

**Amendment Number:** ZA-02-19  
**Requested by:** Planning Department/County Attorney’s  
Office/Board of County Commissioners  
**Staff Contact:** David Gertsch, Planning Director

Summary: This proposal amends the Aquifer Protection Overlay Zone (APOZ) Regulations.

**D. Aquifer Protection Overlay Zone.**

1. Purpose. The purpose of the Aquifer Protection Overlay Zone (APOZ) is to prevent degradation to the water quality within the Casper Aquifer.
2. These regulations incorporate the findings of Albany County’s Casper Aquifer Protection Plan (CAPP) and its updates. Approximately fifty (50) to sixty (60) percent of the City of Laramie's municipal water supply and one hundred (100) percent of the water to approximately four hundred fifty (450) rural residences come from wells and springs in the Casper Aquifer. The delineated recharge area of the Casper Aquifer in the Laramie area encompasses approximately seventy-nine (79) square miles that lie east of the City and extends to the crest of the Laramie Range, with the northern boundary approximately six (6) miles north and the southern boundary six (6) miles south of City limits. The City of Laramie has municipal well fields which draw water from this area. The Casper Formation is exposed along the west side of the Laramie Range and is vulnerable to contamination because:
  - a. Points of withdrawal (municipal and domestic wells) are in close proximity to the recharge area;
  - b. The Casper Aquifer recharge area is fractured and has extensive exposures of porous sandstones;
  - c. There are existing areas of residential and commercial development on the recharge area and there is a potential for additional future development in the recharge area; and
  - d. Interstate 80 (I-80), across which numerous hazardous substances are transported each day, cuts through the entire thickness of the Casper Formation. The Casper Aquifer is comprised of the saturated portions of the Casper Formation which consist of approximately seven hundred (700) feet of marine and eolian sandstones interbedded with marine limestone and minor amounts of shale. The Sherman Granite provides an effective lower confining layer for the Casper Aquifer and the low permeability of the Satanka Shale provides an upper confining layer where there is sufficient thickness. In general, the Satanka Shale effectively retards the

flow of water upward out of the Casper Aquifer and the flow of water downward to the Casper Aquifer.

3. Because the bottom fifty (50) feet of the Satanka Shale may be fractured and in hydraulic communication with the underlying Casper Aquifer, the City of Laramie/Albany County Environmental Advisory Committee - Technical Advisory Subcommittee (June, 1999) recommended that a minimum seventy-five (75) foot vertical thickness of Satanka Shale be present above the Casper Formation to provide an adequate safety factor to reduce the risk of potential contamination to the Casper Aquifer. These regulations hereby incorporate the Technical Advisory Subcommittee's recommendation as the basis for defining the APOZ.
4. Definitions. For the purpose of the Aquifer Protection Overlay Zone (APOZ) regulations, the following words and terms shall have the meanings specified herein:
  - a. **Aquifer Protection Overlay Zone (APOZ) Development:** Any modification to the natural land surface that may result in the introduction of contaminants and/or increasing the vulnerability of the aquifer to contamination.
  - b. **Best Available Control Technology:** Use of equipment and management practices to provide the maximum possible reduction in the release, or possibility of release, of hazardous materials into the Casper Aquifer.
  - c. **Improvement Site:** The area that will receive improvements such as structures, a septic system, roads, driveways, or other alterations to the existing land.
  - d. **Hazardous Material:**
    - (i) Any hazardous substance as defined in 40 CFR 302.4 and listed therein at Table 302.4;
    - (ii) Any hazardous waste as defined in Wyoming law including, but not limited to, the Wyoming Department of Environmental Quality Hazardous Waste Rules and Regulations as may be amended from time to time;
    - (iii) Any pesticides as defined in Wyoming law; or
    - (iv) Any oil or petroleum. This definition does not include natural gas or propane used for heating homes or businesses or other common residential uses.

- e. **Person:** Any individual, developer, homeowners’ association, group, business, corporation, partnership, governmental body, or any other legal entity.
  - f. **Vulnerable Feature:** Any physical feature that reduces the natural protection of the aquifer at or near the ground surface including faults, folds, open fractures that extend to the ground surface; shallow depth to groundwater (any location where no effective confining layer is present over the water-bearing strata within the Casper Formation and the depth to water is less than seventy (70) feet); exposed bedrock; and drainages.
  - g. Other words used in these APOZ regulations shall be defined by the usage in the Albany County Casper Aquifer Protection Plan, other County land use regulations or by the common definition.
5. Aquifer Protection Overlay Zone Established.
- a. There is established within the unincorporated area of Albany County an Aquifer Protection Overlay Zone (APOZ). The APOZ is the area where the upper boundary of the Casper Formation is not covered by at least seventy-five (75) feet of the overlying Satanka Formation naturally in place, regardless if the reduction in thickness of the Satanka Formation is due to natural causes or is man-made.  
  
Delineation of the APOZ is based upon the CAPP approved by the Board of County Commissioners on January 4, 2011. All property within Zones 1, 2, and 3 as defined in the Albany County CAPP are zoned APOZ. The APOZ boundary is defined on page 129 of the Albany County Zoning Map Book.
  - b. Where the boundary line of the APOZ divides a lot, the requirements established by these regulations shall apply only to the portion of the lot that is located within the APOZ.
  - c. Exclusions. Previously surveyed parcels may be excluded from the APOZ upon clear and convincing evidence of the presence of at least seventy-five (75) feet of undisturbed Satanka Formation overlaying the Casper Formation beneath the parcel. Evidence shall be based upon publicly available data and provided by a Wyoming-licensed professional geologist or engineer with appropriate expertise.
    - 1) An application for exclusion shall be made by the landowner on a form provided by the Albany County Planning Office.
    - 2) The County may submit the evidence to a different qualified professional for review. Reasonable costs of professional

consultation to the County shall be reimbursed by the exclusion applicant to the County.

- 3) Any exclusion shall be approved by a vote of the Board of County Commissioners. If approved, the APOZ boundary shall be modified accordingly.
- d. All Development located within the APOZ shall meet the requirements of these regulations.
- e. Where these regulations are less strict or silent as to a particular issue, any APOZ Developments shall conform to the requirements of the underlying zoning district(s) in which the APOZ Development is located.
- 6. Prohibited Activities.
  - a. Development, except that which is proposed by the City of Laramie for the protection and usage of City of Laramie water wells, is prohibited in Zone 1 of the APOZ, and
  - b. No property within any zone of the APOZ may be used for any use listed in the Table of Prohibited Activities set forth below or otherwise prohibited or limited by operation of these APOZ regulations.

**Table of Prohibited Activities**

<b>Prohibited Activity</b>		<b>Examples of prohibited activities</b>
<b>The following activities are prohibited in the APOZ:</b>		
<b>1.</b>	Activities involving any equipment for the storage or transmission of any hazardous material to the extent that it is not pre-empted by federal law.	Petroleum pipelines or gasoline stations.
<b>2.</b>	The discharge to groundwater of any regulated waste.	
<b>3.</b>	Commercial car or truck washes, unless all waste waters from the activity are lawfully disposed of through a connection to a Publicly Owned Treatment Works or centralized wastewater treatment system.	Car or truck washes, detail shops or car dealership.
<b>4.</b>	Commercial and home occupation/home business production or refining of chemicals, including without limitation, hazardous materials or asphalt.	Chemical, petroleum, or asphalt manufacturer.
<b>5.</b>	Commercial and home occupation/home business clothes or cloth cleaning service which involves the use, storage, or	Dry cleaner.

	disposal of hazardous materials, including without limitation, dry-cleaning solvents.	
6.	Commercial and home occupation/home business clothes or cloth cleaning service for any activity that involves the cleaning of clothes or cloth contaminated by hazardous material, unless all waste waters from the activity are lawfully disposed of through a connection to a Publicly Owned Treatment Works or centralized wastewater treatment system.	Industrial laundry.
7.	Commercial generation of electrical power by means of fossil fuels except generation by means of natural gas or propane.	
8.	Commercial and home occupation/home business production or fabrication of metal products, electronic boards, electrical components, or other electrical equipment involving the use, storage or disposal of any hazardous material or involving metal plating, metal cleaning or degreasing of parts or equipment with industrial solvents, or etching operations.	Metal foundry, metal finisher, metal machinist, metal fabricator, metal plating, electronic circuit board, electrical components or other electrical equipment manufacturer.
9.	Commercial and home occupation/home business on-site storage of oil, petroleum or gasoline for the purpose of wholesale or retail sale.	Bulk plant.
10.	Commercial and home occupation/home business embalming or crematory services which involve the use, storage or disposal of hazardous material.	Funeral home or crematory.
11.	Commercial and home occupation/home business furniture stripping operations which involve the use, storage or disposal of hazardous materials.	Furniture stripper.
12.	Commercial and home occupation/home business furniture finishing operations which involve the use, storage or disposal of hazardous materials.	Furniture repair.
13.	Storage, treatment, or disposal of hazardous waste permitted under Wyoming law.	Hazardous waste treatment, storage or disposal facility.

14.	Commercial and home occupation/home business of any biological or chemical testing, analysis or research which involves the use, storage or disposal of hazardous material.	Laboratory: biological, chemical, clinical, educational, product testing or research.
15.	Commercial and home occupation/home business involving pest control.	Lawn care or pest control service.
16.	Commercial and home occupation/home business salvage operations of metal or vehicle parts.	Metal salvage yards, vehicle parts, salvage yards or junk yards.
17.	Commercial and home occupation/home business photographic finishing which involves the use, storage, or disposal of hazardous materials.	Photographic finishing laboratory.
18.	Commercial and home occupation/home business printing, plate making, lithography, photoengraving or gravure, which involves the use, storage or disposal of hazardous materials.	Printer or publisher.
19.	Commercial and home occupation/home business pulp production, which involves the use, storage or disposal of any hazardous materials.	Pulp, paper or cardboard manufacturer.
20.	Accumulation or storage of waste petroleum products, waste anti-freeze or spent lead-acid batteries.	Recycling facility which accepts waste oil, spent anti-freeze or spent lead-acid batteries.
21.	Commercial and home occupation/home business production or processing of rubber, resin cements, elastomers or plastic, which involves the use, storage or disposal of hazardous materials.	Rubber, plastic, fabric coating, elastomer or resin cement manufacturer.
22.	Storage of pavement de-icing chemicals unless storage takes place within a weather-tight waterproof structure.	Salt or de-icing storage facilities.
23.	Commercial and home occupation/home business accumulation, storage, handling, recycling, disposal, reduction, processing, burning, transfer or composting of solid waste.	Solid waste facility or intermediate processing center. Landfill or dumps on residential or commercial property.
24.	Commercial and home occupation/home business finishing or etching of stone, clay, concrete or glass products or painting	Stone, clay or glass products manufacturer.

	of clay products which involves the use, storage, or disposal of hazardous materials.	
<b>25.</b>	Commercial and home occupation/home business dyeing, coating or printing of textiles, or tanning or finishing of leather, which involves the use, storage, or disposal of hazardous materials.	Textile mill, tannery.
<b>26.</b>	Commercial and home occupation/home business involving the repair or maintenance of automotive or marine vehicles or internal combustion engines of vehicles, the use, storage or disposal of hazardous materials, including solvents, lubricants, paints, brake or transmission fluids or the generation of hazardous wastes.	Vehicle service facilities which may include: new or used car dealership, automobile body repair or paint shop, aircraft repair shop, automobile radiator, or transmission repair; small-engine repair; boat dealer; recreational vehicle dealer; motorcycle dealer; truck dealer; truck stop; diesel service station; automotive service station, municipal garage, employee fleet maintenance garage or construction equipment repair or rental.
<b>27.</b>	Commercial and home occupation/home business of on-site storage of hazardous materials for the purpose of wholesale or retail sale.	Wholesale trade, storage or warehousing of hazardous substances, hazardous wastes, oil or petroleum.
<b>28.</b>	Commercial and home occupation/home business production or treatment of wood, veneer, plywood, or reconstituted wood, which involves the use, storage or disposal of any hazardous material.	Manufacturer of wood veneer, plywood or reconstituted wood products.
<b>29.</b>	All Underground Injection Control (UIC) wells except Class V subclasses 5B2, 5B3, 5B4, 5B5, 5B6, 5B7, 5E3, 5E4, and 5E5 and Class V subclasses 5A1 and 5A2, if 5A1 and 5A2	Underground injection control facilities.

	facilities do not use any additives, as defined in WDEQ/WQD Division Rules and Regulations, Chapter 16.	
30.	Water wells which are not capped. Water wells which are not cased at least to the top of the production zone with the annular space sealed from the top of the production zone to the surface, or in accordance with the state engineer’s requirements or recommendations, whichever is stricter.	
31.	Application of pesticides and herbicides which do not conform to label instructions and Wyoming Environmental Pesticide Control Act of 1973.	
32.	Application of fertilizer at greater than the agronomic uptake rate of the vegetation fertilized.	
33.	Commercial and home occupation/home business quarrying and sand and gravel mining unless the operations are conducted pursuant to valid permits issued by the Wyoming Department of Environmental Quality, Bureau of Land Management or other federal or state regulatory agency.	
34.	Above ground storage of any hazardous material, including oil and petroleum, unless enclosed in secondary containment.	Agricultural gasoline storage.
35.	Commercial and home occupation confined animal feeding operations (CAFO’s) as designated by the permitting authority (Wyoming Department of Environmental Quality).	Concentrated animal feeding operation or stockyards.
36.	Commercial and home occupation/home business cemeteries.	Cemeteries of all types.

7. Minimum Lot Size: Minimum lot size within the APOZ shall be 35 acres, with one dwelling. Parcels smaller than 35 acres, as of the date of the adoption of these regulations, shall be allowed one dwelling.
8. Setbacks from vulnerable features.
  - a. Vulnerable features requiring a setback include:
    - 1) Faults, folds, or open fractures that extend to the ground surface;
    - 2) Shallow depth to ground water; and
    - 3) Drainages.



- b. No person shall install, maintain, or use any on-site wastewater treatment system or wastewater storage system or any private connection to a public wastewater system within one hundred (100) feet of a vulnerable feature in the Casper Formation which requires a setback. However, this setback may be lessened upon approval of the County Wastewater Engineer if documentation that the facility poses no significant threat to groundwater is provided. This documentation must be provided by a professional engineer or geologist, licensed in Wyoming, and should include the following:
  1. Evidence that no other location exists on the property that can meet the required setback standards;
  2. Evidence that ensures no significant threat to groundwater will occur due to the installation of the proposed wastewater system; and
  3. If recommended, mitigation methods needed to protect the groundwater are installed (e.g. installation of an advanced wastewater system as defined by Wyoming Department of Environmental Quality).

Additional location and setback constraints may be established as determined by the results of Site Specific Investigation in Chapter 3, Section 3, D. 9. for the specifically proposed APOZ Development.

9. Site Specific Investigations (SSI).

- a. An SSI shall be required with applications for a zoning certificate, subdivision permit, conditional use, or zoning change. Zoning certificate applications requiring an SSI shall be approved by the Board of County Commissioners.
- b. SSI Purpose. The purpose of the SSI is to determine the vulnerability of the Casper Aquifer to contamination by the proposed APOZ Development. The SSI shall be completed by a professional engineer or geologist, with appropriate expertise, licensed in the State of Wyoming.
- c. The SSI and report shall include the following:
  - i. A search to determine the presence of Vulnerable Features on the Improvement Site;
  - ii. A site narrative including historical information relating to previous land use, existing or abandoned wells, known

contamination of any part of the property, underground tanks, septic systems, utilities, and any other improvements on the Improvement Site;

- iii. An on-site investigation to determine the presence of Vulnerable Features not previously identified and of any other hydrogeologic conditions relevant to the potential for compromising aquifer water quality beneath the area considered on the Site Plan;
- iv. Where subsurface wastewater disposal is proposed, documentation that the facility will comply with Albany County's Design and Construction Standards for Small Wastewater Facilities and Regulations for Permit to Construct, Install or Modify Small Wastewater Facilities and all applicable Wyoming DEQ standards;
- v. A delineation of the one hundred (100) year floodplain on the subject property, if none is indicated on the FEMA Flood Insurance Rate Map, and deemed necessary by the Albany County Planning Office;
- vi. A determination of any necessary mitigation measures or setbacks, as a result of features or conditions as identified by iii, above;
- vii. A determination of the depth to groundwater on the Improvement Site. An attempt should be made to determine the groundwater at its highest annual elevation, which typically occurs in late spring. Water level(s) in a well on the site property are preferable for determining depth to groundwater. Water levels from wells on adjoining properties may be used if a well has not been drilled on the subject property. If a well is not available for obtaining water levels, then maps depicting the potentiometric surface of the Casper Aquifer at the subject property may be used;
- viii. An assessment and mitigation plan for any impacts to the Casper Aquifer caused by storm water run-off;
- ix. Evaluation of the potential impact of septic system effluent on any member of the Casper Formation, for proposals involving subsurface waste disposal;

- x. A map illustrating the geologic formations on the Improvement Site including the location of all existing and abandoned wells. A potentiometric surface of the Casper Aquifer may be included on this map; and
  - xi. A Site Plan shall be provided for the Improvement Site that shall extend one hundred fifty (150) feet from the Improvement Site in all directions, showing existing and planned structures, proposed small wastewater systems, and other improvements (including but not limited to roads, driveways, and utilities; landscaping improvements shall indicate whether pesticides, fertilizers or herbicides will be used). Any other information necessary to make an accurate analysis of the property shall be included on the Site Plan.
- d. A professional engineer, geologist, or other qualified professional licensed in the State of Wyoming, other than the professional that performed the investigation, will review the Site Specific Investigation (SSI). Reasonable costs of professional consultation to the County shall be reimbursed to the County by the property owner. The technical review will include the following:
- i. Qualifications of the individual and/or firm completing the review;
  - ii. Verification that the SSI includes all information required in Chapter 3, Section 3, D, 9;
  - iii. Assessment of compliance with state, federal and local regulatory authorities;
  - iv. Assessment of whether the recommendations of the SSI will mitigate potential negative impacts to the aquifer;
  - v. A review of the veracity and validity of the technical information provided in the SSI;
  - vi. Identification of any errors or omissions within the SSI and of elements of the SSI that need clarification, modification, or further consideration; and
  - vii. An analysis of the quality and consistency of the data used to arrive at any stated conclusions.
- e. Exemptions. An SSI shall not be required for the following:

- i. Any buildings or structures proposed on property zoned residential before August 7, 2012. If a property receives approval of a zoning change to a non-residential zone, the property will not be exempt by this paragraph;
    - ii. Any buildings or structures proposed in a subdivision with a subdivision permit approved prior to August 7, 2012. If a property receives approval of a zoning change to a non-residential zone, the property will not be exempt by this paragraph; or
    - iii. Any accessory buildings/structures or additions to existing buildings/structures that are within and consistent with the zoning of the property.
  - f. Modifications. Applications for modifications to any APOZ development shall be submitted on a form supplied by the Albany County Planning Office. The application must address how the modification meets the recommendation of the SSI and technical review prepared for the original development. The Board of County Commissioners shall vote on any proposed modification.
- 10. Design standards for on-site wastewater treatment systems.
  - a. In addition to the design standards listed in the Albany County Small Wastewater Regulations, all new and replacement septic systems located within the APOZ shall meet Wyoming Department of Environmental Quality standards for septic systems in the same aquifer that supplies a public water supply well. This regulation does not grant the right to install a septic system or small wastewater treatment system otherwise forbidden by County or State regulations.
  - b. The installation, design, repair, and removal of septic systems located within the APOZ must be in accordance with plans and specifications certified by a registered professional engineer or geologist licensed to practice in the State of Wyoming.
  - c. Septic systems must be pumped and maintained on a regular schedule by a County licensed septage pumper/hauler. Pumping and a visual inspection of the installed septic system shall be conducted when the ownership of the property is transferred and reported to the Albany County Wastewater Engineer on a form supplied by that office.
  - d. When a septic tank is pumped, the pumper/hauler shall visually inspect the septic system, including its various components, for signs of failure or

impending failure. Any incidence of a septic system or any of its components exhibiting signs of failure or impending failure shall be reported by the septage pumper/hauler to the Albany County Wastewater Engineer on a form provided by that office and copied to the Albany County Planning Office. The form shall include the anticipated resolution of all noted issues and a schedule for resolution, to be enforced by the Albany County Planning Office.

No form or report is required for a properly functioning septic system.

- e. All new and replacement septic systems and leach fields within the APOZ shall be inspected by the Albany County Wastewater Engineer before backfilling in accordance with Albany County Small Wastewater Regulations.
- f. If a septage pumper/hauler finds that a septic system is not adequately designed or constructed to serve the use to which it is intended, it shall not be used for the disposal of wastewater until it is cleaned, repaired, or otherwise made to operate adequately as determined by the Albany County Wastewater Engineer.

12. Nonconforming uses. If the nonconforming use is damaged due to conditions beyond the control of the owner or operator, it may be repaired and resumed at the same location, size, and scope.

- a. The owner or operator shall submit a report to the Albany County Planning Office. The report shall include:
  - 1) A description of the damage;
  - 2) A description of the planned repairs and how these will maintain the same location, size or volume, and scope of the operation prior to the damage;
  - 3) Documentation demonstrating how the planned repairs incorporate best available control technology to prevent hazardous materials from entering the Casper Aquifer; and
  - 4) Documentation demonstrating compliance with all county, state, and federal rules and regulations.
- b. Notwithstanding (a) above, repairs shall not be allowed to extend, enlarge, or expand the use, as prohibited by Section 6 of this Chapter.
- c.

13. Proper abandonment of unused wells. All wells, including but not limited to groundwater pumping wells and monitoring wells, which are no longer in use by

the owner must be properly abandoned by a well driller licensed in the State of Wyoming in accordance with Chapter 11, Section 70 of the Wyoming Department of Environmental Quality Rules and Regulations.

14. Existing law on aquifer contamination unaffected. The establishment of the APOZ and the use of properties in the APOZ in accordance with these regulations do not relieve any person from liability provided by law for contamination of the aquifer. These APOZ regulations do not supersede or modify the requirements of any federal, state or local law imposing stricter requirements regarding aquifer protection and/or contamination.
15. Severability. The provisions of these APOZ regulations are severable. If any provision is declared to be invalid or unenforceable by any court of competent jurisdiction, those provisions not so declared shall remain in effect.