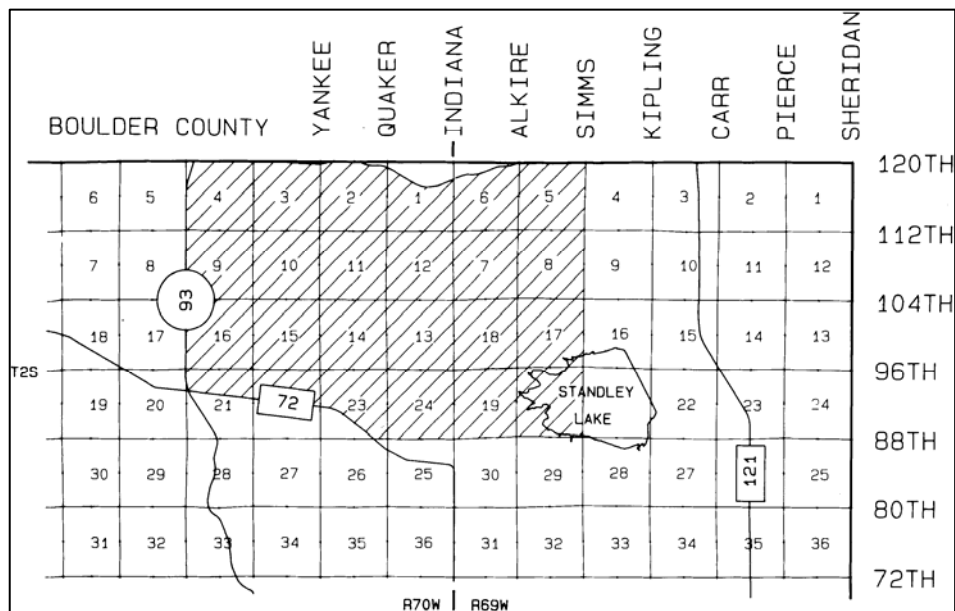


# SECTION 27 – RADIATION

## A. Standards

1. The proposed development shall be free from such radiation hazards as determined by the Colorado Department of Public Health and Environment to be hazardous to the public health. (reloc. 7-12-05; am. 4-4-06)
2. A Radiation Assessment shall be required for all proposed developments. (orig. 4-4-06)
3. A Radiation Map, Report and Plan(s) shall be required for:
  - a. Proposed developments located within any potential radiation hazards that may be identified by the Jefferson County Department of Health and Environment. (orig. 4-4-06)
  - b. Proposed developments located within the area as delineated by diagonal hatching on the following Map. (orig. 4-4-06)



## B. Radiation Assessment

1. Preparation
 

The Radiation Assessment shall be prepared and signed by a professional engineer, registered in the State of Colorado. (orig. 4-4-06)
2. Content
 

Identification of all existing and potential radiation hazards. (orig. 4-4-06)
3. Approval
  - a. The Radiation Assessment shall be verified by the Jefferson County Department of Health and Environment in conjunction with the Colorado Department of Public Health and Environment. (orig. 4-4-06)

- b. If the Radiation Assessment yields evidence of radiation hazards, a Radiation Report shall be required. (orig. 4-4-06)

### C. Radiation Report

#### 1. Preparation

The Radiation Report shall be prepared and signed by a professional engineer, registered in the State of Colorado and qualified in the field of nuclear engineering or health physics. (orig. 4-4-06)

#### 2. Content

- a. Land use histories of the proposed development shall include, if applicable, but not be limited to, the following: (reloc. 7-12-05; am. 4-4-06)
  - (1) Areas of virgin or undisturbed ground. (reloc. 7-12-05)
  - (2) Areas that have had, but not limited to, the following type disturbances (specify depth). (reloc. 7-12-05)
    - (a) Specific dates of any on-site excavations. (reloc. 7-12-05)
    - (b) Routine (yearly) excavation which includes, but is not limited to, contour or strip plowing. (reloc. 7-12-05)
- b. Areas of concern shall include, if applicable, but not be limited to the following: (reloc. 7-12-05)
  - (1) General areas of natural deposits of uranium and/or thorium identified by the U.S. Geological Survey as possessing significant quantities and concentrations or as otherwise identified. (reloc. 7-12-05)
  - (2) General areas surrounding nuclear production and/or utilization facilities, as defined by the U.S. Nuclear Regulatory Commission regulations. (reloc. 7-12-05)
- c. The method of taking representative samples shall be in accordance with the following: (reloc. 7-12-05)
  - (1) Detailed description of sample acquisition and its justification in relation to hazard analysis. (reloc. 7-12-05)
  - (2) Depth of sample of the disturbed/undisturbed soil situation. (reloc. 7-12-05)
  - (3) Involved surface area of individual sample. (reloc. 7-12-05)
  - (4) The number of samples taken per unit of land area indicating how different land forms and/or water bodies and/or streams affected the number of samples taken. (reloc. 7-12-05)
- d. The method of analysis of samples shall be in accordance with the following: (reloc. 7-12-05)
  - (1) Describe the method in detail, or if by documented procedure, reference the procedure and qualify any changes in that referenced procedure. (reloc. 7-12-05)
  - (2) Quality control procedures for the analytical procedure employed. (reloc. 7-12-05)
    - (a) Number of analyses per sample (replicates). (reloc. 7-12-05)
    - (b) Participation of currently available federal government inter-laboratory

crosscheck programs. (reloc. 7-12-05)

- (c) Standards used must be traceable to the National Bureau of Standards. (reloc. 7-12-05)
  - e. Evaluation of the analysis shall include, but not be limited to the following: (reloc. 7-12-05)
    - (1) Methods of "averaging" and handling anomalous data. (reloc. 7-12-05)
    - (2) Criteria or guidelines used in the hazard evaluation. (reloc. 7-12-05)
    - (3) All assumptions used and their use qualified. (reloc. 7-12-05)
  - f. The date the fieldwork was performed, and a list of references and other supportive data used. (reloc. 7-12-05; am. 4-4-06)
  - g. Radiation Area Map showing
    - (1) The proposed development including lots, tracts, and street/road alignments. (reloc. 7-12-05; am. 4-4-06)
    - (2) The natural topography as shown by contour lines. (reloc. 7-12-05)
    - (3) Radioactive conditions. (reloc. 7-12-05; am. 4-4-06)
3. Approval
- a. The Radiation Report shall be approved by the Jefferson County Department of Health and Environment in conjunction with the Colorado Department of Public Health and Environment. (orig. 4-4-06)
  - b. If the Radiation Report yields evidence of radiation hazards, a Radiation Plan shall be required. (orig. 4-4-06)

#### **D. Radiation Plan(s)**

- 1. Preparation
  - a. Radiation Plan(s) shall be prepared and signed by a professional engineer, registered in the State of Colorado and qualified in the field of nuclear engineering or health physics. (reloc. 7-12-05; am. 4-4-06)
  - b. The Radiation Plans shall assure that radiation factors are recognized and mitigated. . (am. 7-12-05; am. 4-4-06)
- 2. Content
  - a. The radioactive processes, constraints and hazards which will or could affect the proposed development. (reloc. 7-12-05; am. 4-4-06)
  - b. The results of the final evaluation of the analysis shown by a table and map identifying specific sampling sites, land use histories and areas of concern. (reloc. 7-12-05)
  - c. Alternatives, solutions and methods for abatement and/or control of the radiation hazard. (reloc. 7-12-05)
  - d. The entity/entities that will implement the Radiation Plan, construct required improvements and be responsible for the maintenance of the improvements and appropriate easements, if any. (reloc. 7-12-05; am. 4-4-06)

### 3. Approvals

The Radiation Plans shall be approved by the Jefferson County Department of Health and Environment in conjunction with the Colorado Department of Public Health and Environment prior to the proposed development's approval. (reloc. 7-12-05; am. 4-4-06)