

Anguiano, Dora

CL

From: Graham, Sarah
Sent: Monday, August 22, 2011 8:17 AM
To: Patterson, Clark; Anguiano, Dora
Subject: Item C-6 for this week's PC hearing - FW: Loop 360 Landfill Remediation case needs review by UFB
Importance: High
Attachments: loop 360 landfill remediation.pdf
 Dora, Clark,

My item (C-6 - SPC-2011-0010C – Loop 360 Landfill Remediation) for this week's Planning Commission hearing looks to be a Discussion-Postponement in the least.

Sarah Graham
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 Planning and Development Review
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 Supervisor: Lynda Courtney, Lynda.Courtney@ci.austin.tx.us

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board this last Tuesday (08.17.11), but the Urban Forestry Board wasn't aware of this project even though 129 healthy public trees will be removed.

I also ask that if the PC will consider this case, that you ask that this project be delayed until we are out of the severe drought, or at least, until next year, past the Spring/Summer season that the endangered bird species use this habitat for nesting, since we are in a severe drought that is stressing wildlife and trees significantly. I also ask that the scope of this project be reduced to smaller phases separated by a couple of years in between, to allow the replacement tree seedlings to grow before removing more healthy trees.

I'm concerned with 3 issues:

- 1) The removal of a large amount of healthy native trees in a time of severe drought. The area is in the BCP. These trees provide shade, food and shelter for wildlife, including endangered bird species. In fact, the habitat for these endangered bird species is the young trees, many young cedar, and short shrubbery that will be removed. 1,452 caliper inches will be removed, which is equivalent to removing 60 heritage trees of 24 inch diameter.
- 2) The low survival rate of the tree seedlings and saplings, and one gallon shrub plantings that are planned to re-vegetate the area. The plan is that the area will be re-vegetated in 10 years, and that the tree seedlings and saplings will be irrigated for only 2 years:
 - a) Larger (15 gallon container) size trees should be planted instead of the seedlings and saplings, or at least some of the tree replacements should be 15 gallon native trees.
 - b) Due to low survival rate of tree seedlings and saplings, which is worse in a time of severe drought like we are experiencing, more tree seedlings and saplings than the 900 planned should be planted. The 900 number was obtained after getting a variance from PARD's Director because the ECM requires a much higher number of replacements. The replacements are calculated in caliper inches, so it would be better to plant larger container size trees, or at least, to plant some larger container trees in addition to the tree seedlings and saplings, and not to plant just tree seedling and saplings.
 - c) Irrigation should be installed for all trees, not just the tree seedlings and saplings, since all trees will be impacted significantly by the construction and removal of contaminated soil.
 - d) Irrigation should be for 5 years.
 - e) replacement soil should be a rich organic soil that drains well. Please, make sure that sandy top soil (red death soil) is to used. Root crowns of trees shouldn't be covered with soil.
 - f) Since 3 heritage trees and a few larger trees will be impacted, a certified arborist should inspect these trees regularly.
- 3) The motivation for this project is to clean soil contamination to prevent it from entering the aquifer, and to protect the endangered bird species habitat. However, there is no evidence that the soil is contaminating the aquifer (See more details below). It's more of a prevention project. However, this project will cause a significant loss of endangered bird species habitat. The expectation is that the site will be re-vegetated in 10 years. I doubt that this will occur in a time of drought, unless the entire area is irrigated. I'm concerned that the survival rate of the newly planted tree seedlings and saplings will be very low in this challenging time of severe drought, and the habitat will not be replaced.

Discussion:

A significantly large amount of trees smaller than 19 inches that will be removed in the 2.35 acres, a total of 1,452 inches will be removed. This is equivalent to removing 60 heritage trees of 24 inch diameter. Required plantings will be 90% native tree seedlings and saplings (1-2 ft tall) and 10% one gallon shrubs, and will be irrigated only for 2 years. In a time of severe drought that will most likely continue for years, I doubt that a significant number of the tree seedlings and saplings will survive even with irrigation, and worse, once the irrigation is shut off after only 2 years. It is critical to irrigate for at least 5 years to assure that more of the tree seedlings and saplings survive.

The critical root zones of several medium to large size trees will be affected. The contaminated soil will be removed by hand shoveling around 3 heritage trees, and the soil will be replaced. It's critical that the replacement soil be a good rich soil, and that the affected trees also be irrigated. It's important that the trees be inspected regularly by a certified arborist to increase their chances of surviving this major encroachment.

A significant amount of smaller trees and underbrush will be removed with this project, including many ash junipers (Cedar) that are the preferred habitat for endangered bird species. While this project is trying to protect the birds, it also displaces them by affecting their habitat. The expectation is that the habitat will be replaced with better tree and shrub species in 10 years, but I'm very concerned that this will not be the case because we are experiencing a severe drought. A significant amount of healthy trees will be removed to remove the contaminated soil, to install access roads for the project and to be able to remove the large amounts of soil. But, these trees

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There are 70 other landfills like this in the Austin area. Is it really critical to remediate this one right now in spite of the drought and the fact that it is extremely difficult for trees to grow on sites like this one? The survival rate of the planted seedlings, and even of naturally re-vegetated trees, will be much lower after this project is done because of the removal of large amounts of shade, and the significant disturbance to the tree roots and existing soil. The negative impacts from this project will be worse because irrigation will be limited to only 2 years and only for the new tree seedling areas. The remaining areas where trees were affected need to be irrigated as well to help those trees overcome this significant disturbance to their roots.

It is well known that tree seedlings have a low survival rate, and that to make up for this fact, magnitudes higher than what is expected to survive should be planted. The ECM requires a certain amount of tree seedling replacements. However, this project obtained an exemption from those requirements with a variance from PARD's Director based on the rationale that the amount of replacement inches required by the ECM was too high for the area. But, once you factor in the high mortality rate, higher for a severe drought year, the amount of tree seedlings and saplings that will be planted will be probably too low to replace the large amount of trees removed. More tree seedlings and saplings should be planted if this project is to continue. Better yet, larger trees, the 15 gallon container size, should be planted in instead, or at least, added to the mix.

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Austin Heritage Tree Foundation
512-739-5210

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There are 70 other landfills like this in the Austin area. Is it really critical to remediate this one right now in spite of the drought and the fact that it is extremely difficult for trees to grow on sites like this one? The survival rate of the planted seedlings, and even of naturally re-vegetated trees, will be much lower after this project is done because of the removal of large amounts of shade, and the significant disturbance to the tree roots and existing soil. The negative impacts from this project will be worse because irrigation will be limited to only 2 years and only for the new tree seedling areas. The remaining areas where trees were affected need to be irrigated as well to help those trees overcome this significant disturbance to their roots.

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Loop 360 Landfill Remediation Update

Presentation to Environmental Board
August 17, 2011



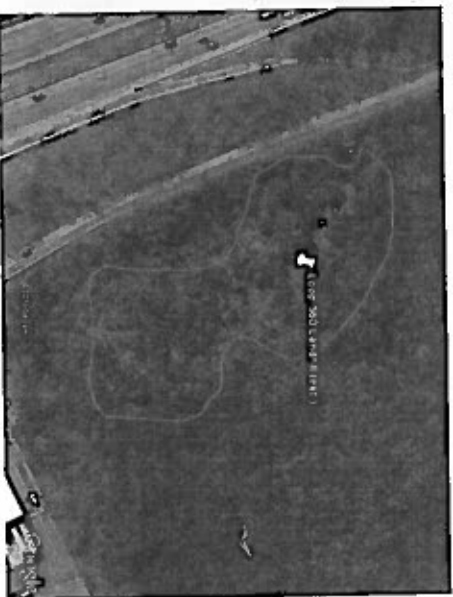
Presentation Overview

- Site History
- Assessment
- Remediation Design
- Cost and Schedule



Site History

- Located on a slope in the Barton Creek greenbelt south of Barton Creek and east of Loop 360
- Probably operated as a rural dump or landfill in the 1940's or 1950's.
- One of approximately 70 similar sites in the Austin area



Site Assessment

- Soil - Lead and antimony elevated
- Soil gas - No methane found
- Sediment - Low level of antimony in tributary
- Surface water – Low level of antimony found in 3 samples
- Groundwater – low levels of VOC's and metals



Environmental Concerns

- Presence of known and possible unknown contaminants over Barton Springs recharge area
- Mature trees in and near waste
- Endangered bird habitat



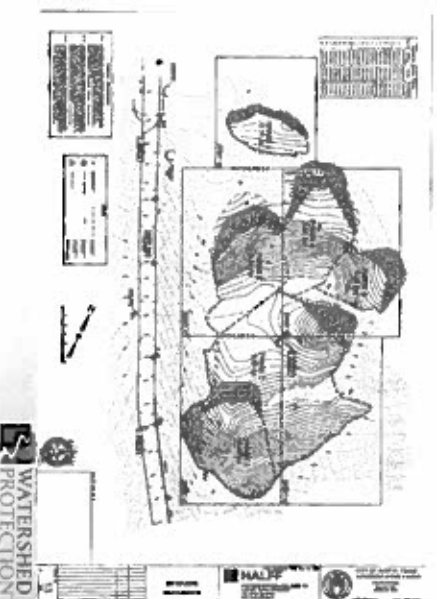
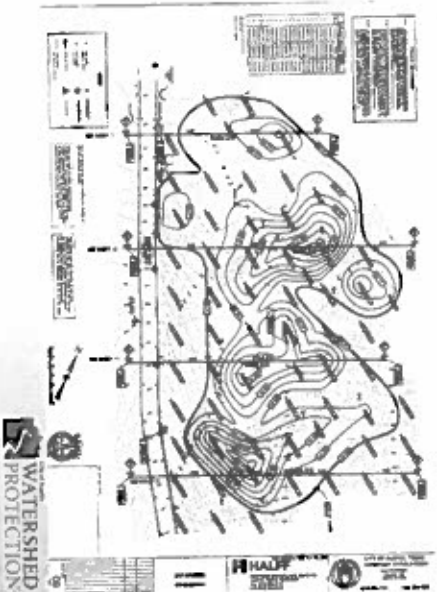
Remediation Design

- Options considered:
- No action
 - Fence and leave in place
 - Phytoremediation
 - Limited vegetation removal, partial cap
 - Clear vegetation and full cap
 - **Excavate and remove all waste**



Remediation Design

- Excavate and remove all waste**
- Permanently remove threat to Barton Springs
 - Tree removal similar to full cap option
 - Restore natural land contours
 - Revegetate to replicate surrounding greenbelt and bird habitat
 - Leave monitoring well in place





Shaded trees are to be removed.

Remediation Design

Revegetation

Mix of native trees and shrubs, 2 gal., 2-3' high:
 Plateau live oak, Texas red oak, pecan, Carolina buckthorn, Mexican buckeye, sugar hackberry

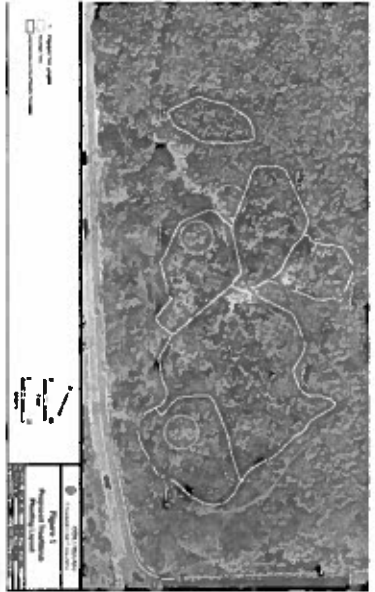
Tree seedlings	Shrubs	90% of total	863	900
10% of total	98	100		

Native grasses - Indiangrass, green sprangletop, sideoats grama, Little bluestem, Prairie Canada wild rye, Big bluestem, Switchgrass, Eastern gamagrass

Irrigation - Site will be fenced and irrigated for 2 years.

Cost and Schedule

- Design engineer's est. is approx. \$1.2M
- Bids to go out in early September
- Construction start in November 2011 (?)
- Completion prior to return of endangered birds in March 2012



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This is a prevention project that should be delayed due to the drought. My recommendation is that this project be delayed until local weather models predict that we are out of the severe drought pattern for a few years. At least, this project should be delayed until next year, pass the spring/summer season that the endangered birds use this habitat, because wildlife and trees are significantly stressed by the current severe drought. The scope of this project should be reduced to minimize the loss of healthy trees, and the removal of healthy trees should be done in phases (spaced out by 2 or more years) to allow the new tree seedlings to grow, so that the little trees can start replacing the ecosystem services and habitat lost, before more established trees are removed.

There are 70 other landfills like this in the Austin area. Is it really critical to remediate this one right now in spite of the drought and the fact that it is extremely difficult for trees to grow on sites like this one? The survival rate of the planted seedlings, and even of naturally re-vegetated trees, will be much lower after this project is done because of the removal of large amounts of shade, and the significant disturbance to the tree roots and existing soil. The negative impacts from this project will be worse because irrigation will be limited to only 2 years and only for the new tree seedling areas. The remaining areas where trees were affected need to be irrigated as well to help those trees overcome this significant disturbance to their roots.

It is well known that tree seedlings have a low survival rate, and that to make up for this fact, magnitudes higher than what is expected to survive should be planted. The ECM requires a certain amount of tree seedling replacements. However, this project obtained an exemption from those requirements with a variance from PARD's Director based on the rationale that the amount of replacement inches required by the ECM was too high for the area. But, once you factor in the high mortality rate, higher for a severe drought year, the amount of tree seedlings and saplings that will be planted will be probably too low to replace the large amount of trees removed. More tree seedlings and saplings should be planted if this project is to continue. Better yet, larger trees, the 15 gallon container size, should be planted in instead, or at least, added to the mix.

Best,
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