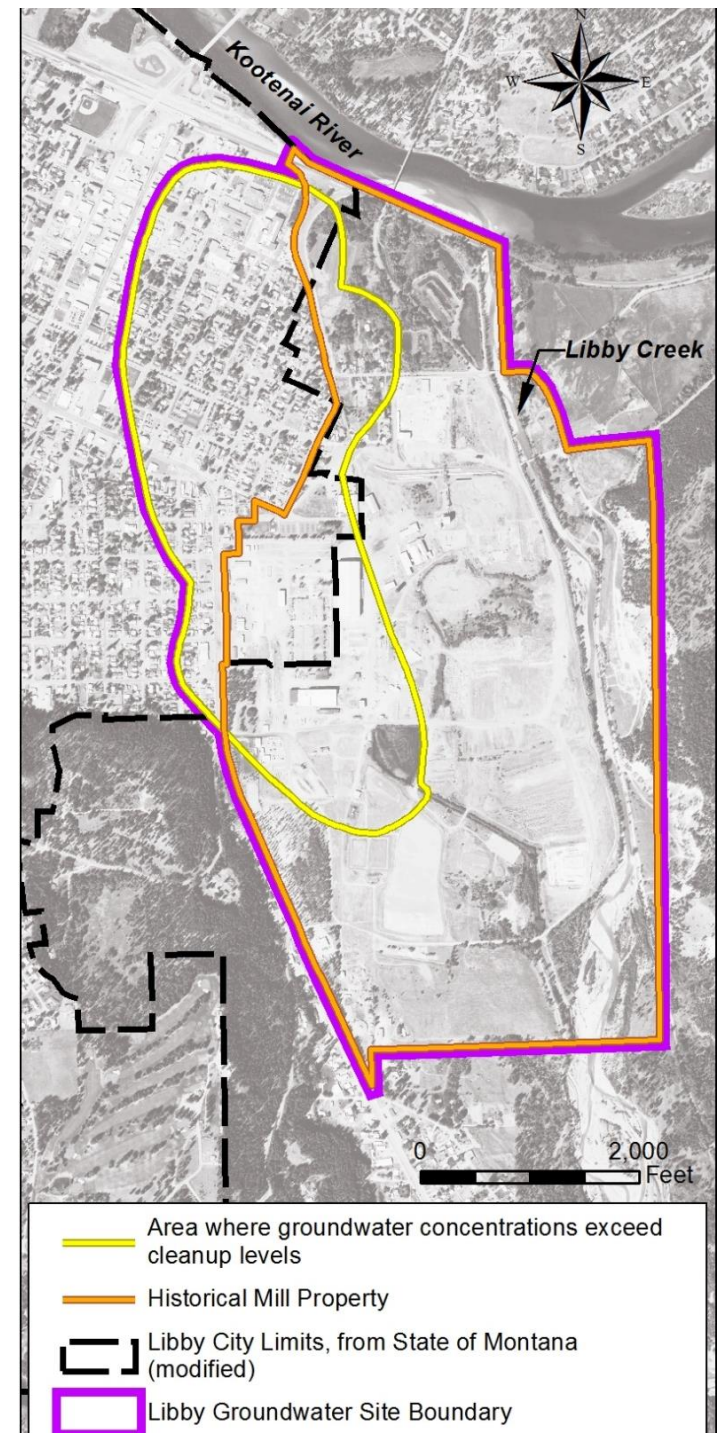


Libby Groundwater Superfund Site Proposed Controlled Groundwater Area (CGA)

Site Background

- ❑ Libby Groundwater Site, listed on National Priority List (NPL) in 1983
- ❑ Historical wood treating operations impacted soil and groundwater with pentachlorophenol (PCP) and polynuclear aromatic hydrocarbons (PAHs)
- ❑ EPA selected remedies to protect human health and the environment
- ❑ Interim remedy selected in 1986
 - Buy water plan
 - City ordinance preventing new well installation
- ❑ Remedy for soil and Upper Aquifer selected in 1988
 - Soil excavation and treatment (ongoing)
 - Groundwater treatment (ongoing)
 - Institutional controls
- ❑ Remedy for Lower Aquifer selected in 1993
 - Long-term monitoring
 - Institutional controls



Role of Institutional Controls (ICs) in the Remedies

- ❑ ICs are defined as: *“non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for human exposure to contamination and protect the integrity of the remedy.”*
 - Common examples of ICs include zoning, building or excavation permits, well drilling prohibitions, and easements and restrictive real covenants.
- ❑ ICs are part of the current Upper and Lower Aquifer remedies, and part of the future modified Upper Aquifer remedy
- ❑ City ordinance 1353 (October 20, 1986)
 - Prohibits installation of wells for purpose of human consumption and irrigation (existing wells within the plume addressed independently)
- ❑ Proposed Controlled Groundwater Area (CGA)
 - In response to the identification of areas above or near known contaminated groundwater and without groundwater use restrictions
 - Technically based
 - Restrictions will be similar to the City ordinance
 - Includes areas of impacted groundwater outside the City limits
 - IP will offer to close and abandon existing wells within the proposed CGA, similar to the “buy well program” instituted in conjunction with the City Ordinance. IP will also offer to connect that property to City Water, if the property is not already connected.

CGA Petition Content

- ❑ Introduction
- ❑ Site Background
- ❑ Site Hydrogeology
- ❑ Current Extent of Contaminants in Groundwater
- ❑ CGA Details
 - *Criteria for establishing a CGA*
 - *CGA boundary description*
 - *Land ownership within CGA*
 - *Groundwater use within CGA*
 - *Proposed CGA restrictions*
 - *Satisfaction of applicable petition criteria and monitoring*













Criteria for Establishing a CGA

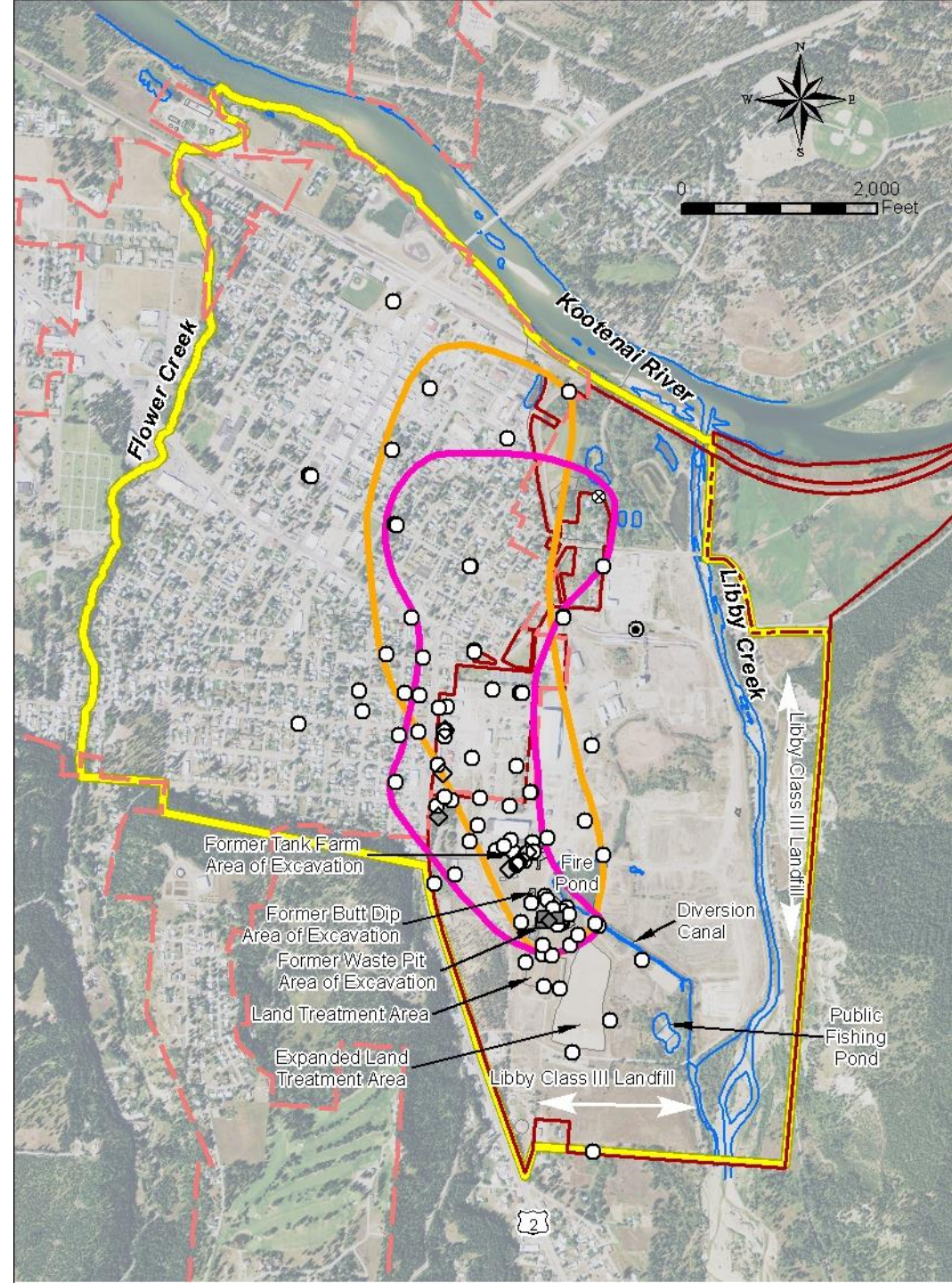
The proposed CGA meets three of the five criteria detailed in the Montana Code (only one is required):

- ❑ MCA 85-2-506 (5)(e): Groundwater within the proposed CGA is not suited for beneficial use
 - Currently mapped plumes
 - Soil treatment operations
- ❑ MCA 85-2-506 (5)(c): Projected groundwater withdrawals from the aquifer(s) in the proposed CGA will induce or alter contaminant migration exceeding relevant water quality standards
 - Evaluated using numerical groundwater flow modeling
- ❑ MCA 85-2-506 (5)(f): Public health, safety, or welfare will become at risk
 - Groundwater use restrictions are part of the CERCLA remedy and are necessary to protect human health and the environment

CGA Boundary Description

- ❑ Detailed locational information per petition requirements
- ❑ CGA includes:
 - Existing and historical plumes
 - Soil treatment areas
 - Areas where pumping could move the existing plumes
 - Buffer zone for uncertainty
- ❑ Boundaries are easy to identify; more implementable and enforceable

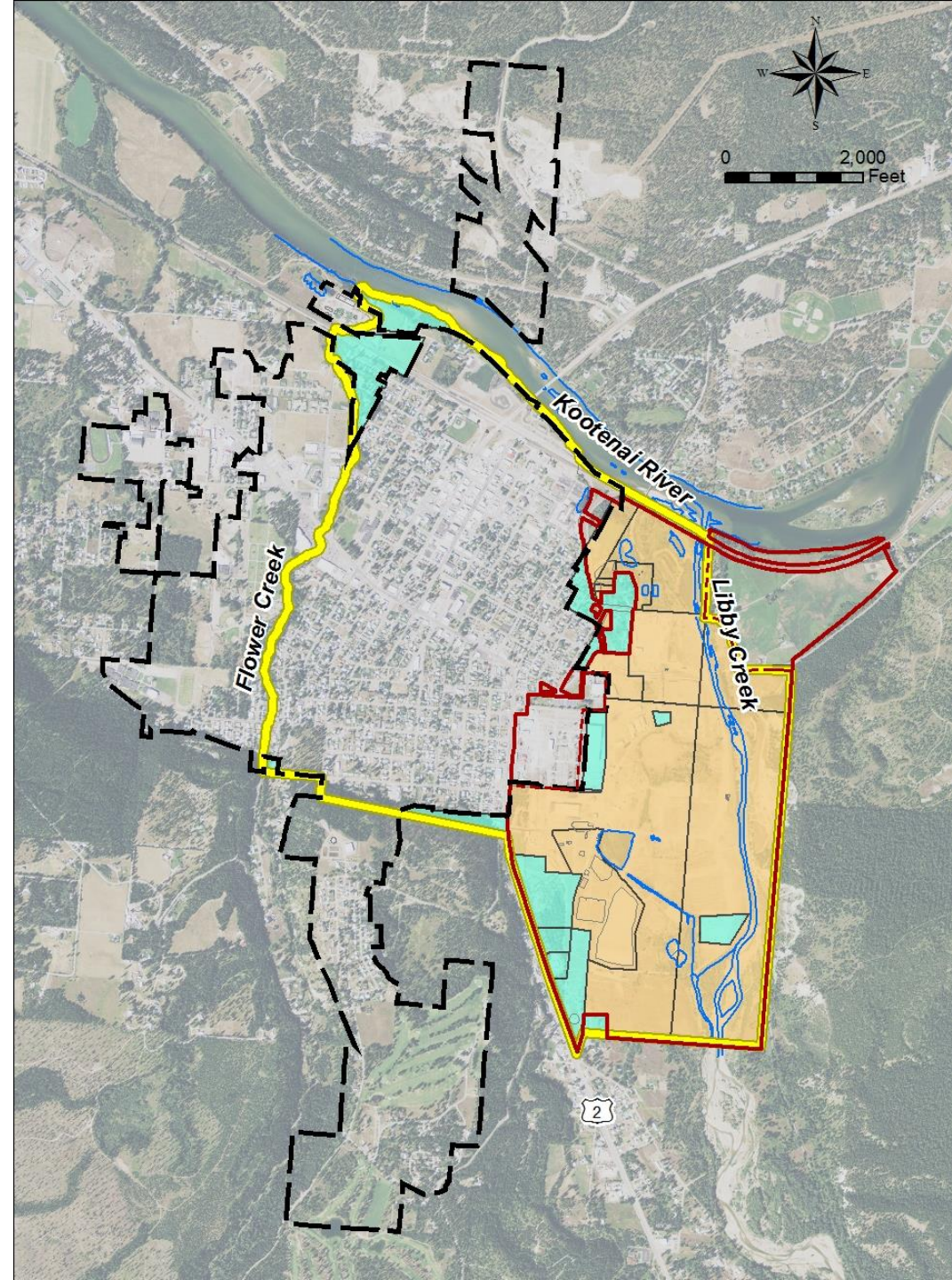
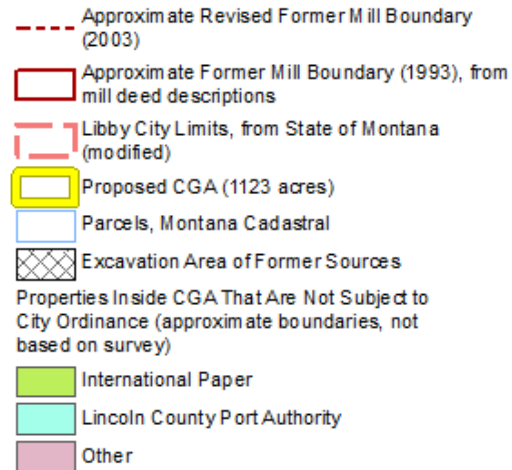
-  Proposed CGA (1123 acres)
-  Monitoring Well Location (Represents cluster with one or more wells, all water-bearing units)
-  Active Groundwater Extraction Well
-  Active Injection of Treated Groundwater
-  Inactive Injection Well for Former In Situ Bioremediation System
-  Dewatering Well
-  Private Well
-  Approximate Revised Former Mill Boundary (2003)
-  Approximate Former Mill Boundary (1993), from mill deed descriptions
-  Libby City Limits, from State of Montana (modified)
-  Estimated area of Upper Aquifer where groundwater PCP concentrations may exceed 1 µg/L. Based on available PCP analyses from 2012 through early 2018 and NAPL observations in the Upper Aquifer.
-  Estimated area of Lower Aquifer where groundwater PCP concentrations may exceed 1 µg/L. Based on available PCP analysis from 2012 through 2017 and NAPL observations in the Lower Aquifer.



Land Ownership within the CGA

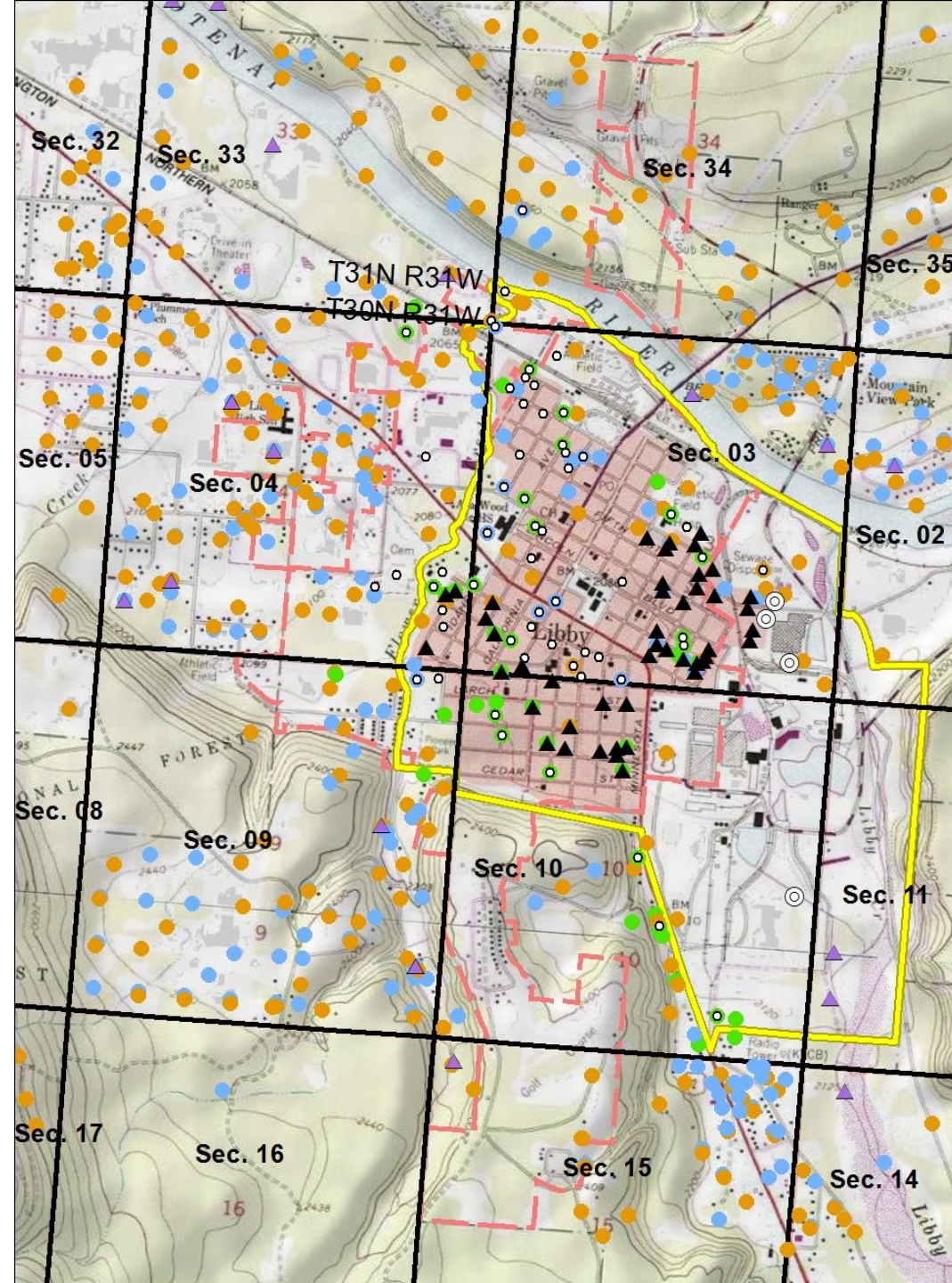
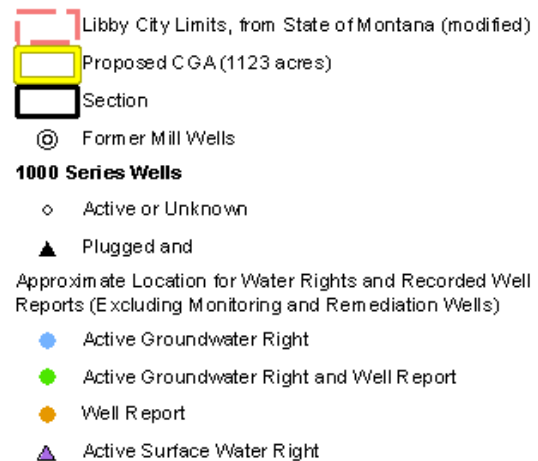
- City of Libby (unshaded)
 - Subject to ordinance that limits well drilling
 - Nearly 1400 property parcels
 - Residential, commercial, industrial

- Lincoln County (shaded)
 - LCPA
 - IP
 - Other private commercial, industrial, residential



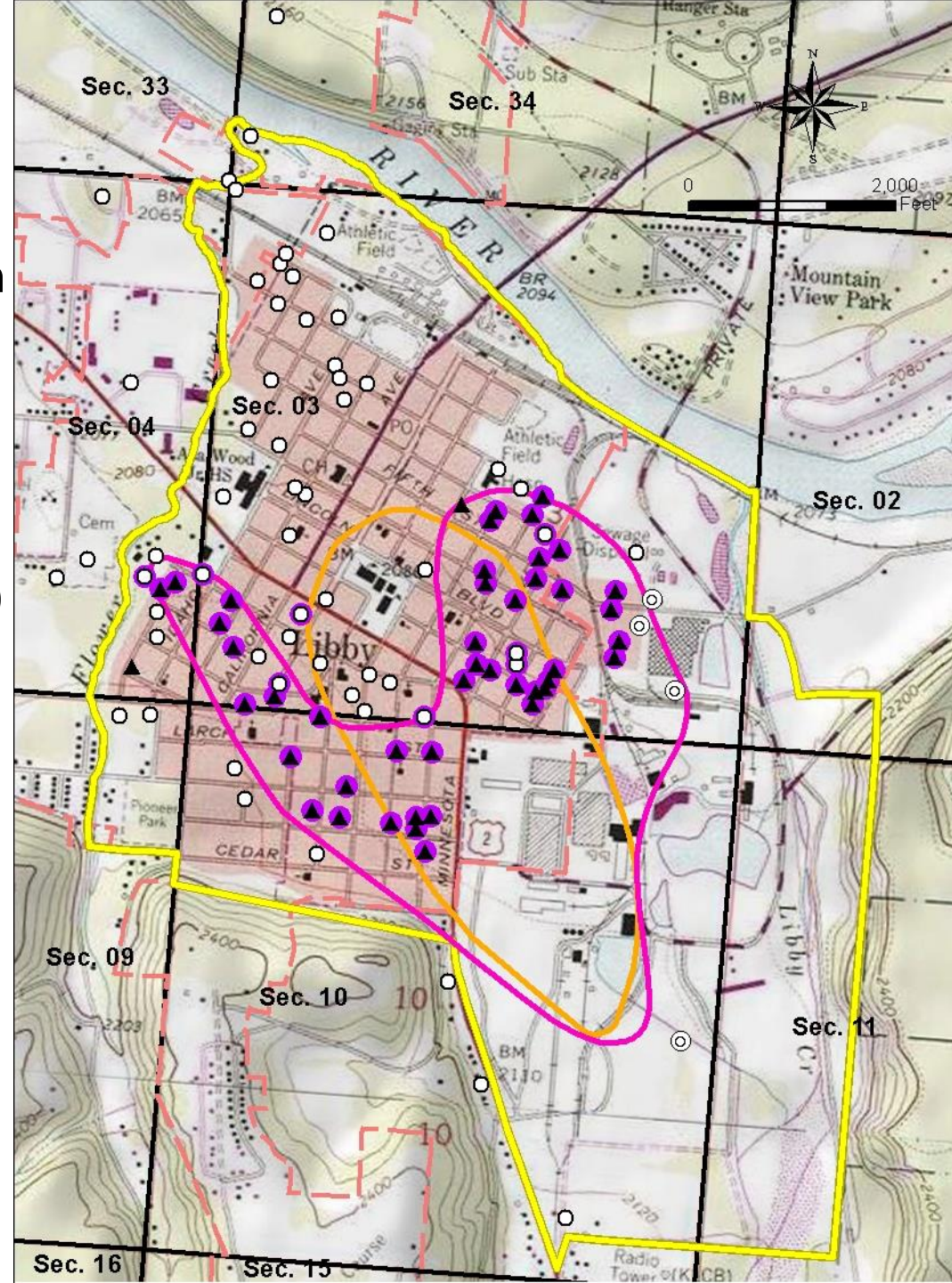
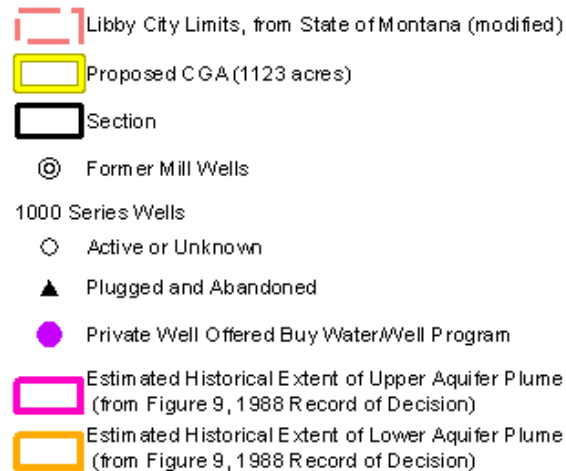
Groundwater Use within the CGA

- ❑ ~ 40 wells plugged and abandoned since 1985
- ❑ ~ 50 wells may still exist (estimated maximum)
- ❑ ~ 50 groundwater rights
- ❑ ~ 50 well reports



Additional Actions to Protect Human Health

- ❑ IP will offer to plug and abandon existing wells within the CGA similar to the buy well program
 - The majority of wells within the Upper Aquifer plume have been plugged and abandoned
 - An estimated 50 wells (maximum) may still exist inside the CGA



Local Interaction and Reviews

- ❑ Spring 2017 - EPA asks if BOH would be willing to serve as Petitioner for CGA
- ❑ Fall 2017 - Technical memorandum providing rationale for CGA boundary is distributed by EPA to stakeholders
- ❑ Nov 2017 - Meeting of stakeholders to discuss technical memorandum. BOH presented 4 areas of potential concern:
 - Technical issues
 - The Groundwater Resource- "...BOH will be sensitive to questions related to the consequences of loss of the resource, especially related to water supply issues for the Port Authority and City of Libby"
 - Separability of Superfund Sites - Eliminate language regarding groundwater restrictions in proposed Libby Asbestos environmental covenant
 - Enforcement Issues - Concern over County responsibility for enforcement
- ❑ January 2018 – Follow-up meeting with stakeholders to further discuss the technical memorandum
- ❑ July 2018 – Presentation of complete CGA petition package to stakeholders
- ❑ October/November 2018 – EPA asked BOH for a decision: BOH deferred, suggesting public informational meetings
- ❑ December 2018 – EPA agrees to work with BOH: Agrees to meetings and awaiting BOH response.

Current Status (Unofficial)

Concerns:

- Technical Issues have largely been resolved
- The Groundwater Resource - The BOH has deferred from moving forward pending definitive input from City and Port; EPA has opted to try to continue to work with BOH, and offered to conduct informational meetings
- Separability of Superfund Sites - resolved
- Enforcement Issues - resolved; no role by County

Overall:

- BOH believes the CGA is needed as an IC to protect public health
- Awaiting input from Port and City
- Need input on when stakeholders are available for informational meeting, and structure

Next Steps

- ❑ Public meeting to introduce proposed CGA to the local community
- ❑ BOH signs CGA petition
- ❑ Agencies submit CGA petition to Department of Natural Resources and Conservation (DNRC)
 - DNRC reviews package and provides comments, if any (has up to 180 days)
 - EPA/DEQ/IP respond to comments, if any (up to 90 days)
 - DNRC then makes a determination regarding CGA (has up to 60 days)
 - If approved, DNRC begins the rulemaking process
 - ✓ Hearing to be held at location near CGA
 - ✓ Hearing notices issues 30-days in advance and posted weekly for 3-weeks ahead of time
 - ✓ Hearing notices sent to all water rights holders and landowners within the CGA, all licensed well drillers and other affected or interested parties
 - ✓ DNRC holds hearing and considers comments submitted
 - ✓ DNRC implements the CGA if it believes it is still justified following the hearing
- ❑ CGA would enforced by EPA and DEQ