AGENDA

WETLANDS REVIEW BOARD
REGULAR MEETING

June 15, 2017
VALLEY LIBRARY LARGE CONFERENCE ROOM
5:15 P.M.

I. ROLL CALL

II. APPROVAL OF MINUTES

April 26, 2017 regular meeting

III. APPROVAL OF AGENDA

IV. PUBLIC PARTICIPATION ON NON-AGENDA ITEMS

V. BOARD COMMENTS

VI. AGENDA ITEMS

1) AME2017 0001
   Anadromous Waterbody Ordinance Revision

VII. PENDING PERMITS & UPDATES

VIII. PLANNING COMMISSION LIAISON UPDATE

IX. SCHEDULE FOR NEXT BOARD MEETING

   Regular Meeting, Thursday July 20, 5:15 p.m., Valley Library Large Conference Room

X. ADJOURNMENT
Meeting Summary

Roll Call

Board Members Present: Irene Gallion, Amy Sumner, Dan Miller, Lisa Hoferkamp, Percy Frisby, Andrew Campbell

Board Members Absent: Nina Horne, Hal Geiger, Brenda Wright

A quorum was present.

Staff Members Present: Teri Camery, Senior Planner; Chrissy Steadman, Planner II

Public Present: Scott Rinkenberger, Airport Maintenance Supervisor; Tyler Adams, Airport Biologist

Meeting called to order at 5:20 p.m.

II. Minutes approved for the January 19, 2017 Regular Meeting

III. Agenda approved

IV. Public Participation on Non-Agenda Items. None.

V. Board Comments.

Ms. Gallion requested that board meetings be moved to the valley for the summer. Ms. Camery said she would check into it.

Ms. Sumner noted the annual spring clean-up even this Saturday.

VI. Agenda Items

1) AME2017 0001 Anadromous Waterbody Ordinance Revision

Ms. Camery provided the background on development of the ordinance. She described the intention to provide flexibility in code for uses that have minimal harm if conducted with best management practices and a landscaping protocol. Flexibility may no longer be provided...
through the variance process, so benign uses must be allowed for in code within certain parameters. Ms. Camery explained CDD’s background research and the meetings with the resource agency representatives in the ad-hoc Stream Ordinance Working Group. She said that the first goal in developing the ordinance is to establish a sound scientific foundation with the scientific advice of the Working Group and the Wetlands Review Board. With this scientific basis, CDD will then take the ordinance forward for extensive internal review other planning staff, review by other departments who may be applicants (such as CBJ Lands, the Juneau Airport, Parks and Rec, and more), then to Planning Commission subcommittees, CBJ Law, and final to the full Planning Commission and CBJ Assembly for full public hearings.

Ms. Camery reviewed the Board memo, highlighting key issues to resolve from the existing ordinance.

Mr. Rinkenberger described the Juneau International Airport’s issues with criminal activity along the Jordan Creek stream corridor, the past trimming within the 0-25 foot no disturbance zone, and the urgent need to revise the ordinance to allow for more clearing to improve visibility and reduce crime. Mr. Adams referred to ADFG’s report on the area, and described how trimming could be done while preserving habitat values.

Ms. Camery noted that the Jordan Creek issue has been discussed extensively by staff and the Stream Ordinance Working Group, and that the issue has been specifically addressed in the draft ordinance.

Mr. Campbell noted that the airport has violated the stream buffer ordinance many times. He said that the cooperative efforts of the current airport staff are necessary and appreciated.

Ms. Gallion noted the need to protect the legitimate interests of stream protection and prevent aggressive developers from doing damage to streams.

Ms. Sumner asked about the application process for the department’s Anadromous Waterbody permit. Ms. Camery explained that the application forms would be developed after the ordinance is approved. She explained that the ordinance has been written to provide flexibility for applicants with the understanding that there are many options for addressing habitat. However she noted the criticism of staff and the department for being subjective or inconsistent, so she is trying to find a balance between the two. Mr. Campbell suggested that the criteria for approval of the permit should be very clear. He noted that latitude can make the applicant feel treated unfairly, or make staff feel treated unfairly. Mr. Miller suggested expanding information on the permitting process in the purpose and intent section of the ordinance.

Dr. Hoferkamp asked what “reasonable” means and suggested that this should be defined.

Ms. Gallion suggested two tiers of permit approval regarding vegetation removal that is done for public safety reasons.
Ms. Gallion asked about stormwater management and discharge. Ms. Steadman noted that CDD would clarify this point.

Ms. Camery discussed issues regarding trail development within the 0-25 buffer and 25-50 buffer. Board members discussed wordsmithing options for addressing this issue. Mr. Miller highlighted ordinance language which notes that these allowed uses must be out of the buffer if that is possible. Ms. Sumner noted the need for trail maintenance.

Dr. Hoferkamp suggested prohibition of hazardous materials, rather than “fuel and other contaminants.” She also noted that the ordinance should encourage the use of impervious surfaces.

Board members noted the need for a definitions section.

Mr. Rinkenberger noted that power companies regularly trim within buffers and have done a lot of trimming at the airport. Staff and board members discussed ways that this could be addressed. Mr. Frisby suggested checking with the Regulatory Commission, and noted that they have rules and regulations regarding utility development that may trump city regulations. AEL&P should also be contacted.

Board members noted the need to clarify the different between parking and storage of vehicles in the prohibited uses section.

Board members noted the need for limbing within the 25-50 buffer to be conducted by an experienced professional. The revision should set a professional standard.

Ms. Sumner explained the background behind development of the Best Management Practices section of code. Mr. Campbell suggested using this section to establish criteria for permit approval.

Mr. Rinkenberger noted the need to clarify whether the limbs or the trunk needed to be within the buffer to be subject to the ordinance. CDD will provide clarification in the ordinance.

Dr. Hoferkamp suggested timelines for vegetation in the Best Management Practices section.

Ms. Steadman noted the need to reference state law regarding toxic pollutants.

Mr. Campbell suggested other public safety measures that the airport might consider for Jordan Creek, such as lighting and/or cameras.

Ms. Gallion asked about the appeal process. Ms. Camery explained that the waterbody development permit would be appealable to Planning Commission as an Appeal of the Director’s Determination.
Ms. Gallion and Dr. Hoferkamp noted the need for enforcement. Ms. Steadman explained the building permit inspection process and how this would improve compliance.

Mr. Campbell asked about the possibility for a larger buffer in undeveloped areas of the borough. Ms. Camery said she would check into this option, looking at low-density areas out the road. This might also be an option for additional city properties.

Board members expressed appreciation for the revised ordinance and the overall approach.

**VII. Updates**

There were no updates.

**VIII. Planning Commission Liaison Update.**

Mr. Miller and Mr. Frisby described the tougher approach on variances and the need for extensive code revisions to address this change and provide flexibility within code.

**IX. Next meeting:**

Regular Meeting. Thursday May 18, 5:15 pm, City Hall room 224.

The meeting was adjourned at approximately 7:10 p.m.
DATE:       June 7, 2017

TO:        Wetlands Review Board

FROM:  Teri Camery, Senior Planner
        Chrissy Steadman, Planner II
        Community Development Department

SUBJECT: AME2017 0001
          Proposed Revisions to CBJ Code 49.70.310 and 49.70.950(f), anadromous waterbody buffers

The Wetlands Review Board reviewed CDD’s initial draft of the anadromous water body ordinance at the April 26, 2017 regular meeting.

In response to Board comments, CDD has made the following major changes to the draft ordinance, in addition to many minor edits and clarifications:

- Developed a permit process section to accompany the ordinance.
- Eliminated parking from the list of prohibited uses; parking would be allowed with an approved Variance.
- Added a requirement for a letter from a CBJ Public Safety Official for trimming that is in response to a public safety issue.
- Added surveillance equipment, fish weirs, and trail maintenance to the list of allowed uses in the 0-25 foot buffer.
- Consulted with AELP regarding vegetation removal around streams to protect infrastructure; staff concluded that the existing language, which allows this vegetation removal with an Anadromous Waterbody permit, is adequate.
- Added language to clarify that standards shall apply to any portion of a tree (i.e. limbs or trunk) within the buffer.

The Board also suggested a Definitions section to accompany the ordinance. Staff intends to add this section; however we are waiting for additional internal review to determine which definitions are necessary.

The Board also requested that staff look at the feasibility of increasing the buffer beyond 50 feet in undeveloped areas of the Borough. The CBJ Lands Division responded with information about how
larger buffers are being incorporated into new city subdivisions, and the CDD cartographer provided some information on what a larger buffer might look like for areas “out the road.” CDD will provide information on this issue at the meeting.

**Review and next steps**

Staff requests the Board’s advisory comments regarding the draft ordinance and, if possible, a formal motion regarding the ordinance.

The draft ordinance concept will be presented to the Planning Commission Committee of the Whole at the Tuesday June 13, 2017 meeting for general feedback. The Commission will not be taking public testimony until the final draft ordinance is presented to them at a later date for a full public hearing. The draft ordinance has been sent to the CBJ Law Department for review, and more internal revisions are expected. If this review process results in substantial changes, CDD will bring the ordinance back to the Wetlands Review Board.
49.70.310 - Anadromous Waterbody Protection

Purpose and intent: The purpose of the Anadromous Waterbody Protection section is to minimize soil erosion, prevent non-point source pollution, provide flood management, and protect and enhance wildlife and fish habitat on streams and lakes that are anadromous.

In compliance with 49.15.310(d)

Article III

49.70.310 Anadromous waterbody permit required

(a) No person may perform or cause to be performed any development work within the 50 foot anadromous waterbody buffer without a valid Anadromous Waterbody Permit issued by the Director of Community Development.

49.70.315 Contents of application

Each person who requires a permit under this article shall file an application with the department. An Anadromous Waterbody Permit shall be obtained before construction or development begins within the 50 foot anadromous waterbody buffer. The application shall be made on forms furnished by the City.

The application shall contain a vegetation removal plan and a revegetation plan. The plan shall indicate how the BMPs found in section___shall be met. The plan shall include:

(1) A graphic and legal description of the property;
(2) Drainage plan;
(3) A topographic map showing the existing topography, vegetation, drainage features, structures, significant natural and artificial conditions of the land, the location and size of existing trees and shrubs; and
(4) A narrative statement describing the activities and site restoration plan shall be included:
   (A) Timeline for development activity and restoration
   (B) The existing species of vegetation and proposed species to be used for revegetation
   (C) The method by which the activity shall be conducted
(5) When the purpose of vegetative removal is to enhance public safety a statement from an approved law enforcement agency such as the Juneau Police Department shall be submitted with the application.

49.70.320 Director’s review procedure

(a) Upon receipt of an application and the required filing fee, the department shall review the submission for completeness. If the department determines that the submission is incomplete, it shall so notify the applicant in writing within ten days of submission. Upon receipt of a complete application and the related filing fee, the department shall submit a copy of the application to the engineering department for a report containing an evaluation of the information in the application and shall include recommendations relating to the effect the proposed activity will have upon the stream bank and water quality.

(b) Upon determination that the application is complete the department shall review the application and the engineering department recommendations and shall transmit those recommendations along with its own recommendations to the applicant.

(c) Staff shall inspect the site prior to commencement of activity to ensure the site is properly marked and the site matches the plans submitted to with the application.

(d) Staff shall periodically inspect the site prior to vegetative removal or disturbance and upon project completion.

Fee schedule $400

(a) All anadromous waterbodies listed in the most current Alaska Department of Fish and Game Anadromous Waters Catalog shall have an inner buffer (0-25 feet) adjacent to the waterbody and outer buffer (25-50 feet). The buffer shall be measured by the horizontal distance from the Ordinary High Water Mark, as determined by the Community Development Department. Standards shall apply to any portion of a tree (i.e. limbs or trunk) within the buffer. On coastal lots, the transition point from the waterbody buffer to the zero setback of tidewater shall be at the point where Mean High Water and Ordinary High Water meet.

(b) The following uses and types of development are allowed within the 0-25 foot buffer with approval of an Anadromous Waterbody Development Permit, authorized by the Director, provided that those uses cannot be reasonably completed outside the inner buffer, and meet the Riparian Vegetation Standards and Best Management Practices listed in subsection__:
(1) Bank and buffer restoration
(2) Spawning and rearing habitat restoration
(3) Placement of water quality or water quantity monitoring equipment
(4) Fish weirs
(5) Placement of surveillance equipment
(6) Removal of non-native invasive plant species, as listed in an official document specific to the State of Alaska
(7) Stormwater management to improve water quality and/or water quantity to anadromous waterbodies
(8) Construction of a fence
(9) Trail construction or trail maintenance for accessing a crossing or enhancement to the waterbody
(10) Bridges, utilities and related public infrastructure, including culverts. Vegetation removal must be minimized to the greatest practicable extent while addressing construction, maintenance, and/or safety requirements.
(11) Removal of individual or select trees or vegetation that are causing or at risk of causing damage to structures, or constitute a threat to public safety due to illegal activities. Removal of vegetation to address a public safety issue shall require a letter of documentation from a CBJ Public Safety Official. Removal of vegetation to address damage to structures shall require a letter of documentation from a licensed arborist.
(12) Bank stabilization conducted in accordance with the ADF&G Streambank Revegetation and Protection Guide and approved by the Director of Engineering. When specific bank stabilization measures are required, plans prepared by a civil engineer shall be submitted.
(c) In addition to the uses and types of development allowed in section (b), the following uses are allowed within the 25-50 foot buffer with approval of an Anadromous Waterbody Development Permit, authorized by the Director, provided that those uses cannot be reasonably met outside of the buffer, and provided that those uses meet the Riparian Vegetation Standards and Best Management Practices listed in___:
   (1) Removal of branches from trees for view shed enhancement. Limbing shall be the minimum necessary.
   (2) Trail construction parallel to a waterbody
(d) The following activities are prohibited in both buffer zones:
   (1) Storage of fuel and other hazardous materials
   (2) Storage of explosives
(e) Any uses or types of development allowed within the inner or outer buffer zones shall be performed in accordance with the following Best Management Practices:

(1) Delineate work limits prior to commencing any activities to preserve existing vegetation outside of the work area and minimize impacts to the buffer. To protect large trees near, but outside of, the work area, the boundary for the natural area to be preserved should be extended to the tree drip line to protect the root zone from damage. The work limits must remain clearly marked until all work is complete. Within the work limits, the disturbed area shall be limited to that required for construction including access. Complete or partial removal of and damage to native vegetation shall be minimized to the greatest extent practicable.

(2) When existing vegetation must be removed from the buffer, the buffer shall be vegetated or revegetated with native plant species that are present or appropriate for that area within one growing season. The buffer shall be vegetated or revegetated and such vegetation or revegetation shall be kept or arranged to enhance fish habitat. Areas previously degraded by human activity shall be revegetated.


(4) All discharge material shall be free from toxic pollutants in toxic amounts as defined by state law.

(5) Uses and activities shall implement measures to minimize pollutant discharges into the waterbody and buffer including but not limited to providing for water management, establishing staging, fueling, and maintenance areas outside of the buffer.

(6) Structures allowed within the buffer must be constructed so as not to impede floodwaters or impede fish passage.

(7) In addition to all of these measures, new developments must comply with the CBJ Manual of Stormwater Best Management Practices.

(f) Riparian Vegetation Standards

(1) All uses and types of development within the inner and outer buffer shall include a vegetation plan to maintain or restore the buffer to the following standards:

(A) The vegetation plan shall utilize a diversity of native species appropriate for the site conditions found in the Recommended Plan List in Appendix E of the CBJ’s Manual of Stormwater Best Management Practices (2010) and/or
the Plant Selection List in the Alaska Department of Fish and Game’s Stream Revegetation and Protection: A Guide for Alaska (2005). If the site was considered to be in a natural state prior to the use/activity, the standard should require revegetation with the same species. The plan shall also implement any standards from the Landscaping and Lawn/Vegetation Management sections in the CBJ’s Manual of Stormwater Best Management Practices (2010), identified by staff as applicable to the permitted development.

(B) Uses and activities shall not introduce or redistribute invasive species.

Definitions section shall be added
2013 Comprehensive Plan Policies regarding Streams and Lakes

Stream Corridors and Lake Shorelines
Stream courses and lakes possess unique ecological, recreational, and scenic values. Portions of the stream corridors also function as floodways and floodplains and protect against erosion of adjacent properties. Development along stream corridors and lake shorelines can destroy their ecological, scenic and recreational values. It also can cause destruction of stream banks, increased runoff, sedimentation and pollution, and increase the danger of flooding to people and property. Carefully designed and sited development that is responsive to the conditions of the site can diminish the potential negative impacts on these ecosystems as well as surrounding land uses, and may be able to actually enhance degraded stream and lake habitat and water quality. Shoreline values can be maintained and destruction of property from flooding and stream bank erosion minimized by careful management of shoreline development, which primarily takes the form of requiring development to be set back from shorelines of creeks, streams and lakes and to retain or restore natural vegetation. The Land Use Code provides for some basic, or minimum, streamside protection. Additionally, many parcels along the Mendenhall River have been purchased by the CBJ government as greenbelt areas, providing greater protection for these water bodies and habitats. Further efforts are required to protect those and other stream corridors and to coordinate the various management and enhancement activities.

POLICY 7.3. TO PROTECT RIPARIAN HABITAT, INCLUDING STREAM CORRIDORS AND LAKE SHORELINES, FROM ADVERSE EFFECTS OF DEVELOPMENT AND TO PROVIDE A HIGHER LEVEL OF PROTECTION FOR NON-URBAN SHORELINES IN PUBLIC OWNERSHIP.

Development Guidelines
7.3 - DG1 Rivers, streams, and lakes should be managed so as to protect natural vegetation, water quality, fish or wildlife habitat, and natural water flow.

7.3 - DG2 On publicly-owned lands, designated on the Land Use Code Maps as not appropriate for development an area extending 200 feet from the Ordinary High Water Mark (OHWM) of the shorelines or stream corridors of the anadromous fish creeks, streams, and lakes listed in the most recently CBJ-adopted Alaska Department of Fish and Game (ADF&G) inventory of anadromous fish streams. On CBJ-owned lands that are not designated for disposal in the 1999 CBJ Land Management Plan, maintain 200 foot stream buffers from the OHWM of the shorelines of the following anadromous fish streams: Peterson Creek (out-the-road), Shrine Creek, Bridget Creek, Cowee Creek, Davies Creek, Peterson Creek (northwest Douglas Island), Eleven Mile Creek, Middle Creek, and Hilda Creek. This buffer zone or setback may be adjusted or altered, on a case-by-case basis, when a scientific analysis of the specific function(s) of the particular creek’s value(s) finds that the setback should be more based on its functional value(s).

7.3 - DG3 On privately-owned lands, require a minimum setback of 50 feet from the OHWM of all creeks, stream corridors and lake shorelines listed in the most recently CBJ-adopted ADF&G inventory of anadromous fish streams. This 50-foot setback is to be considered a basic or minimum setback from the water body and its riparian habitat until a biological functional analysis of the water body and adjacent habitat is conducted that identifies a specific greater or lesser setback distance appropriate to the development and functional value of the particular water body and associated riparian habitat, and an ordinance amending that setback is adopted.

7.3 - DG4 CBJ Community Development Department staff will determine the OHWM on properties subject to development permits. OHWM determinations will be based on habitat and biological considerations according to the adopted OHWM definition in Title 49, the Land Use Code.
Implementing Actions

7.3 – IA1 Fund an effort to develop for adoption into the Land Use Code a riparian habitat protection ordinance that tailors riparian standards to the particular stream-type, functional value and location and which would be consistent with, and complementary to, related Title 49 regulations protecting wetlands, flood zones and coastal areas.

7.3 – IA2 Amend the Land Use Code to update the definition of OHWM as soon as possible.

7.3 – IA3 Investigate the feasibility of providing tax incentives and tax relief for property owners who implement riparian or wetland habitat protection and conservation measures and improvements to their land, such as easements, restoration and assured Best Management Practices (BMPs) maintenance activities.

7.3 – IA4 Require recorded easements on plats and on property records for major developments to provide public access to shorelines and stream corridors, consistent with appropriate statutory and case law.

7.3 – IA5 Give high priority to public acquisition of open space/natural areas and/or public recreation easements to the stream corridor of Pederson Hill Creek (aka “Casa Del Sol Creek”) to add to the recent public acquisition of stream corridors of Montana Creek and the west side of the Mendenhall River.

7.3 – IA6 Where development or other causes have led to serious stream bank erosion, undertake programs, in cooperation with other appropriate agencies and private owners, to restore degraded stream banks and prevent further erosion in a manner that provides erosion protection and safe fish habitat.

7.3 – IA7 The Wetlands Review Board (WRB) should advise the Planning Commission regarding direct and cumulative impacts to riparian functions when variances to stream and lakeshore setbacks are requested by Applicants. The WRB should also make recommendations regarding appropriate mitigation measures when such variances are deemed warranted by the WRB and Planning Commission.

7.3 - IA8 Amend the Land Use Code to include additional criteria in the grounds for variance standards that require an evaluation of impacts to habitat and water quality for variance requests from streamside and lakeshore setbacks, and to provide for mitigation when variances to stream or lakeshore setbacks are granted.

7.3 - IA9 The CBJ government should designate publicly-owned shoreline areas along the roaded areas of the borough for public access recreation, stream corridor protection and/or wildlife access protection areas.

7.3 - IA10 Conduct biological functional analyses on streams and adjacent habitat to determine the appropriate setback from each of the following streams for new development on CBJ—owned land: Peterson Creek (out-the-road), Shrine Creek, Bridget Creek, Cowee Creek, Davies Creek, Peterson Creek (northwest Douglas Island), Eleven Mile Creek, Middle Creek, and Hilda Creek. Once the appropriate stream corridor width has been determined for a stream, adopt that stream corridor as a required protection area in the Comprehensive Plan and/or Land Use Code.

POLICY 7.4. TO ADOPT THE MOST RECENT ALASKA DEPARTMENT OF FISH AND GAME (ADF&G) INVENTORY OF ANADROMOUS FISH STREAMS FOR USE IN REVIEWING DEVELOPMENT PROPOSALS ON LAND CONTAINING WATERBODIES.

Implementing Actions
7.4 - IA1 Annually adopt by ordinance or resolution the most recent list of anadromous fish streams pursuant to the ADF&G annual or biannual inventory entitled Waters Important to Spawning, Rearing, or Migration of Anadromous Fishes—Southeastern Region. Update the CBJ’s GIS database and mapping layers and the CBJ Open Space Resolution as additions or corrections are made to the list. The CBJ should make the adopted updated list on the city’s website.

7.4 - IA2 Concurrently with adoption of the ADF&G annual or biannual inventory of anadromous fish streams in the borough, revise the Land Use Code §49.70.310(a)(4) to state “Within 50 feet of the banks of streams designated as anadromous fish habitat by the most recently CBJ adopted inventory of anadromous fish streams listed by the Alaska Department of Fish and Game.”

7.4 - IA3 Revise the CBJ 49, the Land Use Code, to compile all of the requirements for stream and lake shoreline management that are now under Habitat and Wetlands Management and map water bodies and riparian habitat subject to those regulations and guidelines on the CBJ GIS system.
Current Stream/Lake Ordinance

49.70.310 Habitat.

(a) Development in the following areas is prohibited:

1. On Benjamin Island within the stellar sea lion habitat;
2. Within 330 feet of an eagle nest on public land;
3. Within 50 feet of an eagle nest on private land, provided that there shall be no construction within 330 feet of such nest between March 1 and August 31 if it contains actively nesting eagles;
4. Within 50 feet of the banks of streams designated in Appendix B of the comprehensive plan of the City and Borough of Juneau, 2008 Update; and
5. Within 50 feet of lakeshores designated in Appendix B of the comprehensive plan of the City and Borough of Juneau, 2008 Update.

(b) In addition to the above requirements there shall be no disturbance in the following areas:

1. Within 25 feet of stream designated in Appendix B of the comprehensive plan of the City and Borough of Juneau, 2008 Update; and
2. Within 25 feet of lakeshores designated in Appendix B of the comprehensive plan of the City of Borough of Juneau, 2008 Update.

49.70.950(f)

(f) All structures and foundations located adjacent to streams or lakes listed in Table VI-2 of Appendix C of the Juneau Coastal Management Plan, shall have a 50-feet setback from each side of the stream or lake measured from the ordinary high water mark, where feasible and prudent; provided, docks, bridges, culverts and public structures whose purpose is access to or across the stream or lake are not subject to this policy, and provided further, uses which must be in or adjacent to the stream or lake in order to function, such as mining activities, fish culturing, water supply intakes and similar uses, are exempt from the setback requirement. The setback shall be vegetated or revegetated, where feasible and prudent, and such vegetation or revegetation shall be kept or arranged to maximize shade on the stream.

Definitions 49.80.120.

Development means any of the following:

1. Construction, reconstruction or enlargement of a structure involving more than 120 square feet;
2. A subdivision;
3. Conduct of a home occupation;
4. Change in use of a lot, including any structure thereon;
5. Installation or emplacement of a mobile or modular home;
6. Removal of substantial vegetative cover;
7. Excavation, dredge or fill activity;
8. Installation of a sign;
9. For the purposes of chapter 49.65, article I, the work performed in relation to a deposit, subsequent to exploration but prior to extraction of commercial quantities of a mineral commodity, aimed at, but not limited to, preparing the site for mining, defining an ore deposit, conducting pilot plant operations, and construction of roads or ancillary facilities;
10. Any site work in preparation or anticipation of the above.