

## Jessi Roberts

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**From:** Andrew Wiser  
**Sent:** Thursday, February 05, 2015 9:34 AM  
**To:** John Thompson; Dan McShane  
**Cc:** Cliff Strong  
**Subject:** Addt. Code Considerations

I conjured up a couple more insights for potential code revisions following our meeting yesterday.

1. Conservation Easements and mitigation plans-
  - a. WCC 16.16.260 allows the development of mitigation plans to minimize the risk of geologic hazards and protect other critical areas.
  - b. WCC 16.16.260.C.3 directs permanent protection of mitigation areas via WCC 16.16.265
  - c. 265.C is the only section that describes conservation easements, but is specifically reserved for tracts.
  - d. I would like the ability to protect mitigation areas in some sort of easement when required for life safety.
  
2. Tsunami Inundation
  - a. All recommendations currently being prepared by local consultants are generically developed in accordance with DNR Tsunami Inundation Maps.
  - b. It would be very easy to prescribe the same recommendation as a requirement of natural resources permit review, and I've already discussed with Royce the possibility of developing a liability waiver for situations where an applicant would like to adopt county-prescribed tsunami inundation mitigation design. This is an approach already employed on alluvial fans in British Columbia.
  - c. I have been reluctant to develop this approach further and believe it only makes sense to do so if supported by code.
  - d. Similarly, the code update may also want to prescribe inundation requirements for all low-lying property in Whatcom County, much of which is not currently addressed by the DNR models but is certainly susceptible.

Thanks-

*Andy Wiser, L.E.G.*

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**From:** Andrew Wiser  
**Sent:** Tuesday, July 14, 2015 10:44 AM  
**To:** Cliff Strong  
**Cc:** Wayne Fitch  
**Subject:** Volcanic Hazard Code section

Hi Cliff,

I was hoping we could carve out some time to discuss some of the implications of our existing Volcanic Hazards CAO section. We're currently dealing w/ a couple permit situations that exemplify how our code leaves us lacking for sound regulation. The problem is further confounded by the poor mapping quality of volcanic hazard mapping available to us. I've also done some research into the volcanic hazard code sections of other WA State Counties and believe we may be able to better refine our reg's based on their various approaches. We may wish to eventually revisit this code section with the TAC and the CAC, but I'd first like to sit down with you and discuss the best approach for doing so.

Thanks-

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**16.16.265 Critical areas protective measures.**

- E. **Indemnification.** At the technical administrators discretion, when a permit is granted for development or use within a geologic, flood, or other hazard area, the property owner shall sign an indemnification agreement acknowledging hazards posed to the development and absolving the County of all responsibility 16.16.350 Standards – Volcanic hazard areas.
- A. Development may be allowed in volcanic hazard areas; provided, that all reasonable measures have been taken to minimize risks and other adverse effects associated with volcanic hazards, when the amount and degree of the alteration are limited to the minimum needed to accomplish the project purpose, and when the applicable general protective measures found in WWC 16.16.265 and the standards of 16.16.320 have been applied.
- B. For lahar inundation zones, the following activities may be allowed as specified:
1. Permitted and administrative uses allowed in accordance with the underlying zoning that are designed to minimize the risks associated with volcanic hazards at adjacent and downstream properties, **provided that there are no more than six (6) employees or ... on site.**
  2. Sewer collection facilities and other utilities that are located underground and not likely to cause harm to people or the environment if inundated by a lahar.
  3. Critical facilities of 50 or more persons may be permitted within lahar inundation zones subject to the conditional use permit requirements of Chapter [20.84](#) WCC; provided, that the following criteria are also met:
    - i. The applicant demonstrates through submittal of a travel time analysis prepared by a qualified professional or local, state, or federal agency the amount of time that is anticipated for a lahar to reach the proposed project and evacuation route, together with a description of existing or proposed detection and notification systems to be installed and maintained by a public entity.
    - ii. The applicant has provided an emergency evacuation plan prepared by a qualified professional or local, state, or federal agency showing that the proposed project is located near a safety zone that is within walking distance in an amount of time less than the anticipated time that it takes a lahar to reach the site after the triggering of an alarm and notification.

“Critical facilities (essential facilities)” means buildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow, volcanic activities, or earthquakes pursuant to the most current International Building Code (IBC). These include, but are not limited to:

1. Buildings and other structures that represent a substantial hazard to human life in the event of failure including, but not limited to:
  - a. Buildings and other structures where more than 300 people congregate in one area;
  - b. Buildings and other structures with elementary school, secondary school or day care facilities with an occupant load greater than 250;
  - c. Buildings and other structures with an occupant load greater than 500 for colleges or adult education facilities;
  - d. Health care facilities with an occupant load of 50 or more resident patients but not having surgery or emergency treatment facilities;
  - e. Jails and detention facilities;
  - f. Any other occupancy with an occupant load greater than 500;

- g. Power-generating stations, water treatment for potable water, wastewater treatment facilities, and other utility facilities (not including cell towers) not included in subsection 2 of this definition;
  - h. Buildings and structures not included in subsection 2 of this definition containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released.
2. Buildings and other structures designed as essential facilities including, but not limited to:
- a. Hospitals and other health care facilities having surgery or emergency treatment facilities;
  - b. Fire, rescue and police stations, and emergency vehicle garages;
  - c. Designated earthquake, hurricane, or other emergency shelters;
  - d. Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response;
  - e. Structures containing highly toxic materials as defined by IBC Section 307 where the quantity of the material exceeds the maximum allowable quantities of IBC Table 307.7(2);
  - f. Aviation control towers, air traffic control centers, and emergency aircraft hangars;
  - g. Buildings and other structures having critical national defense functions;
  - h. Water treatment facilities required to maintain water pressure for fire suppression;
  - i. Power-generating stations and other utility facilities required as emergency backup facilities for structures listed above.

## Jessi Roberts

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**From:** Andrew Wiser  
**Sent:** Thursday, October 22, 2015 3:09 PM  
**To:** Cliff Strong  
**Cc:** Amy Keenan; Ryan Ericson  
**Subject:** VHA Code amendment and review of uses  
**Attachments:** VHA language, APW Cmnts.docx

Hi Cliff,

I had a chance to review the proposed, amended language for 16.16.350 and associated sections. Amy and I also sat down and went through all the permitted, accessory and administrative uses in the relevant zoning areas. Some of these uses allow up to 20 employees, and as such we've propose a change to the VHA, permitted and administrative use language, which limits the number of employees on site to 6. Other small changes are also included on the attached. Assuming that you and Ryan concur with these revisions I suppose we are ready to take the amendments to the CAC and TAC? I'll also pass the amendments on to other county and local geologists for their consideration.

Thanks to all for helping arrive at a tenable solution-  
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## Jessi Roberts

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**From:** Andrew Wiser  
**Sent:** Friday, April 17, 2015 8:30 AM  
**To:** Cliff Strong  
**Subject:** Notes for CAC, 4-15-15

Cliff, Hope you're able to shake off that bug! Don't worry about me, I'll be in Kauai for the next ten days!

Meeting went well for the most part. They kept it generally civil and only got caught up in their disagreements at the onset of the meeting; and though they drug out their discussion for longer than necessary, ultimately elected to postpone any decision related to speaking time limits until next meeting in consideration of having you and your expertise present. Once we launched into the discussion things ran smoothly with Wendy exercising brevity. The meeting ran until 4:55, and I regretted having to break away b/c the conversation was proving fruitful, and many members of the committee expressed the same sentiment. I believe the committee is under the impression that the GHA discussion will continue next meeting, which would be useful b/c we didn't work through all of the revisions. On the contrary, the discussion was largely focused on concepts of geohazard hazard identification and risk acceptance and the specific revisions haven't been reviewed by the committee.

Here are the notes I took:

Modification of April 1 Meeting Summary:

1. Kate was not present but is listed as being in attendance.
2. Item E should be Laura
3. Some confusion related to Item B. I think (but could be wrong) that the comment was by Virginia, but is attributed to Aubry, and is in reference to the March 18, rather than the April 1, meeting. You may want to ask the committee b/c I got confused with all the names I wasn't familiar with.

Public Comments:

1. Gabia Wise- In reference to recent cougar attack in Ferndale and wildlife corridors. Provided copy of research paper (in your inbox). General sentiment was in favor of wildlife corridors, but wanted to the committee to consider what actually happens when wildlife uses a corridor and ends up where humans may not be so happy to have them.
2. Mr. Ferry- Provided map showing entirety of Whatcom County and gave statistics of land use, where 75% of the County is undeveloped Federal land and 25% under County-jurisdiction, of which 14% is timber land and only 6% is truly habitable. His point was that wildlife corridors, open space requirement, and CAO should be considered in the context of the physical realities of the County and that we already have an abundance of undeveloped land/wildlife habitat in the County.

Committee Comments:

1. Don't know her name, but Ms. \_\_\_\_\_ apologized for her emotional outburst. She doesn't actually want to quit the committee. Would like to talk about time limits for comments.
2. Proposal to reserve discussion regarding 'adverse impacts' to next meeting in order to have all new information considered by committee.
3. Roberts Rule- Believe a 2/3's vote is required for approval. Committee also briefly debated different time limits, and the ability to extend the time limit as needed for more complicated topics. Wendy doesn't believe Roberts Rule is the appropriate rule for the Committee due to technical definition of the committee; others did not concur.
4. Proposal was raised to reserve discussion of time limits to next meeting and seconded. Request specifically that this topic be added to the agenda.

GHA Discussion:

1. All topics added to Article 3 Draft dated 4-15-15, but I did want to point out that Wendy was concerned that our code was too far afield of the GMA and WAC suggested geohazard regulations. She provided a copy of the both and wanted to discuss how our code was lacking in some areas of direction according to the GMA and WAC. Because Dan can't attend the next meeting, and our time was cut short, I redirected Wendy on this point saying that we wanted to have Dan present as much of his revisions as possible but that we could spend more time addressing her points next meeting after I had time to review the content of the GMA and WAC (copy of the GMA provided by Wendy in your inbox).

*Andy Wiser, L.E.G.*

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## Jessi Roberts

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**From:** Andrew Wiser  
**Sent:** Wednesday, July 22, 2015 10:48 AM  
**To:** Cliff Strong; Mark Personius  
**Cc:** John Thompson  
**Subject:** New Lahar Model

Hi All-

At John's suggestion I spoke with John Ewert with the Cascade Volcano Observatory (CVO) yesterday afternoon about the possibility of an updated lahar hazard model. Apparently the CVO is in the process of procuring funding for lidar imagery of the Middle and upper North Fork Nooksack River drainages. Once available their intent is to use a GIS-based modeling program called LaharZ to develop new lahar model outputs for Mt. Baker. If all the pieces fall into place he estimated an 18 month timeline for a deliverable.

In light of this new information it would make sense for the County to remain in a holding pattern with regard to pursuing updated lahar hazard modeling and updating the volcanic hazard CAO section. I will continue to educate myself with regard to potential lahar impacts, and will review development and land divisions proposal conservatively with the assumption that a refined modeling output will either support volcanic hazard interpretations made in the interim or will allow denied applications to be reconsidered in relatively short order.

Thanks-

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**From:** Andrew Wiser  
**Sent:** Friday, August 07, 2015 8:55 AM  
**To:** John Thompson  
**Cc:** Mark Personius; Cliff Strong  
**Subject:** FW: USGS Mount Baker LiDAR acquisition  
**Attachments:** VHP-Baker-revised-shapefile-2015.zip

Based on the information below there looks to be a decent chance the USGS will be acquiring lidar for Mt. Baker this fall and, consequently, updating their lahar modeling sooner than we thought.

-Andy

**From:** Ramsey, David [<mailto:dramsey@usgs.gov>]  
**Sent:** Thursday, August 06, 2015 5:01 PM  
**To:** Tim Hyatt; SLAUGHTER, STEPHEN (DNR); John Ewert; Tom Carlson; JoshGreenberg; Andrew Wiser  
**Subject:** USGS Mount Baker LiDAR acquisition

Hi Tim, Stephen, Josh, and Andrew,

We received word today that USGS funding is available to fly QL1 LiDAR for Mount Baker. The contract will hopefully be awarded soon with acquisition planned for sometime between now and October. The attached zipped folder contains a revised shapefile for our intended acquisition. It covers a little more territory than our original polygon (visible in Seasketch) but not as much territory as the large box that was proposed and loaded into Seasketch by the USGS geophysics group (that box proved to be too expensive).

I'll keep you all informed of the details as we move forward toward acquisition,  
-Dave

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