

## Noons, Nicholas (DEM)

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**From:** Noons, Nicholas (DEM)  
**Sent:** Wednesday, December 23, 2015 3:41 PM  
**To:** 'Julie Freshman'  
**Cc:** Mark House  
**Subject:** RE: Bay Spring Realty, Barrington (SR-01-0106)

Julie,

I have included my comments regarding the SIR Addendum submitted for 90 Bay Spring Ave, Barrington that we discussed last week over the phone.

1. **Stormwater Infiltration Diagram:** The diagram provided shows concentrated hydraulic loading allowed on the entire property. The SIR Addendum claims that there are no GA Leachability exceedances in site soils, however, this is not accurate. GA Leachability exceedances are present in AOC-4 and AOC-7 for benzo(a)pyrene and TPH, respectively. In addition, elevated levels of lead were found in several AOCs and were not analyzed for TCLP. As such, the Department cannot approve of the infiltration proposal as is.

Given the heterogeneity of the site, the best approach for stormwater may be a Limited Design Investigation (LDI) (Section 8.05 of the [Remediation Regulations](#)). An LDI is conducted during the implementation of the RAWP, at which point the stormwater design for the site would likely be complete, and would consist of sampling the overburden in areas proposed for concentrated hydraulic loading.

2. **Vapor Intrusion Potential:** The pockets of residual VOC contamination appear to be restricted to the southern portion of the site. More specifically, in the vicinity of monitoring wells MW-104, MW-105, and MW-5. However, not all of the monitoring wells at the site have been sampled for VOCs. In particular, the upland monitoring wells MW-102 and MW-103 should be sampled for VOCs in order to delineate the area where building restrictions will be applied.
3. **Polychlorinated biphenyls:** The sample obtained from the test pit to the north of Stock House No. 2, TP-204, is not representative of the transformer pad. Additional sampling of the transformer pad area will be required to ensure that a release of PCBs has not occurred. This sampling should be conducted within the fenced enclosure for the pad in the top 1 foot of soil. So as not to delay the process, this can be completed concurrent with site development. Since the pad will almost certainly be removed, compliance sampling for PCBs can be written into the Remedial Approval Letter for this excavation.
4. **Groundwater Monitoring:** Groundwater monitoring cannot be suspended downgradient of the cistern area (AOC-5). Groundwater monitoring results from July 9, 2015 indicate an exceedance of TCE in MW-105 above GA Groundwater Objectives. Given the upward trend following the short-term response action, groundwater monitoring will need to continue in this area, specifically in monitoring well MW-105, in accordance with RIDEM policy.

Below is the proposed language I drafted for the remedy outlined in Program Letter. I wanted your concurrence prior to issuing the letter.

- The encapsulation of site soils that exceed the Department's Method 1 Residential Direct Exposure Criteria (RDEC) with a Department approved engineered control consisting of either two (2) feet of clean fill, one (1) foot of clean fill underlain with a geotextile fabric, four (4) inches of pavement above six (6) inches of clean subgrade, or equivalent.

- Restricting development (i.e. buildings and/or subsurface structures) in areas of the property where residual volatile organic compound (VOC) contamination has been identified in groundwater, unless said development will employ appropriate vapor intrusion mitigation technologies (e.g. sub-slab depressurization system, vapor barriers, etc.).
- Quarterly groundwater monitoring for VOCs will be conducted until three consecutive quarters of analytical results are below the applicable RIDEM GA Groundwater Criteria.
- The integrity of the cap shall be preserved through the recording of an Environmental Land Usage Restriction (ELUR) on the deed for the entire property. The ELUR shall require the performance of annual inspections to document the status of the ELUR and the condition of the engineered controls at the Site. The ELUR shall include a soil management plan (SMP), which will address post remediation activities that disturb onsite soils. The ELUR, once approved by the Department, shall be recorded for the property (Plat Map 2, Lot 154) in the Land Evidence Records for the Town of Barrington and a recorded copy forwarded back to the Department within fifteen (15) days of recording.

Have a nice holiday!

Nick



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**From:** Julie Freshman [mailto:JFreshman@ResourceControls.com]  
**Sent:** Wednesday, November 11, 2015 1:23 PM  
**To:** Noons, Nicholas (DEM) <[nicholas.noons@dem.ri.gov](mailto:nicholas.noons@dem.ri.gov)>  
**Cc:** Mark House <[MHouse@ResourceControls.com](mailto:MHouse@ResourceControls.com)>  
**Subject:** RE: Bay Spring Realty, Barrington (SR-01-0106)

Hi Nick,

Thanks for getting back to us. The approach suggested below will work for the owner. Also, in accordance with "Section 3.2.8 RISDISM Subsurface Contamination Guidance", we have looked at the soil data in relation to GA leachability exceedances and determined that there are none. We plan to include a "Stormwater Infiltration Diagram" within the SIR Addendum, designating areas on the Site according to the three types of allowable hydraulic loads (no hydraulic load - red, direct precipitation only - yellow and concentrated loading allowed - green), based on the nature and extent of contamination present at the Site. The diagram will depict the entire Site as green (concentrated hydraulic loading allowed).

Also, thanks for passing along the document on the artificial leather manufacturing process – good find!

We plan to get the SIR Addendum out to you this week.

Best Regards,

Julie

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**From:** Noons, Nicholas (DEM) [<mailto:nicholas.noons@dem.ri.gov>]  
**Sent:** Monday, November 09, 2015 4:58 PM  
**To:** Julie Freshman  
**Cc:** Mark House  
**Subject:** RE: Bay Spring Realty, Barrington (SR-01-0106)

Good afternoon Julie,

Sorry for not getting back to you and Mark sooner on this matter.

The TIC analysis identified several other aromatic hydrocarbons in addition to those already detected. All the compounds detected thus far are present at low concentrations (<1 ppm) and the contamination appears to be localized. However, given the nature of these compounds and the conditions observed in the field, the potential for vapor intrusion is high.

In regards to the remedial alternative for this specific area of concern, I suggested restricting development (i.e. buildings and subsurface structures) in lieu of targeted remediation and/or vapor intrusion mitigation. This would be appropriate given the nature and extent of the contamination. The area that the restriction would apply to could be determined using the existing monitoring well network and/or refined during site development, if necessary. If the owner is not amenable to this approach or if there are any other remedial alternatives you are considering, please let me know.

Also, I thought I would share this document I came across awhile back regarding the manufacture of artificial leather (attached). It is from the era (Oct. 1921) and identifies “benzol,” which is obtained from the distillation of coal tar, as a common solvent used in the process. This could be the source of the contamination given the absence of other hydrocarbons.

Nick

**From:** Julie Freshman [<mailto:JFreshman@ResourceControls.com>]  
**Sent:** Friday, November 06, 2015 1:32 PM  
**To:** Noons, Nicholas (DEM) <[nicholas.noons@dem.ri.gov](mailto:nicholas.noons@dem.ri.gov)>  
**Cc:** Mark House <[MHouse@ResourceControls.com](mailto:MHouse@ResourceControls.com)>  
**Subject:** Bay Spring Realty, Barrington (SR-01-0106)

Hi Nick,

For Bay Spring Realty/Barrington, could you send me an email to formalize the comments you provided when I was in on Thursday, 11/29 regarding the TIC results and the recommended remedial alternative for the Site? I believe, you had stated that including a restriction on building on this part of the Site in the ELUR that is recorded would be sufficient to deal with the VOC impacts in this area. We are waiting to submit the SIR Addendum until we hear back from you.

Thanks,

Julie V. Freshman, GISP

Senior Scientist and Operations Manager



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