

# ELEVATION CERTIFICATE

Important: Read the instructions on pages 1-9.

## SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name	Richard Emery	For Insurance Company Use:
		Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. Lots 21 and 22, Maple Brook Estates		Company NAIC Number
City Missoula State MT ZIP Code 59804		

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)  
Lots 21 and 22, Maple Brook Estates

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) Residential

A5. Latitude/Longitude: Lat. \_\_\_\_\_ Long. \_\_\_\_\_ Horizontal Datum:  NAD 1927  NAD 1983

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number 8

A8. For a building with a crawlspace or enclosure(s):

- a) Square footage of crawlspace or enclosure(s) \_\_\_\_\_ sq ft
- b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade \_\_\_\_\_
- c) Total net area of flood openings in A8.b \_\_\_\_\_ sq in
- d) Engineered flood openings?  Yes  No

A9. For a building with an attached garage:

- a) Square footage of attached garage \_\_\_\_\_ sq ft
- b) No. of permanent flood openings in the attached garage within 1.0 foot above adjacent grade \_\_\_\_\_
- c) Total net area of flood openings in A9.b \_\_\_\_\_ sq in
- d) Engineered flood openings?  Yes  No

## SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number City of Missoula 300049	B2. County Name Missoula	B3. State MT			
B4. Map/Panel Number 30063 C1460	B5. Suffix D	B6. FIRM Index Date August 16, 1988	B7. FIRM Panel Effective/Revised Date August 16, 1988	B8. Flood Zone(s) X	B9. Base Flood Elevation(s) (Zone AO, use base flood depth) 3147.0'

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9.

FIS Profile  FIRM  Community Determined  Other (Describe) \_\_\_\_\_

B11. Indicate elevation datum used for BFE in Item B9:  NGVD 1929  NAVD 1988  Other (Describe) \_\_\_\_\_

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)?  Yes  No  
Designation Date \_\_\_\_\_  CBRS  OPA

## SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction

\*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. Use the same datum as the BFE.

Benchmark Utilized WGM TBM-A Vertical Datum 3149.12 NAVD88

Conversion/Comments RR Spike set in utility pole, east side of Short St.

Check the measurement used.

a) Top of bottom floor (including basement, crawlspace, or enclosure floor) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
b) Top of the next higher floor _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
c) Bottom of the lowest horizontal structural member (V Zones only) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
d) Attached garage (top of slab) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
f) Lowest adjacent (finished) grade next to building (LAG) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
g) Highest adjacent (finished) grade next to building (HAG) _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____	<input type="checkbox"/> feet	<input type="checkbox"/> meters (Puerto Rico only)

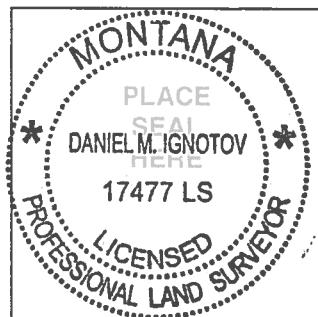
## SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Check here if comments are provided on back of form.

Were latitude and longitude in Section A provided by a  
licensed land surveyor?  Yes  No

Certifier's Name Dan M. Ignatov		License Number 17477LS	
Professional Land Surveyor	Company Name WGM Group		
Address 3021 Palmer	City Missoula	State MT	ZIP Code 59808
Signature 	Date 12-1-2009	Telephone 406-728-4611	



**IMPORTANT: In these spaces, copy the corresponding information from Section A.**Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.  
Lots 21 and 22, Maple Brook Estates

For Insurance Company Use:

City Missoula State MT ZIP Code 59804

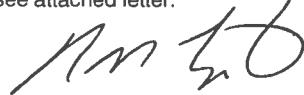
Policy Number

Company NAIC Number

**SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)**

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments This is a Pre-Construction Elevation Certificate for a yet to be constructed residential structure. There will be one structure built for both Lots 21 and 22. Also see attached letter.



Signature

Date 12-1-2009

 Check here if attachments**SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)**

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).

a) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the HAG.  
 b) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the LAG.

E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8-9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is \_\_\_\_\_  feet  meters  above or  below the HAG.

E3. Attached garage (top of slab) is \_\_\_\_\_  feet  meters  above or  below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is \_\_\_\_\_  feet  meters  above or  below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance?  Yes  No  Unknown. The local official must certify this information in Section G.

**SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION**The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. *The statements in Sections A, B, and E are correct to the best of my knowledge.*

Property Owner's or Owner's Authorized Representative's Name

Address	City	State	ZIP Code
Signature	Date	Telephone	
Comments			

 Check here if attachments**SECTION G - COMMUNITY INFORMATION (OPTIONAL)**

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8 and G9.

G1.  The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.  A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3.  The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
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G7. This permit has been issued for:  New Construction  Substantial ImprovementG8. Elevation of as-built lowest floor (including basement) of the building: \_\_\_\_\_  feet  meters (PR) Datum \_\_\_\_\_G9. BFE or (in Zone AO) depth of flooding at the building site: \_\_\_\_\_  feet  meters (PR) Datum \_\_\_\_\_G10. Community's design flood elevation \_\_\_\_\_  feet  meters (PR) Datum \_\_\_\_\_

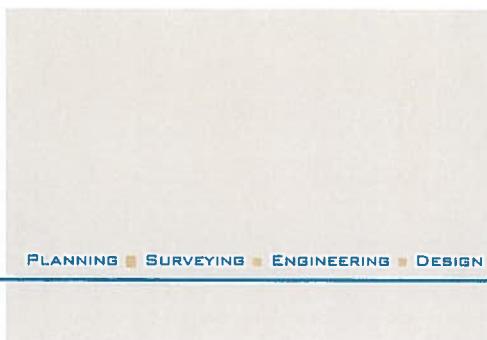
Local Official's Name \_\_\_\_\_ Title \_\_\_\_\_

Community Name \_\_\_\_\_ Telephone \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Comments \_\_\_\_\_

 Check here if attachments



Pre-Construction Elevation Certificate  
Lots 21 and 22, Maple Brook Estates Subdivision  
Section D – Continued

This certificate, FEMA Form 81-31 is being completed as a condition of subdivision approval imposed by the City of Missoula on the Maple Brook Estates subdivision. The condition requires "(t)he developer or individual lot owners shall include pre-construction elevation certificates at the time of Zoning Compliance Permit submittal documenting the lowest floor and utility elevations with post-construction elevation certificates submitted upon building completion. Fill for building sites shall be compacted to 95% proctor as certified by a geotechnical engineer." Further, the City of Missoula mandated that "(t)he lowest floor elevation, including basements, mechanical equipment, and ductwork shall be a minimum of 2' above base flood elevation. "

The 100-year flood elevation on the adjacent Clark Fork River area is interpolated to be 3147.0, based on a NAVD 1988 datum. Todd Klietz, Floodplain Administrator in Missoula City-County Office of Planning and Grants, designated the base flood elevation (BFE) across the Maple Brook Estates subdivision to be at this elevation in an e-mail dated October 24, 2005. Structural fill has been placed on the north half of the Maple Brook Estates site, raising the future home sites 0.5' above the BFE. Topsoil was removed, and structural fill was hauled to the site over a period of days and placed in 8-inch lifts and rolled with a smooth, single drum, vibratory compactor (Ingersoll Rand SD-100). Compaction tests were conducted by GMT Consultants, Inc. to establish that structural fill compaction met 95 percent of AASHTO T-99 proctor density.

Plans have not been furnished to this firm for Lots 21 and 22 at this time. There is only one structure to be built for both Lots 21 and 22. Because this is a pre-construction elevation certificate, the builder has indicated to me that the finished floor elevation will be set at least 2-2.5 vertical feet above the 100 year floodplain elevation, indicating that the finished floor of the residence will be constructed to elevation 3149.00 – 3149.50, which is 0-0.5 feet above the minimum required. The crawl space will be at an elevation of approximately 3147.50 (existing structural fill finish grade), which is 0.5 feet above the minimum required. The garage floor will be constructed to elevation of approximately 3147.50 (existing structural fill finish grade), which is greater than the minimum required. The water heater and furnace will be sited in the garage, raised at least 1.5 feet above garage finished floor, at a minimum elevation of 3149.00, as required by the subdivision conditions.

When constructed to the elevations stated above (or a higher elevation) the structure will meet the condition imposed by the subdivision approval.

Dan M. Ignotov P.L.S.



PLANNING ■ SURVEYING ■ ENGINEERING ■ DESIGN

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P.O. Box 16027  
MISSOULA, MT 59808-6027  
TEL: 406-728-4611  
FAX: 406-728-2476  
WWW.WGMGROUP.COM

## TRANSMITTAL

TO: OPG Attn: Todd Klietz 435 Ryman Street Missoula, MT 59802	DATE: 12/1/2009
	PROJECT: Maple Brook Estates, Lots 21 & 22 Pre-Construction EC
	PROJECT NO: 08-05-25

ITEM NO.	DESCRIPTION
1	<b>Pre-Construction Elevation Certificate</b>

COMMENTS:

Todd,

Hard copies of e-mail attachment 12-1-2009.

Dan Ignotov, PLS

SIGNED : \_\_\_\_\_

CC:

File \_\_\_\_\_ Sub \_\_\_\_\_ No \_\_\_\_\_

RECEIVED

DEC 01 2009