



Chapter 9: Environmental Design and Planning Considerations



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9 ENVIRONMENTAL DESIGN AND PLANNING CONSIDERATIONS

9.1 INTRODUCTION

NEPA Section 102(2)(A) requires that Federal agencies “utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment.” One of the primary methods of applying this systematic approach is employing mitigation measures, or actions that reduce the severity of environmental impacts of Federal actions. The U.S. Department of Homeland Security (DHS) makes mitigation of the environmental impacts of its actions a primary consideration. The DHS’s Management Directive 023.01 requires that stewardship of the air, land, water, and cultural resources be compatible with the planning and execution of the mission of the DHS. Environmental stewardship must also be compatible with the planning and execution of the mission of the DHS’s component agencies, including the U.S. Customs and Border Protection (CBP).

To meet its environmental stewardship responsibilities, CBP integrates environmental planning requirements into operational planning, program development, and management methodologies consistent with homeland security requirements, fiscal policies, and other considerations of national policy. The agency recognizes that when environmental stewardship responsibilities are not managed effectively, there may be social, financial, and administrative costs, as well as the potential for lower quality mission outcomes.

In compliance with monitoring and mitigation requirements (40 CFR 1505.3), reasonable mitigation measures should be identified to address the impacts of a proposed action and alternatives. Any mitigation measures selected must be clearly outlined in the project’s Record of Decision (ROD). Mitigation measures must also be included in the proposed budget for the project or made part of the approved project application. Best management practices (BMPs) and existing environmental management systems (EMS) should be used to implement a project and to monitor the predicted environmental effects. Adaptive management techniques should be used to modify the implementation of a project as new information becomes available.

In conformance with 40 CFR 1507.2, CBP must provide adequate staff, funding, and time to integrate environmental planning into its missions and to perform appropriate NEPA analysis for programs; plans; policies; projects; regulations; orders; legislation; or applications for permits, grants, or licenses involved in the actions associated with the Northern Border Programmatic Environmental Impact Statement (PEIS). Should mitigation be necessary to reduce the environmental effects of a proposed action, CBP would be responsible for providing the costs of appropriate mitigation of such environmental impacts. Mitigation measures proposed for the actions discussed in the PEIS are outlined below for each environmental resource analyzed in the document.

9.2 AIR QUALITY

No mitigation measures would be required for air quality.

1 **9.3 BIOLOGICAL RESOURCES**

2 It is CBP’s policy to reduce impacts to biological resources by implementing avoidance,
3 minimization, mitigation, and compensation measures. Many standard mitigation measures have
4 been incorporated as standard operating procedures by CBP on past projects. In some cases,
5 mitigation solutions are required by law and for certain direct impacts. These measures would be
6 negotiated and coordinated with applicable Federal, state, and local agencies.

7 **9.4 GEOLOGY, TOPOGRAPHY, AND SOILS**

8 Mitigation measures are particular to the specific action as well as the physical characteristics of
9 the environment in which the action will take place. The range of mitigation requirements varies
10 greatly along the Northern Border, especially regarding local and state regulations. As described
11 in Chapter 4, geological and soil evaluations would be completed prior to the implementation of
12 proposed actions. The following general mitigation measures and BMPs may be implemented in
13 compliance with regulatory authorities:

- 14 • Potential impacts related to regional seismic hazards would be addressed in the design
15 concept for projects with reinforced concrete and masonry used during construction if
16 deemed necessary.
- 17 • Potential mass movement (landslide) hazards related to slope stability would be
18 addressed by avoiding areas that may be prone to such hazards with protective barriers to
19 reinforce areas of potential risk.

20 Potential impacts related to soils would be addressed on a case-by-case basis. Soils that are
21 highly erodible would be subject to erosion prevention and sediment control plans, depending on
22 local regulations. A Federal National Pollutant Discharge Elimination System (NPDES) permit
23 may also be required based on the proximity of the action to water bodies of concern. Dust
24 control plans would also aid in reducing impacts. Soil compaction would be controlled by
25 reusing established access roads and trails instead of creating new pathways. Drainage along
26 impermeable surfaces should reflect the specific hydrologic requirements of the area to be
27 served. Revegetation would also improve soil conditions and reduce erosion potential. Spill
28 Prevention Control and Countermeasures Plans may be a requirement for actions that may
29 contribute hazardous materials to soil horizons.

30 **9.5 WATER RESOURCES**

31 The following BMPs would be employed to reduce the effects of CBP’s activities on water
32 resources:

- 33 • Silt fences for new construction;
- 34 • Diversion ditches for new construction;
- 35 • Reseeding and reestablishment of vegetation on bare soil as soon as possible following
36 construction;
- 37 • To offset potential impacts from soil compaction, highly compacted areas left after
38 construction would be scarified and aerated;
- 39 • Mulching, straw berms, and temporary cover crops as appropriate;

- 1 • Construction, operation, and maintenance of portable and long-term sediment and surface
2 water retention features;
- 3 • Appropriate erosion and sediment control would be in place and functional before earth-
4 moving operations begin and would remain intact throughout the project. Disturbed
5 areas would be planted as quickly as possible to prevent erosion;
- 6 • Areas around buildings and parking lots would be vegetated to minimize soil erosion. In
7 addition, catch basins, diversion ditches, and pipe conveyances may be necessary to
8 handle the additional storm water runoff;
- 9 • Design elements such as grass swales and landscaped features would be incorporated to
10 help minimize runoff and soil erosion;
- 11 • Design and construction measures would include development of surface-water control
12 features to ensure that post-development runoff from construction sites does not exceed
13 pre-development runoff;
- 14 • Storm gutters and other storm drainage system improvements would be installed in
15 conjunction with construction of the new facilities;
- 16 • Provide onsite detention or retention basins for developed sites to reduce the rate of
17 runoff to historic natural levels;
- 18 • Provide drainage improvements, including storm water channels that intercept runoff
19 directed toward areas that had not previously accepted runoff and divert it to natural
20 receiving waters;
- 21 • Avoid building new infrastructure in 100-year floodplains. Follow local regulations that
22 govern development of floodplains;
- 23 • Use accepted engineering design practice and/or established state or local standards to
24 design the capacity of road drainageways, bridges, culverts, and low-water crossings in a
25 manner that minimizes erosion and creation of sediment at the structure;
- 26 • Vehicles that regularly use low-water crossings should be washed frequently and made
27 free of fluid leakage to prevent discharge of contaminants at low-water crossings;
- 28 • Provide training to watercraft operators in the safe operation of boats, including handling,
29 storage, disposal, and use of fuels and lubricants; include training in safe interim storage
30 of intercepted materials to prevent spillage or leakage;
- 31 • Implement a mandatory two-week (80 hour) ATV rider safety course, designed to
32 educate riders in order to eliminate ATV-related accidents and agent injuries and to
33 develop driving skills that minimize effects on the environment;
- 34 • Under conditions of unstable travel surfaces, drive ATVs at speeds that avoid rutting, if
35 possible;
- 36 • Work within partnerships or initiate new ones to identify and make provisions for repair
37 or maintenance of roads or trails that are easily rutted;
- 38 • Avoid placing horse stables in drainage swales and areas with poor soil drainage; try to
39 grade area around stables to divert runoff away from structure, and avoid placing horse
40 stables near ponds, streams, and wetlands (LSU, 2009);

- 1 • Install gutters, downspouts, and splash blocks on all horse-related structures; create a
2 sacrifice area for horses, i.e., a small enclosure or paddock area that serves as a horse’s
3 outdoor living space when the soil is saturated or the pastures overgrazed (LSU, 2009).
- 4 • Maintain and manage pastures, including choosing appropriate vegetation species, in
5 ways that reduce mud and soil erosion in order to maintain water quality (LSU, 2009);
6 and
- 7 • If a POE, or any other CBP facility is closed on a site that utilized onsite water wells or
8 tank storage of fuels, oils, or other potential water resource contaminants, these physical
9 systems must also be closed following procedures typically required by a state
10 environmental protection agency.

11 9.6 NOISE

12 No mitigation measures would be required for noise.

13 9.7 CLIMATE CHANGE AND SUSTAINABILITY

14 Measures that may be implemented to reduce or eliminate potential adverse impacts on climate
15 change and sustainability are as follows.

- 16 • Continue development of CBP’s Environmental Management System (EMS).
- 17 • Review and revise CBP *Fleet Handbook* to incorporate meeting sustainability goals as an
18 objective.
- 19 • Review and revise real property acquisition and development process maps to include a
20 sustainability review of each project.
- 21 • Develop a process to monitor compliance with sustainability goals and targets.
- 22 • Identify facilities where installation of an alternative fuel tank would increase the use of
23 alternative fuel.
- 24 • Conduct fleet optimization analysis (including right-sizing of fleet and right configuration
25 for defined missions).
- 26 • Establish policy and procedures to ensure that E85 (ethanol) or biodiesel fuel tanks are
27 installed at new CBP fueling centers.
- 28 • Continue deployment of flex fuel vehicles.
- 29 • Evaluate hybrid vehicles for administrative use.
- 30 • Develop policy for use of videoconferencing.
- 31 • Develop sustainable process for calculating employee commute emissions.
- 32 • Complete revised inventory of Scope 3 GHG emissions sources.
- 33 • Develop an integrated plan for how CBP will meet Scope 3 GHG emissions reduction
34 goals.
- 35 • All new construction as well as major renovation or repair and alteration of Federal
36 buildings shall comply with “Guiding Principles for Federal Leadership in High
37 Performance and Sustainable Buildings, December 1, 2008.”

- 1 • New construction designs shall be at least 30 percent more energy-efficient than the
2 applicable standard.
- 3 • Use cost-effective, innovative building strategies to minimize energy, water, and
4 materials consumption in a manner that achieves a net reduction in department-deferred
5 maintenance costs;
- 6 • Modify existing owned facilities and bring them into compliance.
- 7 • Complete evaluation of Laboratory Energy Audits and, as appropriate, add
8 implementation of recommended energy savings initiatives into budget requests.
- 9 • Ensure that all Project Management Office project managers are trained in “Guiding
10 Principles”/LEED® (“Guiding Principles for Sustainable New Construction and Major
11 Renovations”).
- 12 • Review existing contracts to ensure sustainability requirements are included in SOWs.
- 13 • Incorporate participation in regional transportation planning (recognition and use of
14 existing community transportation infrastructure) into existing policy and guidance.
- 15 • Update policy and guidance to ensure that all environmental impact statements and
16 environmental assessments required under NEPA for proposed new or expanded Federal
17 facilities identify and analyze impacts associated with energy usage and alternative
18 energy sources, and complete *NEPA Handbook*.
- 19 • Develop guidance for CBP’s Service Providers (GSA and U.S. Army Corps of
20 Engineers) for site selection criteria and prioritization based on the sustainability goals.
- 21 • Continue collocation studies with the U.S. Coast Guard.
- 22 • Reduce potable water use intensity by at least 26 percent by FY 2020.
- 23 • Reduce industrial, landscaping, and agricultural water use by at least 20 percent by FY
24 2020.
- 25 • Achieve objectives established by the U.S. Environmental Protection Agency (EPA) in
26 “Stormwater Guidance for Federal Facilities EISA Selection 438” (42 USC 17094).
- 27 • Develop CBP’s Water Conservation Handbook.
- 28 • Complete CBP’s Environmental Compliance Handbook.
- 29 • Increase source reduction of pollutants and waste.
- 30 • Divert at least 50 percent of nonhazardous solid waste by FY2015, excluding
31 construction and demolition (C&D) debris.
- 32 • Divert at least 50 percent C&D materials and debris by FY2015.
- 33 • Reduce printing paper use.
- 34 • Reduce and minimize the acquisition, use, and disposal of hazardous chemicals and
35 materials.
- 36 • Increase diversion of compostable and organic materials from the waste stream.
- 37 • Decrease use of chemicals to assist in achieving FY2020 GHG reduction targets.

- 1 • Complete CBP's Recycling and Reuse Handbook.
- 2 • Complete 300 Environmental Compliance Assessments (scope includes identification of
- 3 quantities of hazardous waste disposed annually).
- 4 • Complete baseline assessment of waste management practices at all facilities.
- 5 • Ensure that 95 percent of new contract actions require the supply and use of products and
- 6 services that are energy efficient (as designated by Energy Star or Federal Energy
- 7 Management Program [FEMP]), water efficient, bio-based, environmentally preferable,
- 8 and not ozone-depleting, and that they contain recycled content or are non-toxic or less
- 9 toxic alternatives.
- 10 • Complete CBP's *Green Procurement Handbook* and policy.
- 11 • Establish and implement policy and guidance to ensure use of power management,
- 12 duplex printing, and other energy efficient or environmentally preferred options and
- 13 features on all eligible CBP electronic products.
- 14 • Update CBP's policy to ensure implementation of BMPs for energy-efficient
- 15 management of servers and Federal data centers.
- 16 • Add chapter on electronics stewardship to the current *CBP Electronics Security*
- 17 *Handbook*.
- 18 • Conduct inventory of compliant and noncompliant equipment.

19 9.8 LAND USE

20 CBP could minimize potential impacts of new facilities construction by:

- 21 • Acquiring lands through purchase or lease from willing sellers;
- 22 • Siting projects away from existing residential development or recreational areas;
- 23 • Siting projects on vacant or unproductive lands;
- 24 • Conducting construction activities during periods of relatively low recreation levels; and
- 25 • Developing aesthetically pleasing sites, for example, through landscaping and proper
- 26 siting of waste storage areas.

27 CBP could minimize the impacts on land use from activities that cause noise and light

28 disturbance by:

- 29 • Utilizing sound-reducing equipment, where feasible;
- 30 • Siting projects away from existing residential development or recreational areas; and
- 31 • Conducting patrols and surveillance activities during periods of relatively low recreation
- 32 levels.

33 CBP could minimize the impacts of border fencing activities on land use activities by:

- 34 • Ensuring that the fencing project does not fracture a contiguous land parcel;

- 1 • Refraining from constructing fences through cross-border communities or, if that is not
2 feasible, ensuring that accessible and efficient crossing opportunities are provided in
3 these areas; and
- 4 • Refraining from constructing fences through individual landowner parcels or cross-
5 border communities.

6 9.9 AESTHETIC AND VISUAL RESOURCES

7 Mitigation measures for visual resources center on reducing visual contrast associated with
8 implementation of project alternatives. Because visual contrast is most closely associated with
9 the addition of structural elements and change to landform characteristics, the following
10 mitigation measures are organized into those related to landform and those related to structures.
11 Appendix G contains a more complete list compiled by the U. S. Bureau of Land Management
12 (BLM), but some possible techniques to reduce impacts include the following:

- 13 • Landforms:
 - 14 ○ Implement sensitive grading techniques that blend grading with the natural terrain;
 - 15 ○ Treat all disturbed slopes for erosion control; revegetate using native plant species as
16 appropriate for adjacent land use and terrain;
 - 17 ○ Revegetate using native plant species as appropriate for adjacent land use and terrain;
 - 18 ○ Reduce color contrast through rock staining in areas of new rock cuts; and
 - 19 ○ Selectively clear areas where alternatives encroach on forest edge.
- 20 • Structures:
 - 21 ○ To the extent possible, use structures that are simple, slim, and low-profile with
22 minimal bulk and horizontal emphasis, avoiding over-monumentation, reducing
23 structure depth as compared to deck edge, and keeping structures proportional.
 - 24 ○ Design colors of structures to complement the natural landscape.
 - 25 ○ Design tapered and rounded forms and edges where appropriate to soften appearance
26 and reduce perceived bulk (for example, on bridge piers).
 - 27 ○ Use repeating colors and textures to provide continuity with other structural features
28 such as retaining walls.

29 Mitigation measures to minimize potential impacts from the monopole towers would include, but
30 are not limited to, painting the proposed towers to blend into their background, using competing
31 interest in visually sensitive areas, and the use of decorative tower perimeter fencing in
32 residential areas. The color and construction material of poles can be chosen to blend with or
33 complement the landscape around them. Lines constructed using H-frame poles or on wood
34 rather than steel structures may blend in better with natural surroundings. Stronger conductors
35 can minimize line sag.

36 Right-of-way (ROW) management can mitigate aesthetic impacts by planting vegetative screens
37 to block views of the line, leaving the ROW in a natural state at road crossings, creating curved

1 or wavy ROW boundaries, pruning trees to create a feathered effect, and screening and piling
2 brush from the cleared ROW so that it provides wildlife habitat.

3 The mitigation measures outlined for security fencing includes using context-sensitive design of
4 the fence, or design features to minimize the appearance of fencing, including using a black,
5 visually permeable fencing.

6 Any infrastructure or action must be completed in accordance with existing regulations such as,
7 but not limited to, the following:

- 8 • All POEs must be designed in accordance with the U.S. LPOE Design Guide (For
9 Official Use Only).
- 10 • GSA-owned POEs must be designed in accordance with GSA P-100, Facilities Standards
11 for the Public Buildings Service.
- 12 • Border Patrol stations must comply with the guidelines outlined in the 2003 “U.S. Border
13 Patrol Facilities Design Guide.”

14 **9.10 SOCIOECONOMIC RESOURCES**

15 The three main strategies to minimize adverse social welfare and regional economic impacts of
16 the above alternatives are as follows:

- 17 • Minimize some of the social welfare and regional economic impacts of decreased or
18 degraded recreation by siting projects away from recreational areas, to the extent
19 possible;
- 20 • Minimize impacts of noise disturbance from construction by undertaking construction
21 activities during off-peak hours or seasons for recreational activities; and
- 22 • Minimize impacts of delay by engaging in construction activities during periods of
23 relatively low traffic volumes to the extent it is practicable and feasible. During these
24 periods, not only will fewer people experience delay, but also the actual length of delay
25 may be shorter due to decreased traffic back-ups at crossing lanes.

26 **9.11 CULTURAL, HISTORIC, ARCHAEOLOGICAL, AND** 27 **PALEONTOLOGICAL RESOURCES**

28 Federal and state review protocols established under the National Historic Preservation Act
29 (NHPA) and Paleontological Resources Preservation Act of 2009 rely extensively on mitigation
30 of adverse impacts to the cultural, historical, archaeological, and paleontological resources they
31 were enacted to protect. The specific types and degree of mitigation techniques employed vary
32 considerably state to state and project to project across the broad spectrum of resources that fall
33 under this category. However, the types of impacts to which these resources are subjected
34 generally fall into the land use, aesthetic, and visual categories.

35 Federal and state review protocols established under the NHPA, Native American Graves
36 Protection and Repatriation Act (NAGPRA), and American Indian Religious Freedom Act, as
37 well as coordination in some instances with the National Park Service (NPS), and consultation
38 with State Historic Preservation Officers (SHPOs), participating Tribal Historic Preservation

1 Officers (THPOs), individual tribes, and relevant Federal agencies with interests in CBP's
2 Northern Border area of operation rely extensively on mitigation of potential adverse impacts to
3 the religious, cultural, historical, and archaeological resources that comprise Native American
4 issues. The specific types and degree of mitigation techniques employed vary considerably state
5 to state and project to project across the broad spectrum of resources that fall under this category.
6 However, the types of impacts to which these resources are subjected generally fall into the land
7 use, aesthetic, and visual categories. Land use impact mitigation measures are discussed in
8 section 9.8 above. Aesthetic and visual impact mitigation measures are discussed in section 9.9
9 above.

10 **9.12 ENVIRONMENTAL JUSTICE/PROTECTION OF CHILDREN**

11 Extensive mitigation measures would not be required under any alternative. To the extent that
12 CBP employs BMPs in the construction of facilities and the modernization and management of
13 existing facilities, potential adverse effects to individuals would be minimal for all populations
14 and would not be disproportionately experienced by populations of concern for environmental
15 justice. Potential risk to human health, especially for populations of children under the age of 18
16 would be minimized through adherence to all applicable Federal and state safety regulations.
17 Continued participation with the general public by CBP in the implementation of its policies and
18 programs would be expected to minimize any potential for impact to communities in the vicinity
19 of CBP's operations.

20 With respect to the Tactical Security Infrastructure Deployment Alternative, which involves
21 more extensive fencing, neighborhoods and communities immediately surrounding facilities in
22 more urbanized areas are more likely to contain high concentrations of populations of concern,
23 and mitigation measures may be required. Efforts to identify and consult with any affected
24 individual property owners or the residents of affected communities would be a part of any
25 mitigation strategy under this alternative. Extensive engagement with these populations in the
26 planning and execution of physical barriers, and for the purpose of explaining their necessity,
27 would be expected to minimize any potential for impact to communities in the vicinity of
28 infrastructure projects. CBP would also ensure that any construction conforms to local planning
29 and zoning ordinances.

30 **9.13 HUMAN HEALTH AND SAFETY**

31 CBP seeks to avoid, minimize, repair, and reduce the impacts of its actions on the human
32 environment. It does so with a combination of best management practices, siting plans, design
33 strategies, mitigation measures, and monitoring plans best suited to the scale and the location of
34 the particular action. Towards that end, in implementing its proposed action CBP could choose
35 from among the following actions to avoid or minimize impacts to Human Health and Safety.

36 Health and safety BMPs for routine activities include but are not limited to:

- 37 • Develop and implement a health and safety plan to be followed throughout all phases of a
38 project;
- 39 • Provide occupational health and safety orientation training to all employees, consisting of
40 basic hazard awareness, site-specific hazards awareness, safe working practices, and
41 emergency procedures;

- 1 • Consider public safety during helicopter flights (e.g., avoid populated areas, schools, and
2 areas being crop dusted);
- 3 • Conduct daily safety assessment meetings to identify potential safety issues (e.g., site
4 access, construction, work practices, security, transportation of heavy equipment, traffic
5 management, emergency procedures, wildlife encounters, and fire control and
6 management) and measures to mitigate them;
- 7 • Provide fire suppression equipment in all vehicles; and
- 8 • Use appropriate procedures for storage and transportation of blasting equipment and
9 explosive materials, including appropriate signage indicating its location (IEED, 2010).

10 BMPs for radiological health and safety include but are not limited to:

- 11 • Incorporating safety warnings and precautions into technical manuals and operator
12 manuals;
- 13 • Training operators and scanning operations supervisors in the hazards associated with
14 radiation producing equipment;
- 15 • Incorporating emergency stop buttons on the equipment that allow the system, including
16 X-ray production, to be quickly shut down if necessary;
- 17 • Training operators and scanning operations supervisors in the location and use of
18 emergency stop buttons; and
- 19 • Establishing radiation-controlled areas during scanning operations (USDHS, 2004).

20 9.14 HAZARDOUS MATERIALS

21 CBP seeks to avoid, minimize, repair, and reduce the impacts of its actions on the human
22 environment. It does so with a combination of BMPs, siting plans, design strategies, mitigation
23 measures, and monitoring plans best suited to the scale and the location of the particular action.
24 Towards that end, in implementing its proposed action CBP could choose from among the
25 following actions to avoid or minimize impacts to hazardous or regulated materials.

26 BMPs would be implemented as standard operating procedures during all construction activities,
27 and would include proper handling, storage, or disposal of solid and hazardous or regulated
28 materials (USDHS, 2008b).

29 To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and
30 solvents would be collected and stored in tanks or drums within a secondary containment system
31 that consists of an impervious floor and bermed sidewalls capable of containing the volume of
32 the largest container stored therein. The refueling of machinery would be completed in
33 accordance with accepted industry and regulatory guidelines, and all vehicles would be required
34 to have drip pans during storage to contain minor spills and drips. Although a major spill would
35 be unlikely, any spill of reportable quantities would be contained immediately within an earthen
36 dike, and the application of an absorbent (e.g., granular, pillow, sock, etc.) would be used to
37 absorb and contain the spill.

1 Lead pipe or lead painted metal would be removed before renovation or demolition or separated
2 from the demolition waste pile. It can also be recycled as scrap metal. Lead in batteries or
3 fluorescent lamps that could be recycled or disposed as universal waste has less stringent
4 management requirements than waste that can be disposed as dangerous waste. High-intensity
5 discharge lamps with regulated amounts of lead could not be disposed as universal wastes, but
6 would be managed as dangerous wastes (ECY, 2010).

7 All waste oil and solvents would be recycled. All non-recyclable hazardous or regulated wastes
8 would be collected, characterized, labeled, stored, transported, and disposed of in accordance
9 with all Federal, state, and local regulations, including proper waste manifesting procedures.

10 To ensure prevention of oil pollution, a spill prevention, control, and countermeasures plan
11 would be put in place prior to the start of construction activities, and all personnel would be
12 briefed on the implementation and responsibilities of this plan as is typical in CBP projects. A
13 spill of any petroleum liquids (e.g., fuel) or material listed in 40 CFR 302 Table 302.4 of a
14 reportable quantity would be cleaned up and reported to the appropriate Federal and state
15 agencies (USDHS, 2008).

16 EPA's BMPs for outdoor firing ranges call for reclaiming lead and recycling it into new shot and
17 bullets. This would reduce the amount of virgin lead that would have to be mined. CBP would
18 implement strategies to help prevent lead contamination.

19 The impacts of hazardous waste vary greatly with each CBP activity described in this analysis,
20 but the overall impact can be expected to be short-term, adverse, and minor. This assumes that
21 CBP would continue to follow the appropriate mitigation measures and BMPs to avoid
22 accidental releases and spills of hazardous materials.

23 9.15 UTILITIES AND INFRASTRUCTURE

24 Although no significant adverse impacts were identified through the analysis of proposed utilities
25 and infrastructure that would require mitigation measures to reduce impacts to non-significant
26 levels, CBP could choose from among the following actions to avoid or minimize impacts on
27 utilities and infrastructure:

- 28 • Employ strategies that in aggregate use a minimum of 20 percent less potable water than
29 the indoor water use baseline calculated for the building, after meeting the Energy Policy
30 Act of 1992 fixed performance requirements (USDHS, 2010).
- 31 • Employ strategies that further reduce energy and water intensity, increase use of
32 renewable energy, and design and operate sustainable buildings, after meeting goals of
33 Executive Order 13424, "Strengthening Federal Environmental, Energy, and
34 Transportation Management."
- 35 • Use water-efficient landscape and irrigation strategies, including water reuse and
36 recycling, to reduce outdoor potable water consumption by a minimum of 50 percent over
37 that consumed by conventional means (USDHS, 2010).
- 38 • Maintain existing facilities and infrastructure, replacing those facilities and infrastructure
39 as needed to sustain current operations in accordance with BMPs, working with
40 government agencies to comply with the respective regulations and avoid adverse

1 impacts wherever possible. Wherever reasonable and possible to do so, lessen
2 unavoidable adverse impacts through cooperative efforts with the appropriate agencies
3 (Grone et al., 2006).

- 4 • Construct new individual utilities as needed, for example, replacing a septic system, that
5 would implement green building strategies to achieve a minimum “certified” rating under
6 the LEED New Construction and Major Renovation Version 3.0 and comply with Federal
7 Leadership in High Performance and Sustainable Buildings Memorandum of
8 Understanding (Grone et al., 2006).

9 **9.16 ROADWAYS AND TRAFFIC**

10 The following steps could be taken to avoid or minimize the impacts of CBP’s projects on
11 transportation:

- 12 • Minimize construction vehicle movement during peak traffic hours;
- 13 • Place construction staging areas where they would least interfere with traffic;
- 14 • Equip construction vehicles with backing alarms, two-way radios, and “slow moving
15 vehicle” signs when appropriate;
- 16 • Coordinate with local, state, and Federal transportation authorities when planning access
17 or use of public roadways;
- 18 • Follow all local, state, and Federal planning guidelines and regulations when maintaining
19 or upgrading roadway infrastructure; and
- 20 • Comply with all traffic regulations when operating on-road, non-road, and off-road
21 vehicles.

22 **9.17 RECREATION**

23 The negative impacts of development, patrols, and other actions could be minimized by altering
24 the current use patterns in the affected area upon consultation with appropriate land managers.

25 The following issues should be considered when making decisions about border actions:

- 26 • Decisions about traffic routes and timing of construction should consider hiking trails,
27 and camping and hunting areas, as well as current seasonal use patterns.
- 28 • Projects that require the acquisition of new land should take into account proximity to
29 nearby recreation areas such as campgrounds, visitor centers, and horse stables.
- 30 • Minimizing the amount of development, traffic, and disruption in previously undisturbed
31 areas is critical to minimizing recreation impacts. Other actions that result in
32 construction, traffic, or noise should also be considered in planning to minimize the
33 cumulative impacts on any one recreation area.
- 34 • Continued strengthening of partnerships, communication, and discussion with land
35 managers of recreation areas can ensure that the placement of new infrastructure, patrol
36 routes, and other actions would have a minimal impact.