next to one another) can be done anywhere, except at a free plank edge. The side of a plank that is not grouted next to another plank or side bearing over a support wall is a free plank edge.
- Typically, an allowance of approximately 15% of the strands in any plank can be cut without falling below the design load requirements.
- If several openings are in the same vicinity, it is best to have them in a line and parallel to the plank span. This will result in the lost of only one strand, because the same strand is being cut in several locations rather than different strands being cut.
- The planks will support more openings cut near either support ends than in the middle 3rd of the span. This is because the precast planks can be reinforced to restore shear capacity, but not for flexural bending capacity.
- For HVAC duct openings between 20" and 48" wide in size, it is better to locate at a plank joint so that two adjacent planks get cut ½ the width of the opening rather than cutting the entire opening in one plank.
- In areas where the planks are supporting additional heavy loads such as masonry partition walls, the amount of openings than can be cut will be greatly diminished as there is not enough capacity that can be manufactured into the precast planks.
- Generally, the electrical and sprinkler trades can be accommodated since they have small openings. Hand drilled openings will not be able to cut through the strands. The trades will have to make sure that they drill through the core locations.
- We, the plank manufacturer have to approve all openings prior to cutting except those smaller openings less than 6" dia. Typically this is done by forwarding us a copy of the mechanical and plumbing subcontractor's layout drawings. *Note that we may not be able to approve excessive opening requirements unless additional framing support is provided.*
- On more complex projects with more openings, Oldcastle can provide a full scale template that can be placed on the hollow-core plank deck, using the grout joints to position the template. The template will help identify the location of every hollow cell and strand in any plank. This will allow the MEP trades to make small changes in the final location of cored openings to avoid cutting some of the strands.

FIRE RATING

Fire rating specifications are as important as all other design parameters. Plank rating requirements are determined by the Architect or Structural Engineer of Record (SER), who is also responsible for establishing the fire rating criteria for the total project.

Four methods generally used for determining precast hollow core plank fire-resistant ratings are:

- 2015 ICC International Building Code
- Underwriters Laboratories Fire Resistance Ratings
- NYC OTCR approved product & manufacturer certification (New York City only)
- Rational analysis as defined by PCI MNL 124, "Design for Fire Resistance of Precast Concrete"

INTERNATIONAL BUILDING CODE "IBC" FIRE RATINGS

The ICC-IBC code prescribes fire ratings to any precast hollowcore plank section. Since 2000, the ICC-IBC code has replaced the BOCA, SBC and UBC model codes in all 50 states. The two criteria that are measured to determine the fire rating are:

- Equivalent concrete thickness – 4.6" is required for 2 hrs
- Bottom strand cover – ¾" cover is required for 2 hrs (restrained condition)

UNDERWRITERS LABORATORIES FIRE RESISTANCE RATINGS

Prior to codes including prescriptive fire-endurance rating methods, fire tests provided the primary source of ratings classifications. While some plank sections were fire tested, others can be evaluated by UL from similar existing UL ratings. The table below lists the UL ratings available with Elematic plank. Note that these ratings are dependent upon whether or not the ends of the planks are restrained. Determination of the restraint must be made by the Architect or the Structural Engineer of Record (SER), as it is primarily a function of the support structure.

UL NUMBER	RATING (HOUR)		PLANK THICKNESS (INCH)	TOPPING THICKNESS (INCH)
	RESTRAINED	UNRESTRAINED		
J994	$1^{1/2}$	$1^{1/2}$	8, 10, 12	0
J994	2	$1^{1/2}$	8, 10, 12	$1^{1/2}$ Gypcrete
J994	3	$1^{1/2}$	8, 10, 12	$2^{1/8}$ Topping
J994	4	$1^{1/2}$	8, 10, 12	$3^{3/8}$ Topping
J995	2	2	8, 10, 12	0
J995	3	2	8, 10, 12	$1^{1/2}$ Topping
J995	4	2	8, 10, 12	$2^{5/8}$ Topping

NEW YORK CITY OTCR PRODUCT APPROVAL

For projects within New York City, the NYC Dept. of Building requires the precast hollowcore manufacturing plant to be pre-approved by the Office of Technical Certification & Research (OTCR). Historically, this certification was known as the MEA certification (Material & Equipment Acceptance) prior to the 2008 NYC Building Code. Oldcastle Infrastructure has been a NYC approved precast hollowcore plank manufacturer since the early 1970s.

FIRE RATINGS BY RATIONAL ANALYSIS

PCI MNL 124 defines the “rational analysis” method for determining the fire resistance rating of precast/ prestressed members. It is useful to use when a fire resistance rating cannot be obtained by any of the three previous methods. Actual practice has shown that this method is very conservative and that the span of the hollowcore plank will have to be reduced (approx. 10% to 20%) to achieve the same fire resistance rating from both IBC and UL.

In using this method, the reduced strength of the prestressed strands at elevated temperatures is determined and the resulting moment capacities are compared to that required for service loads. Strand temperatures are based on the amount of concrete cover and the standard fire exposure as defined by the time-temperature relationship specified in ASTM E119. Fire ratings will also be improved if the plank assembly is restrained against thermal expansion. It should be noted that the only universally accepted definition of full restraint is an interior bay of a multi-bay building.

THERMAL “R” VALUES

Concrete is a dense material, and as a result, is not a good insulating material. On occasion, a designer who needs the thermal “R” value of precast concrete hollowcore planks, can reference the table below.

Although there is some improvement for filling the plank hollowcores with foam insulation, the losses from thermal bridging of the concrete webs greatly reduces the effectiveness of the added insulation. There is also a cost premium and longer lead time associated with adding foam insulation. A much more economical design option is to specify 1’-3” of batt insulation (widely available in 15” rolls) installed into the cores at areas of high potential heat loss, in the field by the general contractor.

THERMAL “R” VALUES	
8” Elematic®	1.34
8” Elematic® with foam insulation in cores	3.14
H8” Heavy Elematic®	1.43
H8” Heavy Elematic® with foam insulation in cores	2.72
H10” Heavy Elematic®	1.73
H10” Heavy Elematic® with foam insulation in cores	4.05
12” Elematic®	1.91
12” Elematic® with foam insulation in cores	5.01
16” Elematic®	2.28
16” Elematic® with foam insulation in cores	7.48
2” concrete topping	+0.15
3” concrete topping	+0.23
2” lightweight concrete roof topping (110 pcf)	+0.35
4” lightweight concrete roof topping (110 pcf)	+0.70
6” lightweight concrete roof topping (110 pcf)	+1.05

SOUND RATINGS

The following tables contain values for the Sound Transmission Class (STC) and the Impact Insulations Class (IIC) of various floor systems utilizing Elematic® Hollowcore Plank precast hollowcore plank.

SOUND TRANSMISSION CLASS (STC)

The values for the Sound Transmission Class were determined by testing in accordance with ASTM E90. The STC is a measure (in decibels) of the ease at which air-borne sound is transmitted through a floor system. The density and mass of precast concrete planks is ideal for achieving larger STC values, which indicate greater sound insulation.

IMPACT INSULATION CLASS (IIC)

The values for the Impact Insulation Class (IIC) were determined by tests which were in accordance with ASTM ES492. Impact Insulation Class is the resistance to impact noise transmission and is mostly influenced by the finish material applied on top of the precast planks. A soft material such as carpeting will achieve the best IIC ratings. As with STC, the higher IIC values are more desirable. Note that IIC testing is typically done by the finish material manufacturer on 6” solid concrete slabs. These test values can be used on other slab thickness and precast hollowcore planks since the effect of the mass of the underlying slab is negligible for impact noise absorption.

SOUND TRANSMISSION CLASS (STC)	
8” Elematic®	51
8” Elematic® + 2” Topping	54
H8” Heavy Elematic®	51
H8” Heavy Elematic® + 2” Topping	55
H10” Heavy Elematic®	53
H10” Heavy Elematic® + 2” Topping	56
12” Elematic®	54
12” Elematic® + 2” Topping	57
16” Elematic®	56
16” Elematic® + 2” Topping	59

IMPACT INSULATION CLASS (IIC)	
TYPES OF FLOOR SYSTEMS	RATING
8” Hollowcore Plank	28
8” Hollowcore Plank + 1/2” wood block flooring adhered directly	47
8” Hollowcore Plank + VTC, (ex. Armstrong)	47-56
8” Hollowcore Plank + quarry tile w/reinforced mortar bed with 0.4” nylon & carbon black spinneret matting	54
8” Hollowcore Plank + pad & carpet	73
Add Acoustical Ceiling	+6

SUSTAINABILITY

It is recognized that the production of cement contributes to overall greenhouse gas emissions. In 2013, a joint LCA study conducted by the Precast Concrete Institute (PCI), Canadian Prestressed Concrete Institute (CPCI), and the National Precast Concrete Association (NPCA) confirmed this and also gave our industry a benchmark for future improvements. The following sustainable practices are already in place to manufacture, deliver and install our Elematic® hollowcore planks:

- Use the lowest cement content in manufacturing while still achieving consistent concrete strengths.
- Although fly ash can be added to divert the fly ash waste from landfills, we cannot replace any more cement from our optimized concrete mix.
- Advance machine extrusion technology casts Elematic® hollowcore planks with 44%-52% less concrete compared to the equivalent thickness solid concrete slab.
- Proven prestressing technology since the 1960s with ASTM A416 steel strands with 270 ksi yield strength (4.5X stronger than conventional rebar) increases our maximum span by approx. 75% more than continuous design CIP solid concrete slabs of the same thickness which results in less framing elements such as columns, beams, and bearing walls.
- ASTM A615 rebar is ordered to length and cut from continuous coils by our steel fabricator to minimize waste.
- Steel casting beds provide the most consistent smooth bottom finish without any other additional forming waste (ie. no wood).
- Both radiant heating in our casting beds and natural curing are used depending on the season to achieve proper curing with the lowest energy use. Steam curing is not used.
- All our concrete constituent materials including cement, limestone aggregates, and sand; are extracted from nearby sources well within the 500 miles LEED criteria.
- All water is pumped from on site wells, reducing the demand on the local municipal water supply.
- Waste precast hollowcore plank in our yard is crushed and separated in our yard. The crushed concrete is used for clean fill material by local road contractors and land owners. All scrap steel is delivered to recycling centers.
- On the job site, up to 10,000 sf of Elematic® Hollowcore Planks can be installed in a single day which reduces the overall duration of the construction process. Larger projects may have two cranes installing precast to further reduce the overall construction duration.
- The offsite pre-fabrication of precast concrete structural elements greatly reduces on-site construction activities and associated traffic, waste, noise, and safety hazards.

Oldcastle Infrastructure continues to search for more future sustainable practices.

SPECIFICATIONS FOR PRECAST, PRESTRESSED HOLLOWCORE PLANK - SECTION 034100

1. GENERAL

1.01 DESCRIPTION

A. Work Included:

1. These specifications cover manufacture, transportation and erection of precast, prestressed, concrete, hollowcore plank, including grouting of joints between adjacent units.

B. Related Work Specified Elsewhere:

2. Cast-in-Place Concrete: Section________
3. Architectural Precast Concrete: Section________
4. Precast Structural Concrete: Section _______
5. Underlayments (Floor and/or Roof Leveling): Section_______
6. Caulking and Sealants: Section ______
7. Small Holes for Mechanical/Plumbing: Section _____
8. Cast-in-Place Embedments: Section_______
9. Steel Bearing Lintels: Section ________
10. Insulation in Plank Cores: Section _______

1.02 QUALITY ASSURANCE

A. Manufacturer Qualifications: The precast concrete manufacturing plant shall be certified by the Prestressed Concrete Institute (PCI) Plant Certification Program prior to the start of production. Manufacturer shall be certified in category C2.

The manufacturer shall retain a registered structural engineer to certify that manufacturing is in accordance with design requirements; or

The manufacturer shall, at his expense, meet the following requirements:

1. The basis of inspection shall be the Prestressed Concrete Institute's "Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products", MNL-116, and the criteria for acceptance shall be the same as the Plant Certification Program.

B. Erector Qualifications: PCI Qualified and regularly engaged for at least 5 years in the erection of precast structural concrete similar to the requirements of this project. Retain a registered structural engineer to certify that erection is in accordance with design requirements.

C. Welder Qualifications: In accordance with AWS D1.1.

D. Testing: In general compliance with applicable provisions of Prestressed Concrete Institute MNL-116, "Manual for Quality Control for Plants and Production of Precast Prestressed Concrete Products".

E. Requirements of Regulatory Agencies: All local codes plus the following specifications, standards and codes are a part of these specifications:

1. ACI 318 – Building Code Requirements for Reinforced Concrete;
2. AWS D1.1 – Structural Welding Code-Steel;
3. AWS D1.4 – Structural Welding Code-Reinforcing Steel;
4. ASTM Specifications – As referred to in Part 2-Products, of this Specification.

1.03 SUBMITTALS AND DESIGN

A. Shop Drawings:

5. Erection Drawings

    a. Plans locating and defining all hollowcore planks furnished by the manufacturer, with all major openings shown.

    b. Sections and details showing connections, weld plates, edge conditions and support conditions of the hollowcore plank units.

    c. All dead, live and other applicable loads used in the design.

    d. Fire rating.

B. Approvals:

1. Submit ______ copies of erection drawings for approval prior to fabrication. Fabrication not to proceed prior to receipt of approved drawings.
2. Alternatively, submit electronic files (ie. PDF) either by email to the CM/GC, or by uploading to internet based project submittal sites.

C. Product Design Criteria:

1. Loadings for design

    a. Initial handling and erection stresses.

    b. All dead and live loads as specified on the contract documents.

    c. All other loads specified for hollowcore plank where applicable.

2. Fire rating shall be _____ hour(s).
3. Design steel plank support headers when such headers are determined necessary by the manufacturer's engineer.
4. Design calculations shall be performed by an engineer, registered in the state that the project is located in, and experienced in precast prestressed concrete design. Design calculations to be submitted for approval upon request.
5. Design shall be in accordance with ACI 318 building code requirements for structural concrete and applicable codes.

D. Permissible Design Deviations:

1. Design deviations will be permitted only after the Architect/Engineer's written approval of the manufacturer's proposed design supported by complete design calculations and drawings.
2. Design deviations shall provide an installation equivalent to the basic intent without incurring additional cost to the owner.

E. Test Reports: Test reports on concrete and other materials shall be submitted upon request.

2. PRODUCTS

2.01 MATERIALS

A. Portland Cement:

1. ASTM C150 – Type I or III.

B. Admixtures:

1. Water Reducing, Retarding, Accelerating, High-Range Water Reducing Admixtures: ASTM C494

C. Aggregates:

 1. ASTM C33 or C330

D. Water: Potable or free from foreign materials in amounts harmful to concrete and embedded steel.

E. Reinforcing Steel:

 1. Bars:

 Deformed Billet Steel: ASTM A615
 Deformed Rail Steel: ASTM A616
 Deformed Axle Steel: ASTM A617
 Deformed Low Alloy Steel: ASTM A706

 2. Wire: Cold Drawn Steel: ASTM A82.

F. Prestressing Strand:

 1. Uncoated, 7-Wire, Low Lax strand: ASTM A416 (including supplement) – Grade 250K or 270K.

G. Welded Studs: In accordance with AWS D1.1.

H. Structural Steel Plates and Shapes: ASTM A36.

I. Grout:

 2. Cement grout: Grout shall be a mixture of not less than one part portland cement to three parts fine sand, and the consistency shall be such that joints can be completely filled but without seepage over adjacent surfaces. The grout shall achieve a minimum 28-day compressive strength of 2,500 psi. Any grout that seeps from the joint shall be completely removed before it hardens.

J. Bearings Strips:

 1. Plastic: Multi-monomer plastic strips shall be non-leaching and support construction loads with no visible overall expansion.

2.02 CONCRETE MIXES

A. 28-day compressive strength: Minimum of 5,000 psi

B. Release strength: Minimum of 3,000 psi

C. Use of calcium chloride or admixtures containing chlorides is not permitted.

2.03 MANUFACTURE

A. Hollowcore plank shall be machine cast in 48-inch widths under the trade name Elematic® as manufactured by Oldcastle Infrastructure.

B. Manufacturing procedures and tolerances shall be in general compliance with PCI MNL 116.

C. Openings: Manufacturer shall engineer the planks for rectangular openings 10” or larger on all sides and as clearly shown on the architectural and structural drawings. They shall be located by the trade requiring them and then field cut. Round and small openings (less than 10”) shall by drilled, cored drilled or saw cut by the respective trades after grouting. Openings requiring cutting of prestressing strand shall be approved by the precast plank manufacturer before drilling or cutting.

D. Finishes: Bottom surface shall be flat and uniform as resulting from an extrusion process, without major chips, spalls and imperfections. Top surface shall be machine troweled.

E. Patching: Will be acceptable providing the structural adequacy of the hollow core unit is not impaired.

3. EXECUTION

3.01 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery and Handling:

1. Hollowcore plank shall be lifted and supported during manufacturing, stockpiling, transporting and erection operations only at the lifting or supporting points designated by the manufacturer. The erector should place lift cables or straps at the two dunnage locations on the delivery trailer, for each hollowcore plank.
2. Transportation, site handling and erection shall be performed by qualified personnel with acceptable equipment and methods.

B. Storage:

1. Store all units off ground on firm, level surfaces with dunnage placed at bearing points.
2. Place stored units so that identification marks are discernible.
3. Separate stacked units by dunnage across full width of each plank.

3.02 ERECTION

A. Site Access: Erection access suitable for cranes and trucks to move unassisted from public roads to all crane working areas as required by erector, or otherwise indicated herein, will be provided and maintained by the general contractor. Obstructing wires shall be shielded or removed and, when applicable, snow removal and winter heat will be provided by the general contractor.

B. Preparation: The general contractor shall be responsible for:

1. Providing true, level, bearing surfaces on all field-placed bearing walls and other field placed supporting members. Masonry wall bearing surfaces shall be bond beams with properly filled and cured concrete.
2. All pipes, stacks, conduits and other such items shall be stubbed off at a level lower than the bearing plane until after the planks are set. Masonry, concrete or steel shall not be installed above plank-bearing surface until after the plank is in place.

C. Installation: Installation of hollowcore slab units shall be performed by the PCI certified erector. Members shall be lifted with slings at points determined by the manufacturer. Bearing strips shall be set where required. Grout keys shall be filled. Openings shall be field cut only after grout has cured, unless authorized by the manufacturer's engineer.

D. Alignment: Members shall be properly aligned. Variations between adjacent members shall be reasonably leveled out by jacking, bolting or any other feasible method as recommended by the manufacturer and the PCI Erector's Manual (MNL-127-99).

E. Weep Holes: Drilling 1/2"Ø to 3/4"Ø weep holes, typically 1'-0" from the ends of the planks beyond where grouting has flowed into the hollow-cores as required; to allow trapped water to drain out. Sources of trapped water can include rain, snow melt, wet coring and saw cutting, and deck cleaning for topping placement preparation. The general contractor should also look for signs of more trapped water at the lower floors of installed hollowcore plank as trapped water tend to migrate down to the lower floors (darker stained bottom finish and sometimes water droplets are visible). MEP and hung ceiling trades installing their work to the ceiling should also be prepared for unexpected water draining out as they drill into the bottom of the hollow-core plank. It is not recommended to leave trapped water in the plank as that can cause freeze spalls in winter conditions, mold, and damage to paint and other finish materials. Patching of weep holes in exposed ceiling areas is required after building is water tight and rooms are heated to a minimum of 40 degrees to provide for proper bonding of patching material."

3.03 FIELD WELDING

A. Field welding is to be done by qualified welders using equipment and materials compatible to the base material.

3.04 ATTACHMENTS AND SMALL HOLES

A. Subject to approval of the Architect/Engineer, hollowcore plank units may be drilled or “shot” provided no contact is made with the prestressing steel. Round holes and those less than 8 inches on any side shall be drilled or cut by the respective trades. Should spalling occur, it shall be repaired by the trade doing the drilling, shooting or cutting.

3.05 CLEAN UP

A. Remove rubbish and debris resulting from hollowcore plank work from premises upon completion.

3.06 SAFETY

A. The general contractor will provide and maintain all safety barricades, rebar caps and opening covers required for plank in accordance with current industry safety standards.

PRODUCTION & ERECTION TOLERANCES

PRODUCT TOLERANCES: HOLLOWCORE SLABS

a = **Length** .... ±1/2 in.

b = **Width** .... ±1/4 in.

c = **Depth** .... ±1/4 in.

d_t = **Top flange thickness**
Top flange area defined by the actual measured values of average d_t x b shall not be less than 85% of the nominal area calculated by d_t nominal x b nominal.

d_b = **Bottom flange thickness**
Bottom flange area defined by the actual measured values of average d_b x b shall not be less than 85% of the nominal area calculated by d_b nominal x b nominal.

e = **Web thickness**
The total cumulative web thickness defined by the actual measured value ∑e shall not be less than 85% of the nominal cumulative width calculated by ∑e nominal.

f = **Blockout location** .... ±2 in.

g = **Flange angle** .... 1/4 in. per 12 in., 1/2 in. max.

h = **Variation from specified end squareness or skew** .... ±1/2 in.

i = **Sweep** (variation from straight line parallel to centerline of member) .... ±3/8 in.

j = **Center of gravity of strand group**
The CG of the strand group relative to the top of the plank shall be within ±1/4 in. of the nominal strand group CG. The position of any individual strand shall be with ±1/2 in. of nominal vertical position and ±3/4 in. of nominal horizontal position and shall have a minimum cover of ±3/4 in.

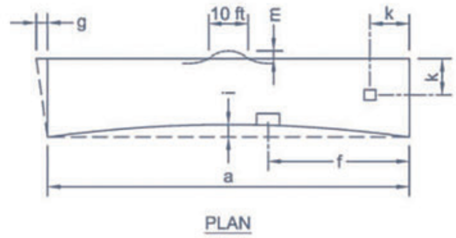
k = **Position of plates** .... ±2 in.

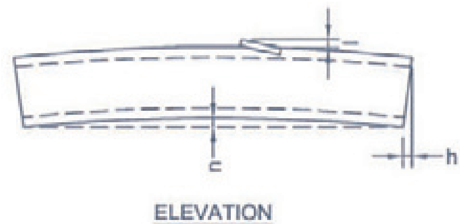
l = **Tipping and flushness of plates** .... ±1/4 in.

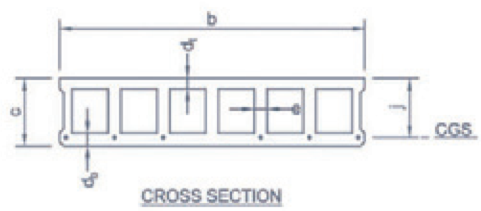
m = **Local smoothnes** ±1/4 in. in 10 ft.
(does not apply to top deck surface left rough to receive a topping or to visually concealed surfaces)

Plank weight: Excess concrete material in the plank internal features is within tolerance as long as the measured weight of the individual plank does not exceed 110% of the nominal published unit weight used in the load capacity calculation.

n = Applications requiring close control of differential camber between adjacent members of the same design should be discussed in detail with the producer to determine applicable tolerances.







ERECTION TOLERANCES: HOLLOWCORE FLOOR & ROOF MEMBERS

a = **Plan location from building grid datum** .... ±1 in.

a_1 = **Plan location from centerline of steel**[1] .... ±1 in.

b = **Top elevation from nonminal elevation at member ends**
Covered with topping .... ±3/4 in
Untopped floor .... ±1/4 in.
Untopped roof .... ±3/4 in.

c = **Maximum jog in alighment of matching edge**
(both topped and untopped construction) .... ±1 in.

d = **Joint width**; 0 to 40 ft. member length .... ±1/2 in.
41 to 60 ft. member length .... ±3/4 in.
61 ft. plus .... ±1 in.

e = **Differential top elevation as erected.**
Covered with topping .... 3/4 in.
Untopped floor .... 1/4 in.
Untopped roof[2] .... 3/4 in.

f = **Bearing length**[3] (span direction) .... ±3/4 in.

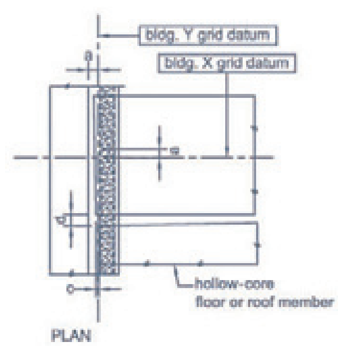
g = **Differential bottom elevation of exposed hollowcore slabs**[4] .... 1/4 in.

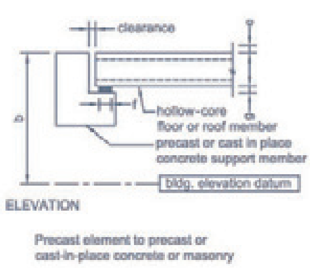
[1] For precast concrete erected on a steel frame building, this tolerance takes precedence over tolerance on dimension "a".

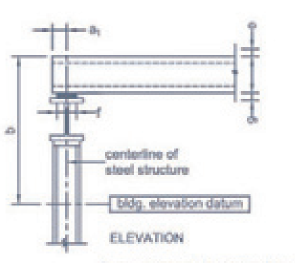
[2] It may be necessary to feather the edges to ±1/4 in. to properly apply some roof membranes.

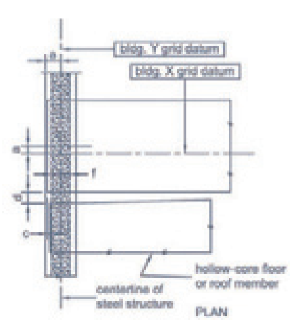
[3] This is a setting tolerance and should not be confused with structural performance requirements set by the architect/engineer.

[4] Untopped installation will require a larger tolerance here.









ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

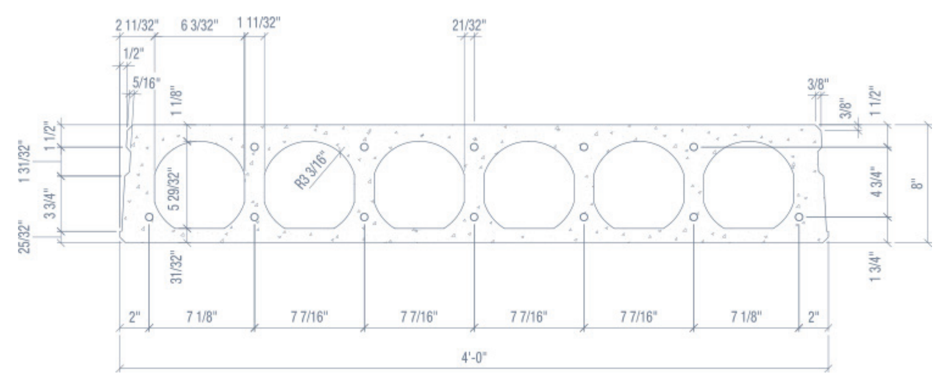
E8" x 48" Section with no topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																						
					10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
2008805	[5] 1/2"Ø	0.765	21.95	2.90	441	393	354	322	294	271	250	232	209	188	170	153	139	127	116	106	98	89	83	76	70	63	
2008807	[7] 1/2"Ø	1.071	29.11	2.90	471	421	379	345	316	290	269	250	233	218	202	183	166	152	139	127	117	107	99	91	85	78	72

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight is 54 psf

f'c = 5,000 psi
f'pu = 270, 000 psi

f'ci = 3,000 psi
Ic = 1,580 in.^{4}

Area = 207 in.^{2}
bw = 10.0 in.

ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

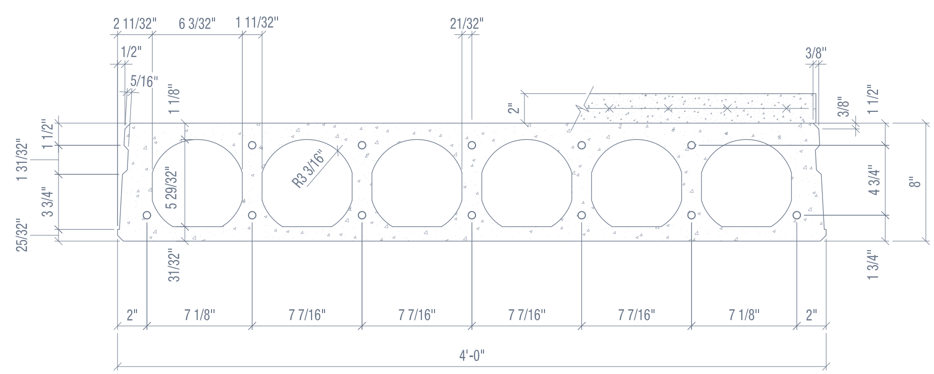
E8" x 48" Section with 2" bonded structural topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																						
					10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
2008805T	[5] 1/2"Ø	0.765	28.76	3.83	545	485	436	395	361	331	305	283	263	243	217	194	174	157	143	128	117	106	93	79	66		
2008807T	[7] 1/2"Ø	1.071	38.35	3.83	572	509	458	415	379	348	322	298	277	259	242	228	213	192	174	158	144	131	120	109	100	91	80

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight with 2" topping is 54 + 25 = 79 psf

f'c = 5,000 psi | f'ci = 3,000 psi | Area = 207 in.^{2}

f'pu = 270, 000 psi | Ic= 3,072 in.^{4} | bw = 10.0 in.

ELEMATIC® HOLLOWCORE PLANK

Oldcastle Infrastructure™
A CRH COMPANY

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

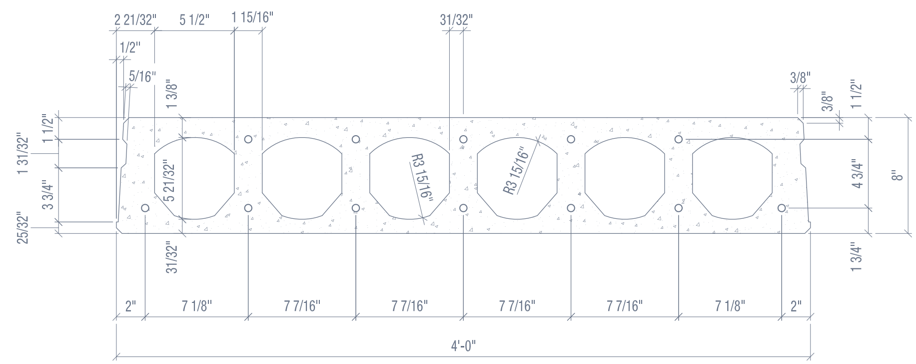
H8" x 48" Section with no topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																						
					10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3008805	[5] 1/2"Ø	0.765	21.95	3.99	607	543	490	434	378	333	295	263	236	213	194	176	161	148	134	119	106	94	84	74	66		
3008807	[7] 1/2"Ø	1.071	29.29	3.99	645	577	521	475	435	389	345	308	276	249	225	205	187	171	157	146	134	125	113	102	92	83	74

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight is 60 psf

f'c = 5,000 psi
f'pu = 270, 000 psi

f'ci = 3,000 psi
Ic = 1,667 in.^{4}

Area = 230 in.^{2}
bw = 13.77 in.

ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

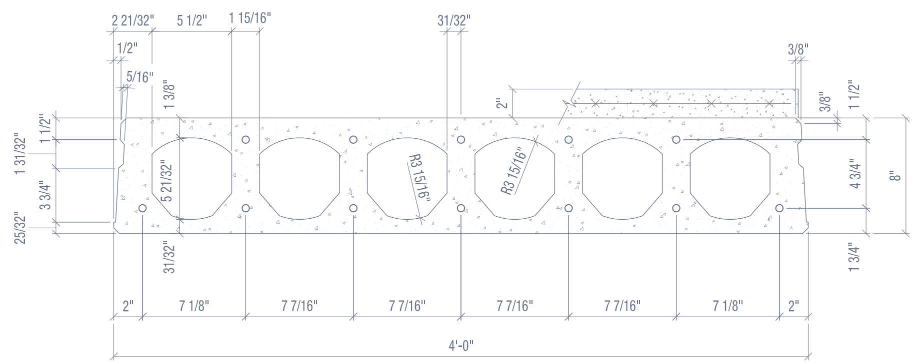
H8” x 48” Section with 2" bonded structural topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																						
					10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3008805T	[5] 1/2"Ø	0.765	28.76	5.27	759	677	610	555	506	443	390	346	308	276	249	225	205	182	158	137	118	101	85	71	59		
3008807T	[7] 1/2"Ø	1.071	38.35	5.27	792	707	638	580	531	489	452	409	365	327	294	266	241	219	201	183	168	148	130	114	99	86	74

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI “Manual for Design of Hollowcore Plank” for detailed design methodology and information.



Plank self weight with 2” topping is 60 + 25 = 85 psf

f’c = 5,000 psi	f’ci = 3,000 psi	Area = 230 in.^{2}
f’pu = 270, 000 psi	Ic = 3,143 in.^{4}	bw = 13.77 in.

Oldcastle Infrastructure™
A CRH COMPANY

ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

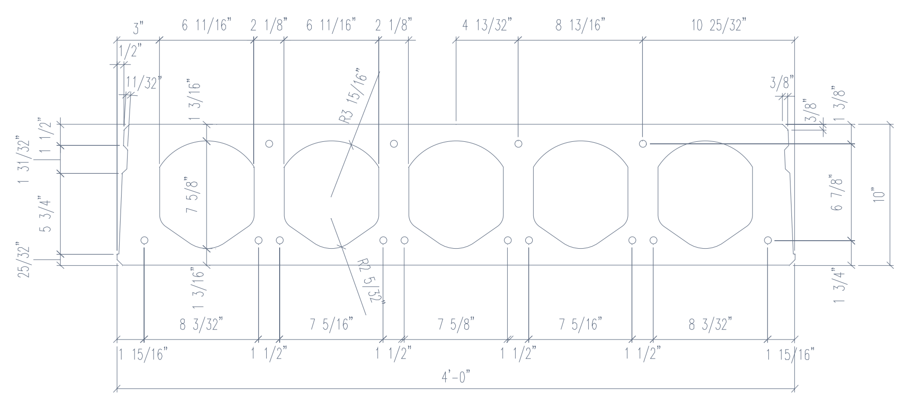
H10" x 48" Section with no topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																							
					15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
3010806	[6] 1/2"Ø	0.918	35.13	5.47	507	450	402	361	327	296	270	248	227	210	193	179	167	152	137	124	112	102	92	83	75	67		
3010808	[8] 1/2"Ø	1.224	45.13	5.47	564	515	460	413	373	339	309	282	259	238	220	204	189	176	164	153	144	132	120	110	100	92	83	76

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight is 71 psf

f'c = 5,000 psi	f'ci = 3,000 psi	Area = 271 in.^{2}
f'pu = 270, 000 psi	Ic = 3,080 in.^{4}	bw = 14.29 in.

ELEMATIC® HOLLOWCORE PLANK

Oldcastle Infrastructure™
A CRH COMPANY

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

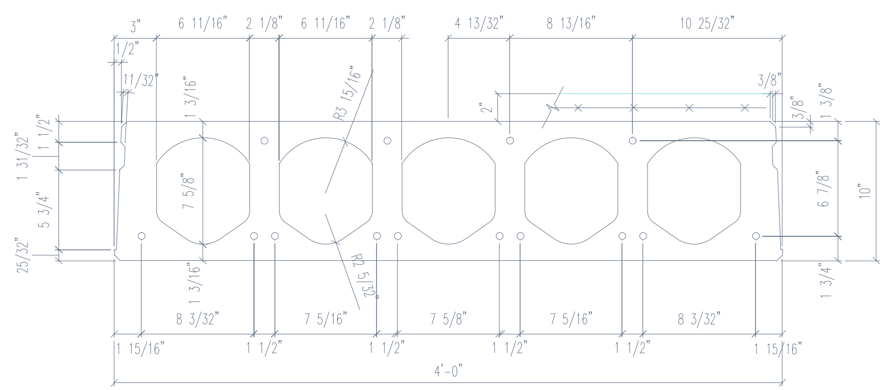
H10" x 48" Section with 2" bonded structural topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																							
					15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
3010806T	[6] 1/2"Ø	0.918	45.05	6.80	631	575	512	458	412	372	338	307	281	259	236	219	196	174	154	137	121	106	92	79	67			
3010808T	[8] 1/2"Ø	1.224	55.32	6.80	640	589	545	506	472	429	390	355	324	297	272	251	233	214	200	183	164	147	132	118	105	93	82	72

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight with 2" topping is 71 + 25 = 96 psf

f'c = 5,000 psi | f'ci = 3,000 psi | Area = 271 in.^{2}

f'pu = 270, 000 psi | Ic= 5,263 in.^{4} | bw = 14.29 in.

Oldcastle Infrastructure
A CRH COMPANY

ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

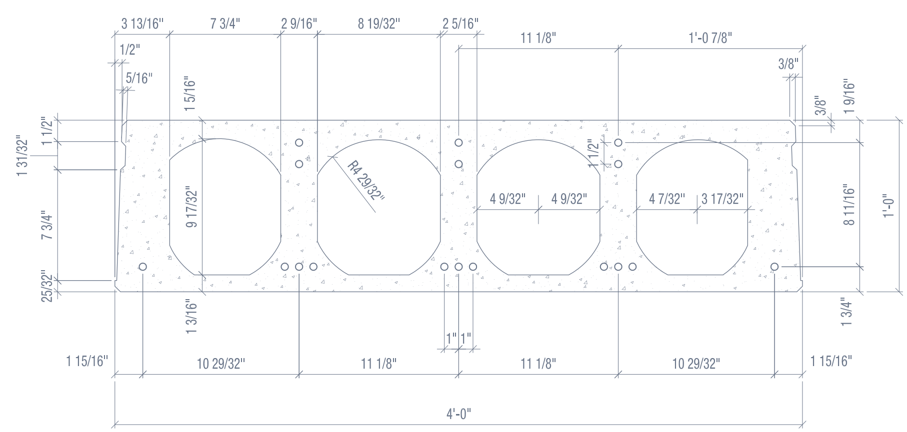
N12" x 48" Section with no topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																									
					20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
2012805	[5] 1/2"Ø	0.765	37.74	6.78	364	332	304	281	258	240	219	199	181	164	150	136	124	113	103	94	85	76	68	60						
2012807	[7] 1/2"Ø	1.071	51.25	6.78	422	385	352	324	298	276	257	238	222	207	194	181	170	156	143	131	120	110	101	92	84	76	69			
2012808	[8] 1/2"Ø	1.224	57.73	6.78	449	409	375	344	317	293	272	253	235	220	205	193	180	170	159	147	135	124	114	105	97	89	81	75	68	
2012809	[9] 1/2"Ø	1.377	63.93	6.78	474	432	396	364	335	310	287	267	248	232	216	203	190	179	168	158	150	138	127	118	108	100	92	85	78	72

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight is 80 psf

f'c = 5,000 psi
f'pu = 270, 000 psi

f'ci = 3,000 psi
Ic = 5,246 in.^{4}

Area = 307 in.^{2}
bw = 14.25 in.

ELEMATIC® HOLLOWCORE PLANK

UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

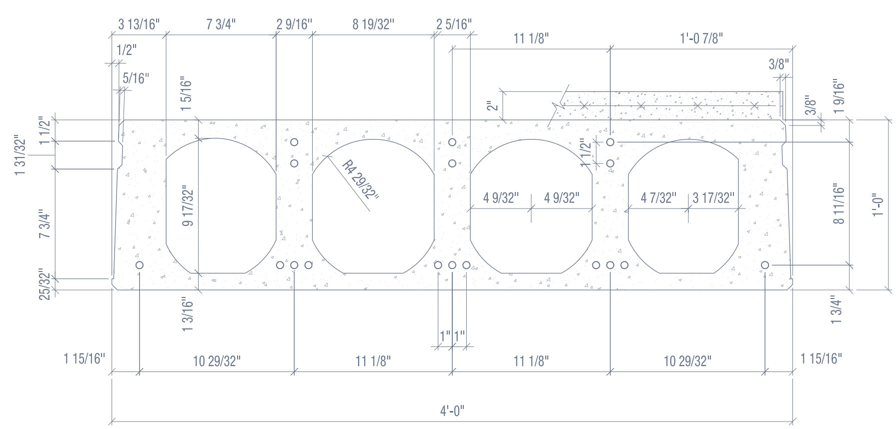
N12" x 48" Section with 2" bonded structural topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																									
					20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
2012805T	[5] 1/2"Ø	0.765	44.56	8.10	439	399	365	333	307	278	251	227	205	186	169	151	134	117	103	89	77	66								
2012807T	[7] 1/2"Ø	1.071	60.19	8.10	514	467	426	390	358	330	304	282	261	243	225	210	190	172	155	139	125	111	99	87	76	66				
2012808T	[8] 1/2"Ø	1.224	67.78	8.10	547	499	455	417	382	352	325	301	279	260	241	226	210	195	177	160	145	131	118	106	95	84	74	64		
2012809T	[9] 1/2"Ø	1.377	75.20	8.10	547	513	482	441	405	373	344	318	295	275	256	239	223	208	195	180	164	149	135	123	111	100	90	81	71	62

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight with 2" topping is 80 + 25 = 105 psf

f'c = 5,000 psi	f'ci = 3,000 psi	Area = 307 in.^{2}
f'pu = 270, 000 psi	Ic = 8,393 in.^{4}	bw = 14.25 in.

ELEMATIC® HOLLOWCORE PLANK

Oldcastle Infrastructure™
A CRH COMPANY

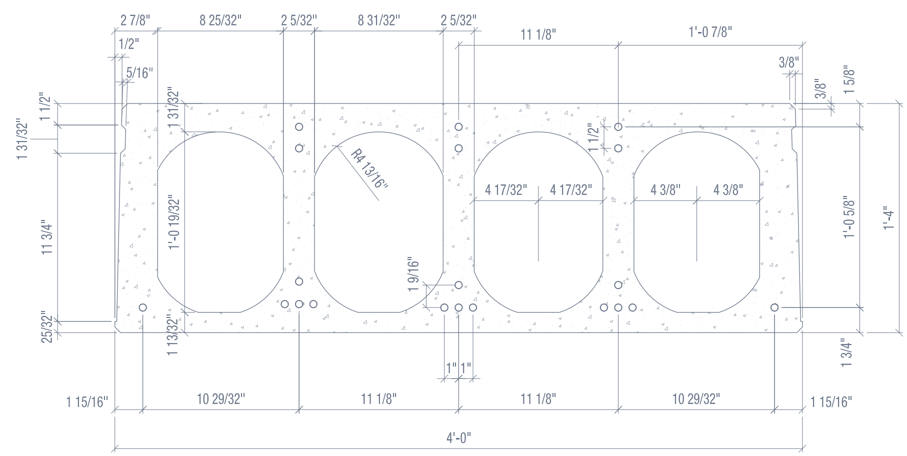
UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

E16" x 48" Section with no topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																									
					30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
2016807	[7] 1/2"Ø	1.071	73.43	7.47	262	245	229	215	202	189	179	168	158	150	141	134	126	116	107	98	90	82	74	68	61					
2016809	[9] 1/2"Ø	1.377	92.15	7.47	297	278	260	244	229	216	203	191	181	171	161	152	145	137	129	123	117	111	103	96	89	82	75	69	63	
2016811	[11] 1/2"Ø	1.683	109.77	7.47	328	307	288	270	254	239	225	213	201	190	179	170	161	152	145	137	130	124	118	112	106	101	96	90	84	78
FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)																														

NOTES:

1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.



Plank self weight is 95 psf

f'c = 5,000 psi
f'pu = 270, 000 psi

f'ci = 3,000 psi
Ic = 11,339 in.^{4}

Area = 365 in.^{2}
bw = 11.3 in.

ELEMATIC® HOLLOWCORE PLANK

Oldcastle Infrastructure™
A CRH COMPANY

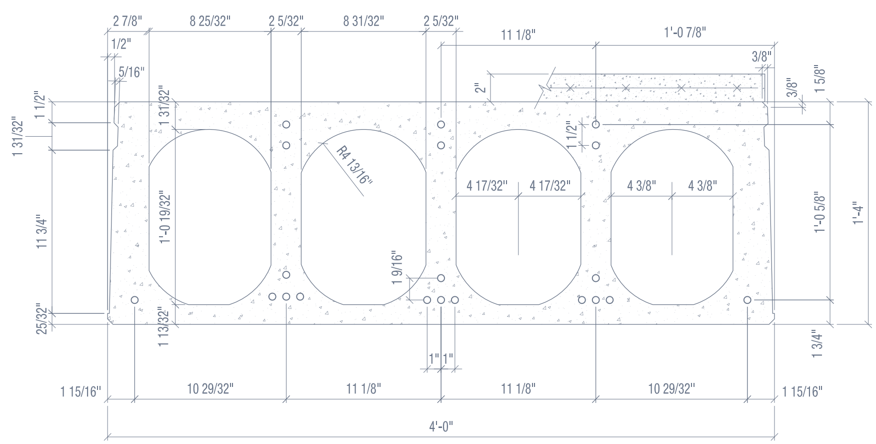
UNIFORMLY DISTRIBUTED LIVE LOAD CAPACITY IN PSF

E16" x 48" Section with 2" bonded structural topping

Plank Designation	7-Wire 270 Lolax P/S Strand	P/S Strand Area Sq. in.	Ultimate Bending Moment, ØMn KipFt / Ft	ØVcw Kip / Ft	CLEAR SPAN IN FEET																									
					30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
2016807T	[7] 1/2"Ø	1.071	82.30	8.52	295	275	256	239	224	209	196	183	172	162	150	136	123	111	99	88	78	69	60							
2016809T	[9] 1/2"Ø	1.377	103.34	8.52	337	315	294	274	257	240	225	212	198	186	176	165	156	147	138	128	118	107	97	87	78	69	61			
2016811T	[11] 1/2"Ø	1.683	123.72	8.52	375	350	327	306	287	269	252	237	223	210	198	186	176	166	156	148	139	131	125	117	108	99	91	83	75	67

FOR EXAMPLE: IF YOU NEED 10 DL + 100 LL, LOOK FOR TABLE VALUE > 110 PSF (PLANK SELF WEIGHT IS ALREADY INCLUDED)

NOTES:
1. Design Standard: ACI 318-2014
2. Plank self weight and concrete composite topping are both included and do not need to be added to your design loads.
3. Table values comply with L/360 deflection limits.
4. For combined SDL & LL, your effective required loading is (1.2/1.6) *SDL + LL
5. For 100 psf corridor loading, 15 psf usually can be distributed to adjacent planks and check for 85 psf in load table.
6. Camber can be approximated as 0.3% of the span and must be taken into account when specifying concrete topping thickness. Topping thickness will be minimum at L/2 where camber is highest.
7. For special non-uniform loading conditions, consult Oldcastle.
8. In residential buildings, add 15± psf to your total uniform loading to account for MEP openings in preliminary design.
9. Consult PCI "Manual for Design of Hollowcore Plank" for detailed design methodology and information.

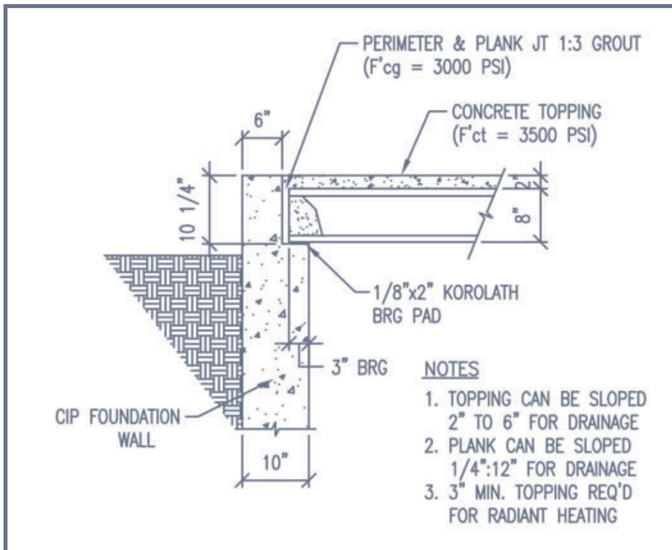


Plank self weight with 2" topping is 95 + 25 = 120 psf

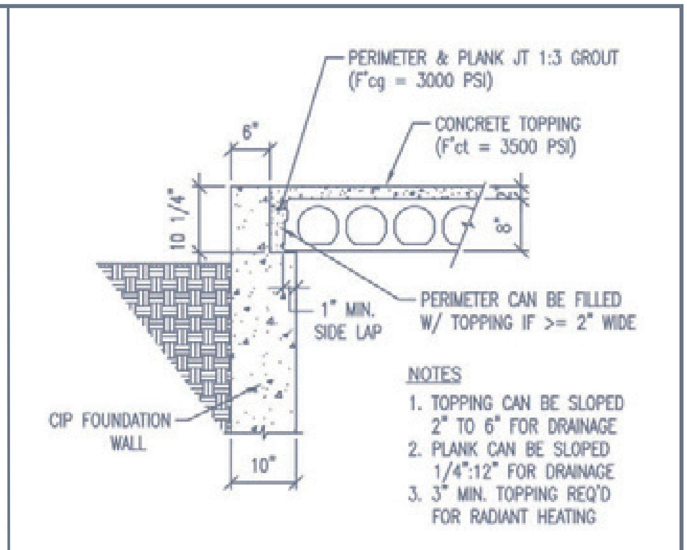
f'c = 5,000 psi | f'ci = 3,000 psi | Area = 365 in.^{2}

f'pu = 270, 000 psi | Ic= 16,348 in.^{4} | bw = 11.3 in.

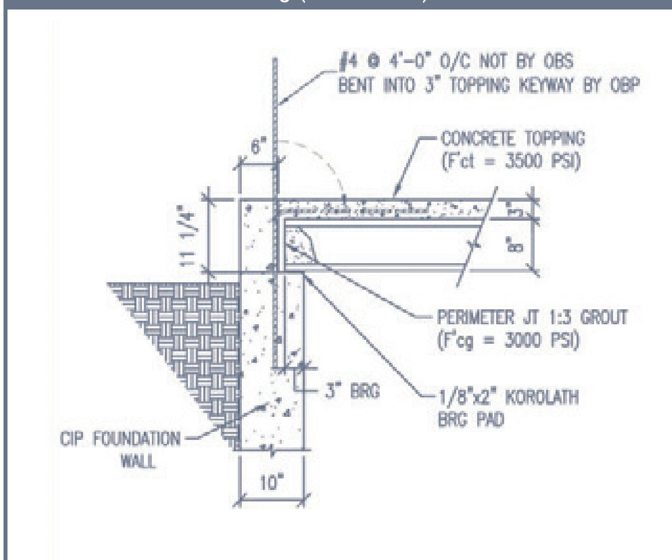
ELEMATIC® HOLLOWCORE PLANK DETAILS



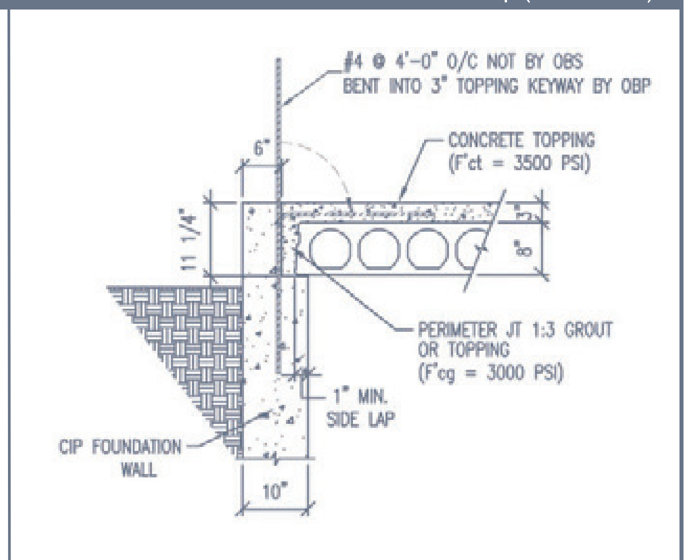
D1.0 Foundation Bearing (Residential)



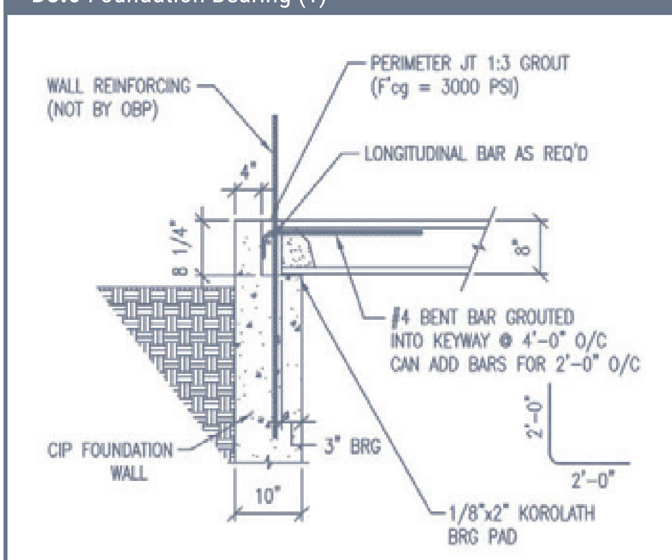
D2.0 Foundation Side Lap (Residential)



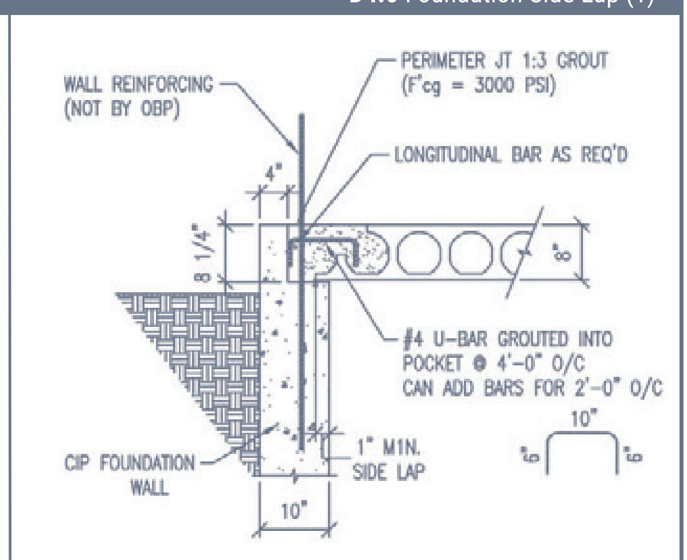
D3.0 Foundation Bearing (1)



D4.0 Foundation Side Lap (1)

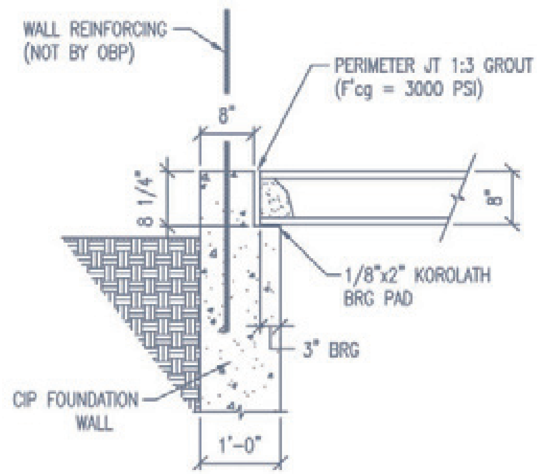


D5.0 Foundation Bearing (2)

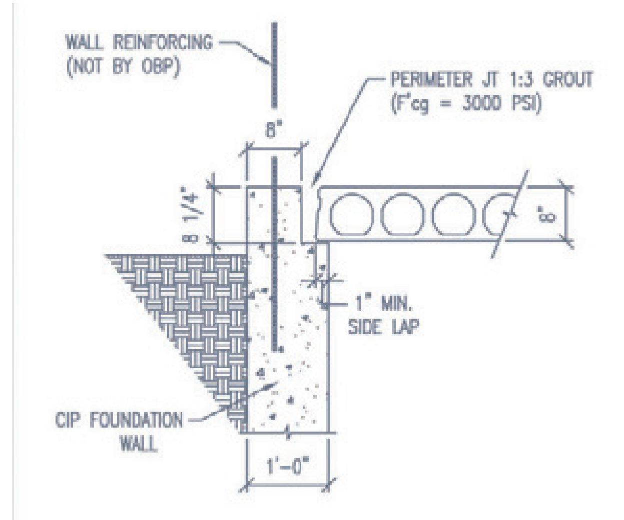


D6.0 Foundation Side Lap (2)

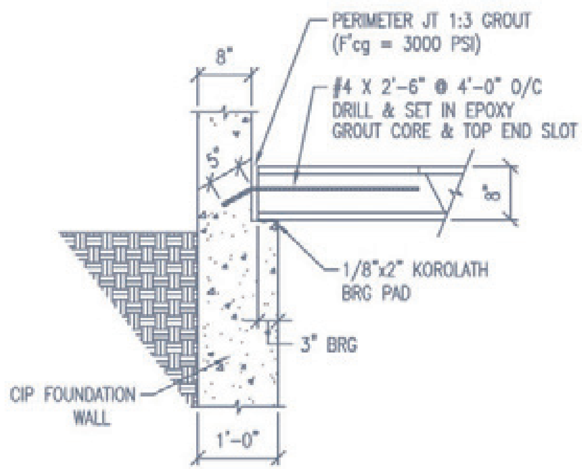
ELEMATIC® HOLLOWCORE PLANK DETAILS



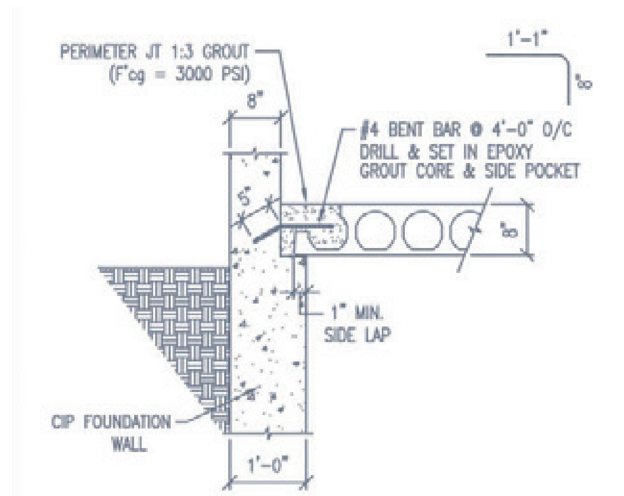
D7.0 Foundation Bearing (3)



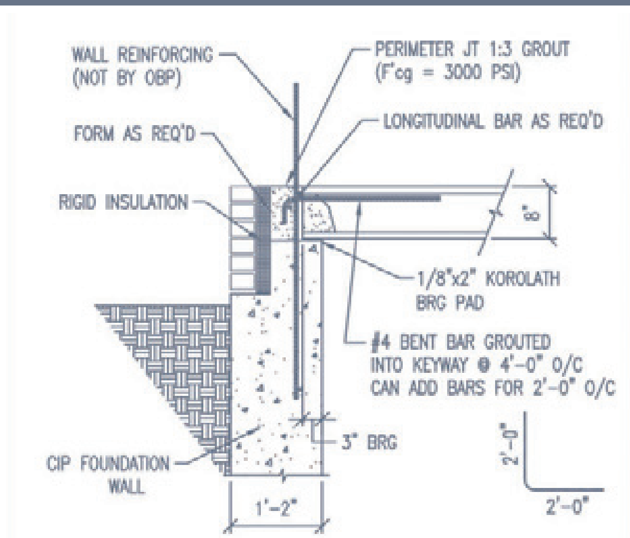
D8.0 Foundation Side Lap (3)



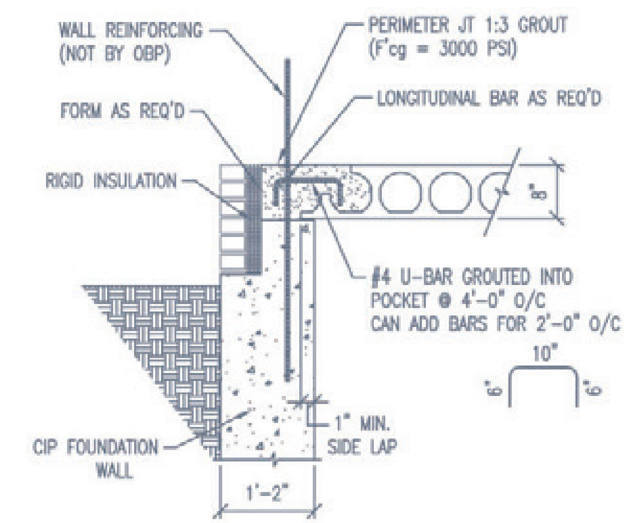
D9.0 Foundation Bearing (4)



D10.0 Foundation Side Lap (4)

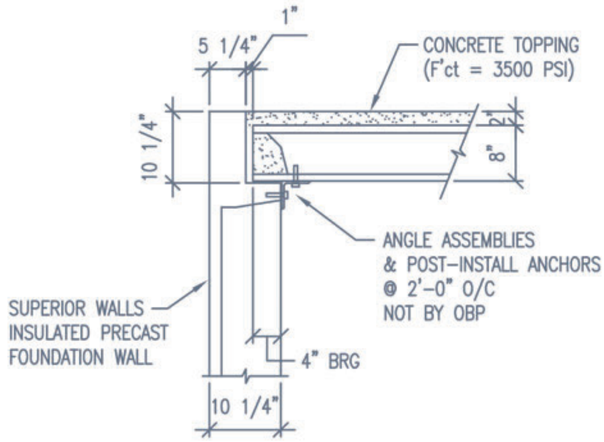


D11.0 Foundation Bearing (5)

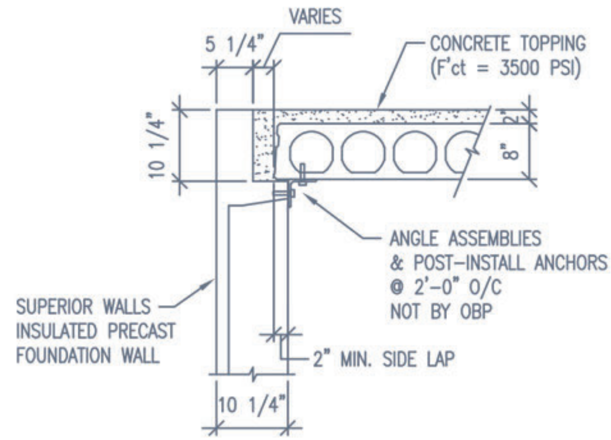


D12.0 Foundation Side Lap (5)

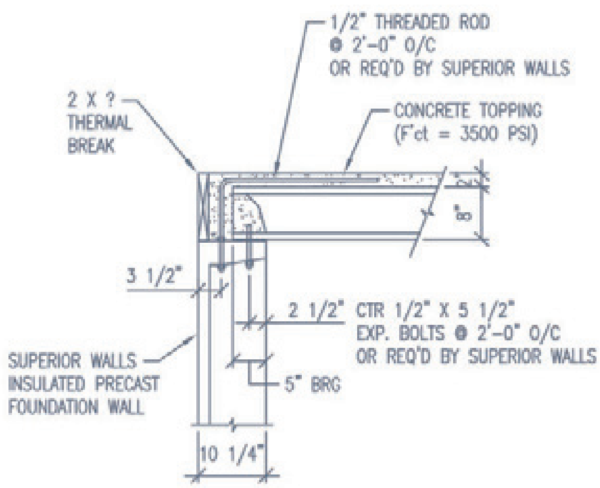
ELEMATIC® HOLLOWCORE PLANK DETAILS



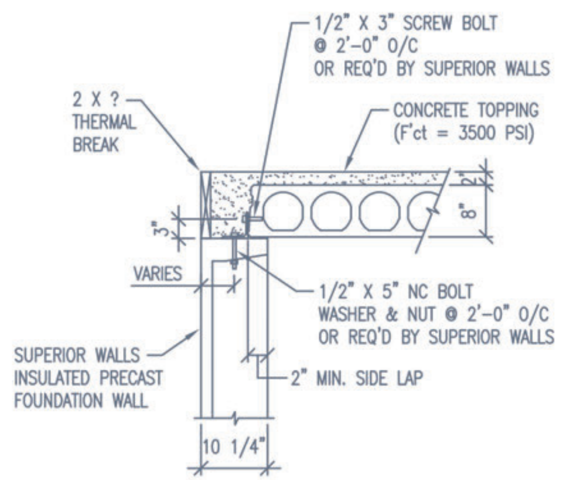
D13.0 Superior Foundation Wall Bearing



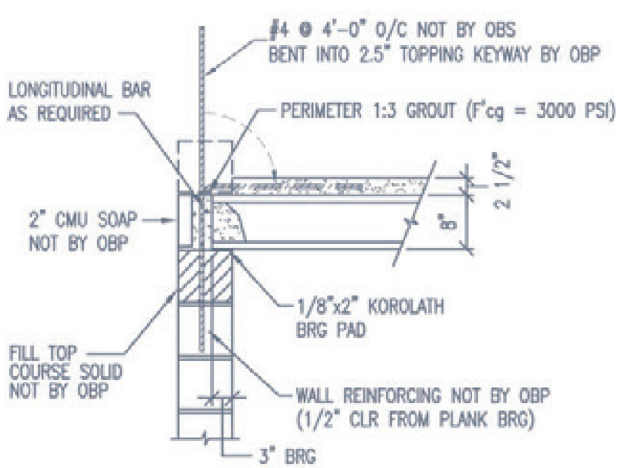
D14.0 Superior Foundation Wall Side Lap



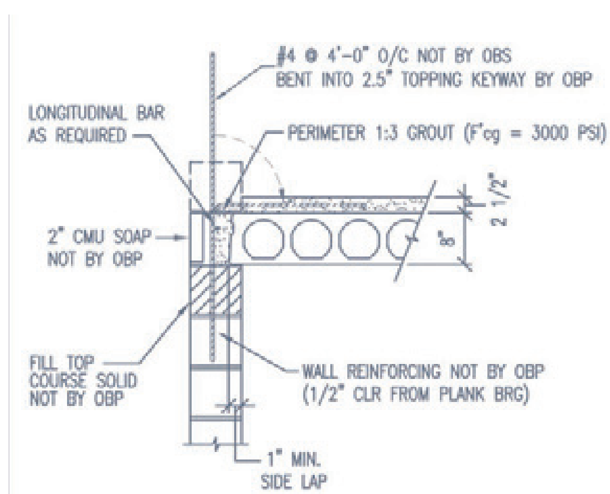
D15.0 Superior Foundation Wall Bearing



D16.0 Superior Foundation Wall Side Lap

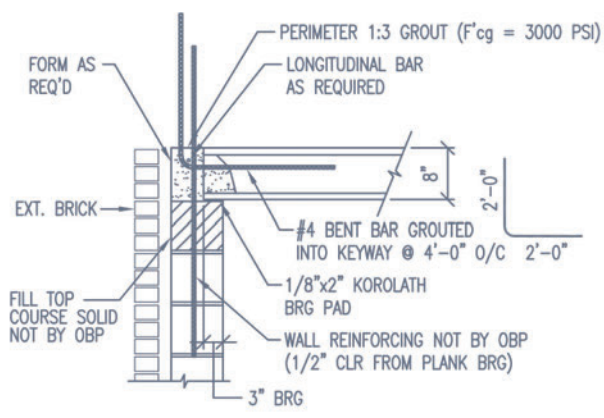


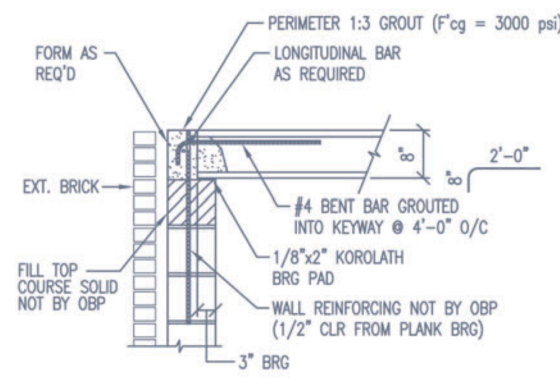
D17.0 Exterior Bearing with Topping



D18.0 Exterior Side Lap with Topping

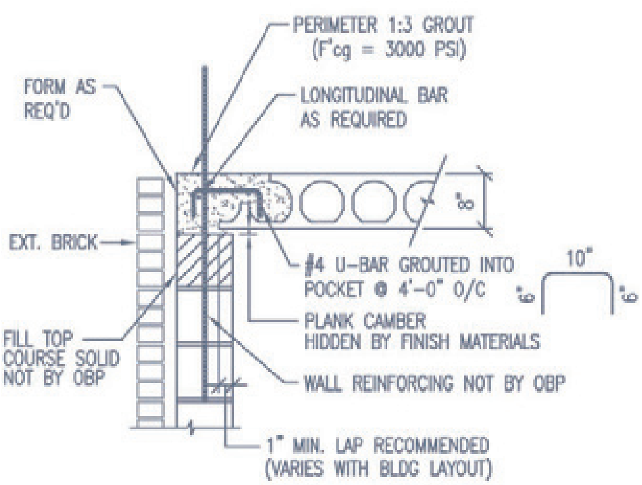
ELEMATIC® HOLLOWCORE PLANK DETAILS

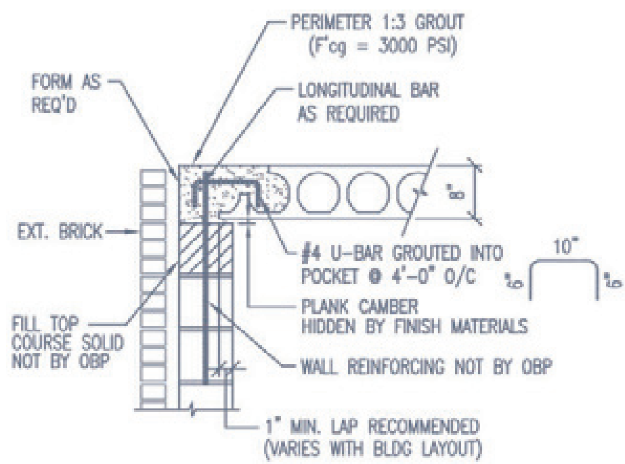




D19.0 Exterior Bearing (TYP FLR)

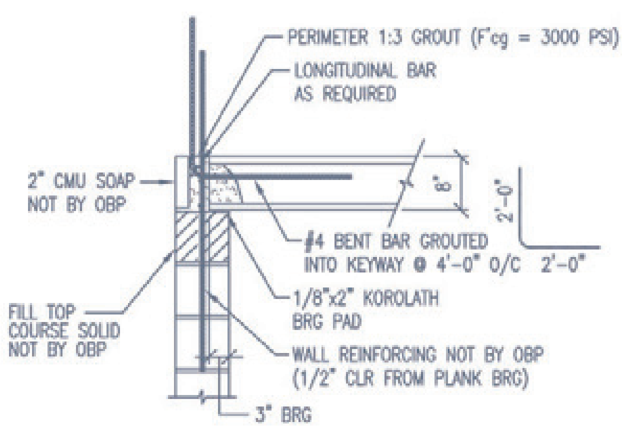
D20.0 Exterior Bearing (ROOF)

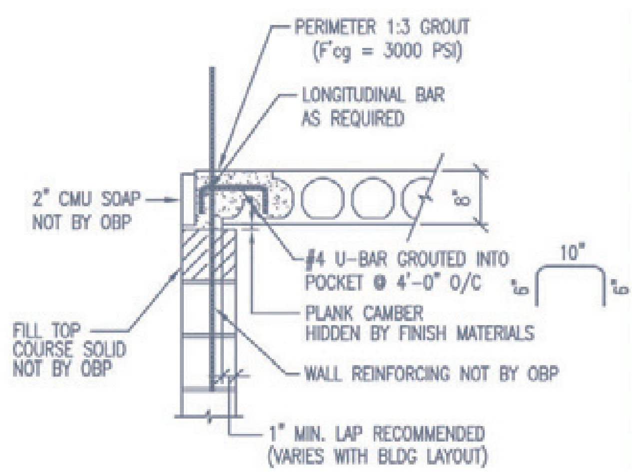




D21.0 Exterior Side Lap

D22.0 Exterior Side Lap (ROOF)

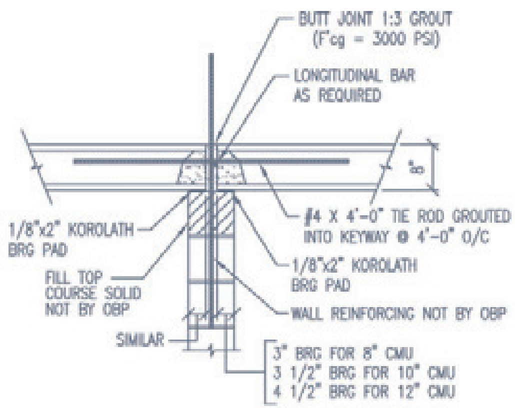




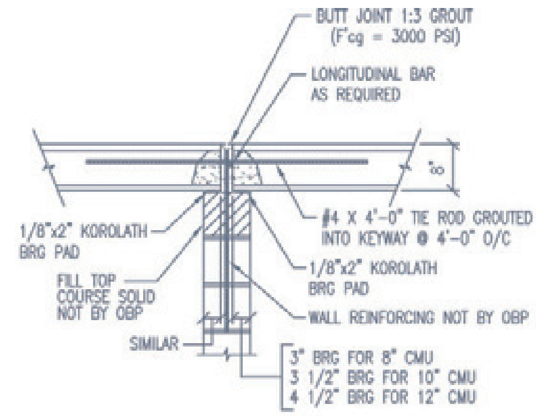
D23.0 Bearing in Stair Tower w/Exposed CMU Finish

D24.0 Side Lap in Stair Tower w/Exposed CMU Finish

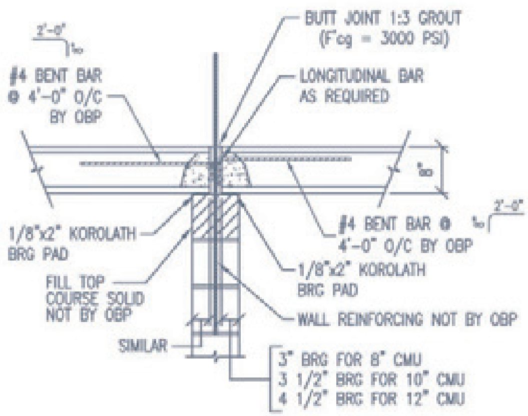
ELEMATIC® HOLLOWCORE PLANK DETAILS



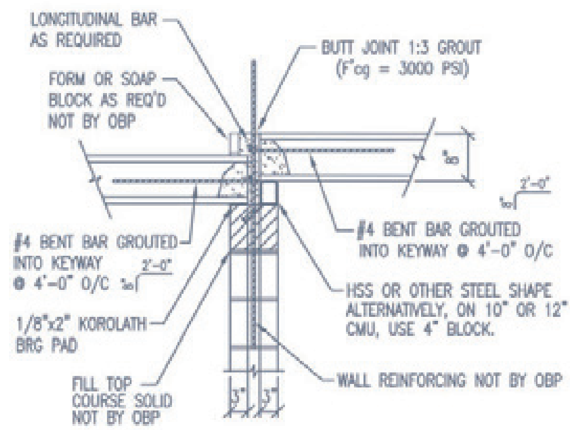
D25.0 Interior Bearing



D26.0 Interior Bearing (ROOF)



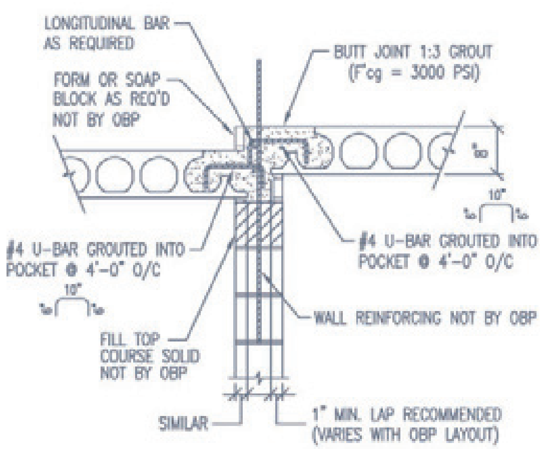
NOTE: USE [2] BENT REBAR IN LIEU OF STRAIGHT TIE RODS AT JOINT MIS-ALIGNMENT > 4" IN PLAN



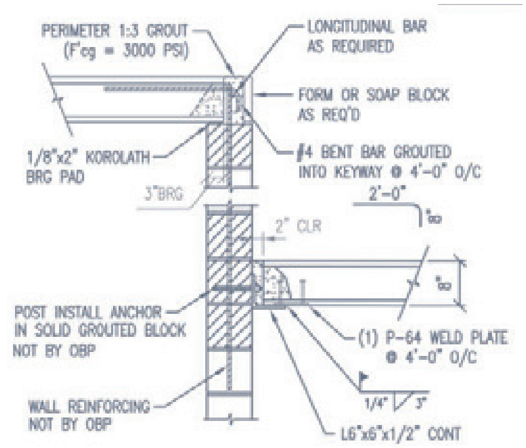
(ONE STAGE OF ERECTION)

D27.0 Interior Bearing

D28.0 CMU Step Bearing



(ONE STAGE OF ERECTION)

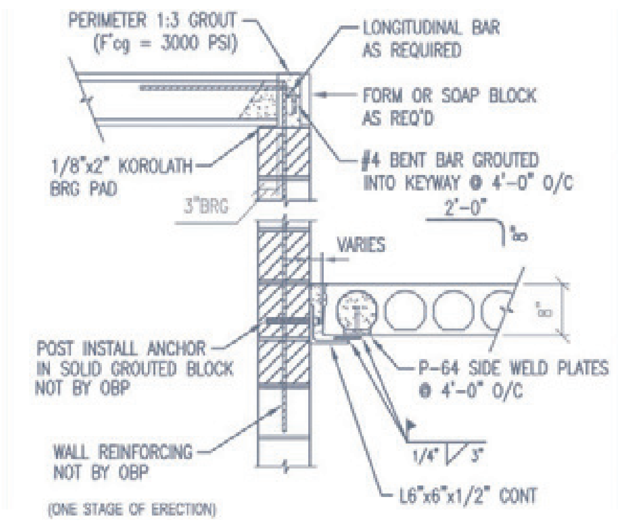


(ONE STAGE OF ERECTION)

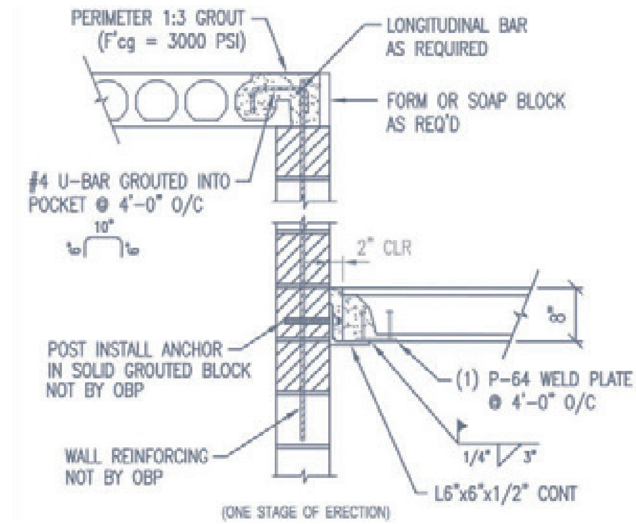
D29.0 CMU Step Side Lap

D30.0 CMU Change of Elev Bearing

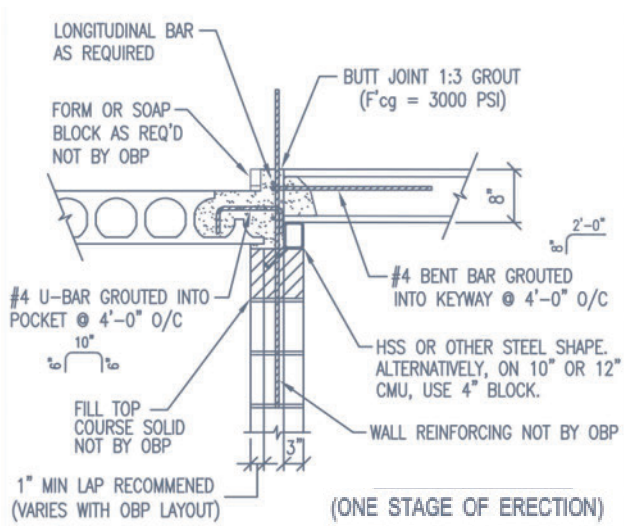
ELEMATIC® HOLLOWCORE PLANK DETAILS



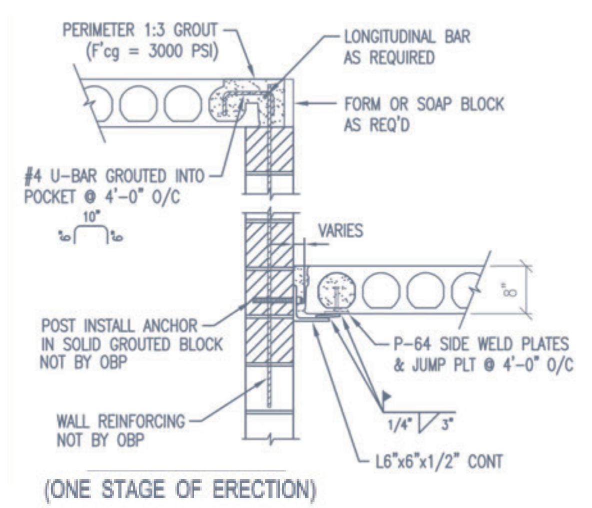
D31.0 CMU Change of Elev & Direction (1)



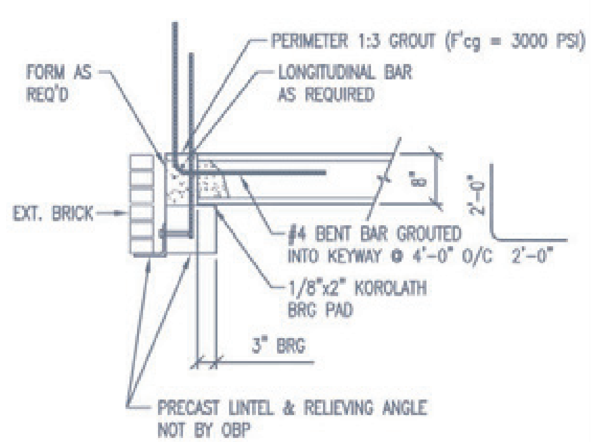
D32.0 CMU Change of Elev Sidelap



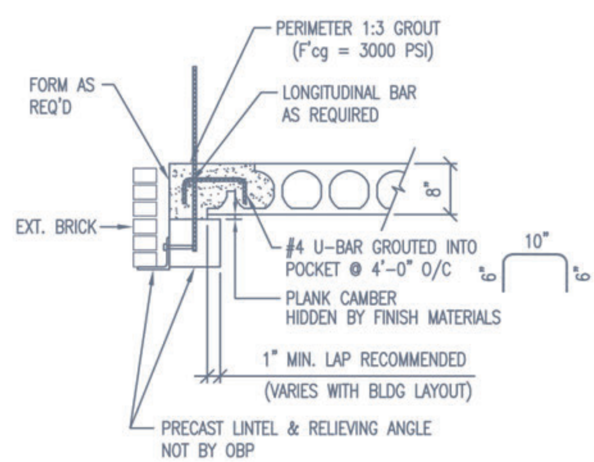
D33.0 CMU Step Change of Direction



D34.0 CMU Change of Elev & Direction (2)

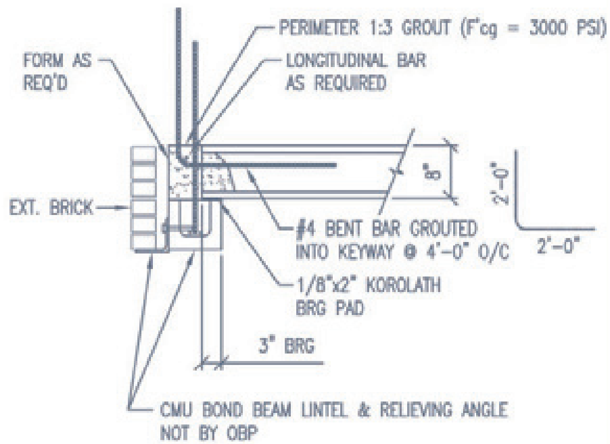


D35.0 Bearing on Window Lintel (1)

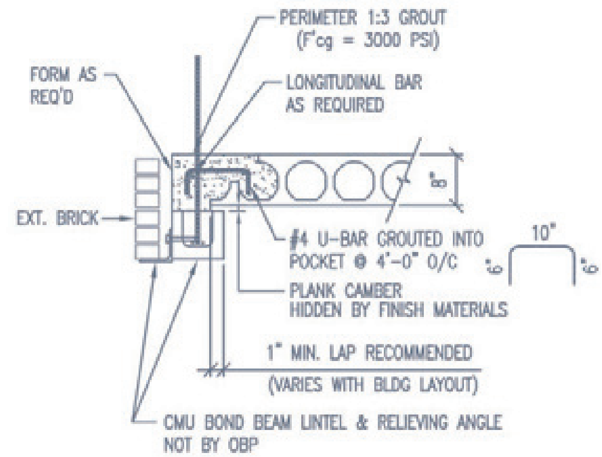


D36.0 Side Lap on Window Lintel (1)

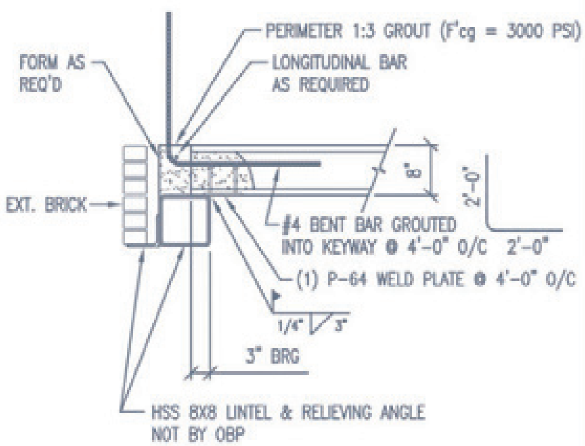
ELEMATIC® HOLLOWCORE PLANK DETAILS



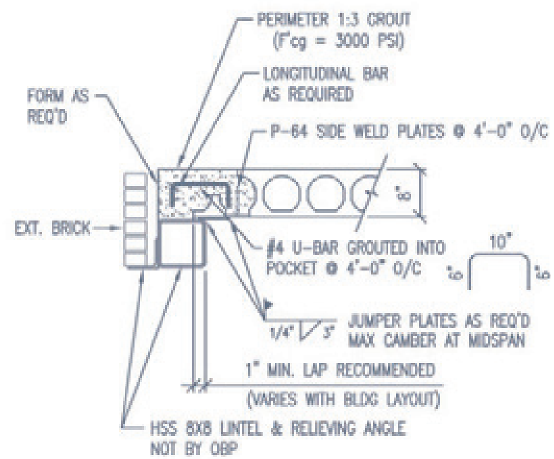
D37.0 Bearing on Window Lintel (2)



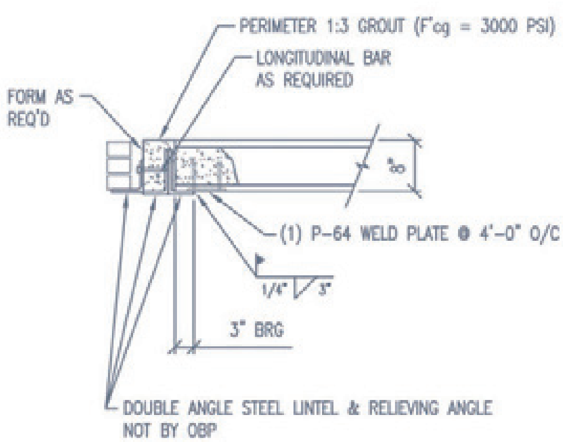
D38.0 Side Lap on Window Lintel (2)



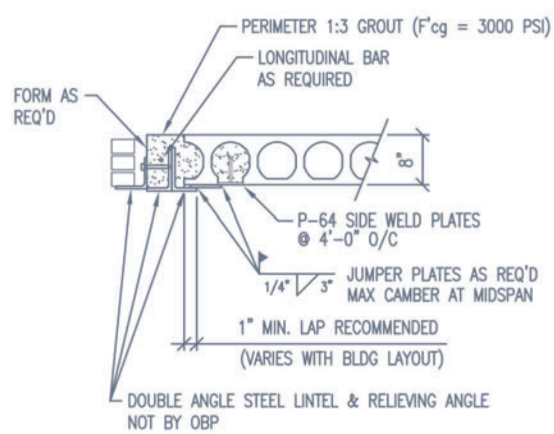
D39.0 Bearing on Window Lintel (3)



D40.0 Side Lap on Window Lintel (3)

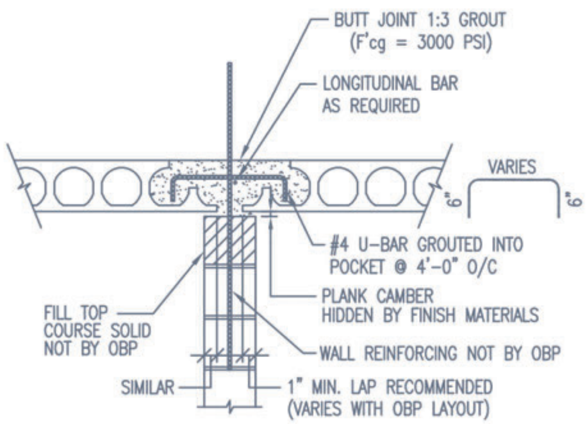


D41.0 Bearing on Window Lintel (4)

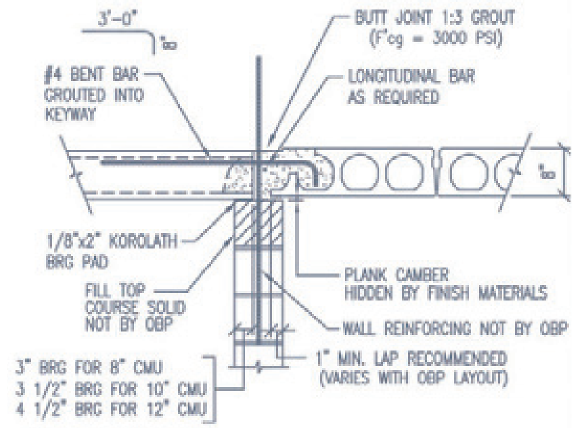


D42.0 Side Lap on Window Lintel (4)

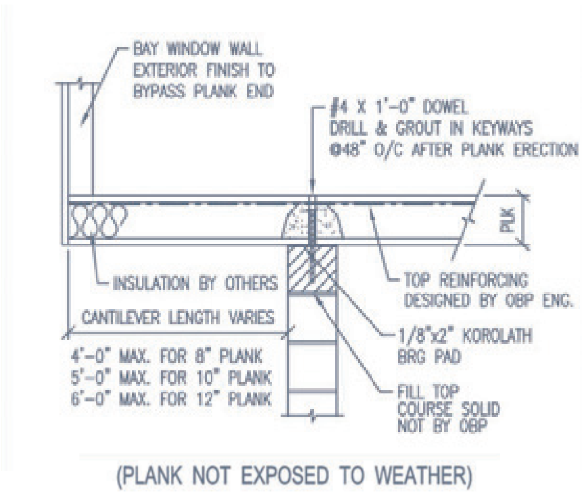
ELEMATIC® HOLLOWCORE PLANK DETAILS

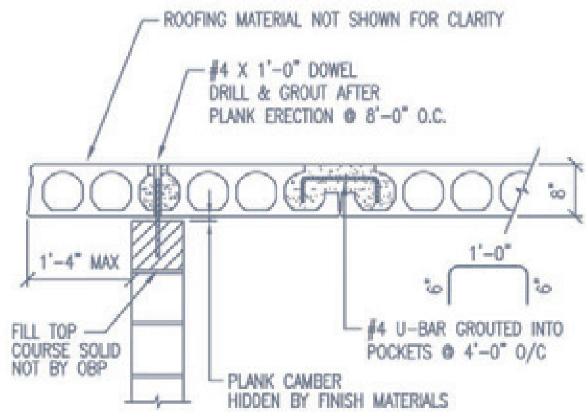


D43.0 Interior Shear Wall



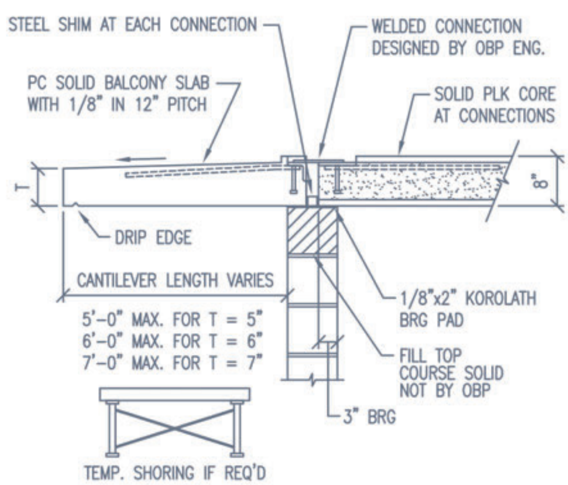
D44.0 Interior Change of Direction

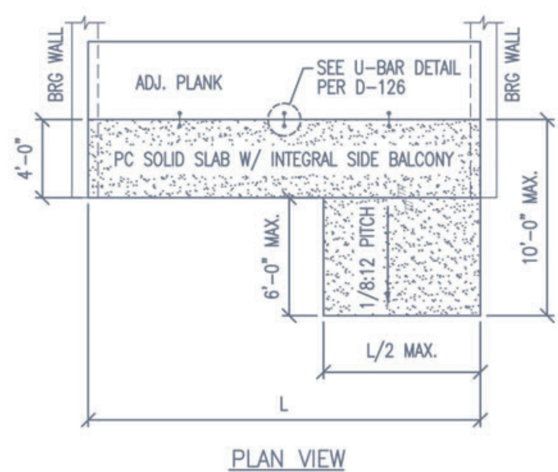




D45.0 Cantilever Plank for Bay Windows

D46.0 Small Side Plank Roof Overhang

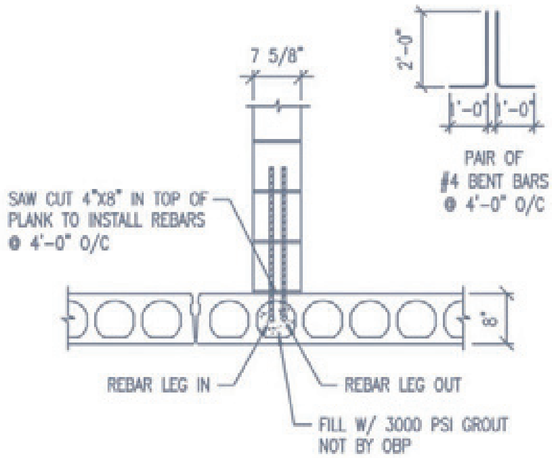




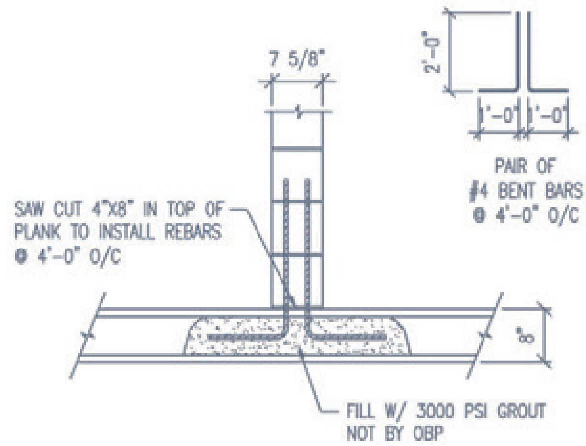
D47.0 Cantilever Solid Slab Balconies at Plank **End**

D48.0 Integral Side Cantilever Balconies

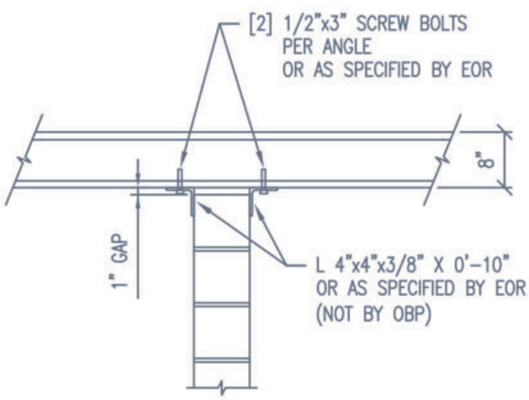
ELEMATIC® HOLLOWCORE PLANK DETAILS



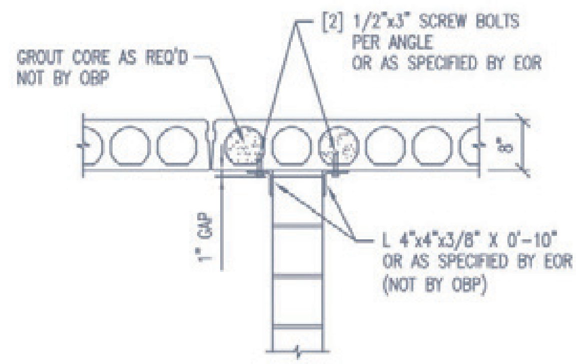
D49.0 Anchoring of CMU Wall on Plank (1)



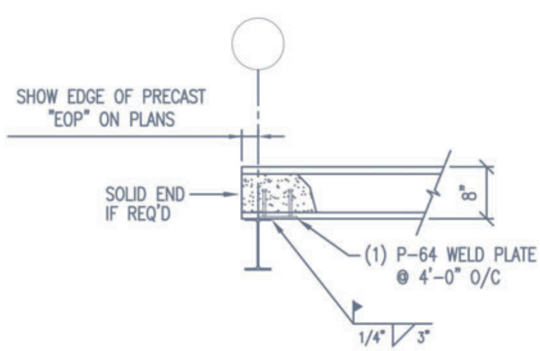
D50.0 Anchoring of CMU Wall on Plank (2)



D51.0 Top of CMU Wall Brace Connection (1)

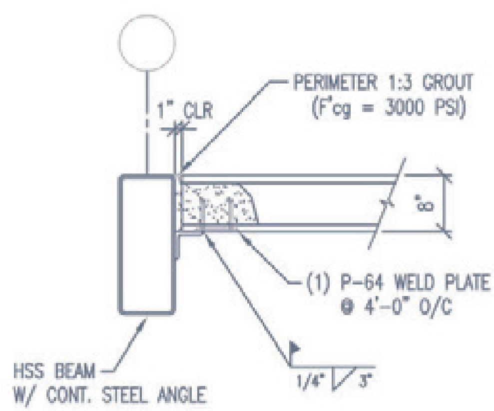


D52.0 Top of CMU Wall Brace Connection (2)



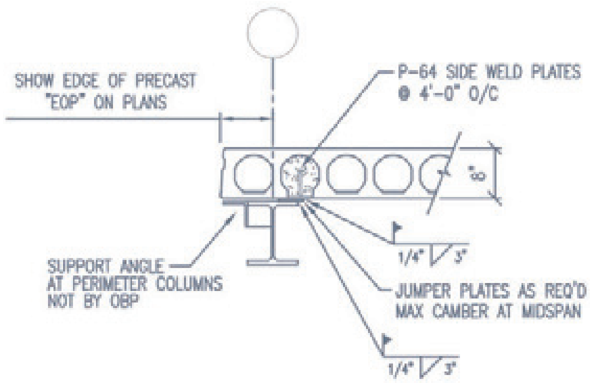
NOTE: DO NOT WELD BOTH ENDS OF THE SAME PLANK IF RESTRAINT IS EXCESSIVE. WELDING ALTERNATING PLANKS WILL STILL PROVIDE LATERAL BEAM BRACING.

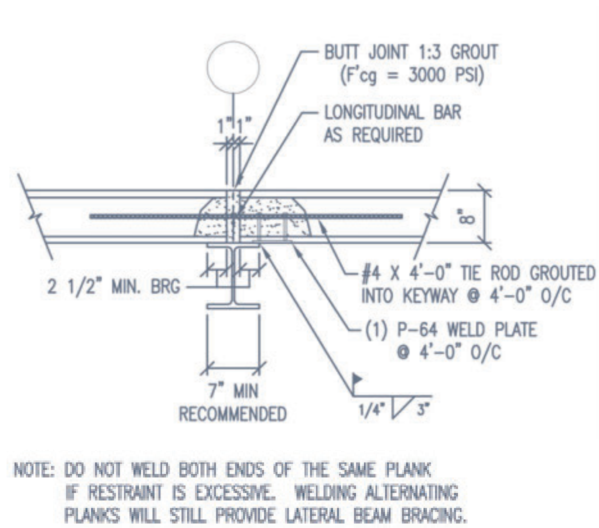
D53.0 End Bearing on Steel



D54.0 End Bearing on Perimeter HSS Beam

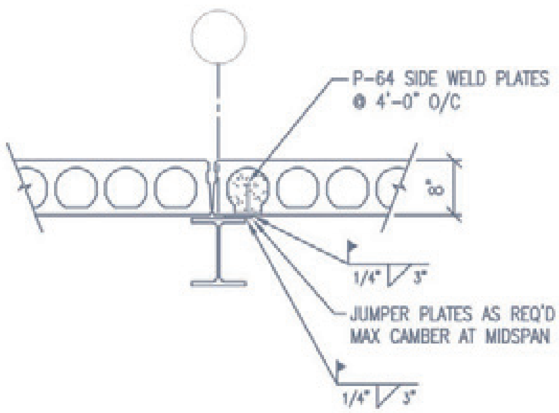
ELEMATIC® HOLLOWCORE PLANK DETAILS

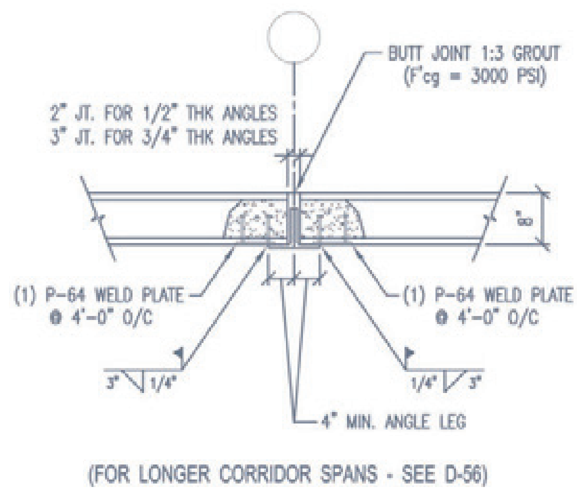




D55.0 Exterior Side Lap on Steel

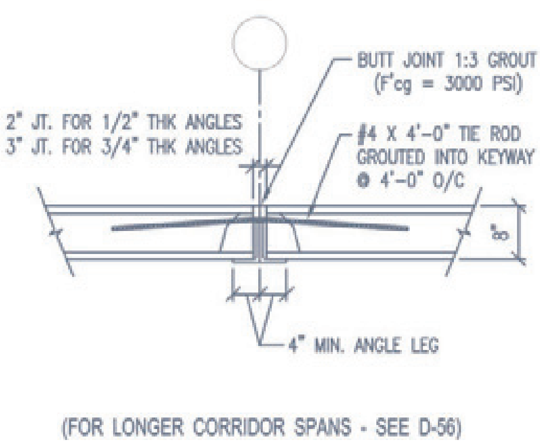
D56.0 Interior Bearing on Steel

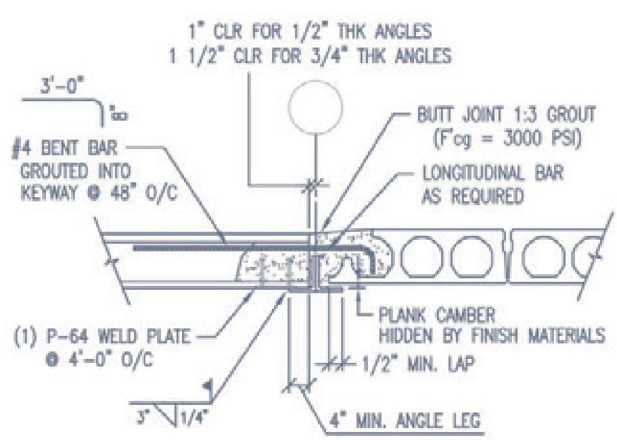




D57.0 Interior Side Lap on Steel

D58.0 Angle Support at Corridors < 7'-0" Wide

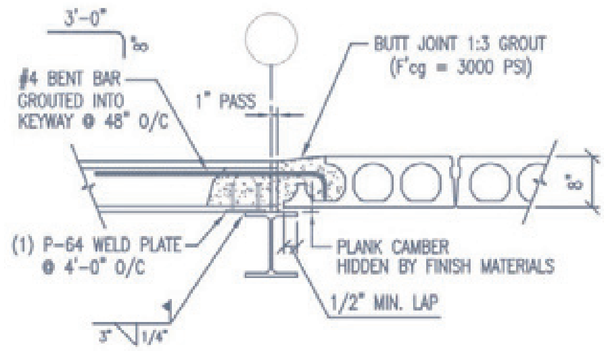




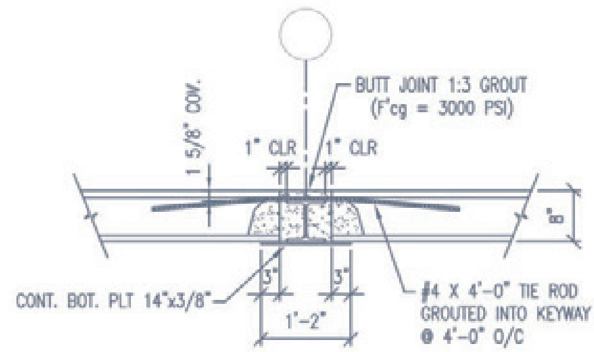
D59.0 Angle Support at Corridors < 7'-0" Wide

D60.0 Change of Direction on Angles

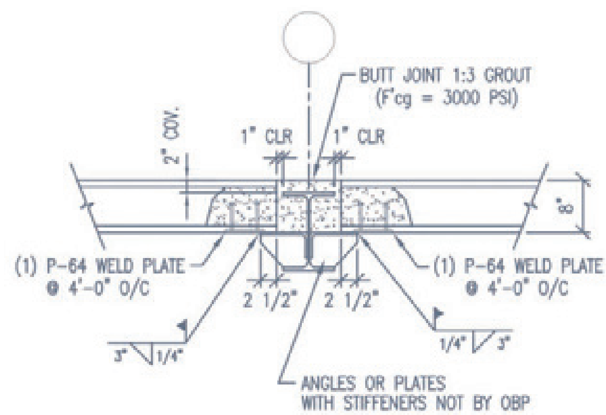
ELEMATIC® HOLLOWCORE PLANK DETAILS



D61.0 Interior Change of Direction on WF

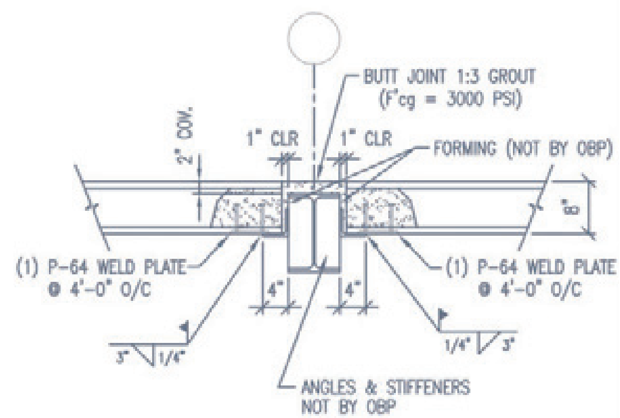


D62.0 Interior Bearing on Upset Steel (1)



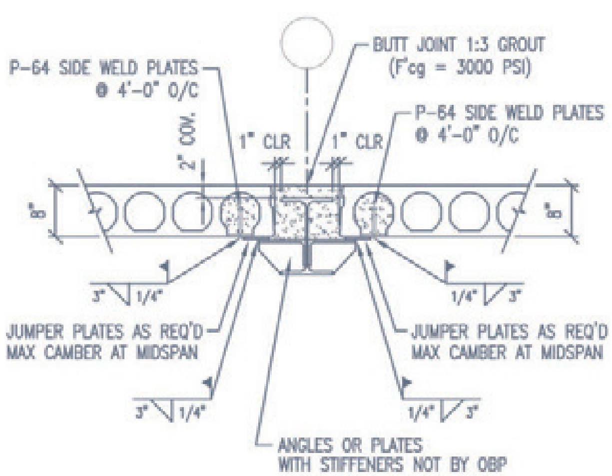
NOTE: DO NOT WELD BOTH ENDS OF THE SAME PLANK IF RESTRAINT IS EXCESSIVE. WELDING ALTERNATING PLANKS WILL STILL PROVIDE LATERAL BEAM BRACING.

D63.0 Interior Bearing on Upset Steel (2)

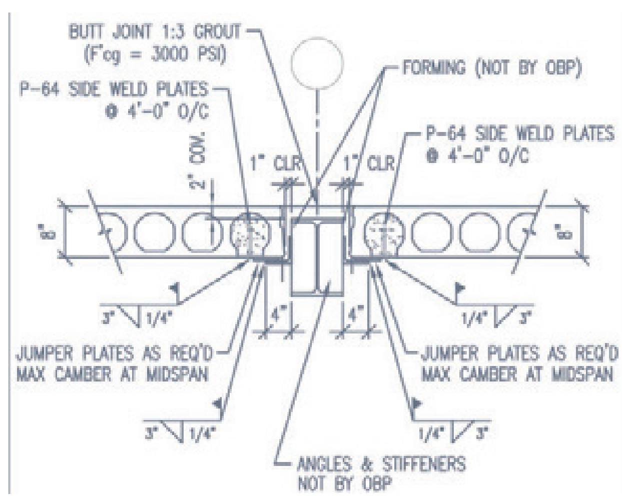


NOTE: DO NOT WELD BOTH ENDS OF THE SAME PLANK IF RESTRAINT IS EXCESSIVE. WELDING ALTERNATING PLANKS WILL STILL PROVIDE LATERAL BEAM BRACING.

D64.0 Interior Bearing on Upset Steel (3)

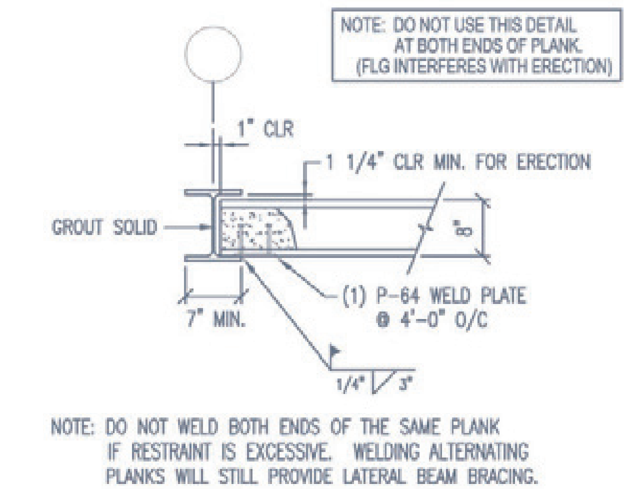


D65.0 Interior Side Lap on Upset Steel (1)

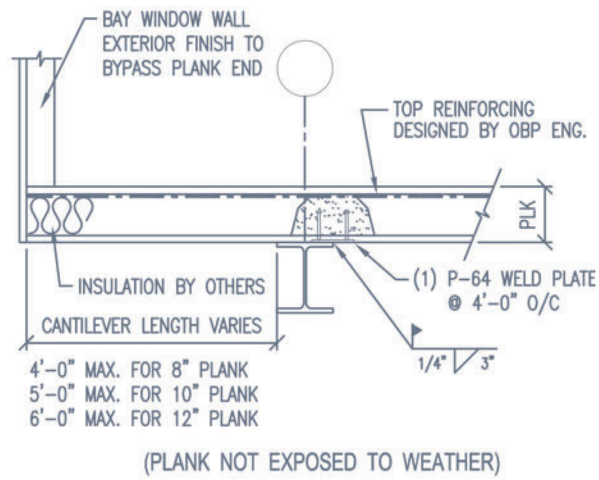


D66.0 Interior Side Lap on Upset Steel (2)

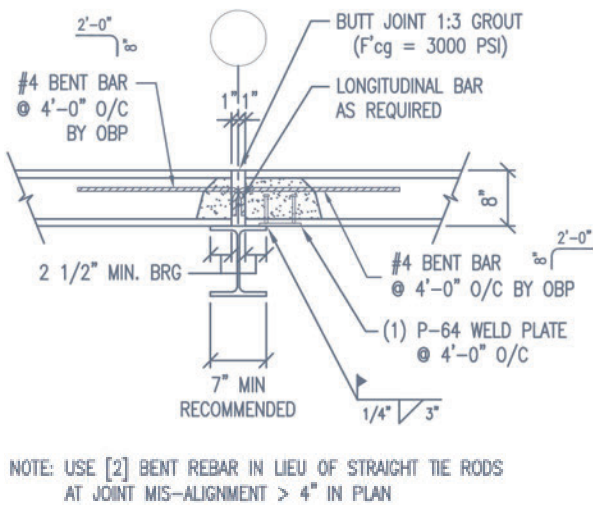
ELEMATIC® HOLLOWCORE PLANK DETAILS



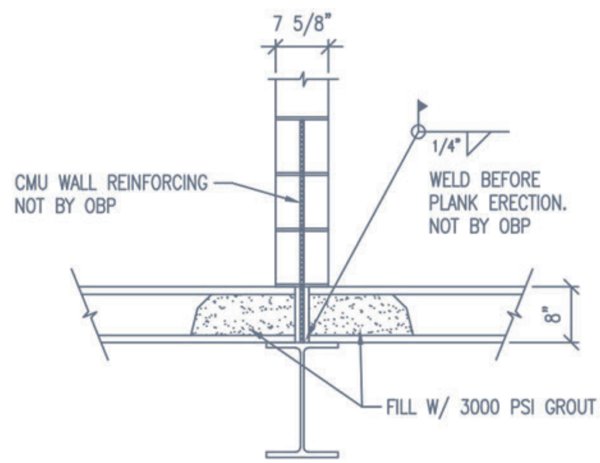
D67.0 End Bearing on Upset Steel



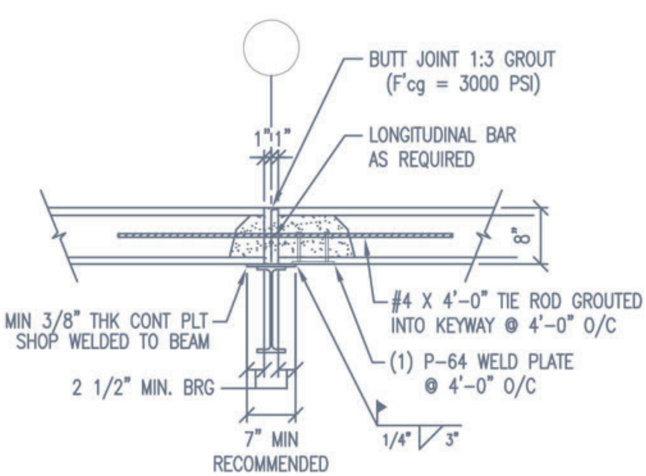
D68.0 Cantilever Plank for Bay Windows



D69.0 Interior Bearing on Steel



D70.0 Anchoring of CMU Wall on Steel



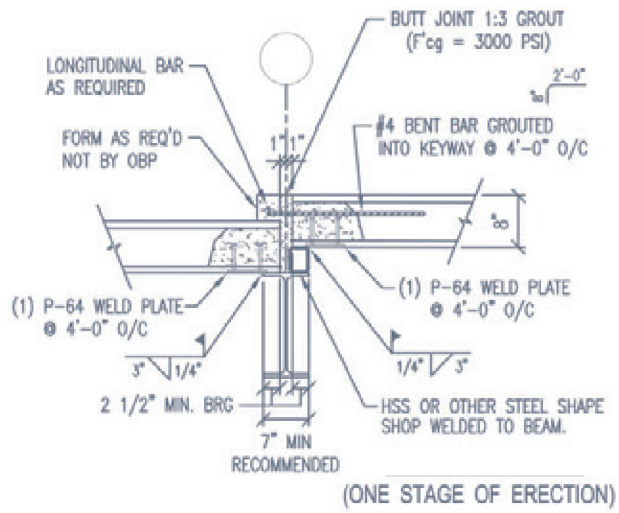
D71.0 Interior Bearing on Narrow Beam

WF-BEAMS W/ FLANGES LESS THAN 6 INCHES WIDE:
- W4x13
- W5x19, W5x16
- W6x16, W6x12, W6x9, W6x8.5
- W8x21, W8x18, W8x15, W8x13, W8x10
- W10x30, W10x26, W10x22, W10x19, W10x17, W10x15, W10x12
- W12x22, W12x19, W12x16, W12x14
- W14x26, W14x22
- W16x31, W16x26

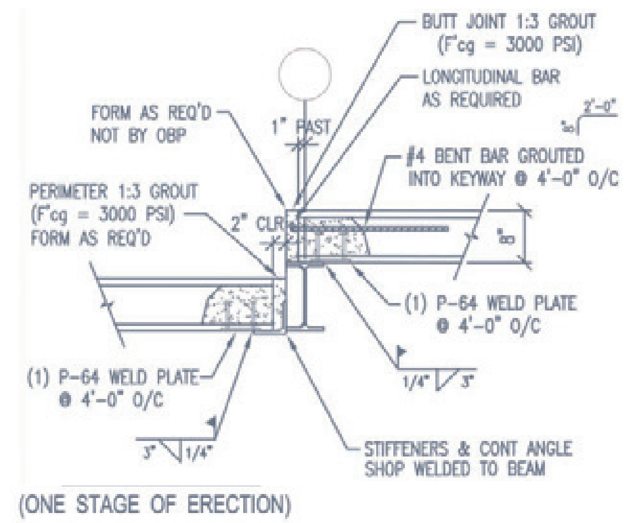
WF-BEAMS W/ FLANGES LESS THAN 7 INCHES WIDE:
- W4x13
- W5x19, W5x16
- W6x25, W6x20, W6x16, W6x15, W6x12, W6x9, W6x8.5
- W8x28, W8x24, W8x21, W8x18, W8x15, W8x13, W8x10
- W10x30, W10x26, W10x22, W10x19, W10x17, W10x15, W10x12
- W12x35, W12x30, W12x26, W12x22, W12x19, W12x16, W12x14
- W14x38, W14x34, W14x30, W14x26, W14x22
- W16x31, W16x26
- W18x46 W18x40, W18x35
- W21x57 W21x50, W21X44

D72.0 List of Narrow Beams

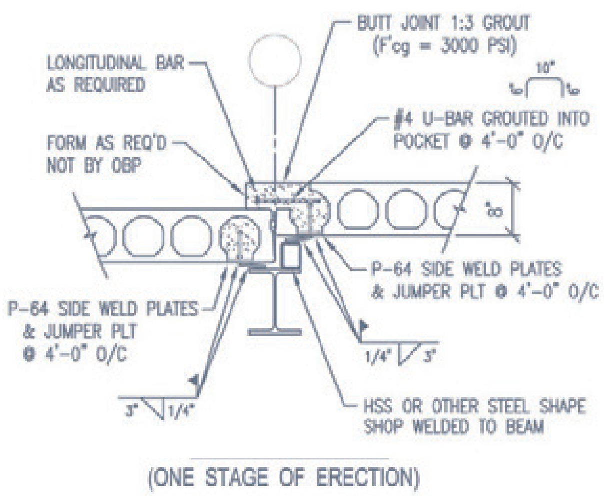
ELEMATIC® HOLLOWCORE PLANK DETAILS



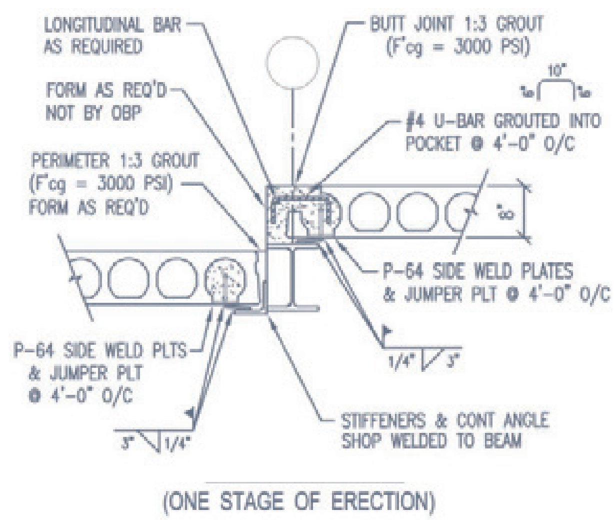
D73.0 Change of Elevation Bearing on Steel (1)



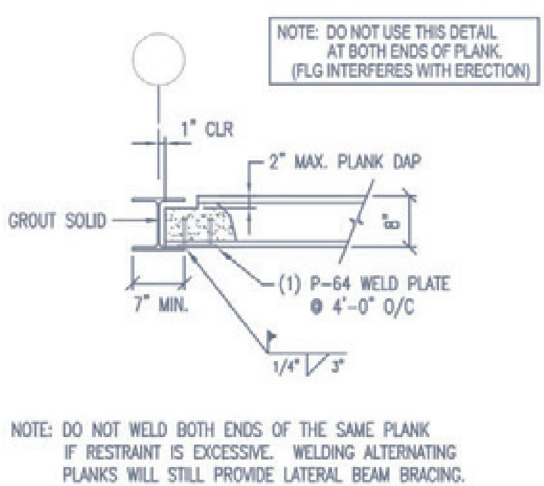
D74.0 Change of Elevation Bearing on Steel (2)



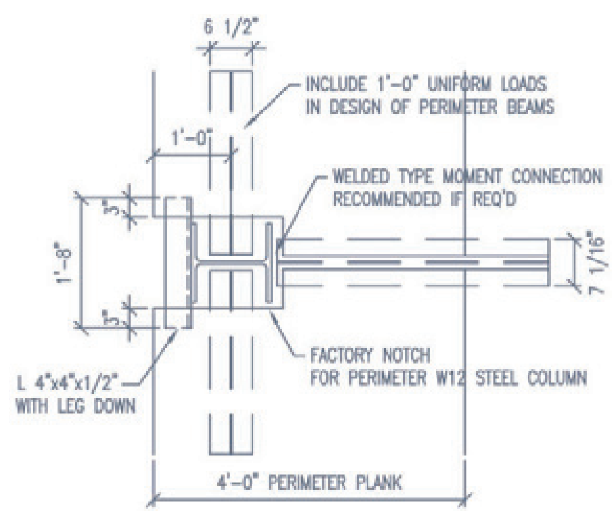
D75.0 Change of Elevation Side Lap on Steel (1)



D76.0 Change of Elevation Side Lap on Steel (2)

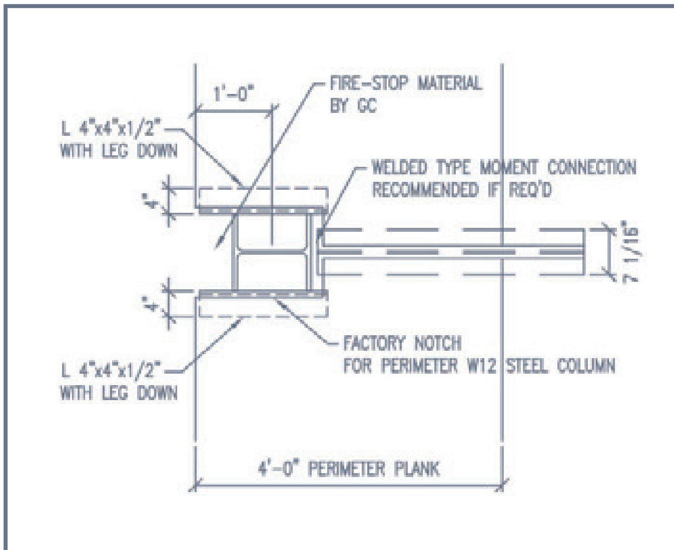


D77.0 End Bearing on Upset Steel

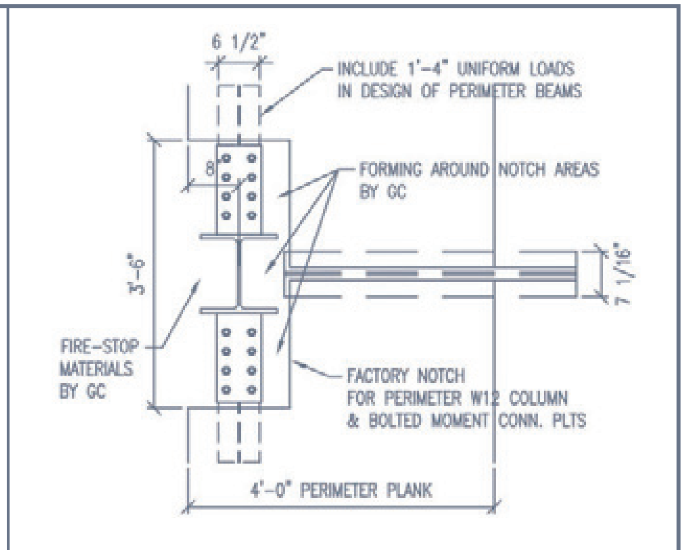


D78.0 Sample Plan @ Perimeter Steel Column W/Perimeter Beams

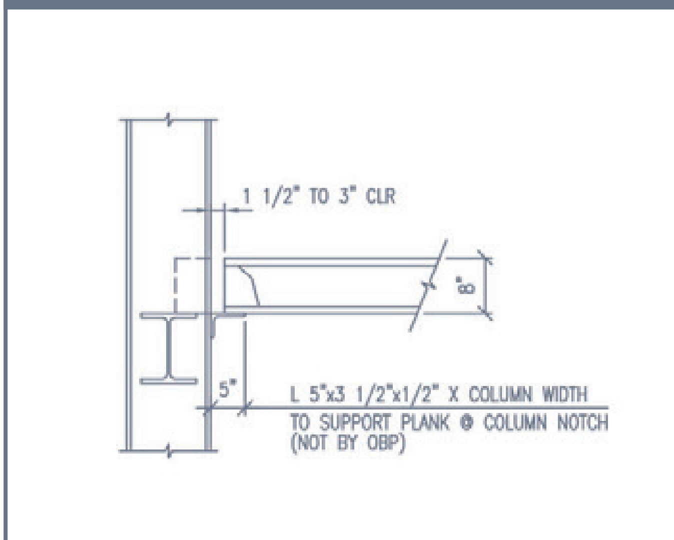
ELEMATIC® HOLLOWCORE PLANK DETAILS



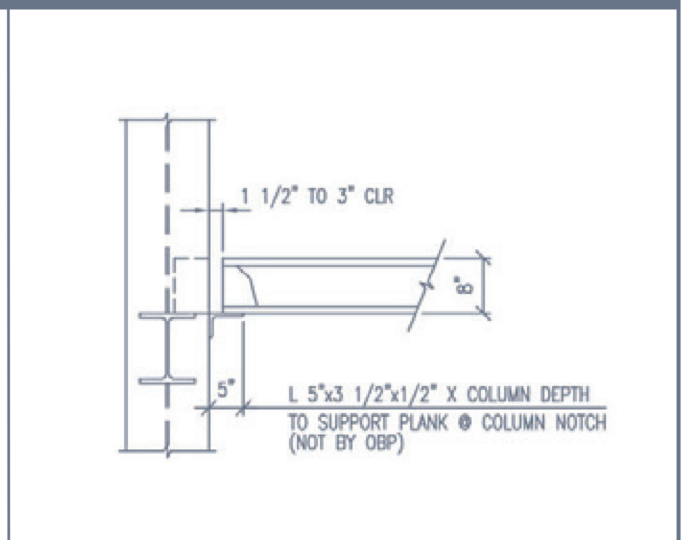
D79.0 Sample Plan @ Perimeter Steel Column W/O Perimeter Beams



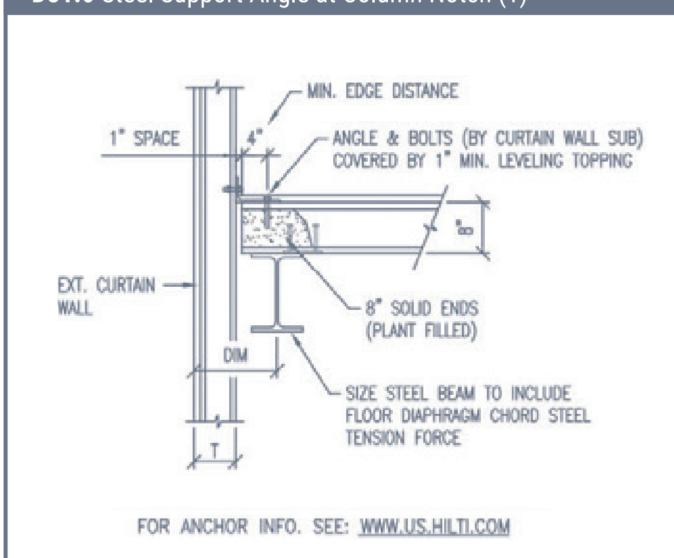
D80.0 Sample Plan @ Perimeter Steel Column W/Bolted PLT Moment Conn.



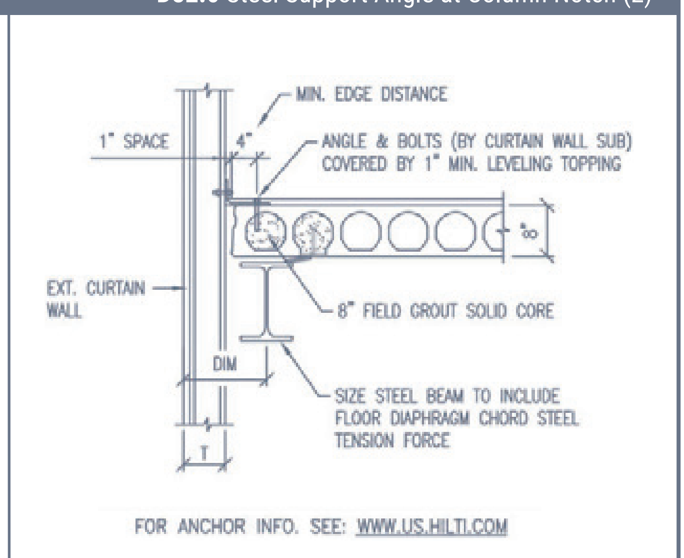
D81.0 Steel Support Angle at Column Notch (1)



D82.0 Steel Support Angle at Column Notch (2)

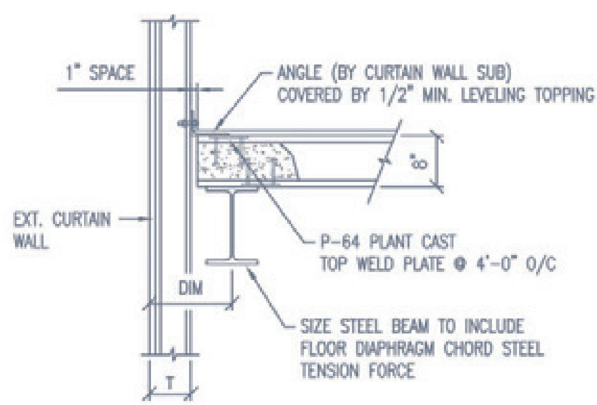


D83.0 Ext. Curtain Wall to End of Plank (1)

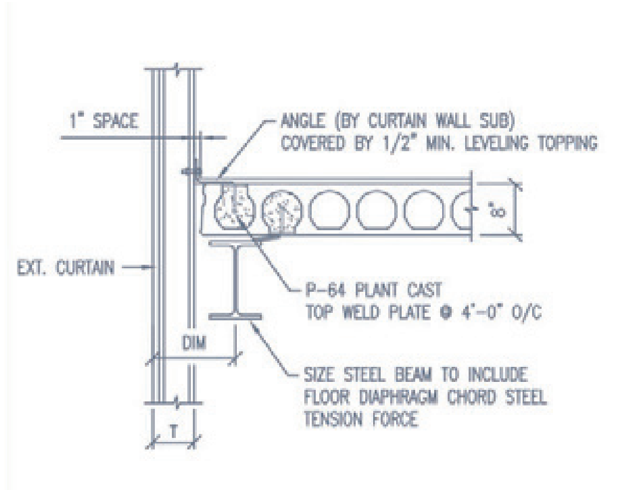


D84.0 Ext. Curtain Wall to Side of Plank (1)

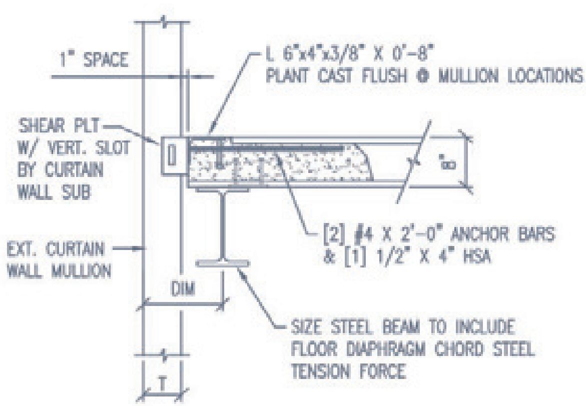
ELEMATIC® HOLLOWCORE PLANK DETAILS



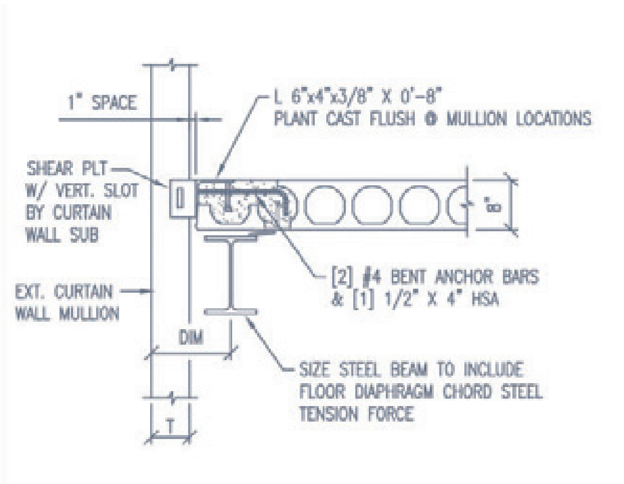
D85.0 Ext. Curtain Wall to End of Plank (2)



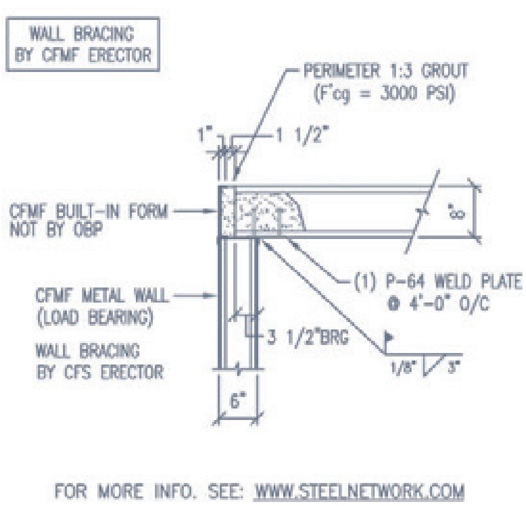
D86.0 Ext. Curtain Wall to Side of Plank (2)



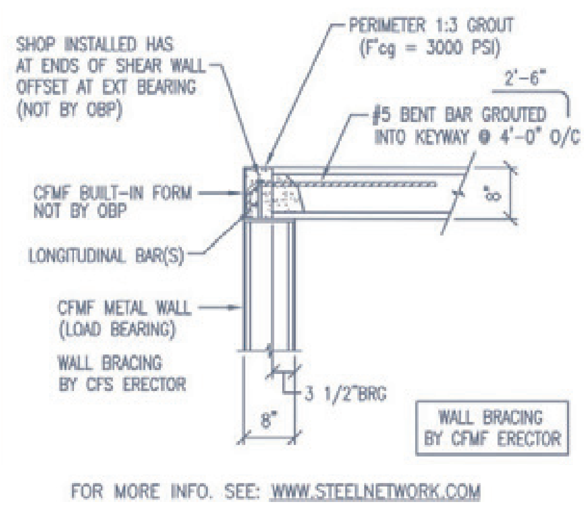
D87.0 Ext. Curtain Wall to End of Plank (3)



D88.0 Ext. Curtain Wall to Side of Plank (3)

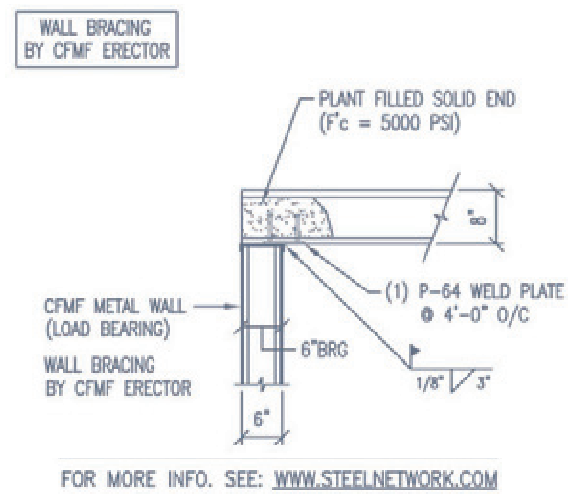


D89.0 Exterior Bearing on CFMF Stud (1)

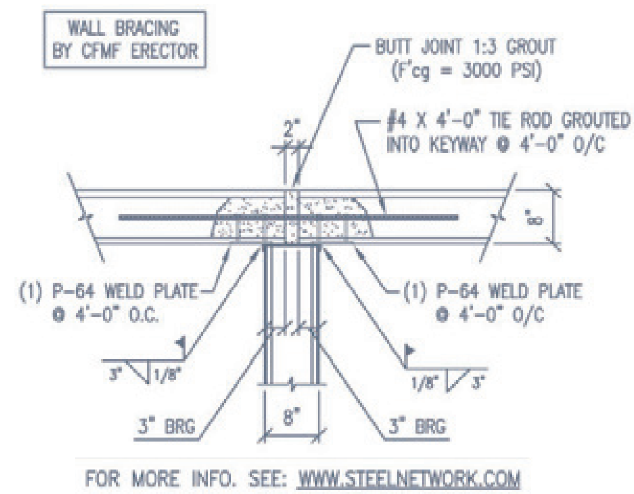


D90.0 Exterior Bearing on CFMF Stud (2)

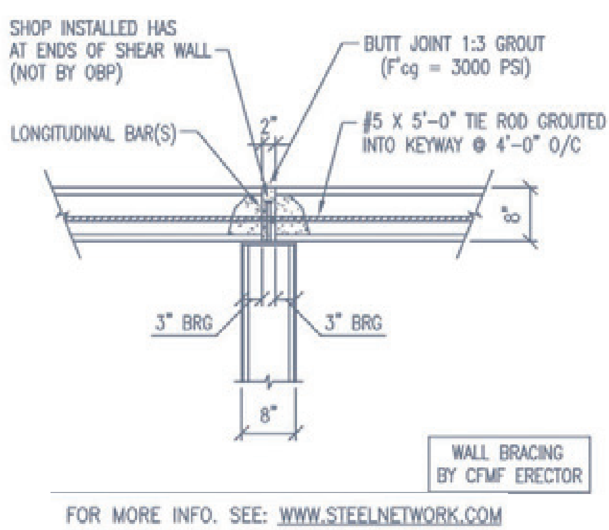
ELEMATIC® HOLLOWCORE PLANK DETAILS



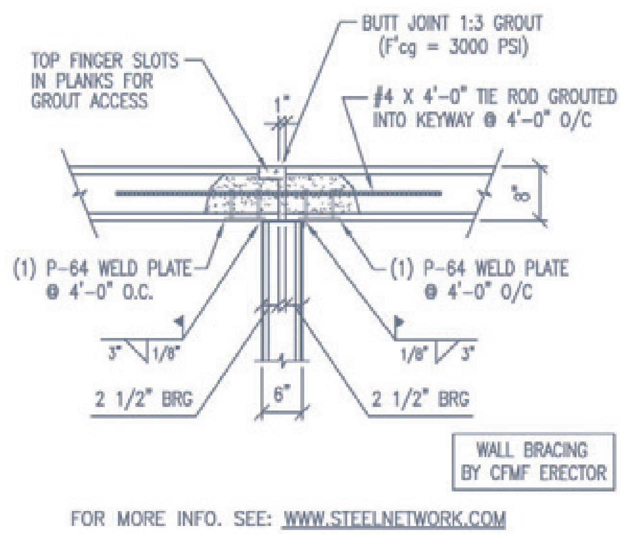
D91.0 Exterior Bearing on CFMF Stud (3)



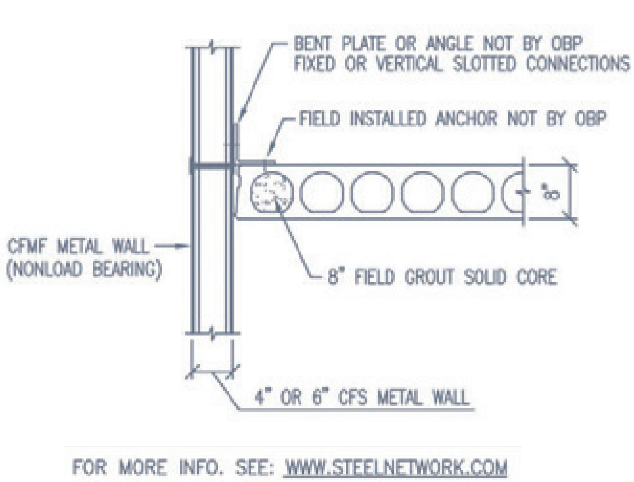
D92.0 Interior Bearing on 8" CFMF Wall (1)



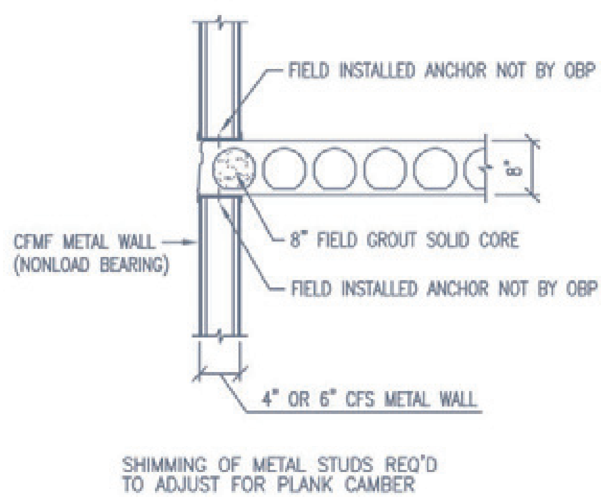
D93.0 Interior Bearing on 8" CFMF Wall (2)



D94.0 Interior Bearing on 6" CFMF Wall

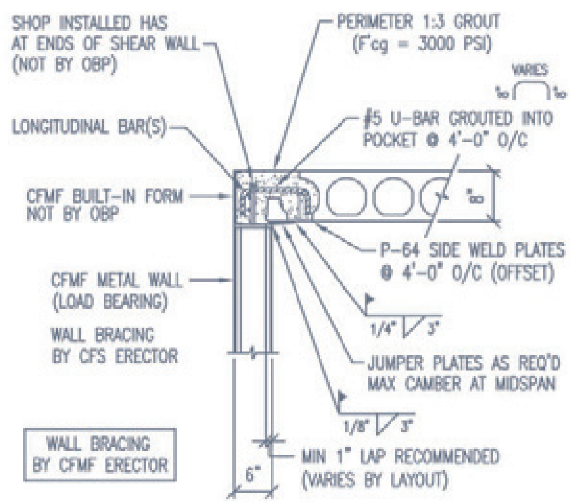


D95.0 Exterior Bypass Side with CFMF Stud

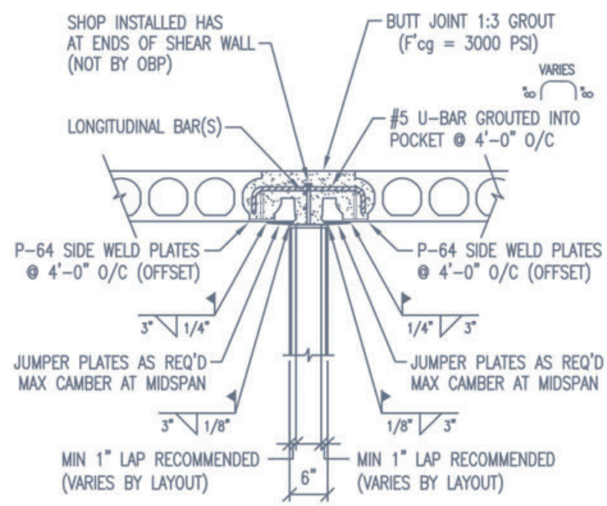


D96.0 Exterior Side Lap on CFMF Stud

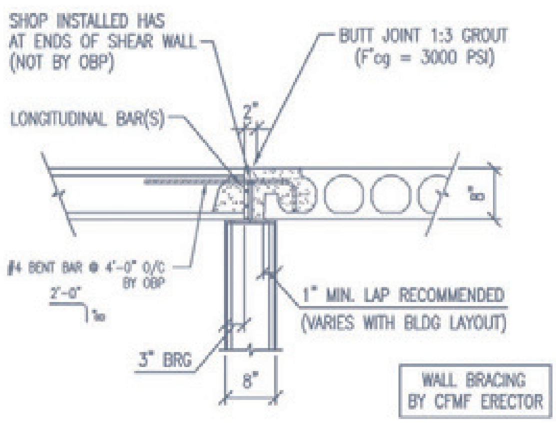
ELEMATIC® HOLLOWCORE PLANK DETAILS



D97.0 Exterior CFMF Stud Shear Wall



D98.0 Interior CFMF Stud Shear Wall

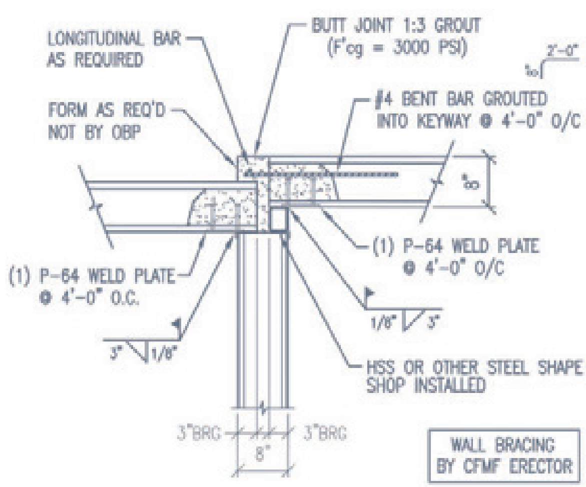


(INTERIOR CHANGE OF SPAN DIRECTION)

FOR MORE INFO. SEE: WWW.STEELNETWORK.COM

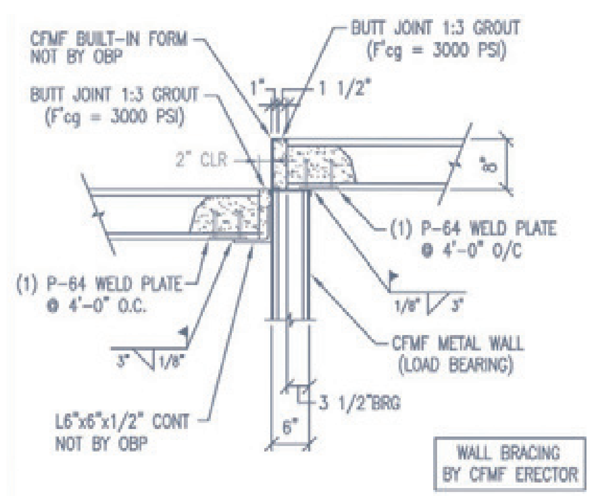
D99.0 CFMF Load Bearing/Shear Wall

D100.0



(ONE STAGE OF ERECTION)

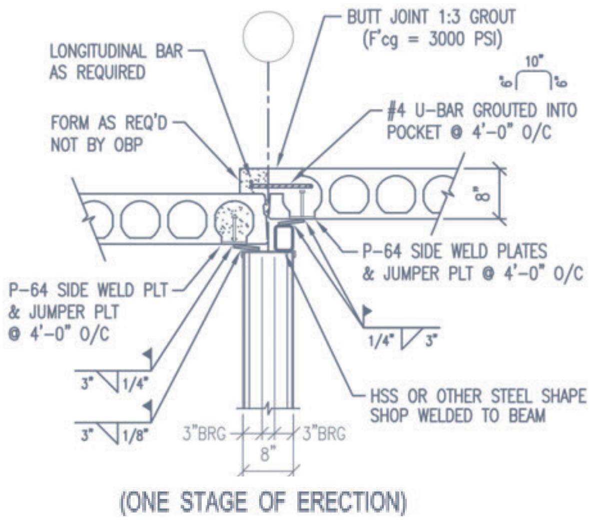
D101.0 8" CFMF Stud (2" to 8") Step Bearing



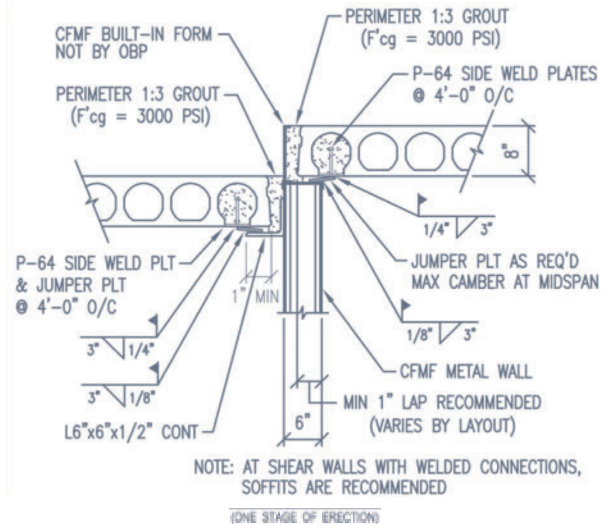
(ONE STAGE OF ERECTION)

D102.0 6" CFMF Stud Change of Elev Bearing

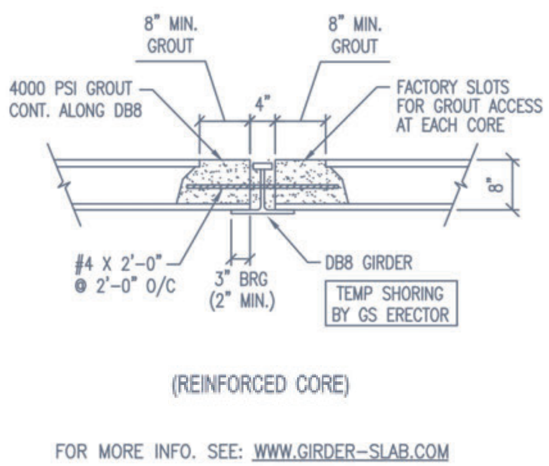
ELEMATIC® HOLLOWCORE PLANK DETAILS

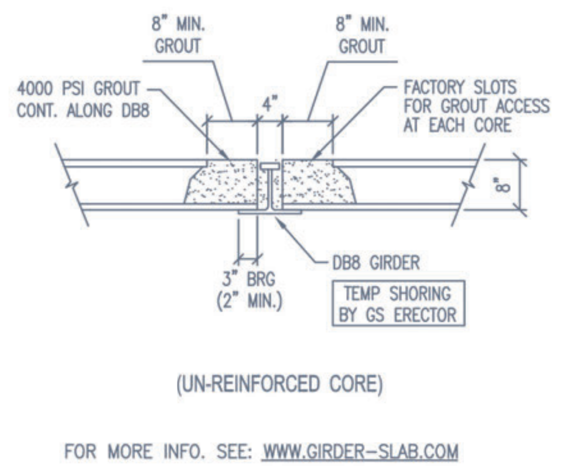


D103.0 8" CFMF Stud (2" to 8") Step Side Lap



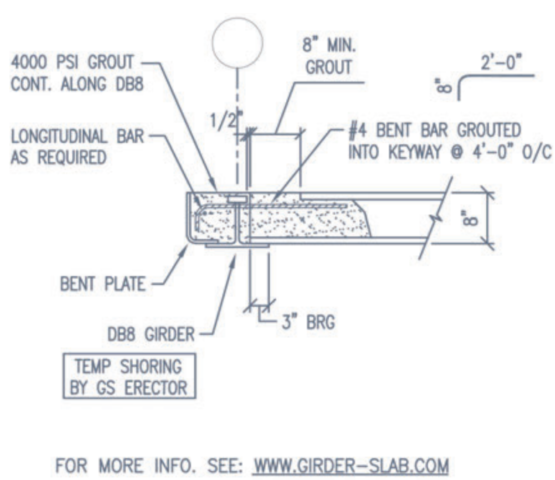
D104.0 6" CFMF Stud Change of Elev Side Lap

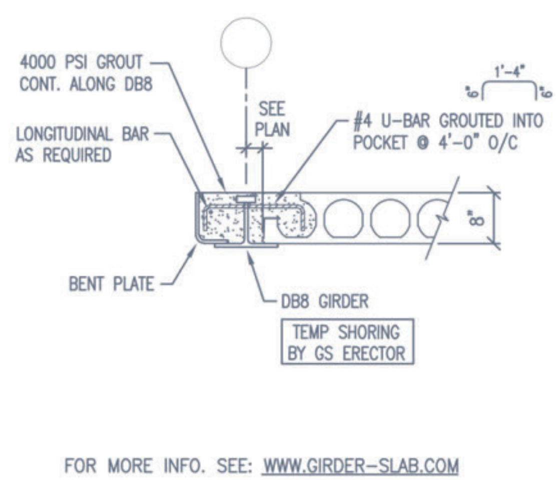




D105.0 Girder-Slab Shallow Steel System

D106.0 Girder-Slab Shallow Steel System

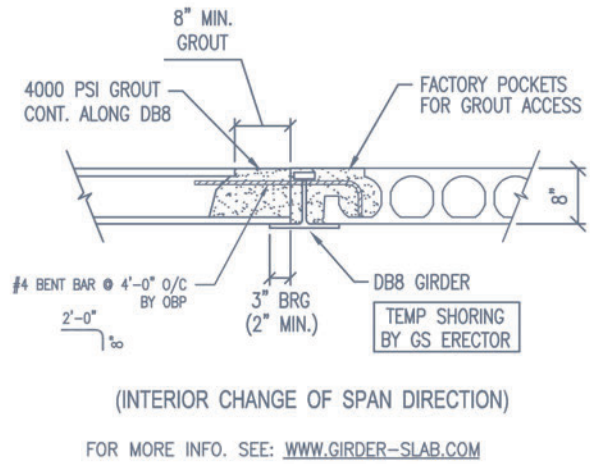




D107.0 Girder-Slab Perimeter End Bearing

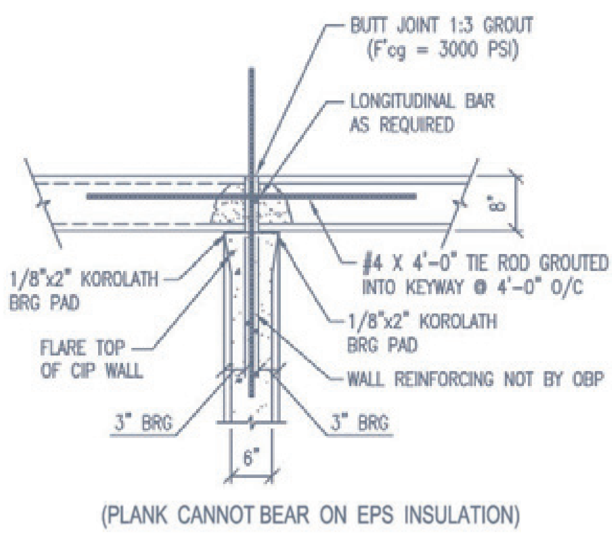
D108.0 Girder-Slab Perimeter Side Lap

ELEMATIC® HOLLOWCORE PLANK DETAILS

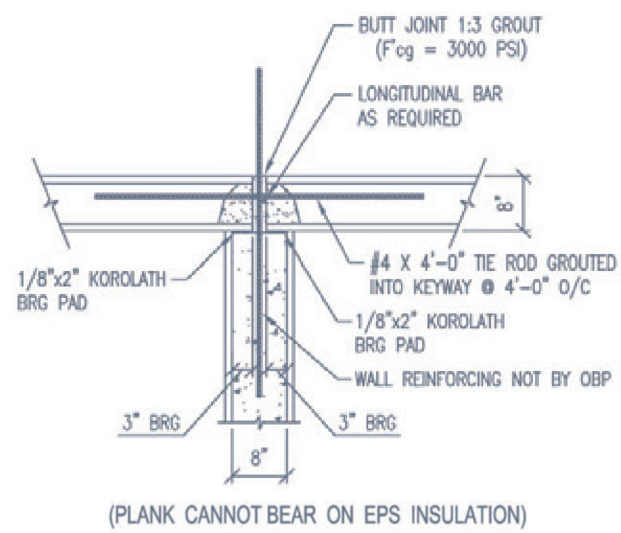


D109.0 Girder-Slab Shallow Steel System

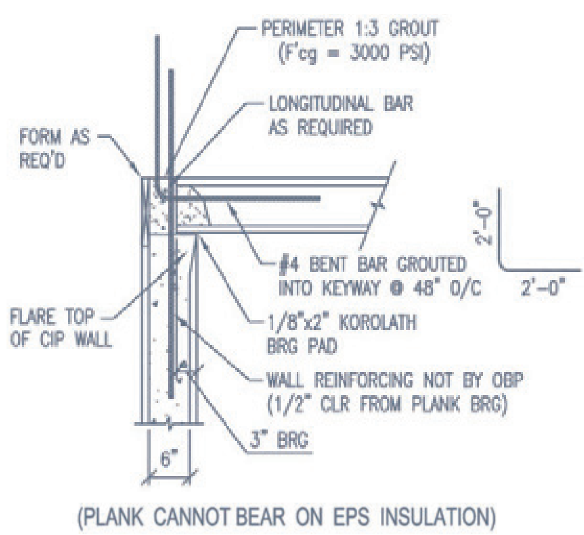
D110.0



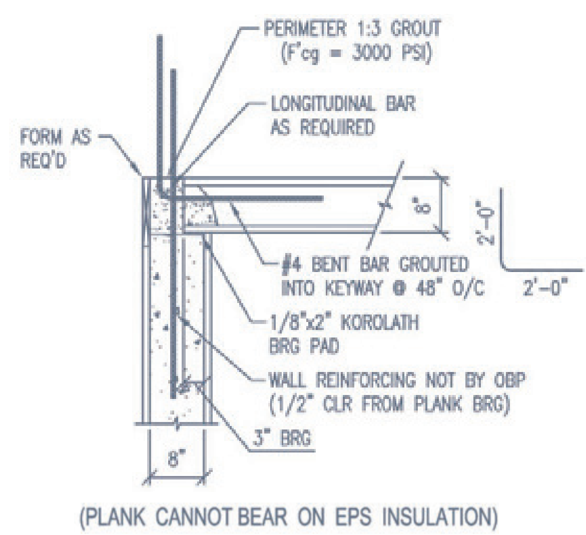
D111.0 Interior Bearing on 6" ICF Wall



D112.0 Interior Bearing on 8" ICF Wall

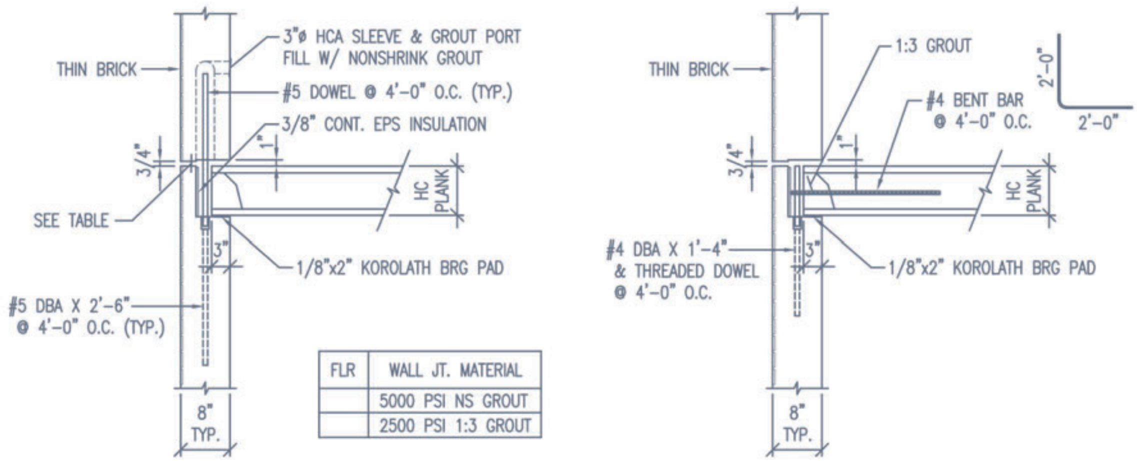


D113.0 Exterior Bearing on 6" ICF Wall

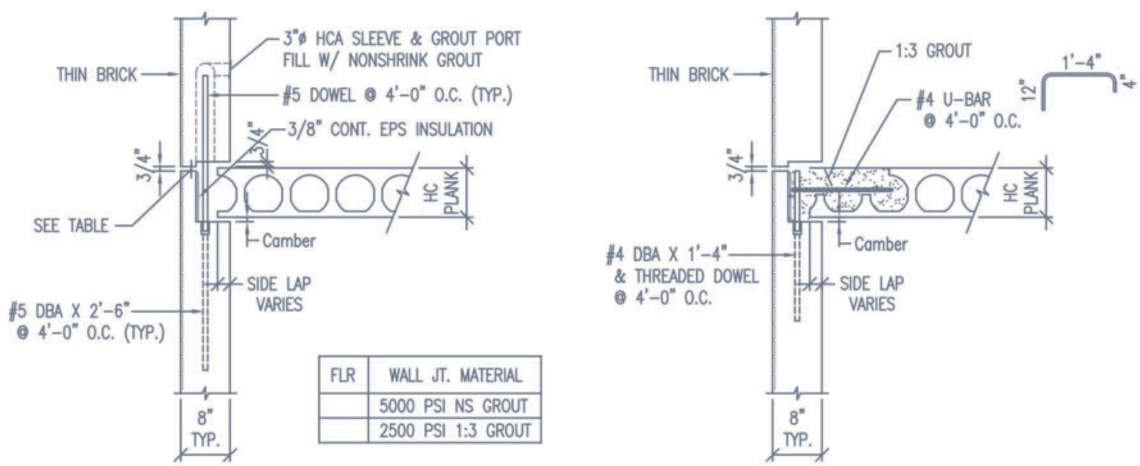


D114.0 Exterior Bearing on 8" ICF Wall

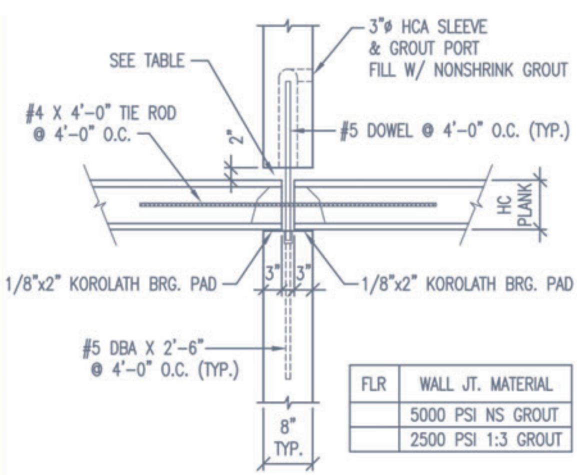
ELEMATIC® HOLLOWCORE PLANK DETAILS



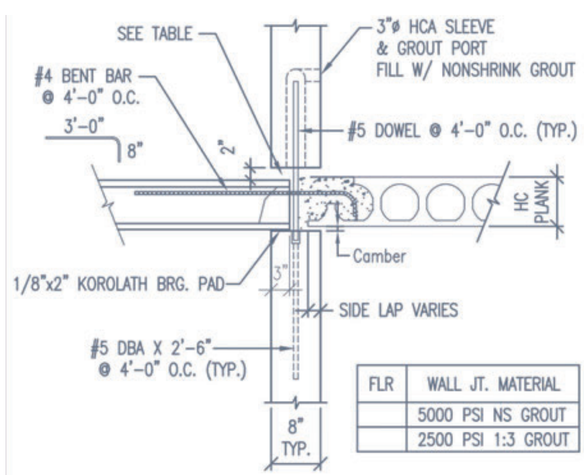
D115.0 Ext. BRG Wall-Wall / Ext. BRG Plank-Wall



D116.0 Ext. Lap Wall-Wall / Ext. Lap Plank-Wall

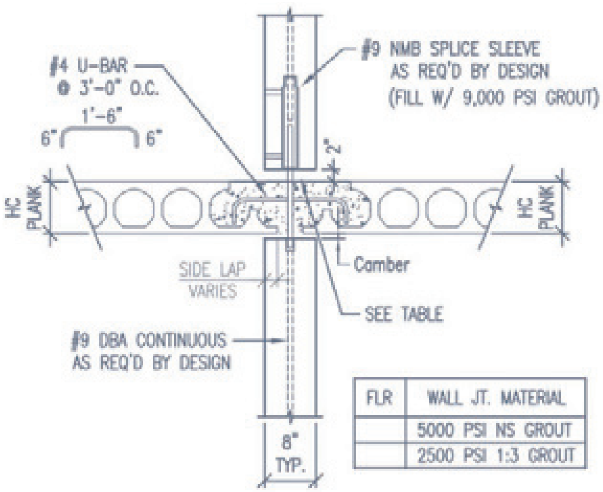


D117.0 Interior Precast Bearing Wall

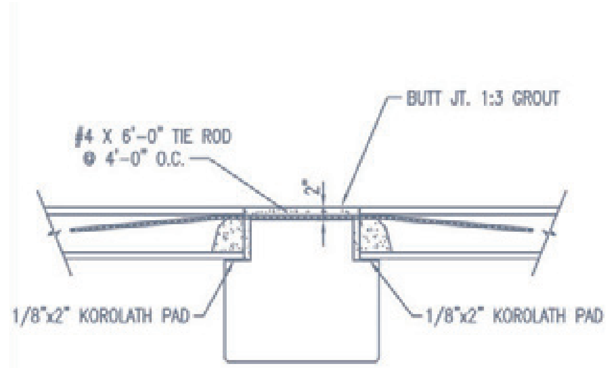


D118.0 Interior Precast Bearing & Lap Wall

ELEMATIC® HOLLOWCORE PLANK DETAILS

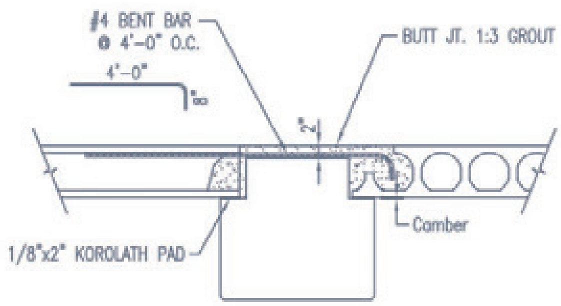


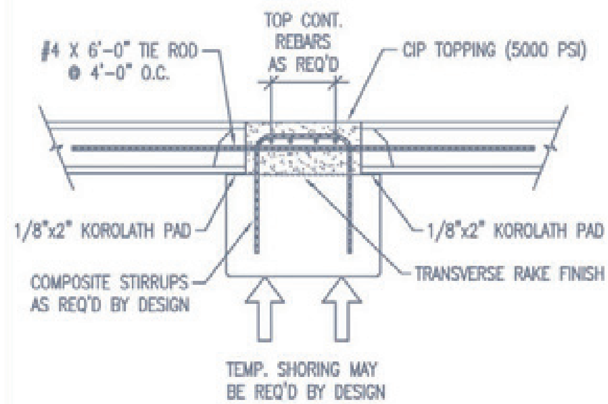
FLR	WALL JT. MATERIAL
	5000 PSI NS GROUT
	2500 PSI 1:3 GROUT



D119.0 Interior Precast Non-Bearing Shear Wall

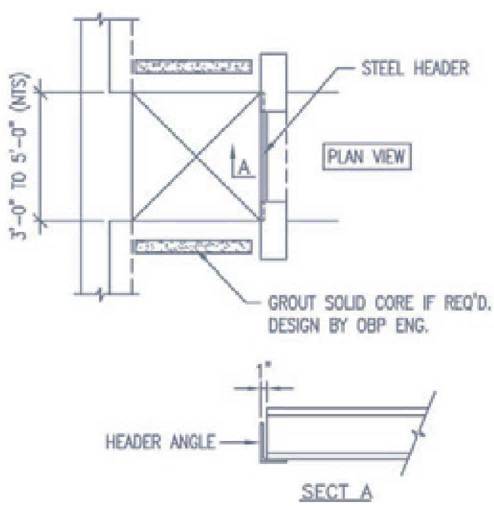
D120.0 Plank on INV-T Beam

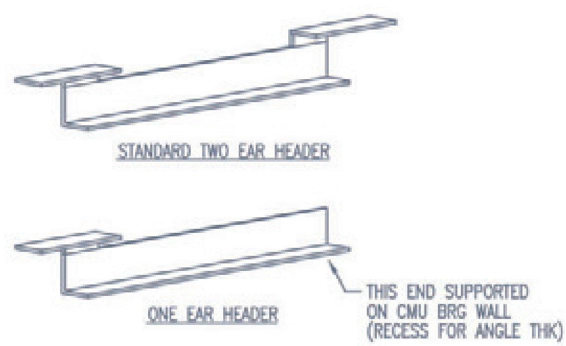




D121.0 Plank on INV-T Beam

D122.0 Plank on Composite Beam



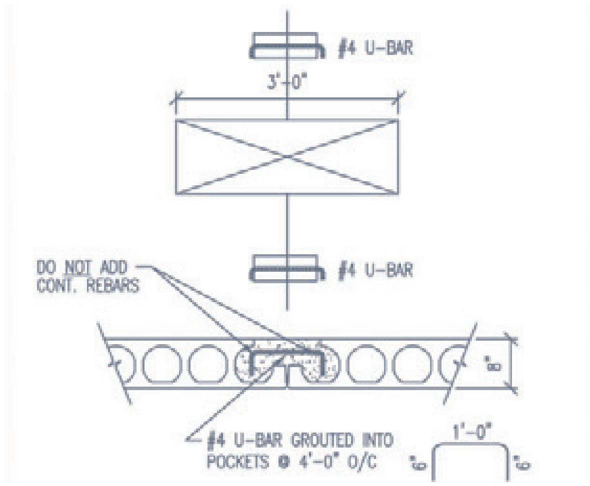


PLANK THK	HEADER ANGLE	EAR PLATE
ELEMATIC 8"	L 6"x4"x3/8"	PLT 4"x1/2" X 1'-3"
ELEMATIC 10"	L 7"x4"x1/2"	PLT 4"x5/8" X 1'-3"
ELEMATIC 12"	L 8"x4"x1/2"	PLT 4"x3/4" X 1'-5"
ELEMATIC 16"	L 8"x6"x1/2"	PLT 6"x3/4" X 1'-11"

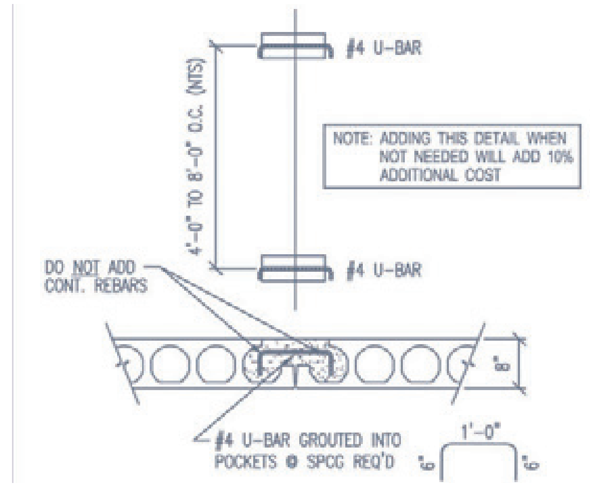
D123.0 Header Support at Large Opening

D124.0 Plank Header Types

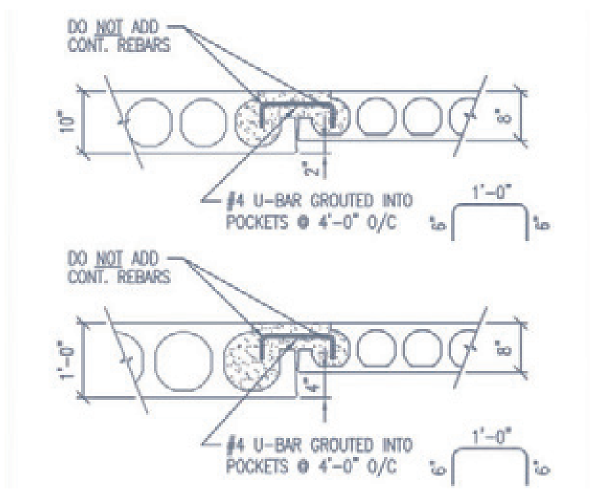
ELEMATIC® HOLLOWCORE PLANK DETAILS



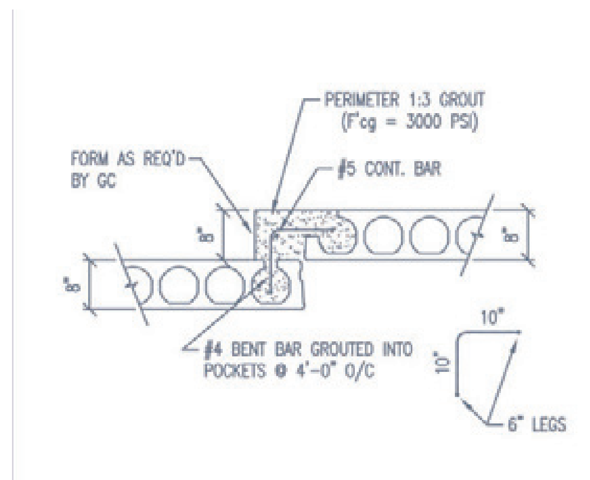
D125.0 #4 U-Bars at Field Saw Cut Openings > 3'-0"



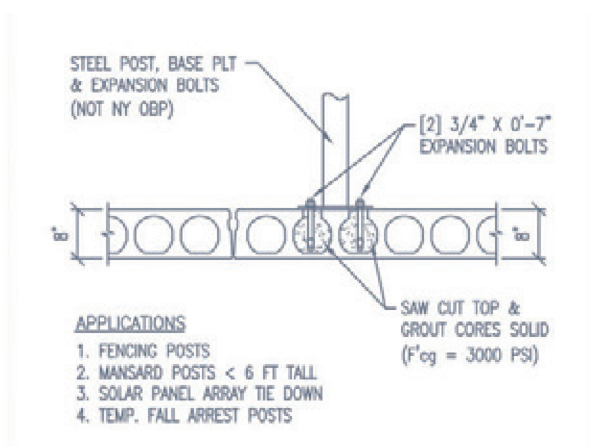
D126.0 #4 U-Bars at Rigid Diaphragms W/ Longitudinal Shear > 2.88 KLF



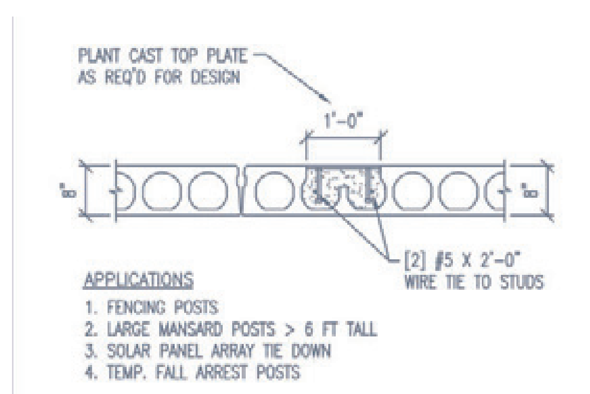
D127.0 #4 U-Bars at Different Plank THK



D128.0 #4 U-Bars at Elevation Step

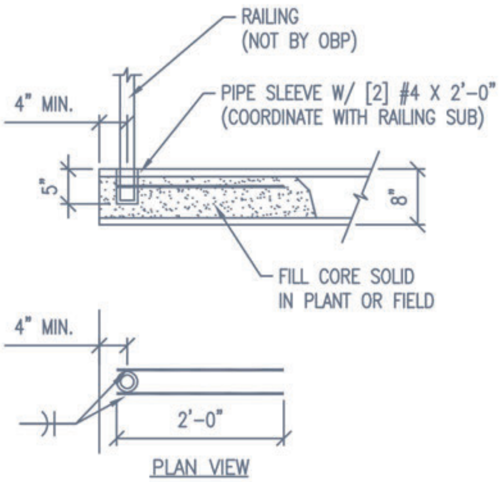


D129.0 Roof Plank with Post Install Bolting

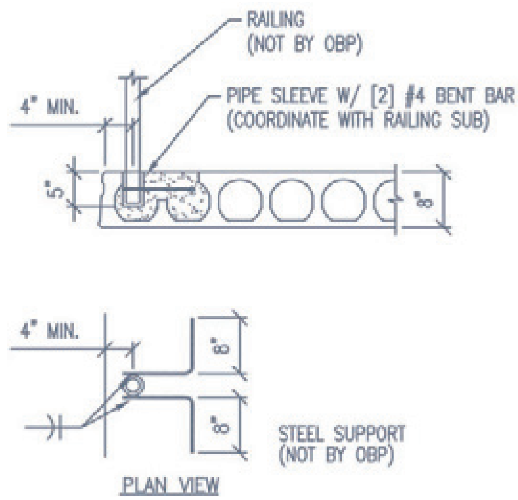


D130.0 Roof Plank with Large Top Plates

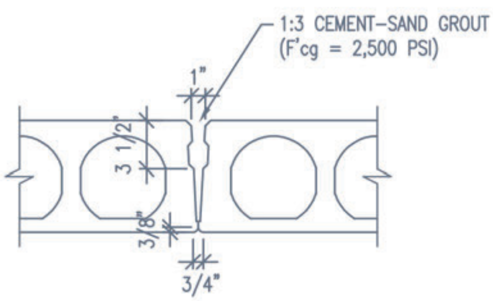
ELEMATIC® HOLLOWCORE PLANK DETAILS



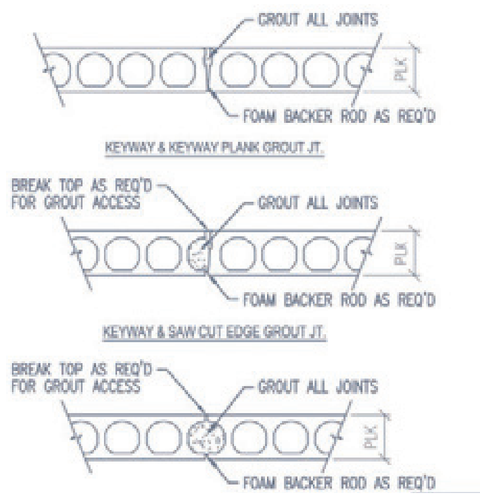
D131.0 Railing Post Attachment at Plank End



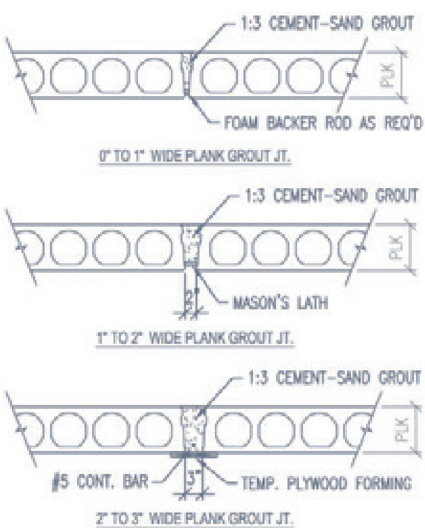
D132.0 Railing Post Attachment at Plank Side



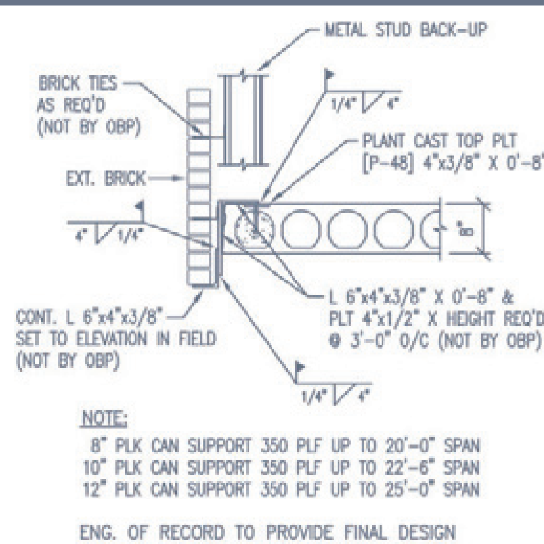
D133.0 Selkirk, NY Plant (Radius JT)



D134.0

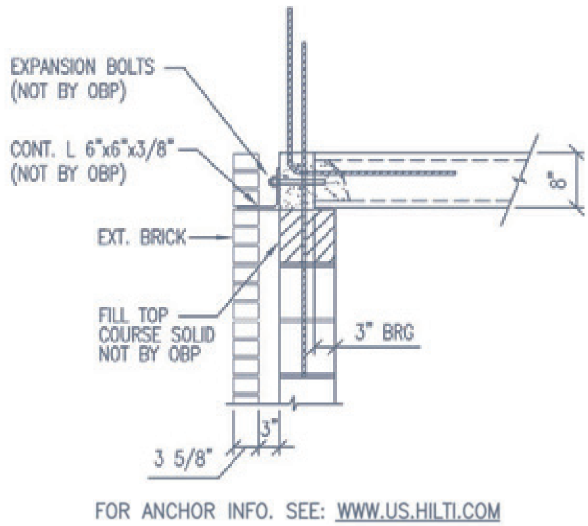


D135.0

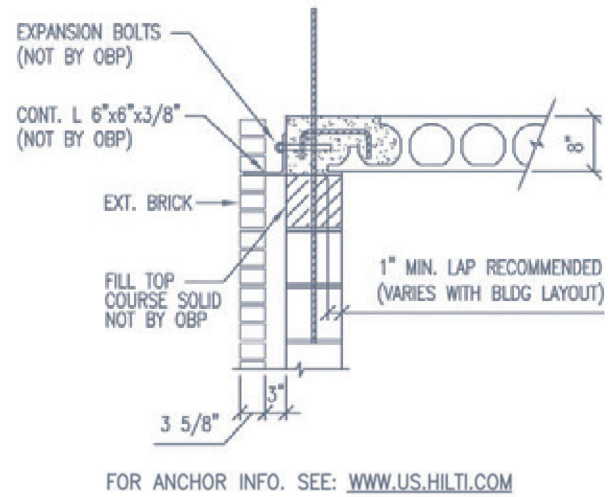


D136.0 Sample Brick Relieving Angle (Plank Side)

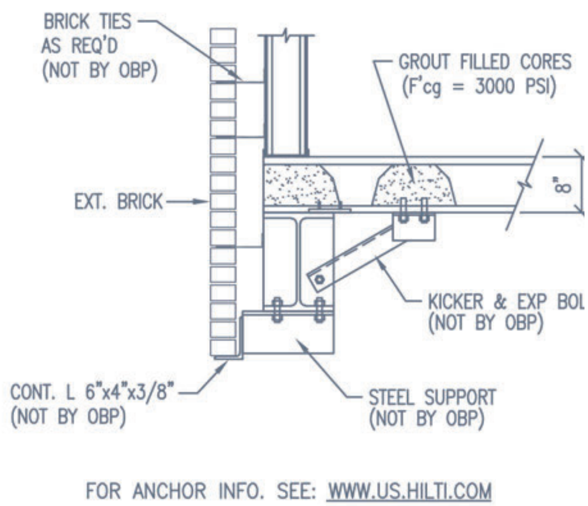
ELEMATIC® HOLLOWCORE PLANK DETAILS



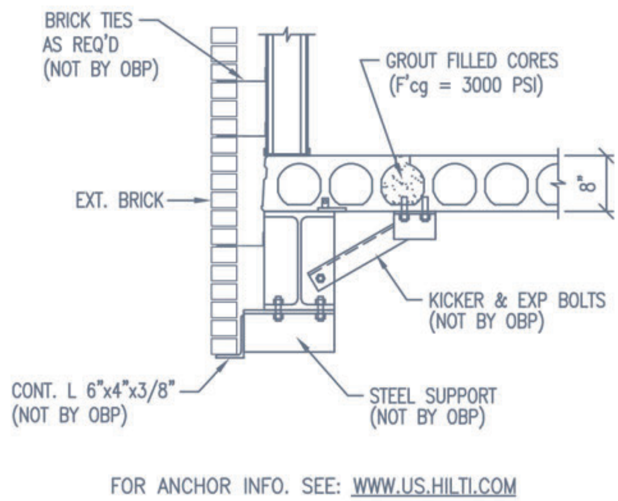
D137.0 Brick Relieving Angle (Masonry Plank End)



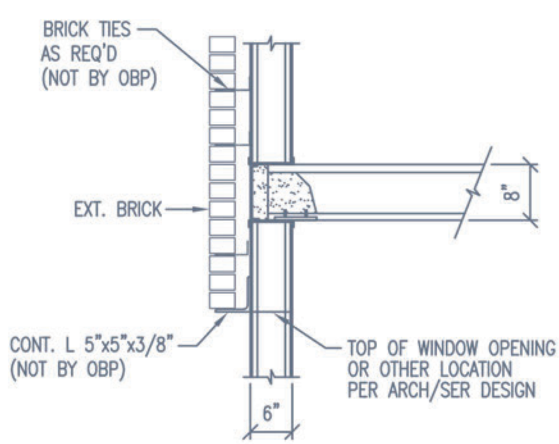
D138.0 Brick Relieving Angle (Masonry Plank Side)



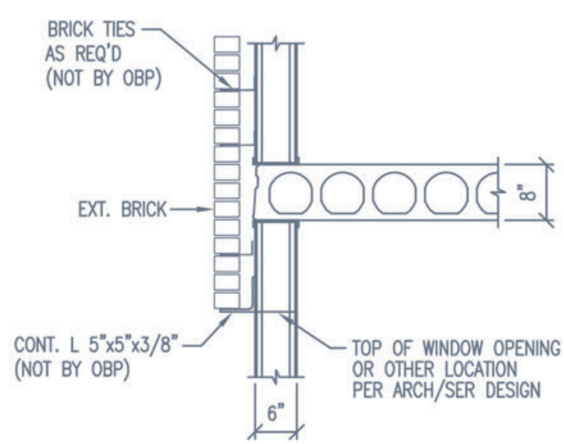
D139.0 Brick Relieving Angle (Steel Plank End)



D140.0 Brick Relieving Angle (Steel Plank Side)

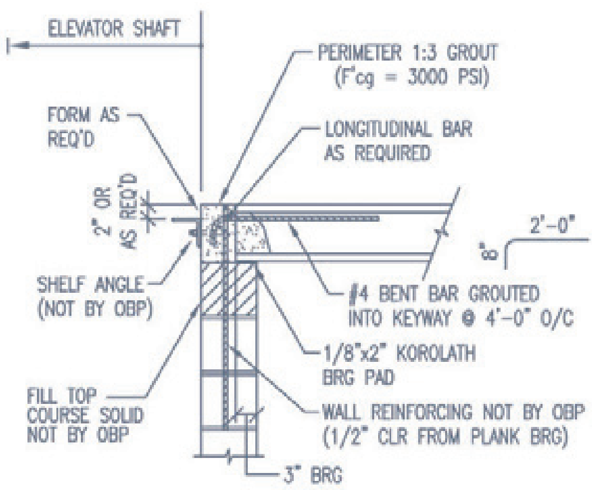


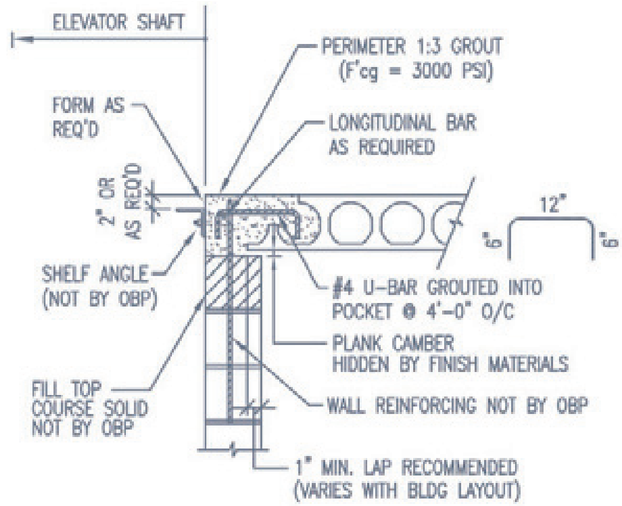
D141.0 Brick Relieving Angle (Metal Stud Plank End)



D142.0 Brick Relieving Angle (Metal Stund Plank Side)

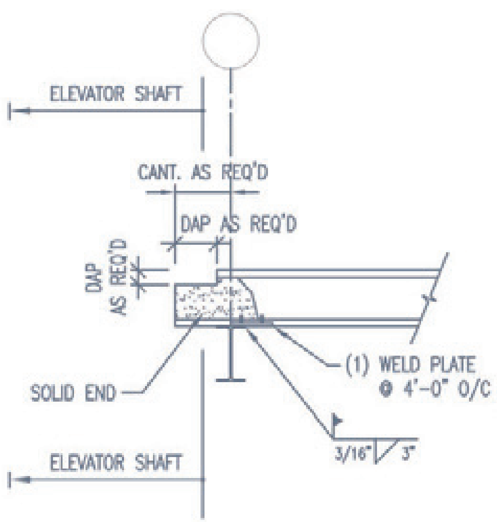
ELEMATIC® HOLLOWCORE PLANK DETAILS

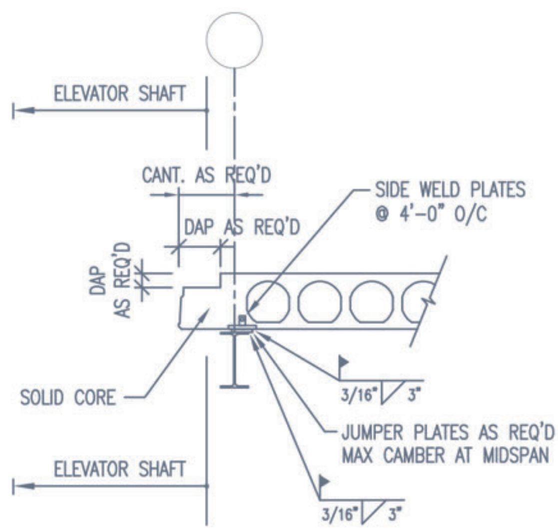




D143.0 Elevator Door Support Detail (1)

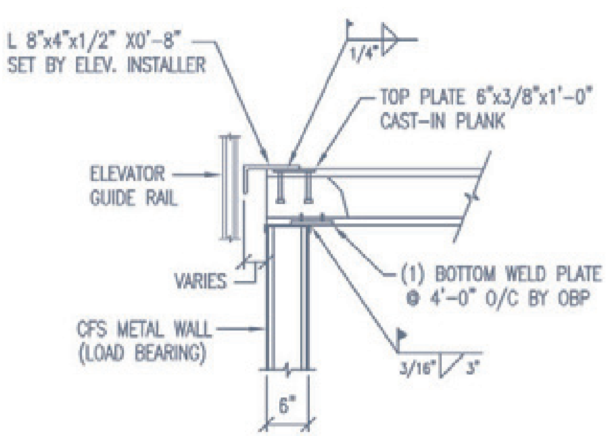
D144.0 Elevator Door Support Detail (2)





D145.0 Elevator Door Support Detail (3)

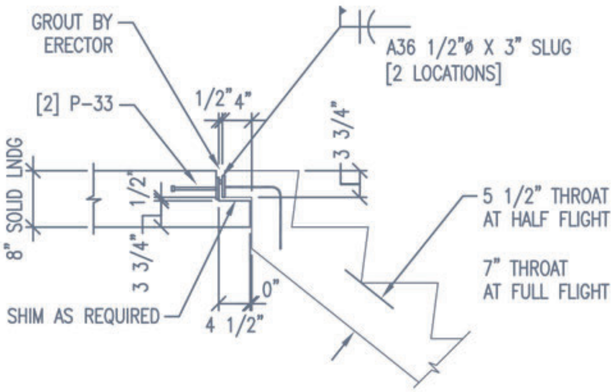
D146.0 Elevator Door Support Detail (4)



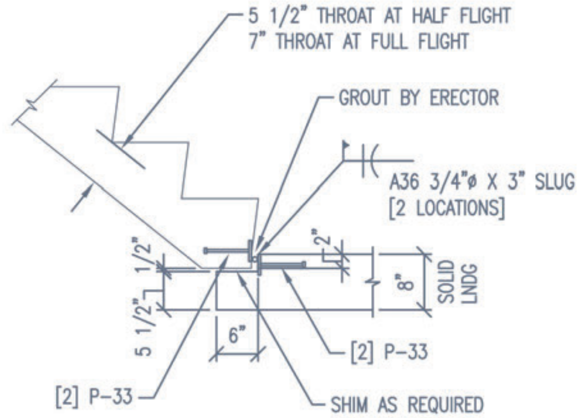
D147.0 Metal Stud & Plank at Elevator Wall

D148.0

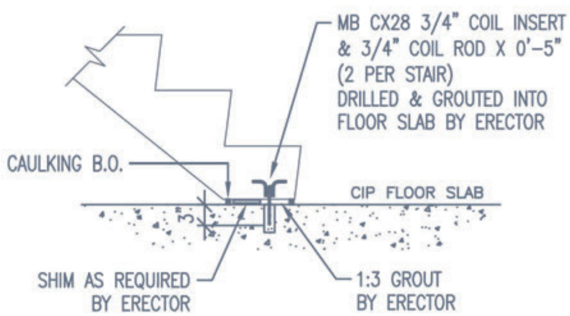
ELEMATIC® HOLLOWCORE PLANK DETAILS



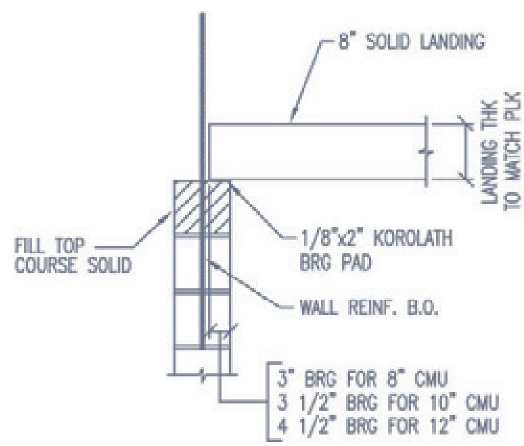
D149.0 Top of Precast Stair at PC Landing



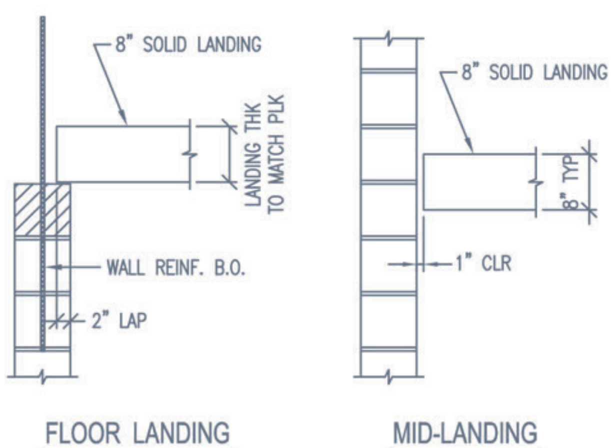
D150.0 Bottom of Precast Stair at PC Landing



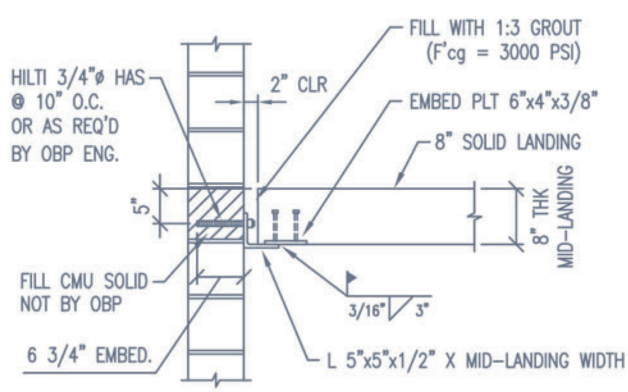
D151.0 Precast Stair at Ground Slab



D152.0 Floor Landing End Bearing

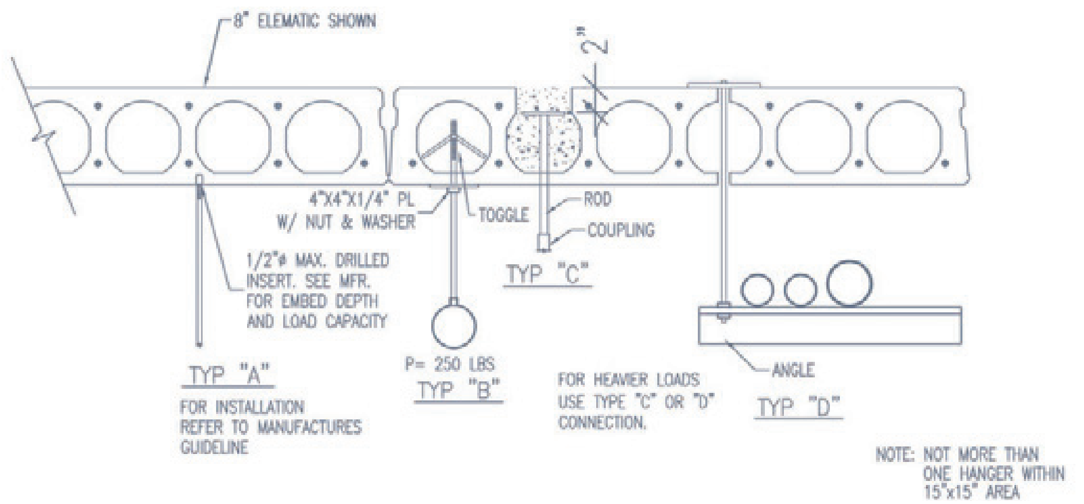


D153.0 Floor & Mid-Landing Back Side Lap



D154.0 Mid-Landing Support Angle

ELEMATIC® HOLLOWCORE PLANK DETAILS

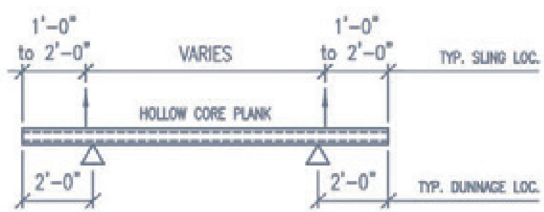


D155.0 MEP Pipe Support & Hanger Details

TYPICAL HOLLOW CORE PLANK LIFT PLAN :

- DUE TO DESIGN, MANUFACTURING, AND ERECTION FACTORS, THIS GUIDE IS OFFERED ONLY AS A GENERAL REFERENCE.
- ALL HOLLOW CORE PLANK SHOULD BE ERECTED PER PCI MNL 127-99 GUIDELINES. (www.pci.org – refer to their Bookstore)
- EACH PICK NEEDS TO BE EVALUATED BY A QUALIFIED RIGGER.

WARNING: MOVING LIFTING CHOKERS/STRAPS MORE THAN 4'-0" FROM THE ENDS CAN INCREASE THE CHANCE OF THE PLANK CRACKING AT THE TOP OF THE LIFTING POINTS.



D156.0 Typical Lift & Storage

MARKET SEGMENTS

Oldcastle Infrastructure, Inc. product offering has grown tremendously since the company was founded more than 50 years ago. Now you'll find precast homes that look no different than brick buildings from the turn-of-the-century. There are smart classrooms that make learning much easier, thanks to the quiet acoustics, pest and chemical resistance of precast concrete. And in every market segment we serve, new ideas are becoming a reality all the time.

RESIDENTIAL APPLICATION (SINGLE & MULTI-FAMILY)

- Apartments
- Assisted Living
- College Dormitories
- Condominiums
- Military Barracks/Quarters
- Mixed Use
- Nursing Homes

HOSPITALITY

- Hotels/Motel(s)

EDUCATIONS

- Academic Institutions
- Classroom Buildings

INDUSTRIAL

- Warehouse / Distribution Centers

LUNCH & LEARN EVENTS

We developed our Lunch and Learn seminars to create an opportunity for architects, engineers and students to learn more about precast concrete principles and usage, earn accredited AIA/CES learning units and enjoy a complimentary lunch along with a plant tour.

COMMITTED TO THE ENVIRONMENT

The products that we manufacture are inherently durable and we're committed to focusing on innovations that make them even more so. In addition to creating products that last, we challenge ourselves to develop innovative strategies for improving environmental performance. We're particularly proud to be involved with numerous LEED-certified projects and look forward to many more to come.

With strategic manufacturing location we cover the Northeast and Mid-Atlantic regions and support a wide variety of groups in our community. In addition to financial contributions, we volunteer our time building homes for those in need through Habitat for Humanity and by giving the students of West Point Engineering Program the opportunity to have their bridge designs manufactured for a national competition.

WE PROUDLY SUPPORT

- American Cancer Society®
- Boys and Girls Club of America
- Civil Air Patrol
- Emergency Medical
- Technician Volunteers
- Habitat for Humanity®
- Regional Food Bank
- Special Olympics
- West Point Engineering Program

OLDCASTLE INFRASTRUCTURE

A division of CRH, Oldcastle Infrastructure Inc. is the leading manufacturer of precast concrete and composites in the U.S. With more than 5,000 employees at over 80 locations nationwide, our work has won awards for safety, quality and customer service.

ORDERING INFORMATION

For specific product information please visit oldcastleinfrastructure.com/products/building-structures or call (518) 767-2116 to reach our team of experts.

MANUFACTURING LOCATIONS

| Selkirk, NY
Serving the Northeast to Mid-Atlantic regions.

CONTACT INFORMATION

Main office
Oldcastle Infrastructure
123 CR 101
Selkirk, NY 12158
Phone: (518) 767-2116
Fax: (518) 767-9390

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(518) 767-2116
oldcastleinfrastructure.com/product/hollowcore-plank