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**From:** Zorba, Peter D.  
**Sent:** Sunday, July 09, 2017 1:48 AM  
**To:** Jennings, Stephanie; Jones, John  
**Cc:** John Wondolleck; Owens, Kirk W.; Thomsen, Keith D.

**Subject:** Re: Update of NASA's information for cumulative analysis

Stephie/John –

The soil footprints changed a small amount when with the finalized DSR (*\*Note: NASA is still waiting for DTSC approval of the Final DSR*). I have attached the updated NASA soil footprint area and volumes. The changes were small and should not affect the other items in the table. The changes are in track mode so you can easily see them.

Thanks,  
Peter

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**From:** "Jennings, Stephanie"  
**Date:** Friday, June 16, 2017 at 7:56 AM  
**To:** "Zorba, Peter D.", "Thomsen, Keith D.", "Jones, John"  
**Cc:** "John Wondolleck"; "Owens, Kirk W."  
**Subject:** Update of NASA's information for cumulative analysis

Pete:

As we go from Draft to Final EIS, we need to update the information that we have in the Draft for NASA. I have attached to this email the table (Table 5-1) from our draft for your reference. I have also attached a blank table for you to fill out with NASA's latest information. If you have any questions, don't hesitate to email or give me a call.

Thanks so much,

*Stephie Jennings*  
Deputy Director, DOE-ETEC  
NEPA Compliance Officer

**Table 5–1 Information for the DOE, NASA, and Boeing Remediation Activities at the Santa Susana Field Laboratory**

<i>Impacts Information</i>	<i>Responsible Party</i>			<i>Totals</i>
	<i>NASA</i> <sup>a</sup>	<i>Boeing</i> <sup>b</sup>	<i>DOE</i> <sup>c</sup>	
<b>Land disturbed (acres)</b>				
- Area Disturbed for Soil Removal	144 <del>39</del> to 245 <del>20</del>	55.3 <sup>d</sup>	32 to 130	226 to 405
- Area Disturbed for Building Removal	Not provided	Not provided	8.4	8.4
Total	144 <del>39</del> to 245 <del>20</del>	55.3	40 to 138	235 to 414
<b>Employment (persons)</b>				
- Onsite Employees	50 to 75	100	25 to 26 Building removal activities = 26 Soil excavation = 25 Groundwater treatment = <1 <sup>e</sup>	175 to 201
- Truck Drivers - Truck drivers for occasional deliveries or pickups are not included in long-term employment.	Assume 32 to 160 truck drivers when the high value is for a scenario where hazardous waste disposal facilities are a 2-day truck trip from SSFL. <sup>f</sup>	Assume 9 to 42 truck drivers when the high value is for a scenario where hazardous waste disposal facilities are a 2-day truck trip from SSFL. <sup>f</sup>	Assume up to 32 truck drivers during the first few years when 96 truck trips are split between DOE, NASA, and Boeing; thereafter a maximum of 95 truck drivers under a scenario where the hazardous waste disposal facilities are a 2-day truck trip from SSFL. <sup>f</sup>	73 to 297 <sup>g</sup>
Total	82 to 123	116 to 132	57 to 121	248 to 498
<b>Resources used</b>				
- Backfill for Soil Excavation (cubic yards)	202 <del>20</del> 6,000 to 290,000	113,000	111,000 to 700,000	426,000 to 1,100,000
- Backfill for Building Removal (cubic yards)	Not provided	Not provided	13,500	13,500
- Backfill for Bedrock Removal (cubic yards)	None expected	None expected	0 to 1,280	0 to 1,280
Total	202 <del>2</del> ,000 to 290,000	113,000 <sup>d</sup>	125,000 to 715,000	440,000 to 1,120,000
<b>Resources used</b>				
- Water (gallons/day)	200,000	10,000 to 14,000	3,000 to 16,000	213,000 to 230,000
<b>Waste generated (cubic yards)<sup>h</sup></b>				
- Soil Excavation	626 <del>07</del> ,000 to 870,000	336,000	148,000 to 933,000	1,090,000 to 2,140,000
- Building Removal	66,100	Not provided	15,500	81,600
- Bedrock Removal and Groundwater Remediation	Not provided	Not provided	10 to 1,730	10 to 1,730
Total	692 <del>73</del> ,000 to 936,000	336,000	164,000 to 950,000	1,170,000 to 2,220,000

<i>Impacts Information</i>	<i>Responsible Party</i>			<i>Totals</i>
	<i>NASA</i> <sup>a</sup>	<i>Boeing</i> <sup>b</sup>	<i>DOE</i> <sup>c</sup>	
<b>Truck trips</b>				
- Soil Disposal	40,000 to 57,000	21,900	11,100 to 70,000	<b>73,000 to 149,000</b>
- Backfill, Equipment, and Supplies	13,100 to 19,100	7,370	8,390 to 46,900	<b>28,900 to 73,400</b>
- Building Demolition Debris	3,970	Not provided	1,500	<b>5,470</b>
- Bedrock Disposal and Other Groundwater Remediation Waste	Not provided	Not provided	20 to 370	<b>20 to 370</b>
Total	57,100 to 80,100	29,300	20,800 to 119,000	<b>107,000 to 228,000</b>

Boeing = The Boeing Company; NASA = National Aeronautics and Space Administration.

<sup>a</sup> Source: NASA 2015b.

<sup>b</sup> Source: Boeing 2015d.

<sup>c</sup> Source: Chapter 4 of this EIS.

<sup>d</sup> Boeing has identified six areas of potential soil borrow in the Southern Buffer Zone that could be used as sources of clean backfill for Boeing remediation activities. The areas total approximately 20 acres of undeveloped land (MWH 2015). The analyses in this EIS assume Boeing would obtain backfill from offsite sources.

<sup>e</sup> A small number of workers would be required to install groundwater wells and treatment systems that would each work for less than a year. Annual monitoring operations would also require a small number of workers that would each work for less than a year.

<sup>f</sup> For hazardous waste disposal facilities that are a 2-day trip from SSFL, trucks could leave each day for 3 days before some of the trucks would begin returning to SSFL for another load on the fourth day. All evaluated radioactive waste disposal facilities are assumed to be a 2-day truck trip from SSFL.

<sup>g</sup> The ranges of DOE, NASA, and Boeing truck drivers have been added together to obtain a conservative estimate of total truck drivers. It is unlikely that the maximum numbers of truck drivers would occur at the same time for DOE, NASA, and Boeing activities at SSFL.

<sup>h</sup> Volumes in this table are containerized waste volumes.

*Notes:*

- Sums presented in the table may differ from those calculated from table entries due to rounding.

- Values rounded to three significant figures.