RL-F-1325.6 (02/98)

United States Government **Department of Energy**

memorandum

Richland Operations Office

DATE: JUN 17 2014

REPLY TO ATTN OF: AMRP:RFG/14-AMRP-0219

SUBJECT: RECOMMENDATIONS FOR FUTURE IRRIGATION AT THE 331 BUILDING

TO: Memorandum to File

As discussed in memorandum 14-AMRP-0027, irrigation within the 300 Area is generally not allowed by the final Record of Decision for the 300 Area. At the request of the Pacific Northwest Site Office (PNSO) and Pacific Northwest National Laboratory, the Richland Operations Office (RL) evaluated a plan to allow limited irrigation around the 331 facility in areas well away from existing waste sites. This plan, after several iterations between RL and PNSO, was submitted to the U.S. Environmental Protection Agency (EPA) for approval.

As shown in the Attachment to this memorandum, EPA has approved irrigation within specified areas around the 331 facility, subject to PNSO not overwatering the area. As the approval is documented only in email messages, this memorandum serves to memorialize this agreement and to place it in the 300-FF-2 Administrative Record.

Questions on this subject should be addressed to me at (509) 376-5494.

R. F. Guercia, Subproject Director
for the River Corridor Closure Project

cc w/attach:
J. W. Christ, PNSO
D. A. Faulk, EPA
Administrative Record, 300-FF-2

RECEIVED
JUL 29 2014
EDMC

Guercia, Rudolph F (Rudy)

From: Faulk, Dennis <Faulk.Dennis@epa.gov>
Sent: Monday, May 12, 2014 4:18 PM
To: Guercia, Rudolph F (Rudy)
Subject: Re: 331 irrigation

I concur. Ask them to not over water. A common problem in our area.

From: Guercia, Rudolph F (Rudy) <rudolph.guercia@rl.doe.gov>
Sent: Monday, May 12, 2014 2:58:51 PM
To: Faulk, Dennis
Subject: RE: 331 irrigation

For the North entrance shrubs, the waste site is 20 feet away, under the building. There is a parking lot separating it. I do not consider this site to be in the vicinity.

The trees on the west side are approximately 100 feet away from the already temporary capped 300-269 waste site.

Based upon the above I do not consider the water usage "in the vicinity"

R. F. Guercia, Field Engineering
U.S. Dept. of Energy, Richland Operations Office
PH: (509) 376-5494
Fax: (509) 373-0726

From: Faulk, Dennis [mailto:Faulk.Dennis@epa.gov]
Sent: Monday, May 12, 2014 2:55 PM
To: Guercia, Rudolph F (Rudy)
Subject: Re: 331 irrigation

I only have my blackberry this week....

From: Guercia, Rudolph F (Rudy) <rudolph.guercia@rl.doe.gov>
Sent: Monday, May 12, 2014 2:51:00 PM
To: Faulk, Dennis
Cc: Voogd, Margo J
Subject: RE: 331 irrigation

They are not in close proximity; the first picture will help with visualization

R. F. Guercia, Field Engineering
U.S. Dept. of Energy, Richland Operations Office
PH: (509) 376-5494
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From: Faulk, Dennis [mailto:Faulk.Dennis@epa.gov]
Sent: Monday, May 12, 2014 2:40 PM
To: Guercia, Rudolph F (Rudy)
Cc: Voogd, Margo J
Subject: Re: 331 irrigation

If I remember correctly there is no wastes in the vicinity of the area they plan to irrigate, correct? If that is the case EPA approves the use of irrigation at the 331 area.

Dennis

From: Guercia, Rudolph F (Rudy) <rudolph.guercia@rl.doe.gov>
Sent: Monday, May 12, 2014 1:46:48 PM
To: Faulk, Dennis
Cc: Voogd, Margo J
Subject: 331 irrigation

Dennis, as discussed before, PNNL would like to retain some of their irrigation around 331. The current ROD forbids irrigation without EPA approval.

Attached is the plan for PNL to retain portions of their landscape and remove others. If you are comfortable with this, let me know and I will put it in the A/R and transmit it to PNSO for implementation. If you have any comments or issue let me know. As you might expect, PNNL is worried that if they can't water soon, they will lose all of their landscaping, so unfortunately there is some rush to this.

Thanks .

R. F. Guercia, Field Engineering
U.S. Dept. of Energy, Richland Operations Office
PH: (509) 376-5494
Fax: (509) 373-0726

Recommendations for Future Irrigation at 331 Building

May 12, 2014

The final 300 Area Record of Decision (ROD) prohibits irrigation of areas above, or near, waste sites in the 300 Area. The only PNNL-occupied facility impacted by this prohibition is the 331 Building. In response to the likely direction to cease all irrigation in the 300 Area, DOE proposes the following actions for distinct areas near 331 that are watered. See attached figure that depicts the waste sites around 331 and the current irrigation.

Lawn Areas: Most of the irrigation water at the 331 Building is applied to two grassed lawn areas. Lawn irrigation methods have a higher risk of waste site impingement. These areas will stop irrigating and be removed, as recommended below.

East Lawn: The lawn east of the 331 Building lies over the LSLT1 and LSLT2 waste sites. This area is planned to have the grass removed and capped per the new Remedial Design/Remedial Action Work Plan (RD/RAWP).

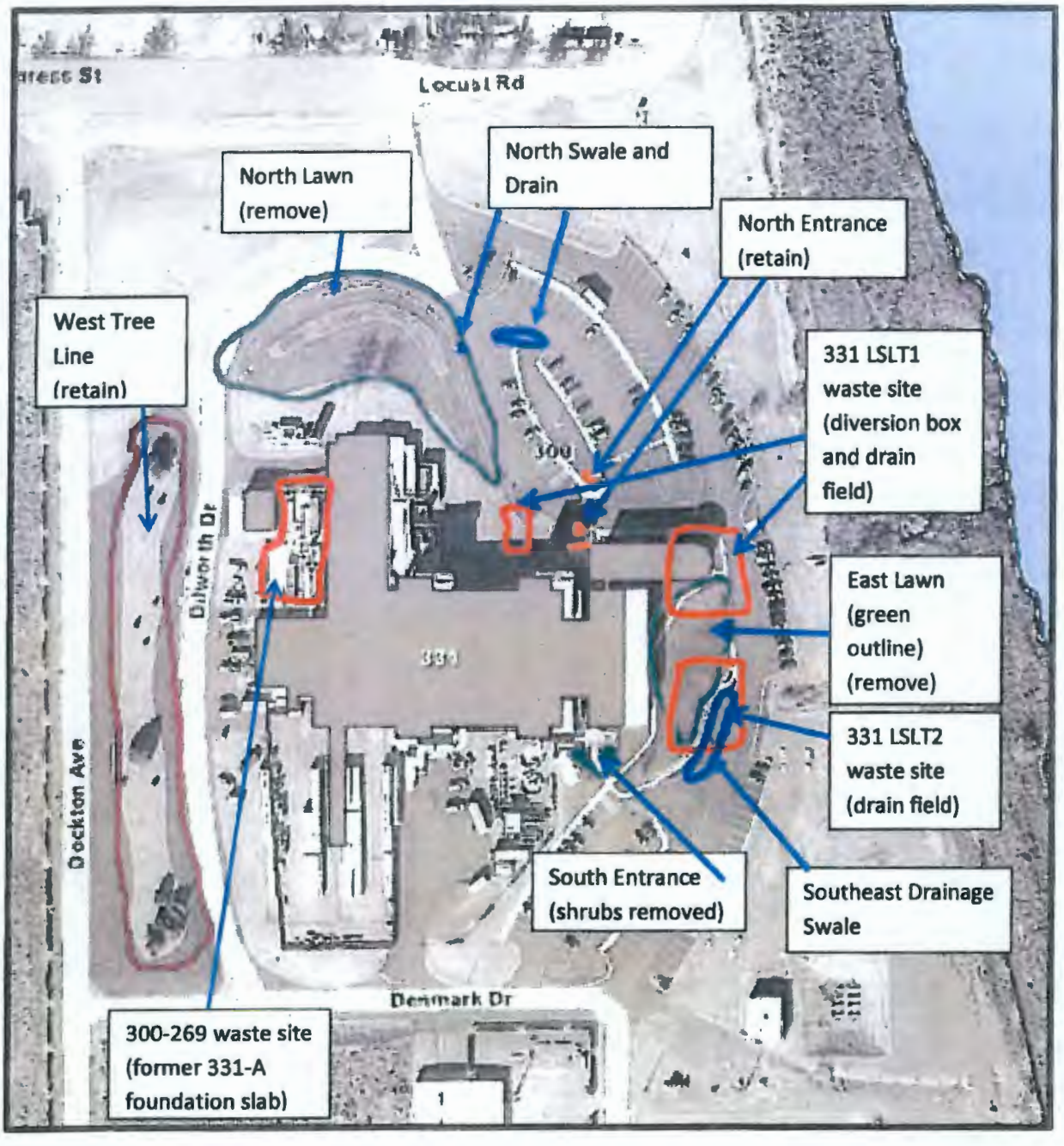
North Lawn: This grassy area does not directly overlie any waste site but is in reasonable proximity. Since the ROD requires that no irrigation occur over or near waste sites, the irrigation of the North Lawn will be discontinued. With the removal of the East Lawn, the North Lawn will be capped to prevent potential waste site impingement by irrigation. Current capping plans have not been established, but will be consistent with the new RD/RAWP

South Entrance: PNNL has placed shrubs along the walkway leading into the south lobby entrance. Since the irrigation line serving these shrubs will be severed by the remedial action on the East Lawn, these shrubs will be removed by PNNL (non-cleanup funds).

West Tree Line: 19 trees are planted in a rock area west of the 331 Building. The trees are watered using shrub heads (2 per tree). DOE requests the continued localized irrigation of this area continue and the trees be retained. Information supporting this recommendation:

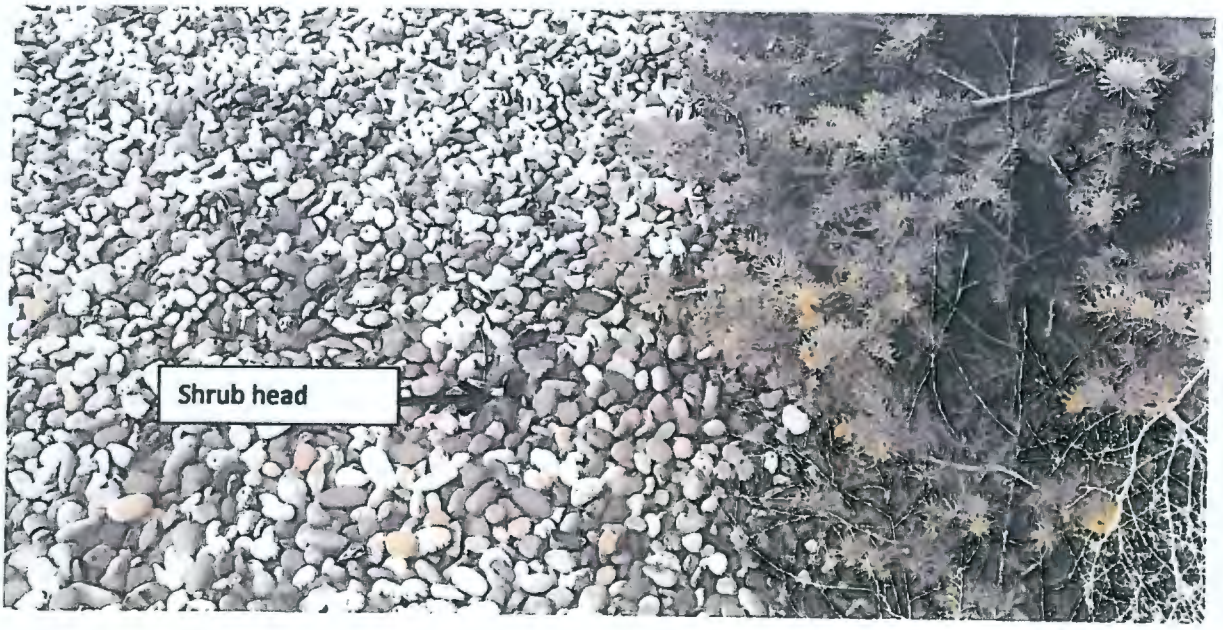
- The trees serve several useful purposes such as esthetics around 331 if all other grass areas are removed, habitat for regional animals, and acting as a wind break.
- The irrigation is operated for 30 minutes per day, three days/week. Water flow is adjustable at each shrub head, but is believed to be set at approximately 3.5 gpm. (Irrigation could be reduced if determined to be necessary.)
- The rock area is roughly 100' west of the nearest waste site, 300-269 (the former 331-A Building slab).
- 300-269 is already considered interim stabilized (adequately covered). As a result, no barrier on the site will be installed.
- The rock area is roughly 4' higher than the street that runs between it and the 331 Building (called Dilworth Drive in the map tool). The 300-269 slab is roughly 2' higher than Dilworth Drive. Dilworth Drive is sloped from north to south. Hence any inadvertent overwatering would run off to Dilworth Drive and thus to the south. It would not reach 300-269.

North Entrance: A few small trees and shrubs are planted in the vicinity of the North Entrance to the 331 Building. These are watered using shrub heads. DOE recommends that irrigation of this area continue and the plantings be retained. Information supporting this recommendation:



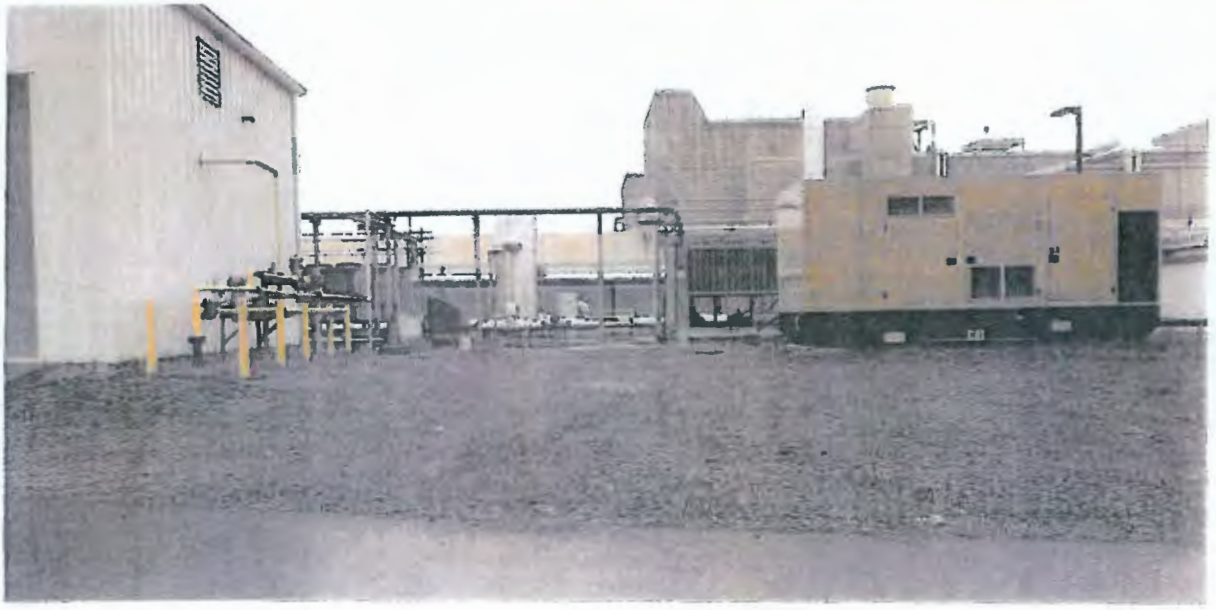
2012 aerial photo of 331 and vicinity with areas discussed in this document noted. Note shadows on north end of building due to aerial photography.

Tree line west of 331 (looking northeast, 331-BA is in the background)



Shrub head used to irrigate tree part of the tree line west of 331. Each tree has at least one shrub head to water it.

Roughly 4' drop between elevation of tree line and Dilworth Drive (looking west from Dilworth)



Roughly 2' drop from 300-269 (331-A Virology Lab foundation slab) to Dilworth Drive (looking east from Dilworth)

Planter area just outside the north entrance to 331. Two shrub heads.

North entrance to 331. Note tree and shrub head; planter area in background. Diversion box is buried nearby (off the right side of the picture).

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