Line 1 Iron Bioreactor Treatability Study

Later this year the Iowa Army Ammunition Plant will be implementing a new mechanism to help treat the contaminated RDX (Royal Demolition Explosive) runoff at Line 1. We will be working with researcher, Dr. Heather Smith, from the U.S. Army Engineering Research and Development Center (ERDC), who has developed an iron Bioreactor as a specialized treatment system for contaminated water. The contaminated water will flow through a series of tanks where it will react with different agents including biochar, to filter out the RDX. The first tank will be placed up stream to allow flow control of the contaminated RDX water. The second tank will contain the biochar which will help break down the RDX. The third and final tank will evaluate the level of iron in the water and continue to allow the treated water to flow to the creek.

The iron bioreactor combines biological reduction of iron with the abiotic reduction of RDX. This system will provide a low-cost and low maintenance treatment option for contaminated surface water. (Continue to page 3.)
### IAAAP Building Demolition Status

- Phase 1: Phase is complete
- Phase 2: 95% complete
- Phase 3: Phase is complete
- Phase 4: Work has begun
- Phase 5: Funded and proposal requested
- Phase 6: Awaiting funding
- Phase 7: Awaiting funding

### IAAAP Building Demolition Summary

| Building Demos | 192 | SQFT: 272,403 |

<table>
<thead>
<tr>
<th>Phase</th>
<th># of Facilities</th>
<th>Area (SQFT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE 1</td>
<td>84</td>
<td>91,380</td>
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<tr>
<td>PHASE 2</td>
<td>75</td>
<td>88,766</td>
</tr>
<tr>
<td>PHASE 3</td>
<td>23</td>
<td>63,058</td>
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<tr>
<td>PHASE 4</td>
<td>74</td>
<td>113,533</td>
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<tr>
<td>PHASE 5</td>
<td>32</td>
<td>163,027</td>
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<td>PHASE 6</td>
<td>80</td>
<td>73,673</td>
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<tr>
<td>PHASE 7</td>
<td>18</td>
<td>112,312</td>
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<tr>
<td>TOTAL</td>
<td>386 Facilities</td>
<td>705,749 SQFT</td>
</tr>
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</table>

16.20 Acres

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### Demolition Photo Update

- Back Side of demo begins
- Final buildings of
- Final buildings in
- Abatement complete prior to demolition
Line 1 Iron Bioreactor Continued...

Biochar is buoyant. The contaminated water in the tank will induce mixing with the biochar.

The iron bioreactor combines biological reduction of iron with the abiotic reduction of RDX.
Commander’s Corner

We have an exciting event planned for April 18, 2018 at the Iowa Army Ammunition Plant. We will be hosting an Earth Day Public Tour for those interested in viewing the plant as we highlight our ongoing efforts in environmental restoration and modernization. The event will start at the Iowa Army Reserve Center, 17879 Highway 79, in Middletown, Iowa and run from 8am—12pm. The morning events will feature presentations about our ongoing demolition and modernization projects, our main facility contract for the restoration program, and the work Formerly Utilized Sites Remedial Action Program (FUSRAP) is doing at our installation. During the presentations we will be serving donuts, juice, and coffee.

After the presentations are complete everyone will travel in a charter bus and visit restoration program sites with a general overview of the plant. During the tour, the public will also get to witness a 40mm test fire! Space is limited and you must RSVP by April 2. Hope you all enjoy the tour.

IOWA ARMY AMMUNITION PLANT
Environmental Restoration
17571 DMC Highway 79
Middletown, IA 52638

Restoration News is an unofficial publication sent quarterly to inform the public of on-going and upcoming restoration events at the Iowa Army Ammunition Plant. Contents of Restoration news are unofficial and are not necessarily endorsed by the Joint Munitions and Lethality Life Cycle Management Command, the Department of the Army, the Department of Defense, or any other U.S. Government agency.

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Did You Know?

In 1909, Des Moines County’s first country house was built in Union Township where the Iowa Army Ammunition Plant is now located.