City of Austin
Submittal Requirements
for Technical Plan Review
Topics

- Drawing order
- Architectural drawings
- Structural drawings
- Visitability Ordinance
Part 1:
Drawing Order
Drawing Order for Submittal

- Exterior Visitability
- Architectural Drawings
  - Interior visitability
  - Floor plans
  - Elevations
- Structural Drawings
  - Foundation
  - Framing
  - Bracing

***All plans MUST include selected options and MUST be oriented correctly***

City of Austin Development Services Department
Part 2: Architectural Drawing Requirements
Sealed vs. Unsealed

Sealed = Registered Architect or Certified Building Designer

**Sealed**

- Completeness check
  - Interior visitability
  - Floor plans
  - Elevations

**Unsealed**

- Full technical review
  - Means of egress
  - Minimum room requirements
  - Smoke and carbon monoxide alarms
  - Hazardous glazing
  - Plumbing fixture clearances
  - Handrails and guardrails
  - Stairways
  - Attics
  - Fire-resistant construction
Part 3: Structural Drawing Requirements
Sealed vs. Unsealed

Sealed

– Completeness check
– Are all the required drawings part of the set?
– Are all major items addressed?

Unsealed

– Are all the required drawings part of the set?
– Are all major items addressed?
– Verify structural plans and details with prescriptive code requirements
What constitutes a complete structural drawing set?

• Foundation plans
• Foundation details
• Framing plans
  – Conventional Framing
    • Wood Framed Floors
    • Wood Framed Roof
  – Pre-engineered systems
• Framing details
  – Wall-to-foundation, wall-to-floor, wall-to-roof
• Braced wall plan
• Bracing details
  – Sheathing thickness, attachment size & pattern, portal frame details, etc.

***All plans MUST include selected options and MUST be oriented correctly***
Pre-engineered systems (Trusses/I-joists)

- Structural framing plans need to include supporting structural members for pre-engineered systems. Support structure (including headers, beams, walls and columns) must be provided.

- 3 options allowed to meet the requirements for “supporting structural members”
Pre-engineered systems (Trusses/I-joists)

**OPTION 1**

**Plan Review:** Provide framing plan showing truss/wooden i-joist layout (direction and spacing) sealed by the engineer of record. The framing plan shall show all supporting structural members (headers, beams, posts, columns, etc.)

**Field Inspections:** Provide truss layout and truss calculations from the manufacturer stamped by an engineer
Option 1:
Example
Pre-engineered systems (Trusses/I-joists)

**OPTION 2**

**Plan Review:**
- Provide framing plan showing general area of truss/wooden i-joist system (hatched, shaded, etc.) sealed by the engineer of record. The framing plan should show all supporting structural members (headers, beams, posts, columns, etc.)
- Provide coordinating truss layout (direction and spacing) from the manufacturer

**Field Inspections:** Provide truss layout and truss calculations from the manufacturer stamped by an engineer
Option 2: Example
SHEARWALL & NAILING SCHEDULE

SHEAR WALL DESIGN BASED UPON FOLLOWING ASSUMPTIONS U.N.O.

1. ALL WALLS SHEATHED W/ 1/2" THICK GYPSUM WALLBOARD, INCLUDING GARAGE. BLOCKING IS NOT REQUIRED BETWEEN STUDS, ATTACH W/ 56 NAILS (OR EQUIVALENT) AT 7" O.C. AT TOP B BOTTOM PLATES AND STUDS.

2. ATTACH UPPER FLOOR BOTTOM PLATES ACCORDING TO PRESCRIPTIVE CODE METHODS.

3. THIS DESIGN DOES NOT RELY ON ANY CONTRIBUTION FROM THE CEILING Diaphragm.

4. FOUNDATION SILL PLATES AT BRACED WALL LINES AND ALL EXTERIOR WALLS ANCHORED TO FOUNDATION W/ 1/2" @ X (5) ANCHOR BOLTS @ 72" O.C. AND 12" FROM DOORS, FOUNDATION SILL PLATES AT INTERIOR WALLS ANCHORED TO FOUNDATION W/ HILTI X-3M POWDER ACTUATED FASTENERS (OR EQUIVALENT) @ 16" O.C. AND WITHIN 12" OF EACH END.

5. ONE ANCHOR BOLT SHALL BE PROVIDED AT EACH END OF THE NARROW GARAGE WALLS, NEXT TO GARAGE DOOR OPENING.

6. BLOCK AND NAIL ALL COTTERED CEILING LINES.

7. THE MOST RESTRICTIVE PRESCRIPTIVE FASTENING REQUIREMENTS OF IRC TABLE 602.3 OR IRC 2304.2.1 SHALL APPLY.

8. THE WINDBRACING PLAN IS VALID ONLY FOR LISTED ELEVATIONS AND OPTIONS.

9. ALL WALLS DESIGNATED W/ ARE CONSIDERED BRACED WALLS AND SHALL BE DIRECTLY SUPPORTED BY FLOOR FRAMING MEMBERS OR 2x BLOCKING (FLAT) BETWEEN FLOOR THRESES, USING TOTALAN OR A PRODUCT SIMILAR TO THE SIMPSON TPST THE PLATE. FASTEN ALL SW SKIN PLATES W/ 5-8D NAILS @ 6" O.C.

10. INTERIOR WALLS INTERSECTING EXTERIOR WALLS SHALL BE DIRECTLY CONNECTED BY OVERLAPPING TOP PLATES PER CODE AND SHALL BE ADDITIONALLY FASTENED TO EXTERIOR WALL STUDS WITH MINIMUM (2) 15D NAIL @ 12" ON CENTER OR EQUIVALENT NAILING.

SHEATHING SCHEDULE LEGEND

A 5/32" COX FLYWOOD OR 7/16" OSB RATED SHEATHING (ONE SIDED) BLOCKED, NAILED W/ 8D COMMON NAILS @ 4" O.C. ON EDGE AND 12" O.C. IN FIELD.

B 5/32" COX FLYWOOD OR 7/16" OSB RATED SHEATHING (ONE SIDED) BLOCKED, NAILED W/ 8D COMMON NAILS @ 6" O.C. ON EDGE AND 12" O.C. IN FIELD.

C 3/8" HARD PANEL (ONE SIDED) BLOCKED, NAILED W/ 6D COMMON NAILS, 2" LONG, @ 6" O.C. ON EDGE AND 6" O.C. IN FIELD.

D SIMPSON STRAP BRACING SPANNING DIAGONALLY ACROSS THE GARAGE CEILING. STRAP TO BE NAILD TO UNDERSIDE OF EACH CEILING JOIST AND EXTEND OVER THE WALL PLATES AND DOWN AND AROUND CORNER STUDS TO ENDS PLIES. (2) 6D NAILS SECURE EACH END.

LEGENDS:

- SHEAR WALL LINE
- BRACED WALL LINE

NOTES:

1. ADDITIONAL WINDBRACINGS ADDED BY CONTRACTOR IS ACCEPTABLE TO THE ENGINEER.

2. ENGINEER HAS DESIGNED WINDBRACING ONLY.

3. CONTINUOUS TOP PLATE OR DETAIL 12/13.

4. OSB NOTED ON PLAN TO BE CONTINUOUS FROM BOTTOM PLATE TO TOP PLATE OF THE FLOOR ON WHICH IT IS INDICATED.

1ST FLOOR WINDBRACING PLAN

SCALE: 1/8" = 1'-0"

ALL DIMENSIONS ARE THE SOLE RESPONSIBILITY OF THE ARCHITECT. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE DIMENSIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.

City of Austin Development Services Department
SHEARWALL & NAILING SCHEDULE

1. ALL WALLS SHEATHED W/ 1/2” THICK OSB PLYWOOD WALL BOARD, INCLUDING GARAGE. 10 NAILS IS NOT REQUIRED BETWEEN STUDS. ATTACH W/ 10 NAILS (OR EQUAL) AT 7 1/2” O.C. AT TOP & BOTTOM PLATES AND STUDS.

2. ATTACH UPPER FLOOR BOTTOM PLATES ACCORDING TO PRESCRIPTIVE CODE METHODS.

3. THIS DESIGN DOES NOT RELY ON ANY CONTRIBUTION FROM THE CEILING DIAPHRAGM.

4. FOUNDATION SILL PLATES AT BRACED WALL LINES AND ALL EXTerior WALLS ANCHORED TO FOUNDATION W/ 1/2” x 10” ANCHOR BOLTS 1/2” O.C. AND 12” FROM DOORS. FOUNDATION SILL PLATES AT INTERIOR WALLS ANCHORED TO FOUNDATION W/ MHTI X-ON O PONDER ACTUATED FASTENERS (OR EQUAL) 10” O.C. AND WITHIN 12” OF EACH END.

5. ONE ANCHOR BOLT SHALL BE PROVIDED AT EACH END OF THE BARRIER GARAGE WALLS, NEXT TO GARAGE DOOR OPENING.

6. BLOCK AND NAIL ALL COVERED CEILING LINES.

7. THE MOST RESTRICTIVE PRESCRIPTIVE FASTENING REQUIREMENTS OF IRC TABLE 602.3 OR ECC 204.0J SHALL APPLY.

8. THIS WINDBRACING PLAN IS VALID ONLY FOR LISTED ELEVATIONS AND OPTIONS.

9. ALL WALLS DESIGNATED 1/2” OSB ARE CONSIDERED BRACED WALLS AND SHALL BE DIRECTLY SUPPORTED BY FLOOR FRAMING MEMBERS OR IN BLOCKING (FLAT) BETWEEN FLOOR TRUSSES, USING TONGUING OR A PRODUCT SIMILAR TO THE SIMPSON 1/2” WALL PLATE. FASTEN ALL 5/8” SOLID PLATES W/ 3-16D NAILS 1/2” O.C.

10. INTERIOR WALLS INCLUDING EXTERIOR WALLS SHALL BE DIRECTLY CONNECTED BY OVERLAPPING TOP PLATES PER CODE AND SHALL BE ADDITIONALLY FASTENED TO EXTERIOR WALL STUDS WITH MINIMUM 10 16D NAILS 1/2” O.C.

SHEATHING SCHEDULE LEGEND

- 5/32” CDX PLYWOOD OR 7/32” OSB RATED SHEATHING (ONE SIDE), BLOCKED, NAILED W/ 6D COMMON NAILS 1/2” O.C. ON EDGE AND 12” O.C. IN FIELD.

- 1/4” HARD PANEL (ONE SIDE), BLOCKED, NAILED W/ 6D COMMON NAILS 1/2” O.C. ON EDGE AND 12” O.C. IN FIELD.

- SIMPSON STRAP BRACING SPANNING Diagonally AcroS THE Garage Ceiling. StrAp To Be NAILED To uNDERsIDe OF EACH Ceiling Joist and Extend Over THE Wall Plates And dowN And Around Corner Studs To Ensure Min. 10 16D Nails Secure Each End.

NOTES:
1. ALL DIMENSIONS ARE THE SOLE RESPONSIBILITY OF THE ARCHITECT, HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE DIMENSIONS GIVEN TO THE START OF CONSTRUCTION AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.

LEGENDS:
- 2-Ply Drak Strut
- Ref. Detail Sheet
- Shear Wall Line
- Shear Wall Line
Pre-engineered systems (Trusses/I-joists)

OPTION 3 – unsealed plans

Plan Review:

• Provide framing plan showing truss/wooden i-joist layout (direction and spacing) from manufacturer.
• Provide header schedule per prescriptive code requirements
• Provide manufacturer span tables for engineered lumber products (LVL’s, glulams, etc.)
• Provide post/column sizes

Field Inspections: Provide truss calculations from the manufacturer stamped by an engineer
SHEARWALL & NAILING SCHEDULE

NOTES:
1. ADDITIONAL WINDRACING ADDED BY CONTRACTOR IS ACCEPTABLE TO THE ENGINEER.
2. ENGINEER HAS DESIGNED WINDRACING ONLY.
3. CONTINUOUS TOP PLATE OR DETAIL 12/98/2.
4. OSB NOTED ON PLAN TO BE CONTINUOUS FROM BOTTOM PLATE TO TOP PLATE OF THE FLOOR ON WHICH IT IS LOCATED.

LEGENDS:
1. TIE DOWD STRUT
2. SHEAR NAIL/CLIP
3. SHEAR NAIL LINE

SHEARWALL SCHEDULE LEGEND
A 1/2" CDX PLYWOOD OR 7/16" OSB RATED SHEATHING (ONE SIDE), BLOCKED, NAILED W/ 8D COMMON NAILS • 4" O.C. ON EDGE AND 6" O.C. IN FIELD.
B 1/2" CDX PLYWOOD OR 7/16" OSB RATED SHEATHING (ONE SIDE), BLOCKED, NAILED W/ 8D COMMON NAILS • 4" O.C. ON EDGE AND 6" O.C. IN FIELD.
C 1/4" HARDI PANEL (ONE SIDE), BLOCKED, NAILED W/ 6D COMMON NAILS, 2" LONG. • 6" O.C. ON EDGE AND 6" O.C. IN FIELD.
D SIMPSON CSB STRAP BRACING SPANNING DIAGONALLY ACROSS THE GARAGE CEILING. STRAP TO BE NAILER TO UNDERSIDE OF EACH CEILING JOIST AND EXTEND OVER THE WALL PLATES AND DOWN AND AROUND CORNER STUDS TO ENSURE MIN. 8CH IOX NAILS SECURE EACH END.

1/6/2012 3:49 PM
IRC 2012

1ST FLOOR
WINDRACING PLAN

SCALE: 1/8" = 1'-0"

ALL DIMENSIONS ARE THE SOLE RESPONSIBILITY OF THE ARCHITECT. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE DIMENSIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL NOTIFY THE ARCHITECT OF ANY OMISSIONS.
A closer look at the header schedule option...

Building width = 36’-0”
Header schedule per plans

<table>
<thead>
<tr>
<th>OPN’G.</th>
<th>HEADER SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3° (MAX.)</td>
<td>2-2X6's</td>
</tr>
<tr>
<td>4° (MAX.)</td>
<td>2-2X8's</td>
</tr>
<tr>
<td>5° (MAX.)</td>
<td>2-2X10's</td>
</tr>
<tr>
<td>8° (MAX.)</td>
<td>2-2X12's</td>
</tr>
<tr>
<td>ABOVE 8° ENG’D. BEAM/SEE PLANS</td>
<td></td>
</tr>
</tbody>
</table>

Header schedule per 2012 IRC

TABLE R502.5(1) GIRDER SPANS³ AND HEADER SPANS³ FOR EXTERIOR BEARING WALLS (Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir and required number of jack studs)

### GIRDERS AND HEADERS SUPPORTING SIZE

<table>
<thead>
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<th>SIZE</th>
<th>30</th>
<th>50</th>
<th>70</th>
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<td>2-2 x 4</td>
<td>3-6</td>
<td>1</td>
<td>3-2</td>
</tr>
<tr>
<td>2-2 x 6</td>
<td>5-5</td>
<td>2</td>
<td>4-2</td>
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<td>2-2 x 8</td>
<td>6-10</td>
<td>1</td>
<td>5-1</td>
</tr>
<tr>
<td>2-2 x 10</td>
<td>8-5</td>
<td>2</td>
<td>7-3</td>
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<tr>
<td>2-2 x 12</td>
<td>9-9</td>
<td>2</td>
<td>8-5</td>
</tr>
<tr>
<td>3-2 x 8</td>
<td>8-4</td>
<td>1</td>
<td>7-5</td>
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<tr>
<td>3-2 x 10</td>
<td>10-6</td>
<td>1</td>
<td>9-1</td>
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<tr>
<td>3-2 x 12</td>
<td>12-2</td>
<td>2</td>
<td>10-7</td>
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<tr>
<td>4-2 x 8</td>
<td>9-2</td>
<td>1</td>
<td>7-9</td>
</tr>
<tr>
<td>4-2 x 10</td>
<td>11-8</td>
<td>1</td>
<td>9-5</td>
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<tr>
<td>4-2 x 12</td>
<td>14-1</td>
<td>1</td>
<td>10-11</td>
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GROUNDD SNOW LOAD (psf)³

<table>
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<tr>
<th>BUILDING WIDTH (feet)</th>
<th>20</th>
<th>28</th>
<th>36</th>
<th>50</th>
<th>70</th>
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</thead>
<tbody>
<tr>
<td>Span N°</td>
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<td>12-2</td>
<td>2</td>
<td>12-2</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

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City of Austin Development Services Department
Areas that are outside of prescriptive limits...
ISSUES

- Patio beams not provided on truss layout – treat as “headers”
- N-S porch “header” exceeds max span of header schedule
- E-W porch “header” applies a point load to the family room window header
- Family room window header can no longer be selected from prescriptive tables
Part 4:
Visitability Ordinance
Submittal Requirements

• Interior visitability
  – Plan with **graphic** notations
  – **OR** Plan with **descriptive** notes

• Exterior Visitability – **July 1, 2015**
  – Plan showing Exterior Route and components
  – **Waivers:** Survey with contours and Registered Design Professional substantiation letter or notes.

• Plan sheets and/or submittal exhibits that are necessary to demonstrate Visitability compliance must be sealed by a Texas-registered Architect or NCBDC Certified Building Designer.
**VISITABILITY NOTES:**
*(Optional in lieu of graphic representation)*

**EXTERIOR ROUTE**
Point of origin: Front sidewalk  
Elevation 97'-10 ¼”
Visitable entrance: Front Entry Door  
Landing el. 99'-11 ½”
Visitable Route: Walk from front sidewalk  
to Entry Door  
25'-0” length  
Slope 1:12 / 8.3%

**VISITABLE ENTRANCE:** Front Entry Door
1. Minimum clear width of 32”
2. Beveled threshold 1/2” max

**INTERIOR COMPLIANCE**
Bathroom Route: Front Entry Door, Bath 1,  
Kitchen, Dining, Living  
and connecting hallways.
1. Minimum clear width of 32”
2. Thresholds and transitions shall be ramped or beveled

**VISITABLE BATHROOM:** Bath 1
1. Minimum clear opening of 30 inches at door
2. Lateral 2 x 6 wood blocking shall be installed  
flush with stud edges of bathroom walls.  
Centerline of block at 34” a.f.f. except for  
portion of the wall located directly behind the  
lavatory.

**ELECTRICAL**
1. Light switches and environmental controls no  
higher than 48” above the interior floor level  
2. Outlets and receptacles minimum 15” above  
interior floor level except for floor outlets.
Approved Threshold Detail

Code interpretation CI2013-0002 is an approved method of compliance pertaining to the threshold.

Read the entire interpretation here:
http://www.austintexas.gov/department/building-technical-codes
Waiver Requirements

R320.7.1 Waiver of exterior visitable route provision for certain properties. The requirements of Section R320.7 do not apply to:

1. lots with 10% or greater slope prior to development; or

2. properties for which compliance cannot be achieved without the use of switchbacks.

Topographic information shall be performed by a Texas Registered Professional Land Surveyor. This survey shall be provided at the time of application submittal. The registered or certified design professional shall substantiate request for waiver.
Slope Waiver Requirements

The slope waiver shall be determined by the slope between the highest point to the lowest point prior to development. Slope greater than 10% are exempt from R320.7 exterior visitable route.
SAMPLE VISIBILITY WAIVER REQUEST - SLOPE > 10% R320.7.1.2

1. John Doe, request a waiver for the exterior visible route in compliance with R320.7.1.2 due to slope of lot between highest and lowest point prior to development exceeding 10%.

High Point 117'-0"

SLOPE = 11.3%

Lowest POINT = 100'-0"
Highest POINT = 117'-0"
Distance BETWEEN = 150'-8"

Slope Calculation
17' rise / 150'-8" run = 11.3%
Slope Waiver Requirements
2+ Dwellings

On a lot or legal tract with more than two dwelling units, the slope will be measured from the rear of each structure perpendicular to the midpoint of the front property line or the public or private street. Slope greater than 10% are exempt from R320.7 exterior visitable route.
Slope Waiver Request
2+ Dwellings

Unit C Waiver granted
Unit A & Unit B must comply w/ visitability

Survey from Professional Land Surveyor

Contours (1'-0" or 2'-0" intervals preferred)

Slope Calculations
Unit C: 11' rise/85' run = 12.9%

High Point 112'-0" @ Unit C
Low Point 101'-0" @ Unit C
Property Line or Street

Substantiation from Design Professional including Seals

City of Austin Development Services Department
Switchback Waiver Requirements

Switchback waiver shall be determined by the slope between the elevation of the finished floor at the visitable dwelling entrance and all potential origin points as defined in section R320.7. The horizontal distance shall be reduced by 6ft to account for landings. Ramp slopes to meet the intent of the code.

Potential Origin Points: Garage, Driveway, Public Street, Public Sidewalk.

R311.8.1 Maximum slope.

Ramps shall have a maximum slope of 1 unit vertical in 12 units horizontal (8.3-percent slope).

Exception: Where it is technically infeasible to comply because of site constraints, ramps may have a maximum slope of one unit vertical in eight horizontal (12.5-percent slope).
Switchback Waiver Request

Overall Site Slope is < 10%

Substantiation from Design Professional

Slope Calculations

Design Professional Seal, Signature, & Date

Survey from Professional Land Surveyor

Contours and investigated routes shown (in red)
SLOPE CALCULATIONS
Finish floor at Visitable Entrance to:

A. GARAGE:
   4'-0" Rise / 14'-0" Run = 29%

B. DRIVEWAY: Varies:
   4'-6" Rise / 8'-0" Run = 56%
   7'-0" Rise / 19'-0" Run = 37%

C. STREET:
   8'-0" Rise / 29'-0" Run = 28%

D. SIDEWALK:
   7'-6" Rise / 19' Run = 30%

*6'-0" has been subtracted from all Runs to account for landings.
Visitability Exterior Route
July 1, 2015

Starting July 1, 2015 all visitability requirements will be enforced
THANK YOU

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