

THE HOMESTEAD WASTEWATER DISPOSAL ENVIRONMENTAL ASSESSMENT QUESTIONS AND ANSWERS

After reviewing and analyzing comments received from the public during the formal comment period, a number of common questions surfaced. We have attempted to answer them below, with references to the Environmental Assessment (EA). *Please note that this document was prepared prior to the Finding of No Significant Impact (FONSI) and, as such, references all three alternatives as possible choices.*

1) Why does this document not provide more definitive information relating to groundwater flow directions and concentrations of pollutants, impacts on Lake Michigan surface water quality, and restoration of the Thoreson meadow?

Reviewers asked about the uncertainties associated with groundwater flow directions and concentrations of pollutants, impacts on Lake Michigan surface water quality, and the ability to restore the Thoreson fields after construction of an underground drainfield.

As stated in the EA (pages 4-6, 4-7), groundwater modeling was conducted by Gosling Czubak Engineering, the Homestead's contracted engineering firm, to analyze the potentials of the two study areas for drainfield placement. These are rough models derived from existing groundwater flow data from Parcels B and C, soils tests from action alternative locations, and regional data. Should one of these alternative locations be selected, prior to commencement of any construction activities, detailed groundwater monitoring studies would be conducted by an MDEQ-approved entity to confirm that the proposed system would not cause downgradient flow to intersect any existing or potential wells, and would suffice to meet groundwater surface water quality standards (page 1-7). The Michigan Department of Environmental Quality (MDEQ) would review and approve any such studies prior to issuing a permit. These studies are not typically conducted until after a location has been identified. As a result of the studies, if it were determined by the MDEQ that the drainfield could not be placed at a field location, a permit would not be issued and the Homestead would need to submit a proposal to the MDEQ to use the existing easement (Parcels B and C).

Also with the action alternatives, many reviewers were concerned about the impact of nitrates on the surface waters of Lake Michigan. According to the MDEQ (page 4-7), Total Inorganic Nitrogen (TIN) levels would be higher where effluent vents into Lake Michigan, than ambient conditions. However, the best available information indicates that because Lake Michigan is a "nitrate sink," dilution would quickly occur, with no impacts to surface water quality, aquatic organisms, or swimmers.

Reviewers questioned the ability to restore the Thoreson meadow to its predisturbance condition after construction of a drainfield. Extensive mitigation measures would have to be required, either through easement legal documents, a performance bond, or the permit itself, should an easement relocation be implemented (page 1-8). Mitigation measures, such as at-or-below-grade utilities and observation ports, are described (pages 2-2, 2-7, and 2-8). The Homestead would be required to restore the fields in either alternative location to an appearance very similar to what exists at present; that is, very gently sloping with a few naturally appearing mounds and swells.

2) Why were the private lands to the north of Sunset Trail (Armbrecht and Crane properties) not shown on the maps?

These private properties were identified on page 3-10, but were inadvertently omitted from the maps. They will be included in an errata sheet.

3) Why didn't the document list Lake Michigan offshore of the park as an "Outstanding State Resource Water?" What about the anti-degradation rules associated with this designation?

We were unaware of this designation. It will be added to the errata sheet and all future documents prepared by the park, when applicable. According to the MDEQ, the anti-degradation rule does not apply to the action alternatives since nitrates do not fall under the definition of "pollutant" for surface waters and both action alternatives are in the vicinity of the existing discharge and would not be considered a "new discharge."

Groundwater intersects drinking water wells and vents into Lake Michigan with the existing system at Parcels B and C. However, nitrate levels are low because most nitrates are taken up by plants before reaching groundwater.

4) Why isn't the Homestead being held accountable for their actions?

Lack of compliance by the Homestead is of concern to the park; however, it is beyond the scope of this document. Each of the three alternatives, if properly implemented, would bring The Homestead into compliance with groundwater and/or surface water standards. Park management is committed to ensuring that park resources are not adversely affected by implementation of any selected alternative.

5) When will nitrate levels in Lake Michigan be studied?

To date, the park has not conducted any studies of nitrates in Lake Michigan. The MDEQ does not set discharge limits for nitrates in surface waters as they are not considered a "pollutant" under their rules, and the question of increasing the level of nitrates will not be an issue with them, as the lake is considered to be a "nitrate sink" (see Question 1). Growth of nuisance algae is a violation of water quality standards, when the growth is directly attributable to a discharge. According to the MDEQ, in the surface water nutrient cycle, nitrate is not the determining nutrient that impacts aquatic vegetation. Phosphorous is the controlling nutrient and would be controlled by soil absorption, as well as permit effluent and groundwater limits (page 4-8). If one of the action alternatives were selected, a program would be implemented to thoroughly monitor potential impacts to the offshore community.

6) Why didn't the document consider the No Action Alternative, along with the positive resolution of the "seepage" and "100-foot setback" issues?

Because of the legal questions and unknowns associated with the seepage and setback issues, the National Park Service thought it prudent to address "no action" by describing the nearly certain outcome of that alternative (clear-cutting), as well as the likely scenario of continued spray irrigation on Parcels B and C. Resolution of the setback issue could only modify these impacts slightly.

7) Why did the document evaluate the impacts of the easement parcels being clear-cut when some believe that cutting trees and regrading the land is not consistent with the language of the easement?

The Homestead's easement states that The Homestead has the "full right...to excavate for the purpose of constructing the seepage areas, including, without limitation, the installation of pipe..." Trees must be removed and earth excavated in order to construct an underground seepage system. Part 6 of the easement states that the lands will be restored "to their natural condition on the surface to the extent possible reasonably consistent with the use and maintenance of such lands as seepage areas." A forest of mature trees is not consistent with an underground seepage area.

8) Why can't The Homestead use their own land, other than the easement?

There is nothing to preclude The Homestead from using their land, other than space limitations and the fact that they have a legal right to use the easement (Parcels B and C). The Homestead has investigated spray irrigation on their land, in conjunction with their golf course and snow-making operations. Possible construction of a leach field in the Bay Mountain area within The Homestead's existing property boundary was investigated; however, this alternative was dismissed based on very steep slopes, patchy, clayey soils with poor percolation rates, and general soil instability (page 2-12).

9) Why was the East Study Area removed before the beginning of the formal public comment period on November 17, 2004?

The East Study Area, Alternative 2, has not been formally removed. Assistant Superintendent Tom Ulrich, at the November 16, 2004, public meeting, stated that implementation of this alternative would appear to result in the intersection of a downgradient plume with private property, and it may have to be eliminated as a result. But this alternative is still formally under consideration.

10) Why can't The Homestead upgrade their primary treatment?

While this is an option for The Homestead, regardless of any such improvements, they would still retain the right to dispose of effluent on the existing parcels (page 1-8). While this is an option that the NPS would certainly consider favorably, it is beyond the authority of the agency to compel The Homestead to do so. The Homestead has not indicated that they are willing to implement this option (page 2-11).

11) Can the current easement lands be returned to the park?

On December 1, 1972, Crystal River Associates (The Homestead) obtained an easement from Arthur S. Huey, Helen M. Huey, and Ash, Inc. allowing for the use of an 8.3-acre wooded parcel of mixed hardwoods, conifer plantations, and semi-open land (Parcel B) and a 4.6-acre parcel of mostly open field (Parcel C) as "seepage" areas for treated wastewater disposal from The Homestead. The Bayberry Group, Inc. is the successor of Crystal River Associates and currently owns and operates The Homestead. On August 31, 1979, the National Park Service acquired property which included Parcels B and C subject to easements held by The Homestead for their treated wastewater disposal system. According to the easement language, there are two ways in which the easement may be terminated:

- a) “In the event that any governmental or quasi-governmental authority constructs and provides sewerage facilities or lines to land owned by the Grantee such that Grantee can connect to said sewerage disposal system and is permitted to do so to the extent that the private sewerage disposal facility to be constructed by the Grantee is no longer necessary, the Grantee shall, upon notice from the Grantors and within a reasonable time thereafter, make arrangements to connect its sewerage and waste water lines to such governmental or quasi-governmental system and discontinue its use of the lands covered by this easement agreement.”
- b) “At such time as the lands of the Grantors which are the subject of this easement agreement are no longer used for the purposes intended by this agreement, this easement shall terminate. For the purpose of this agreement, it is understood that a partial discontinuance of use shall not result in termination, and that termination shall take place only in the event of complete discontinuance of use.”

In other words the easement lands could be returned to the park if a public sewer system is constructed that connects with The Homestead, or if The Homestead ceases their use of the easements altogether.

12) Why did the National Park Service allow The Homestead to spray, rather than develop a “seepage” area?

In the early 1990s, when The Homestead applied for the permit to use a land application (spray) system on the easements, the NPS did not contest this proposed use, as it prevented the clearcutting and grading of Parcel B. The proposal to spray was an accepted method of disposal permitted by the MDEQ.

13) What about impacts to springs in the area?

The springs that emerge into Lake Michigan are surface water resources and are protected as described in question #1 above.

14) What are the provisions for recourse if private wells become polluted and/or water quality in Lake Michigan degrades the experience of beach users by causing algal growth or threatening public health?

Monitoring wells would be placed between any newly-constructed drain fields and private drinking wells. These monitoring wells would be tested frequently (per the requirements of the permit), and should contaminant levels rise in them (to a threshold level stipulated in the permit), the drain field discharge conditions would be adjusted or halted accordingly. Growth of nuisance algae or threatening public health is a violation of state water quality standards, when the growth or threat is directly attributable to a discharge. The MDEQ will set discharge/monitoring conditions that will protect against any algae growth or public health risk at the venting location. Pre-construction, baseline information gathering would be conducted to characterize the beach/littoral algae situation and measure water quality parameters such as E. coli, nitrates, and phosphates.

The current operations on Parcels B and C include monitoring wells that are sampled and results reported to the DEQ on a predetermined schedule. This method of monitoring is effective in detecting violations and is how it was determined that the existing operation was out of compliance and that corrective measures were needed.

15) Why is the NPS considering a conveyance of an easement to a private landowner for commercial purposes?

The private landowner already owns the easement. The NPS is merely looking at a location that will have the least impacts to park resources and visitor experience, protect surrounding property, and respect private property rights (page 1-8).

16) Has the NPS fully considered the adverse effect that installing drain fields in the East or West Study Areas would have on the Thoreson Farm?

The EA analyzes the impacts to archeology, historic structures, and cultural landscapes from developing either field location (pages 4-26 to 4-30), based on the mitigation measures outlined on pages 2-2, 2-7, and 2-8. The Michigan State Historic Preservation Officer (SHPO) has been consulted and has issued a “Conditional No Adverse Effect” for Alternatives 1 and 2.

17) What are the outstanding legal issues with the current easement?

Legal issues surrounding the existing easement relate to “seepage” and the 100-foot setback from a property line. The NPS questions whether we would have to continue to allow the spray application based upon the early 1990s use of this method, as the easement language clearly allows only “seepage.” Further, if spray must be allowed, there is a question concerning required setbacks from a wastewater spray field easement line. The current and proposed setbacks may not conform to the 100-foot standard for wastewater spray fields established by the DEQ. The state Attorney General’s office has opined that the MDEQ cannot require the setbacks from the easement line (only from a fee property line). We are currently seeking a written opinion on each of these issues. If either restriction were imposed, then it would be unlikely that the existing parcels would be of sufficient size to treat the wastewater nutrient loads proposed in the Irrigation Management Plan (page 2-1).

18) Has The Homestead considered water conservation measures such as low-flush toilets and water reuse?

We do not know if The Homestead has considered any program on water conservation.

19) How will you prevent odor emissions from drain field vents?

No odor problems are expected with either field alternative (page 4-32). If any odors are encountered, vents would be equipped with activated charcoal canisters to eliminate the odor (page 2-7).