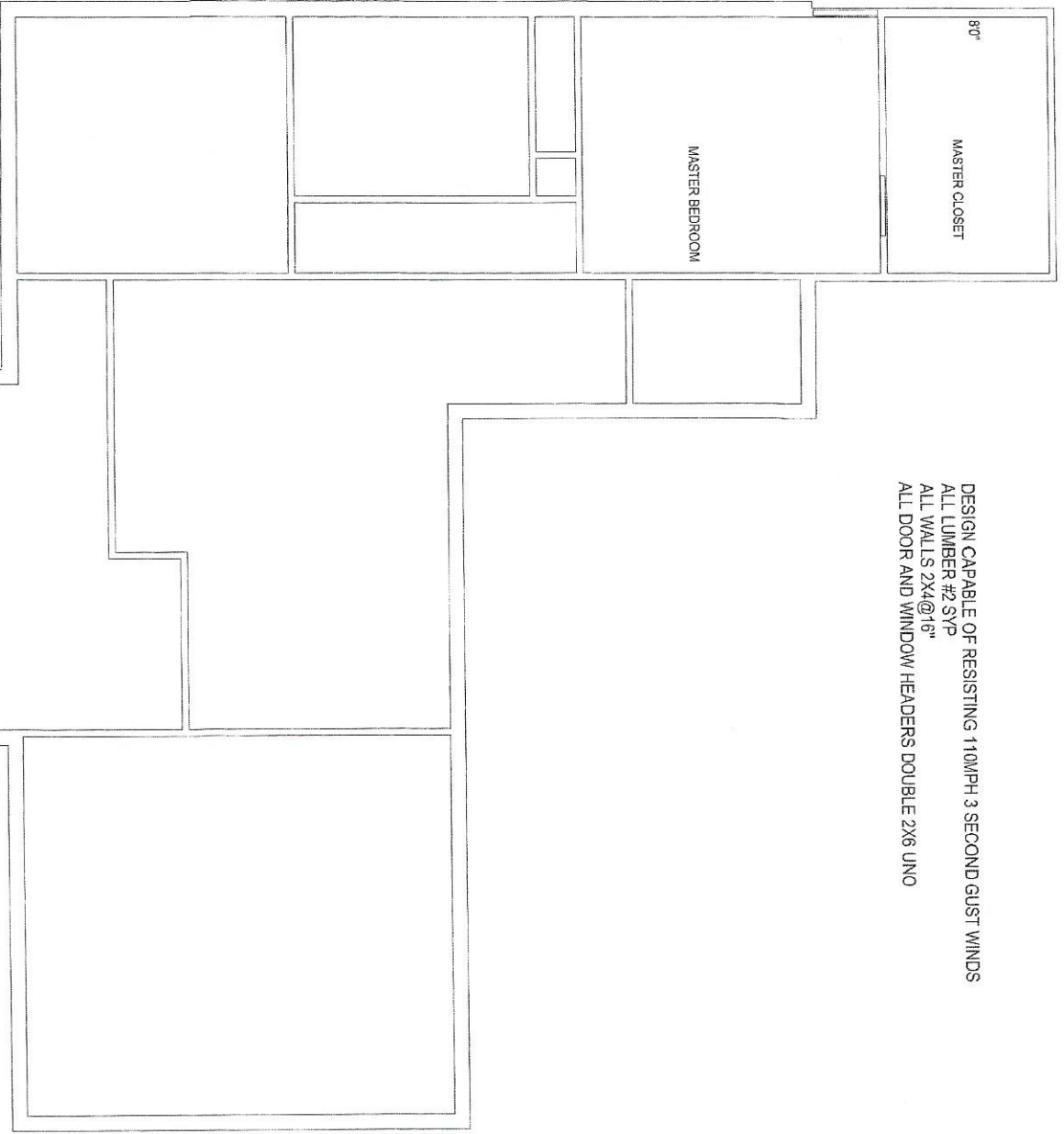


DESIGN CAPABLE OF RESISTING 110MPH 3 SECOND GUST WINDS
 ALL LUMBER #2 SYP
 ALL WALLS 2x4@16"
 ALL DOOR AND WINDOW HEADERS DOUBLE 2x6 UNO



APPROVED
 FOR BUILDING PERMIT ONLY
 CITY OF HOUSTON
 CODE ENFORCEMENT DIVISION

The owner is responsible for compliance with the building code. Such approved plans and specifications shall not be changed, modified or altered without obtaining the approval of the building official and all work shall be done in accordance with the approved plans.

Gerard L. Durkin
 18X24

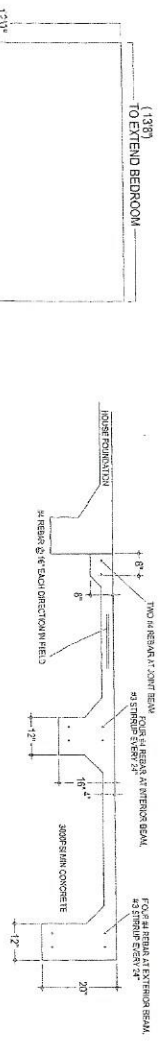
WALLS

0 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'
 UNO. SCALE 1/4" INCH = 1 FOOT

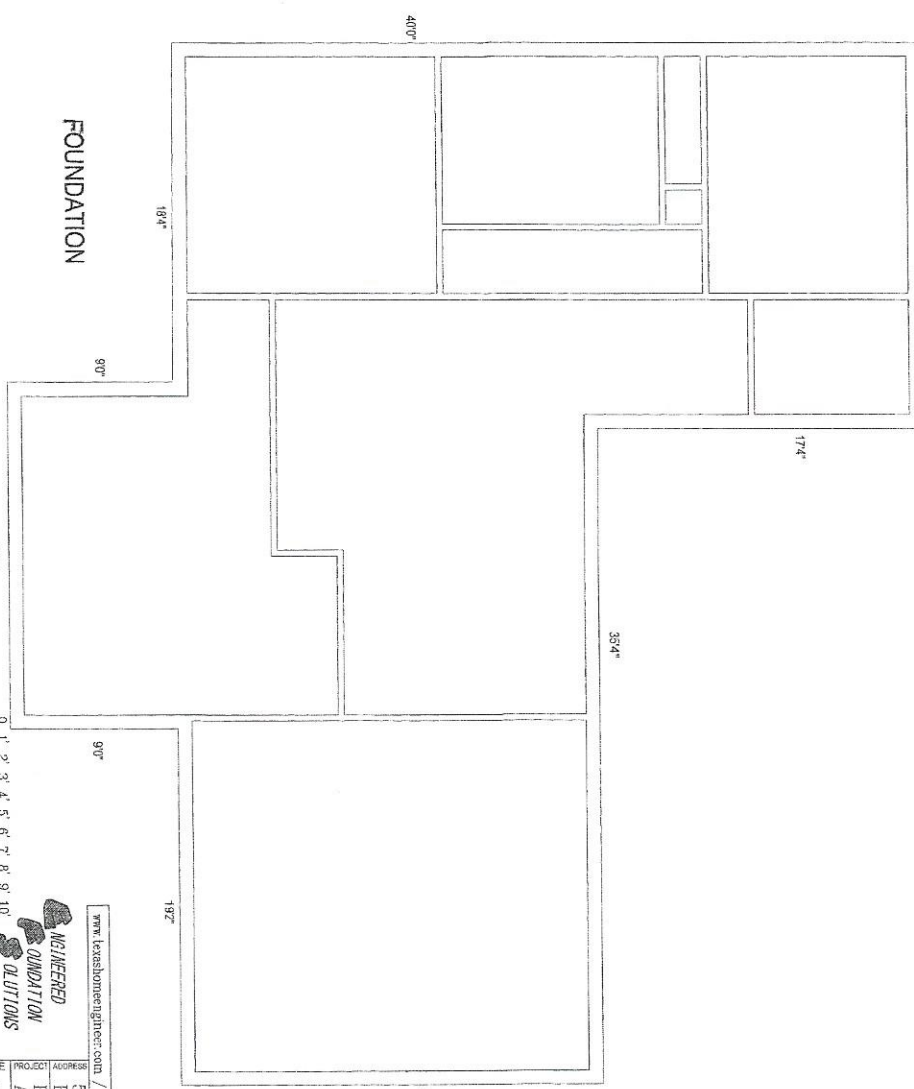
ENGINEERED SOLUTIONS
 F-12599
 www.texasstoneengineer.com / getarad@texasstoneengineer.com / 281-708-7393

TITLE	PROJECT	ADDRESS	DATE
WALLS	BROOKS CONSTRUCTION ADDITION	5405 SCHUMACHER LANE HOUSTON, TEXAS, 77056	6/2/17
DWG#	DRAWN		
S2	GJD		
	HS	2/5	





HOUSE FOUNDATION SECTION, 2X SCALE



0 1 2 3 4 5 6 7 8 9 10
 UNO. SCALE 1/4" INCH = 1 FOOT

www.kvashonmengineer.com / www.dsholutions.us / gerrit@kvashonmengineer.com / 281-788-7393
 5405 SCHUMACHER LANE
 HOUSTON, TEXAS 77056
 BROOKS CONSTRUCTION
 ADDITION
 FOUNDATION

NO. ENGINEERED SOLUTIONS P-12289
 DATE 6/2/17
 DRAWN G.J.D.
 DWG# SI
 SHEET 1/5



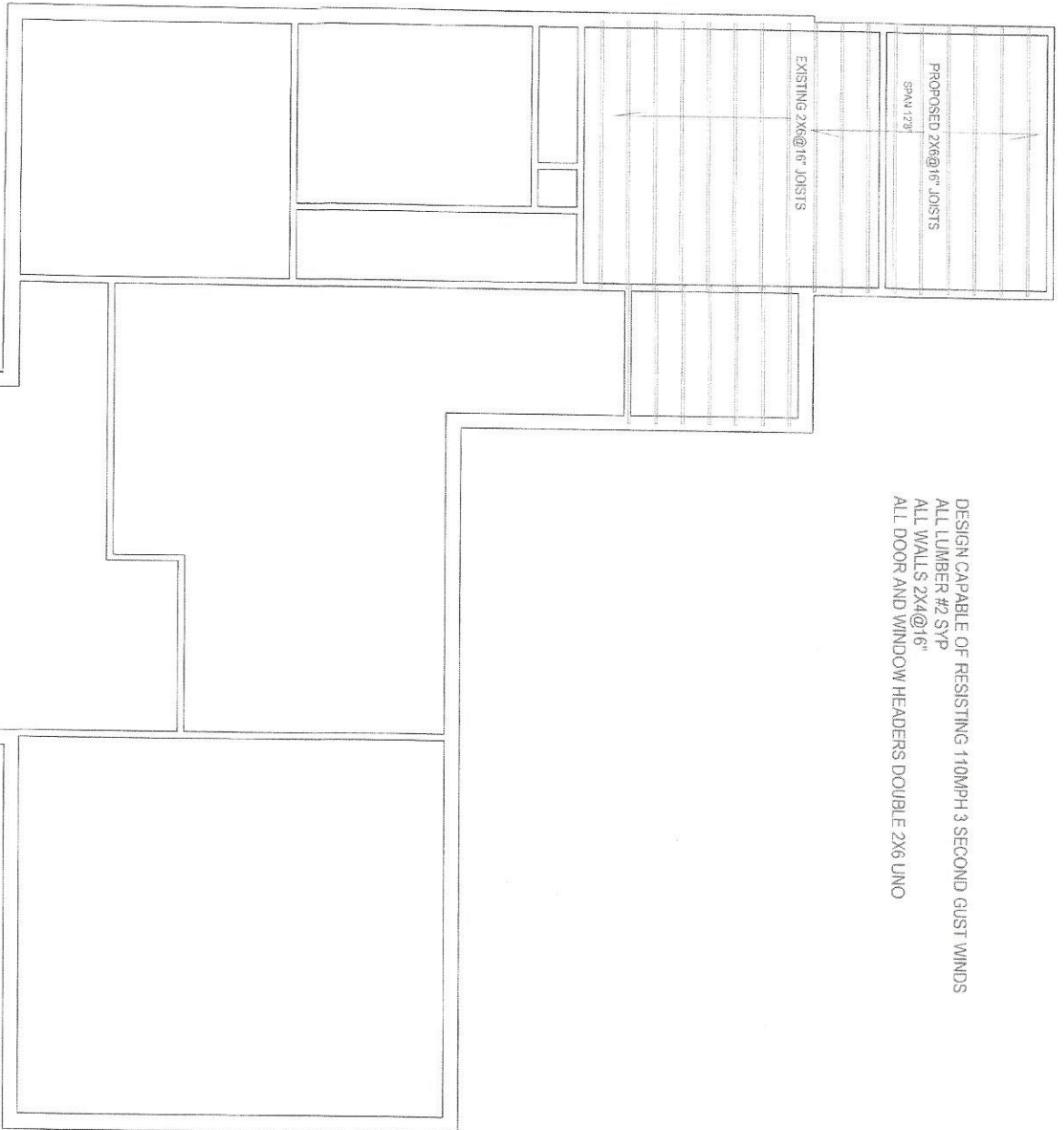
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 CODE ENFORCEMENT DIVISION

The Engineer is responsible for the design and construction of the foundation system shown on these plans. The Engineer shall not be responsible for the design or construction of any other part of the foundation system. The Engineer shall be responsible for the design and construction of the foundation system shown on these plans.

NO. 35A

Gerrit J. D. Schumacher
 18724

DESIGN CAPABLE OF RESISTING 110MPH 3 SECOND GUST WINDS
 ALL LUMBER #2 SYP
 ALL WALLS 2X4@16"
 ALL DOOR AND WINDOW HEADERS DOUBLE 2X6 LINO



JOISTS

0 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

UNO SCALE 1/4 INCH = 1 FOOT

F-12289



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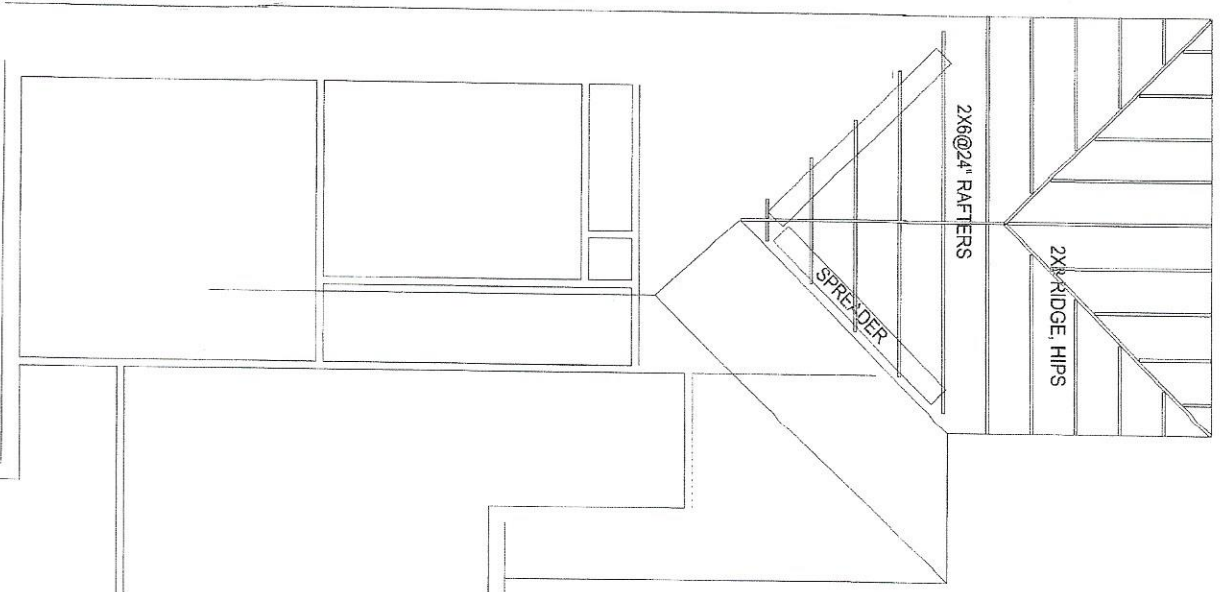
TITLE	PROJECT	ADDRESS	DATE	DRAWN
JOISTS	BROOKS CONSTRUCTION ADDITION	5405 SCHUMACHER LANE HOUSTON, TEXAS, 77056	6/2/17	CJD

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 CODE ENFORCEMENT DIVISION
 NO. 35A

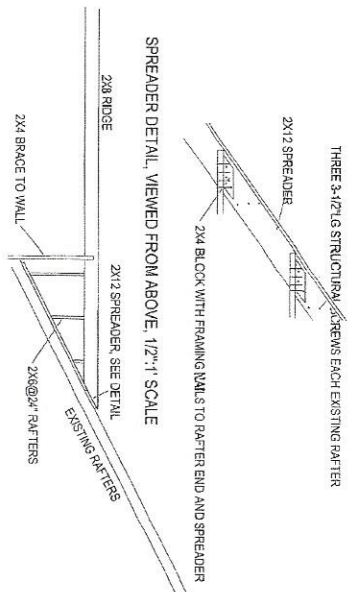
Gerard J. Dixon



18X24



DESIGN CAPABLE OF RESISTING 110MPH 3 SECOND GUST WINDS
 ALL LUMBER #2 SYP
 ALL WALLS 2x4@16"
 ALL DOOR AND WINDOW HEADERS DOUBLE 2x6 UNO



ROOF TIE-IN DETAIL

RAFTERS

0 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

UNO: SCALE 1/4 INCH = 1 FOOT

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ENGINEERED
 CONSULTANTS
 SOLUTIONS

R-12289

TITLE	PROJECT	ADDRESS	DATE
RAFTERS	ADDITION	5405 SCHUMACHER LANE HOUSTON, TEXAS, 77056	6/2/17
		BROOKS CONSTRUCTION	GJD
DWG#	S4	DATE	4/5

APPROVED
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 CITY OF HOUSTON
 CODE ENFORCEMENT DIVISION

The owner is responsible for compliance with the applicable Code. This approval does not constitute a seal and is not to be relied upon for the alteration of the original design. All work shall be done in accordance with the approved plans.

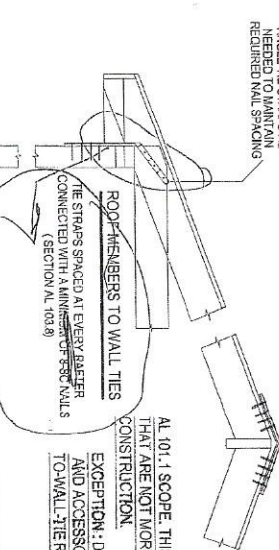
NO. 35A

18X24



RIDGE TIES
 THE STRAPS SPACED AT 24" MAX
 CONNECTED WITH 8-#8 WALLS
 (SECTION AL 103.9)

**CONVENTIONAL LIGHT-FRAME WOOD
 CONSTRUCTION FOR SINGLE FAMILY
 RESIDENTIAL CONSTRUCTION IN
 HIGH-WIND AREAS**



SECTION AL 101. GENERAL

AL 101.1 SCOPE: THIS CHAPTER APPLIES TO REGULAR-SHAPED SINGLE FAMILY RESIDENTIAL BUILDINGS THAT ARE NOT MORE THAN THREE STORIES IN HEIGHT AND ARE OF CONVENTIONAL LIGHT-FRAME CONSTRUCTION.

EXCEPTION: DETACHED CARPORTS AND GARAGES NOT EXCEEDING 700 SQUARE FEET (65 m²) AND ACCESSORY TO GROUP R-3 OCCUPANCIES NEED ONLY COMPLY WITH THE ROOF-MEMBER-TO-WALL-TIE REQUIREMENTS OF SECTION AL 103.3.

SECTION AL 102. DEFINITION

CORROSION RESISTANT or NONCORROSIIVE REFERS TO A MATERIAL HAVING A CORROSION RESISTANCE EQUAL TO OR GREATER THAN A HOT-DIPPED GALVANIZED COATING OF 1.5 OUNCES OF ZINC PER SQUARE FOOT (41.6g/m²) OF SURFACE AREA WHEN AN ELEMENT IS REQUIRED TO BE CORROSION RESISTANT OR NONCORROSIIVE. ALL OF ITS PARTS SUCH AS SCREWS, NAILS, WOODS, BOLTS, NUTS, WASHERS, SHIMS, ANCHORS, TIES AND ATTACHMENTS, SHALL ALSO BE CORROSION RESISTANT OR NONCORROSIIVE.

SECTION AL 103. COMPLETE LOAD PATH AND UPLIFT TIES

AL 103.1 GENERAL. BLOCKING BRIDGING, STRAPS, APPROVED FRAMING ANCHORS OR MECHANICAL FASTENERS SHALL BE INSTALLED TO PROVIDE CONTINUOUS TIES FROM THE ROOF TO THE FOUNDATION SYSTEM. THE STRAPS SHALL BE 1-1/8 INCH (28.6 MM) BY 0.036-INCH (0.91 MM) (No. 20 GAGE) SHEET STEEL AND SHALL BE CORROSION RESISTANT AS HEREIN SPECIFIED. ALL METAL CONNECTIONS AND FASTENERS USED IN EXPOSED LOCATIONS OR IN AREAS OTHERWISE SUBJECT TO CORROSION SHALL BE OF CORROSION-RESISTANT OR NONCORROSIIVE MATERIAL. THE NUMBER OF COMMON NAILS SPECIFIED IS THE TOTAL REQUIRED AND SHALL BE EQUALLY DIVIDED ON EACH SIDE OF THE CONNECTION. NAILS SHALL BE SPACED TO AVOID SPLITTING OF THE WOOD.

EXCEPTION: PRE-MANUFACTURED CONNECTORS THAT PROVIDE EQUAL OR GREATER TIE-DOWN CAPACITY MAY BE USED PROVIDED THAT THEY ARE INSTALLED IN COMPLIANCE WITH ALL THE MANUFACTURER'S SPECIFICATIONS.

SECTION AL 103. COMPLETE LOAD PATH AND UPLIFT TIES

AL 103.2 WALL-TO-FOUNDATION TIE. EXTERIOR WALLS SHALL BE TIED TO A CONTINUOUS FOUNDATION SYSTEM OR AN ELEVATED FOUNDATION SYSTEM IN ACCORDANCE WITH SECTION AL 105.

AL 103.3 SILLS AND FOUNDATION. THE FOUNDATION PLATES RESTING ON CONCRETE OR MASONRY FOUNDATIONS SHALL BE BOLTED TO THE FOUNDATION WITH NOT LESS THAN 1/2-INCH-DIAMETER (13 MM) ANCHOR BOLTS WITH 7/8-INCH-MINIMUM (17.8 MM) EMBEDMENT INTO THE FOUNDATION AND SPACED NOT MORE THAN 4 FEET (1219 MM) ON CENTER.

AL 103.4 FLOOR-TO-FOUNDATION TIE. THE LOWEST-LEVEL EXTERIOR WALL STUDS SHALL BE CONNECTED TO THE FOUNDATION SILL PLATE OR AN APPROVED ELEVATED FOUNDATION SYSTEM WITH BENT THE STRAPS SPACED NOT MORE THAN 32 INCHES (813 MM) ON CENTER. THE STRAPS SHALL BE NAILED WITH A MINIMUM OF 4 TEN PENNY NAILS.

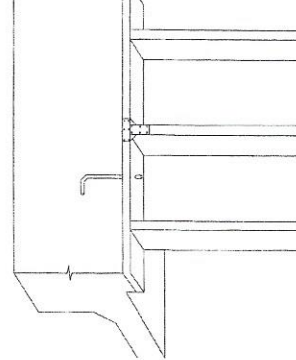
AL 103.5 WALL FRAMING DETAILS. THE SPACING OF STUDS IN EXTERIOR WALLS SHALL BE IN ACCORDANCE WITH CHAPTER 23. MECHANICAL FASTENERS COMPLYING WITH THIS CHAPTER SHALL BE INSTALLED AT A MAXIMUM OF 32 INCHES (813 MM) ON CENTER AS REQUIRED TO CONNECT STUDS TO THE SILL PLATES FOUNDATION SILL PLATE AND TOP PLATES OF THE WALL. THE FASTENERS SHALL BE NAILED WITH A MINIMUM OF 8 EIGHT PENNY NAILS.

WHERE OPENINGS EXCEED 4 FEET (1219 MM) IN WIDTH, THE REQUIRED TIE STRAPS SHALL BE AT EACH EDGE OF THE OPENING AND CONNECTED TO A DOUBLED FULL-HEIGHT WALL STUD WHEN OPENINGS EXCEED 12 FEET (3658 MM) IN WIDTH. TWO TIES AT EACH CONNECTION OR A MANUFACTURED FASTENER DESIGNED TO PREVENT UPLIFT SHALL BE PROVIDED.

AL 103.6 WALL SHEATHING. ALL EXTERIOR WALLS AND REQUIRED INTERIOR MAIN CROSS-STUD PARTITIONS SHALL BE SHEATHED IN ACCORDANCE WITH CHAPTER 23.

AL 103.7 FLOOR-TO-FLOOR TIE. UPPER-LEVEL EXTERIOR WALL STUDS SHALL BE ALIGNED AND CONNECTED TO THE WALL STUDS BELOW WITH THE STRAPS PLACED AT A MAXIMUM OF 32 INCHES (813 MM) ON CENTER AND CONNECTED WITH A MINIMUM OF 8 EIGHT PENNY NAILS PER STRAP.

SILLBASE PLATE ATTACHMENT TO FOUNDATION MAY BE BY SEVERAL METHODS:
 1. BOLTS OR SIMPSON STRAPS FOR NEW CONSTRUCTION SET IN CONCRETE
 2. BOLTS, SIMPSON STRAPS, EXPANDED BOLTS, OR BROCK ALL-THEROAD IF CONCRETE HARDENED HARDWARE 3/8" DIA. MIN. 2" DIA. WASHERS MIN



WALL FRAMING DETAILS

MECHANICAL FASTENERS SHALL BE INSTALLED AT 24" MAX. TO CONNECT STUDS TO TOP PLATES, SILL PLATES AND SILL PLATES. FASTENERS SHALL BE NAILED WITH A MINIMUM OF 8#8 WALLS (SECTION AL 103.5)

AL 103.8 ROOF MEMBERS-TO-WALL TIE. THE STRAPS SHALL BE PROVIDED FROM THE SIDE OF THE ROOF FRAMING MEMBER TO THE SUPPORTING MEMBER BELOW THE ROOF. THE STRAPS SHALL BE PLACED AT EVERY ROOF-FRAMING MEMBER AND CONNECTED WITH A MINIMUM OF 8 EIGHT PENNY NAILS.

AL 103.9 RIDGE TIES. OPPOSING COMMON RAFTERS SHALL BE ALIGNED AT THE RIDGE AND BE CONNECTED AT THE RAFTERS WITH THE STRAPS SPACED A MAXIMUM OF 32 INCHES (813 MM) ON CENTER AND CONNECTED WITH 8 EIGHT PENNY NAILS.

AL 103.10 GABLE-END WALLS. GABLE-END WALL STUDS SHALL BE CONTINUOUS BETWEEN POINTS OF LATERAL SUPPORT THAT ARE PERPENDICULAR TO THE PLANE OF THE WALL. GABLE-END WALL STUDS SHALL BE ATTACHED WITH APPROVED MECHANICAL FASTENERS AT THE TOP AND BOTTOM. EIGHT 8 PENNY NAILS SHALL BE REQUIRED FOR EACH FASTENER. FASTENERS SHALL BE SPACED A MAXIMUM OF 32 INCHES (813 MM) ON CENTER.

SECTION AL 104. ROOFS

AL 104.1 ROOF SHEATHING. SOLID ROOF SHEATHING SHALL BE APPLIED AND SHALL CONSIST OF A MINIMUM 1-INCH-THICK (25.4 MM) NOMINAL LUMBER APPLIED DIAGONALLY OR A MINIMUM 1/2-INCH-THICK (12.7 MM) WOOD STRUCTURAL PANEL OR PARTICLE BOARD (OSB) OR OTHER APPROVED SHEATHING APPLIED WITH THE LONG DIMENSION PERPENDICULAR TO SUPPORTING RAFTERS. SHEATHING SHALL BE NAILED TO ROOF FRAMING IN AN APPROVED MANNER.

THE END JOINTS OF WOOD STRUCTURAL PANELS OR PARTICLE BOARD SHALL BE STAGGERED AND SHALL OCCUR OVER BLOCKING RAFTERS, OR OTHER SUPPORTS.

AL 104.2 ROOF COVERING. ROOF COVERINGS SHALL BE APPROVED AND SHALL BE INSTALLED AND FASTENED IN ACCORDANCE WITH CHAPTER 15 AND WITH THE MANUFACTURER'S INSTRUCTIONS.

AL 104.3 ROOF OVERHANG. THE ROOF EAVE OVERHANG SHALL NOT EXCEED 3 FEET (914 MM) UNLESS AN ANALYSIS IS PROVIDED SHOWING THAT THE REQUIRED RESISTANCE IS PROVIDED TO PREVENT UPLIFT. THE ROOF OVERHANG AT GABLE ENDS SHALL NOT EXCEED 2 FEET (610 MM) UNLESS AN ANALYSIS SHOWING THAT THE REQUIRED RESISTANCE TO PREVENT UPLIFT IS PROVIDED.

SECTION AL 105. ELEVATED FOUNDATION

AL 105.1 GENERAL. WHEN APPROVED, ELEVATED FOUNDATIONS SUPPORTING NOT MORE THAN ONE STORY AND MEETING THE PROVISIONS OF THIS SECTION MAY BE USED A FOUNDATION INVESTIGATION MAY BE REQUIRED BY THE BUILDING OFFICIAL.

AL 105.2 MATERIAL. ALL EXPOSED WOOD-FRAMING MEMBERS SHALL BE TREATED WOOD. ALL METAL CONNECTIONS AND FASTENERS USED IN EXPOSED LOCATIONS SHALL BE CORROSION-RESISTANT OR NONCORROSIIVE STEEL.

AL 105.3 WOOD PILES. THE SPACING OF WOOD PILES SHALL NOT EXCEED 8 FEET (2438 MM) ON CENTER. SQUARE PILES SHALL NOT BE LESS THAN 10 INCHES (254 MM) AND TAPERED PILES SHALL HAVE A TIP OF NOT LESS THAN 8 INCHES (203 MM). EIGHT-INCH-SQUARE (5161 MM²) PILES SHALL HAVE A MINIMUM EMBEDMENT LENGTH OF 8 FEET (2438 MM) AND SHALL PROJECT NOT MORE THAN 8 FEET (2438 MM) ABOVE UNDISTURBED GROUND SURFACE. EIGHT-INCH (203 MM) TAPER PILES SHALL HAVE A MINIMUM EMBEDMENT LENGTH OF 6 FEET (1828 MM) AND SHALL PROJECT NOT MORE THAN 7 FEET (2134 MM) ABOVE UNDISTURBED GROUND SURFACE.

AL 105.4 GIRDSERS. FLOOR GIRDSERS SHALL CONSIST OF SOLID SAWN TIMBER, BUILT-UP 2-INCH-THICK (51 MM) LUMBER OR TRUSSES. SPALLS SHALL OCCUR OVER WOOD PILES. THE FLOOR GIRDSERS SHALL SPAN IN THE DIRECTION PARALLEL TO THE POTENTIAL FLOODWAY AND WAVE ACTION.

AL 105.5 CONNECTIONS. WOOD PILES SHALL BE NOTCHED TO PROVIDE A SHELF FOR SUPPORTING THE FLOOR GIRDSERS. THE TOTAL NOTCHING SHALL NOT EXCEED 50 PERCENT OF THE PILE CROSS SECTION. APPROVED BOLTED CONNECTIONS WITH 1/2-INCH (12.7 MM) CORROSION-RESISTANT OR NONCORROSIIVE STEEL PLATES AND 3/4-INCH-DIAMETER (19 MM) BOLTS SHALL BE PROVIDED EACH END OF THE GIRDSERS SHALL BE CONNECTED TO THE PILES USING A MINIMUM OF TWO 3/4-INCH-DIAMETER (19 MM) BOLTS.

AL 105.6 CONNECTIONS. WOOD PILES SHALL BE NOTCHED TO PROVIDE A SHELF FOR SUPPORTING THE FLOOR GIRDSERS. THE TOTAL NOTCHING SHALL NOT EXCEED 50 PERCENT OF THE PILE CROSS SECTION. APPROVED BOLTED CONNECTIONS WITH 1/2-INCH (12.7 MM) CORROSION-RESISTANT OR NONCORROSIIVE STEEL PLATES AND 3/4-INCH-DIAMETER (19 MM) BOLTS SHALL BE PROVIDED EACH END OF THE GIRDSERS SHALL BE CONNECTED TO THE PILES USING A MINIMUM OF TWO 3/4-INCH-DIAMETER (19 MM) BOLTS.

ENGINEERED FOUNDATION SOLUTIONS
 P-12259

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PROJECT ADDRESS: 5405 SCHEMACHER LANE, BROOKS CONSTRUCTION, HOUSTON, TEXAS, 77056

DATE: 6/2/17

PROJECT TITLE: WINDSTORM DETAILS

DATE: 5/5

18X24