

DEP BWSC LEVEL 1 AUDIT FORM – PERMANENT & TEMPORARY SOLUTIONS (PTS)

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Lead RTN: 1-20114		
SUBMITTAL TYPE	Release description (Source, OHM, Media):	Date PTS Rcvd: <u>5/31/17</u>
<input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Temporary Solution <input type="checkbox"/> Partial <input type="checkbox"/> Revised <input checked="" type="checkbox"/> No Conditions <input type="checkbox"/> With Conditions: <input type="checkbox"/> AEPMM <input type="checkbox"/> AUL Other:	2 former ASTs released fuel oil to basement during removal. Soil and concrete were impacted. Site Use: Vacant apartment building	Date Screened: <u>9/11/17</u> Reviewer: <u>J. Ziegler</u> Related RTNs: _____

Town: Holyoke	Site Name: Former Alpine Apartments
Address: 123 Pine Street	LSP Name/#: Dalton #1450
PRP/OP: City of Holyoke	Consulting Firm: GZA GeoEnvironmental, Inc.

Check all that apply based on site conditions present at time of PTS submittal

	Yes	No	?	Page
I. SITE CONCERNS				
A. Indoor Air				
1. <input checked="" type="checkbox"/> Applicable GW-2 standard exceeded at residence/school with no soil gas/indoor air sampling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. <input checked="" type="checkbox"/> Site contaminants impacting indoor air	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B. Drinking Water/Groundwater				
1. <input checked="" type="checkbox"/> > ½ inch NAPL present in monitoring well(s) at property with residence/daycare/school	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Site located within PDWSA, IWPA, or Zone II	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Private or non-municipal (TNC, NTNC) public well(s) located within 500 feet of site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Municipal well(s) located within 1000 feet of site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. <input checked="" type="checkbox"/> Private well contaminated as a result of site, and is still in use (no filter, no public water, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. <input checked="" type="checkbox"/> Public water supply contaminated as a result of site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. SRM condition in groundwater with no control of plume migration	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C Contaminated Soil At a School or Residence				
1. EPC in S-1 soil exceeds Method 1 Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Bioaccumulating compounds (i.e. mercury, lead, PCBs, etc.) detected in soil < 1 foot deep	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. <input checked="" type="checkbox"/> OHM concentrations > IH levels (in mg/kg) in soil < 1 foot deep: arsenic (40), cadmium (60), hexavalent chromium (200), cyanide (100), mercury (300), methyl mercury (10), or PCBs (10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
D. Environmental Concerns				
1. Site located within 500 feet of surface water and/or wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Site located within 500 feet of endangered species habitat, ACEC, and/or certified vernal pool	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Confirmed contamination of surface water, sediments, and/or wetlands with site contaminants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
E. Primary Site & Area Use (if multiple uses are present, choose the most sensitive one)				
1. Industrial use or public Right of Way (no children likely to be present)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Commercial (limited presence of children)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. School/institution (pre-K through high school, not college/university)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Residential (frequent presence of children assumed)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F. Released OHM				
1. Petroleum fuel oils (e.g. #2, #4, #6, JP-4, JP-8, kerosene, lube oil, MODF, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Gasoline, waste oil, light aviation fuel (AVGAS, Jet A, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Metals, coal tar, PCBs, dioxins, pesticides/herbicides, asbestos, cyanide	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Chlorinated solvents, perchlorate, 1,4-dioxane, PFOS, or other organic compounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G. Site Complexity				
1. Co-mingled plumes (i.e., from different sources, one or more releases co-mingled)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Bedrock contamination detected or likely	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

NOTE: If conditions currently exist, see supervisor to discuss.

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II. TECHNICAL ADEQUACY		Citation(s)	Yes	No	?	NA	Page
A. Remedial Response Actions:							
1.	Documentation (BOL, HWM, etc.) of contaminated soil removal/treatment was provided	40.0030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Remediation waste was properly managed: Air (>95%), GW (permit), SW (NPDES)	40.0031-40.0049	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Source/Extent Investigations:							
1.	History of OHM use/storage/disposal at the site is included	40.0405(1), 40.0835(4)(c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Potential source(s) identified, characterized, or abated (septic leach field, floor drain, AST, etc.)	40.0923(2), 40.1003(5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.	All migration pathways were evaluated (soil, groundwater, surface water, air, sediment, food)	40.0904(2)(c)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Extent of contamination defined in all media (especially downgradient)	40.0904(2)(a), 40.1003(5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Site-related OHM (VPH/EPH, VOCs/SVOCs, metals, etc.) analyzed for and/or characterized	40.0904(3), 40.0926(1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Proper sample collection technique/preservation/analysis/QC/data reporting, etc.	40.0017	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Risk Characterization:							
1.	Correct risk characterization method used (relative to indoor air, surface water, sediment, etc.)	40.0941, 40.0942	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	All receptors (human, environmental) accounted for, unless an AUL was implemented	40.0921, 40.0922	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Site activities and uses (current, future) were identified and any limitations were discussed	40.0923	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Exposure points identified (GW & soil for all RC Methods, other media for Methods 2 & 3)	40.0924	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Soil and groundwater categories were properly identified	40.0930	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.	All exposure pathways (inhalation, ingestion, dermal, etc.) were identified and evaluated	40.0925	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.	Hot Spot(s) identified and addressed, and were not included with other EPCs	40.0924(4), 40.0926(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8.	EPC calculation(s)/equations provided (including spatial or temporal avgs., percentiles, etc.)	40.0926(1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9.	EPCs were properly calculated (max. conc., upper confidence limit, 75%/10x Rule met, etc.)	40.0926(3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10.	Background identified or characterized	40.0904(2)(b), 40.1020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11.	Applicable soil and/or groundwater standards not exceeded (Method 1 or 2) or AUL applied	40.0973(7), 40.0988(2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12.	Characterization of Risk to Safety is included (all methods)	40.0960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13.	Method 3 Public Welfare Risk Characterization is included	40.0994	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
14.	Method 3 Environmental Risk Characterization (Stage 1 or 2) was completed, if applicable	40.0995	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15.	Method 3 Human Health – NSR demonstrated: HI < 1, ELCR < 1x10 ⁻⁵	40.0993(6),(7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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III. General Permanent & Temporary Solution (PTS) Requirements		Yes	No	?	NA	Page
1. Correct type of PTS Statement was submitted		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1030 - 40.1050
2. Site boundaries are delineated and referenced to permanent landmarks or surveyed boundaries		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1003(4) & 40.1056(2)(a)
3. Relationship of this PTS to other PTS's filed for the site was identified, if applicable, together with a statement indicating whether additional response actions are needed at any other portions of the site		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1056(1)(d)
4. A Data Usability Assessment is included and the data are scientifically valid & defensible, and sufficiently precise, accurate, and complete to support the PTS Opinion		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1056(1)(k) & 40.1056(2)(k)
5. A Data Representativeness Evaluation is included which documents that the data are spatially and temporally adequate to support the PTS Opinion		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1056(2)(k)
A. Requirements for All Permanent Solutions						
1. A condition of No Significant Risk (NSR) exists or has been achieved		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1040(1)(a)
2. All OHM sources have been eliminated or controlled		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1040(1)(b)
3. Control of dissolved and/or vapor-phase OHM has been achieved as specified in 40.1003(6)(a)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1040(1)(c)
4. NAPL, if present, has been addressed as specified in 40.1003(7)(a)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1040(1)(d)
5. A background feasibility evaluation prepared i/a/w 40.0860 is included which demonstrates that OHM concentrations have been reduced to as close to background as feasible		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1020(3) & 40.1040(1)(f)
B. Requirements for Permanent Solutions with No Conditions						
1. OHM concentrations do not exceed UCLs in soil or groundwater, unless the levels are consistent with Natural Background		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1041(1)(b)
2. The condition of NSR will be maintained without reliance on assumed limitations of future site activities or uses, with or without an AUL		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40.1041(1)(c)
3. (TORs only) Response actions have eliminated all Threats of Release, and an OHM release to the environment has not occurred		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1041(1)(d)
C. Requirements for Permanent Solutions with Conditions (see AEPMMs requirements below, if applicable)						
1. OHM concentrations do not exceed applicable UCL(s), unless they are consistent with Anthropogenic Background or the OHM is located at ≥ 15 feet below grade or beneath an engineered barrier, and it is not feasible to reduce OHM concentrations to below UCL(s)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.0860(4) & 40.1041(2)(b)
2. The condition of NSR relies on assumed limitations of future site activities and use		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1041(2)(c)
D. Requirements for Temporary Solutions (see AEPMMs requirements below, if applicable)						
1. A condition of No Substantial Hazard exists		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1050(1)(a)
2. Sources of OHM have been identified, characterized, and to the extent feasible eliminated or controlled		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40.1050(1)(b) & 40.1003(5)(a)&(c)

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3. Control of OHM plume in groundwater and/or of vapor-phase OHM in the vadose zone have been achieved to the extent feasible	40.1050(1)(c) & 40.1003(6)(b)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
4. NAPL, if present, has been addressed as specified in 40.1003(7)(b)	40.1050(1)(d) & 40.1003(7)(b)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
5. Phase II and Phase III reports were submitted, or DPS Opinion was submitted	40.1050(2)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
6. A valid Phase III evaluation concludes that either response actions are not currently feasible or are feasible and need to be continued toward achievement of a Permanent Solution	40.1050(1)(e)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
7. A plan is included that presents definitive and enterprising steps toward a Permanent Solution	40.1050(4)(a) or (5)(a)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
8. For Temporary Solutions where response actions were determined to be feasible, a valid Tier Classification was in effect when the Temporary Solution was submitted and will be maintained while response actions are being conducted	40.1050(5)(b) & 40.0800	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
E. Requirements for Permanent or Temporary Solutions with Conditions Involving AEPMMs		
1. The Permanent or Temporary Solution Statement clearly stated that achievement of a condition of NSR or NSH is based on the operation of one or more AEPMMs	40.1056(1)(g) or 40.1057(1)(f)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
2. Effectiveness of the AEPMM in eliminating OHM exposures, based on the measurement of EPCs representative of exposures to applicable receptors during system operation, was demonstrated prior to the Permanent or Temporary Solution being achieved	40.1025(2) or 40.1026(2)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
3. (PS only) The necessity of operating/maintaining an AEPMM i/a/w the operating regimen documented in the Permanent Solution Statement was specified in a Notice of AUL.	40.1012(2)(b) & 40.1025(3)(a)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
4. The operating regimen of the AEPMM is adequately designed to ensure that a level of NSR is maintained (TS: to the extent feasible), and includes details on monitoring methods and frequency, including remote monitoring telemetry of system failures, shutdown duration consistent with maintaining a level of NSR, and (PS only) that the RP has sufficient financial resources to maintain and repair the system	40.1025(3)(b)-(e) & (5) or 40.1026(3)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
5. (PS only) The AEPMM was not used to support a Permanent Solution with Conditions if an IH condition would exist at the site if system operation was suspended for 60 days or more	40.1025(4)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>