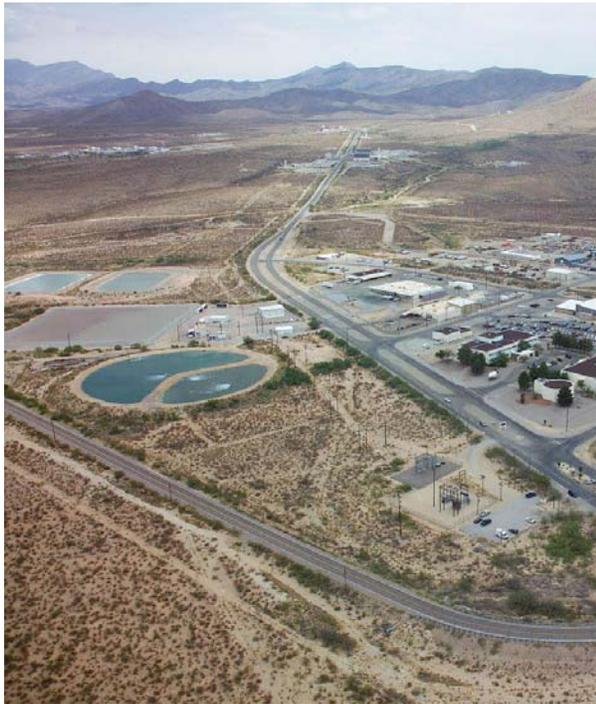




National Aeronautics and
Space Administration



**Environmental Assessment for
NASA Johnson Space Center,
White Sands Test Facility (WSTF)
Wastewater System Upgrade
Final**

Environmental Assessment for NASA WSTF Wastewater System Upgrade

Location: White Sands Test Facility is located within Doña Ana County in New Mexico.

Lead Agency: National Aeronautics and Space Administration (NASA) Johnson Space Center White Sands Test Facility (WSTF)

Proposed Action: NASA proposes to upgrade the existing system of sewage lagoons, septic tanks, and evaporation ponds to a modern wastewater system that would connect to the City of Las Cruces municipal wastewater system.

For Further Information: Tim J. Davis
NASA Environmental Scientist
NASA Johnson Space Center
White Sands Test Facility
575.524.5024
Fax: 575.527.6731
Email: timothy.j.davis@nasa.gov
<http://wiki.nasa.gov/cm/wiki/?id=23851>

Date: June 1, 2010

Executive Summary

The National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) is located on the foothills of the San Andres Mountains and has been treating the facilities' wastewater flows on site. On-site wastewater treatment facilities include clay-lined and synthetically lined evaporation lagoons, evaporation tanks, septic systems and leaching fields, and evaporation ponds. The existing wastewater treatment systems have raised concerns due to periodic overload conditions occurring in the sewage lagoons during low evaporation periods requiring offloading to other lagoon sites. In addition, the environmental concerns and permitting requirements for providing on-site wastewater treatment have caused NASA to review potential wastewater treatment alternatives that would upgrade the current system.

NASA is proposing the installation of a wastewater collection system that would connect to the City of Las Cruces' (CLC) wastewater system located along Holman Road. This environmental assessment (EA) addresses the potential impacts associated with the proposed wastewater system upgrade, which includes construction of a pipeline and lift stations to connect to the CLC wastewater system. In addition to CLC, coordination with Doña Ana County, Bureau of Land Management (BLM) personnel, and New Mexico State Land Office would need to be performed to help define requirements for improvements along the new right-of-way (ROW) and the existing Holman Road ROW.

The two reasonable alternatives are: 1) upgrade the system and decommission the existing wastewater treatment facilities; and 2) the no action alternative which would leave the current system in place. The proposed improvements would be located along disturbed areas and existing roads wherever possible to minimize impacts to the surrounding area. The no action alternative would include no new facilities or structures and would cause no environmental impacts associated with the construction of a new system pipeline and lift stations.

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Acronyms

BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
°C	Degrees Celsius
CLC	City of Las Cruces
cm	Centimeter(s)
dB(A)	Decibel(s)
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
°F	Degrees Fahrenheit
ft	Foot/Feet
gpd	Gallons per Day
in	Inch(es)
JSC	NASA Johnson Space Center
km	Kilometer(s)
kph	Kilometer(s) per Hour
m	Meter(s)
mi	Mile(s)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	Mile(s) per Hour
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act of 1969
NMED	New Mexico Environment Department
NMDGF	New Mexico Department of Game and Fish
ROW	Right of Way
TES	Threatened, Endangered, or Sensitive
TX	Texas
USFWS	U.S. Fish and Wildlife Service
USCB	U.S. Census Bureau
WSTF	NASA Johnson Space Center White Sands Test Facility

1.0 Purpose and Need for the Proposed Action

This EA has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. §§ 4321-4370d), and according to the Procedures of Implementation of NEPA for NASA (Title 14, Code of Federal Regulations, part 1216 subparts 1216.1 and 1216.3). The EA describes two reasonable alternatives: 1) constructing wastewater facilities and connecting to the CLC existing wastewater system, and 2) the no action alternative. Existing environmental conditions at the proposed locations on WSTF are described and the potential environmental consequences for each action are then analyzed.

1.1 Background

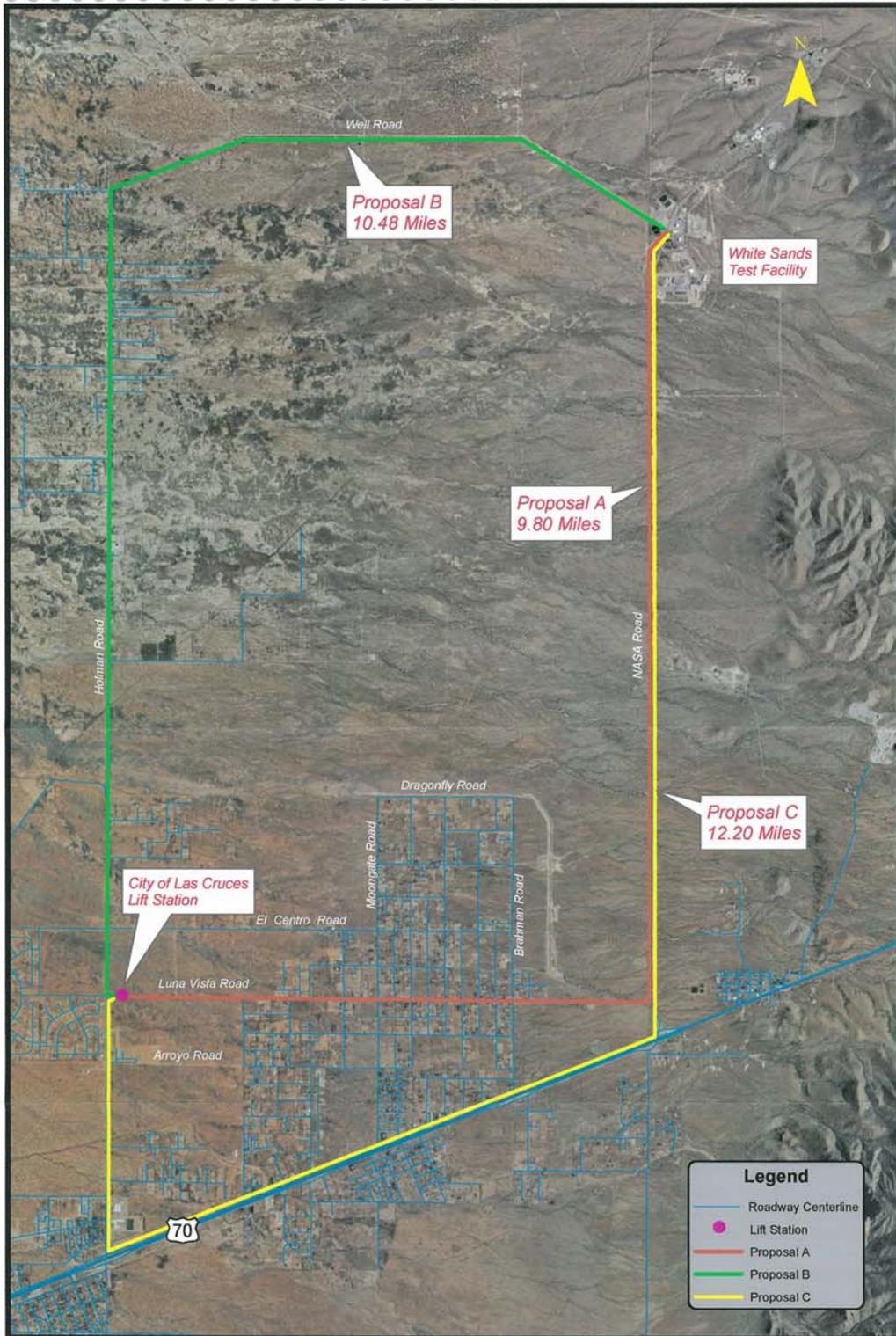
NASA WSTF is located on the foothills of the San Andres Mountains and has been treating the facilities' wastewater flows on site. On-site wastewater treatment facilities include clay-lined or synthetically lined evaporation lagoons, evaporation tanks, septic systems and leaching fields, and evaporation ponds. The existing wastewater treatment systems have raised concerns due to periodic overload conditions occurring in the sewage lagoons during low evaporation periods requiring offloading to other lagoon sites. In addition, the environmental concerns and permitting requirements for providing on-site wastewater treatment have caused NASA to review potential wastewater treatment alternatives that would upgrade the current treatment system.

NASA proceeded to complete an assessment, "Waste Water Treatment Upgrades-Trade Study" (dated January 30, 2008) to provide a cost/benefit analysis for upgrading the WSTF wastewater treatment system. The trade study evaluated the existing WTSF wastewater quality, defined the area service loads, assessed disposal options (surface discharge, irrigation, evaporation lagoons, ground water injection), considered feasible treatment options (off site connection to CLC, sequencing batch reactor, oxic/anoxic, or package plant) and completed a cost/benefit and advantage/disadvantage analysis for determination of the recommended alternative. Based on the Trade Study findings, it was recommended that NASA pursue connection to the CLC wastewater system.

Connection to CLC's system considered three alignment alternatives as depicted in Figure 1 and as summarized below:

1. Proposal A –south on NASA Blvd, west on US Highway 70, north on Holman Road to CLC connection point;
2. Proposal B – west on NASA Well Road, south on Holman Road to CLC connection point;
3. Proposal C – south on NASA Blvd, west through Moongate Subdivision and extension to CLC connection point.

Following cursory review of the alignment alternatives, it was determined that Proposal B would be pursued as the preferred option.



Project Location Map



Figure 1



1.2 Purpose and Need

The proposed NASA wastewater collection system would connect to the CLC’s wastewater system located along Holman Road. Coordination with CLC representatives has been critical to the development of the proposed improvements, since CLC would ultimately receive WSTF flows, and would operate and maintain the system. CLC utility design standards (May 2008) and coordination with the CLC staff has been incorporated into laying out the proposed system infrastructure.

In addition to CLC, coordination with Doña Ana County personnel has been undertaken to help define County requirements for improvements along Holman Road county ROW. Based on cursory research of County records and field observations and discussions with Doña Ana County Engineering Department personnel, Holman ROW is 60 ft (18.3 m) wide with an approximate 20 ft (6 m) wide pavement section. A permit would be required for wastewater line placement within county ROW coupled with a plan review.

Utilizing WSTF GIS topographical information along with estimated design flow data referenced in the Trade Study, system design concepts were then reviewed for the proposed collection system extending from WSTF to the CLC tie-in. The Trade Study Final Data Report estimated the WSTF design flow as follows based on flow data field testing:

Area	2007 Flow (gpd)	2027 Flow (gpd)
100, TDRSS/ADF-SW	12,000	48,000
200/800	4,200	4,620
300	5,000	5,500
400	5,000	5,500
STGT	5,000	5,500
TOTAL	31,200	69,120

Based on the test results and a few assumptions (flow data not completed for all WSTF areas, and varied growth projection assumptions), the Trade Study recommended that wastewater flow treatment consideration and sizing concepts account for a 100,000 gpd design flow condition. Based on this recommendation, the NASA proposed wastewater improvements were evaluated utilizing an average 100,000 gpd design condition, which is more than the projected total. A peaking factor for the busiest time of day was utilized in addressing potential maximum day discharges. This design would eliminate the overload conditions that occur during the winter months at WSTF’s current lagoon system. The new system would also eliminate the need for the existing sewage lagoons, evaporation tanks, septic tanks, and leachfields on site.

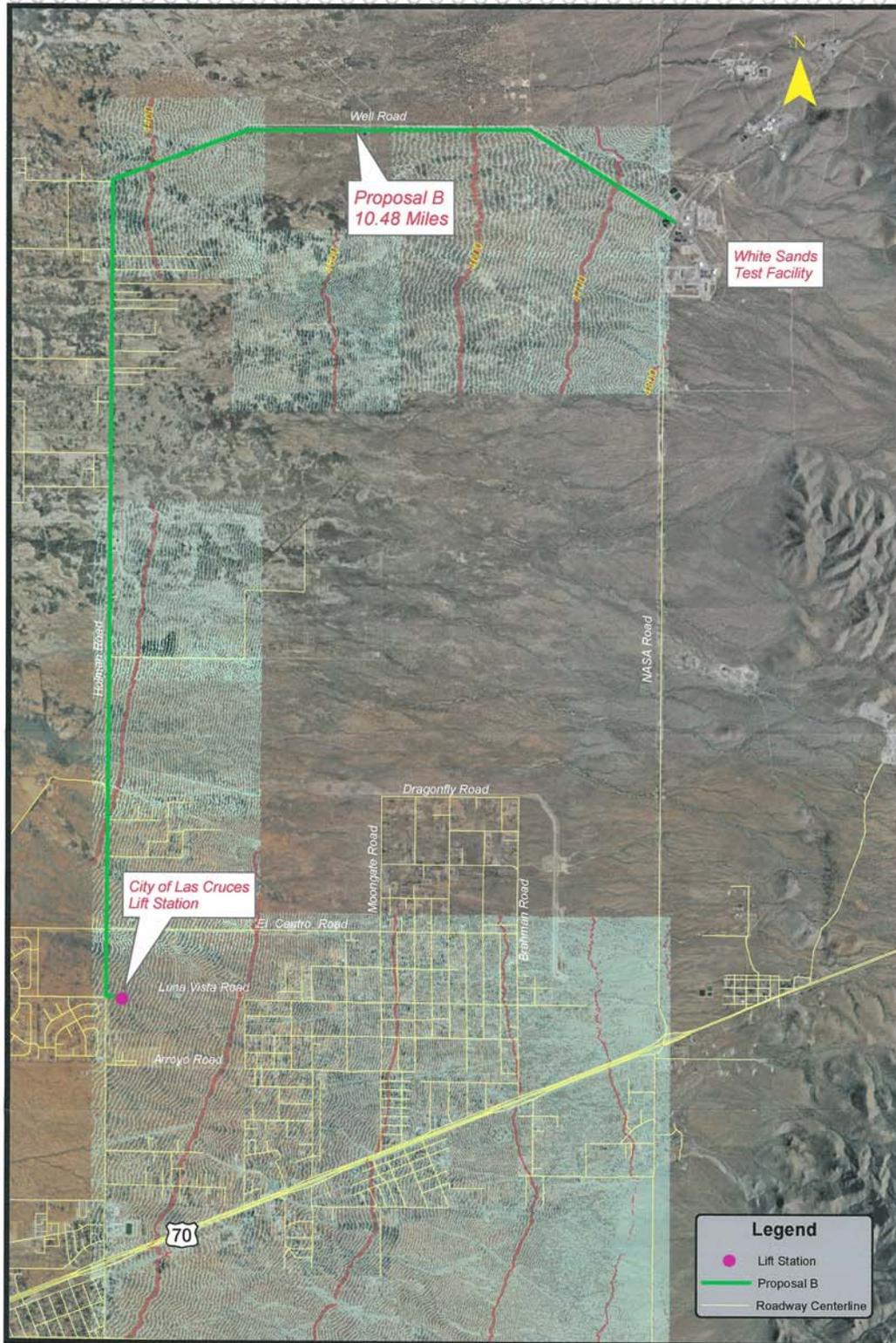
1.3 Description of Proposed Action

The proposed NASA wastewater collection system would connect to the CLC’s wastewater system located along Holman Road. The final connection point for this project would be at the intersection of Holman Road and Luna Vista Road. However, the City of Las Cruces would take ownership, after construction, of the pipeline system up to the new lift station at Holman Road and Leeberry Lane. The Proposal B route in Figure 1 is considered the preferred option by all

parties (WSTF, CLC, and BLM) involved. The route would provide a nice gradual decrease in elevation from the site down to Holman Road. The proposed design would also require the least number of lift stations. The proposed improvements would be located along disturbed areas and roads if possible to minimize impacts to the project area. Figures 2-6 shows the project area, the proposed alignment and contour information, and proposed and existing wastewater facilities on-site. The Well Road corridor (approx 3.25 mi (5,230 m)) consists of an existing unpaved graded road that is currently utilized to access area groundwater well facilities. Approximately 1 mi (1,609 m) of easement would then be required for crossing undisturbed areas of United States' BLM land to extend the proposed improvements to Holman Road. These areas are currently "set aside for NASA" (also described as NASA withdrawn land) per land record review. The improvements along Holman Road would then be located within a Doña Ana County ROW extending approximately 6 miles (9,656 m) to the CLC tie-in. It is anticipated that 100 ft (30.48 m) wide easements along the alignment may be necessary for the extension within NASA withdrawn land as well as an easement for the lift station site (approx. 75 ft x 50 ft (23 m x 15 m)). It is currently proposed that the new lift station be sited within the NASA withdrawn land near the end of Holman Road as shown in Figure 3. Based on system hydraulics review and low flow versus high head conditions, the proposed lift station would operate once the system has been installed and approved by the CLC. Periodic operation and maintenance of the lift station should be considered through water flushing based on such low flow conditions to promote line flushing and provide an additional means of odor control. The wastewater pipelines would be located within the county's ROW.

The existing site wastewater system of sewage lagoons, evaporation tanks, septic tanks, and leachfields would be dismantled and existing pipelines, equipment, and pipeline routes would be reused if possible in the construction of the new system. The old, unusable materials would be recycled or properly disposed. The large existing ponds in the 400 Area and 300 Area would remain in place since they are part of the small altitude simulation test systems on-site. These ponds would be periodically drained between tests into the new wastewater system. Eventually the ponds in the 400 Area could be closed if they are no longer needed for testing. In order to collect and transmit the wastewater flows generated within the varying areas of WSTF, a combination gravity and pressure system would be required due to the existing area topography. The new wastewater collection system would include on-site WSTF facilities: Three low-flow/high-head lift stations, 8 in (20 cm) gravity mains, and 1.5 in-3in (4 cm- 8 cm) force mains. The lift stations would be small low-flow/high-head systems sized to handle each of the flow conditions generated from the low lying areas accordingly. These new facilities would collect wastewater flows generated from the various areas on site and transfer flows through a new 8 in (20 cm) gravity line located along Well Road extending to a new lift station. The new lift station located near Leeberry Lane and Holman Road would transfer the flow through an approximate 6 mi (9,656 m), 6 in (15 cm) force main to a manhole and short gravity pipe section for connection to the existing CLC lift station and wastewater system.

The existing wastewater systems would be used until the new wastewater system is fully operational. The septic tanks and leachfields would then be closed according to state guidelines. The sewage lagoons and evaporation tanks would also be closed according to state guidelines. The timeline to close these systems would be decided after the new system is operational.



NASA Sanitary Sewer Improvements Project



Figure 2





Holman Road Viewing East to San Andres Mountains



BLM Easement Area



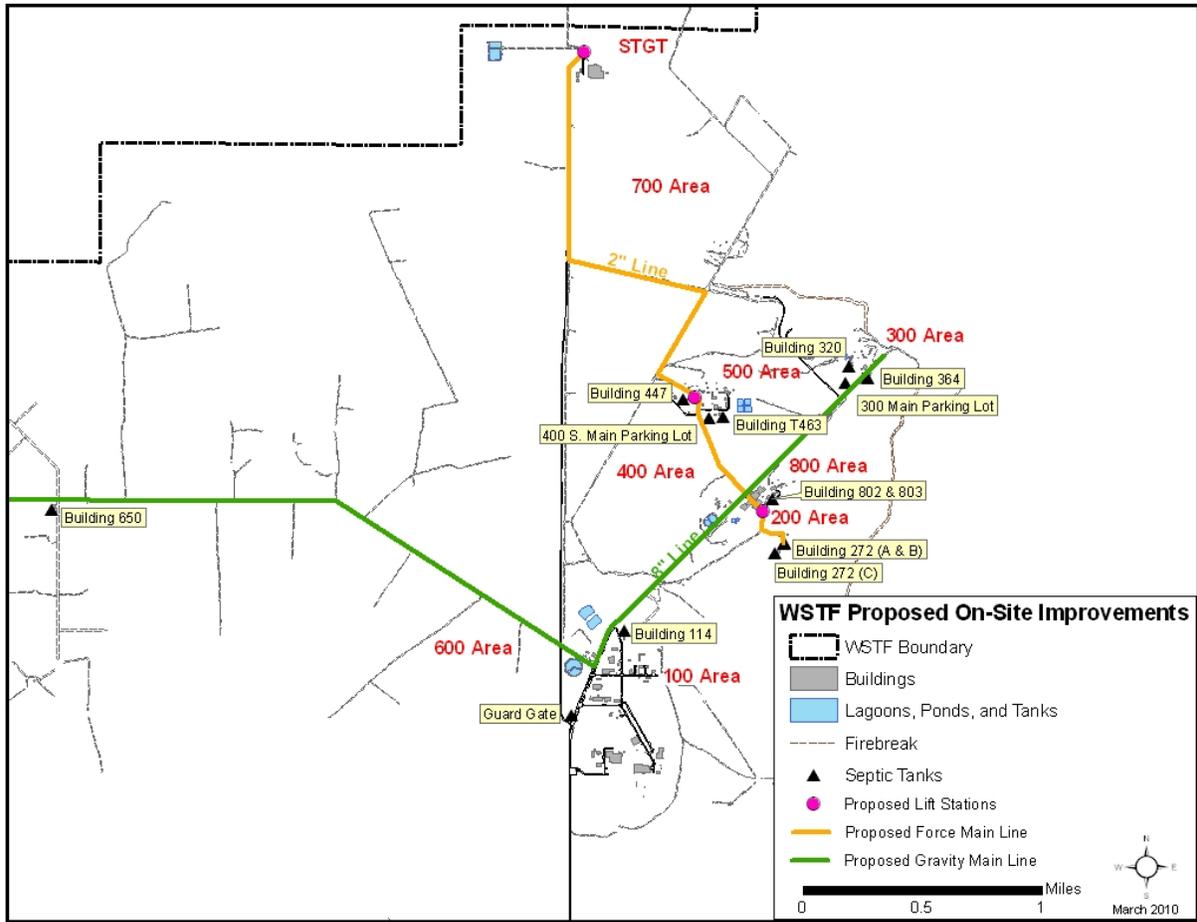
Holman Road



Typical CLC Lift Station

*Photographs of Proposed Holman Road Improvements
Figure 4*

The other treatment options explored in the trade study, including the package plant and batch reactor, were alternatives that were considered but not chosen because they were not the best match for WSTF's wastewater needs. The goal of the project was to keep the design of the new wastewater system as simple as possible from installation to maintenance.



Proposed On-Site Improvements
Figure 5

2.0 No Action Alternative

Under the no action alternative, installation of the wastewater line extensions and lift stations would not take place. No federal funding would be expended and there would be no new effects to the proposed project site or surrounding environment. The current system of sewage lagoons and septic tanks is 46 years old. The older septic tanks built before 1990 would eventually need to be rebuilt or replaced in the next ten years. The sewage lagoons are currently at their maximum capacity in the winter. A third sewage lagoon in the 600 Area would need to be constructed to meet the personnel demands in the next ten years.

3.0 Affected Environment

WSTF operates as a field test installation under the NASA Lyndon B. Johnson Space Center, Houston, Texas (TX) with the primary purpose of providing testing services to NASA for the United States space program. However, the facility also provides test service and support for the Department of Defense, Department of Energy, private industry, and foreign government agencies. WSTF's mission is to provide the expertise and infrastructure to test and evaluate spacecraft materials, components, and propulsion systems to enable the safe human exploration and utilization of space.

WSTF is located 16 mi (26 km) northeast of Las Cruces, NM, and 65 mi (104 km) north of El Paso, TX. Geographic coordinates of WSTF are 32°30'30" north latitude and 106°36'30" west longitude. The installation occupies over 60,000 ac (250 km²) along the western flank of the San Andres Mountains, a prominent north-south range in south-central New Mexico.

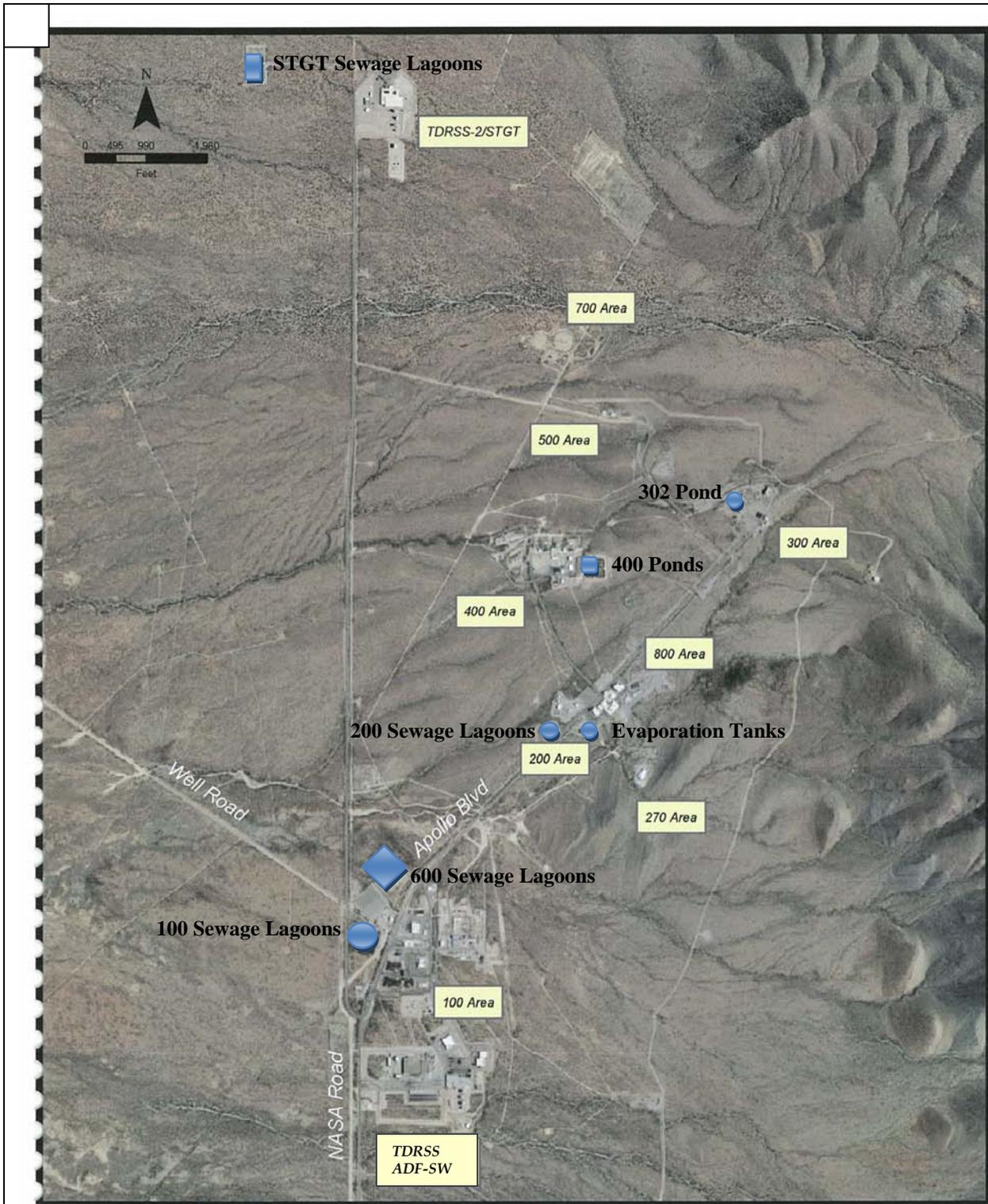
The following sections detail environmental information associated with the proposed action and no action alternative. At this time it is unknown who would install the facilities, but the maintenance of the facilities is proposed to be provided by current CLC employees.

3.1 Land Use

The general pattern of WSTF land usage follows planning concepts and objectives that were established when the installation was originally conceived, designed, and constructed. The fundamental guideline for orderly growth and development at WSTF is to continually review, utilize, and/or extend these basic ideas with respect to frequently changing conditions. The current WSTF Master Plan (2005) satisfies all foreseeable major functional requirements and relationships. For example, it protects off-site adjacent land usage from objectionable or hazardous influence, and incorporates flexibility to accommodate current long-range planning goals and objectives.

WSTF currently maintains a series of lagoons, evaporation tanks and septic tanks to handle the site's generated wastewater flows (Figure 5 in Section 1, Figure 6). The 100 Area, 200 Area, 600 Area and both TDRSS flows are sent to sewage lagoons. Industrial wastewaters generated from the 200 Area laboratories are handled by evaporation tanks. The 270 Area, 300 Area, 400 Area, and 800 Area utilize septic tanks and evaporation ponds to handle the generated wastewater.

A few areas of vegetation would have to be removed in order to install the new wastewater system. Approximately 1 mi (1609.34 m) of desert vegetation would have to be removed from



the area closest to Holman Road in order to install the new wastewater line, access road, and lift station. Smaller connections near the 400 Area lift station and 200 Area lift station would have to be cleared of vegetation to connect the wastewater lines together. These areas would not be longer than ¼ mile in length. Otherwise existing roads would be used to install and access the new wastewater line system.

3.2 Geology and Soils

WSTF is located within the Mexican Highland Section of the Tertiary Basin and Range Province. This province includes a major feature known as the Rio Grande Rift Zone, which extends from southern Colorado to northern Mexico. The Rio Grande Rift Zone is characterized by north-trending mountain ranges separated by broad basins, represented by the San Andres Mountains and Jornada Del Muerto Basin at WSTF. The bedrock geology in the vicinity of WSTF was most recently mapped by W. R. Seager and the information published in the New Mexico Bureau of Mines and Mineral Resources in 1981.

Soils include stony and sandy loams associated with alluvial fans, arroyos, and gentle slopes. Runoff ranges from slow to rapid, and permeability is generally moderate to rapid. According to the Soil Conservation Service White Sands Missile Range (WSMR) soil survey, the characteristic soil type on WSTF includes both the Nickel-Tencee (100 and 600 Areas) and Tencee-Nickel (200, 300, 400, and 800 Areas) associations. The dominant component varies across the site. The Nickel series varies from 40 to 60% of the soil and is a fine gravel, sandy loam. The Tencee series, which comprises about 25 to 45% of the soil, is a gravelly, loamy soil. The clay and silt in the soils range from 10 to 35%. The gravel can vary up to 50% and deposits at WSTF have been quarried for road ballast and foundations. The Nickel-Tencee soils generally contain more gravel and sand than the Tencee-Nickel soils and are found on the more precipitous slopes along steep-sided arroyos and washes. A third type of soil found in the far west of the project area is the Doña Ana-Regan association. These are deep, well drained soils that are moderately permeable.

3.3 Climate

Located in the northern portion of the Chihuahuan Desert, WSTF has an arid to semi-arid climate with abundant sunshine, relatively low humidity, modest rainfall, and a relatively mild winter season typical of low latitude arid areas. Rainfall through the year is light and insufficient for any growth except desert vegetation. The average rainfall at WSTF is around 25 cm (10 in), with the most occurring in July and August. However, it varies across site with highest amounts on or near the mountains. Temperatures at WSTF are generally warm in the summer and mild during the winter. Temperatures during the day are often near 32 to 38 °C (90 to 100 °F) for the majority of the summer months. Mild daytime temperatures characterize winter, rising to 12.8 to 15.6 °C (55 to 60 °F) on average. The lowest temperatures occur in December and January, and night-time temperatures often drop below freezing (WSTF ERD 2006).

Seasonal wind variations in the area are significant, with the strongest sustained winds occurring in late winter and spring months. This is primarily due to the surface winds colliding with the strong westerly winds and the natural terrain of the area. In the summer months, the surface winds are lighter except for the short term variations caused by the thunderstorms and "dust

devils". Updrafts and downdrafts are always present with thunderstorms, adding to the surface wind variability by cooling the mountains and basins. Variability caused by frontal activity is generally confined to the winter and spring months, contributing to the stronger winds observed during these months. The winds may reach velocities as high as 30-40 mph (48-64 kph) or exceed these velocities when a pressure gradient and a thermal gradient lie in the same direction.

3.4 Air Quality

The U.S. Environmental Protection Agency (EPA) regulates air quality through National Ambient Air Quality Standards (NAAQS). Air quality is assessed according to six criteria pollutants: carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, respirable particulate matter, and lead (EPA 2006). WSTF is located in counties considered to be in attainment of NAAQS (NMED website). However, high levels of particulate matter from natural sources (such as blowing dust storms) may occur temporarily during periods of high winds.

The State of New Mexico, in accordance with federal clean air standards, has adopted a set of air quality control regulations that apply to stationary sources of air pollution. These regulations apply to stationary sources, such as diesel generators. They do not apply to mobile sources, such as trucks or aircraft.

The ambient air quality and weather conditions in the proposed areas are excellent. The atmospheric visibility "seeing" conditions are in the 50-100 mi (80-160 km) range. However, Doña Ana County, in which the proposed project is located, has been designated as an Air Quality Maintenance Area for carbon monoxide and total suspended particulate matter. Although the county itself is lightly populated and relatively pollution free, air quality is affected by the cities of El Paso, TX and Juarez, Mexico.

3.5 Water Resources

In the WSTF area, all water is from underground sources. Recharge of the ground water aquifers of the Jornada del Muerto Basin is primarily runoff from the adjacent San Andres Mountains. Due to the geological structure of these mountains and the drainage gradients, approximately 75% of the total rainfall is runoff. The runoff which does not evaporate or transpire after it reaches the alluvial fans at the base of the mountains infiltrates and constitutes ground water recharge. Although the volume of this recharge is small and sporadic in nature, it is a continuing recharge source. The underground water table is approximately 400 feet (122 m) below grade, while the nearest perennial surface water is the Rio Grande, 15 mi (24 km) to the west. Until the 1990s, the use of ground water at WSTF was for domestic purposes and the watering of livestock. Today it is used only for domestic purposes.

The quality of groundwater in the Jornada del Muerto varies significantly. Overall, the water is categorized as fresh to slightly saline. Wells drilled north of the WSTF supply wells and northwest of the northern portions of WSTF yield highly mineralized water. This is due in part to the presence of gypsum in the adjacent mountains. At the latitude of the WSTF supply wells and further south in the Jornada del Muerto, gypsum materials are not so common in the adjacent mountains and better water quality is obtained.

Near the site the surface slopes between 3 and 5 degrees and has a drainage pattern characterized by widely spaced, parallel, westward-trending arroyos. WSTF has no natural permanent water bodies and no continuous streams.

3.6 Biological Resources

Threatened, endangered, or sensitive (TES) species lists developed by the U.S. Fish and Wildlife Service (USFWS) and New Mexico Department of Game and Fish (NMDGF) were reviewed to determine the potential for TES occurrences near the proposed sites. A list of TES faunal species known or expected to occur on WSTF can be found in Table 1. TES species lists developed by the USFWS and NMDGF were reviewed by the county. The list was created using the NMDGF Biota Information System of New Mexico (BISON-M) database (2009). No habitat for federal or state listed threatened and endangered faunal species is present at the proposed locations.

Major vegetation within the area includes a combination of woody shrubs and grasses characteristic of the Chihuahuan Desertscrub Biotic Community. The proposed project's locations are a xeric, poorly drained, and vegetative homogenous area. Shrubs provide a microhabitat for warm season grasses and herptiles.

The project area vegetation group contains yucca (*Yucca* spp.), broom snakeweed (*Gutierrezia sarothrae*), and honey mesquite (*Prosopis glanulosa*). Other plant species include tarbush (*Flourensia cernua*), creosotebush (*Larrea tridentata*), Russian thistle (*Salsola kali*), fourwing saltbush (*Atriplex canescens*), silverleaf nightshade (*Solanum eleagnifolium*), desert globemallow (*Sphaeralcea ambigua*), plains pricklypear (*Opuntia polyacantha*), and the desert Christmas cactus (*Cylindropuntia leptocaulis*). The most abundant species of grasses are sand dropseed (*Sporobolus cryptandrus*), blue grama (*Bouteloua gracilis*), bush muhly (*Muhlenbergia porter*), and bristlegrass (*Setaria* sp.).

Common species of birds that could occur at or near the proposed areas include quail (Family *Odontophoridae*), mourning doves (*Zenaida macroura*), roadrunners (*Geococcyx californianus*), hawks, owls, ravens, turkey vultures (*Cathartes aura*), sparrows, wrens, flycatchers, and a variety of other songbirds. Migratory bird species frequent WSTF during the spring and fall. This is when the bird population is at its greatest.

Common large and small mammals that are expected to occur at or near the proposed wastewater line system include mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), raccoons (*Procyon lotor*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), woodrats, and mice.

The list of lizards and snakes includes horned lizards (*Phrynosoma* sp.), whiptails (*Aspidoscelis* sp.), collared lizards (*Crotaphytus collaris*), coachwhips (*Masticophis flagellum*), gopher snakes (*Pituophis catenifer*), prairie rattlesnakes (*Crotalus viridis*), and western diamondback rattlesnakes (*Crotalus atrox*). Amphibian species found in this area include true toads (*Bufo* sp.) and spadefoot toads (*Spea* and *Scaphiopus* sp.). There are no habitats that contain fish in the proposed project area.

Table 1
Federal and State Listed TES Fauna Known or Potential to Occur on WSTF*

Common Name	Scientific Name	Federal Status	State Status
MAMMALS			
Desert bighorn sheep	<i>Ovis canadensis mexicana</i>		E
Desert pocket gopher	<i>Geomys arenarius arenarius</i>	SOC	
Organ Mountains Colorado chipmunk	<i>Neotamias quadrivittatus australis</i>		T
Spotted bat	<i>Euderma maculatum</i>		T
Townsend's pale big-eared bat	<i>Corynorhinus townsendii pallescens</i>	SOC	
Western red bat	<i>Lasiurus blossevillii</i>	SOC	
White Sands wood rat	<i>Neotoma micropus leucophaea</i>	SOC	
BIRDS			
Aplomado falcon	<i>Falco femoralis septentrionalis</i>	E	E
Arctic peregrine falcon	<i>Falco peregrines tundrius</i>	SOC	T
Baird's sparrow	<i>Ammodramus bairdii</i>	SOC	T
Bald eagle	<i>Haliaeetus leucocephalusalascanus</i>		T
Bell's vireo	<i>Vireo bellii</i>	SOC	T
Black tern	<i>Chlidonias niger surinamensis</i>	SOC	
Broad-billed hummingbird	<i>Cynanthus latirostris magicus</i>		T
Brown pelican	<i>Pelecanus occidentalis carolinensis</i>		E
Buff-collared nightjar	<i>Caprimulgus ridgwayi ridgwayi</i>		E
Burrowing owl	<i>Athene cunicularia hypugaea</i>	SOC	
Common black hawk	<i>Buteogallus anthracinus anthracinus</i>	SOC	T
Common ground-dove	<i>Columbina passerina pallescens</i>		E
Costa's hummingbird	<i>Calypte costae</i>		T
Gray vireo	<i>Vireo vicinior</i>		T
Least tern	<i>Sterna antillarum athalassos</i>	E	E
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	
Mountain plover	<i>Charadrius montanus</i>	SOC	
Neotropic cormorant	<i>Phalacrocorax brasilianus</i>		T
Northern goshawk	<i>Accipiter gentilis atricapillus</i>	SOC	
Peregrine falcon	<i>Falco peregrinus anatum</i>	SOC	T
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	E
Varied bunting	<i>Passerina versicolor</i>		T
Violet-crowned hummingbird	<i>Amazilia violiceps ellioti</i>		T
Yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C	

E=Endangered; T=Threatened; SOC=Species of Concern; C=Candidate
* (NMDGF BISON-M 2009)

3.7 Cultural Resources

Human habitation of the WSTF region represents an almost continuous occupational sequence encompassing a period from approximately 9,000 B.C. to the present and includes numerous Paleoindian, Archaic, Formative, Protohistoric, and Historic period cultural resources. Cultural

resources include prehistoric or historic sites, structures, artifacts, or other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Several cultural resource surveys have been conducted in and around the proposed project areas. A recent survey was conducted between Holman Road and Well Road. No cultural resources were identified in the proposed project areas.

3.8 Noise

There are expected to be potential noise impacts during the construction phase. Construction activities needed to install wastewater lines and lift stations at the proposed sites are expected to be done over a two year period. These noises would have minimal impacts. Noise levels during construction may at times reach levels harmful to field personnel. Proper ear protection would prevent hearing loss and tinnitus while using certain construction equipment. For individual protection, all personnel are required to use appropriate protective hearing devices if 84 dB(A) are surpassed. The following table lists common noise sources and their decibel levels.

Table 2

Common Noise Sources

<u>dB(A) Level</u>	<u>Source</u>
60	Speech at 0.9 m (3 ft)
70	Normal street traffic
90	Operating a lawn mower
100	Operating a chain saw
140	Jet airplane takeoff at 15 m (50 ft)

3.9 Socioeconomics

Socioeconomics consists of the basic attributes and resources associated with the human environment especially in regard to population, economic activity, and environmental justice. The socioeconomic region of impact for the proposed action includes the surrounding areas of New Mexico’s Doña Ana County.

On February 11, 1994, the President of the U.S. signed Executive Order (EO) 12898, entitled, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (Clinton 1994). The general purposes of the EO are to: 1) focus the attention of Federal Agencies on the human health and environmental conditions in minority and low-income communities with the goal of achieving environmental justice; 2) foster nondiscrimination in Federal programs that substantially affect human health or the environment; and 3) give minority and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment (EPA 2006).

The EO directs federal agencies, including NASA, to develop environmental justice strategies. Further, EO 12898 requires NASA, to the greatest extent practicable and permitted by law, to make the achievement of environmental justice part of NASA’s mission. Disproportionately high adverse human health or environmental effects on minority or low-income populations must be identified and addressed. In response, NASA established an agency-wide strategy, which, in addition to the requirements set forth in the EO, seeks to: 1) minimize administrative burdens;

2) focus on public outreach and involvement; 3) encourage implementation plans tailored to the specific situation at each Space Center; 4) make each Center responsible for developing its own Environmental Justice Plan; and 5) consider both normal operations and accidents. WSTF has developed a plan to comply with the EO and NASA's agency-wide strategy.

Based on the information from the U.S. Census Bureau, minority and low income populations are believed to exist within the proposed action's region of influence. Statistics for minority populations in the region of influence indicate an average of 47.3-percent Hispanic of any race with a combined average of 23.7 percent minority population for "other" minority groups. The population in poverty within the region of influence averages 24.9 percent. The general population of minority and low income population in the state of New Mexico average 42.1-percent Hispanic of any race, 33.2-percent population of "other" minority groups, and 18.4 percent in poverty (USCB 2005).

3.10 Human Health and Safety

The proposed project would have no short-term health and safety impact based on construction. Human health would benefit from the project by combining the site's septic tank systems and sewage lagoons into the city's existing sewage treatment system. There would be less chance for human and animal contact with sewage and sewage gases. This would decrease the potential health problems such as diarrhea, dysentery, and hepatitis. The new system would also greatly reduce the chances of surface water or underground water pollution from accidental spills or overflows from severe weather storms.

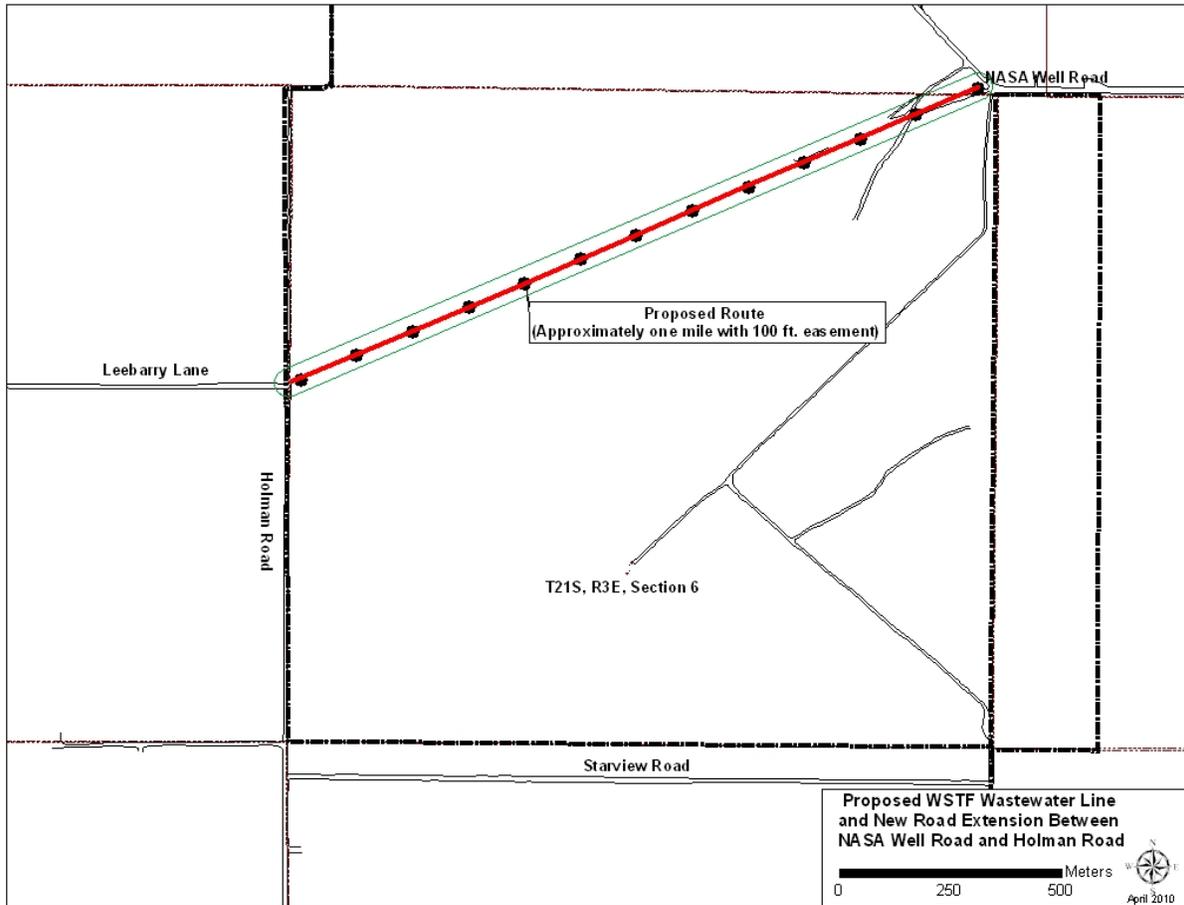
4.0 Environmental Consequences

4.1 Land Use

For the wastewater system project, existing disturbed areas and roads would be used within most of the project area (see Figure 5). The largest section of vegetation that would be disturbed and/or removed would be near Holman Road, which is off-site of the main WSTF area. The disturbance would be approximately one mile. There would also be an easement of 100 ft (30.48 m) for the new road extension. Approximately 40 ft (12.19 m) of the center of the easement would be cleared of vegetation during construction. Figure 7 shows the location of the larger vegetated area that would be disturbed during the construction of the new system.

Two smaller sections of land where roads do not exist in the 400 Area or 200 Area would also need to be cleared. These smaller sections of vegetation removed would be approximately 0.91 acres or 39,600 ft² (3,678.96 m²). The vegetation would need to be removed in order to complete the wastewater lines on-site at WSTF. Some of the smaller existing roadways would need to be widened to a minimum of 30 ft (9.14 m) to accommodate the construction activities during installation.

There are also two state identified solid waste management units near the proposed project area along Well Road, but they are outside the project area. To avoid any possible issues the units would be marked and identified prior to construction.



Proposed NASA Well Road Extension
Figure 7

The proposed activities for this project would result in no significant impact to land use on site. After construction is complete and the system is operational, unused cleared land would be allowed to return to desert vegetation. The new road extension would remain in place in order to maintain the new wastewater system. The no action alternative would include no improved wastewater system at WSTF and result in no change to existing land use.

4.2 Geology and Soils

The topography and soils at the proposed areas would not be affected by construction activities described in the proposed action. Most construction activities would take place within an established roadway or areas with human activity. This would result in no significant impact to topography or soils. The no action alternative would result in no change to the existing topography at WSTF and the surrounding area.

4.3 Climate

The proposed action would not affect the climate at WSTF or the surrounding area. The no action alternative would result in no construction at WSTF and would not affect the air quality at WSTF or the surrounding area.

4.4 Air Quality

There would be minimal, short term dust deposited in the air from the construction of the road, wastewater line, and lift station. There would also be mobile sources of air emission present during the construction. Ground vehicles would be used for the installation of the new system. To minimize dust during these activities, dust control measures, such as water trucks or dust suppressants, would be placed before construction activities start and after the vegetation has been removed if necessary. Portable generators may also be used during the project. Depending on their proposed use, NMED would have to be notified. Overall, there would be no significant impacts on air quality. The no action alternative would include no wastewater system upgrade at WSTF and would not affect the air quality at WSTF or the surrounding area.

4.5 Water Resources

The installation of the wastewater system and the removal of the sewage lagoons and septic tanks would decrease the chances of wastewater water polluting surface waters or underground waters. Once closed there would be no chance for the lagoons to leak or overflow during severe weather or strong monsoon seasons, or during peaks of heavy use. The closure of the septic tanks would provide the same benefits. The surface water and ground water at WSTF would not be affected by construction activities described in the proposed action. Most construction activities would take place within an established roadway or areas with human activity. This would result in no significant impact to water resources. The no action alternative would result in no change to the existing water resources at WSTF and the surrounding area.

4.6 Biological Resources

Construction and maintenance activities would create vegetation disturbances. According to USFWS, 1 mi (2 km) of a 16 ft (5 m) wide road removes two acres of wildlife habitat. The proposed project area would disturb approximately 1 mi (2 km) of undisturbed desert vegetation. The right of way for the area would be approximately 100 ft (30.5 m). Most construction activities would take place within an established roadway or areas with human activity. Overall, there would be no long-term significant impacts to site's vegetation. The no action alternative would include no wastewater system upgrade at WSTF and would result in no change to the existing floral community at WSTF.

Fauna could be affected by construction activities, and operation and maintenance activities of the wastewater line and lift stations. Noise from sources, such as vehicles, heavy machinery, and general human activities, related to construction and operation and maintenance activities would lead to species-specific faunal reactions. Factors influencing faunal responses may be time and length of the noise, seasonality, time of day, stress and physiological effects, life history, naturally occurring and background noise, and habituation (Larkin 1996). Most small mammals

would avoid excessive noise by retreating into burrows while larger species of mammals and birds would temporarily vacate the area. Reproductive activities of some small mammals and birds may be temporarily disrupted by noise and the presence of humans while other animals may become increasingly habituated and display little modification in behavior with ongoing exposure. Proposed activities would try to stay in the disturbed areas as much as possible to avoid disturbing migratory birds. Also, the current proposed start date for construction is after the peak spring migratory season in 2011. No threatened or endangered floral or faunal species occur in the proposed areas. The no action alternative would include no wastewater system upgrade at WSTF and would result in no change to the existing floral and faunal populations at WSTF and the surrounding area.

4.7 Cultural Resources

Based on previous surveys of WSTF and a recent survey conducted by TRC the proposed wastewater system upgrade locations have no known cultural resources that would be affected by the proposed activities. One site has been identified near the proposed project right of way off the Well Road. To avoid any problems the site would be flagged prior to construction and avoided during construction activities. There is also the potential to strike a subsurface site during construction. A dig permit describing the proposed location of construction would be required prior to any activities. In the event that a previously unknown resource is located, all activity would cease and the WSTF Environmental Department would be notified. The proposed project would have no significant impact to the site's cultural resources. The no action alternative would include no wastewater system upgrade at WSTF and would result in no change to the existing cultural resources at WSTF.

4.8 Noise

Vehicle traffic, construction, and operation and maintenance activities would generate noise. For the safety of workers, proper protective equipment including hearing protection would be required (OSHA 2006). In relation to other activities at WSTF, the proposed wastewater system project would have no significant impact on conditions that currently exist. The no action alternative would include no wastewater system upgrade at WSTF and would result in no change to the existing environment at WSTF.

4.9 Socioeconomics

Minority and low income populations are believed to exist within the proposed action's region of influence. Cities, towns, and block groups within the region of influence were not considered to have high minority and poverty populations compared to the general population of New Mexico. Under the proposed action, there would be no significant impact on, nor a potential for, disproportionately high and adverse effects on minority and low-income populations. The no action alternative would have no impact to the region's socioeconomics.

4.10 Human Health and Safety

The proposed project would have a short-term health and safety impact based on construction. Existing safety measures and guidelines during construction of the wastewater line system and

closure of the lagoons, tanks, and septic tanks and leachfields would be used to minimize the risk. Human health would benefit from the project by consolidation of the site's septic tank systems and sewage lagoons into the city's existing sewage treatment system. Odors and insects from the sewage lagoons would be eliminated. There would be no reason to worry about above ground leaks during the year or overflows during the cold months when the lagoons' efficiency decreases. People with chronic illnesses or compromised immune systems would benefit from the closure of the lagoons and septic tanks since they could be affected by the air around the lagoons. The chances for humans to come in contact with sewage or sewer gases would be reduced to almost zero. Potential human health discomfort and illness and problems such as diarrhea, dysentery, and hepatitis would not be a problem for on-site personnel. In the long-term minor benefits would occur to human health and safety due to the proposed project.

4.11 Cumulative Impacts

Cumulative impacts are those environmental impacts that result from the incremental effects of the proposed action when compounded by other past, present, or reasonably foreseeable future actions (40 CFR §1508.7). The WSTF wastewater system upgrade project would make minor contributions to impacts at WSTF. There would be short-term noise from construction activities. Vehicle traffic associated with construction and maintenance activities would slightly increase but would not significantly increase traffic loads on the existing and future road network at WSTF. Since odors could still be a problem with the new wastewater system, each lift station on-site and off-site would be equipped with an odor control system. The potential risk of underground leaks with the new system is less than the above ground leaks that have occurred on site. The replacement of old equipment and piping would also reduce the chances of sewage seeping into the groundwater. Long-term impacts of the project would improve human health and safety as noted above.

5.0 Preparers, Contributors, and Contacts

Agencies and Individuals Consulted

Kathy Watson, P.E.
Engineer, Easi
NASA White Sands Test Facility

Brian Klaes, P.E.
Engineer
Moreno Cardenas, Inc.

List of Preparers

Davis, Timothy
NASA Environmental Scientist
NASA White Sands Test Facility

Skarsgard, Amanda
Primary Author, Natural Scientist
North Wind Inc.
NASA White Sands Test Facility

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Appendix A
BLM Right of Way (ROW) Information

Public Comments

RECORD OF COMMUNICATION

DATES: May 4, 2010	TIME: 10:30 am – 10:45 am
CALLING PARTY NAME: Tim Davis	RECEIVING PARTY NAME: Mr. Richard Cauble
ORG.: NASA	ORG.: Interested Public
PHONE: (575) 524-5024	PHONE: (575) 523-7000

SUBJECT:

Environmental Assessment Public Notice for Wastewater Treatment System

DISCUSSION:

Mr. Cauble left a message on 5/3/10 at about 4 pm, requesting that a NASA representative call him to discuss the recent Environmental Assessment public notice that was in the Las Cruces Sun-News. Mr. Cauble was contacted by telephone the following day (5/4/10).

Mr. Cauble stated that he reviewed the public notice and wanted additional information on the proposed route of the pipeline. Mr. Cauble mentioned that the town of Organ had several lagoons just west of the town's populated area and he did not think that lagoons were an environmentally sound solution to managing domestic wastewater. Mr. Cauble then asked if Organ would be allowed to connect to the NASA pipeline so they could permanently close the Organ lagoon systems. Mr. Cauble was informed that the proposed route of the pipeline goes west of WSTF to Holman Rd., then will travel south on Holman down to the connection point near U.S. 70. It was also mentioned that the WSTF access road route had been evaluated as a potential option, but the topography going directly south from WSTF would have required additional infrastructure to transfer the wastewater to the access road and U.S. 70 junction. Mr. Cauble stated that he was disappointed there wasn't an opportunity for the town of Organ to connect to the WSTF wastewater system, but he fully supported NASA's project to connect to the City of Las Cruces system and discontinue the use of NASA's wastewater lagoon systems.

cc:

Radel Bunker-Farrah, Michael Jones, Ray Spencer, Amanda Skarsgard, Jason Noble, Aran Armstrong, Mike Zigmond, and Patricia Valdez (Environmental Records Management)



BILL RICHARDSON
Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Office of the Secretary

Harold Runnels Building
1190 Saint Francis Drive (87505)
PO Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-2855 Fax (505) 827-2836
www.nmenv.state.nm.us



RON CURRY
Secretary
Sarah Cottrell
Deputy Secretary

June 18, 2010

Timothy J. Davis
Environmental Scientist
NASA Johnson Space Center
White Sands Test Facility
P.O. Box 20
Las Cruces, NM 88004-0020

**RE: Proposed NASA Johnson Space Center, White Sands Test Facility
Wastewater System Upgrade**

Dear Mr. Davis:

Your letter regarding the above named project was received in the New Mexico Environment Department (NMED) and was sent to various Bureaus for review and comment. Comments were provided by the Ground Water Quality and Surface Water Quality Bureaus and are as follows.

Ground Water Quality Bureau

The Ground Water Quality Bureau (GWQB) staff reviewed the above-referenced letter as requested, focusing specifically on the potential effect to ground water resources in the area of the proposed project.

NASA White Sands Test Facility (WSTF) plans to construct sewer lines that would extend to the City of Las Cruces sanitary sewer collection system. Presently NASA WSTF discharges domestic wastewater to a combination of evaporative sewage lagoons and septic tanks, which have inadequate capacity at certain times of the year to dispose of the discharged wastewater. NASA WSTF proposes to discontinue use of the existing wastewater disposal system and send domestic wastewater to the City of Las Cruces collection system for treatment and disposal.

The benefit of this proposed action will be to eliminate domestic wastewater discharges that rely, to some extent, on discharge of effluent to the subsurface and replace such disposal with treatment that achieves nitrogen reduction prior to discharge of the effluent. These actions promise to reduce the potential for contamination of ground water from discharges of domestic wastewater at the NASA WSTF. Domestic wastewater discharges at NASA WSTF are regulated

under Discharge Permit 392 (DP-392). Closure actions must be completed in accordance with the requirements of DP-392 prior to termination of this discharge permit.

Implementation of the sewer line extension project will likely involve the use of heavy equipment, thereby leading to the possibility of contaminant releases (e.g., fuel, hydraulic fluid, etc.) associated with equipment malfunctions. The GWQB advises all parties involved in the project to be aware of discharge notification requirements contained in Section 20.6.2.1203 NMAC. Compliance with the notification and response requirements will further ensure the protection of ground water and surface water quality in the vicinity of the project.

Surface Water Quality Bureau

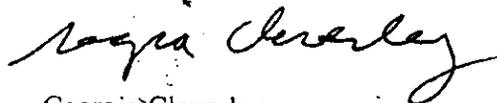
The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) permit coverage for storm water discharges from construction projects (common plans of development) that will result in the disturbance (or re-disturbance) of one or more acres (as of June 30, 2008), including expansions, of total land area. If this project exceeds one acre, it requires appropriate NPDES permit coverage prior to beginning construction.

Among other things, this permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters.

You should also be aware that EPA requires that all "operators" (see **Federal Register/Vol. 63, No. 128/Monday, July 6, 1998** pg 36509) obtain NPDES permit coverage for construction projects. Generally, this means that at least two parties will require permit coverage. The owner/developer of this construction project who has operational control over project specifications (probably NASA Johnson Space Center, White Sands Test Facility in this case), the general contractor who has day-to-day operational control of those activities at the site, which are necessary to ensure compliance with the storm water pollution plan and other permit conditions, and possibly other "operators" will require appropriate NPDES permit coverage for this project.

I hope this information is helpful to you.

Sincerely,



Georgia Cleverley
Environmental Impact Review Coordinator
NMED File #3235

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

National Environmental Policy Act; Finding of No Significant Impact (FONSI)

AGENCY:

National Aeronautics and Space Administration (NASA)
Johnson Space Center White Sands Test Facility
Las Cruces, New Mexico

ACTION:

NASA is proposing the installation of a wastewater collection system that would connect to the City of Las Cruces' (CLC) wastewater system located along Holman Rd near the intersection with Leeberry Lane.

SUMMARY:

This environmental assessment (EA) addresses the potential impacts associated with the proposed sewer system upgrade, which includes construction of a pipeline and lift stations to connect to the CLC wastewater system. In addition to CLC, coordination with Dona Ana County and Bureau of Land Management (BLM) personnel would need to be performed to help define requirements for improvements along the new right-of-way (ROW) and the existing Holman Road ROW.

The two reasonable alternatives are: 1) upgrade the sanitary sewer system and decommission the existing wastewater system; and 2) the no action alternative which would leave the current system in place. The proposed improvements would be located along disturbed areas when possible to minimize impacts to the project area. The no action alternative would include no new facilities or structures and would prevent any environmental impacts associated with the construction of a new sewer system pipeline and lift stations.

DATE:

May 2, 2010

RESPONSIBLE OFFICIAL:

Frank J. Benz
Manager
NASA White Sands Test Facility

ADDRESS:

NASA Johnson Space Center White Sands Test Facility
P.O. Box 20
Las Cruces, New Mexico 88004

FOR FURTHER INFORMATION CONTACT:

Timothy J. Davis
Environmental Scientist
NASA Johnson Space Center White Sands Test Facility
(575) 524-5024
Fax: (575) 527-6731
E-mail: timothy.j.davis@nasa.gov
Website: <http://wiki.nasa.gov/cm/wiki/?id=23851>

BACKGROUND AND DESCRIPTION OF PROPOSED ACTION:

The National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) located on the foothills of the Organ Mountains has been treating the facilities' wastewater flows on site. On-site wastewater treatment facilities include clay-lined evaporation lagoons, evaporation tanks, septic systems, and leaching fields. The existing wastewater treatment systems have raised concerns due to periodic overload conditions occurring in the lagoons during low evaporation periods requiring offloading to other lagoon sites. In addition, the environmental concerns and permitting requirements for providing on-site wastewater treatment have caused NASA to review potential wastewater treatment alternatives that would upgrade the current system.

The proposed NASA wastewater collection system would connect to the CLC's wastewater system located along Holman Rd near the intersection with Leeberry Lane. Coordination with CLC representatives has been critical to the development of the proposed improvements, since CLC would ultimately receive WSTF flows, and operate and maintain the system.

ALTERNATIVES CONSIDERED:

Other treatment options explored included a package plant and batch reactor. These alternatives were considered but not chosen because they were not the best match for WSTF's wastewater needs. Under the no action alternative, installation of the sewer line extension and lift stations would not take place. No federal funding would be expended and there would be no new effects to the proposed project site or surrounding environment.

POTENTIAL ENVIRONMENTAL EFFECTS:

Environmental aspects were examined pertaining to the following areas: land use, climate, geology, soils, air, biological resources, cultural resources, noise, socioeconomic issues, infrastructure, and hazardous wastes. The following section summarizes the conclusions for relevant environmental issues:

Land - For the sewer system project, existing disturbed areas and roads would be used wherever possible for most of the project. The goal of the project is to use existing roadways. The largest section of vegetation that would be disturbed and/or removed would be near Holman Road, which is off-site of the main WSTF area. The disturbance would be approximately one mile. There are also two smaller sections of land on-site where roads do not exist. These smaller sections of vegetation would be less than ¼ mile. The vegetation would need to be removed in order to complete the sewer lines. Some of the smaller existing roadways would need to be widened to accommodate the construction activities during installation. The proposed activities would result in no significant impact to land use at WSTF.

Geology and Soils - The topography and soils at the proposed areas would not be affected by construction activities described in the proposed action. Most construction activities would take place within an established roadway or areas with human activity. This would result in no significant impact to topography or soils.

Climate - The proposed action would not affect the climate at WSTF or the surrounding area.

Air Quality - There would be minimal, short term dust deposited in the air from the construction of the road, sewer line, and lift station. There would also be mobile sources of air emission present during the construction. Ground vehicles would be used for the installation of the wind farm and solar array. To minimize dust during these activities, dust control measures, such as water trucks or dust suppressants, would be used when possible. Portable generators may also be

used during the project. Depending on their proposed use, NMED would have to be notified. Overall, there would be no significant impacts on air quality.

Water Resources - The installation of the sewer system and the removal of the sewage lagoons and septic tanks would decrease the chances of sewer water polluting surface waters or underground waters. There would be no chances for the lagoons to leak or overflow during severe weather or strong monsoon seasons, or during peaks of heavy use. The closure of the septic tanks would provide the same benefits. The surface water and ground water at WSTF would not be affected by construction activities described in the proposed action. Most construction activities would take place within an established roadway or areas with human activity. This would result in no significant impact to water resources.

Biological resources - Overall, there would be no long-term significant impacts to site's floral or faunal species. No threatened or endangered species were identified in the proposed project area.

Cultural resources - Based on previous surveys of WSTF and a recent survey conducted by TRC the proposed sewer system upgrade locations have no known cultural resources that would be affected by the proposed activities.

Noise - Vehicle traffic, construction, and operation and maintenance activities would generate noise. For the safety of workers, proper protective equipment including hearing protection would be required (OSHA 2006). In relation to other activities at WSTF, the proposed sewer system project would have no significant impact on conditions that currently exist.

Socioeconomics - Minority and low income populations are believed to exist within the proposed action's region of influence. Cities, towns, and block groups within the region of influence were not considered to have high minority and poverty populations compared to the general population of New Mexico. Under the proposed action, there would be no significant impact on, nor a potential for, disproportionately high and adverse effects on minority and low-income populations.

Human Health and Safety - The proposed project would have a short-term health and safety impact based on construction. Existing safety measures and guidelines during construction of the sewer line system and closure of the lagoons, tanks, and septic tanks and leachfields would be used to minimize the risk. Human health would benefit from the project by combining the site's septic tank systems and sewage lagoons into the city's existing sewage treatment system. Odors and insects from the sewage lagoons would be eliminated. There would be no reason to worry about leaks during the year or overflows during the cold months when the lagoons' efficiency decreases. People with chronic illnesses or compromised immune systems would benefit from the closure of the lagoons and septic tanks since they could be affected by the air around the lagoons. The chances for humans to come in contact with sewage or sewer gases would be reduced to almost zero. Potential human health discomfort and illness and problems such as diarrhea, dysentery, and hepatitis would not be a problem for on-site personnel. In the long-term minor benefits would occur to human health and safety due to the proposed project.

PUBLIC COMMENT:

An Environmental Assessment that supports the Finding of No Significant Impact is available for public review at the Branigan Library (200 East Picacho Avenue, Las Cruces, NM; Reference Desk). All comments are invited for consideration by the NASA Environmental Program Manager within thirty calendar days of this notice. Address all correspondence to:

NASA Johnson Space Center White Sands Test Facility
Attn: Timothy J. Davis
RA, Environmental
P.O. Box 20
Las Cruces, NM 88004
Phone: (575) 524-5024
Fax: (575) 527-6731
E-mail: timothy.j.davis@nasa.gov

Approved By:



Frank J. Benz
Manager
NASA Johnson Space Center
White Sands Test Facility

Publish: May 2, 2010

LA ADMINISTRACION NACIONAL AERONAUTICA Y ESPACIAL

El Acto de Política Ambiental Nacional; Encuentra Ningún Impacto Significativo (FONSI por sus siglas en inglés)

LA AGENCIA:

La Administración Nacional Aeronáutica y Espacial (NASA)
Johnson Space Center White Sands Test Facility
Las Cruces, New Mexico

LA ACCION:

NASA propone la instalación de un sistema de colección de aguas residuales que conectaría al sistema de aguas residuales de la Ciudad de Las Cruces (CLC) situado a lo largo de la calle Holman Rd. cerca del cruce con Leeberry Lane.

EL RESUMEN:

Esta evaluación ambiental (EA) considera los impactos potenciales asociados con la actualización propuesta del sistema de alcantarilla, que incluye construcción de una línea de ductos de estaciones elevadoras para conectar al sistema de aguas residuales de la CLC. Además de la CLC, será necesaria la coordinación con personal del Condado de Doña Ana y del Bureau of Land Management (BLM) (Oficina de Administración de Terrenos), para ayudar a definir los requisitos para las mejoras necesarias para el nuevo Derecho de Paso (ROW en inglés) y el ROW existente de la calle Holman Rd.

Las dos alternativas razonables son: 1) actualizar el sistema sanitario de alcantarilla y eliminar del servicio activo el sistema existente de alcantarilla; y 2) la alternativa de no acción que dejaría el sistema actual en su lugar. Las mejoras propuestas serían situadas en superficies ya perturbadas cuando sea posible, para minimizar el impacto al área del proyecto. La alternativa de no acción no incluiría nuevos complejos ni estructuras y prevendría cualquier impacto ambiental asociado con la construcción de un nuevo ducto de sistema de alcantarilla y estaciones elevadoras.

FECHA:

2 de Mayo de 2010

OFICIAL RESPONSABLE:

Frank J. Benz
Director
NASA White Sands Test Facility

DIRECCIÓN:

NASA Johnson Space Center White Sands Test Facility
P.O. Box 20
Las Cruces, New Mexico 88004

CONTACTO PARA MÁS INFORMACIÓN:

Timothy J. Davis
Científico Ambiental
NASA Johnson Space Center White Sands Test Facility
(575) 524-5024
Fax: (575) 527-6731
E-mail: timothy.j.davis@nasa.gov
Sitio Web: <http://wiki.nasa.gov/cm/wiki/?id=23851>

EL FONDO Y DESCRIPCION DE LA ACCION PROPUESTA:

La Administración Nacional Aeronáutica y Espacial (NASA) White Sands Test Facility (WSTF) situada a los pies de las Montañas Organ ha estado tratando los flujos de aguas residuales del complejo en el sitio. Estas plantas de tratamiento existentes incluyen lagunas de evaporación forradas de arcilla, tanques de evaporación, sistemas sépticos y campos de percolación. Los sistemas existentes de tratamiento de aguas residuales han levantado preocupaciones, debido a condiciones periódicas de sobrecarga que ocurren en las lagunas durante los períodos bajos de evaporación, haciendo necesario el transporte hacia otras lagunas. Conjuntamente, las preocupaciones ambientales y los requisitos de los permisos actuales para proporcionar tratamiento local de aguas residuales, ha hecho que NASA revise alternativas potenciales de tratamiento que actualizarían el sistema actual.

El sistema propuesto de colección de aguas residuales de NASA conectaría al sistema de la CLC situado por la calle Holman Rd. cerca del cruce con Leeberry Lane. La coordinación con representantes de la CLC ha sido crítica para el desarrollo de las mejoras propuestas, ya que la CLC sería la receptora final de los flujos de WSTF y operaría y mantendría el sistema.

ALTERNATIVAS CONSIDERADAS:

Otras opciones de tratamiento exploradas incluyeron una planta prefabricada y un reactor en serie. Estas alternativas fueron consideradas pero no escogidas porque ellas no se acomodaban de la mejor manera a las necesidades de aguas residuales de WSTF. Bajo la alternativa de no acción, la instalación de la extensión de línea de alcantarilla y las estaciones elevadoras no ocurriría. No se gastaría ningún fondo federal y no habría nuevos impactos al área propuesta del proyecto ni al medio ambiente circundante.

EFFECTOS AMBIENTALES POTENCIALES:

Los aspectos ambientales relativos a las áreas siguientes fueron examinados: la utilización de la tierra, el clima, la geología, los suelos, el aire, recursos biológicos, recursos culturales, el ruido, asuntos socioeconómicos, la infraestructura, y desechos peligrosos. La sección siguiente resume las conclusiones para asuntos ambientales relevantes:

Uso de la Tierra - Para el proyecto del sistema de alcantarilla, las áreas perturbadas existentes y los caminos serían utilizados donde sea posible para la mayor parte del proyecto. El objetivo del proyecto es utilizar calzadas existentes. La sección más grande de vegetación que sería perturbada y/o removida, estaría cerca de la calle Holman Rd., que está fuera del área principal de WSTF. La perturbación ocurriría aproximadamente a lo largo de una milla. Hay también dos secciones más pequeñas de terrenos dentro del área de WSTF donde no existen caminos. Estas secciones más pequeñas de vegetación serían menos que ¼ de milla. La vegetación debería ser removida para completar las líneas de alcantarilla. Parte de los caminos existentes más pequeñas deberían ser ampliados para acomodar las actividades de construcción durante la instalación. Las actividades propuestas no tendrían un impacto significativo para el uso de la tierra en WSTF.

La geología y los Suelos- La topografía y los suelos en las áreas propuestas no serían afectadas por las actividades de construcción descritas en la acción propuesta. La mayoría de las actividades de construcción sucederían dentro de caminos establecidos o áreas con actividad humana. Esto no tendría un impacto significativo a la topografía ni en los suelos.

El clima - La acción propuesta no afectaría el clima en WSTF ni en el área circundante.

Calidad del Aire - En el aire habría depósito mínimo de polvo y por corto plazo, proveniente de la construcción del camino, la línea de alcantarilla y de la estación elevadora. También habría fuentes emisoras móviles durante la construcción. Vehículos serían utilizados para la instalación de la granja de viento y el colector solar. Para minimizar el polvo durante estas actividades, medidas de control tales como camiones de agua o sistemas inhibidores polvo, serían utilizados cuando sea posible. Generadores portátiles también pueden ser utilizados durante el proyecto. Dependiendo del propósito de su uso, NMED tendría que ser notificado. En términos generales, no habría impactos significativos en la calidad del aire.

Recursos de Agua- La instalación del sistema de alcantarilla y la eliminación de las lagunas de agua residual y pozos sépticos disminuiría las posibilidades que el agua de alcantarilla contamine las aguas superficiales o napas subterráneas. No habría posibilidad que las lagunas se filtren o derramen durante clima severo o estaciones de fuertes monzones, o durante horas punta de uso pesado. El cierre de los pozos sépticos proporcionaría los mismos beneficios. En WSTF, ni el agua superficial ni la subterránea serían afectadas por las actividades de construcción descritas en la acción propuesta. La mayoría de las actividades de construcción ocurrirían dentro de una calzada establecida o áreas con actividad humana. Como resultado, esto no tendría impacto significativo para los recursos de agua.

Los recursos biológicos - En términos generales, en el largo plazo no habría impactos significativos para las especies de flora y fauna existentes. No se identificaron especies en peligro de extinción en el área propuesta del proyecto.

Los recursos culturales - Basado en inspecciones anteriores de WSTF y una inspección reciente realizada por TRC, el área del sistema propuesto de actualización de la alcantarilla no tiene recursos culturales conocidos que serían afectados por las actividades propuestas.

Ruido – El tráfico de Vehículos, la construcción y las actividades de operación y mantenimiento generarían ruido. Para la seguridad de los trabajadores, equipo protector apropiado que incluye protectores auditivos serían requeridos (OSHA 2006). En relación con otras actividades en WSTF, el proyecto propuesto de sistema de alcantarilla no tendría impacto significativo en condiciones que existan actualmente.

Socioeconómico – Se cree que existen minorías y poblaciones de bajos ingresos dentro de la región de influencia de la acción propuesta. Se considera que las ciudades, pueblos y caseríos dentro de la región de influencia no tienen altas poblaciones de minorías y de pobreza comparado con la población general de Nuevo México. Bajo la acción propuesta, no habría impacto significativo, ni potencial para que haya efectos desproporcionadamente altos y adversos en las minorías y poblaciones de bajos ingresos.

La Salud y la Seguridad humanas - El proyecto propuesto tendría un impacto de corto plazo en la salud y la seguridad, basado en la construcción. Medidas y pautas existentes de seguridad durante la construcción del sistema de alcantarilla y durante el cierre de las lagunas, tanques, pozos sépticos y lagunas de infiltración, serían utilizadas para minimizar el riesgo. La salud humana se beneficiaría al combinar los sistemas de lagunas de aguas residuales y pozos sépticos del sitio, con el sistema existente de tratamiento de agua residual de la ciudad. Los olores y los insectos provenientes de las lagunas de agua residual serían eliminados. No habría razón para preocuparse por filtraciones durante el año ni derrames durante los meses fríos cuando disminuye la eficiencia de las lagunas. Las personas con enfermedades crónicas o sistemas inmunológicos comprometidos, se beneficiarían con el cierre de las lagunas y los pozos sépticos, considerando que ellos podrían ser afectados por el aire alrededor de las lagunas. Las posibilidades para que los humanos entren en contacto con gases provenientes del agua residual o de la alcantarilla, serían reducidas casi a cero. Las potenciales molestias humanas de salud y enfermedad, así como problemas tales como diarrea, disentería y hepatitis no serían un problema para el personal local. En el largo plazo, habría beneficios menores, tanto a la salud, como a la seguridad humana debido al proyecto propuesto.

COMENTARIO PÚBLICO:

Una Evaluación Ambiental que apoya el Hallazgo de Ningún Impacto Significativo, está disponible para la revisión pública en la Biblioteca de Branigan (200 East Picacho Ave., Las Cruces, NM en el Escritorio de Referencia). Todos los comentarios recibidos durante los treinta días calendario siguientes a la fecha de esta nota serán bienvenidos y considerados por el Director del Programa Ambiental de la NASA. Favor dirigir toda correspondencia a:

NASA Johnson Space Center White Sands Test Facility

Atención: Tim J. Davis

RA, Environmental

P.O. Box 20

Las Cruces, New Mexico 88004

Teléfono: (575) 524-5024

Fax: (575) 527-6731

Correo Electrónico: timothy.j.davis@nasa.gov

Publicar: 2 de Mayo de 2010