



## **CITY OF BLACK DIAMOND COAL MINE HAZARD AREAS – INFORMATION SHEET**

“Coal mine hazard areas” are those areas directly underlain or affected by abandoned coal mine workings such as adits (horizontal mine entrances), tunnels, drifts (passageways connecting tunnels) or air (ventilation) shafts. The location of these mines can be determined from maps located at the Washington State Dept. of Natural Resources (DNR). Abandoned coal mines consist of underground voids where coal has been removed. These voids can collapse and result in subsidence (sinking) at the ground surface. Depending on the depth of the mine and material above the mine, subsidence can occur over a large area (regional subsidence) that extends beyond the limits of the coal mine workings. This can cause foundation settlement, damage to utility lines (water, sewer, gas), or other problems. Where coal mine workings are relatively shallow, subsidence can be very localized and can result in a potentially hazardous hole at the ground surface called a sinkhole. Mine openings, waste dumps, and mine gases can pose other risks if they are present.

### **Preliminary Coal Mine Hazard Assessment Report:**

Development in coal mine hazard areas is regulated by the City’s Sensitive Areas Ordinance (Ordinance 08-875, BDMC ch. 19.10.400). Prior to developing any property in a coal mine hazard area, a preliminary site assessment report must be provided to the City to determine the classification of the mine hazard and aid in preliminary discussions regarding the development. The report must be prepared by a Civil Engineer licensed by the State of Washington. The preliminary assessment report must include the following:

- Determination of the category of coal mine hazard areas (low, moderate or severe).
- A work plan outlining the proposed approach for evaluating the site and any potential hazards, including reference to analytical tools and processes that will be used in subsequent stages for hazard evaluation.
- If moderate or severe hazards are identified, and development activities are proposed within these areas, a proposed program or strategy for hazard assessment and engineering design for mitigation of those hazards should be included in the work plan.

### **Formal Coal Mine Hazard Assessment Report:**

Based on the findings contained in the preliminary coal mine hazard assessment report, the City’s Natural Resources Director may require a full geotechnical evaluation of onsite soils and a detailed coal mine hazard assessment prepared by a qualified professional. This assessment report shall include sufficient information and data so as to provide a reasoned analysis and defensible conclusions based on accepted professional standards and best available science. The Natural Resources Director may also require that specific concerns be addressed in the assessment.

### **Minimum Requirements for Coal Mine Hazard Assessment Reports:**

The assessment must be prepared by a professional civil engineer licensed by the State of Washington and who has at least four years of relevant professional employment in the field of geotechnical engineering, mining engineering or mine hazard abatement. The report must be site specific and include:

- A statement of the engineer's qualifications and licensing information.
- Surface exploration data such as borings, drill holes, test pits, wells, geologic reports, and other relevant reports or site investigation useful in making professionally reasonable conclusions or recommendations about the site under investigation.
- Determination of the category of coal mine hazard areas (Low, Moderate, Severe)
- The probability of significant property damage given the specific development proposal.
- Methods of mitigating potential dangers or problems which the development might face because of the mine hazards identified on this site.
- Provide a description of historical data and information used in the assessment, together with sources that might include topographic maps, copies of coal mine maps, aerial photography, geologic information, and available mine records.
- A plan showing property boundaries, mine hazard boundaries, and any potential hazards identified on or within 300' of the property, reproduced at the same scale as the topographic map, showing the layout/location of the mine(s), the extent of mining, mining related features, known surface failures, existing site improvements and site features of the proposed development.
- A statement as to the relative degree of accuracy and completeness of maps; and reasons why such sources are considered reliable for the purpose of the hazard assessment report.
- Identification of known mine features.
- A statement as to the relative degree of accuracy in locating the abandoned mine workings with respect to the surface and the basis for the statement of accuracy.
- A list of references used in the preparation of the report.

### **Procedures to Evaluate Coal Mine Hazards:**

The City may accept and review a preliminary report with limited content to outline the potential hazard level and propose a suggested analysis methodology. The City may retain, at the applicant's expense, an independent qualified professional to perform a peer review of the mine hazard report.

### **Covenant Not To Sue:**

Any person making an application for a building permit shall, as a condition for approval of the permit, provide the City with an executed "Covenant Not To Sue". This form shall represent that the owners of the property have applied for a permit to develop property located in an area where subsurface mining has occurred in the past, and shall also reflect that the owners acknowledge this history may affect the suitability of the property for the proposed development because of potential hazards presented by prior subsurface mining in the area and that it is the sole responsibility of the owners to independently determine that the property is suitable for development. The covenant shall require the owners to agree to initiate no litigation against the City with regard to any issues related to subsurface mining. The covenant shall be recorded with King County Records, bind successors in title, and run with the land.

## **Terminology:**

**Declassification:** Areas underlain by mine workings may be declassified as a mine hazard area by the Natural Resources Director based on a detailed mine hazard study, field work, and completion of required mitigation to eliminate hazards of open workings, sinkholes, gas, fire and waste dumps and reducing the potential for settlement to 1:350 for ground tilt and 0.003 in/in strain such that hazards of mine workings are equivalent to lands not underlain by mines.

**Low Hazard:** Areas where all workings are a depth of more than three hundred feet or where a previous mine hazard assessment report has determined that all workings have collapsed or what potential subsidence is limited to no more than 1:350 for ground tilt and 0.003 in/in strain and no unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings or other areas of past mining activity creating a significant probability for catastrophic ground surface collapse are within 100 feet of the location.

**Moderate Hazard:** locations that pose significant risks of property damage that may be mitigated by implementing special engineering or architectural recommendations. These are locations that typically include, but are not limited to: mine workings that are at a depth of 150 feet to 300 feet below the surface of the land, or no unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes, tailings and other areas of past or significant probability for catastrophic ground surface collapse are within 100 feet of the location.

**Severe Hazard:** locations that pose a significant risk of catastrophic ground surface collapse. These are locations that typically include, but are not limited to: coal mine workings from a depth of less than 150 feet from the surface of the land; or unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts; or improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse.

**IMPORTANT: Any person who develops property within a mine hazard area does so entirely at their own risk. Although the City may have surveys or studies that seek to identify the location of prior mining activity and/or the approximate level of hazard within areas of the City, the City does not warrant that these surveys are accurate and reliable and a person relies upon these surveys and studies entirely at their own risk.**