Berkshire Regional Planning Commission
Clearinghouse Review Report

DRAFT June 20, 2013

SUBJECT:	**Environmental Remediation of 100 Bridge Street (Former New England Log Homes)**
EOEEA#:	**15059**
LOCATION:	**Great Barrington**
ESTIMATED COST:	**Unknown**
REVIEW TYPE:	**ENF**
PROPONENT:	**Community Development Corp. of South Berkshire**
COMMENTS DUE:	**July 2, 2013**

PROJECT DESCRIPTION:

Site Description

The former New England Log Homes property consists of 8.0 acres bounded northerly by Bridge St, easterly by Bentley Ave, southerly by the Great Barrington Wastewater Treatment Plant and westerly by the Housatonic River.

This "brownfield" site was used industrially for most of the 20th century but has been vacant for approximately 20 years. A fire in March 2001 destroyed approximately half of the vacant New England Log Homes buildings; the remaining buildings were demolished in 2012. The historical industrial activities performed at the site released dioxins, pentachlorophenol (PCP), metals, and/or petroleum hydrocarbons to the upper layer of the soil and/or to groundwater. The site is subject to the Massachusetts Contingency Plan (RTN 1-0682). The currently proposed project is intended to remediate the contamination on the site and allow it to be redeveloped in the future for a Mixed Use Development.

Most of the site is a flat compacted gravel industrial yard which was used by New England Log Homes for storage and laydown area; some young second growth trees have grown up since the site was abandoned. A line of mature trees encircles the site.

Required Permits & MEPA Thresholds

The project will require an Order of Conditions from the Great Barrington Conservation Commission (already issued), MESA Review for Rare and Endangered Species (No Take Letter already issued), US Army Corps of Engineers Section 404 Category II General Permit, Massachusetts Department of Environmental Protection (MassDEP) Section 401 Water Quality Certification, Massachusetts Historical Commission Project Notification Form, US Environmental Protection Agency NPDES Construction Permit, MassDEP Bureau of Waste Site Cleanup Tier I Permit and compliance with the Massachusetts Contingency Plan. The project has reached the MEPA review threshold for an ENF through alteration of greater than 5,000SF of bordering vegetated wetlands.

Description for Bio-Remediation

The Remediation of the Former New England Log Homes Site is proposed to be accomplished primarily through an innovative *in-situ* bio-remediation process - essentially a farming operation -which will stimulate the indigenous bacteria in the soils to break down the contaminants (which are generally concentrated in the upper 12" of the soils). The shallow soils across the entire site area are required to be remediated, including the two wetland areas. The river bank is not required to be remediated. As noted above, the Great Barrington Conservation Commission has issued an Order of Conditions for the project and the restoration/replication of the wetlands. Any future redevelopment on the site will **be** subject to a new Notice of Intent.

The site will be prepared for the Bio-Remediation process by installing erosion and sedimentation controls, decommissioning existing monitor wells, capping catch basins, and removing trees and stumps within the Work Limits. Trees and other vegetation and stumps will be cleaned, chipped, and disposed of off-site. Trees along the river bank will remain with the exception of some dead trees, hazard trees or invasives, which will be flush cut and carefully removed leaving the stumps in place. Low earthen berms will be installed at low points along the top of the river bank to retain surface water runoff on the site. Several exiting stockpiles of bricks, concrete and wood chips will either be relocated to a section of the property that which can be remediated in a later phase of the work, or cleaned**,** crushed, and removed from the site for proper off-site disposal. The brick, concrete and wood chip stockpiles have been tested and are not considered to be remediation waste; residual soil on the stockpiled material will be cleaned off before crushing and off-site disposal. The soils surrounding the old main building will be tested to confirm that residual asbestos does not remain from the demolition. If any asbestos is found, the soil in the affected area will be segregated for proper handling.

A temporary “farm-type” irrigation system will be installed around the perimeter of the property, drawing water from a temporary intake float in the Housatonic River. The irrigation system will be used for dust control and to maintain adequate soil moisture content. It is expected that an average of 30,000 gallons per day will be withdrawn during the 10-12 week bio-remediation process in 2013. The withdrawal is expected to be much less in 2014 due to the anticipated smaller surface area requiring bio-remediation treatment. An irrigation monitoring and operation plan has been developed in consultation with NHESP and the Great Barrington Conservation Commission.

The soils on the site will be broken up with a 'ripper' to a depth of about 18". Large rocks and any remaining concrete foundations will be removed, cleaned of soil, crushed and properly disposed of as construction debris at an off-site location. Upon completion of the site preparation, the area within the Work Limits - including the two wetland areas on the site - will be tilled/plowed by a tractor making multiple passes. When needed, the irrigation system will be periodically cycled to control dust and to optimize the moisture content of the soil.

Soil amendments in the form of compost, manure, urea nitrogen and lime will be surface applied across the site and tilled into the soil to increase total organic carbon (TDC) and promote rapid reproduction of the indigenous soil bacteria and facilitate effective bio-degradation of the contaminants. Then an enzymic "Factor" will be applied. This is a proprietary formulated product designed and prepared by BioTech Restorations LLC to separate the chlorine bonds of the contaminants in the soil and allow the natural bacteria to digest the organic material and break down the chemical compounds. The Factor will be incorporated into the soil by multiple passes of the cultivator/tiller and the site irrigated to maintain levels that are optimum for the soil bacteria. At 7 to 10 day intervals following the initial treatment, the site will be tilled/plowed to maintain aerobic conditions. Monitoring and testing will occur prior to and during the treatment period which is estimated to run for about 10 to 12 weeks from August through mid-October of 2013.

At the end of the growing season the treated soil will be sampled to determine concentrations of dioxin, PCP, etc., remaining in the treated soils. Should the concentrations remain above the risk-based cleanup goal, a determination will be made about which follow-up alternative(s) to implement during 2014. Follow-up alternatives include: continue bio-remediation during a second growing season; move affected soils to the southern portion of the site where redevelopment is expected to be several years in the future and continue bio-remediation there; or move soils with concentrations exceeding the cleanup goal to location(s) on site where future permanent structures (pavement and/or building slabs) or clean soil cover will prevent contact or exposure.

Biotech restorations LLC has recently completed a “bench study” of the bio-remediation process on a sample of the soil from the site to verify the formulation and volumes of Factor compost, manure, nitrogen, lime and water, and the estimated duration of treatment that is likely to be required. Ransom Consulting, Inc., the project's LSP, is in the process of updating the previously submitted Phase III Remedial Action Plan and Phase IV Remedy implementation Plan for resubmittal to MassDEP. These documents provide the detailed analysis of applicable remedial approaches, the results of the feasibility study, the results of the bench study and design details for the full-scale implementation of the proposed Bio-Remediation process and potential follow-up alternatives.

CONSIDERATIONS AND POTENTIAL ISSUES:

<u>Environmental Impacts</u>

Rare Species Habitat
A portion of the property along the Housatonic River is mapped as Priority Habitat for Rare Species and Estimated Habitat for Rare Wildlife. Species known to occur include Clubtail Dragonfly, Zebra Clubtail, Spine-Crowned Clubtail, Longnose Sucker, Creeper, and Triangle

Floater. The proponents have consulted with NHESP about the project. NHESP has issued a No Take Determination for the site remediation work.

Riverfront
The site is bounded on the west by the Housatonic River and includes a total of 3.56 acres of Riverfront area. The buildings removed in 2012 from the site within the historic mill complex occupied a total of 43,929 sf within the Riverfront area: 14,671 sf in the inner 100 foot zone and 29,258 sf in the outer 100 foot zone. Several other structures, driveways, and other impervious surfaces were also removed, some within the riverfront area, others outside the riverfront. The proposed bio-remediation does not include Riverfront.

Wetlands
There are two wetland areas on the project site: a bordering vegetated wet meadow wetland in the southeast quadrant of the site with an area of 12,996 s.f.; a manmade ditch forms an intermittent stream outlet to the river. A second linear ditch wetland measuring 4,432 s.f. carries runoff from Bentley Avenue and its uphill drainage area to a culvert the runs beneath the site and discharges to the river. Testing on the site indicates that the soils in both of the wetlands are contaminated with dioxins and must be remediated. An Order of Conditions has been issued by the Great Barrington Conservation Commission for the proposed remediation project including the alteration of the wetland and restoration/replication of the wetlands. The proponent is proposing to create a single 18,000 s.f. restoration/replication area to compensate for the alteration of the two existing wetlands. The larger 13,000 s.f. wetland will be restored in place as a wet meadow. The smaller 4,400 s.f. linear wetland is proposed to be replicated adjacent to the larger wetland and planted with a mix of shrubs and trees.

<u>Alternatives Analysis</u>

The remediation of the contaminated soils on the site is mandated by the Massachusetts Contingency Plan (MCP). Studies and analyses have been conducted on the site for over 10 years, and many alternatives have been studied and reported to MassDEP. As recently as the fall of 2012, DEP agreed that no permanent on-site treatment was feasible and the only feasible alternative for a temporary solution was to install a 2-foot thick cap on the site to prevent exposure. Phase III and Phase IV Plans for the full capping were submitted to MassDEP in 2011. Since the capped site includes wetlands and floodplains, the capping alternative would require wetland replication and compensatory flood storage at another off-site location.

The Proponent is proposing an innovative process for bio-remediation of the dioxins, PCP, and other contaminants as described above. Recent bench studies of the process are reported to be favorable. This methodology is expected to allow the contaminated soils in the wetlands to be remediated and ultimately restored and replicated on site. The floodplain filling that would have been required by the 2-foot thick cap will also be significantly reduced. It is expected that a cap (building pad, pavement, soil cover, etc.) will still be required to prevent exposure to any

residual contamination, but that the cap thickness can be reduced by lowering the residual concentrations and incorporating the cap elements into the proposed redevelopment.

The design of the future redevelopment project will have to take special account of grading within the floodplain. Some on-site compensatory flood storage is available near the southeast corner of the site, and some was reserved from the previous demolition. It is expected that the final cover would be constructed at a later date as part of the future mixed use redevelopment on the site. In the interim, the site will be fenced and vegetated to prevent exposure. The bioremediation process will not address contaminated groundwater but a Permanent Solution is anticipated for soil at the Site. A Temporary Solution is anticipated for groundwater at this time. An Activity and Use Limitation (AUL) will be placed on the completed site.

COMMENTS AND RECOMMENDATIONS:

This project does not exceed any mandatory EIR thresholds, and BRPC does not believe that it warrants an EIR. We believe that conditions placed on the project during the local, state and federal permitting processes will protect the natural resources of the area to the extent possible.

However, BRPC staff have a number of questions for which we are looking to MEPA to provide clarification. The questions consist of the following:

- Is it segmenting to submit an ENF for the remediation only and not include the redevelopment?
- What is the process with MEPA if additional work is needed to remediate the site? Can a Notice of Project Change be required in such a case? Even if the method of remediation is substantially different?
- Can a Notice of Project Change be required to include the impacts resulting from the redevelopment of the site when redevelopment plans are finalized?

In addition, BRPC staff have the following questions for the Proponent:

- Has disposing of contaminated soils off-site been considered?
- Why is moving contaminated soils from one portion to another and then capping that area being proposed rather than disposing of the contaminated soils?
- How is groundwater contamination being addressed? Is there a plan for a Permanent Solution?
- Is there enough compensatory flood storage available on site? If not, how is this being addressed? Can you quantify the reduction in the amount of needed compensatory flood storage as a result of bio-remediation as an alternative to capping?