



# Chapter 200: Metallic Mineral Exploration, Advanced Exploration and Mining

September 15, 2016

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

*Protecting Maine's Air, Land and Water*

Slide 1

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# History of DEP Authority for Metallic Mining

- 1990 Legislature enacted a law giving DEP and LURC rulemaking authority to develop a frame work to regulate metal mining.
- 1991 the “*Metallic Mineral Exploration, Advanced Exploration and Mining*” rule was adopted ( Chapter 200)
  - Consolidated the permits requirements for Site Law, NRPA, Solid Waste Management Act and Land Use Regulation Law
  - Separate permits are required for Air , Wastewater Discharge, and District Boundary change.
  - To date, no metallic mining permits have been issued.



# Maine Metallic Mineral Mining Act

In April 2012, the Maine Legislature passed "*An Act To Improve Environmental Oversight and Streamline Permitting for Mining in Maine*" (LD 1853; 2011 Pub Law 653)

Assigned new responsibilities to DEP but did not change other laws and rules overseen by the DEP, and did not change the jurisdiction of other agencies pertaining to mining in other areas of Maine law



# 2012 Mining Act

- Definitions- § 490-MM
- DEP, LUPC and municipal authority- § 490-NN
- Application requirements- § 490-OO
- Mining permit duration, termination, revocation, transfer and amendment- § 490-PP
- Performance, operation and reclamation standards- § 490-QQ
- Financial assurance- § 490-RR
- Mining and reclamation report- § 490-SS
- Violations- § 490-TT



# 2012 Mining Act

## Key Provisions

- Discharges to Groundwater Allowed in Mining Area (38 M.R.S. § 490-00(4)(D))
- Harm to Habitat and Fisheries- a practicable alternative to mining that is less damaging to the environment is not considered to exist (38 M.R.S. § 480-D(3))
- Criteria for Approval- the Department shall approve a mining permit whenever it finds that the 10 statutory criteria have been met (38 M.R.S. § 490-00(4))
- Enhanced public and local participation (38 M.R.S. § 490-00(4))



# Why are we here?

- We have a rule in effect now, but it does not align with the statute in some important ways.
- We could receive an application and issue a mining permit now.

**We would prefer to figure out how to implement the 2012 Act through a comprehensive rulemaking process than when faced with a permit application.**



# 2012 Mining Act

## Conflicts with current Chapter 200

- *Site Location of Development Act* and associated rules do not apply (2012 Act)
- *Maine Hazardous Waste, Septage and Solid Waste Management Act* and associated rules do not apply (2012 Act)
- Permit not subject to renewal
- Environmental Impact Report optional (current) versus Environmental Impact Assessment required (2012 Act)
- Financial Assurance for 1 year of costs (current) versus coverage for all potential costs (2012 Act)
- Individual closure plan (current) versus 30-year post-closure water quality monitoring requirements (2012 Act)



# The Chapter 200 Metallic Mineral Exploration, Advanced Exploration and Mining Proposal

A new mining rule that will repeal and replace the existing Chapter 200 regulations, and provide a comprehensive application and permitting process within the statutory framework for exploration advanced exploration and mining activities.

Based on the 2012 Mining Act and the Board's 2014 provisionally-adopted rule, the new proposal incorporates comments from a wide range of stakeholders and the Legislature's ENR Committee during previous rulemaking and legislative activities.



# Chapter 200 Overview

## Eight Subchapters

- Subchapter 1- General Provisions
- Subchapter 2 - Exploration and Advanced Exploration
- Subchapter 3 - Permits
- Subchapter 4 - Financial Assurance and Insurance
- Subchapter 5 - Mining Standards
- Subchapter 6 - Inspection, Recordkeeping and Reporting Requirements
- Subchapter 7 - Voluntary Suspension and Resumption of Mining Activities
- Subchapter 8 - Violations and Enforcement



# Chapter 200

## Subchapter 1: General Provisions

### Applicability

- Applies to all exploration, advanced exploration and mining activities.
- No permit shall be issued for mining operations that include:
  - Heap, percolation or in-situ leaching;
  - Mining for thorium or uranium ore; or
  - Block caving.



# Chapter 200

## General Provisions

### Definitions

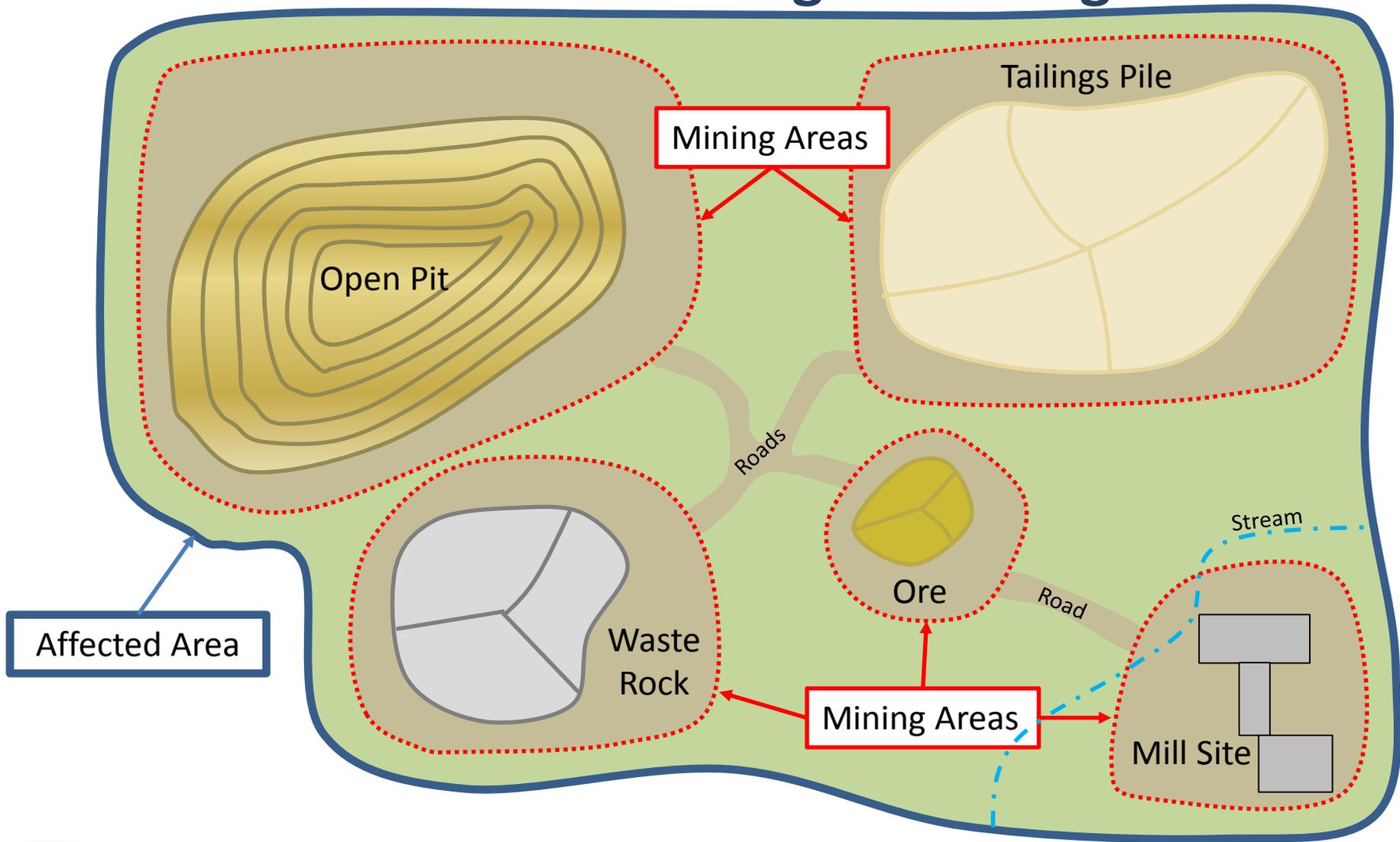
Where words are already defined in the framework law or other environmental protection laws of the state, the definitions in the proposal are consistent with these definitions. Some of the key definitions in Chapter 200 include:

**“Mining Area.”** Since this definition is in statute, the Department can only clarify its application. The new proposal adds:

**Mining Area.** “Mining area,” or “metallic mineral mining area” means ...are located. Each mining activity or operation shall establish a separate mining area. The Applicant shall propose, and the Department shall approve the location and extent of each mining area.



# Metallic Mineral Mining Site - Diagram



# Chapter 200

## General Provisions

### Definitions

- **Mine Waste.** “Mine waste” means all material, including but not limited to, overburden, rock, lean ore, leached ore, or tailings that in the process of mining and beneficiation has been exposed or removed from the earth during advanced exploration and mining activities.
- **Active Treatment System.** “Active treatment system” or “active treatment” means a system that treats water or wastewater with the active addition of chemical reagents or the application of external energy. Active treatment does not include periodic inspections and routine maintenance such as the mowing of vegetation.



# Chapter 200

## General Provisions

### Definitions

- **Passive Treatment System.** “Passive treatment system” means the process of removing metals, acidity or both, through the use of chemical, biological, and physical removal processes that occur naturally in the environment such as topographical gradient, microbial metabolic energy, photosynthesis and chemical energy that do not require power or chemicals after construction and operates successfully over its design life with regular but infrequent maintenance.
- **Perpetual Treatment.** “Perpetual treatment” means active treatment for more than 10 years post-closure.
- **Wet Mine Waste Unit.** “Wet mine waste unit” means a mine waste unit that uses water as a cover to minimize oxygen advection and diffusion to Group A waste in a manner that effectively inhibits formation of acid rock drainage. Wet mine waste units shall not be used for storage or treatment of mine waste after closure.



# Chapter 200

## General Provisions

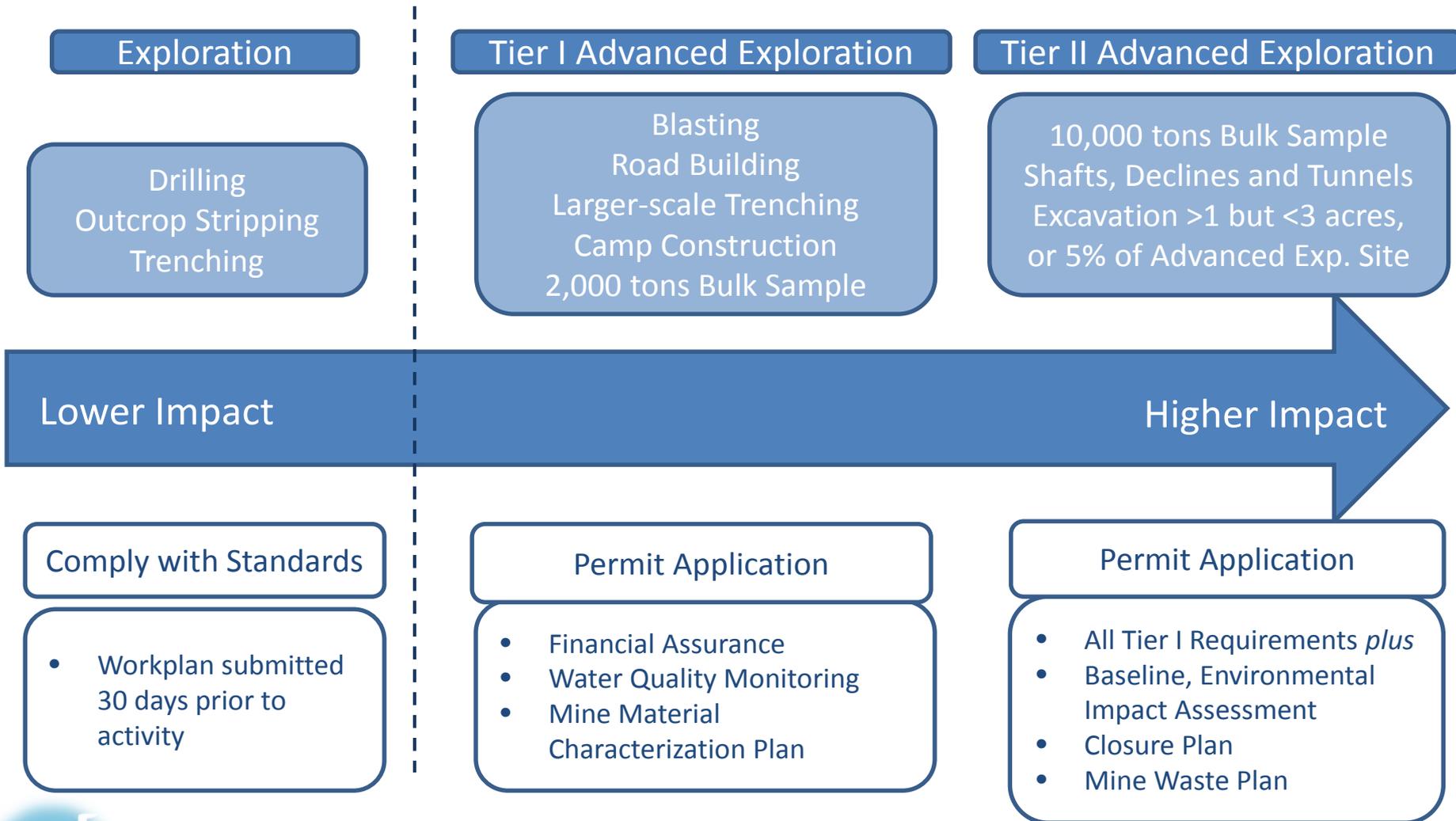
### Relation to Other Rules

- A Permittee must comply with all other applicable local, state or federal ordinances, regulations and statutes (e.g., the Natural Resources Protection Act, air emissions and water discharge licensing requirements)
- Municipalities may regulate or control mining or reclamation activities
- Municipalities may regulate the transportation of ore, rock, tailings and other mining-related materials on public streets and roads in order to protect the public health, safety and welfare



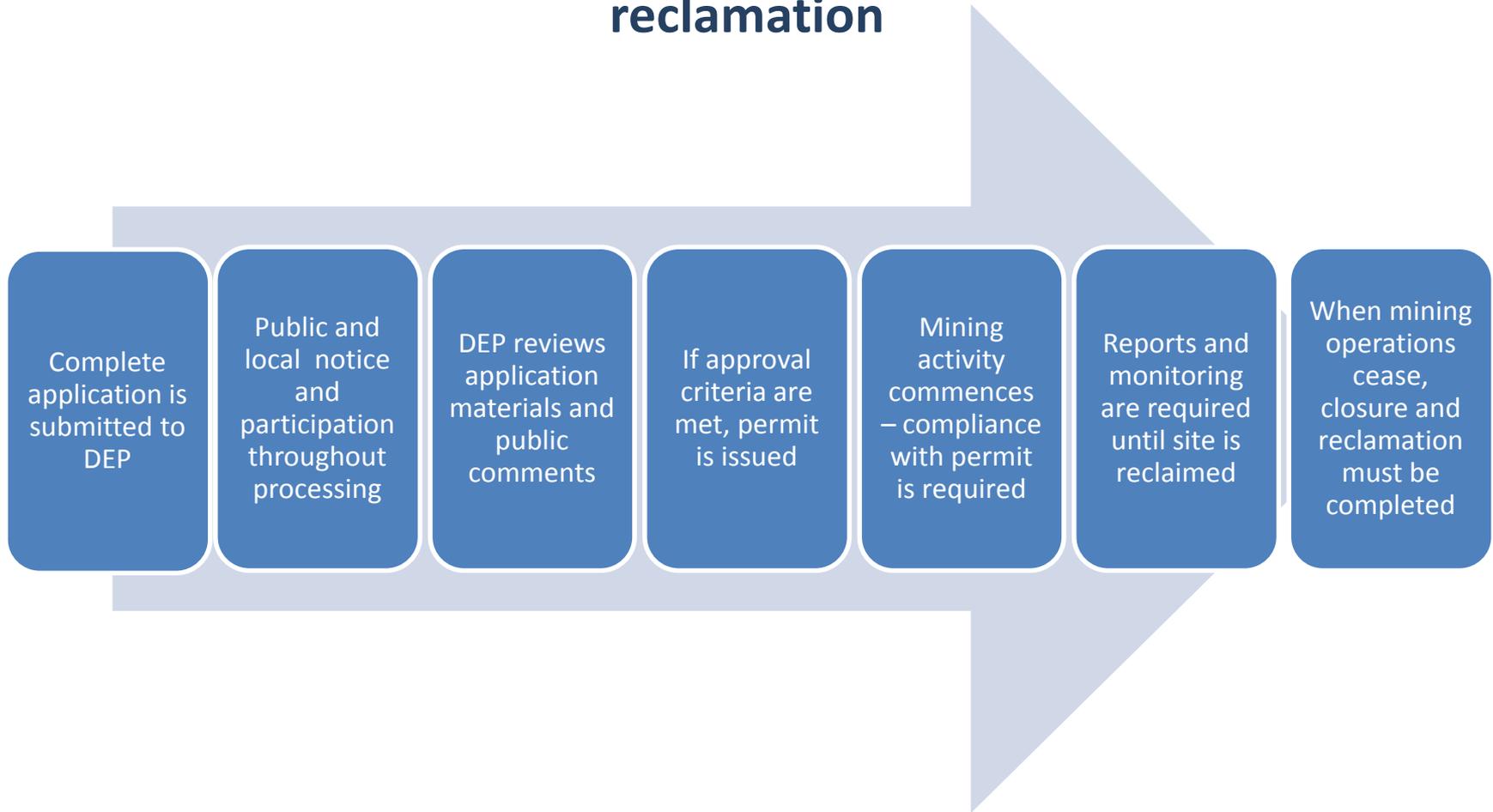
# Chapter 200

## Subchapter 2: Exploration and Advanced Exploration



# Chapter 200

## Regulation of Mining Activity – from permit application to reclamation



# Chapter 200

## Application Requirements

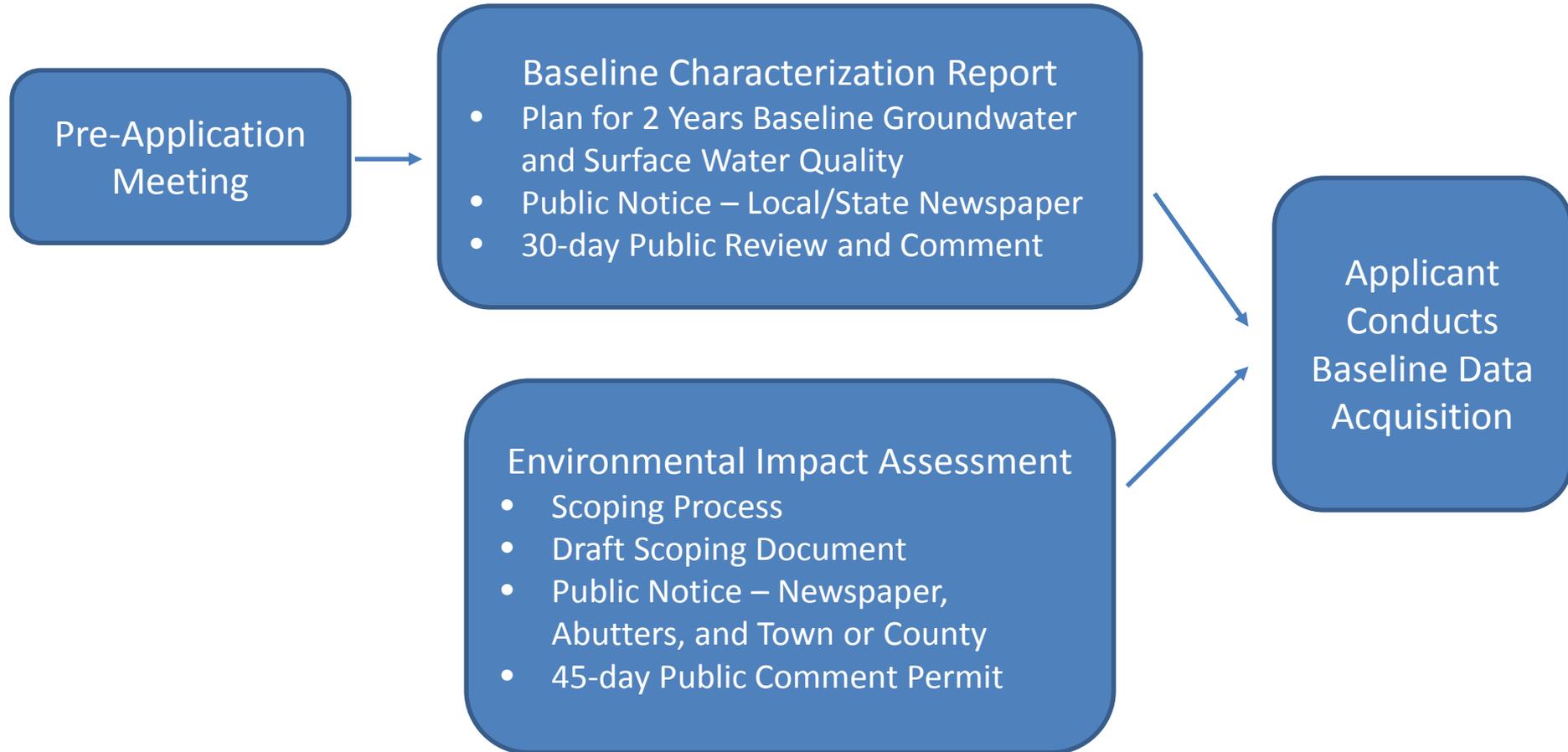
### Public and Local Participation

#### Public and local participation opportunities

- Specific requirements in statute 38 MRS §490-00(6)
  - Mandatory Adjudicatory Hearings
  - Advanced Notice for Intervenor Status/Grant Assistance
- Public notification and participation requirements in draft Chapter 200
  - Baseline Work Plan
  - Draft Scoping Document for EIA
  - Advance notice of intent to file
  - Notice of intent to file
  - Mandatory adjudicatory hearing
- Public participation also governed by statute at 5 MRS Chapter 375: *Maine Administrative Procedure Act* & in the Department's Chapter 2: *Rule Concerning the Processing of Applications & Other Administrative Matters* and Chapter 3: *Rules Governing the Conduct of License Hearings*

# Chapter 200

## Pre-Application Phase “Front-Load” Process



# Chapter 200

## Application Requirements

### Public and Local Participation

- **Intervenor Opportunities**
  - General intervenors- A request for general intervenor status may be filed on any advanced exploration or mining application. These petitions are governed by the MAPA and the Department's Chapter 3 rules.
  - Municipal and county intervenors- The Mining Act establishes this additional category of intervenor. These intervenors are also eligible for reimbursement grants not to exceed \$50,000 per project.
  - Both general and municipal and county intervenors have access to proposed mining sites.
- **Public Information website-** The application, review comments and supplemental application materials will be made available on the Department's website.



# Chapter 200

## Subchapter 4

### Financial Assurance and Insurance

Financial assurance is required so that the public will not bear the cost of any reclamation, closure, post-closure maintenance and monitoring or corrective actions associated with the proposed mine. All financial insurance must be fully funded prior to the issuance of a mining permit and is subject to public review through the application process.

- Required for all advanced exploration and mining activities
- Failure to maintain financial assurance constitutes grounds for the immediate suspension of all mining activities including the removal of metallic product from the site
- Financial assurance must be available and payable to the Department when needed, and must be fully valid, binding, and enforceable under state and federal law, and structured to prevent its discharge through bankruptcy



# Chapter 200

## Financial Assurance and Insurance Coverage

- Financial assurance must be:
  - Sufficient to administer all activities necessary for investigation, reclamation, closure, post-closure; and maintenance and monitoring, or corrective actions
  - Adequate for the Department to hire a third party to implement these activities.
- Financial assurance includes a 20% contingency to account for unexpected expenses.



# Chapter 200

## Financial Assurance and Insurance

### Financial Assurance Mechanisms

- All financial assurance must be held in an independent trust fund that is payable only to the Department. For mining operations that may produce acid leachate, hazardous wastes or release soluble pollutants concentrations exceeding groundwater or surface water standards only cash, negotiable bonds, certificates of deposit or an irrevocable letter of credit may be used to fund the trust.
- Mining operations that will produce only wastes that will not violate water quality standards (other than turbidity) may fund the trust with additional forms of financial assurance including surety bonds.



# Chapter 200

## Financial Assurance and Insurance

### Release of Financial Assurance

The Department will only release the financial assurance if an applicant demonstrates that any and all remaining problems are identified and corrected. Requirements include:

- Public notice requirements;
- Release inspection by Department, other state and federal agencies (including IF&W and DACF) and any persons who have requested advance notice of the inspection; and
- Public hearing- Any person may request a public hearing on the proposal to release all or part of the financial assurance.



# Chapter 200

## Financial Assurance and Insurance

### Forfeiture of Financial Assurance

If a Permittee refuses or is unable to conduct or complete reclamation, closure, post-closure maintenance and monitoring, and corrective actions, if the terms and conditions of the permit are not met, or if the Permittee defaults on the conditions under which the financial assurance was accepted the financial assurance will be forfeited to the Department.



# Chapter 200

## Subchapter 5: Mining Standards

### Performance Standards

All units must be designed, constructed, operated and maintained to:

- Meet the performance requirements for groundwater, surface water, air, soils, and surficial materials established by Chapter 200;
- Minimize acid generation, prevents metal leaching, ARD within the Mining Area;
- Provide structural stability;
- Protect public health and the environment, including all applicable air and water standards; and
- Eliminate the need for perpetual treatment following closure.



# Chapter 200

## Subchapter 5: Mining Standards

### Siting

#### Siting Restrictions include:

- The removal of ore in, on or under great ponds, rivers, brooks and streams, and coastal wetlands as defined in 38 M.R.S. § 480-B is prohibited, except that gold panning and recreational motorized gold prospecting are permitted pursuant to 38 M.R.S. §§ 480-Q(5) and 480-Q(5-A) .
- No surface mining within 1 mile, and no underground mining within  $\frac{1}{4}$  mile of the jurisdictional limits of the following unless the applicant can demonstrate that there are sufficient topographical features to protect the resource, the environment and public health and safety:
  - National and state parks;
  - National wilderness areas;
  - National wildlife refuges;
  - The Allagash Wilderness Waterway;
  - State-owned wildlife management areas;
  - State or national historic sites;
  - Rivers designated as critical habitat for Atlantic salmon;
  - One of 66 ponds identified as having outstanding or significant scenic values in the “Maine’s Finest Lakes”; and
  - One of 280 great ponds designated as outstanding or scenic in the “Maine Wildlands Lakes Assessment”.

*These setbacks only apply unless and until another state or federal agency with management authority determines that mining is allowed in, on or under the resource*



# Chapter 200

## Subchapter 5: Mining Standards

### Reactive Mine Material Characterization and Classification

How is Mine Waste Characterized and Classified?

- Mine waste is tested to determine metal leaching & ARD
- Classification system is based on risk: Group A, B or C
- Design requirements & financial assurance is based on mine waste classification system.
- Use of active treatment limited to no more than 10 years



# Chapter 200

## Subchapter 5: Mining Standards

### Mine Waste Management Systems

- Reactive mine waste and designated chemical materials management systems must provide for containment, unless the material has been neutralized or stabilized and will not cause a direct or indirect discharge of pollutants.
- Reactive mine waste and designated chemical materials management systems must be designed and operated to prevent the contamination of groundwater and surface water or generation of acid rock drainage above the primary drinking water standards, applicable water quality-based license conditions, or groundwater quality baseline conditions.



# Chapter 200

## Mining Standards

### Monitoring and Reporting

- Proposal includes comprehensive monitoring and reporting requirements for groundwater, surface water, air quality and biological resources
- Monitoring within the mining area
  - Existing surface-water quality standards apply
  - No standards for discharges to groundwater
  - Groundwater quality must be such that it does not cause or contribute to nonattainment of or noncompliance with the surface-water quality standards in article 4-A or section 414-A or 420



# Chapter 200

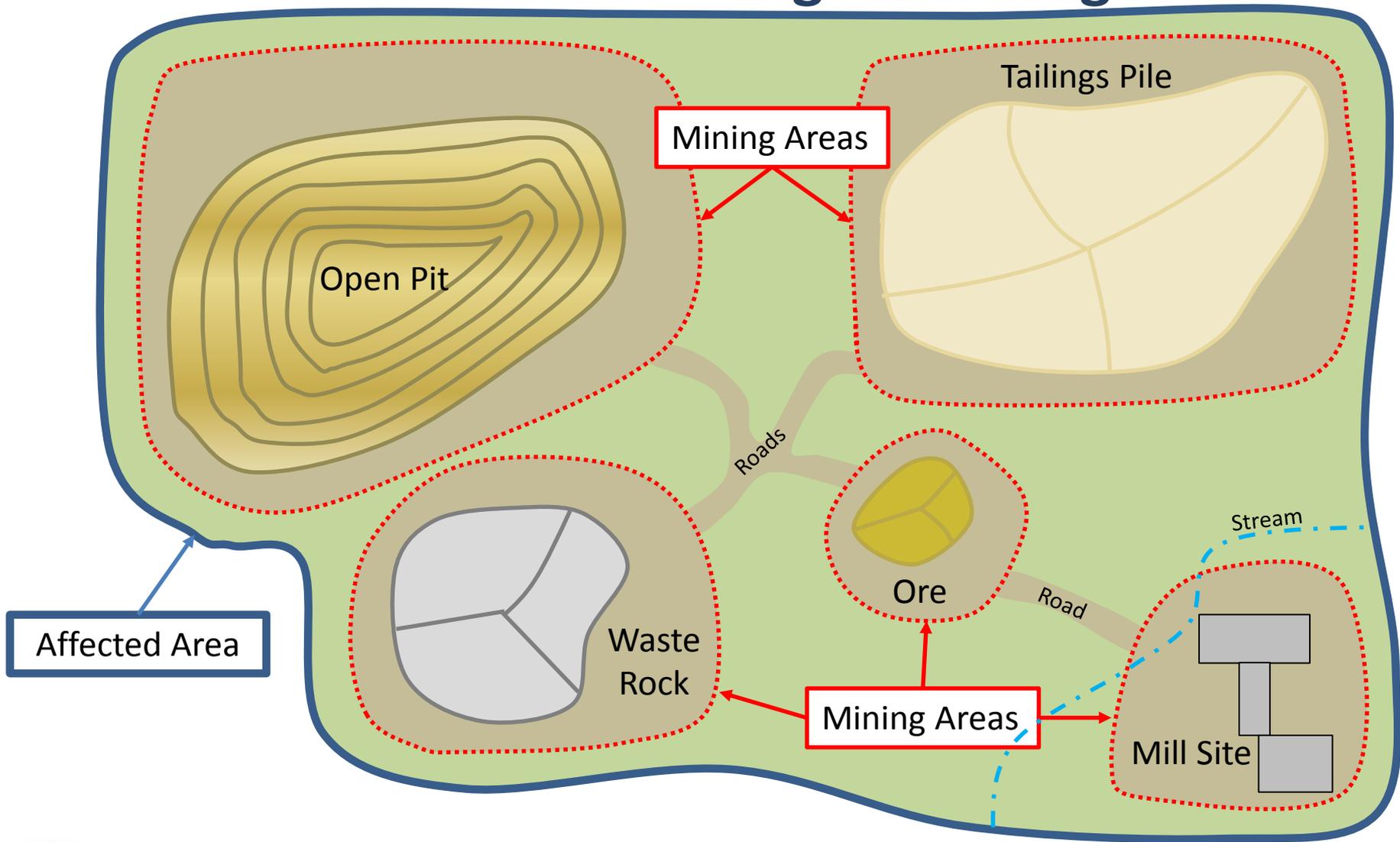
## Mining Standards

### Monitoring and Reporting

- Groundwater monitoring wells must be placed as close as practicable to all mining operations, but in no case greater than 100 feet away, unless placing additional wells at a greater distance enhances the ability to detect a release as determined by the Department.
- Points of compliance for groundwater standards are the downgradient boundaries of all mining operations as they exist at the time any sample is collected.
- The Department may require groundwater monitoring within any mining area it determines necessary to assess the performance of pollution control measures or the potential for contamination.
- The Department may require groundwater monitoring at any location to determine the potential for groundwater discharges to surface waters that would cause or contribute to nonattainment of applicable water quality criteria.



# Metallic Mineral Mining Site - Diagram



# Chapter 200

## Mining Standards

### Monitoring and Reporting

- Groundwater monitoring for all parameters, except specific conductance and pH, must take place at least quarterly and monitoring results must be submitted within 10 days.
- Department may require continuous groundwater monitoring of certain parameters, including pH and specific conductance, in groundwater seepage to engineered facilities.
- Continuous monitoring results exceeding any established parameter must be submitted electronically within 24 hours.



# Chapter 200

## Mining Standards

### Monitoring and Reporting

- Surface water and sediment monitoring is required for all parameters on a monthly basis, except that continuous monitoring is required for certain parameters including, but not limited to: water depth, specific conductance, pH, temperature and dissolved oxygen.
- Monthly monitoring results must be submitted within 10 days of the end of each month, and continuous monitoring results exceed any established parameter must be submitted electronically with 24 hours.



# Chapter 200

## Subchapter 6

### Mining Inspection, Recordkeeping and Reporting Requirements

- All phases of the mining operation must be inspected by qualified professionals in accordance with the quality assurance plan to ensure compliance:
  - Mining areas and affected areas must be inspected at least quarterly;
  - During the post-closure monitoring period, mining areas must be inspected at least twice per year; and
  - Monitoring reports must be submitted to the Department along with plans for any necessary corrective measures.



# Chapter 200

## Subchapter 6

### Mining Inspection, Recordkeeping and Reporting Requirements

- An updated mining and reclamation report must be filed annually and include:
  - An updated contingency plan;
  - A description of completed reclamation activities;
  - Groundwater, surface water and biological monitoring results;
  - A description of any proposed amendments to the amount and type of financial assurance;
  - A list of incidents, acts of nature and violations during the previous year; and
  - An evaluation of the mine's operations to verify compliance with approved plans, licenses, and regulatory requirements.



# Chapter 200

## Subchapter 8

### Violations

- The Permittee may be ordered to correct any violation within 10 days.
- The Department may also pursue enforcement action in accordance with 38 M.R.S. Sections 347-A, 348 and 349.
- If a violation is causing or resulting in an imminent or substantial endangerment to environment, natural resources or public health and safety, the Department may take additional actions.
- Revocation of a permit or suspension does not relieve the Permittee of their obligation to take measures to protect the environment, natural resources and public health and safety.





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